MINNESOTA DEPARTMENT OF TRANSPORTATION

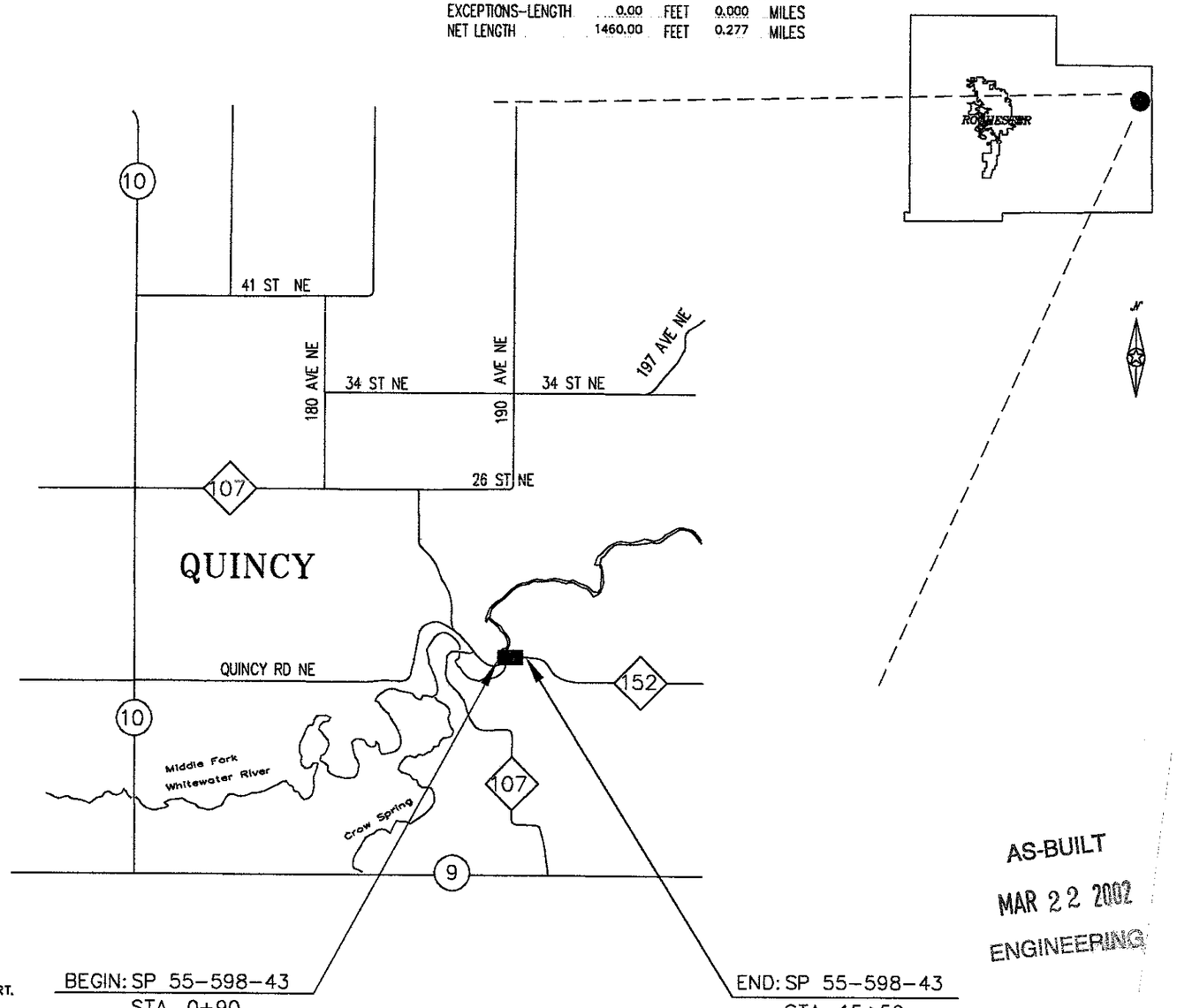
THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR BRIDGE REPLACEMENT (NO. L6278 OLD) (55563 NEW)

LOCATED ON CR 152 BETWEEN CR 107 & CR 152 1200' EAST OF JCT. AND CR 107 & CR 152 2660' EAST OF JCT. (GEOGRAPHIC DESCRIPTION)

FROM APPROX. 1320 FEET NW of the SE COR. 26 T 107 N – R 11 W TO APPROX. 740 FEET N of the SE COR. 26 T 107 N – R 11 W (LEGAL DESCRIPTION)

S.P. NO.	55-598-43			
GROSS LENGTH	1460.00	FEET	0.277	MILES
BRIDGE-LENGTH	105.76	FEET	0.020	MILES
EXCEPTIONS-LENGTH	0.00	FEET	0.000	MILES
NET LENGTH	1460.00	FEET	0.277	MILES



AS-BUILT
MAR 22 2002
ENGINEERING

PLAN 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
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
SLOPE EASEMENT

UTILITIES SYMBOLS

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

EROSION CONTROL SYMBOLS

TEMPORARY SILT FENCE
RIP RAP DITCH CHECKS

SCALES

PLAN 0 100'
PROFILE 0 100' HORIZ. 0 10' VERT.
CROSS SECTIONS 0 10'
INDEX MAP 0 2640'

MINN. PROJ. NO. BROS 5500 (121)

GOVERNING SPECIFICATIONS

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

INDEX FOR GRADING & BRIDGE (55563)

SHEET NO. 1	TITLE SHEET
SHEET NO. 2	TYPICAL SECTION & ESTIMATE OF QUANTITIES
SHEET NO. 3	PLAN & PROFILE SHEETS
SHEET NO. 4-5	CROSS SECTION SHEETS
SHEET NO. 6-10	EROSION CONTROL SHEETS
SHEET NO. 11	TRAFFIC CONTROL SHEET
SHEET NO. B1- B20	BRIDGE PLANS

THIS PLAN CONTAINS 31 SHEETS.

DESIGN DESIGNATION: S.P. 55-598-43

R ΣN18(20)
ADT (Current Year) = 104 (2001) Design Speed 35 MPH
ADT (Future Year) = 166 (2021) Based on STOPPING Sight Distance
DHV (Design Hr. Vol.) = Height of eye 3.5 FT. Height of object 0.5 FT
D (Directional Distr.) = Design Speed not achieved at:
T (Heavy Commercial) = STA. TO STA. mph
SUBGRADE = STA. TO STA. mph
LANE WIDTH 11 FT.
SHOULDER WIDTH 3 FT.
SOIL FACTOR = 1.30%

FUNCTIONAL CLASSIFICATION: LOCAL COLLECTOR

DESIGN ENGINEER: 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 2/28/01 LICENSE NUMBER 19917
PRINTED NAME: KAYE M. BIENIEK
SIGNED NAME: Kaye M. Bieniek
APPROVED: COUNTY DESIGN ENGINEER

DESIGNED BY: Holmes

DATE 2/28/01 LICENSE NUMBER 10397
APPROVED: OLMSTED COUNTY ENGINEER

RECOMENDED FOR APPROVAL: STATE BRIDGE ENGINEER DATE: 3-15-01

STATE AID & FEDERAL AID APPROVALS:

DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE- AID RULES/POLICY DATE: 4/26/01

APPROVED FOR STATE AID & FEDERAL AID FUNDING: STATE AID ENGINEER DATE: 3-6-01

ESTIMATED QUANTITIES

As built

	SPECIFICATION NO.	ITEM	UNIT	GRADING	BRIDGE	TOTAL ESTIMATED QUANTITIES
①	2101.5#1	CLEARING & GRUBBING	LUMP SUM	1		1
②③	2105.515	UNCLASSIFIED EXCAVATION	CU YD	2954		(P) ~~2954~~ 1279
	2105.523	COMMON BORROW (CV)	CU YD	4514		(P) ~~4514~~ 7508
	2211.501	AGG. BASE CLASS 5	TON	1450		~~1450~~ 1459
	2563.601	TRAFFIC CONTROL	LUMP SUM		1	1
④	2573.501	BALE CHECK	EACH	140		~~140~~ 0
④	2573.502	SILT FENCE, TYPE HEAVY DUTY MAINTAINED	LIN FT	1200		~~1200~~ 1027
	2575.501	SEEDING	ACRE	2		(P) 2
	2575.502	SEED MIXTURE 50A	POUND	100		100
	2575.502	SEED MIXTURE 110A	POUND	160		~~160~~ 189
	2575.511	MULCH MATERIAL TYPE 1	TON	4		~~4~~ 3
	2575.519	DISC ANCHORING	ACRE	2		(P) 2
	2575.532	COMMERCIAL FERTILIZER ANALYSIS 12-12-12	POUND	400		400
④⑤	2575.605	EROSION CONTROL BLANKET CATEGORY 2	SQ YD	600		~~600~~ 432

QUANTITY NOTES:

① APPROX. 0.25 ACRES OF TREES IN R/W. TREES FOR REMOVAL SHALL BE DESIGNATED BY THE ENGINEER.

② UNCLASSIFIED EXCAVATION INCLUDES SUBGRADE TREATMENT AS SHOWN IN TYPICAL SECTION AND CROSS SECTIONS. 660 CU. YDS. OF TOPSOIL TO BE SALVAGED FROM UNCLASSIFIED EXCAVATION.

③ APPROX. 1325 CU. YDS. OF BRIDGE EXCAVATION MATERIAL TO BE USED AS EMBANKMENT ON ROAD GRADING SECTIONS.

④ SPECIFICATION 1903 SHALL NOT APPLY FOR THESE ITEMS.

⑤ TO BE PLACED ON 1:2 SLOPES BY BRIDGE AS DIRECTED BY ENGINEER IN THE FIELD.

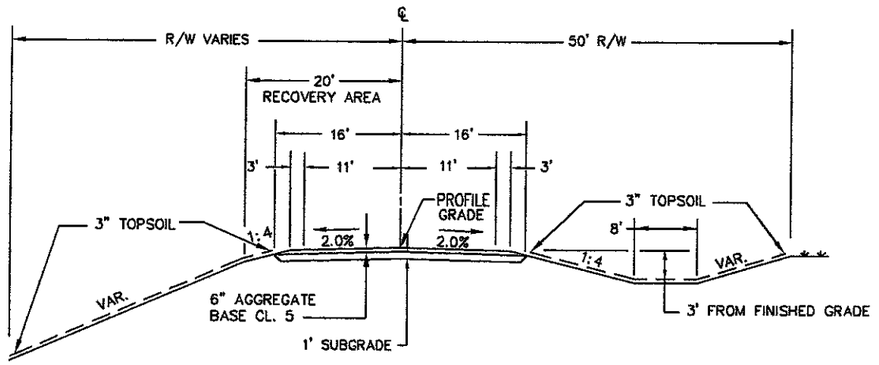
STANDARD PLATES

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
	NUMERICAL INDEX OF STANDARD PLATES
8000.1	STANDARD BARRICADES

TYPICAL SECTION

STA. 0+90 TO 15+50



NOTES: ALL UTILITY POLES AND UNYIELDING OBJECTS WILL BE LOCATED OUTSIDE THE 20' RECOVERY AREA BY OTHERS.

QUANTITY NOTES:

AGGREGATE BASE CLASS 5 – 140LBS./CU.FT. COMPACTED
SEED MIXTURE 50A – 50 LBS/ACRE
SEED MIXTURE 110A – 80 LBS/ACRE
MULCH MATERIAL – 2 TONS/ACRE
DISK ANCHORING – ALL SEEDING AREAS EXCEPT 1:2 SLOPES
COMMERCIAL FERTILIZER – 200 LBS/ACRE

AS-BUILT
MAR 22 2002
ENGINEERING

BEGIN PROJ. STA 0+90

PI STA 7+40.83
Δ = 78° 55' 30"
D = 12° 43' 57"
T = 370.46'
L = 619.87'
R = 450.00'

PC = 3+70.37

PT = 9+90.25

PI STA 14+29.38
Δ = 29° 31' 35"
D = 13° 58' 28"
T = 108.04'
L = 211.29'
R = 410.00'

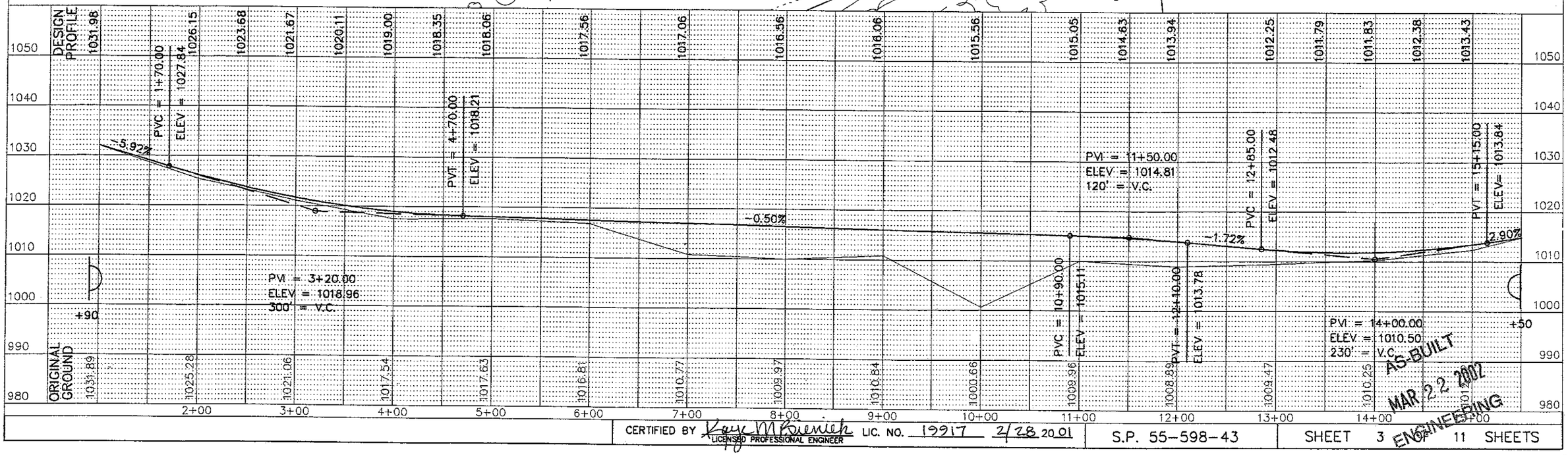
PC = 13+21.34

PT = 15+32.62

END PROJ. STA 15+50

50' R/W

BRIDGE NO. 55563

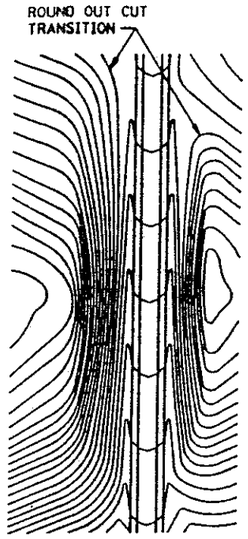


CERTIFIED BY Kaye M Bruinsma LICENSED PROFESSIONAL ENGINEER LIC. NO. 19917 2/28 20 01

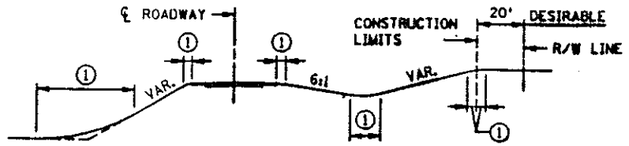
S.P. 55-598-43

SHEET 3 OF 11 SHEETS

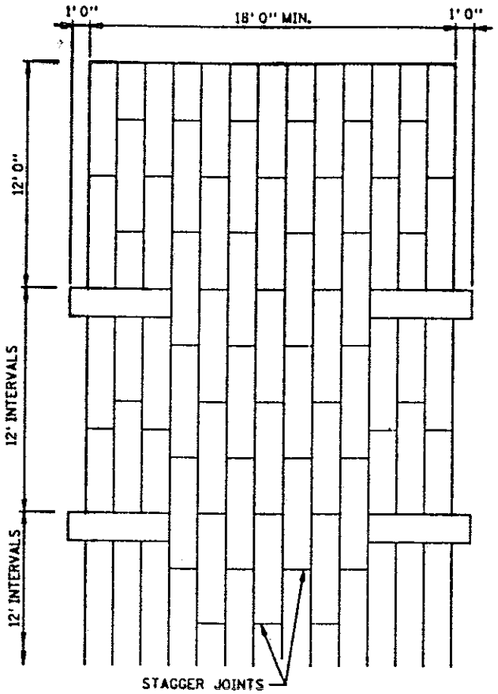
AS-BUILT
MAR 22 2002
ENGINEERING



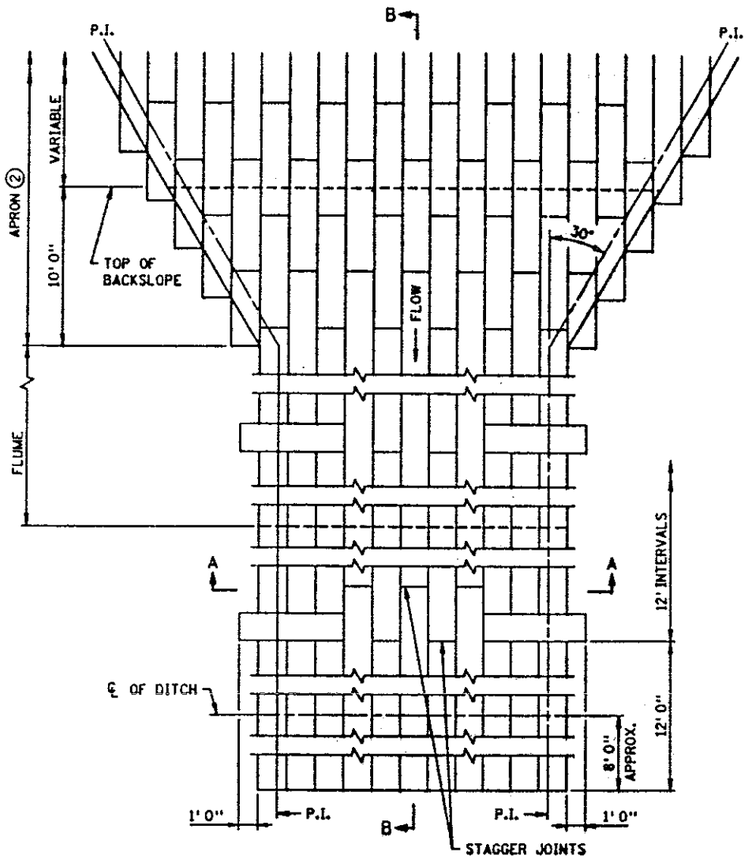
CONTOURING ROAD CUTS



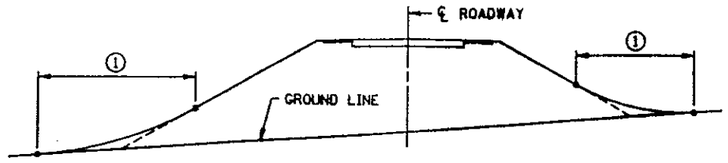
ROUNDING SHOULDERS AND BACKSLOPES



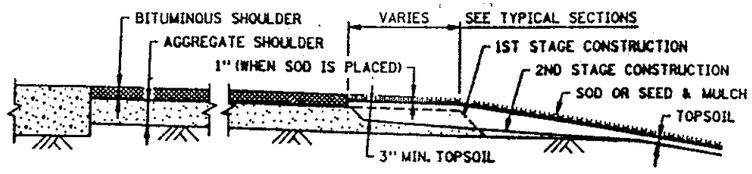
PLAN VIEW



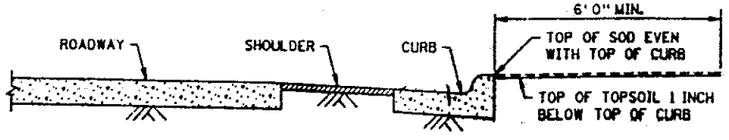
PLAN VIEW



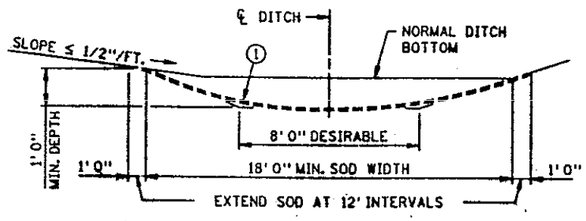
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



SHAPING AND TOPSOILING INSLOPES

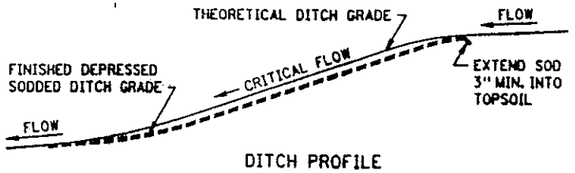


SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



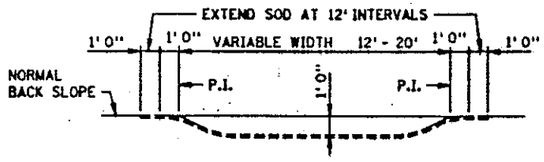
SODDED DITCH CROSS SECTION

WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THAN PROVIDE ROUNDING.

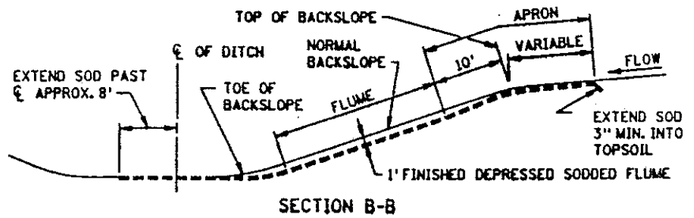


DITCH PROFILE

SODDED DITCH DETAILS



SECTION A-A



SECTION B-B

SODDED FLUME DETAILS

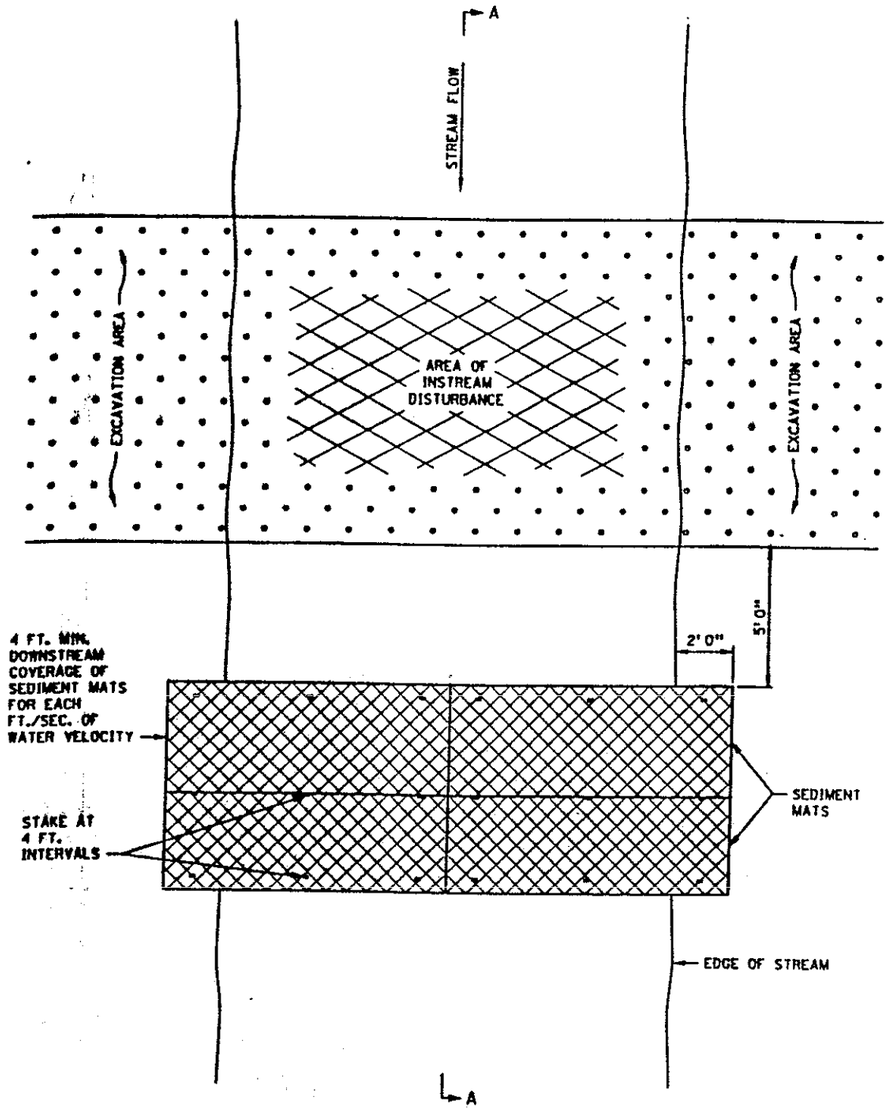
NOTES:

SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.

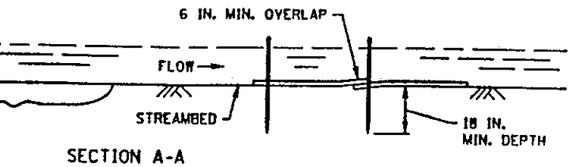
① FOR ROUNDING, SEE ROAD DESIGN MANUAL.

② CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

STANDARD SHEET NO. 5-297.404	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED: DECEMBER 19, 1990	
STATE PROJ. NO. 55-598-43	SHEET NO. 6 OF 11 SHEETS



PLAN VIEW

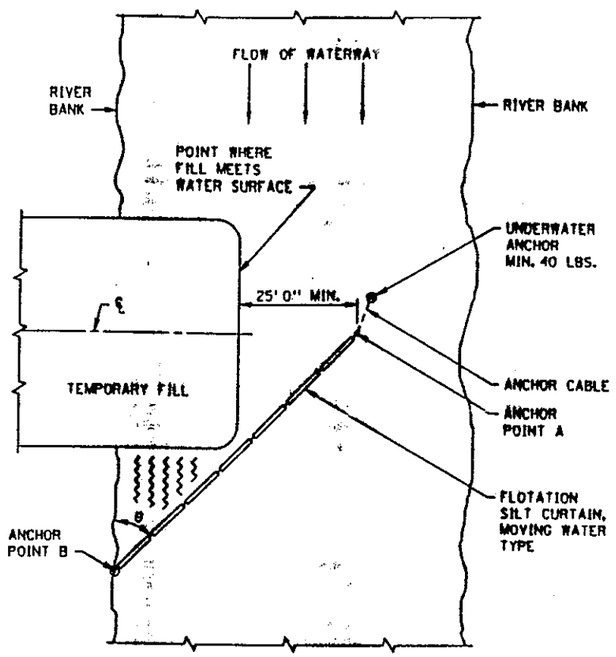


SECTION A-A

SEDIMENT MAT

TYPICAL STREAMBED INSTALLATION

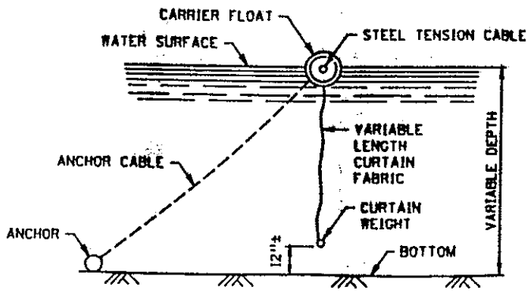
DESIGN CRITERIA:
MAXIMUM FLOW VELOCITY: 5 FT./SEC.
MAXIMUM FLOW DEPTH: 2 FT.



∠ θ	RIVER VELOCITY
45°	SLOW, LESS THAN 5 FT./SEC.
35°	MODERATE, 5 - 7 FT./SEC.

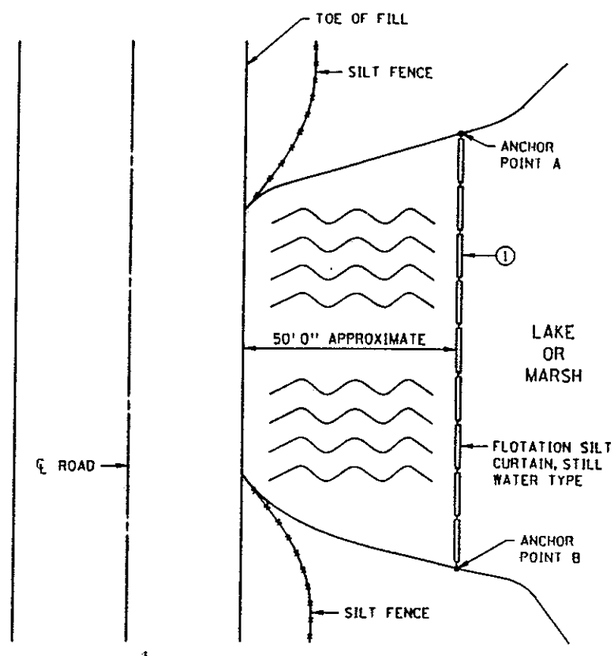
PLAN VIEW OF SILT CURTAIN - MOVING WATER

DESIGN CRITERIA:
MAXIMUM WATER DEPTH: 12 FT.
MAXIMUM WATER VELOCITY: 7 FT./SEC.



