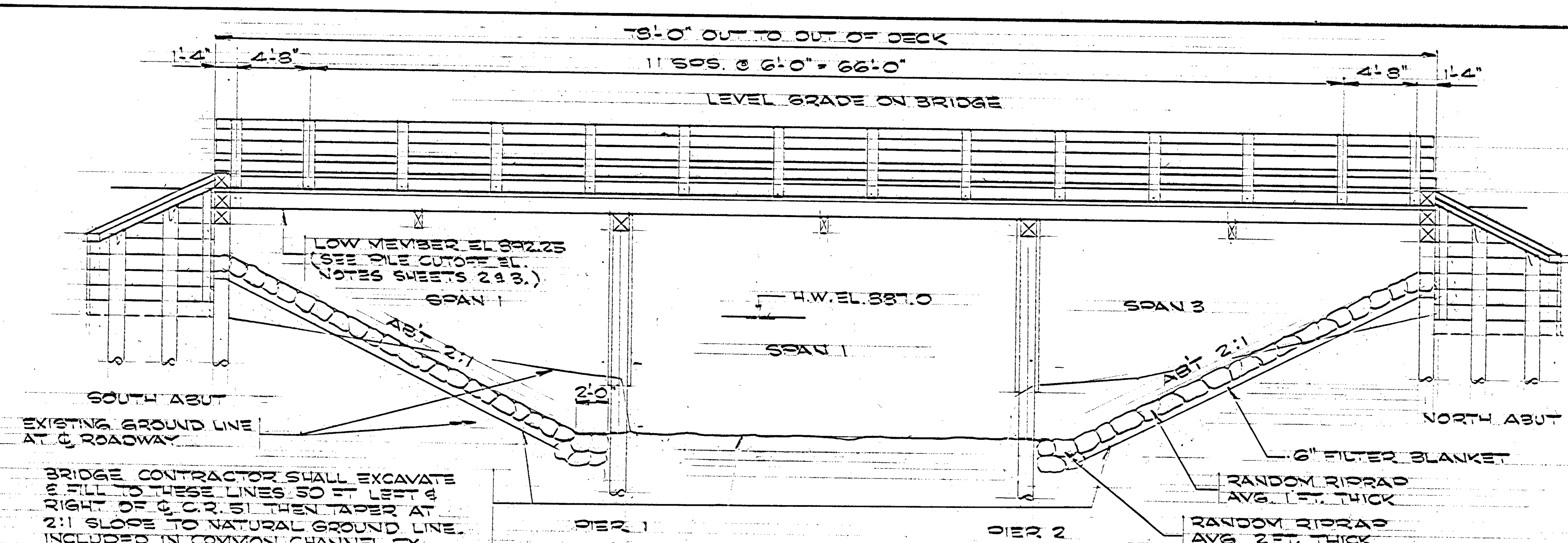
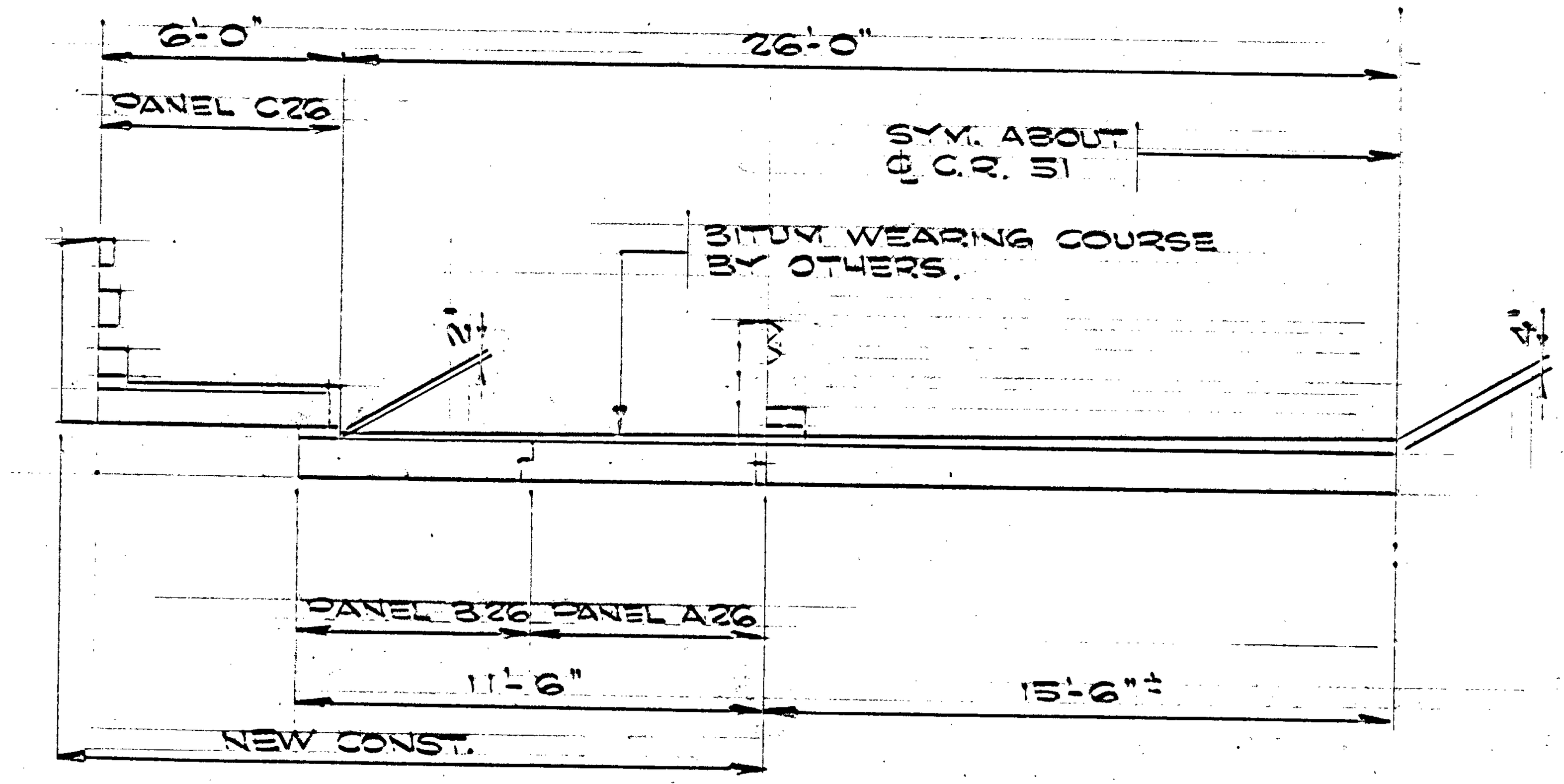


ELEVATION

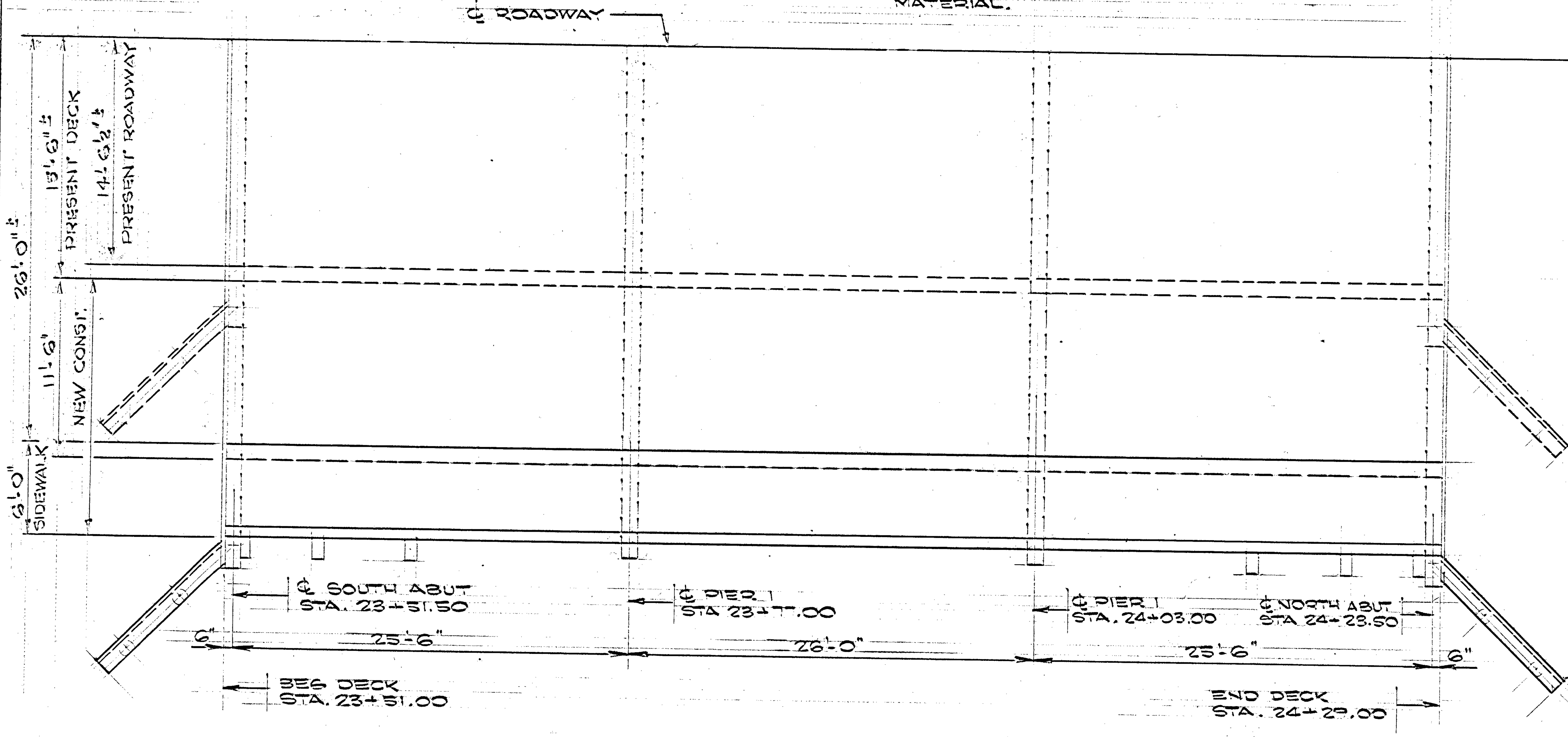
DESIGN DATA

1973 A.A.S.H.T.O. DESIGN SPECIFICATIONS
H.S. 20 LOADING - NO IMPACT
NEW DECK AREA 2130 SQ.FT.
A.D.T. FOR 1978



HALF TRANSVERSE SECTION THRU DECK
SCALE: ¼" = 1'-0"

NOTE: SEE SHEETS 2, 3, & 5 FOR REMOVAL OF EXISTING BRIDGE MATERIAL.



