MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

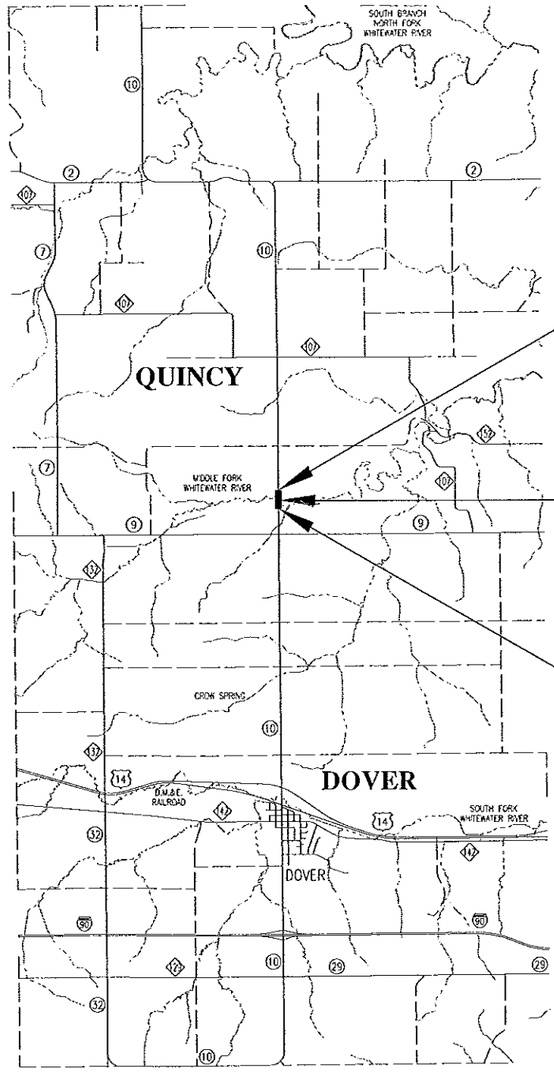
CONSTRUCTION PLAN FOR BRIDGE REPLACEMENT (OLD BRIDGE No. 55513) (NEW BRIDGE No. 55583)

LOCATED ON C.S.A.H. 10 BETWEEN C.S.A.H. 9 AND COUNTY ROAD 107 (GEOGRAPHIC DESCRIPTION)

FROM 1531.50 FEET NORTH AND 22.43 FEET WEST OF THE S.E. CORNER OF SEC. 33, T 107 N, R 11 W TO THE E. 1/4 CORNER OF SEC. 33, T 107 N, R 11 W (LEGAL DESCRIPTION)

S.A.P. NO. 55-610-20

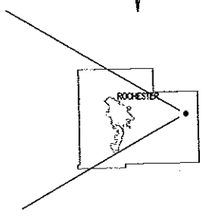
GROSS LENGTH	1103.25	FEET	0.209	MILES
BRIDGES LENGTH	95.71	FEET	0.018	MILES
EXCEPTIONS LENGTH	0.00	FEET	0.000	MILES
NET LENGTH	1103.25	FEET	0.209	MILES



END PROJECT S.A.P. 55-610-20
STA. 36+33.25

NEW BRIDGE No. 55583
OLD BRIDGE No. 55513

BEGIN PROJECT S.A.P. 55-610-20
STA. 25+30.00



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

AS-BUILT
MAR 16 2010
ENGINEERING

Minn. Proj. No.

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATED QUANTITIES AND TYPICAL SECTION
3	C.S.A.H. 10 PLAN AND PROFILE
4-7	C.S.A.H. 10 CROSS SECTIONS
8-15	EROSION CONTROL PLANS
16	TRAFFIC CONTROL PLAN
B1-B20	BRIDGE PLANS

THIS PLAN CONTAINS 36 SHEETS

DESIGN DESIGNATION: S.A.P. 55-610-20

ADT (Current Year)	= 1,131 (2009)
ADT (Future Year)	= 1,810 (2029)
HCADT (Heavy Commercial)	= 5.9%
Functional Classification	= Major Collector
10 Ton Design	
Soil Factor	= 130%
No. of Traffic Lanes	= 2 at 12 Ft.
Shoulder Width	= 6 Ft.

Design Speed 55 MPH Based on Stopping Sight Distance
Stopping Sight Distance based on 3.5 Ft. Height of Eye and 2.0 Ft. Height of Object
Design Speed not achieved at:

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 4/13/09 REG. NUMBER 19917
PRINTED NAME: KAYE M BIENIEK
SIGNED NAME: Kaye M Bieniek
COUNTY DESIGN ENGINEER

DESIGNED BY: J. GOODMAN

DATE 4/13/09 REG. NUMBER 10397
Michael O'Keefe
APPROVED: OLMSTED COUNTY ENGINEER

Donald Wenger DATE: 5/1/09
RECOMMENDED FOR APPROVAL: STATE BRIDGE ENGINEER

Steven Kiesel DATE: 4/23/09
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE-AID RULES/POLICY

Patti Loken DATE: 5/12/09
STATE AID ENGINEER: APPROVED FOR STATE-AID FUNDING

PLAN SYMBOLS

ROAD AND ROADWAY FEATURES
PROJECTED ROAD
GRAVEL ROAD
UNIMPROVED ROAD
GRADED AND DRAINED ROAD
SOIL SURFACE ROAD
GRAVEL OR STONE ROAD
BITUMINOUS ROAD
PAVED ROAD
DIVIDED ROAD
TRUNK HIGHWAY UNDER CONSTRUCTION
ROADS IN UNINCORPORATED COMMUNITIES, EXTENSIONS OF LOCAL ROADS (NOT FAS) WITHIN MUNICIPALITIES AND FRONTAGE ROADS
POINTS BETWEEN WHICH DISTANCES ARE MEASURED INDICATED THUS 4 6.2 4

ROAD SYSTEM DESIGNATIONS
INTERSTATE TRUNK HIGHWAY 35
U.S. NUMBERED TRUNK HIGHWAY 52
STATE NUMBERED TRUNK HIGHWAY 30
COUNTY STATE AID HIGHWAY 5
COUNTY ROAD 12
COUNTY STATE AID IN ADJOINING COUNTY 5
FEDERAL AID INTERSTATE SYSTEM F.A.I.
NATIONAL FOREST HIGHWAY N.F.H.
NATIONAL FOREST DEVELOPMENT N.F.D.
STATE FOREST ROAD S.F.R.
STATE PARK ROAD S.P.R.

RAILROADS
RAILROAD (UNIT NUMBER OF TRACKS) USED BY A SINGLE OPERATING COMPANY OR BY TRAINS OF ANOTHER CARRIER UNDER TRACKAGE RIGHTS
RAILROADS IN JUXTAPOSITION (TWO OR MORE TRACKS OF SEPARATELY OPERATED COMPANIES ON ADJACENT RIGHTS OF WAY
RAILROAD STATION
GRADE CROSSING
UNDERPASS (HIGHWAY BELOW)
OVERPASS (HIGHWAY ABOVE)

AIRWAYS
CLAYEY
MILITARY FIELD
COMMERCIAL OR MUNICIPAL FIELD
LANDING AREA OR STRIP
AIRWAY LIGHT BEACON, CENTRAL

STRUCTURES
General Symbols (over 20' span)
HIGHWAY BRIDGE
SMALL BRIDGES CLOSELY SPACED
CROSSROADS
TRUSS
Other Structures
PEDESTRIAN BRIDGE
DAM WITH ROAD
DAM WITHOUT ROAD
LEVEE OR DIKE WITH ROAD
LEVEE OR DIKE WITHOUT ROAD
MINOR STRUCTURES (5' TO 20' SPAN)
CONCRETE FORD OR DIP
FORD - ROAD ESTABLISHED

BOUNDARIES
NATIONAL OR STATE
COUNTY
CIVIL TOWNSHIP
CONGRESSIONAL TOWNSHIP (U.S. LINE)
CORPORATE LIMIT
SECTION LINE
CONGESTED AREA
NATIONAL OR STATE PARK
NATIONAL OR STATE FOREST
GAME REFUGE
AIRPORT
WILDLIFE MANAGEMENT AREA (STATE) OR WATERFOWL AREA (FEDERAL)

DRAINAGE
WATER STREAM
INTERMITTENT STREAM
MARSH OR SWAMP LAND
DRAINAGE DITCH
LAKE OR POND

CONSERVATION
FOREST RANGER STATION
GAME OR RANGER STATION (NOT PERMANENTLY OCCUPIED)
FISH HATCHERY
GAME PRESERVE
OBSERVATION OR LOOKOUT TOWER
STATE PARK: SP = STATE, CP = COUNTY, MP = MUNICIPAL, RP = RESORT
PUBLIC ACCESS POINT

RECREATION
GOLF COURSE OR COUNTRY CLUB
GUN CLUB
ATHLETIC FIELD
AMUSEMENT PARK
PICNIC GROUND
PLAYGROUND, BALLFIELD ETC.
BATHING BEACH OR SWIMMING POOL
SCENIC SITE
CAMP SITE
CAMP OR LODGE

FARM AND DWELLING UNITS
FARM UNIT
DWELLING OTHER THAN FARM
BARRACKS OR DORMITORIES FOR STUDENTS, WORKERS, MIGRANTS ETC.
SEASONAL DWELLING
ROWS OR GROUPS OF DWELLINGS CLOSELY SPACED NUMBER ADJACENT TO SYMBOL INDICATES NUMBER OF EACH UNIT

INDUSTRIAL
FACTORY OR INDUSTRIAL PLANT
SHINGLE MILL
STORAGE TANKS, OIL OR GAS
GRAIN ELEVATOR
BEET DUMP
STOCKYARD, FEEDLOT
QUARRY
MILK DEPOT, CREAMERY OR CHEESE FACTORY
WAREHOUSE

COMMERCIAL
STORE OR SMALL BUSINESS ESTABLISHMENT
HOTEL
MOTEL
TOURIST COURT
DRIVE-IN THEATRE
NURSERY
GREENHOUSE

PUBLIC SERVICE FACILITIES
POST OFFICE
FIRE STATION
MUSEUM
PUBLIC LIBRARY
SCHOOL
RADIO STATION
SEWAGE DISPOSAL PLANT
HOSPITAL
TOWN HALL

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

MISCELLANEOUS MAP FEATURES
CHURCH, OTHER RELIGIOUS INSTITUTIONS
CEMETERY
FAIRGROUND, RACE COURSE, STADIUM
GRAVEL PIT
SANITARY LANDFILL
AUTO JUNKYARD
HIGHWAY GARAGE
DEPARTMENT OF TRANSPORTATION DISTRICT OFFICE
VALVE HOUSE NATURAL GAS, PETROLEUM PRODUCTS, CRUDE OIL OR WATER
GAUGING OR PUMPING STATION NATURAL GAS, PETROLEUM PRODUCTS, CRUDE OIL OR WATER
PIPELINE, NATURAL GAS
PIPELINE, PETROLEUM PRODUCTS
PIPELINE, CRUDE OIL
PIPELINE, WATER
TRANSMISSION LINE (33kV OR OVER)
POWER PLANT
TRANSFORMER STATION
LATITUDE AND LONGITUDE INTERSECTION
HISTORIC SITE, STATE OR NATIONAL OPEN TO PUBLIC

SCALES

PLAN:	100 FEET	
PROFILE:	100 FEET	HORIZ.
	10 FEET	VERT.
CROSS SECTIONS:	20 FEET	HORIZ. and VERT.
INDEX MAP:	9000 FEET	

FILE NAME: P270C01.DWG DATE: 03-31-09

STATEMENT OF ESTIMATED QUANTITIES

SPECIFICATION NO.	ITEM	ITEM NOTES	UNITS	S.A.P. 55-610-20		TOTAL ESTIMATED QUANTITIES
				PARTICIPATING	NON PARTICIPATING	
2101.502	CLEARING		TREE	21		21
2101.507	GRUBBING		TREE	21		21
2104.501	REMOVE METAL CULVERT		LIN. FT.	89		89
2104.501	REMOVE FENCE	(1)	LIN. FT.	1211		1211
2104.505	REMOVE BITUMINOUS PAVEMENT		SQ. YD.	1547		1547
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN. FT.	67		67
2105.515	UNCLASSIFIED EXCAVATION	(2)	CU. YD.	1812		(P) 1812
2211.501	AGGREGATE BASE, CLASS 5 MOD.	(3)	TON	1506		1506
2501.511	24" CS PIPE CULVERT		LIN. FT.	108		108
2501.515	24" GS PIPE APRON		EACH	4		4
2563.601	TRAFFIC CONTROL		LUMP SUM	1		1
2573.502	SILT FENCE, TYPE MACHINE SLICED	(1)(4)	LIN. FT.	715		715
2573.512	TEMPORARY DITCH CHECK, TYPE 1	(1)	LIN. FT.	40		40
2575.501	SEEDING		ACRE	1.4		1.4
2575.502	SEED, MIXTURE 110		POUND	140		140
2575.502	SEED, MIXTURE 250		POUND	98		98
2575.511	MULCH MATERIAL, TYPE 1		TON	2.8		2.8
2575.519	DISK ANCHORING		ACRE	1.4		1.4
2575.523	EROSION CONTROL BLANKET, CATEGORY 4	(1)(5)	SQ. YD.	196		196
2575.532	FERTILIZER, TYPE 1 ANALYSIS 12-12-12		POUND	280		280

(1) SPECIFICATION 1903 SHALL NOT APPLY FOR THESE ITEMS.

(2) INCLUDES 394 CU. YDS. OF TOPSOIL EXCAVATION. TOPSOIL SHALL BE USED AS SLOPE DRESSING TO THE EXTENT AVAILABLE.

(3) INCLUDES 191 TONS FOR DRIVEWAY AND FIELD ENTRANCE. QUANTITY FOR DRIVEWAY AND FIELD ENTRANCE BASED ON 4" AGGREGATE DEPTH.

(4) ITEM INCLUDES MAINTENANCE DURING THE LENGTH OF THE CONTRACT AND REMOVAL ONCE TURF HAS BEEN ESTABLISHED.

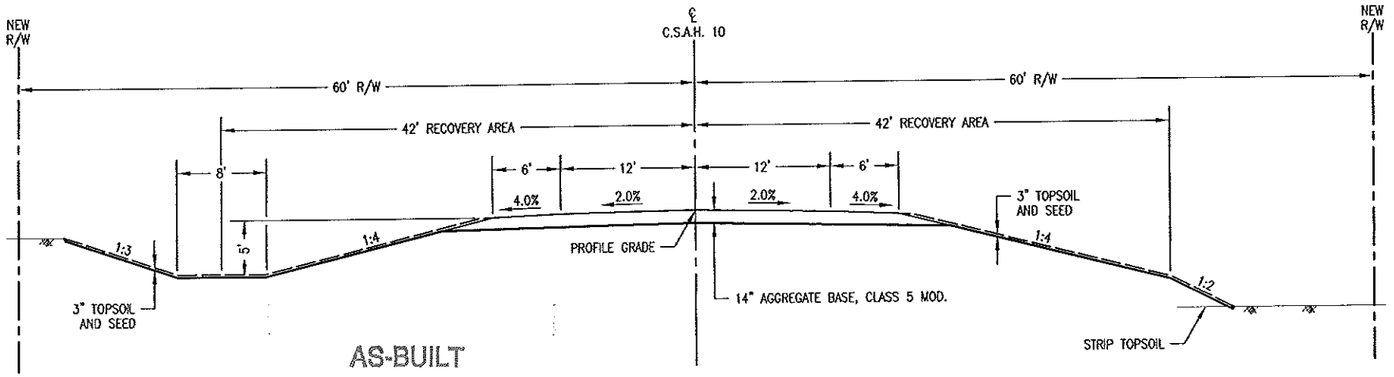
(5) TO BE PLACED ON ALL 1:2 SLOPE AREAS.

STANDARD PLATES

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

PLATE NO.	DESCRIPTION
3040F	CORRUGATED METAL PIPE CULVERT
3123J	METAL APRON FOR C.S. PIPE
3124B	METAL APRON CONNECTION
3221C	CORRUGATED STEEL PIPE COUPLING BAND
8000L	STANDARD BARRICADES
9000D	APPROACHES AND ENTRANCES
9102D	TURF ESTABLISHMENT AREAS (AT PIPE CULVERT ENDS)

ALL UTILITY POLES AND OTHER UNYIELDING OBJECTS SHALL BE REMOVED AND RELOCATED OUTSIDE OF THE RECOVERY AREA.

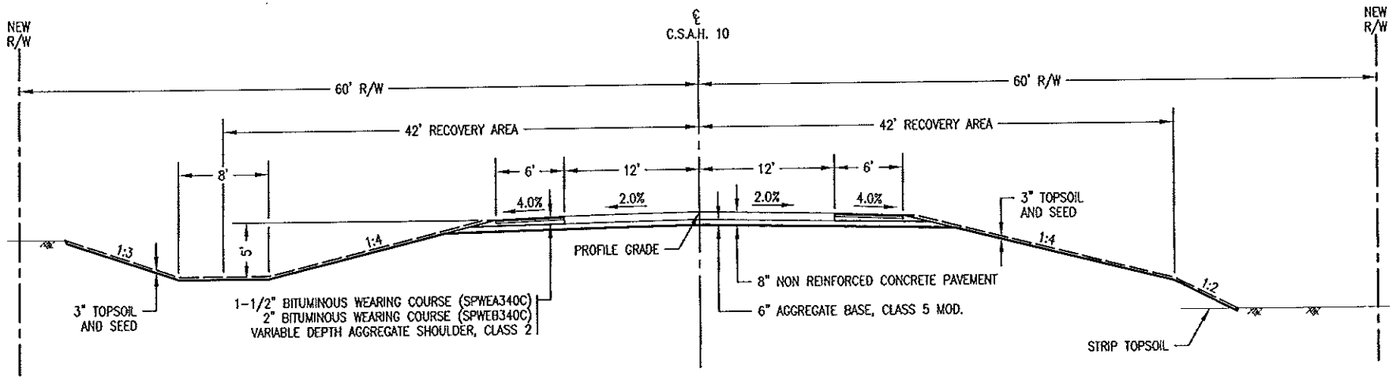


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MAR 16 2010

ENGINEERING

TYPICAL SECTION
STA. 27+16.68 TO STA. 32+16.68



FUTURE FINISHED TYPICAL SECTION (2010)
STA. 27+16.68 TO STA. 32+16.68

BASIS OF QUANTITY

AGGREGATE BASE, CLASS 5 MOD. - 140 LBS./CU. FT. COMPACTED
SEED MIXTURE 110 - 100 LBS./ACRE
SEED MIXTURE 250 - 70 LBS./ACRE
MULCH MATERIAL TYPE 1 - 2 TONS/ACRE EXCEPT EROSION BLANKET AND SOD AREAS
DISK ANCHORING - ALL SEEDING AREAS EXCEPT 1:2 SLOPES AND SOD AREAS
COMMERCIAL FERTILIZER - 200 LBS./ACRE

UTILITY LOCATIONS

GOPHER STATE ONE CALL 1-800-252-1166

CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITY LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION. ALL INPLACE UTILITIES MAY NOT BE SHOWN ON THIS PLAN.

