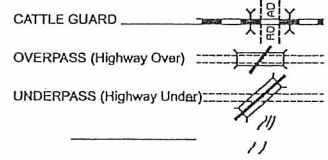
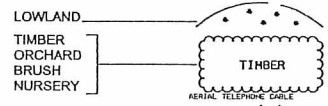


PLAN SYMBOLS

- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- SLOPE EASEMENT
- EXISTING RIGHT OF WAY
- PROPERTY LINE
- CORPORATE OR CITY LIMITS
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY
- RIVER OR CREEK
- DRAINAGE DITCH
- CULVERT
- DROP INLET
- GUARD RAIL
- BARBED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- WOOD FENCE
- STONE WALL OR FENCE
- HEDGE

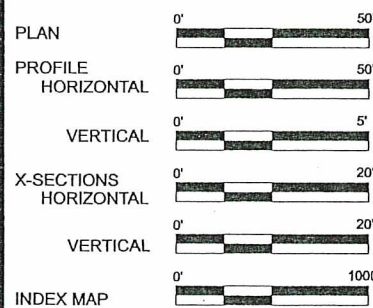


- BUILDING (One Story Frame)
- F-FRAME C-CONCRETE
- S-STONE T-TILE
- B-BRICK ST-STUCCO
- RAILROAD CROSSING BELL
- RAILROAD CROSSING GATE
- MANHOLE
- CATCH BASIN
- FIRE HYDRANT
- CAST IRON MONUMENT
- IRON PIN
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY

UTILITY SYMBOLS

- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- JOINT TELEPHONE & POWER ON POWER POLES
- ON TELEPHONE POLES
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- PEDESTAL (Cable Terminal)
- GAS MAIN
- WATERMAIN
- TELEPHONE CABLE IN CONDUIT
- ELECTRIC CABLE IN CONDUIT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- BURIED TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- SEWER (Sanitary or Storm)
- SEWER MANHOLE

SCALES



MINNESOTA DEPARTMENT OF TRANSPORTATION

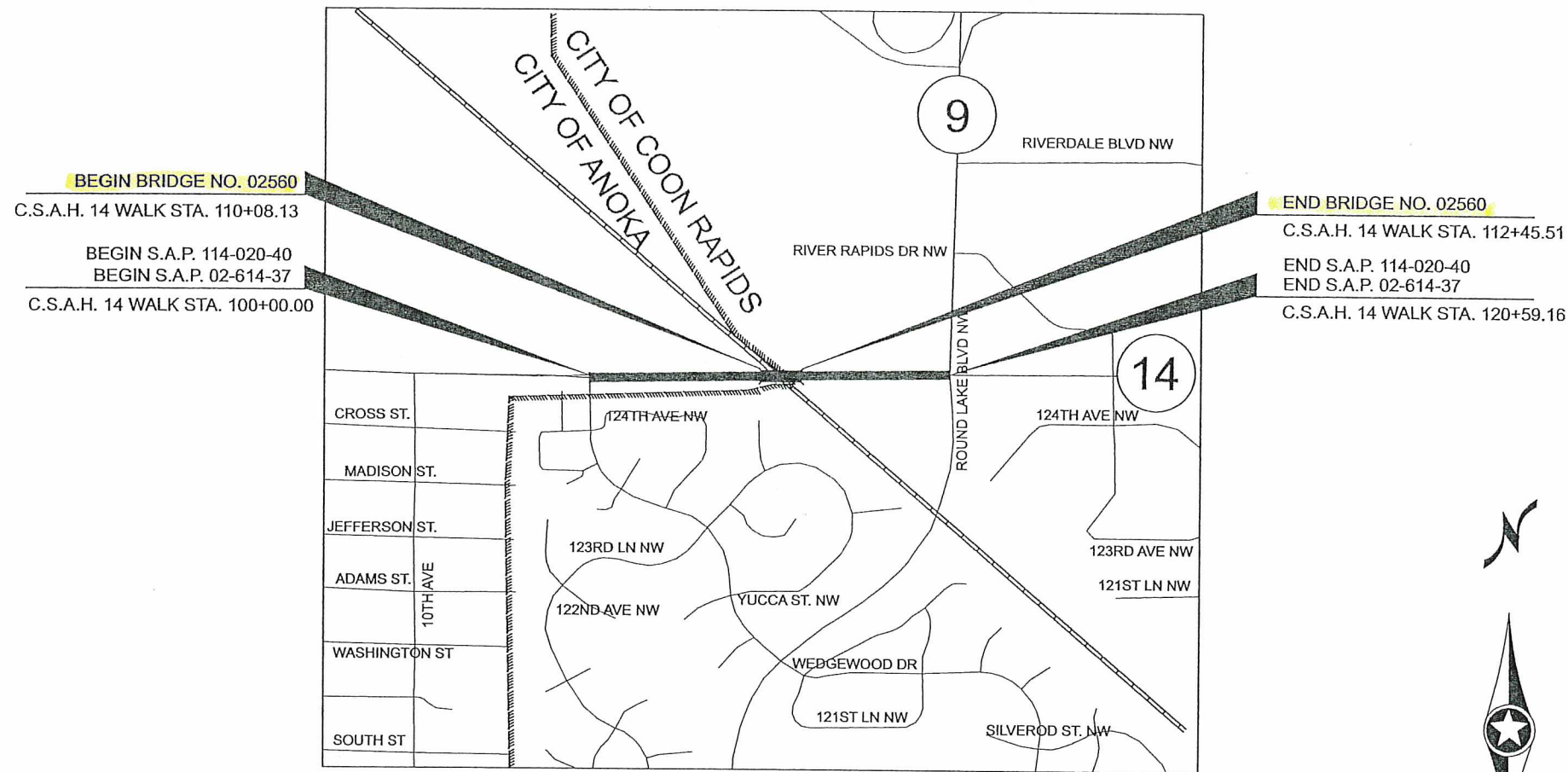
ANOKA COUNTY

CONSTRUCTION PLAN FOR _____ GRADING, AGG.BASE, CONCRETE WALK SURFACING
 LOCATED ON C.S.A.H. 14 BETWEEN WEDGEWOOD DRIVE AND ROUND LAKE BOULEVARD

STATE AID PROJECT NO. 02-614-37

C.S.A.H. 14

GROSS LENGTH	2059.16 FEET	0.390 MILES
BRIDGES-LENGTH	269.54 FEET	0.051 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	2059.16 FEET	0.390 MILES



BEGIN BRIDGE NO. 02560

C.S.A.H. 14 WALK STA. 110+08.13

BEGIN S.A.P. 114-020-40

BEGIN S.A.P. 02-614-37

C.S.A.H. 14 WALK STA. 100+00.00

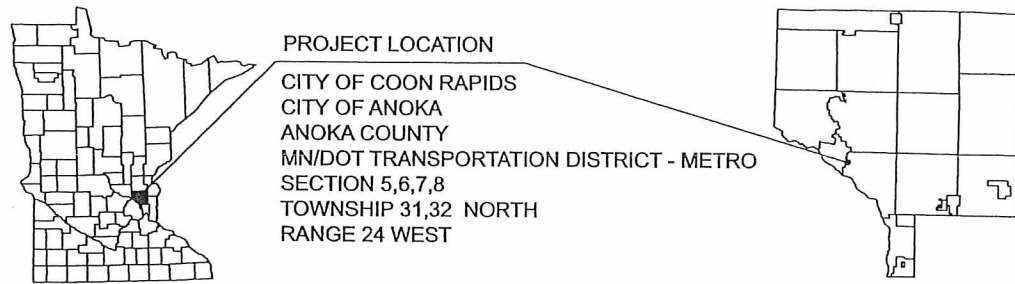
END BRIDGE NO. 02560

C.S.A.H. 14 WALK STA. 112+45.51

END S.A.P. 114-020-40

END S.A.P. 02-614-37

C.S.A.H. 14 WALK STA. 120+59.16



PROJECT LOCATION
 CITY OF COON RAPIDS
 CITY OF ANOKA
 ANOKA COUNTY
 MN/DOT TRANSPORTATION DISTRICT - METRO
 SECTION 5,6,7,8
 TOWNSHIP 31,32 NORTH
 RANGE 24 WEST

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PAR VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	SOILS & CONSTRUCTION NOTES
4	UTILITY TABS, UTILITY & REMOVAL NOTES
5	TABULATIONS
6	EARTHWORK SUMMARY
7 - 11	TEMPORARY TRAFFIC CONTROL PLAN
12 - 13	INPLACE UTILITIES & REMOVAL PLAN
14	TYPICAL SECTIONS
15	EXISTING BRIDGE PLAN
16 - 19	MISCELLANEOUS DETAILS
20	ALIGNMENT PLAN AND TAB
21 - 24	CONSTRUCTION PLAN
25 - 29	SIGNING & STRIPING PLAN, TAB, & DETAILS
30 - 31	STORM WATER POLLUTION PREVENTION PLAN
32 - 36	EROSION CONTROL PLAN AND DETAILS
37 - 45	CROSS SECTIONS
1 - 6	BRIDGE PLANS

THIS PLAN CONTAINS 51 SHEETS

DESIGN DESIGNATION

CSAH 14

Functional Classification	A MINOR EXPANDER
No. of Traffic Lanes	<u>4</u> No. of Parking Lanes <u>0</u>
ADT (2010) =	17,686
Proj. ADT (2030) =	28,298
Proj. HCADT (2030) =	1,553
Soil Factor	NA

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CIASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

Approved 12/10/2010
 ANOKA COUNTY ENGINEER

Approved 12/14/2010
 CITY OF COON RAPIDS

RECOMMENDED FOR APPROVAL Duane R. Hill 12/29/2010
 STATE BRIDGE ENGINEER

REVIEWED FOR COMPLIANCE WITH STATE AND FEDERAL AID RULES/POLICY D. E. Embury 12/22/2010
 DISTRICT STATE AID ENGINEER

Approved for State Funding D. E. Embury 12/22/2010
 STATE AID 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.
 PRINT NAME: CURT A. KOBILARSIK
 SIGNATURE:
 DATE: 12-9-10 LICENSE NO. 24756

DRAWN BY NJD DATE 8-18-10
 DESIGN BY NJD DATE 5-28-10
 CHECKED BY JED DATE 11-29-10



ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT NO. 02-614-37
 COON RAPIDS CITY NO. 06-48
 MN STATE PROJECT NO. 114-020-40

TITLE SHEET

Sheet 1 of 51 Sheets

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\14_PED\PLAN\14_PED_TSH.DGN 12/09/2010 10:59:54 AM

TAB / NOTE	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED	SAP 02-614-37 ANOKA COUNTY	SAP 114-020-40 CITY OF COON RAPIDS
					ROADWAY QUANTITIES ESTIMATED	ROADWAY QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1	0.12	0.88
J	2102.502	PERMANENT PAVEMENT MARKING REMOVAL	LIN FT	778		
B	2104.501	REMOVE CURB AND GUTTER	LIN FT	484		484
B	2104.501	REMOVE GUARD RAIL	LIN FT	225	225	
B	2104.503	REMOVE BITUMINOUS PAVEMENT	SQ FT	1041		1041
B	2104.505	REMOVE CONCRETE SLAB	SQ YD	23		23
B	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	385		385
C	2104.523	SALVAGE SIGN TYPE C	EACH	14	14	
1	2104.601	HAUL SALVAGED MATERIAL	LUMP SUM	1	1	
A	2105.501	COMMON EXCAVATION (EV)(P)	CU YD	995		995
A	2105.523	COMMON BORROW (LV)	CU YD	639		639
G	2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (3,F)	TON	25		25
E	2411.507	CONCRETE FLUME	EACH	2		2
H	2511.501	RANDOM RIPRAP CLASS II	CU YD	16		16
H	2511.515	GEOTEXTILE FILTER TYPE III	SQ YD	37		37
E	2521.501	4" CONCRETE WALK	SQ FT	8668		8668
E	2521.501	4" CONCRETE WALK SPECIAL	SQ FT	345		345
E	2531.501	CONCRETE CURB AND GUTTER DESIGN B412	LIN FT	387		387
F	2531.618	TRUNCATED DOMES	SQ FT	32		32
E	2531.618	PEDESTRIAN CURB RAMP	SQ FT	249		249
K, 2	2533.507	PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337	LIN FT	575		575
	2545.602	ADJUST HANDHOLE	EACH	2		2
3	2550.602	RELOCATE SIGN	EACH	1		1
K	2554.501	TRAFFIC BARRIER DESIGN SPECIAL	LIN FT	50	50	
K	2554.501	TRAFFIC BARRIER DESIGN B8338	LIN FT	130	130	
K	2554.602	IMPACT ATTENUATOR BARRELS	EACH	22		22
K	2554.615	IMPACT ATTENUATOR	ASSEMBLY	2	2	
D	2557.501	WIRE FENCE DESIGN 60V-9322	LIN FT	1599		1599
	2563.601	TRAFFIC CONTROL	LUMP SUM	1		1
I	2564.531	SIGN PANELS TYPE C	SQ FT	64.9	64.9	
H	2573.502	SILT FENCE TYPE MACHINE SLICED	LIN FT	1826		1826
H	2573.530	STORM DRAIN INLET PROTECTION	EACH	6		6
H	2575.501	SEEDING	ACRE	1.06		1.06
H	2575.502	SEED MIXTURE 240	POUND	80		80
H	2575.505	SODDING TYPE SALT RESISTANT	SQ YD	1219		1219
H	2575.523	EROSION CONTROL BLANKETS CATEGORY 3	SQ YD	5149		5149
H	2575.532	FERTILIZER TYPE 3	POUND	524		524
H	2575.571	RAPID STABILIZATION METHOD 3	MGAL	6.6		6.6
J	2582.502	4" SOLID LINE WHITE - EPOXY	LIN FT	5477	5477	
J	2582.502	4" BROKEN LINE WHITE-EPOXY	LIN FT	840	840	
J	2582.502	4" SOLID LINE YELLOW-EPOXY	LIN FT	4143	4143	

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

STANDARD PLATES

PLATE NO.	DESCRIPTION
7020J	CONCRETE CURB AND GUTTER (2 SHEETS)
7036F	PEDESTRIAN CURB RAMP (2 SHEETS)
8000I	STANDARD BARRICADES
8337B	TEMPORARY PORTABLE PRECAST CONCRETE BARRIER (TYPE F) (2 SHEETS)
8338C	W-BEAM GUARDRAIL & END ANCHORAGES (2 SHEETS)
9322K	CHAIN LINK FENCE (2 SHEETS)

BASIS OF QUANTITIES

SPEC NO	DESCRIPTION	RATE
2360.521	TYPE SP 12.5 MIXTURE (3,F)	115 LBS / SQ YD / IN
2575.502	SEED MIXTURE 240	75 LBS / ACRE
2575.571	RAPID STABILIZATION METHOD 3	6 M GALLONS / ACRE
2575.531	FERTILIZER TYPE 3	400 LBS / ACRE

INDEX OF TABULATION CHARTS

TAB.	DESCRIPTION	SHEET NO.
A	EARTHWORK SUMMARY	6
B	REMOVALS & SAWING	5
C	SALVAGE SIGNS	26
D	CHAIN LINK FENCE	5
E	CONCRETE SUMMARY	5
F	TRUNCATED DOMES	5
G	BITUMINOUS SUMMARY	5
H	TURF ESTABLISHMENT AND EROSION CONTROL	5
I	SIGN PANELS TYPE C	26
J	STRIPING SUMMARY	26
K	TRAFFIC BARRIER	5
AA	PRIVATE UTILITY OWNERS	4
BB	ANOKA COUNTY- INTERCONNECT	4
CC	ANOKA - POWER LINE	4
DD	CONNEXUS ENERGY	4
EE	QWEST	4

