MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR BRIDGE 55508 REPAIR, CONCRETE OVERLAY AND GUARDRAIL CONSTRUCTION

LOCATED ON C.S.A.H. 15

LOCATED 6 MILES SOUTHWEST OF ROCHESTER MN. **(GEOGRAPHIC DESCRIPTION)**
192 FT. SOUTHWEST TO 192 FT NORTHEAST OF

LOCATED A POINT 1182 FT. NORTH AND 775 FT. WEST OF THE CENTER OF SEC. 24, T106 N. R 15 W **(LEGAL DESCRIPTION)**

N
W E
S

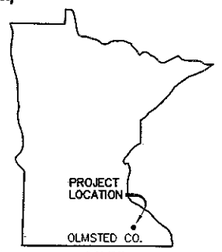
STATE AID PROJ. NO. 55-615-09

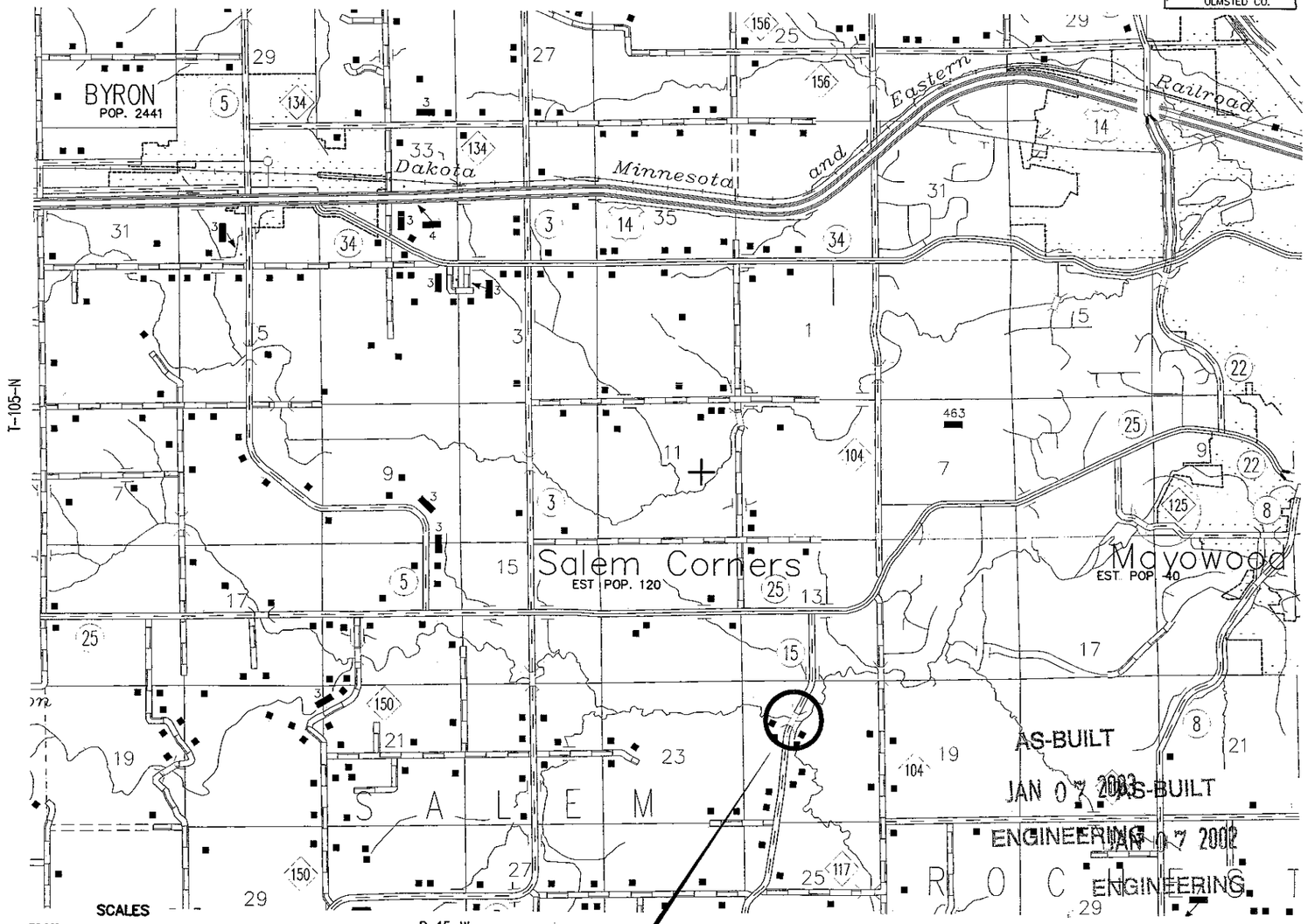
GROSS LENGTH	384.00	FEET	0.073	MILES
BRIDGES-LENGTH	134.00	FEET	0.025	MILES
EXCEPTIONS-LENGTH	0.000	FEET	0.000	MILES
NET LENGTH	384.00	FEET	0.073	MILES

STATE AID PROJ. NO.

GROSS LENGTH	FEET	MILES
BRIDGES-LENGTH	FEET	MILES
EXCEPTIONS-LENGTH	FEET	MILES
NET LENGTH	FEET	MILES

BRIDGE CONSTRUCTION UNDER: SAP 55-615-04 1963





SCALES
PLAN AS SHOWN
PROFILE AS SHOWN
INDEX MAP

PROJECT LOCATION
BEGIN SAP 55-615-09 STA. 513+78.00
REPAIR BRIDGE 55508
END SAP 55-615-09 STA. 517+62.00

460A371

MINN. PROJ. NO.
MINN. PROJ. NO.

GOVERNING SPECIFICATIONS

THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	BRIDGE GENERAL PLAN AND ELEVATION
3-5	SUPERSTRUCTURE DETAILS
6	CONCRETE RAILING (TYPE F)
7	APPROACH / GUARDRAIL LAYOUT
8-9	WATERPROOF EXPANSION DEVICE
10-12	GUARD RAIL DETAILS
13	BRIDGE DETAILS
14	TRAFFIC CONTROL

THIS PLAN CONTAINS 14 **SHEETS**

DESIGN DESIGNATION

{N18 (20)
R Value
ADT (2002) = 696
Proj. ADT (2022) = 1114
Proj. HCADT ( ) =
Soil Factor
NA **Ton Design**
Shoulder Width

OR

Functional Classification MINOR COLLECTOR
No. of Traffic Lanes **No. of Parking Lanes**
Design Speed NA **MPH**
Based on Stopping Sight Distance
Height of eye 3.5 **Height of object** 0.5
Design Speed not achieved at:
STA. **TO STA.** **MPH**
STA. **TO STA.** **MPH**

SIGNATURE: Kent A Rohr
KENT A ROHR

DESIGN ENGINEER: I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 3-15-02 LICENSE NUMBER 21179

APPROVED: COUNTY ENGINEER DATE 3/21/02

RECOMMEND FOR APPROVAL: STATE BRIDGE ENGINEER DATE 4/8/02

DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE-AID RULES/POLICY DATE 3-28-02

STATE AID ENGINEER: APPROVED FOR STATE AID FUNDING DATE 4-17-02

STATE AID PROJ. NO. 55-615-09
STATE PROJ. NO.
SHEET NO. 1 **OF** 14 **SHEETS**

PLAN SYMBOLS

ROAD AND ROADWAY FEATURES
PROJECTED ROAD
PRIMITIVE ROAD
UNIMPROVED ROAD
GRADED AND DRAINED ROAD
SOIL SURFACE ROAD
GRAVEL OR STONE ROAD
BITUMINOUS ROAD
PAVED ROAD
DIVIDED ROAD
TRUNK HIGHWAY UNDER CONSTRUCTION
GRADE SEPARATION
FULL TRAFFIC INTERCHANGE

ROAD SYSTEM DESIGNATIONS
INTERSTATE TRUNK HIGHWAY (35)
U.S. NUMBERED TRUNK HIGHWAY (65)
STATE NUMBERED TRUNK HIGHWAY (18)
COUNTY STATE AID HIGHWAY (5)
COUNTY ROAD (12)
COUNTY STATE AID IN ADJOINING COUNTY (24)
TERMINATION OF DESIGNATED ROUTE (34)

RAILROADS
RAILROAD STATION
GRADE CROSSING
UNDERPASS (HIGHWAY BELOW)
OVERPASS (HIGHWAY ABOVE)

STRUCTURES
General Symbols (over 20' span)
HIGHWAY BRIDGE
SMALL BRIDGES CLOSELY SPACED
DRAWBRIDGE
General Symbols (300' span and over)
GENERAL
DRAWBRIDGE
Other Structures
PEDESTRIAN BRIDGE
DAM WITH ROAD (LARGE SCALE)

BOUNDARIES
NATIONAL OR STATE
COUNTY
CIVIL TOWNSHIP
CONGRESSIONAL TOWNSHIP (U.S. LAND)
CORPORATE LINE
SECTION LINE

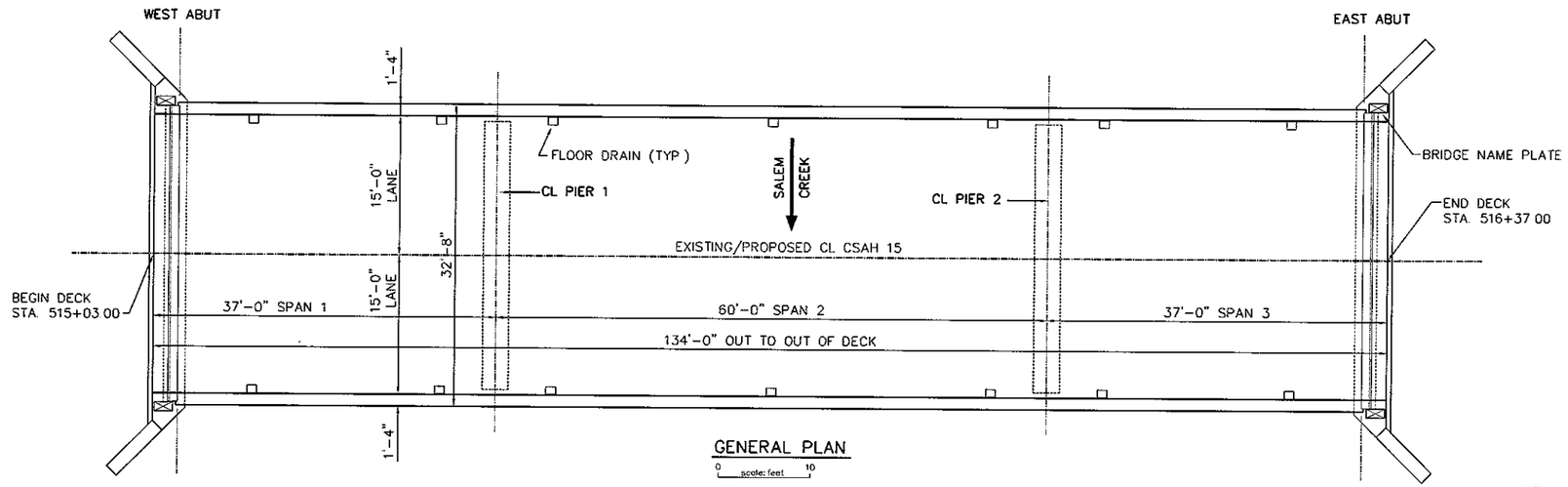
DRAINAGE
INTERMITTENT STREAM
MARSH, STREAM
DRAINAGE DITCH
LAKE OR POND

FARM AND DWELLING UNITS

CITY CENTERS
STATE CAPITAL
COUNTY SEAT
CITY CENTER
INCORPORATED CITY (GENERALIZED)
UNINCORPORATED COMMUNITY

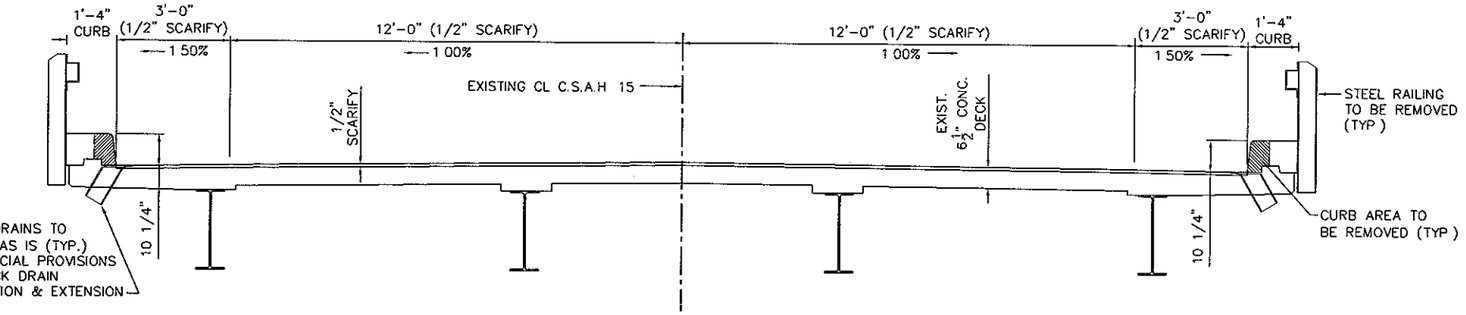
MISCELLANEOUS MAP FEATURES
CHURCH, OTHER RELIGIOUS INSTITUTIONS
CEMETERY
CHURCH WITH CEMETERY ADJACENT
NATURAL GAS, PETROLEUM PRODUCTS, CRUDE OIL OR WATER
GAUGING OR PUMPING STATION
NATURAL GAS, PETROLEUM PRODUCTS, CRUDE OIL OR WATER
PIPELINE, NATURAL GAS (NG)
PIPELINE, PETROLEUM PRODUCTS (PP)
PIPELINE, CRUDE OIL (CO)
PIPELINE, WATER (W)
TRANSMISSION LINE (230kV OR OVER) (T)

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GENERAL PLAN

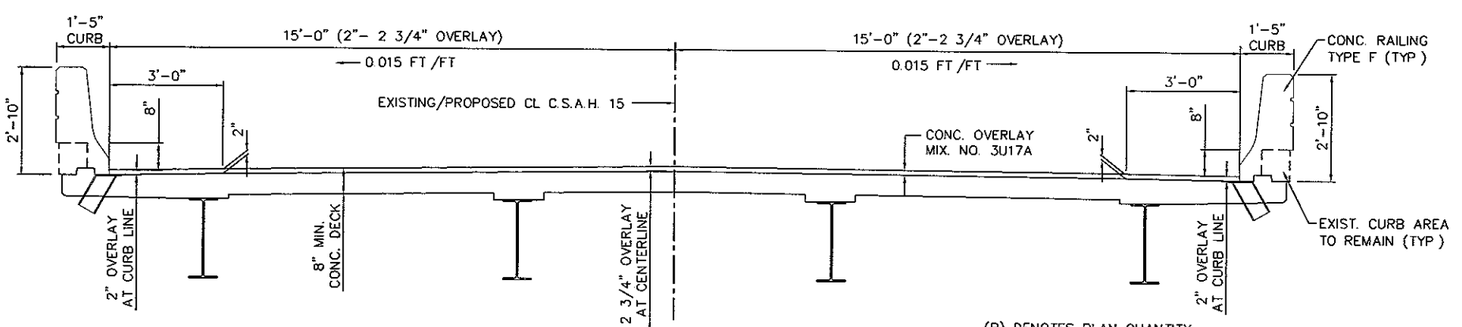
0 scale: feet 10



EXISTING TRANSVERSE SECTION

0 scale: feet 2

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND FABRICATION OF COMPONENTS