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

CONSTRUCTION NOTES

THE MINNESOTA HIGHWAY DEPARTMENT "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" DATED JAN. 1, 1972, AS AMENDED BY SUPPLEMENTAL SPECIFICATIONS DATED APRIL 1, 1976 SHALL GOVERN.

CONSTRUCTION REQUIREMENTS SHALL CONFORM TO M.H.D. 2403.3.

ALL TIMBER PILING TO MEET REQUIREMENTS OF M.H.D. 3471 AND BE CREOSOTE PRESSURE TREATED PER M.H.D. 3491.

ALL TIMBER TO BE CREOSOTE PRESSURE TREATED PER M.H.D. 3491, EXCEPT RAILPOSTS, RAILS, SIDEWALK CURBS, & SIDEWALK SCUPPERS.

ALL HARDWARE TO BE GALVANIZED PER M.H.D. 3392.

ALL TIMBER IS ROUGH UNLESS OTHERWISE NOTED. TIMBER POSTS SHALL BE 1750 # Fb. CAPS SHALL BE 1200 # Fc. RAIL SHALL BE 2400 # Fb DRY CONDITIONS. ALL PLANK SHALL BE 1500 # Fb. ALL OTHER TIMBER SHALL BE 1200 # Fb.

LIST OF SHEET	
NO.	TITLE
1	GENERAL PLAN & ELEVATION
2	ABUTMENT WIDENING DETAILS
3	PIER WIDENING DETAILS
4	SUPERSTRUCTURE WIDENING DETAILS
5	SUPERSTRUCTURE WIDENING DETAILS
6	26 FT. PANEL DETAILS
7	26 FT. PANEL DETAILS
8	BRIDGE SURVEY
9	BRIDGE SURVEY - PLAN & PROFILE

APPROVED [signature] COUNTY ENGINEER
DATE Apr. 19, 1978 ANOKA COUNTY

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.

[signature]

DATE 4-13-78 REG. NO. 6924

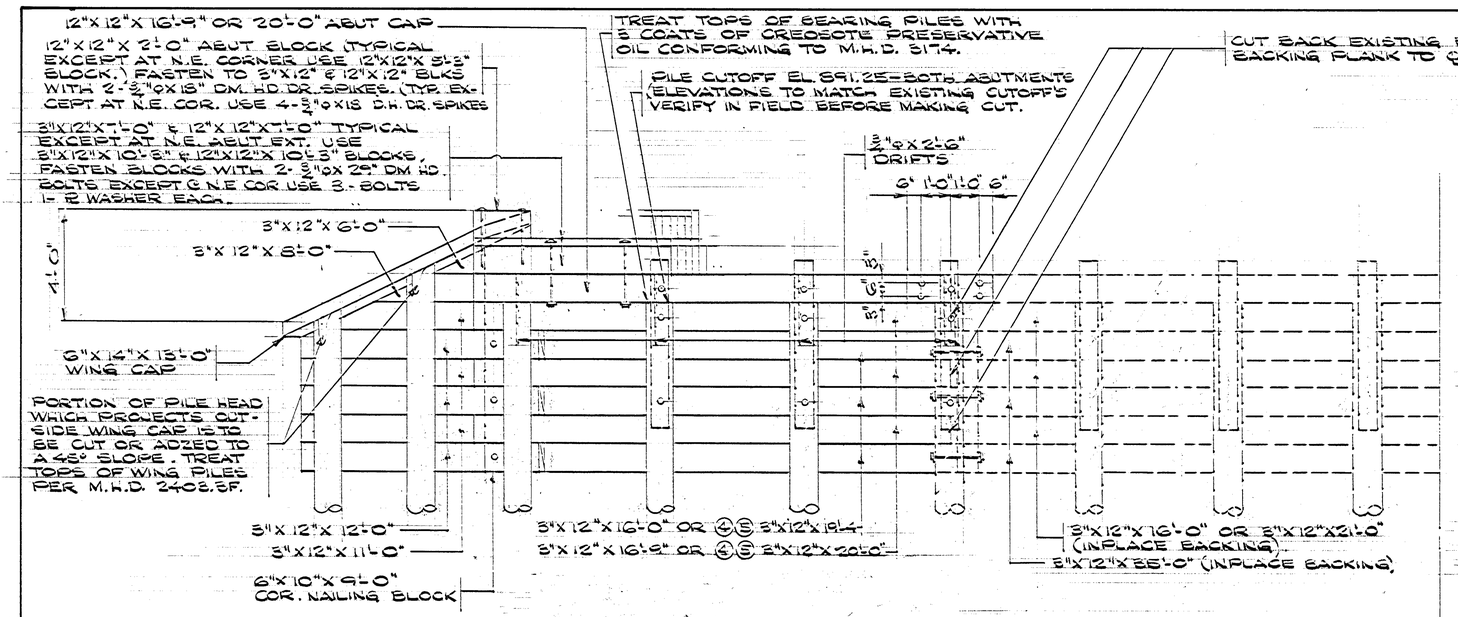
PLANS PREPARED BY
ERICKSON ENGINEERING CO.
3340 REPUBLIC AVE.
ST. LOUIS PARK, MINN 55426

C.R. 51 ANOKA COUNTY
MINNESOTA DEPARTMENT OF TRANSPORTATION

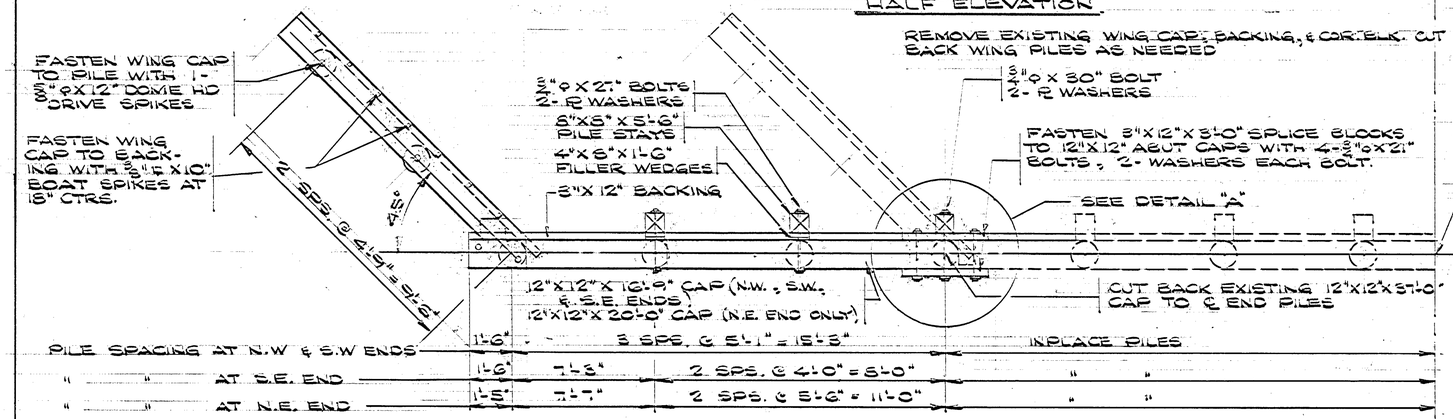
BRIDGE NO. 02520
6 MILES EAST OF ANOKA ON C.R. 51 OVER SAND CREEK.
3 - 26 FT. TREATED TIMBER SPANS
ROADWAY WIDENED FROM 29'-1" TO 52'-0" WITH 2 - 6'-0" SIDEWALKS.
SPAN IDENT. NO. 709
GENERAL PLAN & ELEVATION
SEC. 12 TWP. 31 N R. 24 W
CITY OF COON RAPIDS ANOKA COUNTY
APPROVED

SCHEDULE OF QUANTITIES FOR BRIDGE WIDENING

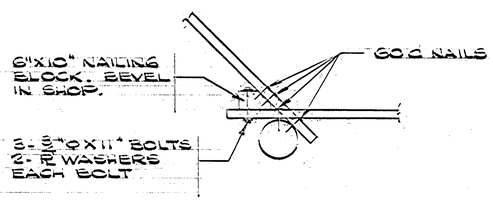
ITEM NO.	2403.502	2403.506	403.604	403.604	403.604	2402.521	403.609	2452.517	2452.503	2452.504	2511.509	2511.505	2433.501	2105.511	531.609
ITEM	TREATED TIMBER	HARDWARE	PREFAB TIMBER PANELS, TYPE A26	PREFAB TIMBER PANELS, TYPE B26	PREFAB TIMBER PANELS TYPE C26	STRUCTURAL STEEL, (3306)	GLUED LAMINATED RAIL, TYPE I	TREATED TIMBER TEST PILES 60 FT. LG.	TREATED TIMBER PILING DELIVERED	TREATED TIMBER PILING DRIVEN	RANDOM RIPRAP, CLASS A	FILTER BLANKET, TYPE I	LUMP SUM REMOVAL	COMMON CHANNEL EXCAVATION	PORTABLE PRECAST CONCRETE MEDIAN BARRIER
QUANTITY	10.48	3233	6	6	6	97	156	1	1545	1483	200	87	1	800	12
UNIT	M.B.M.	POUND	PANEL	PANEL	PANEL	POUND	LIN. FT.	EACH	LIN. FT.	LIN. FT.	CU. YD.	CU. YD.	LUMP SUM	CU. YD.	EACH



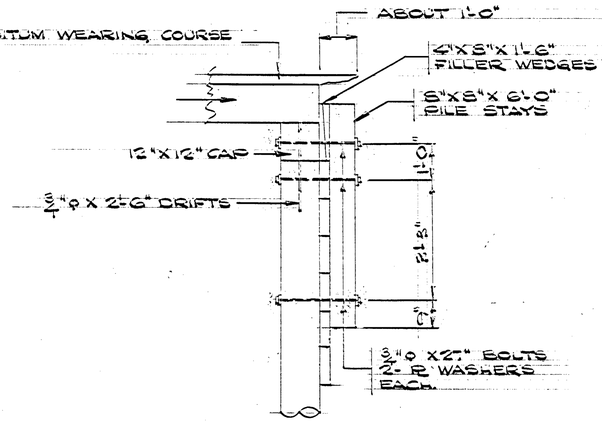
HALF ELEVATION



HALF PLAN
SCALE: ⅜"=1'-0"



WING CORNER NAILING DETAIL



SECTION THRU ABUTMENT
SCALE: ½"=1'-0"

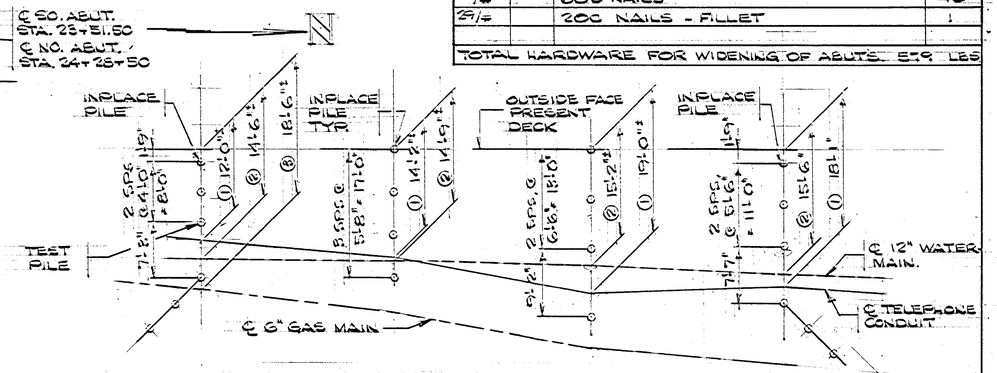
FASTEN 8"X12"X 18'-4" OR 8"X12"X 21'-0" BACKING TO EXISTING 8"X12"X 35'-0" FASTEN PER ABOVE NOTE

FASTEN EXISTING 8"X12"X 35'-0" BACKING TO 6"X10" BLOCK WITH 2-60d EA INTERSECTION.