12-28-10	NJD	NJD	CAK	UPDATED ESTIMATED QUANTITY COLUMNS
NO	DATE	BY	CKD	APPR
NAME: PA14_PEDPlan14_PED_SEQ1.dgn	12/28/2010			11:36:30 AM

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.
 PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarsik*
 DATE: 12-28-10 LICENSE NO. 24766

DRAWN BY NJD DATE 8-19-10
 DESIGN BY NJD DATE 5-26-10
 CHECKED BY JEO DATE 11-29-10



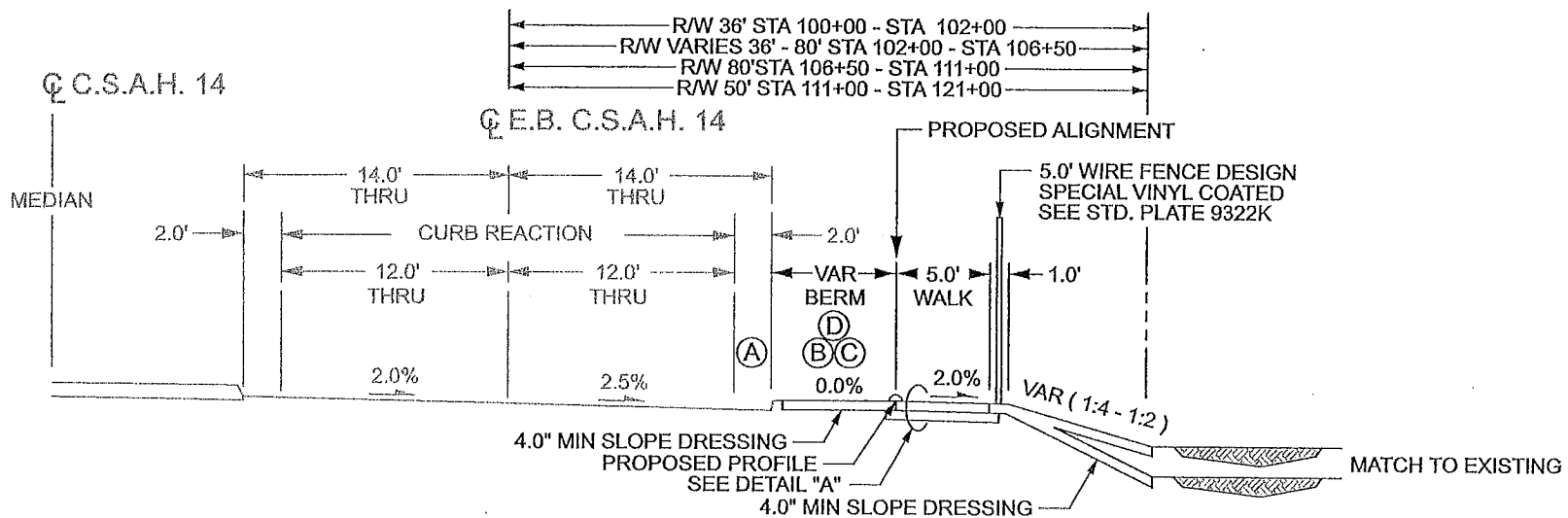
ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT NO. 02-614-37
 COON RAPIDS CITY NO. 06-48
 MN STATE PROJECT NO. 114-020-40

STATEMENT OF ESTIMATED QUANTITIES

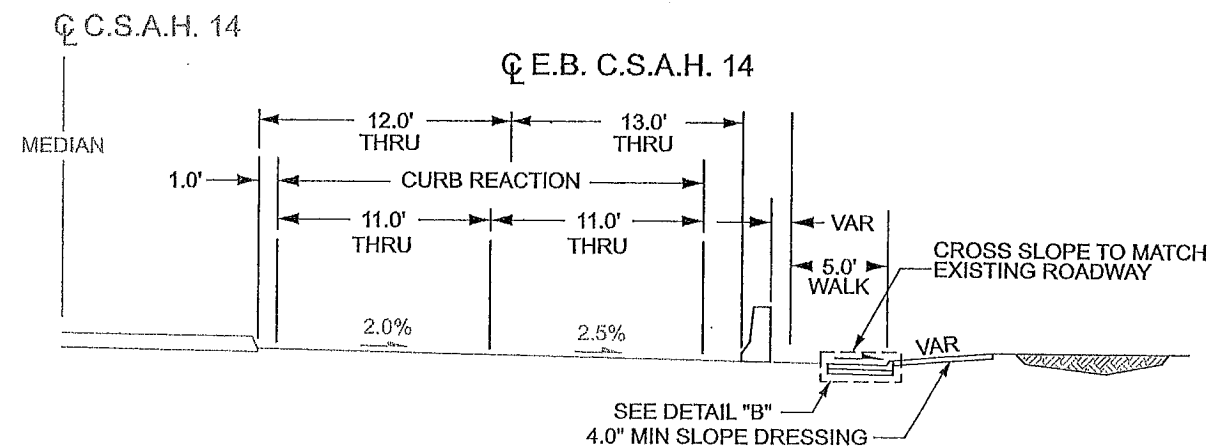
PROPOSED SIDEWALK

STA. 100+00.00 TO STA 109+70.63
 STA. 113+06.59 TO STA 120+59.16



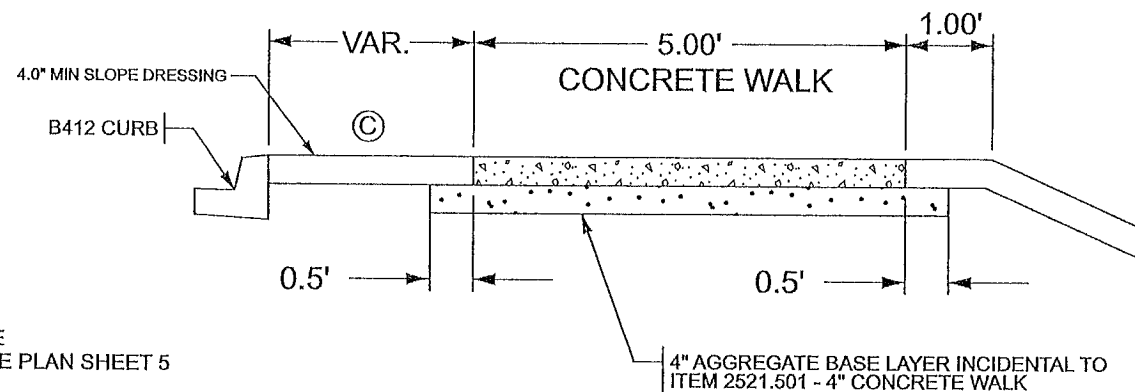
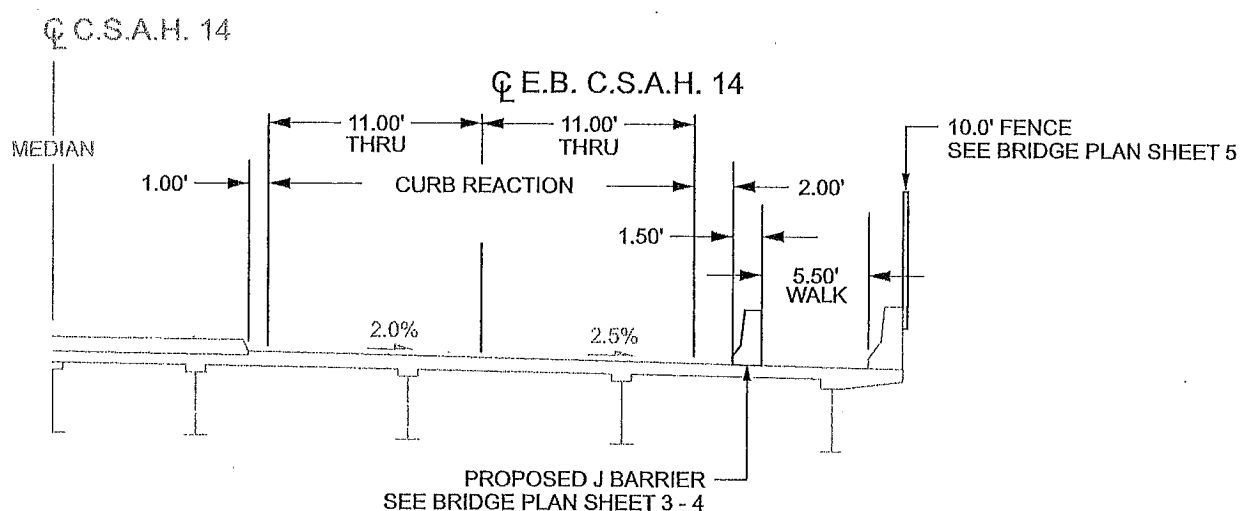
PROPOSED BRIDGE APPROACH

STA. 109+70.63 TO STA 110+08.46
 STA. 112+56.97 TO STA 113+06.59



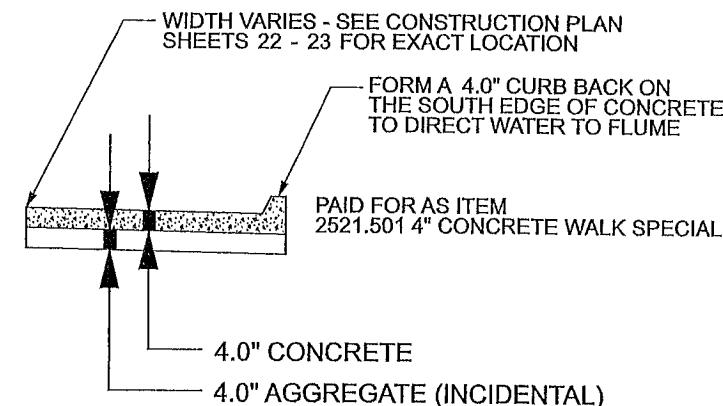
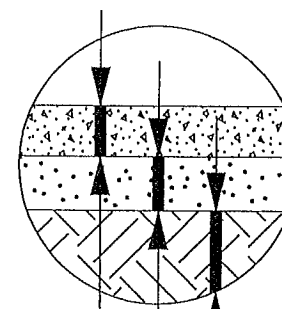
PROPOSED BRIDGE SECTION

STA. 110+08.46 TO STA 112+56.97



DETAIL "A"
 CONCRETE WALK

DETAIL "B"
 CONCRETE WALK SPECIAL



4.0" CONCRETE
 4.0" AGGREGATE (INCIDENTAL)
 SUITABLE GRADING

- (A) B412 CURB STA. 108+50.43 TO STA. 109+75.53 AND STA. 112+75.08 TO STA. 115+36.39
- (B) PROPOSED GUARD RAIL STA. 108+35.53 TO STA 109+75.53 AND STA. 112+75.12 TO STA. 113+75.12
- (C) SOD TYPE SALT RESISTANT
- (D) BERM WIDTH APPROX. 6' WIDE VARIES FROM STA. 108+38.36 TO STA 114+57.66

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.
 PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt A. Kobilarsik*
 DATE: 12-9-10 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-19-10
 DESIGN BY: NJD DATE: 5-28-10
 CHECKED BY: JEO DATE: 11-29-10

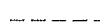




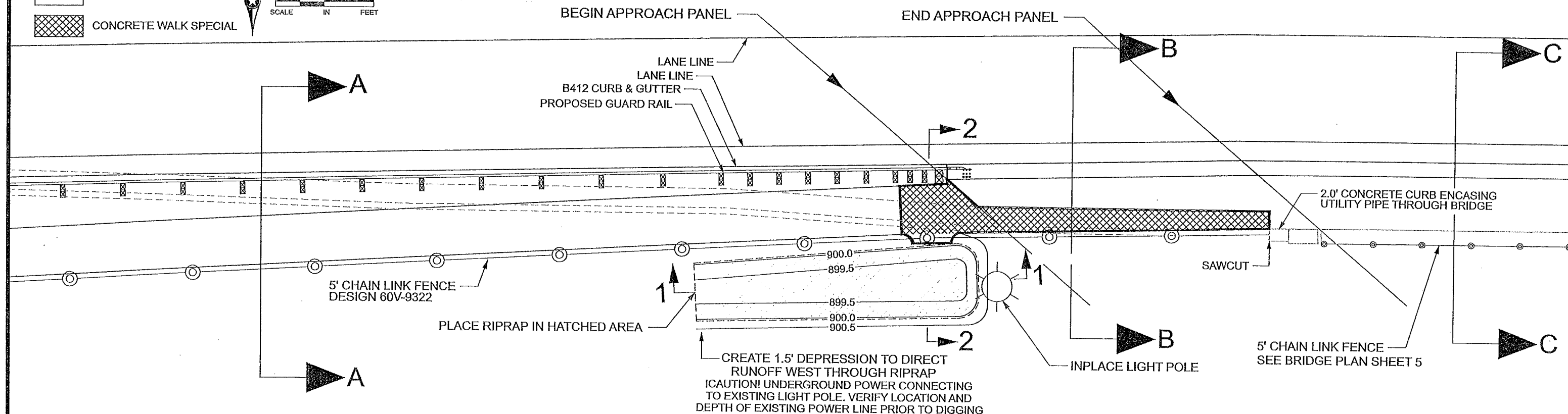
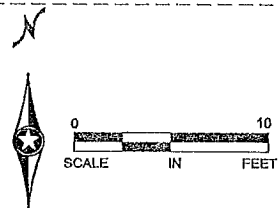
ANOKA COUNTY
 HIGHWAY DEPT.