PROPOSED TRANSVERSE SECTION

0 scale: feet 2

(P) DENOTES PLAN QUANTITY

(1) INCLUDES ANCHORAGE ASSEMBLY

(2) (STD. PLATE 8307)

(3) TACK COAT INCIDENTAL

(4) PROVIDED FOR SHOULDER REPLACEMENT WITHIN PROJ. LIMITS

WSN 460A371

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE

ITEM NO.	2021.501	2221.501	2340.508	2401.512	2401.513	2402.591	2404.501	2433.505	2433.505	2433.516	2433.601	2433.601	2433.607	2554.501	2554.501	2554.523	2563.601		
ITEM	MOBILIZATION	AGGREGATE SHOULDERING CLASS 2 (4)	TYPE 41 WEARING COURSE MIXTURE (3)	BRIDGE SLAB CONCRETE (3Y33A)	TYPE F RAILING CONCRETE (3Y46A)	EXPANSION JOINT DEVICE TYPE 4	CONCRETE OVERLAY (3U17A)	REMOVE SLAB, TYPE 1	REMOVE SLAB, TYPE 3	ANCHORAGES TYPE REINF BARS	SCARIFY BITUMINOUS APPROACHES	SCARIFY BRIDGE DECK	RECONSTRUCT EXPANSION JOINT (TYPE A)	TRAFFIC BARRIER DESIGN SPECIAL (1)	TRAFFIC BARRIER DESIGN B8307 (2)	END TREATMENT ENERGY ABSORBING TERMINAL	TRAFFIC CONTROL		
UNIT	LUMP SUM	TON	TON	SQ. FT.	LIN. FT.	LIN. FT.	SQ. FT.	SQ. FT.	SQ. FT.	EACH	SQ. FT.	SQ. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	LUMP SUM		
QUANTITY	1	10	14	100	268	64	4,020 (P)	500	100	640	1,500	4,020 (P)	64	100	200	4	1		

DESIGN DATA

MAXIMUM ALLOWABLE DESIGN STRESSES:
REINFORCED CONCRETE:
f'c = 4000 p.s.i. n = 8 fy = 60,000 p.s.i. Reinf
STRUCTURAL STEEL: fy = 36,000 p.s.i. Spec. 3306

POSTED SPEED 55 MPH
DECK AREA: 4,378 SQ.FT.
PROJECTED ADT 1,086 (2021)
BRIDGE INVENTORY RATING HS 20
BRIDGE OPERATING RATING HS 33

CONSTRUCTION NOTES

THE 2000 EDITION OF THE MINNESOTA DEPT. OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

NO CUTTING WILL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. REMOVAL AND RECONSTRUCTION SHALL CONFORM TO MN/DOT 2433.

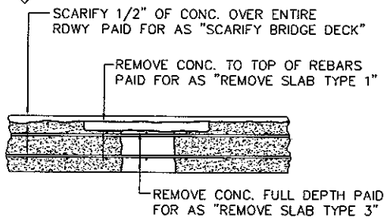
APPROVED BONDING GROUT SHALL BE APPLIED TO ALL VERTICAL EDGES BETWEEN NEW AND INPLACE CONCRETE AT JOINT AND SLAB RECONSTRUCTION

PROVIDE SAW CUTS IN CONCRETE WEARING COURSE OVER ALL CONSTRUCTION JOINTS IN EXISTING SLAB SEAL WITH CONCRETE JOINT SEALER AS PER MN/DOT 3720.

ALL EXISTING REINFORCEMENT TO REMAIN INPLACE EXCEPT AS NOTED OR DIRECTED BY THE ENGINEER.

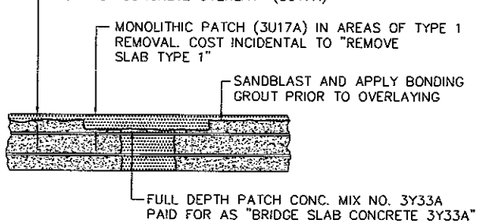
ALL NEW AND REPLACEMENT REINFORCEMENT, DOWELS AND ANCHORAGES TO BE EPOXY COATED

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



BRIDGE DECK REMOVALS

NO SCALE



OVERLAY DETAILS

NO SCALE

BASIS OF ESTIMATED QUANTITIES	
AGGREGATE SHOULDERING, CLASS 2	1.8 TONS/ CU. YD.
BITUMINOUS MIXTURES, WEARING	110 LBS./SQ. YD./INCH OF DEPTH

M.N.D.O.T. STANDARD PLATES

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

8307Q	STEEL PLATE BEAM GUARDRAIL
8318C	GUARDRAIL ANCHORAGE PLATE FOR BRIDGES AND BCT'S
8000I	STANDARD BARRICADES

COUNTY APPROVAL

3/21/02 Michael Thuken
DATE COUNTY ENGINEER, OLMSTED CO.

WIDSETH ENGINEERS
SMITH ARCHITECTS
NOLTING LAND SURVEYORS
PROJECT MANAGERS
ALEXANDRIA, MINNESOTA
PHONE 320-762-8149 FAX 320-762-0263
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 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

Kent A. Rohr

LICENSED PROFESSIONAL ENGINEER / KENT A. ROHR
DATE 3-15-2002 LICENSE NO. 21179

C.S.A.H. 15 OLMSTED COUNTY

MINNESOTA DEPARTMENT OF TRANS.

Bridge No. 55508

CSAH 15 OVER SALEM CREEK
.8 MILES S. OF JCT C.S.A.H. 25
37'-60'-37' CONT. STEEL BM. SPANS
30'-0" RDWY 0° SKEW, METAL RAILING

SPAN IDENT. NO. 401

GENERAL PLAN AND ELEVATION

SEC 24 T 106 N R 15 W
SALEM TWP OLMSTED COUNTY

APPROVED

Daniel Z. Hagen 4/8/02
STATE BRIDGE ENGINEER DATE

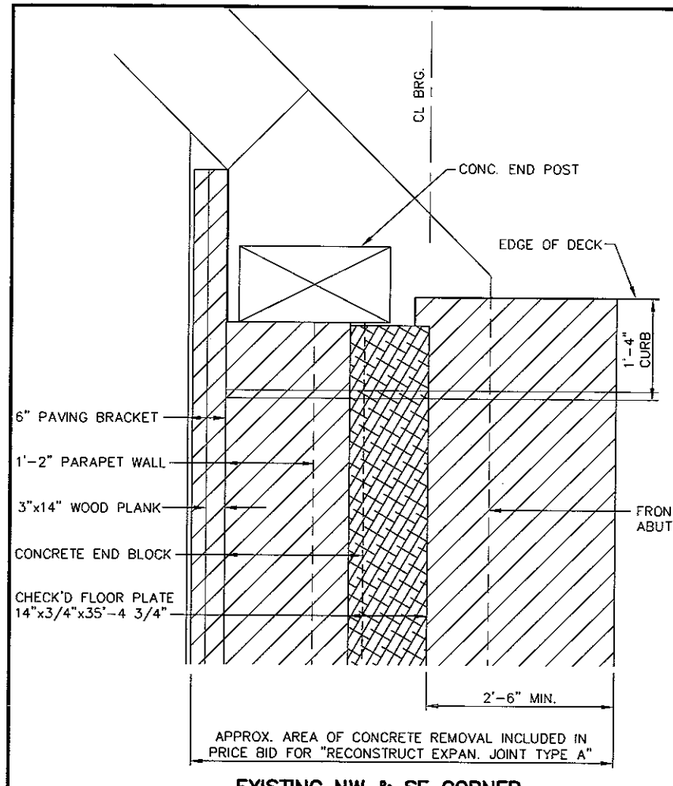
S.A.P. NO. 55-615-09

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

SHEET NO. 2 OF 14 SHEETS

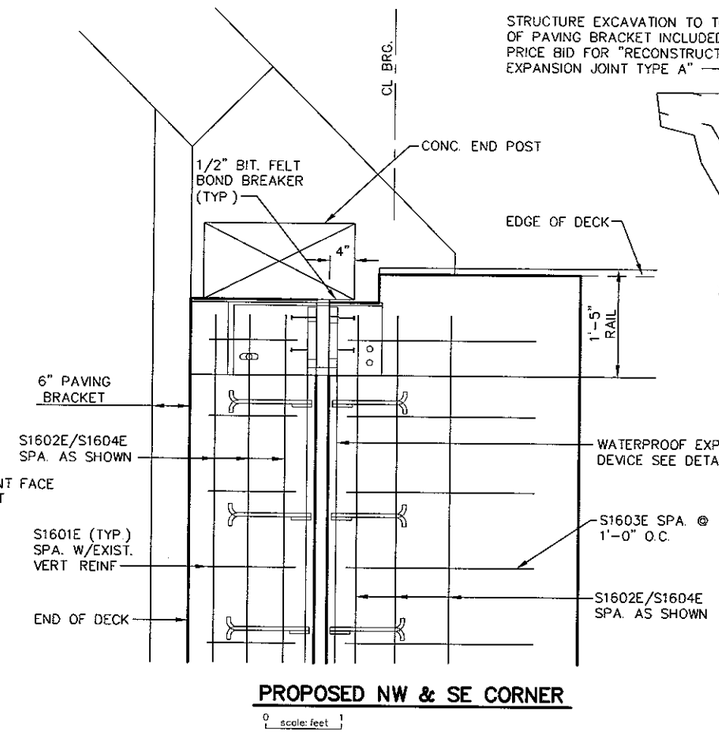
AS-BUILT
JAN 07 2002
ENGINEERING

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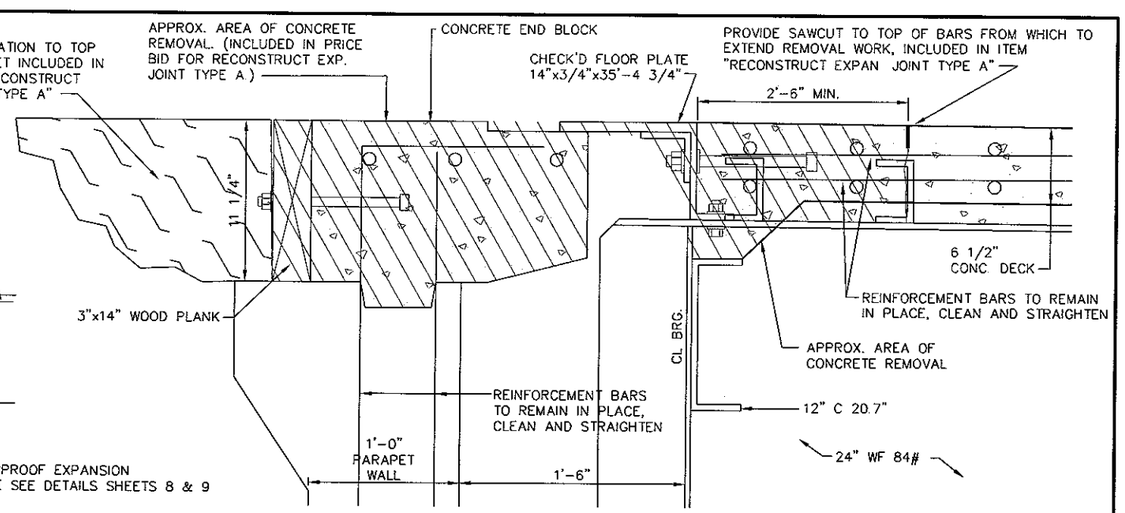
EXISTING NW & SE CORNER