FASTEN 8"X 8" FILLET TO 6"X10" BLK WITH 20d NAILS @ 12" CTRS

REMOVE 8"X12" WING PLANK & FASTEN 6"X10"X5'-0" BLOCK TO END PILE WITH 3-¾"ϕX30" BOLTS, 2 R WASHERS.

DETAIL "A"



PILE DIAGRAM & APPROX. LOCATION OF UTILITIES - EAST SIDE ONLY (SEE PILE NOTES)

BILL OF TREATED TIMBER FOR WIDENING OF 2 ABUTS					
ITEM	NO	FIN	SIZE	LENGTH	F.B.M
PILE CAPS	8	R	12X12	16'-9"	603
" "	1	R	12X12	20'-0"	240
SIDEWALK BLOCK	8	R	12X12	7'-0"	252
" "	1	R	12X12	10'-5"	123
" "	8	R	8X12	7'-0"	56
" "	1	R	8X12	10'-5"	51
ABUTMENT BLOCK	8	R	12X12	2'-0"	72
" "	1	R	12X12	5'-5"	65
SPLICE BLOCKS	8	R	8X12	3'-0"	72
ABUTMENT BACKING	9	R	8X12	16'-0"	432
" "	9	R	8X12	16'-9"	452
" "	3	R	8X12	19'-4"	174
" "	3	R	8X12	20'-0"	180
PILE STAYS	12	R	8X8	6'-0"	384
FILLER WEDGES	8	SEE NOTE	4X8	1'-6"	32
CORNER NAILING BLOCK	4	R	6X10	9'-0"	180
WING CAP	4	S4S	6X14	15'-0"	364
WING BACKING	12	R	8X12	12'-0"	432
" "	12	R	8X12	11'-0"	396
" "	4	R	8X12	8'-0"	96
" "	4	R	8X12	6'-0"	72
ABUT. BACKING BLOCK	4	R	6X10	5'-0"	100
FILLET	4	R	8X8	8'-0"	15
TOTAL F.B.M FOR WIDENING OF ABUTS					4628

BILL OF HARDWARE FOR WIDENING OF 2 ABUTMENTS			
UNIT WT	NO.	ITEM	TOTAL WT
3.78	20	¾"ϕ X 2'-6" DRIFTS - CAP TO PILE	76
3.72	32	¾"ϕ X 27" BOLTS - PILE STAYS	119
4.10	4	¾"ϕ X 30" " - " "	16
1.67	12	¾"ϕ X 11" " - COR. NAILING BLOCK	20
2.82	12	¾"ϕ X 20" " - ABUT BACKING BLK	34
2.98	16	¾"ϕ X 21" " - SPLICE BLOCKS	47
4.55	9	¾"ϕ X 29" DM. HD. BOLTS - S.W. BLOCKS	41
2.55	10	¾"ϕ X 18" DM. HD. DR. SPIKES - ABUT BLKS	26
1.36	8	¾"ϕ X 12" " " " " - WING CAP	11
0.41	28	¾"ϕ X 10" BOAT SPIKES - " "	11
.85	161	8"X 8"X ¾" R WASH'S FOR ¾"ϕ BOLTS	137
10/#		60d NAILS	40
29/#		20d NAILS - FILLET	1
TOTAL HARDWARE FOR WIDENING OF ABUTS: 519 LBS			

PILE NOTES:

1 - TREATED TIMBER TEST PILE 60 FT. LONG (S.E. CORNER)
8 - " " WING PILES 35 FT. "
11 - " " PILES EST. LENGTH 55 FT.
20 - " " " REQ'D FOR WIDENING OF 2 ABUTMENTS

ESTIMATED PENETRATION 2 FT. LESS THAN LENGTH GIVEN.

ALL PILES TO BE DRIVEN TO A BEARING OF NOT LESS THAN 20 TONS PER PILE, EXCEPT WING PILES.

UTILITIES TO BE EXPOSED BY EXCAVATION BEFORE DRIVING PILES. - SEE NOTE Ⓐ.

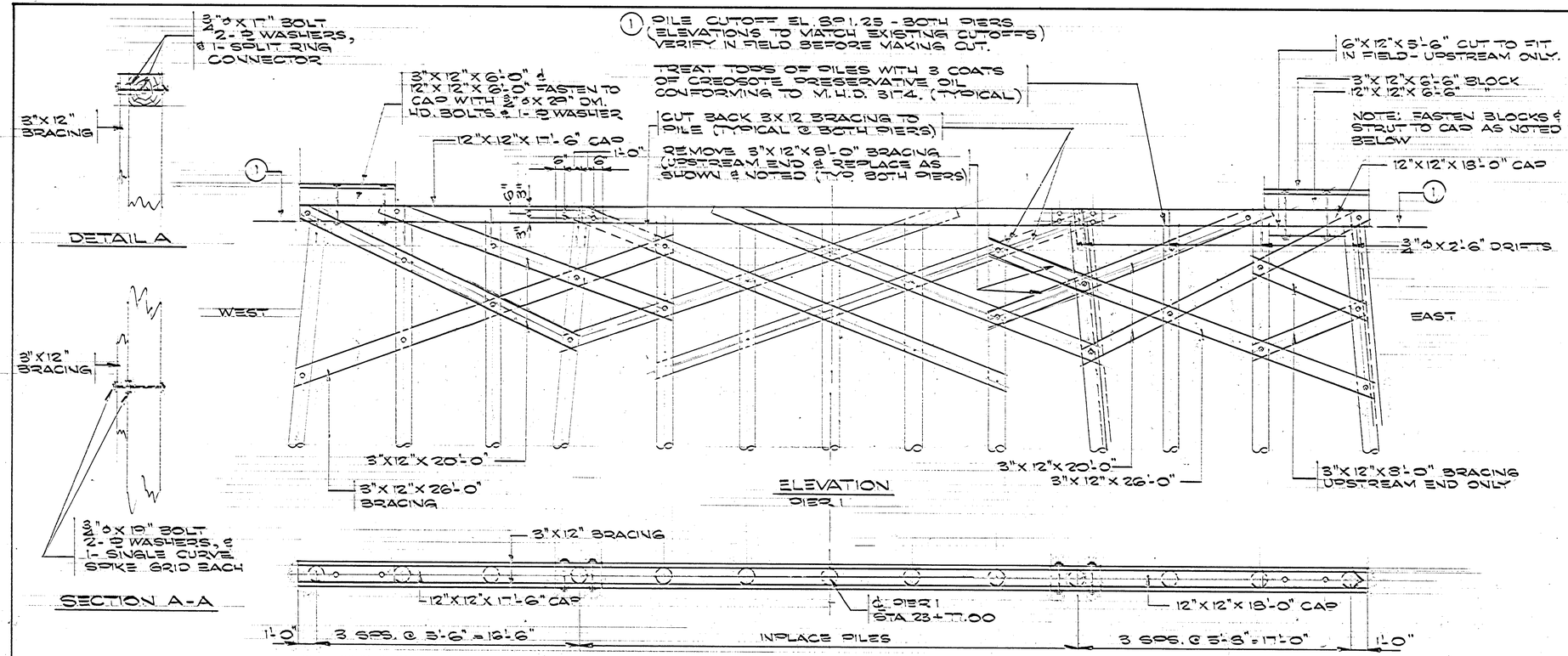
① OUTSIDE FACE PRESENT DECK TO ℄ TELEPHONE CONDUIT - 18" SQ CONC. UNIT, EXCEPT AT PIER 2 - 40" SQ. CONC. UNIT.
② OUTSIDE FACE PRESENT DECK TO ℄ 12" WATER MAIN.
③ OUTSIDE FACE PRESENT DECK TO ℄ 6" GAS MAIN.

MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 02520

ABUTMENT WIDENING DETAILS

APPROVED



BILL OF TREATED TIMBER FOR WIDENING OF 2 PIERS					
ITEM	NO.	FIN.	SIZE	LENGTH	F.B.M.
PILE CAP	2	R	12X12	17'-6"	420
" "	1	R	12X12	18'-0"	216
" "	1	R	12X12	23'-0"	276
SPLICE BLOCK	8	R	3X12	3'-0"	72
STRUT	1	R	6X12	5'-6"	33
"	1	R	6X12	9'-0"	54
PANEL BLOCK	2	R	3X12	6'-0"	36
" "	2	R	12X12	6'-0"	144
" "	1	R	3X12	6'-6"	20
" "	1	R	12X12	6'-6"	78
" "	1	R	3X12	11'-6"	35
" "	1	R	12X12	11'-6"	138
BRACING	2	R	3X12	8'-0"	48
"	2	R	3X12	12'-0"	72
"	1	R	3X12	18'-0"	54
"	6	R	3X12	20'-0	360
"	3	R	3X12	26'-0"	234
"	1	R	3X12	24'-0"	72
"	1	R	3X12	32'-0"	96
TOTAL F.B.M. FOR WIDENING OF 2 PIERS					2458

BILL OF HARDWARE FOR WIDENING OF 2 PIERS			
UNIT WT.	NO.	ITEM	TOTAL WT.
3.78	20	3/4"ø X 2'-6" DRIFTS - CAP TO PILE	76
2.95	16	3/4"ø X 21" BOLTS - SPLICE BLOCKS	47
4.55	4	3/4"ø X 29" DM. HD. BOLTS - PANEL BLKS TO PILE CAP	18
5.57	5	3/4"ø X 31" DM. HD. BOLTS - PANEL BLKS & STRUT TO PILE CAP	28
2.44	8	3/4"ø X 17" BOLTS - BRACING TO CAP	20
.70	8	4"ø SPLIT RING CONNECTORS - " " "	6
2.70	11	3/4"ø X 19" BOLTS - BRACING TO PILES	30
3.08	26	3/4"ø X 22" " - " " "	80
1.44	52	SINGLE CURVE SPIKE GRIDS	75
.85	143	3"X 3"X 5/16" ø WASHERS FOR 3/4"ø BOLTS	122
2.31	12	3/4"ø X 16" BOLTS - ICE BREAKER ∠	28
TOTAL HARDWARE FOR WIDENING 2 PIERS			530 LBS.