STATE AID PROJECT NO. 02-614-37
 COON RAPIDS CITY NO. 06-48
 MN STATE PROJECT NO. 114-020-40

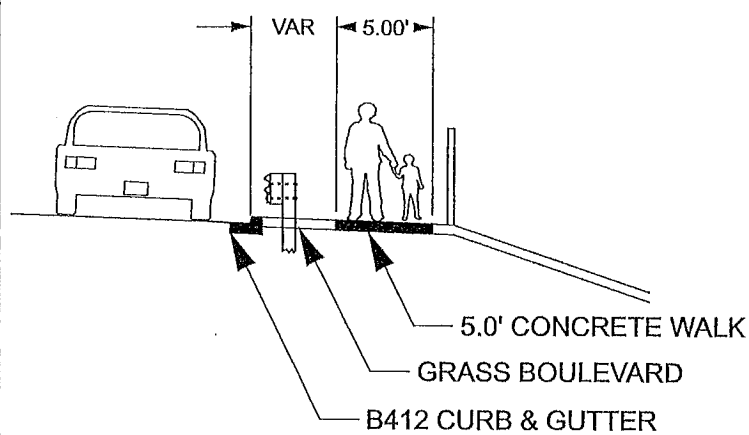
TYPICAL SECTIONS

LEGEND

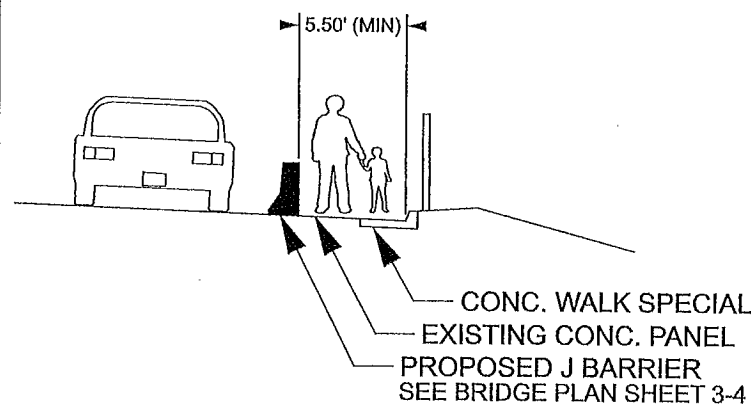
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-  CONCRETE WALK
-  CONCRETE WALK SPECIAL



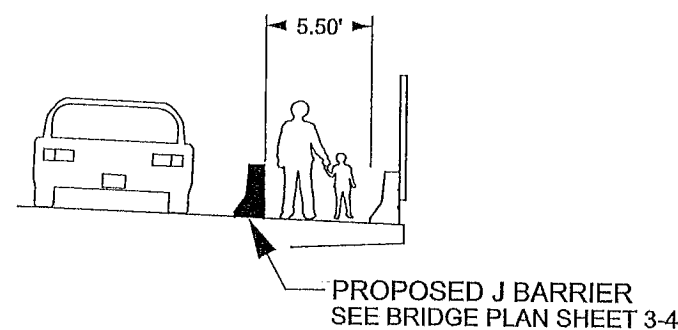
SECTION A-A



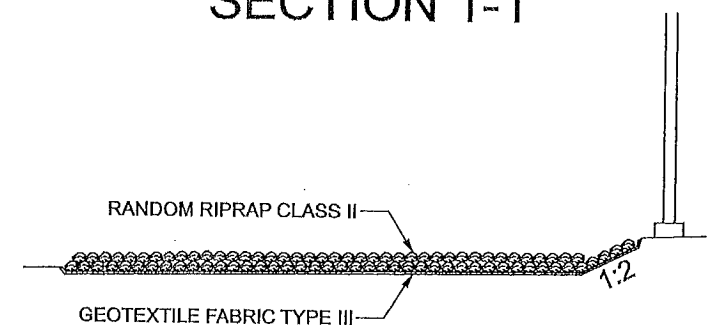
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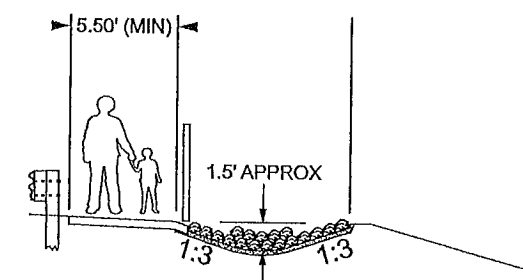
SECTION C-C



SECTION 1-1



SECTION 2-2



1 OF 2

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.
 PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt A. Kobilarsik*
 DATE: 12-9-10 LICENSE NO. 24756

DRAWN BY: NJD DATE: 9-7-10
 DESIGN BY: NJD DATE: 9-7-10
 CHECKED BY: JEO DATE: 11-29-10



**ANOKA COUNTY
 HIGHWAY DEPT.**

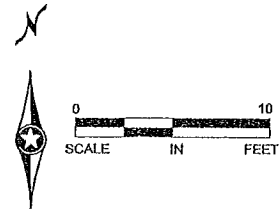
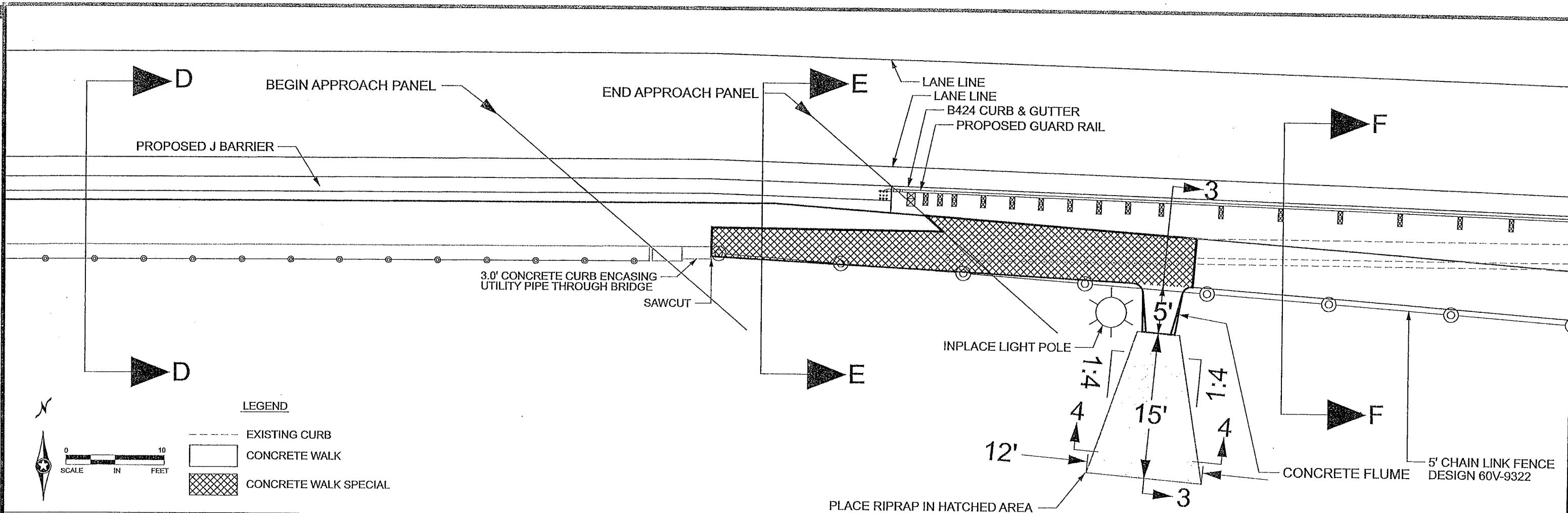
STATE PROJECT NO. 02-614-37
 STATE AID PROJECT NO. 06-48
 CITY PROJECT NO. 114-020-40
 COUNTY PROJECT NO.

APPROACH DETAIL

Sheet 16 of 51 Sheets

NO	DATE	BY	CKD	APPR	REVISION

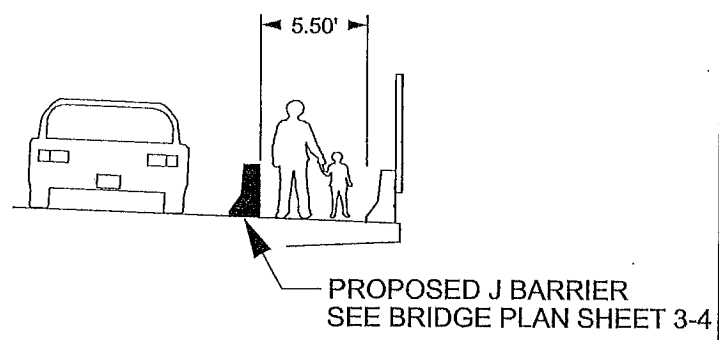
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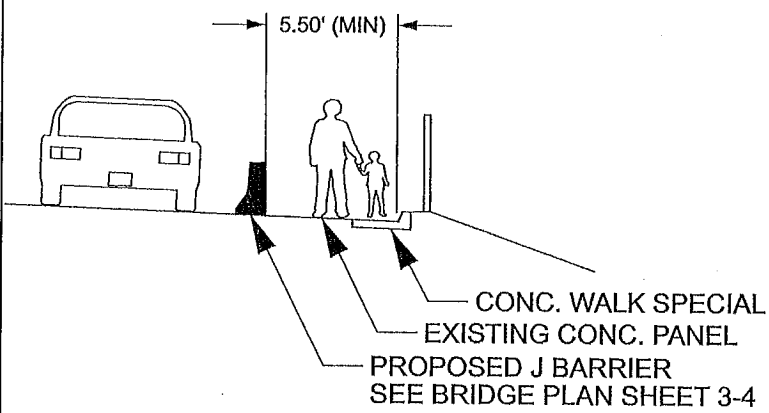
LEGEND

	EXISTING CURB
	CONCRETE WALK
	CONCRETE WALK SPECIAL

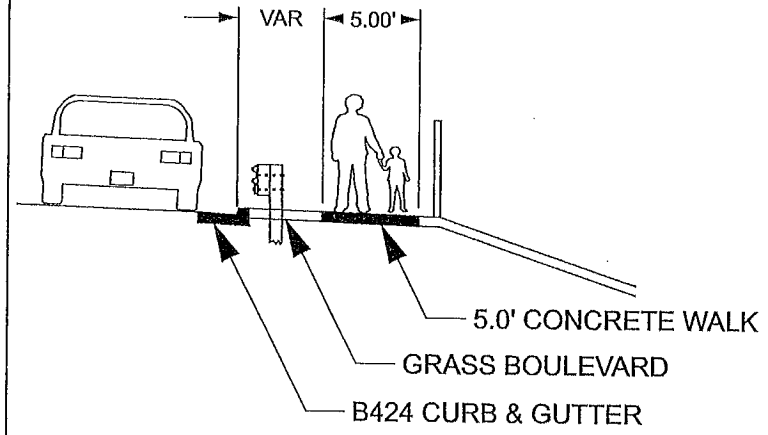
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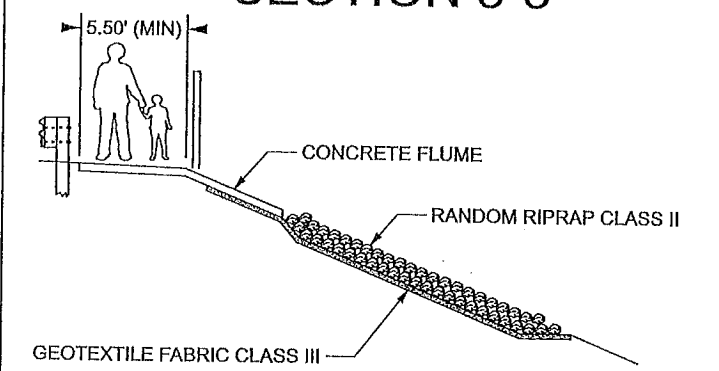
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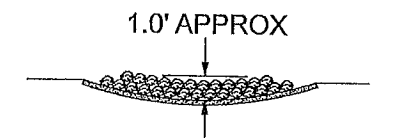
SECTION F-F



SECTION 3-3



SECTION 4-4



NO	DATE	BY	CHKD	APPR	REVISION

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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.
 PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 12-9-10 LICENSE NO. 24758