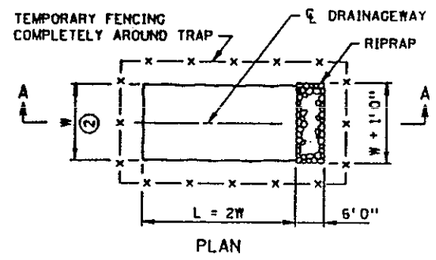
FLOTATION SILT CURTAIN DETAIL

(SEE SPEC. 3887)

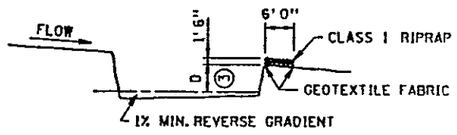


PLAN VIEW OF SILT CURTAIN - STILL WATER

DESIGN CRITERIA:
MAXIMUM WATER DEPTH: 12 FT.



PLAN



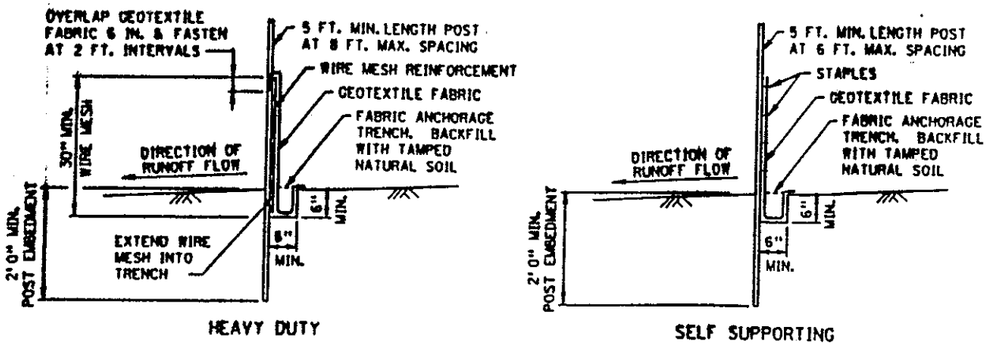
SECTION A-A

TEMPORARY SEDIMENT TRAP DETAIL

NOTES:
① CURTAIN 1 FT. FROM BOTTOM
② W = 10 FT. MIN., 20 FT. MAX.
③ D = 3 FT. MIN., 6 FT. MAX.

STANDARD SHEET NO.	TITLE:
5-297.405 (1 OF 3)	TEMPORARY EROSION CONTROL
STANDARD APPROVED: MAY 1, 1995	

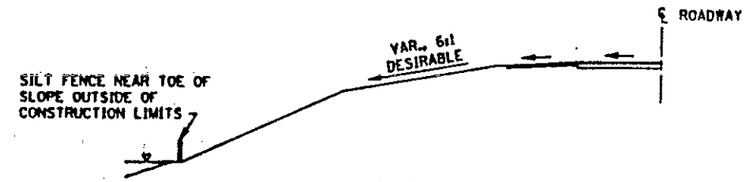
STATE PROJ. NO. 55-598-43 SHEET NO. 7 OF 11 SHEETS



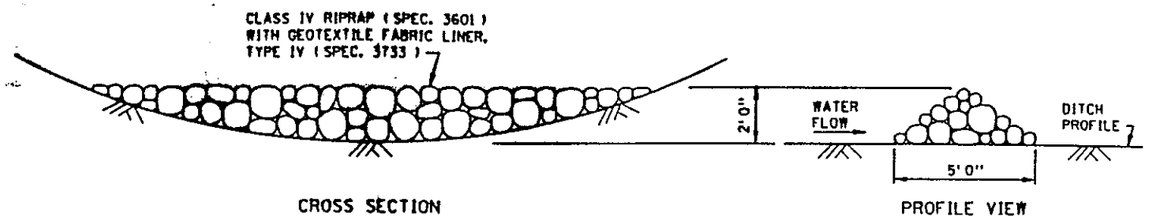
SILT FENCE DETAILS

TO PROTECT AREAS FROM SHEET FLOW
(SEE SPEC. 3886)

DESIGN CRITERIA:
MAXIMUM CONTRIBUTING AREA: 3 ACRES



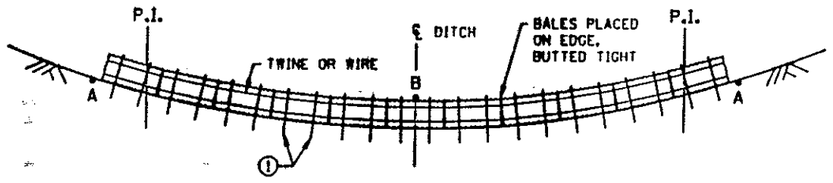
ROADWAY EMBANKMENT



CROSS SECTION

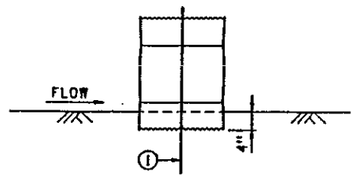
PROFILE VIEW

ROCK DITCH CHECK

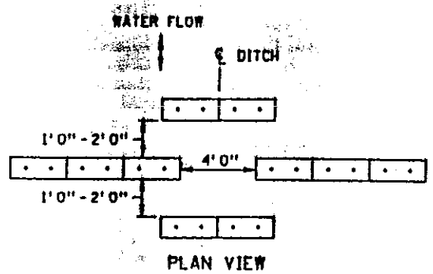


NOTE:
POINT A MUST BE HIGHER THAN POINT B

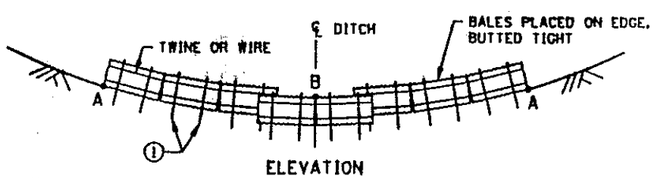
BALE DITCH SEDIMENT CHECK



BALE CHECK DETAIL



PLAN VIEW



ELEVATION

NOTE:
POINT A MUST BE HIGHER THAN POINT B

BALE DITCH VELOCITY CHECKS
(WILL REQUIRE A MINUMUM OF 10 BALES PER SITE)

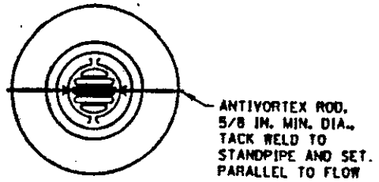
RECOMMENDED SPACING BETWEEN DITCH CHECKS	
DITCH GRADE (%)	SPACING (FT.)
2	100
4	75
6	50
8	40
10	25

DESIGN CRITERIA:

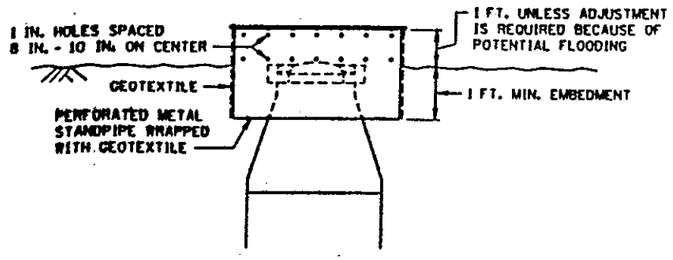
	BALE	ROCK
STORM FREQUENCY:	2 YR. - 24 HR.	10 YR. - 24 HR.
MAX. FLOW VELOCITY:	5 FT./SEC.	12 FT./SEC.
MAX. DITCH GRADE:	5%	—
MAX. DRAINAGE AREA:	2 ACRES	5 ACRES

NOTE:
① TWO 2 IN. X 2 IN. WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10 IN. MINIMUM.

STANDARD SHEET NO. 5-297.405 (2 OF 3)	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: MAY 1, 1995	
STATE PROJ. NO. 55-598-43	SHEET NO. 8 OF 11 SHEETS



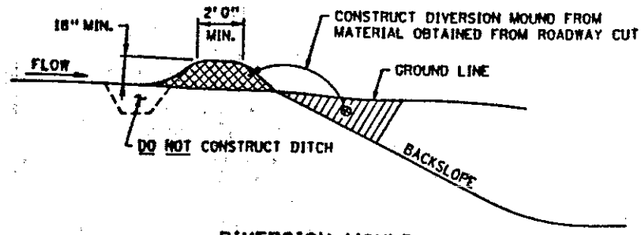
PLAN VIEW



ELEVATION

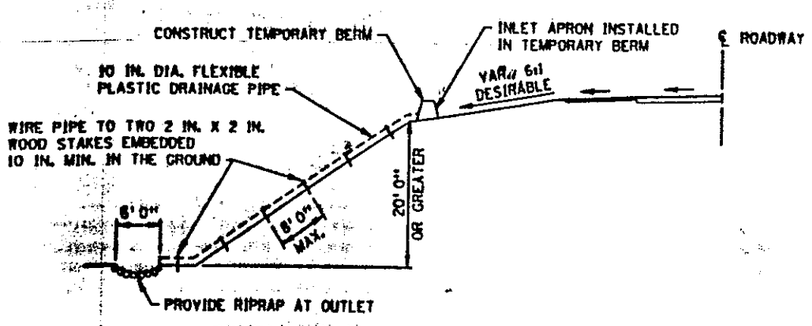
TEMPORARY STANDPIPE
TO PROTECT DROP INLET

DESIGN CRITERIA:
STORM FREQUENCY: 10 YEAR. - 24 HOUR.



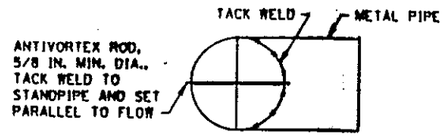
DIVERSION MOUND

DESIGN CRITERIA:
STORM FREQUENCY: 10 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 5 ACRES
MAXIMUM DIVERSION: GRADE 5%

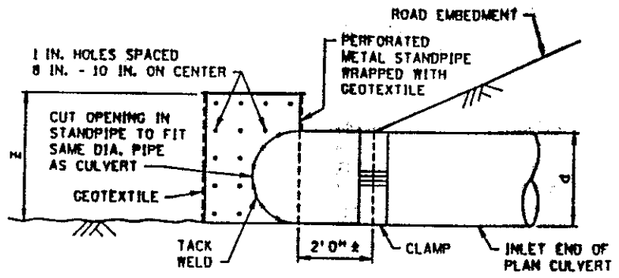


TEMPORARY DRAIN ON FILL SLOPE

DESIGN CRITERIA:
STORM FREQUENCY: 2 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 3 ACRES



PLAN VIEW

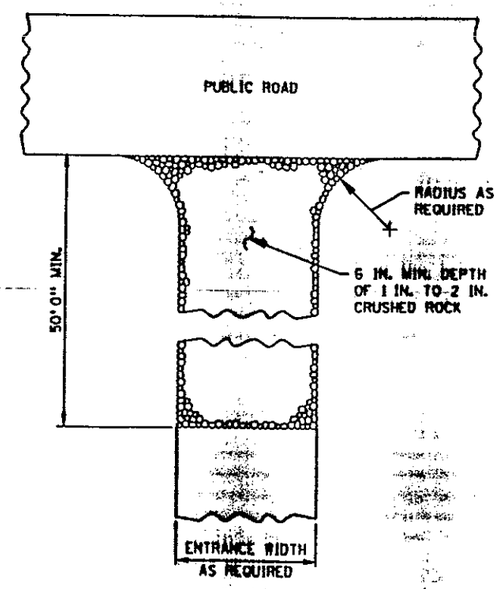


ELEVATION

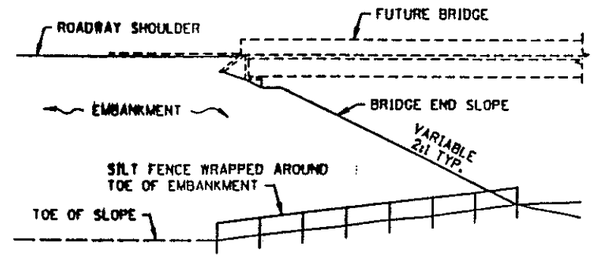
TEMPORARY STANDPIPE
FOR SEDIMENT CONTROL ON CULVERT INLET

d = DIA. OF STANDPIPE EQUAL TO DIA. OF PLAN CULVERT
Z = LENGTH OF PERFORATED STANDPIPE (d + 1 FT.)

DESIGN CRITERIA:
CULVERT SIZE: 12 - 36 IN.
STORM FREQUENCY: 10 YR. - 24 HR.

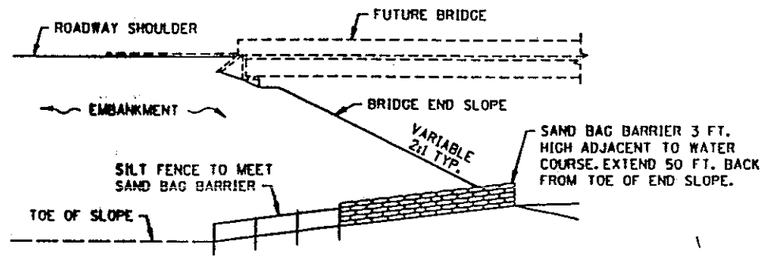


ROCK CONSTRUCTION ENTRANCE



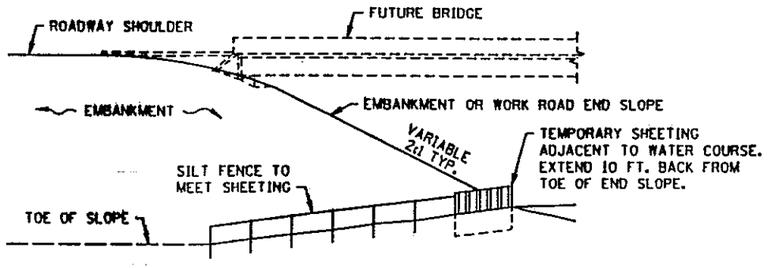
BRIDGE FILL

DESIGN CRITERIA:
WATER COURSE FLOW VELOCITY: STAGNANT
CONTRIBUTING SLOPE AREA: 1/2 ACRE



BRIDGE FILL

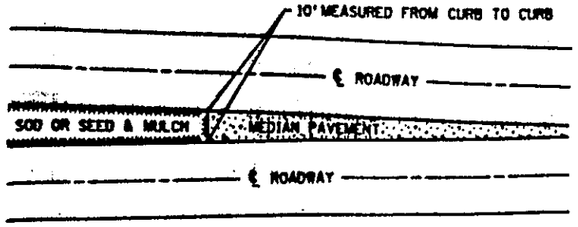
DESIGN CRITERIA:
MAX. WATER COURSE FLOW VELOCITY: 7 FT./SEC.
CONTRIBUTING SLOPE AREA: 1 ACRE



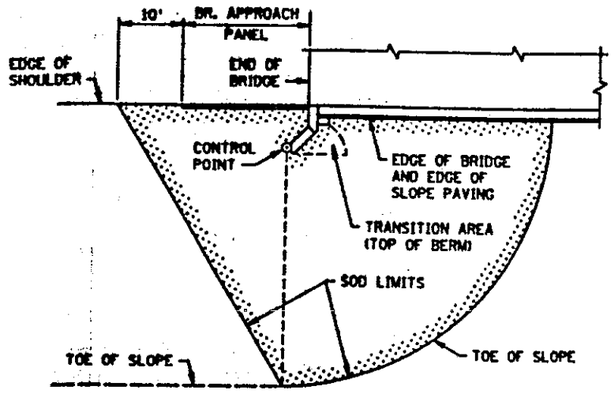
EMBANKMENT OR WORK ROAD FILL

DESIGN CRITERIA:
MAX. WATER COURSE FLOW VELOCITY: 15 FT./SEC.
CONTRIBUTING SLOPE AREA: 3 ACRES

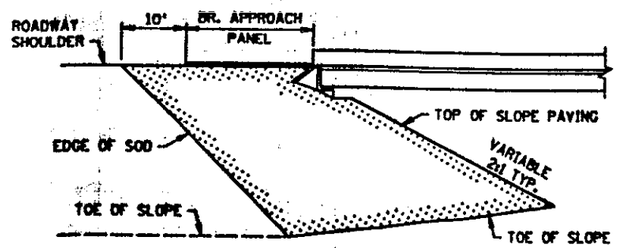
STANDARD SHEET NO. 5-297.405 (3 OF 3)	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: MAY 1, 1995	
STATE PROJ. NO. 55-598-43	SHEET NO. 9 OF 11 SHEETS



SODDING LIMITS AT GORE AREA

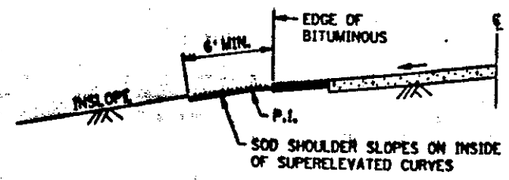


PLAN

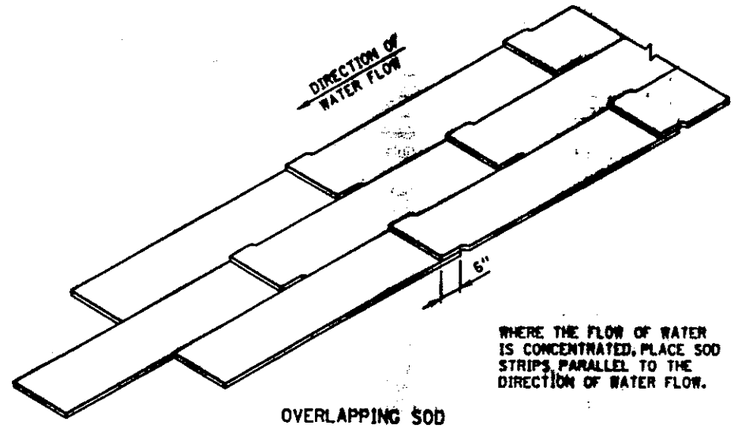


ELEVATION

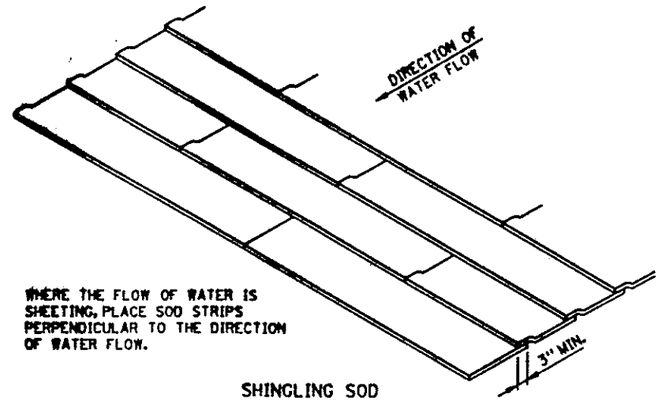
SODDING LIMITS AT BRIDGE APPROACH FILLS



SODDING INSLOPES OF SUPERELEVATED CURVES

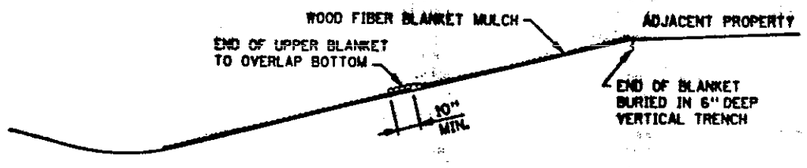


OVERLAPPING SOD

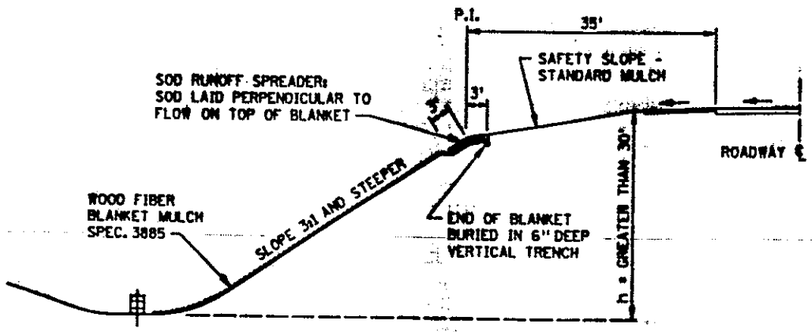


SHINGLING SOD

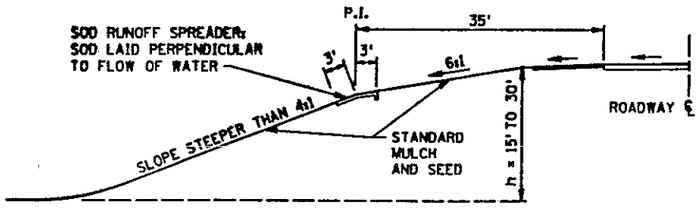
SPECIAL SOD PLACEMENT TECHNIQUES



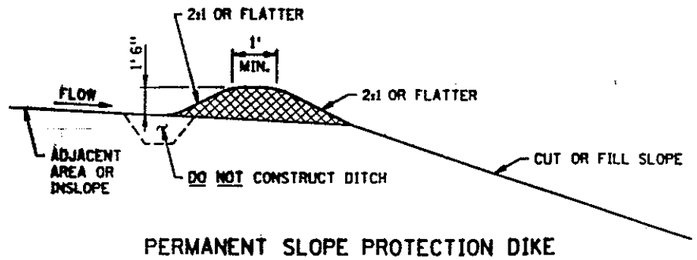
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE
(WHEN REQUIRED)

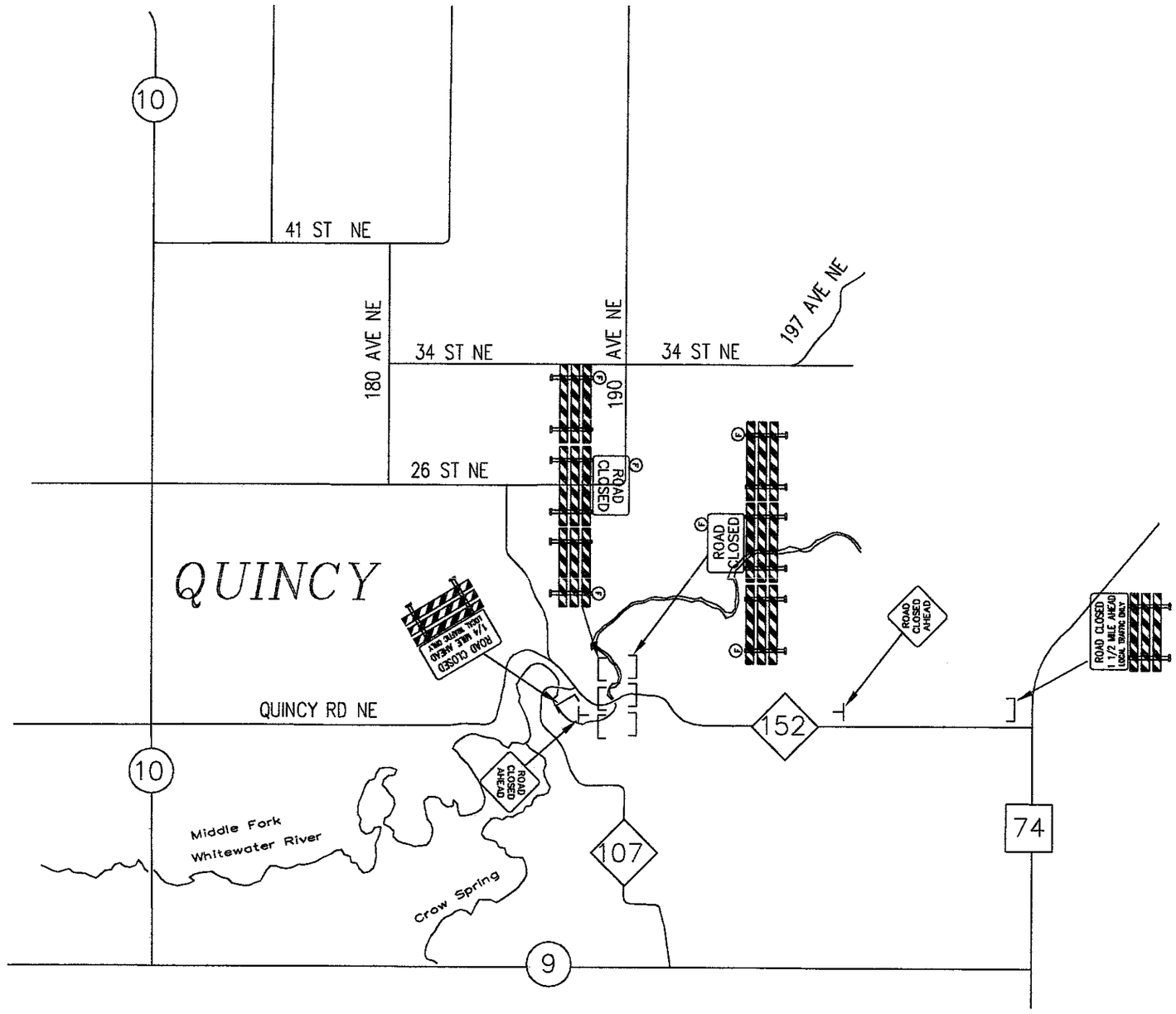


BROKEN-BACK SAFETY FILL SLOPE



PERMANENT SLOPE PROTECTION DIKE

STANDARD SHEET NO. 5-297.406	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS
STANDARD APPROVED: JANUARY 31, 1985	
STATE PROJ. NO. 55-598-43	SHEET NO. 10 OF 11 SHEETS



ESTIMATE OF TRAFFIC CONTROL DEVICES									
DEVICE	NUMBER	SIZE	COLOR	QUANTITY	DEVICE	NUMBER	SIZE	COLOR	QUANTITY
ROAD CLOSED	R11-2	48 x 30	BLK/WH	2		TYPE III	MIN. 6'	OR & WHT	8
ROAD CLOSED MILE AHEAD LOCAL TRAFFIC ONLY	R11-3	60 x 30	BLK/WH	2	(F)	TYPE A	FLASHING LAMP	AMBER	6
ROAD CLOSED AHEAD	W20-3	48 x 48	BLK/OR	2					

N

TRAFFIC CONTROL LEGEND

- ⊥ POST OR STAND MOUNTED SIGN
- ⌊⌋ TYPE III BARRICADE
- (F) TYPE "A" AMBER FLASHING LAMP

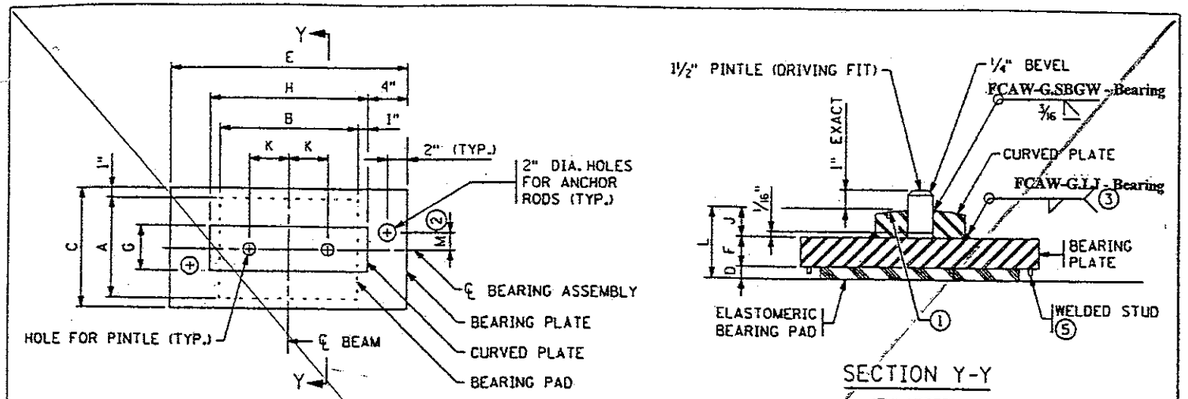
TRAFFIC CONTROL NOTES

1. THE LOCATION OF SIGNS AND DEVICES WILL BE STAKED BY THE ENGINEER IN THE FIELD.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL ON THIS PROJECT.
3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL DATED JANUARY 2001.
4. CONSTRUCTION ZONE SIGNING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL INCLUDE, BUT NOT BE LIMITED TO SIGNS FOR LANE CLOSURE, MACHINERY AHEAD, BUMP, DIP, LOOSE GRAVEL, ETC.. THE NUMBER AND LOCATION WILL BE DETERMINED BY THE CONTRACTORS OPERATION.
5. ALL BARRICADES ON THIS PROJECT SHALL BE REFLECTORIZED ON BOTH SIDES.