PIER PILE NOTES

12 - TREATED TIMBER PILES EST. LENGTH 55 FT. REQUIRED FOR WIDENING OF 2 PIERS

ESTIMATED PENETRATION 2 FT. LESS THAN LENGTH GIVEN.

ALL PILES TO BE DRIVEN TO A BEARING OF NOT LESS THAN 20 TONS PER PILE.

UTILITIES TO BE EXPOSED BY EXCAVATION (℄ PILE SPACING ON PLANS TO BE VERIFIED OR DETERMINED) BEFORE DRIVING PILES. SEE NOTES (1)

NOTE:

BOLT PROJECTIONS EXCEEDING 1" SHALL BE CUT OFF. REPAIR END OF BOLT BY PAINTING WITH ALUMINUM PAINT PER M.H.D. 3521.

MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 02520

PIER WIDENING DETAILS

APPROVED

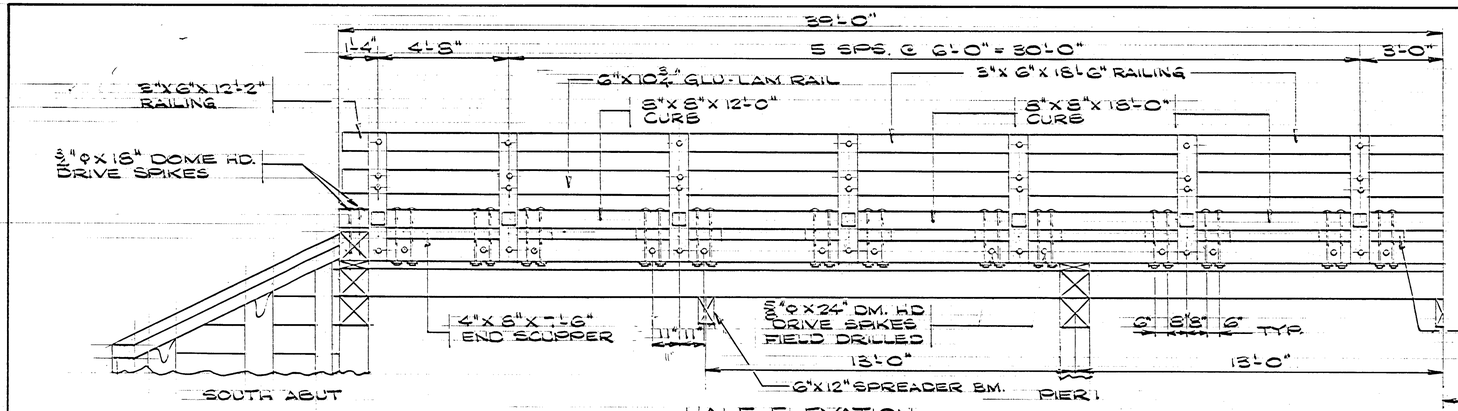
CONSTRUCTION NOTES

PANEL A26 IS THE FIRST TO BE PLACED IN PROPER POSITION OVER ABUT. & PIER CAPS AND OVER CLEAT NAILED TO OUTSIDE FACE OF PRESENT DECK. DRAW PANEL TIGHT TO PRESENT DECK WITH MIN. 3 TON LEVER HOIST. THEN DRILL HOLES & CLEAT & DRIVE DOME HEAD DRIVE SPIKES. DRILL HOLES IN CAPS & DRIVE THE ⅝"ϕ X 20" DOME HEAD DRIVE SPIKES. NEXT PLACE PANEL B26 SO UPPER SPLICE BLOCK IS OVER SPLICE BLOCK ON PANEL A26 & DRAW UP TIGHT WITH LEVER HOIST & SECURE PANEL IN SAME MANNER AS A26.

FASTEN PANEL C26 TO PANEL B26 AND ABUTMENT AS SHOWN & NOTED ON THIS SHEET & SHEET 4.

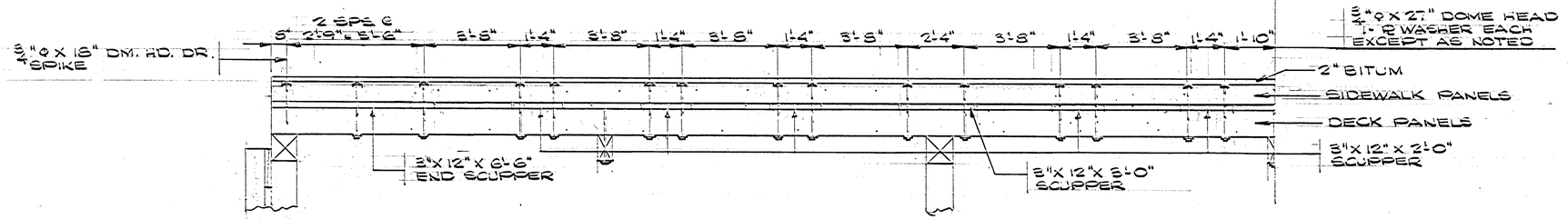
REPEAT PROCESS IN SPANS 2 & 3.

ALL HOLES WHERE DOME HEAD DRIVE SPIKES ARE USED TO BE 1/16"ϕ SMALLER THAN SPIKE SIZE.



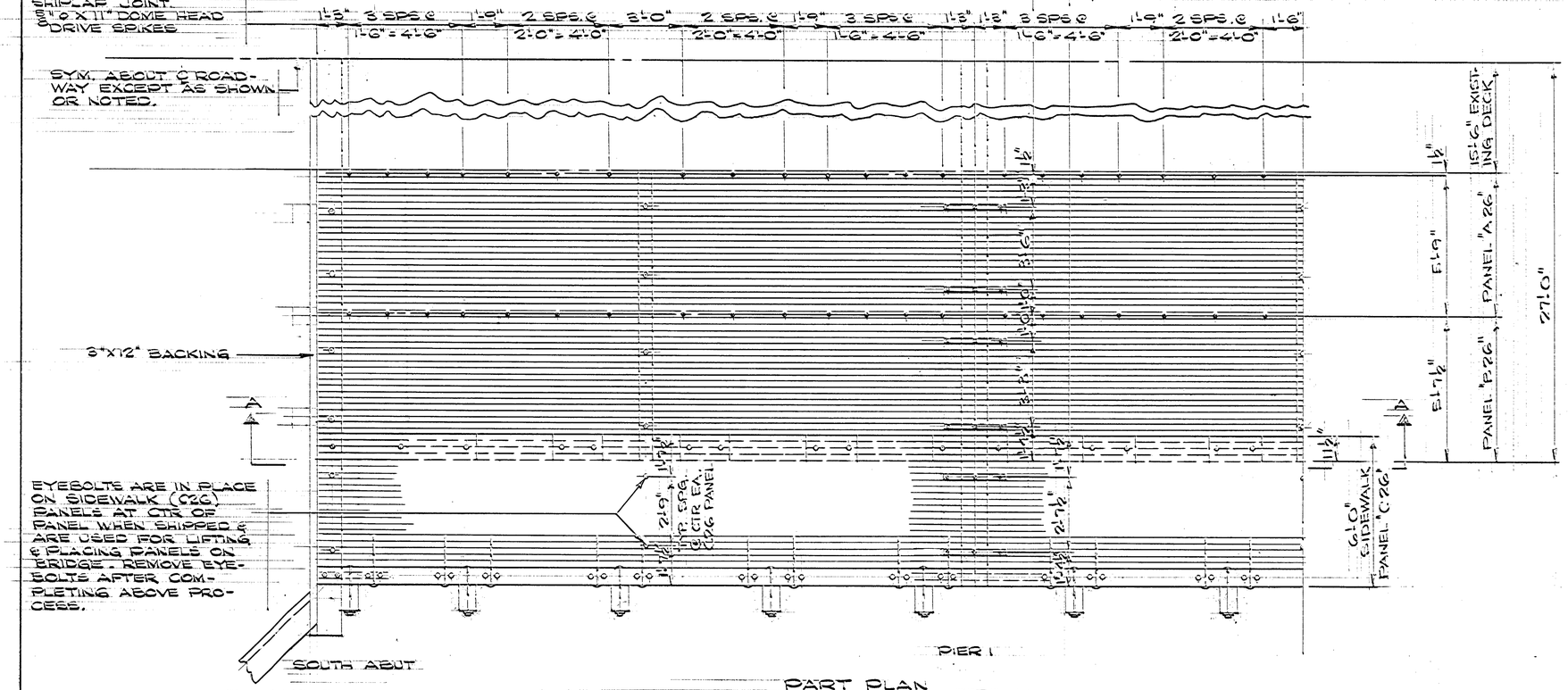
HALF ELEVATION

SYM. ABOUT ℄ BRIDGE EXCEPT AS SHOWN OR NOTED.



SECTION A-A

FASTEN 2½"X 5/16"X 2'-6" R TO PANELS WITH ⅝"ϕ X 11" DOME HEAD DRIVE SPIKES @ DECK PANELS A26 & B26.
⅝"ϕ X 5" " " " @ SIDEWALK PANELS C26
FASTEN R TO CAP WITH ¾"ϕ X 20" DOME HEAD DRIVE SPIKES - SEE DETAIL 'A' SHEET 5.



PART PLAN
SCALE: ⅜"=1'-0"

MINNESOTA DEPARTMENT OF TRANSPORTATION

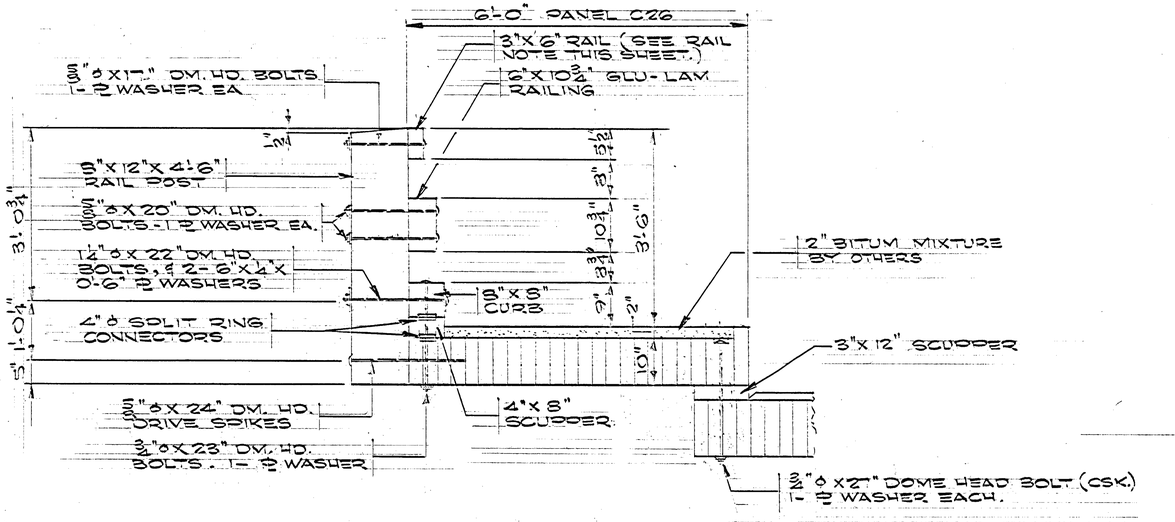
BRIDGE NO. 02520

SUPERSTRUCTURE WIDENING DETAILS

APPROVED

02520

WNJ
R.S.T.