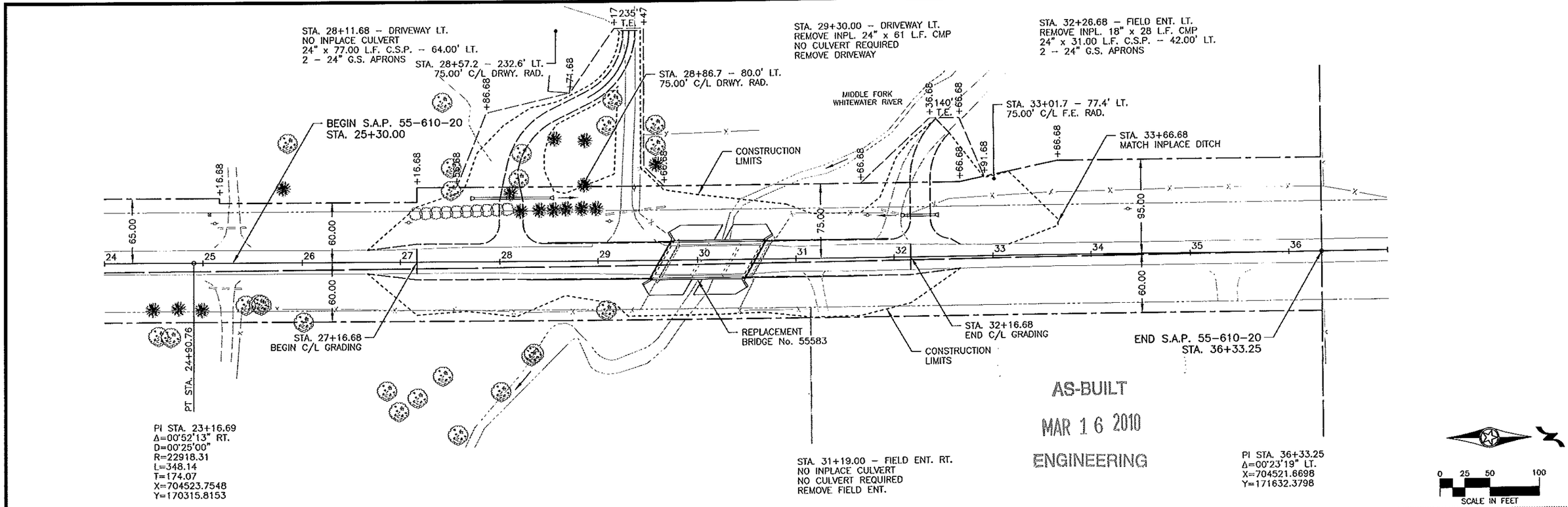
CERTIFIED BY Kaye M Prevenik REG. NO. 19917 4/13 2009
LICENSED PROFESSIONAL ENGINEER

S.A.P. 55-610-20

TITLE: ESTIMATED QUANTITIES AND TYPICAL SECTION

Sheet No. 2 of 16 Sheets

FILE NAME: P270E001.DWG DATE: 03-31-09



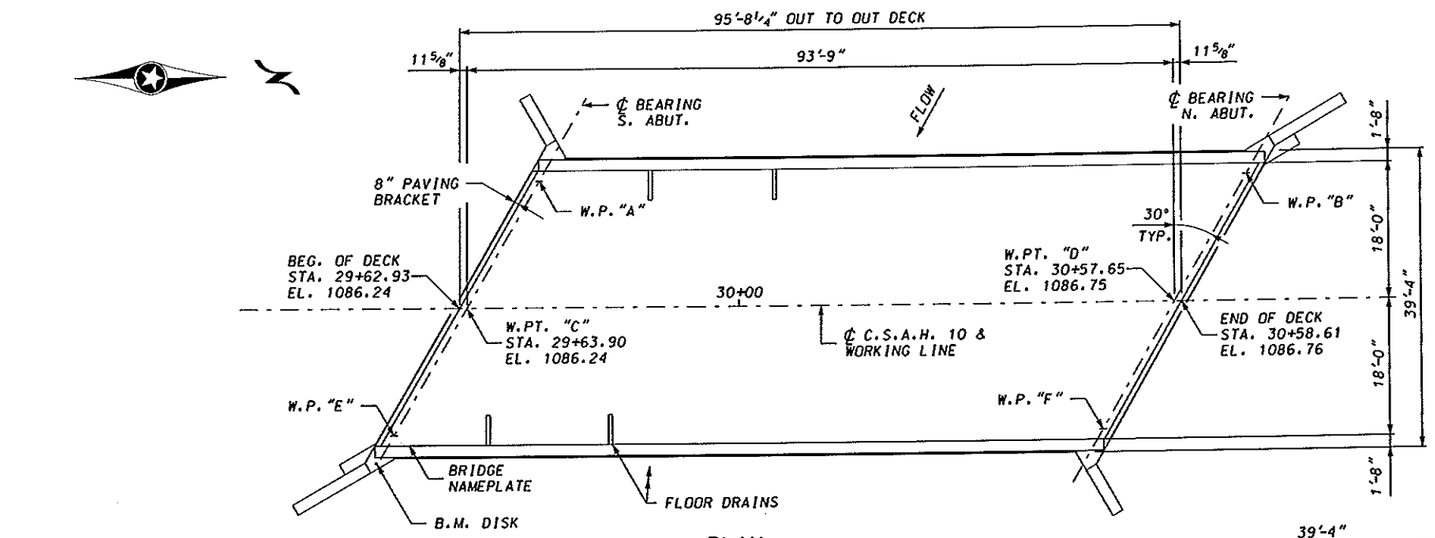
CERTIFIED BY Kaye M Koenick REG. NO. 19917 4/13 2009
LICENSED PROFESSIONAL ENGINEER

S.A.P. 55-610-20

TITLE: C.S.A.H. No. 10
CONSTRUCTION PLAN & PROFILE
STA. 24+00.00 to STA. 37+00.00

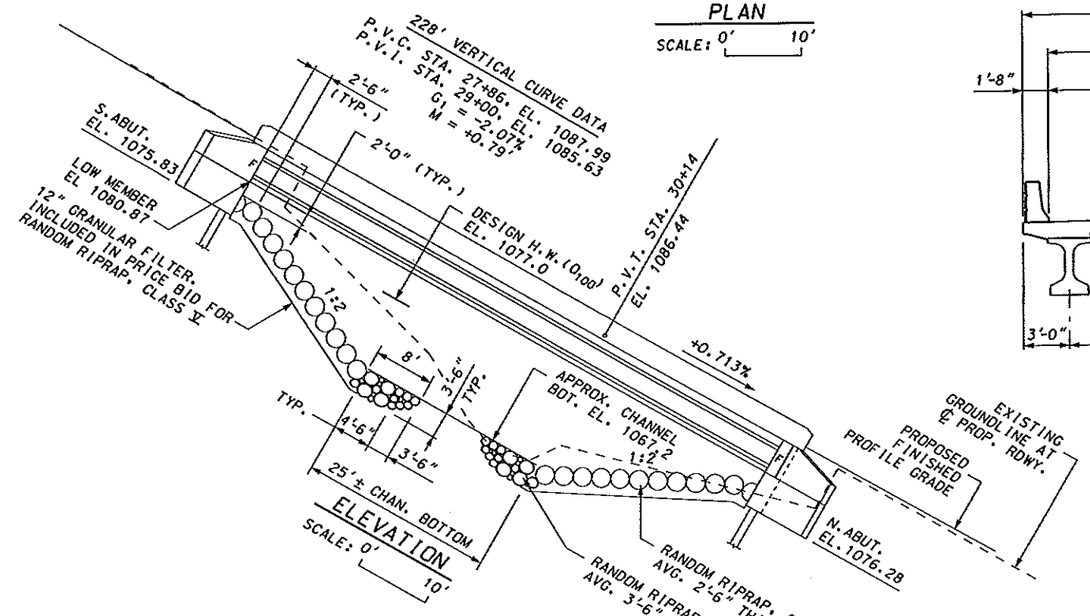
Sheet No. 3 of 16 Sheets

FILE NAME: P270P01.DWG DATE: 03-31-09



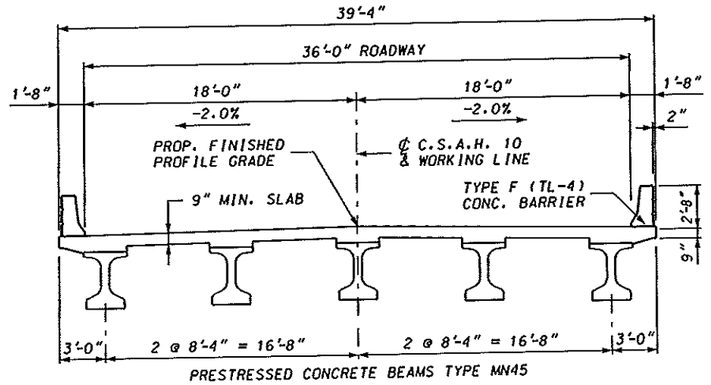
PLAN

SCALE: 0' 10'



ELEVATION

SCALE: 0' 10'



PRESTRESSED CONCRETE BEAMS TYPE MN45

TRANSVERSE SECTION THRU DECK

SCALE: 0' 5'

NOTE:
ABUTMENT PILES ARE TO BE HP10x42 STEEL H-PILES WITH PILE TIP PROTECTION.

① EXIST. BR. 55513, STA. 30+18.52 - NON-PARTICIPATING

② SEE SHEET B6 FOR REQUIREMENTS.

SCHEDULE OF QUANTITIES FOR THE ENTIRE BRIDGE

ITEM NO.	2021.501	2401.501	2401.512	2401.513	2401.541	2401.601	2401.601	2402.521	2402.546	2402.590
ITEM	MOBILIZATION	STRUCTURAL CONCRETE (3Y43)	BRIDGE SLAB CONCRETE (3Y33A)	TYPE F (TL-4) RAILING CONCRETE (3Y46A)	REIN-FORCEMENT BARS (EPOXY COATED)	SLOPE PREPARATION	STRUCTURE EXCAVATION ②	STRUCTURAL STEEL (3306)	FLOOR DRAIN TYPE B706 (MODIFIED)	ELASTOMERIC BEARING PAD TYPE 1
QUANTITY	1	73 (P)	3764 (P)	193 (P)	33730 (P)	1	1	690 (P)	4	10
UNIT	LUMP SUM	CU. YD.	SQ. FT.	LIN. FT.	POUND	LUMP SUM	LUMP SUM	POUND	EACH	EACH

ITEM NO.	2405.502	2405.511	2442.501	2452.510	2452.511	2452.520	2452.602	2511.501	2554.501	2554.501	2554.523
ITEM	PRESTRESSED CONCRETE BEAMS MN45	DIAPHRAGMS FOR TYPE MN45 PRESTRESSED BEAMS	REMOVE EXISTING BRIDGE ①	STEEL H-PILING DRIVEN 10"	STEEL H-PILING DELIVERED 10"	STEEL H-TEST PILE, 40 FT. LONG 10"	PILE TIP PROTECTION 10"	RANDOM RIPRAP, CLASS V	TRAFFIC BARRIER DESIGN SPECIAL	TRAFFIC BARRIER DESIGN B8338	END-TREATMENT ENERGY ABSORBING TERMINAL
QUANTITY	475 (P)	67 (P)	1	360	360	2	14	534	100	200	4
UNIT	LIN.FT.	LIN.FT.	LUMP SUM	LIN. FT.	LIN. FT.	EACH	EACH	CU. YD.	LIN. FT.	LIN. FT.	EACH

CONSTRUCTION NOTES

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

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

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

THE SURVEY USED IN DEVELOPING THIS BRIDGE PLAN MUST BE VERIFIED WITH THE ACTUAL STREAM LOCATION AT THE TIME OF CONSTRUCTION STAKING. IF THE BRIDGE POSITIONING IS NOT COMPATIBLE WITH THE STREAM, THE ENGINEER SIGNING THESE PLANS SHALL BE NOTIFIED.

IF STATIONING IS CHANGED, THE REVISED PLANS SHALL BE SUBMITTED TO THE OWNER AND STATE AID BRIDGE UNIT FOR APPROVAL.

THE PILE LOADS SHOWN IN THE PLANS AND THE CORRESPONDING NOMINAL PILE BEARING RESISTANCE (R_n) WERE COMPUTED USING LRFD METHODOLOGY. PILE BEARING RESISTANCE DETERMINED IN THE FIELD SHALL INCORPORATE THE METHODS AND/OR FORMULAS DESCRIBED IN THE SPECIAL PROVISIONS.

B.M. ELEV. 1086.71

LOCATION: BRASS DISK ON S.E. CORNER OF THE EXISTING BR. 55513

DESIGN DATA

2007 AASHTO LRFD BRIDGE DESIGN
SPECIFICATIONS LOAD AND RESISTANCE FACTOR DESIGN METHOD - HL-93 LIVE LOAD
DEAD LOAD INCLUDES 20 PSF DEAD LOAD ALLOWANCE FOR FUTURE WEARING COURSE MODIFICATIONS.
MAXIMUM ALLOWABLE DESIGN STRESSES:
- REINFORCED CONCRETE:
  - f'c = 4000 PSI n = 8
  - fy = 60000 PSI REINFORCEMENT
- PRESTRESSED CONCRETE:
  - f'c = 8000 PSI n = 1
  - fy = 270000 PSI STRANDS
- STRUCTURAL STEEL:
  - fy = 36000 PSI SPEC. 3306

DECK AREA = 3,764 S.F. DESIGN SPEED = 55 M.P.H.
CURRENT A.D.T. = 1,382 (2008)
PROJ. A.D.T. = 2,211 (2028)
OPERATING RATING = HS 58

AS-BUILT

MAR 16 2010

ENGINEERING

LIST OF SHEETS

NO.	TITLE
B1	GENERAL PLAN & ELEVATION
B2	BRIDGE LAYOUT
B3-B6	ABUTMENT DETAILS
B7-B8	SUPERSTRUCTURE DETAILS
B9	END DIAPHRAGM DETAILS
B10	PRESTRESSED CONCRETE BEAM DETAILS
B11	CONCRETE BARRIER (TYPE F, TL-4)
B12-B15	MISC. BRIDGE DETAILS
B16	BRIDGE SURVEY
B17	BRIDGE SURVEY - PLAN & PROFILE
B18-B20	GUARDRAIL DETAILS

APPROVED: Michael J. Kruckow
COUNTY ENGINEER
OLMSTED COUNTY

DATE: 4/13/09

I HEREBY CERTIFY THAT THIS PLAN (SHEETS B1-B20) 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.

Dale Draves

DALE DRAVES

DATE: 4-7-08 LIC.NO. 20666

PLANS PREPARED BY:
ERICKSON ENGINEERING
9330 JAMES AVENUE SOUTH
BLOOMINGTON, MN 55431

C.S.A.H. 10 OLMSTED COUNTY
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55583

LOCATED 0.4 MILES NORTH OF JCT. C.S.A.H. 9 ON C.S.A.H. 10 OVER THE MIDDLE FORK WHITEWATER RIVER

95 FT. PRESTRESSED CONC. BEAM SPAN
36 FT. ROADWAY, 30° SKEW
SPAN IDENTIFICATION NO. 501

GENERAL PLAN & ELEVATION

SEC. 34 TWP. 107 N R 11 W

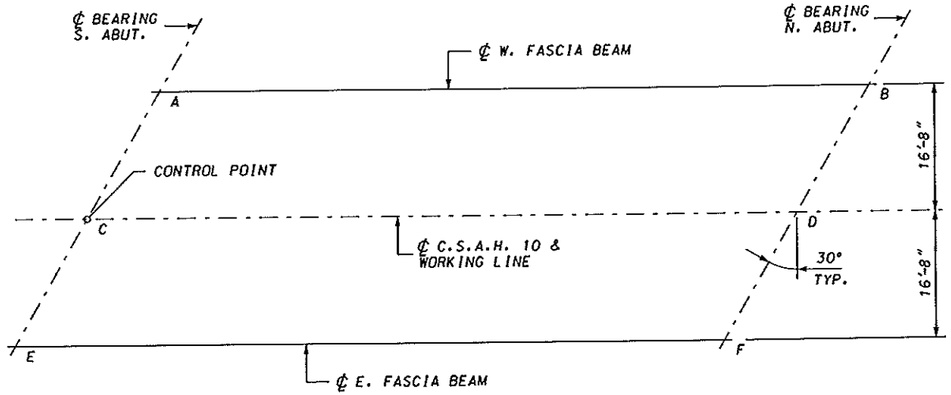
TOWNSHIP: QUINCY
COUNTY: OLMSTED

APPROVED: Ronald D. Wiggum
STATE BRIDGE ENGINEER

DATE: 5/11/09

S.A.P. 55-610-20
SHEET B1 OF B20 SHEETS

DES.:	JAS	DRN.:	BDM	55583
CHK.:	KPM	CHK.:	DSP	



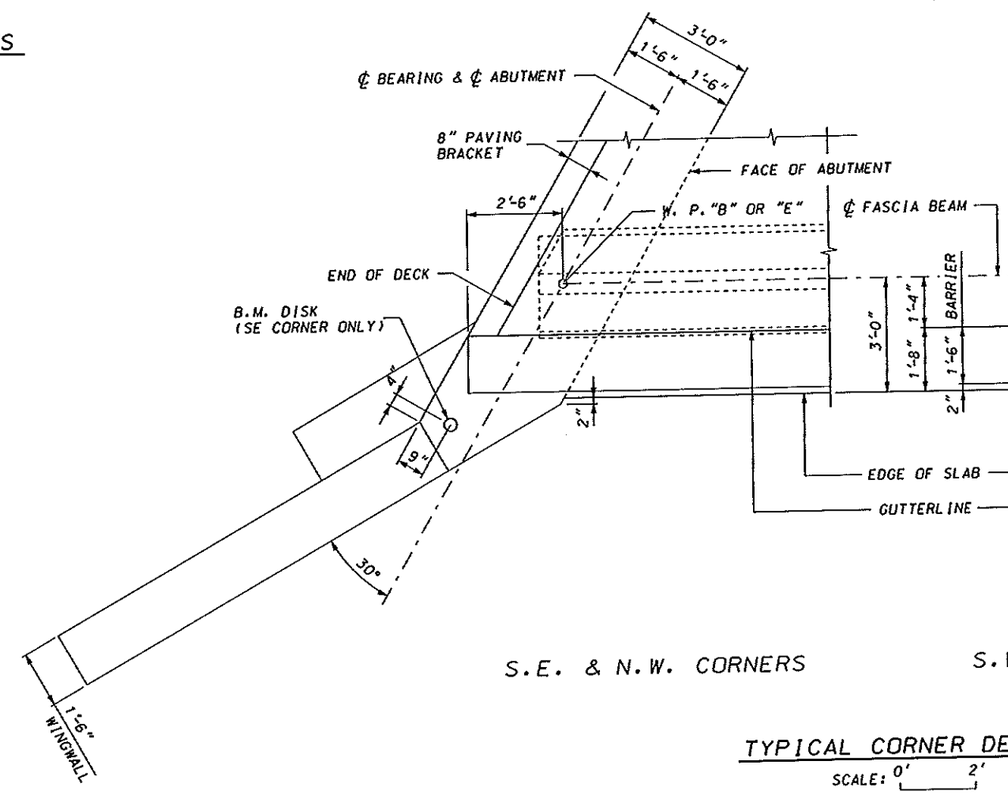
LAYOUT SHOWING WORKING POINTS

SCALE: 0' 8'

AS-BUILT

MAR 1 6 2010

ENGINEERING



TYPICAL CORNER DETAIL

SCALE: 0' 2'

LIST OF STANDARD PLATES	
PLATE NO.	DESCRIPTION
8000 I	STANDARD BARRRICADES
8318 C	GUARDRAIL ANCHORAGE PLATE FOR BRIDGES & BCT'S.
8335 A	GUARDRAIL TRANSITION DETAIL
8338 C	W-BEAM GUARDRAIL & END ANCHORAGES

THE ABOVE STANDARD PLATES, AS APPROVED BY THE F.H.W.A., SHALL APPLY ON THIS PROJECT.

DIMENSIONS BETWEEN WORKING POINTS								ELEVATIONS			
POINT	STATION	A	B	C	D	E	F	TOP OF SLAB	SLAB TO BRIDGE SEAT	BRIDGE SEAT	POINT
A	29+73.52		93.75	19.25	85.76		81.62	1085.92	5.07	1080.85	A
B	30+67.27				19.25	117.81		1086.49	5.07	1081.41	B
C	29+63.90				93.75	19.25	85.76	1086.24	5.07	1081.17	C
D	30+57.65						19.25	1086.75	5.07	1081.68	D
E	29+54.28						93.75	1085.90	5.07	1080.83	E
F	30+48.03							1086.35	5.07	1081.28	F

TOP OF SLAB TO BRIDGE SEAT		
	S. ABUT.	N. ABUT.
SLAB THICKNESS	9"	9"
STOOL HEIGHT	6 3/8"	6 3/8"
BEAM HEIGHT	3'-9"	3'-9"
BEARING HEIGHT	1/2"	1/2"
TOTAL	5'-0 1/8"	5'-0 1/8"

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LIC. NO. 20666 4-7- 2008

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BRIDGE NO. 55583

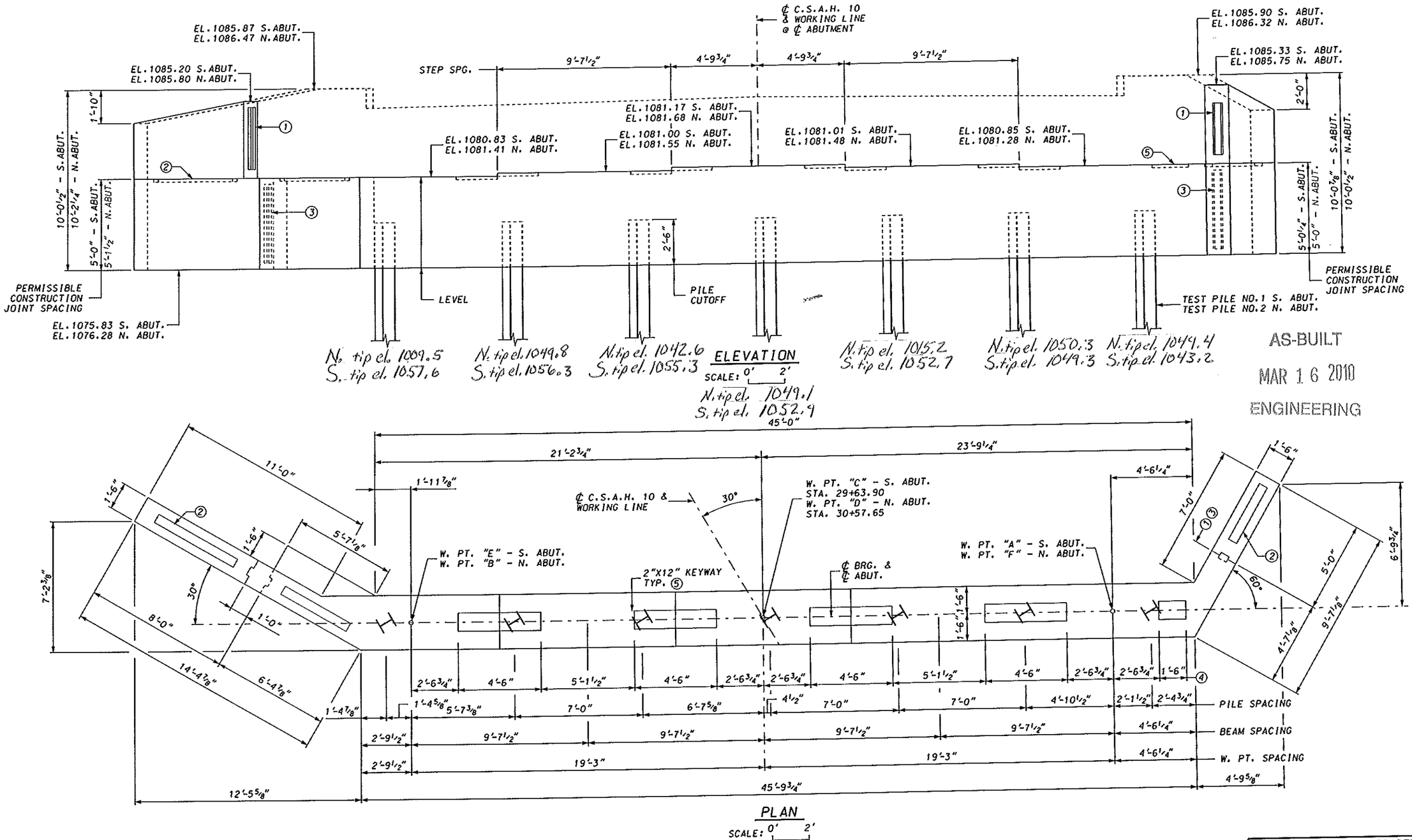
BRIDGE LAYOUT

APPROVED:

S.A.P. 55-610-20

SHEET B2 OF B20 SHEETS

DES.	JAS	DRN.	BDM	55583
CHK.	KPM	CHK.	DSP	



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CONSTRUCTION JOINT NOTES

ANY PORTION OF THE WINGWALL MAY BE PLACED WITH THE SLAB AND END DIAPHRAGM CONCRETE. USE OF THE PERMISSIBLE CONSTRUCTION JOINTS IS AT THE CONTRACTOR'S DISCRETION WITH THE APPROVAL OF THE ENGINEER IN THE FIELD. A MINIMUM OF 1 CONSTRUCTION JOINT PER WING SHALL BE USED.