CERTIFIED BY Kaye M Briesick LICENSED PROFESSIONAL ENGINEER LIC. NO. 19917 2/28 2001

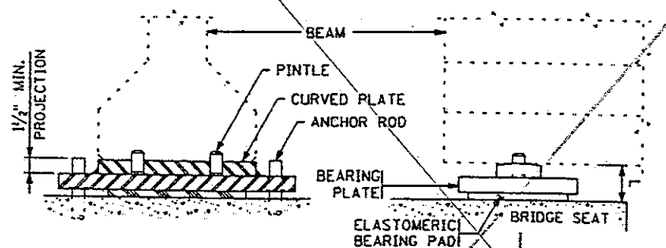
S.P. 55-598-43 CR 152

SHEET 11 OF 11 SHEETS



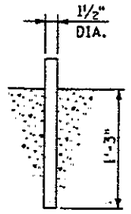
PLAN
(BEAM NOT SHOWN)

SECTION Y-Y
(ENLARGED)



SECTION X-X

END ELEVATION
(ANCHOR RODS NOT SHOWN)



ANCHOR ROD DETAIL

TABLE

ASSEMBLY TYPE	LOCATION	BEAM SIZE	BEARING PAD SIZE A	B	D	SHAPE FACTOR	BEARING PLATE SIZE C	E	F	CURVED PLATE SIZE G	H	J	PINTLE DIA.	PINTLE DISTANCE K ④	ANCHOR ROD OFFSET M ②	ASSY. HEIGHT L

NOTES:

ELASTOMERIC MATERIALS & PAD CONSTRUCTION SHALL COMPLY WITH Mn/DOT SPEC. 3741.

ALL STEEL PLATES SHALL COMPLY WITH Mn/DOT SPEC. 3306.

ANCHOR RODS SHALL COMPLY WITH Mn/DOT SPEC. 3306. GALVANIZE PER Mn/DOT SPEC. 3394.

PINTLES SHALL COMPLY WITH Mn/DOT SPEC. 3309.

GALVANIZE STRUCTURAL STEEL BEARING ASSEMBLY AFTER FABRICATION PER Mn/DOT SPEC. 3394, EXCEPT AS NOTED.

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

① THE RADIUS OF THE CURVED PLATE SHALL BE 1'-4" MINIMUM AND 2'-0" MAXIMUM. FINISH TO 250 MICRO. THE FINISHED THICKNESS OF THE PLATE MAY BE 1/16" LESS THAN SHOWN.

② OFFSET MAY BE OPPOSITE OF THAT SHOWN. SEE ANCHOR ROD LAYOUT FOR DETAILS.

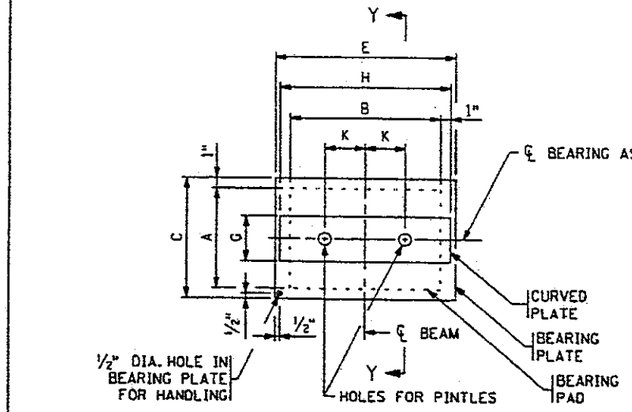
③ WELDING PER Mn/DOT SPEC. 2471.

④ SEE DETAIL B303 FOR PINTLE DISTANCE K.

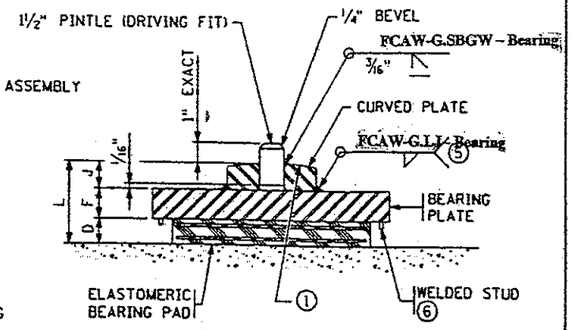
⑤ 5/16" DIA. × 3/8" KNOCK-OFF WELD STUDS INSTALLED ON BEARING PLATE AROUND PERIMETER OF BEARING PAD. CENTERLINE STUD TO EDGE OF PAD DIMENSION = ½". MAX. STUD SPACING = 4".

SHOP DRAWING REVIEW
State of Minnesota
Department of Transportation
NO OBJECTION TAKEN
JUL 16 2001
REVIEW IS FOR GENERAL COMPLIANCE WITH PLANS AND SPECIFICATIONS
GARY D. PETERSON
BRIDGE CONST & MAINT ENGINEER

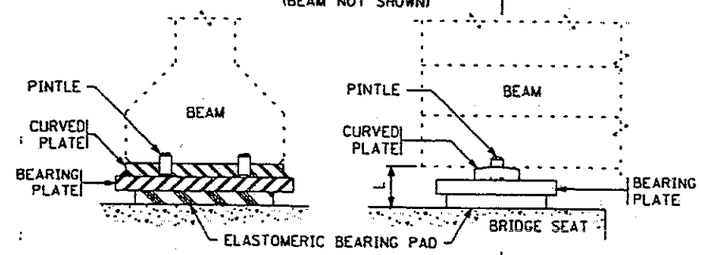
PROJ. ENG'R.



PLAN
(BEAM NOT SHOWN)

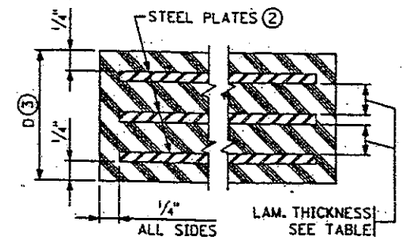


SECTION Y-Y
(ENLARGED BEARING ASSEMBLY)



SECTION X-X

END ELEVATION



SECTION THRU BEARING PAD

TABLE

ASSEMBLY TYPE	LOCATION	BEAM SIZE	BEARING PAD SIZE A	B	D	STEEL PLATES NO.	THICK.	LAMINATES NO.	THICK.	SHAPE FACTOR	BEARING PLATE SIZE C	E	F	CURVED PLATE SIZE G	H	J	PINTLE DIA.	PINTLE DISTANCE K ④	ASSY. HEIGHT L
E1	E+W ABUT	54M	10	24	1 1/8	2	1/8	7	3/8	9.7	12	27	1 1/8	4 1/2	26	13/8	1 1/2	8	3 5/8
	(10)																		

NOTES:

ELASTOMERIC MATERIALS & PAD CONSTRUCTION SHALL COMPLY WITH Mn/DOT SPEC. 3741.

ALL STEEL PLATES SHALL COMPLY WITH Mn/DOT SPEC. 3306

PINTLES SHALL COMPLY WITH Mn/DOT SPEC. 3309.

GALVANIZE STRUCTURAL STEEL BEARING ASSEMBLY AFTER FABRICATION PER Mn/DOT SPEC. 3394, EXCEPT AS NOTED.

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

① THE RADIUS OF THE CURVED PLATE SHALL BE 1'-4" MINIMUM AND 2'-0" MAXIMUM. FINISH TO 250 MICRO. THE FINISHED THICKNESS OF THE PLATE MAY BE 1/16" LESS THAN SHOWN.

② DO NOT GALVANIZE THESE PLATES.

③ THE TOTAL THICKNESS SHOWN INCLUDES THE STEEL PLATES.

④ SEE DETAIL B303 FOR PINTLE DISTANCE K.

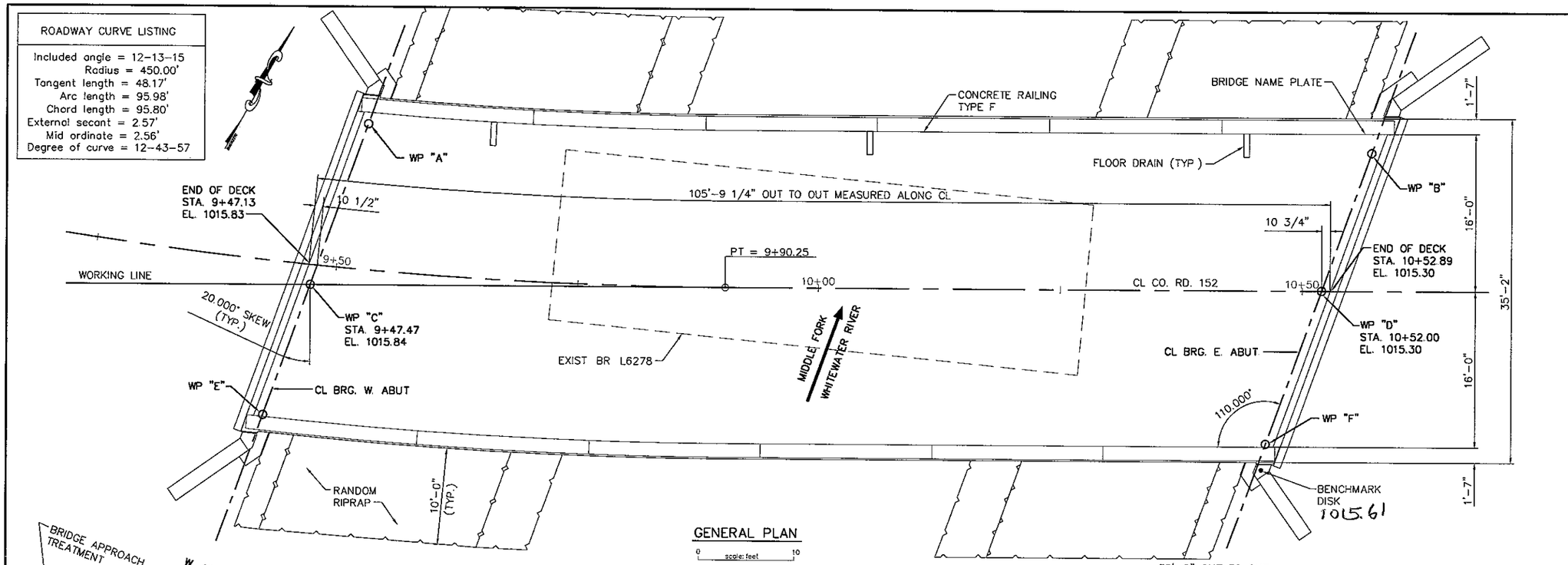
⑤ WELDING PER Mn/DOT SPEC. 2471.

⑥ 5/16" DIA. × 3/8" KNOCK-OFF WELD STUDS INSTALLED ON BEARING PLATE AROUND PERIMETER OF BEARING PAD. CENTERLINE STUD TO EDGE OF PAD DIMENSION = ½". MAX. STUD SPACING = 4".

Construction Materials Inc.
6725 Oxford St.
Mpls., MN 55426
Ph. (952) 929-0431
Fax (952) 929-0737

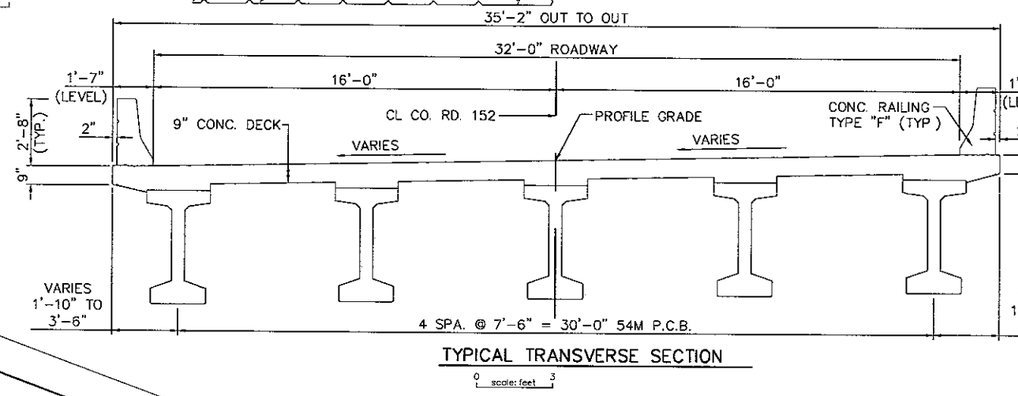
Project No: SP 55-598-43
Bridge No: 55563
Drawn By: R. J. T.
Contractor: MINNOWA CONSTR., INC.
Sold To: MINNOWA CONSTR., INC.
Date: 7/3/01
Location: QUINCY, MN.
Sheet No: 1 OF 2

ROADWAY CURVE LISTING	
Included angle	12–13–15
Radius	450.00'
Tangent length	48.17'
Arc length	95.98'
Chord length	95.80'
External secant	2.57'
Mid ordinate	2.56'
Degree of curve	12–43–57



GENERAL PLAN

0 scale: feet 10



TYPICAL TRANSVERSE SECTION

0 scale: feet 3

GENERAL ELEVATION

0 scale: feet 10

① BRIDGE NO. L6278 STA. 10+00± NON–PART.

② INCLUDES APPROX. 190 CU. YD. PART / 230 CU. YD. NON–PART.

③ SELECT GRANULAR BORROW BEHIND ABUTMENTS WITH 1:2 SLOPE PLACED BETWEEN WINGWALL ENDS. SELECT GRANULAR MATERIAL SHALL COMPLY WITH SPEC. 3149.2B INCLUDES APPROX. 634 CU. YD. (CV) PART / 657 CU. YD. (CV) NON–PART

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE

ITEM NO.	2021.501	2105.501	2105.522	2401.501	2401.512	2401.513	2401.541	2401.601
ITEM	MOBILIZATION	COMMON EXCAVATION ②	SELECT GRANULAR BORROW (CV) ③	STRUCTURAL CONCRETE (3Y43)	BRIDGE SLAB CONCRETE (3Y33A)	TYPE F RAILING CONCRETE (3Y46A)	REINFORCEMENT BARS (EPOXY COATED)	STRUCTURE EXCAVATION
UNIT	LUMP SUM	CU. YD.	CU. YD.	CU. YD.	SQ. FT.	LIN. FT.	POUNDS	LUMP SUM
QUANTITY	1	420 (P)	~~1291~~ 752 (P)	99 (P)	3725 (P)	214 (P)	~~33,960~~ 31459 (P)	1

ITEM NO.	2401.601	2402.521	2402.546	2402.595	2405.502	2405.511	2442.501	2452.510	2452.511	2452.520	2452.602	2511.501
ITEM	SLOPE PREPARATION	STRUCTURAL STEEL (3306)	FLOOR DRAIN TYPE (B706) MODIFIED	BEARING ASSEMBLY	PRESTRESSED CONCRETE BEAMS 54M	DIAPHRAGM FOR TYPE 54M PREST BMS.	REMOVE OLD BRIDGE ①	STEEL H-PILING DRIVEN 10 x 42	STEEL H-PILING DELIVERED 10 x 42	STEEL H-TEST PILE 25 FT. LONG 10 x 42	PILE TIP PROTECTION 10" ø	RANDOM RIPRAP CLASS III
UNIT	LUMP SUM	POUNDS	EACH	EACH	LIN. FT.	LIN. FT.	LUMP SUM	LIN. FT.	LIN. FT.	EACH	EACH	CU. YD.
QUANTITY	1	474 (P)	3	10	526 (P)	64 (P)	1	~~333~~ 323	~~333~~ 370	2	20	~~225~~ 210

CONSTRUCTION NOTES

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

THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR SIZE IN MILLIMETRES BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED IN ACCORDANCE WITH 3301

AS-BUILT
MAR 22 2002
ENGINEERING

WSN 460A179

DESIGN DATA

1996 & CURRENT INTERIM A.A.S.H.T.O. DESIGN SPECIFICATIONS
LOAD FACTOR DESIGN METHOD. HS 25 LOADING

DEAD LOAD INCLUDES 17 PSF ALLOWABLE FOR FUTURE WEARING COURSE.

MAXIMUM ALLOWABLE DESIGN STRESSES:

REINFORCED CONCRETE:
f'c = 4000 p.s.i. n = 8 fy = 60,000 p.s.i. Reinf

PRESTRESSED CONCRETE:
f'c = 7500 p.s.i. n = 1
fs = 270,000 p.s.i. Low Relaxation Strands
75 f's for Initial Prestress

STRUCTURAL STEEL: fy = 36,000 p.s.i. Spec. 3306
fy = 50,000 p.s.i. Spec. 3309

DESIGN SPEED 35 MPH
DECK AREA: 3,725 SQ. FT.
CURRENT ADT 101 (2000)
BRIDGE OPERATING RATING HS 51

INDEX

SHEET NO.	DESCRIPTION
B1	BRIDGE GENERAL PLAN & ELEVATION
B2	BRIDGE LAYOUT
B3–B4	EAST & WEST ABUTMENT LAYOUT
B5–B6	EAST & WEST ABUTMENT REINF.
B7	WINGWALL LAYOUT & REINFORCEMENT
B8	ABUTMENT QUANTITIES
B9	FRAMING PLAN
B10	54" PRESTRESSED CONCRETE BEAM
B11	SUPERSTRUCTURE LAYOUT
B12	DECK SECTION
B13	TYPE F CONCRETE RAILING
B14–B18	DETAILS
B19	BRIDGE SURVEY
B20	BRIDGE SURVEY PLAN & PROFILE

BENCHMARK: ELEV. 1010.00
COUNTY SET PIPE W/CAP DOWN 0.6" ON SHOULDER OF CO. RD. 152, 9.0' NORTH OF CL CO. RD. 152 & 44' WEST OF WEST END EXIST BR. L6278

COUNTY APPROVAL
1/29/01 Michael Mahon
DATE COUNTY ENGINEER, OLMSTED CO.

WIDSETH SMITH NOLTING
ENGINEERS ARCHITECTS LAND SURVEYORS PROJECT MANAGERS
ALEXANDRIA, MINNESOTA
PHONE 320-762-8149 FAX 320-762-0283
www.wsn-mn.com

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 12/28/2000 REG. NO. 14280

CO. RD. 152 OLMSTED COUNTY

MINNESOTA DEPARTMENT OF TRANS.

Bridge No. 55563

LOCATED ON CO. RD. 152
OVER MIDDLE FORK WHITEWATER RIVER
0.4 MILES EAST OF JCT CO. RD. 107
103'–10" PRESTRESSED CONCRETE BEAM SPAN
32'–0" ROADWAY, CAST–IN–PLACE
CONCRETE RAILING TYPE F 20'–00"–00" SKEW.

SPAN IDENT. NO. 501

GENERAL PLAN AND ELEVATION

SEC. 26 T 107 N R 11 W
QUINCY TOWNSHIP OLMSTED COUNTY

APPROVED
Donald Morgan 3/15/01
STATE BRIDGE ENGINEER DATE:

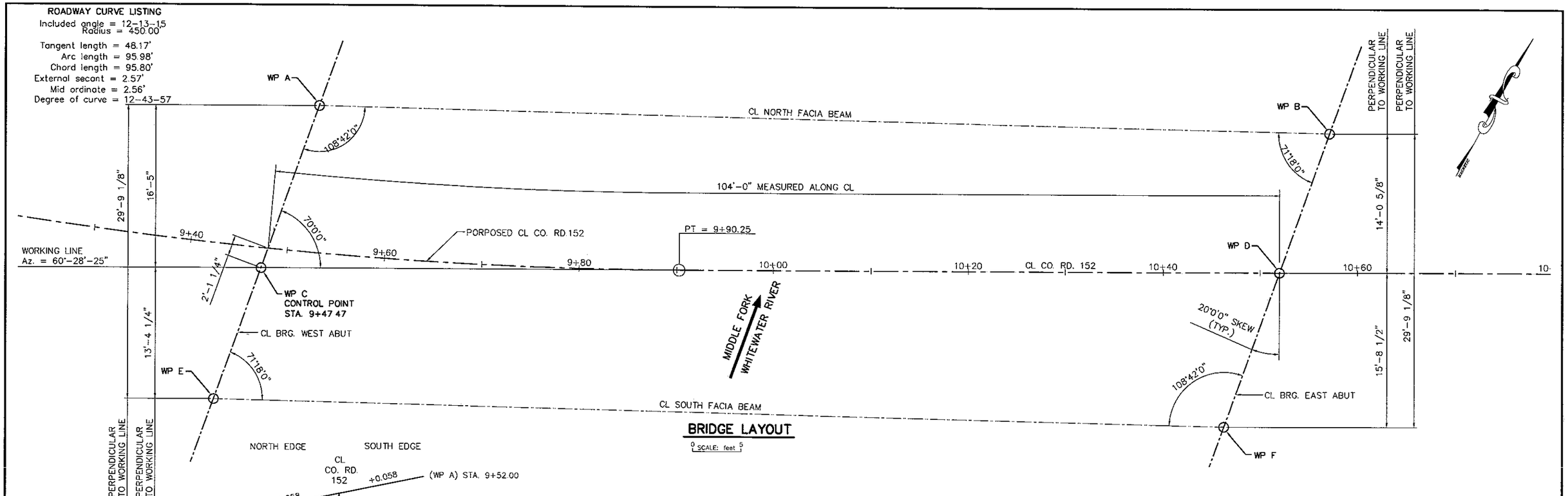
STATE PROJ NO. 55–598–43

DES. BY	T.J.M.	DR. BY	G.A.M.
CHK. BY	K.A.R.	CHK. BY	T.J.M.

SHEET NO. B1 OF B20 SHEETS

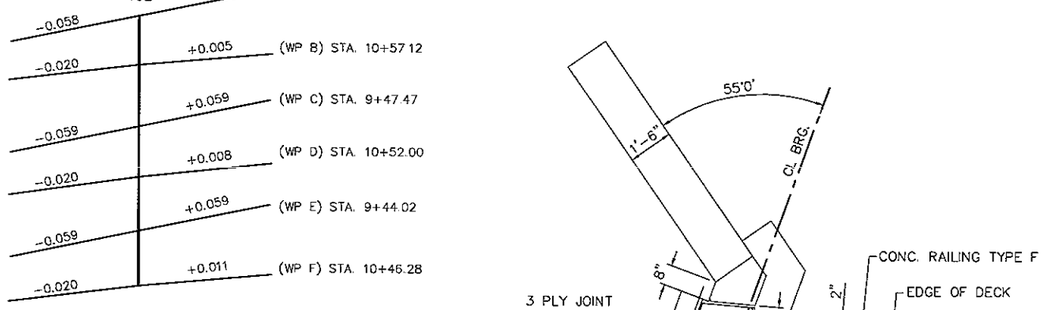
ROADWAY CURVE LISTING

Included angle = 12–13–15
Radius = 450.00'
Tangent length = 48.17'
Arc length = 95.98'
Chord length = 95.80'
External secant = 2.57'
Mid ordinate = 2.56'
Degree of curve = 12–43–57



BRIDGE LAYOUT

0 SCALE: feet 5

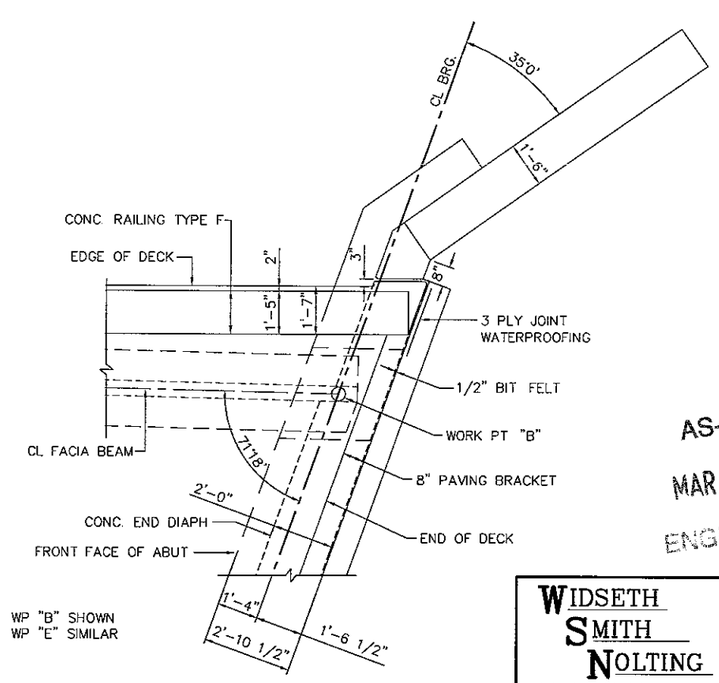


SUPERELEVATION CHART

e=0.059 MAX.

CORNER DETAIL

0 SCALE: feet 3



CORNER DETAIL

0 SCALE: feet 3

TOP OF ROADWAY TO BRIDGE SEAT		
	NORTH ABUT.	SOUTH ABUT.
SLAB THICKNESS	9"	9"
STOOL HEIGHT	3 3/4"	3 3/4"
BEAM HEIGHT	54"	54"
BEARING PAD	3 5/8"	3 5/8"
TOTAL	5'–10 3/8"	5'–10 3/8"

DIMENSIONS BETWEEN WORKING POINTS									ELEVATIONS			
POINT	STATION	A	B	C	D	E	F		TOP OF SLAB EL.	TOP OF SLAB TO BR. SEAT	BRIDGE SEAT EL.	POINT
A	9+52.00		103.83	17.47	100.04	31.67	98.36		1014.94	5.86	1009.08	A
B	10+57.12			110.68	14.96	117.87	31.67		1014.99	5.86	1009.13	B
C	9+47.47				104.66	14.21	100.19		1015.84			C
D	10+52.00					110.33	16.71		1015.30	5.86	1009.44	D
E	9+44.02						103.83		1016.76	5.86	1010.90	E
F	10+46.28								1015.57	5.86	1009.71	F

AS-BUILT
MAR 22 2002
ENGINEERING

WIDSETH SMITH NOLTING
ENGINEERS
ARCHITECTS
LAND SURVEYORS
PROJECT MANAGERS
ALEXANDRIA PHONE 320-762-8149 FAX 320-762-0263 www.wsn-mn.com

BRIDGE LAYOUT

APPROVED

DES. BY	T.J.M.	DR. BY	G.A.M.	BRIDGE NO.
CHK. BY	K.A.R.	CHK. BY	T.J.M.	55563

WSN 460A179

CERTIFIED BY: _____ PROFESSIONAL ENGINEER REG. NO. 14280 12/20/00

S.P. NO. 55-598-43

SOUTH

NORTH

ELEV 1014.30
ELEV 1016 77
ELEV 1011 40
ELEV 1010.90
ELEV 1010.45
ELEV 1009 99
ELEV 1009.54
ELEV 1009 08
ELEV 1009 58
ELEV 1014.87
ELEV 1013.30
ELEV 1008.75
ELEV 1010.57
LEVEL
ELEV. 1005.57
LEVEL
WP "E"
2'-6" PILE CUTOFF
WP "A"
ELEV. 1003.75
LEVEL

ELEVATION VIEW

0 scale: feet 2

POLYSTYRENE
VARIES 3" TO 4"

SECTION "A"
NO SCALE

WORKING LINE
CL CO. RD. 152
WP "C" STA. 9+47 47
WP "E"
WP "A"
1/2" BIT FELT
POLYSTYRENE
1" CORK JOINT (TYP.)
CL BRG. & CL ABUT
CL BEAM
BEARING PLATE (TYP.)
TEST PILE NO. 1
20°0' SKEW
18°42' (TYP.)
3'-0" (TYP. SEAT LAYOUT)
35°0'
55°0'

WORK POINT SPACING: 14'-2½" + 17'-5½"
BEAM SEAT SPACING: 4 SPA. @ 7'-11" = 31'-8"
PILE SPACING: 2'-10¼" + 9 SPA. @ ABT. 4'-2 3/4" = 38'-0"

PLAN VIEW

0 scale: feet 2

WIDSETH SMITH NOLTING
ENGINEERS
ARCHITECTS
LAND SURVEYORS
PROJECT MANAGERS
ALEXANDRIA PHONE 320-762-8149 FAX 320-762-0263 www.wsn-mn.com