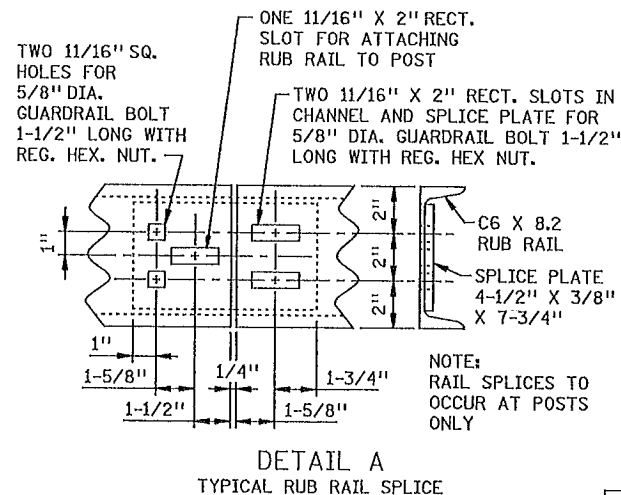
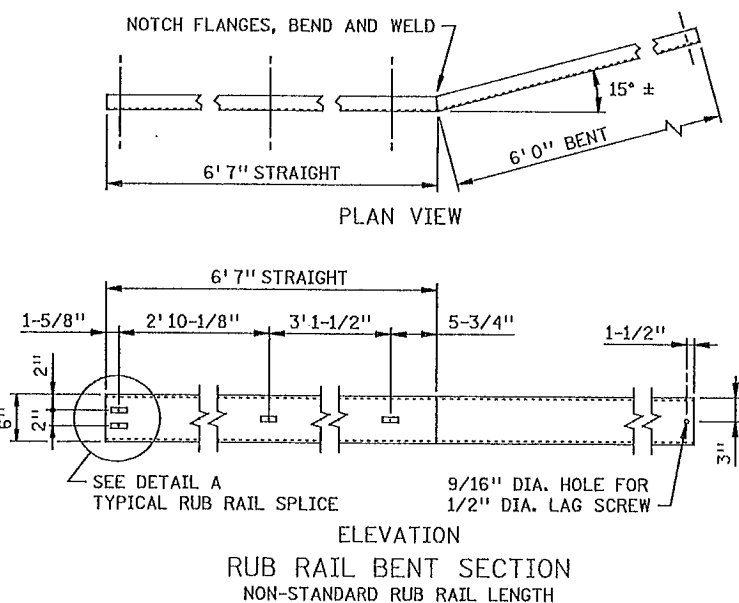
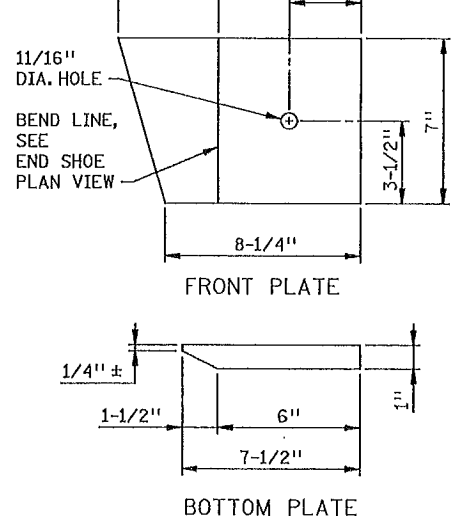
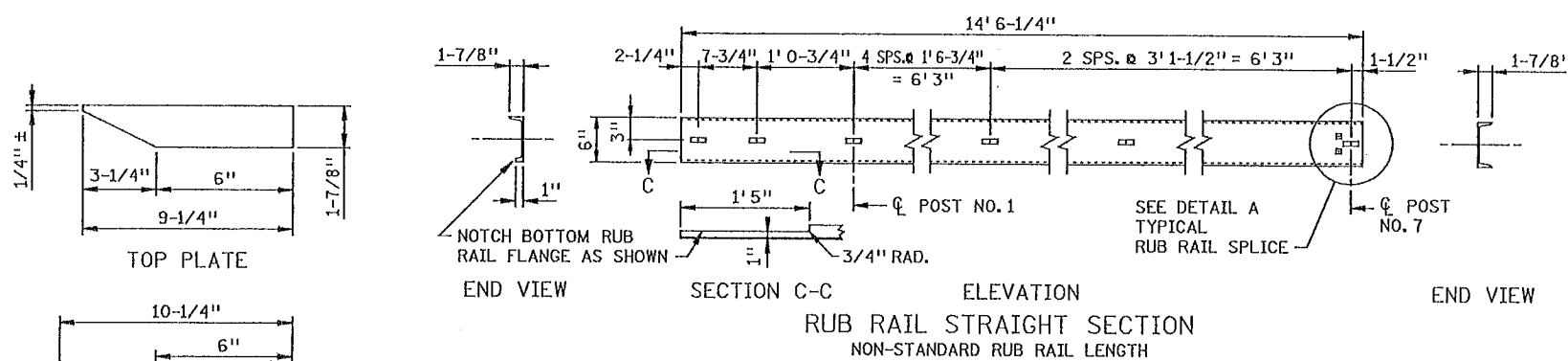
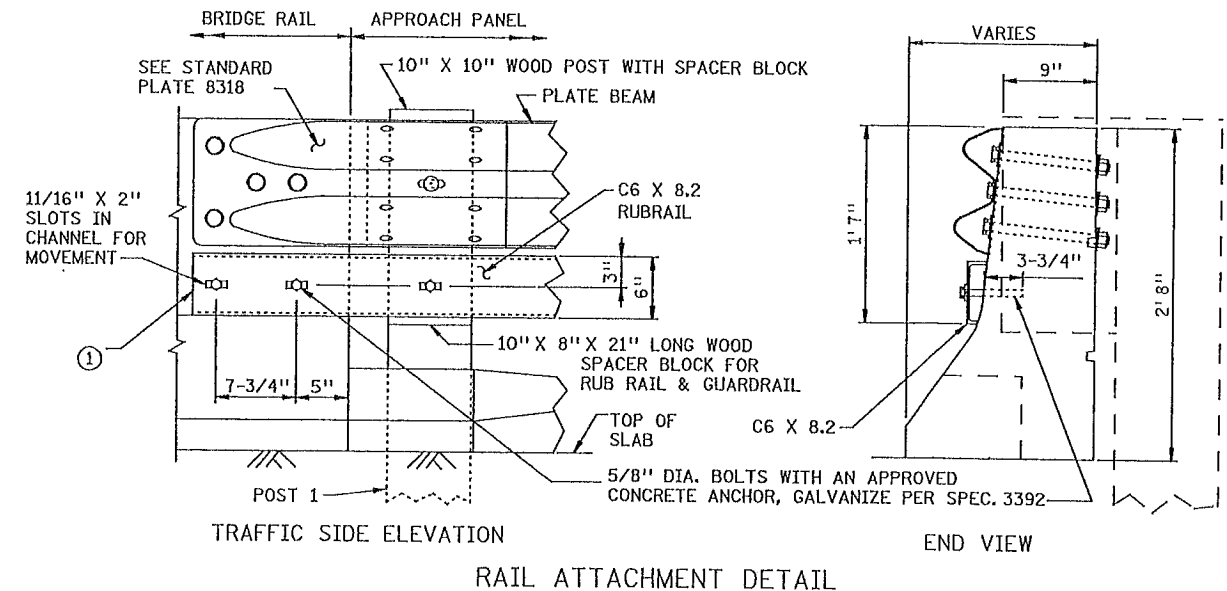
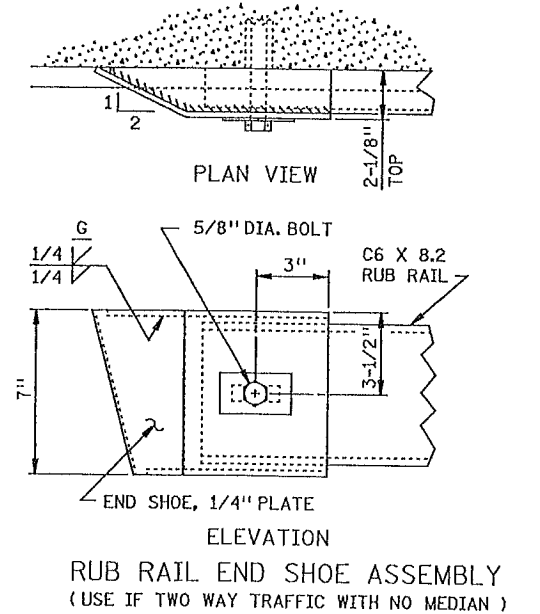
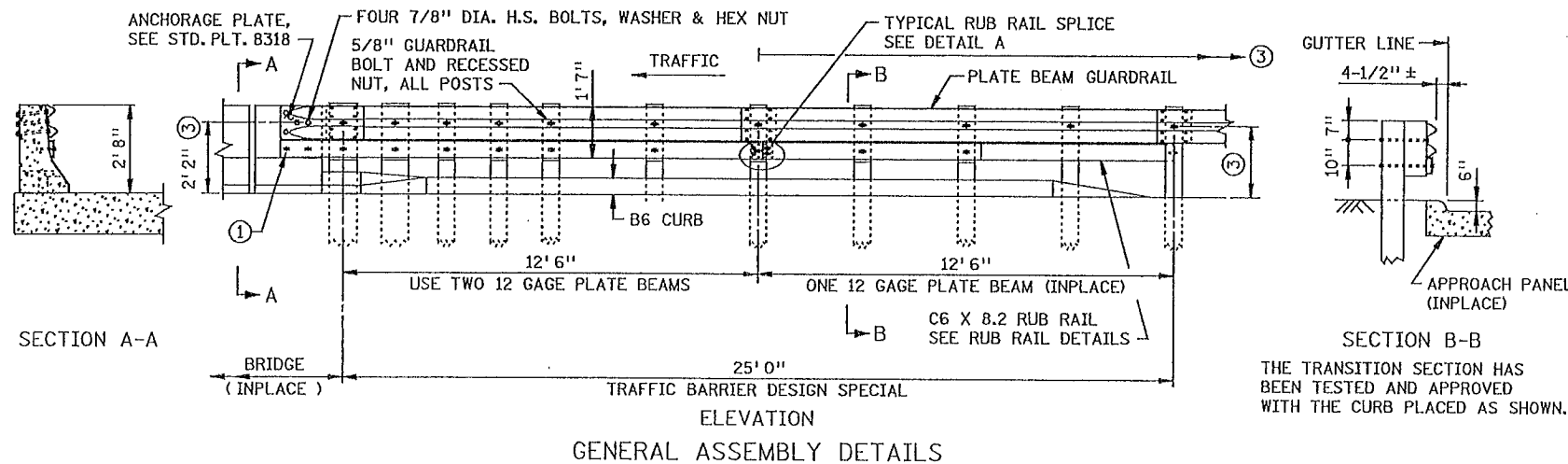
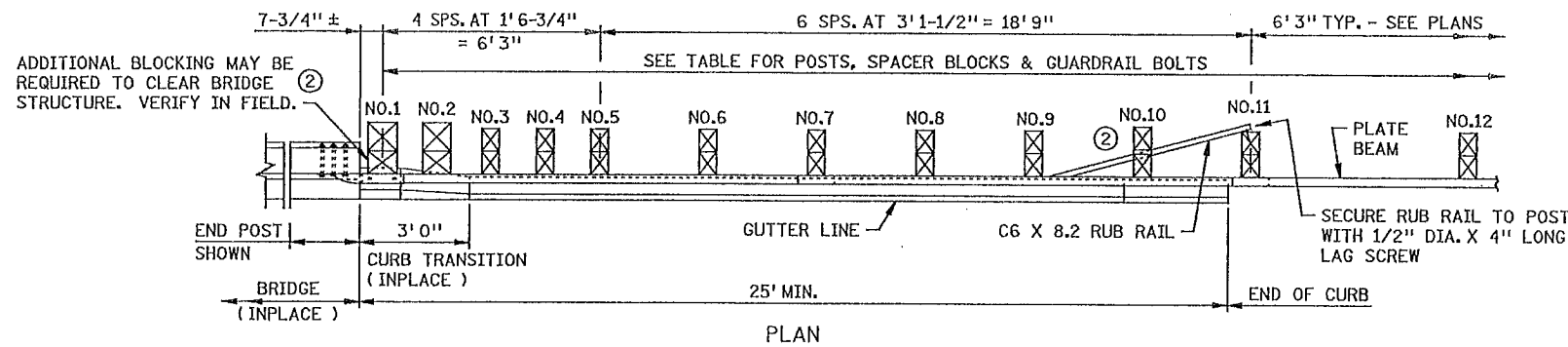
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**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. 02-614-37
 STATE AID PROJECT NO. 06-48
 CITY PROJECT NO. 114-020-40
 COUNTY PROJECT NO. _____

PLOTTED/REVISED:
12/01/2010



NOTES:

- STRUCTURAL STEEL TO BE 3306, EXCEPT AS NOTED.
- ALL SLOTTED HOLES ARE 11/16" X 2".
- ALL SQUARE HOLES ARE 11/16".
- RUB RAIL IS C6 X 8.2
- GALVANIZE STRUCTURAL SHAPES PER SPEC. 3394 AFTER FABRICATION, EXCEPT AS NOTED.
- MATERIALS AND CONSTRUCTION PER SPEC. 2554, EXCEPT AS NOTED.
- GALVANIZE ALL HARDWARE PER SPEC. 3392.

POST, SPACER BLOCK & BOLT TABLE

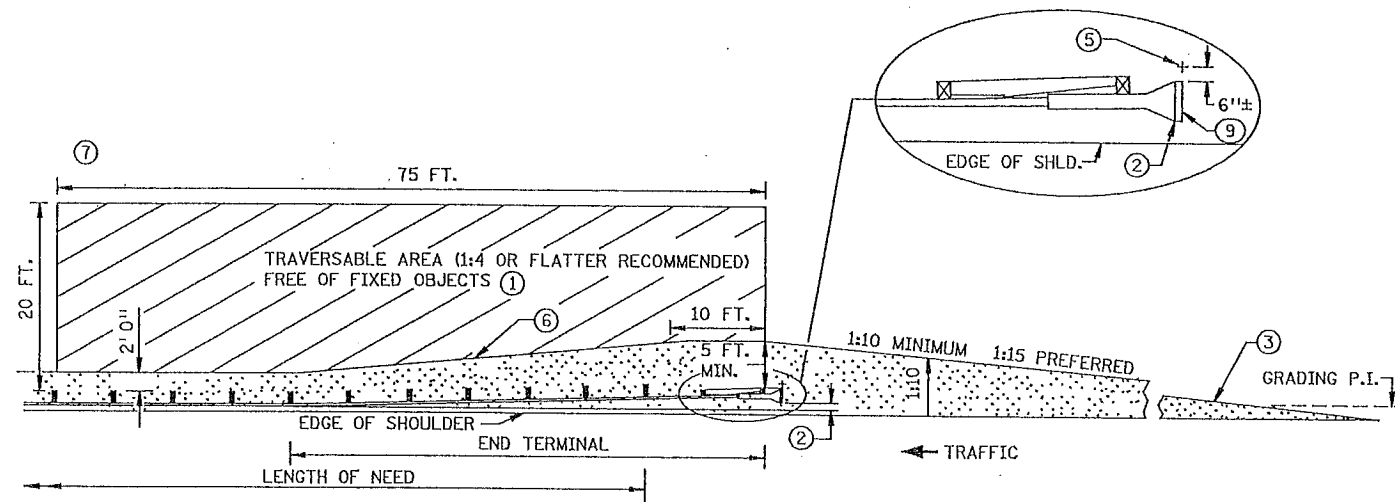
DESCRIPTION	POST NO.	SIZE
POST	1 & 2	10" X 10" X 8' 0" MIN. LONG
	3 - 5	6" X 8" X 7' 0" MIN. LONG
	6 - 12	6" X 8" X 6' 0" MIN. LONG
SPACER BLOCK	1 - 2	10" X 8" X 21"
	3 - 9	6" X 8" X 21"
	10 - 12	6" X 8" X 14"
GUARDRAIL BOLT & RECESSED NUT	1 - 2	5/8" DIA. X 20" - GUARDRAIL
	3 - 12	5/8" DIA. X 18" - GUARDRAIL
	1 - 2	5/8" DIA. X 22" - RUB RAIL
	3 - 9	5/8" DIA. X 20" - RUB RAIL

- ① END SHOE REQUIRED IF TWO WAY TRAFFIC AND NO MEDIAN.
- ② ADDITIONAL BLOCKING MAY BE REQUIRED AT POST NO. 1 OR 10.
- ③ HEIGHT IS 2'2" FROM 0' TO 12'6" FROM BRIDGE. HEIGHT TAPERS FROM 2'2" TO 1'9" BETWEEN 12'6" TO 37'6" FROM BRIDGE.

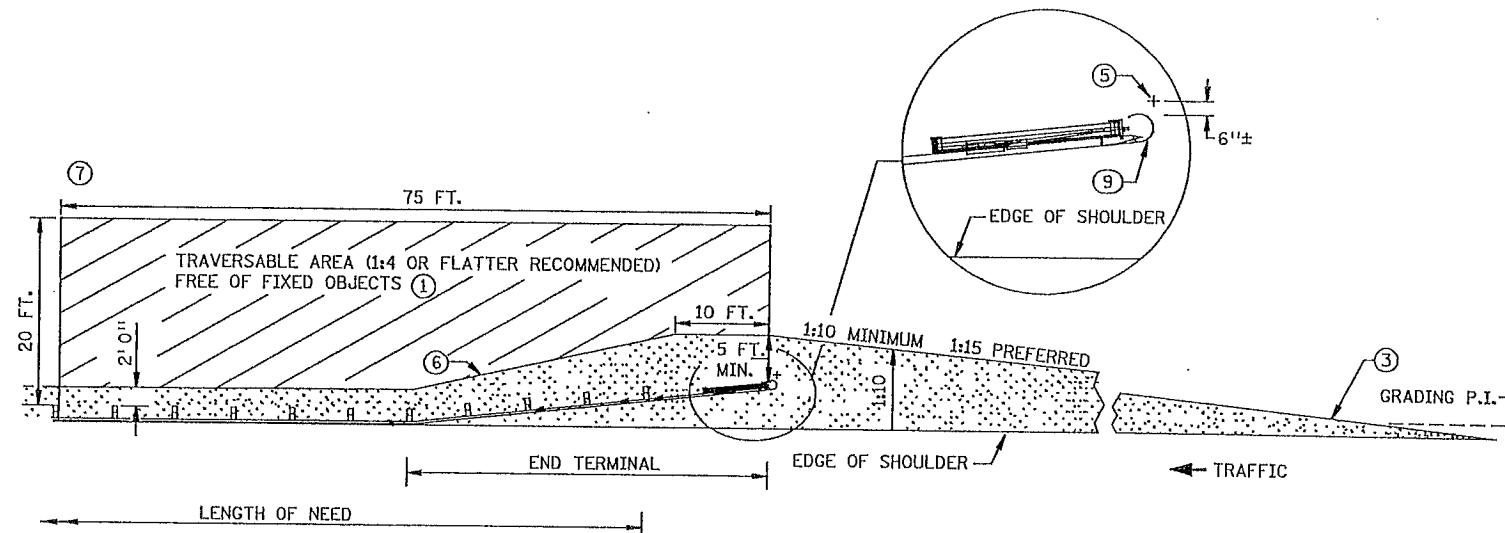
TRAFFIC BARRIER DESIGN SPECIAL

STANDARD SHEET NO. 5-297.607	TITLE NEW W-BEAM TRANSITION TO CONCRETE J-SHAPE SAFETY RAIL WITH APPROACH CURB (WOOD POST)
STANDARD APPROVED: DECEMBER 20, 2001	
REVISION DATE 2-12-03	STATE AID PROJECT NO. 02-614-37 SHEET NO. 18 OF 51 SHEETS