ALL PERMISSIBLE CONSTRUCTION JOINTS FOR THE ABUTMENT WINGWALLS AND END DIAPHRAGM SHALL HAVE A 2"x6" KEYWAY AND SHALL HAVE WATERPROOFING MEMBRANE APPLIED TO THE BACK FACE.

① PERMISSIBLE CONSTRUCTION JOINT NO. 1 (ABOVE BRIDGE SEAT)

② PERMISSIBLE CONSTRUCTION JOINT NO. 2 (AT TOP OF BRIDGE SEAT ELEVATION)

③ PERMISSIBLE CONSTRUCTION JOINT NO. 3 (BELOW BRIDGE SEAT)

④ KEYWAY SPACING BETWEEN BEAMS

⑤ MANDATORY CONSTRUCTION JOINT AT ABUTMENT SEAT.

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BRIDGE NO. 55583

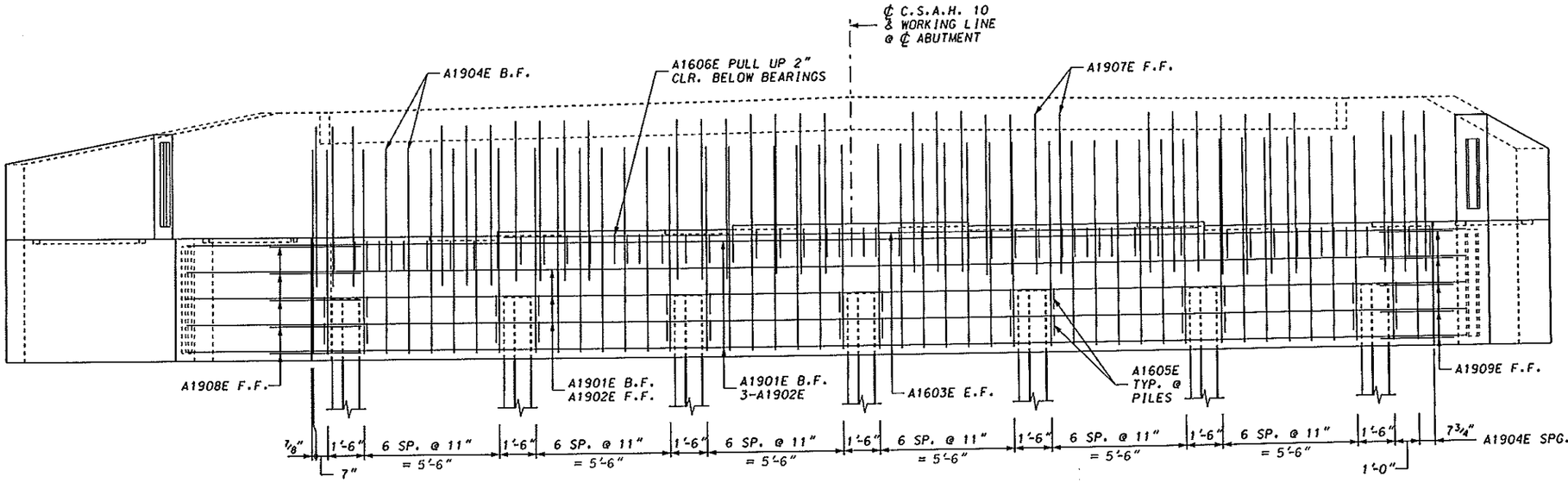
ABUTMENT DETAILS

APPROVED:

S.A.P. 55-610-20

SHEET B3 OF B20 SHEETS

DES.	JAS	DRN.	BDM	55583
CHK.	KPM	CHK.	DSP	



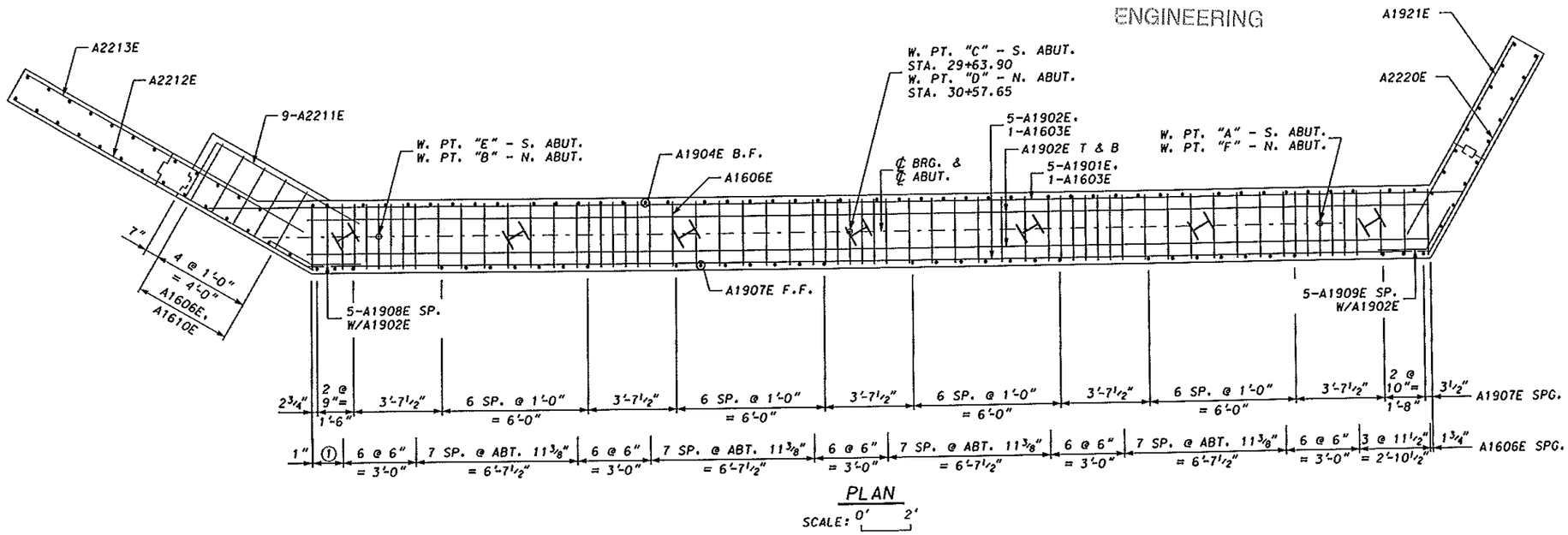
ELEVATION

SCALE: 0' 2'

AS-BUILT

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ENGINEERING



PLAN

SCALE: 0' 2'

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

① 2 SP. @ 7 1/4" = 1'-2 1/2"

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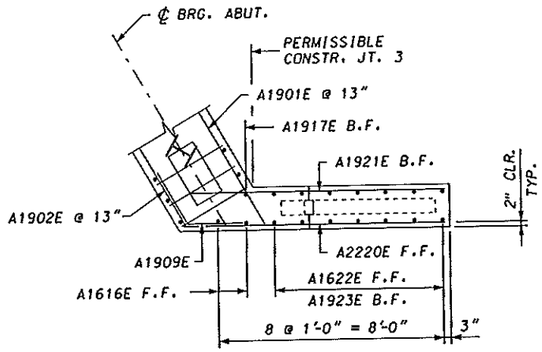
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55583

ABUTMENT DETAILS

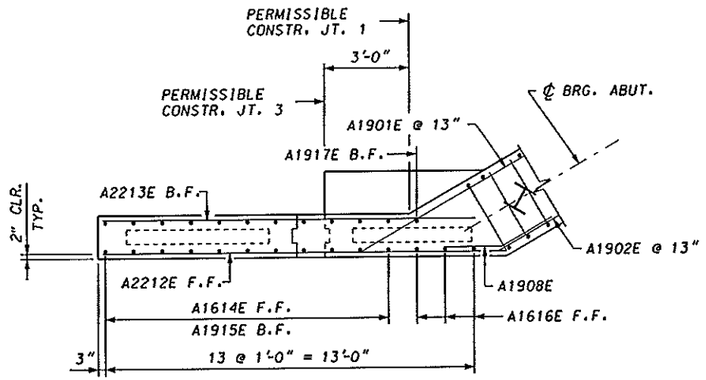
APPROVED:

S.A.P. 55-610-20				
SHEET B4 OF B20 SHEETS				
DES.	JAS	DRN.	BDM	55583
CHK.	KPM	CHK.	DSP	



SECTION C-C

SCALE: 0' 2'



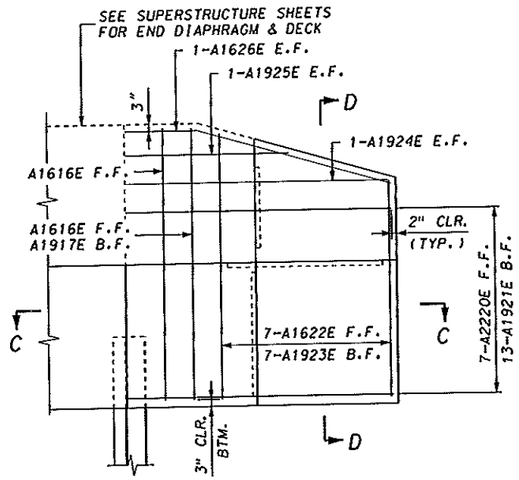
SECTION A-A

SCALE: 0' 2'

AS-BUILT

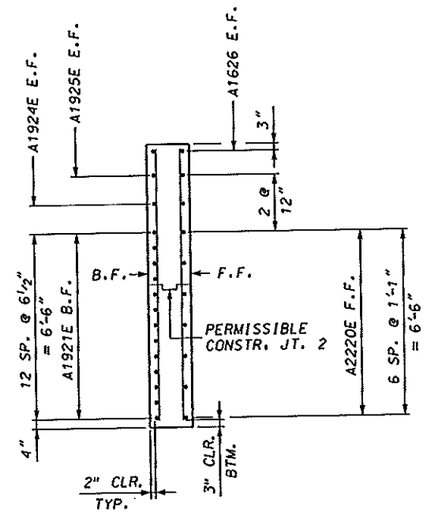
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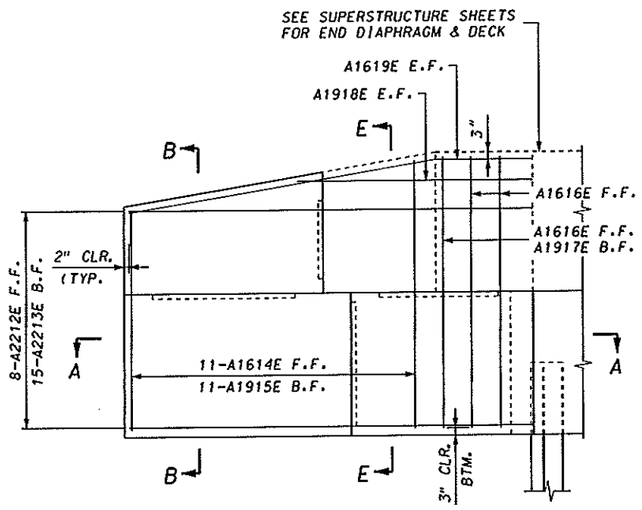
SW & NE WINGWALL ELEVATION

SCALE: 0' 2'



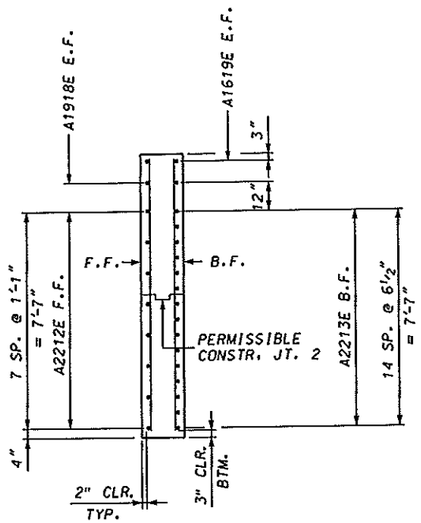
SECTION D-D

SCALE: 0' 2'



SE & NW WINGWALL ELEVATION

SCALE: 0' 2'



SECTION B-B

SCALE: 0' 2'

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

SEE SHEET B6 FOR SECTION E-E.

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BRIDGE NO. 55583

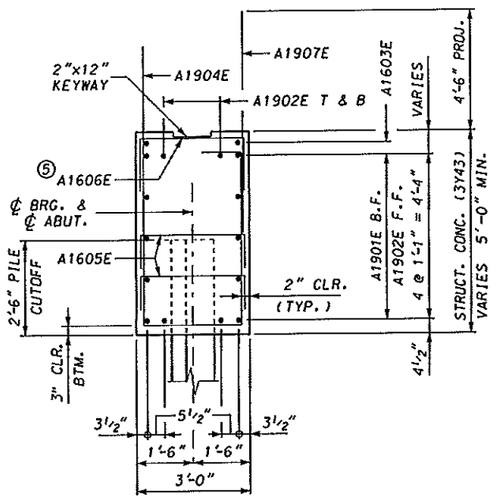
ABUTMENT DETAILS

APPROVED:

S.A.P. 55-610-20

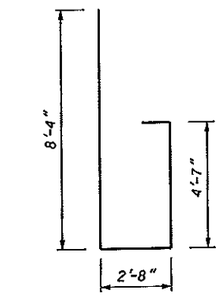
SHEET B5 OF B20 SHEETS

DES.	JAS	DRN.	BDM	55583
CHK.	KPM	CHK.	CGD	

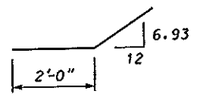


SECTION THRU ABUTMENT

SCALE: 0' 2'



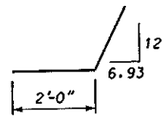
A1904E



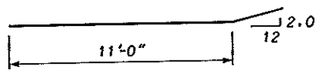
A1908E



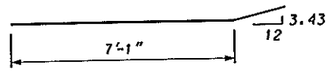
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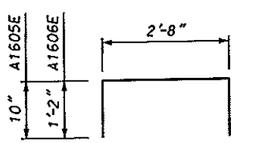
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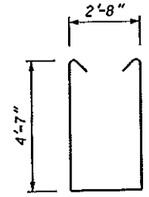
A1619E



A1626E



A1605E & A1606E

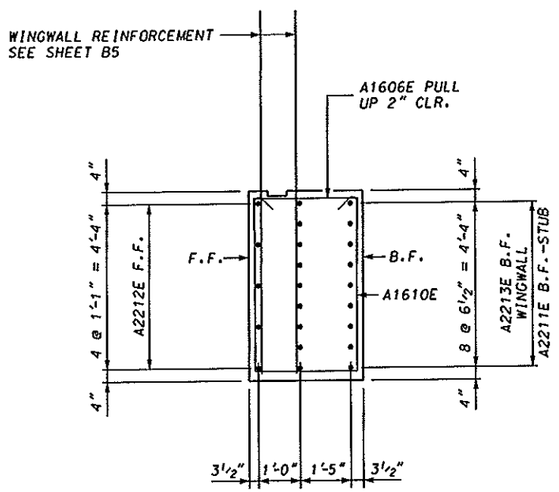


A1610E

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SECTION E-E

SCALE: 0' 2'

BILL OF REINFORCEMENT - 2 ABUTMENTS

BAR	NO.	LENGTH	SHAPE	LOCATION
A1901E	10	51'-6"	STRT.	CAP - HORIZONTAL B.F.
A1902E	18	45'-11"	STRT.	CAP - HORIZONTAL
A1603E	4	28'-6"	STRT.	CAP - HORIZONTAL
A1904E	92	16'-7"	BENT	CAP - STIRRUP
A1605E	56	4'-4"	BENT	CAP - PILE TIE
A1606E	128	5'-0"	BENT	CAP - BR. SEAT TIE
A1907E	68	7'-2"	STRT.	CAP - VERTICAL
A1908E	10	4'-0"	BENT	CAP - TIE
A1909E	10	4'-0"	BENT	CAP - TIE
A1610E	10	12'-9"	BENT	CAP - STIRRUP
A2211E	18	9'-4"	BENT	CAP - HORIZONTAL
A2212E	16	14'-2"	STRT.	WINGWALL - HORIZONTAL
A2213E	30	13'-2"	STRT.	WINGWALL - HORIZONTAL
A1614E	2 SER. OF 11	7'-8" TO 9'-4"	STRT.	WINGWALL - VERTICAL
A1915E	2 SER. OF 11	7'-8" TO 9'-4"	STRT.	WINGWALL - VERTICAL
A1616E	10	9'-7"	STRT.	WINGWALL - VERTICAL
A1917E	4	9'-7"	STRT.	WINGWALL - VERTICAL
A1918E	4	8'-1"	STRT.	WINGWALL - HORIZONTAL
A1619E	4	14'-3"	BENT	WINGWALL - HORIZONTAL
A2220E	14	9'-4"	STRT.	WINGWALL - HORIZONTAL
A1921E	26	9'-1"	STRT.	WINGWALL - HORIZONTAL
A1622E	2 SER. OF 7	7'-6" TO 9'-3"	STRT.	WINGWALL - VERTICAL
A1923E	2 SER. OF 7	7'-6" TO 9'-3"	STRT.	WINGWALL - VERTICAL
A1924E	4	9'-1"	STRT.	WINGWALL - HORIZONTAL
A1925E	4	5'-9"	STRT.	WINGWALL - HORIZONTAL
A1626E	4	9'-7"	BENT	WINGWALL - HORIZONTAL

NORTH & SOUTH ABUTMENT COMPUTED PILE LOAD - TONS/PILE

FACTORED DEAD LOAD + EARTH PRESSURE	71.6
FACTORED LIVE LOAD	30.2
⑥ FACTORED DESIGN LOAD	101.8

⑥ BASED ON STRENGTH I LOAD COMBINATION

NORTH & SOUTH ABUTMENT REQUIRED NOMINAL PILE BEARING RESISTANCE R_n - TONS/PILE

FIELD CONTROL METHOD	φ_{dyn}	⑦ R_n
MN/DOT NOMINAL RESISTANCE FORMULA	0.40	254.5
PDA	0.65	156.6

⑦ R_n = (FACTORED DESIGN LOAD) / φ_{dyn}

PILE NOTES

6 - STEEL H-PILES, 30' EST. LENGTH
1 - STEEL H-TEST PILE, 40' LONG
7 - STEEL H-PILES REQ'D FOR SOUTH ABUT.

6 - STEEL H-PILES, 30' EST. LENGTH
1 - STEEL H-TEST PILE, 40' LONG
7 - STEEL H-PILES REQ'D FOR NORTH ABUT.

ALL PILES SHALL BE HP10X42, STEEL H-PILES.

SEE DETAIL B202 FOR SPLICES.

ALL PILES SHALL HAVE PILE TIP PROTECTION. SEE SPECIAL PROVISIONS.

SEE SURVEY SHEET FOR TEST PILE LOCATIONS.

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

SUMMARY OF QUANTITIES - 2 ABUTMENTS

④	STRUCTURAL CONCRETE (3Y43)	73 CU. YD.
	REINFORCEMENT BARS (EPOXY COATED)	9740 POUND
②③	STRUCTURE EXCAVATION	1 LUMP SUM
①	STEEL H-PILING DELIVERED, 10"	360 LIN. FT.
①	STEEL H-PILING DRIVEN, 10"	360 LIN. FT.
	STEEL H-TEST PILE, 40' LONG, 10"	2 EACH
②	PILE TIP PROTECTION, 10"	14 EACH

① DOES NOT INCLUDE TEST PILES

② SEE SPECIAL PROVISIONS

③ BACKFILL BEHIND ABUTMENTS SHALL BE SELECT GRANULAR BORROW PER SPEC. 3149. SEE BRIDGE SURVEY SHEET FOR PLACEMENT LIMITS. APPROXIMATE QUANTITY (CY) IS 540 CU. YD. INCLUDED IN PRICE BID FOR "STRUCTURE EXCAVATION". BACKFILL DENSITY SHALL BE ATTAINED BY THE QUALITY COMPACTION METHOD IN ACCORDANCE WITH SPEC. 2105.3F2.

④ BASED ON CONSTRUCTION METHODS USING CONSTRUCTION JOINT NO. 1.

⑤ PULL UP 2" CLEAR BELOW BEARINGS.