0 scale: feet



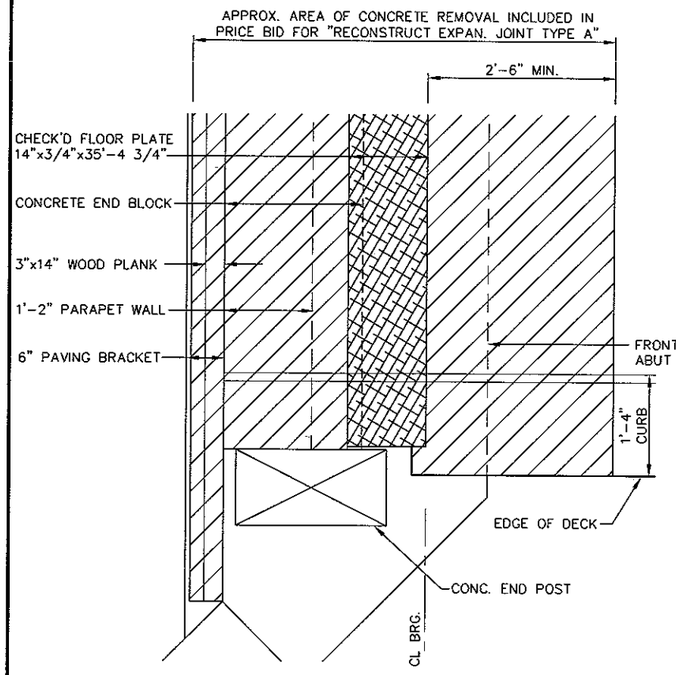
PROPOSED NW & SE CORNER

0 scale: feet



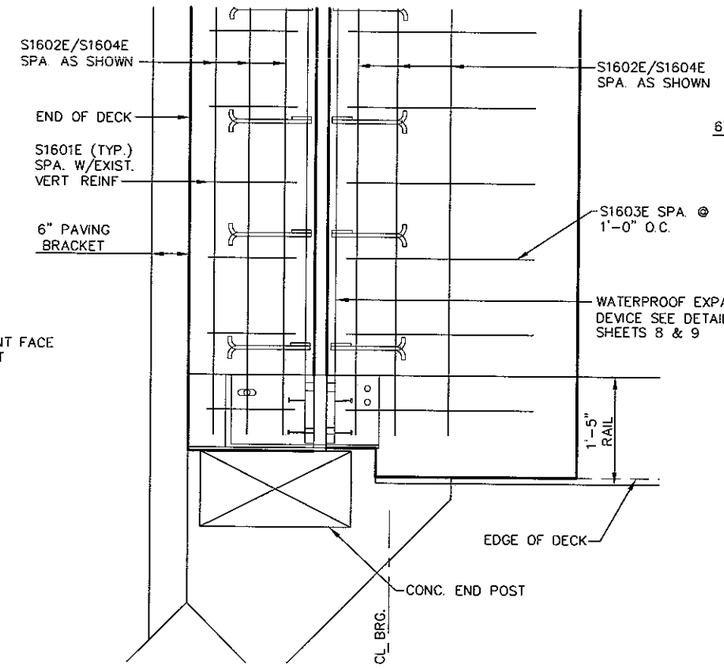
EXISTING SECTION

0 scale: feet 0.5



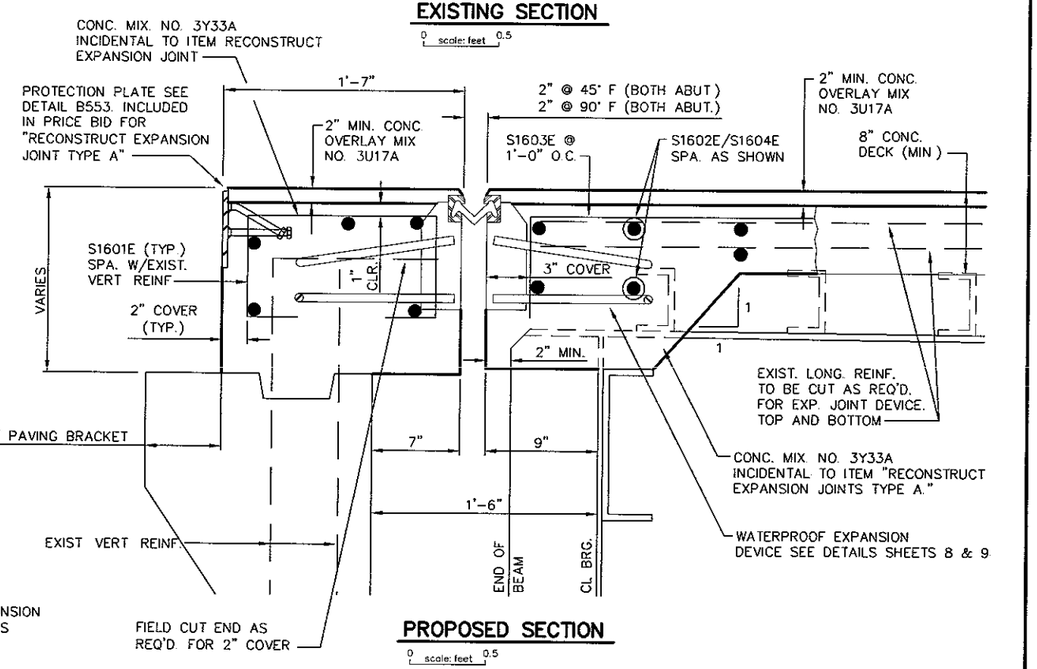
EXISTING SW & NE CORNER

0 scale: feet



PROPOSED SW & NE CORNER

0 scale: feet



PROPOSED SECTION

0 scale: feet 0.5

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND FABRICATION OF COMPONENTS

AS-BUILT

JAN 07 2002

ENGINEERING

CERTIFIED BY: Kent A Rohr
LICENSED PROFESSIONAL ENGINEER / KENT A. ROHR

LICENSE NO. 21179 3-15 2002

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

WATERPROOF EXPANSION DEVICE AND PROTECTION PLATE

APPROVED

DES. BY	T.J.M.	DR. BY	J.A.K.	BRIDGE NO.
CHK. BY	K.A.R.	CHK. BY	T.J.M.	55508

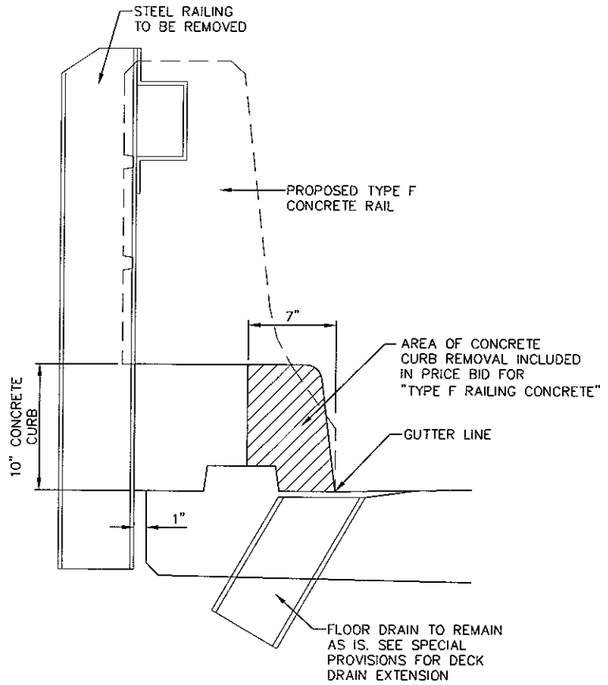
WSN 460A371

State Aid Proj. No. 55-615-09

SHEET NO. 3 OF 14 SHEETS

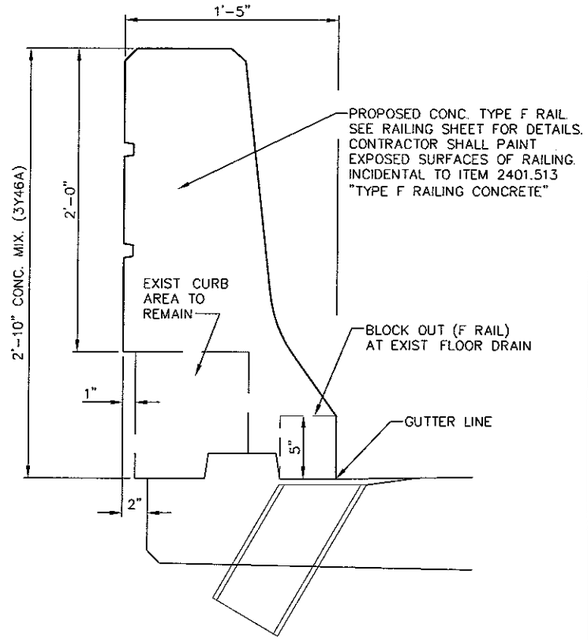
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CONTRACTOR SHALL FIELD VERIFY
ALL DIMENSIONS PRIOR TO CONSTRUCTION
AND FABRICATION OF COMPONENTS



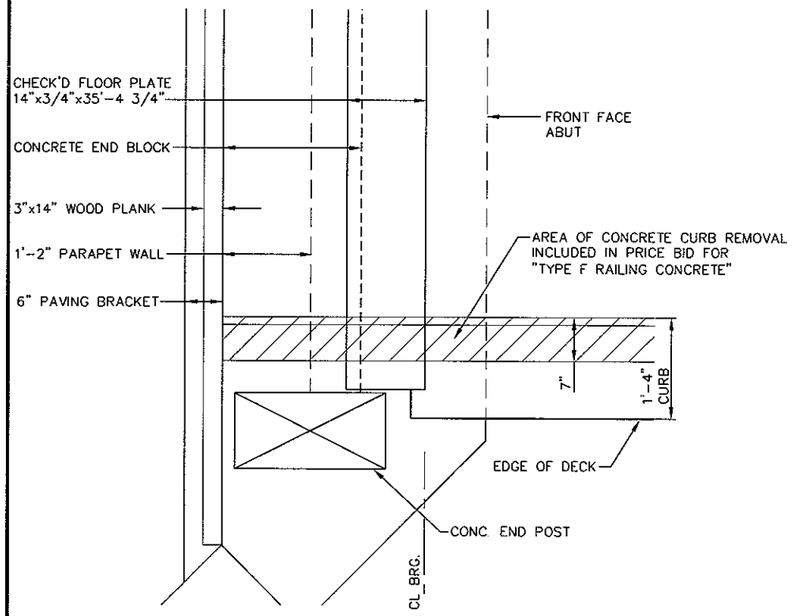
EXIST. RAILING SECTION

0 scale: feet 2



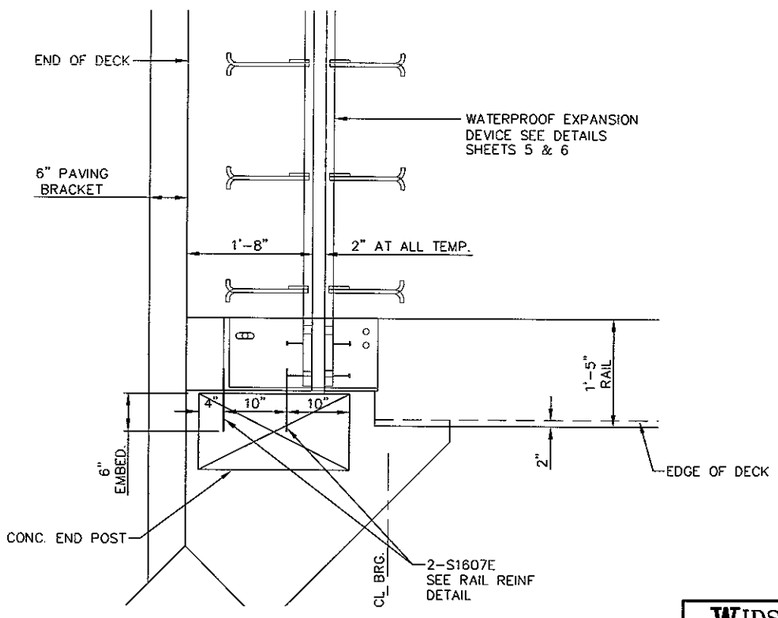
PROPOSED RAILING SECTION

0 scale: feet 2



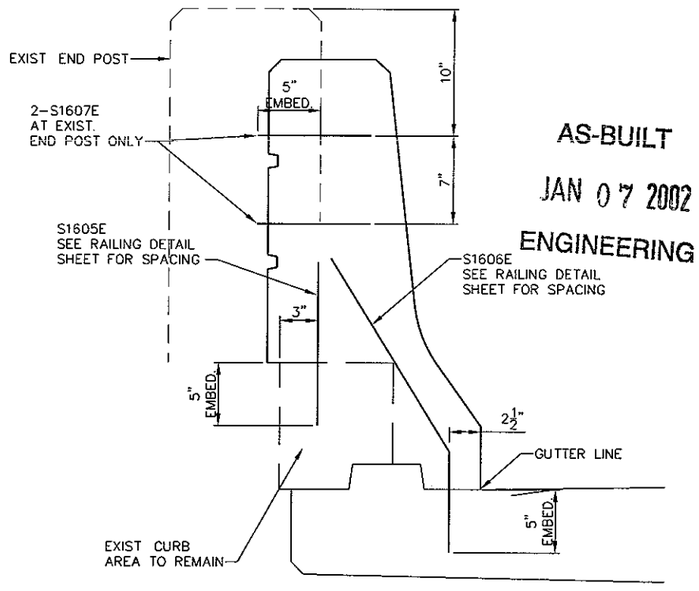
EXISTING CORNER

0 scale: feet 1



PROPOSED CORNER

0 scale: feet 1



AS-BUILT

JAN 07 2002

ENGINEERING

PROPOSED RAILING REINFORCEMENT

0 scale: feet 2

WSN 460A371

CERTIFIED BY: Kent A Rohr
LICENSED PROFESSIONAL ENGINEER / KENT A. ROHR
LICENSE NO. 21179 3-15 2002

WIDSETH SMITH NOLTING
ENGINEERS
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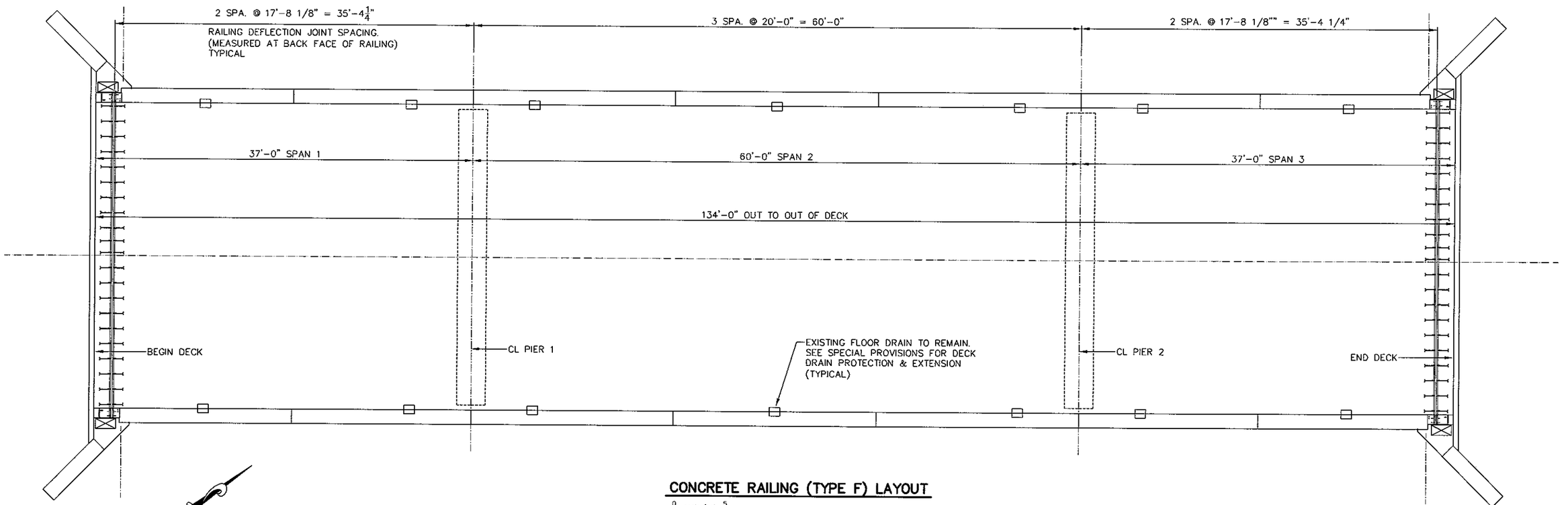
CONCRETE RAILING

APPROVED				BRIDGE NO.
DES. BY	T.J.M.	DR. BY	J.A.K.	55508
CHK. BY	K.A.R.	CHK. BY	T.J.M.	

State Aid Proj. No. 55-615-09

SHEET NO. 4 OF 14 SHEETS

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CONCRETE RAILING (TYPE F) LAYOUT

0 scale: feet 5

SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE			
(1)	BRIDGE SLAB CONCRETE (3Y33A)	8	CU. YD.
	CONCRETE OVERLAY (3U17A)	4,020	SQ. FT.
(2)	EXPANSION JOINT DEVICES TYPE 4	64	LIN. FT.
(5)	TYPE F RAILING CONCRETE (3Y46A)	268	LIN. FT.
(3)	RECONSTRUCT EXPANSION JOINT (TYPE A)	64	LIN. FT.
(1)(4)	STRUCTURAL STEEL (3306)	490	LBS.
(6)	NAME PLATE (SEE DETAIL B102)	1	EACH
(6)(7)	PREFORMED JOINT FILLER (SEE LIST)		
(8)	5" EMBEDMENT ANCHORAGE TYPE REINF. BARS	640	EACH

NOTES:

(1) PAYMENT INCLUDED IN PRICE BID FOR "RECONSTRUCT EXPANSION JOINT"

(2) PAYMENT FOR FURNISHING DEVICE INCLUDED IN PRICE BID FOR "EXPANSION JOINT DEVICE, TYPE 4."