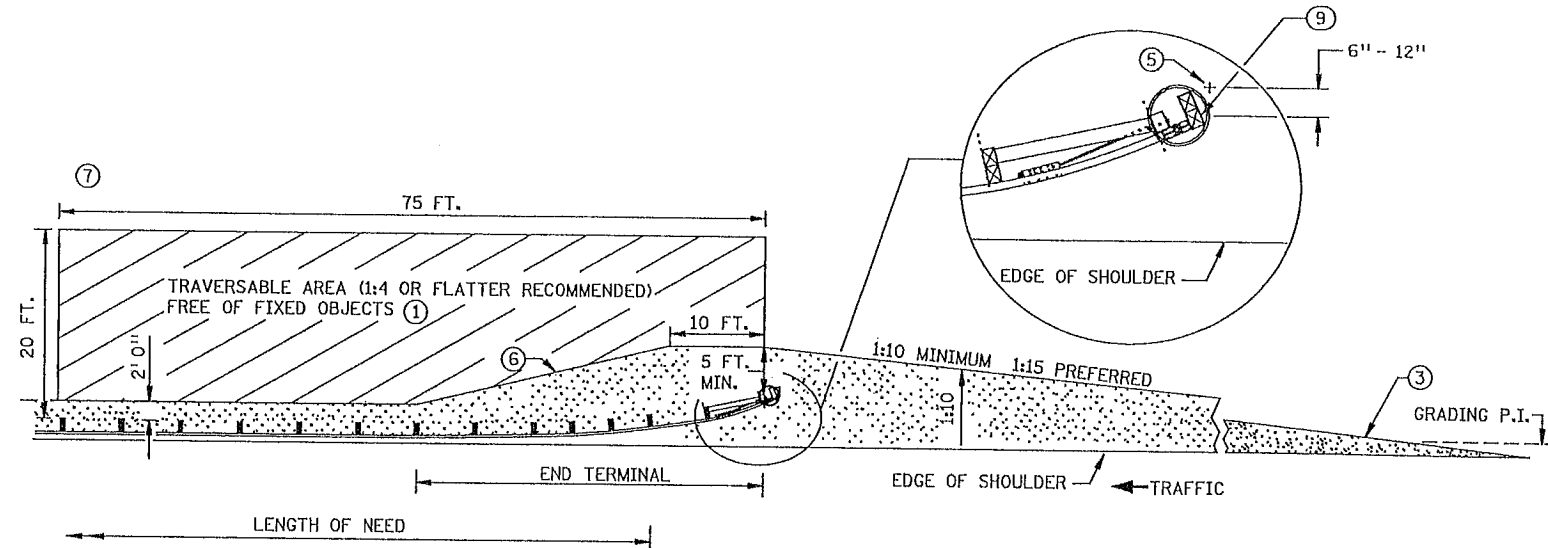
FILE NAME:
@DGN\$



PLAN VIEW
(PROPRIETARY TANGENT TERMINAL SHOWN AS EXAMPLE)



PLAN VIEW ⑧
(PROPRIETARY FLARED TERMINAL SHOWN AS EXAMPLE)



PLAN VIEW ④ ⑧
(ELT)

NOTES:

- ALL CROSS SLOPES ARE IN FOOT/FOOT UNLESS OTHERWISE NOTED.
- ALL GUARDRAIL POSTS SHALL BE 6 FT. 3 IN. CENTER TO CENTER (DESIGN B), EXCEPT WHERE NOTED.
- CHANGES (TO SUBJECTS COVERED BY THIS SHEET) INDICATED IN THE PLANS OR ON PLATES WITH MORE RECENT APPROVAL DATES SHALL APPLY.
- GRADING AND DRAINAGE HARDWARE ARE NOT INCIDENTAL TO GUARDRAIL INSTALLATION.
- ① SLOPES BETWEEN 1:3 AND 1:4 PERMITTED WHEN 1:4 OR FLATTER IS NOT POSSIBLE. FOR SLOPES STEEPER THAN 1:3 THE AREA IMMEDIATELY BEHIND AND BEYOND THE END TERMINAL SHOULD, AT LEAST, BE SIMILAR IN CROSS SECTION TO THE UNSHIELDED ROADSIDE AREA UPSTREAM OF THE END TERMINAL.
- ② THE LAST 50 FT. OF TANGENT TERMINALS CAN BE FLARED AT 1:50 TAPER.
- ③ WHEN GRADING PLATFORMS ARE BUILT, THEY MUST BE SMOOTHLY TRANSITIONED TO EXISTING SIDE SLOPE SO THE ENTIRE ROADSIDE APPROACH TO THE BARRIER REMAINS TRAVERSABLE, AS WELL AS THE AREA IMMEDIATELY BEHIND IT.

- ④ SEE STANDARD PLATE 8329.
- ⑤ SNOWPLOW MARKER (X4-5) WITH A 2 LB./FT. DELINEATOR POST 8 FT. LONG (SPEC. 3401) DRIVEN INTO THE GROUND. EXTEND 3 FT. ABOVE TERMINAL. THE MARKER IS INCIDENTAL FOR WHICH NO DIRECT PAYMENT WILL BE MADE. MARK BOTH THE BEGINNING AND END OF PLATE BEAM GUARDRAIL INSTALLATION.
- ⑥ 1:10 OR FLATTER SLOPE P.I..
- ⑦ GRADUALLY BLEND SLOPE FROM TRAVERSABLE AREA TO STEEP EXISTING SLOPE (WHEN SLOPE IS STEEPER THAN 1:6).
- ⑧ IF THE TERRAIN BEYOND THE TERMINAL END AND IMMEDIATELY BEHIND THE BARRIER IS NOT SAFELY TRAVERSABLE, A TANGENT (ENERGY- ABSORBING) TERMINAL SHALL BE USED.

- ⑨ MARK THE APPROACH END OF PLATE BEAM GUARDRAIL INSTALLATIONS WITH A STRIPED OBJECT MARKER SIZED TO FIT THE END TERMINAL, HAVING ALTERNATING BLACK AND REFLECTIVE YELLOW (WIDE ANGLE PRISMATIC RETROREFLECTIVE SHEETING). STRIPES SHALL SLOPE DOWNWARD AT A 45 DEGREE ANGLE TOWARD THE SIDE ON WHICH TRAFFIC PASSES. FOR FLAT END TREATMENTS THE OBJECT MARKER SHALL FIT INSIDE THE RECESSED AREA. FOR ROUNDED END TREATMENTS THE OBJECT MARKER SHALL WRAP AROUND THE CIRCULAR END AND BE MOUNTED SO THE TOP OF THE OBJECT MARKER LINES UP WITH THE TOP OF THE END TREATMENT.

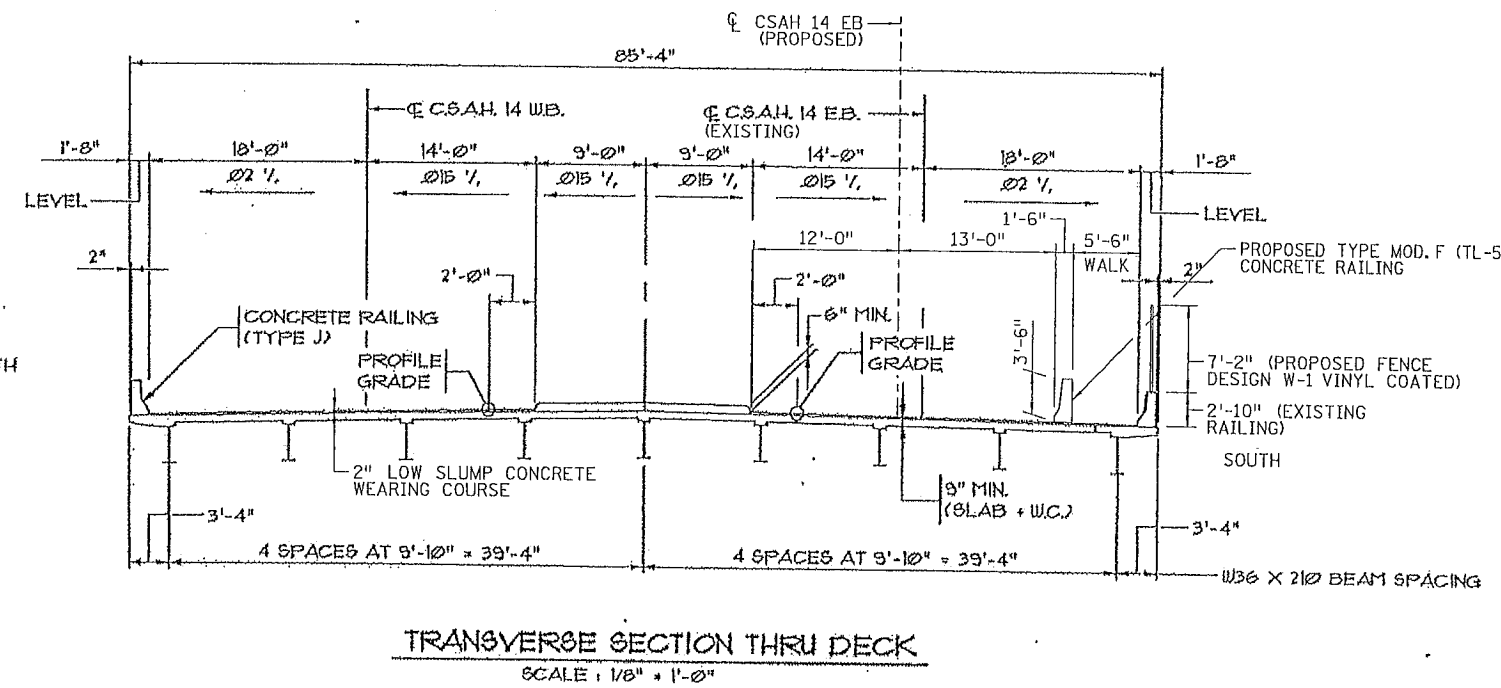
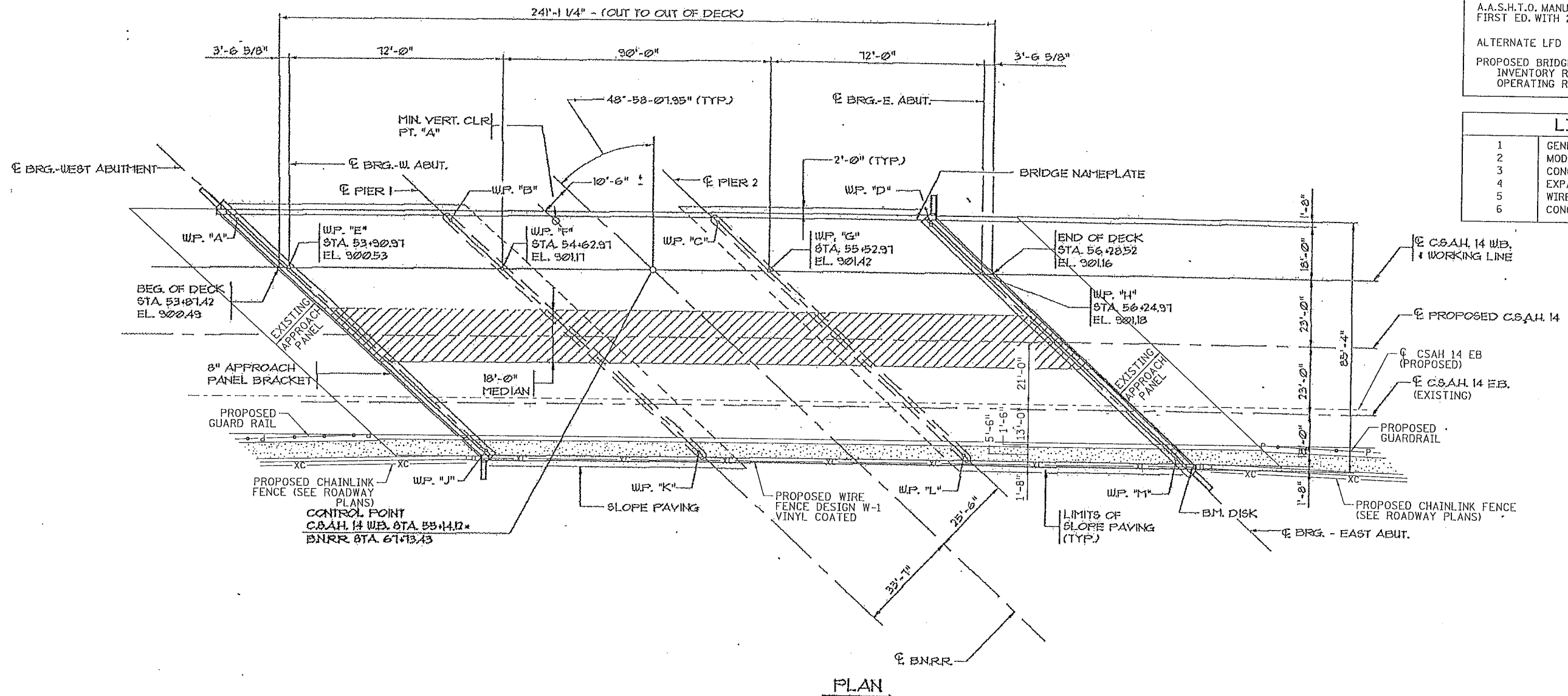
STANDARD SHEET NO. 5-297.601 (3 OF 3)	TITLE: GUARDRAIL INSTALLATIONS AT MEDIANS & END TREATMENTS (FOR NEW CONSTRUCTION AND RETROFITS WITHOUT SITE RESTRICTIONS)
STANDARD APPROVED: AUGUST 17, 2005	
STATE AID PROJECT NO. 02-614-37 SHEET NO. 19 OF 51 SHEETS	

RATING DATA

A.A.S.H.T.O. MANUAL FOR BRIDGE EVALUATION,
FIRST ED. WITH 2010 INTERIM REVISIONS.
ALTERNATE LFD METHOD
PROPOSED BRIDGE RATING:
INVENTORY RATING HS24.6
OPERATING RATING HS41.1

LIST OF SHEETS

1	GENERAL PLAN & ELEVATION
2	MODIFICATION PLAN
3	CONCRETE BARRIER (TYPE F, TL-5)
4	EXPANSION JOINT MODIFICATION DETAILS
5	WIRE FENCE DESIGN W-1 DETAILS
6	CONCRETE RAILING SLIPFORM ALTERNATE



WORK TO BE COMPLETED UNDER THIS CONTRACT

1. INSTALL PROPOSED CONCRETE RAILING (TYPE F)
2. INSTALL PROPOSED CHAIN LINK FENCE ON EXISTING BARRIER.
3. INSTALL PROPOSED SIDEWALK COVER PLATES.
4. SAWCUT APPROACH PANEL AS NECESSARY FOR GUARDRAIL INSTALLATION.
5. CONSTRUCT PROPOSED SIDEWALK, GUARDRAIL AND FENCE PER ROADWAY PLANS.

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.

Print Name: JAMISON BEISSWENGER

Signature: *[Signature]*

Date: 12-14-10 License: 44648

SRE CONSULTING GROUP, INC.

