

DESIGN DATA

2012 AND CURRENT INTERIM AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

LOAD AND RESISTANCE FACTOR DESIGN METHOD HL 93 LIVE LOAD

DEAD LOAD INCLUDES 20 PSF ALLOWANCE FOR FUTURE WEARING COURSE MODIFICATIONS

MATERIAL DESIGN PROPERTIES:
 REINFORCED CONCRETE:
 $f'_c = 4 \text{ ksi}$ $n = 8$
 $f'_y = 60 \text{ ksi}$ REINFORCEMENT
 PRESTRESSED CONCRETE:
 $f'_c = 8.5 \text{ ksi}$ $n = 1$
 $f_{pu} = 270 \text{ KSI}$ LOW RELAXATION STRANDS
 0.75 f_{pu} FOR INITIAL PRESTRESS

DESIGN SPEED
 OVER = 40 MPH
 UNDER = 60 MPH

APPROXIMATE DECK AREA = 14,190 SQ. FT.
 OPERATING RATING FACTOR = 1.534 (LRFR)

NOTES:

- TRAFFIC ON LARPEUR AVE. TO BE DETOURED DURING CONSTRUCTION.
- AZIMUTH OF ALL SUBSTRUCTURES TO BE $357^{\circ}59'41.9''$.
- FOR EXISTING GROUND LINES AND UTILITIES SEE SHEET 54.
- ① $\text{C.L. T.H. 35E S.B. STA } 541+64.52 = \text{LARPEUR AVE. STA. } 9+74.39$
 $X = 576,050.659$ $Y = 173,325.222$
 $\alpha = 87^{\circ}47'11.7''$
 - ② $\text{C.L. T.H. 35E N.B. STA } 541+62.05 = \text{LARPEUR AVE. STA. } 10+38.44$
 $X = 576,114.706$ $Y = 173,324.989$
 $\alpha = 87^{\circ}47'11.7''$
 - ③ PROFILE GRADE (T.H. 35E S.B.) (R35ESB)
 - ④ PROFILE GRADE (T.H. 35E N.B.) (R35ENB)
 - ⑤ ACCELERATION LANE VARIES 5.5' NORTH EDGE OF BRIDGE TO 4' SOUTH EDGE OF BRIDGE.
 - ⑥ VARIES 4.5' NORTH EDGE OF BRIDGE TO 6' SOUTH EDGE OF BRIDGE.
 - ⑦ VARIES 15.5' NORTH EDGE OF BRIDGE TO 14' SOUTH EDGE OF BRIDGE
 - ⑧ SEE SHEET 51 FOR BRIDGE MOUNTED SIGN DETAILS.

CONSTRUCTION NOTES:

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

THE BAR SIZES SHOWN IN THE PLAN ARE IN U.S. CUSTOMARY DESIGNATIONS.

BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301.

BARS MARKED WITH THE SUFFIX "S" SHALL BE STAINLESS STEEL, SEE SPECIAL PROVISIONS.

ALL SUBSURFACE UTILITIES SHOWN IN THIS PLAN, EXCEPT SEWERS, DEPICTED AT QUALITY LEVEL B UNLESS OTHERWISE NOTED. SEWER UTILITIES SHOWN IN THIS PLAN DEPICTED AT QUALITY LEVEL C UNLESS OTHERWISE NOTED. THIS UTILITY QUALITY WAS DETERMINED ACCORDING TO GUIDELINES OF CI/ACSE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA". SEE SHEET 50 FOR IN PLACE UTILITIES.

SUPERSTRUCTURE TO BE CONSTRUCTED IN TEMPORARY LOCATION AND MOVED TRANSVERSELY INTO FINAL LOCATION.

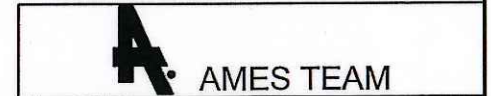
OPTICAL SETTLEMENT MONITORING TARGETS SHALL BE PLACED ON ACCESSIBLE POINTS OF EACH SUBSTRUCTURE. A MINIMUM OF 3 TARGETS (AT THE CENTER AND EACH END) SHALL BE INSTALLED PER STRUCTURE. SETTLEMENT MEASUREMENTS SHALL BE TAKEN PRIOR TO THE BRIDGE MOVE, DURING THE MOVE, IMMEDIATELY AFTER THE BRIDGE MOVE AND EACH MONTH FOR A YEAR THEREAFTER.

LIST OF SHEETS

NO.	TITLE
1	GENERAL PLAN & ELEVATION
2	TRANSVERSE SECTION
3	BRIDGE LAYOUT
4-8	WEST ABUTMENT DETAILS
9-13	WEST ABUTMENT REINFORCEMENT
14-18	EAST ABUTMENT DETAILS
19-23	EAST ABUTMENT REINFORCEMENT
24	PIER DETAILS
25-28	PIER REINFORCEMENT
29	FRAMING PLAN
30	MN45 PRESTRESSED CONCRETE BEAM
31-38	SUPERSTRUCTURE DETAILS & REINF.
39-44	ORNAMENTAL METAL RAILING (ST. PAUL MOD.) CONCRETE PARAPET (TYPE P-1 MOD.) CONCRETE PARAPET (TYPE P-4 MOD.) PILASTER DETAILS
45	CONCRETE SLOPE PAVING UNDER BRIDGES
46-47	BEARING DETAILS
48-50	DETAILS
51	BRIDGE MOUNTED SIGN
52	AS-BUILD BRIDGE DATA
53-55	BRIDGE SURVEY

2030 PROJECTED TRAFFIC VOLUMES

ROADWAY OVER		ROADWAY UNDER
7,900	AADT	145,900
1,548	DHV	12,704
158	ADTT	6,362



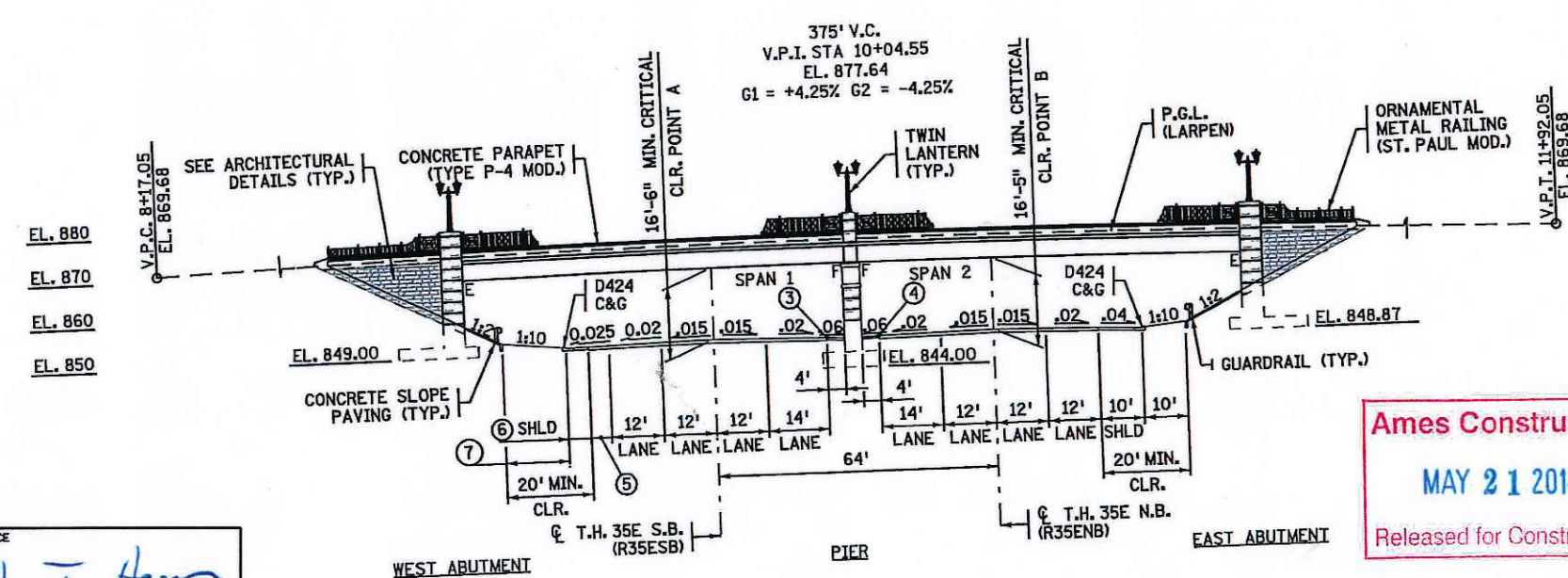
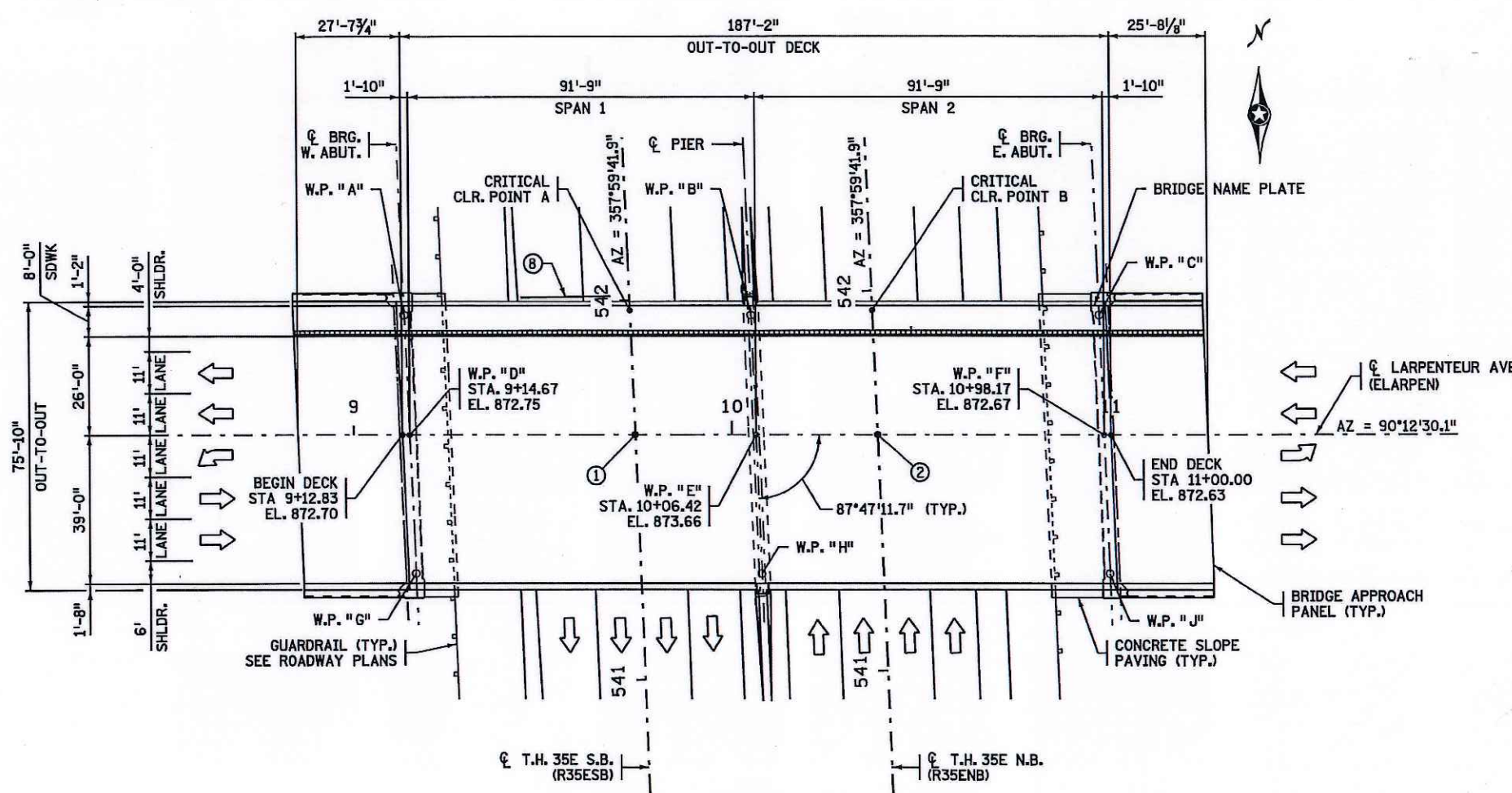
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 62646
 LARPEUR AVENUE OVER T.H. 35E
 1.3 MI SOUTH OF JCT. OF T.H. 36
 SPAN ID NO. 501

GENERAL PLAN & ELEVATION

SEC. 19 TWP. 29 N. R. 22 W.
 CITY OF ST. PAUL RAMSEY COUNTY

Nancy Subberger 7/3/2014
 STATE BRIDGE ENGINEER DATE



Ames Construction
 MAY 21 2014
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NO	DATE	BY	CHKD	APPR	REVISION
1	5/5/14	JLJ	ZAT	JWD	REVISED TITLE BLOCK (NDC008)

12-MAY-2014 16:53 dbr52646_str01.dgn

MINDOT ACCEPTANCE

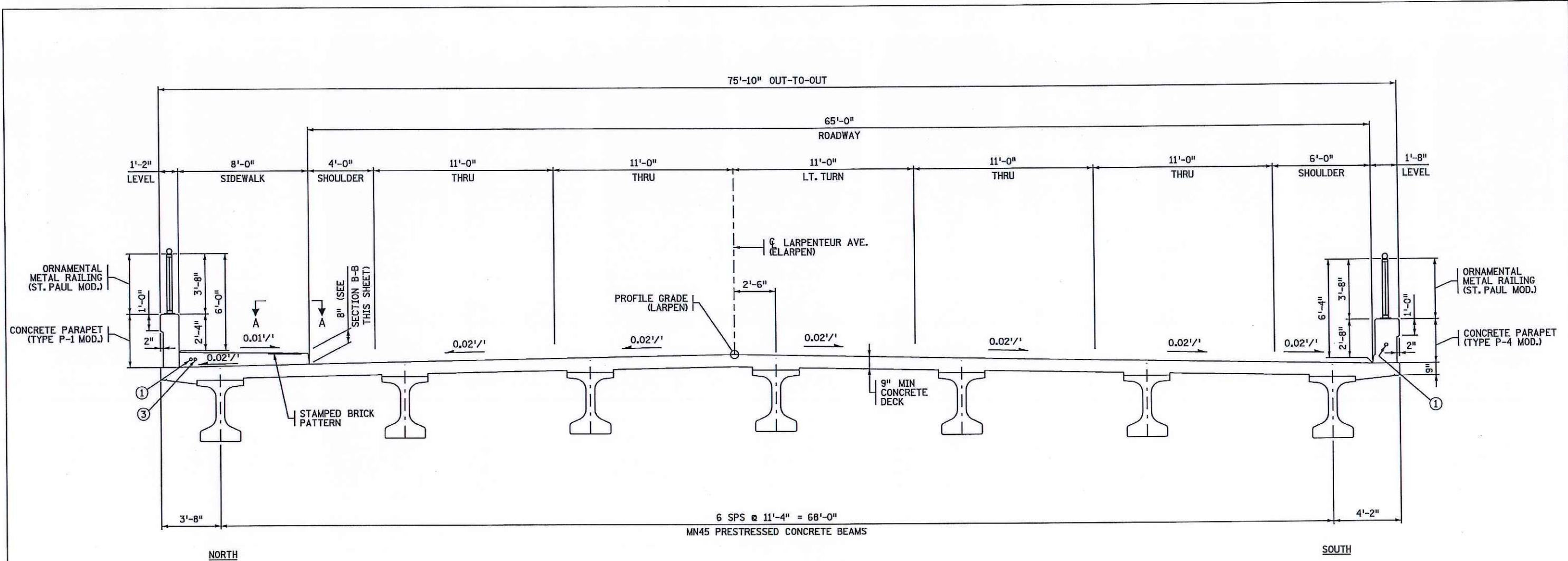
D.J. Henn
 SIGNATURE

DATE 5/21/14

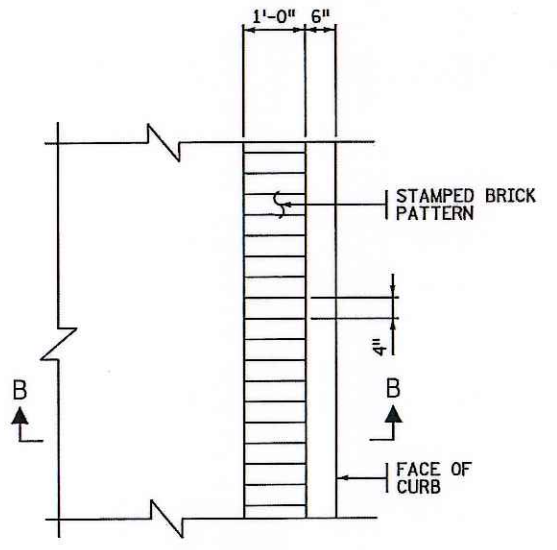
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: GEORGE W. GORRILL

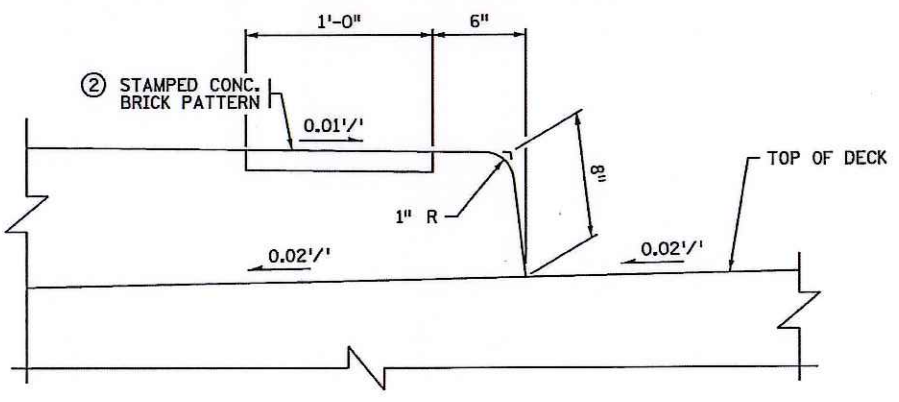
DATE 5/20/14 LICENSE # 46863



TRANSVERSE SECTION



PLAN VIEW A-A
BRIDGE AND APPROACH
SIDEWALK PLAN



SECTION B-B
SIDEWALK SECTION

NOTES:

- ① 1/2" R.S.C. LIGHTING CONDUIT, SEE LIGHTING PLAN FOR DETAILS.
- ② ARCHITECTURAL CONCRETE PAVEMENT. SEE SPECIAL PROVISIONS.
- ③ 2" R.S.C. SIGNAL CONDUIT, SEE SIGNAL PLANS FOR DETAILS.

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APR 11 2014
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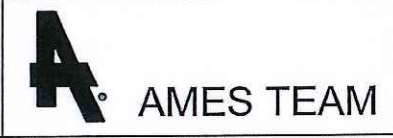
DES: AW	DR: MMF	APPROVED:
CHK: ZAT	CHK: ZAT	

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: GEORGE W. GORRILL
DATE: 4/10/14 LICENSE #: 46863

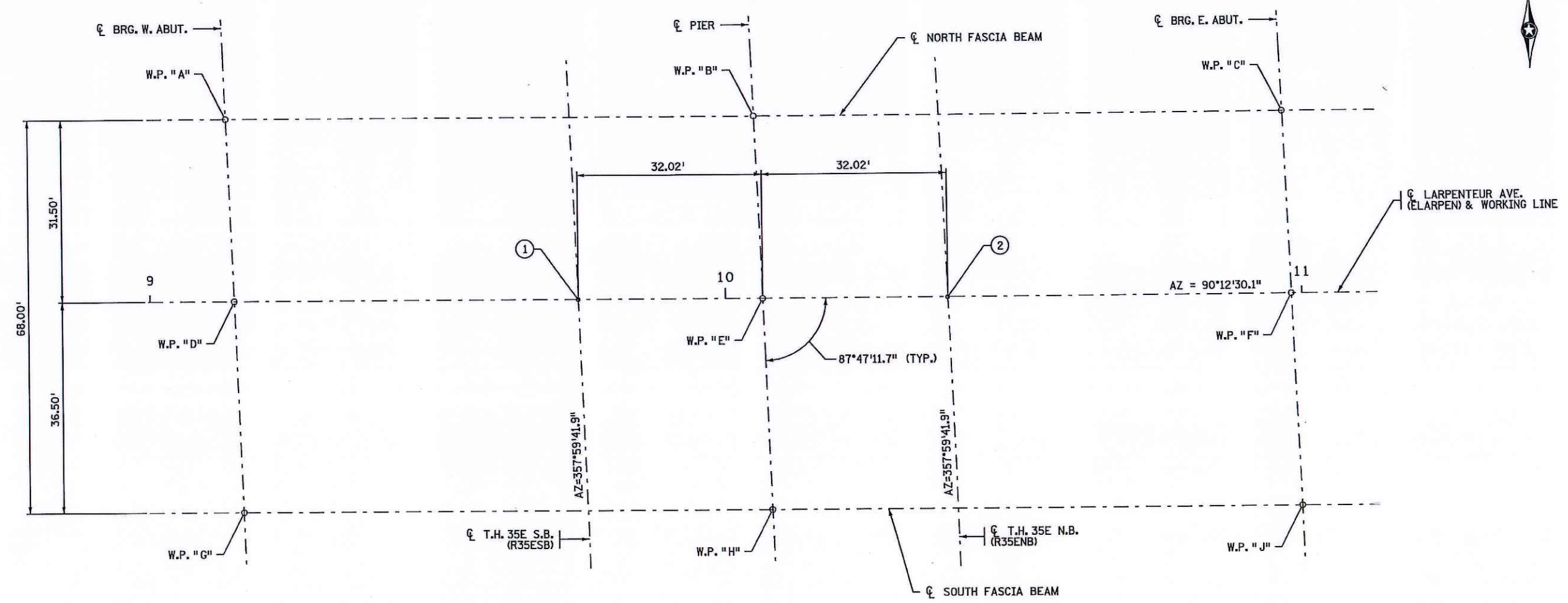
MANDOT ACCEPTANCE
SIGNATURE: *David J. Horn*
DATE: 4/11/14



S.P. NO. 6280-62646 BRIDGE NO. 62646 SHEET 2 OF 5.5

TRANSVERSE SECTION

17:00 06-APR-2014 CB-62646-511-02.dgn



WORKING POINT LAYOUT

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- NOTES:**
- ALL DIMENSIONS ON THIS SHEET ARE ORTHOGONAL OR PARALLEL TO ϕ LARPEUR AVE. AND BEAM LINES.
- ① ϕ T.H. 35E S.B. STA 541+64.52 = ϕ LARPEUR AVE. STA. 9+74.39
X = 576050.659 Y = 173325.222
 - ② ϕ T.H. 35E N.B. STA 541+62.05 = ϕ LARPEUR AVE. STA 10+38.49
X = 576114.706 Y = 173324.989

POINT	STATION	X-COORDIN.	Y-COORDIN.	DIMENSIONS BETWEEN WORKING POINTS (FT)									ELEVATIONS (FT)			POINT
				A	B	C	D	E	F	G	H	J	TOP OF ROADWAY	TOP OF RDWY TO BM. BRG. SEAT	BM. BRG. SEAT ELEV.	
A	9 + 13.45	575989.830	173356.943	-	91.75	-	31.52	98.16	187.38	-	116.32	198.16	872.09	4.79	867.30	A
B	10 + 05.20	576081.580	173356.610	-	-	91.75	95.86	31.52	98.16	112.10	-	116.32	873.03	4.79	868.24	B
C	10 + 96.95	576173.329	173356.276	-	-	-	184.98	95.86	31.52	193.23	112.10	-	872.07	4.79	867.28	C
D	9 + 14.67	575990.933	173325.439	-	-	-	-	91.75	-	36.53	100.06	188.48	872.75	-	-	D
E	10 + 06.42	576082.682	173325.105	-	-	-	-	-	91.75	97.43	36.53	100.06	873.66	-	-	E
F	10 + 98.17	576174.432	173324.772	-	-	-	-	-	-	185.71	97.43	36.53	872.67	-	-	F
G	9 + 16.08	575992.211	173288.934	-	-	-	-	-	-	-	91.75	-	872.05	4.79	867.26	G
H	10 + 07.83	576083.961	173288.600	-	-	-	-	-	-	-	-	91.75	872.93	4.79	868.14	H
J	10 + 99.58	576175.710	173288.267	-	-	-	-	-	-	-	-	-	871.91	4.79	867.12	J

TOP OF ROADWAY TO TOP OF SEAT BEAM						
ALL BEAM LINES 1-7	DECK THICKNESS	STOOL HEIGHT	BEAM HEIGHT	BEARING HEIGHT	TOTAL	
	(IN)	(IN)	(IN)	(IN)	(INCHES)	(FEET)
ABUT 1	9	3	45	1/2	57 1/2	4.79
PIER -BACK	9	3	45	1/2	57 1/2	4.79
PIER-AHEAD	9	3	45	1/2	57 1/2	4.79
ABUT 2	9	3	45	1/2	57 1/2	4.79

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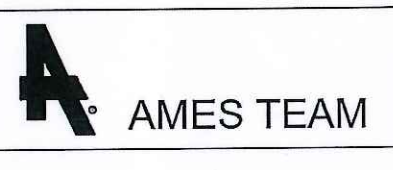
NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: GEORGE W. GORRILL
DATE: 4/10/14 LICENSE #: 46863

MNDOT ACCEPTANCE

SIGNATURE: *David J. Horn*
DATE: 4/11/14



S.P. NO. 6280-62646 BRIDGE NO. 62646 SHEET 3 OF 55

BRIDGE LAYOUT

DES: AW DR: MMF APPROVED:
CHK: GDF CHK: AW

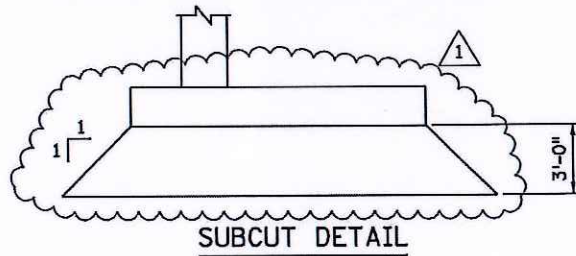
WEST ABUTMENT SPREAD FOOTING LOAD DATA

* FACTORED DESIGN BEARING PRESSURE	3.1 TONS/ SQ. FT.
EFFECTIVE WIDTH B'	12.5 FT.
FACTORED BEARING RESISTANCE $\phi_b \cdot q_n$	3.1 TONS/ SQ. FT.

* BASED ON STR IV LOAD COMBINATION

FOOTING NOTES:

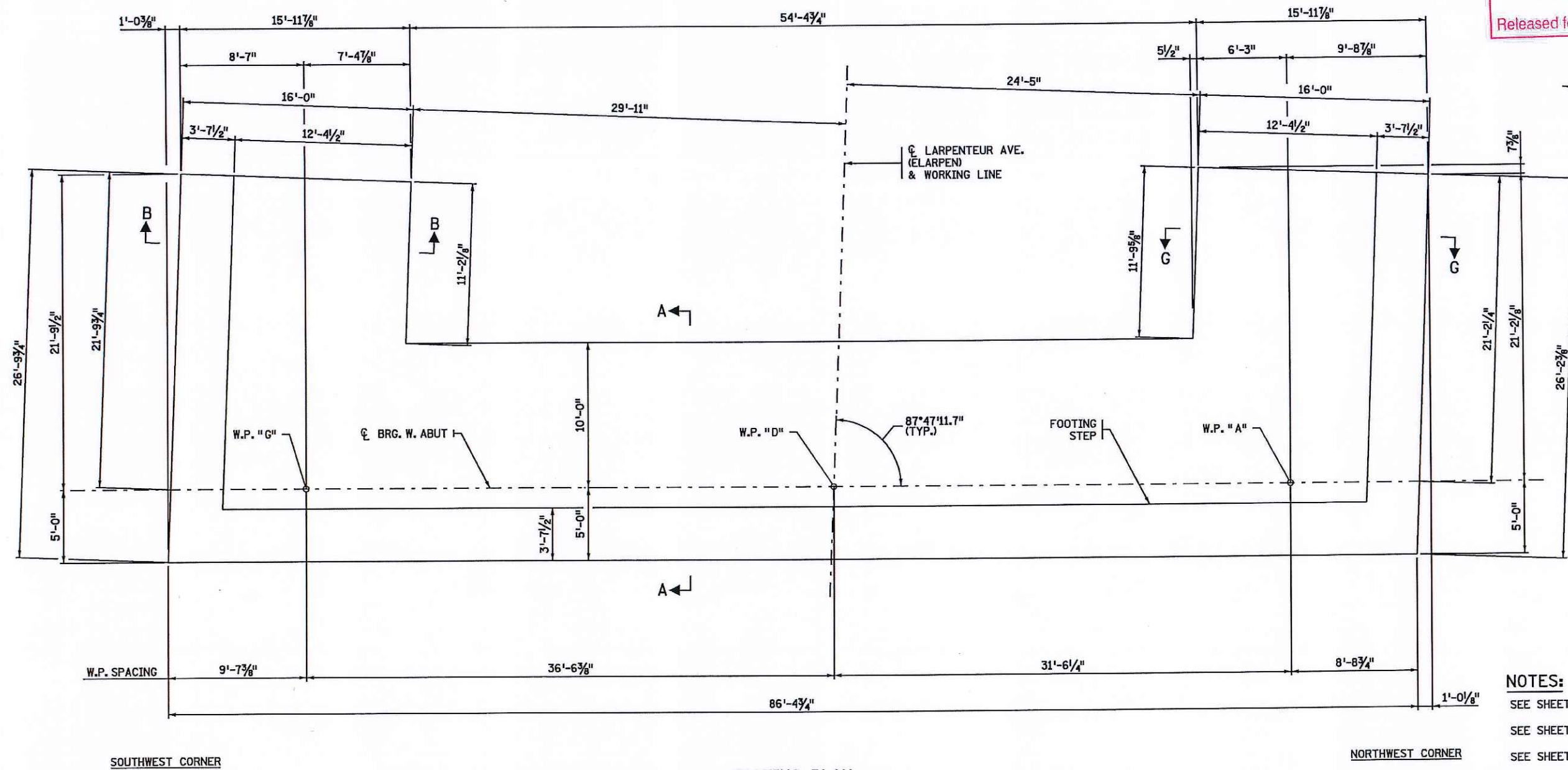
A PORTION OF THE IN-PLACE BRIDGE FOUNDATION IS WITHIN THE LIMITS OF THE PROPOSED BRIDGE FOUNDATION. EXISTING TIMBER PILES SHOULD BE CUT OFF 3 FEET BELOW THE LEVEL OF THE PROPOSED BOTTOM OF FOOTING ELEVATION. REMOVE MARGINAL SOILS 3 FEET BELOW PROPOSED BOTTOM OF FOOTING ELEVATION AND REPLACE WITH SELECT GRANULAR BORROW THAT MEETS MNDOT SPEC. 3149.2B2 AND PLACE IN ACCORDANCE WITH MNDOT SPEC. 2105.



SUMMARY OF QUANTITIES FOR WEST ABUTMENT

ITEM NO.	ITEM	QTY.	UNIT
2401.501	STRUCTURAL CONCRETE (1A43)	190	CU. YD.
2401.501	STRUCTURAL CONCRETE (3Y43)	248	CU. YD.
2401.541	REINFORCEMENT BARS	20,362	POUND
2401.541	REINFORCEMENT BARS (EPOXY COATED)	23,381	POUND
2411.618	ARCHITECTURAL CONCRETE TEXTURE (CUT STONE)	1330	SQ. FT.
2411.618	ARCHITECTURAL CONCRETE TEXTURE (LIMESTONE)	1085	SQ. FT.
2411.618	ARCHITECTURAL SURFACE FINISH (MULTI-COLOR)	2415	SQ. FT.
2411.618	ANTI-GRAFFITI COATING	2415	SQ. FT.

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NOTES:
 SEE SHEET 5 FOR SECTION A-A.
 SEE SHEET 7 FOR SECTION B-B.
 SEE SHEET 8 FOR SECTION G-G.

FOOTING PLAN

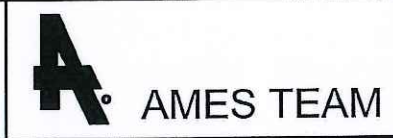
NO	DATE	BY	CHKD	APPR	REVISION
1	5/5/14	JLJ	ZAT	JWD	SUBCUT REVISION (NDCC08)

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PRINT NAME: **GEORGE W. GORRILL**
 DATE: **5/20/14** LICENSE # **46863**

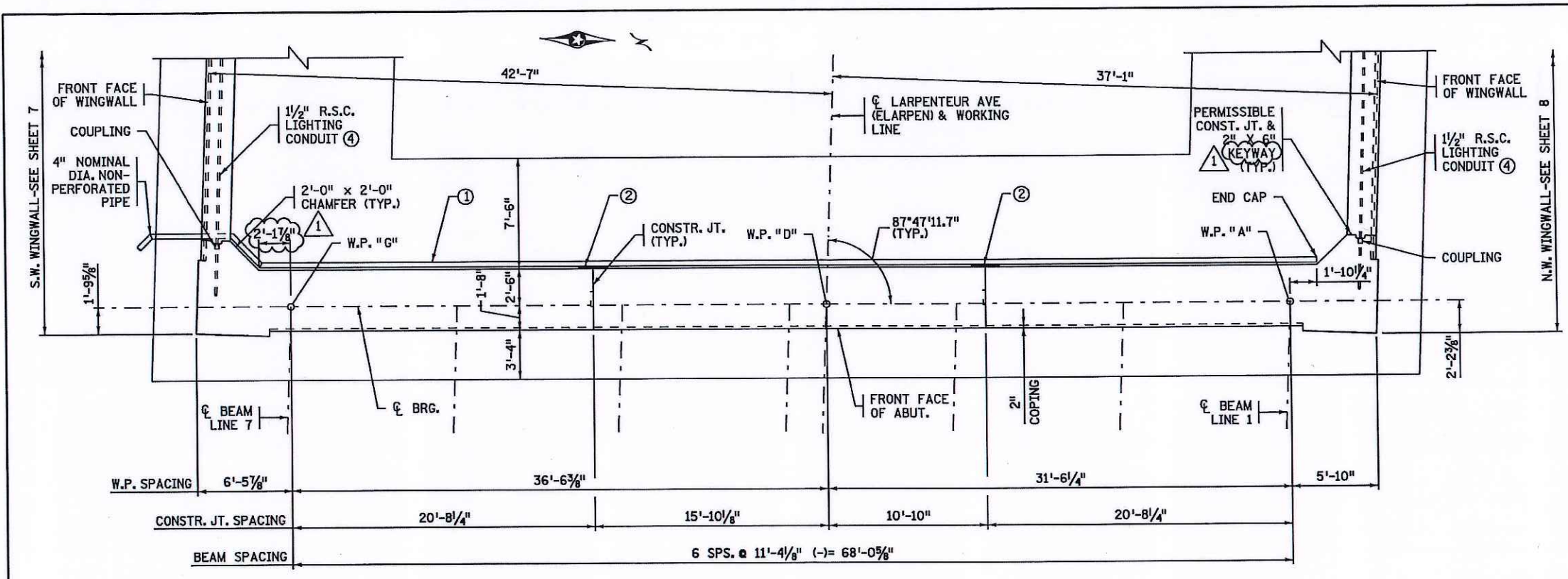
MNDOT ACCEPTANCE

SIGNATURE: *George W. Gorrill*
 DATE: **5/21/14**

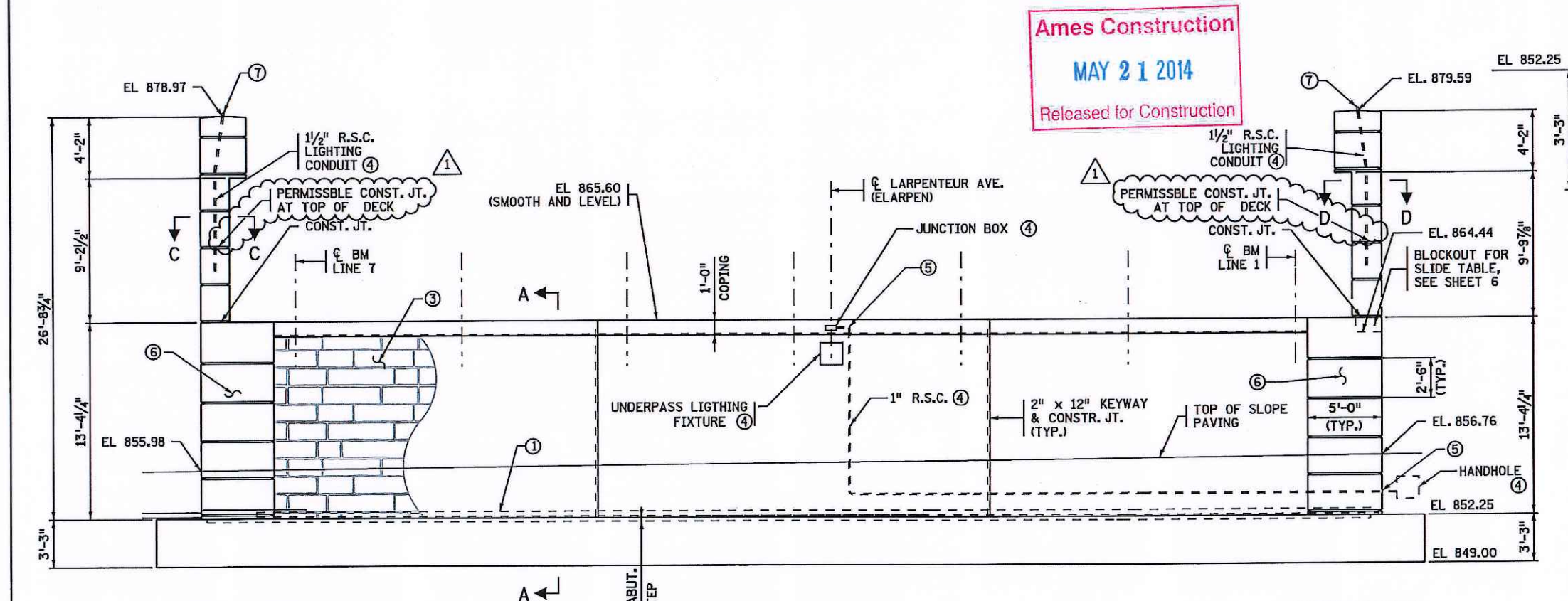


S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 4 OF 55
WEST ABUTMENT DETAILS		

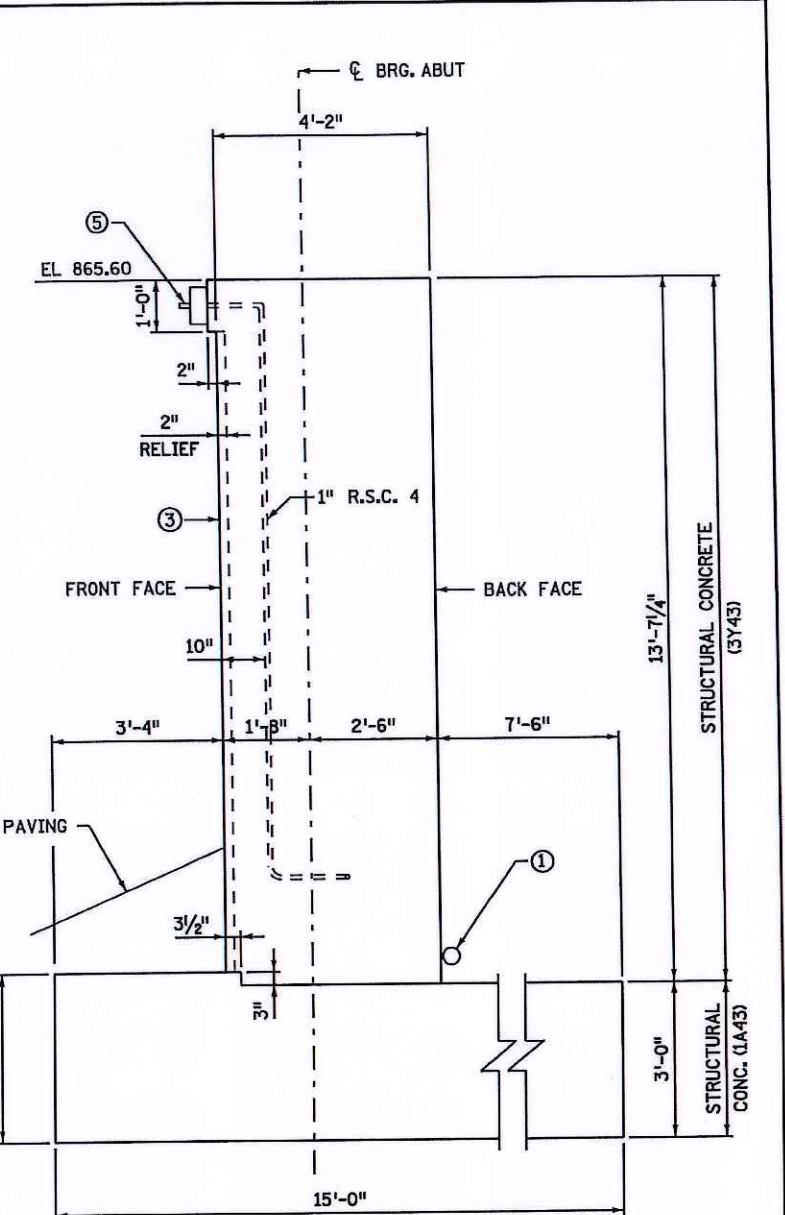
DES: AW	DR: MMF	APPROVED:
CHK: ZAT	CHK: ZAT	



ABUTMENT PLAN



ABUTMENT ELEVATION
(LOOKING BACKSTATION)



- NOTES:**
- PROVIDE A 3/4" CHAMFER ON ALL HORIZONTAL OR VERTICAL CORNERS / EDGES OF 90° OR LESS UNLESS OTHERWISE NOTED.
 - APPLY ANTI-GRAFFITI COATING TO ALL VISIBLE EXPOSED SURFACES, INCLUDING 1'-0" BELOW GRADE OF BRIDGE ABUTMENT AND WINGWALLS.
 - SEE SHEET 6 FOR SECTION C-C AND D-D.
 - ① 4" NOMINAL DIA. PERFORATED PIPE. SEE DETAIL B910 ON SHEET 50.
 - ② MEMBRANE WATERPROOFING SYSTEM PER MN/DOT SPEC. 2481.38.
 - ③ ARCHITECTURAL CONCRETE TEXTURE (CUT STONE) ARCHITECTURAL SURFACE FINISH (MULTI-COLOR).
 - ④ SEE LIGHTING PLAN FOR DETAILS.
 - ⑤ EXTEND CONDUIT 3" PAST CONCRETE SURFACES.
 - ⑥ ARCHITECTURAL CONCRETE TEXTURE (LIMESTONE), ARCHITECTURAL SURFACE FINISH (MULTI-COLOR).
 - ⑦ EXTEND CONDUIT 3" ABOVE TOP OF PILASTER AND CAP.