WEST ABUTMENT LAYOUT

APPROVED

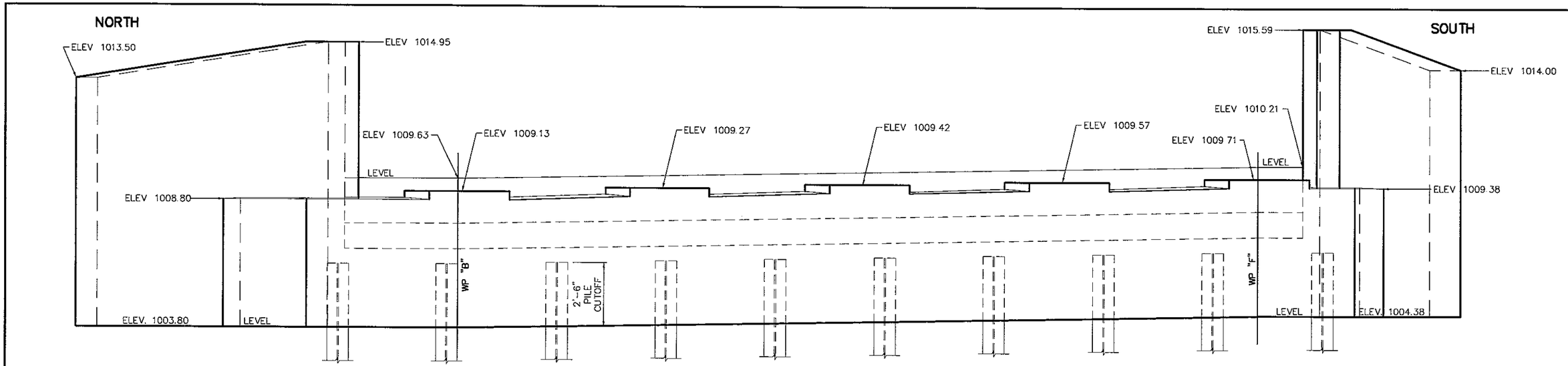
DES. BY	T.J.M.	DR. BY	J.A.K.	BRIDGE NO.
CHK. BY	K.A.R.	CHK. BY	T.J.M.	55563

WSN 460A179

CERTIFIED BY: PROFESSIONAL ENGINEER REG. NO. 14280 12/28/2000

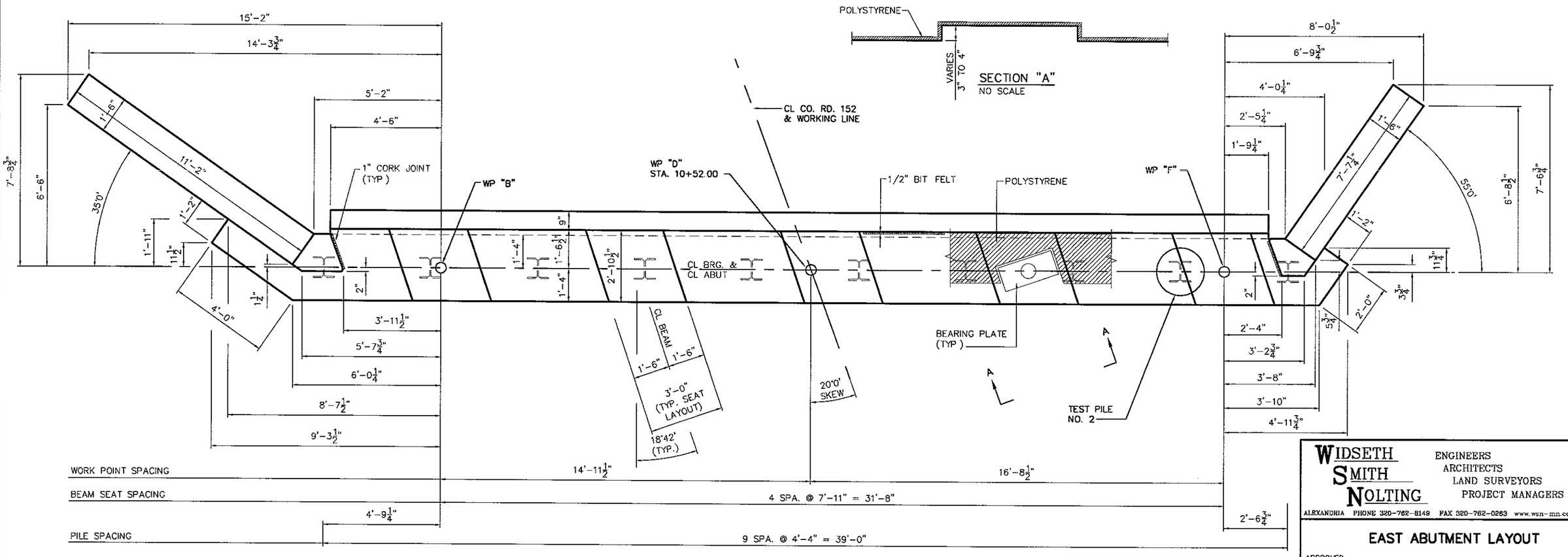
State Proj. No. 55-598-43

SHEET NO. B3 OF B20 SHEETS



ELEVATION VIEW

0 scale: feet 2



PLAN VIEW

0 scale: feet 2

SECTION "A"
NO SCALE

CERTIFIED BY _____ PROFESSIONAL ENGINEER REG. NO. 14200 12/29/2008

WSN 460A179

WIDSETH SMITH NOLTING
ENGINEERS
ARCHITECTS
LAND SURVEYORS
PROJECT MANAGERS
ALEXANDRIA PHONE 320-762-8149 FAX 320-762-0263 www.wsn-mn.com

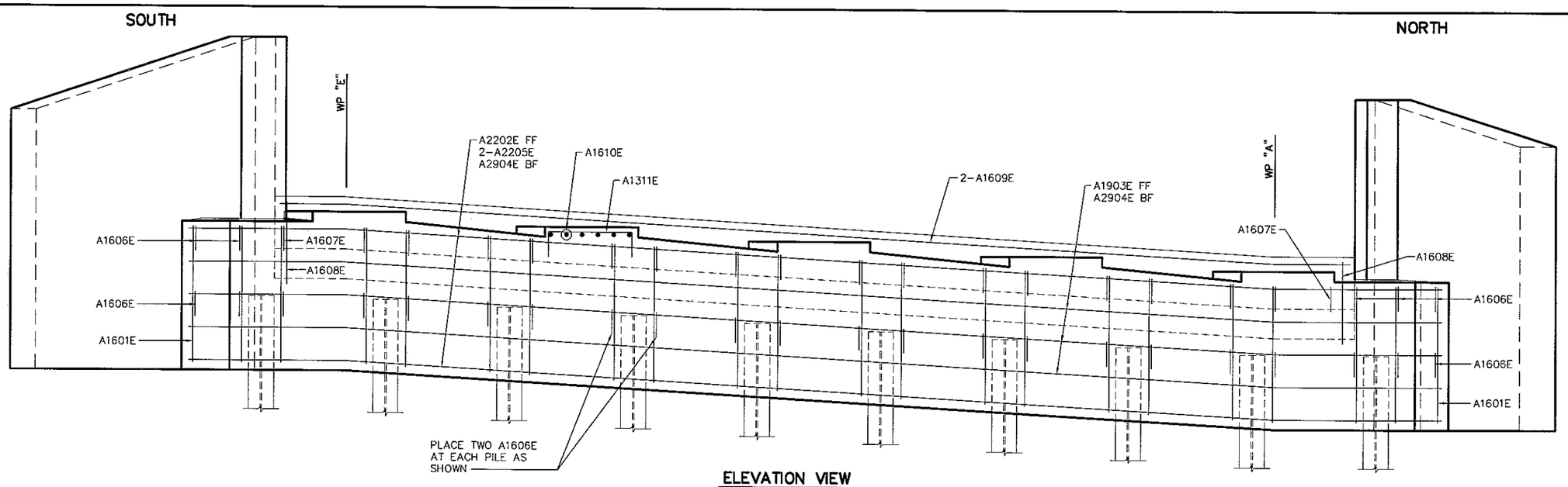
EAST ABUTMENT LAYOUT

APPROVED

DES. BY	T.J.M.	DR. BY	J.A.K.	BRIDGE NO.
CHK. BY	K.A.R.	CHK. BY	T.J.M.	55563

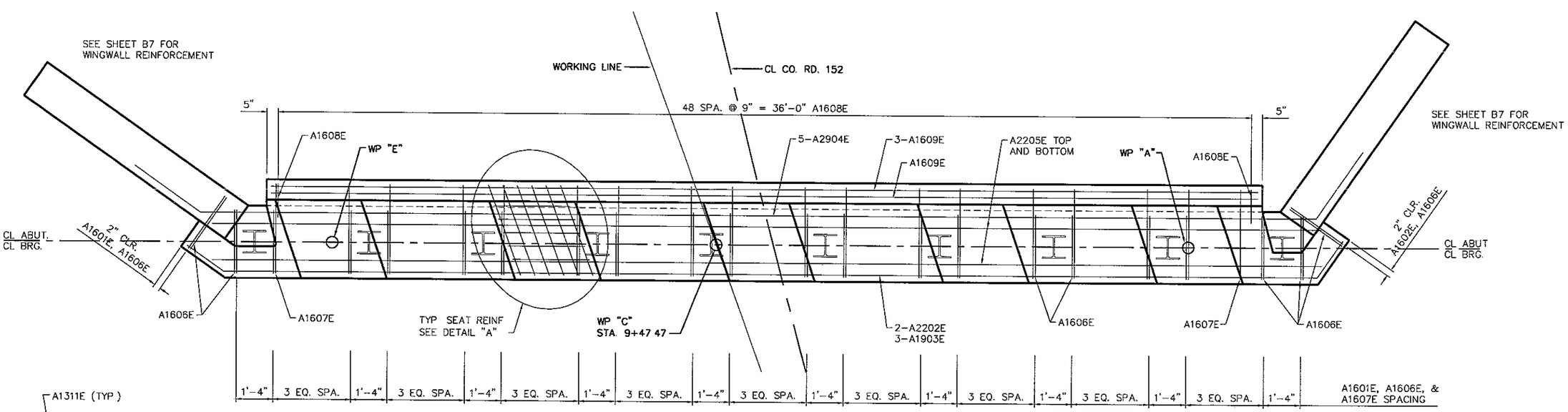
State Proj. No. 55-598-43

SHEET NO. B4 OF B20 SHEETS



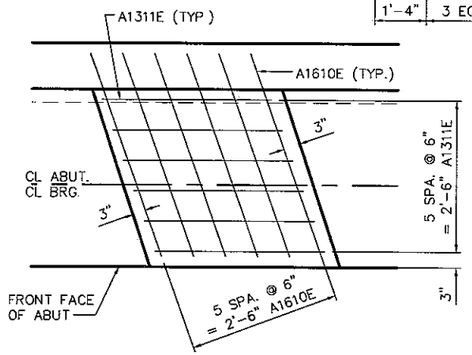
ELEVATION VIEW

0 scale: feet 2



PLAN VIEW

0 scale: feet 2



SEAT REINFORCEMENT DETAIL "A"

no scale

WIDSETH SMITH NOLTING
ENGINEERS
ARCHITECTS
LAND SURVEYORS
PROJECT MANAGERS
ALEXANDRIA PHONE 320-762-8149 FAX 320-762-0263 www.wsn-mn.com

WEST ABUTMENT REINFORCEMENT

APPROVED

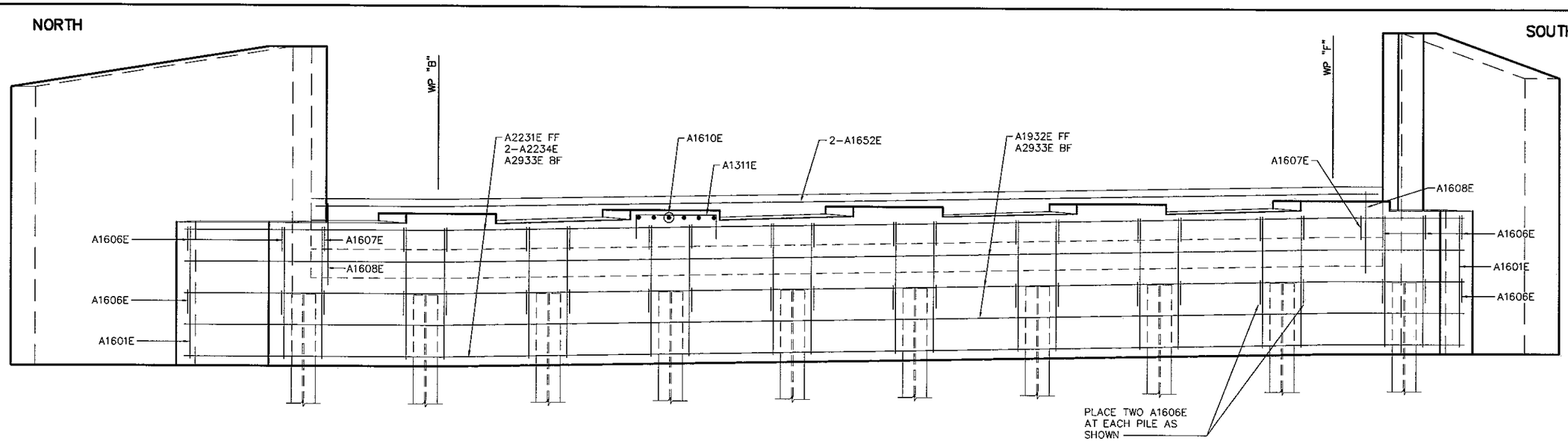
DES. BY	T.J.M.	DR. BY	J.A.K.	BRIDGE NO.
CHK. BY	K.A.R.	CHK. BY	T.J.M.	55563

WSN 460A179

CERTIFIED BY: Timothy J. Mau PROFESSIONAL ENGINEER REG. NO. 14280 12/29/2000

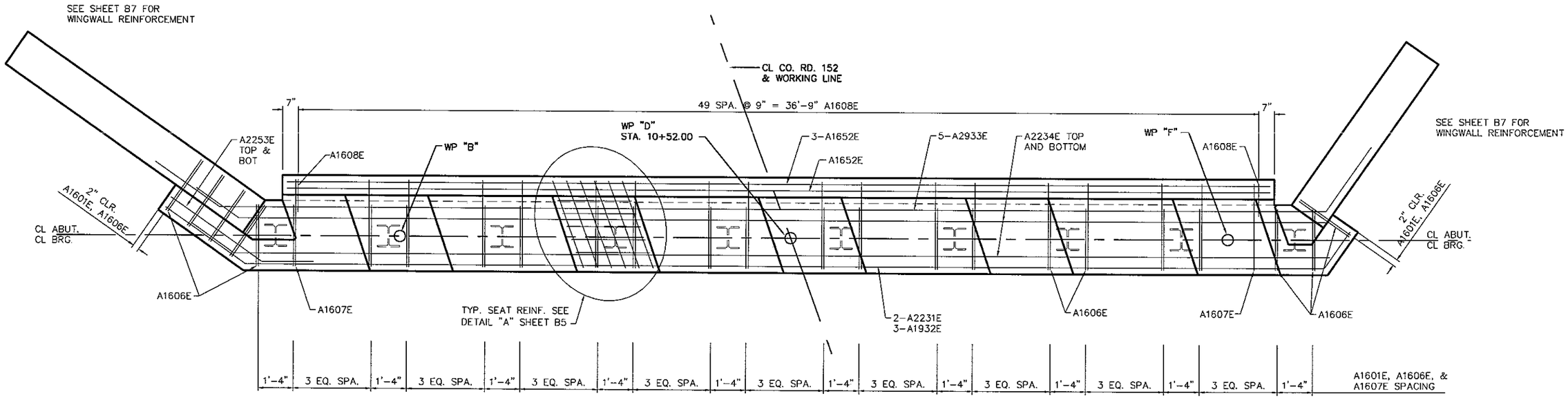
State Proj. No. 55-598-43

SHEET NO. B5 OF B20 SHEETS



ELEVATION VIEW

0 scale: feet 2



PLAN VIEW

0 scale: feet 2

WIDSETH SMITH NOLTING
ENGINEERS
ARCHITECTS
LAND SURVEYORS
PROJECT MANAGERS
ALEXANDRIA PHONE 320-762-8149 FAX 320-762-0263 www.wsn-mn.com

EAST ABUTMENT REINFORCEMENT

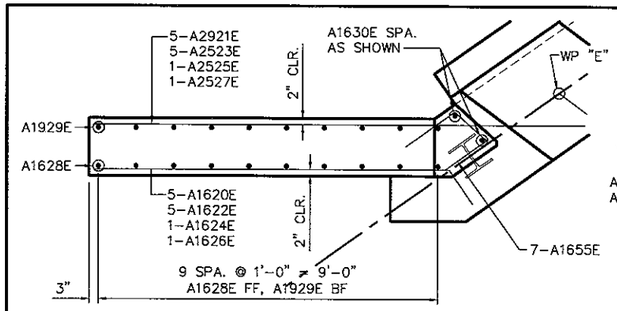
APPROVED

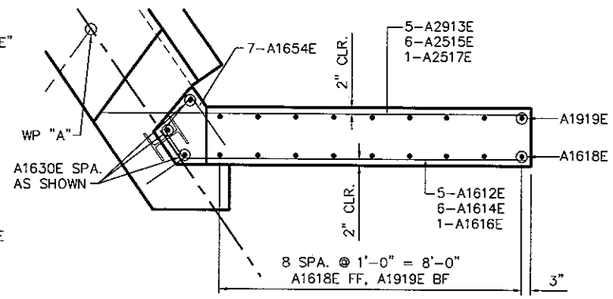
DES. BY	T.J.M.	DR. BY	J.A.K.	BRIDGE NO.
CHK. BY	K.A.R.	CHK. BY	T.J.M.	55563

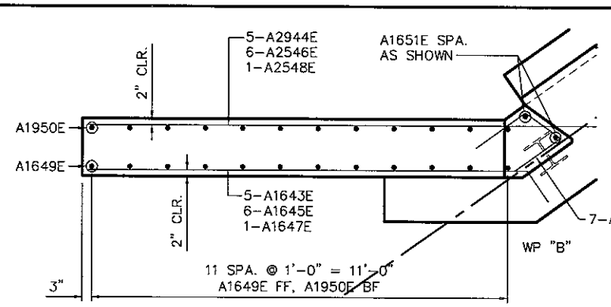
WSN 460A179

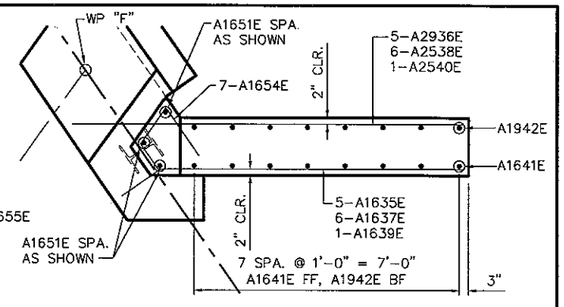
CERTIFIED BY PROFESSIONAL ENGINEER REG. NO. 14280 12/28/2020

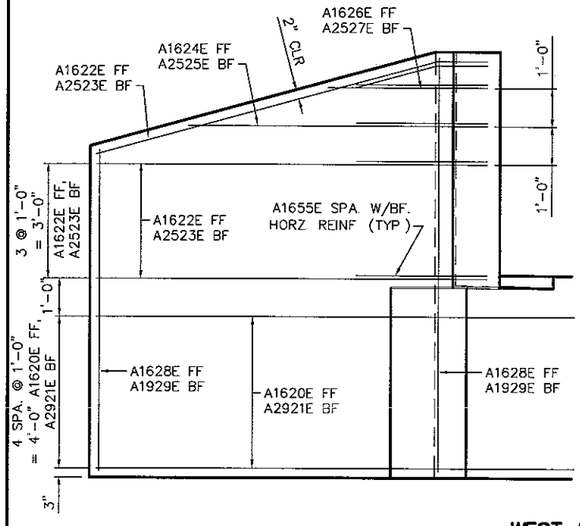
State Proj. No. 55-598-43

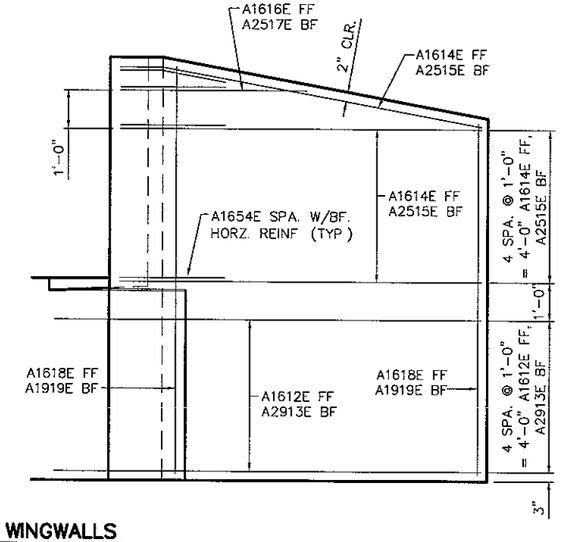


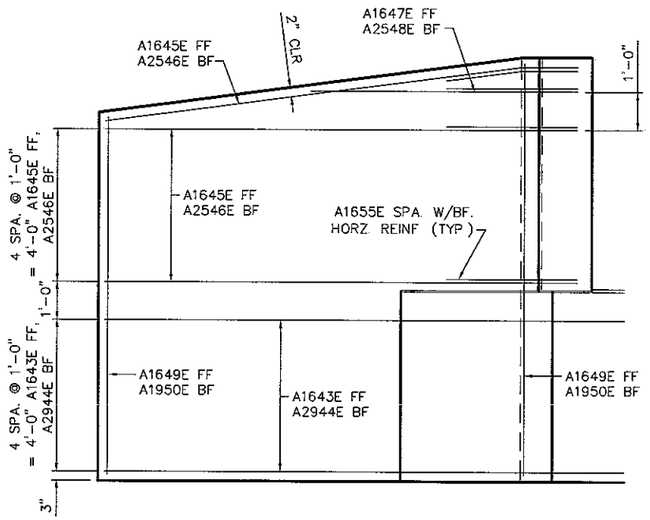


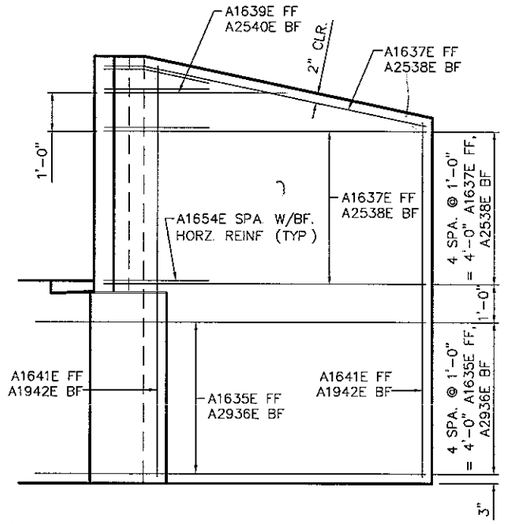










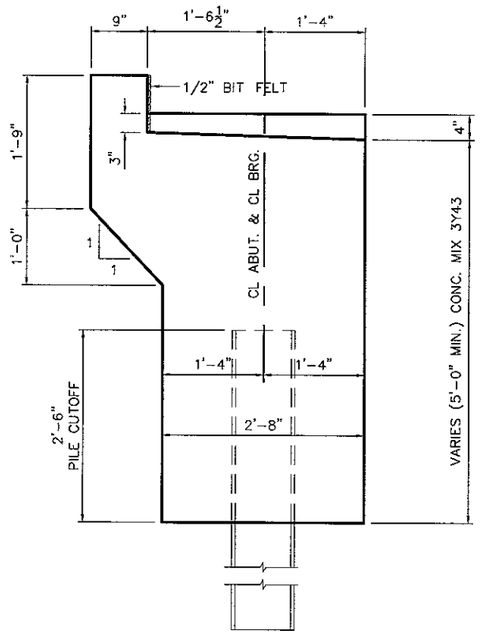


WEST ABUT. WINGWALLS

0 scale: feet 2

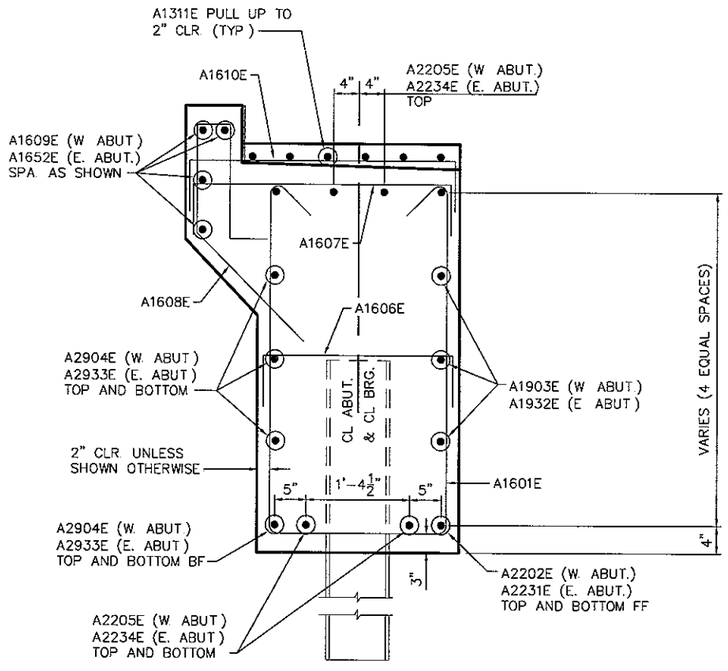
EAST ABUT. WINGWALLS

0 scale: feet 2



ABUT. SECTION LAYOUT

0 scale: feet 1



ABUT. SECTION REINF.

0 scale: feet 1

CERTIFIED BY: _____ PROFESSIONAL ENGINEER

REG. NO. 14280 12/29/ 20 00

WIDSETH SMITH NOLTING — ENGINEERS, ARCHITECTS, LAND SURVEYORS, PROJECT MANAGERS

ALEXANDRIA PHONE 320-762-8149 FAX 320-762-0263 www.wsn-mn.com

WINGWALL REINF. & ABUT. SECTION

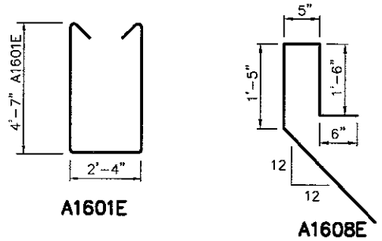
APPROVED

DES. BY	T.J.M.	DR. BY	J.A.K.	BRIDGE NO.
CHK. BY	K.A.R.	CHK. BY	T.J.M.	55563

WSN 460A179

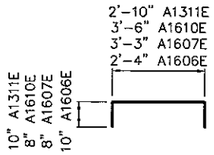
State Proj. No. 55-598-43

SHEET NO. B7 OF B20 SHEETS

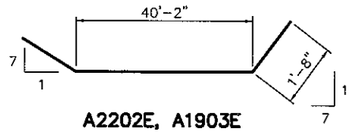


A1601E

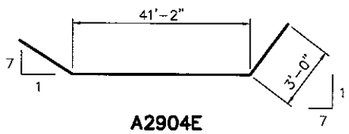
A1608E



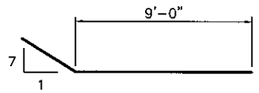
A1606E, A1607E, A1610E, A1311E



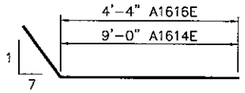
A2202E, A1903E



A2904E



A1612E



A1614E, A1616E

SUMMARY OF QUANTITIES FOR EAST & WEST ABUTMENT		
STRUCTURAL CONCRETE (3Y43)	71	CU. YD.
REINFORCEMENT BARS (EPOXY COATED)	9,540	POUND
(1) STEEL H-PILING DEL'D., 10"	333	LIN. FT.
STEEL H-TEST PILES 25' LONG, 10"	2	each
(1) STEEL H-PILING DRIVEN, 10"	333	LIN. FT.
(2) BENCH MARK DISK (STD PL NO.9300)	1	each
PILE TIP PROTECTION 10"	20	each

(1) DOES NOT INCLUDE TEST PILES

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

COMPUTED PILE LOADS – TONS/PILE	
DEAD LOAD *	41
LIVE LOAD	9
DESIGN LOAD	50

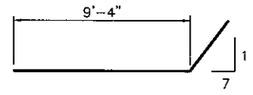
* 5 TONS/PILE RESERVED FOR DOWNDRAG.