SECTION THRU SIDEWALK

BILL OF TREATED TIMBER FOR SUPERSTR. WIDENING					
ITEM	NO.	FIN.	SIZE	LENGTH	F.B.M.
① RAIL	4	SEE NOTE	3X6	12'-2"	73
① "	6	"	3X6	18'-6"	167
CURB - END	4	S4S	8X8	12'-0"	256
" - INT.	6	"	8X8	18'-0"	576
SCUPPER - END	4	"	4X8	7'-6"	80
" - INT.	20	"	4X8	3'-0"	160
② " - END	4	SEE NOTE	3X12	6'-6"	78
② " - INT.	20	"	3X12	2'-0"	120
② " - " .	4	"	3X12	3'-0"	36
CLEAT	6	R	3X6	26'-0"	234
SPREADER BEAM	6	R	6X12	11'-6"	414
RAIL POST	28	R	8X12	4'-6"	1008
TOTAL F.B.M. FOR SUPERSTR WIDENING					3202

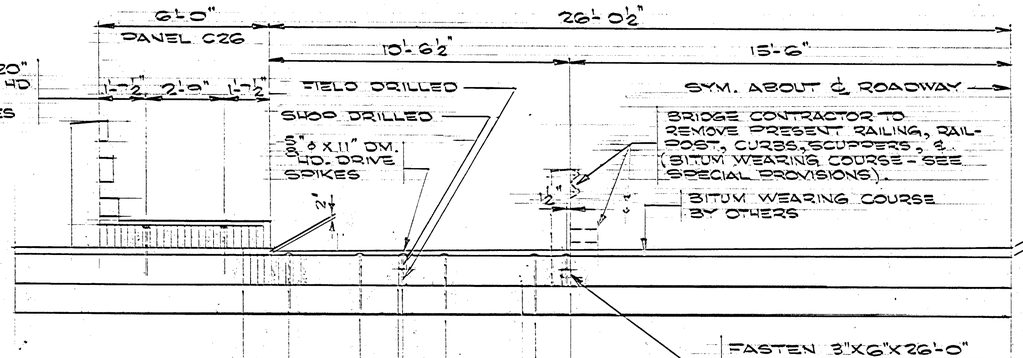
6"X 10¾" GLU-LAM RAILING, TYPE 1 156 LIN. FT.

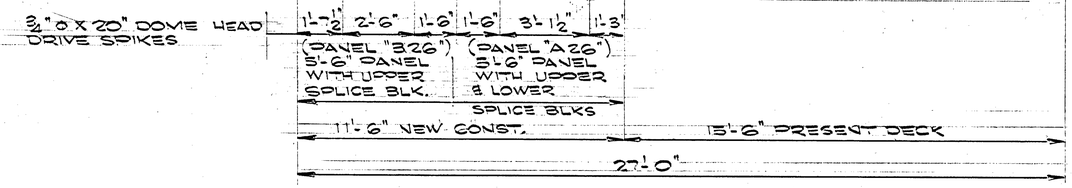
① RAIL TO BE S1S TO 3" AND SIZE TO 5½". RAIL TO BE ASSEMBLED WITH SURFACED AREA FACING ℄ ROADWAY.

② S1S TO 3" H & M & SIZE TO 11½"

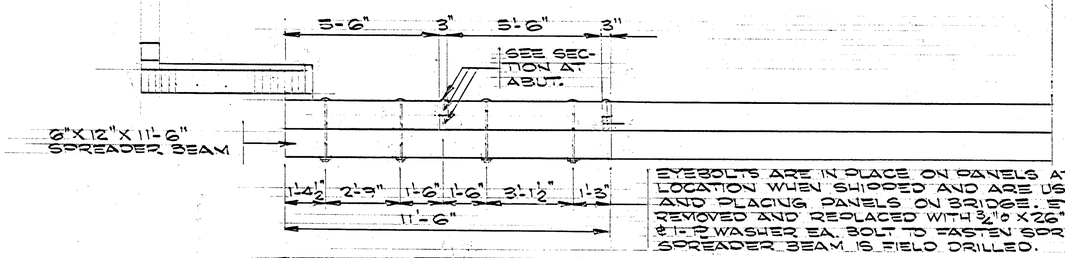
BILL OF HARDWARE FOR SUPERSTRUCTURE WIDENING			
UNIT WT.	NO.	ITEM	TOTAL WT.
4.29	56	⅝"ϕ X 27" DM. HD. BOLTS - S.W. PANEL & SCUPPER TO DECK	240
3.78	104	⅝"ϕ X 23" DM. HD. BOLTS - CURB TO S.W. PANEL	393
10/#		60d NAILS - CLEAT TO PRESENT DECK	19
16.83	28	1¼"ϕ X 22" DM. HD. BOLT W/ ⊇ WASHERS - POST TO CURB.	473
.70	224	4"ϕ SPLIT RING CONNECTOR - CURB BOLTS	157
2.37	52	⅝"ϕ X 24" DM. HD. DR. SPIKES - POST TO S.W. PANEL.	123
2.20	56	⅝"ϕ X 20" DM. HD. BOLTS - GLU-LAM RAIL	123
1.93	28	⅝"ϕ X 17" " " " - 3"X6" RAIL TO POST	54
2.55	4	¾"ϕ X 18" DM. HD. DR. SPIKES - S.W. PANEL TO SCUPPER TO DECK	10
2.55	8	¾"ϕ X 18" DM. HD. DR. SPIKES - CURB TO S.W.	20
2.81	16	¾"ϕ X 20" " " " " DECK PANEL TO ABUT	45
2.81	8	¾"ϕ X 20" " " " " S.W. " " "	22
1.27	32	⅝"ϕ X 11" " " " " ⊇'S TO PANELS A26 & B26	41
1.11	16	⅝"ϕ X 9" DM. HD. DR. SPIKES - ⊇'S TO PANELS C26	18
3.06	24	¾"ϕ X 22" DM. HD. DR. SPIKES - ⊇ TO PIER CAPS & BLOCKS.	73
4.17	24	¾"ϕ X 26" DM. HD. BOLTS - SPREADER BM.	100
0.68	84	3"X 3"X ¼" ⊇ WASHERS FOR ⅝"ϕ BOLTS	57
0.85	184	3"X 3"X 5/16" ⊇ " " ⅝"ϕ "	156
TOTAL HARDWARE FOR SUPERSTR. WIDENING 2124 LBS			

24 - GALV. 2½" X 5/16" X 2'-6" ⊇ PER M.H.D. 3306	
TOTAL SUPERSTR. STRUC. STEEL (3306)	97 LBS.



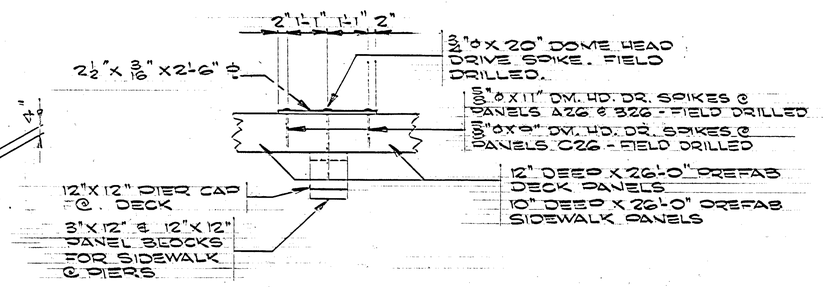


HALF TRANSVERSE SECTION AT ABUTMENT
SCALE: ⅜" = 1'-0"

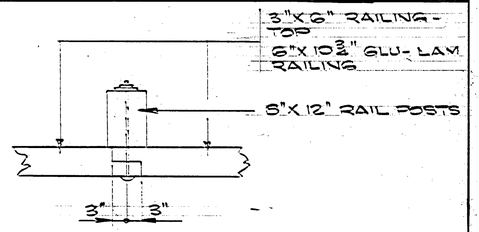


SPREADER BEAM DETAIL
SCALE: ⅜" = 1'-0"

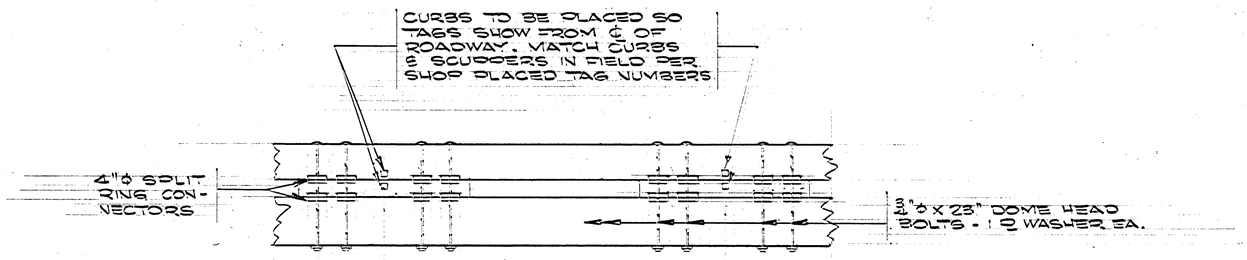
EYEBOLTS ARE IN PLACE ON PANELS AT SPREADER BEAM LOCATION WHEN SHIPPED AND ARE USED FOR LIFTING AND PLACING PANELS ON BRIDGE. EYEBOLTS ARE TO BE REMOVED AND REPLACED WITH ¾"ϕ X 26" DOME HEAD BOLTS & 1 - ⊇ WASHER EA. BOLT TO FASTEN SPREADER BEAM. SPREADER BEAM IS FIELD DRILLED.