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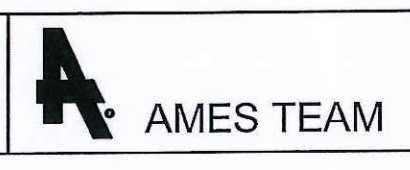
1855	5/5/14	JLJ	ZAT	JWD	REVISED CORNER DIMENSIONS. ADDED PILASTER CONST. JTS. (NDC008)
NO	DATE	BY	CKD	APPR	REVISION

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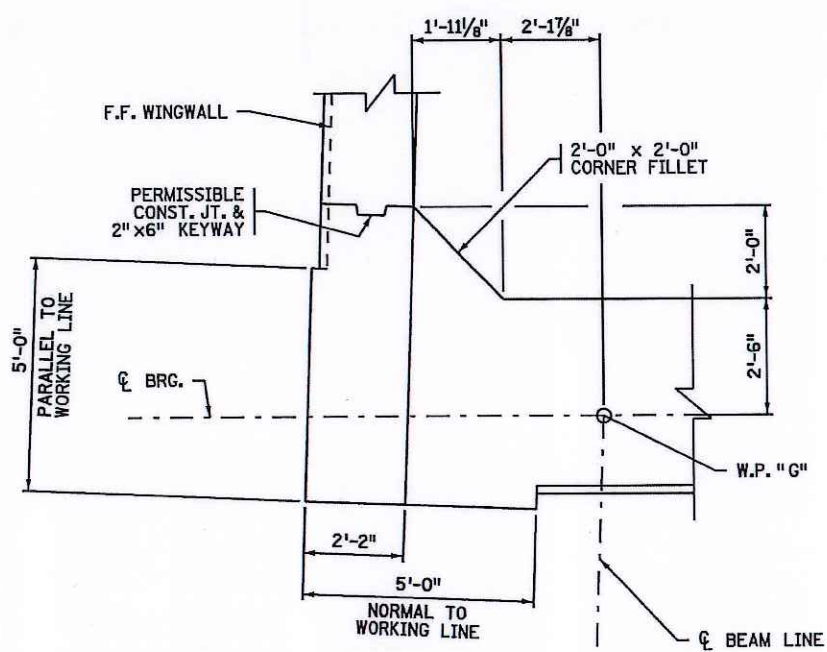
PRINT NAME: GEORGE W. GORRILL
DATE: 5/21/14 LICENSE # 46863

MNDOT ACCEPTANCE

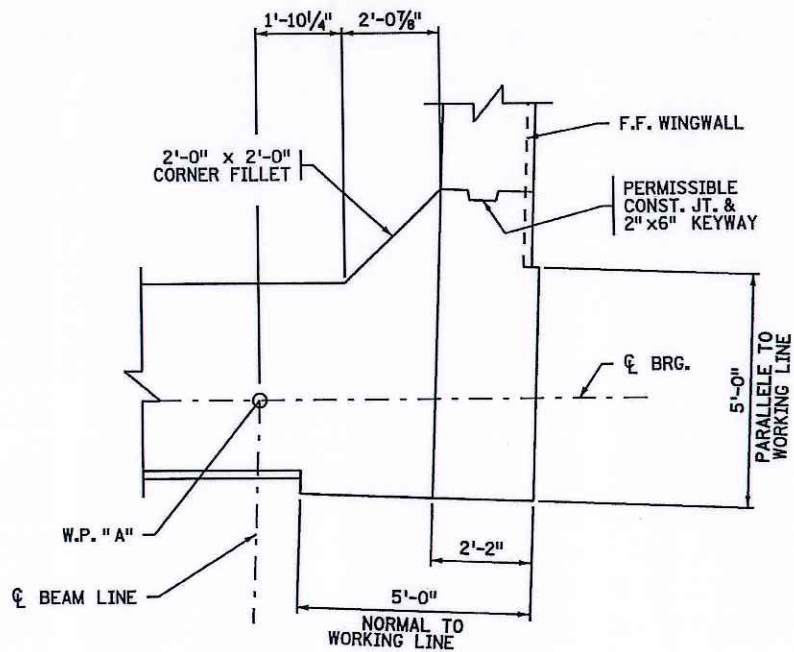
SIGNATURE: D.J. Herron
DATE: 5/21/14



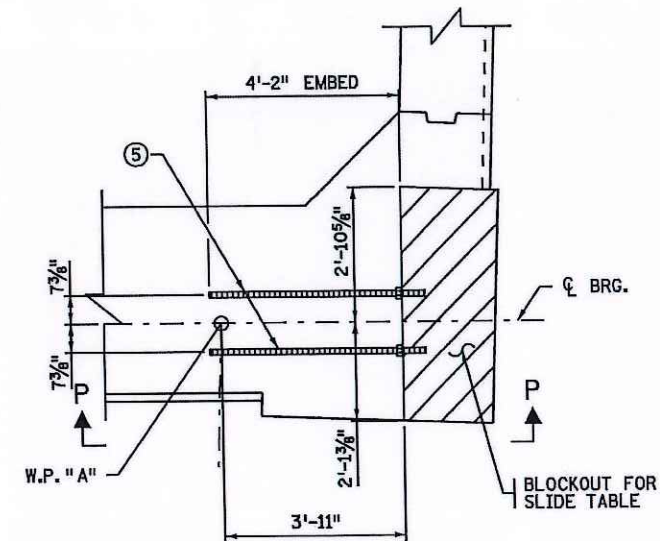
DES: AMW	DR: MMF	APPROVED:
CHK: ZAT	CHK: ZAT	
S.P. NO. 6280-62646		BRIDGE NO. 62646
WEST ABUTMENT DETAILS		SHEET 5 OF 55



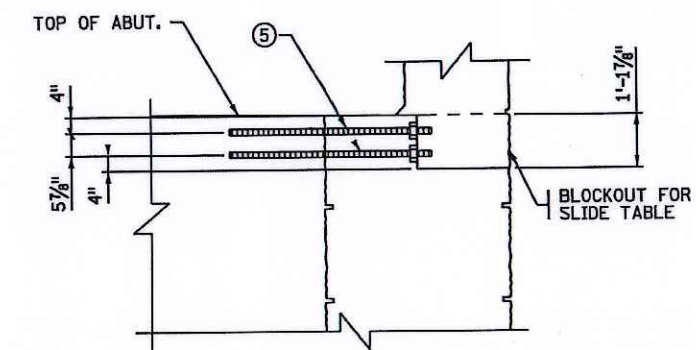
SECTION C-C



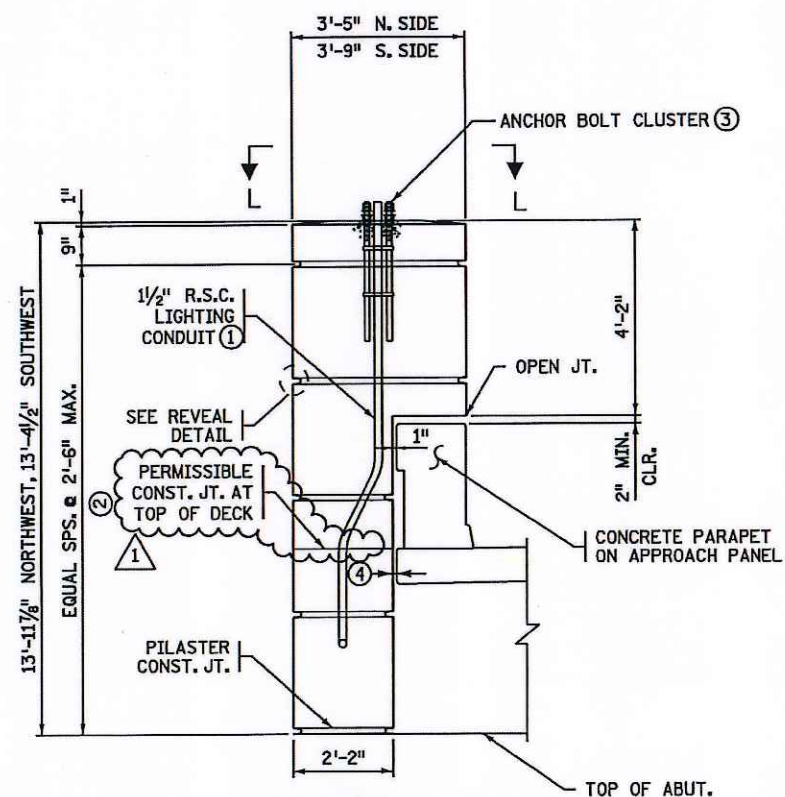
SECTION D-D



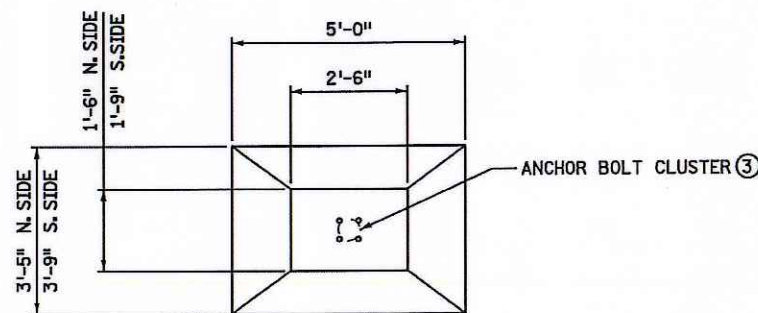
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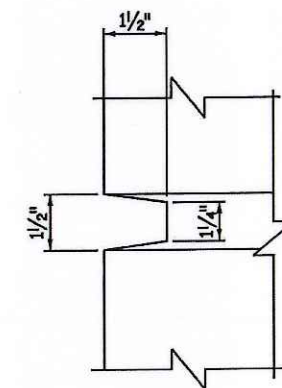
VIEW P-P



PILASTER DETAILS
(NORTH SIDE SHOWN
SOUTH SIDE SIMILAR)



VIEW L-L



REVEAL DETAIL

NOTES:

- APPLY ANTI-GRAFFITI COATING TO ALL VISIBLE EXPOSED SURFACES, INCLUDING 1'-0" BELOW GRADE OF BRIDGE ABUTMENT AND WINGWALLS.
- SEE SHEET 5 FOR SECTION C-C AND D-D LOCATIONS.
- ① EXTEND CONDUIT 3" ABOVE TOP OF PILASTER AND CAP.
- ② ARCHITECTURAL CONCRETE TEXTURE (LIMESTONE), ARCHITECTURAL SURFACE FINISH (MULTI-COLOR)
- ③ ANCHOR BOLT CLUSTER FOR LIGHT POLE, CENTERED ON PILASTER. SEE DETAIL B950 ON SHEET 50.
- ④ 1" POLYSTYRENE TYPE B. SEAL WITH SELF-LEVELING SILICONE PER MNDOT 3722.
- ⑤ 4-1/2" DIA. A307 BOLT 4'-8" IN LENGTH. GALVANIZE BOLTS AND NUTS IN ACCORDANCE WITH MNDOT SPEC. 3392.

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DES: AW	DR: AA	APPROVED:
CHK: ZAT	CHK: ZAT	

NO	DATE	BY	CKD	APPR	REVISION
	5/5/14	JLJ	ZAT	JWD	ADDED PILASTER CONST. JT. (NDC008)

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PRINT NAME: GEORGE W. GORRILL
DATE: 5/21/14 LICENSE #: 46863

MNDOT ACCEPTANCE

SIGNATURE: [Signature]
DATE: 5/21/14

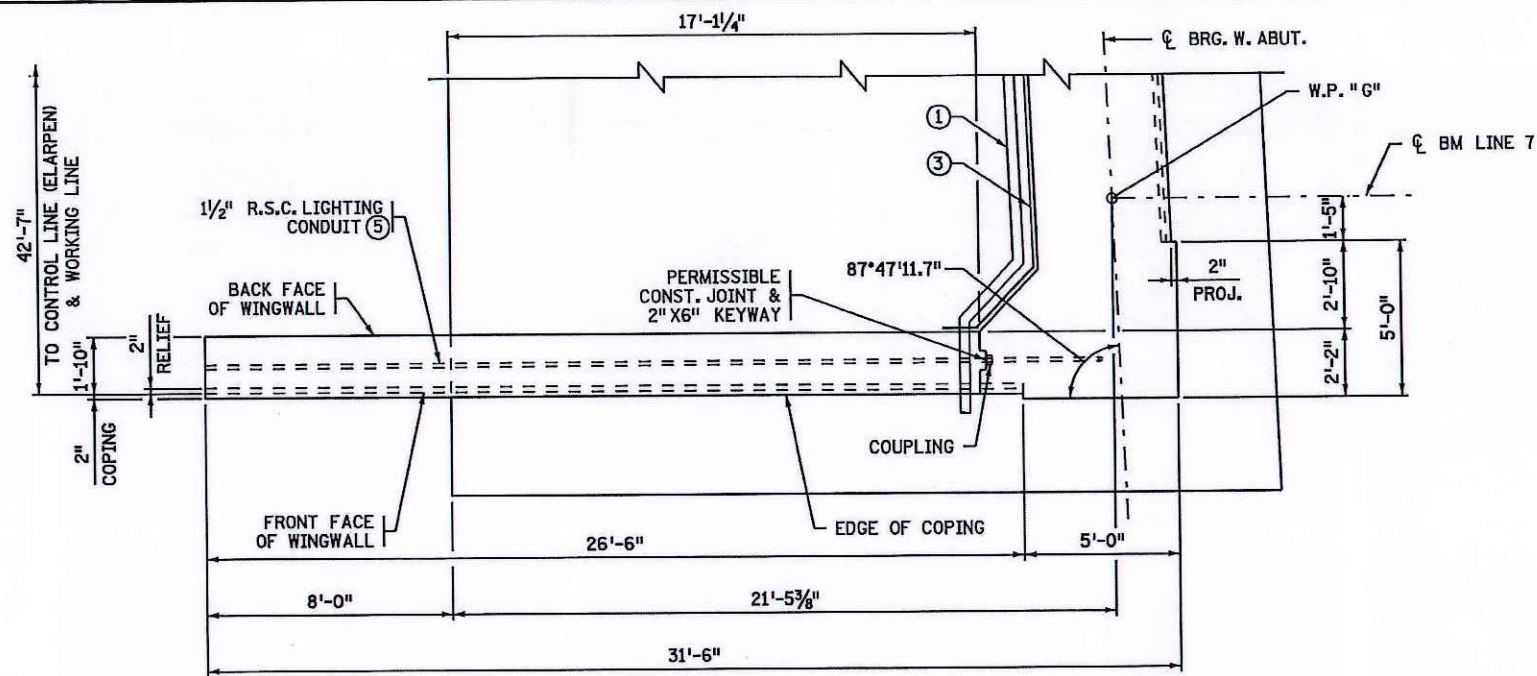


S.P. NO. 6280-62646 BRIDGE NO. 62646 SHEET 6 OF 55

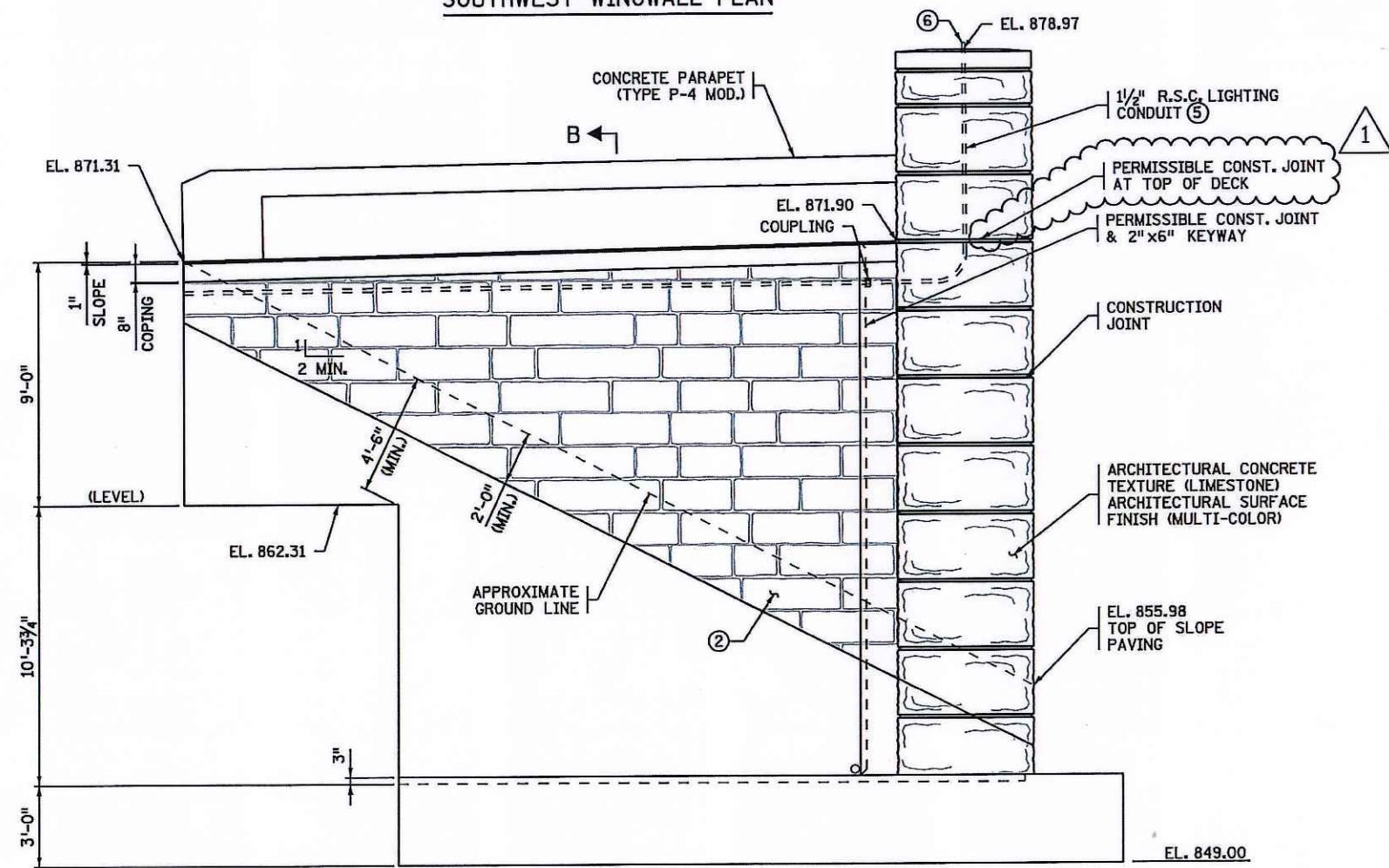
WEST ABUTMENT DETAILS

16455 5-2014
6280-62646-11T06.dgn

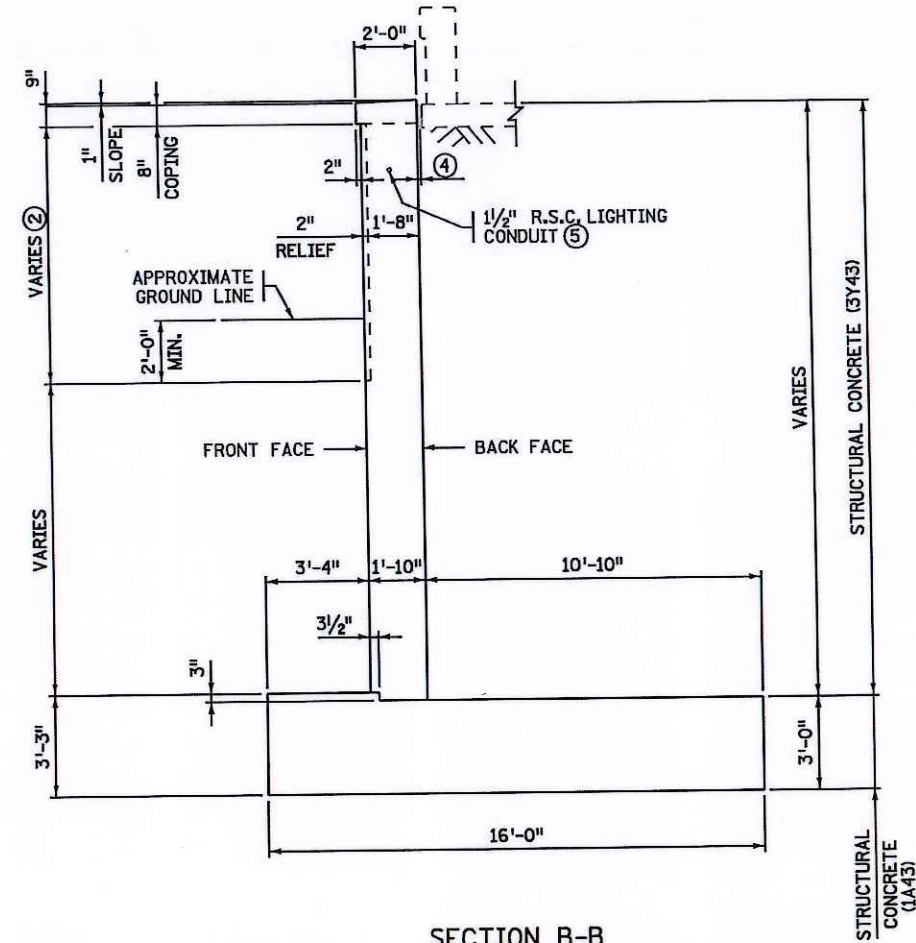
DRAWING NO. 1



SOUTHWEST WINGWALL PLAN



SOUTHWEST WINGWALL ELEVATION



SECTION B-B

NOTES:

- TOP OF WINGWALL ELEVATIONS ARE GIVEN AT BACKFACE OF WINGWALL.
- APPLY ANTI-GRAFFITI COATING TO ALL VISIBLE EXPOSED SURFACES, INCLUDING 1'-0" BELOW GRADE OF BRIDGE ABUTMENT AND WINGWALL.
- WINGWALL DIMENSIONS ARE PARALLEL OR PERPENDICULAR TO CONTROL LINE (ELARPEN).
- ① 4" NOMINAL DIA. PERFORATED PIPE INCLUDED IN DRAINAGE SYSTEM TYPE B910.
- ② ARCHITECTURAL CONCRETE TEXTURE (CUT STONE), ARCHITECTURAL SURFACE FINISH (MULTI COLOR).
- ③ MEMBRANE WATERPROOFING SYSTEM PER MN/DOT SPEC. 2481.3B.
- ④ 1" POLYSTYRENE TYPE B AT APPROACH PANEL. SEAL WITH SELF LEVELING SILICONE PER MNDOT 3722. REFER TO GRADING APPROACH PANEL DETAILS UNDER GRADING PORTION OF CONTRACT.
- ⑤ SEE LIGHTING PLAN FOR DETAILS.
- ⑥ EXTEND CONDUIT 3" ABOVE TOP OF PILASTER AND CAP.

Ames Construction
 MAY 21 2014
 Released for Construction

DES: AW	DR: MMF	APPROVED:
CHK: ZAT	CHK: JLEJ	

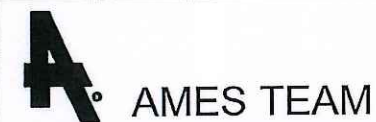
NO	DATE	BY	CKD	APPR	REVISION

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.

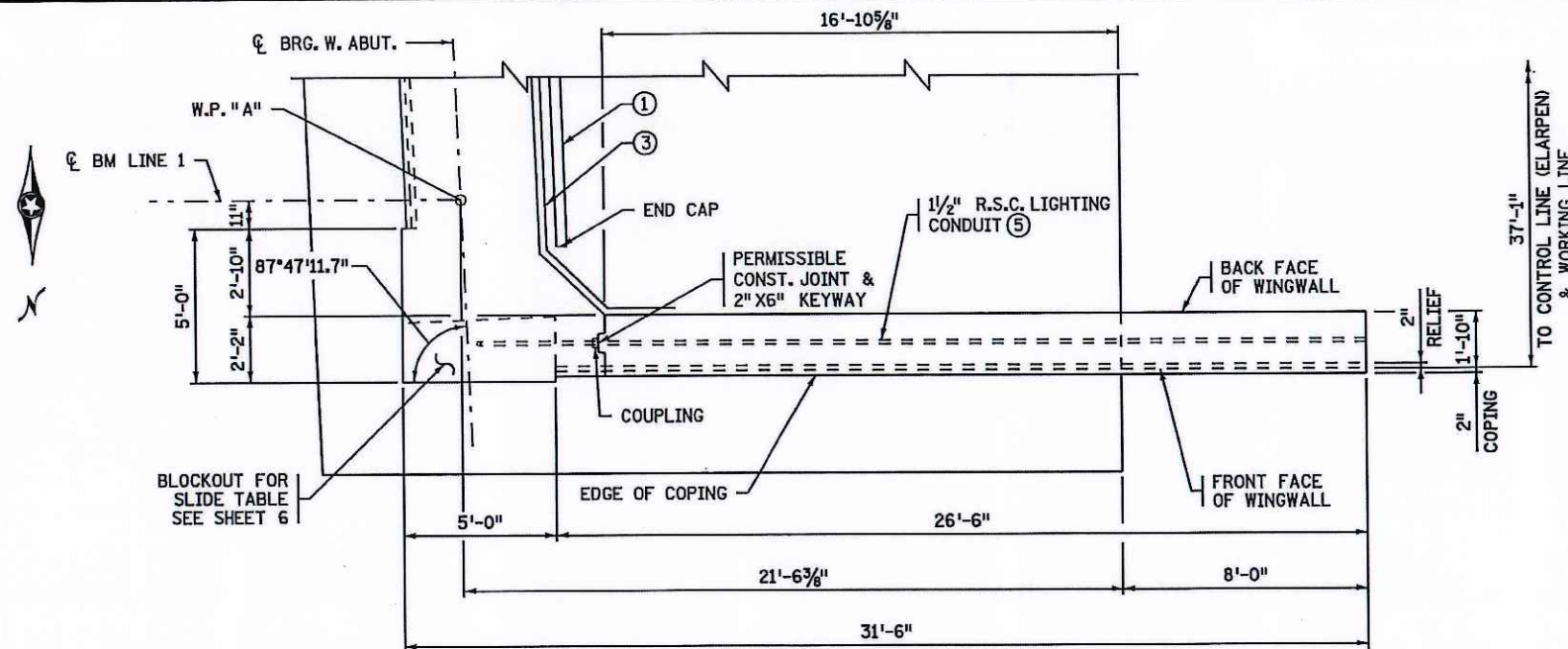
PRINT NAME: **GEORGE W. GORRILL**
 DATE: **5/20/14** LICENSE # **46863**

MNDOT ACCEPTANCE

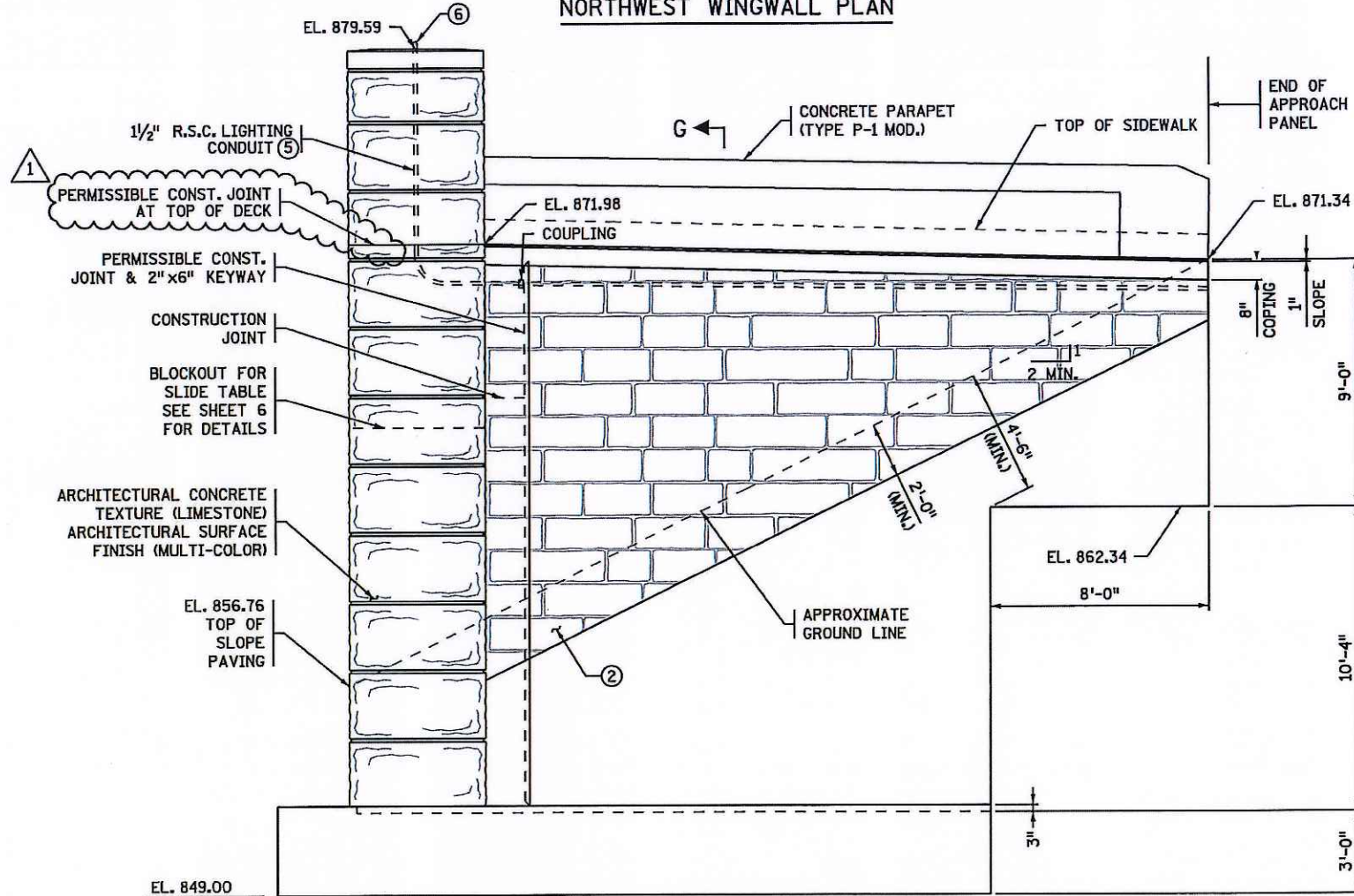
SIGNATURE: *[Signature]*
 DATE: **5/21/14**



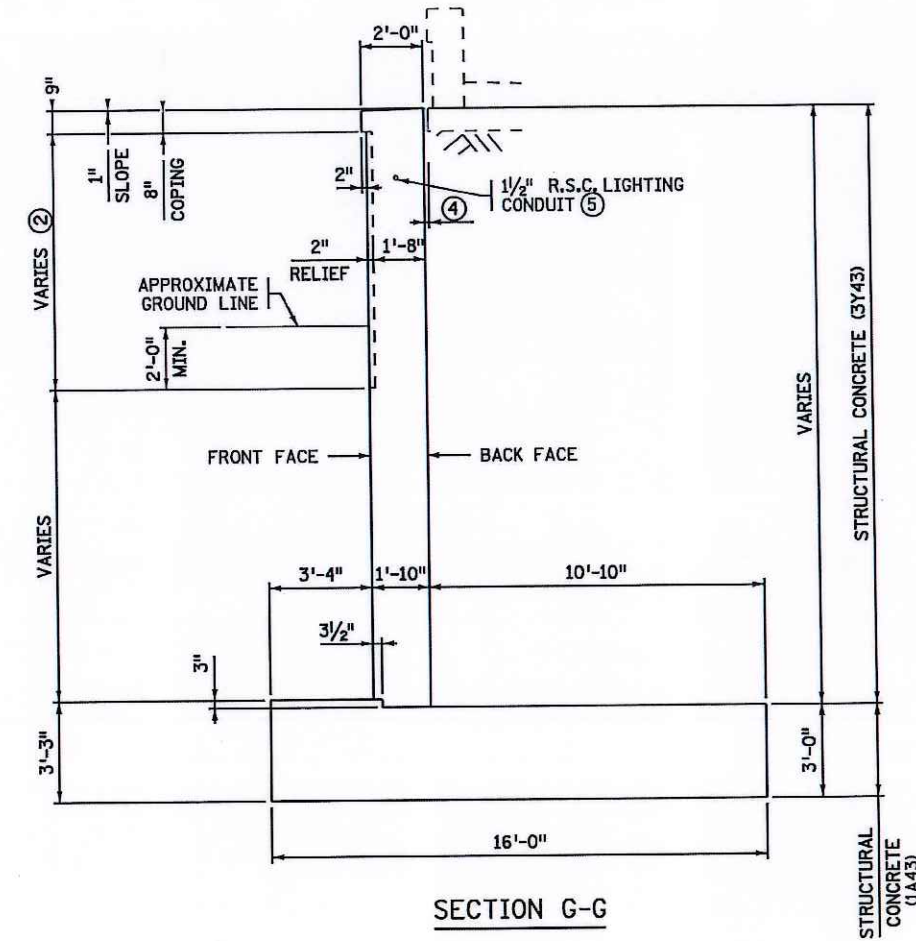
S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 7 OF 55
WEST ABUTMENT DETAILS		



NORTHWEST WINGWALL PLAN



NORTHWEST WINGWALL ELEVATION



SECTION G-G

- NOTES:**
- TOP OF WINGWALL ELEVATIONS ARE GIVEN AT BACKFACE OF WINGWALL.
 - APPLY ANTI-GRAFFITI COATING TO ALL VISIBLE EXPOSED SURFACES, INCLUDING 1'-0" BELOW GRADE OF BRIDGE ABUTMENT AND WINGWALL.
 - WINGWALL DIMENSIONS ARE PARALLEL OR PERPENDICULAR TO CONTROL LINE (ELARPEN).
 - ① 4" NOMINAL DIA. PERFORATED PIPE INCLUDED IN DRAINAGE SYSTEM TYPE B910.
 - ② ARCHITECTURAL CONCRETE TEXTURE (CUT STONE), ARCHITECTURAL SURFACE FINISH (MULTI COLOR).
 - ③ MEMBRANE WATERPROOFING SYSTEM PER MN/DOT SPEC. 2481.3B.
 - ④ 1" POLYSTYRENE TYPE B AT APPROACH PANEL. SEAL WITH SELF LEVELING SILICONE PER MNDOT 3722. REFER TO GRADING APPROACH PANEL DETAILS UNDER GRADING PORTION OF CONTRACT.
 - ⑤ SEE LIGHTING PLAN FOR DETAILS.
 - ⑥ EXTEND CONDUIT 3" ABOVE TOP OF PILASTER AND CAP.

Ames Construction
 MAY 21 2014
 Released for Construction

DES: AW	DR: MMF	APPROVED:
CHK: ZAT	CHK: JJJ	

NO	DATE	BY	CKD	APPR	REVISION
1	5/5/14	JLJ	ZAT	JWD	ADDED PILASTER CONST. JT. (NDC008)

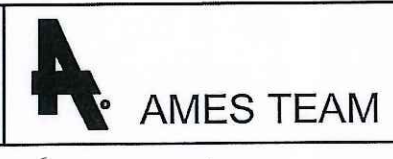
DRAWING NO. 1

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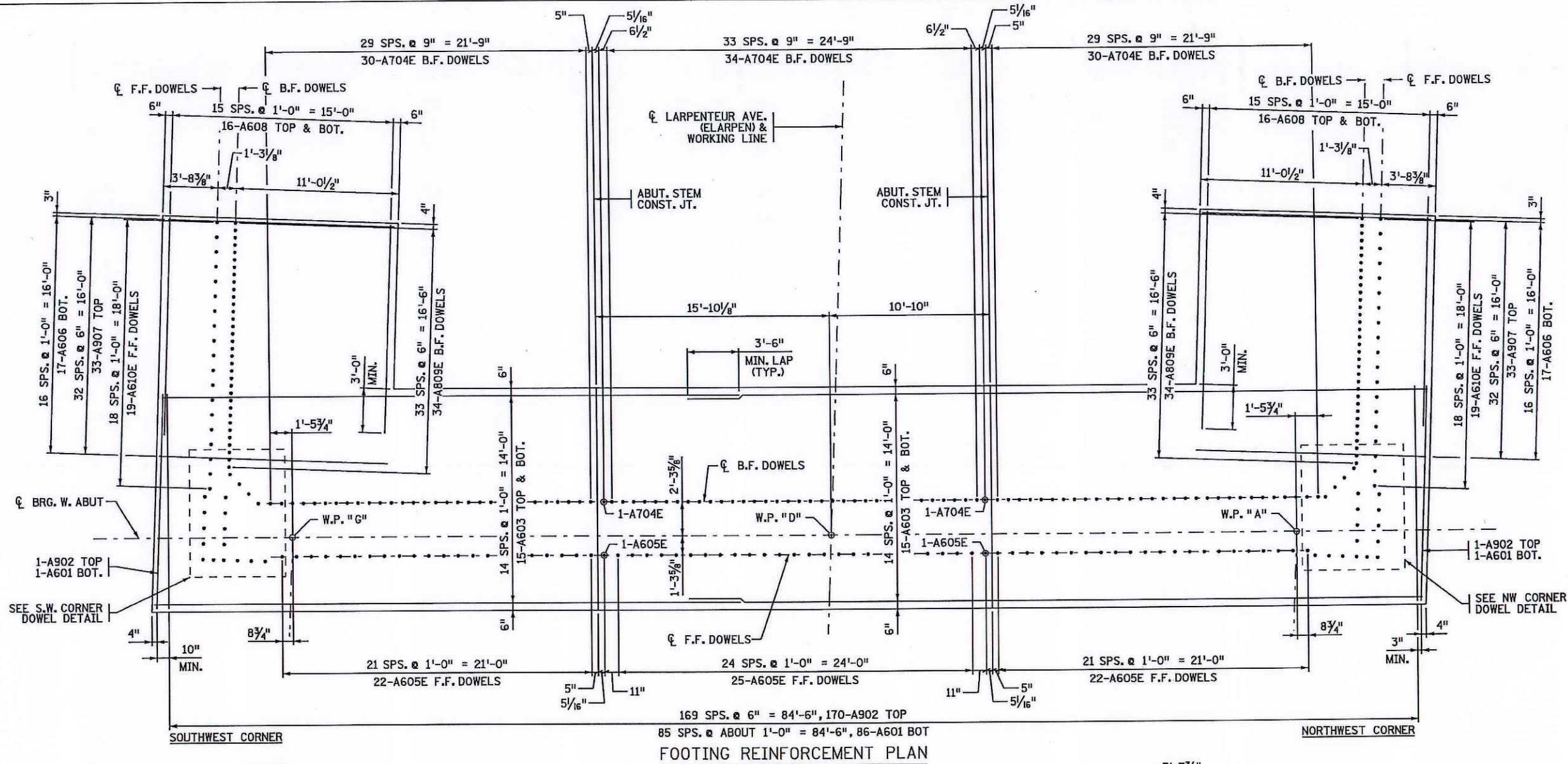
PRINT NAME: GEORGE W. GORRILL
 DATE: 5/20/14 LICENSE # 46863

MNDOT ACCEPTANCE

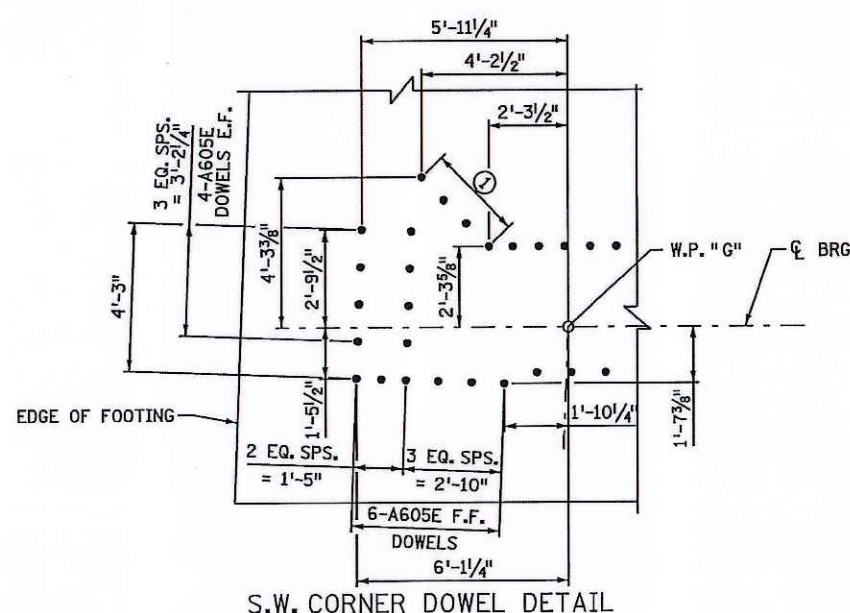
SIGNATURE: *D.J. Herman*
 DATE: 5/21/14



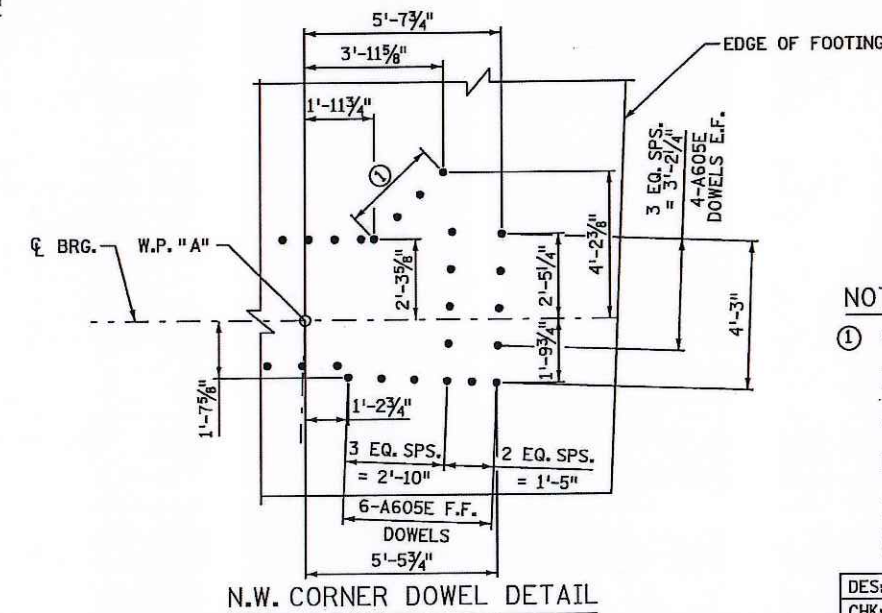
S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 8 OF 55
WEST ABUTMENT DETAILS		



FOOTING REINFORCEMENT PLAN



S.W. CORNER DOWEL DETAIL



N.W. CORNER DOWEL DETAIL

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 APR 11 2014
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- NOTES:**
- ① 3 SPS. @ 11" = 2'-9", 4-A704E DOWELS
 - B.F. DENOTES BACK FACE
 - F.F. DENOTES FRONT FACE
 - E.F. DENOTES EACH FACE
 - THE MINIMUM DISTANCE BETWEEN REINFORCEMENT AND FACE OF CONCRETE SHALL BE 3" UNLESS NOTED OTHERWISE.