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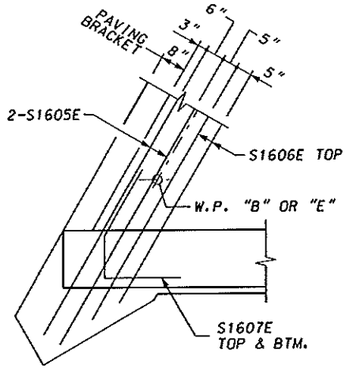
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55583

ABUTMENT DETAILS

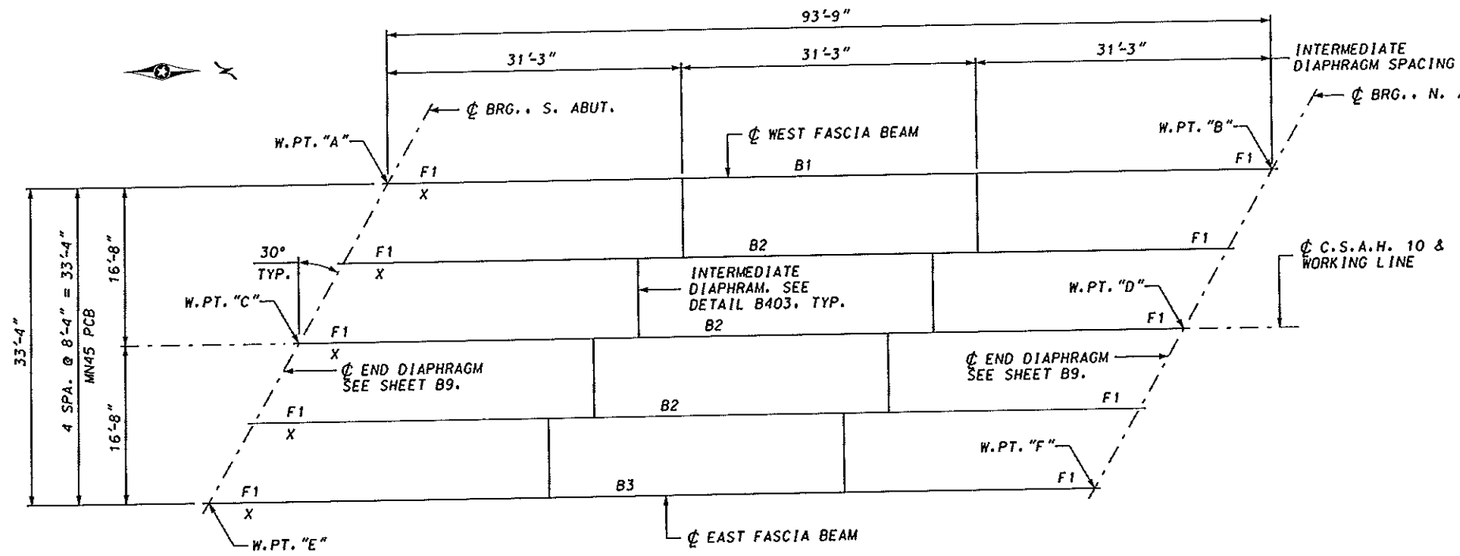
APPROVED:

S.A.P. 55-610-20				
SHEET B6 OF B20 SHEETS				
DES.	JAS	DRN.	BDM	55583
CHK.	KPM	CHK.	DSP	



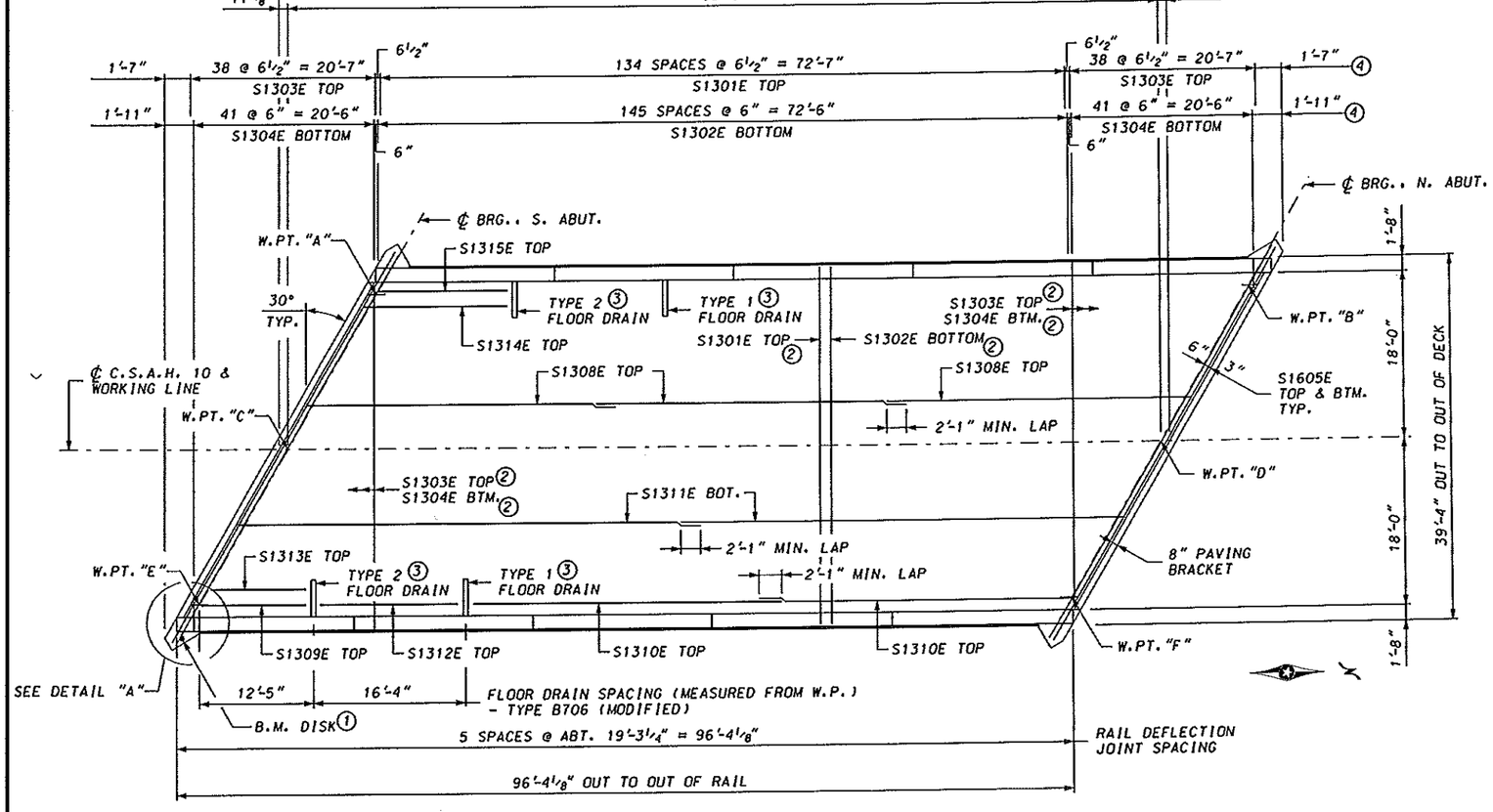
DETAIL "A"

SOUTHEAST CORNER SHOWN.
NORTHWEST CORNER SIMILAR.



FRAMING PLAN

SCALE: 0' 6'



DECK PLAN

SCALE: 0' 6'

NOTES:

F1 = ELASTOMERIC BEARING PAD, TYPE 1. SEE DETAIL B305

"X" DENOTES END OF BEAM.

END OF BEAM TO BE COPED. SEE CONCRETE BEAM SHEET FOR DETAIL.

① BENCHMARK DISK TO BE LOCATED AT S.E. CORNER. SEE SHEET B2 FOR PLACEMENT.

② ADJUST S1301E, S1302E, S1303E, AND S1304E THE MINIMAL AMOUNT NECESSARY TO MAINTAIN 2" CLEAR FROM FLOOR DRAINS.

③ SEE DETAIL B706 (MOD.) FOR TYPE 1 & TYPE 2 FLOOR DRAINS.

④ MEASURED ALONG GUTTERLINE.

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BRIDGE NO. 55583

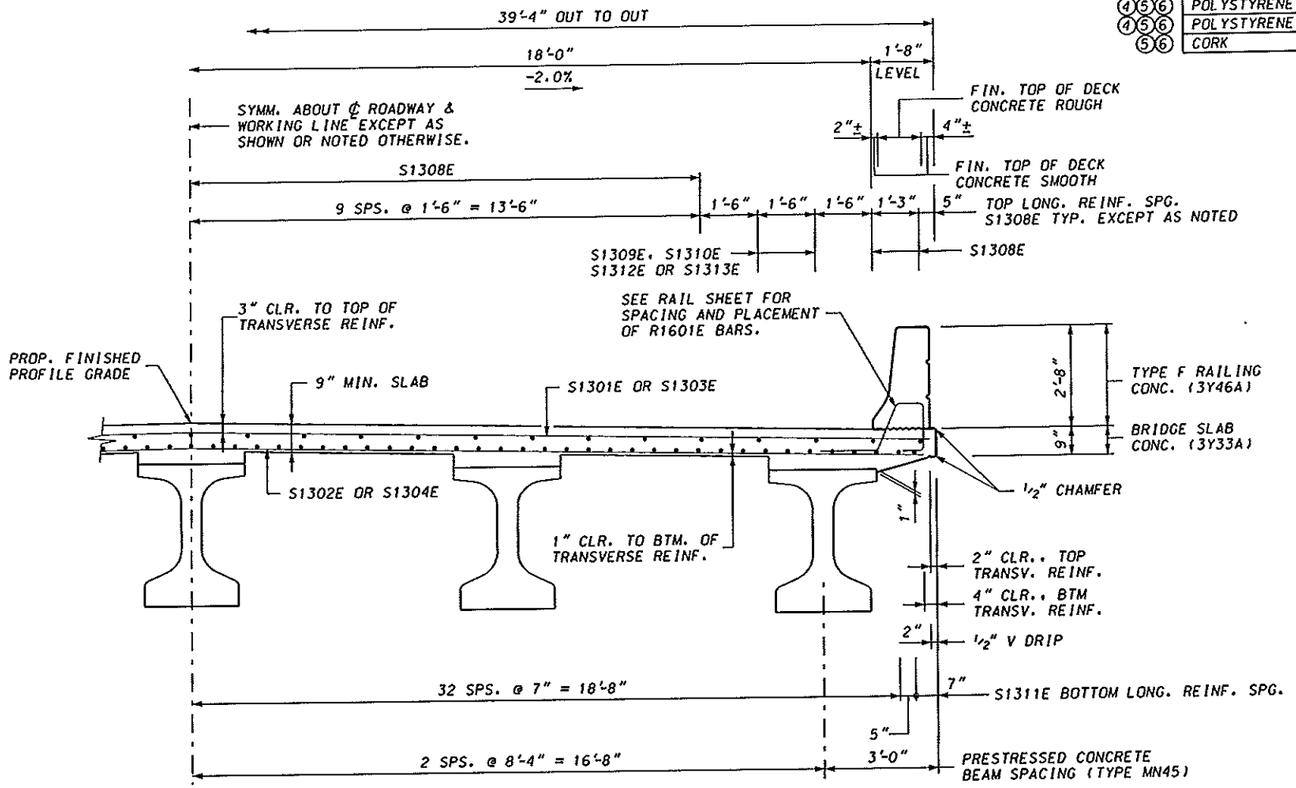
SUPERSTRUCTURE DETAILS

APPROVED:

S.A.P. 55-610-20

SHEET B7 OF B20 SHEETS

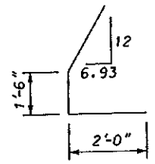
DES.	JAS	DRN.	BDM	55583
CHK.	KPM	CHK.	DSP	



PART. TRANSV. SECTION THRU DECK

SCALE: 0' 1'

LIST OF PREFORMED JOINT FILLERS			
TYPE	LIN. FT.	SIZE	LOCATION
④⑤⑥ POLYSTYRENE	20	1/2"x3"	ABUTMENT - BEARINGS
④⑤⑥ POLYSTYRENE	25	1/2"x2"	ABUTMENT - BEARINGS
④⑤⑥ POLYSTYRENE	13	1/2"x30"	ABUTMENT - BEARINGS
⑤⑥ CORK	15	1"x13"	RAIL DEFLECTION JOINTS



S1607E

① BILL OF REINFORCEMENT - SUPERSTRUCTURE

BAR	NO.	LENGTH	SHAPE	LOCATION
S1301E	135	39'-0"	STRT.	SLAB - TRANSVERSE - TOP
S1302E	175	38'-8"	STRT.	SLAB - TRANSVERSE - BTM.
S1303E	2 SER. OF 39	FROM 2'-6" TO 38'-2"	STRT.	SLAB - TRANSVERSE - TOP
S1304E	2 SER. OF 42	FROM 2'-8" TO 38'-2"	STRT.	SLAB - TRANSVERSE - BTM.
S1605E	8	48'-5"	STRT.	SLAB - TRANSVERSE @ ENDS
S1606E	4	10'-0"	STRT.	SLAB - TRANSVERSE @ ENDS
S1607E	4	5'-6"	BENT	SLAB - TRANSVERSE @ CORNERS
② S1308E	69	33'-2"	STRT.	SLAB - LONGITUDINAL - TOP
S1309E	1	12'-8"	STRT.	SLAB - LONGITUDINAL - TOP
S1310E	8	34'-3"	STRT.	SLAB - LONGITUDINAL - TOP
③ S1311E	134	48'-9"	STRT.	SLAB - LONGITUDINAL - BOTTOM
S1312E	4	15'-6"	STRT.	SLAB - LONGITUDINAL - TOP
S1313E	1	11'-9"	STRT.	SLAB - LONGITUDINAL - TOP
S1314E	1	13'-8"	STRT.	SLAB - LONGITUDINAL - TOP
S1315E	1	12'-10"	STRT.	SLAB - LONGITUDINAL - TOP

① SEE SHEET B9 FOR END DIAPHRAGM REINFORCEMENT.

② 3 BARS PER LINE WITH 2'-1" MIN. LAP

③ 2 BARS PER LINE WITH 2'-1" MIN. LAP

⑧ SUMMARY OF QUANTITIES - SUPERSTRUCTURE

⑨ BRIDGE SLAB CONCRETE (3Y33A)	3764	SQ. FT.
⑩ TYPE F RAILING CONCRETE (3Y46A)	193	LIN. FT.
REINFORCEMENT BARS (EPOXY COATED)	23990	POUND
⑪ PRESTRESSED CONCRETE BEAMS, TYPE MN45-95	5	EACH
PRESTRESSED CONCRETE BEAMS MN45	475	LIN. FT.
DIAPH. FOR TYPE MN45 PRESTR. BEAMS	67	LIN. FT.
FLOOR DRAIN, TYPE B706 MODIFIED	4	EACH
⑮ BRIDGE NAMEPLATE (DETAIL B101)	1	EACH
⑫ ELASTOMERIC BEARING PAD, TYPE 1	10	EACH
⑯⑬ MEMBRANE WATERPROOFING SYSTEM	132	LIN. FT.
⑭ BENCH MARK DISK	1	EACH
⑦ STRUCTURAL STEEL (3306)	690	POUND

④ SEE DETAIL THIS SHEET.

⑤ INCLUDED IN PRICE BID FOR OTHER ITEMS.

⑥ SEE SPECIAL PROVISIONS.

⑦ INCLUDED IN WEIGHT OF "STRUCTURAL STEEL (3306)".

⑧ INCLUDES BARRIER AND END DIAPHRAGM QUANTITIES.

⑨ APPROX. VOLUME = ~~186 CU. YDS.~~ 175 Cu. Yds. (Plan error) BASED ON AN AVERAGE STOOL HEIGHT OF 4 1/4". INCLUDES END DIAPHRAGM.

⑩ APPROX. VOLUME = 21 CU. YDS.

⑪ PAYMENT FOR BEAMS INCLUDED IN ITEM "PRESTRESSED CONCRETE BEAMS MN45" PER LINEAR FOOT.

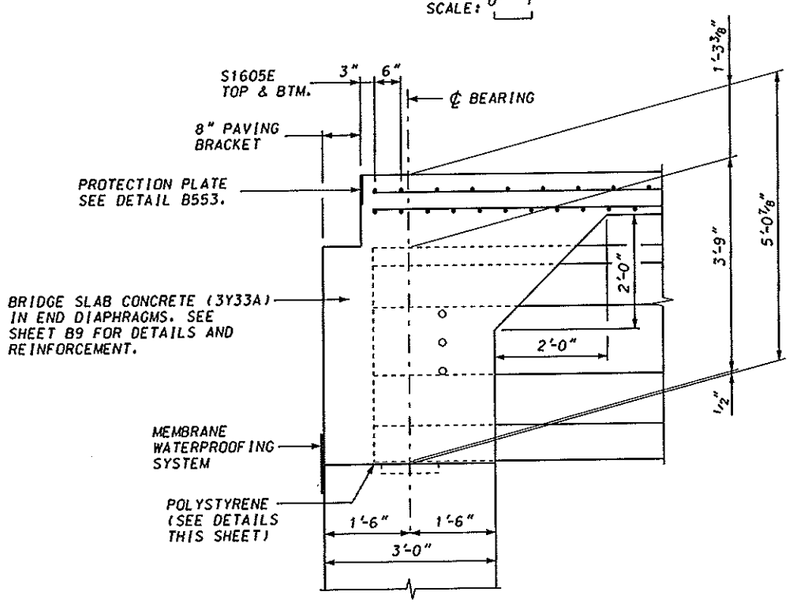
⑫ PAYMENT FOR BEARINGS INCLUDED IN ITEM "ELASTOMERIC BEARING PAD TYPE 1" PER EACH. SEE DETAIL B305.

⑬ LENGTH BASED ON ASSUMED USE OF 1 PERMISSIBLE CONSTRUCTION JOINT AT EACH WINGWALL.

⑭ COUNTY WILL FURNISH DISK. BEND PRONGS OUTWARD TO ANCHOR DISK IN CONCRETE. BOTTOM OF DISK TOP TO BE PLACED FLUSH WITH CONCRETE. PAYMENT FOR PLACING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.

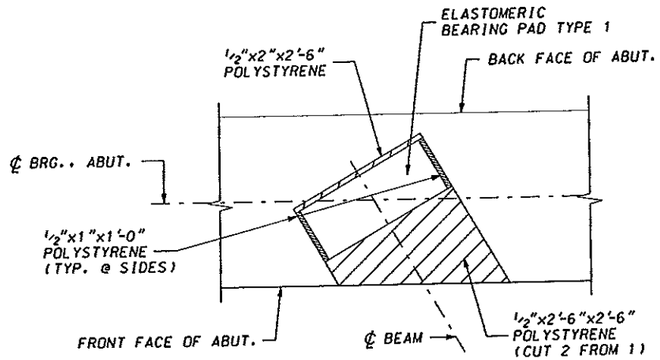
⑮ PAYMENT SHALL BE CONSIDERED INCIDENTAL TO "TYPE F (TL-4) BARRIER CONCRETE (3Y46A)".

⑯ PAYMENT SHALL BE CONSIDERED INCIDENTAL TO "BRIDGE SLAB CONCRETE (3Y33A)".



LONGITUDINAL SECTION AT ABUTMENT

SCALE: 0' 1'



PARTIAL ABUTMENT DETAIL

SCALE: 0' 1'

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CERTIFIED BY Dale Draves
PROFESSIONAL ENGINEER/DALE DRAVES
LIC. NO. 20666 4-7- 2008

MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55583

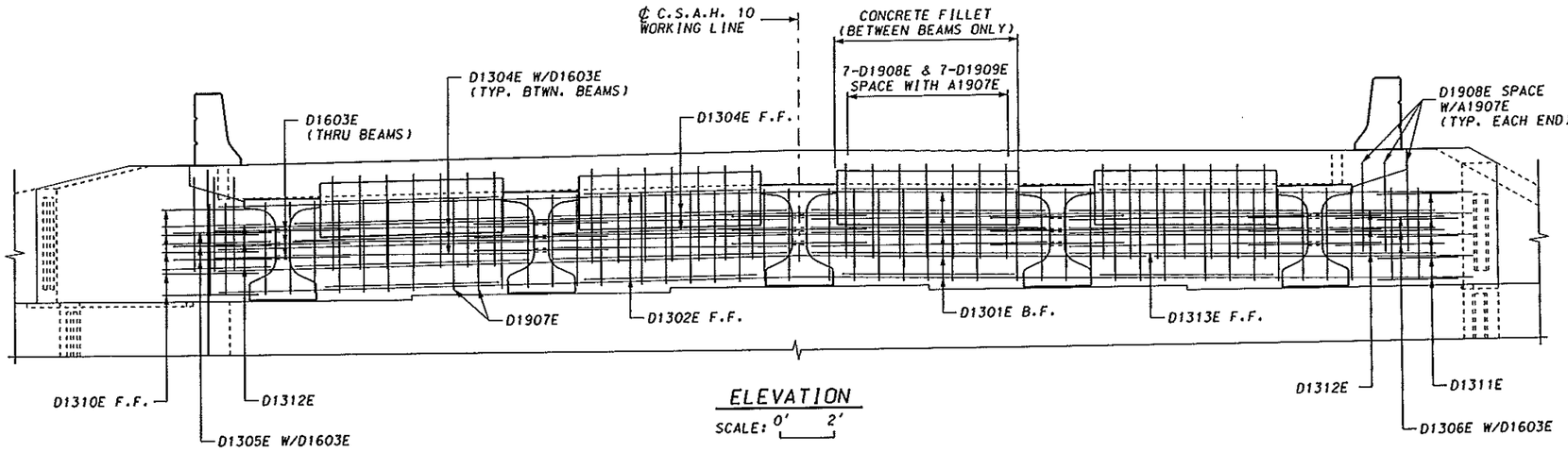
SUPERSTRUCTURE DETAILS

APPROVED:

S.A.P. 55-610-20

SHEET B8 OF B20 SHEETS

DES.:	JAS	DRN.:	BDM	55583
CHK.:	KPM	CHK.:	DSP	



ELEVATION

SCALE: 0' 2'

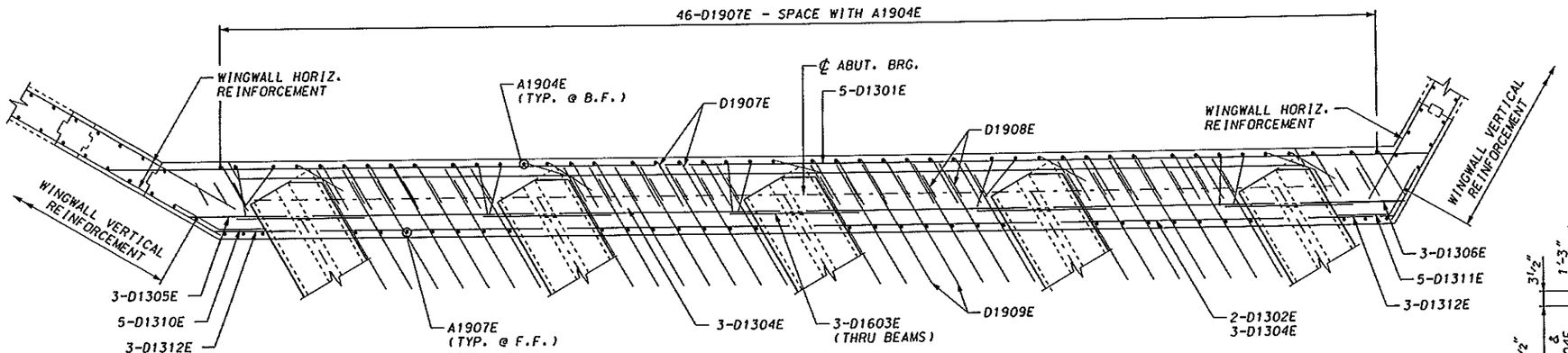
BILL OF REINFORCEMENT - 2 END DIAPHRAGMS				
BAR	NO.	LENGTH	SHAPE	LOCATION
① D1301E	20	26'-7"	STRT.	DIAPHRAGM - HORIZ. B.F.
D1302E	16	5'-11"	STRT.	DIAPHRAGM - HORIZ. F.F.
D1603E	30	5'-0"	STRT.	LONGIT. - THRU BEAMS
D1304E	40	8'-7"	STRT.	LONGIT. - BETWEEN BEAMS
D1305E	6	3'-8"	STRT.	LONGIT. - ENDS
D1306E	6	3'-10"	STRT.	LONGIT. - ENDS
D1907E	92	5'-4"	BENT	TIE
D1908E	68	6'-5"	BENT	TIE
D1909E	56	7'-6"	BENT	FILLET TIE
D1310E	10	3'-10"	BENT	LONGIT. - ENDS F.F.
D1311E	10	4'-0"	BENT	LONGIT. - ENDS F.F.
D1312E	12	3'-2"	STRT.	LONGIT. - ENDS F.F.
D1313E	8	8'-1"	STRT.	LONGIT. - BETWEEN BEAMS

① 2 BARS PER LINE WITH 1'-7" LAP.