DETAIL A



RAIL SPLICE DETAIL



CURB & SCUPPER ASSEMBLY DETAIL

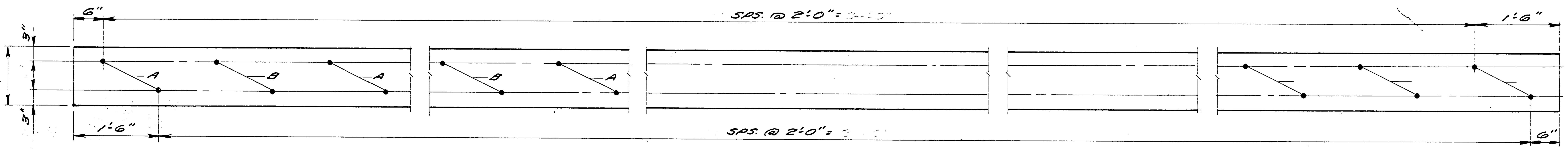
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 02520

SUPERSTRUCTURE WIDENING DETAILS

APPROVED

PLAN



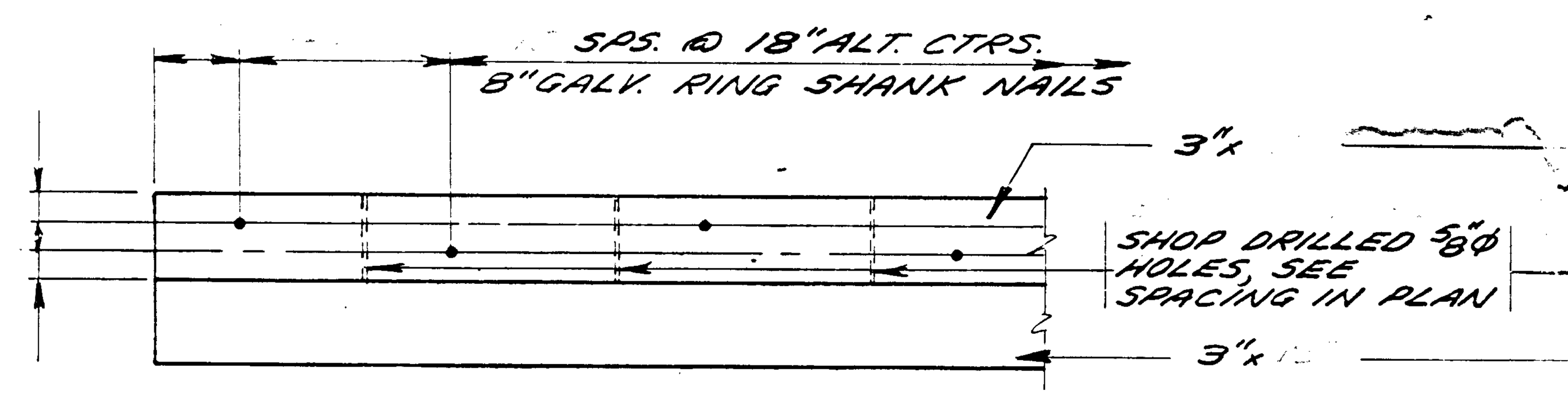
DETAIL OF 3"x PLANK BORING

SHOP FABRICATION OF TIMBER PANELS

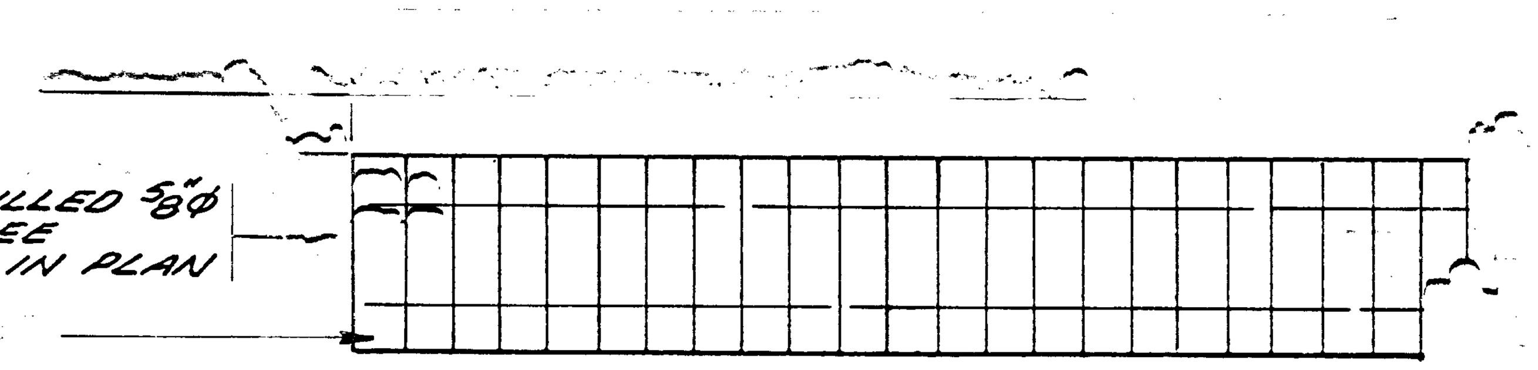
LAMINATE 3"x PLANKS USING 3/8"Ø x 5½" & 11" GALV. RING SHANK NAILS. FABRICATE 4 PLANKS FIRST AS SHOWN AND THEN ADD 2 PLANK SECTIONS TO MAKE A 6'-0" OR WIDE SECTION. THEN ADD THE 3"x PLANK AS SHOWN DEPENDING ON THE TYPE. NAIL WITH 8" GALV. RING SHANK NAILS. DRILL 5/8"Ø HOLES IN THE UPPER 3"x PLANK SPACED AS DETAILED. DRILL 13/16"Ø HOLES FOR PLACING 3/4"Ø EYEBOLTS FOR HANDLING AND WHEN REMOVED FOR FASTENING THE SPREADER BEAMS. PLANK TO BE PREBORED AS PER DETAIL BEFORE BEING TREATED. SET RING SHANK NAILS IN POSITION IN PREBORED HOLES OF 2 PLANK UNITS. AIR HAMMER TO BE USED TO DRIVE THE NAILS SO PLANKS ARE DRIVEN TIGHT TOGETHER TO MAKE DIMENSIONS OF 6'-0" & WIDE UNITS.

ALL PLANK ARE SURFACED ONE SIDE SO THAT THE UNITS WILL BE 6'-0" OR WIDE AFTER FABRICATING THE PANELS.

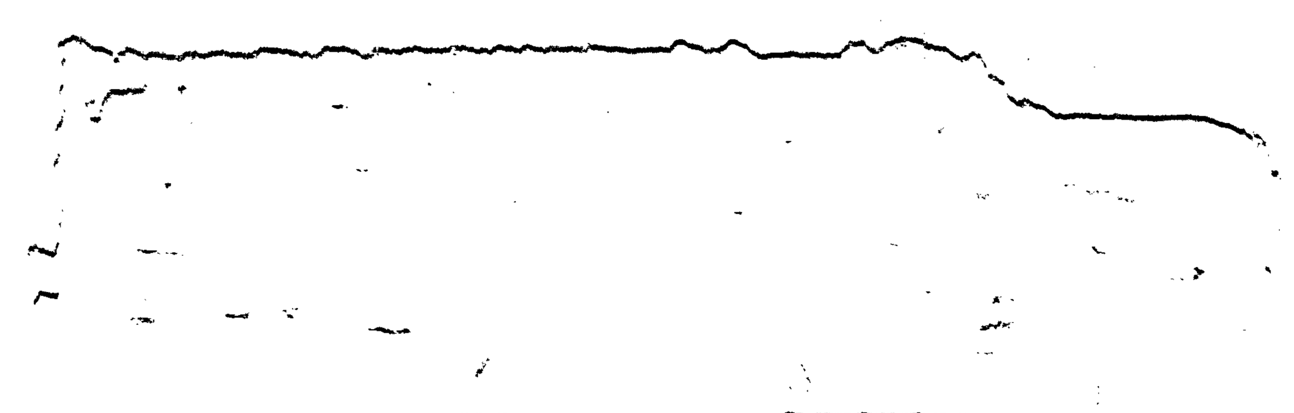
PLANKS TO BE CREOSOTE TREATED AS PER M.H.D. 3491.

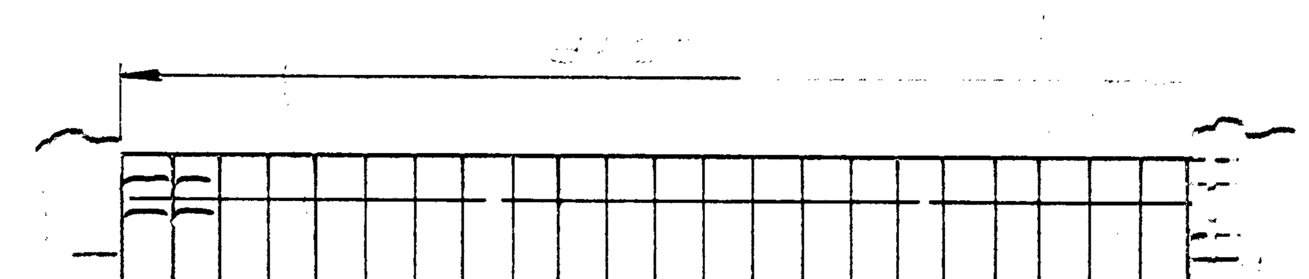


NAILING OF 3"x TIMBER TO PANEL



PANEL





PANEL

TREATED TIMBER FOR PANELS								
NO. REQUIRED				ITEM	M.B.M. FOR			
[illegible]	[illegible]				[illegible]	[illegible]		
[illegible]	[illegible]			3"x SIS- 'LG.	[illegible]	[illegible]		
[illegible]				3"x SIS- 'LG.	[illegible]	[illegible]		
				TOTAL M.B.M.	[illegible]	[illegible]		

GALVANIZED HARDWARE FOR PANELS								
NO. REQUIRED				ITEM	WEIGHT FOR			
[illegible]	[illegible]				[illegible]	[illegible]		
[illegible]	[illegible]			3/8"x11" RING. SH. NAILS	[illegible]	[illegible]		
[illegible]	[illegible]			3/8"x5½" " " "	[illegible]	[illegible]		
[illegible]	[illegible]			5/16"x8" WIRE SPIKES	[illegible]	[illegible]		
				TOTAL WEIGHT	[illegible]	[illegible]		

PREFAB TIMBER PANEL DETAILS

APPROVED:

BRIDGE NUMBER

SHEET OF SHEETS

DETAIL OF 3"×10" & 3"×12" PLANK BORING

SHOP FABRICATION OF TIMBER PANELS

LAMINATE 3"×10" & 3"×12" PLANKS USING 3/8"Ø × 5½" & 11" GALV. RING SHANK NAILS. FABRICATE 4 PLANKS FIRST AS SHOWN AND THEN ADD 2 PLANK SECTIONS TO MAKE A 6'-0" WIDE SECTION.