DES: AMW	DR: MMF	APPROVED:
CHK: ZAT	CHK: JLJ	

NO	DATE	BY	CKD	APPR	REVISION

DRAWING NO. 1

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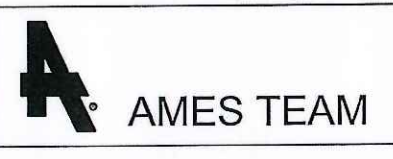
PRINT NAME: GEORGE W. GORRILL

DATE: 4/10/14 LICENSE # 46863

MNDOT ACCEPTANCE

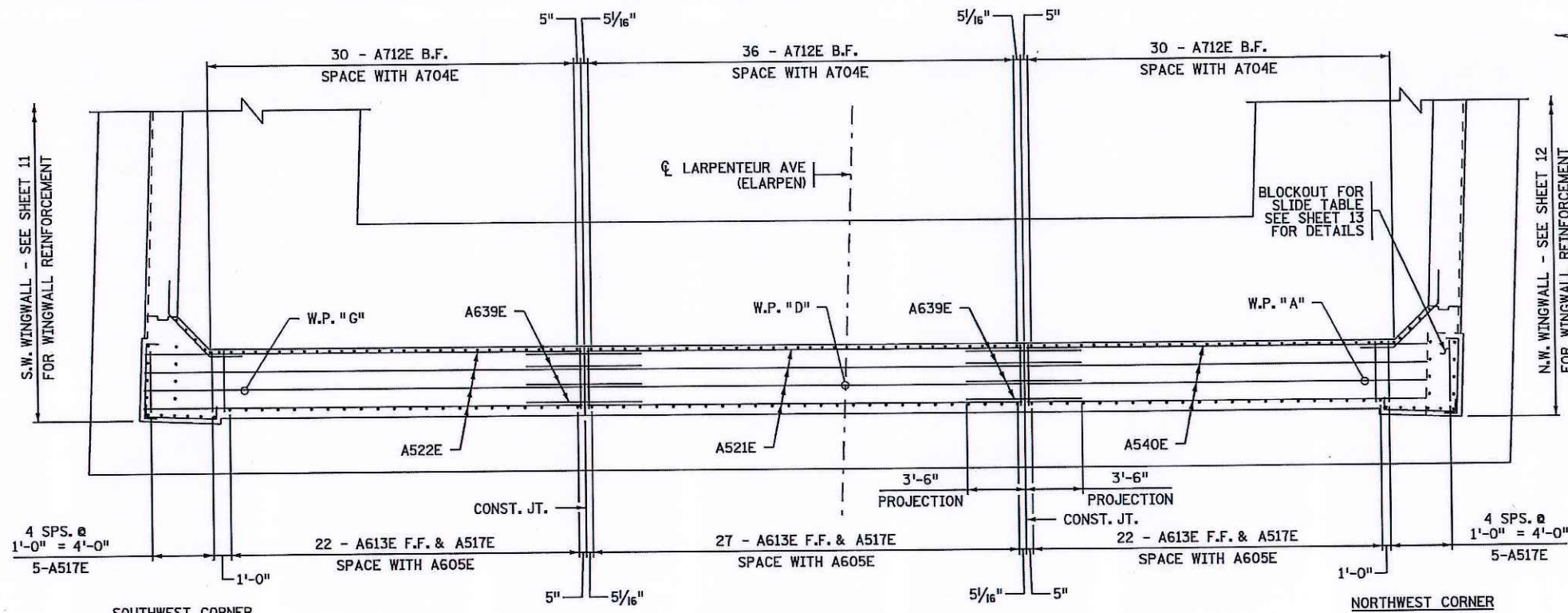
SIGNATURE: D.J. Kelly

DATE: 4/11/14

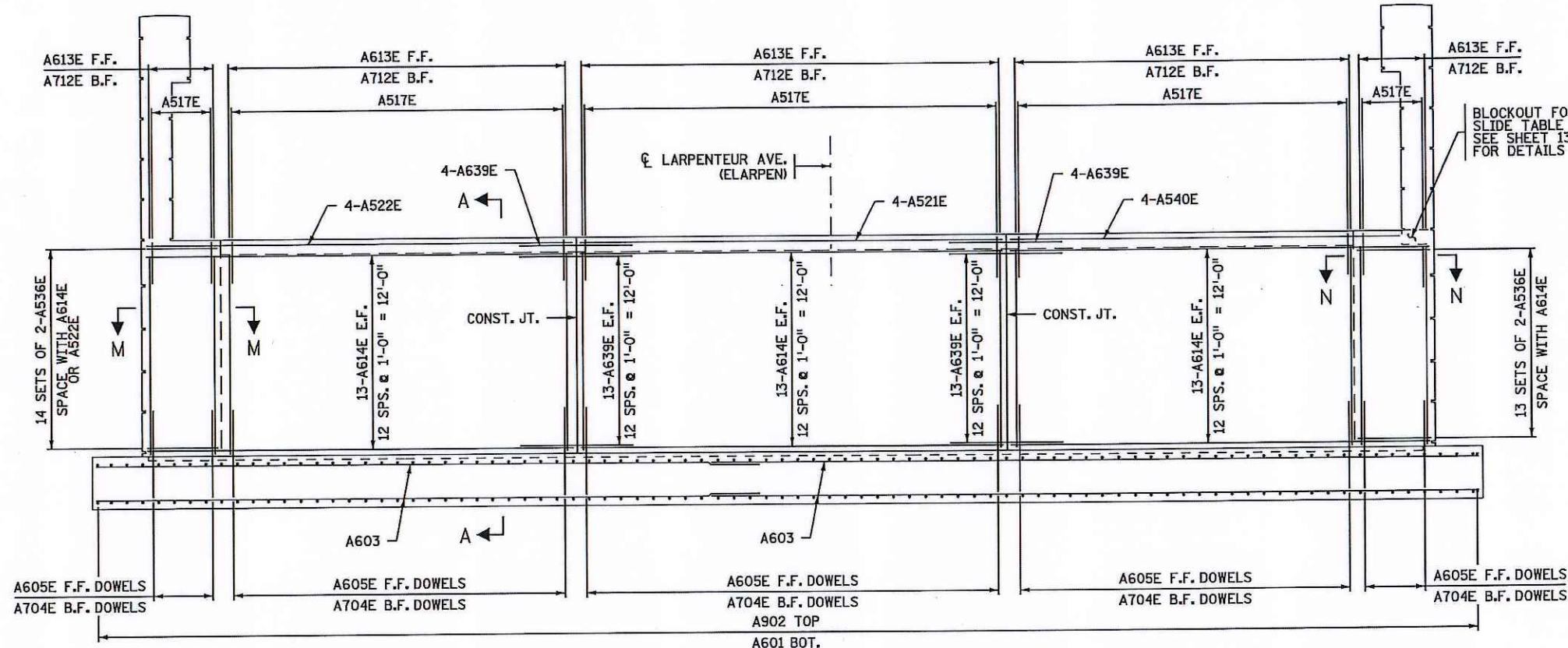


S.P. NO. 6280-62646 BRIDGE NO. 62646 SHEET 9 OF 55

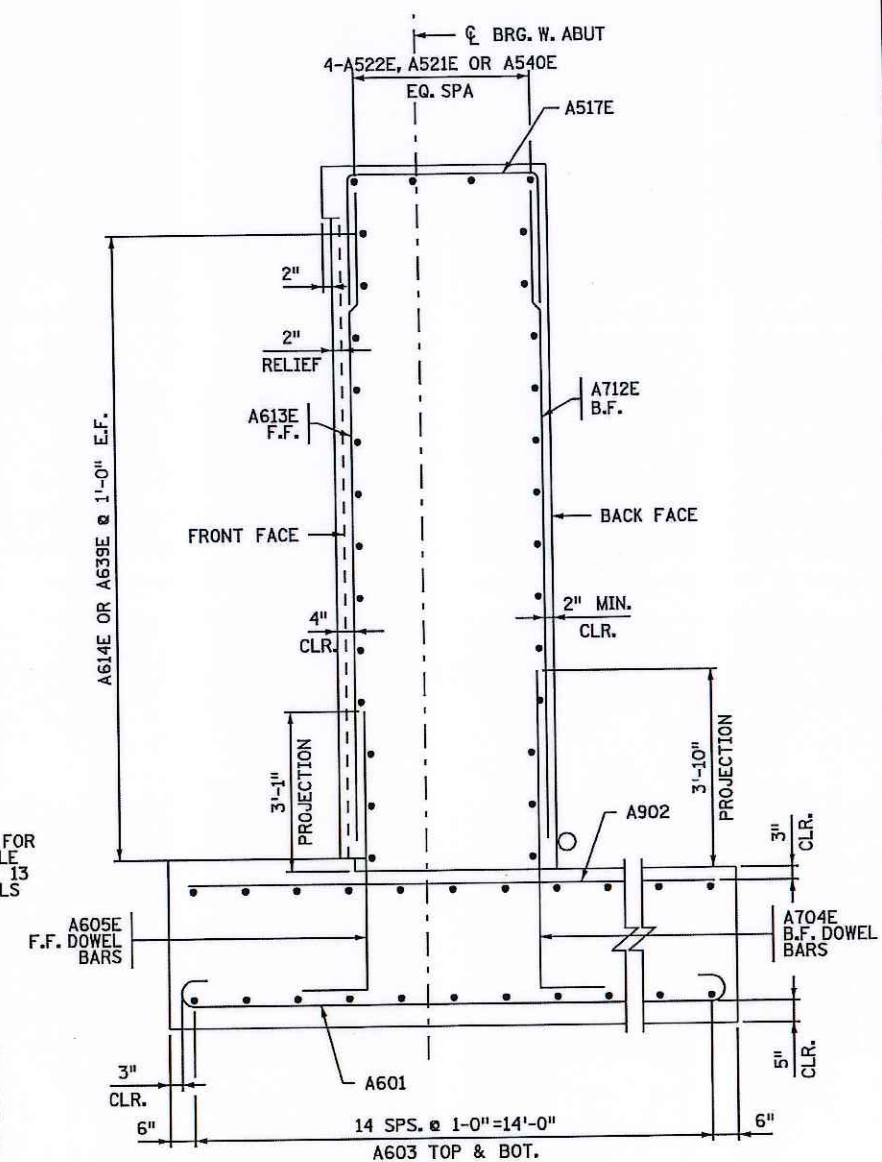
WEST ABUTMENT REINFORCEMENT



REINFORCEMENT PLAN



REINFORCEMENT ELEVATION



SECTION A-A

NOTES:
 F.F. DENOTES FRONT FACE.
 B.F. DENOTES BACK FACE.
 E.F. DENOTES EACH FACE.
 SEE SHEET 13 FOR SECTIONS M-M AND N-N

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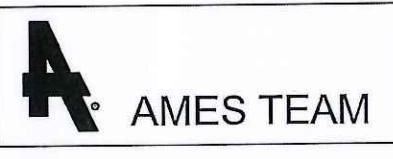
DES: AMW	DR: MMF	APPROVED:
CHK: ZAT	CHK: JLJ	

NO	DATE	BY	CKD	APPR	REVISION

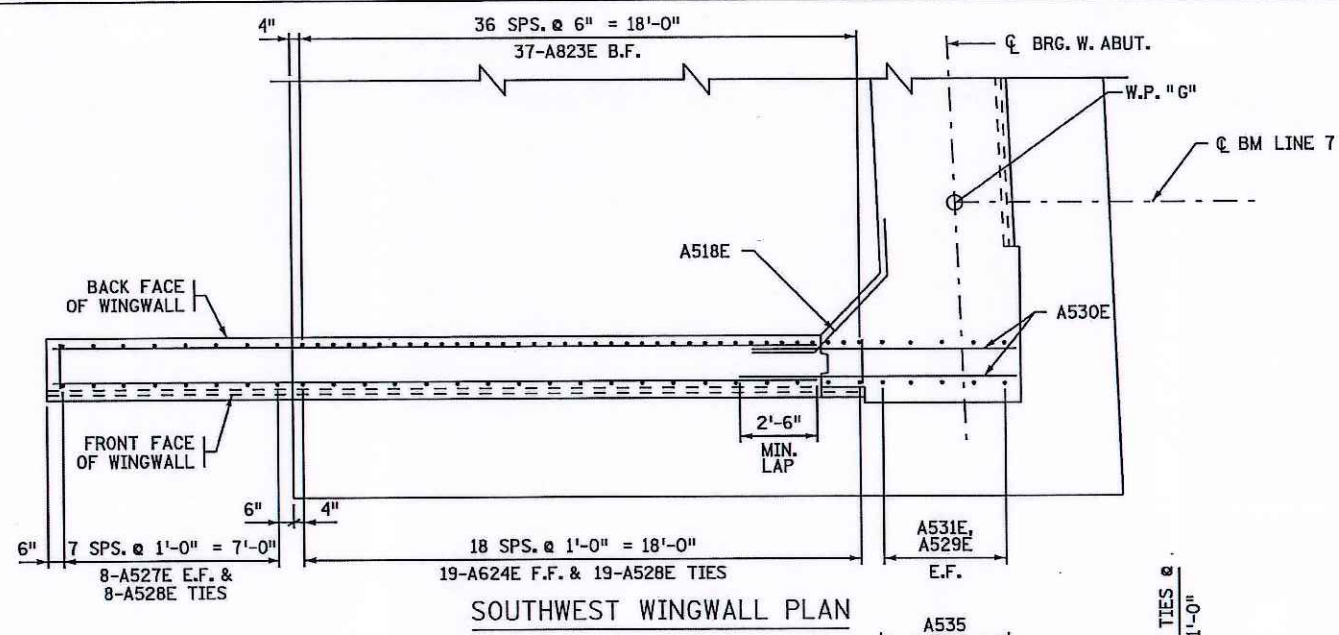
DRAWING NO. 1

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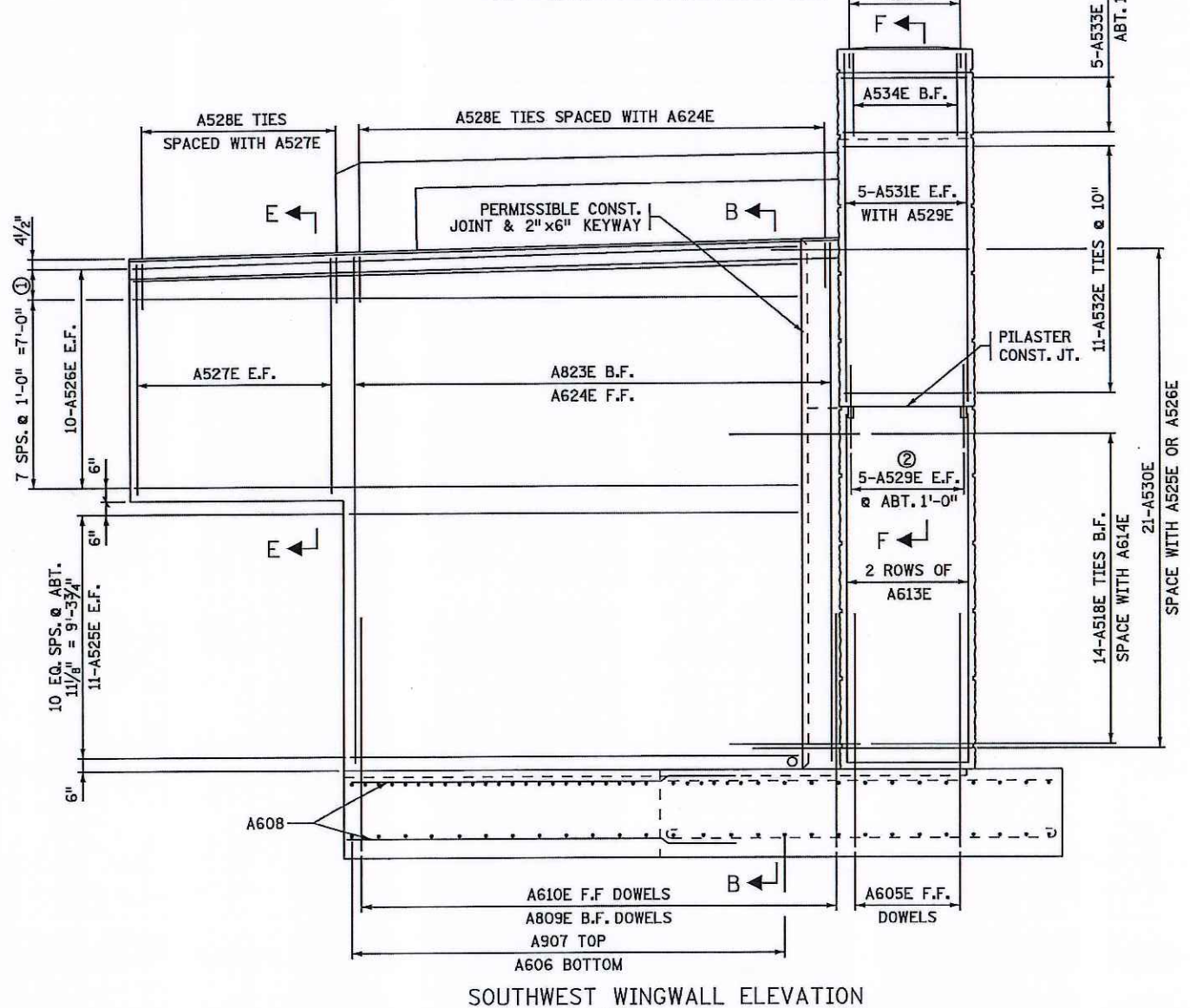
MNDOT ACCEPTANCE
 SIGNATURE: *D.W.J. Hermy*
 DATE: 4/11/14



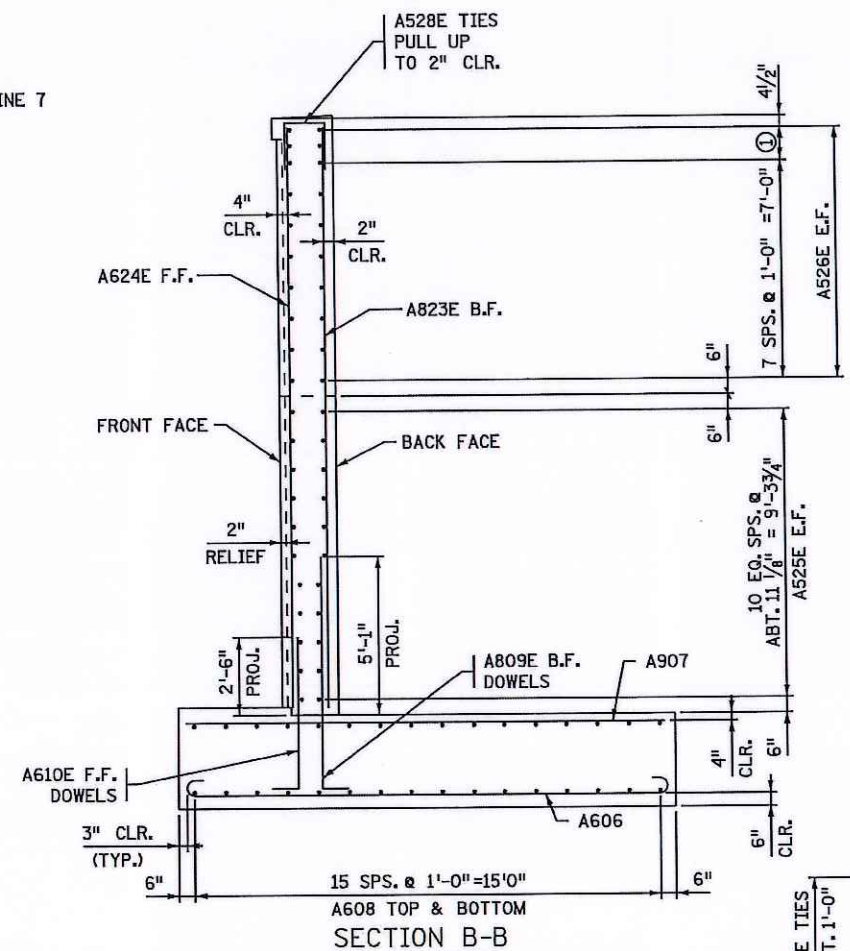
S.P. NO. 6280-62646 BRIDGE NO. 62646 SHEET 1.0 OF 5.5
 WEST ABUTMENT REINFORCEMENT



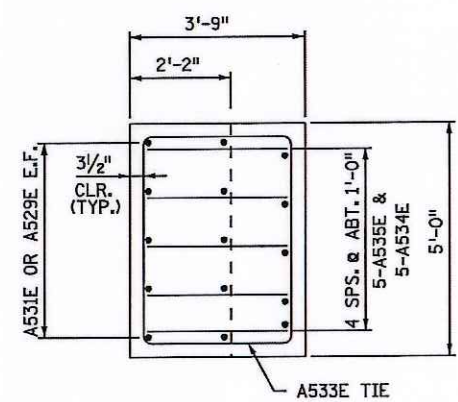
SOUTHWEST WINGWALL PLAN



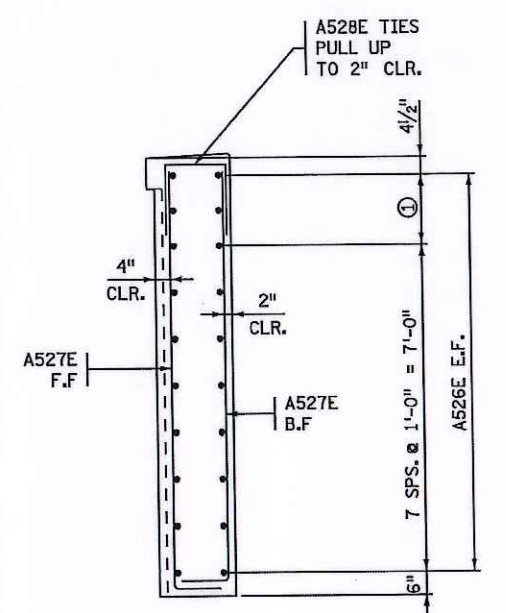
SOUTHWEST WINGWALL ELEVATION



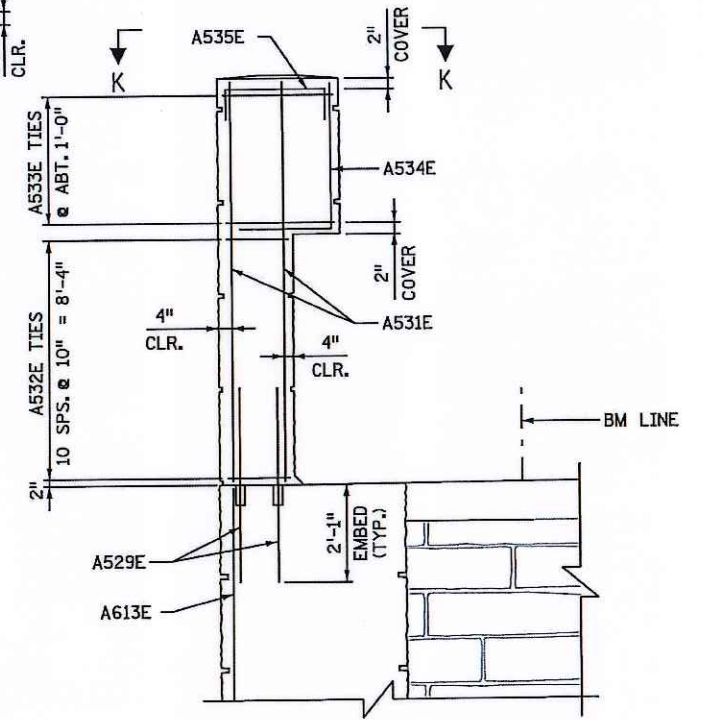
SECTION B-B



SECTION K-K



SECTION E-E



SECTION F-F
PILASTER REINFORCING

NOTES:

- ① 2 EQUAL SPACES.
 - ② WITH COUPLERS (REINFORCEMENT BARS) T-5.
- F.F. DENOTES FRONT FACE
B.F. DENOTES BACK FACE
E.F. DENOTES EACH FACE

Ames Construction
APR 11 2014
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DES: AMW	DR: MMF	APPROVED:
CHK: ZAT	CHK: ZAT	

NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: GEORGE W. GORRILL

DATE: 4/11/14 LICENSE # 46863

MNDOT ACCEPTANCE

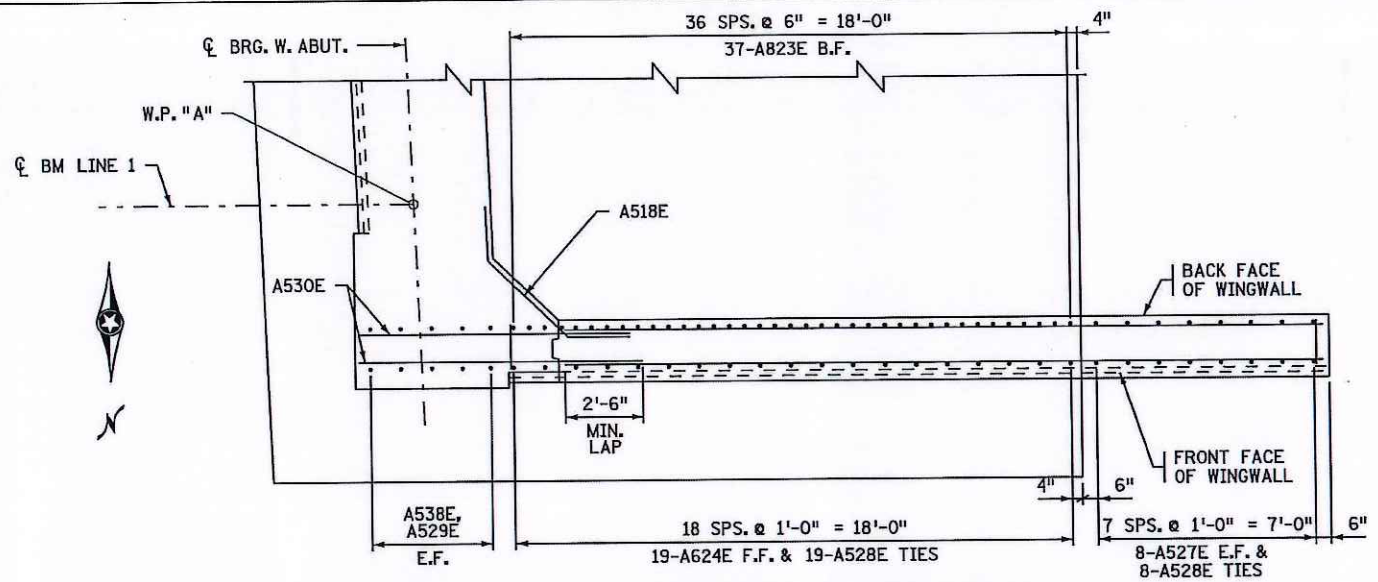
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DATE: 4/11/14

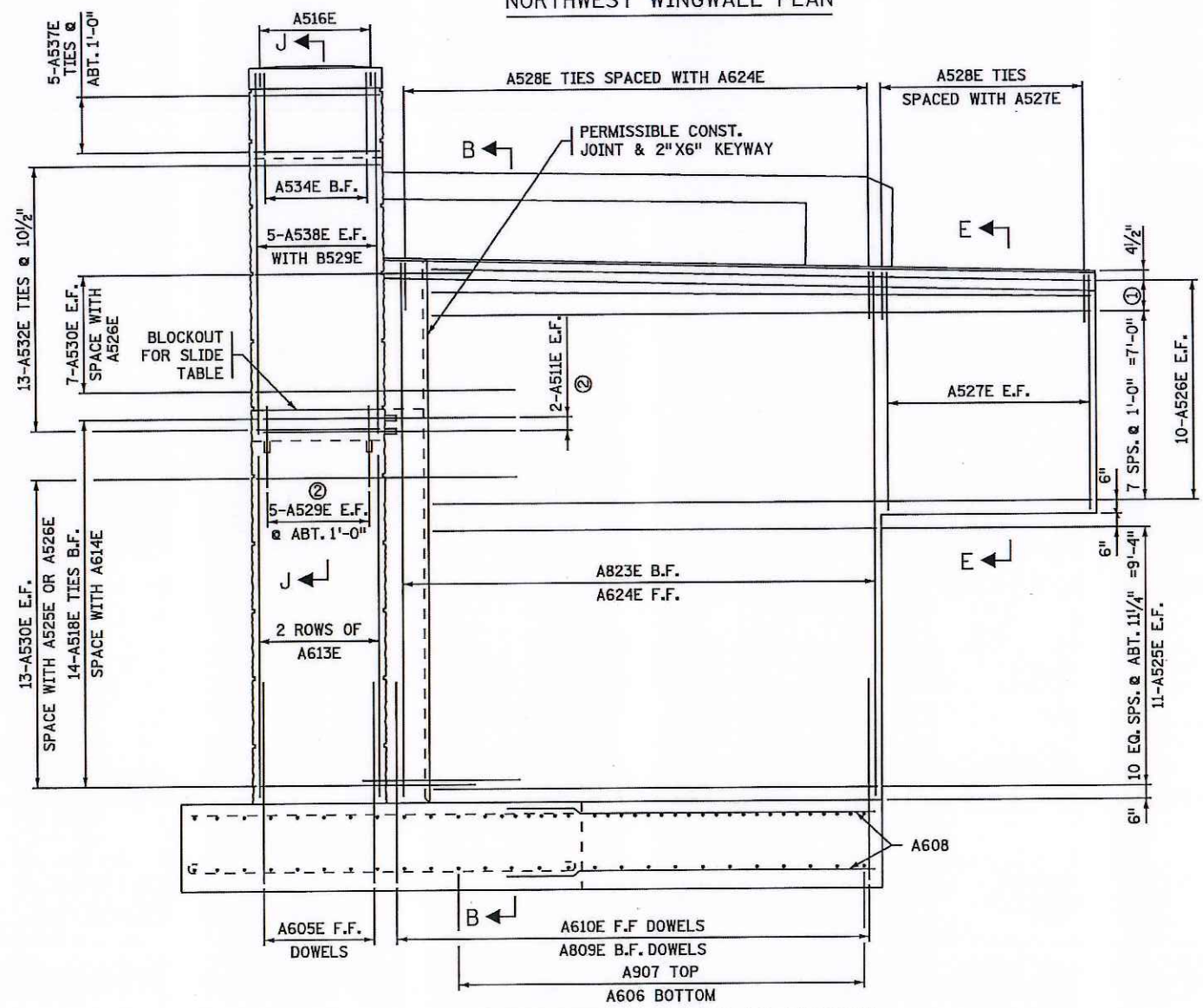
A

AMES TEAM

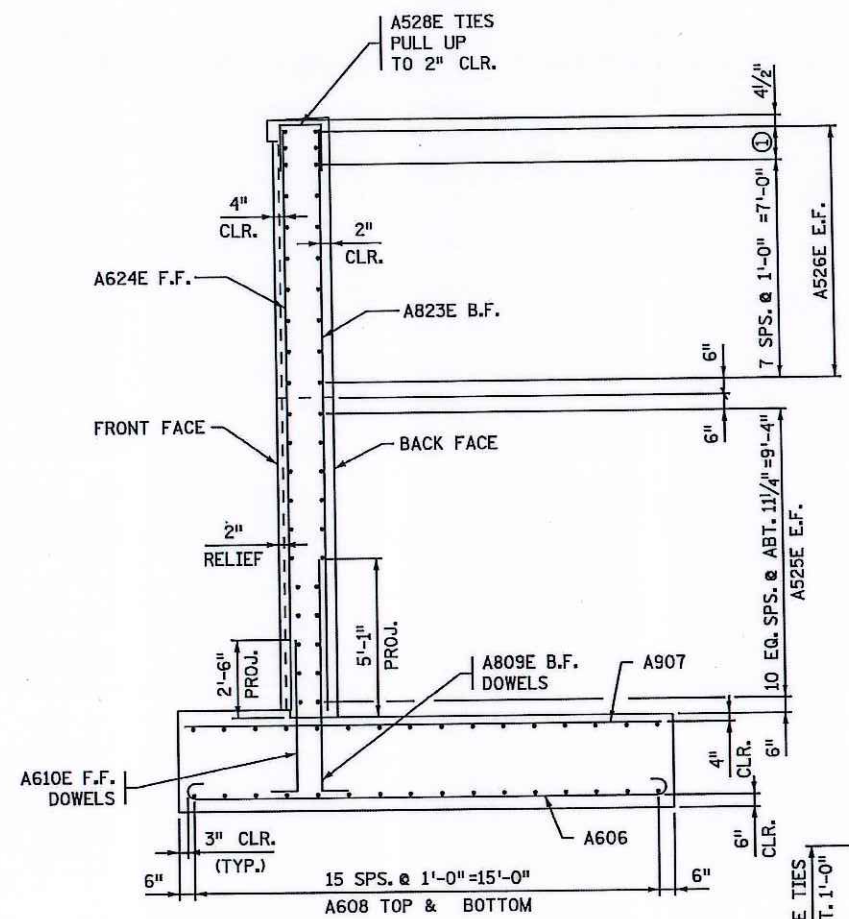
S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 1.1 OF 5.5
WEST ABUTMENT REINFORCEMENT		



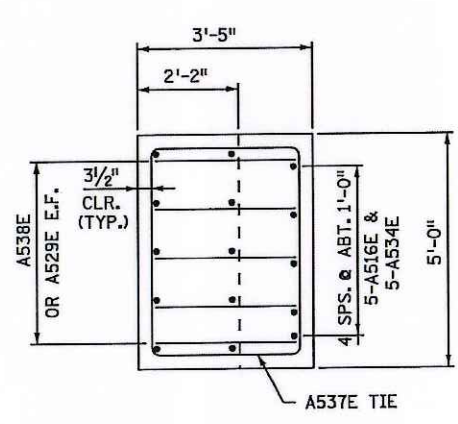
NORTHWEST WINGWALL PLAN



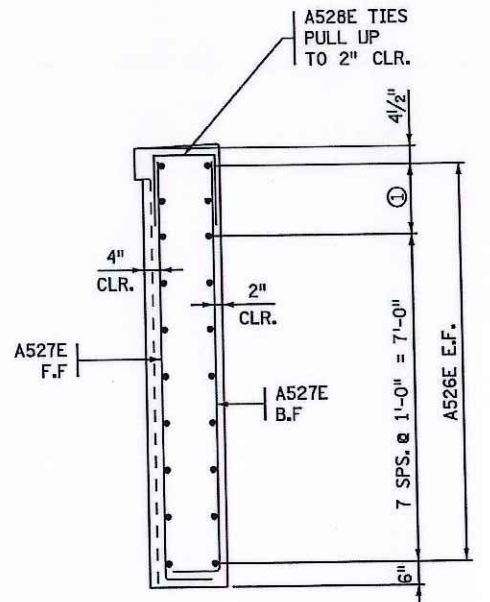
NORTHWEST WINGWALL ELEVATION



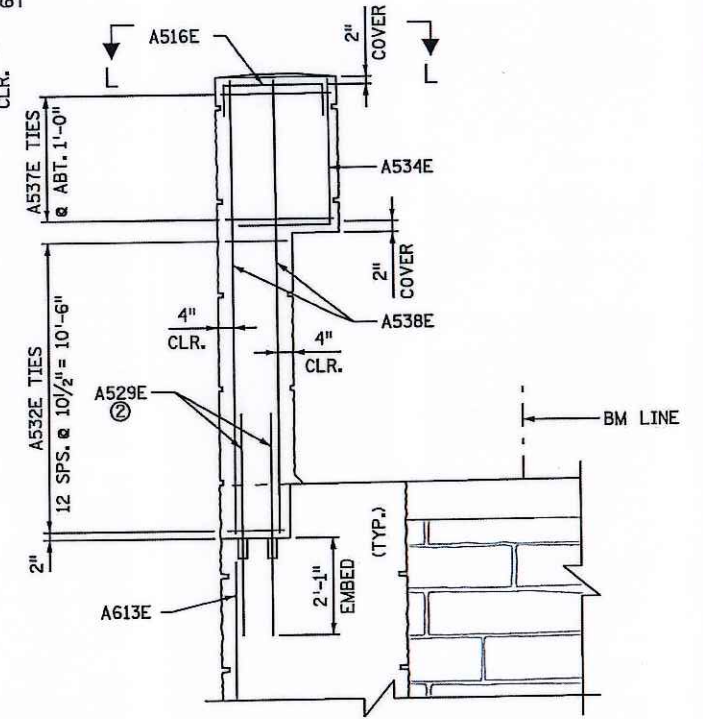
SECTION B-B



SECTION L-L



SECTION E-E



SECTION J-J
PILASTER REINFORCING

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APR 11 2014
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- NOTES:
- ① 2 EQUAL SPACES.
 - ② WITH COUPLERS (REINFORCEMENT BARS) T-5.

DES:	AMW	DR:	MMF	APPROVED:
CHK:	ZAT	CHK:	ZAT	

NO	DATE	BY	CKD	APPR	REVISION

DRAWING NO. 1

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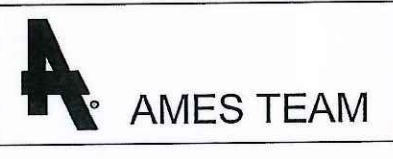
PRINT NAME: GEORGE W. GORRILL

DATE: 4/10/14 LICENSE: 46863

MINDOT ACCEPTANCE

SIGNATURE: [Signature]

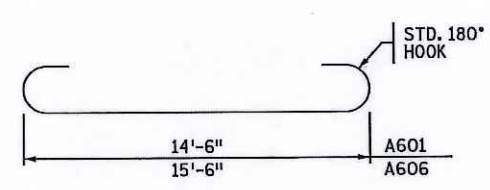
DATE: 4/11/14



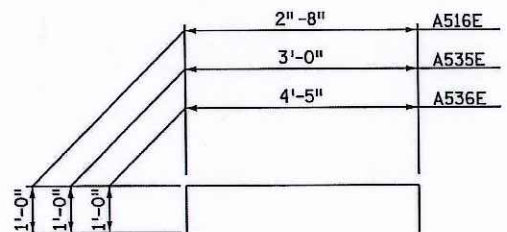
S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 12 OF 55
WEST ABUTMENT REINFORCEMENT		55

BILL OF REINFORCEMENT
FOR WEST ABUTMENT

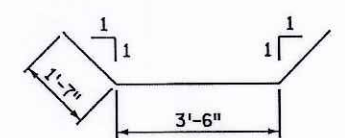
BAR	NO.	LENGTH	SHAPE	LOCATION
A601	88	15'-10"	U	FOOTING TRANSVERSE BOTTOM MAT
A902	172	14'-6"	U	FOOTING TRANSVERSE TOP MAT
A603	60	44'-8"	U	FOOTING LONGITUDINAL TOP & BOTTOM
A704E	104	7'-6"	L	FOOTING DOWELS BACK FACE
A605E	99	6'-7"	L	FOOTING DOWELS FRONT FACE
A606	34	16'-10"	U	WINGWALL FOOTING TRANSVERSE BOT
A907	66	15'-6"	U	WINGWALL FOOTING TRANSVERSE TOP
A608	64	14'-10"	U	WINGWALL FOOTING LONGITUDINAL
A809E	68	8'-10"	L	WINGWALL FOOTING DOWELS B.F.
A610E	38	6'-2"	L	WINGWALL FOOTING DOWELS F.F.
A511E	4	8'-4"	U	STEM TO W.W. DOWELS @BLOCKOUT
A712E	104	12'-0"	U	STEM BACK FACE VERTICAL
A613E	99	12'-0"	U	STEM FRONT FACE VERTICAL
A614E	78	26'-2"	U	STEM HORIZONTAL
A516E	5	4'-8"	U	NORTH PILASTER CAP TIES - TOP
A517E	81	9'-8"	U	STEM TIES TOP
A518E	28	6'-8"	U	FILLET TIE HORIZONTAL
A519E	4	4'-0"	U	STEM TO BLOCKOUT DOWEL
A620E	9	6'-6"	U	STEM HORIZONTAL @ BLOCKOUT
A521E	4	26'-2"	U	STEM HORIZONTAL
A522E	4	26'-6"	U	STEM HORIZONTAL
A823E	74	19'-0"	U	WINGWALL VERTICAL BACK FACE
A624E	38	19'-0"	U	WINGWALL VERTICAL FRONT FACE
A525E	44	16'-6"	U	WINGWALL HORIZONTAL
A526E	40	24'-6"	U	WINGWALL HORIZONTAL
A527E	32	9'-3"	U	WINGWALL CANTILEVER VERTICAL
A528E	54	5'-4"	U	WINGWALL TIES TOP
A529E	20	4'-11"	U	PILASTER DOWELS VERTICAL
A530E	82	9'-0"	U	STEM TO WINGWALL DOWELS HORIZ.
A531E	10	13'-0"	U	PILASTER VERTICAL
A532E	24	12'-11"	U	PILASTER TIES HORIZONTAL-LOWER
A533E	5	16'-1"	U	SOUTH PILASTER TIES HORIZONTAL-UPPER
A534E	10	6'-1"	U	PILASTER VERTICAL B.F.
A535E	5	5'-0"	U	SOUTH PILASTER CAP TIES - TOP
A536E	54	6'-5"	U	STEM CORNER TIES HORIZONTAL
A537E	5	15'-5"	U	NORTH PILASTER TIES HORIZONTAL-UPPER
A538E	10	14'-6"	U	PILASTER VERTICAL
A639E	60	7'-0"	U	STEM HORIZONTAL DOWELS
A540E	4	24'-0"	U	STEM HORIZONTAL



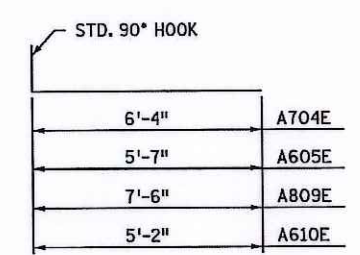
A601 & A606



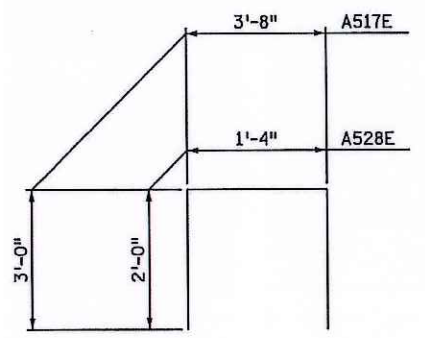
A516E, A535E & A536E



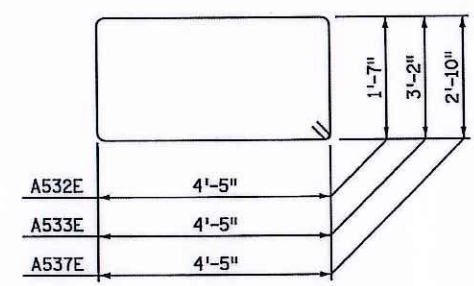
A518E



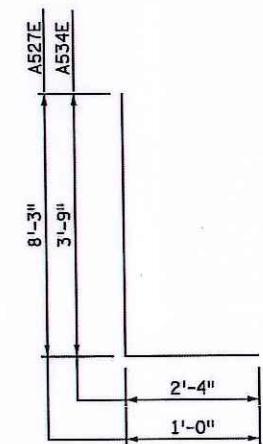
A704E, A605E, A809E & A610E
(VERTICAL DOWELS)



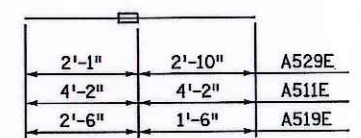
A517E & A528E



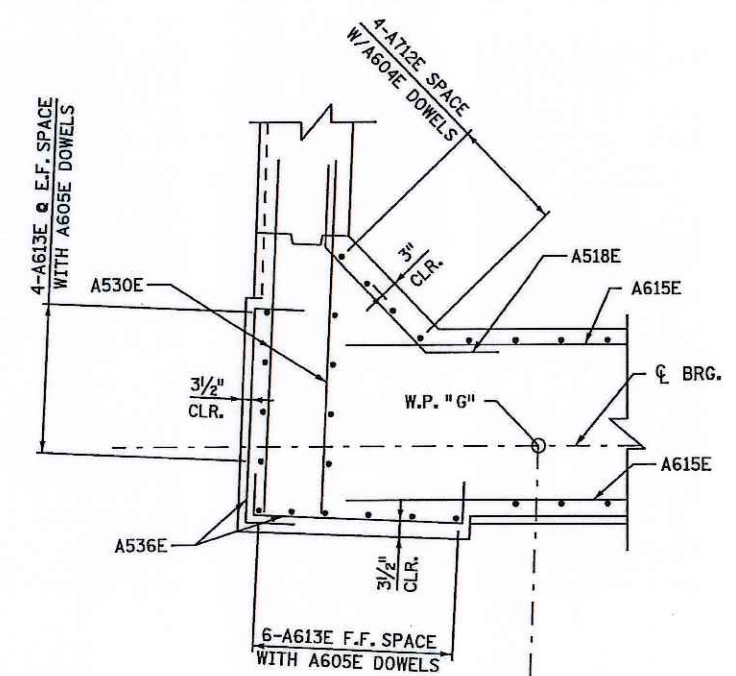
A532E, A533E & A537E



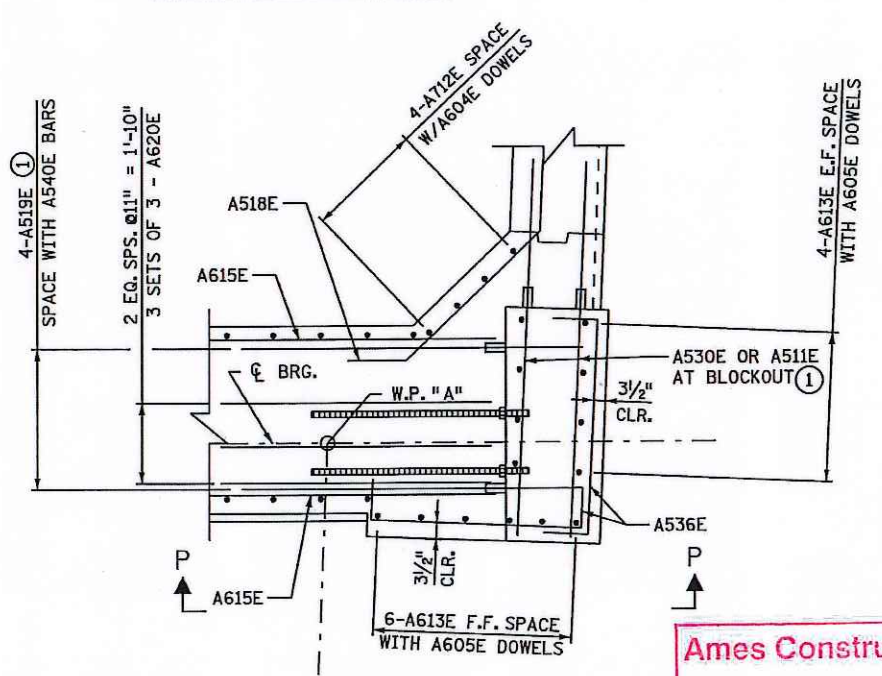
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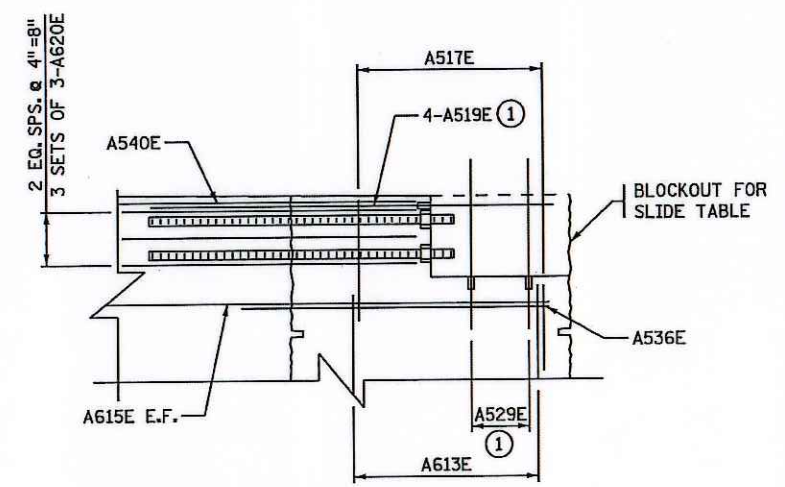
A529E, A511E & A519E



SECTION M-M



SECTION N-N



VIEW P-P

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- NOTES:
- ① WITH COUPLERS (REINFORCEMENT BARS) T-5.
 - SEE SHEET 10 FOR LOCATION OF SECTIONS M-M AND N-N.
 - B.F. DENOTES BACKFACE.
 - F.F. DENOTES FRONT FACE.
 - E.F. DENOTES EACH FACE.

DES: AMW	DR: MMF	APPROVED:
CHK: ZAT	CHK: JLJ	

NO	DATE	BY	CKD	APPR	REVISION

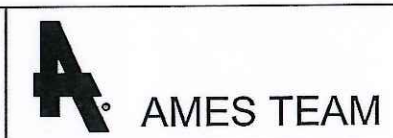
DRAWING NO. 1

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PRINT NAME: GEORGE W. GORRILL
DATE: 4/6/14 LICENSE: 45863

MDOT ACCEPTANCE

SIGNATURE: *D.J. Berry*
DATE: 4/11/14



S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 13 OF 55
WEST ABUTMENT REINFORCEMENT		

EAST ABUTMENT SPREAD FOOTING LOAD DATA

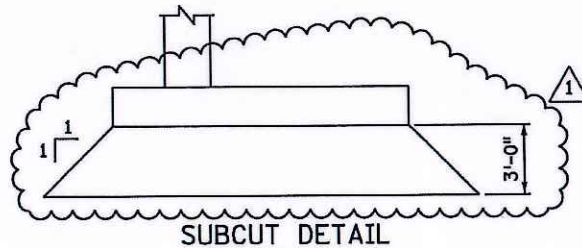
* FACTORED DESIGN BEARING PRESSURE	3.3 TONS/ SQ. FT.
EFFECTIVE WIDTH B'	12.2 FT.
FACTORED BEARING RESISTANCE $\phi_b \cdot q_n$	4.7 TONS/ SQ. FT.

* BASED ON STR IV LOAD COMBINATION

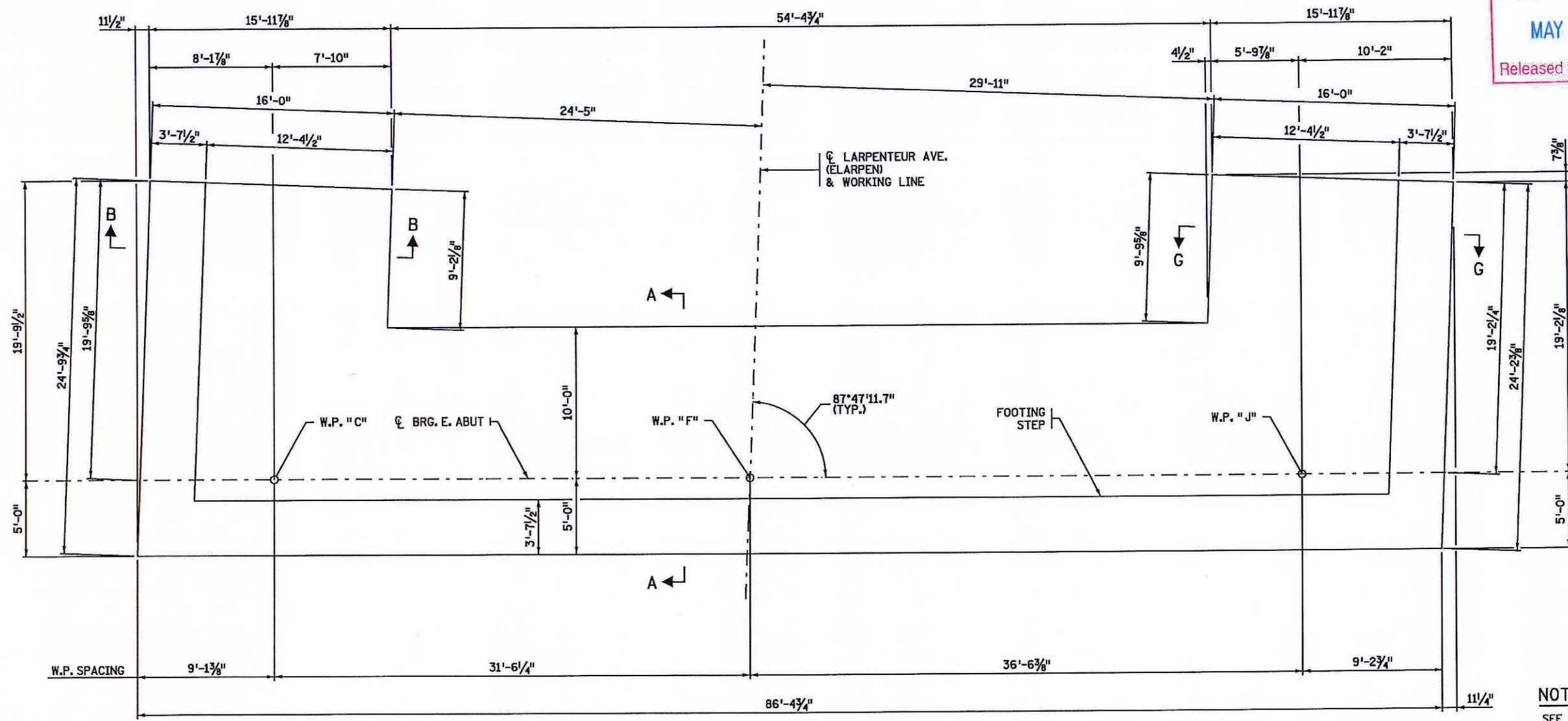
FOOTING NOTES:

A PORTION OF THE IN-PLACE BRIDGE FOUNDATION IS WITHIN THE LIMITS OF THE PROPOSED BRIDGE FOUNDATION. EXISTING TIMBER PILES SHOULD BE CUT OFF 3 FEET BELOW THE LEVEL OF THE PROPOSED BOTTOM OF FOOTING ELEVATION. REMOVE MARGINAL SOILS 3 FEET BELOW PROPOSED BOTTOM OF FOOTING ELEVATION AND REPLACE WITH SELECT GRANULAR BORROW THAT MEETS MNDOT SPEC. 3149.2B2 AND PLACE IN ACCORDANCE WITH MNDOT SPEC. 2105.