NOTES:

DIAPHRAGMS AT THE ABUTMENTS SHALL BE PLACED INTEGRALLY WITH THE DECK SLAB. THE CONTRACTOR SHALL PLACE CONCRETE FOR THE DECK WHILE THE DIAPHRAGM CONCRETE IS STILL PLASTIC.

DIAPHRAGM CONCRETE AND REINFORCEMENT QUANTITIES ARE INCLUDED IN THE SUPERSTRUCTURE QUANTITIES.



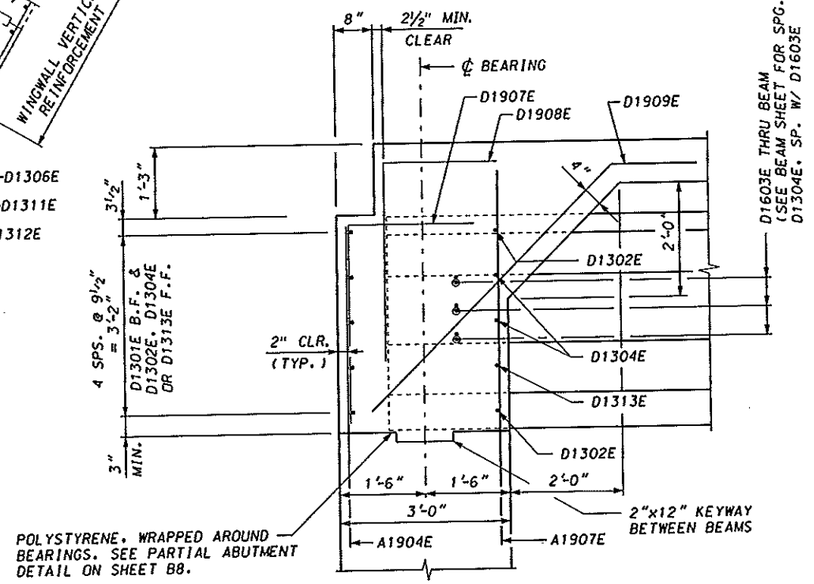
PLAN

SCALE: 0' 2'

AS-BUILT

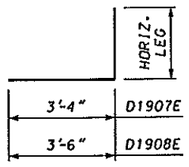
MAR 16 2010

ENGINEERING

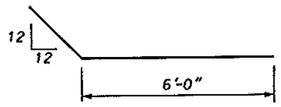


SECTION THRU END DIAPHRAGM

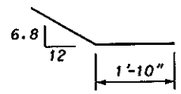
SCALE: 0' 1'



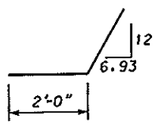
D1907E & D1908E



D1909E



D1310E



D1311E

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

CERTIFIED BY Dale Draves
PROFESSIONAL ENGINEER/DALE DRAVES
LIC. NO. 20666 4-7- 2008

MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55583

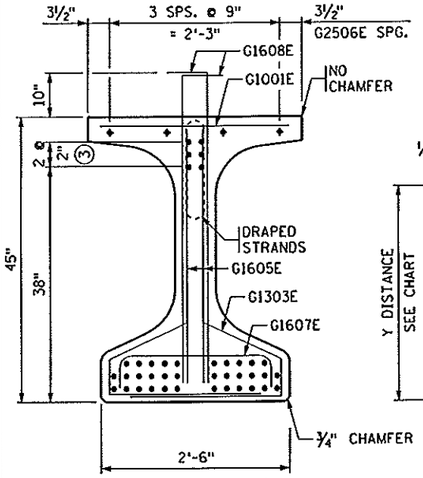
END DIAPHRAGM DETAILS

APPROVED:

S.A.P. 55-610-20

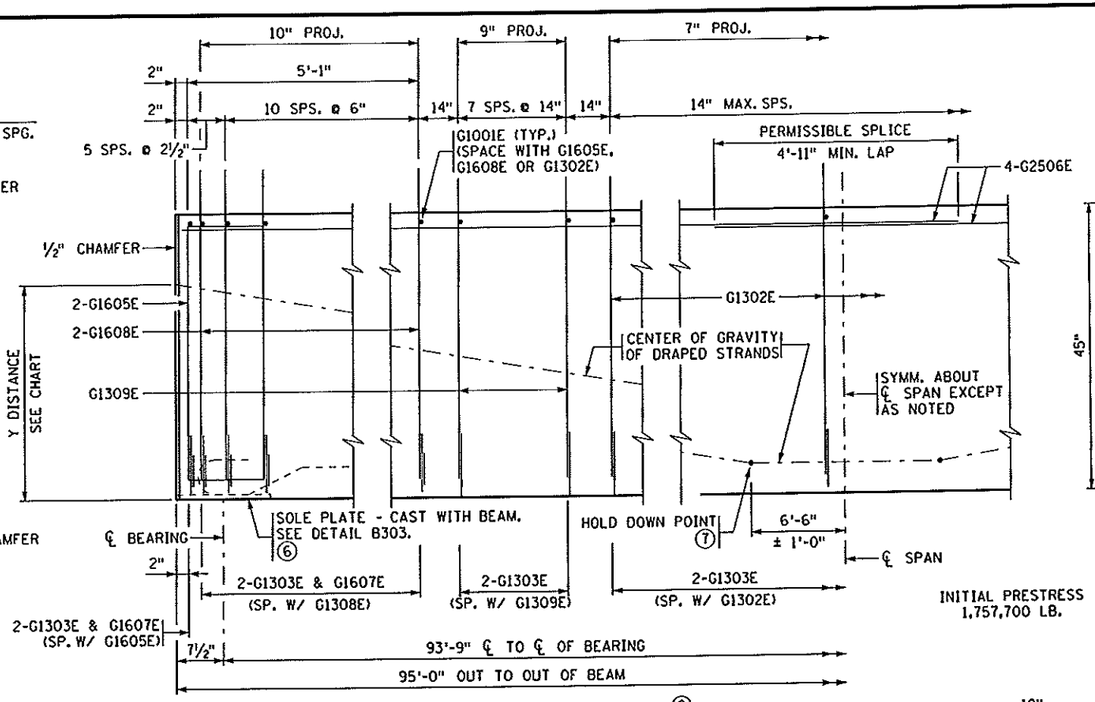
SHEET B9 OF B20 SHEETS

DES.	JAS	DRN.	BDM	55583
CHK.	KPM	CHK.	DSP	



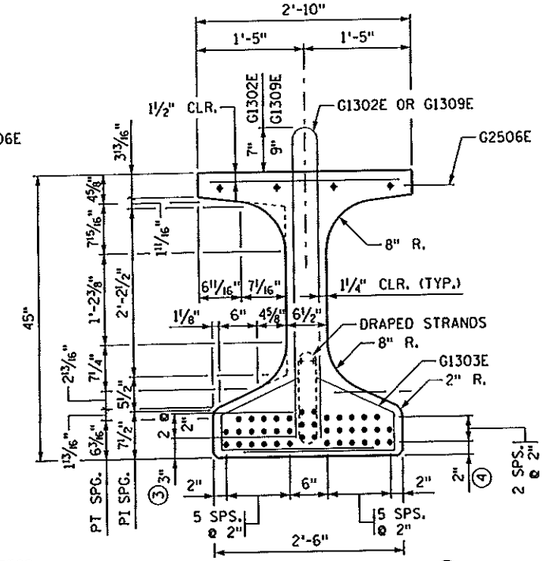
END VIEW ⑨

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



BEAM ELEVATION ⑨

INITIAL PRESTRESS 1,757,700 LB.



SECTION AT ℄ SPAN ⑨

AS-BUILT

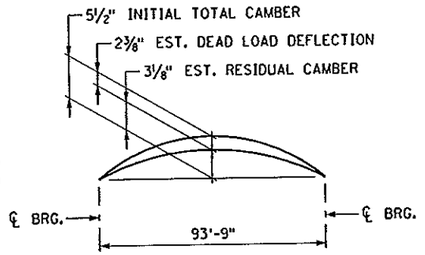
MAR 16 2010

ENGINEERING

Y DISTANCES (IN INCHES)			
	NO.	℄ SPAN	END
STRAIGHT STRANDS	34	3.88	⊠
DRAPED STRANDS	6	5.00	40.00 ◻
TOTAL STRANDS	40	4.05	⊠

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.

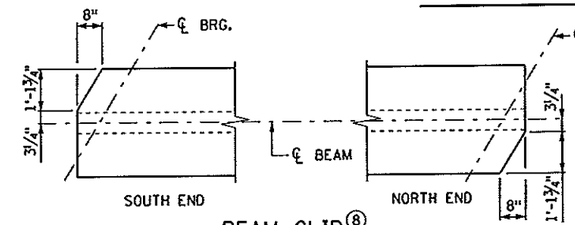


CAMBER DIAGRAM

INITIAL CAMBER IS GIVEN AFTER DIAPHRAGMS ARE IN PLACE.

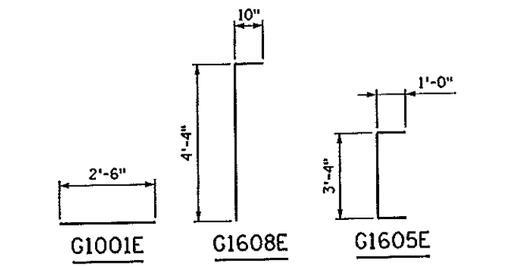
DEAD LOAD DEFLECTION SHOWN IS FOR WEIGHT OF SLAB, WEARING COURSE, RAILING, SIDEWALK AND MEDIAN WHERE APPLICABLE.

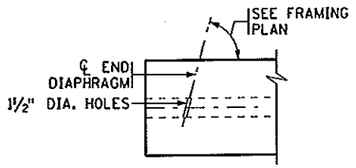
ENGINEER WILL TAKE ELEVATIONS AT TOP OF BEAMS AFTER ERECTION AND WILL ALLOW FOR DEFLECTION SHOWN TO ENABLE CONTRACTOR TO BUILD FORMS TO CORRECT GRADE AND SPECIFIED SLAB THICKNESS.

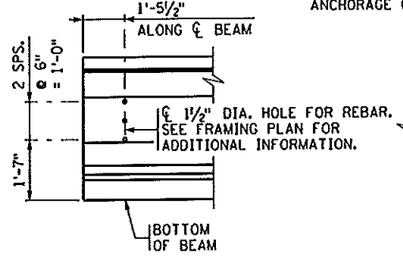


BEAM CLIP ⑧

(SEE FRAMING PLAN FOR LOCATIONS)

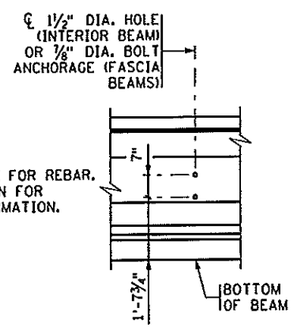






CONCRETE END ⑨ DIAPHRAGM

CONTRACTION OR INTEGRAL ABUTMENT (SEE SHEET 10 FOR END DIAPHRAGM DETAILS)

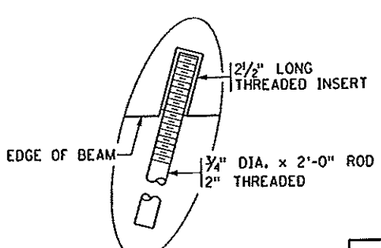


STEEL INTERMEDIATE DIAPHRAGM

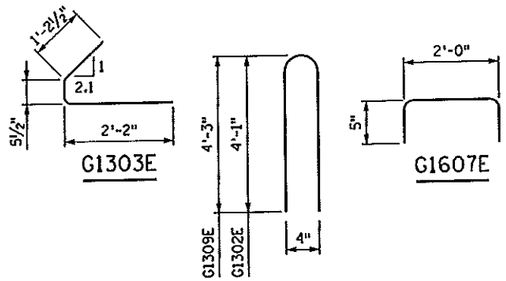
(SEE DETAIL B403 FOR DIAPHRAGM DETAILS)

MINIMUM CONCRETE STRENGTH - P.S.I.	
① f'ci	② f'c
7500	8000

PRESTRESSING STRAND DIAMETER	
⑤	½" ☐
⑤	0.60" ☒



DETAIL "A"



G1302E & G1309E

GENERAL NOTES

TOPS OF BEAMS SHALL BE ROUGH FLOATED AND BROOMED TRANSVERSELY 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 35.3 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 A416, GRADE 270.

⑥ FOR INTEGRAL ABUTMENT, SOLE PLATE CAN BE ELIMINATED OR REPLACED WITH AN APPROVED PROTECTION PLATE.

⑦ CENTER OF GRAVITY OF HOLD DOWNS WHEN MULTIPLE HOLD DOWNS ARE USED.

⑧ TOP FLANGE ONLY.

⑨ DETAIL MODIFIED

REVISED:

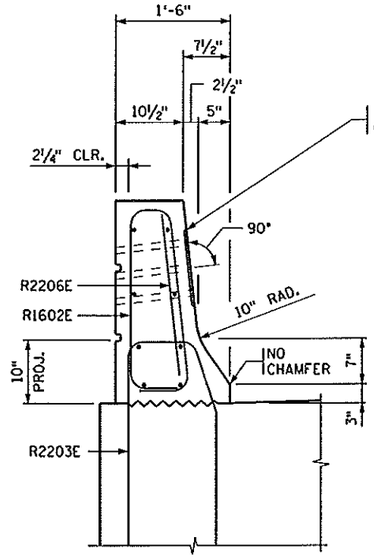
APPROVED: OCTOBER 26, 2005

STATE BRIDGE ENGINEER

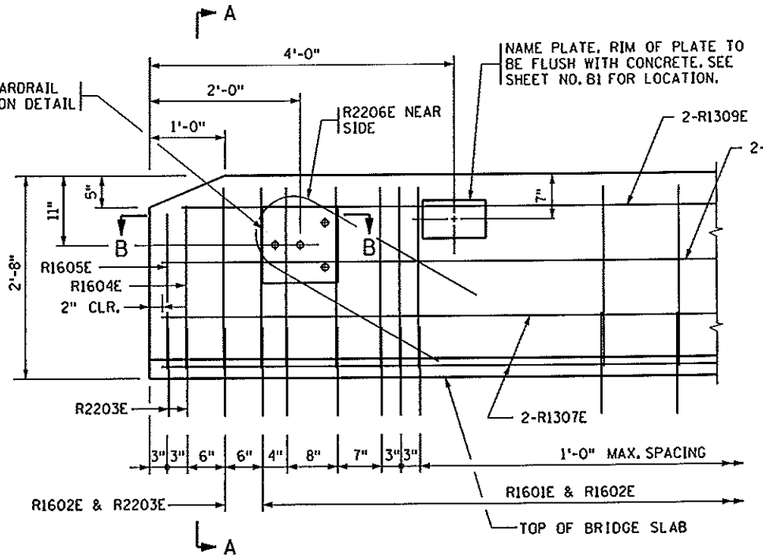
CERTIFIED BY Dale Draves PROFESSIONAL ENGINEER/DALE DRAVES

LIC. NO. 20666 4-7- 2008

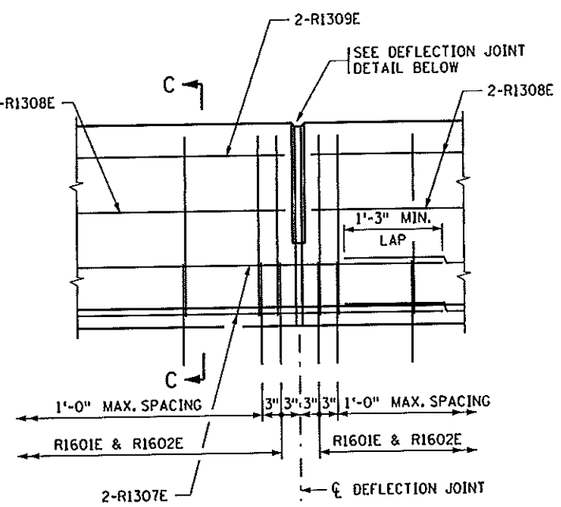
S.A.P. 55-610-20	BEAMS B1 - B3		FIG. 5-397.507 MOD.
TITLE: MN45" PRESTRESSED CONCRETE BEAM (PRETENSIONED) MN45-95	DES: JAS / DR: BDM	APPROVED:	BRIDGE NO. 55583
	CHK: KPM / CHK: DSP		
	SHEET NO. B10 OF B20 SHEETS		



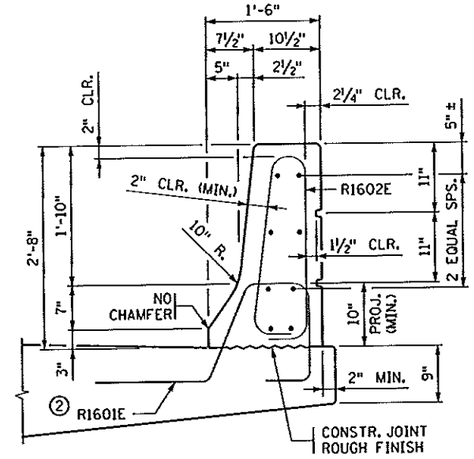
SECTION A-A ③



INSIDE ELEVATION OF BARRIER ③



DEFLECTION JOINT



SECTION C-C

RAIL MEETS TEST LEVEL 4 REQUIREMENTS OF NCHRP REPORT 350.

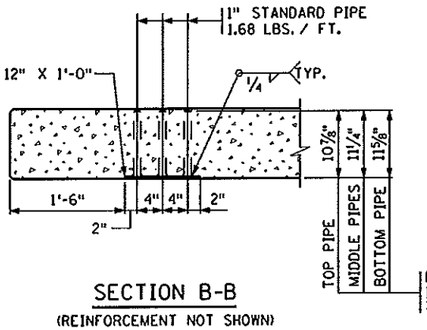
BILL OF REINFORCEMENT FOR BARRIER				
BAR	NO.	LENGTH	SHAPE	LOCATION
R1601E	224	5'-7"		BARRIER DOWEL
R1602E	228	6'-3"		BARRIER VERTICAL
R2203E	12	9'-5"		BARRIER DOWEL
R1604E	4	5'-9"		BARRIER VERTICAL
R1605E	4	5'-7"		BARRIER VERTICAL
R2206E	4	6'-6"		BARRIER VERTICAL
① R1307E	24	32'-10"	—	BARRIER LONGITUDINAL
R1308E	32	18'-10"	—	BARRIER LONGITUDINAL
R1309E	8	18'-7"	—	BARRIER LONGITUDINAL

① 3 BARS PER LINE WITH 1'-3" MIN. LAP

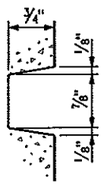
AS-BUILT

MAR 16 2010

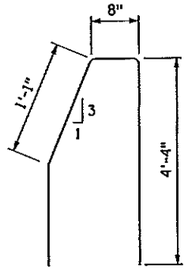
ENGINEERING



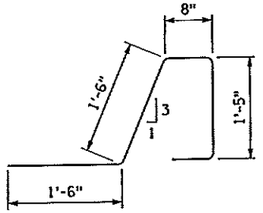
SECTION B-B
(REINFORCEMENT NOT SHOWN)



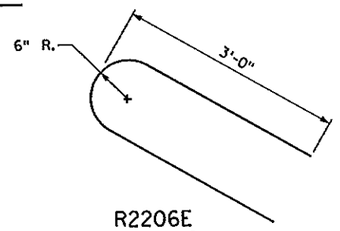
BARRIER RUSTICATION



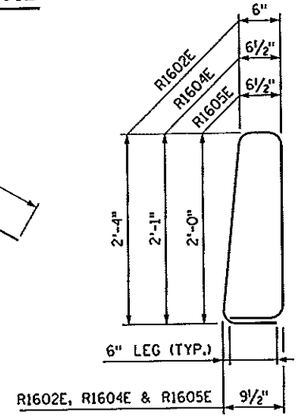
R2203E ③



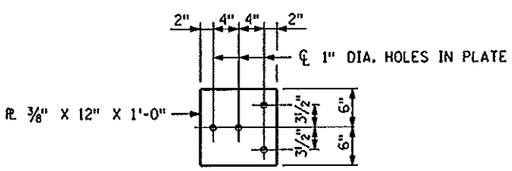
R1601E



R2206E

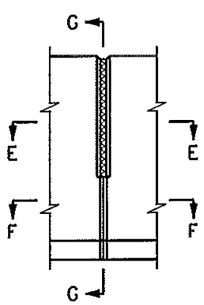


R1602E, R1604E & R1605E ③

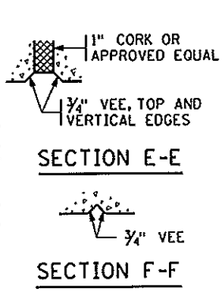


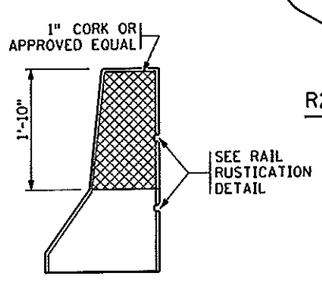
GUARDRAIL CONNECTION DETAIL

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



ELEVATION





SECTION G-G

DEFLECTION JOINT DETAILS

GENERAL NOTES

LENGTH OF "TYPE F (TL-4) RAILING CONCRETE (3Y46A)" FOR PAYMENT SHALL BE MEASURED BETWEEN THE OUTSIDE FACES OF THE CONCRETE BARRIER.