ANOKA COUNTY

BRIDGE NO. 02560

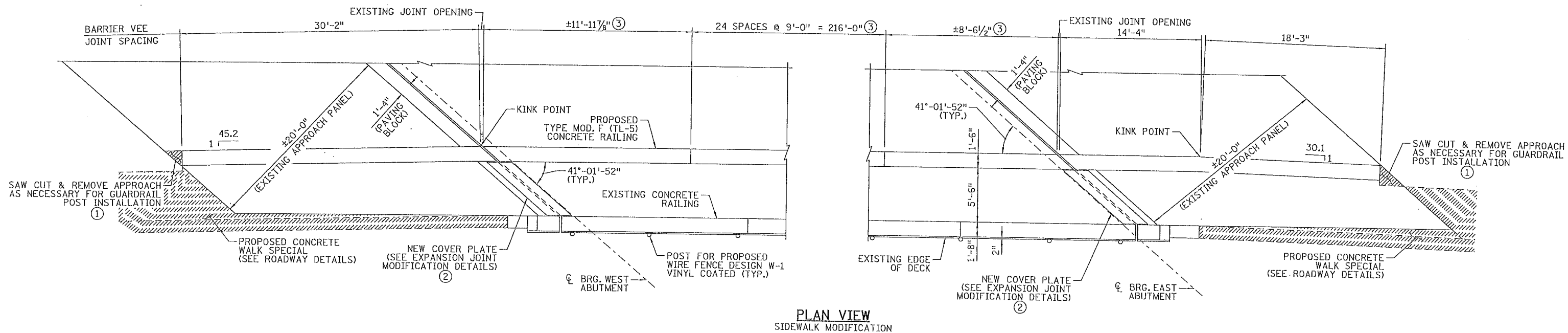
CSAH 14 OVER BNSF RAILWAY
SIDEWALK MODIFICATIONS
0.20 MI WEST OF ROUND LAKE BLVD
BRIDGE I.D. NO. 401

SEC. 5 & 6, T31N, R24W,
ANOKA COUNTY

APPROVED: *[Signature]* 12/29/10
STATE BRIDGE ENGINEER DATE

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PLAN VIEW
SIDEWALK MODIFICATION

NOTES:

- ① PAID FOR UNDER ITEM 2433.618 "RECONSTRUCT APPROACH PANEL".
- ② PAID FOR UNDER ITEM 2433.602 "RECONSTRUCT EXPANSION JOINT END".
- ③ CONTRACTOR SHALL ADJUST DIMENSIONS AS REQUIRED TO LINE UP VEE JOINTS WITH EXISTING DECK SAWCUT OVER PIERS.

**SCHEDULE OF QUANTITIES
FOR BRIDGE NO. 02560 SIDEWALK MODIFICATIONS**

ITEM NO.	ITEM	UNIT	QUANTITY
2401.513	TYPE MOD F (TL-5) RAILING CONCRETE (3Y46)	LIN. FT.	300 (P)
2401.541	REINFORCEMENT BARS (EPOXY COATED)	POUND	8630 (P)
2433.516	ANCHORAGES TYPE REINF BARS	EACH	790 (P)
2433.602	RECONSTRUCT EXPANSION JOINT END	EACH	2 (P)
2433.618	RECONSTRUCT APPROACH PANEL	SQ. FT.	5
2557.501	WIRE FENCE DESIGN W-1 VINYL COATED	LIN. FT.	245 (P)

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report 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.
 Print Name: JAMISON BEISSWENGER
 Date: 12-14-10 License #: 44648

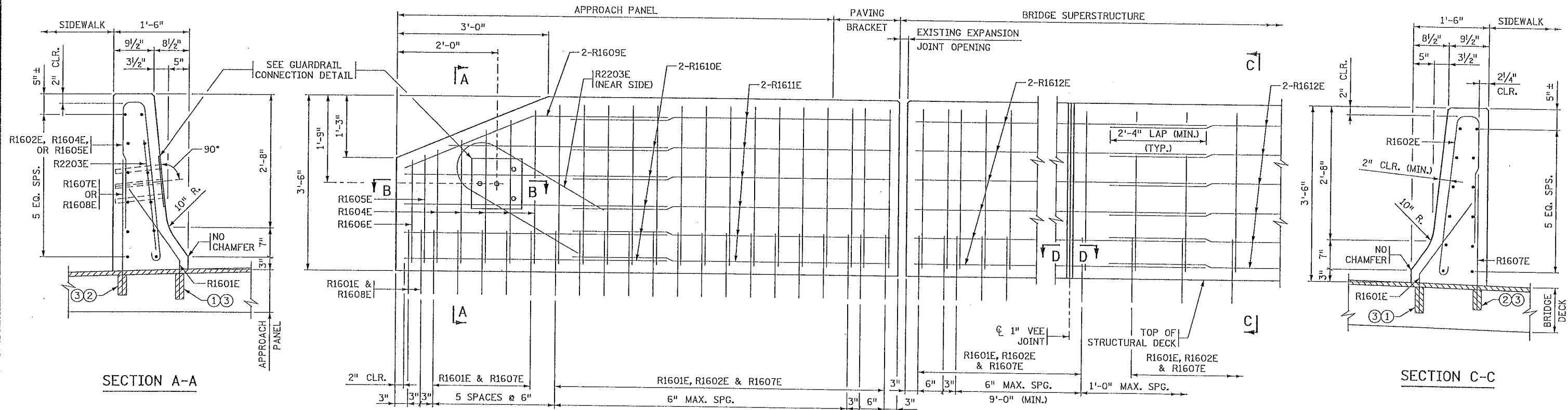
BRIDGE NO.
02560

DRAWN BY
E. JOHNSON
 DESIGNED BY
J. BEISSWENGER
 CHECKED BY
L. ERICKSON
 COMM. NO. 7248



ANOKA COUNTY
 SIDEWALK MODIFICATION PLAN
 CSAH 14 BRIDGE OVER BNSF-SIDEWALK MOD.

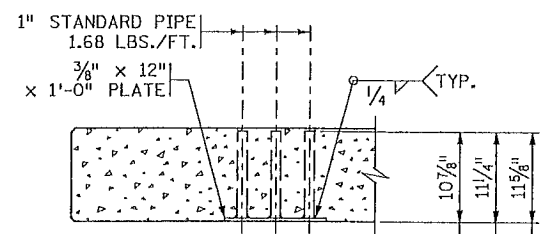
SHEET
2
OF
6



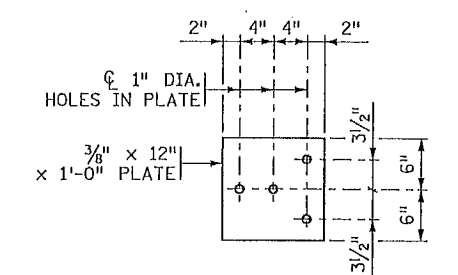
SECTION A-A

SECTION C-C

EXPANSION JOINT
EXPANSION DEVICE NOT SHOWN
INSIDE ELEVATION OF BARRIER

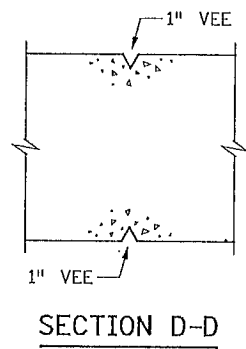


SECTION B-B
(REINFORCEMENT NOT SHOWN)
★ DIMENSIONS INCLUDE 3/8" PLATE



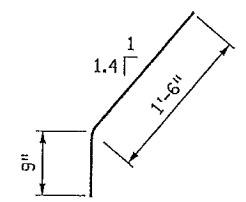
GUARDRAIL CONNECTION DETAIL

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

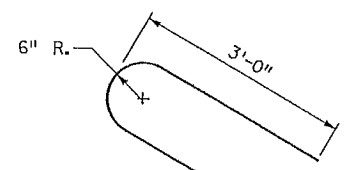


SECTION D-D

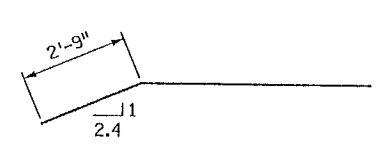
BARRIER RUSTICATION



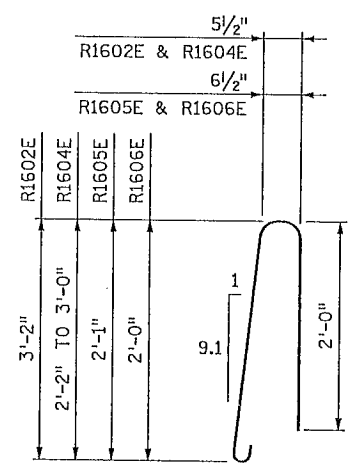
R1601E



R2203E



R1609E



R1602E, R1604E, R1605E & R1606E

BILL OF REINFORCEMENT FOR BARRIER				
BAR	NO.	LENGTH	SHAPE	LOCATION
R1601E	395	2'-3"	—	BARRIER DOWEL
R1602E	381	6'-3"	—	BARRIER VERTICAL
R2203E	2	6'-6"	—	GUARD RAIL
R1604E	2 SER. OF 5	5'-3" TO 6'-1"	—	BARRIER VERTICAL
R1605E	2	5'-2"	—	BARRIER VERTICAL
R1606E	2	5'-1"	—	BARRIER VERTICAL
R1607E	391	2'-11"	—	BARRIER DOWEL
R1608E	4	2'-9"	—	BARRIER DOWEL
R1609E	4	6'-6"	—	BARRIER LONGIT.
R1610E	20	6'-3"	—	BARRIER LONGIT.
R1611E	24	27'-3"	—	BARRIER LONGIT.
R1612E	60	50'-0"	—	BARRIER LONGIT.

GENERAL NOTES

- LENGTH OF "TYPE F (TL-5) RAILING CONCRETE (3Y46)" FOR PAYMENT SHALL BE MEASURED BETWEEN THE OUTSIDE FACES OF THE CONCRETE BARRIER.
- ALL REINFORCEMENT SHALL BE EPOXY COATED PER Mn/DOT 3301.
- THE FIRST TWO NUMBERS AFTER THE R IN EACH BAR MARK DESIGNATE THE NOMINAL METRIC SIZE OF THE BAR.
- CONCRETE BARRIER = 545 LBS./FT. (0.134 CU. YDS./FT.)
- FINISH ALL EDGES OF BARRIER WITH 1/2" VEE, EXCEPT WHERE OTHERWISE NOTED.
- MAXIMUM SPACING OF 1" VEE JOINTS SHALL BE 12'-0".
- GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, Mn/DOT SPEC. 3306.
- GUARDRAIL CONNECTION TO BE CONSIDERED INCIDENTAL TO "TYPE F (TL-5) RAILING CONCRETE (3Y46)".
- ① EMBED BAR R1601E 7" WITH AN APPROVED EPOXY ADHESIVE. ULTIMATE PULL-OUT STRENGTH = 31,000 POUNDS. PROOF LOAD BARS TO 15,000 POUNDS.
- ② EMBED BARS R1607E AND R1608E 5" WITH AN APPROVED EPOXY ADHESIVE. ULTIMATE PULL-OUT STRENGTH = 5,000 POUNDS. NO PROOF LOAD TESTING REQUIRED.
- ③ ALL COSTS ASSOCIATED WITH DRILLING AND INSTALLING THE ANCHORAGES FOR BARS R1601E, R1607E & R1608E SHALL BE PAID FOR UNDER ITEM 2433.516 "ANCHORAGES TYPE REINF BARS".

REVISED: 05-26-2006
APPROVED: JULY 25, 2005
Daniel J. Johnson
STATE BRIDGE ENGINEER

MODIFIED
FIG. 5-397.126

I hereby certify that this plan, specification, or report 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.
Print Name: JAMISON BEISSWENGER
Date: 12-14-10 License #: 44648

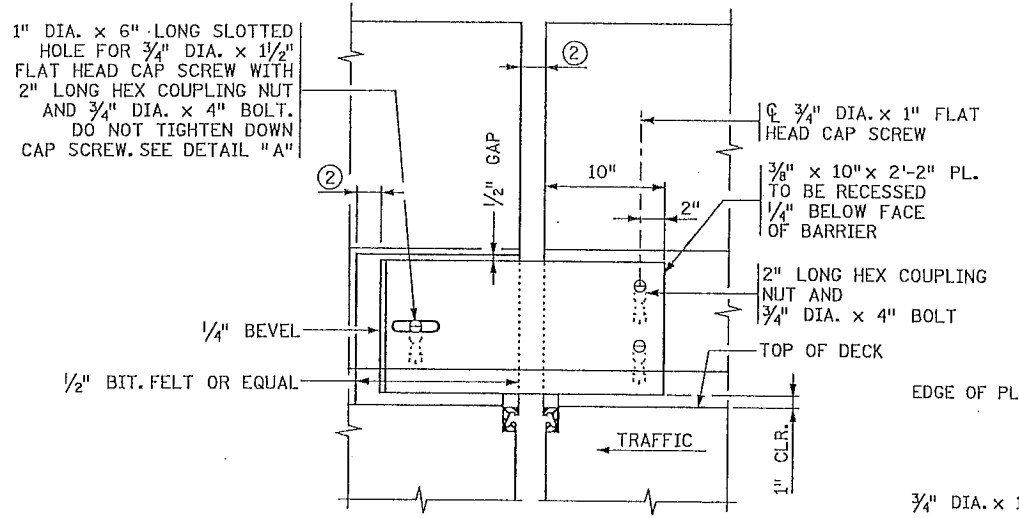
BRIDGE NO. 02560
DRAWN BY E. JOHNSON
DESIGNED BY J. BEISSWENGER
CHECKED BY L. ERICKSON
COMM. NO. 7248



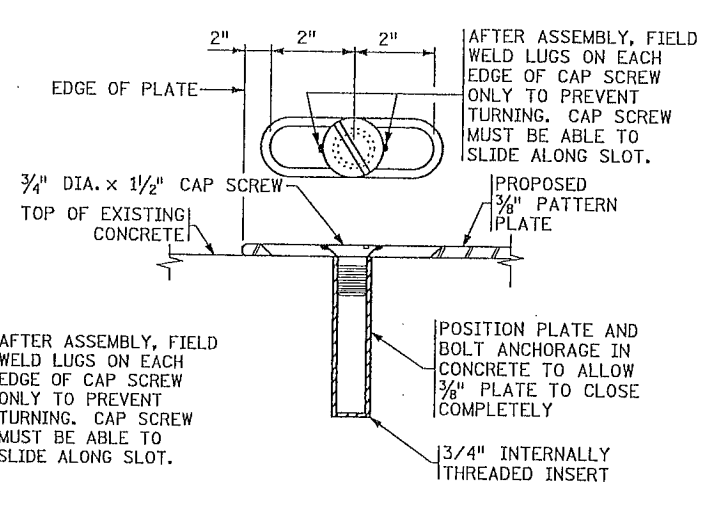
ANOKA COUNTY
CONCRETE BARRIER (TYPE F, TL-5)
CSAH 14 BRIDGE OVER BNSF-SIDEWALK MOD.