(3) INCLUDES CONCRETE REMOVALS, PROTECTION PLATE, CONCRETE MIX NO. 3Y33A, AND EPOXY COATED REINFORCEMENT

(4) PROTECTION PLATE (FOR INFORMATIONAL PURPOSES ONLY)

(5) INCLUDES EXIST. CURB AND METAL RAILING REMOVALS, EPOXY COATED REINF CONCRETE MIX 3Y46A, PAINTING, EXISTING FLOOR DRAIN PROTECTION AND EXTENSION. FOR INFORMATIONAL PURPOSES REINFORCEMENT TOTALS 3,187 LBS.

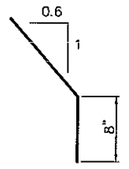
(6) TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS

(7) SEE SPECIAL PROVISIONS

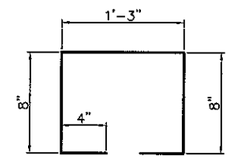
(8) 5" EMBEDMENT ANCHORAGES TYPE 1
PAID FOR UNDER ITEM "2433.516 ANCHORAGES TYPE REINF BARS"

LIST OF PREFORMED JOINT FILLER			
TYPE	LIN. FT.	SIZE	LOCATION
CORK	22'-0"	1" x 10"	RAIL DEFLECTION JT.

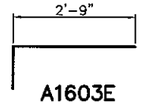
CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND FABRICATION OF COMPONENTS



S1606E



A1601E



A1603E

BILL OF REINFORCEMENT					
	BAR	EAST ABUT.	WEST ABUT.	LENGTH	SHAPE	LOCATION
(1)	A1601E	32	32	3'-3"	BENT	END BLOCK
(1)	A1602E	11	11	15'-10"	STRAIGHT	TRANSVERSE BAR
(1)	A1603E	32	32	3'-2"	BENT	LONGITUDINAL BAR
(1)	A1604E	11	11	18'-2"	STRAIGHT	TRANSVERSE BAR
		NORTH RAIL	SOUTH RAIL			
(8)	S1605E	156	156	1'-1"	STRAIGHT	VERTICAL DOWEL BAR
(8)	S1606E	156	156	2'-2"	BENT	VERTICAL DOWEL BAR
(8)	S1607E	8	8	0'-9"	STRAIGHT	END POST DOWEL

AS-BUILT

JAN 07 2003

ENGINEERING

CERTIFIED BY: Kent A Rohr
LICENSED PROFESSIONAL ENGINEER / KENT A. ROHR
LICENSE NO. 21179 3-15 2002

WSN 460A371

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

CONCRETE RAILING

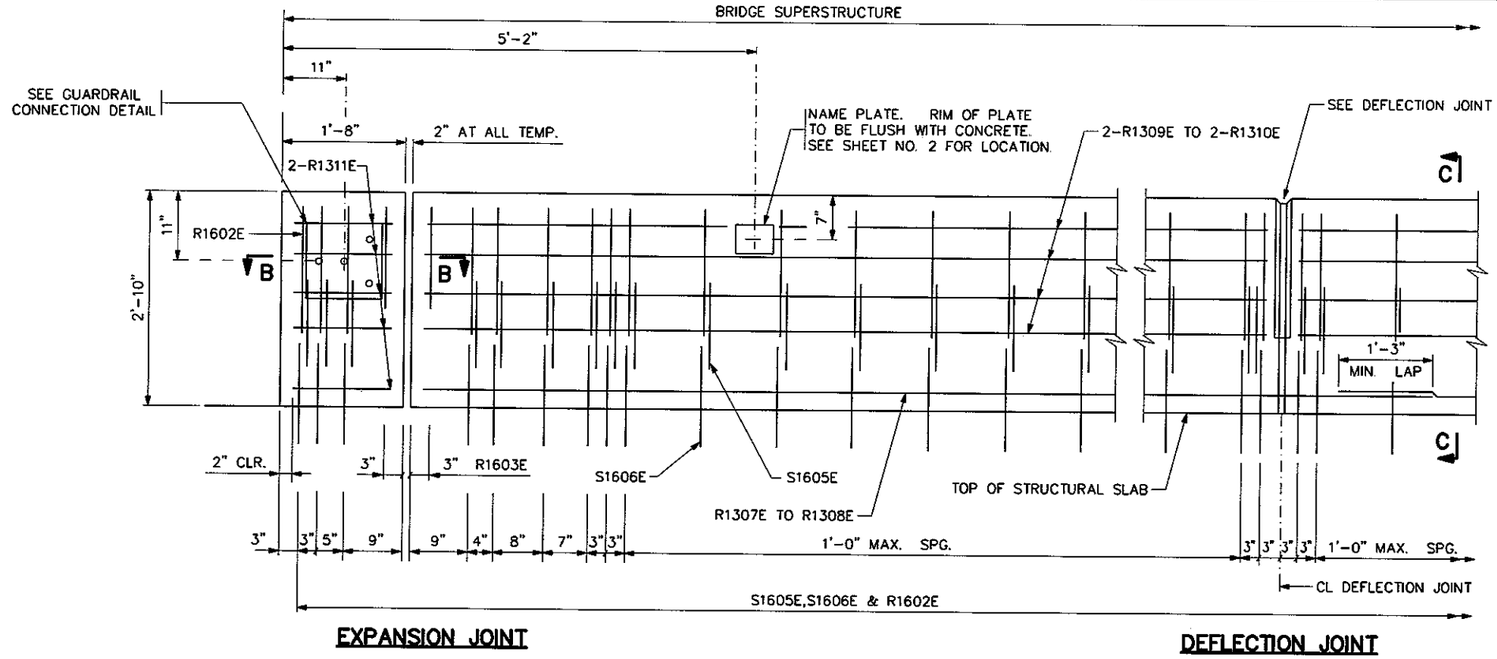
APPROVED

DES. BY	T.J.M.	DR. BY	J.A.K.	BRIDGE NO.
CHK. BY	K.A.R.	CHK. BY	T.J.M.	55508

State Aid Proj. No. 55-615-09

SHEET NO. 5 OF 14 SHEETS

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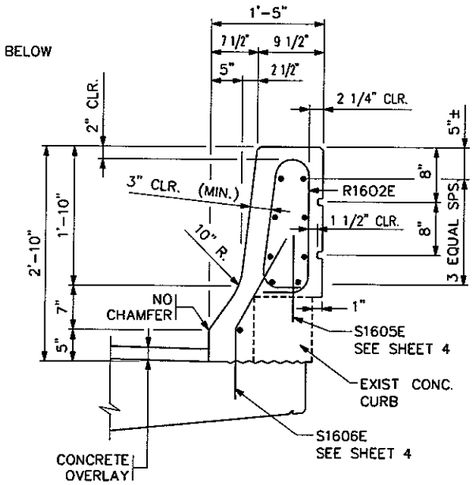


EXPANSION JOINT

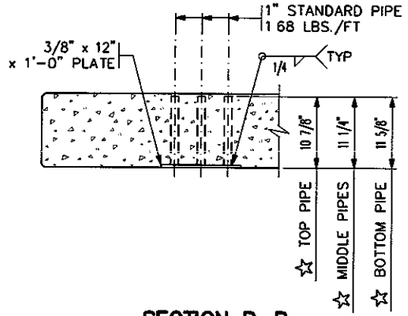
DEFLECTION JOINT

INSIDE ELEVATION OF RAILING

(CONCRETE OVERLAY NOT SHOWN)

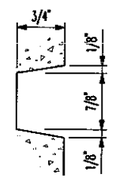


SECTION C–C

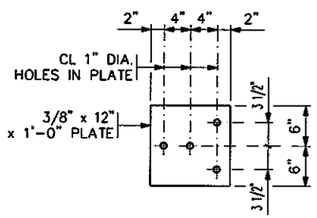


SECTION B–B

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

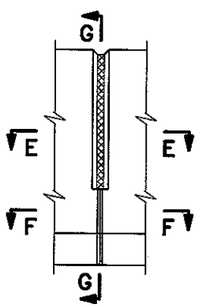


RAIL RUSTICATION

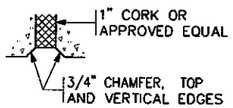


GUARDRAIL CONNECTION DETAIL

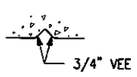
GALVANIZE AFTER FABRICATION PER Mn/DOT SPEC. 3394
ESTIMATED WEIGHT = 22 LBS



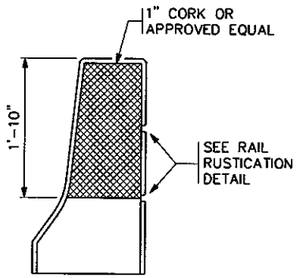
ELEVATION



SECTION E–E



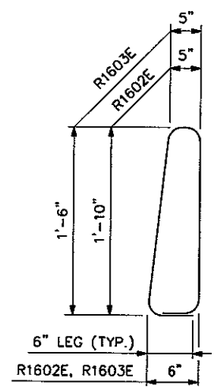
SECTION F–F



SECTION G–G

DEFLECTION JOINT DETAILS

BILL OF REINFORCEMENT FOR RAILING				
BAR	NO.	LENGTH	SHAPE	LOCATION
R1602E	312	4'-10"	⬭	RAIL VERTICAL
R1603E	8	4'-2"	⬭	RAIL VERTICAL
R1307E	6	40'-0"	—	RAIL LONGITUDINAL
R1308E	2	14'-0"	—	RAIL LONGITUDINAL
R1309E	64	17'-4"	—	RAIL (SPAN 1 & 3)
R1310E	48	19'-8"	—	RAIL (SPAN 2)
R1311E	32	1'-4"	—	RAIL LONG. END POST
R13 E			—	RAIL LONGITUDINAL
R13 E			—	RAIL LONGITUDINAL



R1602E, R1604E & R1605E

GENERAL NOTES

LENGTH OF "TYPE F RAILING CONCRETE (3Y46A)" FOR PAYMENT SHALL BE MEASURED BETWEEN THE OUTSIDE FACES OF THE CONCRETE RAIL.

CONCRETE RAILING = 477 LBS./FT. (0.117 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, Mn/DOT SPEC. 3306.

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

RAIL QUANTITIES ARE INCLUDED IN PRICE BID FOR "TYPE F RAILING CONCRETE (3Y46)"

AS-BUILT

JAN 07 2003

ENGINEERING

REVISION: 10-26-00

APPROVED: AUGUST 31, 1991

STATE BRIDGE ENGINEER

460A371

CERTIFIED BY _____ LICENSED PROFESSIONAL ENGINEER 3-15-2002 DATE

NAME: KENT A. ROHR LIC. NO. 21179

TITLE: CONCRETE RAILING (TYPE F) WITH INTEGRAL END POST (WITH CONCRETE OVERLAY)

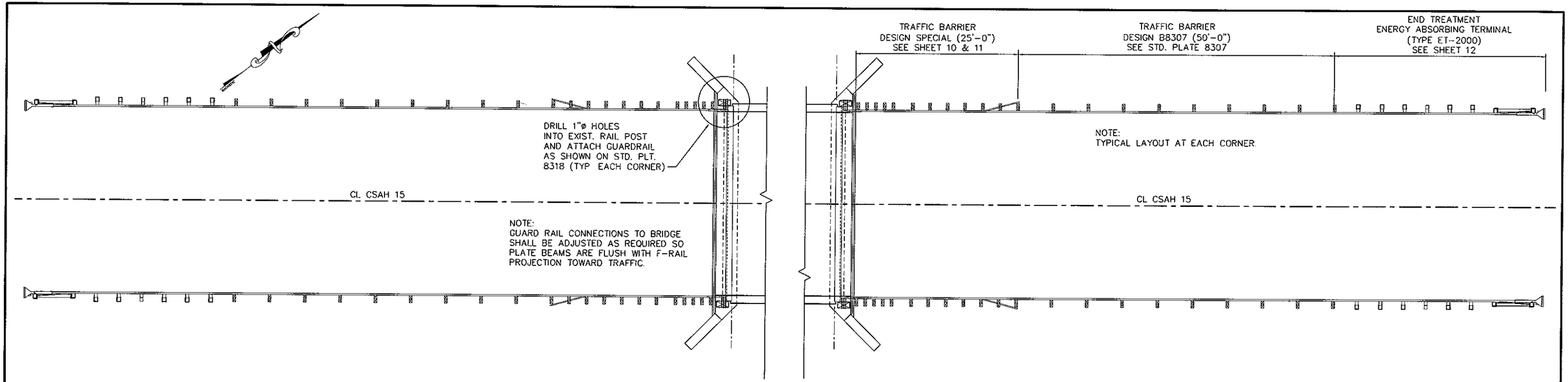
S.A.P. 55–615–09

MODIFIED FIG. 5–397.117

DES: T.J.M.	DR: J.A.K.	APPROVED: MODIFIED	BRIDGE NO. 55508
CHK: K.A.R.	CHK: T.J.M.		