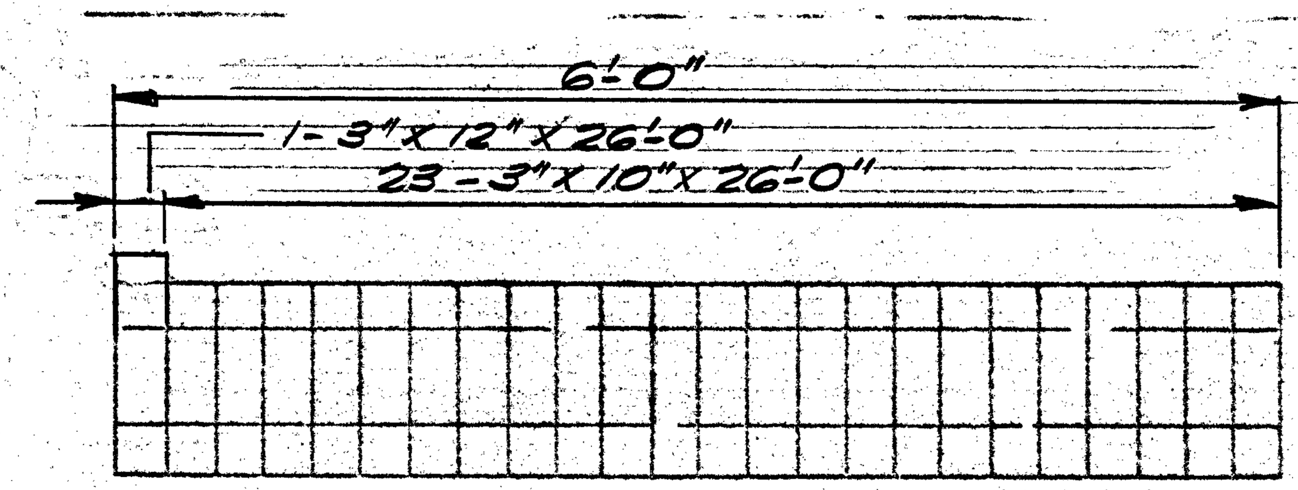
PLANK TO BE PREBORED AS PER DETAIL BEFORE BEING TREATED. SET RING SHANK NAILS IN POSITION IN PREBORED HOLES OF 2 PLANK UNITS. AIR HAMMER TO BE USED TO DRIVE THE NAILS SO PLANKS ARE DRIVEN TIGHT TOGETHER TO MAKE DIMENSIONS OF 6'-0" WIDE UNIT.

ALL PLANK ARE SURFACED ONE SIDE SO THAT THE UNIT WILL BE 6'-0" WIDE AFTER FABRICATING THE PANEL.

PLANKS TO BE CREOSOTE TREATED AS PER M.H.D. 3491.

TREATED TIMBER FOR PANELS								
NO. REQUIRED				ITEM	M.B.M. FOR			
C26					C26			
23				3"×10 S1S-26' LG.	1.495			
1				3"×12 S1S-26' LG.	.065			
				TOTAL M.B.M.	1.560			

GALVANIZED HARDWARE FOR PANELS								
NO. REQUIRED				ITEM	WEIGHT FOR			
C26					C26			
144				3/8"×11" RING. SH. NAILS	58			
24				3/8"×5½" " " "	6			
				5/16"×8" WIRE SPIKES				
				TOTAL WEIGHT	64			



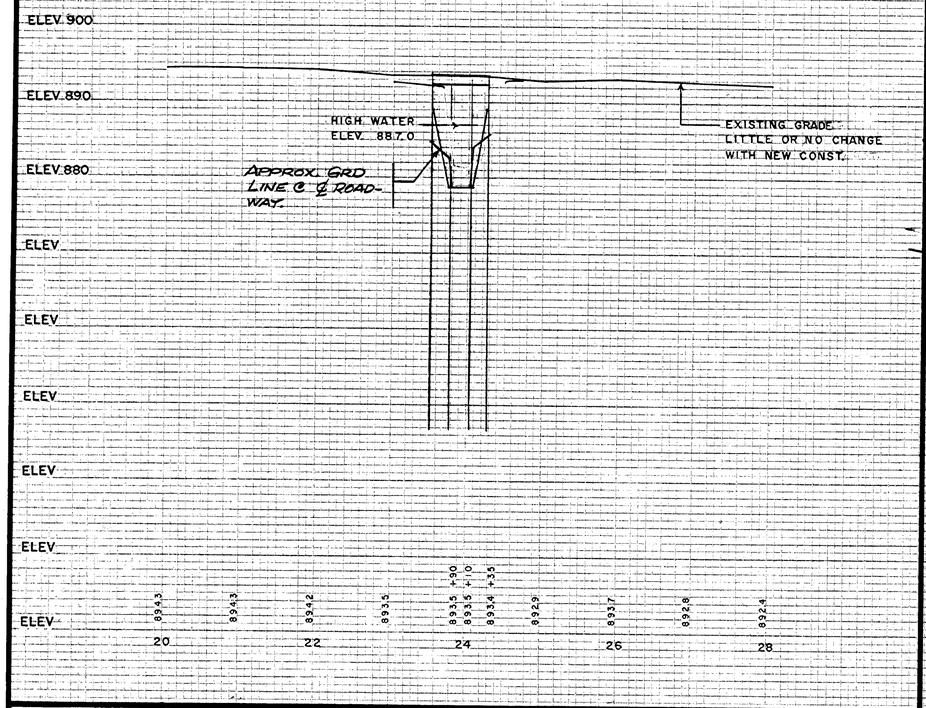
PANEL C26

PREFAB TIMBER PANEL DETAILS	BRIDGE NUMBER 02520
APPROVED:	

SHEET 7 OF SHEETS 02520 WNJ RRT

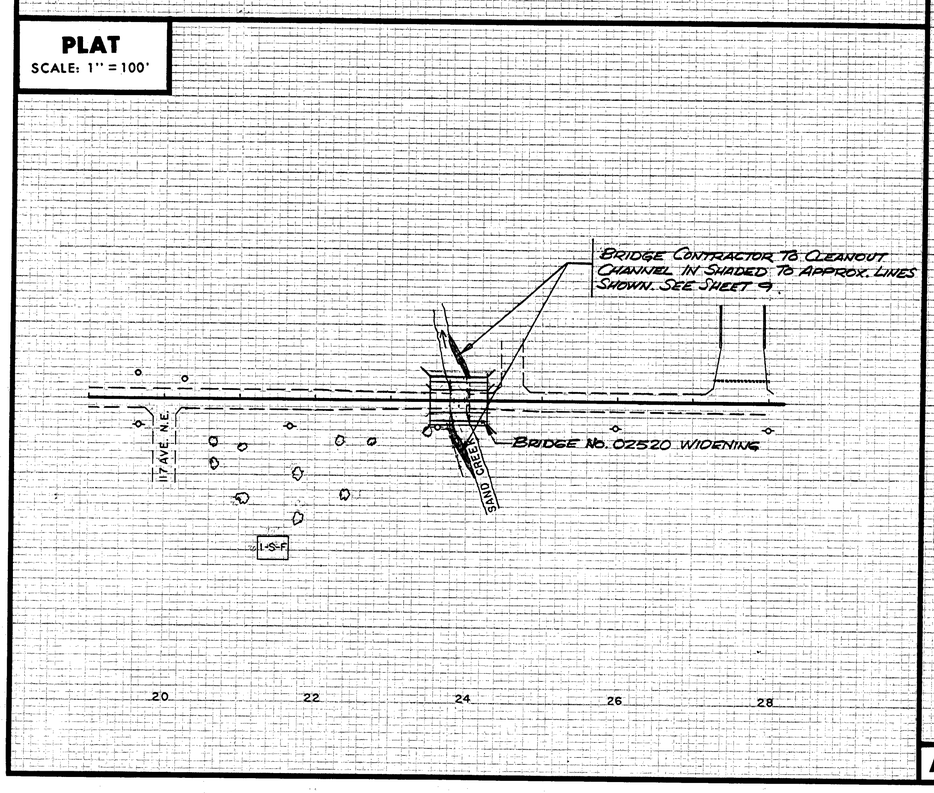
CONTRACTED PROFILE

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



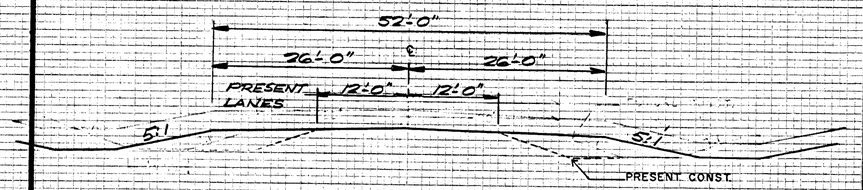
PLAT

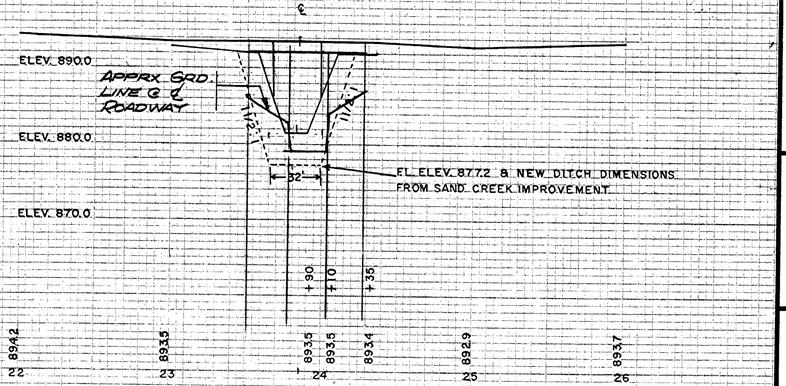
SCALE: 1" = 100'



TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN



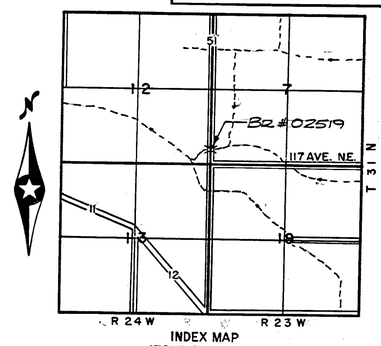


B.M. ELEV. 893.34 (M.S.L. 19 ADJ.)

SCALE HOR. 1"=50' VER. 1"=10'

SEE SHEET 4 OF 4 SHEETS FOR PLAN AND PLAN AND PROFILE

Fed. Proj. No.



INDEX MAP (FOUR SECTIONS)

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

DATA

1. Preliminary recommendations of Engineer in charge of Bridge Survey:
   a. Net span length and type of bridge: 3 Treated Timber Spans @ 26'
   b. Width of roadway on bridge: 29'-1" WIDENED TO 52'-1" WITH 2-6'-0" SIDEWALKS
   c. Number and width of sidewalks, if any: None
   d. Locate center of bridge at station: 23+96
   e. If a skew bridge is recommended, the angle of skew should be: NONE
   f. Is piling required? YES
2. Special features: Waterfalls, dams, exceptional floods, ice, driftwood, sliding banks, logging, etc.: NONE
3. Changes: In height or length from that of old bridge, and reasons why: 4 INCHES UP TO ACCOMMODATE ADDITIONAL SURFACE
4. Other bridges in vicinity:
   a. Over same stream (particularly structures which carry high water without overflow of roadway); give location, length, height above water, net cross-sectional area at high water stage and estimated age: APROX. 2 MI. DOWNSTREAM 1-48" C.M.P 1-60" C.M.P IMPROVED 1965 NET CROSS SECTION AREA 141 SQ. FT.
   b. Over or under same highway or railroad; give location, length, horizontal and vertical clearances and estimated age:
   c. Reasons why these bridges are, or are not, fair indications of what length the proposed bridge should be:
5. If structure is over a drainage ditch, is ditch gradient liable to be altered? YES
6. Navigation clearances required, if any: NONE
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? YES
   If so, by what means? BY PASS

HYDRAULIC ENGINEERS RECOMMENDATION

HIGH AND LOW WATER ELEVATIONS

Data obtained from LOCAL RESIDENT reflects highest water elevation in the area of this construction to be 887.0 and the lowest water elevation to be ..... The above figures are for informational purposes only. The state neither warrants nor represents that these figures for high water and low water are in any way indicative of the high water or low water to be expected or encountered during this construction.