PILE NOTES:
ALL PILES TO BE HP 10x42, SEE DETAIL B202 FOR PILE SPLICES.
FOR TEST PILE LOCATIONS, SEE SURVEY SHEET

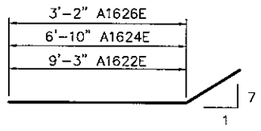
1 – HP 10x42 TEST PILE, ESTIMATED LENGTH 25 FT (W ABUT)
1 – HP 10x42 TEST PILE, ESTIMATED LENGTH 25 FT (E. ABUT)
9 – HP 10x42 PILES, ESTIMATED LENGTH 19 FT (W. ABUT)
9 – HP 10x42 PILES, ESTIMATED LENGTH 18 FT (E. ABUT)
20 – HP 10x42 PILES REQUIRED FOR ABUTMENTS

BILL OF REINFORCEMENT
EAST & WEST ABUTMENT & WINGWALLS

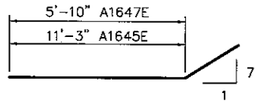
BAR	WEST ABUT.	EAST ABUT.	LENGTH	SHAPE	LOCATION
A1601E	40	43	12'-5"	BENT	ABUT. STIRRUP
A2202E	2	–	43'-7"	BENT	ABUT. HORZ. F.F.
A1903E	3	–	43'-7"	BENT	ABUT. HORZ. F.F.
A2904E	5	–	47'-2"	BENT	ABUT. HORZ. B.F.
A2205E	4	–	41'-0"	STRAIGHT	ABUT. HORZ.
A1606E	27	30	4'-0"	BENT	ABUT. TIE
A1607E	35	35	4'-7"	BENT	ABUT. TIE
A1608E	49	50	5'-10"	BENT	SHEAR BLOCK TIE
A1609E	4	–	36'-5"	STRAIGHT	SHEAR BLOCK HORZ. (WEST)
A1610E	30	30	4'-10"	BENT	BEAM SEAT TIE
A1311E	30	30	4'-6"	BENT	BEAM SEAT TIE
A1612E	5	–	10'-2"	BENT	WINGWALL HORZ. F.F. (WP A)
A2913E	5	–	11'-3"	STRAIGHT	WINGWALL HORZ. B.F. (WP A)
A1614E	6	–	9'-11"	BENT	WINGWALL HORZ. F.F. (WP A)
A2515E	6	–	9'-2"	STRAIGHT	WINGWALL HORZ. B.F. (WP A)
A1616E	1	–	5'-3"	BENT	WINGWALL HORZ. F.F. (WP A)
A2517E	1	–	4'-5"	STRAIGHT	WINGWALL HORZ. B.F. (WP A)
A1618E	1 SET OF 9	–	9'-3" TO 10'-8"	STRAIGHT	WINGWALL VERT. F.F. (WP A)
A1919E	1 SET OF 9	–	9'-3" TO 10'-8"	STRAIGHT	WINGWALL VERT. B.F. (WP A)
A1620E	5	–	10'-5"	BENT	WINGWALL HORZ. F.F. (WP E)
A2921E	5	–	12'-11"	STRAIGHT	WINGWALL HORZ. B.F. (WP E)
A1622E	5	–	10'-7"	BENT	WINGWALL HORZ. F.F. (WP E)
A2523E	5	–	9'-10"	STRAIGHT	WINGWALL HORZ. B.F. (WP E)
A1624E	1	–	8'-2"	BENT	WINGWALL HORZ. F.F. (WP E)
A2525E	1	–	7'-4"	STRAIGHT	WINGWALL HORZ. B.F. (WP E)
A1626E	1	–	4'-6"	BENT	WINGWALL HORZ. F.F. (WP E)
A2527E	1	–	3'-7"	STRAIGHT	WINGWALL HORZ. B.F. (WP E)
A1628E	1 SET OF 10	–	8'-5" TO 10'-10"	STRAIGHT	WINGWALL VERT. F.F. (WP E)
A1929E	1 SET OF 10	–	8'-5" TO 10'-10"	STRAIGHT	WINGWALL VERT. B.F. (WP E)
A1630E	5	–	10'-8"	STRAIGHT	ABUT. CORNERS VERTICAL (WEST)
A2231E	–	2	46'-8"	BENT	ABUT. HORZ. F.F.
A1932E	–	3	46'-8"	BENT	ABUT. HORZ. F.F.
A2933E	–	5	48'-4"	BENT	ABUT. HORZ. B.F.
A2234E	–	4	44'-1"	BENT	ABUT. HORZ.
A1635E	–	5	9'-2"	BENT	WINGWALL HORZ. F.F. (WP F)
A2936E	–	5	10'-3"	STRAIGHT	WINGWALL HORZ. B.F. (WP F)
A1637E	–	6	8'-9"	BENT	WINGWALL HORZ. F.F. (WP F)
A2538E	–	6	8'-1"	STRAIGHT	WINGWALL HORZ. B.F. (WP F)
A1639E	–	1	5'-1"	BENT	WINGWALL HORZ. F.F. (WP F)
A2540E	–	1	4'-5"	STRAIGHT	WINGWALL HORZ. B.F. (WP F)
A1641E	–	1 SET OF 8	9'-4" TO 10'-9"	STRAIGHT	WINGWALL VERT. F.F. (WP F)
A1942E	–	1 SET OF 8	9'-4" TO 10'-9"	STRAIGHT	WINGWALL VERT. B.F. (WP F)
A1643E	–	5	12'-6"	BENT	WINGWALL HORZ. F.F. (WP B)
A2944E	–	5	14'-11"	STRAIGHT	WINGWALL HORZ. B.F. (WP B)
A1645E	–	6	12'-8"	BENT	WINGWALL HORZ. F.F. (WP B)
A2546E	–	6	12'-0"	STRAIGHT	WINGWALL HORZ. B.F. (WP B)
A1647E	–	1	7'-3"	BENT	WINGWALL HORZ. F.F. (WP B)
A2548E	–	1	6'-7"	STRAIGHT	WINGWALL HORZ. B.F. (WP B)
A1649E	–	1 SET OF 12	9'-4" TO 10'-10"	STRAIGHT	WINGWALL VERT. F.F. (WP B)
A1950E	–	1 SET OF 12	9'-4" TO 10'-10"	STRAIGHT	WINGWALL VERT. B.F. (WP B)
A1651E	–	5	10'-9"	STRAIGHT	ABUT. CORNERS VERTICAL (EAST)
A1652E	–	4	37'-7"	STRAIGHT	SHEAR BLOCK HORZ. (EAST)
A2253E	–	2	6'-3"	BENT	ABUT. HORZ. (WP B)
A1654E	7	7	5'-9"	BENT	WINGWALL TIES
A1655E	7	7	6'-5"	BENT	WINGWALL TIES



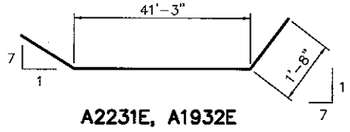
A1620E



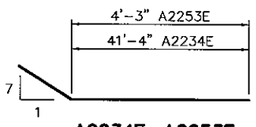
A1622E, A1624E, A1626E



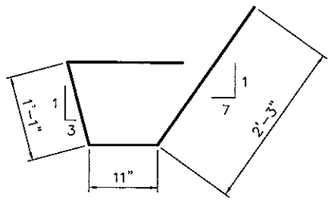
A1645E, A1647E



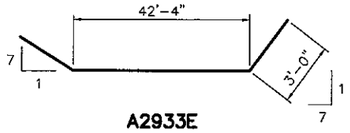
A2231E, A1932E



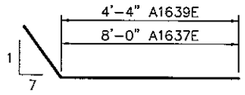
A2234E, A2253E



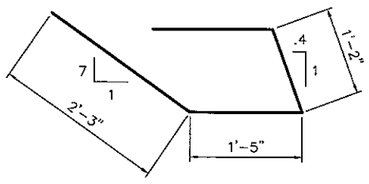
A1654E



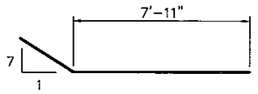
A2933E



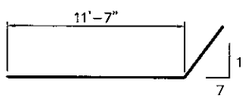
A1637E, A1639E



A1655E



A1635E



A1643E

WIDSETH SMITH NOLTING
ENGINEERS
ARCHITECTS
LAND SURVEYORS
PROJECT MANAGERS
ALEXANDRIA PHONE 320-762-8149 FAX 320-762-0263 www.wsn-mn.com

ABUTMENT QUANTITIES

APPROVED

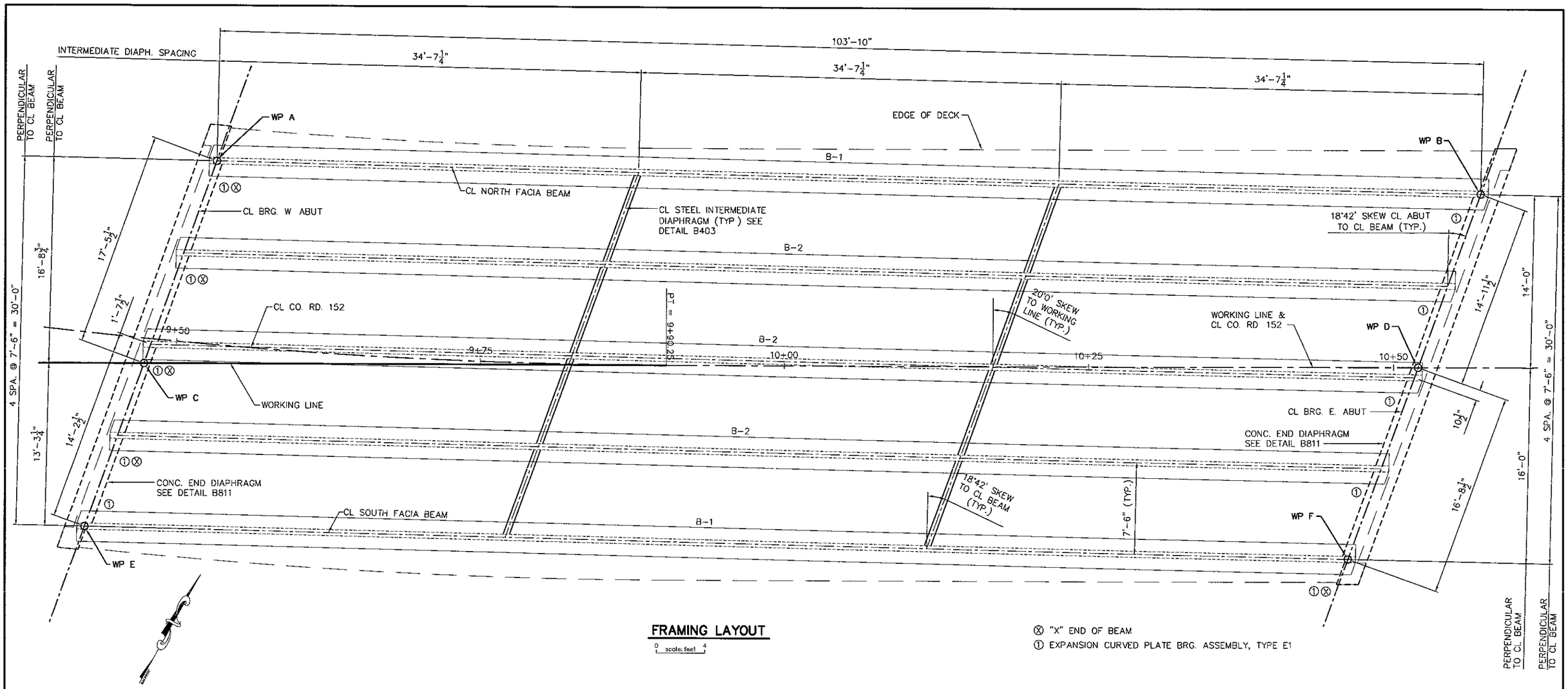
DES. BY	T.J.M.	DR. BY	J.A.K.	BRIDGE NO.
CHK. BY	K.A.R.	CHK. BY	T.J.M.	55563

WSN 460A179

CERTIFIED BY: _____ PROFESSIONAL ENGINEER REG. NO. 14280 12/28/ 2000

State Proj. No. 55-598-43

SHEET NO. B8 OF B20 SHEETS



FRAMING LAYOUT

0 scale: feet 4

Ⓧ "X" END OF BEAM

① EXPANSION CURVED PLATE BRG. ASSEMBLY, TYPE E1

CERTIFIED BY: _____ PROFESSIONAL ENGINEER

REG. NO. 14280 12/29/20 00

WIDSETH SMITH NOLTING — ENGINEERS, ARCHITECTS, LAND SURVEYORS, PROJECT MANAGERS

ALEXANDRIA PHONE 320-762-8149 FAX 320-762-0263 www.wsn-mn.com

FRAMING PLAN

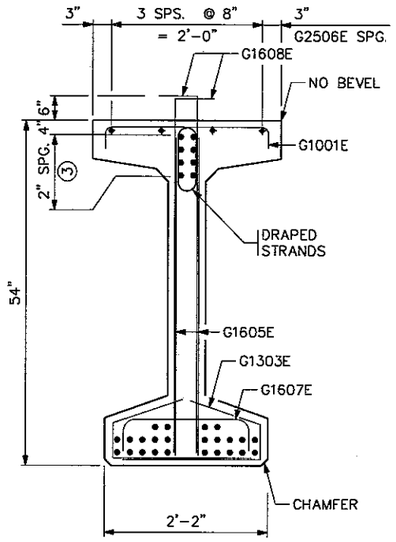
APPROVED

DES. BY	T.J.M.	DR. BY	J.A.K.	BRIDGE NO
CHK. BY	K.A.R.	CHK. BY	T.J.M.	55563

WSN 460A179

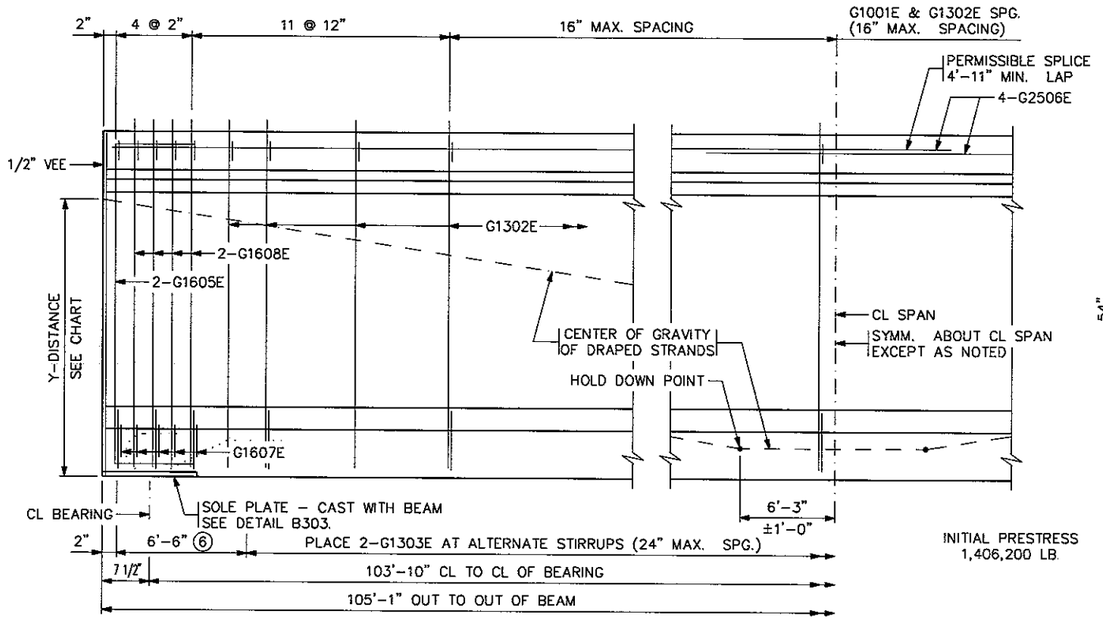
State Proj. No. 55-598-43

SHEET NO. B9 OF B20 SHEETS



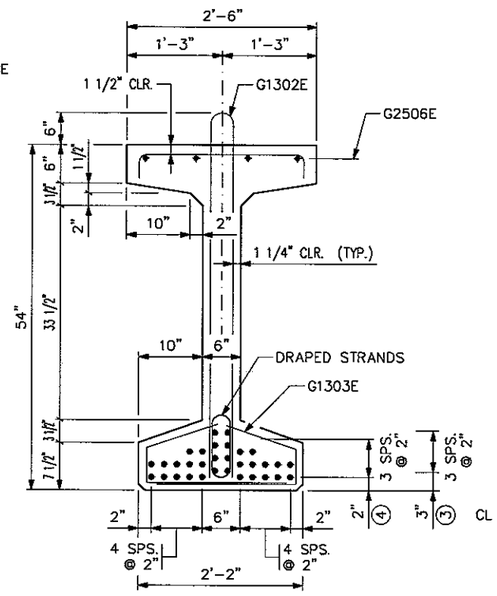
END VIEW

CUT STRANDS FLUSH WITH CONCRETE. PAINT ENDS WITH AN APPROVED GRAY EPOXY EXCEPT AS NOTED.



BEAM ELEVATION

INITIAL PRESTRESS 1,406,200 LB.

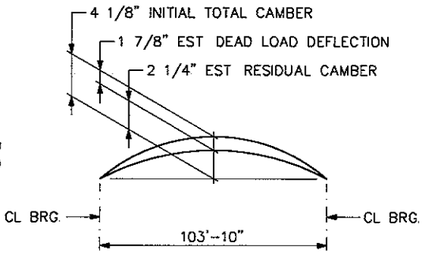


SECTION AT CL SPAN

Y DISTANCES	NO.	CL SPAN	END
STRAIGHT STRANDS	24	3.5"	
DRAPED STRANDS	8	6.0"	47" ▫
TOTAL STRANDS	32	4.125"	

Y = DISTANCE TO CENTER OF GRAVITY OF STRANDS FROM BOTTOM OF BEAM. ALL STRANDS SPACED 2" CENTER TO CENTER, HORIZONTALLY AND VERTICALLY, EXCEPT AS NOTED.

▫ A TOLERANCE OF ± 1" WILL BE PERMITTED IN THIS DIMENSION

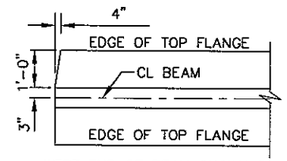


CAMBER DIAGRAM

INITIAL CAMBER IS GIVEN AFTER DIAPHRAGMS ARE IN PLACE.

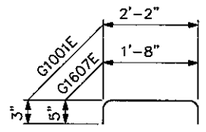
DEAD LOAD DEFLECTION SHOWN IS FOR WEIGHT OF SLAB, WEARING COURSE, RAILING, SIDEWALK AND MEDIAN WHERE APPLICABLE.

ENGINEER WILL TAKE ELEVATIONS AT TOP OF BEAMS AFTER ERECTION AND WILL ALLOW FOR DEFLECTION SHOWN TO ENABLE CONTRACTOR TO BUILD FORMS TO CORRECT GRADE AND SPECIFIED SLAB THICKNESS.



WEST END OF BEAM SHOWN SIM. AT OPPOSITE END, SEE FRAMING PLAN

BEAM COPING DETAIL

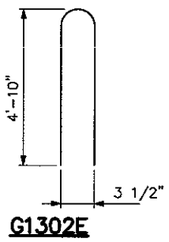


G1001E & G1607E

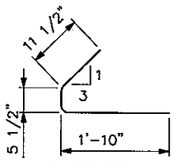
MINIMUM CONCRETE STRENGTH - P.S.I.	① f'ci	② f'c
REQUIRED MIN. CONCRETE STRENGTH	6000	7500

PRESTRESSING STRAND DIAMETER	
⑤	1/2" ☐
⑤	0.60" ☒

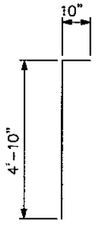
PLACE AN "X" IN THE APPROPRIATE BOX TO INDICATE THE STRAND DIAMETER USED FOR THE DESIGN



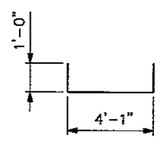
G1302E



G1303E



G1608E



G1605E

GENERAL NOTES

TOPS OF BEAMS SHALL BE INTENTIONALLY ROUGHENED FOR BOND

PROVIDE HANDLING HOOKS OR DEVICES AS REQUIRED BY CONTRACTOR

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

ALL MATERIAL AND WORK SHOWN OR NOTED ON THIS SHEET SHALL BE INCLUDED IN UNIT PRICE BID FOR PRESTRESSED CONCRETE BEAMS. SEE Mn/DOT SPEC. 2405.

SEE FRAMING PLAN FOR BEAM END MARKED "X" AND DIAPHRAGM SPACING.

APPROXIMATE WEIGHT OF BEAM IS 38.3 TONS.

AS AN ALTERNATE TO THE DIAPHRAGM ANCHORAGES SHOWN, THE CONTRACTOR MAY SUBMIT DETAILS OF A CAST-IN-PLACE ANCHORAGE TO THE ENGINEER FOR APPROVAL. ANCHORAGE MUST PROVIDE AN ULTIMATE PULL OUT STRENGTH OF 15 KIPS PER ANCHORAGE.

① MINIMUM CONCRETE STRENGTH AT TIME OF PRESTRESS TRANSFER.

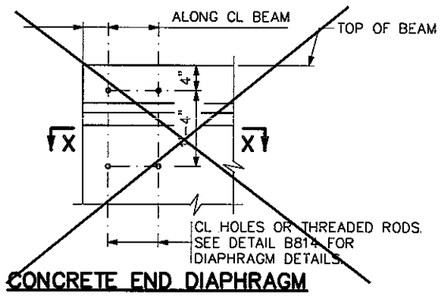
② MINIMUM CONCRETE STRENGTH WHEN BEAM CAN BE TRANSPORTED AND INSTALLED.

③ DRAPED STRANDS.

④ STRAIGHT STRANDS.

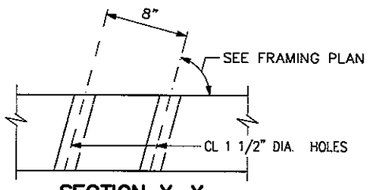
⑤ PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION STRAND, CONFORMING TO ASTM A 416, GRADE 270.

⑥ PLACE 2-G1303E WITH STIRRUPS (6" MAX. SPG.)



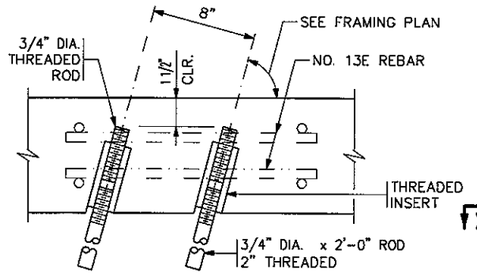
CONCRETE END DIAPHRAGM

(PARAPET ABUTMENT)



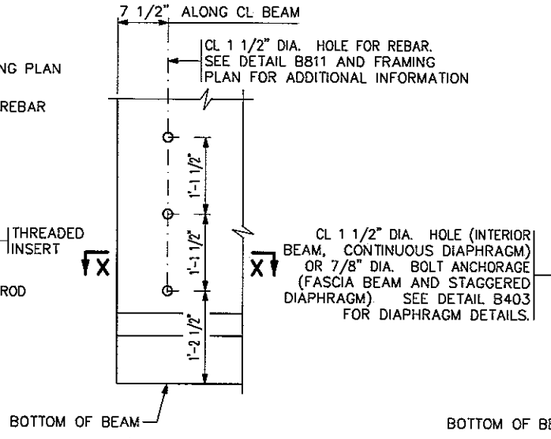
SECTION X-X

USE AT INTERIOR BEAMS WITH CONTINUOUS CONCRETE DIAPHRAGMS



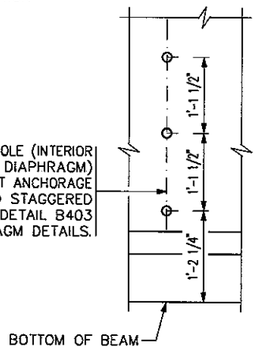
SECTION X-X

USE AT FASCIA BEAMS AND INTERIOR BEAMS WITH STAGGERED DIAPHRAGMS



CONCRETE END DIAPHRAGM

(PILE BENT ABUTMENT)

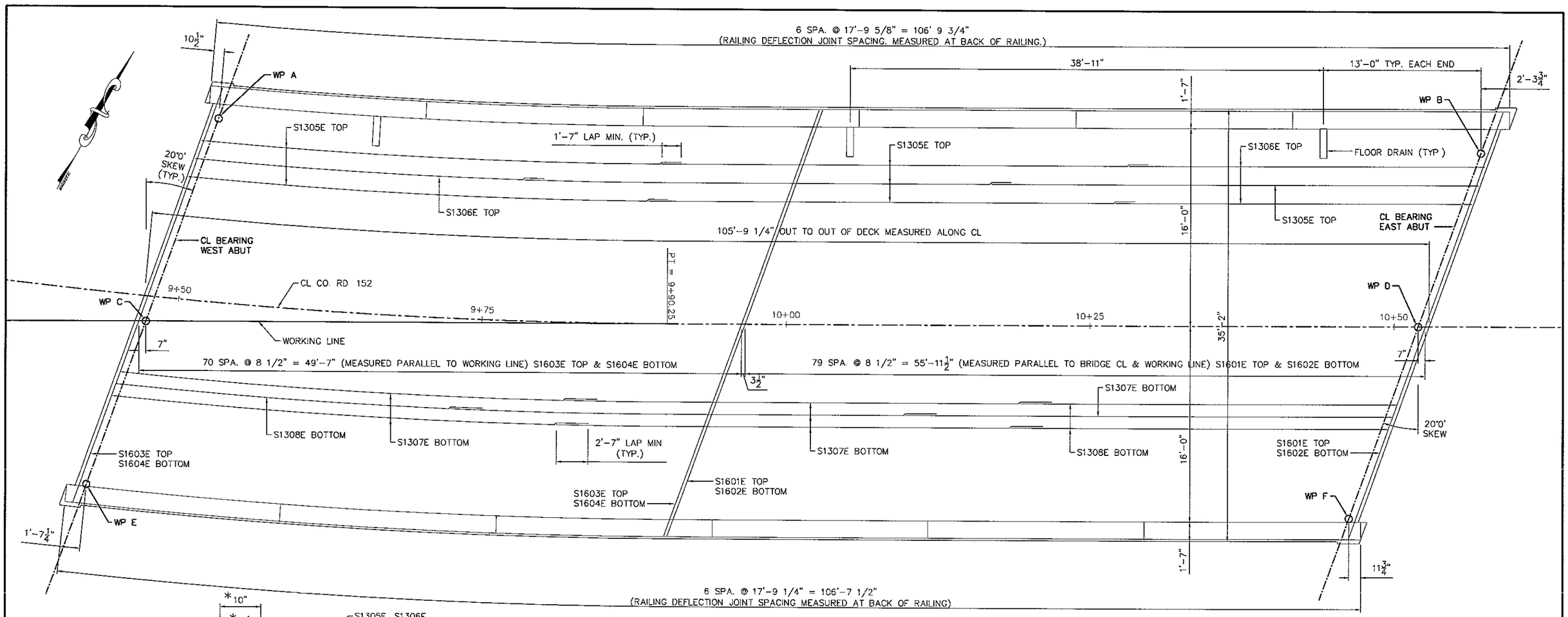


STEEL INTERMEDIATE DIAPHRAGM

460A179

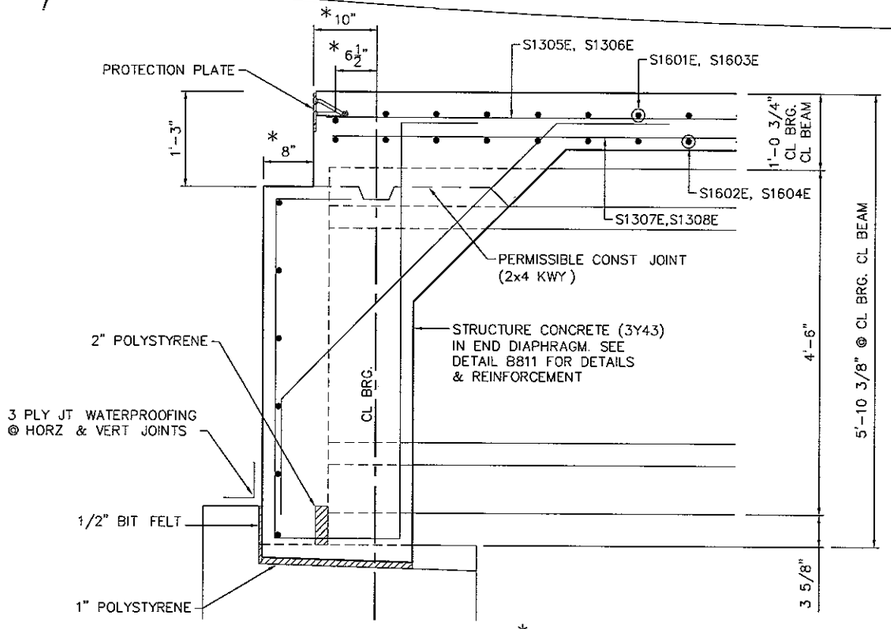
REVISION: 02-11-00					
APPROVED: NOVEMBER 6, 1995	CERTIFIED BY PROFESSIONAL ENGINEER	TITLE: 54" PRESTRESSED CONCRETE BEAM (PRETENSIONED) TYPE 54M-106	DES: T.J.M.	DR: J.A.K.	APPROVED:
STATE BRIDGE ENGINEER	REG. NO. 14280 2/28/2000		CHK: K.A.R.	CHK: T.J.M.	BRIDGE NO. 55563
			SHEET NO. B10 OF B20 SHEETS		

S.P. NO. 55-598-43 BEAMS B1-B2 FIG. 5-397.515



DECK PLAN

0 scale: feet 4



SECTION AT ABUTMENT

0 scale: feet 1

*MEASURED PERPENDICULAR TO CL ABUT BRG.