SUMMARY OF QUANTITIES FOR EAST ABUTMENT			
ITEM NO.	ITEM	QTY.	UNIT
2401.501	STRUCTURAL CONCRETE (1A43)	183	CU. YD.
2401.501	STRUCTURAL CONCRETE (3Y43)	250	CU. YD.
2401.541	REINFORCEMENT BARS	19,663	POUND
2401.541	REINFORCEMENT BARS (EPOXY COATED)	22,441	POUND
2411.618	ARCHITECTURAL CONCRETE TEXTURE (CUT STONE)	1260	SQ. FT.
2411.618	ARCHITECTURAL CONCRETE TEXTURE (LIMESTONE)	1090	SQ. FT.
2411.618	ARCHITECTURAL SURFACE FINISH (MULTI-COLOR)	2350	SQ. FT.
2411.618	ANTI-GRAFFITI COATING	2350	SQ. FT.



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NOTES:
SEE SHEET 15 FOR SECTION A-A.
SEE SHEET 17 FOR SECTION B-B.
SEE SHEET 18 FOR SECTION G-G.

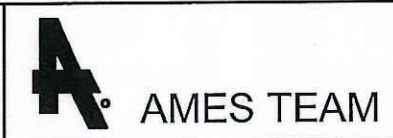
DES: AMW	DR: MMF	APPROVED:
CHK: ZAT	CHK: ZAT	

NO	DATE	BY	CKD	APPR	REVISION
1	5/5/14	JLJ	ZAT	JWD	SUBCUT REVISION (NDC008)

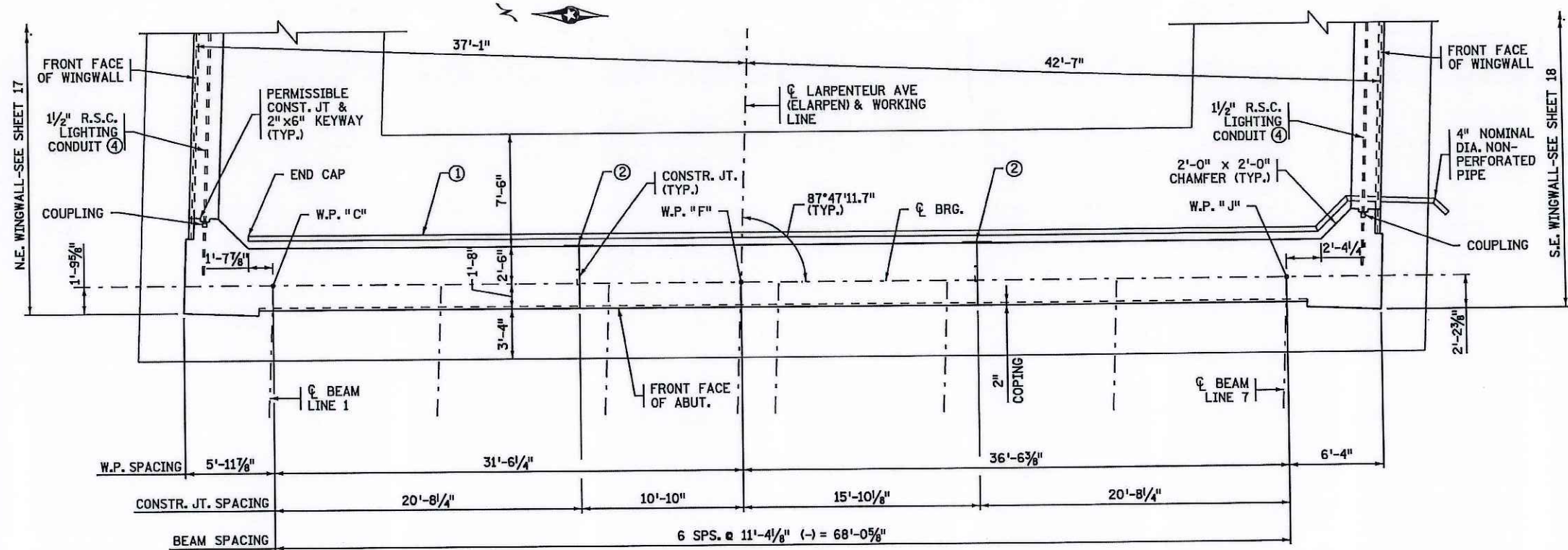
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PRINT NAME: GEORGE W. GORRILL
DATE: 5/20/14 LICENSE #: 46863

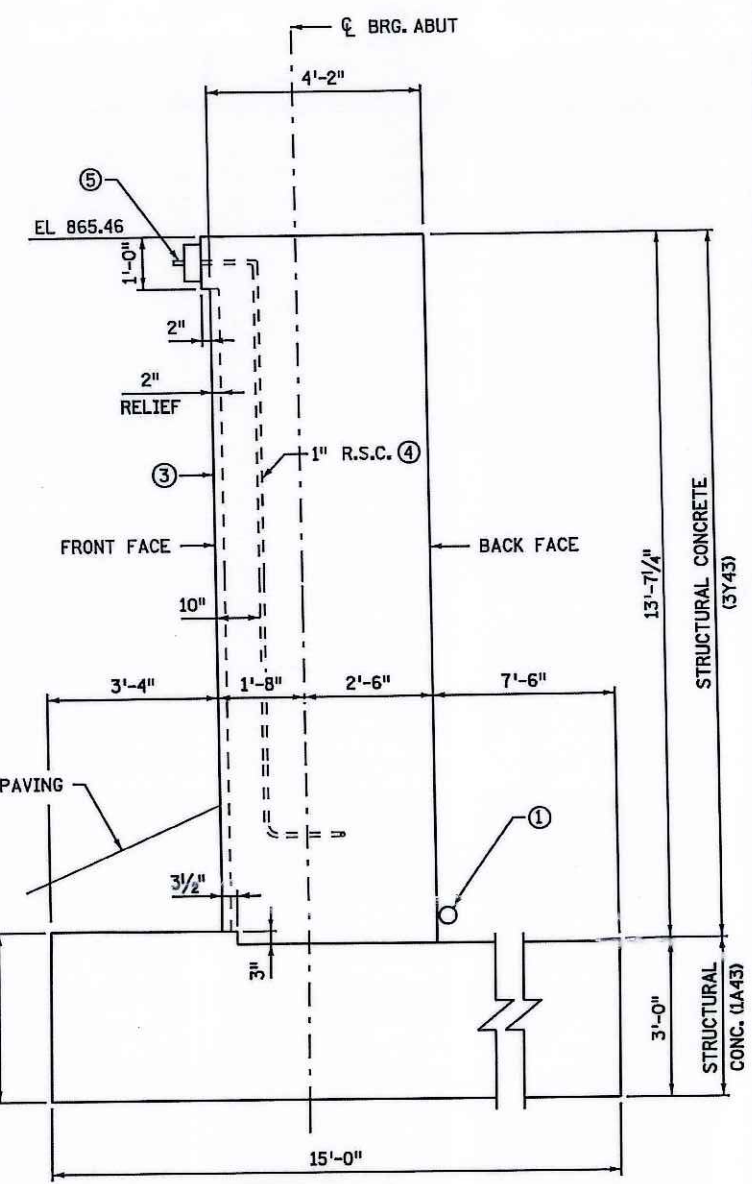
MNDOT ACCEPTANCE
SIGNATURE: *D.J. Horn*
DATE: 5/21/14



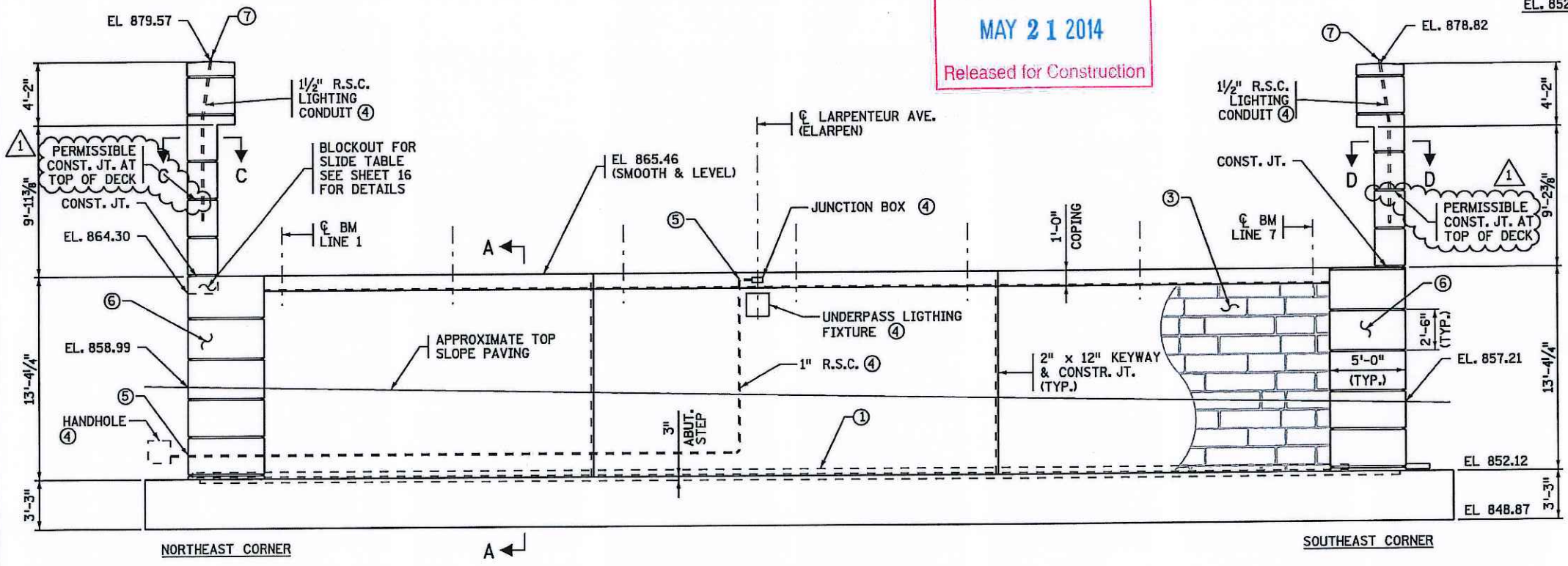
S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 14 OF 55
EAST ABUTMENT DETAILS		



ABUTMENT PLAN



- NOTES:**
- PROVIDE A 3/4" CHAMFER ON ALL HORIZONTAL OR VERTICAL CORNERS / EDGES OF 90° OR LESS UNLESS OTHERWISE NOTED.
 - APPLY ANTI-GRAFFITI COATING TO ALL VISIBLE EXPOSED SURFACES, INCLUDING 1'-0" BELOW GRADE OF BRIDGE ABUTMENT AND WINGWALLS.
 - SEE SHEET 16 FOR SECTION C-C AND D-D.
 - ① 4" NOMINAL DIA. PERFORATED PIPE. SEE DETAIL B910 ON SHEET 50.
 - ② MEMBRANE WATERPROOFING SYSTEM PER MN/DOT SPEC. 2481.38.
 - ③ ARCHITECTURAL CONCRETE TEXTURE (CUT STONE) ARCHITECTURAL SURFACE FINISH (MULTI-COLOR).
 - ④ SEE LIGHTING PLAN FOR DETAILS.
 - ⑤ EXTEND CONDUIT 3" PAST CONCRETE SURFACES.
 - ⑥ ARCHITECTURAL CONCRETE TEXTURE (LIMESTONE), ARCHITECTURAL SURFACE FINISH (MULTI-COLOR).
 - ⑦ EXTEND CONDUIT 3" ABOVE TOP OF PILASTER AND CAP.



ABUTMENT ELEVATION

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 MAY 21 2014
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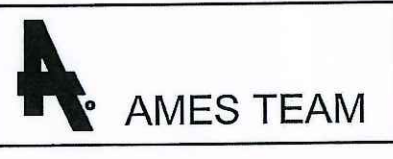
15155	12-MAY-2014	CB-62646	4/15.dgn		
NO	DATE	BY	CKD	APPR	REVISION

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.

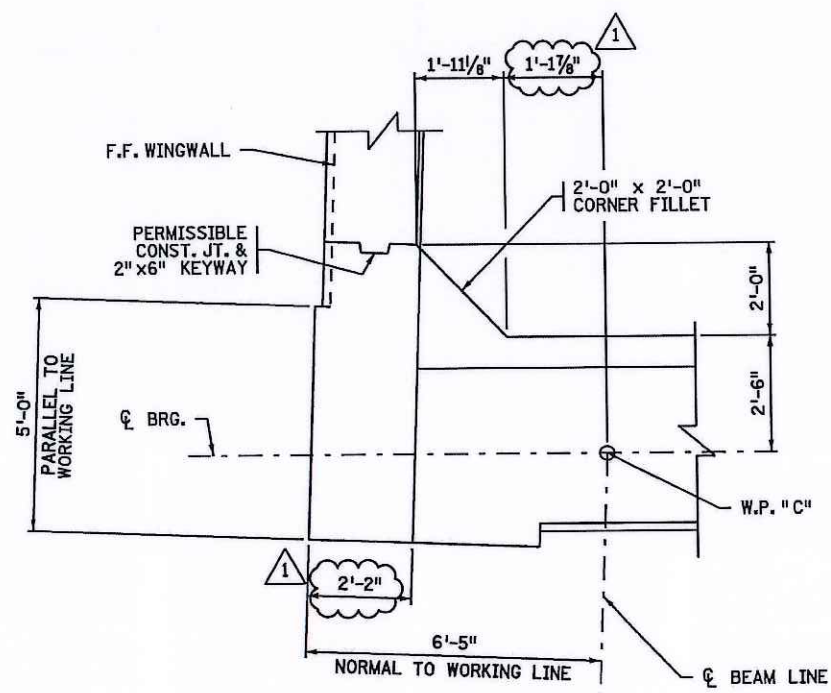
PRINT NAME: GEORGE W. GORRILL
 DATE: 5/20/14 LICENSE #: 46863

MNDOT ACCEPTANCE

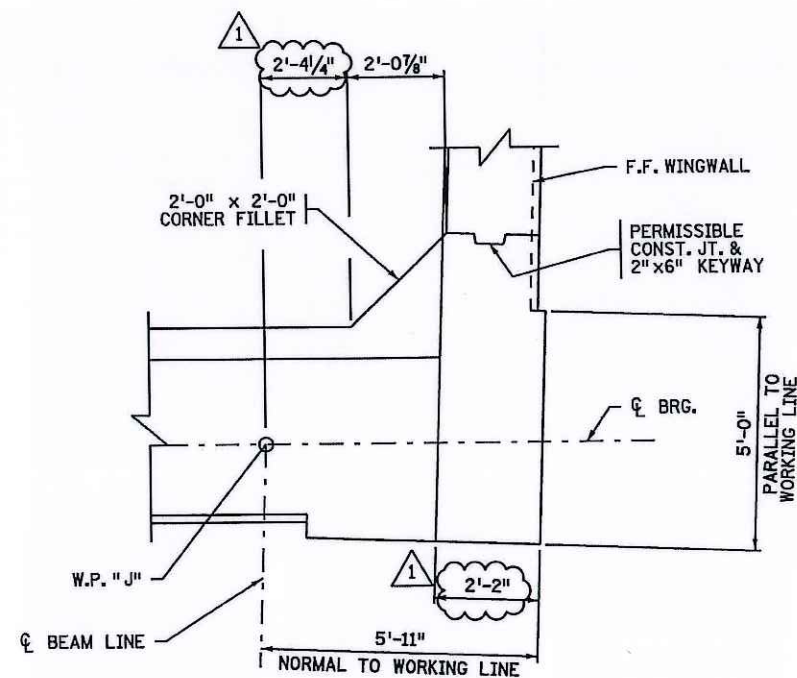
SIGNATURE: *David J. Heron*
 DATE: 5/21/14



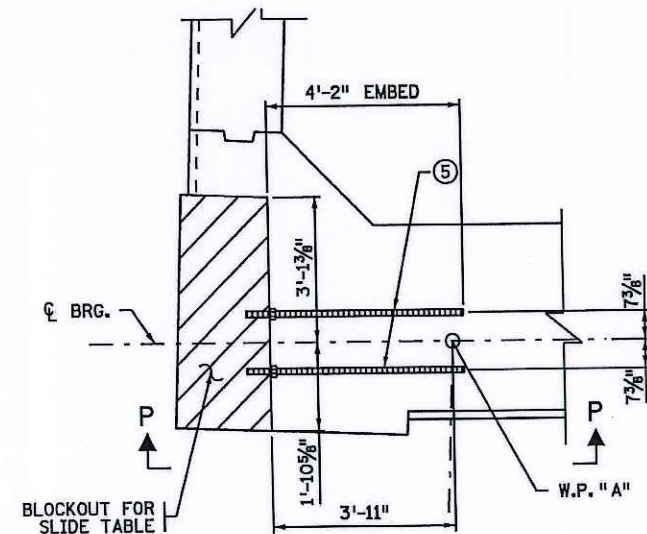
DES: AMW	DR: MMF	APPROVED:
CHK: ZAT	CHK: ZAT	
S.P. NO. 6280-62646		BRIDGE NO. 62646
EAST ABUTMENT DETAILS		SHEET 15 OF 55



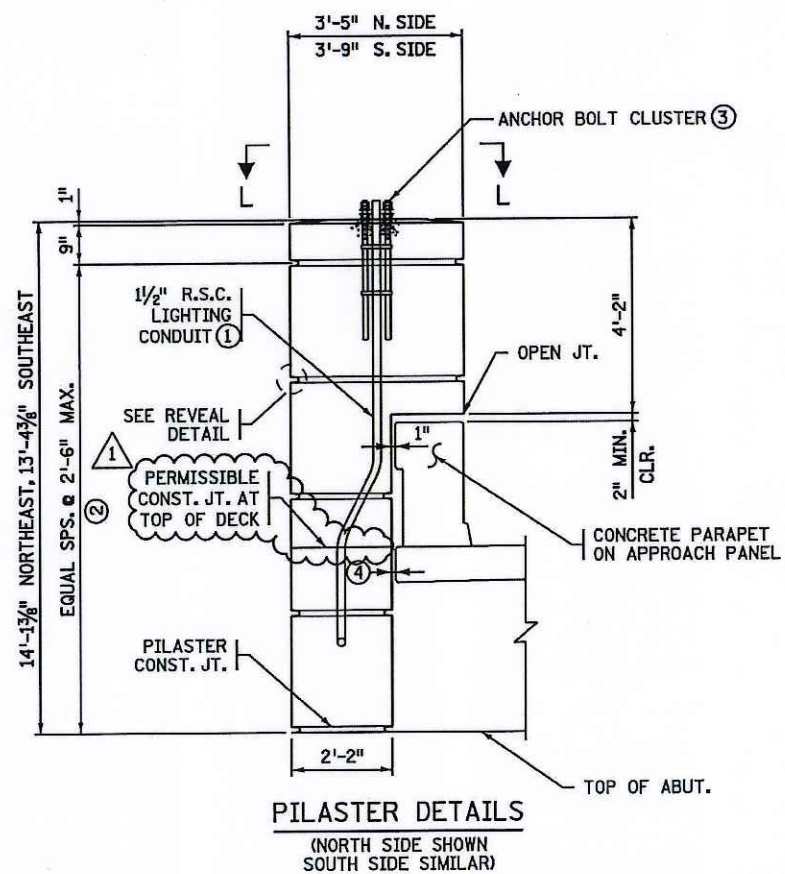
SECTION C-C



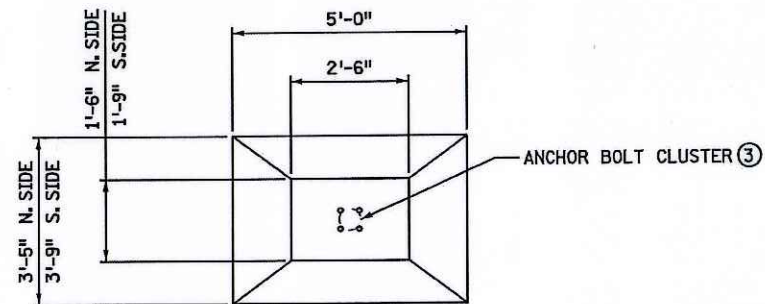
SECTION D-D



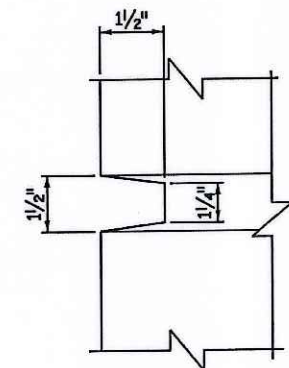
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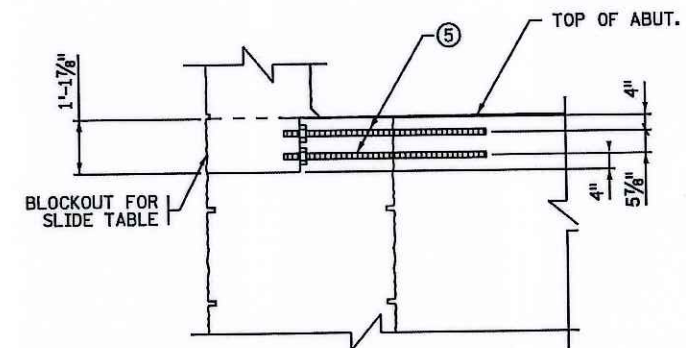
PILASTER DETAILS
(NORTH SIDE SHOWN
SOUTH SIDE SIMILAR)



VIEW L-L



REVEAL DETAIL



VIEW P-P

NOTES:

- APPLY ANTI-GRAFFITI COATING TO ALL VISIBLE EXPOSED SURFACES, INCLUDING 1'-0" BELOW GRADE OF BRIDGE ABUTMENT AND WINGWALLS.
- SEE SHEET 15 FOR SECTION C-C AND D-D LOCATIONS.
- ① EXTEND CONDUIT 3" ABOVE TOP OF PILASTER AND CAP.
- ② ARCHITECTURAL CONCRETE TEXTURE (LIMESTONE), ARCHITECTURAL SURFACE FINISH (MULTI-COLOR)
- ③ ANCHOR BOLT CLUSTER FOR LIGHT POLE, CENTERED ON PILASTER. SEE DETAIL B950 ON SHEET 50.
- ④ 1" POLYSTYRENE TYPE B. SEAL WITH SELF-LEVELING SILICONE PER MNDOT 3722.
- ⑤ 4-1/2" DIA. A307 BOLT 4'-8" IN LENGTH. GALVANIZE BOLTS AND NUTS IN ACCORDANCE WITH MNDOT SPEC. 3392.

Ames Construction
MAY 21 2014
Released for Construction

DES: AMW	DR: AA	APPROVED:
CHK: ZAT	CHK: ZAT	

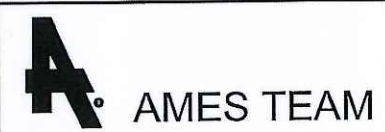
NO	DATE	BY	CKD	APPR	REVISION
1	5/5/14	JLJ	ZAT	JWD	REVISED CORNER DIMENSIONS. ADDED PILASTER CONST. JT. (NDC008)

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PRINT NAME: GEORGE W. GORRILL
DATE: 5/20/14 LICENSE: 46863

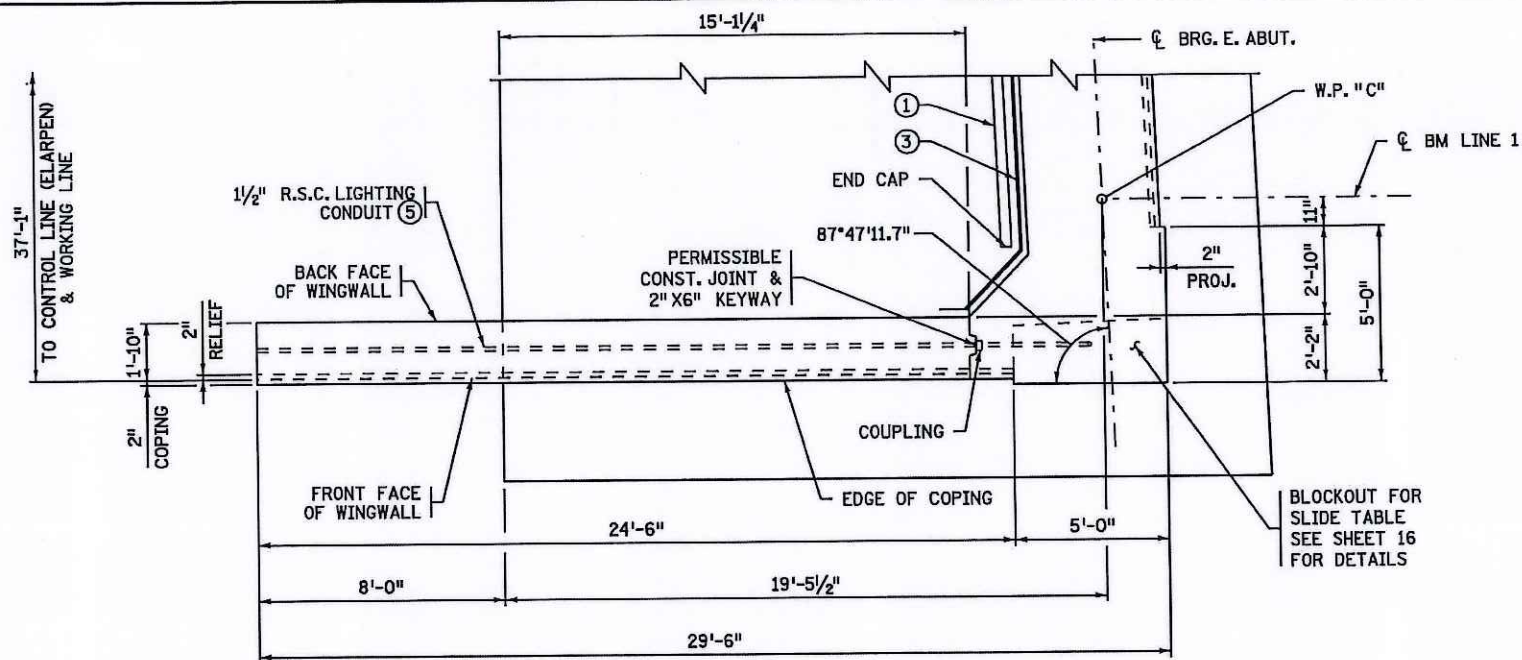
MNDOT ACCEPTANCE

SIGNATURE: *David J. Heron*
DATE: 5/21/14

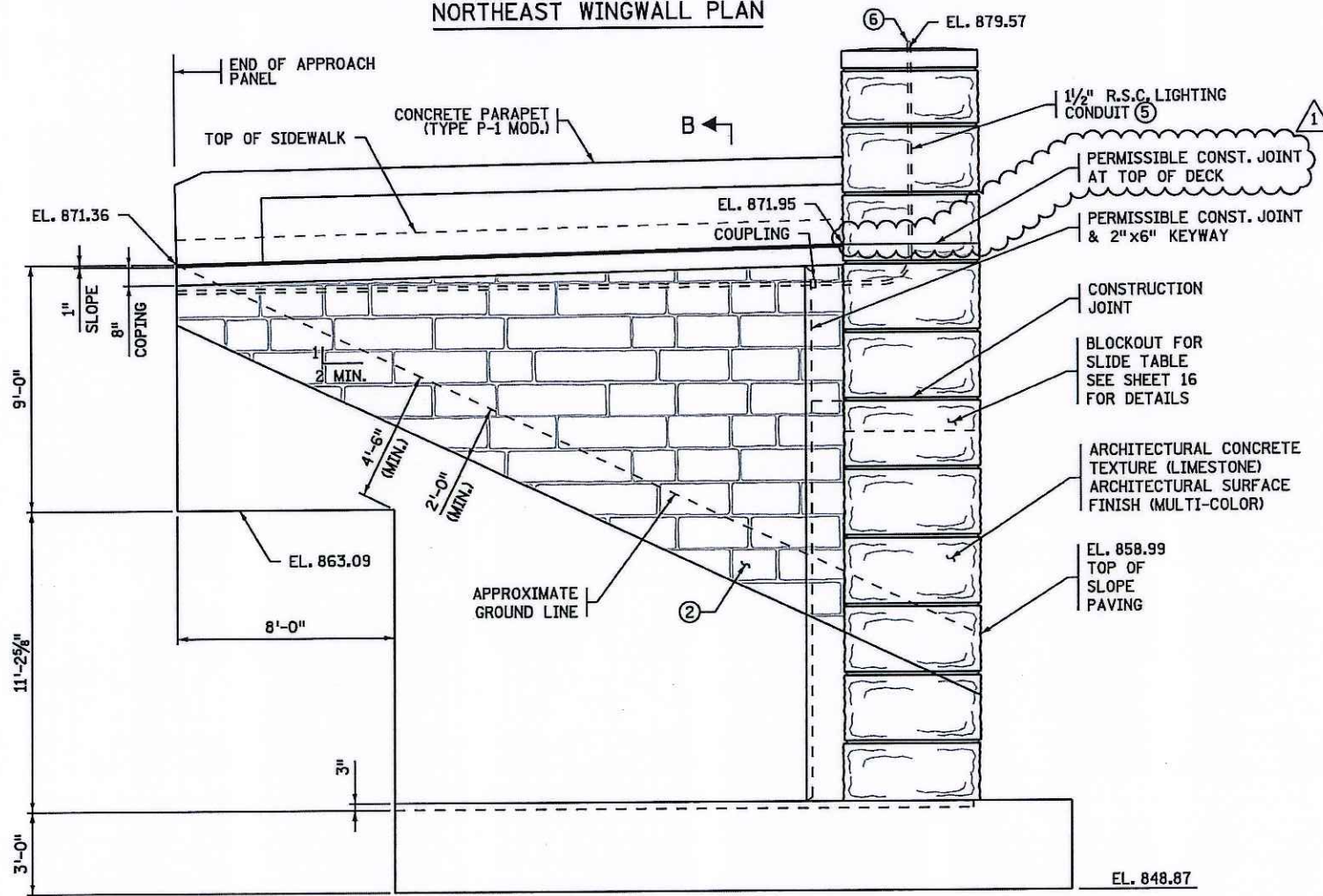


S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 16 OF 55
EAST ABUTMENT DETAILS		

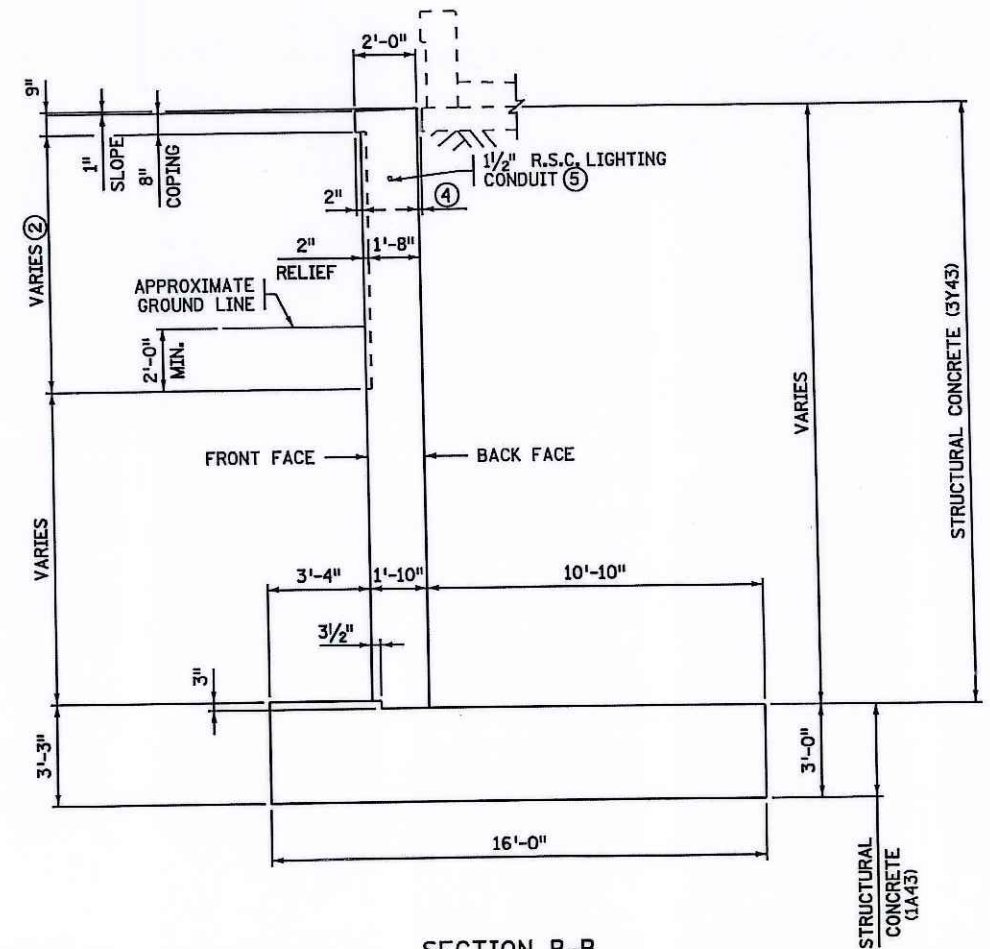
16 MAY 2014 10:52 AM C:\6280-62646\16.dgn



NORTHEAST WINGWALL PLAN



NORTHEAST WINGWALL ELEVATION



SECTION B-B

NOTES:

- TOP OF WINGWALL ELEVATIONS ARE GIVEN AT BACKFACE OF WINGWALL.
- APPLY ANTI-GRAFFITI COATING TO ALL VISIBLE EXPOSED SURFACES, INCLUDING 1'-0" BELOW GRADE OF BRIDGE ABUTMENT AND WINGWALL.
- WINGWALL DIMENSIONS ARE PARALLEL OR PERPENDICULAR TO CONTROL LINE (ELARPEN).
- ① 4" NOMINAL DIA. PERFORATED PIPE INCLUDED IN DRAINAGE SYSTEM TYPE B910.
- ② ARCHITECTURAL CONCRETE TEXTURE (CUT STONE), ARCHITECTURAL SURFACE FINISH (MULTI COLOR).
- ③ MEMBRANE WATERPROOFING SYSTEM PER MN/DOT SPEC. 2481.3B.
- ④ 1" POLYSTYRENE TYPE B AT APPROACH PANEL. SEAL WITH SELF LEVELING SILICONE PER MNDOT 3722. REFER TO GRADING APPROACH PANEL DETAILS UNDER GRADING PORTION OF CONTRACT.
- ⑤ SEE LIGHTING PLAN FOR DETAILS.
- ⑥ EXTEND CONDUIT 3" ABOVE TOP OF PILASTER AND CAP.

Ames Construction
 MAY 21 2014
 Released for Construction

DES: AMW	DR: MMF	APPROVED:
CHK: ZAT	CHK: JLJ	

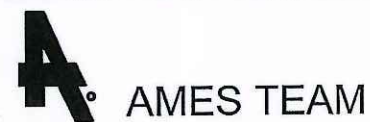
NO	DATE	BY	CKD	APPR	REVISION
1	5/5/14	JLJ	ZAT	JWD	ADDED PILASTER CONST. JT. (NOC008)

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.

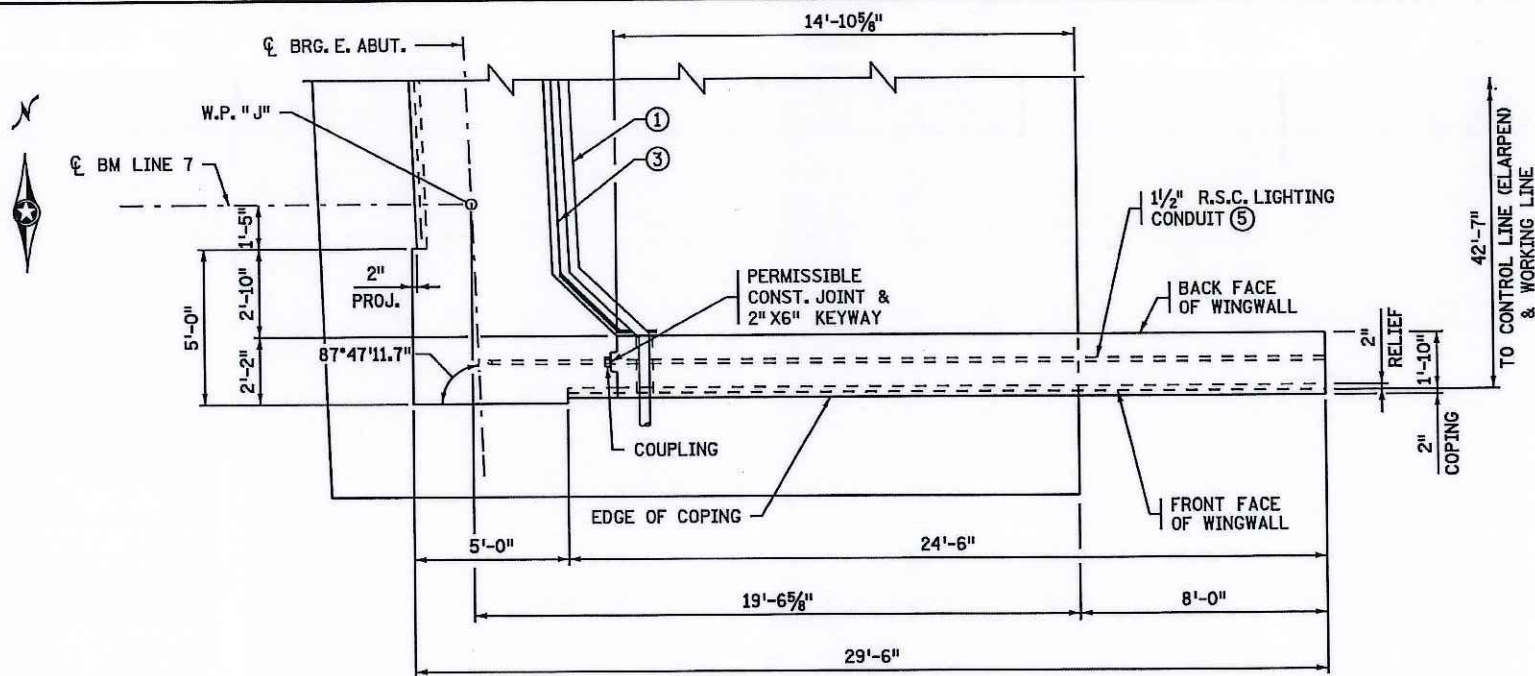
PRINT NAME: GEORGE W. GORRILL
 DATE: 5/21/14 LICENSE: 46863

MNDOT ACCEPTANCE

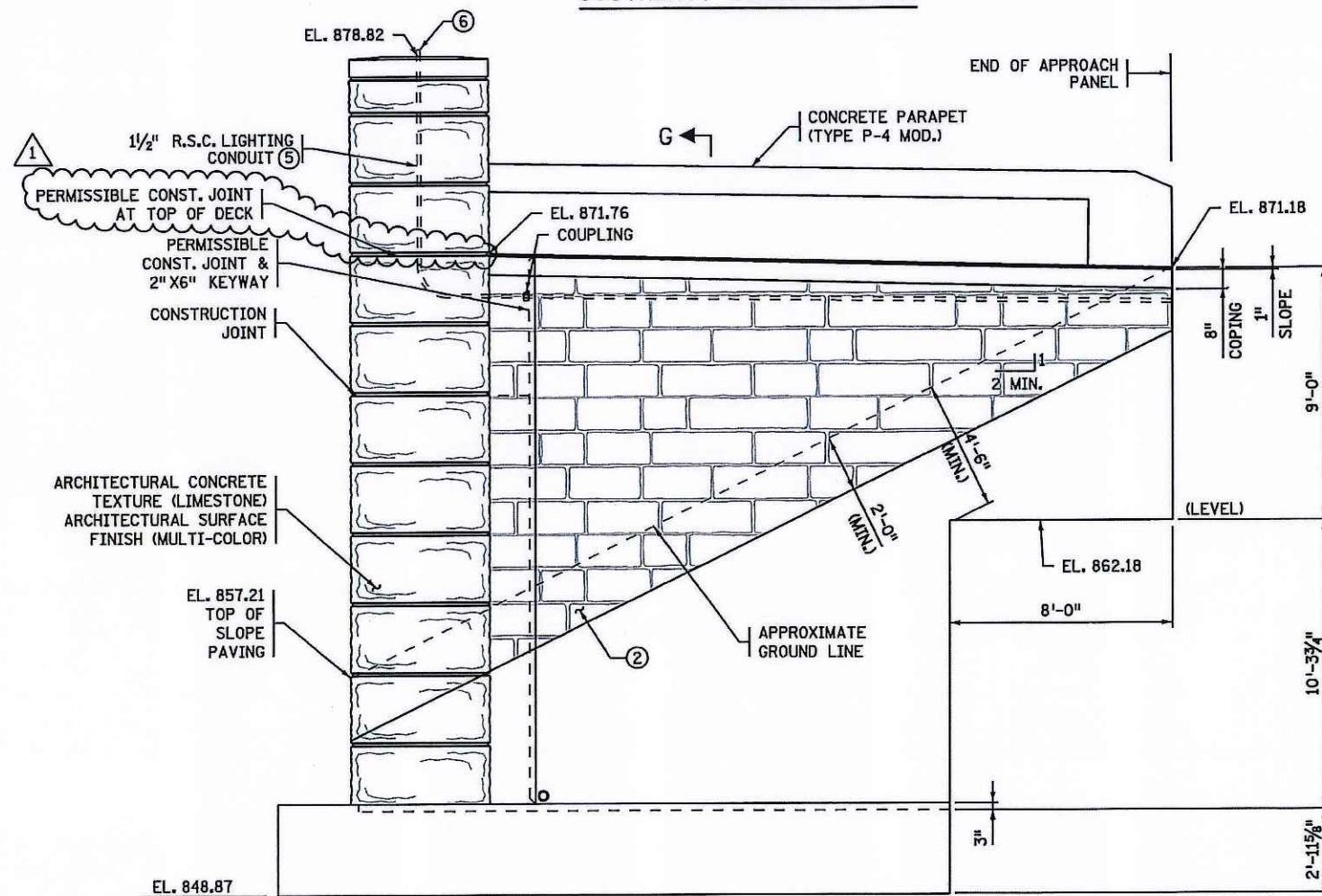
SIGNATURE: *Don J. Horn*
 DATE: 5/21/14



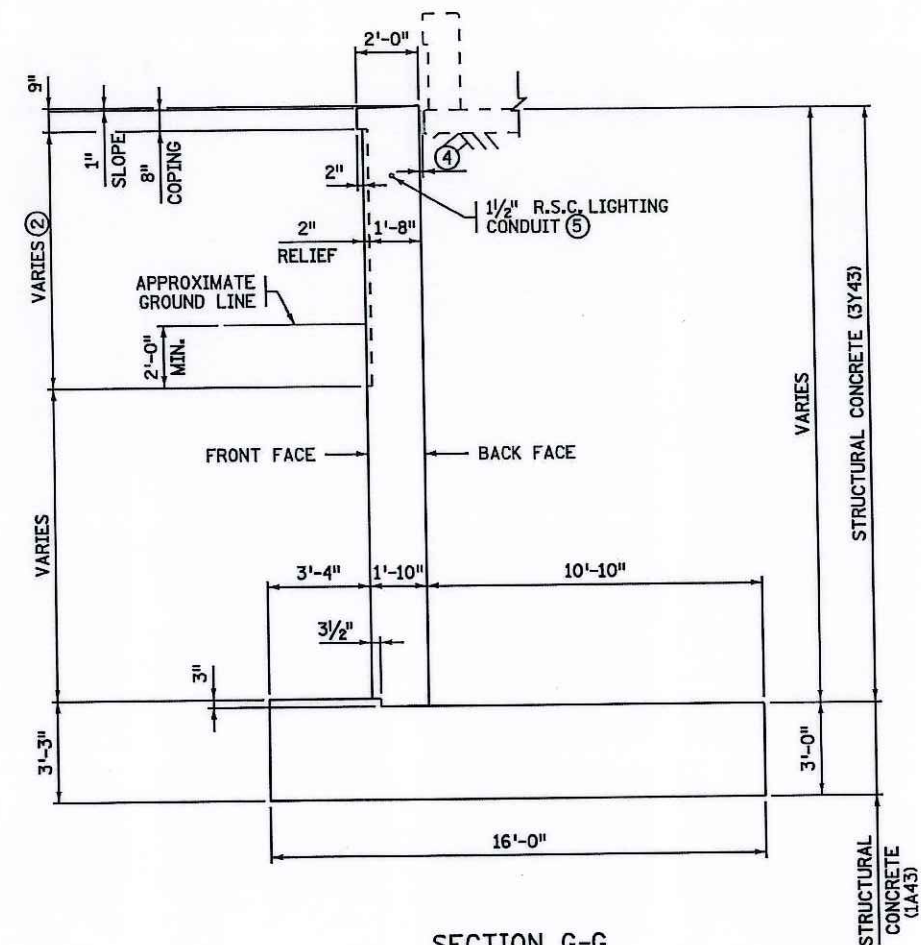
S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 17 OF 55
EAST ABUTMENT DETAILS		



SOUTHEAST WINGWALL PLAN



SOUTHEAST WINGWALL ELEVATION



SECTION G-G

NOTES:

- TOP OF WINGWALL ELEVATIONS ARE GIVEN AT BACKFACE OF WINGWALL.
- APPLY ANTI-GRAFFITI COATING TO ALL VISIBLE EXPOSED SURFACES, INCLUDING 1'-0" BELOW GRADE OF BRIDGE ABUTMENT AND WINGWALL.
- WINGWALL DIMENSIONS ARE PARALLEL OR PERPENDICULAR TO CONTROL LINE (ELARPEN).
- ① 4" NOMINAL DIA. PERFORATED PIPE INCLUDED IN DRAINAGE SYSTEM TYPE B910.
- ② ARCHITECTURAL CONCRETE TEXTURE (CUT STONE), ARCHITECTURAL SURFACE FINISH (MULTI COLOR).
- ③ MEMBRANE WATERPROOFING SYSTEM PER MN/DOT SPEC. 2481.3B.
- ④ 1" POLYSTYRENE TYPE B AT APPROACH PANEL. SEAL WITH SELF LEVELING SILICONE PER MNDOT 3722. REFER TO GRADING APPROACH PANEL DETAILS UNDER GRADING PORTION OF CONTRACT.
- ⑤ SEE LIGHTING PLAN FOR DETAILS.
- ⑥ EXTEND CONDUIT 3" ABOVE TOP OF PILASTER AND CAP.