CONCRETE BARRIER = 439 LBS./FT. (0.108 CU. YDS./FT.)

FINISH ALL EDGES OF BARRIER WITH ½" 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, CORK AND NAMEPLATE TO BE CONSIDERED INCIDENTAL TO "TYPE F (TL-4) RAILING CONCRETE (3Y46A)"

BARRIER QUANTITIES ARE LISTED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.

② PLACE BAR ON TOP OF BOTTOM REINFORCEMENT MAT.

③ DETAIL MODIFIED.

FIG. 5-397.115 MODIFIED

REVISED: 05-26-2006

APPROVED: DECEMBER 18, 2003

STATE BRIDGE ENGINEER

CERTIFIED BY Dale Draves
PROFESSIONAL ENGINEER/DALE DRAVES
LIC. NO. 20666 4-1- 2008

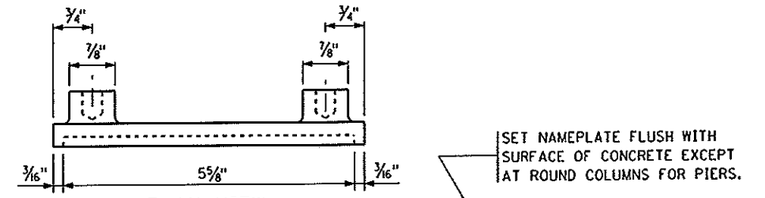
TITLE: CONCRETE BARRIER (TYPE F, TL-4) WITH INTEGRAL END POST (WITHOUT CONCRETE WEARING COURSE)

DES. JAS	DRN. BDM	APPROVED: MODIFIED
CHK. KPM	CHK. DSP	

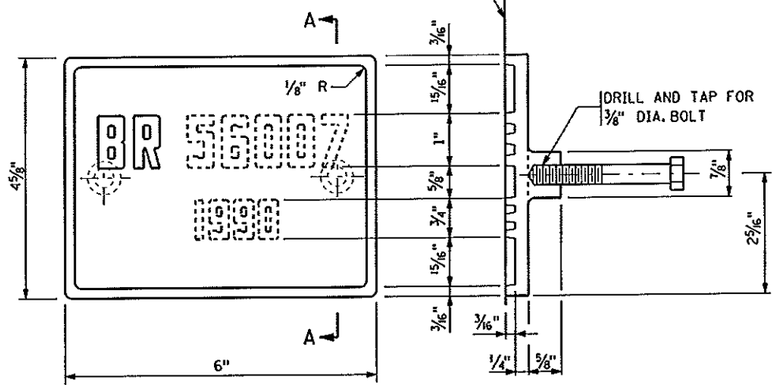
S.A.P. 55-610-20

SHEET B11 OF B20 SHEETS

BRIDGE NO. 55583



PLAN VIEW



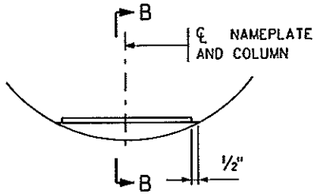
ELEVATION

SECTION A-A

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

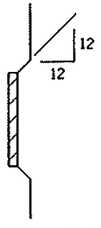
BRIDGE 55583

YEAR ~~2008~~ 2009



NAMEPLATE PLACEMENT

(ROUND CONCRETE PIER COLUMNS)



SECTION B-B

1234567890 3/16"

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".

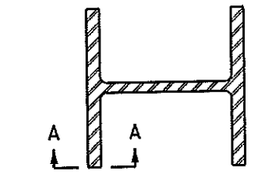
HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.

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

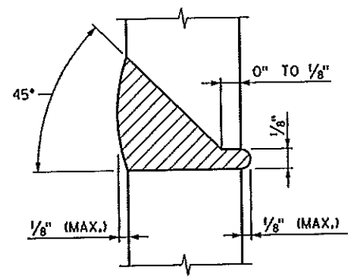
FURNISH 2 STEEL BOLTS ⅜" DIA. × 3" LONG WITH EACH PLATE.

ALL DIMENSIONS FOR ¾" HIGH LETTERS AND NUMBERS SHALL BE IN DIRECT PROPORTION TO THOSE SHOWN FOR THE 1" HIGH LETTERS AND NUMBERS.

APPROVED: NOVEMBER 22, 2002	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Daniel L Hoyan STATE BRIDGE ENGINEER	BRIDGE NAMEPLATE (FOR NEW BRIDGES)		B101



SECTION AT JOINT



SECTION A-A

100% BUTT WELDED PILE SPLICE

AS-BUILT

MAR 16 2010

ENGINEERING

NOTES:

CELLULOSIC TYPE ELECTRODES E-6010 OR E-6011 SHALL BE USED FOR 100% BUTT WELDED SPLICES.

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: NOVEMBER 22, 2002	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Daniel L Hoyan STATE BRIDGE ENGINEER	PILE SPLICE (STEEL H BEARING PILES 10" TO 14")		B202

CERTIFIED BY Dale Draves PROFESSIONAL ENGINEER DALE DRAVES
LIC. NO. 20666 4-1- 2008

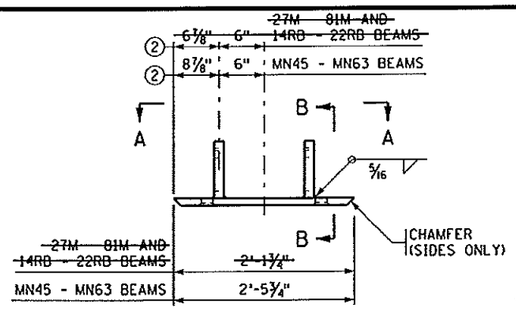
TITLE: MISC BRIDGE DETAILS

DES. JAS	DRN. BDM	APPROVED:
CHK. KPM	CHK. DSP	

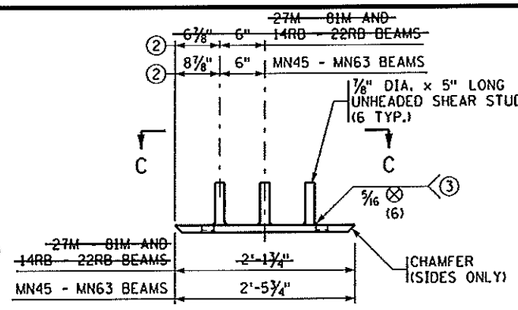
S.A.P. 55-610-20

SHEET B12 OF B20 SHEETS

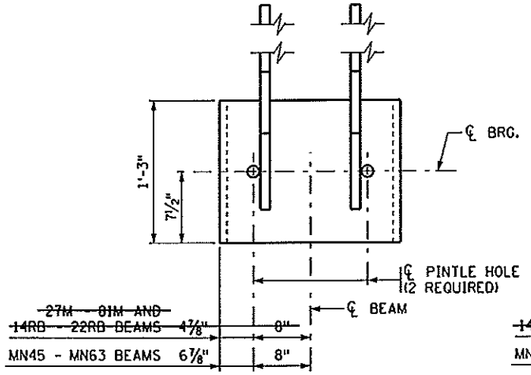
BRIDGE NO. 55583



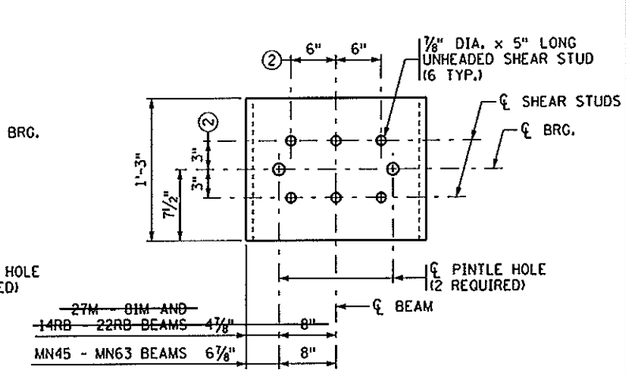
FRONT ELEVATION - OPTION 1



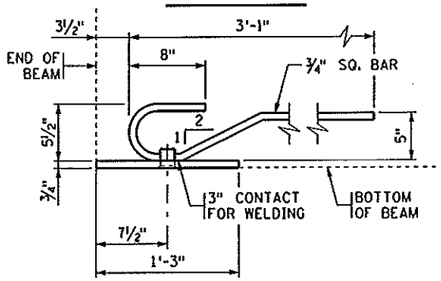
FRONT ELEVATION - OPTION 2



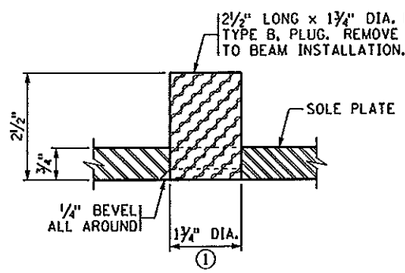
SECTION A-A



SECTION C-C



SECTION B-B



PINTLE HOLE DETAIL

NOTES:

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

WELDED STUDS TO BE WELDABLE CARBON STEEL PER Mn/DOT SPEC. 3391.2D.

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

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

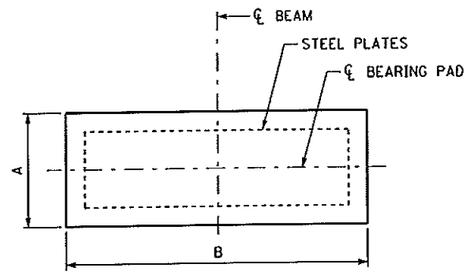
SOLE PLATES ARE INCIDENTAL TO PRESTRESSED CONCRETE BEAMS.

① FOR 1½" DIA. PINTLES.

② THESE DIMENSIONS MAY BE MODIFIED TO CLEAR PRESTRESSED STRANDS. HOWEVER, CHANGES MUST BE APPROVED BY THE ENGINEER.

③ THE REQUIREMENTS FOR WELDING STUDS SHALL COMPLY WITH AASHTO/AWS D1.5.

APPROVED: OCTOBER 26, 2005	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISED 06-14-2006	DETAIL NO.
Daniel T. Hegman STATE BRIDGE ENGINEER	SOLE PLATE (PRESTRESSED CONCRETE BEAMS) (FOR BEARINGS WITH PINTLES)		B303

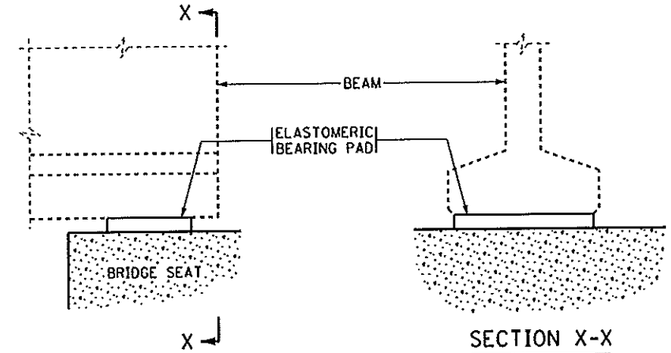


PLAN
(BEAM NOT SHOWN)

AS-BUILT

MAR 16 2010

ENGINEERING



SIDE ELEVATION

SECTION X-X

TABLE

PAD TYPE	LOCATION	BEAM SIZE	BEARING PAD SIZE A	BEARING PAD SIZE B	BEARING PAD SIZE D	SHAPE FACTOR	
F1	ALL	MN45	12	24	½	8.0	(SEE DESIGNER NOTE)

NOTES:

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

PAYMENT FOR ELASTOMERIC BEARING PAD, TYPE 1, INCLUDED IN ITEM "ELASTOMERIC BEARING PAD" PER EACH.

APPROVED: NOVEMBER 22, 2002	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Daniel T. Hegman STATE BRIDGE ENGINEER	ELASTOMERIC BEARING PAD (PRESTRESSED CONCRETE BEAMS)		B305

CERTIFIED BY Dale Draves
PROFESSIONAL ENGINEER/DALE DRAVES
LIC. NO. 20666 4-7- 2008

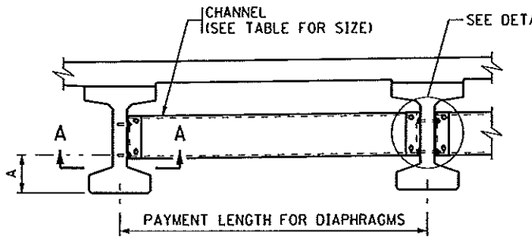
TITLE: MISC BRIDGE DETAILS

DES. JAS	DRN. BDM	APPROVED:
CHK. KPM	CHK. DSP	

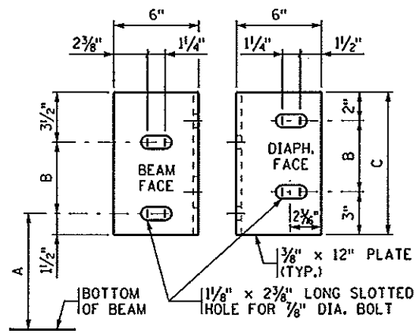
S.A.P. 55-610-20

SHEET B13 OF B20 SHEETS

BRIDGE NO. 55583

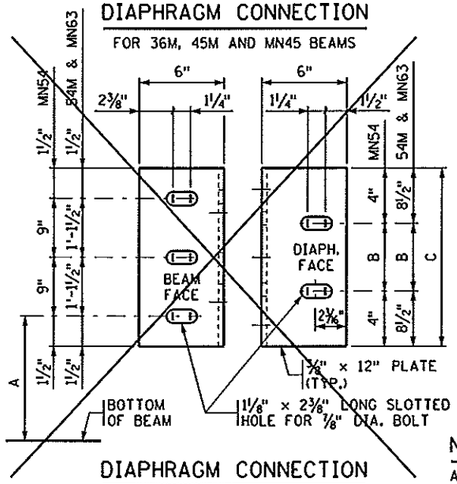


PART TRANSVERSE SECTION AT DIAPHRAGM



DIAPHRAGM CONNECTION

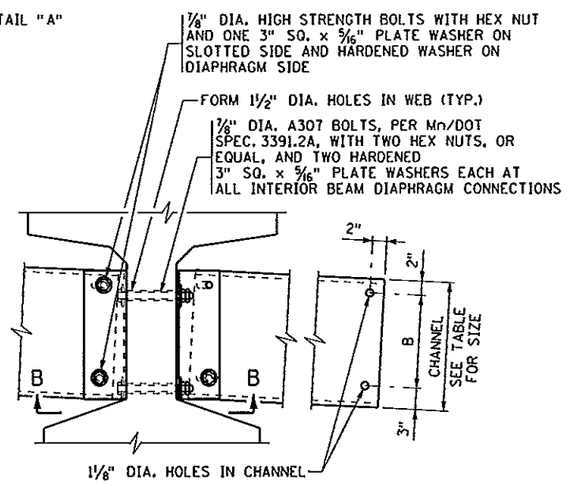
FOR 36M, 45M AND MN45 BEAMS



DIAPHRAGM CONNECTION

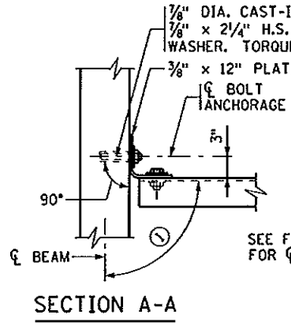
FOR 54M, MN54 AND MN63 BEAMS

TABLE				
BEAM HEIGHT	DISTANCE			CHANNEL SIZE
	A	B	C	
~~36M~~	~~1'-3"~~	~~7"~~	~~1'-0"~~	~~C12x20.7~~
~~45M~~	~~1'-3¼"~~	~~1'-1"~~	~~1'-6"~~	~~MC18x42.7~~
~~54M~~	~~1'-2¼"~~	~~1'-1"~~	~~2'-6"~~	~~MC18x42.7~~
MN45	1'-7¾"	7"	1'-0"	C12x20.7
~~MN54~~	~~1'-7¾"~~	~~1'-1"~~	~~1'-9"~~	~~MC18x42.7~~
~~MN63~~	~~1'-7¾"~~	~~1'-1"~~	~~2'-6"~~	~~MC18x42.7~~



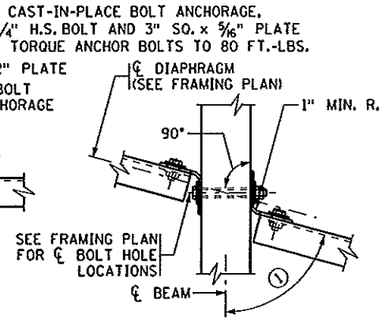
DETAIL "A"

INTERIOR BEAM WITH CONTINUOUS LINE OF DIAPHRAGMS



SECTION A-A

TYPICAL SECTION AT ALL FASCIA BEAMS



SECTION B-B

TYPICAL SECTION AT INTERIOR BEAM WITH CONTINUOUS OR STAGGERED INTERMEDIATE DIAPHRAGMS

NOTES:

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

INSTALLATION SHALL CONFORM TO Mn/DOT SPEC. 2405.3M.

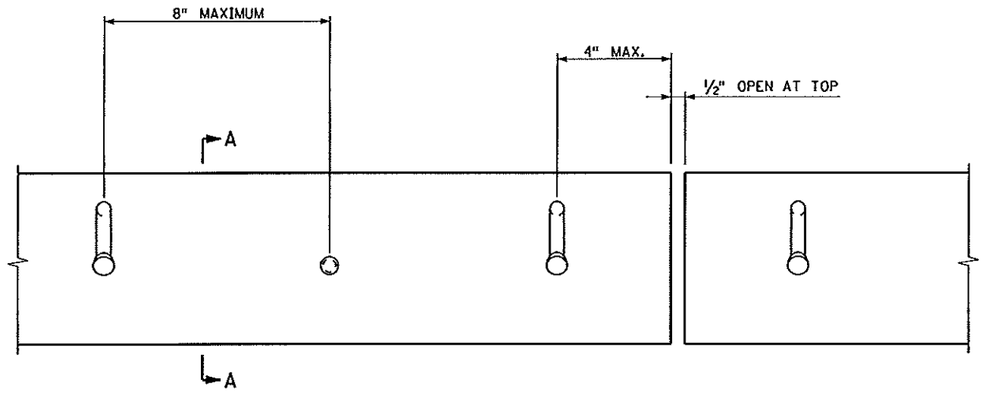
THE LEG OF THE 12" PLATE SHALL BE SHOP BENT TO CONFORM TO THE DIAPHRAGM. A ⅜" × 6" × 6" ANGLE MAY BE USED FOR DIAPHRAGMS PERPENDICULAR TO BEAMS.

ALL STRUCTURAL STEEL SHOWN ON THIS DETAIL, INCLUDING BOLTS AND WASHERS, SHALL BE INCLUDED IN UNIT PRICE BID 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 5/16" IN THICKNESS, AND HAVE LEGS 5" LONG.

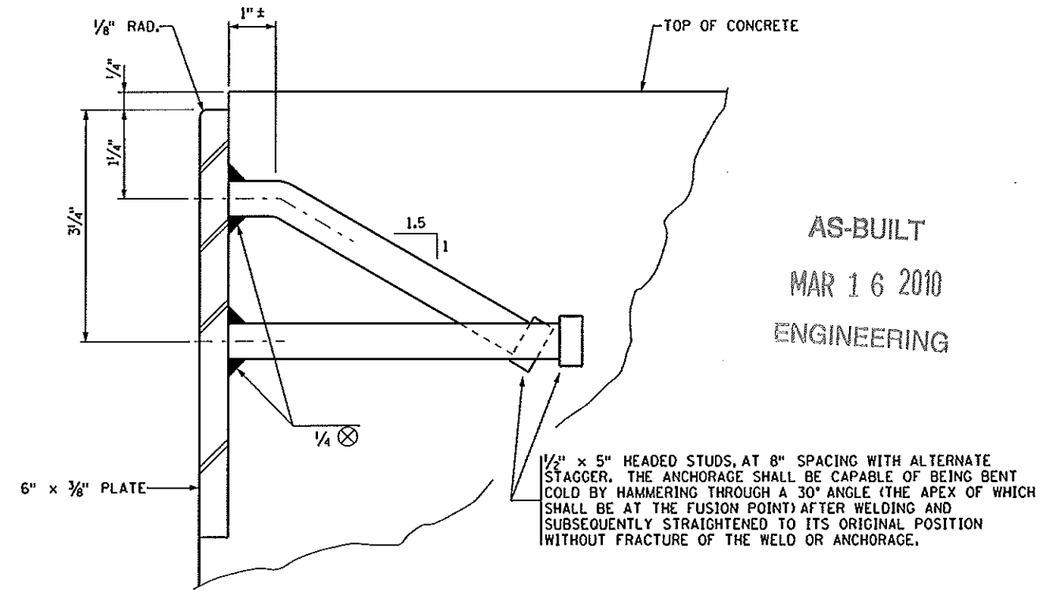
① ~~FOR SKEW ANGLES UNDER 20°, USE 90° LESS THE SKEW ANGLE.~~ FOR SKEW ANGLES OVER 20°, USE 90°.

APPROVED: OCTOBER 26, 2005	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISED 06-14-2006	DETAIL NO.
Daniel D. Warzyn STATE BRIDGE ENGINEER	STEEL INTERMEDIATE DIAPHRAGM (FOR 36M - 54M, MN45 - MN63 PRESTRESSED CONCRETE BEAMS)		B403



ELEVATION

CONCRETE NOT SHOWN



SECTION A-A

AS-BUILT

MAR 16 2010

ENGINEERING

NOTES:

PLATES SHALL EXTEND FULL WIDTH OF ROADWAY BETWEEN GUTTER LINES WITH A ½" OPEN JOINT AT EACH BREAK IN CROWN PROFILE. MAX. LENGTH 22 FT.

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

SET PLATE TO PROPER GRADE AND CROWN.