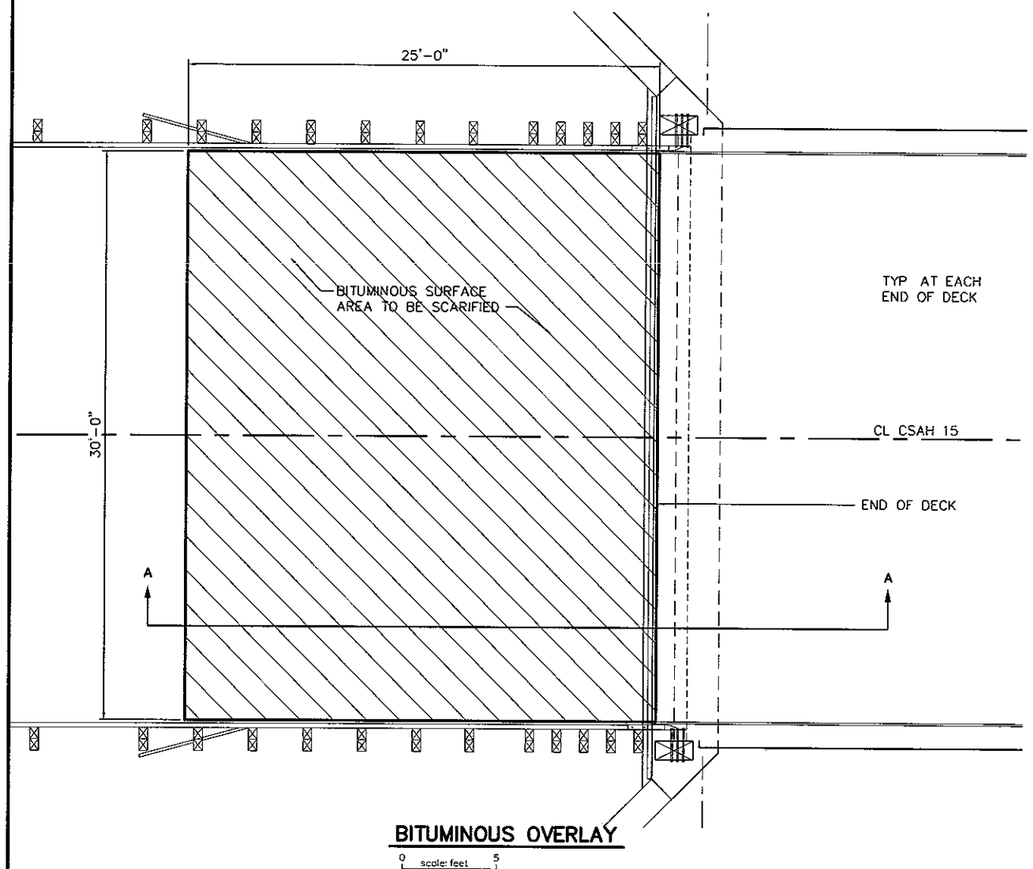
SHEET NO. 6 OF 14 SHEETS

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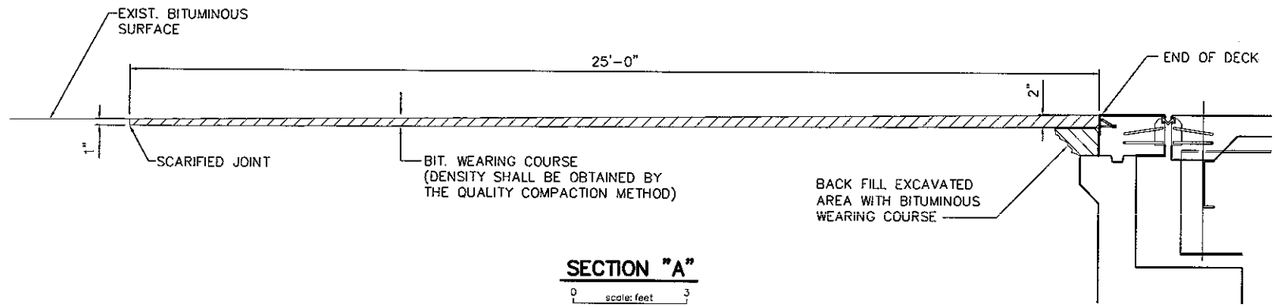
GUARDRAIL PLAN

0 scale: feet 10



BITUMINOUS OVERLAY

0 scale: feet 5



SECTION "A"

0 scale: feet 3

AS-BUILT

JAN 07 2003

ENGINEERING

CERTIFIED BY: Kent A Rohr
LICENSED PROFESSIONAL ENGINEER / KENT A. ROHR

LICENSE NO. 21179 3/5 2002

WIDSETH SMITH NOLTING
ENGINEERS
ARCHITECTS
LAND SURVEYORS
PROJECT MANAGERS

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

APPROACH DETAILS AND QUANTITIES

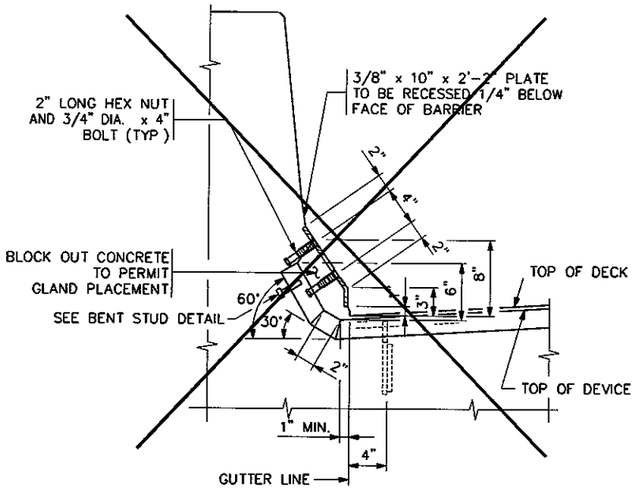
APPROVED

DES. BY	T.J.M.	DR. BY	J.A.K.	BRIDGE NO.
CHK. BY	K.A.R.	CHK. BY	T.J.M.	55508

WSN 460A371

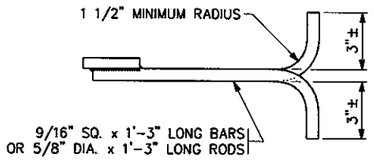
State Aid Proj. No. 55-615-09 SHEET NO. 7 OF 14 SHEETS

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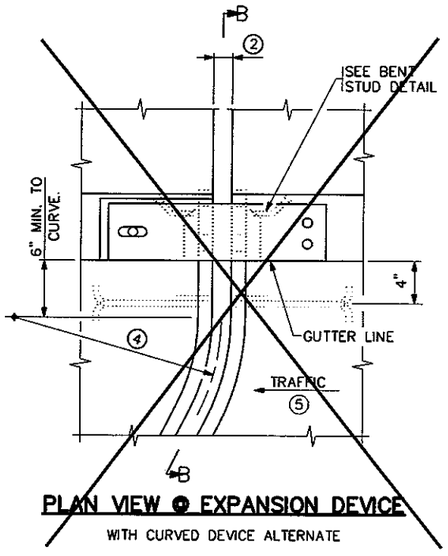


SECTION THROUGH RAILING

TYPE F RAILING

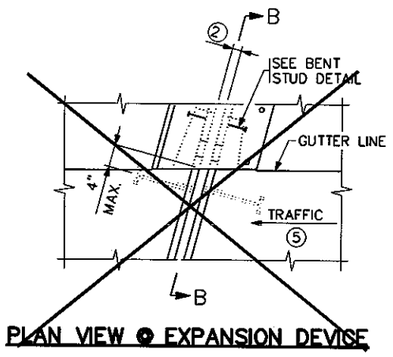


BAR-ROD DETAIL



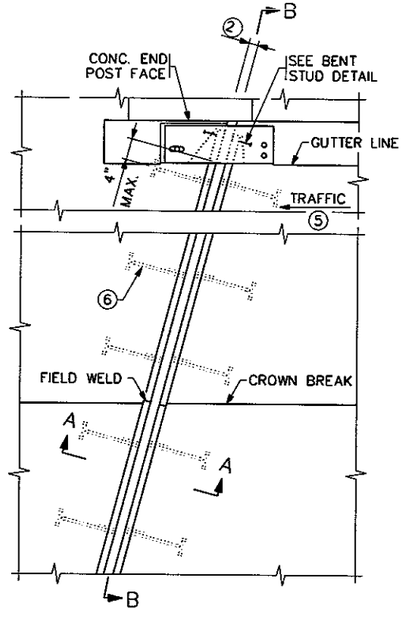
PLAN VIEW @ EXPANSION DEVICE

WITH CURVED DEVICE ALTERNATE



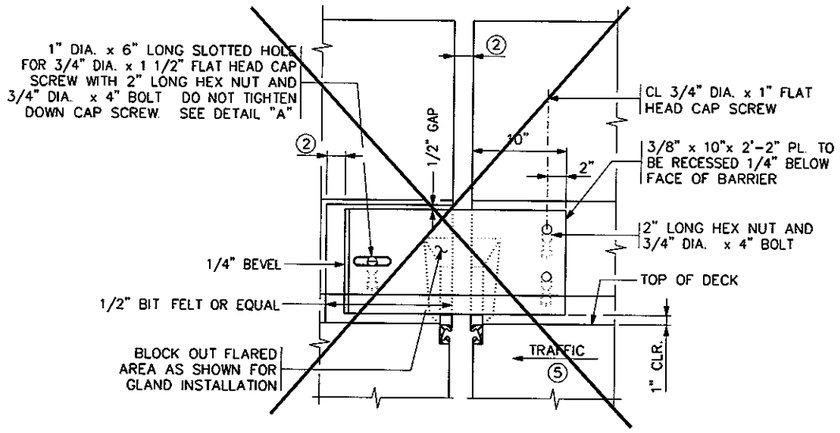
PLAN VIEW @ EXPANSION DEVICE

MEDIAN OR SIDEWALK ALTERNATE

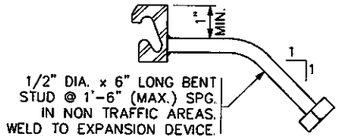


PLAN VIEW @ EXPANSION DEVICE

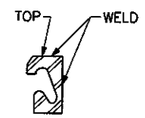
WITH STRAIGHT DEVICE



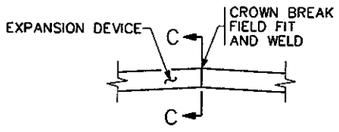
RAILING ELEVATION



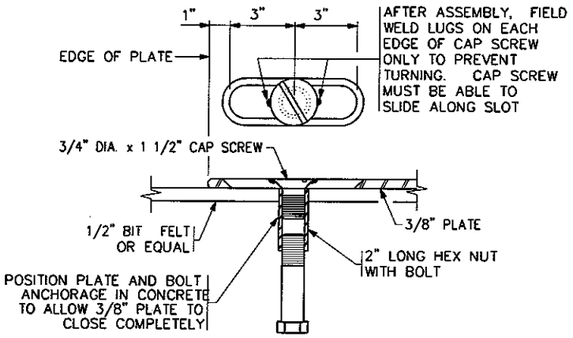
BENT STUD DETAIL



SECTION C-C



DETAIL "B"



DETAIL "A"

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND FABRICATION OF COMPONENTS

GENERAL NOTES

GALVANIZE STRUCTURAL STEEL AFTER FABRICATION AS PER MnDOT SPEC. 3394. GALVANIZE FASTENERS AS PER MnDOT SPEC. 3392

JOINTS IN EXTRUSION SHALL BE LOCATED AT BREAKS IN TRANSVERSE PROFILE AND AS OTHERWISE REQUIRED. JOINTS SHALL BE CLOSE FIT AND WELDED. REPAIR AFTER WELDING AS PER MnDOT SPEC. 2471 3L.

STRUCTURAL STEEL SHALL COMPLY WITH MnDOT SPEC. 3306 OR MnDOT SPEC. 3309.

EXPANSION DEVICE SHALL BE STRAIGHTENED TO A TOLERANCE OF 1/8" IN 10 FT

CAP SCREWS SHALL BE COUNTERSUNK 1/16" BELOW TOP OF PLATE.

LENGTH OF PAYMENT FOR DEVICE IS FROM OUT TO OUT OF EXTRUSION ALONG CENTERLINE OF JOINT

① DIMENSIONS ARE ALONG CENTERLINE OF JOINT

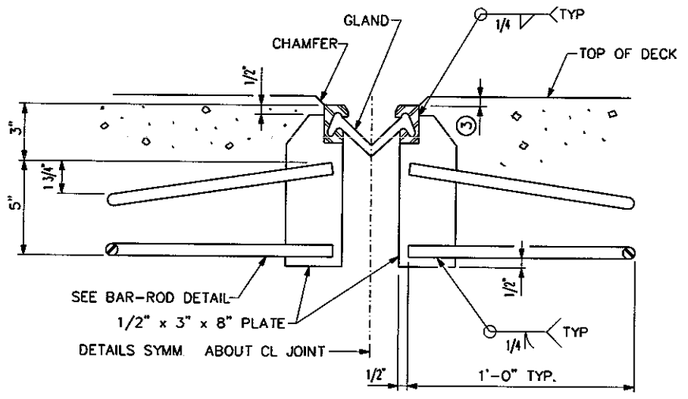
② 2" AT 45°F; 2" AT 90°F

③ 1/8" (1/4" MAX.) . 1/2" (5/8" MAX.) WHEN SNOWPLOW FINGERS ARE USED. SNOWPLOW FINGERS ARE REQUIRED FOR SKEWS OVER 15° AND LESS THAN 50°

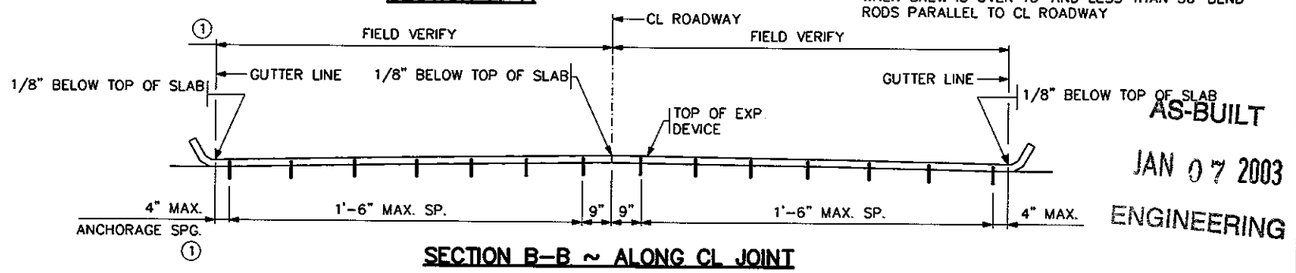
④ SEE SUPERSTRUCTURE DETAILS FOR RADIUS.

⑤ SEE SHEET NO. 1 FOR DIRECTION OF TRAFFIC.

⑥ PLACE BAR-ROD NORMAL TO JOINT ON NEW BRIDGES AND JOINT REPLACEMENTS. ON JOINT REPLACEMENTS WHEN SKEW IS OVER 15° AND LESS THAN 50° BEND RODS PARALLEL TO CL ROADWAY



SECTION A-A



SECTION B-B ~ ALONG CL JOINT

ELEVATIONS SHOWN ARE 1/8 " BELOW TOP OF SLAB @ CL JOINT

~~ELEVATIONS SHOWN ARE 1/2 " BELOW TOP OF SLAB @ CL JOINT~~

AS-BUILT

JAN 07 2003

ENGINEERING

MODIFIED

REVISION: 05-01-00
APPROVED: NOVEMBER 6, 1995
Darrell J. Fleming
STATE BRIDGE ENGINEER

CERTIFIED BY Kent A Rohr
LICENSED PROFESSIONAL ENGINEER /KENT A. ROHR
LICENSE NO. 21179 3-15 2002

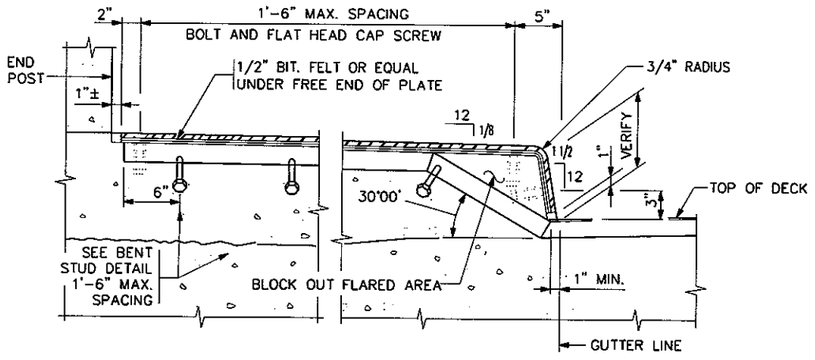
S.A.P. 55-615-09

TITLE: WATERPROOF EXPANSION DEVICE

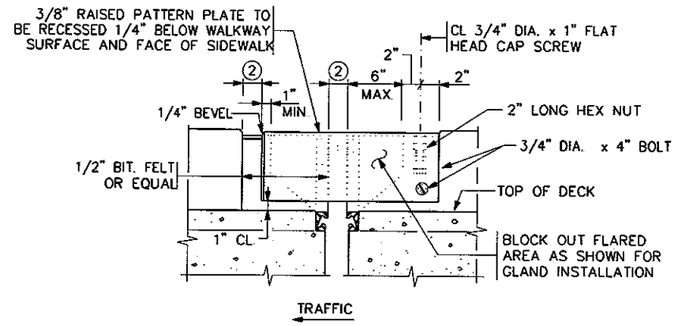
460A371

DES: T.J.M.	DR: J.A.K.	APPROVED: MODIFIED	FIG. 5-397.627
CHK: K.A.R.	CHK: T.J.M.		BRIDGE NO. 55508
SHEET NO. 8 OF 14 SHEETS			