Ames Construction
MAY 21 2014
Released for Construction

DES: AMW	DR: MMF	APPROVED:
CHK: ZAT	CHK: JLJ	

NO	DATE	BY	CKD	APPR	REVISION
1	5/5/14	JLJ	ZAT	JWD	ADDED PILASTER CONST. JT. (NDC008)

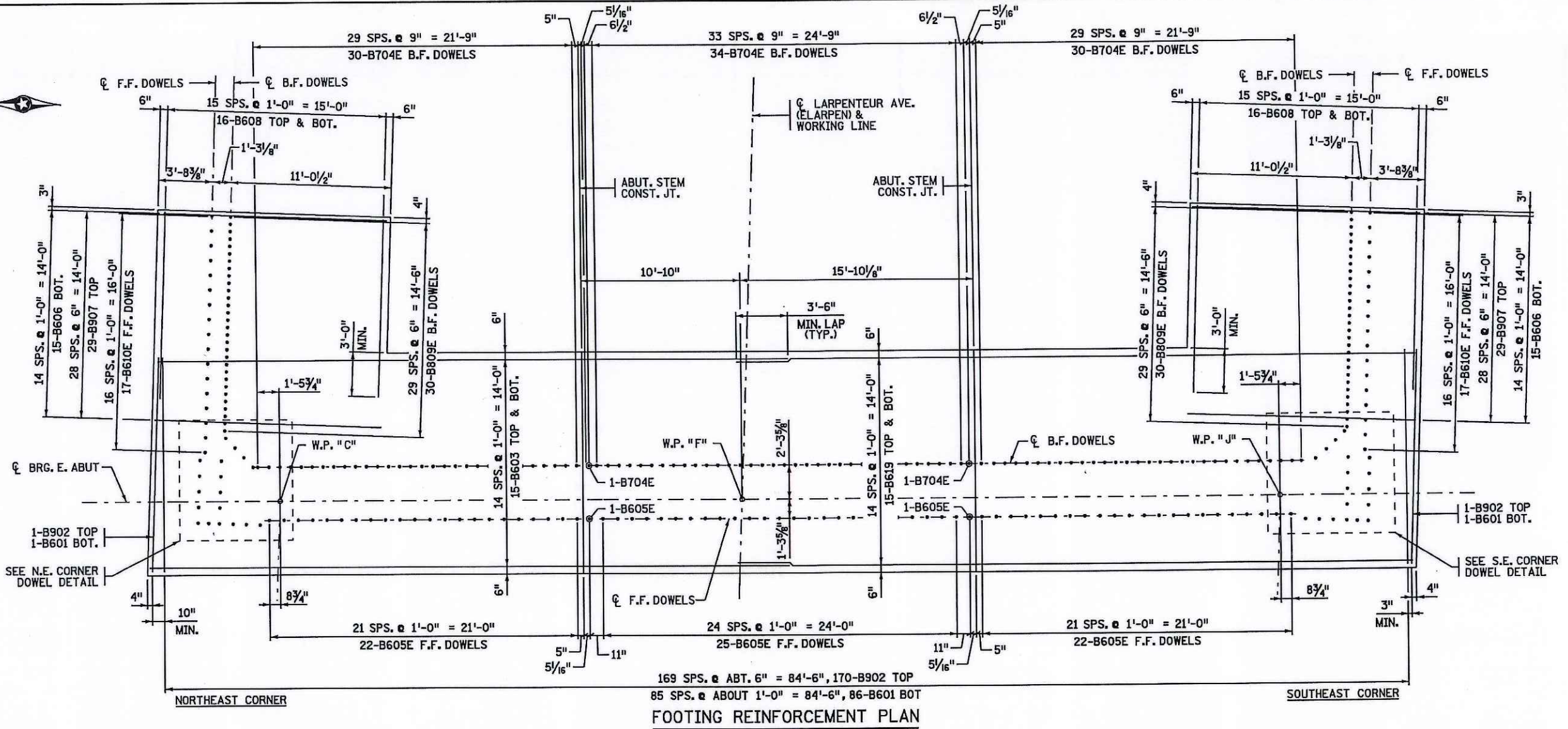
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PRINT NAME: GEORGE W. GORRILL
DATE: 5/20/14 LICENSE #: 46863

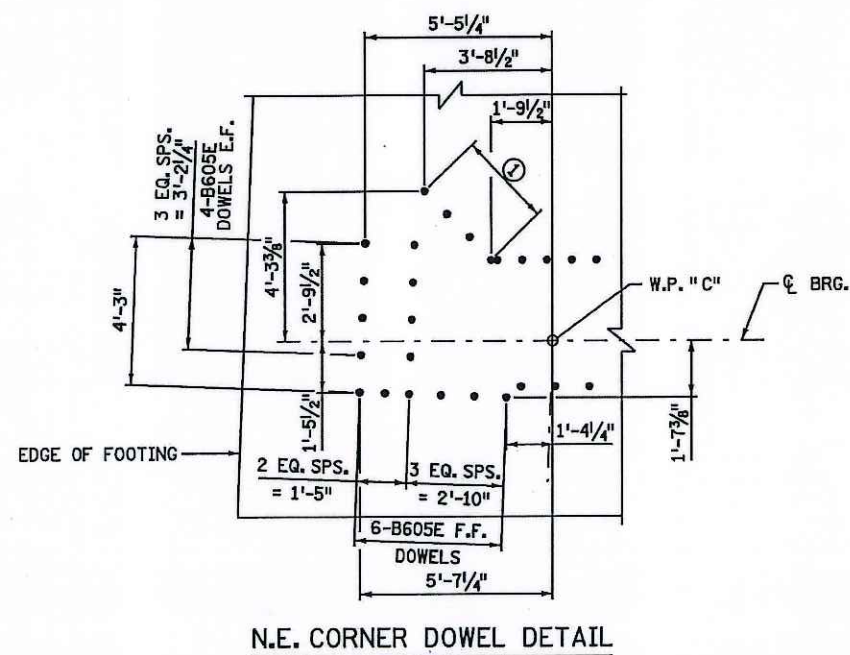
MNDOT ACCEPTANCE
SIGNATURE: *David J. Hermann*
DATE: 5/21/14



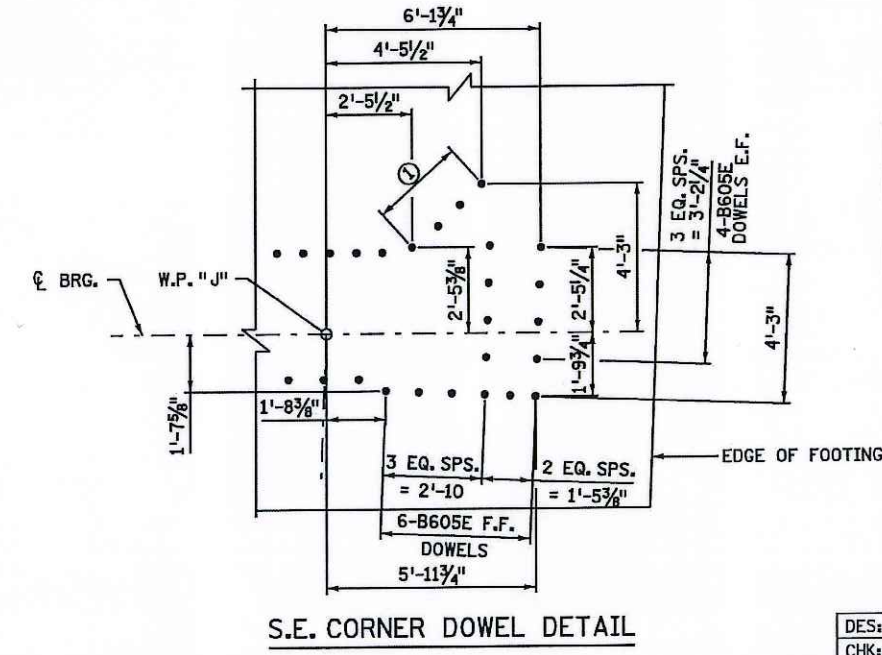
S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 18 OF 55
EAST ABUTMENT DETAILS		



FOOTING REINFORCEMENT PLAN



N.E. CORNER DOWEL DETAIL



S.E. CORNER DOWEL DETAIL

Ames Construction
 APR 11 2014
 Released for Construction

- NOTES:
 ① 3 SPS. @ 11" = 2'-9"
 4-B704E DOWELS
 F.F. DENOTES FRONT FACE
 B.F. DENOTES BACK FACE
 E.F. DENOTES EACH FACE

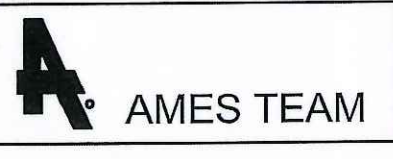
DES: AMW	DR: MMF	APPROVED:
CHK: ZAT	CHK: AMW	

NO	DATE	BY	CKD	APPR	REVISION

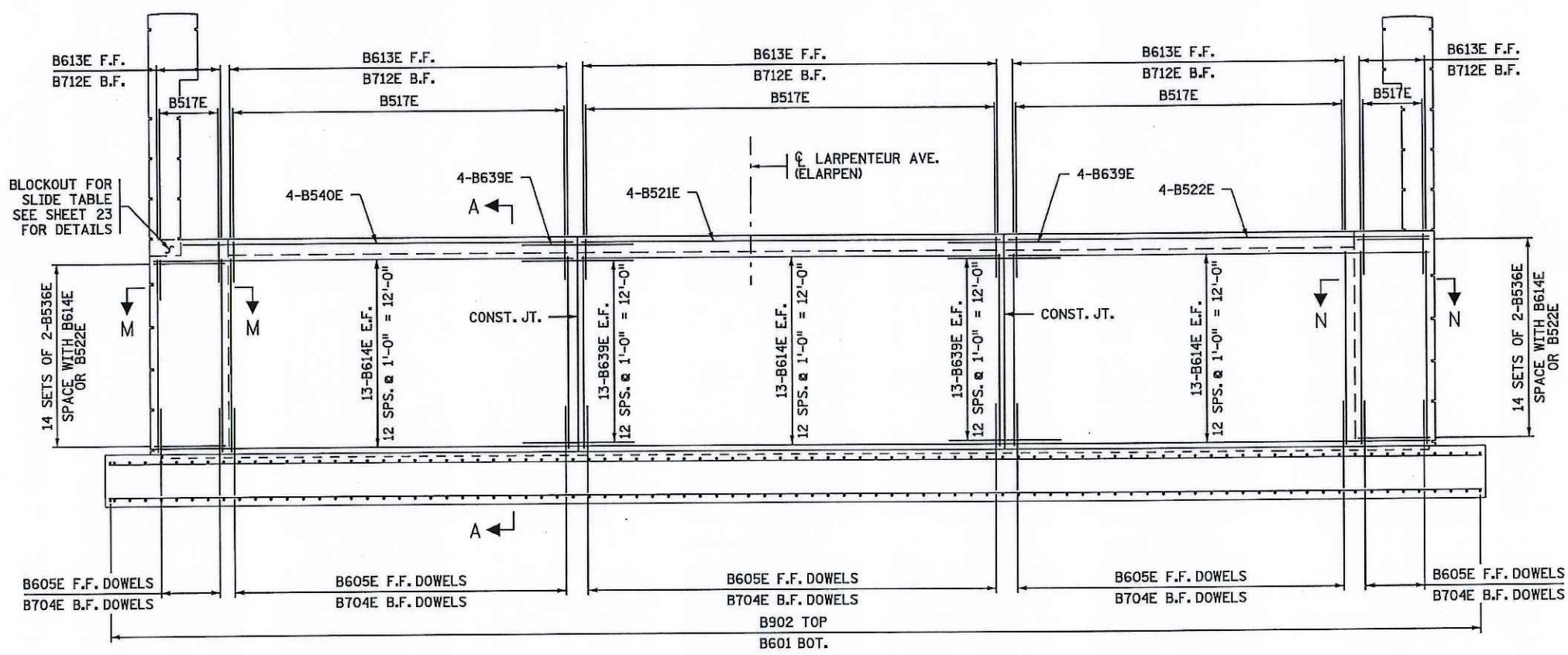
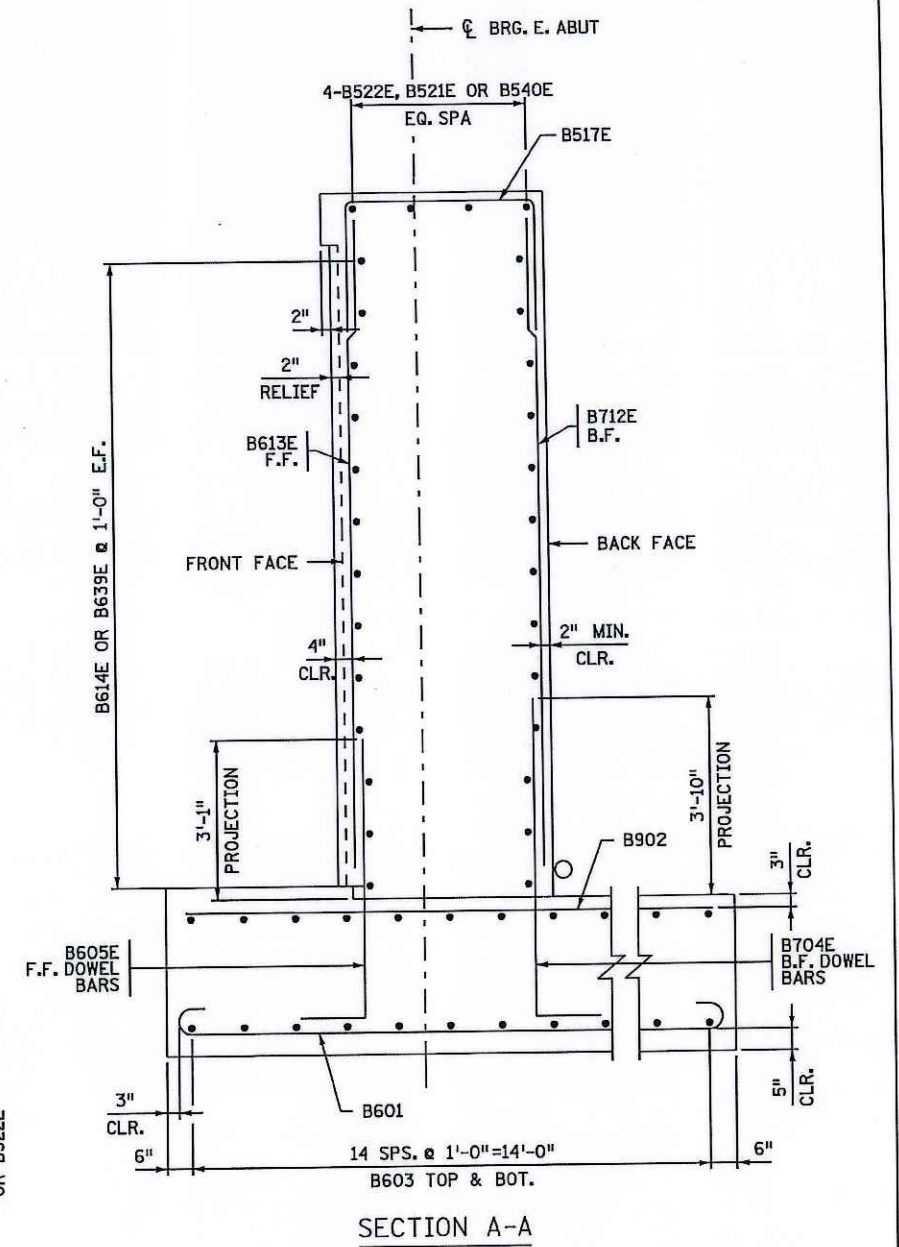
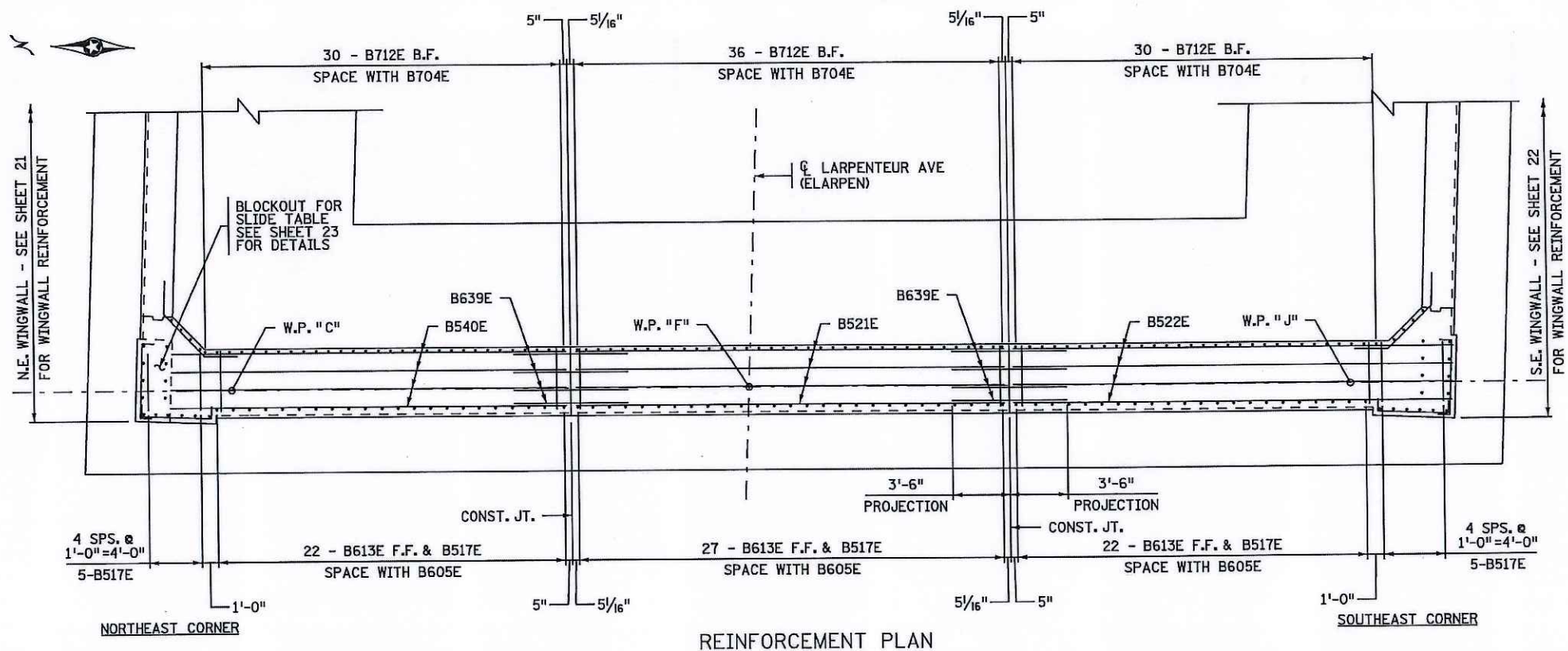
DRAWING NO. 1

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 PRINT NAME: GEORGE W. GOBRILL
 DATE: 4/10/14 LICENSE: 46863

MINOT ACCEPTANCE
 SIGNATURE: [Signature]
 DATE: 4/11/14



S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 19 OF 55
EAST ABUTMENT REINFORCEMENT		



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 APR 11 2014
 Released for Construction

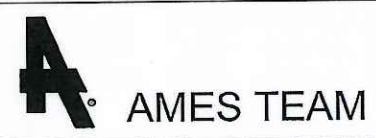
- NOTES:**
- F.F. DENOTES FRONT FACE.
 - B.F. DENOTES BACK FACE.
 - E.F. DENOTES EACH FACE.
 - SEE SHEET 23 FOR SECTIONS M-M AND N-N

DES:	AMW	DR:	MMF	APPROVED:
CHK:	ZAT	CHK:	JLJ	

S.P. NO. 6280-62646 BRIDGE NO. 62646 SHEET

EAST ABUTMENT REINFORCEMENT

20
OF
55



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PRINT NAME: GEORGE W. GORRILL
 DATE: 4/10/14 LICENSE: 46863

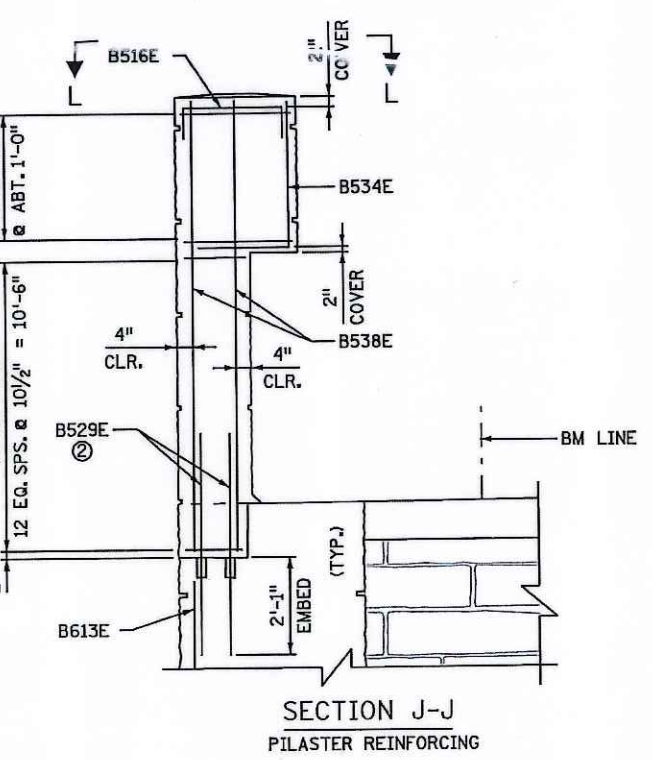
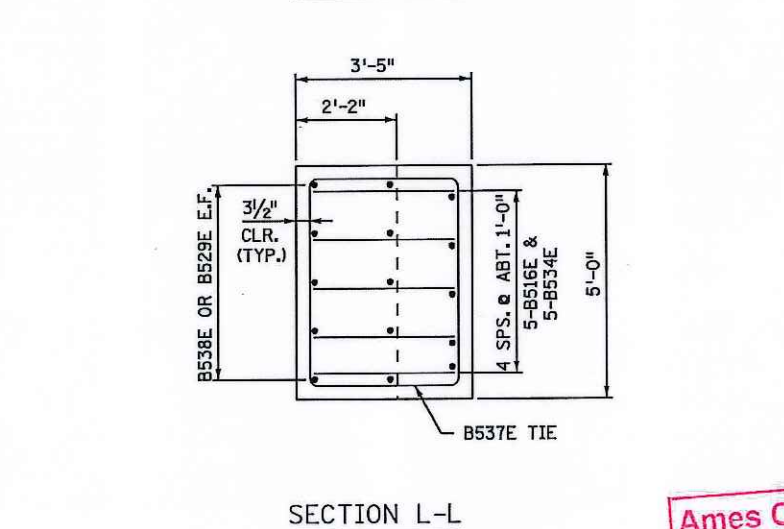
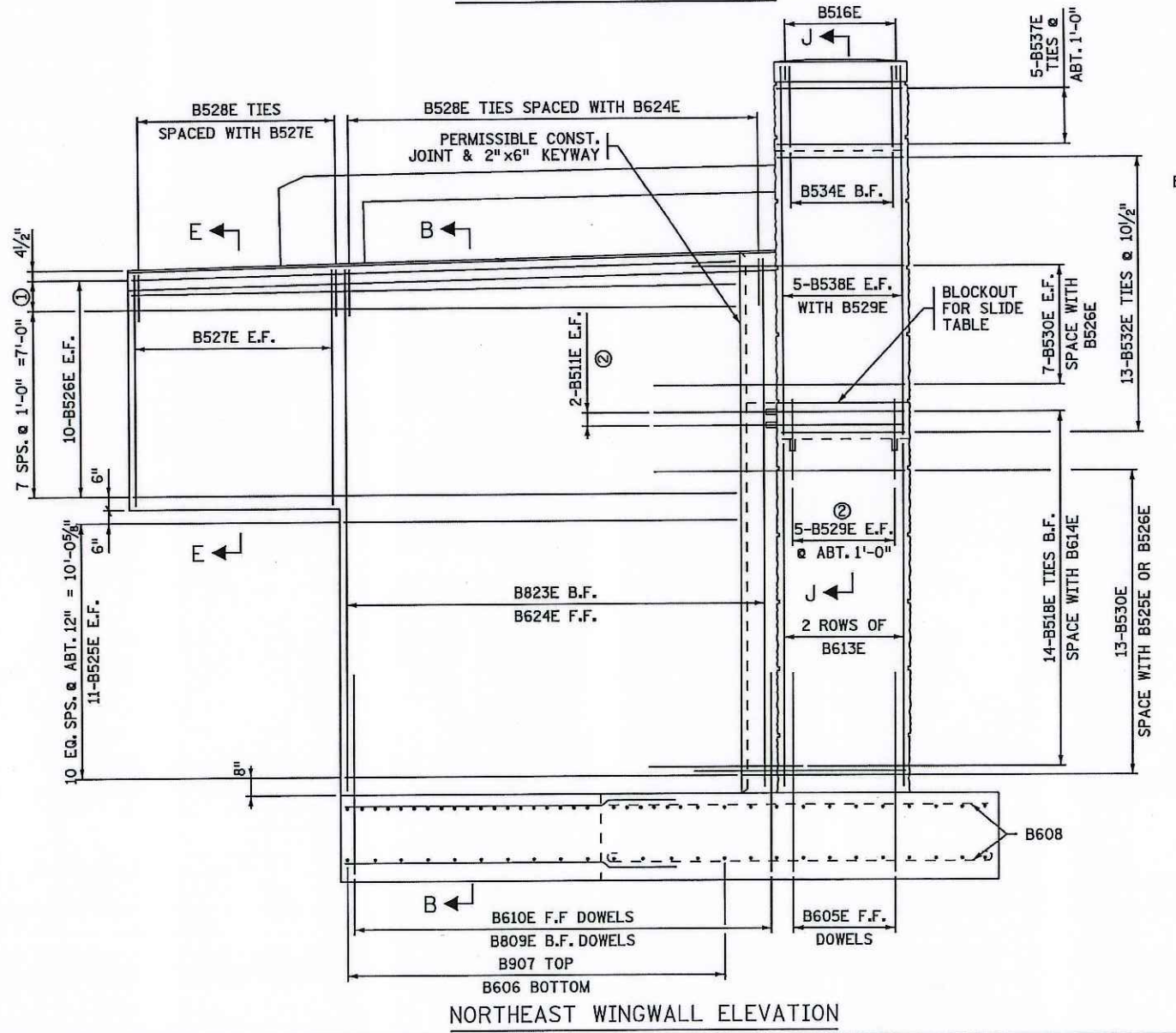
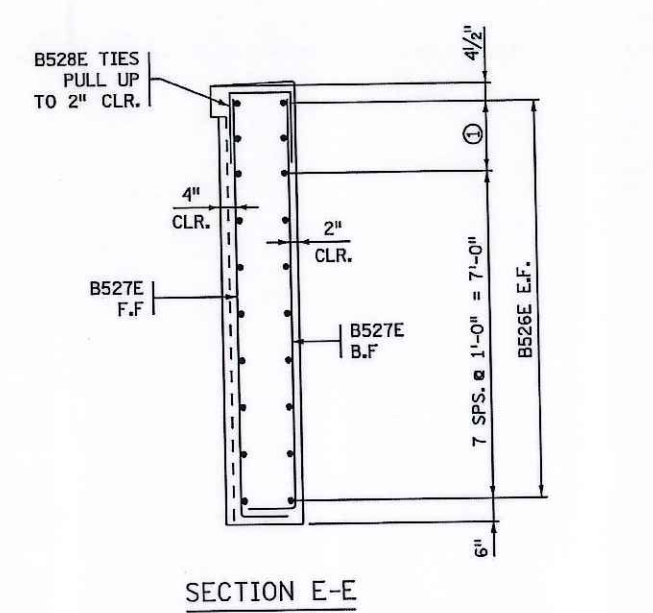
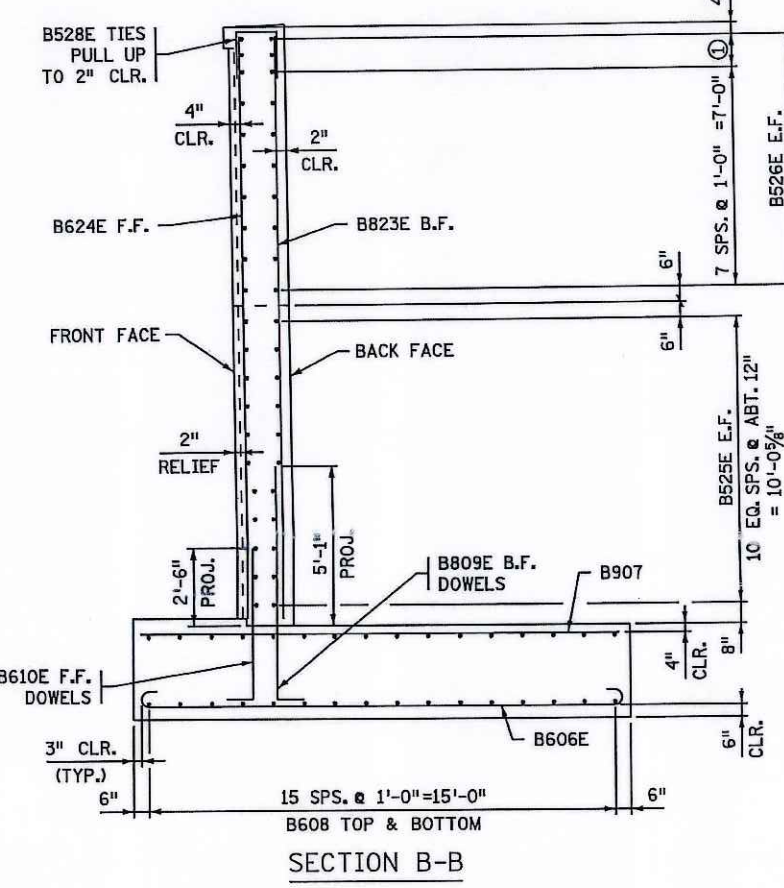
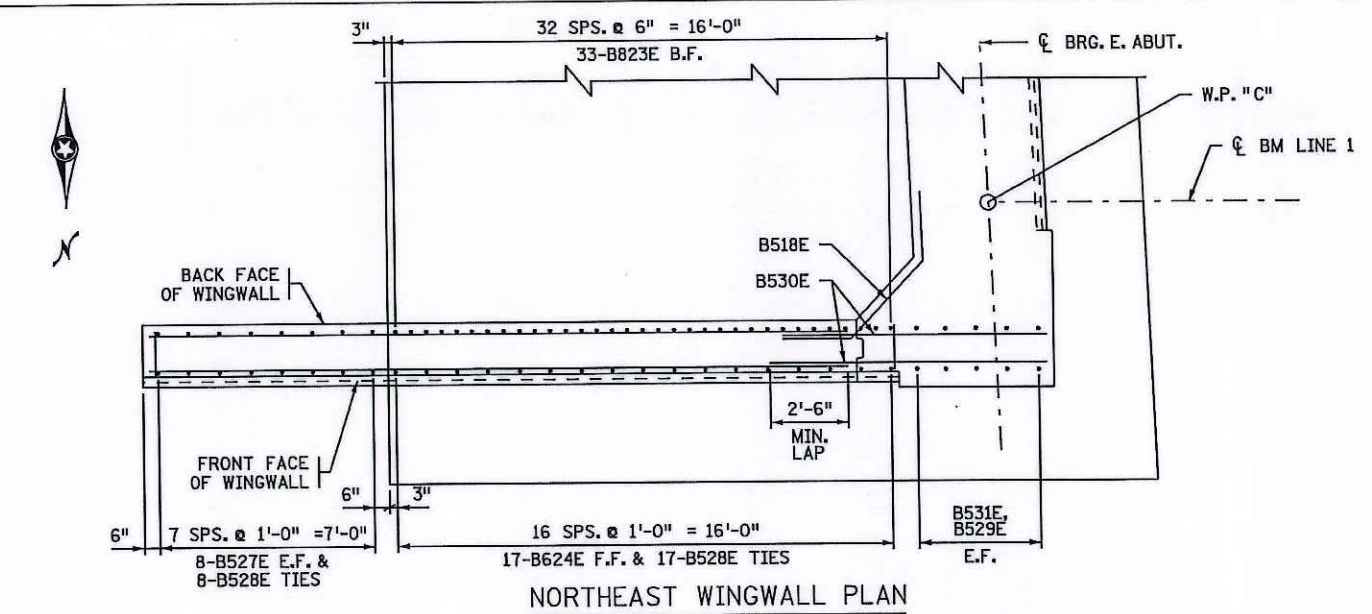
MNDOT ACCEPTANCE

SIGNATURE: *D.J. Horn*
 DATE: 4/11/14

NO	DATE	BY	CKD	APPR	REVISION

DRAWING NO. 1

17.05
 05-01-2014
 08-62646-01-20.dgn



Ames Construction
APR 11 2014
Released for Construction

- NOTES:
- ① 2 EQUAL SPACES.
 - ② WITH COUPLERS (REINFORCEMENT BARS) T-5.
- F.F. DENOTES FRONT FACE.
B.F. DENOTES BACK FACE.
E.F. DENOTES EACH FACE.

DES: AW	DR: MMF	APPROVED:
CHK: ZAT	CHK: ZAT	

NO	DATE	BY	CKD	APPR	REVISION

DRAWING NO. 1

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PRINT NAME: GEORGE W. GORRILL

DATE: 4/10/14 LICENSE # 46863

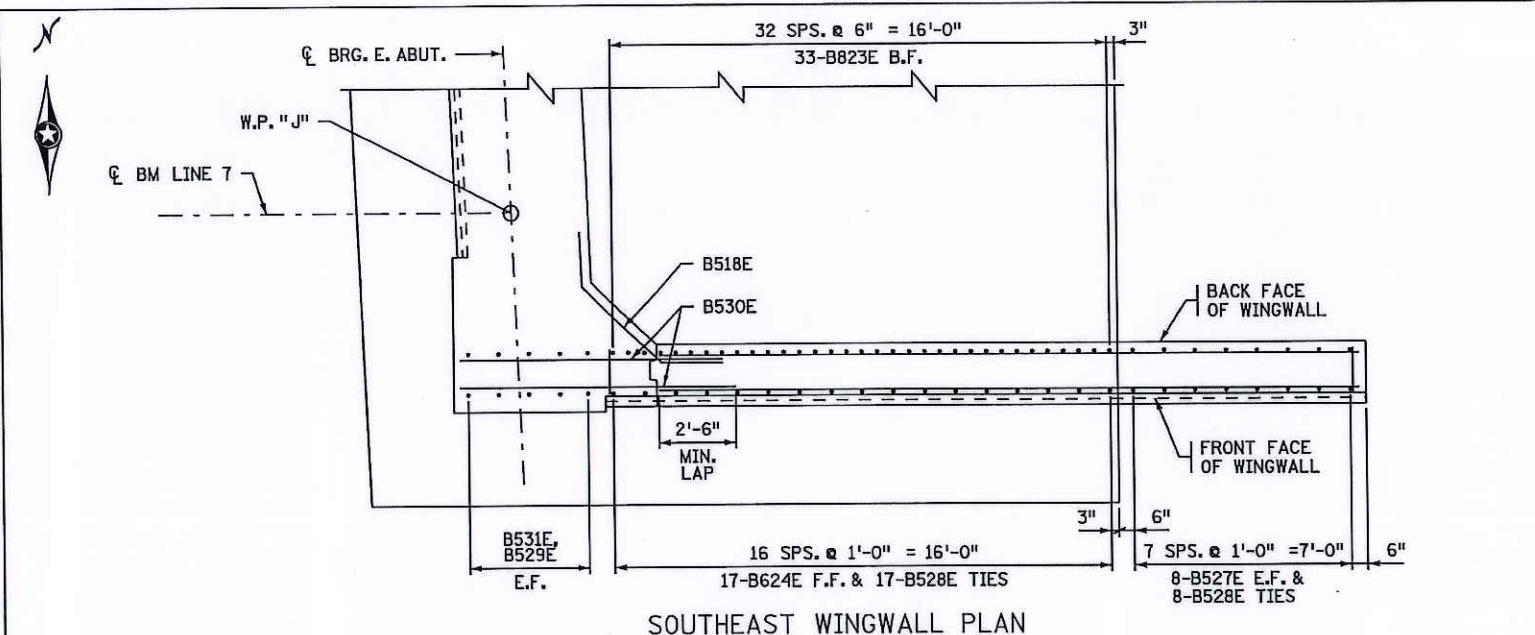
MINDOT ACCEPTANCE

SIGNATURE: *Das J Heron*

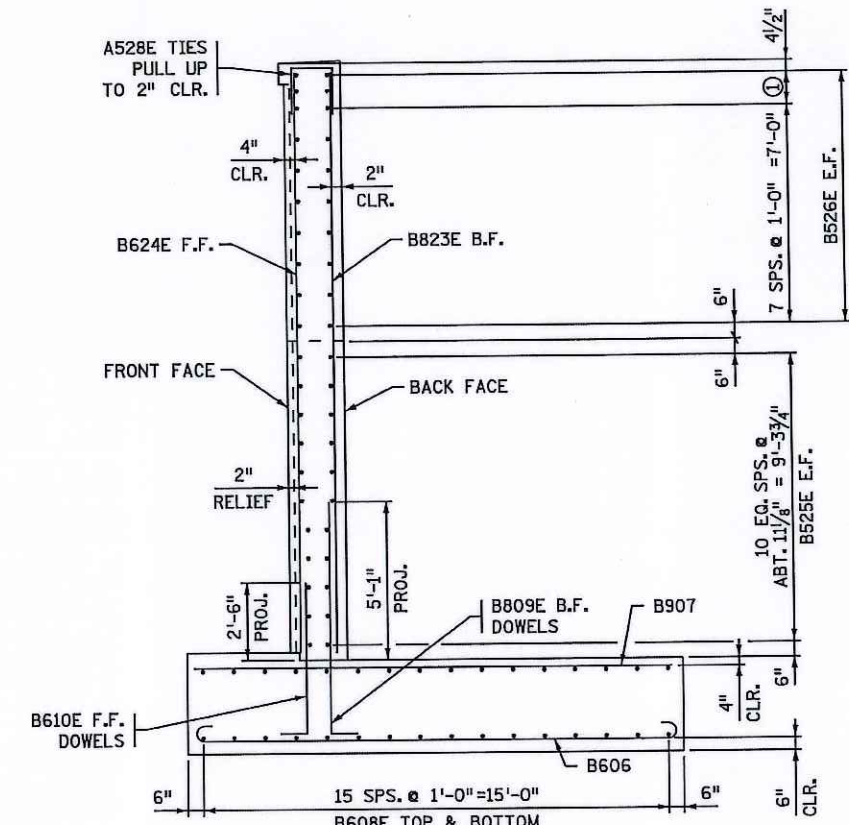
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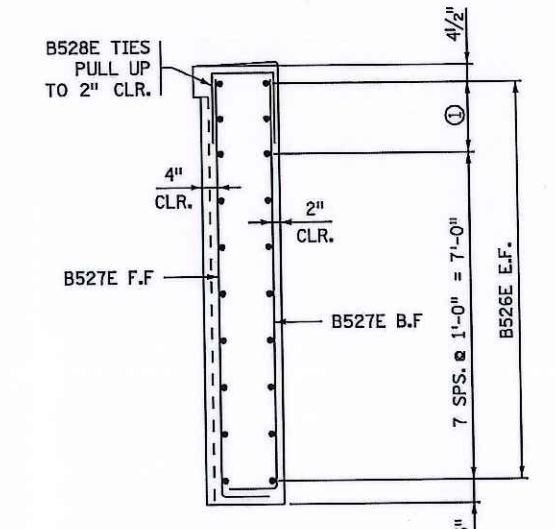
S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 21 OF 55
EAST ABUTMENT REINFORCEMENT		



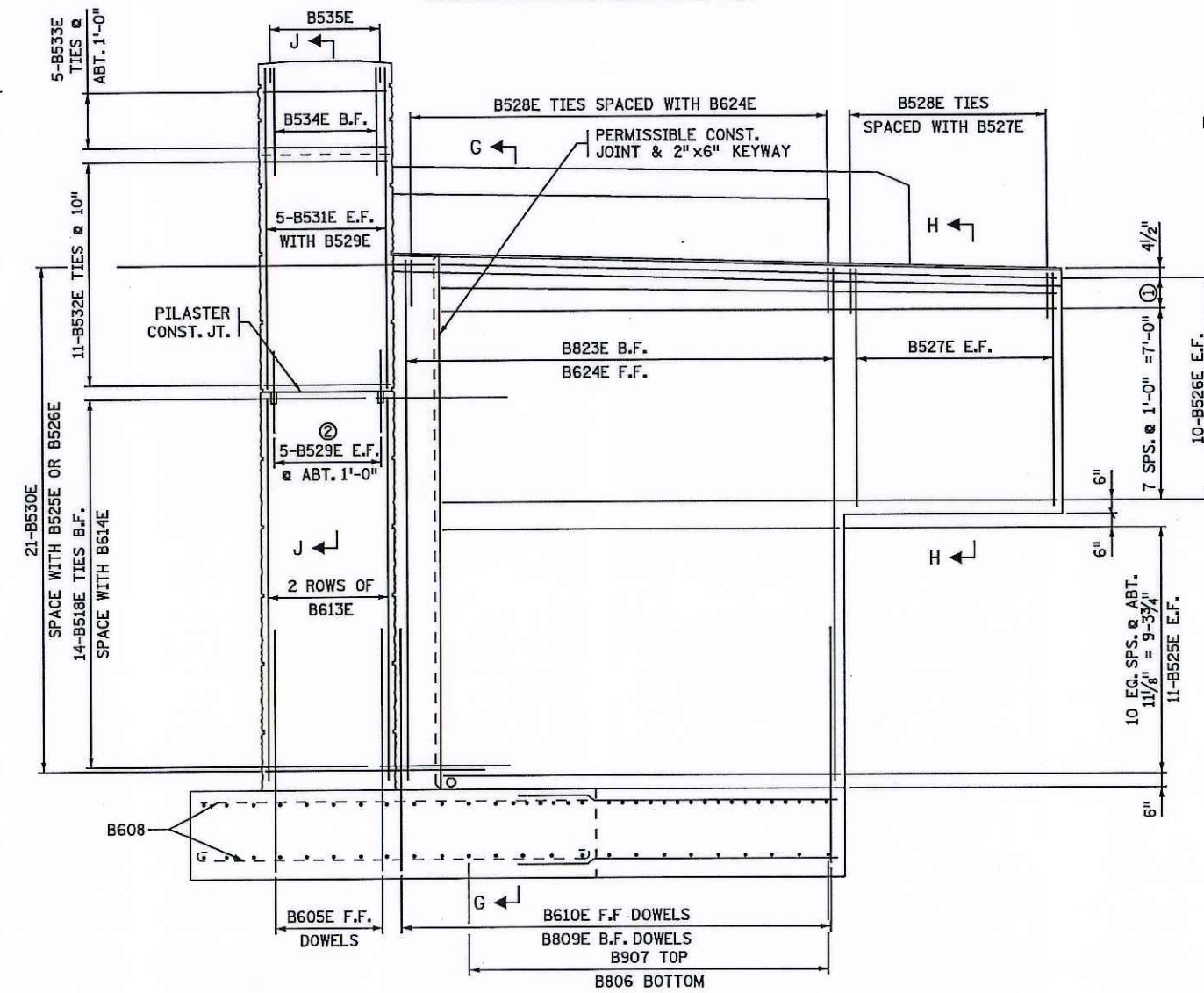
SOUTHEAST WINGWALL PLAN



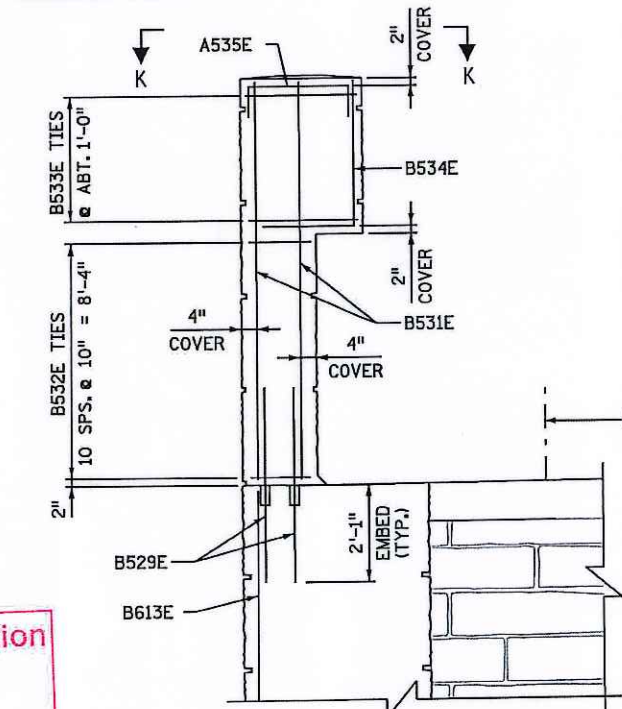
SECTION G-G



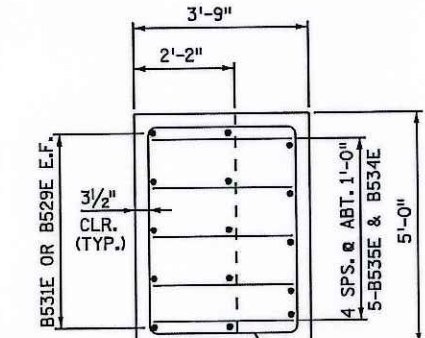
SECTION H-H



SOUTHEAST WINGWALL ELEVATION



SECTION J-J
PILASTER REINFORCING



SECTION K-K

Ames Construction
APR 11 2014
Released for Construction

- NOTES:
- ① 2 EQUAL SPACES.
 - ② WITH COUPLES (REINFORCEMENT BARS T-5).
- F.F. DENOTES FRONT FACE.
B.F. DENOTES BACK FACE.
E.F. DENOTES EACH FACE.