APPROVED: NOVEMBER 22, 2002	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Daniel D. Warzyn STATE BRIDGE ENGINEER	PROTECTION PLATE (FOR END OF SLAB)		B553

CERTIFIED BY Dale Draves PROFESSIONAL ENGINEER/DALE DRAVES LIC. NO. 20666 4-7- 2008

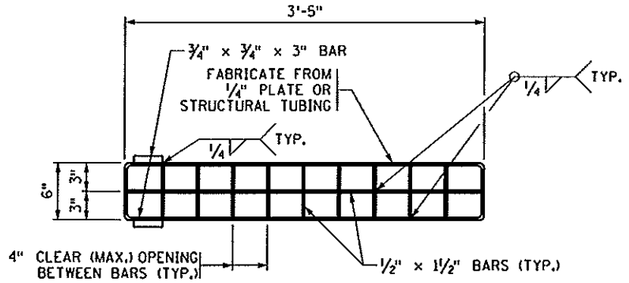
TITLE: MISC BRIDGE DETAILS

DES. JAS	DRN. BDM	APPROVED:
CHK. KPM	CHK. DSP	

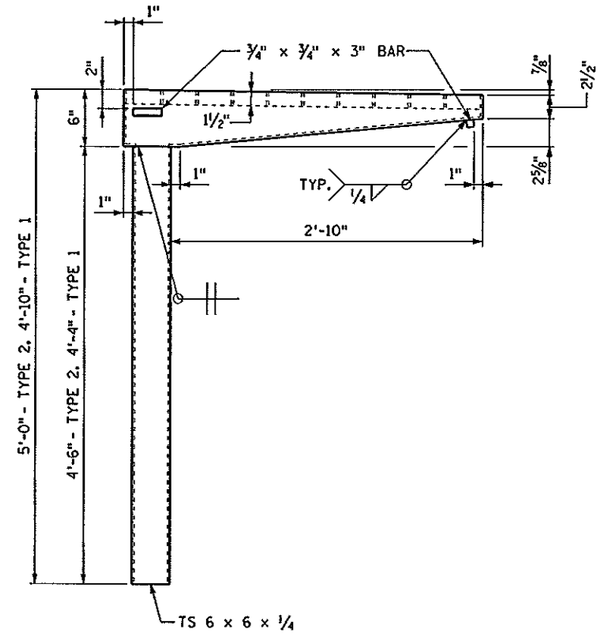
S.A.P. 55-610-20

SHEET B14 OF B20 SHEETS

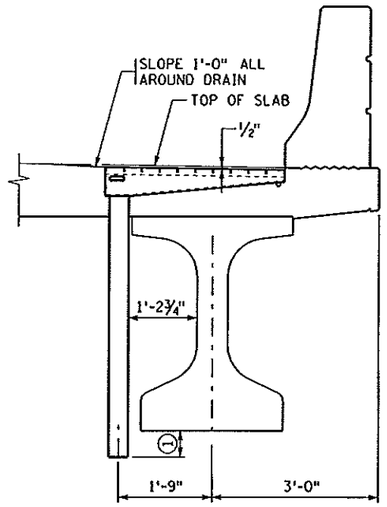
BRIDGE NO. 55583



PLAN



ELEVATION ②



FLOOR DRAIN PLACEMENT DIAGRAM ②

NOTES:

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

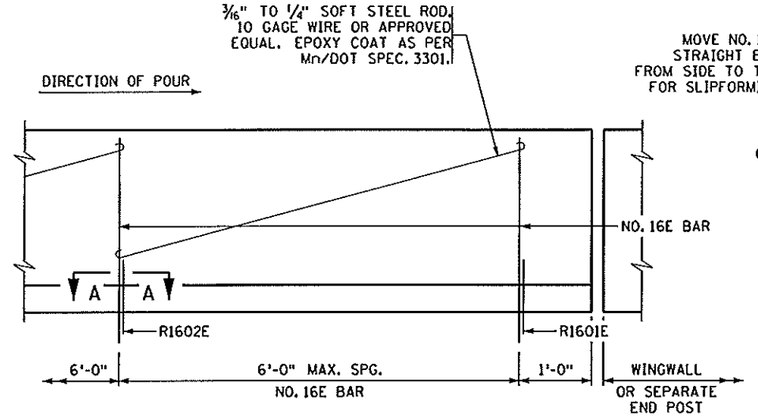
GALVANIZE MATERIAL PER Mn/DOT SPEC. 3394 AFTER FABRICATION.

PAYMENT FOR FLOOR DRAIN, TYPE B706 (MOD.), SHALL INCLUDE ALL MATERIAL SHOWN ON THIS DETAIL.

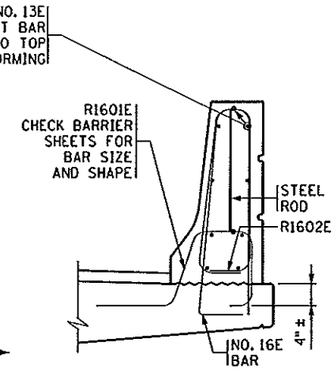
① 1"± BELOW BOTTOM OF BEAM.

② DETAIL MODIFIED

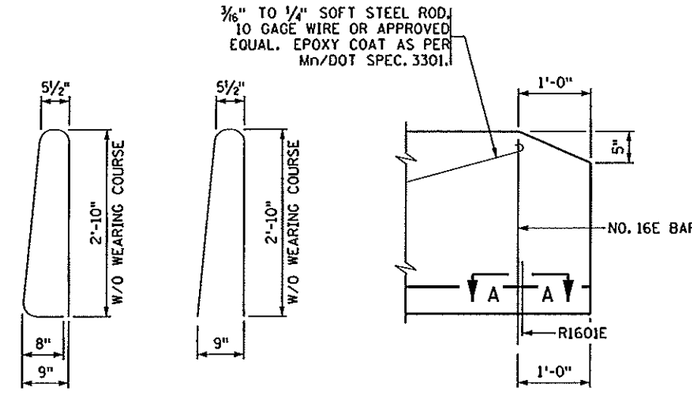
APPROVED: NOVEMBER 22, 2002	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Daniel D Wogsan STATE BRIDGE ENGINEER	BRIDGE OFFSET FLOOR DRAIN (STRUCTURAL TUBE)		B706 MODIFIED



INSIDE ELEVATION OF BARRIER



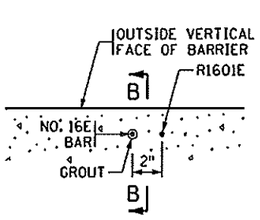
BARRIER SECTION



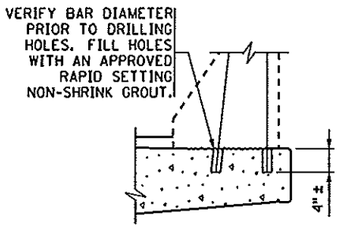
NO. 16E BAR

NO. 16E BAR DRILLED IN ALTERNATE

INSIDE ELEVATION OF BARRIER AT END OF WINGWALL



SECTION A-A



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 BARRIER SHEET.

FORM BARRIER 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 BARRIERS OR MODIFIED VERSIONS OF THIS BARRIER.

AS-BUILT
MAR 16 2010
ENGINEERING

APPROVED: NOVEMBER 22, 2002	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Daniel D Wogsan STATE BRIDGE ENGINEER	CONCRETE BARRIER (TYPE F) (SLIPFORM ALTERNATE)		B830

CERTIFIED BY Dale Draves PROFESSIONAL ENGINEER/DALE DRAVES
LIC. NO. 20666 4-7- 2008

TITLE: MISC BRIDGE DETAILS

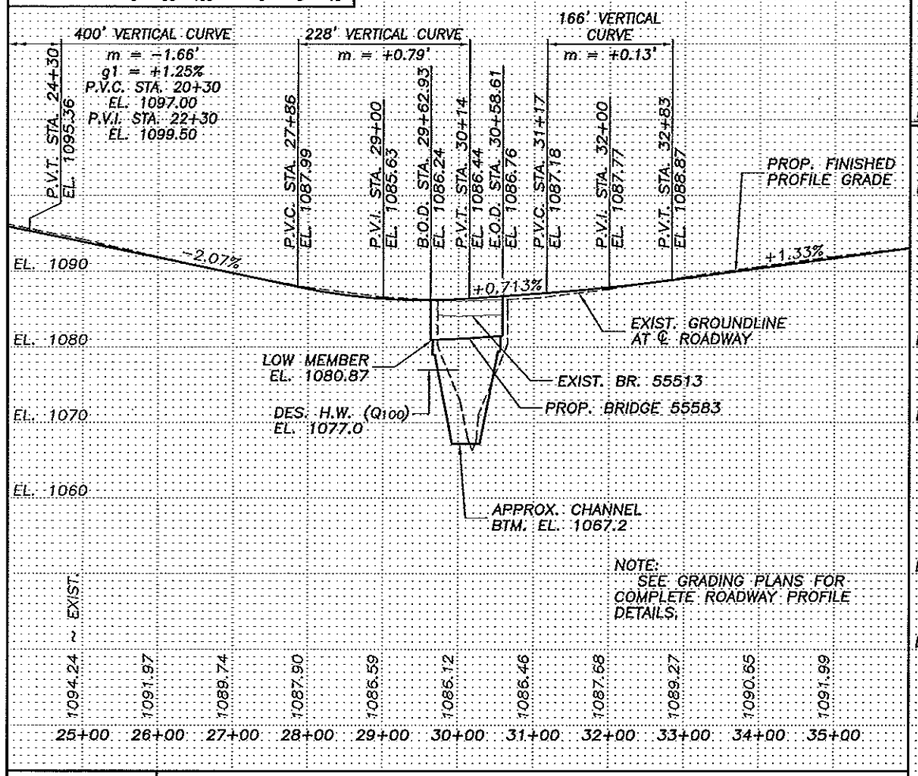
DES. JAS	DRN. BDM	APPROVED:
CHK. KPM	CHK. DSP	

S.A.P. 55-610-20
SHEET B15 OF B20 SHEETS

BRIDGE NO. 55583

CONTRACTED PROFILE

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



NOTE: SEE GRADING PLANS FOR COMPLETE ROADWAY PROFILE DETAILS.

PLAT

SCALE: 0' 50' 100'

UTILITY INFORMATION

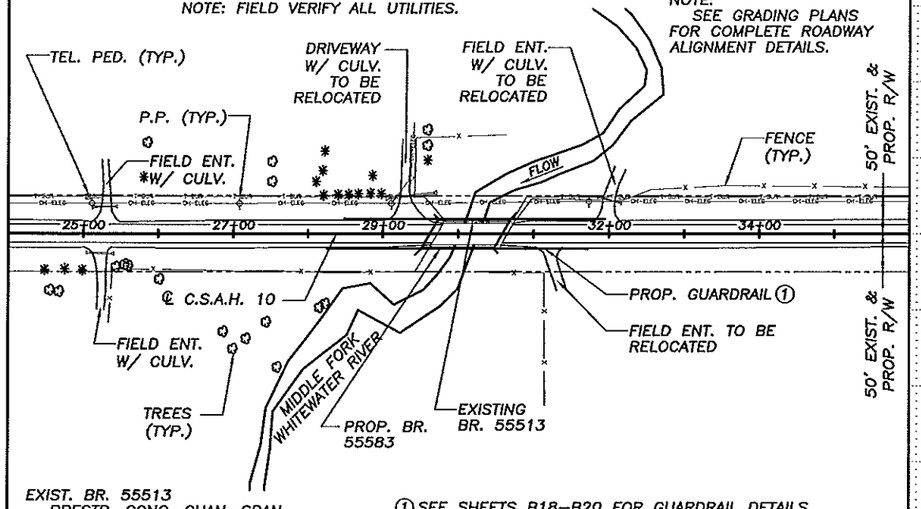
WARNING: DIAL GOPHER STATE ONE CALL AT 1-800-252-1166 48 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS TO OBTAIN COMPLETE UTILITY PROPERTY OWNERSHIP AND LOCATION INFORMATION.

UTILITY INFO AVAILABLE FOR PLAN PREPARATION:

PEOPLES CO-OP POWER (OVERHEAD POWER)	800-940-1579
QWEST (BURIED TELEPHONE)	406-728-9343
ALLIANT ENERGY (UNVERIFIED)	319-294-1579

NOTE: FIELD VERIFY ALL UTILITIES.

NOTE: SEE GRADING PLANS FOR COMPLETE ROADWAY ALIGNMENT DETAILS.

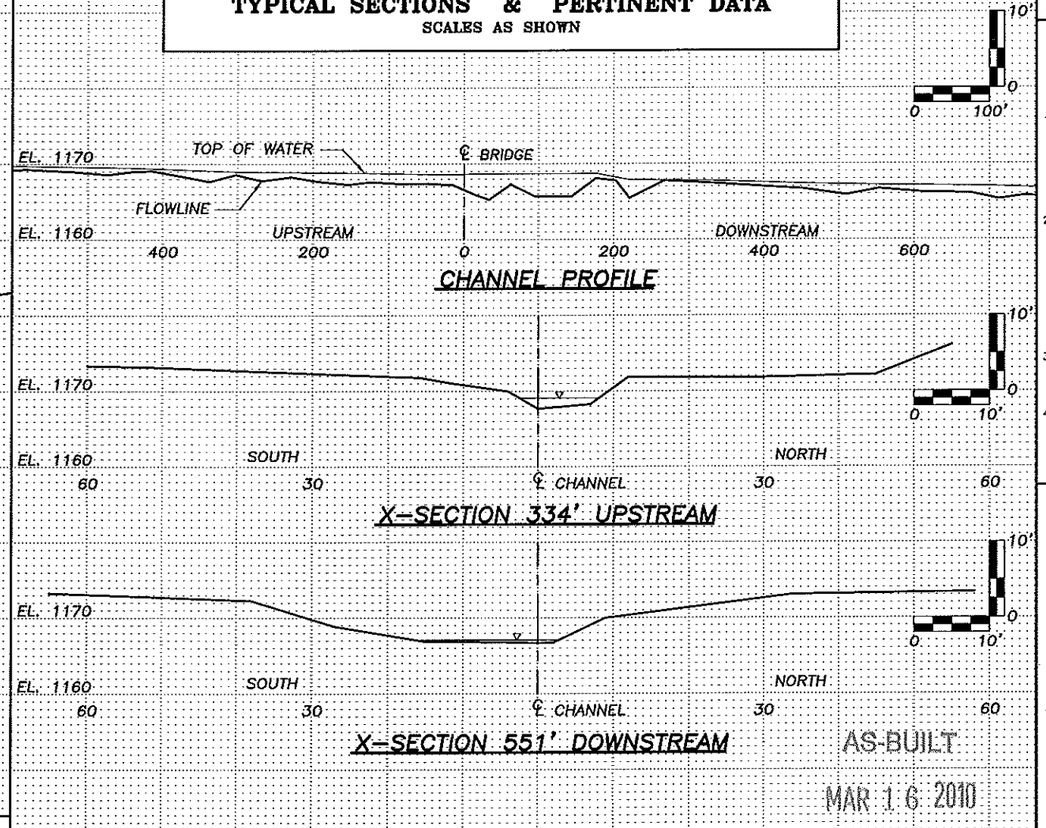


EXIST. BR. 55513
PRESTR. CONC. CHAN. SPAN
LENGTH: 93.3'
ROAD WIDTH: 29.8'
YEAR BUILT: 1965

① SEE SHEETS B18-B20 FOR GUARDRAIL DETAILS.

TYPICAL SECTIONS & PERTINENT DATA

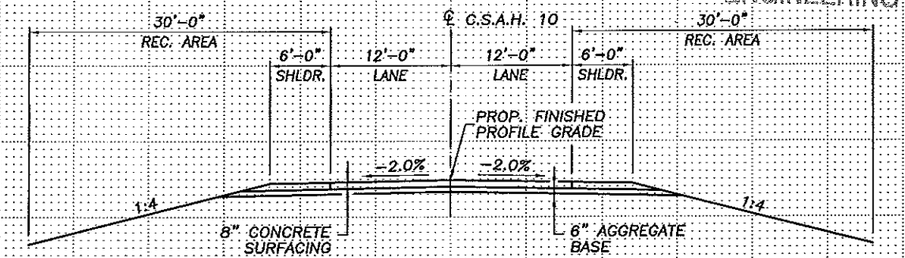
SCALES AS SHOWN



AS-BUILT

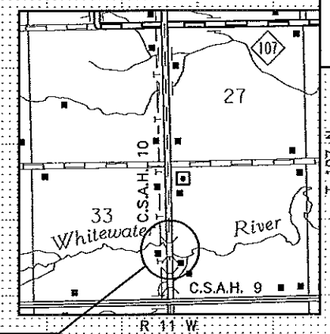
MAR 16 2010

ENGINEERING



TYPICAL SECTION THRU PROPOSED ROADWAY

NOTE: SEE GRADING PLANS FOR COMPLETE SURFACING DETAILS.



CERTIFIED BY Dale Drave LIC. NO. 20666 4-7- 2008

State Aid Proj. No. 55-610-20

Sheet No. B16 of B20 Sheets

Fed. Proj. No.

LOCATION ENGINEER'S OBSERVATION AT BRIDGE SITE

DATE .....

1. Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, rec. boats.

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 ENGINEER'S RECOMMENDATION

DATE 4-17-2007

Stream or ditch designation ... MIDDLE FORK WHITEWATER RIVER

Drainage area ... 13.1 SQ. MI.

Max. flood on record ... UNKN Design flood (100 yr. freq.) 3700 C.F.S.

Max. observed highwater elev. 1078.1 Design highwater elev. 1077.0

Design mean velocity through structure 8.5 F.P.S.

Low superstructure at or above elevation ... 1081.0

Flowline elevation 1067.2 Skew angle 30°

Waterway area req'd. below elev. 1077.0 = 437 Sq. Ft. @ Rt. angles to channel

In the interest of flood plain zoning the regional flood (100 yr. freq.) is 3700 C.F.S. at stage 1077.0 and mean velocity of 8.5 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.

SCOUR CODE: L

ENGINEER'S RECOMMENDATION

DATE 8-25-2006

95 FT. PRESTRESSED CONCRETE BEAM SPAN
30° SKEW, 36 FT. ROADWAY WIDTH

Bridge survey sheets made from: SURVEY NOTES FROM OLMSTED COUNTY

Benchmark elevation ... 1086.71

Location: BRASS DISK ON S.E. CORNER OF EXIST. BR. 55513

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT ..... ON C.S.A.H. 10

PROPOSED BRIDGE LOCATED 0.4 MILES NORTH OF JCT. C.S.A.H. 9 OVER MIDDLE FORK WHITEWATER RIVER

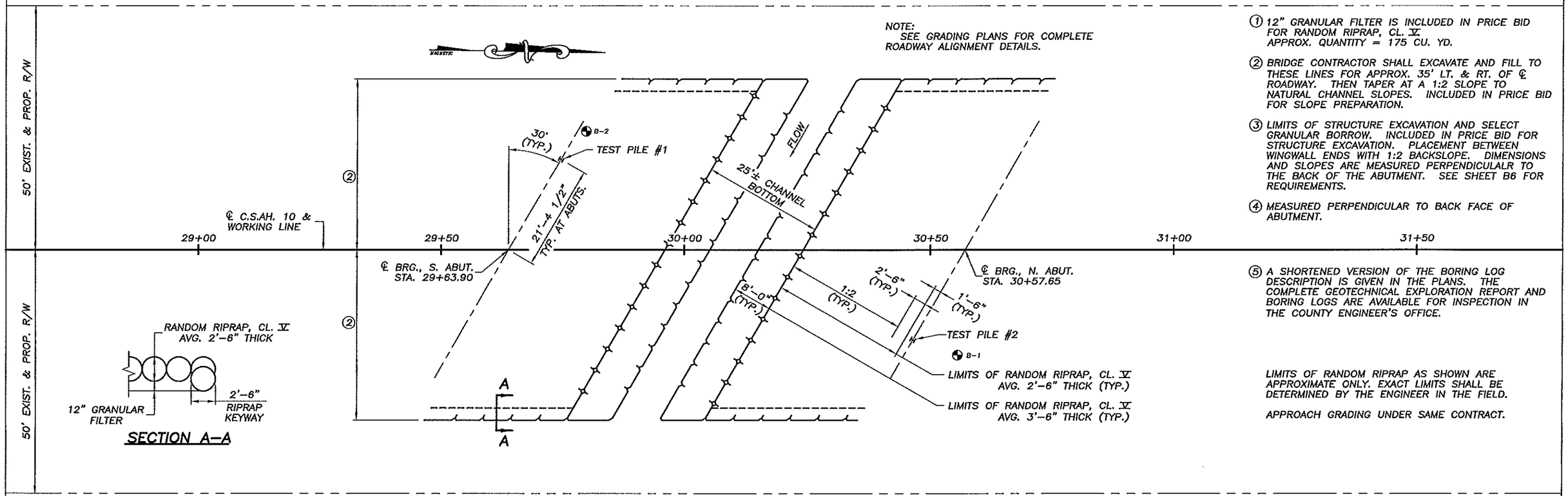
SEC. 34 TWP. 107 N R. 11 W

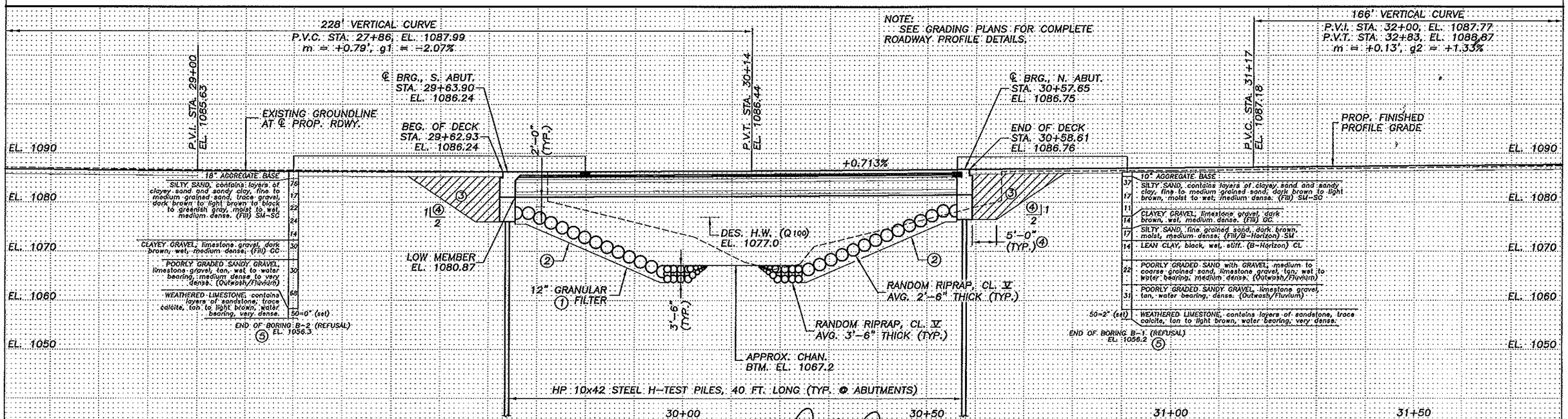
TOWNSHIP QUINCY COUNTY OLMSTED

EXIST. BRIDGE NO. 55513

PROP. BRIDGE NO. 55583

Fed. Proj. No.