CERTIFIED BY: _____ PROFESSIONAL ENGINEER

REG. NO. 14280 12/28/20 00

WIDSETH SMITH NOLTING — ENGINEERS, ARCHITECTS, LAND SURVEYORS, PROJECT MANAGERS

ALEXANDRIA PHONE 320-762-8149 FAX 320-762-0263 www.wsn-mn.com

SUPERSTRUCTURE LAYOUT

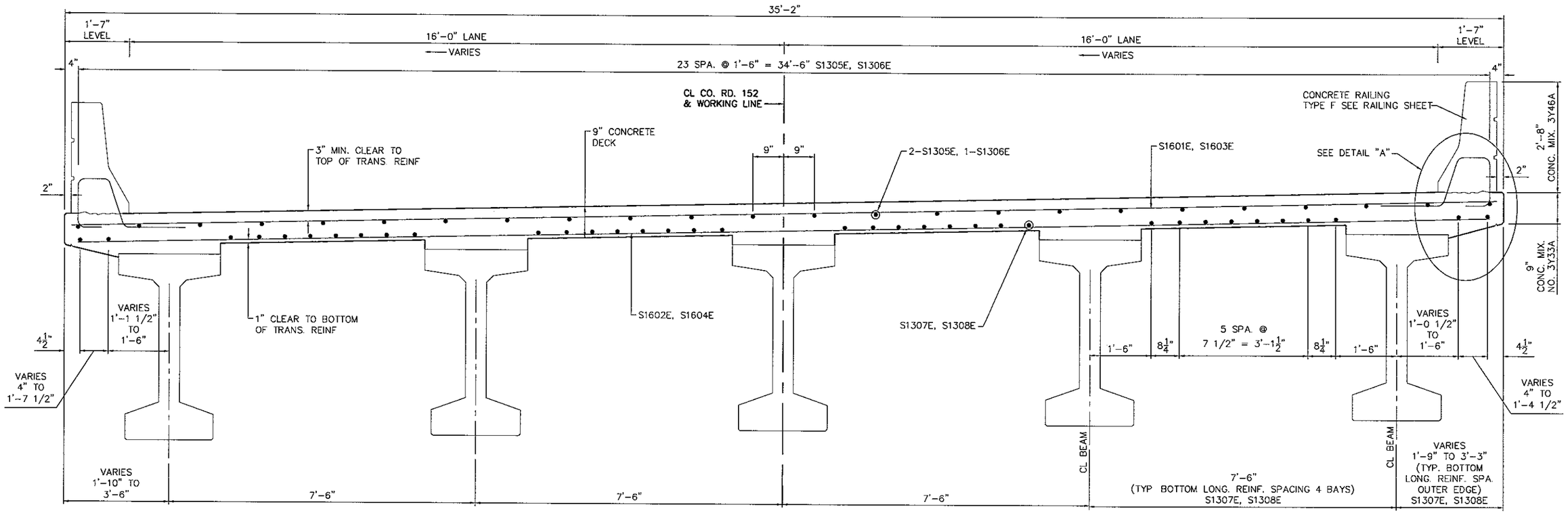
APPROVED

DES. BY	T.J.M.	DR. BY	J.A.K.	BRIDGE NO.
CHK. BY	K.A.R.	CHK. BY	T.J.M.	55563

WSN 460A179

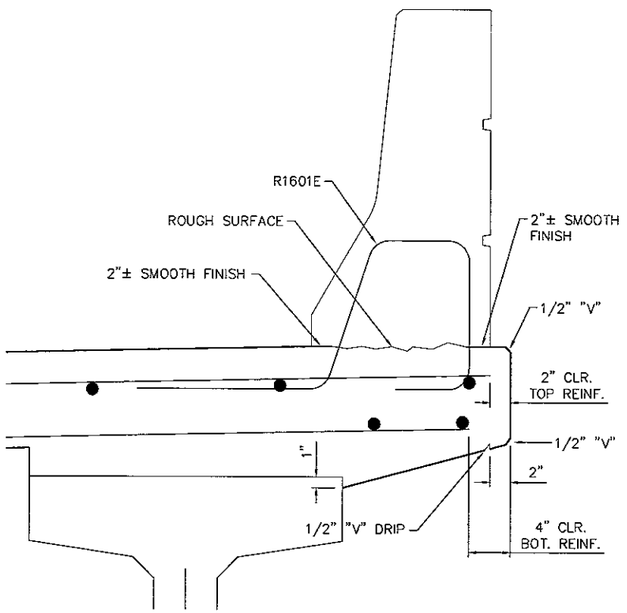
State Proj. No. 55-598-43

SHEET NO. B11 OF B20 SHEETS



TRANSVERSE SECTION THRU DECK

0 scale: feet



DETAIL "A"

0 scale: feet 0.5

	SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE		
	STRUCTURAL CONCRETE (3Y43)	27.7	CU. YD.
④	BRIDGE SLAB CONCRETE (3Y33A)	3,725	SQ. FT.
⑧	TYPE F RAILING CONCRETE (3Y46A)	214	LIN. FT.
①	REINFORCEMENT BARS, EPOXY COATED	24,420	POUND
⑦	PRESTRESSED CONCRETE BEAMS, TYPE 54M-106	5	EACH
	PRESTRESSED CONCRETE BEAMS, TYPE 54M-106	526	LIN. FT.
	DIAPH. FOR TYPE 54M PRESTR. CONC. BEAMS	64	LIN. FT.
	STRUCTURAL STEEL	474	POUND
⑥	EXPANSION CURVED PLATE BRG. ASSEMBLY, TYPE E1	10	EACH
	FLOOR DRAINS TYPE B706	3	EACH
⑤	NAME PLATE (SEE DETAIL B101)	1	EACH
③⑤	CORK 1"x10" (RAILING)	19	LIN. FT.
③⑤	CORK 1"x18" (ABUTS.)	26	LIN. FT.
③⑤	POLYSTYRENE, TYPE A 1"x24" (BR. SEAT)	76	LIN. FT.
③⑤	POLYSTYRENE, TYPE A 1"x5" (SIDES OF BRGS.)	25	LIN. FT.
③⑤	POLYSTYRENE, TYPE A 2"x5" (BEHIND BRGS.)	25	LIN. FT.
③⑤	BIT. FELT 1/2"x12" (ABUTS.)	76	LIN. FT.

BILL OF REINFORCEMENT FOR SUPERSTRUCTURE				
BAR	NO.	LENGTH	SHAPE	LOCATION
S1601E	80	37'-0"	STRAIGHT	TOP TRANSVERSE
S1602E	80	36'-8"	STRAIGHT	BOTTOM TRANSVERSE
S1603E	1 SET OF 71	35'-11" TO 37'-0"	STRAIGHT	TOP TRANSVERSE
S1604E	1 SET OF 71	35'-7" TO 36'-8"	STRAIGHT	BOTTOM TRANSVERSE
S1305E	48	40'-0"	STRAIGHT	TOP LONGITUDINAL
S1306E	24	29'-4"	STRAIGHT	TOP LONGITUDINAL
S1307E	72	40'-0"	STRAIGHT	BOTTOM LONGITUDINAL
S1308E	36	31'-0"	STRAIGHT	BOTTOM LONGITUDINAL

① INCLUDES RAILING REINFORCEMENT

② INCLUDES RAILING AND END DIAPHRAGM QUANTITIES.

③ SEE SPECIAL PROVISIONS

④ APPROX. VOLUME 113 CU. YDS. BASED ON AN AVERAGE STOOL HEIGHT OF 2 1/2"

⑤ TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS

⑥ PAYMENT FOR BEARINGS INCLUDED IN ITEM BEARING ASSEMBLIES PER EACH

⑦ PAYMENT FOR BEAMS INCLUDED IN ITEM PRESTRESSED CONCRETE BEAMS TYPE 54M PER LINEAR FOOT

⑧ APPROX. VOLUME 22 CU. YDS.

CERTIFIED BY: _____ PROFESSIONAL ENGINEER

REG. NO. 14282 12/28/ 20 00

WIDSETH SMITH NOLTING
ENGINEERS ARCHITECTS LAND SURVEYORS PROJECT MANAGERS
ALEXANDRIA PHONE 320-762-8149 FAX 320-762-0253 www.wsn-mn.com

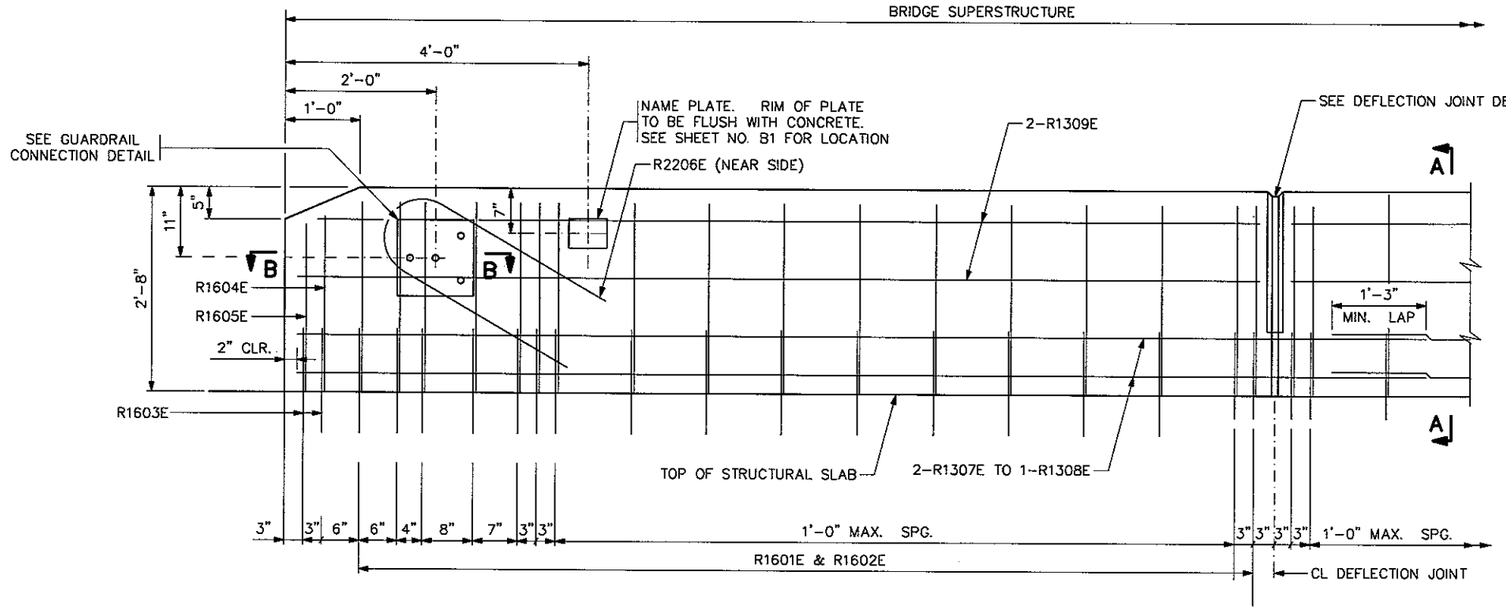
SUPERSTRUCTURE DETAILS

APPROVED

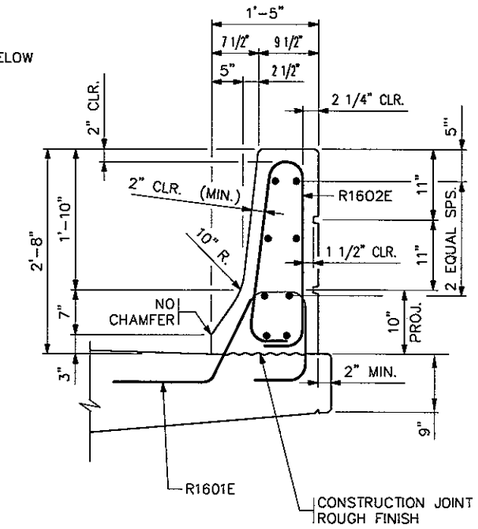
DES. BY	T.J.M.	DR. BY	J.A.K.	BRIDGE NO.
CHK. BY	K.A.R.	CHK. BY	T.J.M.	55563

WSN 460A179

State Proj. No. 55-598-43 SHEET NO. B12 OF B20 SHEETS



INSIDE ELEVATION OF RAILING

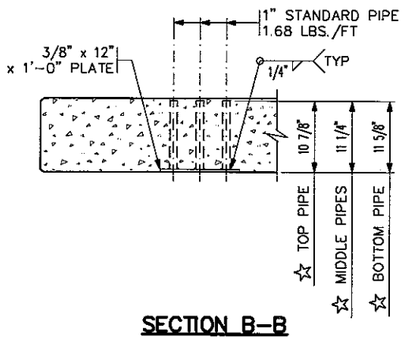


SECTION A-A

DEFLECTION JOINT

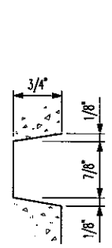
BILL OF REINFORCEMENT FOR RAILING

BAR	NO.	LENGTH	SHAPE	LOCATION
R1601E	248	5'-2"		RAIL DOWEL
R1602E	248	6'-2"		RAIL VERTICAL
R1603E	8	6'-6"		RAIL DOWEL
R1604E	4	5'-8"		RAIL VERTICAL
R1605E	4	5'-6"		RAIL VERTICAL
R2206E	4	6'-6"		RAIL VERTICAL
R1307E	16	40'-0"		RAIL LONGITUDINAL
R1308E	8	28'-11"		RAIL LONGITUDINAL
R1309E	48	17'-5"		RAIL LONGITUDINAL

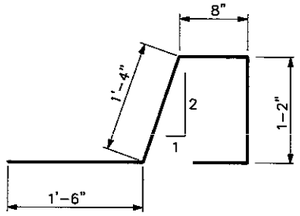


SECTION B-B

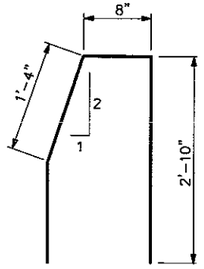
(REINFORCEMENT NOT SHOWN)
☆ DIMENSIONS INCLUDE 3/8" PLATE



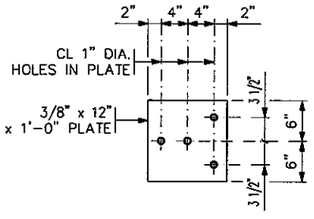
RAIL RUSTICATION



R1601E

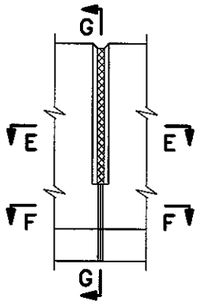


R1603E

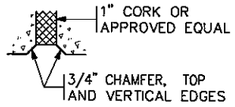


GUARDRAIL CONNECTION DETAIL

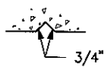
GALVANIZE AFTER FABRICATION PER MnDOT SPEC. 3394
ESTIMATED WEIGHT = 22 LBS



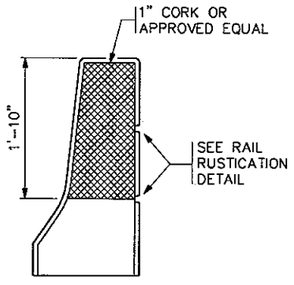
ELEVATION



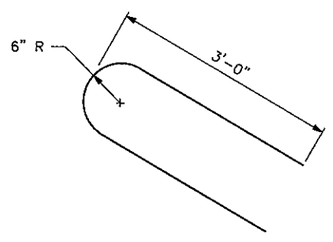
SECTION E-E



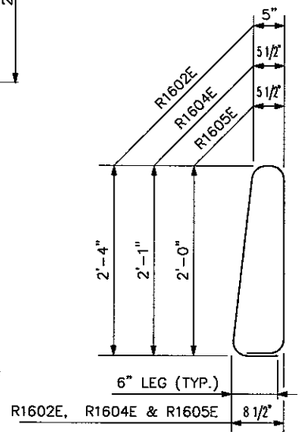
SECTION F-F



SECTION G-G



R2206E



R1602E, R1604E, & R1605E

GENERAL NOTES

LENGTH OF "TYPE F RAILING CONCRETE (3Y43A)" FOR PAYMENT SHALL BE MEASURED BETWEEN THE OUTSIDE FACES OF THE CONCRETE RAIL.

CONCRETE RAILING = 405 LBS./FT (0.100 CU. YDS./FT)

FINISH ALL EDGES OF RAIL WITH 1/2" VEE, EXCEPT WHERE OTHERWISE NOTED.

MAXIMUM SPACING OF CONCRETE DEFLECTION JOINTS SHALL BE 20 FT

SEE SUPERSTRUCTURE SHEET FOR JOINT SPACING.

GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, MnDOT SPEC. 3306.

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

RAIL QUANTITIES ARE INCLUDED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.

DEFLECTION JOINT DETAILS

REVISION: 04-16-00

APPROVED: AUGUST 31, 1991
Donald J. Flemming
STATE BRIDGE ENGINEER

WSN 460A179

CERTIFIED BY
PROFESSIONAL ENGINEER
REG. NO. 14280 12/28/ 2000

TITLE: CONCRETE RAILING (TYPE F)
WITH INTEGRAL END POST
(WITHOUT CONCRETE OVERLAY)

DES: T.J.M.	DR: J.A.K.
CHK: K.A.R.	CHK: T.J.M.

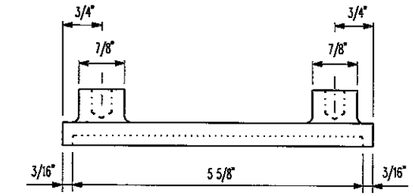
APPROVED: MODIFIED

S.P. NO. 55-598-43

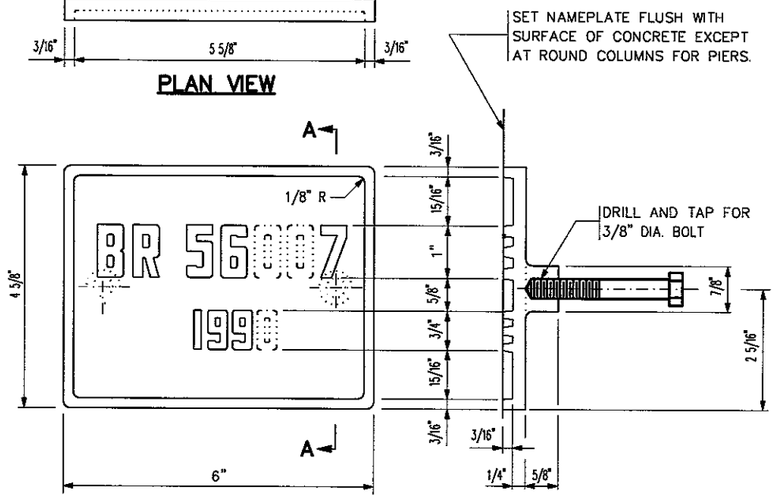
FIG. 5-397.115

SHEET NO. B13 OF B20 SHEETS

BRIDGE NO. 55563



PLAN VIEW



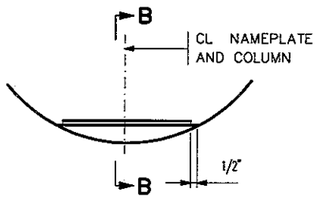
ELEVATION

SECTION A–A

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

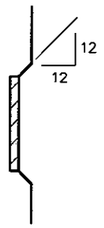
BRIDGE 55563

YEAR 2001

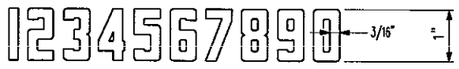


NAMEPLATE PLACEMENT

(ROUND CONCRETE PIER COLUMNS)



SECTION B–B



NUMBERS FOR NAMEPLATE

NOTES:

NO SHOP DRAWING REQUIRED.

MATERIAL SHALL COMPLY WITH Mn/DOT SPEC. 3327.

LETTERS AND NUMBERS SHALL CONFORM TO THOSE SHOWN.

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

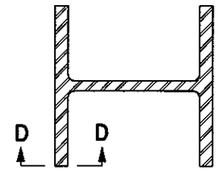
HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.

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

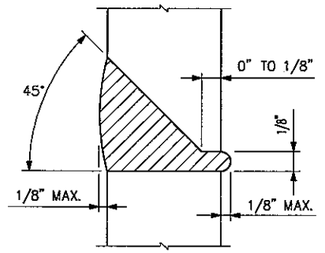
FURNISH 2 STEEL BOLTS 3/8" DIA. x 3" LONG WITH EACH PLATE.

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: JULY 30, 1999	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Donald J. Flemming STATE BRIDGE ENGINEER	**BRIDGE NAMEPLATE** (FOR NEW BRIDGES)		**B101**



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.

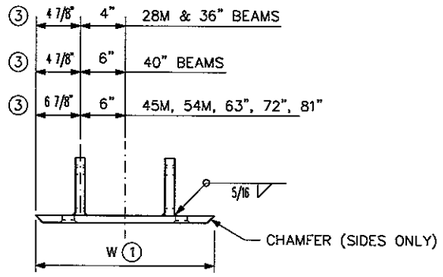
LOW–HYDROGEN ELECTRODES SHALL BE PLACED IN A HOLDING OVEN FOR AT LEAST 8 HOURS IF THEY HAVE BEEN EXPOSED TO THE ATMOSPHERE FOR MORE THAN 2 HOURS.

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

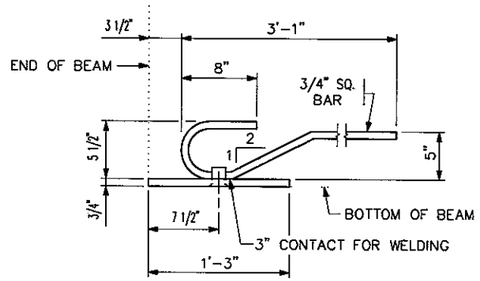
WELDING SHALL NOT BE DONE WHEN THE AMBIENT TEMPERATURE IS LOWER THAN 0°F. OR WHEN THE PILE IS WET OR EXPOSED TO FALLING RAIN OR SNOW. WHEN THE PILE METAL TEMPERATURE IS BELOW 32°F., THE PILE METAL IN THE AREA OF THE WELD SHALL BE HEATED TO A MINIMUM TEMPERATURE OF 70°F AND MAINTAINED AT THIS TEMPERATURE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

APPROVED: JULY 30, 1999	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Donald J. Flemming STATE BRIDGE ENGINEER	**PILE SPLICE** (STEEL H BEARING PILES 10" TO 14")		**B202**

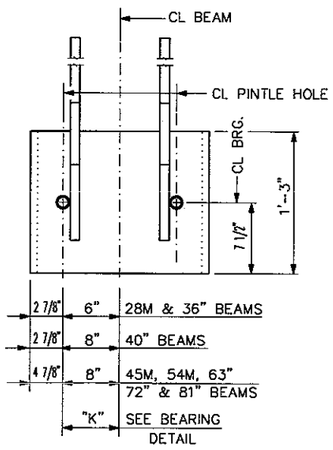
CERTIFIED BY: PROFESSIONAL ENGINEER REG. NO. 14280 12/29/2000	DES: T.J.M.	DR: J.A.K.	APPROVED:	TITLE: DETAILS 460A179	STATE PROJ. NO. 55-598-43	Sheet No. B14 of B20 Sheets	Bridge No. 55563
	CHK: K.A.R.	CHK: T.J.M.					



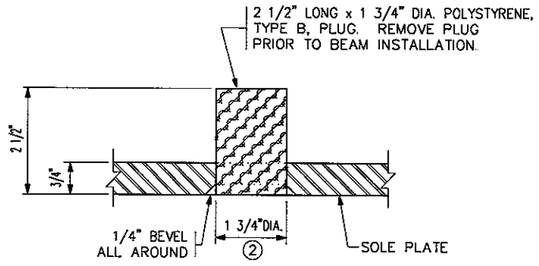
FRONT VIEW



SIDE VIEW



TOP VIEW



PINTLE HOLE DETAIL

BEAM SIZE	① W VALUE (in.)
28M,36"	1'-5 3/4"
40"	1'-9 3/4"
45M,54M 63",72",81"	2'-1 3/4"

NOTES:

MATERIAL TO BE STRUCTURAL STEEL PER Mn/DOT SPEC. 3306.

SOLE PLATE FOR BEARING ASSEMBLY TO BE HOT DIPPED GALVANIZED PER Mn/DOT SPEC. 3394 AFTER FABRICATION.

PINTLE HOLES SHALL BE FREE OF ZINC BUILD UP FROM GALVANIZING.

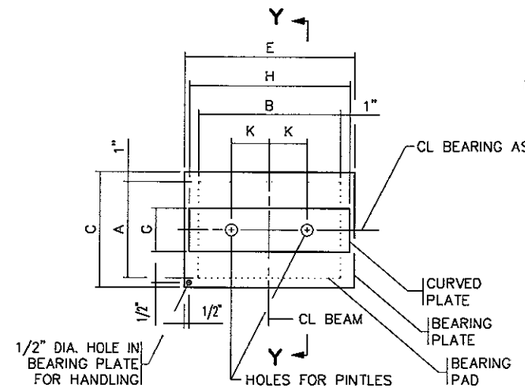
PAYMENT FOR SOLE PLATES TO BE INCLUDED IN PRICE BID FOR PRESTRESSED CONCRETE BEAMS.

① DIMENSION "W" TO BE THE WIDTH AT THE BOTTOM FLANGE OF THE BEAM MINUS 1/4".

② FOR 1 1/2" DIA. PINTLES.

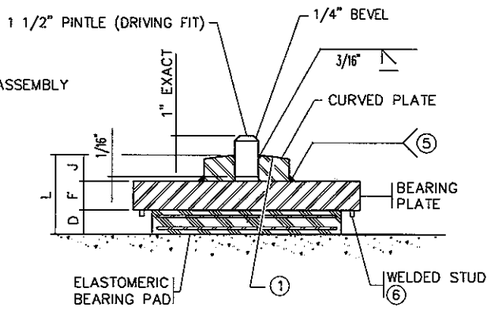
③ THESE DIMENSIONS MAY BE MODIFIED TO CLEAR PRESTRESSED STRANDS. HOWEVER, CHANGES MUST BE APPROVED BY THE ENGINEER.

APPROVED: JULY 30, 1999	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Donald J. Flemming STATE BRIDGE ENGINEER	**SOLE PLATE** (PRESTRESSED CONCRETE BEAMS) (FOR BEARINGS WITH PINTLES)		**B303**



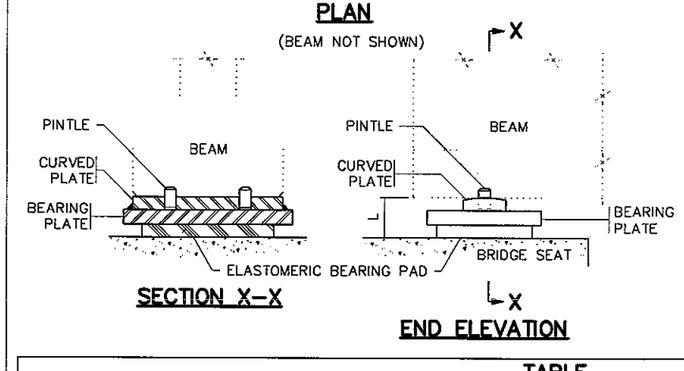
PLAN

(BEAM NOT SHOWN)



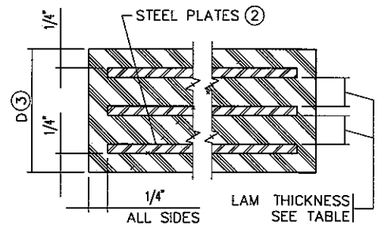
SECTION Y-Y

(ENLARGED BEARING ASSEMBLY)



SECTION X-X

END ELEVATION



SECTION THRU BEARING PAD

TABLE

ASSEMBLY TYPE	LOCATION	BEAM SIZE	BEARING PAD SIZE A	B	D	STEEL PLATES NO.	THICK.	LAMINATES NO.	THICK.	SHAPE FACTOR	BEARING PLATE SIZE C	E	F	CURVED PLATE SIZE G	H	J	PINTLE DIA.	PINTLE DISTANCE K ④	ASSY. HEIGHT L
E1	E.&W. ABUT.	54M	10"	24"	1 1/8"	2	1/8"	1	3/8"	9.4	12"	27"	1 1/8"	4 1/2"	26"	1 3/8"	1 1/2"	8"	3 5/8"

NOTES:

ELASTOMERIC MATERIALS & PAD CONSTRUCTION SHALL COMPLY WITH Mn/DOT SPEC. 3741

ALL STEEL PLATES SHALL COMPLY WITH Mn/DOT SPEC. 3306

PINTLES SHALL COMPLY WITH Mn/DOT SPEC. 3309.

GALVANIZE STRUCTURAL STEEL BEARING ASSEMBLY AFTER FABRICATION PER Mn/DOT SPEC. 3394, EXCEPT AS NOTED.