H:\Job\460BRIDGI371\460A371\dwg\fig7627e.dwg, Model, 03/15/2002 12:02:02 PM, Jim, HP8550 PCL5c.pc3, 1:1.99978

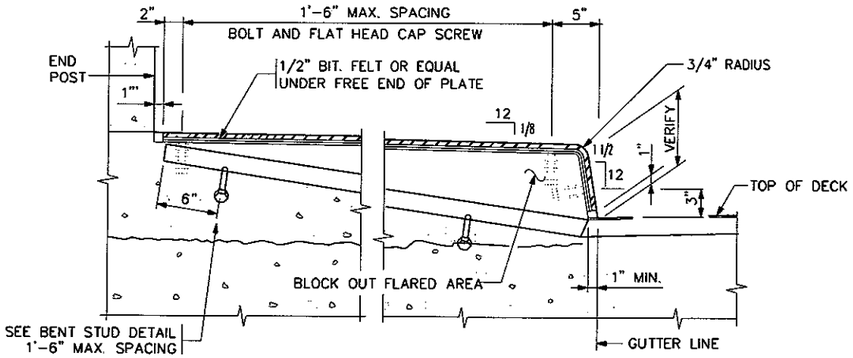


SECTION THRU CURB – OPTION 1

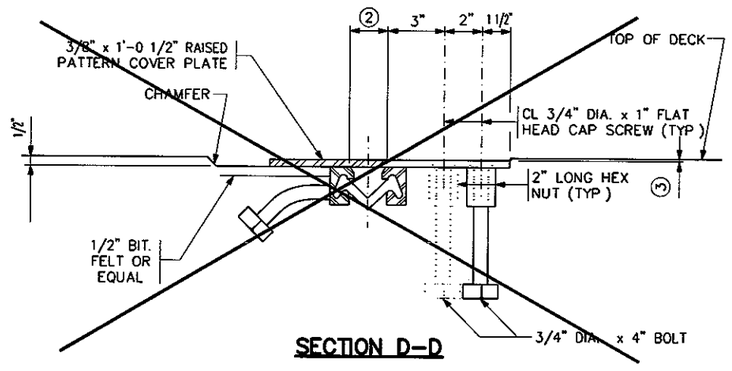


ELEVATION

CURB DETAILS

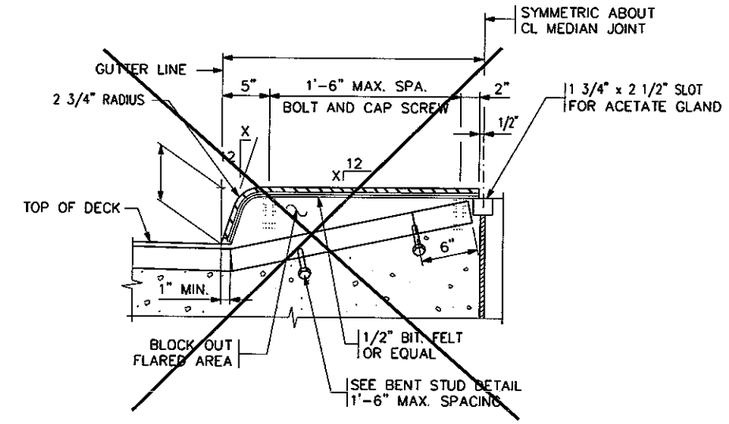


SECTION THRU CURB – OPTION 2

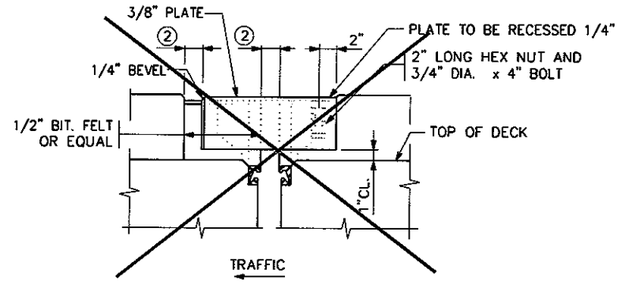


SECTION D–D

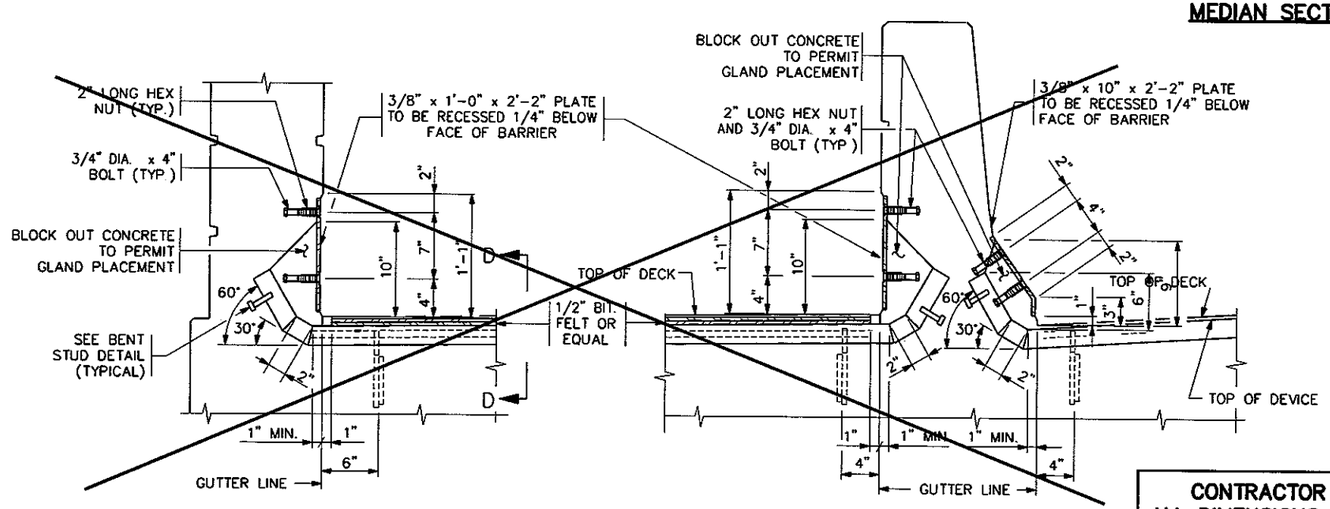
NOTE:
TRANSVERSE DECK REINFORCEMENT MAY BE SHIFTED THE MINIMUM DISTANCE REQUIRED FOR EXPANSION DEVICE PLACEMENT



MEDIAN SECTION



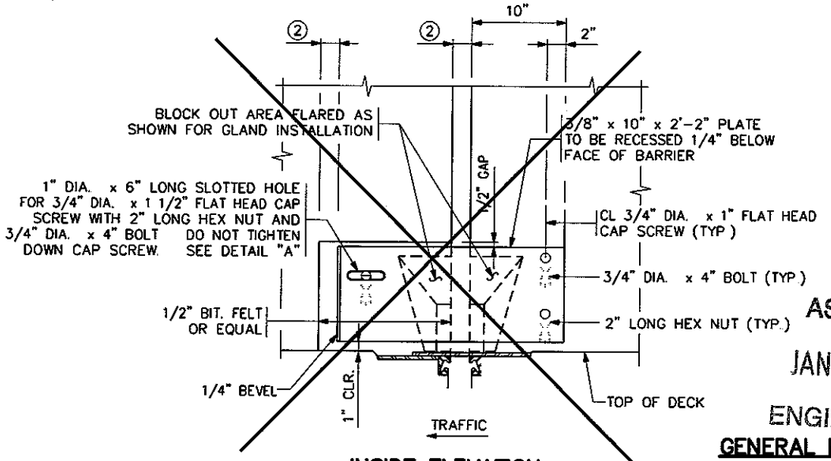
MEDIAN ELEVATION



CONCRETE PARAPET RAILING

TYPE F RAILING

SECTION THROUGH RAILINGS – INTEGRAL SIDEWALK



INSIDE ELEVATION

(CONCRETE PARAPET RAILING & BACK OF TYPE F RAIL)

AS-BUILT

JAN 07 2003

ENGINEERING

GENERAL NOTE

SEE DETAIL 5-397.627 FOR ADDITIONAL DETAILS AND NOTES.

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND FABRICATION OF COMPONENTS

MODIFIED

REVISION: 09-29-00

APPROVED: NOVEMBER 6, 1995

STATE BRIDGE ENGINEER

460A371

FIG. 5-397.630

CERTIFIED BY Kent A Rohr
LICENSED PROFESSIONAL ENGINEER /KENT A. ROHR
LICENSE NO. 21179 3-15 2002

S.A.P. 55-615-09

TITLE: WATERPROOF EXPANSION DEVICE WITH RAISED CURB

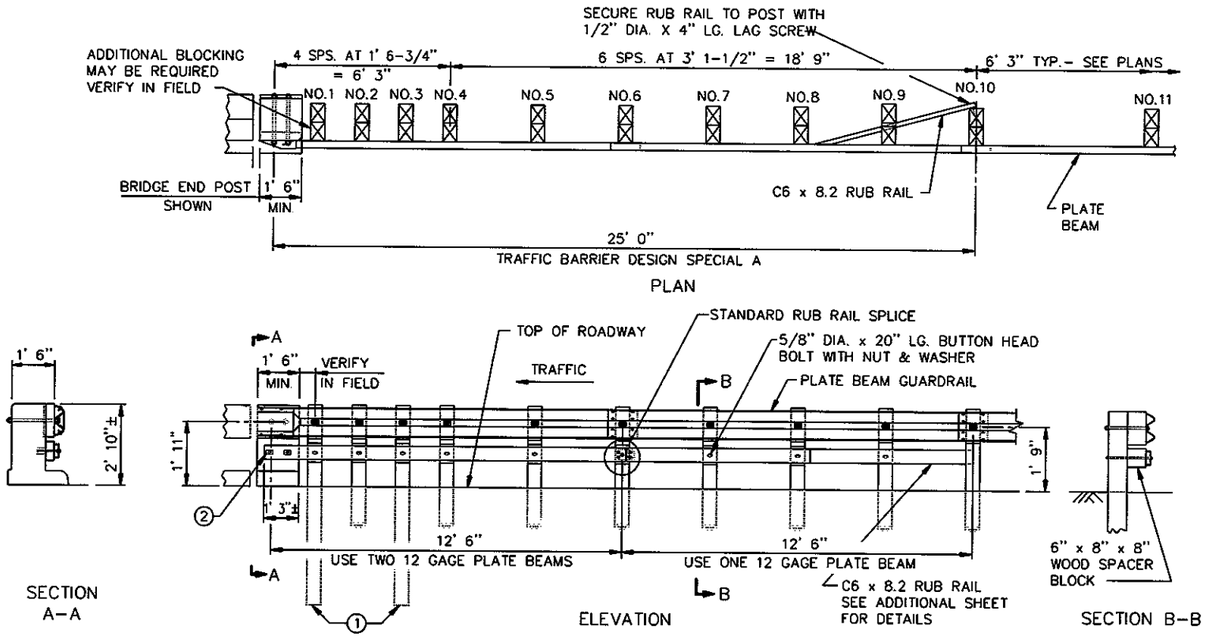
DES: T.J.M. DR: J.A.K.
CHK: K.A.R. CHK: T.J.M.

APPROVED: MODIFIED

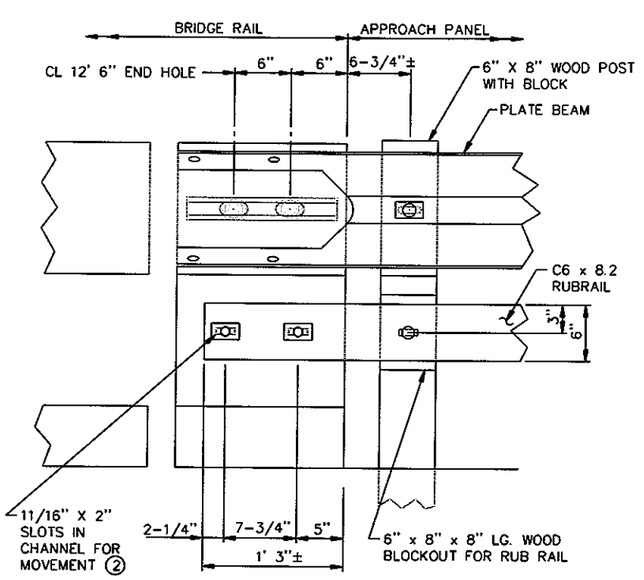
SHEET NO. 9 OF 14 SHEETS

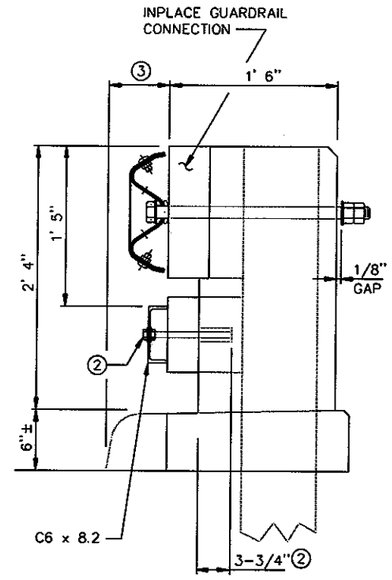
BRIDGE NO. 55508

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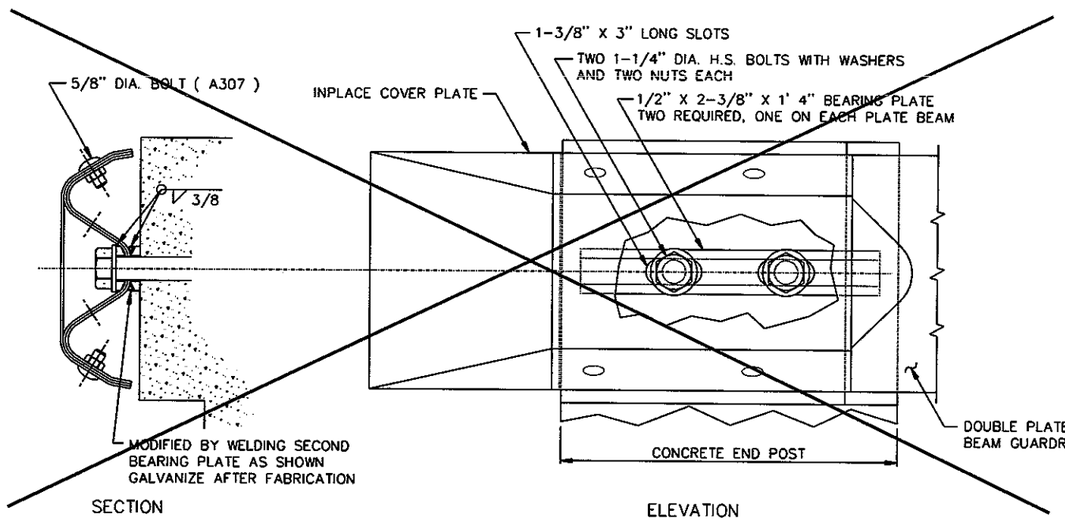


GENERAL ASSEMBLY DETAILS
(NO APPROACH CURB SHOWN)

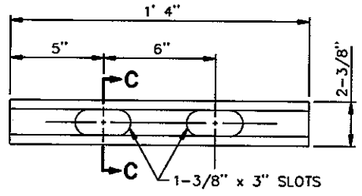




RAIL ATTACHMENT DETAILS

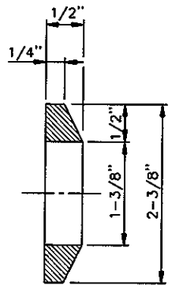


MODIFIED INPLACE ANCHORAGE PLATE DETAILS



BEARING PLATE DETAIL
(2 REQUIRED)

STRUCTURAL STEEL AS PER SPEC. 3306.
GALVANIZE AS PER SPEC. 3392.