SHEET 3 OF 6

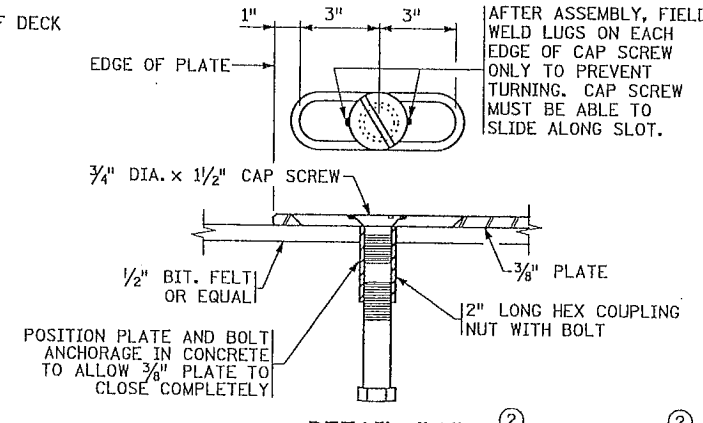
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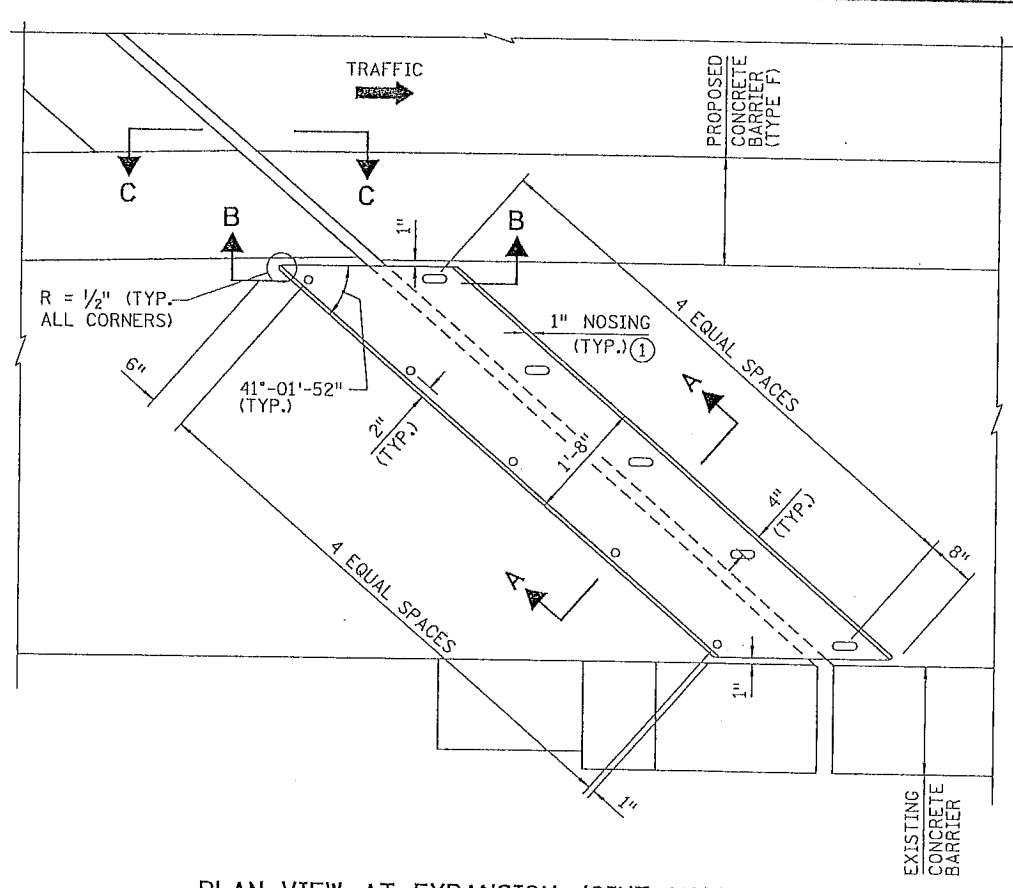
SECTION C-C



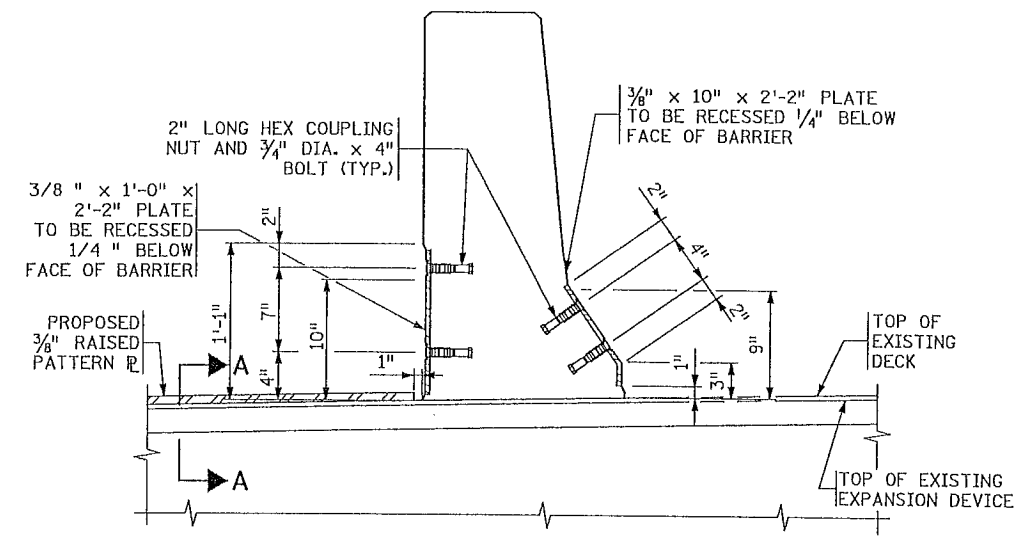
DETAIL "B"



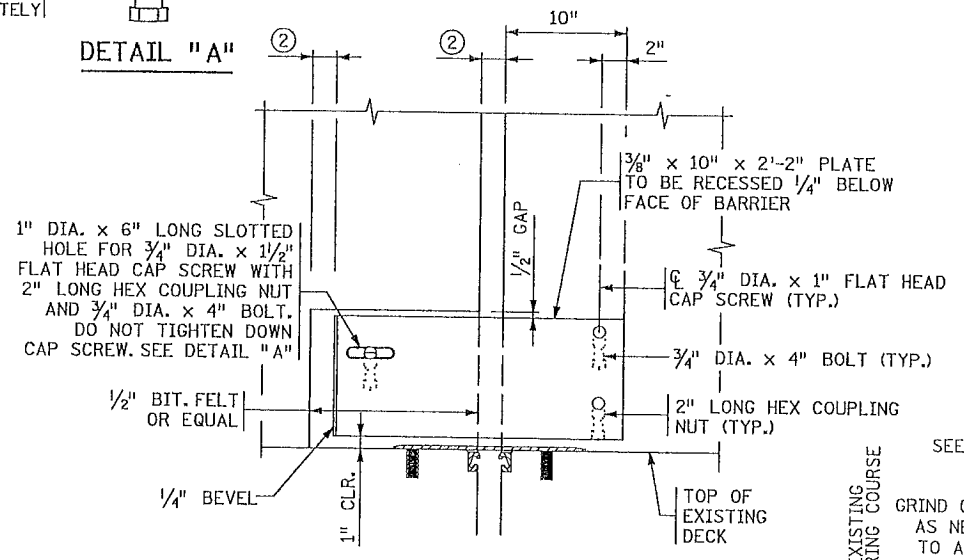
DETAIL "A"



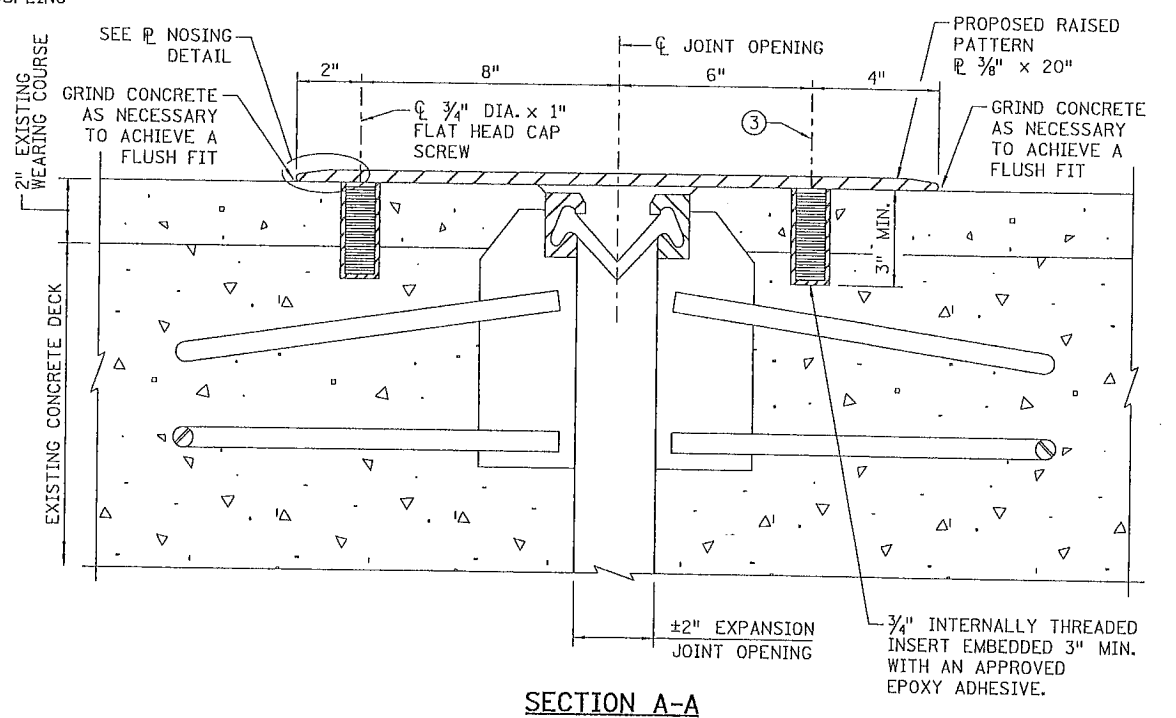
PLAN VIEW AT EXPANSION JOINT MODIFICATION



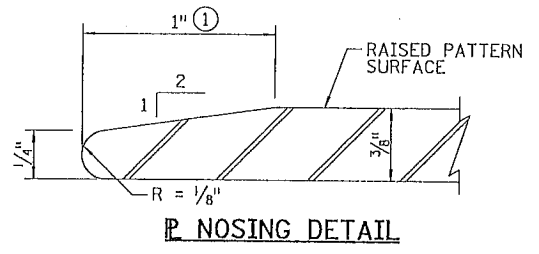
SECTION THROUGH PROPOSED TYPE F RAILING



SECTION B-B



SECTION A-A



R NOSING DETAIL

GENERAL NOTES

ALL WORK AND MATERIALS SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEM 2433.602 "RECONSTRUCT EXPANSION JOINT END".

GALVANIZE STRUCTURAL STEEL AFTER FABRICATION AS PER Mn/DOT SPEC. 3394. GALVANIZE FASTENERS AS PER Mn/DOT SPEC. 3392.

STRUCTURAL STEEL SHALL COMPLY WITH Mn/DOT SPEC. 3306 OR Mn/DOT SPEC. 3309.

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

- ① MEASURED PARALLEL TO WALK
- ② ±2" EXPANSION JOINT OPENING
- ③ 1" DIA. x 4" LONG SLOTTED HOLE FOR 3/4" DIA. x 1/2" FLAT HEAD CAP SCREW. DO NOT TIGHTEN DOWN CAP SCREW. SEE DETAIL "B".

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NO	DATE	BY	CHK	APPR	REVISION

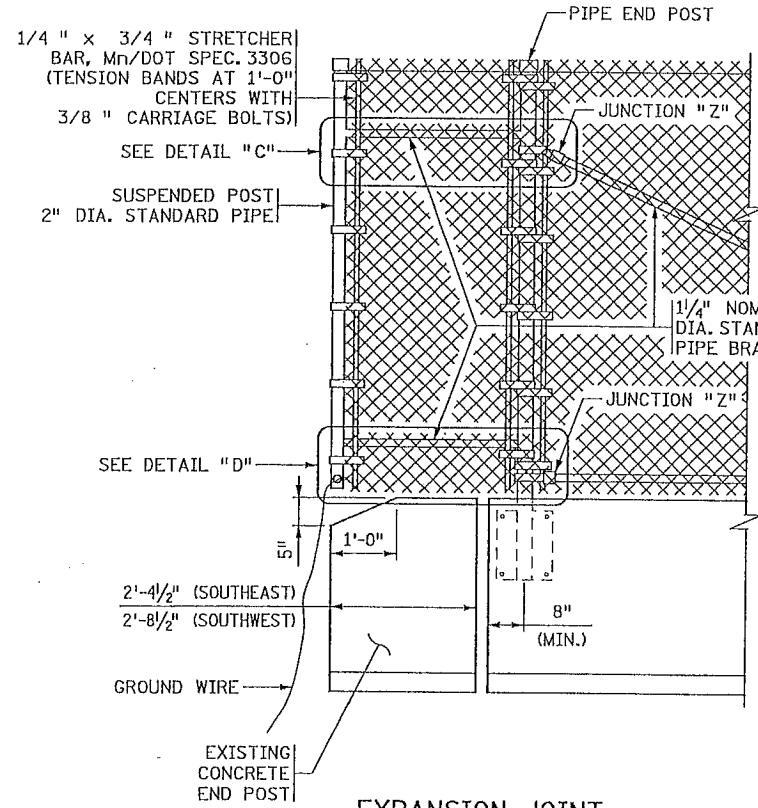
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: JAMISON BEISSWENGER
 Date: 12-14-10 License #: 44648

BRIDGE NO. 02560
 DRAWN BY E. JOHNSON
 DESIGNED BY J. BEISSWENGER
 CHECKED BY L. ERICKSON
 COMM. NO. 7248

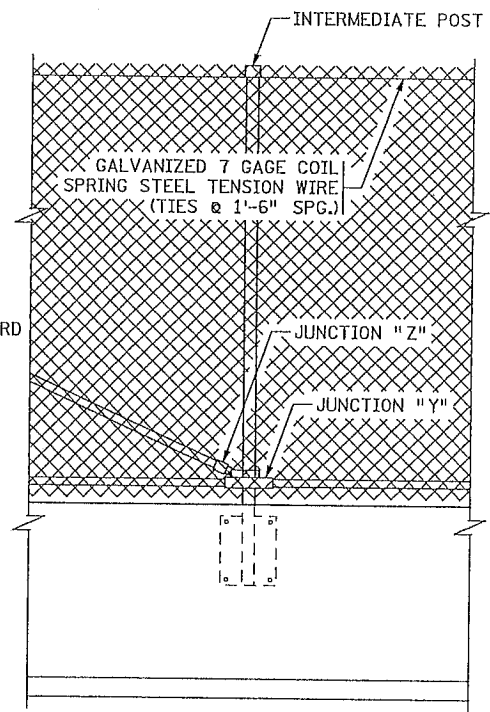


ANOKA COUNTY
 EXPANSION JOINT MODIFICATION DETAILS
 CSAH 14 BRIDGE OVER BNSF-SIDWALK MOD.