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

① THE RADIUS OF THE CURVED PLATE SHALL BE 1'-4" MINIMUM AND 2'-0" MAXIMUM. FINISH TO 250 MICRO. THE FINISHED THICKNESS OF THE PLATE MAY BE 1/16" LESS THAN SHOWN.

② DO NOT GALVANIZE THESE PLATES.

③ THE TOTAL THICKNESS SHOWN INCLUDES THE STEEL PLATES.

④ SEE DETAIL B303 FOR PINTLE DISTANCE K.

⑤ WELDING PER Mn/DOT SPEC. 2471

⑥ 5/16" DIA. x 3/8" KNOCK-OFF WELD STUDS INSTALLED ON BEARING PLATE AROUND PERIMETER OF BEARING PAD. CENTERLINE STUD TO EDGE OF PAD DIMENSION = 1/2", MAX. STUD SPACING = 4".

DESIGN DATA:

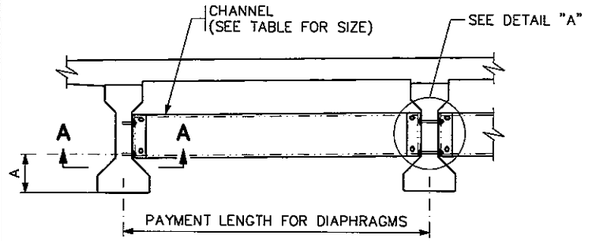
MAXIMUM HORIZONTAL LOAD IS 70 KIPS FOR 1 1/2" PINTLES.

APPROVED: JULY 30, 1999	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Donald J. Flemming STATE BRIDGE ENGINEER	**CURVED PLATE BEARING ASSEMBLY** (PRESTRESSED CONCRETE BEAMS) (EXPANSION)		**B311**

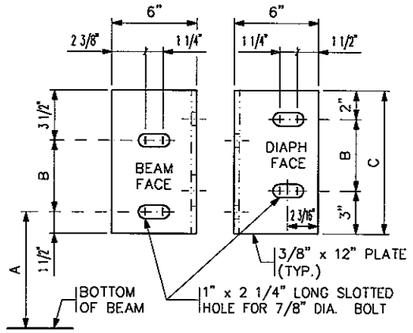
CERTIFIED BY _____ PROFESSIONAL ENGINEER REG. NO. 14280 12/29/20 00

DES: T.J.M. DR: J.A.K. CHK: K.A.R. CHK: T.J.M. APPROVED:

TITLE: DETAILS 460A179 | STATE PROJ. NO. 55-598-43 | Sheet No. B15 of B20 Sheets | Bridge No. 55563

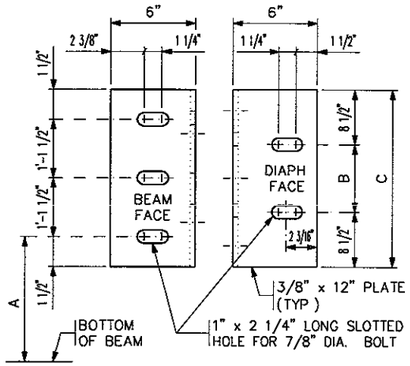


PART TRANSVERSE SECTION AT DIAPHRAGM



DIAPHRAGM CONNECTION FOR BEAMS

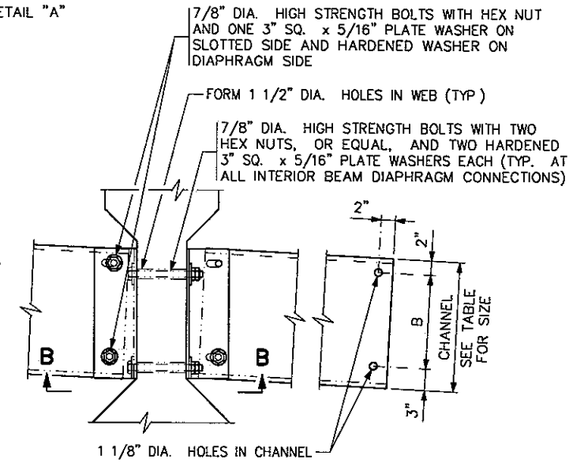
(28M – 45M BEAMS)



DIAPHRAGM CONNECTION FOR BEAMS

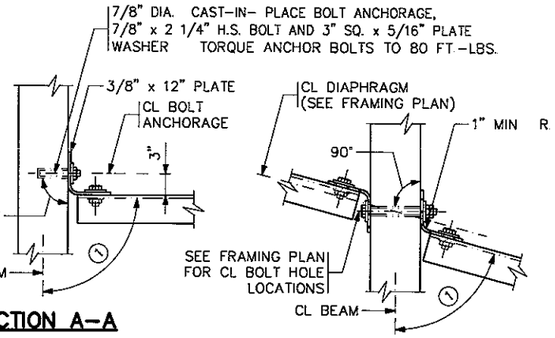
(54M BEAMS)

TABLE				
BEAM HEIGHT	DISTANCE			CHANNEL SIZE
	A	B	C	
28M	1'–0"	5"	10"	C10x15.3
36"	1'–3"	7"	1'–0"	C12x20.7
36M	1'–3"	7"	1'–0"	C12x20.7
40"	1'–5"	7"	1'–0"	C12x20.7
45M	1'-3 3/4"	1'–1"	1'–6"	MC18x42.7
54M	1'-2 1/4"	1'–1"	2'–6"	MC18x42.7



DETAIL "A"

INTERIOR BEAM WITH CONTINUOUS LINE OF DIAPHRAGMS



SECTION A–A

TYPICAL SECTION AT ALL FASCIA BEAM AND STAGGERED DIAPHRAGM CONNECTIONS

SECTION B–B

TYPICAL SECTION AT CONTINUOUS INTERIOR DIAPHRAGMS

NOTES:

ALL STEEL SHALL CONFORM TO Mn/DOT SPEC. 3306.

SEE Mn/DOT SPEC. 2405.3M FOR INSTALLATION

THE LEG OF THE 12" PLATE SHALL BE SHOP BENT TO CONFORM TO THE DIAPHRAGM. A 3/8" x 6" x 6" ANGLE MAY BE USED FOR DIAPHRAGMS PERPENDICULAR TO BEAMS.

FOR BOLT LENGTHS GREATER THAN 8 1/2", USE HIGH STRENGTH BOLTS PER Mn/DOT SPEC. SAE GRADE 5 OR BETTER SEE Mn/DOT SPEC. 2405.3M FOR INSTALLATION

ALL STRUCTURAL STEEL SHOWN ON THIS DETAIL, INCLUDING BOLTS AND WASHERS, SHALL BE INCLUDED IN THE PAYMENT FOR DIAPHRAGMS FOR PRESTRESSED BEAMS.

BENT PLATES MAY BE USED IN PLACE OF CHANNELS. THE BENT PLATES MUST BE THE SAME HEIGHT AS THE CHANNELS THEY REPLACE, BE 3/8" IN THICKNESS, AND HAVE LEGS 5" LONG.

① FOR SKEW ANGLES UNDER 20°, USE 90° LESS THE SKEW ANGLE. FOR SKEW ANGLES OVER 20°, USE 90°

APPROVED: JULY 30, 1999

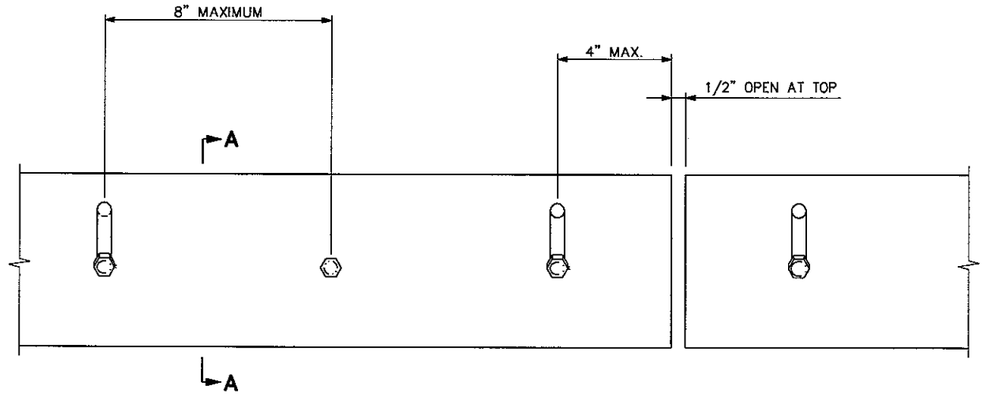
STATE BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

STEEL INTERMEDIATE DIAPHRAGM
(FOR 28M – 54M PRESTRESSED CONCRETE BEAMS)

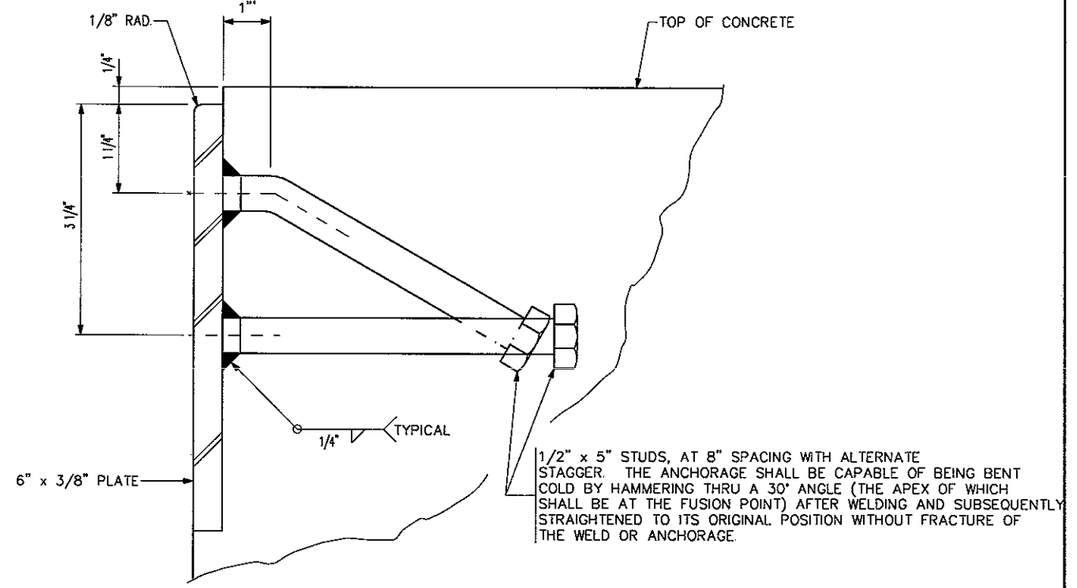
REVISION 06–16–00

DETAIL NO. **B403**



ELEVATION

(CONCRETE NOT SHOWN)



SECTION A–A

NOTES:

PLATES SHALL EXTEND FULL WIDTH OF ROADWAY BETWEEN GUTTER LINES WITH A 1/2" OPEN JOINT AT EACH BREAK IN CROWN PROFILE. MAXIMUM LENGTH 22 FEET

MATERIALS: STRUCTURAL STEEL PER Mn/DOT SPEC. 3306. GALVANIZE AFTER FABRICATION PER Mn/DOT SPEC. 3394

SET PLATE TO PROPER GRADE AND CROWN.

APPROVED: JULY 30, 1999

STATE BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

PROTECTION PLATE
(FOR END OF SLAB)

REVISION

DETAIL NO. **B553**

CERTIFIED BY: _____ PROFESSIONAL ENGINEER REG. NO. 14280 12/28/2000

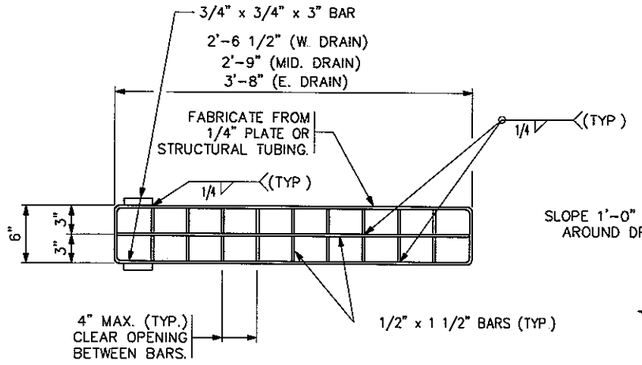
DES: T.J.M.	DR: J.A.K.	APPROVED:
CHK: K.A.R.	CHK: T.J.M.	

TITLE: DETAILS 460A179

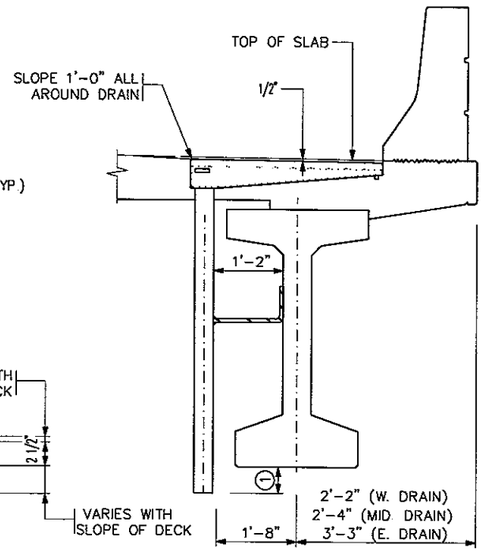
STATE PROJ. NO. 55-598-43

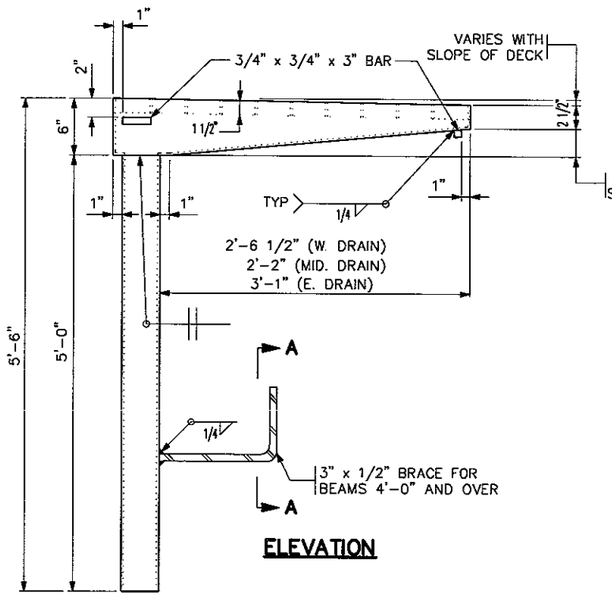
Sheet No. B16 of B20 Sheets

Bridge No. 55563

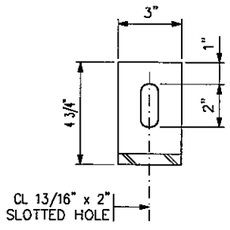


PLAN





ELEVATION



SECTION A–A

FLOOR DRAIN PLACEMENT DIAGRAM

NOTES:

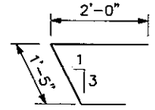
MATERIAL TO BE STRUCTURAL STEEL PER Mn/DOT SPEC. 3306.

GALVANIZE MATERIAL PER Mn/DOT SPEC. 3394 AFTER FABRICATION.

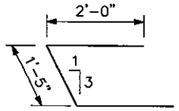
PAYMENT FOR FLOOR DRAIN TYPE 2 SHALL INCLUDE ALL MATERIAL SHOWN ON THIS DETAIL.

① 1"± BELOW BOTTOM OF BEAM EXCEPT ON RURAL STREAM CROSSINGS WHERE DRAIN SHOULD BE EVEN TO BOTTOM OF BEAM.

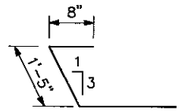
APPROVED: JULY 30, 1999	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Donald J. Flemming STATE BRIDGE ENGINEER	**BRIDGE OFFSET FLOOR DRAIN** (STRUCTURAL TUBE)		MOD. B706



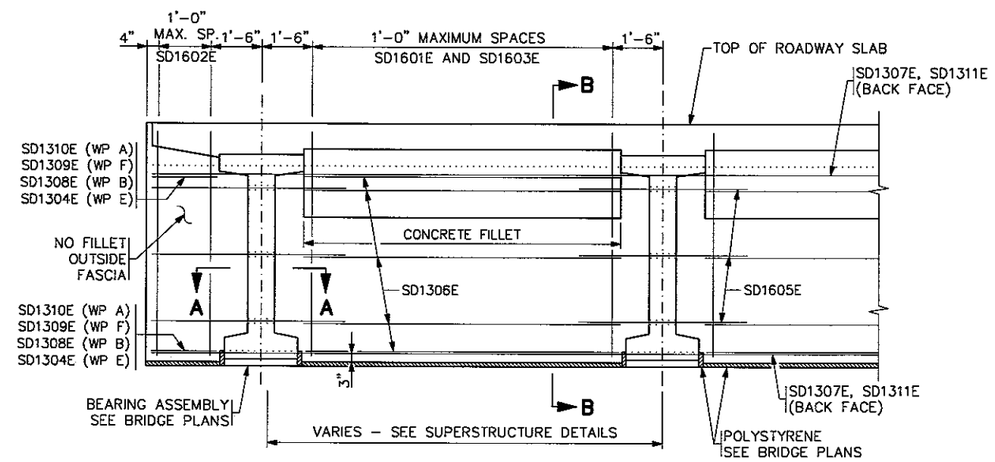
SD1304E



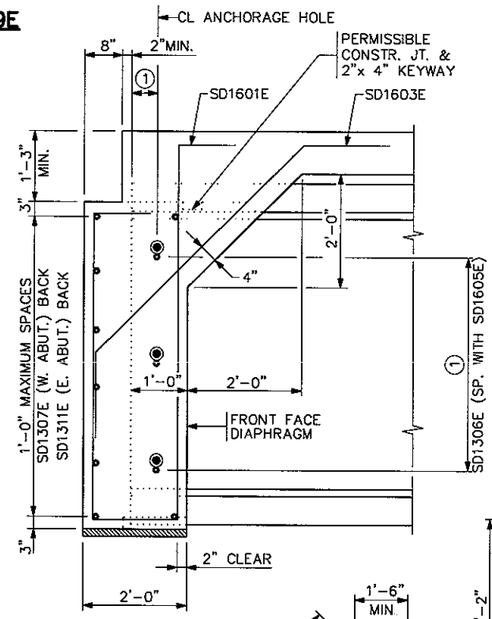
SD1308E



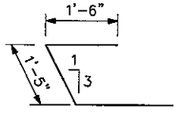
SD1309E



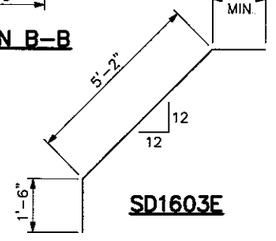
PART TRANSVERSE SECTION AT END DIAPHRAGM



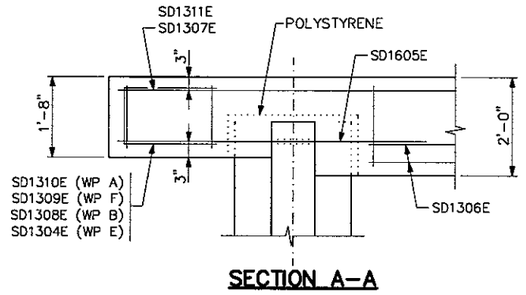
SECTION B–B



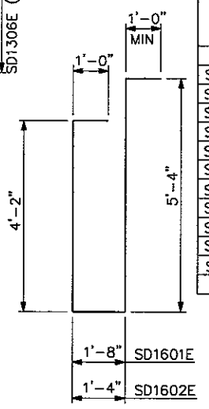
SD1310E



SD1603E



SECTION A–A



SD1601E & SD1602E

BILL OF REINFORCEMENT FOR END DIAPHRAGM

BAR	NO.	LENGTH	SHAPE	LOCATION
SD1601E	48	13'-2"		VERT. TIE
SD1602E	8	12'-10"		VERT. TIE @ END
SD1603E	48	8'-2"		VERT. DOWEL
SD1304E	6	4'-1"		HORIZ. END TIE (WP E)
SD1605E	30	5'-0"		DOWEL THRU BEAM
SD1306E	40	5'-3"		F. F. HORIZ.
SD1307E	6	36'-3"		B. F. HORIZ. (W. ABUT.)
SD1308E	6	5'-5"		HORIZ. END TIE (WP B)
SD1309E	6	4'-1"		HORIZ. END TIE (WP F)
SD1310E	6	4'-11"		HORIZ. END TIE (WP A)
SD1311E	6	37'-4"		B. F. HORIZ. (E. ABUT.)

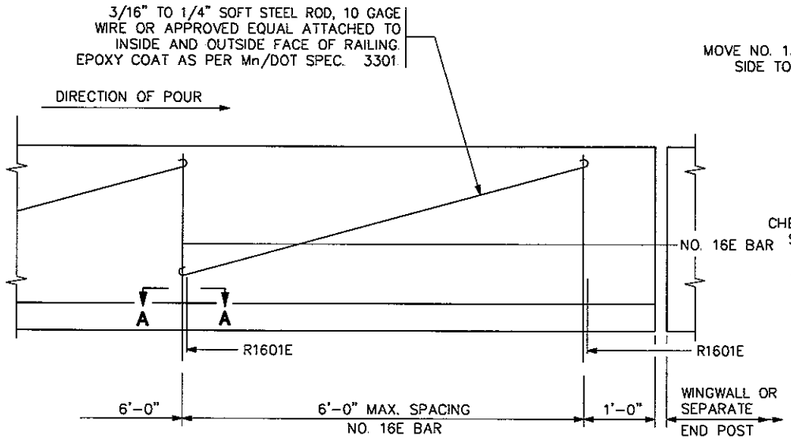
NOTES:

DIAPHRAGM CONCRETE AND REINFORCEMENT QUANTITIES ARE INCLUDED IN SUPERS–STRUCTURE QUANTITIES.

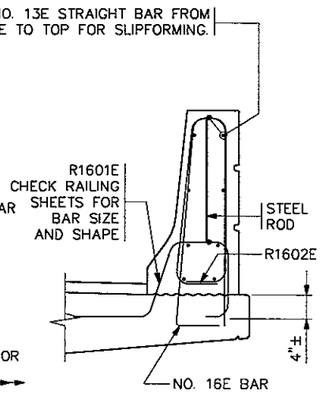
① SEE BEAM DETAIL SHEETS FOR DIMENSIONS.

APPROVED: JULY 30, 1999	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Donald J. Flemming STATE BRIDGE ENGINEER	**CONCRETE END DIAPHRAGM** (36M, 45M – 81" PRESTRESSED CONCRETE BEAMS) (PILE BENT ABUTMENT)	01-20-00 ljh	B811

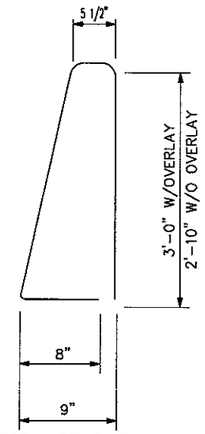
CERTIFIED BY: PROFESSIONAL ENGINEER	REG. NO. 14280	12/29/2000	DES: T.J.M.	DR: J.A.K.	APPROVED:	TITLE: DETAILS 460A179	STATE PROJ. NO. 55-598-43	Sheet No. B17 of B20 Sheets	Bridge No. 55563
			CHK: K.A.R.	CHK: T.J.M.					



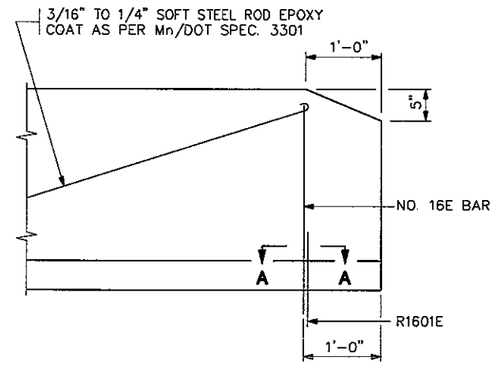
INSIDE ELEVATION OF RAILING



RAILING SECTION



NO. 16E BAR



INSIDE ELEVATION OF RAILING

AT END OF WINGWALL

NOTES:

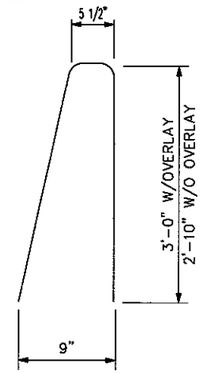
CONTRACTOR WILL TOOL V-GROOVE AT DEFLECTION JOINTS AT TIME RAIL IS CAST AND SHALL EXTEND V-GROOVE AROUND ENTIRE PERIMETER OF RAIL.

FOR ADDITIONAL DIMENSIONS, DETAILS, REINFORCEMENT AND NOTES SEE RAILING SHEET

FORM RAIL FOR A MINIMUM OF 4' ON EACH SIDE OF EXPANSION DEVICES, LIGHT STANDARDS AND DECK DRAIN BOX OUTS.

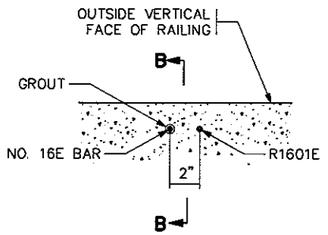
PAY QUANTITIES WILL NOT BE ADJUSTED AS A RESULT OF SELECTING THIS ALTERNATE

USE A SIMILAR METHOD FOR TALLER RAILINGS OR MODIFIED VERSIONS OF THIS RAILING.

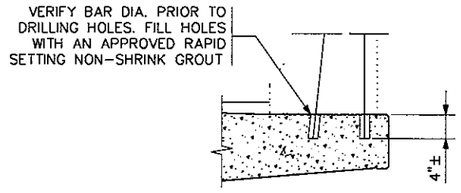


NO. 16E BAR

DRILLED IN ALTERNATE



SECTION A-A



SECTION B-B

INSTALLATION DETAILS
FOR NO. 16E (DRILLED IN ALTERNATE)

APPROVED: JULY 30, 1999 Donald J. Flemming STATE BRIDGE ENGINEER	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION **CONCRETE RAILING (TYPE F)** (SLIPFORM ALTERNATE)	REVISION	DETAIL NO. **B830**

CERTIFIED BY _____ REG. NO 14280 12/28/2000
PROFESSIONAL ENGINEER

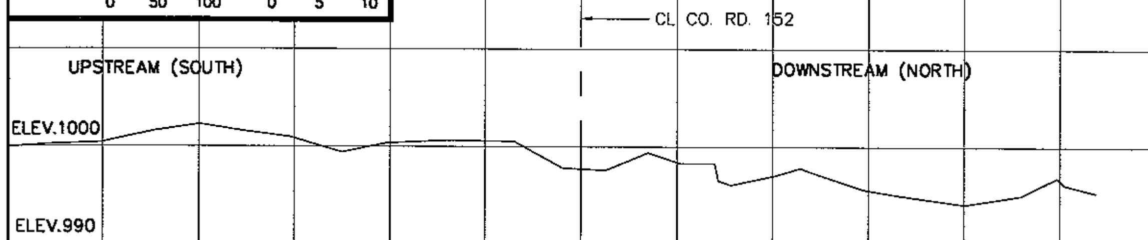
DES: T.J.M.	DR: J.A.K.	APPROVED:
CHK: K.A.R.	CHK: T.J.M.	

TITLE: DETAILS 460A179 | STATE PROJ. NO. 55-598-43 | Sheet No. B18 of B20 Sheets | Bridge No. 55563

CONTRACTED PROFILE

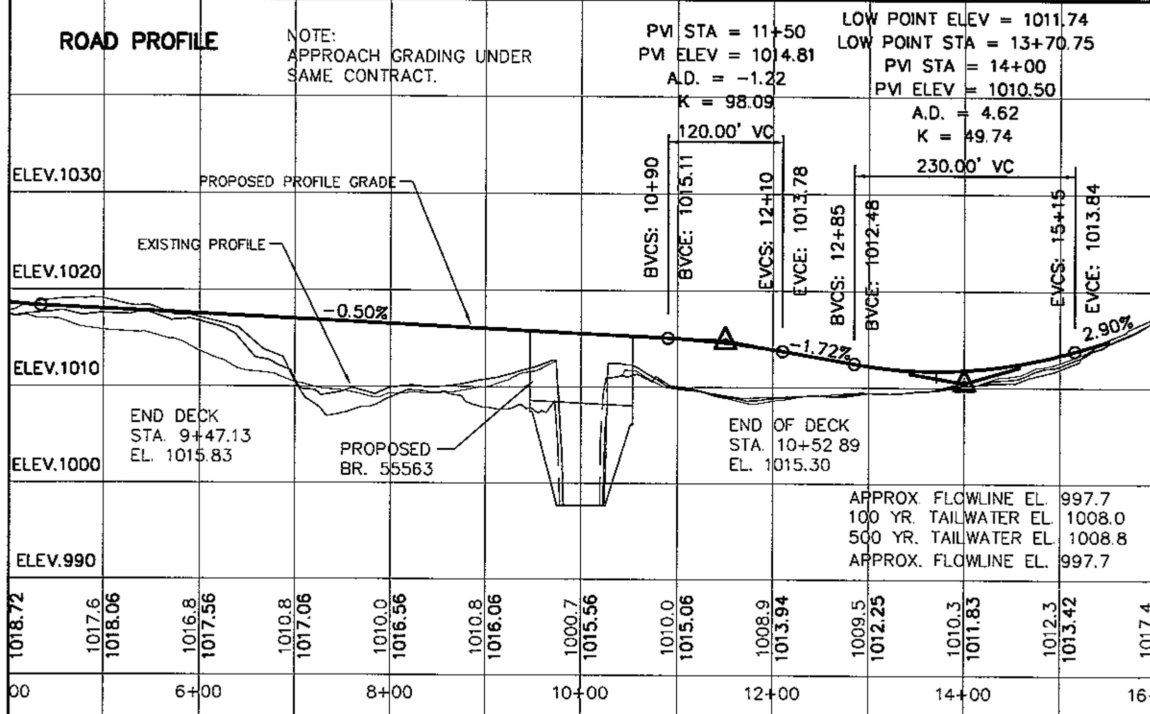
SCALE: HOR. 0 50 100 VERT. 0 5 10

CHANNEL PROFILE



ROAD PROFILE

NOTE:
APPROACH GRADING UNDER SAME CONTRACT.