ENLARGED SECTION C-C

NOTES:

ALL STRUCTURAL STEEL AND HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M180.

USE INPLACE END POST IF FRONT FACE VERTICAL REINFORCEMENT HAS A MINIMUM STEEL AREA OF 3 SQ. IN. IF END POST STEEL AREA IS INADEQUATE CONTACT YOUR REGIONAL BRIDGE CONSTRUCTION ENGINEER.

(1) INSTALL ADDITIONAL 6"x 8"x 7' 0" MINIMUM LONG POST WITH 6"x 8"x 1' 2" BLOCK WITH 5/8" BUTTON HEAD BOLT AND RECESS NUT WITH 3" x 1-3/4" x 3/16" THICK RECTANGULAR WASHER (TYP) AT POST NO. 1 & 3.

(2) 5/8" DIA. BOLTS, NUTS & PLATE WASHERS WITH APPROVED CONCRETE ANCHORS. LOCATE CONCRETE ANCHORS TO MISS BRIDGE REINFORCEMENT

(3) WOOD SPACER BLOCKS MAY BE REQUIRED IF BRIDGE CURB PROJECTS BEYOND FACE OF PLATE BEAM

AS-BUILT

JAN 07 2003

ENGINEERING TRAFFIC BARRIER DESIGN SPECIAL A

REVISION DATE 12-3-97

CERTIFIED BY Kent A Rohr
LICENSED PROFESSIONAL ENGINEER / KENT A. ROHR
LICENSE NO. 21179 3-15 2002

STANDARD SHEET NO. 5-297.608 (1 OF 2)

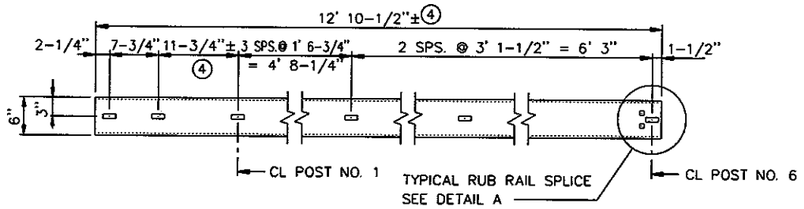
STANDARD APPROVED: MARCH 16, 1992

TITLE: GUARDRAIL IMPROVEMENTS AT ONE LINE RAIL BRIDGES INPLACE END POST AND WITH OR WITHOUT APPROACH CURB

STATE AID PROJ. NO. 55-615-09

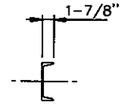
SHEET NO. 10 OF 14 SHEETS

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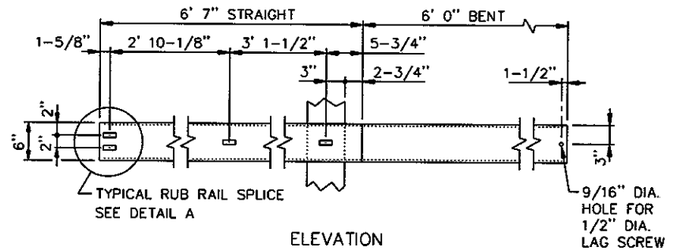


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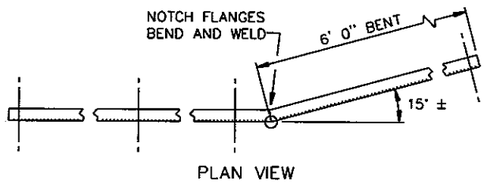
STRAIGHT SECTION



SECTION THRU RUB RAIL



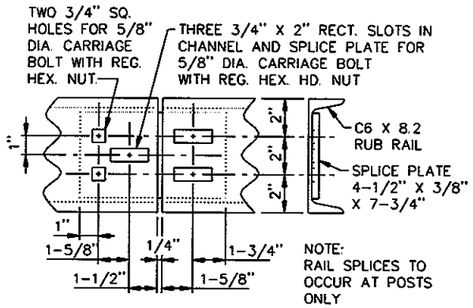
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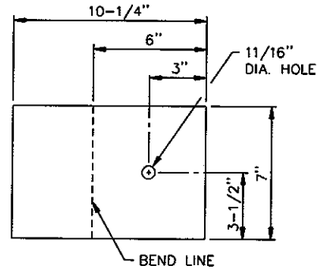
PLAN VIEW

BENT SECTION

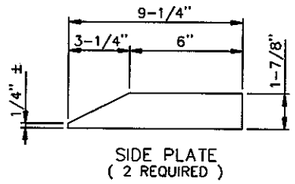
RUB RAIL DETAILS



DETAIL A

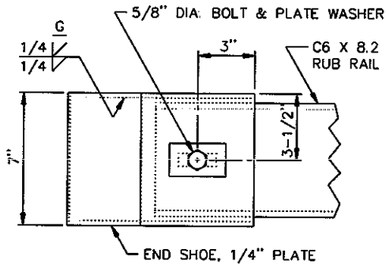


TOP PLATE

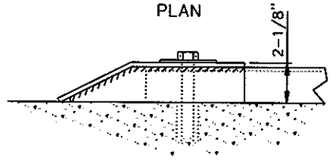


SIDE PLATE
(2 REQUIRED)

END SHOE PLATE DETAILS
(1/4" PLATE)



PLAN



SIDE ELEVATION

RUB RAIL END SHOE
(USE IF TWO WAY TRAFFIC WITH NO MEDIAN)

QUANTITIES PER BRIDGE CORNER IMPROVEMENT ①			
	DESCRIPTION	LENGTH/SIZE	NO.
	5/8" DIA. CARRIAGE BOLT WITH NUT	18"	3
	5/8" DIA. CARRIAGE BOLT WITH NUT (RUB RAIL)	20" MIN.	9
	5/8" DIA. CARRIAGE BOLT WITH NUT	1-1/2"	4
	5/8" DIA. BOLTS WITH CONCRETE ANCHORS	5-3/4"	2
	RECTANGULAR WASHER	3" x 1-3/4" x 3/16"	5
②	C6 x 8.2 RUB RAIL	12' 10-1/2"±	1 ④
②	C6 x 8.2 RUB RAIL	12' 7"	1
	3/8" THICK SPLICE PLATE (RUB RAIL)	4-1/2" X 7-3/4"	1
	12 GAGE PLATE BEAM	12' 6"	1
	6" x 8" RAIL POSTS	7' 0" MIN.	2
③	6" x 8" SPACER BLOCKS	1' 2"	3
③	6" x 8" SPACER BLOCKS (RUB RAIL)	8"	9
	1/2" DIA. LAG SCREW	4"	1

NOTES:

GALVANIZE ALL HARDWARE AS PER SPEC. 3392

USE END SHOE ON RUB RAIL IF TWO WAY TRAFFIC WITH NO MEDIAN.

RUB RAIL IS C6 x 8.2

STRUCTURAL STEEL AS PER SPEC. 3306 UNLESS OTHERWISE NOTED.

ALL SLOTTED HOLES ARE 11/16" x 2"

ALL SQUARE HOLES ARE 11/16"

GALVANIZE STRUCTURAL SHAPES AS PER SPEC. 3394 AFTER FABRICATION UNLESS OTHERWISE NOTED.

① QUANTITIES LISTED ARE FOR INFORMATIONAL PURPOSES. ANY ADDITIONAL MINOR ITEMS AND SLIGHT CHANGES IN QUANTITIES REQUIRED SHALL BE FURNISHED BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION. SOME ITEMS LISTED ARE FROM " A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE " AS APPROVED BY AASHTO.

② NON-STANDARD LENGTHS, SEE RUB RAIL DETAILS FOR STRAIGHT AND BENT SECTIONS.

③ ADDITIONAL BLOCKING MAY BE REQUIRED AT POST NO.1 & NO.10. AND IF BRIDGE CURB PROJECTS BEYOND FACE OF PLATE BEAM. VERIFY IN FIELD.

④ VERIFY DIMENSION IN FIELD

TRAFFIC BARRIER DESIGN SPECIAL A

REVISION DATE 5-19-99

CERTIFIED BY Kent A Rohr
LICENSED PROFESSIONAL ENGINEER /KENT A. ROHR
LICENSE NO. 21179 3-15 2002

STANDARD SHEET NO. 5-297.608 (2 OF 2)

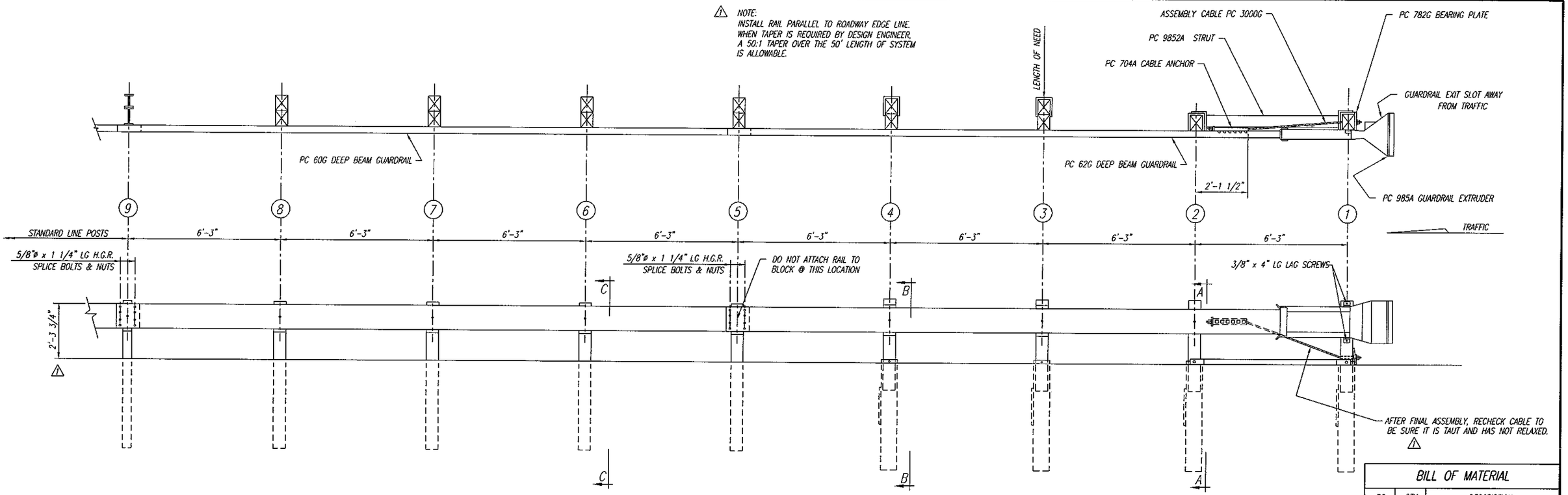
STANDARD APPROVED: MARCH 16, 1992

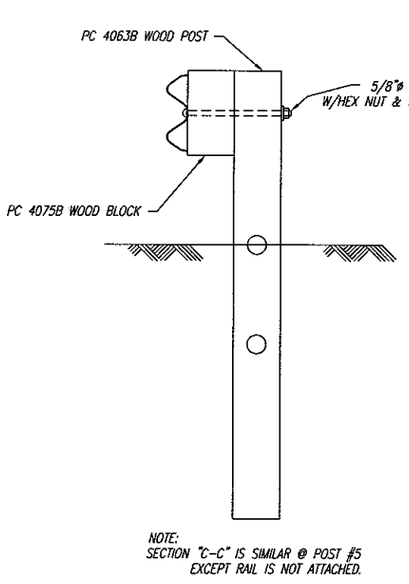
TITLE: GUARDRAIL IMPROVEMENTS AT ONE LINE RAIL BRIDGES INPLACE END POST AND WITH OR WITHOUT APPROACH CURB

STATE AID PROJ. NO. 55-615-09

SHEET NO. 11 OF 14 SHEETS

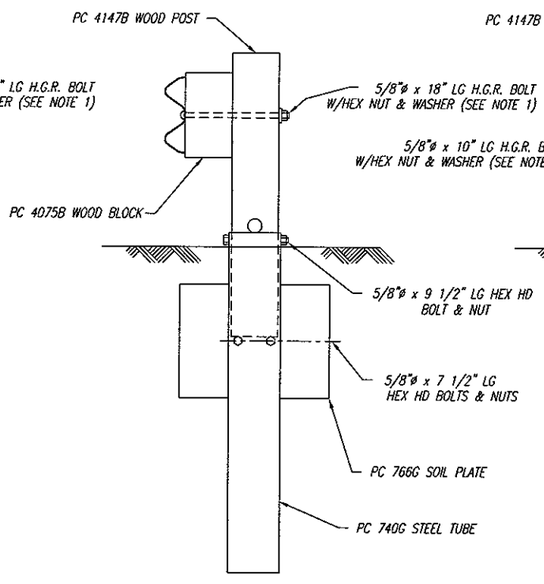
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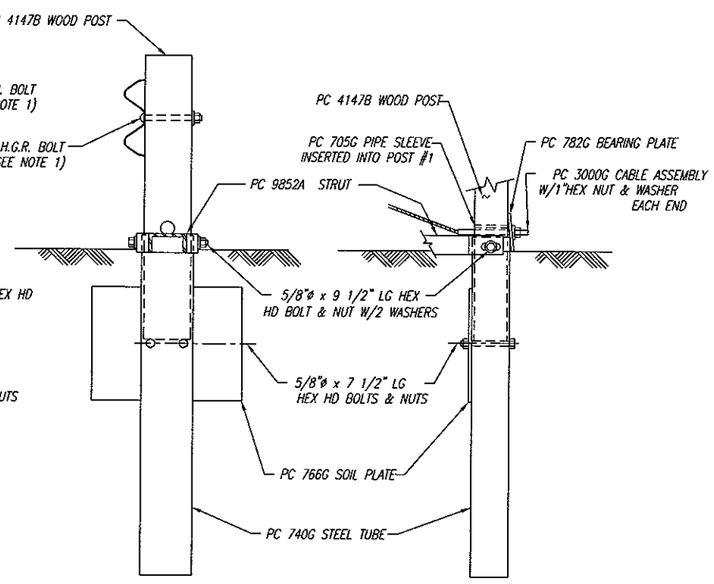


NOTE:
SECTION "C-C" IS SIMILAR @ POST #5 EXCEPT RAIL IS NOT ATTACHED.