DES: AW	DR: MMF	APPROVED:
CHK: ZAT	CHK: ZAT	

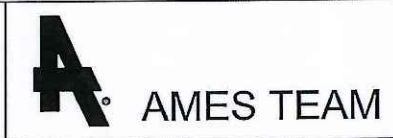
NO	DATE	BY	CKD	APPR	REVISION

DRAWING NO. 1

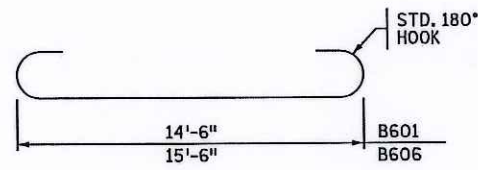
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: GEORGE W. GORRILL
DATE: 4/11/14 LICENSE: 46863

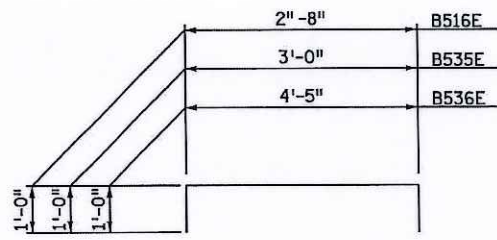
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SIGNATURE: [Signature]
DATE: 4/11/14



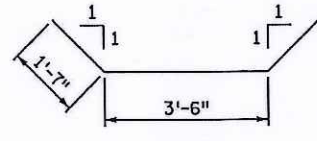
S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 22 OF 55
EAST ABUTMENT REINFORCEMENT		



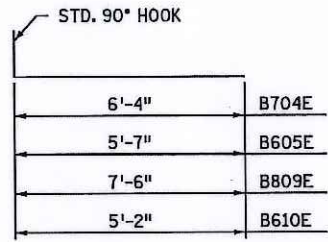
B601 & B606



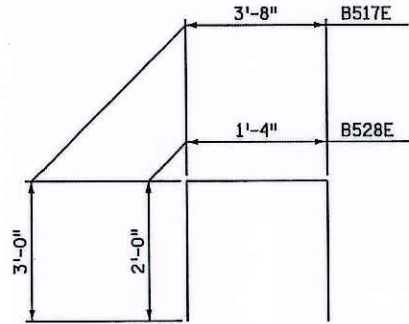
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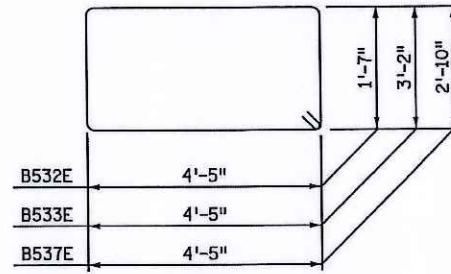
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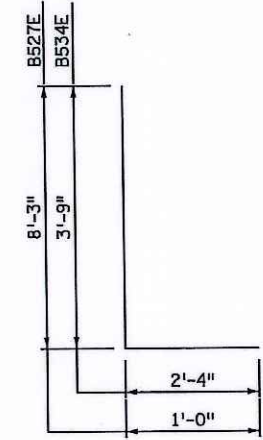
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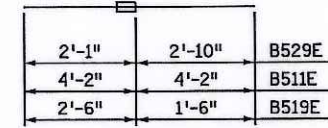
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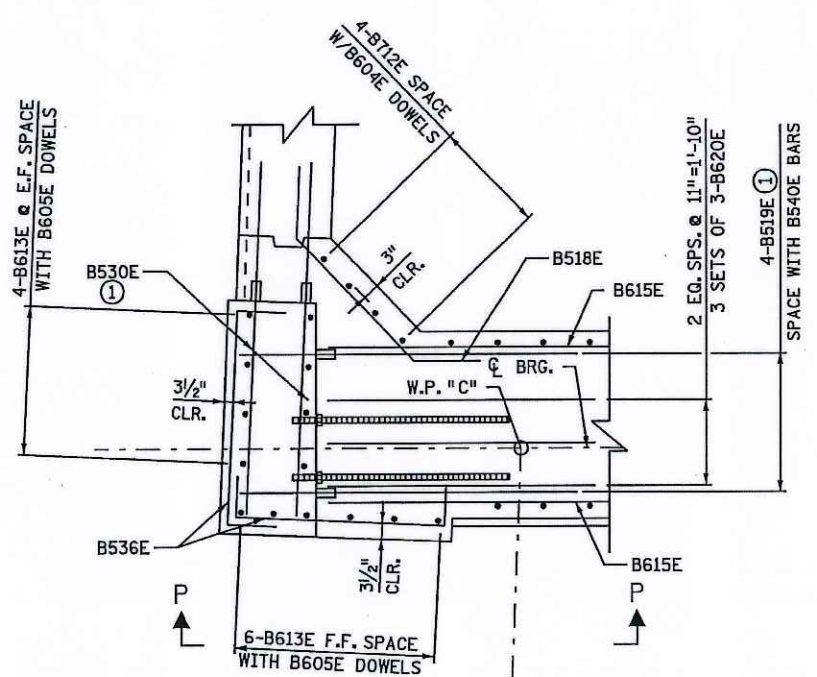


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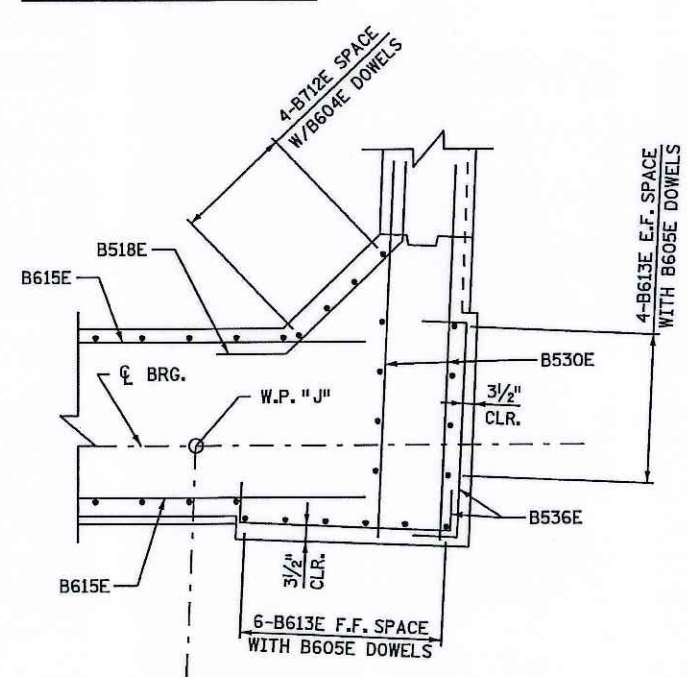


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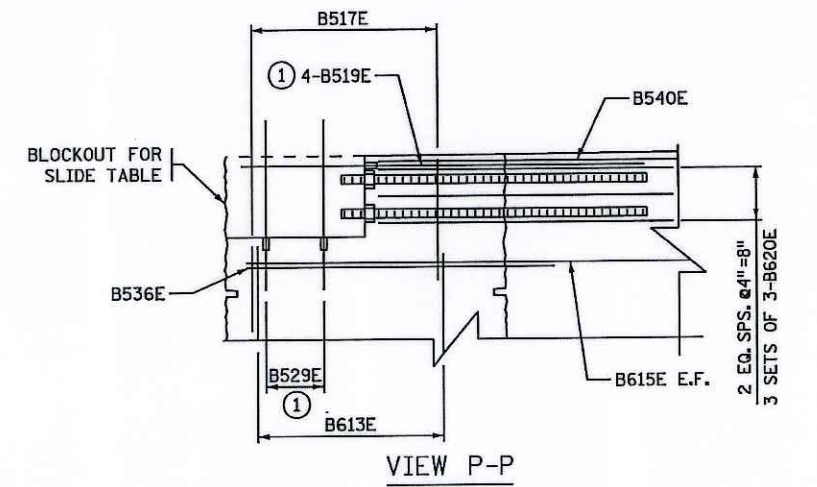
BILL OF REINFORCEMENT FOR EAST ABUTMENT				
BAR	NO.	LENGTH	SHAPE	LOCATION
B601	88	15'-10"	[Symbol]	FOOTING TRANSVERSE BOTTOM MAT
B902	172	14'-6"	[Symbol]	FOOTING TRANSVERSE TOP MAT
B603	60	44'-8"	[Symbol]	FOOTING LONGITUDINAL TOP & BOTTOM
B704E	104	7'-6"	[Symbol]	FOOTING DOWELS BACK FACE
B605E	99	6'-7"	[Symbol]	FOOTING DOWELS FRONT FACE
B606	30	16'-10"	[Symbol]	WINGWALL FOOTING TRANSVERSE BOT
B907	58	15'-6"	[Symbol]	WINGWALL FOOTING TRANSVERSE TOP
B608	64	13'-0"	[Symbol]	WINGWALL FOOTING LONGITUDINAL
B809E	60	8'-10"	[Symbol]	WINGWALL FOOTING DOWELS B.F.
B610E	34	6'-2"	[Symbol]	WINGWALL FOOTING DOWELS F.F.
B511E	4	8'-4"	[Symbol]	STEM TO W.W. DOWEL @ BLOCKOUT
B712E	104	12'-0"	[Symbol]	STEM BACK FACE VERTICAL
B613E	99	12'-0"	[Symbol]	STEM FRONT FACE VERTICAL
B614E	78	26'-2"	[Symbol]	STEM HORIZONTAL
B516E	5	4'-8"	[Symbol]	NORTH PILASTER CAP TIES - TOP
B517E	81	9'-8"	[Symbol]	STEM TIES TOP
B518E	28	6'-8"	[Symbol]	FILLET TIE HORIZONTAL
B519E	4	4'-0"	[Symbol]	STEM TO BLOCKOUT DOWEL
B620E	9	6'-6"	[Symbol]	STEM HORIZONTAL @ BLOCKOUT
B521E	4	26'-2"	[Symbol]	STEM HORIZONTAL
B522E	4	26'-6"	[Symbol]	STEM HORIZONTAL
B823E	66	19'-0"	[Symbol]	WINGWALL VERTICAL BACK FACE
B624E	34	19'-0"	[Symbol]	WINGWALL VERTICAL FRONT FACE
B525E	44	14'-6"	[Symbol]	WINGWALL HORIZONTAL
B526E	40	22'-6"	[Symbol]	WINGWALL HORIZONTAL
B527E	32	9'-3"	[Symbol]	WINGWALL CANTILEVER VERTICAL
B528E	50	5'-4"	[Symbol]	WINGWALL TIES TOP
B529E	20	4'-11"	[Symbol]	PILASTER DOWELS VERTICAL
B530E	82	9'-0"	[Symbol]	STEM TO WINGWALL DOWELS HORIZ.
B531E	10	13'-0"	[Symbol]	PILASTER VERTICAL
B532E	24	12'-11"	[Symbol]	PILASTER TIES HORIZONTAL-LOWER
B533E	5	16'-1"	[Symbol]	SOUTH PILASTER TIES HORIZONTAL-UPPER
B534E	10	6'-1"	[Symbol]	PILASTER VERTICAL B.F.
B535E	5	5'-0"	[Symbol]	SOUTH PILASTER CAP TIES - TOP
B536E	54	6'-5"	[Symbol]	STEM CORNER TIES HORIZONTAL
B537E	5	15'-5"	[Symbol]	NORTH PILASTER TIES HORIZONTAL-UPPER
B538E	10	14'-9"	[Symbol]	PILASTER VERTICAL
B639E	60	7'-0"	[Symbol]	STEM HORIZONTAL DOWELS
B540E	4	24'-0"	[Symbol]	STEM HORIZONTAL



SECTION M-M



SECTION N-N



VIEW P-P

NOTE:
 SEE SHEET 20 FOR LOCATION OF SECTIONS M-M AND N-N.
 (1) WITH COUPLERS (REINFORCEMENT BARS) T-5.
 B.F. DENOTES BACKFACE.
 F.F. DENOTES FRONT FACE.
 E.F. DENOTES EACH FACE.

Ames Construction
 APR 11 2014
 Released for Construction

DES: AMW DR: MMF APPROVED:
 CHK: ZAT CHK: JLJ

S.P. NO. 6280-62646 BRIDGE NO. 62646 SHEET

EAST ABUTMENT REINFORCEMENT 23 OF 55

AMES TEAM

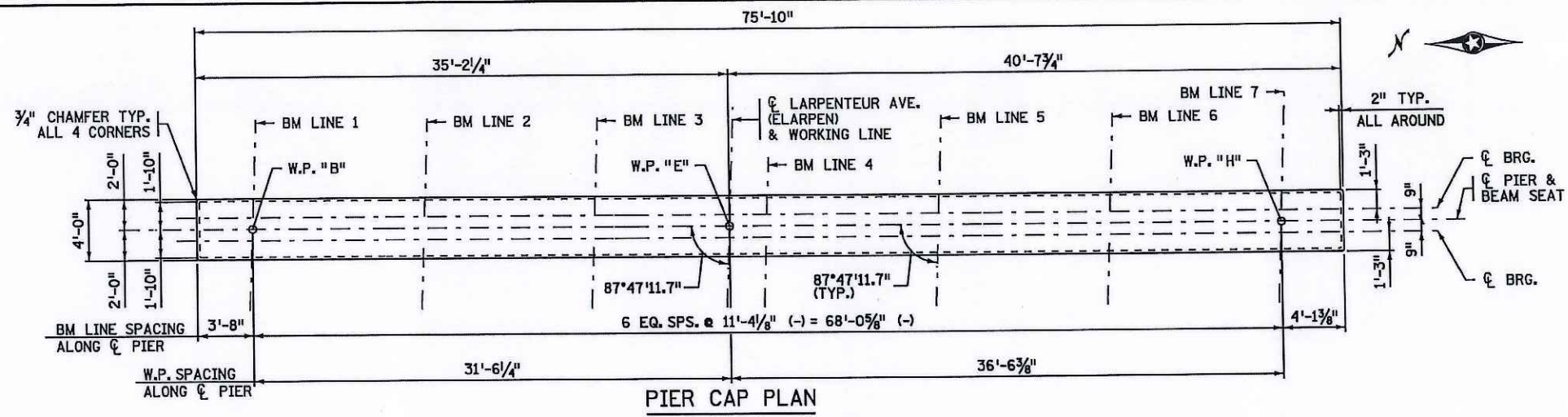
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: GEORGE W. GORRILL
 DATE: 4/11/14 LICENSE: 46863

MNDOT ACCEPTANCE
 SIGNATURE: [Signature]
 DATE: 4/11/14

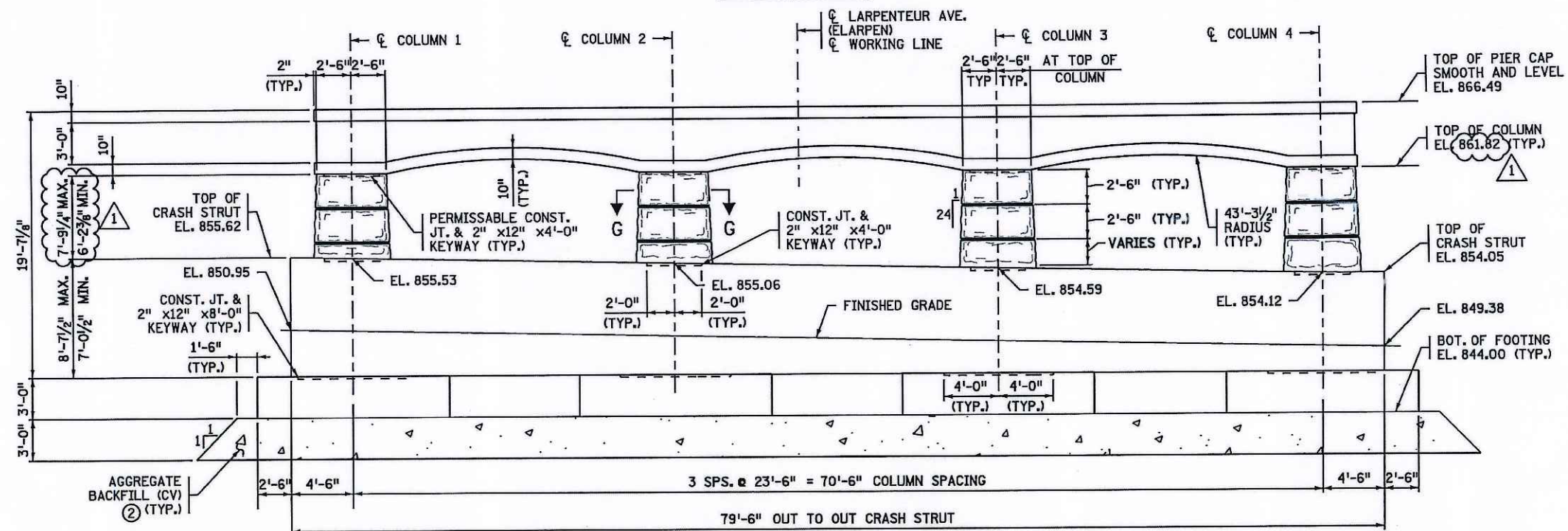
NO	DATE	BY	CKD	APPR	REVISION

DRAWING NO. 1

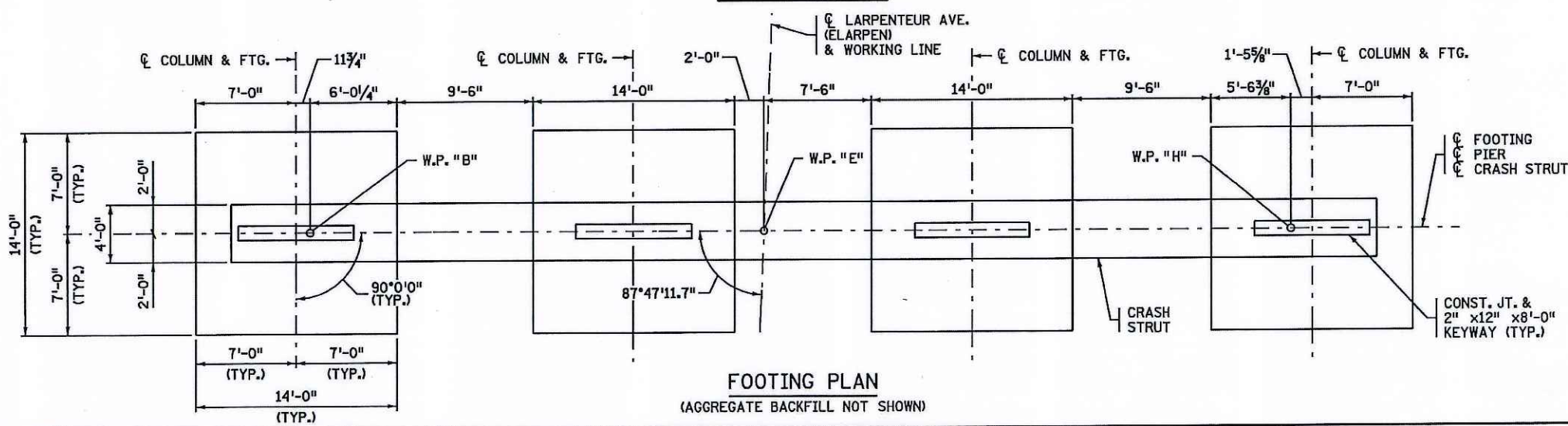
18157
 08-APR-2014
 CBI-62646_51723.dgn



PIER CAP PLAN



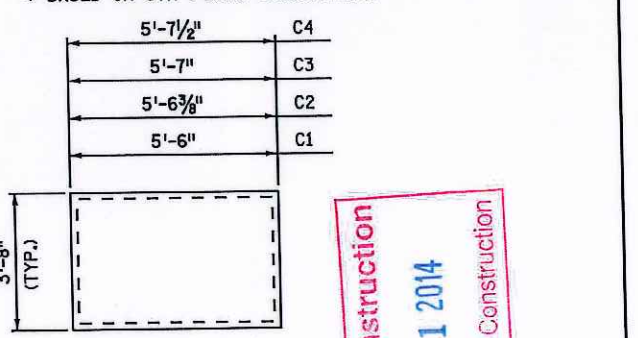
ELEVATION VIEW



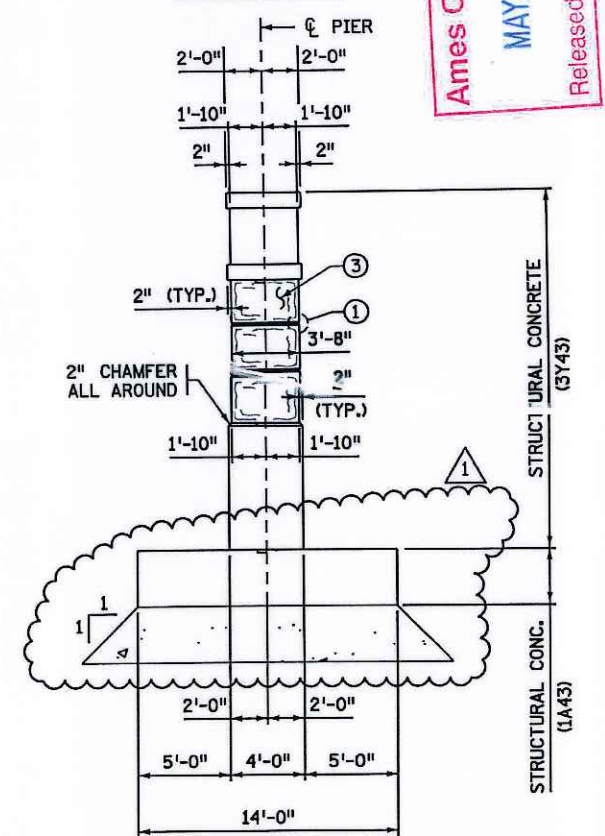
FOOTING PLAN

(AGGREGATE BACKFILL NOT SHOWN)

PIER SPREAD FOOTING LOAD DATA	
* FACTORED DESIGN BEARING PRESSURE	4.1 TONS/ SQ. FT.
EFFECTIVE WIDTH B' (PERPENDICULAR TO PIER)	12.6 FT.
EFFECTIVE LENGTH L' (PARALLEL TO PIER)	12.6 FT.
FACTORED BEARING RESISTANCE $\phi_p \cdot q_n$	4.3 TONS/ SQ. FT.



SECTION G-G



PIER END ELEVATION

- NOTES:
- UNLESS OTHERWISE NOTED, PROVIDE 3/4" CHAMFER ON ALL HORIZONTAL OR VERTICAL CORNERS/EDGES OF 90° OR LESS.
 - ① SEE SHEET 6 FOR REVEAL DETAIL.
 - ② SEE SPECIAL PROVISIONS.
 - ③ ARCHITECTURAL CONCRETE TEXTURE (LIMESTONE), ARCHITECTURAL SURFACE FINISH (MULTI COLOR).

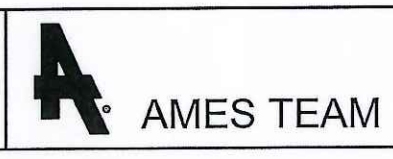
Ames Construction
MAY 21 2014
Released for Construction

NO	DATE	BY	CKD	APPR	REVISION
1	5/5/14	JLJ	ZAT	JWD	REVISED COLUMN HEIGHTS AND TOP OF COLUMN ELEVATION (NDC008)

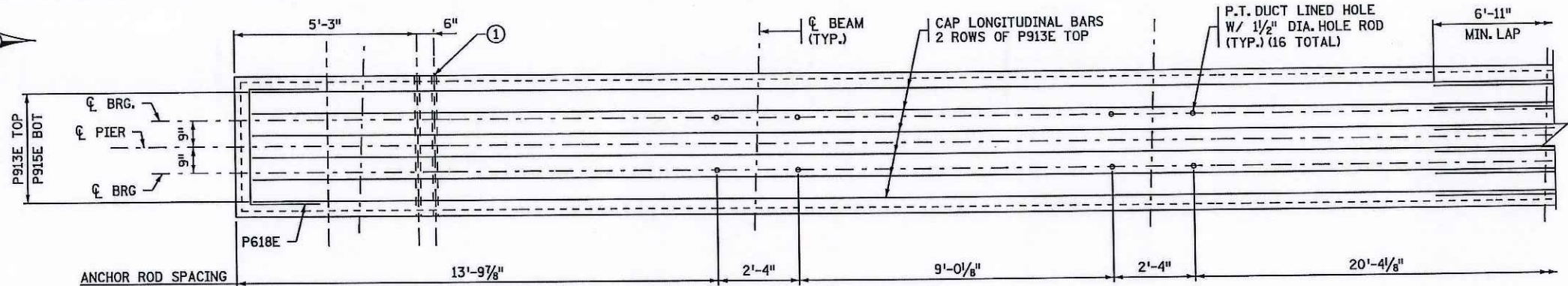
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PRINT NAME: GEORGE W. GORRILL
DATE: 5/20/14 LICENSE: 46863

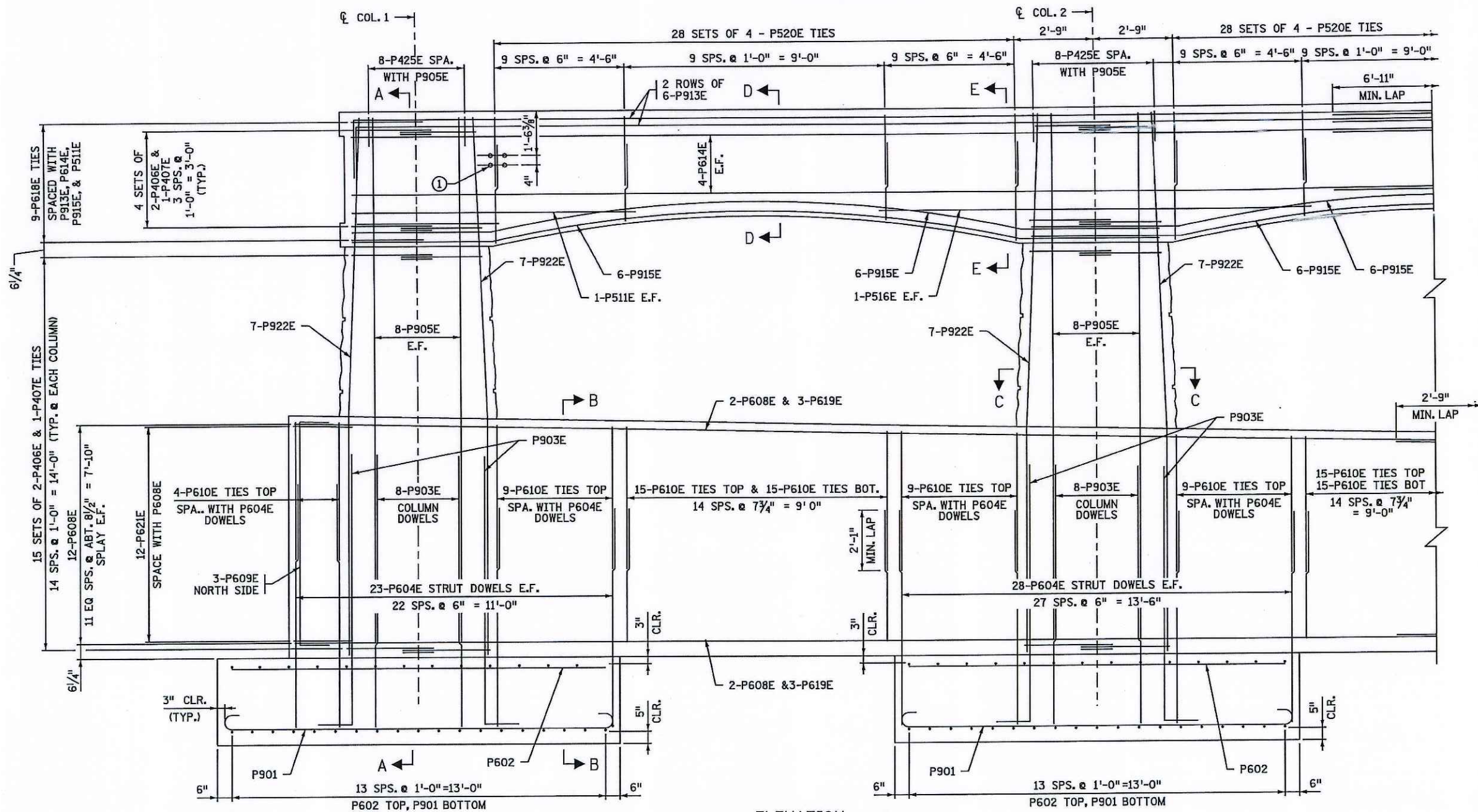
MINDOT ACCEPTANCE
SIGNATURE: *Dw J Heron*
DATE: 5/21/14



DES: AMW	DR: MMF	APPROVED:
CHK: ZAT	CHK: ZAT	
S.P. NO. 6280-62646		BRIDGE NO. 62646
PIER DETAILS		SHEET 24 OF 55



PLAN-PIER CAP



ELEVATION

Ames Construction
 APR 11 2014
 Released for Construction

NOTES:
 ① 1 5/8" INNER DIA. GALVANIZED SLEEVE. GALVANIZE IN ACCORDANCE WITH MNDOT SPEC. 3392. FILL SLEEVES FLUSH WITH NON-SHRINK GROUT WHEN BRIDGE IS IN FINAL LOCATION.

SEE SHEET 47 FOR EMBEDDED ANCHOR ROD DETAIL.

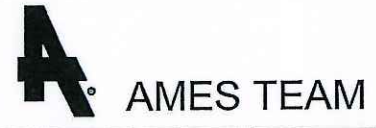
SEE SHEET 28 FOR SECTIONS A-A, B-B, C-C, D-D, AND E-E.

DES: ZAT	DR: MMF	APPROVED:	
CHK: AMW	CHK: ZAT		

S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 25 OF 55
PIER REINFORCEMENT		

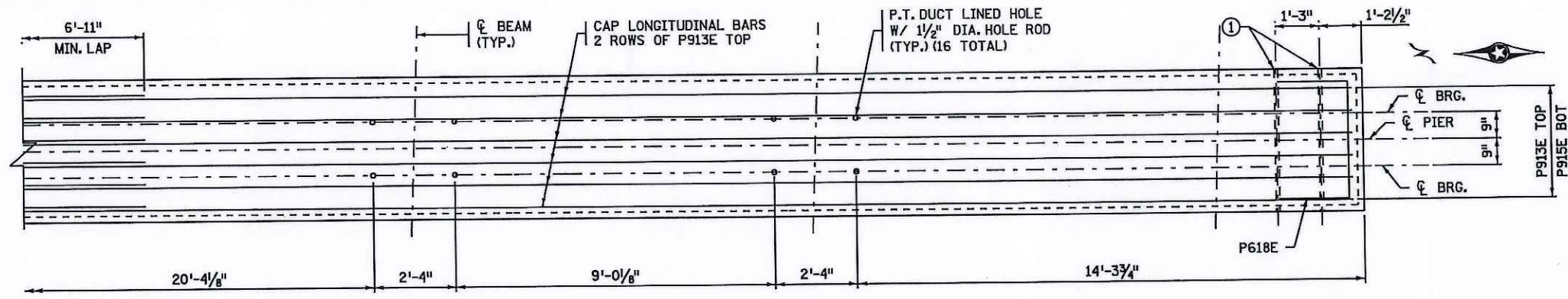
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: GEORGE W. GORRILL
 DATE: 4/10/14 LICENSE: 46863

MNDOT ACCEPTANCE
 SIGNATURE: *David J. Horn*
 DATE: 4/11/14

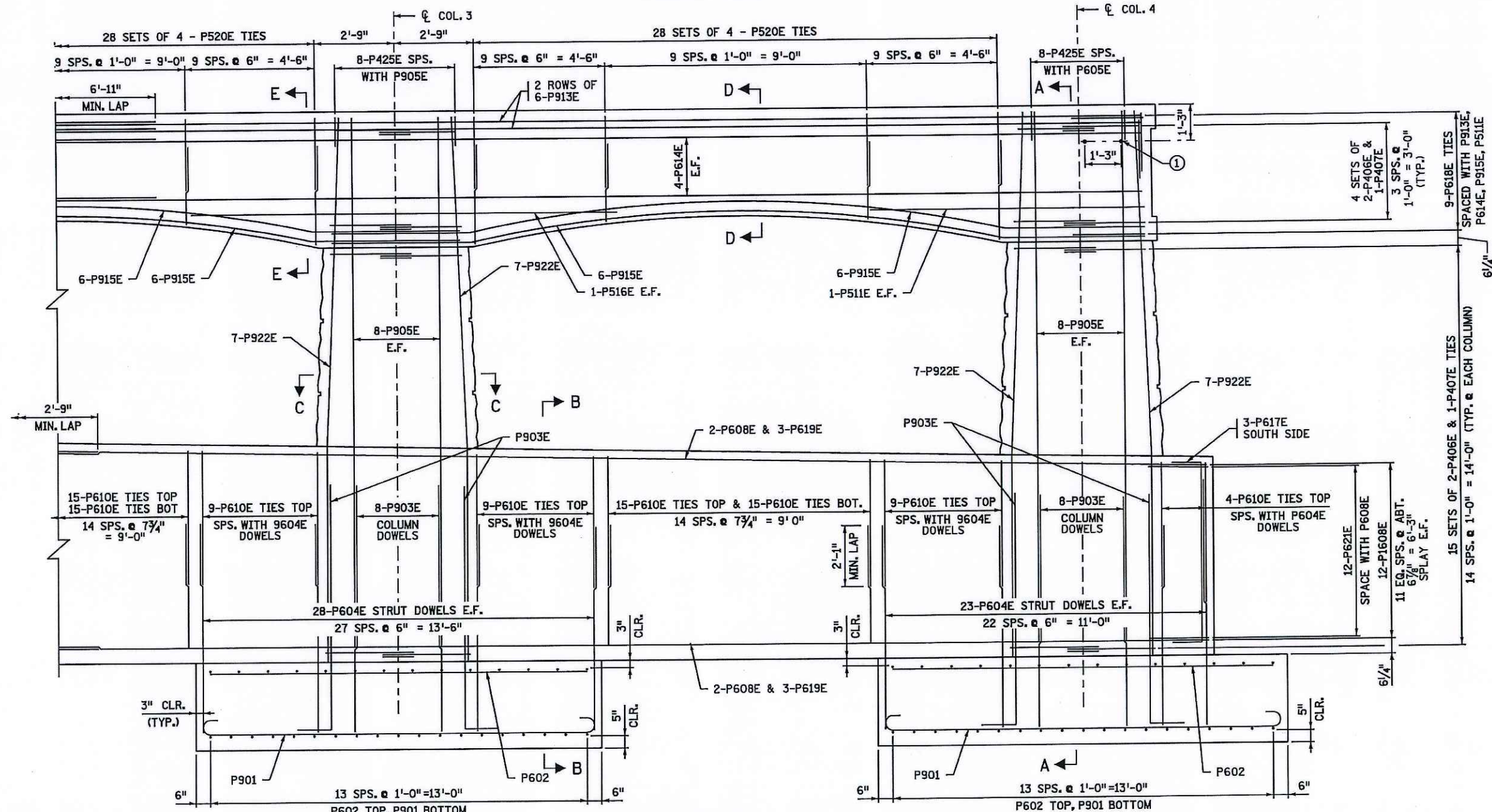


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 06-04-PR-2014
 02R-62646-11R-25.dgn

NO	DATE	BY	CKD	APPR	REVISION



PLAN-PIER CAP



ELEVATION

Ames Construction
MAY 21 2014
Released for Construction

NOTES:
SEE SHEET 25 FOR PIER REINFORCING NOTES.

① 1/2" INNER DIA. GALVANIZED SLEEVE. FILL SLEEVES FLUSH WITH NON-SHRINK GROUT.

DES: ZAT	DR: MMF	APPROVED:
CHK: AW	CHK: ZAT	

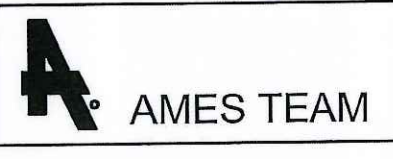
NO	DATE	BY	CKD	APPR	REVISION
1	5/5/14	JLJ	ZAT	JWD	GALVANIZED SLEEVE ADDITION/REVISION (NDC008)

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

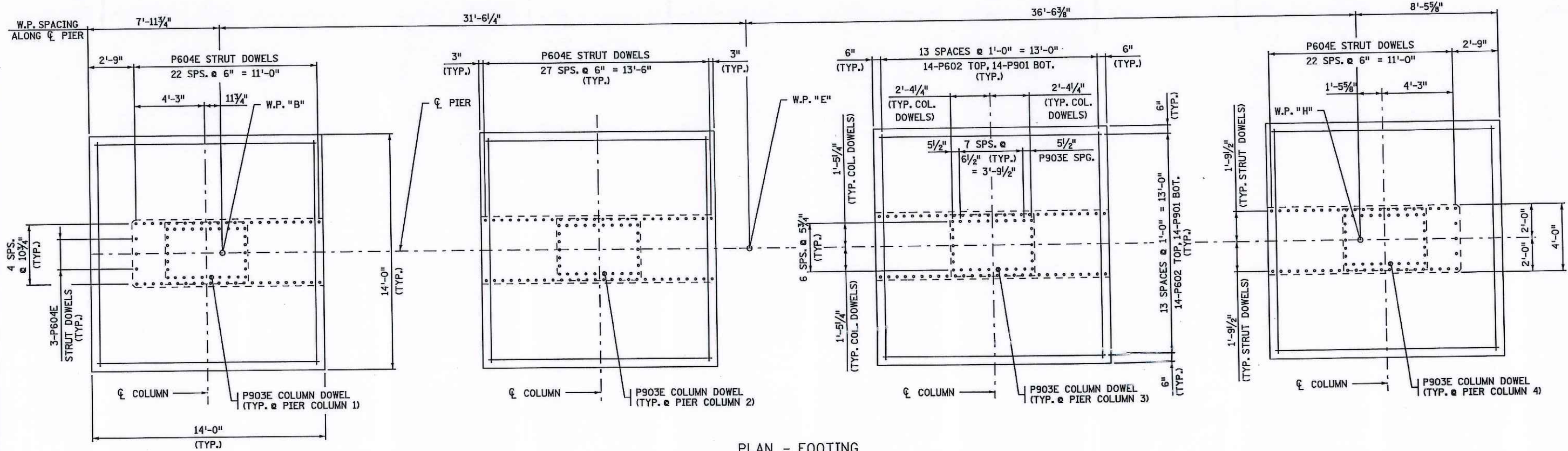
PRINT NAME: GEORGE W. GORRILL
DATE: 5/20/14 LICENSE: 46863

MINOT ACCEPTANCE

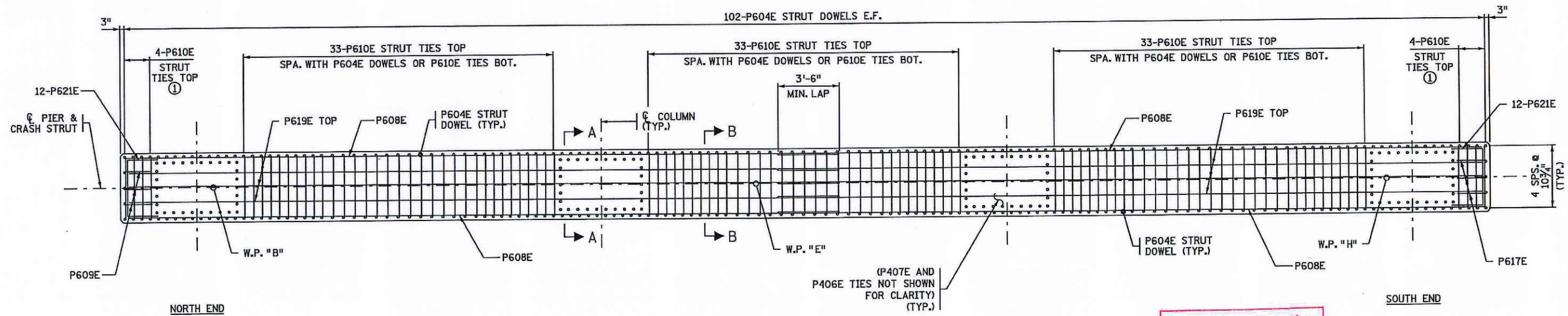
SIGNATURE: *D.J.J. Her...*
DATE: 5/21/14



S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 26 OF 55
PIER REINFORCEMENT		



PLAN - FOOTING



PLAN - CRASH STRUT

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 APR 11 2014
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NOTES:
 SEE SHEET 28 FOR SECTIONS A-A AND B-B.
 ① SPACE WITH P604E STRUT DOWELS.