SHIPPING POINT

Proposed Bridge is 6 miles EAST of * ANOKA 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 6 MILES EAST OF ANOKA (TOWN OR CITY) ON C.R. NO. 51 (T.H., C.S.A.H. OR C.A.R. NUMBER)

SEC. 12 TWP. 31 N R. 24 W

CITY OF COON RAPIDS COUNTY ANOKA

SURVEY MADE DURING MONTH OF JANUARY 19 66

SURVEY MADE BY .....

BRIDGE NO. 02520

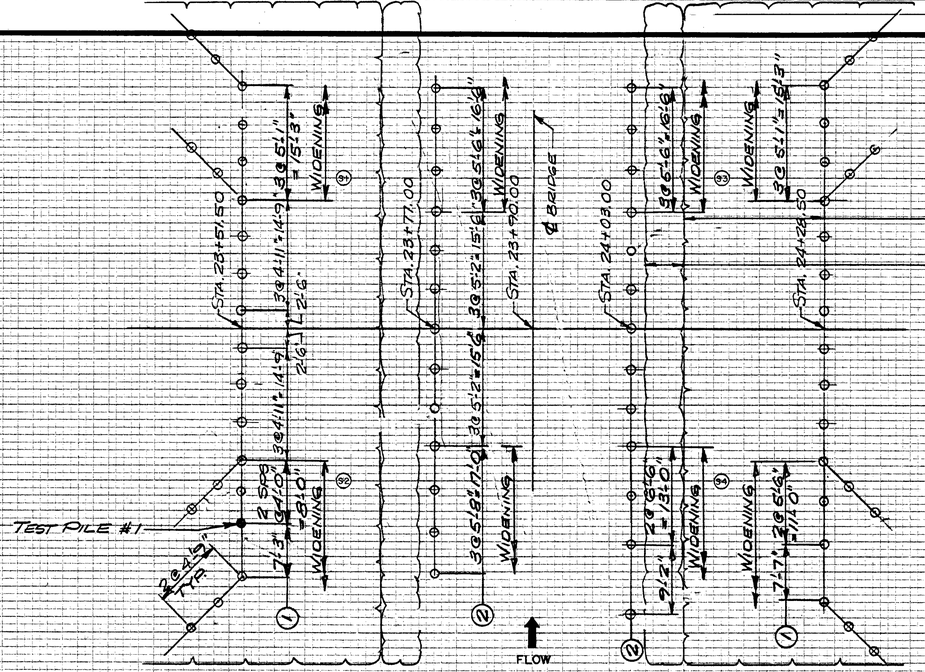
Area No. Job No. State Proj. No. Sheet No. 8 of 9 Sheets

Bridge Survey Sheet (Sheet 1 of 2)

Courtesy

Fed. Proj. No.

SCALE: 1" = 10'



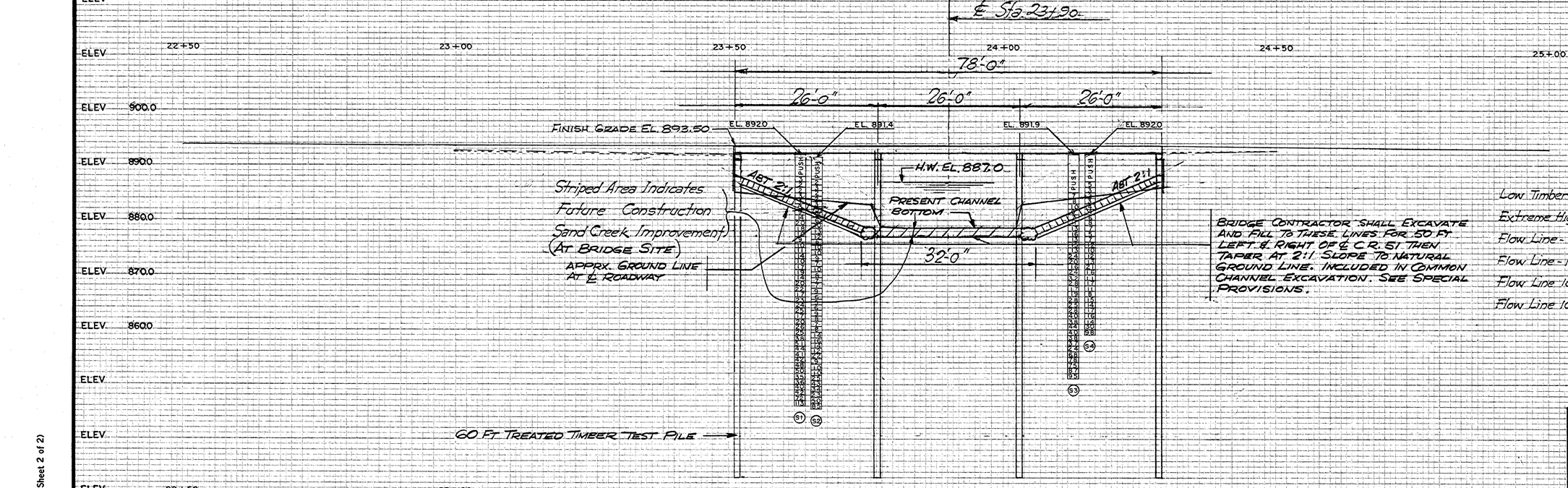
RANDOM RIPRAP
AVE 1 FT. THICK - BOTH ABUTS

RANDOM RIPRAP
AVE 2 FT. THICK - BOTH ABUTS

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

① SEE PILE NOTES SHEET 2

② SEE PILE NOTES SHEET 3



BRIDGE CONTRACTOR SHALL EXCAVATE AND FILL TO THESE LINES FOR 50 FT LEFT & RIGHT OF ℄ C.R. 51 THEN TAPER AT 2:1 SLOPE TO NATURAL GROUND LINE. INCLUDED IN COMMON CHANNEL EXCAVATION. SEE SPECIAL PROVISIONS.

Low Timber 892.25
Extreme High Water 887.0
Flow Line - Future Ditch 877.2
Flow Line - Present Ditch 881.3
Flow Line 1000' Upstream 881.9
Flow Line 1000' Downstream 880.2

BORINGS SHOWN [S] 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. 02520

BRIDGE SURVEY
PLAN AND PROFILE

SEE SHEET NO 8 FOR ADDITIONAL INFORMATION

State Proj. No.

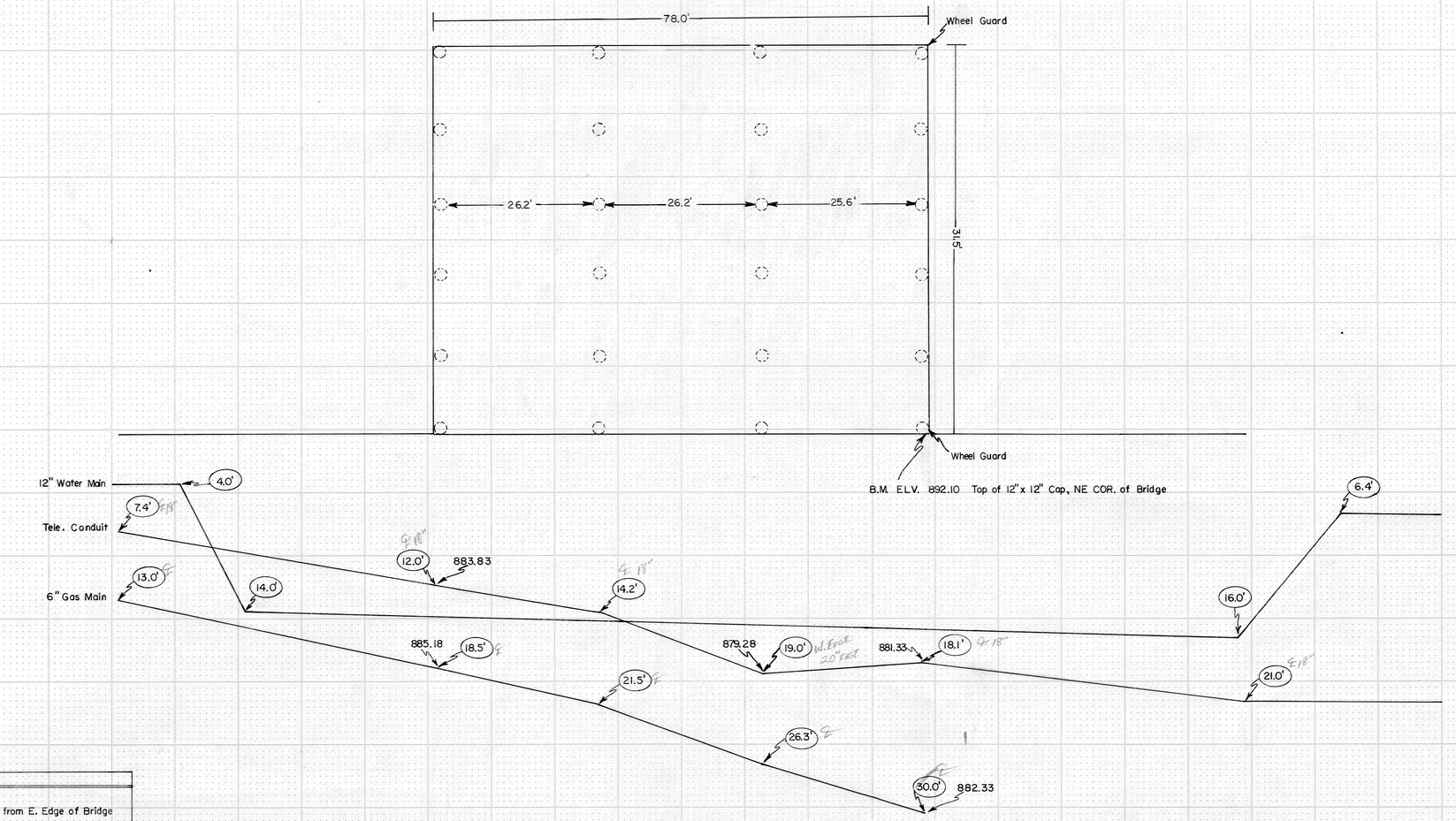
Sheet No. 9 of 9 Sheets

Bridge Survey Sheet (Sheet 2 of 2)

FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
NOTE BOOK
NO.
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
NOTE BOOK
NO.
AREAS
AREAS CHECKED
BY
DATE

N



HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL DOT
TELEDYNE
PRINTED IN U.S.A.

UTILITIES LOCATION CR. 51 & SAND CREEK BR. NO. 02520