SECTION "C-C"
(TYP @ POSTS #6, 7 & 8)



SECTION "B-B"
(TYP @ POSTS #3 & 4)



SECTION "A-A"
(@ POST #2)

PARTIAL VIEW @ POST #1

NOTES:
1.) THE 5/8" FLAT WASHER IS USED UNDER THE NUT, BEHIND THE POST ONLY NO WASHER IS USED AT THE RAIL.
2.) MANUFACTURER SUGGESTS CUSTOMER TO PROVIDE REFLECTORIZATION OF TERMINAL.

BILL OF MATERIAL

PC	QTY	DESCRIPTION
60G	1	12/25/6'3/S (GUARDRAIL)
62G	1	12/25/6'3/S ANC (GUARDRAIL)
704A	1	CABLE ANCHOR BRACKET
705G	1	2" x 5 1/2" PIPE
740G	4	4'6 TUBE SLEEVE
766G	4	1/4" x 18" x 24" SOIL PLATE
782G	1	5/8" x 8" x 8" BEARING PLATE
985A	1	ET-2000 EXTRUDER
3000G	1	CABLE 3/4 x 6'6
3300G	11	5/8" WASHER
3340G	35	5/8" HEX NUT
3360G	16	5/8"ø x 1 1/4" SPLICE BOLT
3478G	8	5/8"ø x 7 1/2" HEX HD BOLT
3497G	4	5/8"ø x 9 1/2" HEX HD BOLT
3500G	1	5/8"ø x 10" POST BOLT
3580G	6	5/8"ø x 18" POST BOLT
3900G	2	1" WASHER
3910G	2	1" HEX NUT
4063B	4	WD 6'0 POST 6 x 8
4075B	6	WD BLOCK 1'2 6" x 8" DR
4147B	4	WD 3'9 POST 5 1/2 x 7 1/2
4228G	2	3/8"ø x 4" LAG SCREW
9852A	1	6'3 STRUT

REV.	CHK'D	BY	DATE	REMARKS
1		BT	5-27-98	ADDED TAPER & CABLE NOTE, CHG DIM

SYRO ET-2000

ET-2000 (1997)
PLAN, ELEVATION & SECTIONS

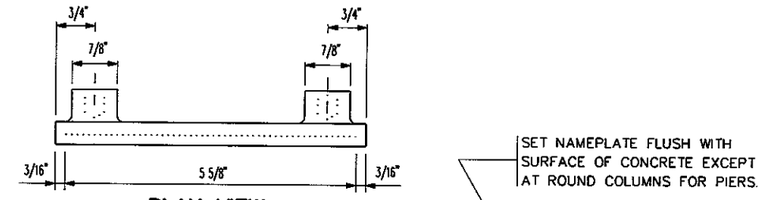
CUSTOMER | P.O. No.

TRINITY INDUSTRIES, INC. SYRO
DALLAS, TX CENTERVILLE, UT GIRARD, OH LIMA, OH FORT WORTH, TX ELIZABETHTOWN, KY

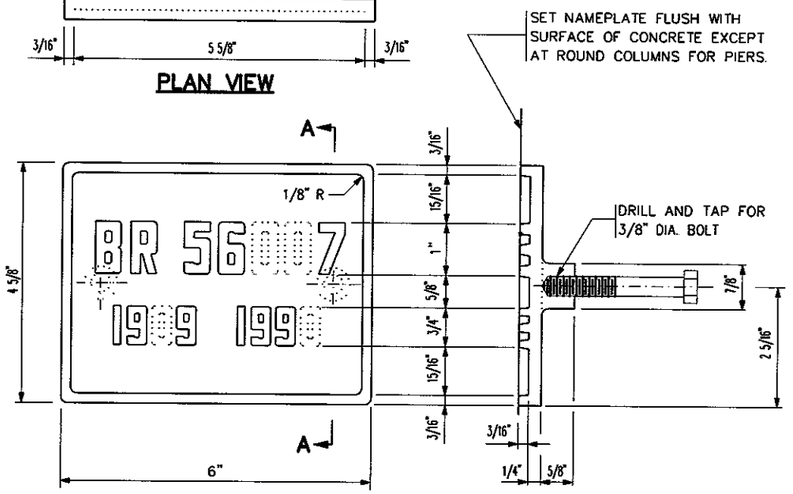
DRAWN	B.T.
CHECKED	
APPROVED	
DATE	4-26-97
ENG. FILE #	SS265
SHT.No.	
DRAWING No.	SS 265 REV. 1

STATE AID PROJ NO. 55-615-09 WSN 460A371 SHEET NO. 12 OF 14 SHEETS

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PLAN VIEW



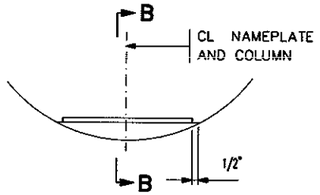
ELEVATION

SECTION A–A

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

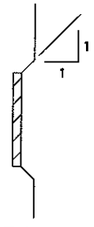
BRIDGE: 55508

YEAR: 1962 YEAR: 2002



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.

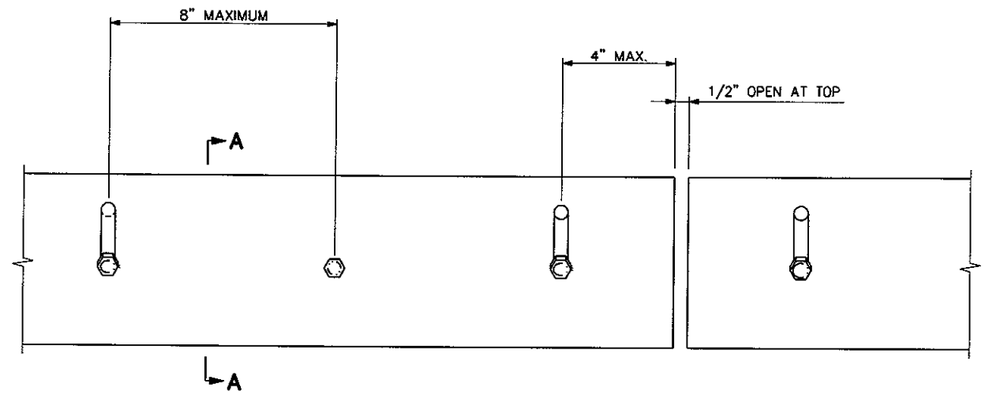
TOP SURFACE OF LETTERS, NUMBERS AND FRAMES SHALL BE BURNISHED.

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.

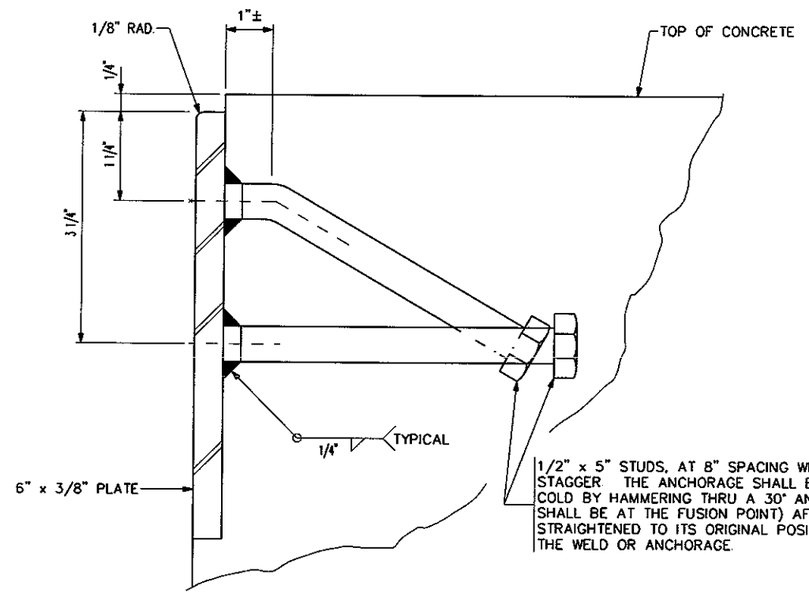
REMOVE AND PATCH AREA OF EXISTING NAMEPLATE AS REQUIRED.

APPROVED: JULY 30, 1999	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Donald J. Flemming STATE BRIDGE ENGINEER	**BRIDGE NAMEPLATE** (FOR BRIDGE RECONSTRUCTION)	03-08-00	**B102**



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

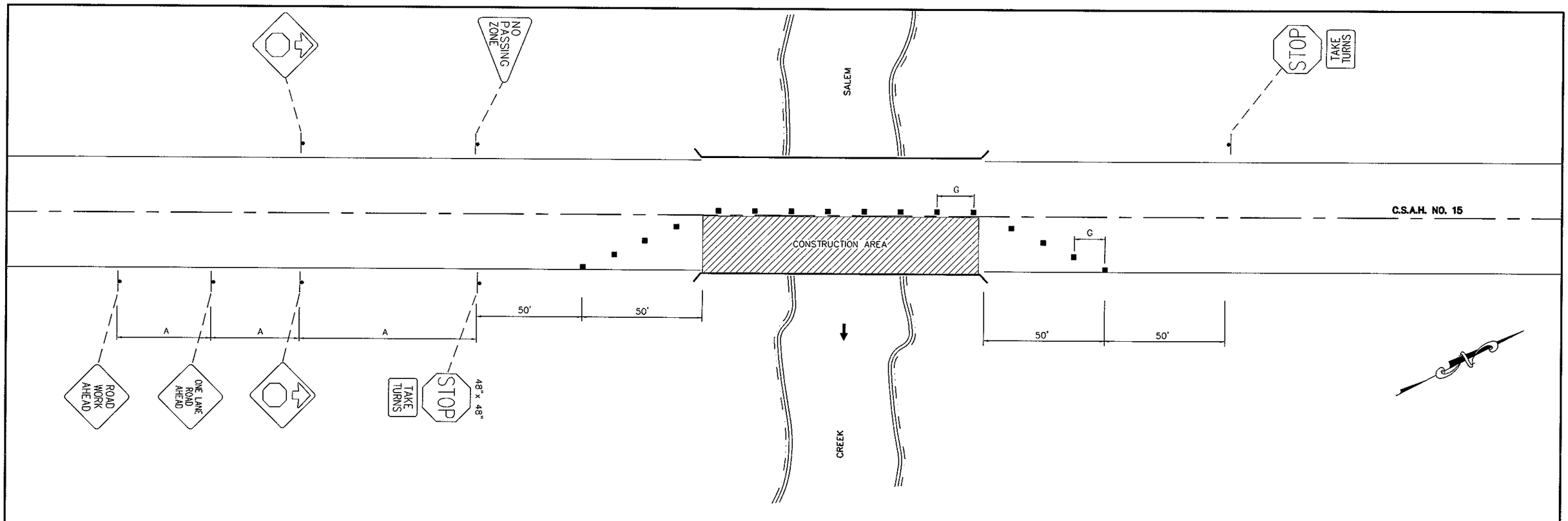
APPROVED: JULY 30, 1999	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Donald J. Flemming STATE BRIDGE ENGINEER	**PROTECTION PLATE** (FOR END OF SLAB)		**B553**

CERTIFIED BY: Kent A. Rohr LICENSE NO 21179 3/15 2002

LICENSED PROFESSIONAL ENGINEER / KENT A. ROHR

DES: T.J.M.	DR: J.A.K.	APPROVED:	TITLE: DETAILS 460A371	STATE AID PROJ. NO. 55-615-09	Sheet No. 13 of 14 Sheets	Bridge No. 55508
CHK: K.A.R.	CHK: T.J.M.					

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TRAFFIC CONTROL LAYOUT

NO SCALE

TRAFFIC CONTROL LAYOUT SHOWN FOR EAST HALF OF BRIDGE CONSTRUCTION. TRAFFIC CONTROL LAYOUT FOR WEST HALF CONSTRUCTION SIMILAR

SIGN OR DEVICE	SIGN NO.	COLOR	SIZE	ESTIMATED QUANTITY
ROAD WORK AHEAD	W20-1	BLACK ON ORANGE	48"X 48"	2
ONE LANE ROAD AHEAD	W20-4	BLACK ON ORANGE	48"X 48"	2
	W3-1a	BLACK, RED, WHITE ON ORANGE	48"X 48"	4
STOP	R1-1	WHITE ON RED	48"X 48"	2
TAKE TURNS	R1-X3	BLACK ON WHITE	24"X 18"	2
NO PASSING ZONE	W14-3	BLACK ON YELLOW	48"x60"x60"	2

POSTED SPEED LIMIT PRIOR TO WORK STARTING (mph)	SPACING OF ADVANCE WARNING SIGNS (feet) (A)	SPACING OF CHANNELIZING DEVICES (feet) (G)	DECISION SIGHT DISTANCE (feet)
0-30	250	12	550
35-40	325	12	700
45-50	600	12	900
55	700	12	1200
60-65	1000	12	1400

SIGNS SHALL BE FURNISHED, INSTALLED, AND MAINTAINED BY THE CONTRACTOR.

WITHIN PROJECT TERMINI, CONSTRUCTION SIGNING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

ALL SIGNS SHALL CONFORM TO THE MINNESOTA MANUAL ON TEMPORARY TRAFFIC CONTROL DEVICES. INCLUDING THE "FIELD MANUAL FOR TRAFFIC CONTROL ZONE LAYOUTS" - JANUARY 2001

NOTES:
1 APPROACHING SIGNING AND MARKING IS THE SAME IN BOTH DIRECTIONS.

■ CHANNELIZING DEVICES
- RETROREFLECTIVE DRUM, TYPE I OR TYPE II BARRICADE. SPACING AND QUANTITY REQUIRED BASED ON CHART

PROVIDE A MIN. OF 23 DEVICES / LAYOUT

WIDSETH SMITH NOLTING
ENGINEERS
ARCHITECTS
LAND SURVEYORS
PROJECT MANAGERS
ALEXANDRIA 320-762-8149

TRAFFIC CONTROL LAYOUT

WSN 460A371

APPROVED

CERTIFIED BY: Kent A Rohr LICENSE NO 21179 3-15-2002
LICENSED PROFESSIONAL ENGINEER / KENT A. ROHR

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

BRIDGE NO. 55508

STATE AID PROJ. NO. 55-615-09

SHEET NO. 14 OF 14 SHEETS

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