DES: AMW	DR: MMF	APPROVED:
CHK: ZAT	CHK: ZAT	

NO	DATE	BY	CKD	APPR	REVISION

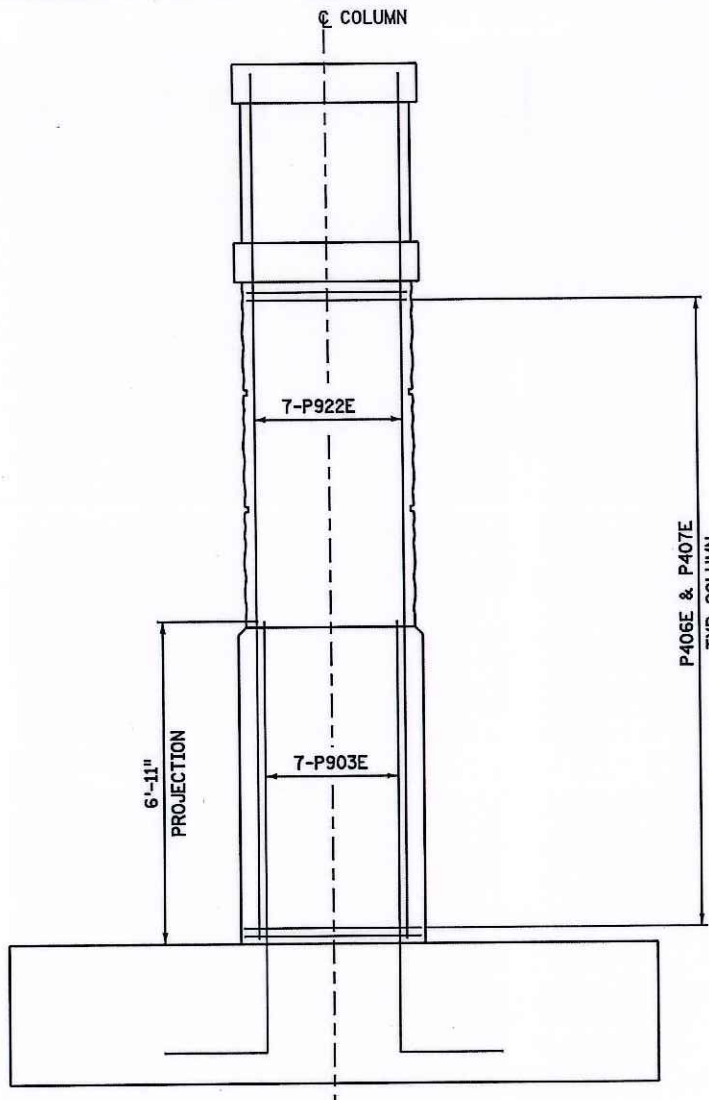
DRAWING NO. 1

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 PRINT NAME: GEORGE W. GORRILL
 DATE: 4/10/14 LICENSE: 46863

MNDOT ACCEPTANCE
 SIGNATURE: *D. J. Horn*
 DATE: 4/11/14

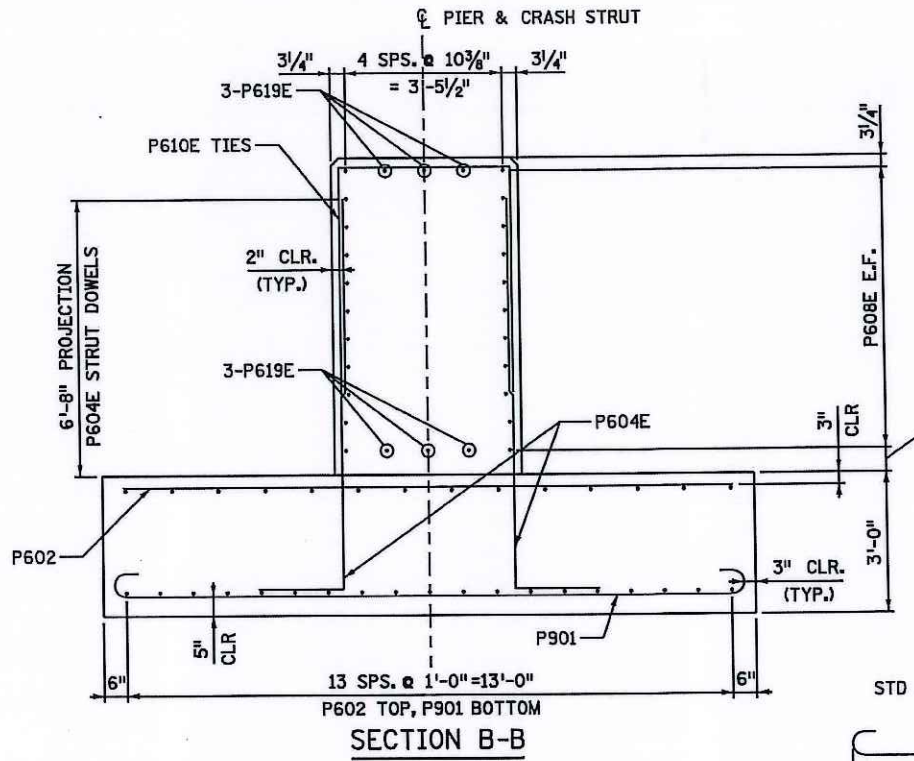


S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 27 OF 55
PIER REINFORCEMENT		

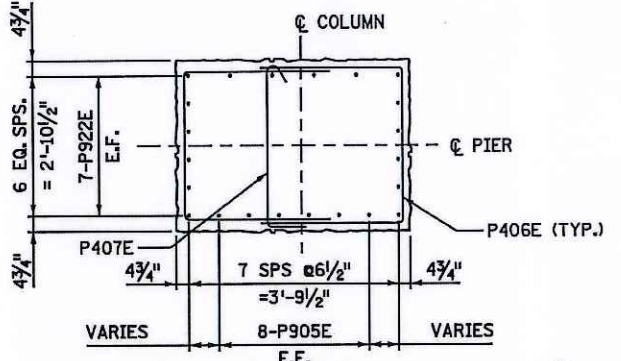


SECTION A-A

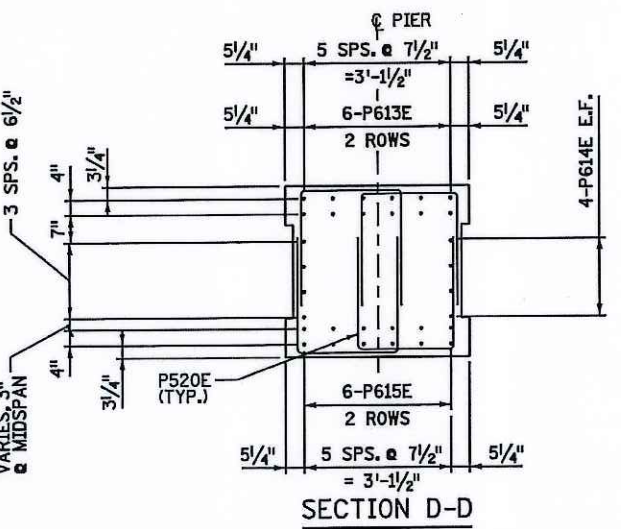
FOOTING, CRUSH STRUT AND PIER CAP REINFORCEMENT NOT SHOWN FOR CLARITY, SEE SECTION B-B, D-D AND E-E



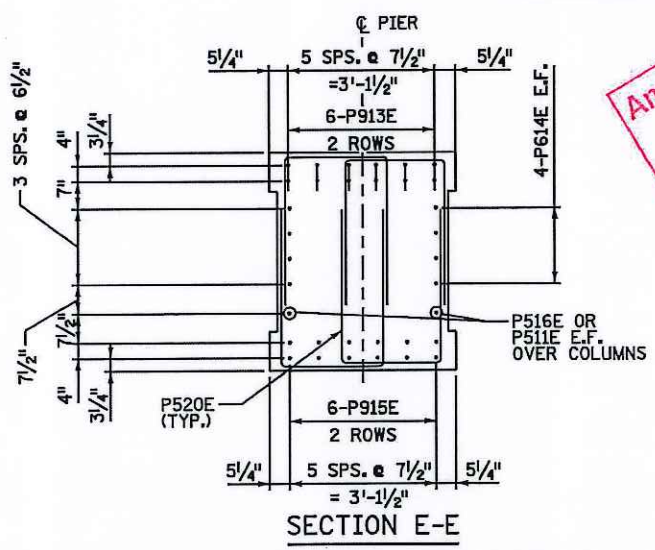
SECTION B-B



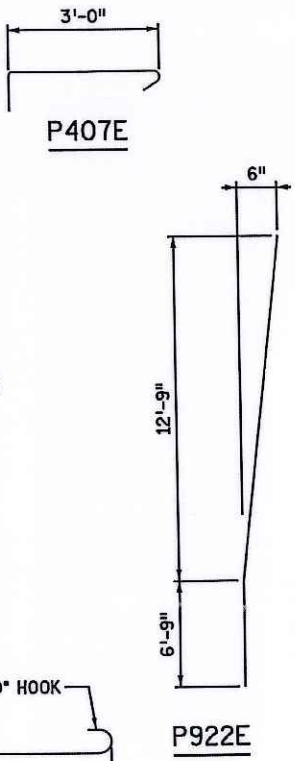
SECTION C-C



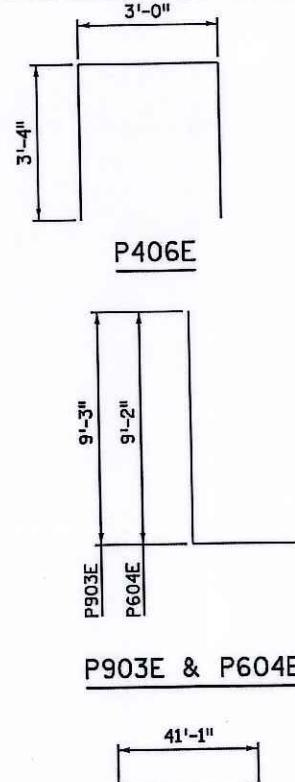
SECTION D-D



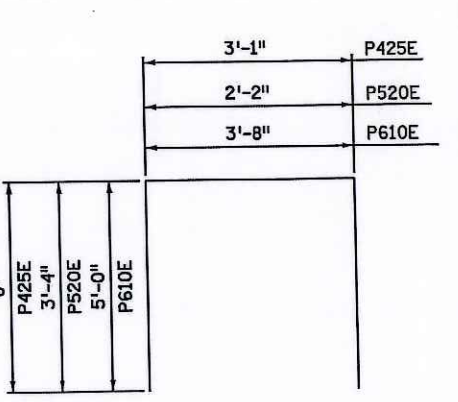
SECTION E-E



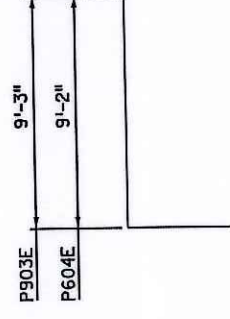
P407E



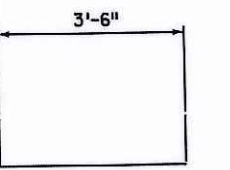
P406E



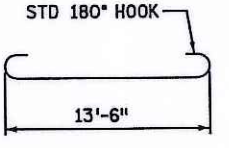
P425E, P520E & P610E



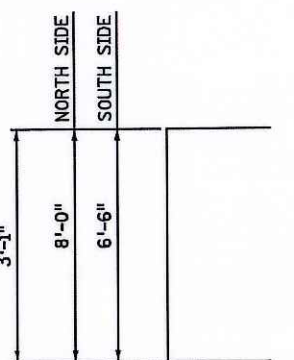
P903E & P604E



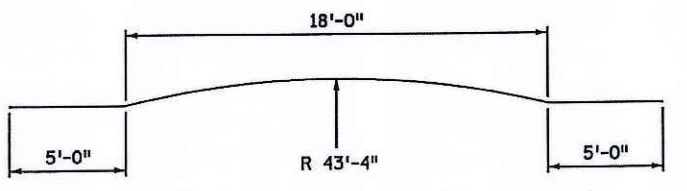
P621E



P901



P609E, P617E & P618E



P915E

SUMMARY OF QUANTITIES FOR PIER			
ITEM NO.	ITEM	QTY.	UNIT
2401.501	STRUCTURAL CONCRETE (1A43)	88	CU. YD.
2401.501	STRUCTURAL CONCRETE (3Y43)	160	CU. YD.
2401.541	REINFORCEMENT BARS	8,364	POUND
2401.541	REINFORCEMENT BARS (EPOXY COATED)	34,771	POUND
2411.618	ARCHITECTURAL CONCRETE TEXTURE (LIMESTONE)	500	SQ. FT.
2411.618	ARCHITECTURAL SURFACE FINISH (MULTI COLOR)	500	SQ. FT.

BILL OF REINFORCEMENT FOR PIER				
BAR	NO.	LENGTH	SHAPE	LOCATION
P901	112	16'-0"	[hook]	FOOTING BOTTOM
P602	112	13'-6"	[hook]	FOOTING TOP
P903E	120	10'-10"	[hook]	FOOTING/COLUMN DOWELS
P604E	210	10'-2"	[hook]	FOOTING/ STRUT DOWEL
P905E	64	19'-3"	[hook]	COLUMN VERTICAL
P406E	152	9'-8"	[hook]	COLUMN TIES
P407E	76	4'-1"	[hook]	COLUMN TIES
P608E	48	41'-0"	[hook]	STRUT LONGITUDINAL
P609E	3	10'-0"	[hook]	STRUT END VERTICAL TIE - NORTH
P610E	152	13'-8"	[hook]	STRUT - TOP TIES
P511E	4	9'-10"	[hook]	CAP BOTTOM HORIZONTAL
P913E	24	42'-8"	[hook]	CAP - TOP HORIZONTAL
P614E	16	41'-1"	[hook]	CAP HORIZONTAL
P915E	36	28'-0"	[hook]	CAP BOTTOM HORIZONTAL
P516E	4	14'-10"	[hook]	CAP BOTTOM HORIZONTAL
P617E	3	8'-6"	[hook]	STRUT END VERTICAL TIE - SOUTH
P618E	18	5'-1"	[hook]	CAP END TIE
P619E	12	41'-0"	[hook]	STRUT LONGITUDINAL
P520E	336	8'-10"	[hook]	CAP STIRRUP
P621E	24	5'-6"	[hook]	STRUT END TIE
P922E	56	19'-6"	[hook]	COLUMN VERTICAL
P425E	32	4'-5"	[hook]	CAP TIE OVER COLUMN

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 APR 11 2014
 Released for Construction

DES: ZAT DR: MMF APPROVED:
 CHK: AW CHK: ZAT

S.P. NO. 6280-62646 BRIDGE NO. 62646 SHEET
 PIER REINFORCEMENT 28 OF 55

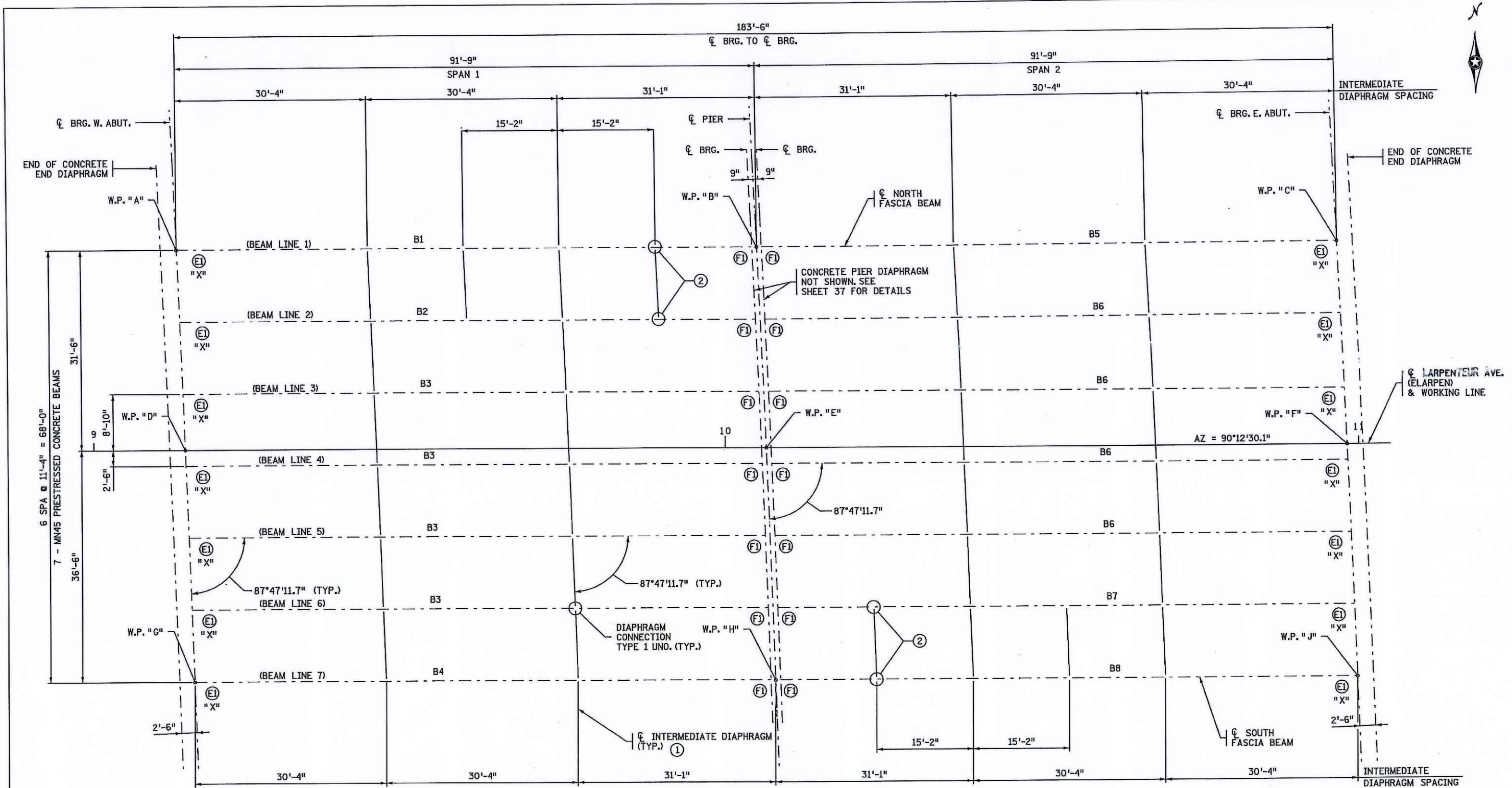
AMES TEAM

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 PRINT NAME: GEORGE W. GORRILL
 DATE: 4/11/14 LICENSE: 46863

MDOT ACCEPTANCE
 SIGNATURE: [Signature]
 DATE: 4/11/14

NO.	DATE	BY	CKD	APPR	REVISION

DRAWING NO. 15-58-2014 CBR-62646-111128.dgn



FRAMING PLAN

NOTES:

- SEE SHEET 47 FOR BEAM BEARING DETAILS.
- SEE BRIDGE LAYOUT SHEET FOR WORKING POINT ("W.P.") INFORMATION.
- "X" DENOTES END OF BEAM.
- ALL DIMENSIONS ARE PARALLEL OR ORTHOGONAL TO WORKING LINE.
- E1 DENOTES EXPANSION BEARING, F1 DENOTES FIXED BEARING.
- UNO = UNLESS NOTED OTHERWISE.
- ① SEE SHEET 48 FOR INTERMEDIATE DIAPHRAGM DETAIL B403.
- ② SEE SHEET 48 FOR DIAPHRAGM CONNECTION TYPE 2.

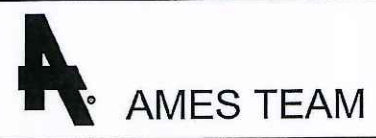
Ames Construction
 APR 11 2014
 Released for Construction

DES: AMW	DR: MMF	APPROVED:	
CHK: GDF	CHK: AMW		

NO	DATE	BY	CKD	APPR	REVISION

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 DATE: 4/10/14 LICENSE: 46863

MNDOT ACCEPTANCE
 SIGNATURE: *David J. ...*
 DATE: 4/11/14



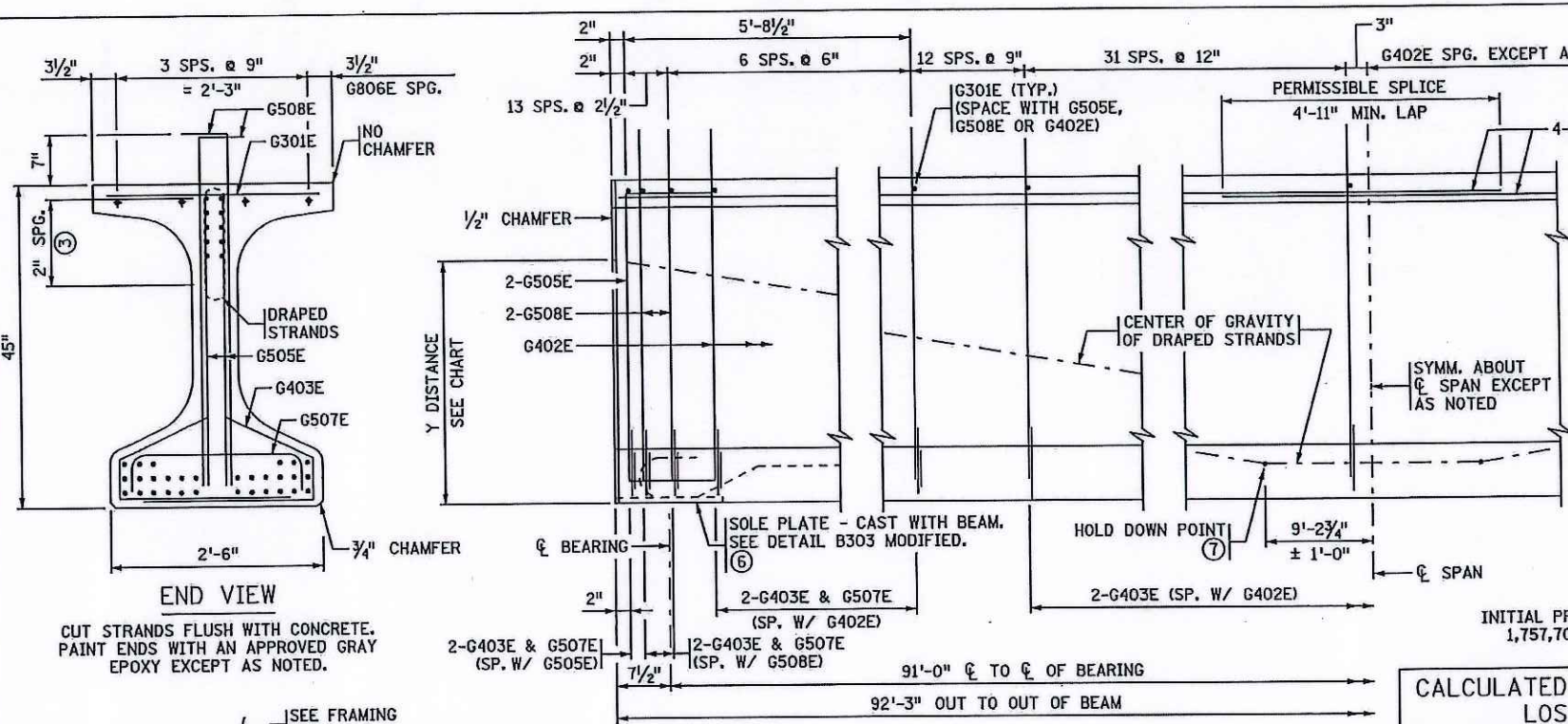
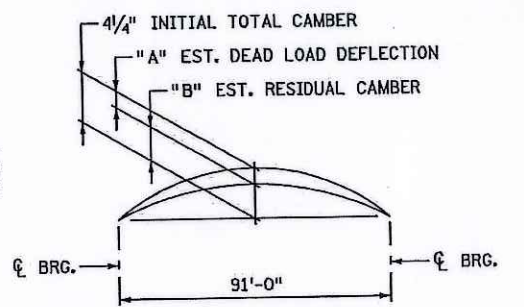
S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 29 OF 55
FRAMING PLAN		

17.1.19
 04-19-2014
 CBR:62646_141123.dgn

Y DISTANCES (IN INCHES)			
	NO.	CL. SPAN	END
STRAIGHT STRANDS	30	3.6	
DRAPED STRANDS	10	7	37
TOTAL STRANDS	40	4.45	

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.



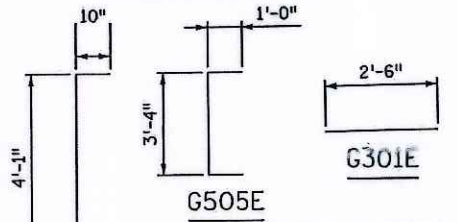
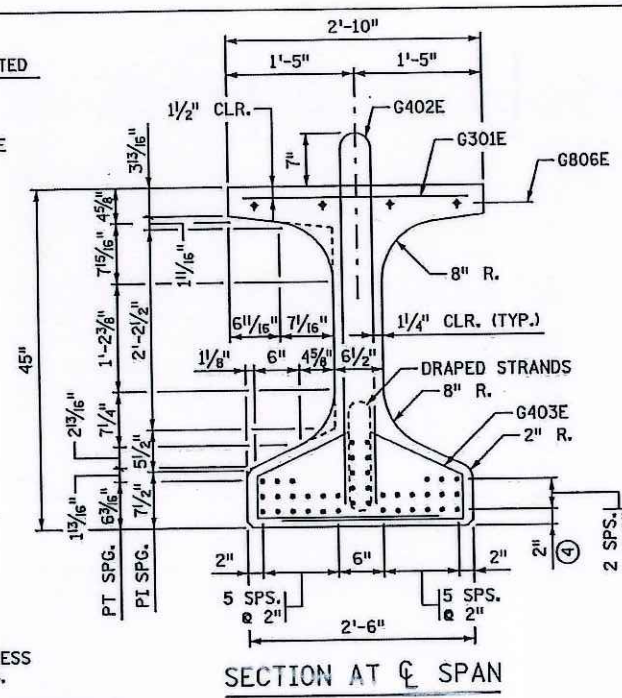
CALCULATED PRESTRESS LOSSES	
ELASTIC SHORTENING LOSS	24.09 KSI
LONG TERM LOSSES	25.12 KSI
TOTAL LOSSES	49.21 KSI

CAMBER TABLE		
BEAM	"A"	"B"
B1, B5	3 3/4"	1"
B2, B3, B6, B7	2 3/4"	1 1/2"
B4, B8	2 1/2"	1 3/4"

MINIMUM CONCRETE STRENGTH - K.S.I.	
① f'cl	② f'c
7 KSI	8.5 KSI

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

FORMED HOLE TABLE		
HOLE NUMBER	"Z"	"Y"
1	36'-3 3/8"	1'-11"
2	38'-7 3/8"	1'-11 5/8"
3	40'-11"	1'-11 1/2"
4	43'-2 5/8"	1'-11 7/8"
5	45'-6 1/4"	2'-0 1/8"
6	48'-9 3/4"	2'-0 7/16"
7	50'-1 3/8"	2'-0 11/16"
8	52'-5"	2'-1"
9	54'-8 5/8"	2'-1 1/4"
10	57'-0 1/4"	2'-1 5/8"
11	59'-3 3/4"	2'-1 7/8"



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.

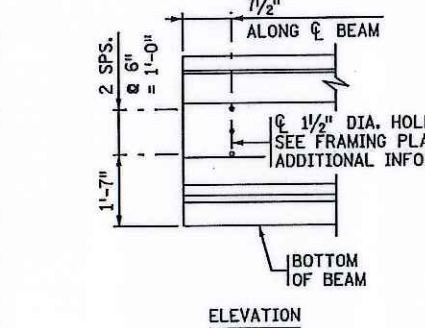
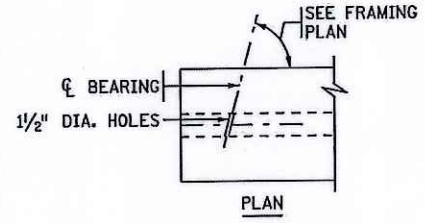
ALL MATERIAL AND WORK SHOWN OR NOTED ON THIS SHEET SHALL BE INCLUDED IN UNIT PRICE BID FOR PRESTRESSED CONCRETE BEAMS. SEE Mn/DOT SPEC. 2405.

SEE FRAMING PLAN FOR BEAM END MARKED "X" AND DIAPHRAGM SPACING. APPROXIMATE WEIGHT OF BEAM IS 34.3 TONS.

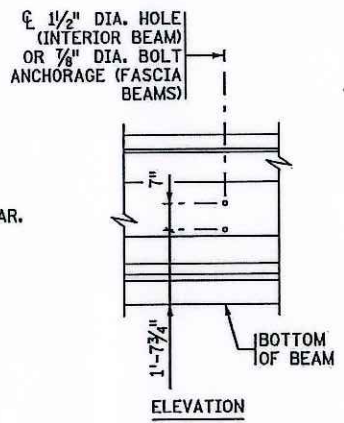
AS AN ALTERNATE TO THE DIAPHRAGM ANCHORAGES SHOWN, THE CONTRACTOR MAY SUBMIT DETAILS OF A CAST-IN-PLACE ANCHORAGE TO THE ENGINEER FOR APPROVAL. ANCHORAGE MUST PROVIDE AN ULTIMATE PULL OUT STRENGTH OF 15 KIPS PER ANCHORAGE.

- 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.

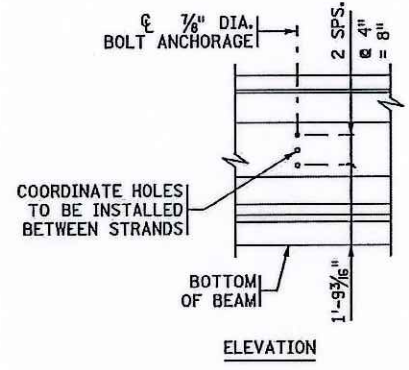
MODIFICATIONS: ADDED "FORMED HOLES FOR SIGN STRUCTURE ATTACHMENTS" DETAIL, AND "FORMED HOLE TABLE". ADDED "SPECIAL STEEL INTERMEDIATE DIAPHRAGM" DETAIL.



CONCRETE END DIAPHRAGM

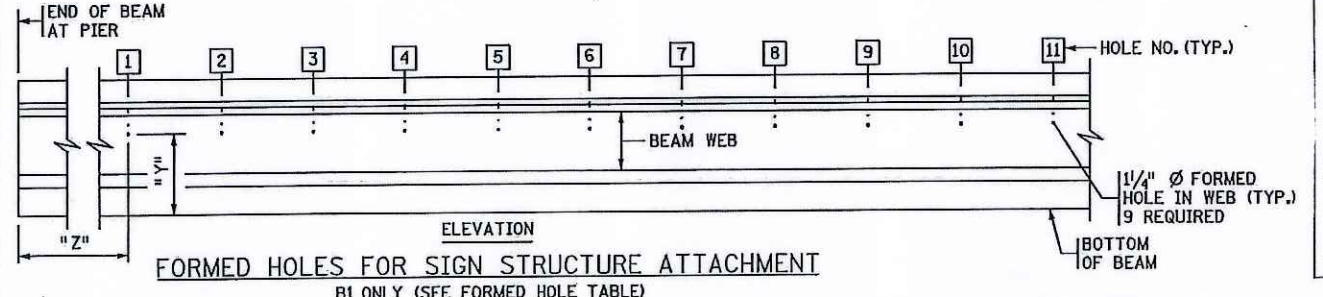


STEEL INTERMEDIATE DIAPHRAGM



SPECIAL STEEL INTERMEDIATE DIAPHRAGM

FOR DIAPHRAGMS LOCATED 15'-2" FROM PIER BEARINGS (SEE DETAIL B403 FOR DIAPHRAGM CONNECTION TYPE 2 DETAILS)

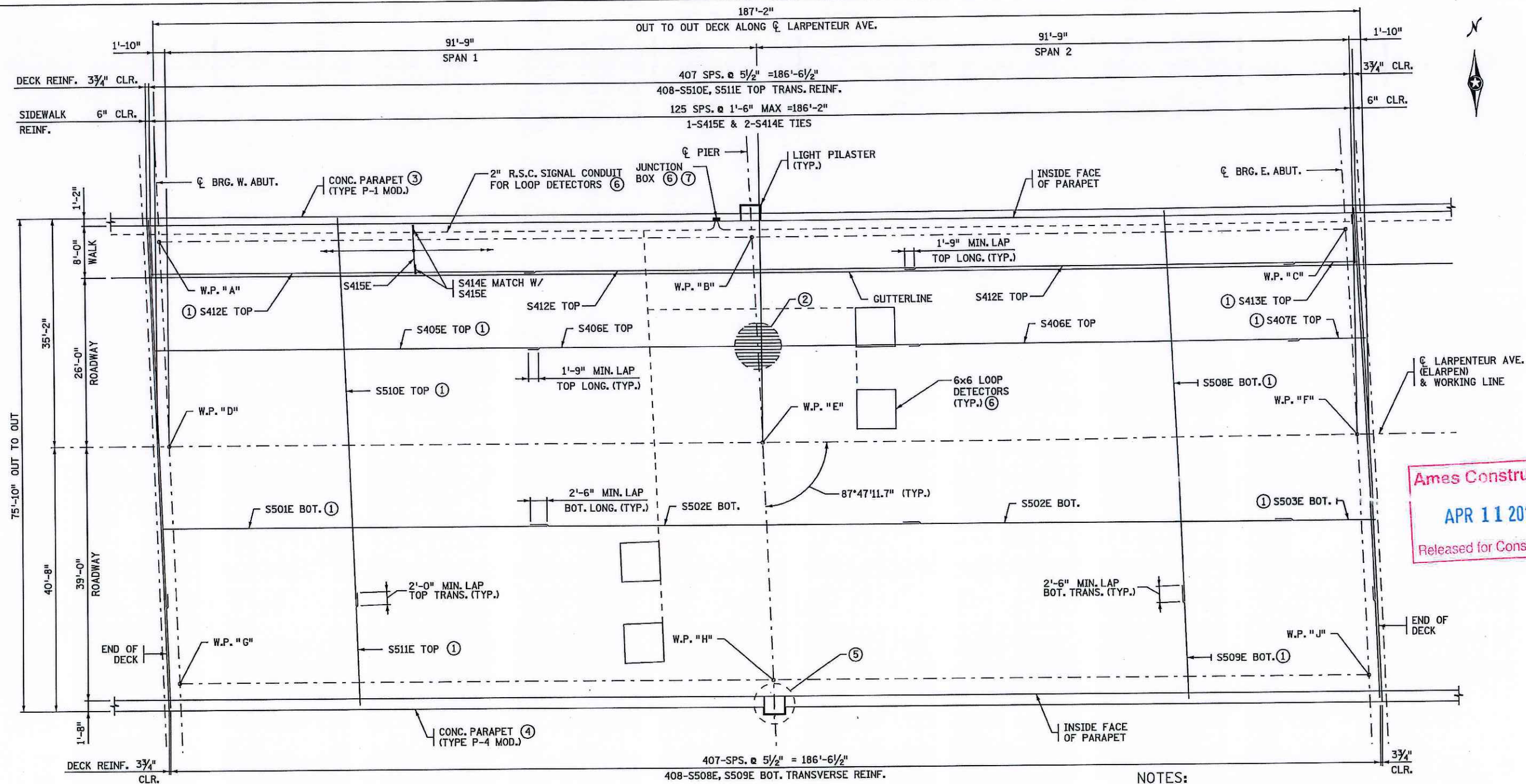


FORMED HOLES FOR SIGN STRUCTURE ATTACHMENT
B1 ONLY (SEE FORMED HOLE TABLE)

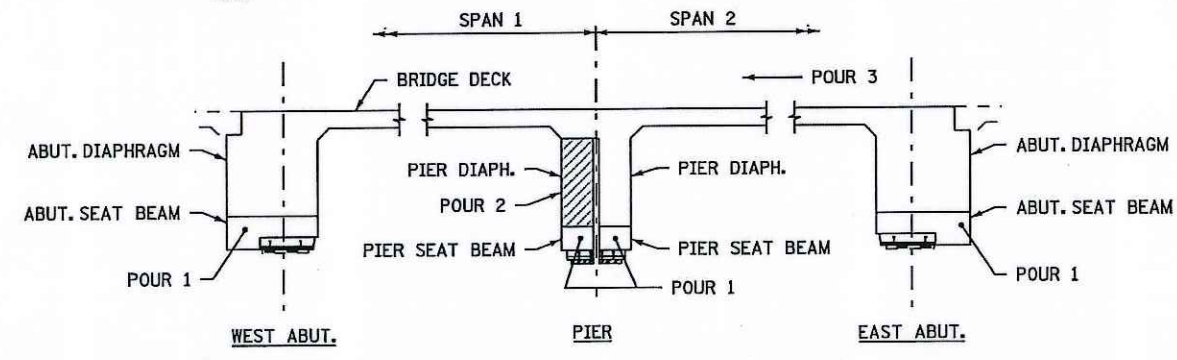
AMES CONSTRUCTION
 MAR 06 2014
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BEAMS B1-B8		FIG. 5-397.505 MOD.		MN45 PRESTRESSED CONCRETE BEAM (PRETENSIONED) MN45-93		30 OF 55	

11-14
 05-MAR-2014
 CB-62646-1-11-30-001

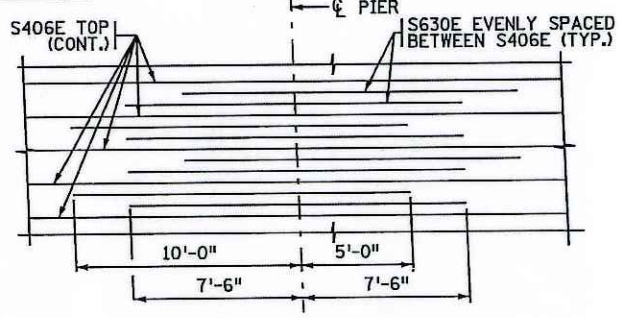


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SUPERSTRUCTURE POURING SEQUENCE

DECK PLAN



STAGGER DIAGRAM

NOTES:

- TRANSVERSE REINFORCEMENT TO BE PLACED PARALLEL TO SKEW.
- ① ALTERNATE PLACEMENT OF S501E & S503E, S405E & S407E, S508E & S509E, & S510E & S511E, S412E & S413E TO STAGGER LAPS.
- ② SEE STAGGER DIAGRAM FOR ADDITIONAL TOP REINFORCEMENT OVER PIER.
- ③ SEE SHEET 41 FOR CONCRETE PARAPET TYPE P-1 MOD.
- ④ SEE SHEET 42 FOR CONCRETE PARAPET TYPE P-4 MOD. DETAILS.
- ⑤ SEE SHEET 43 FOR PILASTER.
- ⑥ SEE SIGNAL PLANS FOR DETAILS.
- ⑦ SEE SHEET 41 FOR JUNCTION BOX IN PARAPET DETAILS.

11.14 10-APR-2014 DBR62646.dgn

NO	DATE	BY	CRD	APPR	REVISION

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PRINT NAME: GEORGE W. GORRILL

DATE: 4/10/14 LICENSE # 46863

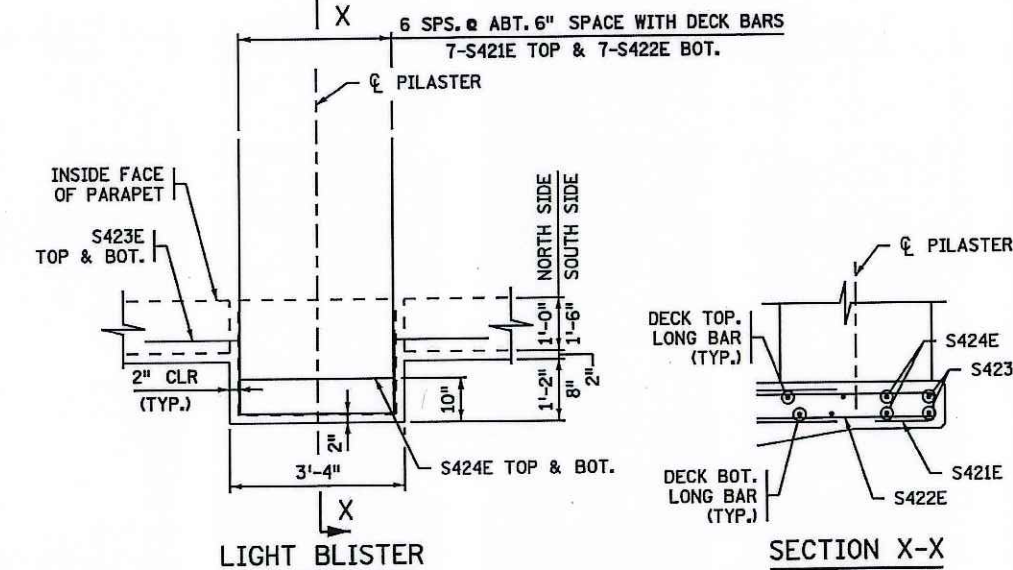
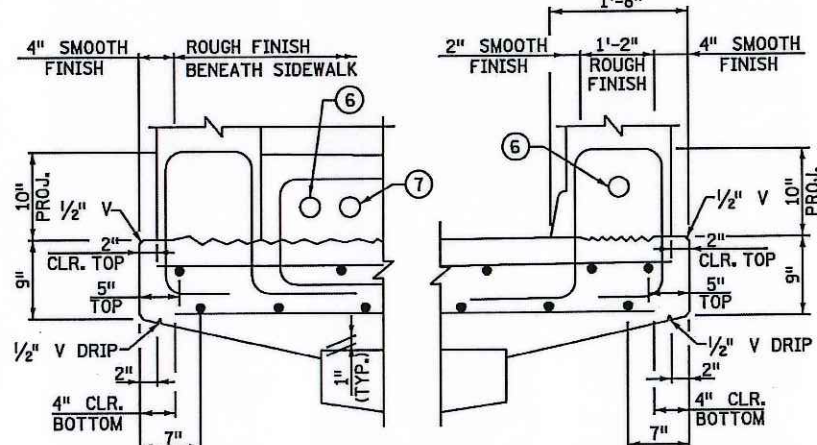
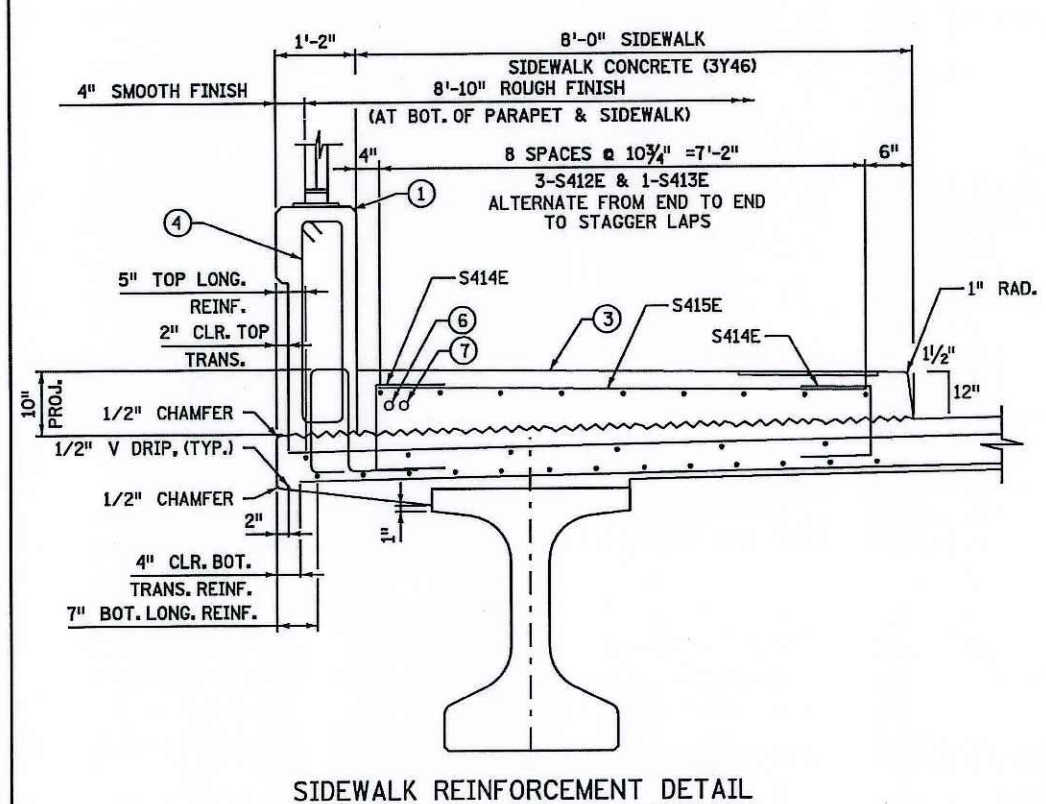
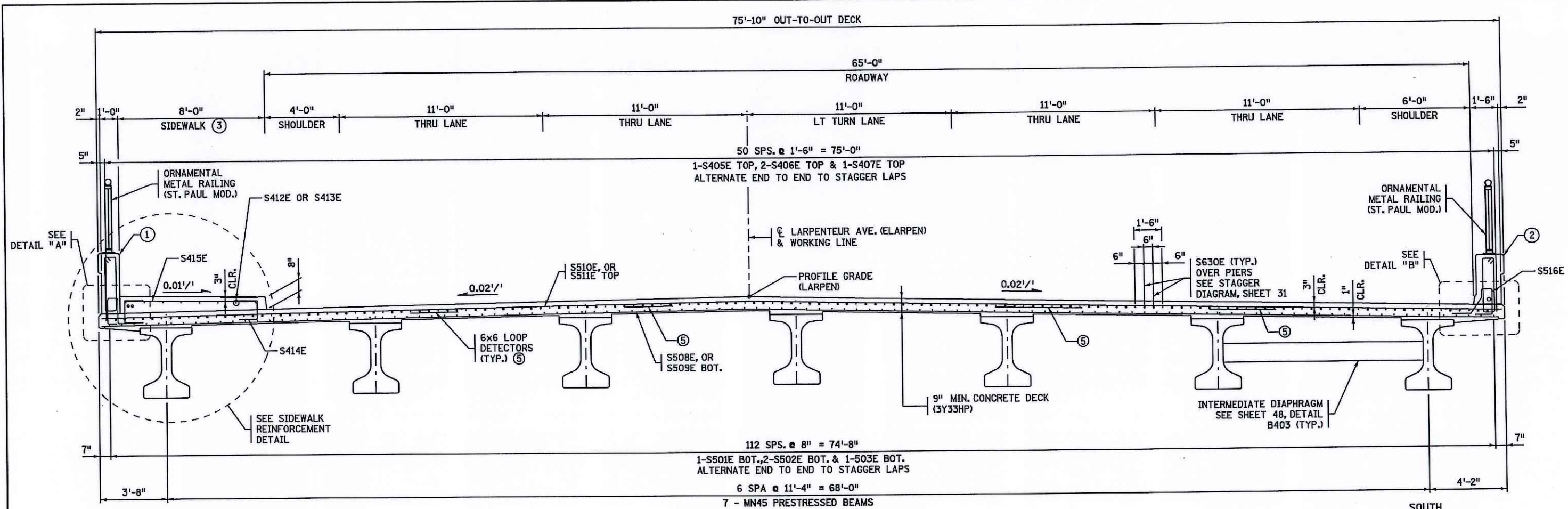
MNDOT ACCEPTANCE

SIGNATURE: D. J. Hansen

DATE: 4/11/14



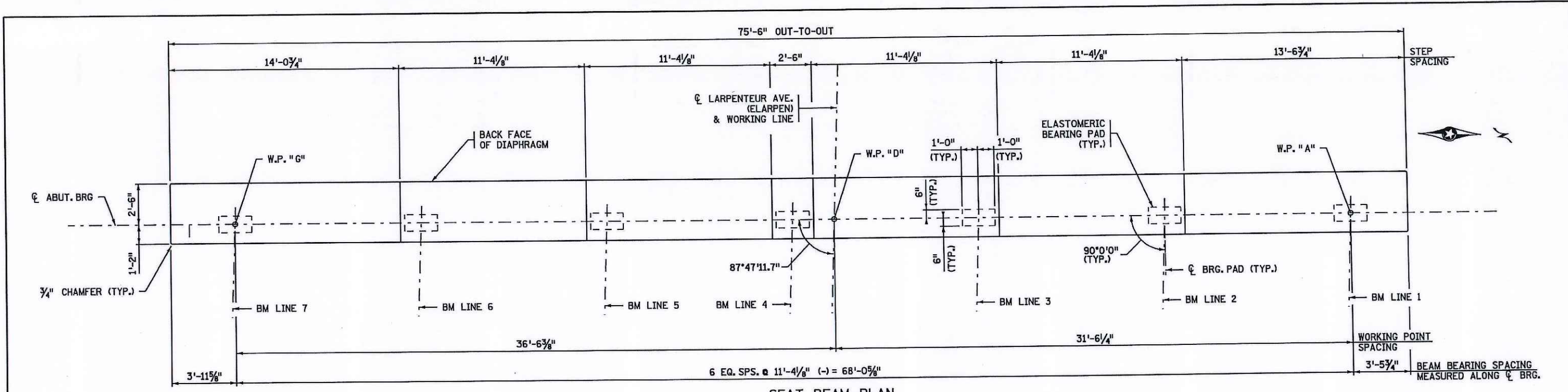
S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 31 OF 55
SUPERSTRUCTURE DETAILS & REINFORCEMENT		



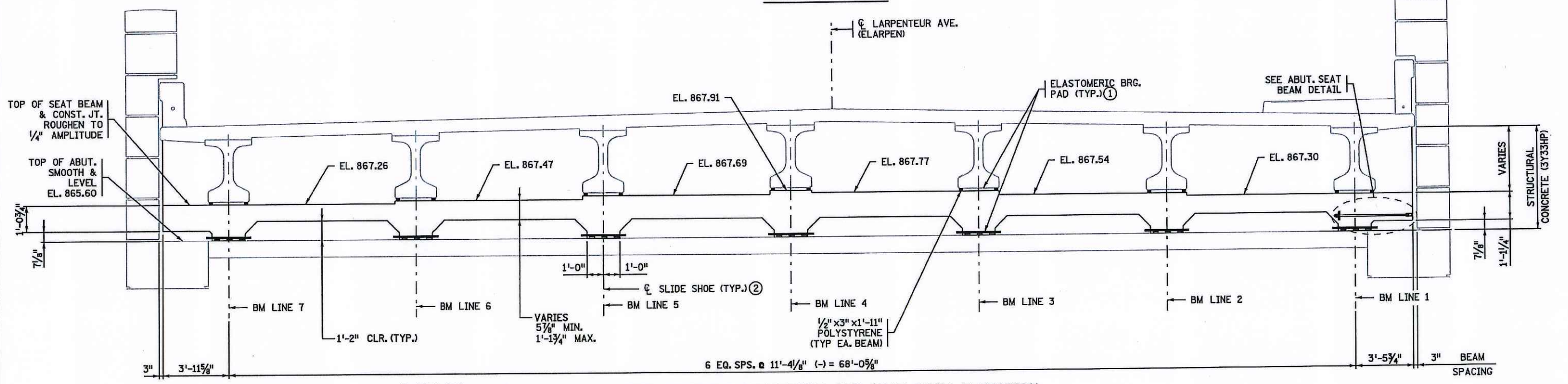
- NOTES:**
- SEE SHEET 44 FOR ORNAMENTAL RAILING (ST. PAUL MOD.) DETAILS.
 - SEE SHEET 35 AND 37 FOR CONCRETE DIAPHRAGM DETAILS.
 - ① CONCRETE PARAPET (TYPE P-1 MOD.) W/ORNAMENTAL METAL RAILING.
 - ② CONCRETE PARAPET (TYPE P-4 MOD.) W/ORNAMENTAL METAL RAILING.
 - ③ INSTALL SIDEWALK AFTER DECK IS POURED.
 - ④ SEE SHEET 41 AND 42 FOR BARRIER REINFORCING.
 - ⑤ TIE LOOP DETECTORS TO BOTTOM OF TOP MAT OF STEEL. SEE SIGNAL PLANS FOR LOOP DETECTOR DETAILS.
 - ⑥ 1/2" R.S.C. LIGHTING CONDUIT SEE LIGHTING PLAN FOR DETAILS.
 - ⑦ 2" R.S.C. SIGNAL CONDUIT SEE SIGNAL PLANS FOR DETAILS.
- | | | |
|----------|----------|-----------|
| DES: AW | DR: MMF | APPROVED: |
| CHK: ZAT | CHK: ZAT | |

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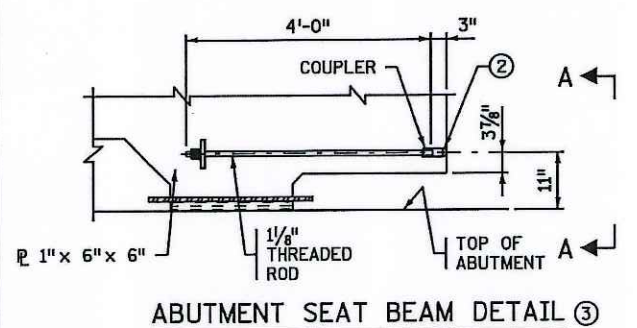
DRAWING NO. 1					I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: GEORGE W. GOBRILL DATE: 4/10/14 LICENSE #: 46863		MNDOT ACCEPTANCE SIGNATURE: [Signature] DATE: 4/11/14		S.P. NO. 6280-62646 BRIDGE NO. 62646 SUPERSTRUCTURE DETAILS & REINFORCEMENT		SHEET 32 OF 55	
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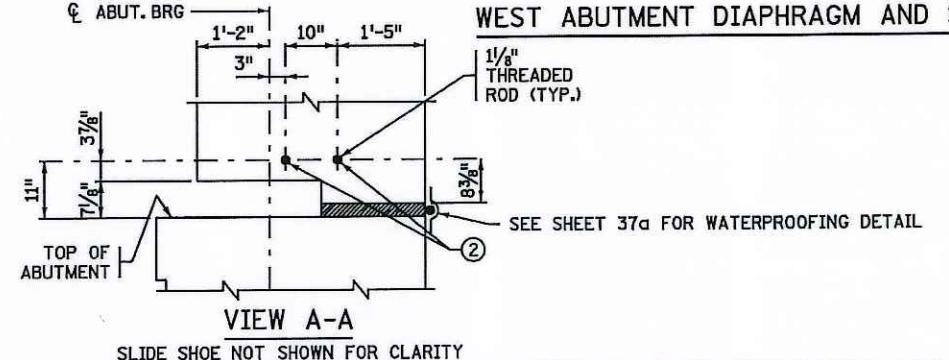
SEAT BEAM PLAN



WEST ABUTMENT DIAPHRAGM AND SEAT BEAM ELEVATION



ABUTMENT SEAT BEAM DETAIL



VIEW A-A

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NOTES:

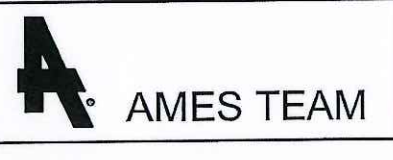
- ① SEE SHEET 46 FOR ELASTOMERIC BEARING PAD DETAILS.
- ② 1/2" INNER DIA. GALVANIZED SLEEVE. FILL SLEEVES FLUSH WITH MORTAR PER MNDOT SPEC 2401.3F2a WHEN BRIDGE IS IN FINAL LOCATION.
- ③ ALL THREADED RODS, COUPLERS, SLEEVES AND PLATES SHALL BE EPOXY COATED.