BORINGS SHOWN B-1 & B-2
TAKEN WITH STD 140 LB HAMMER
30 INCH DROP
2 INCH O.D. SAMPLER

CERTIFIED BY Dale Draves
PROFESSIONAL ENGINEER/DALE DRAVES
LIC. NO. 20666 4-7- 2008

BRIDGE SURVEY PLAN & PROFILE

State Aid Proj. No. 55-610-20

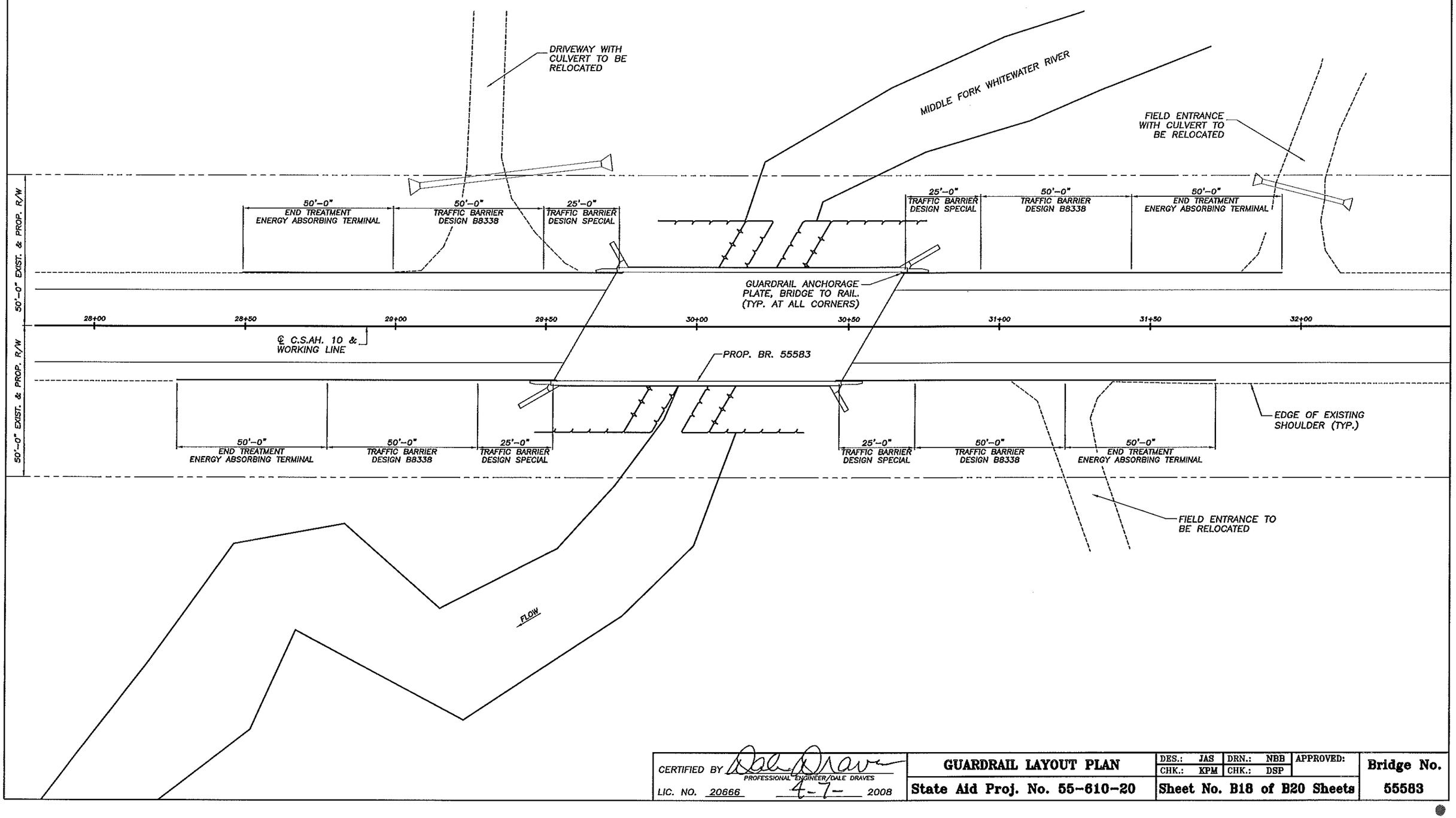
DES.: JAS	DRN.: NBB	APPROVED:
CHK.: KPM	CHK.: DSP	

Sheet No. B17 of B20 Sheets

Bridge No. 55583

MAGNETIC

NOTE:
SEE GRADING PLANS FOR COMPLETE ROADWAY ALIGNMENT DETAILS.



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LIC. NO. 20666 4-7- 2008

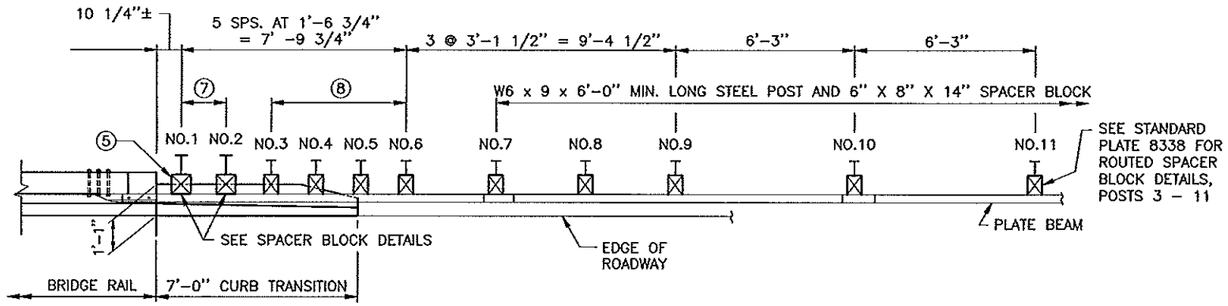
GUARDRAIL LAYOUT PLAN

DES.: JAS	DRN.: NBB	APPROVED:
CHK.: KPM	CHK.: DSP	

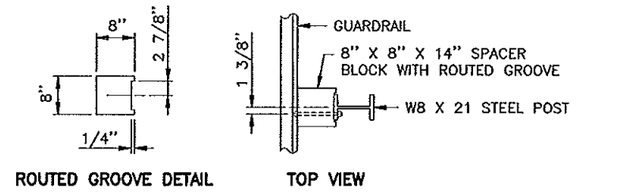
State Aid Proj. No. 55-610-20

Sheet No. B18 of B20 Sheets

Bridge No. 55583

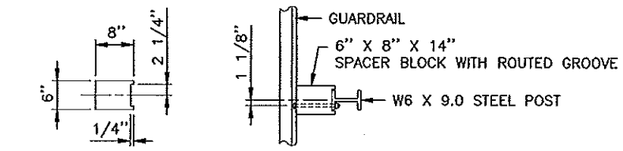


PLAN ④



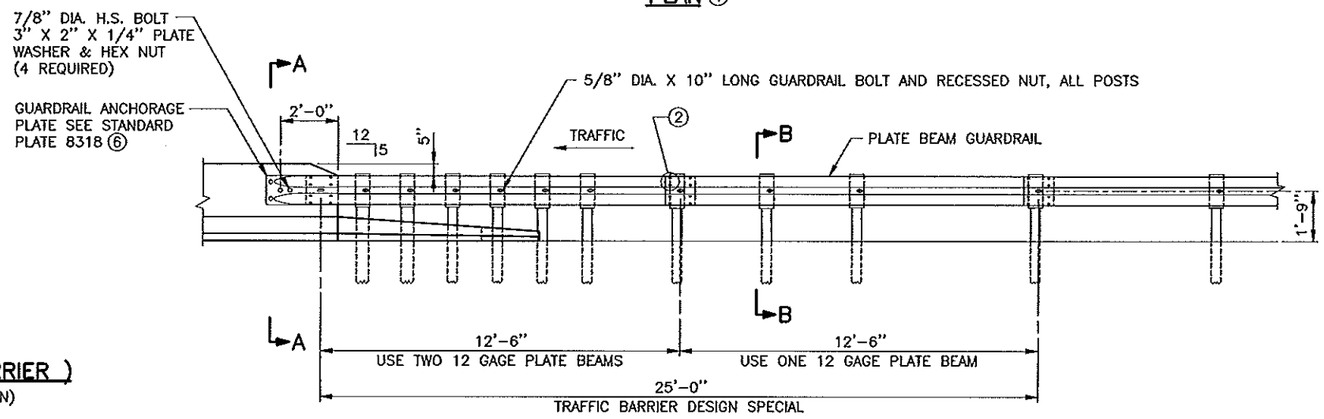
ROUTED GROOVE DETAIL TOP VIEW

POSTS 1 AND 2

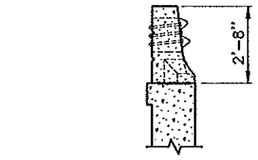


ROUTED GROOVE DETAIL TOP VIEW

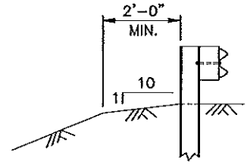
POSTS 3 – 11



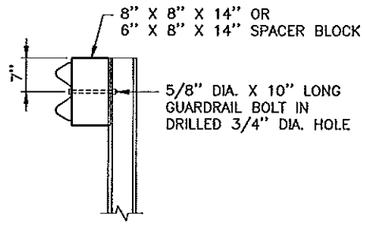
ELEVATION ④



SECTION A – A
F SHAPE RAIL (F BARRIER)
(PARALLEL WINGWALL SHOWN)

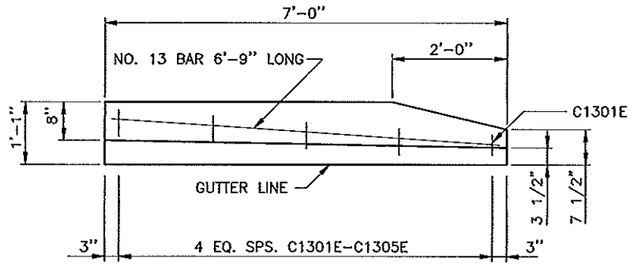


SECTION B–B
THE TRANSITION SECTION HAS BEEN TESTED AND APPROVED WITH THE CURB PLACED AS SHOWN

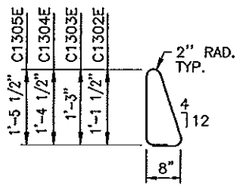


END VIEW

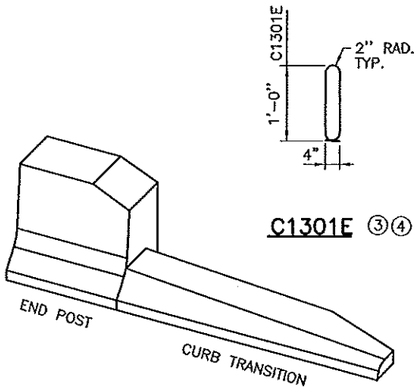
SPACER BLOCK DETAILS



PLAN VIEW

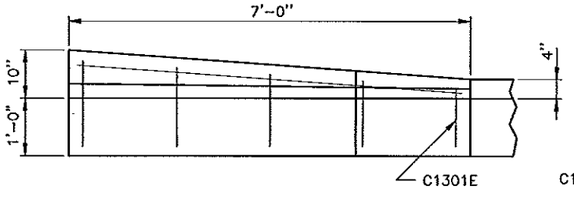


C1302E – C1305E ③④

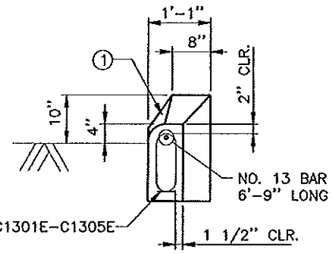


C1301E ③④

ISOMETRIC VIEW ④



INSIDE ELEVATION



END VIEW

CURB TRANSITION DETAILS ④

NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

1. END OF TRANSITION TO MATCH BRIDGE RAIL SURFACE.
2. 5/8" DIA. X 1 1/4" LONG GUARDRAIL BOLTS AND NUTS TYPICAL AT SPLICES.
3. REINFORCEMENT TO BE EPOXY COATED AS PER SPEC. 3301.
4. DETAIL MODIFIED
5. ADDITIONAL BLOCKING MAY BE REQUIRED TO CLEAR BRIDGE STRUCTURE. VERIFY IN FIELD.
6. SANDWICH ANCHOR PLATE BETWEEN RAIL BEAMS.
7. POSTS 1 AND 2 TO BE W8 x 21 X 8'–0" MINIMUM LONG STEEL POST AND 8" X 8" X 14" SPACER BLOCK.
8. POSTS 3, 4, 5, AND 6 TO BE W6 x 9 X 6'–0" MIN. LONG STEEL POST AND 6" X 8" X 14" SPACER BLOCK.
9. CURB TRANSITION INSTALLATION, INCLUDING CONCRETE AND REINFORCEMENT, SHALL BE INCIDENTAL TO PAY ITEM "TRAFFIC BARRIER DESIGN SPECIAL". CURB TRANSITION IS REQUIRED WITH OR WITHOUT APPROACH CURB.

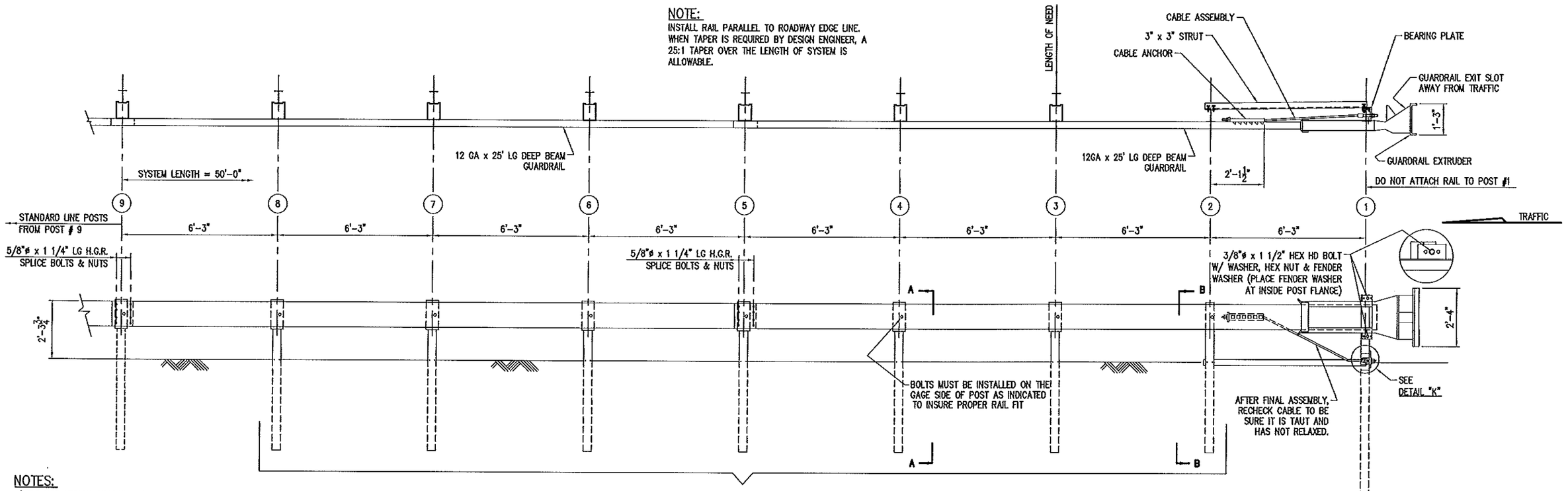
REVISION DATE 01-21-2006

CERTIFIED BY: Dale Draves
PROFESSIONAL ENGINEER/DALE DRAVES
LIC. NO. 20666 4-7- 2008

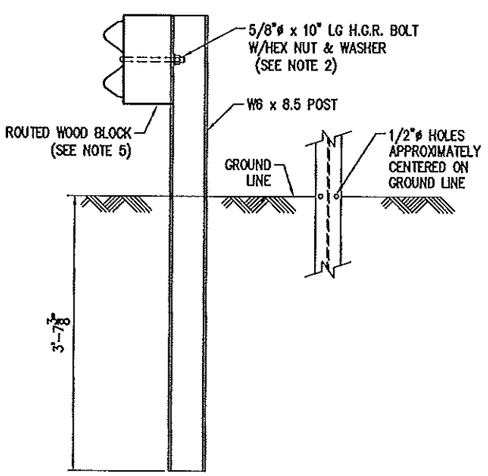
TRAFFIC BARRIER DESIGN SPECIAL

STANDARD SHEET NO.	DES.:	DRN.:	TITLE: NEW W–BEAM TRANSITION TO CONCRETE F–SHAPE SAFETY RAIL WITH APPROACH CURB (STEEL POST)
5-297.603 MOD.	JAS	NBB	
STANDARD APPROVED: DECEMBER 20, 2001	CHK.: KPM	CHK.: DSP	
STATE AID PROJ. NO. 55–610–20	SHEET NO. B19 OF B20 SHEETS	55583	

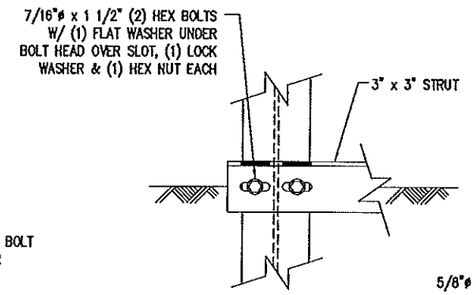
NOTE:
INSTALL RAIL PARALLEL TO ROADWAY EDGE LINE. WHEN TAPER IS REQUIRED BY DESIGN ENGINEER, A 25:1 TAPER OVER THE LENGTH OF SYSTEM IS ALLOWABLE.



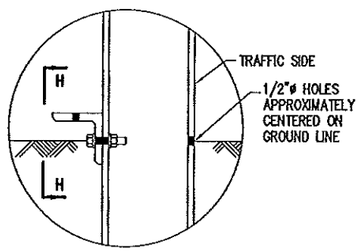
NOTES:
1.) DO NOT ATTACH GUARDRAIL TO POST # 1.
2.) THE 5/8" FLAT WASHER IS USED UNDER THE NUT, BEHIND THE POST ONLY. NO WASHER IS USED AT THE RAIL.
3.) MANUFACTURER SUGGESTS CUSTOMER TO PROVIDE REFLECTORIZATION OF TERMINAL.
4.) 25' GUARDRAIL PANELS ARE SHOWN, 12.5' GUARDRAIL PANELS ARE ACCEPTABLE ALTERNATES. WHEN 12.5' PANELS ARE USED, DO NOT ATTACH GUARDRAIL TO POST #1.
5.) PLASTIC OFFSET BLOCKS (ROUTED) ARE ACCEPTABLE ALTERNATES.



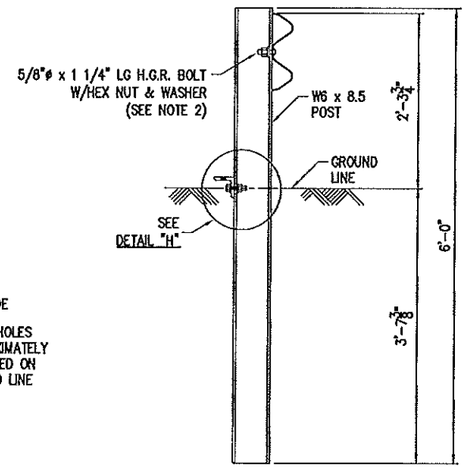
SECTION "A-A"
(TYP @ POSTS # 3 THRU #8)



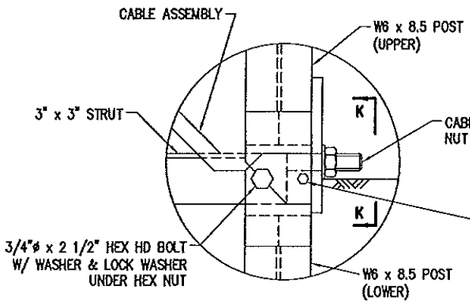
VIEW "H-H"



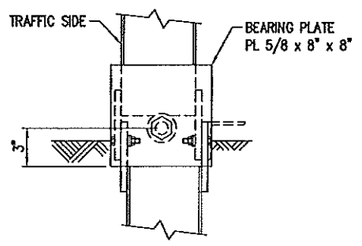
DETAIL "H"
(POST #2)



SECTION "B-B"
(POST #2)



DETAIL "K"
(POST #1)



VIEW "K-K"

NOTE:
ALL MATERIAL SHOWN ON THIS DETAIL AND ANY INCIDENTALS INCLUDED IN PAY ITEM FOR "END TREATMENT - ENERGY ABSORBING TERMINAL".

CERTIFIED BY: Dale Draves
PROFESSIONAL ENGINEER/DALE DRAVES
LIC. NO. 20666
4-7-2008

REV.	CHK'D	BY	DATE	REMARKS
1		BT	5-22-03	CHANGED HARDWARE QUANITY

ET-PLUS

ET-PLUS - 50'-0"
WITH 25' PANELS, 7 SYT POSTS & 1 HBA POST
PLAN, ELEVATION & SECTION

TRINITY INDUSTRIES, INC.
HIGHWAY SAFETY PRODUCTS
2525 STEMMONS FREEWAY, DALLAS, TX 75207

DRAWN	E.A.S.
CHECKED	B.T.
APPROVED	
DATE	05/20/03
ENG. FILE #	SS373-01E
SHT.No.	E1 OF 1
DRAWING No.	SS-373
REV.	1

S.A.P. 55-610-20

ENERGY ABSORBING TERMINAL

SHEET B20 OF B20 SHEETS | 55583