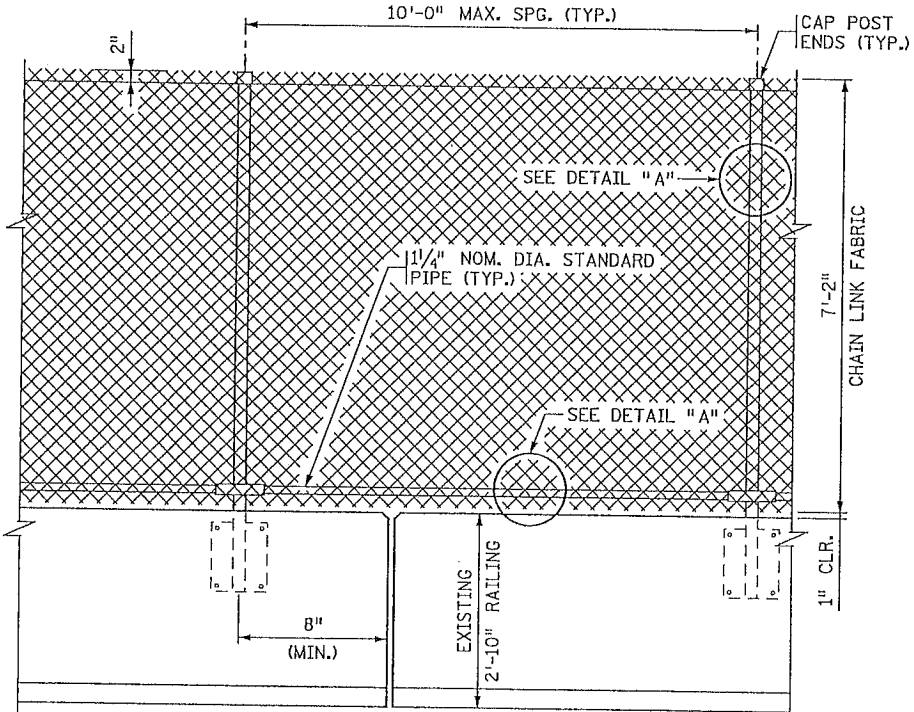
SHEET 4 OF 6



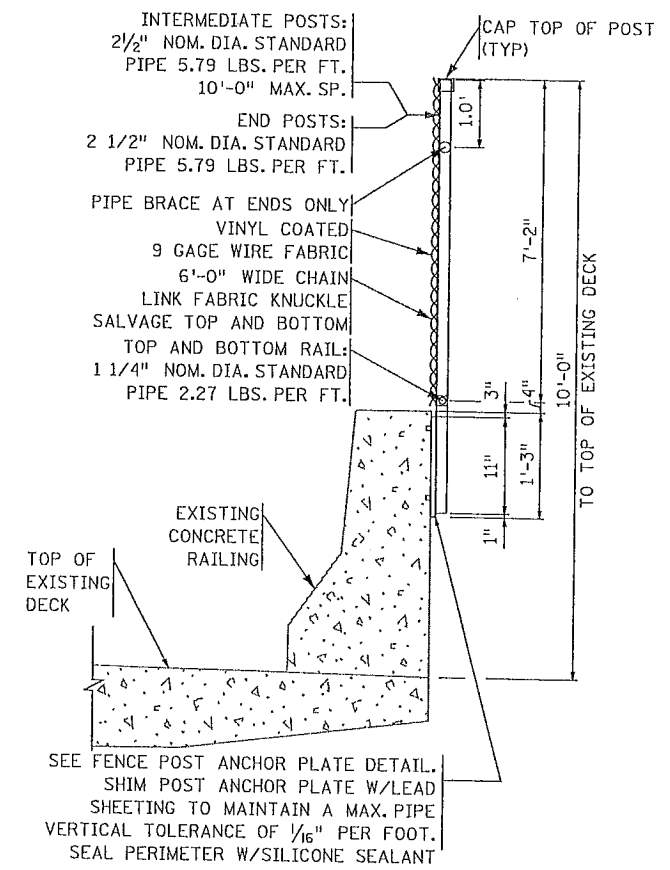
EXPANSION JOINT
(EXPANSION DEVICE NOT SHOWN)



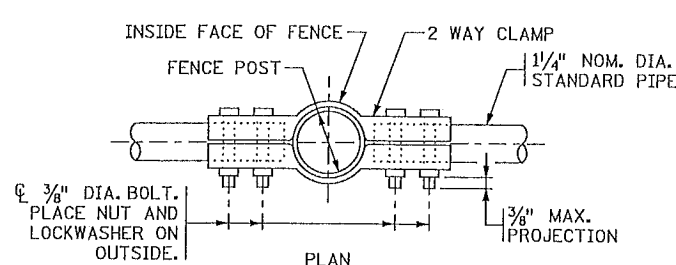
INSIDE ELEVATION OF RAILING



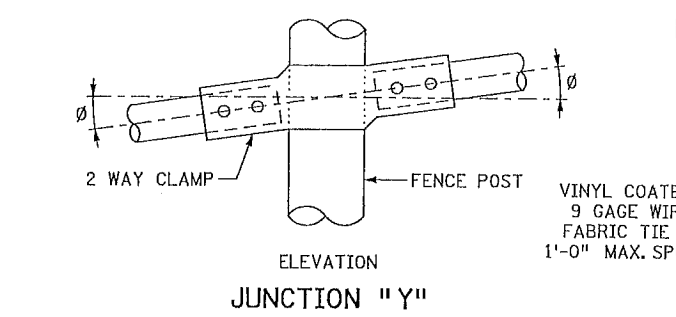
DEFLECTION JOINT



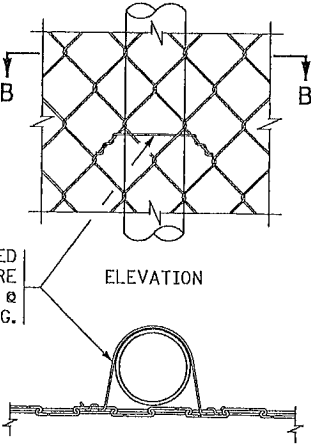
TYPICAL SECTION THROUGH FENCE
INTERMEDIATE POST SHOWN



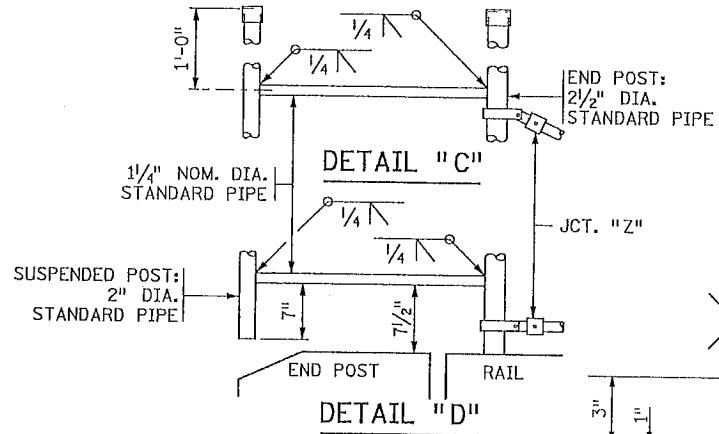
2 WAY CLAMP BENDING TABLE	
GRADE OF FENCE	Ø
0° TO 2°	0"
2° TO 6°	4"
6° TO 10°	8"



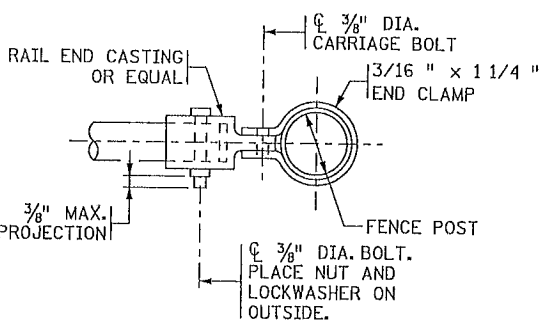
JUNCTION "Y"



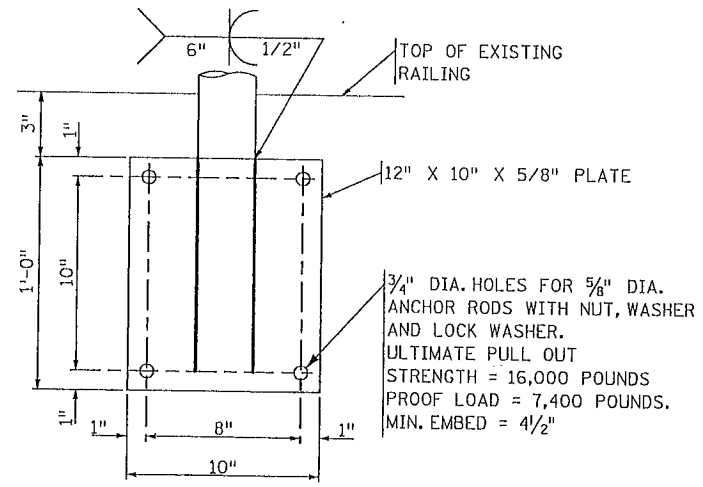
**SECTION B-B
DETAIL "A"**



DETAIL "D"



JUNCTION "Z"



FENCE POST ANCHOR PLATE

GENERAL NOTES

- LENGTH OF "WIRE FENCE, DESIGN W-1" FOR PAYMENT SHALL BE MEASURED BETWEEN THE ENDS OF THE CONCRETE RAIL POSTS.
- FENCE POSTS AND FENCE POST ANCHORAGES SHALL BE SET VERTICAL, UNLESS OTHERWISE NOTED.
- C/L OF FENCE POST ANCHORAGE SHALL BE A MINIMUM OF 8" FROM JOINTS.
- END POSTS AND BRACING SHALL BE AT 500 FT. MAXIMUM INTERVALS.
- ALL POSTS SHALL HAVE A MEANS TO SECURELY HOLD THE TOP TENSION WIRE IN POSITION AND ALLOW FOR THE REMOVAL AND REPLACEMENT OF A POST WITHOUT DAMAGING THE TOP WIRE.
- WIRE TIES MAY BE 9 GAGE GALVANIZED STEEL OR 0.179" MIN. ALUMINUM ALLOY CONFORMING TO A.S.T.M. B211, ALLOY 1100-H18. USE 12 1/2 GAGE GALVANIZED HOW RINGS FOR TENSION WIRE TIES.
- ALL MATERIAL IN THE END POST IS INCLUDED IN THE WIRE FENCE DESIGN W-1 VINYL COATED QUANTITY.
- SEE SPECIAL PROVISIONS FOR REQUIREMENTS NOT INCLUDED ON THIS SHEET AND FOR BASIS OF PAYMENT.
- GROUNDING WIRE AND ROD INCIDENTAL TO "WIRE FENCE, DESIGN W-1".
- FENCE SHALL BE GROUNDED WITH COPPER WIRE AT EACH END OF THE BRIDGE. ATTACH WIRE TO 5/8" COPPER ROD PER MN/DOT SPEC. 2557.3E.
- ANCHORAGES SHALL BE PER MN/DOT SPEC. 3385, TYPE A.
- GALVANIZE THE FENCE POST ANCHOR PLATE AFTER FABRICATION PER MN/DOT SPEC. 3394.
- ALL HARDWARE SHALL BE GALVANIZED PER MN/DOT SPEC. 3392.

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NO	DATE	BY	CHKD	APPR	REVISION

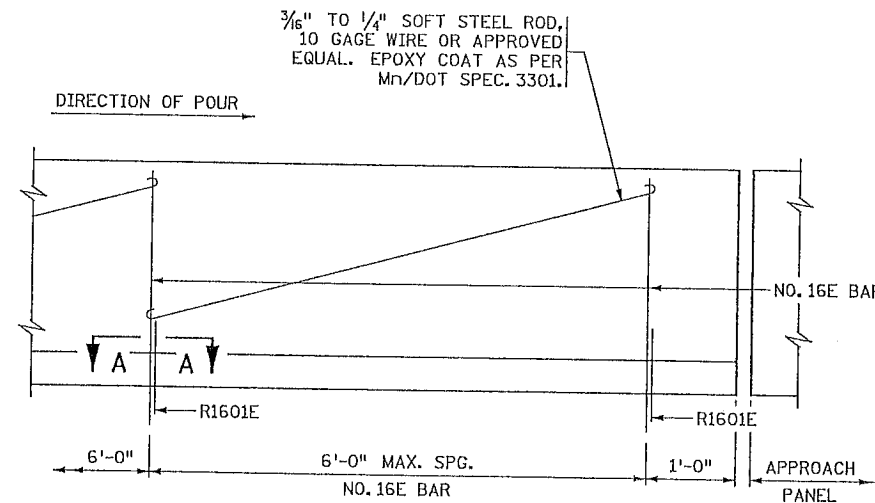
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: **JAMISON BEISSWENGER**
 Date: **12-14-10** License #: **44648**

BRIDGE NO. **02560**
 DRAWN BY **E. JOHNSON**
 DESIGNED BY **J. BEISSWENGER**
 CHECKED BY **L. ERICKSON**
 COMM. NO. **7248**

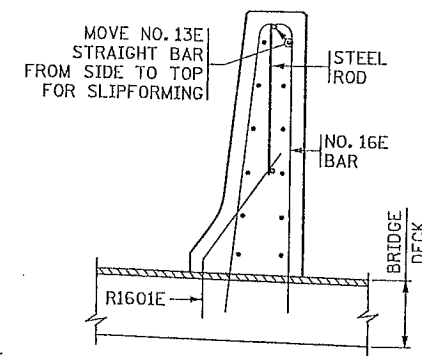


ANOKA COUNTY
WIRE FENCE DESIGN W-1 DETAILS
CSAH 14 BRIDGE OVER BNSF-SIDEWALK MOD.

SHEET
5
OF
6

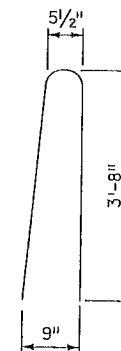


INSIDE ELEVATION OF RAILING



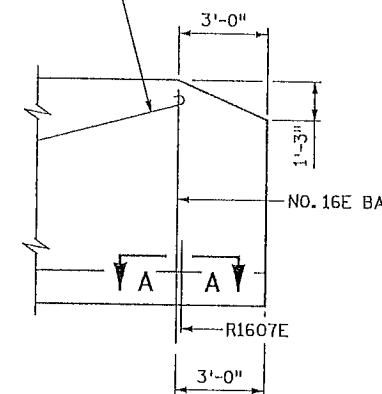
RAILING SECTION

3/16" TO 1/4" SOFT STEEL ROD,
10 GAGE WIRE OR APPROVED
EQUAL. EPOXY COAT AS PER
Mn/DOT SPEC. 3301.

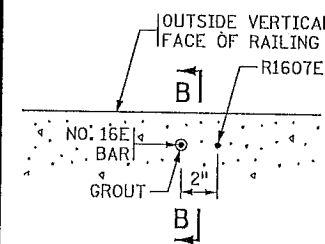


NO. 16E BAR

DRILLED IN
ALTERNATE

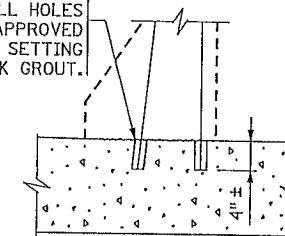


INSIDE ELEVATION OF RAILING
AT END OF APPROACH PANEL



SECTION A-A

VERIFY BAR DIAMETER
PRIOR TO DRILLING
HOLES. FILL HOLES
WITH AN APPROVED
RAPID SETTING
NON-SHRINK GROUT.



SECTION B-B

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

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 2' 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.

APPROVED: NOVEMBER 22, 2002

David Johnson
STATE BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
CONCRETE RAILING (TYPE F)
(SLIPFORM ALTERNATE)

REVISION

MODIFIED

DETAIL NO.

B830

I hereby certify that this plan, specification, or report 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.

Print Name: JAMISON BEISSWENGER

Date: 12-14-10 License #: 44648

BRIDGE NO.
02560

DRAWN BY
E. JOHNSON
DESIGNED BY
J. BEISSWENGER
CHECKED BY
L. ERICKSON
COMM. NO. 7248

SRF CONSULTING
GROUP, INC.

ANOKA COUNTY
B-DETAILS
CSAH 14 BRIDGE OVER BNSF--SIDEWALK MOD.

SHEET
6
OF
6

NO	DATE	BY	CHKD	APPR	REVISION