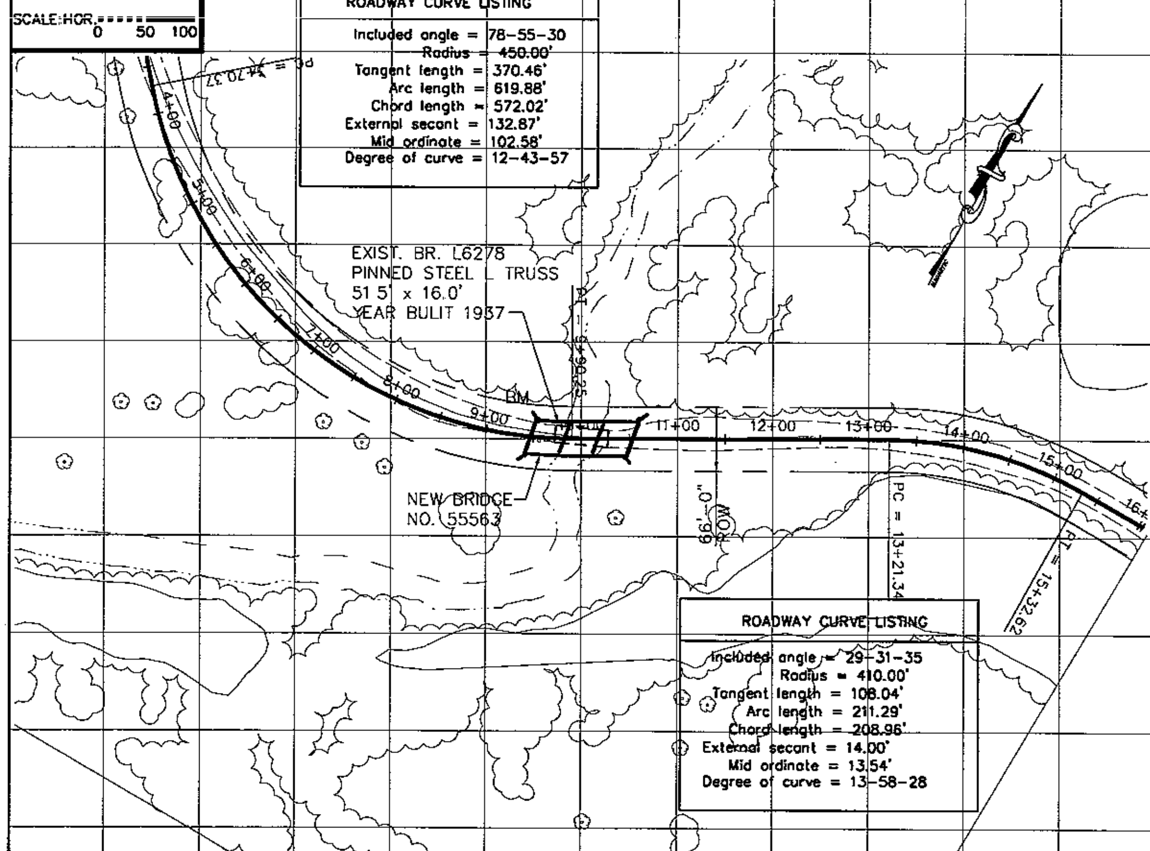


PLAT

SCALE: HOR. 0 50 100

ROADWAY CURVE LISTING

Included angle =	78-55-30
Radius =	450.00'
Tangent length =	370.46'
Arc length =	619.88'
Chord length =	572.02'
External secant =	132.87'
Mid ordinate =	102.58'
Degree of curve =	12-43-57



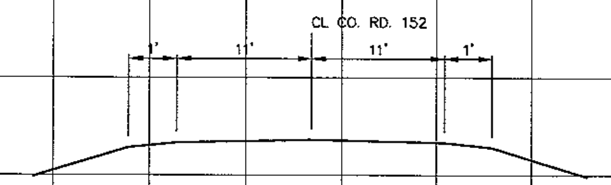
ROADWAY CURVE LISTING

Included angle =	29-31-35
Radius =	410.00'
Tangent length =	108.04'
Arc length =	211.29'
Chord length =	208.96'
External secant =	14.00'
Mid ordinate =	13.54'
Degree of curve =	13-58-28

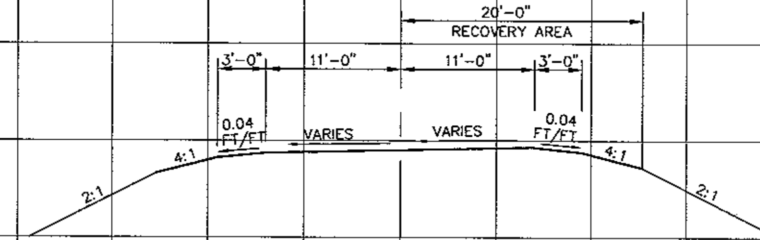
TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN

EXISTING SECTION AT STRUCTURE SITE



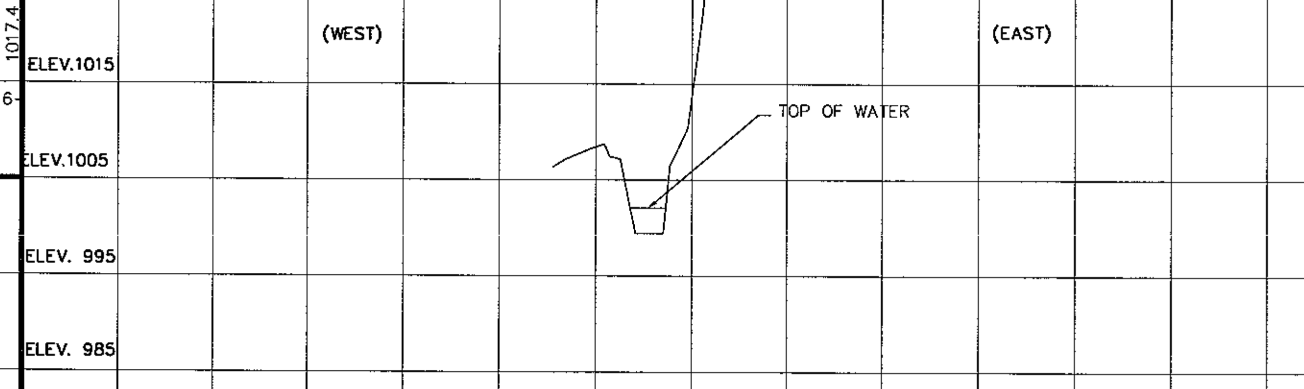
PROPOSED SECTION AT STRUCTURE SITE



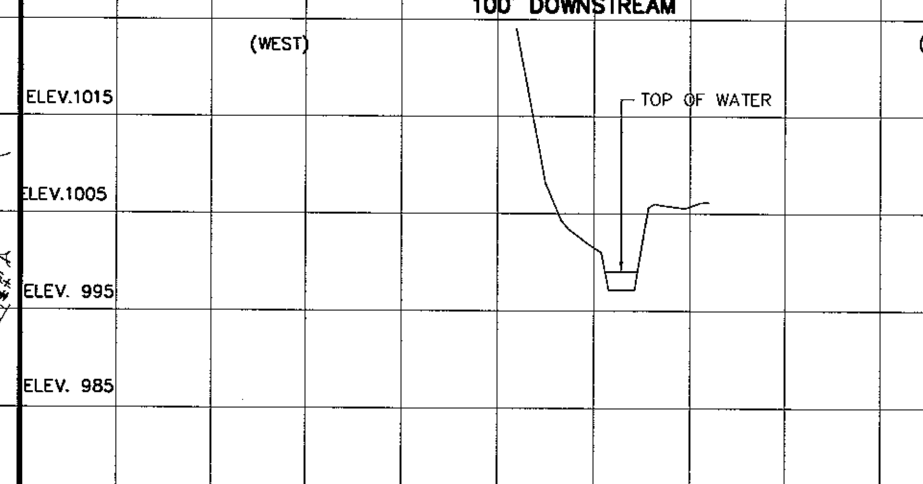
NOTE:
APPROACH GRADING UNDER SAME CONTRACT

TYPICAL CHANNEL SECTION 100' UPSTREAM

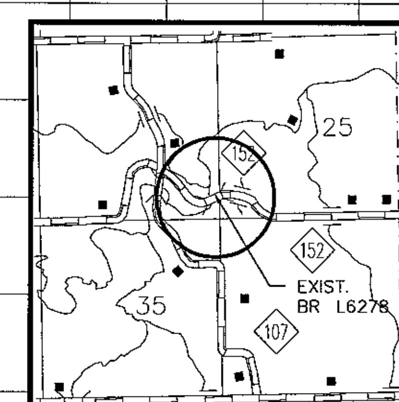
SCALE: HORZ. 100 VERT. 10



TYPICAL CHANNEL SECTION 100' DOWNSTREAM



SITE OF PROPOSED BRIDGE 55563



INDEX MAP
(FOUR SECTIONS)



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 MAY 9, 2000

Stream or ditch designation MIDDLE FORK WHITEWATER RIVER
Drainage area 26.1 SQ. MILES
Max. flood on record UNKNOWN Design flood(100 yr. freq.) 4,680 C.F.S.
Max. observed highwater elevation UNKNOWN Design tailwater elevation 1008.0
Design mean velocity through structure. 6.6 F.P.S.
Low superstructure at or above elevation. 1009.5
Flowline elevation 997.7 Skew angle 20°-00'-00"
Waterway area req'd. below elevation 1008.0 = 714 Sq.Ft.at Rt.angles to channel

In the interest of flood plain zoning the greatest flood(500yr freq)is 6,172 C.F.S. at stage 1008.8 and mean velocity of 7.8 F.P.S. with *1.5 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.

ABUTMENT SCOUR-NEGLIGIBLE-CLASS III PROTECTION REQUIRED ON INSLOPES
APPROXIMATE SCOUR EL. 991 7

FOUNDATION ENGINEERS RECOMMENDATION

DATE

BENCHMARK:

Bridge survey sheets made from: OLMSTED COUNTY SURVEY

Bench mark elevation 1010.00
Location COUNTY SET PIPE W/CAP DOWN 0.6" ON SHOULDER OF CO. RD. 152 9.0' NORTH OF CL CO. RD. 152 & 44' WEST, OF WEST END EX. BR. L6278

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT ON CO. RD. 152
PROPOSED BRIDGE LOCATED 0.4 MILES EAST OF JCT OF CO. RD. 107
SEC. 26 TWP. 107 N R. 11W
TOWNSHIP QUINCY COUNTY OLMSTED
BRIDGE NO. L6278 (OLD)
BRIDGE NO. 55563 (NEW)

CERTIFIED BY: [signature] PROFESSIONAL ENGINEER REG. NO. 14280 12/28/2000

State Proj. No. 55-598-43

WSN 460A179

Fed. Proj. No.

ROADWAY CURVE LISTING
included angle = 12-13-15
Radius = 450.00'
Tangent length = 48.17'
Arc length = 95.98'
Chord length = 95.80'
External secant = 2.57'
Mid ordinate = 2.56'
Degree of curve = 12-43-57

TEST PILE NO.1
Station: 9+51.80
Offset: 14.12' LT

BORING #ST-1

CL WEST ABUT
STA. 9+48.00

9+50

WORKING LINE

PT = 9+90.25

20.000° SKEW
(TYP.)

1:2

MIDDLE FORK WHITEWATER RIVER

FLOW

10+00 CL CO. RD. 152

LIMITS OF RANDOM RIPRAP
AVG. 1'-6" THICK
(BOTH ABUT.)

5'-0"

LIMITS OF RANDOM RIPRAP
(BOTH ABUT.)

2'-6"
(TYP.)

28'-0"±

28'-0"±

BORING #ST-2

EXIST. ROW 33.00'

EXIST. ROW 33.00'

10+50

CL EAST ABUT.
STA. 10+52.00

1:2

TEST PILE NO.2
Station: 10+46.89
Offset: 14.04' RT

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

APPROACH GRADING UNDER SAME CONTRACT

APPROX. QUANTITY GRANULAR FILTER 55 CU. YD INCLUDED IN PRICE BID FOR RANDOM RIPRAP CL III

BORINGS SHOWN (#1 & #2)
BLOWS PER 1 FOOT WITH 140 LB. HAMMER AND A STANDARD ENERGY OF 210 LBS/FT

BENCHMARK:
ELEV. 1010.00
COUNTY SET PIPE W/CAP DOWN 0.6" ON SHOULDER OF CO. RD. 152, 9.0' NORTH OF CL CO. RD. 152 & 44' WEST OF WEST END EXIST BR L6278

PLAN VIEW

0 scale: feet 5

103'-10" CL BRG. TO CL BRG. (BEAM SPAN)

BRIDGE APPROACH TREATMENT SEE SHEET B1 FOR REQUIREMENTS

END OF DECK
STA. 9+47.13
EL. 1015.83

CL WEST ABUT
STA. 9+48.00
EL. 1015.82

-0.50%

PROPOSED FINISHED PROFILE

CL EAST ABUT
STA. 10+52.00
EL. 1015.30

END OF DECK
STA. 10+52.89
EL. 1015.30

EXIST. CL ROAD PROFILE

1'-0" (TYP.)

SOIL BORING ST-1
EL. 1011.3

FILL
FILL
FILL
ORGANIC SILT
POORLY GRADED SAND
WEATHERED LIMESTONE
LIMESTONE
END OF BORING

4
4
2
2
10
7
26/.5
100/.42
100/.08

1'-0"

1012.0
1015.81

HP 10 x 42 TEST PILE
25 FT LONG

100 YR. TAILWATER EL. 1008.00

CHANNEL RT.

EL. 1000

APPROX. FLOWLINE EL. 997.7

BRIDGE CONTRACTOR SHALL EXCAVATE AND FILL TO THESE LINES FOR APPROX. 35' LT. AND RT. OF CL RDWY. THEN TAPER AT A 1:2 SLOPE TO NATURAL SLOPES. INCLUDED IN PRICE BID FOR SLOPE PREPARATION (TYP.)

1000.7
1015.56

10+00

LOW MEMBER
EL. 1009.48

CHANNEL LT

SOIL BORING ST-2
EL. 1011.9

BRIDGE APPROACH TREATMENT SEE SHEET B1 FOR REQUIREMENTS

FILL
FILL
FILL
ORGANIC SILT
POORLY GRADED SAND
LIMESTONE
END OF BORING

5
5
3
12
9
52
100/.125

1'-0"

HP 10 x 42 TEST PILE
25 FT LONG

RANDOM RIPRAP AVG. 1'-6" THICK, 6" GRANULAR FILTER INCLUDED IN PRICE BID FOR RANDOM RIPRAP.

1012.4
1015.31

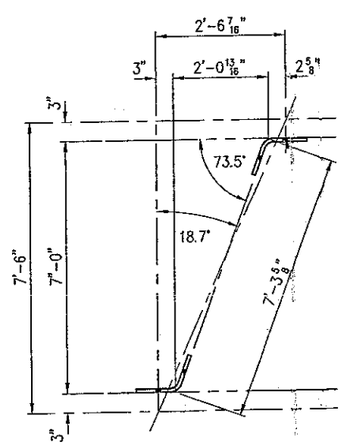
EL.1010
EL.1005
EL.1000
EL.995
EL.990
EL.985
EL.980

CERTIFIED BY: _____ PROFESSIONAL ENGINEER REG. NO. 14280 12/28/2000

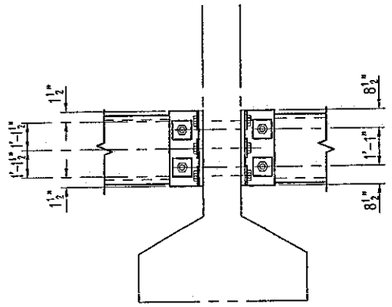
WSN 460A179

BRIDGE SURVEY PLAN AND PROFILE	DES: T.J.M.	DR: G.A.M.	APPROVED:	Bridge No. 55563
	CHK: K.A.R.	CHK: T.J.M.		
State Proj. No. 55-598-43	Sheet No. B20 of B20 Sheets			

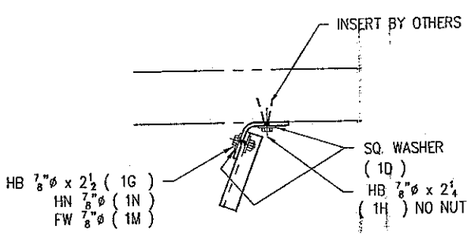
FOR FIELD USE ONLY



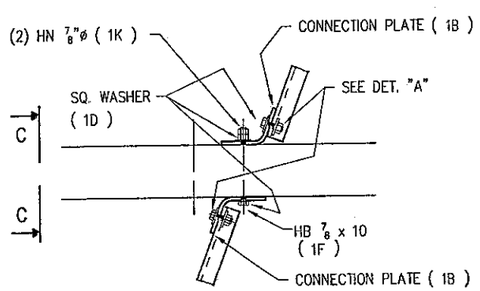
CALCULATION PLAN



SECTION @ "C-C"

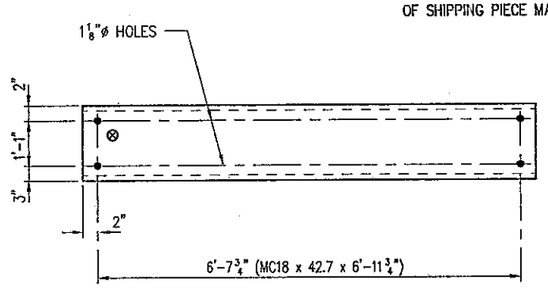


DETAIL "A" (FASCIA BEAM)

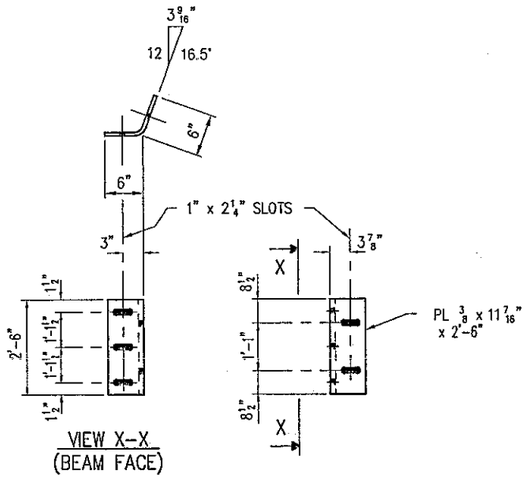


DETAIL "B" (INTERIOR BEAM)

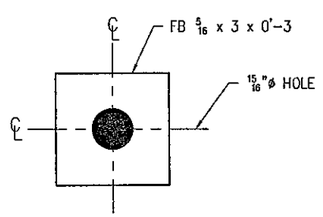
SHOP NOTE :
⊗ - INDICATES LOCATION OF SHIPPING PIECE MARK



8 - DIAPHRAGMS - 1A



16 - BENT PLATES - 1B



80 - WASHERS - 1D

LINE	NO. REQ'D.	DESCRIPTION	LENGTH	MK	REMARKS	PART NO.
1	8	DIAPHRAGMS		1A	HDG / PAY LGTH = 7'-11"	
2	8	MC18 x 42.7	6'-11 3/4"	1A		11-8
3						
4	16	BENT PLATES		1B	HDG	
5	16	PL 3/8 x 11 7/16"	2'-6"	1B	BEND	19-14
6						
7	80	WASHERS		1D	HDG	435
8	80	FB 5/16 x 3	0'-3	1D		
9						
10		FIELD BOLTS :				
11	19	HB 7/8 x 10 A325 HDG		1F	18 / MIN 4" THREAD	23-691
12	33	HB 7/8 x 2 1/2 A325 HDG		1G	32 / ROCAP	23-407
13	13	HB 7/8 x 2 1/4 A325 MG		1H	12	23-163
14	33	HN 7/8 HVY A563DH HDG		1N	32 / ROCAP	25-27
15	37	HN 7/8 HVY A563DH HDG		1K	36	25-12
16	33	FW 7/8 F436 HDG		1M	32 / ROCAP	27-48
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						

GENERAL NOTES

1.) MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH MN/DOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION", 1988 EDITION, AND THE SPECIAL PROVISIONS.
2.) ALL STEEL PER MN/DOT 3306 (ASTM A709 GRADE 36).
3.) ALL HOLES 1 1/8"ø U.N.O.
4.) ALL FINS, RAGGED OR DISTORTED EDGES RESULTING FROM SHEARING, SPEED SAWING, OR FLAME CUTTING SHALL BE REMOVED. EDGE FINISH PER MN/DOT 2471.3C4 & 2471.3D4.
5.) GALVANIZE AFTER FABRICATION PER MN/DOT 3394 (ASTM A123).
6.) HARDWARE SHALL BE EITHER MECHANICALLY GALVANIZED (ASTM B695 CLASS 50) OR HOT DIP GALVANIZED (ASTM A153) PER MN/DOT 3392.

SHOP DRAWING REVIEW
State of Minnesota
Department of Transportation
NO OBJECTION TAKEN
JUL 13 2001
REVIEW IS FOR GENERAL COMPLIANCE WITH PLANS AND SPECIFICATIONS
GARY D. PEFERSON
BRIDGE CONST. & MAINT. ENGINEER

PROJ. ENG'R.

REV.	DESCRIPTION	DATE	INT.

ANY AND ALL BACKCHARGES WILL BE REJECTED UNLESS WRITTEN CONSENT IS GIVEN BY LEWIS ENGINEERING COMPANY PRIOR TO ANY WORK PERFORMED FOR OUR ACCOUNT SUCH REJECTION MEANS THAT INVOICES WILL NOT BE HONORED OR DEDUCTIONS FROM PAYMENT WILL BE CHARGED BACK.

SHOP	
APPROVAL	
DIST.	
CUST.	
FOR PRINTS ISSUED	DATE

LEWIS ENGINEERING COMPANY
4201 NOREX DRIVE - CHASKA, MINNESOTA 55318 - (612) 368-3000

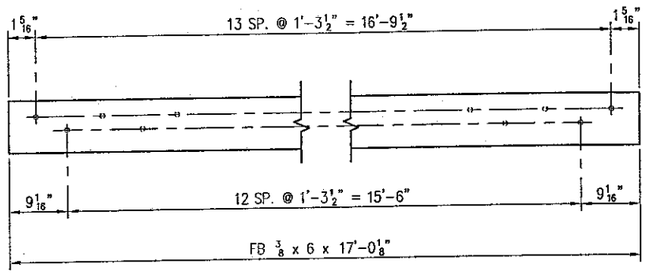
PROJECT	—	BRIDGE NO. 55563
STATE PROJECT	—	S.P. 55-598-43
FEDERAL PROJECT	—	BROS 5500 (121)
CUSTOMER	—	MINNOWA CONSTRUCTION COMPANY
LOCATION	—	OLMSTED COUNTY, MN
DESCRIPTION	—	DIAPHRAGMS FOR 54" BEAMS DETAILS

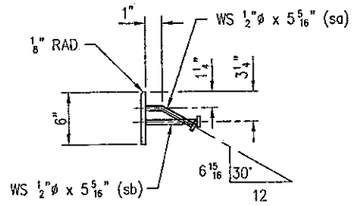
Orig.

W.P. chk'd	NR
Drawn By	JMB
Chk'd. By	PMI
Date:	7/6/01

SHEET NO. 1 OF 1 · Job. No. : 3584.1212.1

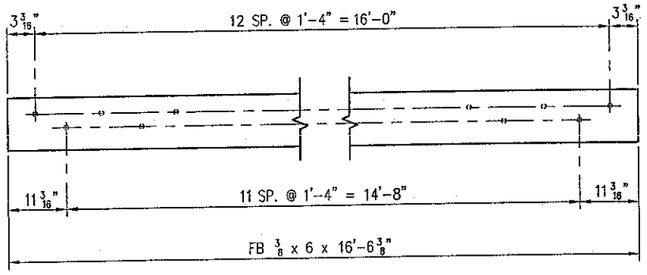
LINE	NO. REQ'D.	DESCRIPTION	LENGTH	MK	REMARKS	PART NO.
1	2	PROTECTION PLATES	17'-0 1/8"	1A	HDG	
2	2	FB 3/8" x 6"	17'-0 1/8"	1A		16-80
3	30	WS 1/2"ø x 5 5/16"		sa	28 / BEND	29-5
4	28	WS 1/2"ø x 5 5/16"		sb	26	29-5
5						
6	2	PROTECTION PLATES	16'-6 3/8"	1B	HDG	
7	2	FB 3/8" x 6"	16'-6 3/8"	1B		16-80
8	28	WS 1/2"ø x 5 5/16"		sa	26 / BEND	29-5
9	26	WS 1/2"ø x 5 5/16"		sb	24	29-5

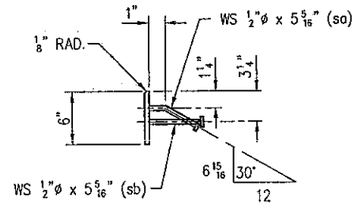




2 – PROTECTION PLATES – 1A

(LOCATED @ EAST ABUTMENT)





2 – PROTECTION PLATES – 1B

(LOCATED @ WEST ABUTMENT)

SHOP DRAWING REVIEW
State of Minnesota
Department of Transportation
NO OBJECTION TAKEN

JUL 13 2001

REVIEW IS FOR GENERAL COMPLIANCE WITH PLANS AND SPECIFICATIONS
GARY D. PETERSON
BRIDGE CONST. & MAINT. ENGINEER

CONFIRMED

GENERAL NOTES :

1.) MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH MN/DOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION – 1988 EDITION," THE CURRENT SUPPLEMENTAL SPECIFICATIONS AND THE SPECIAL PROVISIONS.
2.) MATERIAL PER MN/DOT 3306 (ASTM A709 GRADE 36), U.N.O.
3.) GALVANIZE SHAPES AND PLATES PER MN/DOT 3394 (ASTM A123).
4.) SHOP INSPECTION BEFORE AND AFTER GALVANIZING.
5.) PROTECTION PLATES TO BE STRAIGHTENED TO A TOLERANCE OF 1/16" IN 10'-0" AFTER GALVANIZING.
6.) FOR STUD REPAIR USE FF-STUD-REP-01 OR SM-STUD-REP-01.

REV.	DESCRIPTION	DATE	INT.

ANY AND ALL BACKCHARGES WILL BE REJECTED UNLESS WRITTEN CONSENT IS GIVEN BY LEWIS ENGINEERING COMPANY PRIOR TO ANY WORK PERFORMED FOR OUR ACCOUNT. SUCH REJECTION MEANS THAT INVOICES WILL NOT BE HONORED OR DEDUCTIONS FROM PAYMENT WILL BE CHARGED BACK.

SHOP	
APPROVAL	
DIST.	
CUST.	
FOR PRINTS ISSUED	DATE

LEWIS ENGINEERING COMPANY
4201 NOREX DRIVE – CHASKA, MINNESOTA 55318 – (612) 368-3000

PROJECT	–	BRIDGE NO. 55563
STATE PROJECT	–	S.P. 55-598-43
FEDERAL PROJECT	–	BROS 5500 (121)
CUSTOMER	–	MINNOWA CONSTRUCTION COMPANY
LOCATION	–	OLMSTED COUNTY, MN
DESCRIPTION	–	PROTECTION PLATE DETAILS

W.P. chk'd	Orig.
Drawn By	JMB
Chk'd. By	PMI
Date:	7/6/01

SHEET NO. 1 OF 1

Job. No. : 3584.1232.1