DES: AW	DR: MMF	APPROVED:
CHK: ZAT	CHK: ZAT	

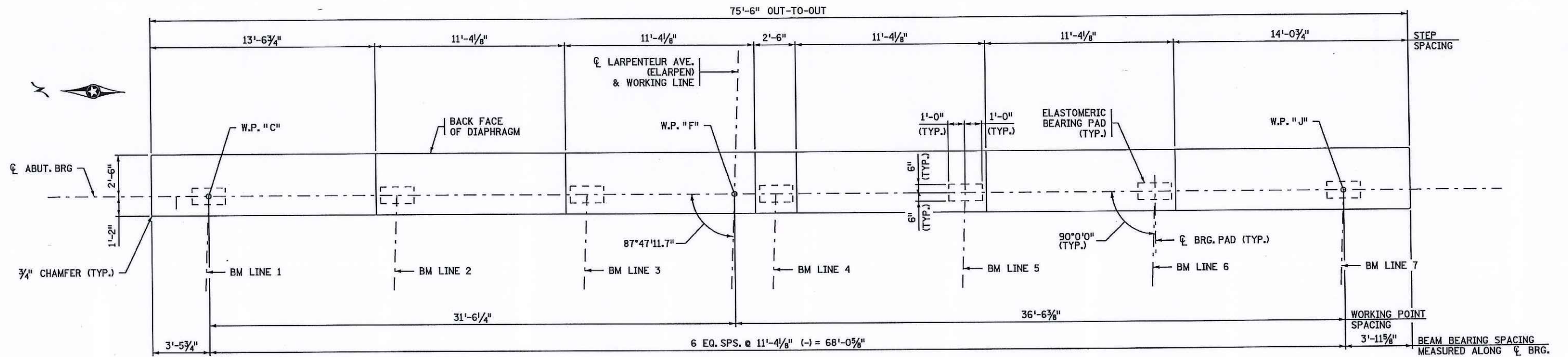
NO	DATE	BY	CKD	APPR	REVISION
1	5/5/14	JLJ	ZAT	JWD	GALVANIZED SLEEVE ADDITION/REVISION (NDC008)

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PRINT NAME: GEORGE W. GORRILL
DATE: 5/20/14 LICENSE # 46863

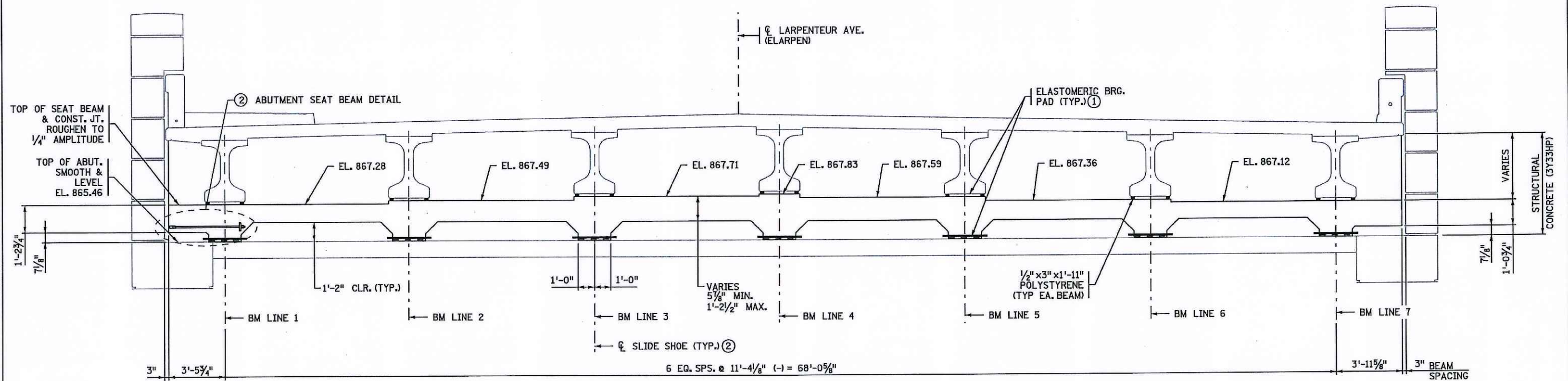
MNDOT ACCEPTANCE
SIGNATURE: *D. J. Horn*
DATE: 5/21/14



S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 33 OF 55
SUPERSTRUCTURE DETAILS & REINFORCEMENT		



SEAT BEAM PLAN



EAST ABUTMENT DIAPHRAGM AND SEAT BEAM ELEVATION

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NOTES:

- ① SEE SHEET 46 FOR ELASTOMERIC BEARING PAD DETAILS.
- ② SEE SHEET 33 FOR ABUTMENT SEAT BEAM DETAILS.

DES: AW	DR: MMF	APPROVED:
CHK: ZAT	CHK: ZAT	

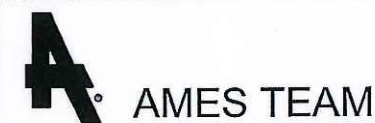
NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: GEORGE W. GORRILL
 DATE: 4/10/14 LICENSE #: 46863

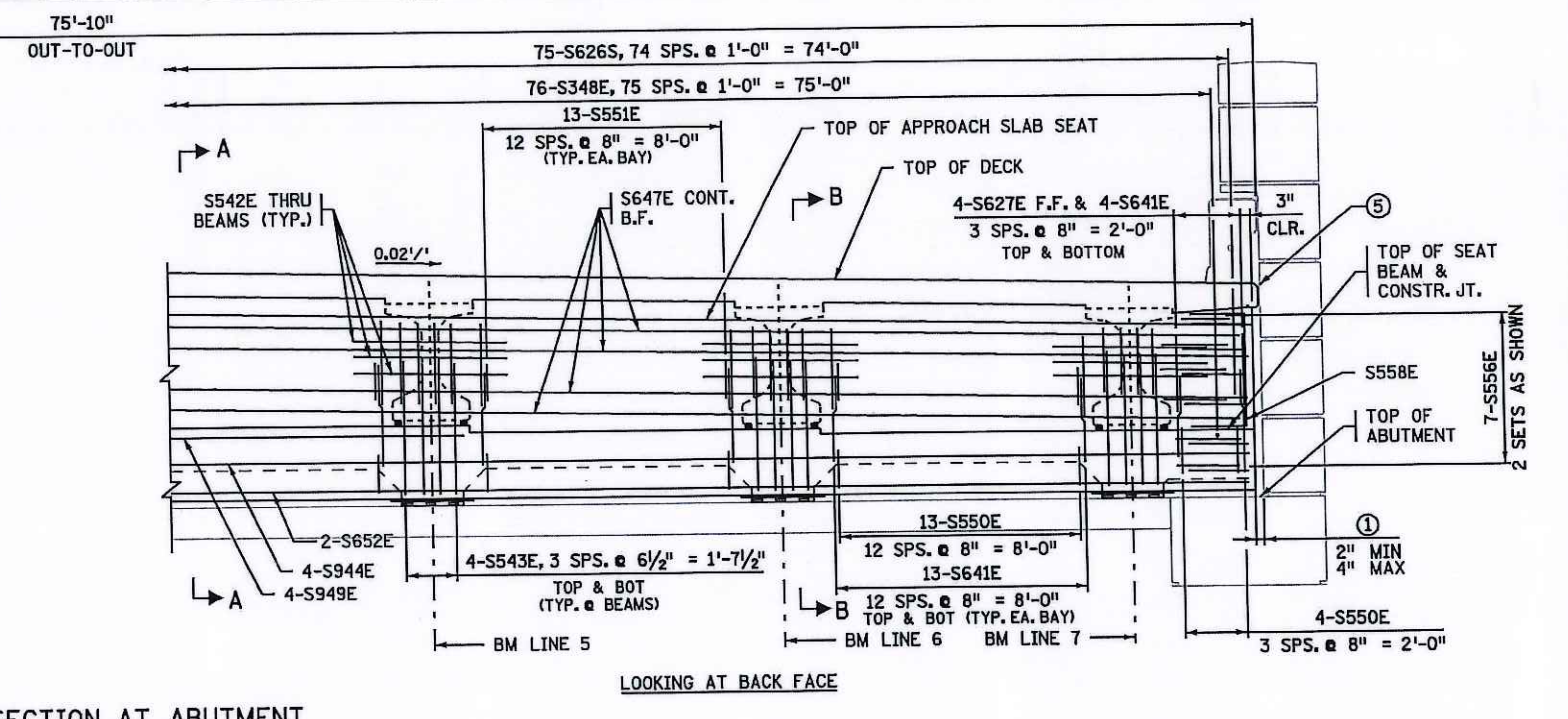
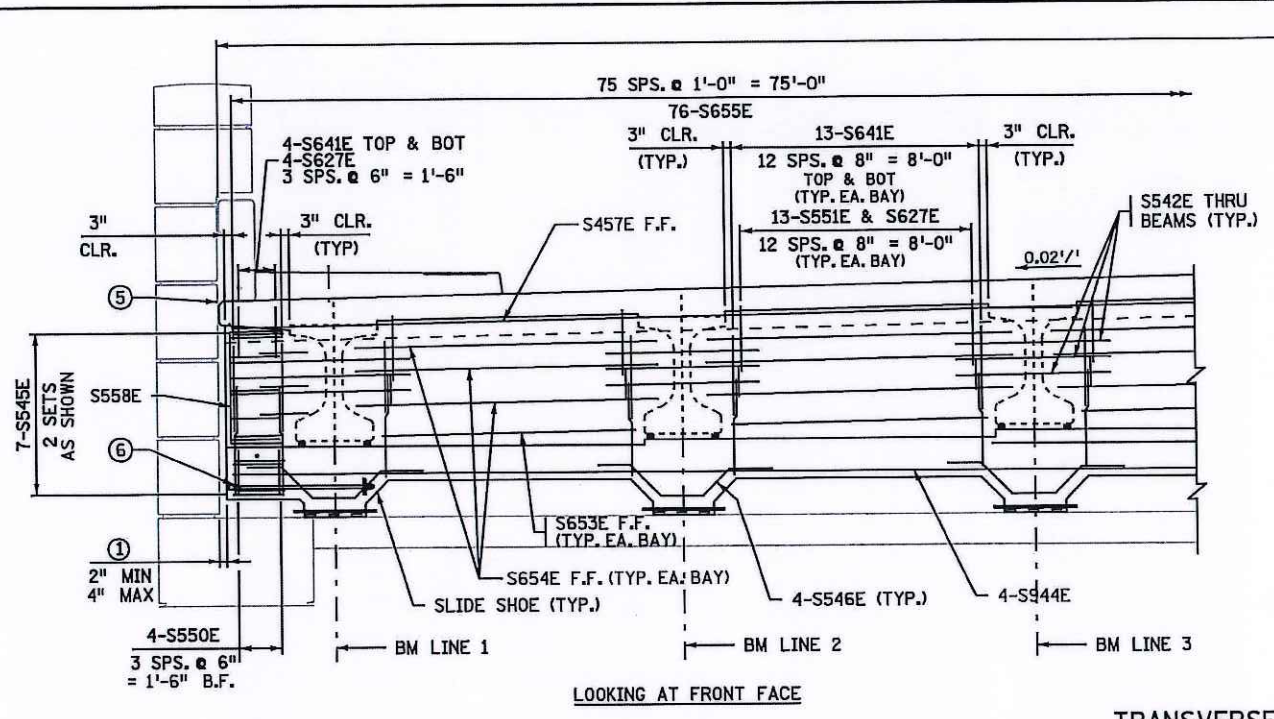
MINDOT ACCEPTANCE

SIGNATURE: *DWJ Horn*
 DATE: 4/11/14

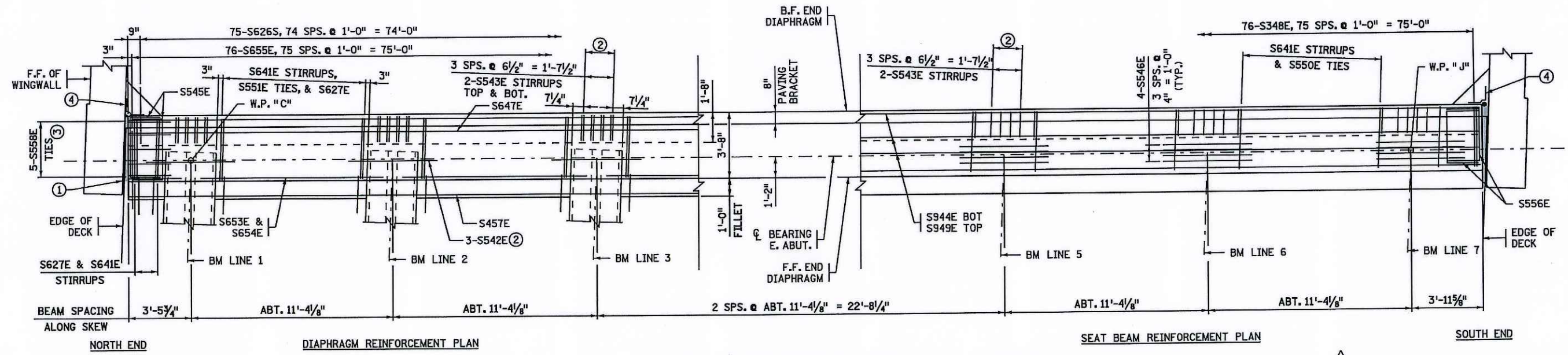


S.P. NO. 6280-62646 BRIDGE NO. 62646 SHEET 34 OF 55
 SUPERSTRUCTURE DETAILS & REINFORCEMENT

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 06-APP-2014
 06-62646-STR34.dgn



TRANSVERSE SECTION AT ABUTMENT



EAST END DIAPHRAGM PLAN VIEW
WEST END DIAPHRAGM SIMILAR

NOTES:

- SEE SHEET 37a FOR SECTIONS A-A AND B-B.
- PROVIDE A 2'-6" MIN. LAP SPLICE FOR S457E BARS.
- PROVIDE A 3'-6" MIN. LAP SPLICE FOR S647E AND S652E BARS.
- PROVIDE A 6'-6" MIN. LAP SPLICE FOR S944E BARS.
- ① FIELD VERIFY DIMENSIONS AFTER SLIDE. FILL WITH POLYSTYRENE TYPE B.
- ② TYPICAL AT BEAMS UNLESS NOTED OTHERWISE.
- ③ TYPICAL AT ENDS UNLESS NOTED OTHERWISE.
- ④ SEE SHEET 38 FOR GEOTEXTILE FILTER DETAIL.
- ⑤ SEAL WITH SELF-LEVELING SILICON PER MNDOT 3722.

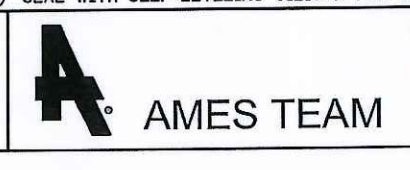
⑥ 1/2" INNER DIA. GALVANIZED SLEEVE. FILL SLEEVES FLUSH WITH MORTAR PER MNDOT SPEC. 240L.3F2a WHEN BRIDGE IS IN FINAL LOCATION.

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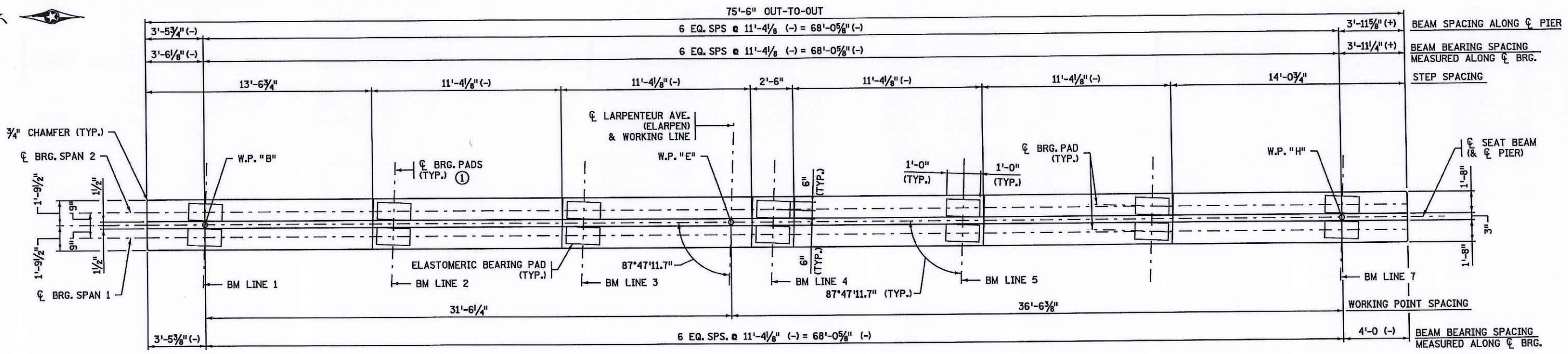
NO	DATE	BY	CKD	APPR	REVISION
1	5/5/14	JLJ	ZAT	JWD	GALVANIZED SLEEVE ADDITION/REVISION (NDC008)

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PRINT NAME: GEORGE W. GORRILL
DATE: 5/20/14 LICENSE: 46863

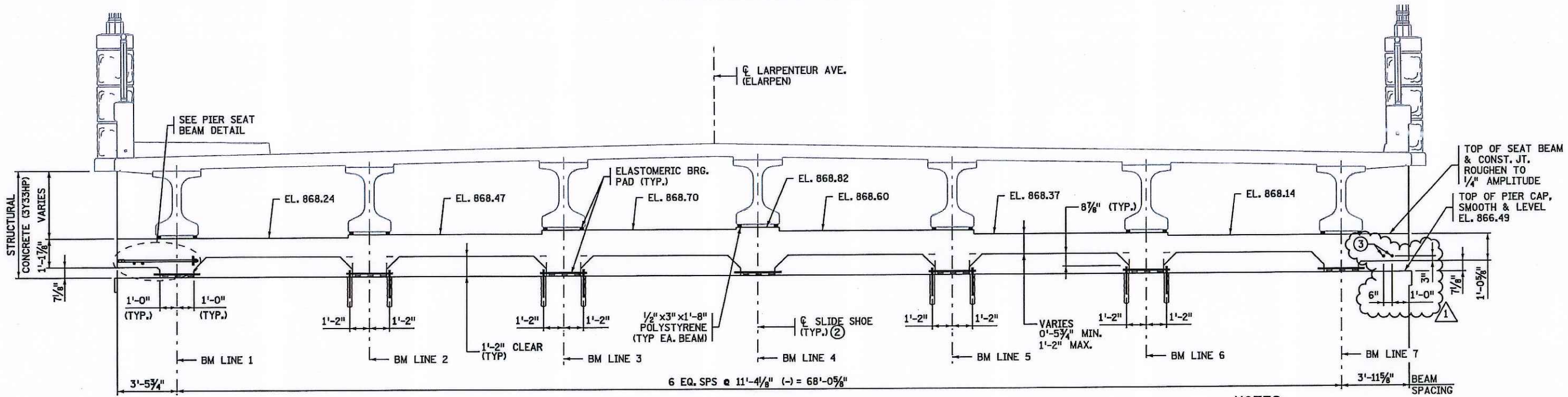
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DATE: 5/21/14



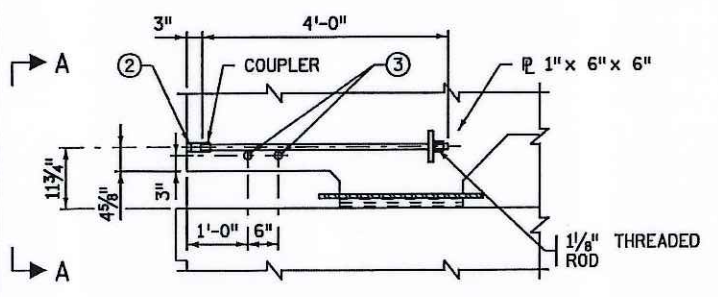
DES: AW	DR: MMF	APPROVED:
CHK: ZAT	CHK: JLJ	
S.P. NO. 6280-62646		BRIDGE NO. 62646
SUPERSTRUCTURE DETAILS & REINFORCEMENT		SHEET 35 OF 55



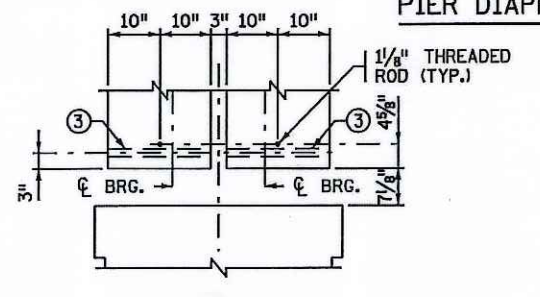
SEAT BEAM PLAN AT PIER



PIER DIAPHRAGM & SEAT BEAM ELEVATION



PIER SEAT BEAM DETAIL (4)



VIEW A-A

- NOTES:**
- ① SEE SHEET 46 FOR ELASTOMERIC BEARING PAD DETAILS.
 - ② 1/2" INNER DIA. GALVANIZED SLEEVE. FILL SLEEVES FLUSH WITH MORTAR PER MNDOT SPEC. 2401.3F2d WHEN BRIDGE IS IN FINAL LOCATION.
 - ③ 1/2" INNER DIA. GALVANIZED SLEEVE. FILL SLEEVES FLUSH WITH MORTAR PER MNDOT SPEC. 2401.3F2d WHEN BRIDGE IS IN FINAL LOCATION
 - ④ ALL THREADED RODS, COUPLERS, SLEEVES AND PLATES SHALL BE EPOXY COATED.

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DES: AW	DR: MMF	APPROVED:
CHK: ZAT	CHK: ZAT	

NO	DATE	BY	CKD	APPR	REVISION
1	5/5/14	JLJ	ZAT	JWD	GALVANIZED SLEEVE ADDITION/REVISION (NDC008)

DRAWING NO. 62646-11-36.dgn

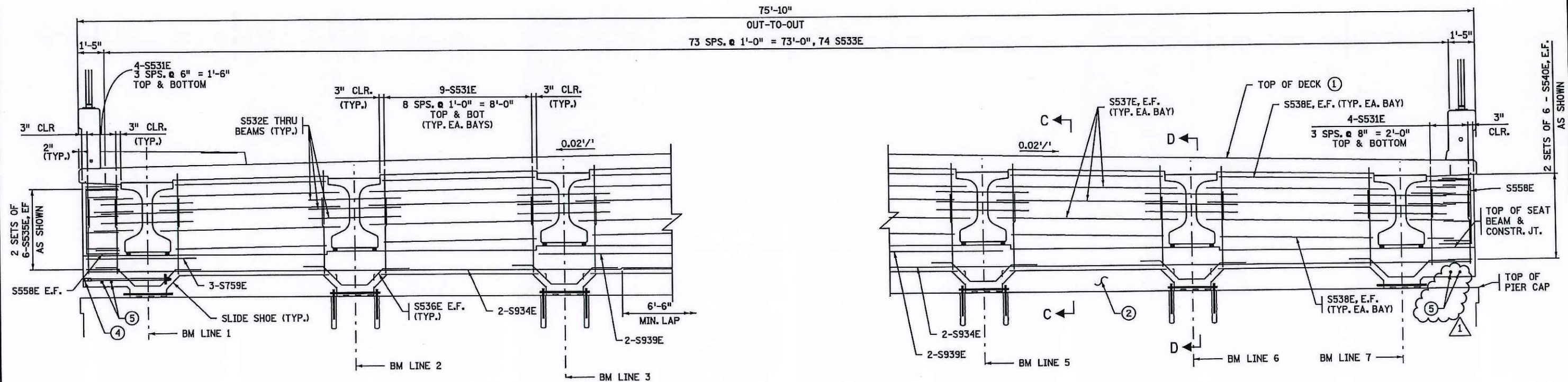
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PRINT NAME: GEORGE W. GORRILL
DATE: 5/21/14 LICENSE: 46863

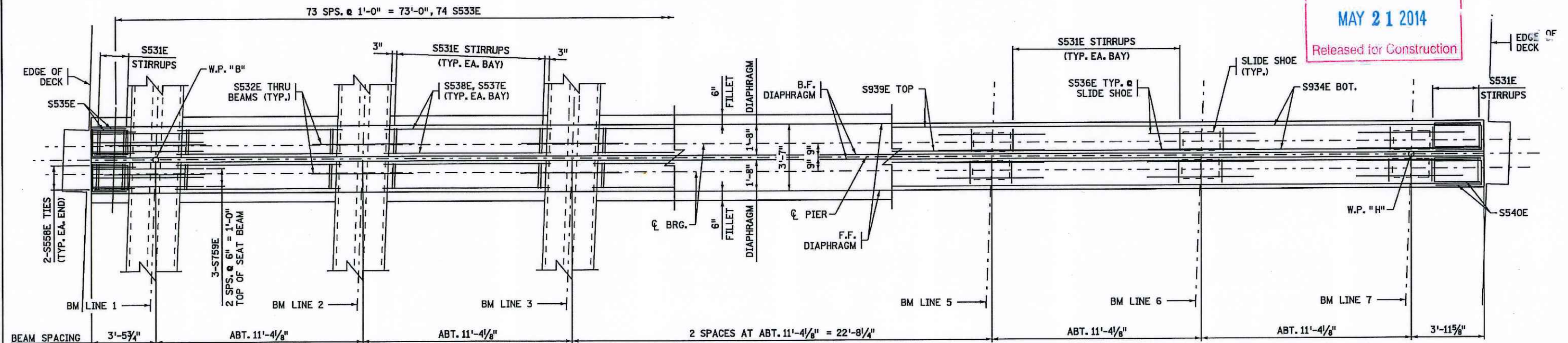
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SIGNATURE: [Signature]
DATE: 5/21/14

AMES TEAM

S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 36 OF 55
SUPERSTRUCTURE DETAILS & REINFORCEMENT		



TRANSVERSE SECTION AT PIER ③



PLAN VIEW AT PIER ③

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- NOTES:**
- SEE SHEET 37a FOR SECTIONS C-C AND D-D.
 - ① DECK REINFORCEMENT NOT SHOWN FOR CLARITY.
 - ② SEAT BEAM FORMS TO REMAIN IN PLACE DURING DECK AND DIAPHRAGM PLACEMENT.
 - ③ REINFORCEMENT TYPICAL FOR EACH DIAPHRAGM UNLESS NOTED OTHERWISE.
- ④ 1/2" INNER DIA. GALVANIZED SLEEVE. FILL SLEEVES FLUSH WITH MORTAR PER MNDOT SPEC. 2401.3F2a WHEN BRIDGE IS IN FINAL LOCATION.
 - ⑤ 1/2" INNER DIA. GALVANIZED SLEEVE. FILL SLEEVES FLUSH WITH MORTAR PER MNDOT SPEC. 2401.3F2a WHEN BRIDGE IS IN FINAL LOCATION.

DES: AW	DR: MMF	APPROVED:
CHK: ZAT	CHK: ZAT	

NO	DATE	BY	CKD	APPR	REVISION
	5/5/14	JLJ	ZAT	JWD	GALVANIZED SLEEVE ADDITION/REVISION (NDC008)

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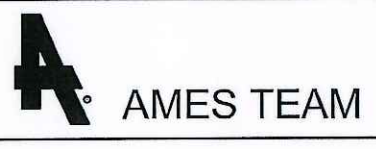
PRINT NAME: GEORGE W. GOBRILL

DATE: 5/20/14 LICENSE # 45863

MNDOT ACCEPTANCE

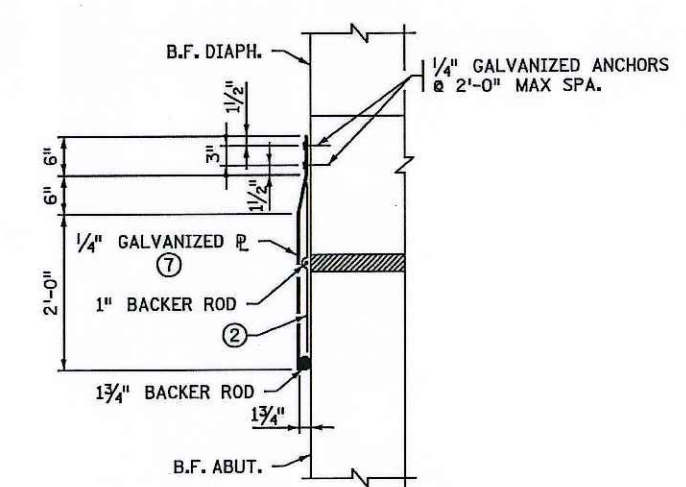
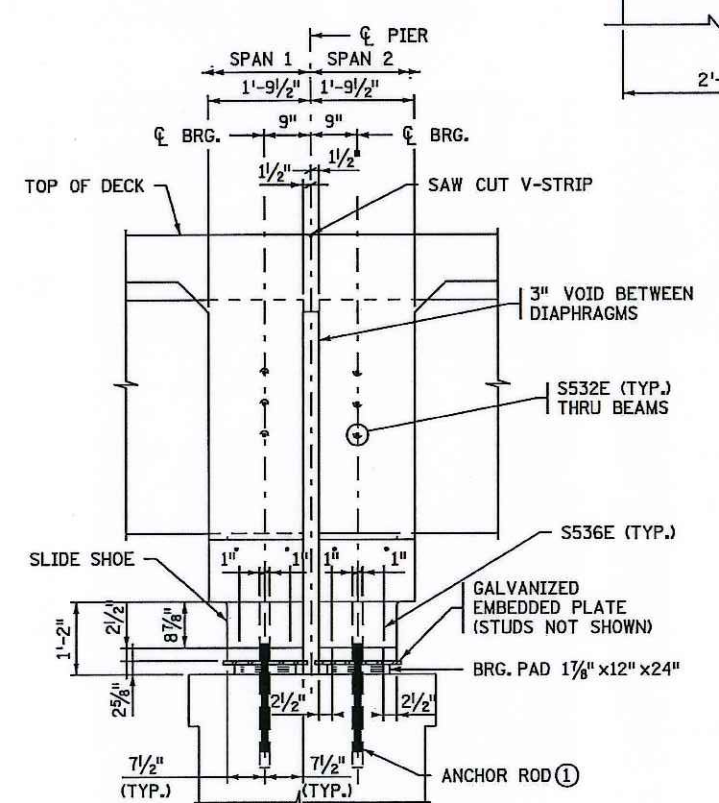
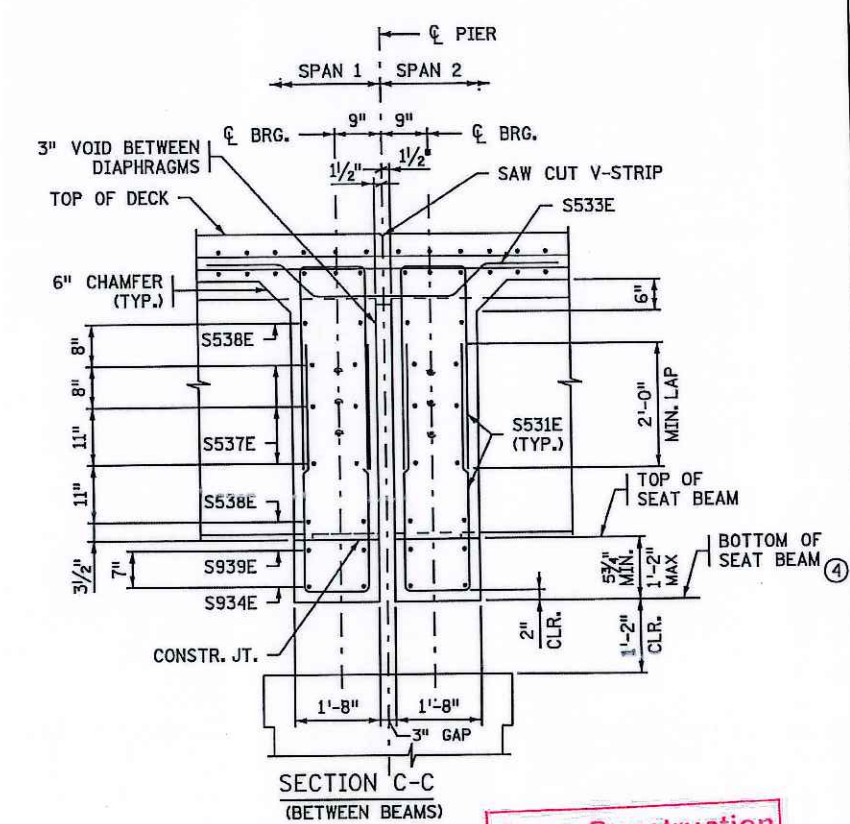
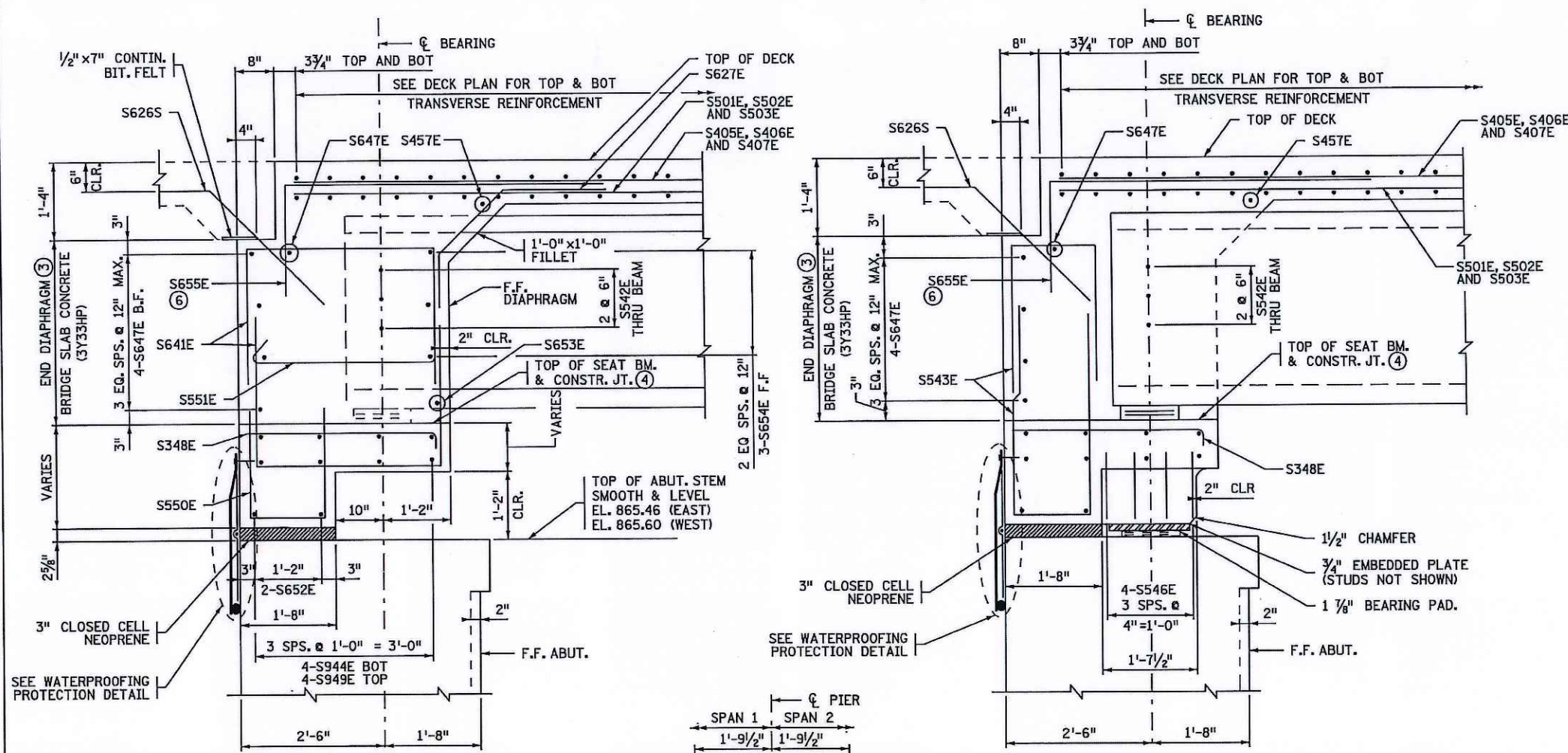
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DATE: 5/21/14



S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 3.7 OF 5.5
SUPERSTRUCTURE DETAILS & REINFORCEMENT		

17:00
12-MAY-2014
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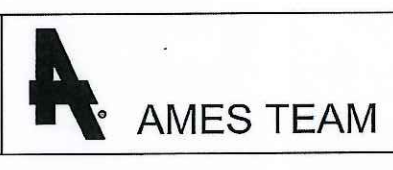
- NOTES:**
- SEAT BEAM FORMS TO REMAIN IN PLACE DURING DECK AND DIAPHRAGM PLACEMENT.
 - ① SEE SHEET 47 FOR ANCHOR ROD DETAIL.
 - ② MEMBRANE WATERPROOFING SYSTEM PER MN/DOT SPEC. 2481.3B EXCEPT THAT THE STRIP SHALL BE 24" WIDE TO ALLOW MOVEMENT.
 - ③ END DIAPHRAGM CONCRETE TO BE CAST WITH DECK. SEE SPECIAL PROVISIONS.
 - ④ ROUGHEN TO 1/4" AMPLITUDE.
 - ⑤ SEE SECTION A-A FOR REINFORCEMENT NOT SHOWN.
 - ⑥ TIE TO TOP MAT.
 - ⑦ PROVIDE 2'-0" LAP SPLICE FOR GALVANIZED PLATE.
 - ⑧ SEE SECTION C-C FOR PIER DIAPHRAGM REINFORCEMENT NOT SHOWN.

NO.	DATE	BY	CKD	APPR	REVISION

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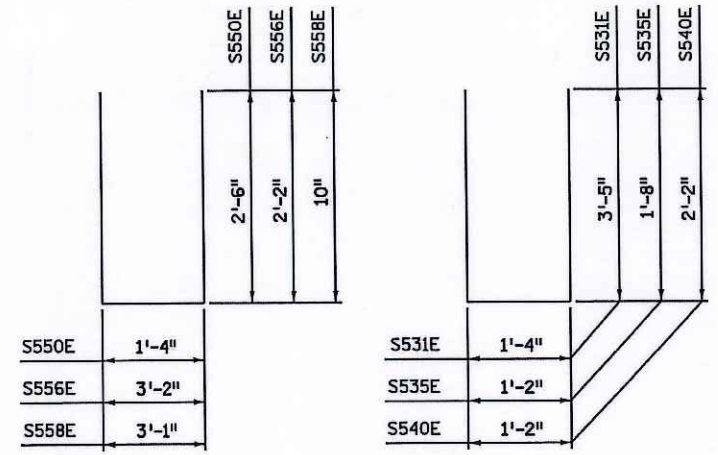
PRINT NAME: GEORGE W. GORRILL
 SIGNATURE: [Signature]
 DATE: 4/10/14 LICENSE # 46863

MNDOT ACCEPTANCE
 SIGNATURE: [Signature]
 DATE: 4/11/14



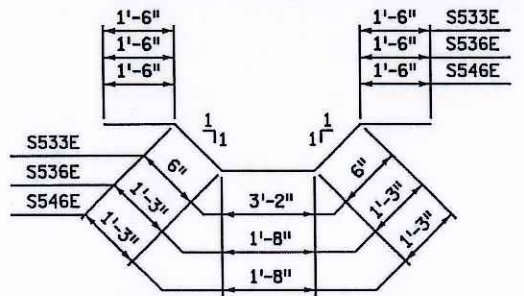
DES: <u>AW</u>	DR: <u>MMF</u>	APPROVED: <u>[Signature]</u>
CHK: <u>ZAT</u>	CHK: <u>JLJ</u>	
S.P. NO. 6280-62646		BRIDGE NO. 62646
SUPERSTRUCTURE DETAILS & REINFORCEMENT		SHEET 37a OF 55

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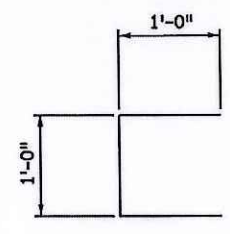


S550E, S556E & S558E S531E, S535E, & S540E

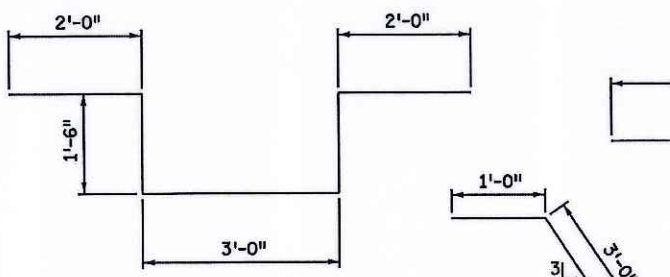
SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE				
ITEM NO.	ITEM	QUANTITY	UNIT	
①	2401.512 BRIDGE SLAB CONCRETE (3Y33HP)	14,200	SQ. FT.	
②	2401.513 TYPE P-1 MOD. RAILING CONCRETE (3Y46)	240	LIN. FT.	
③	2401.513 TYPE P-4 MOD. RAILING CONCRETE (3Y46)	240	LIN. FT.	
④	2401.515 SIDEWALK CONCRETE (3Y46)	1,924	SQ. FT.	
⑤	2401.541 REINFORCEMENT BARS (EPOXY COATED)	134,707	POUND	
⑥	2401.541 REINFORCEMENT BARS (STAINLESS STEEL)	901	POUND	



S533E, S536E & S546E

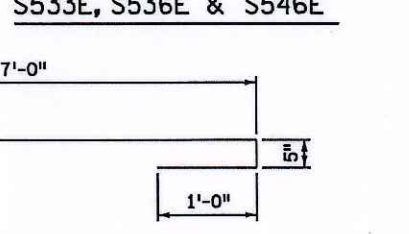


S414E



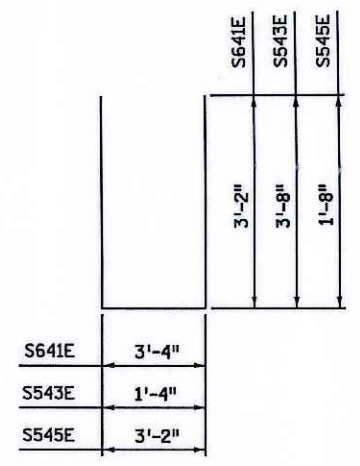
S423E

S626E

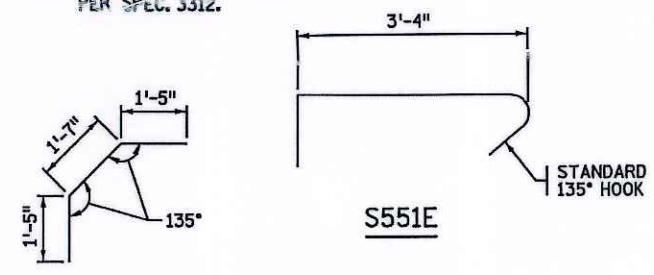


S421E

S348E & S655E



S641E, S543E, & S545E



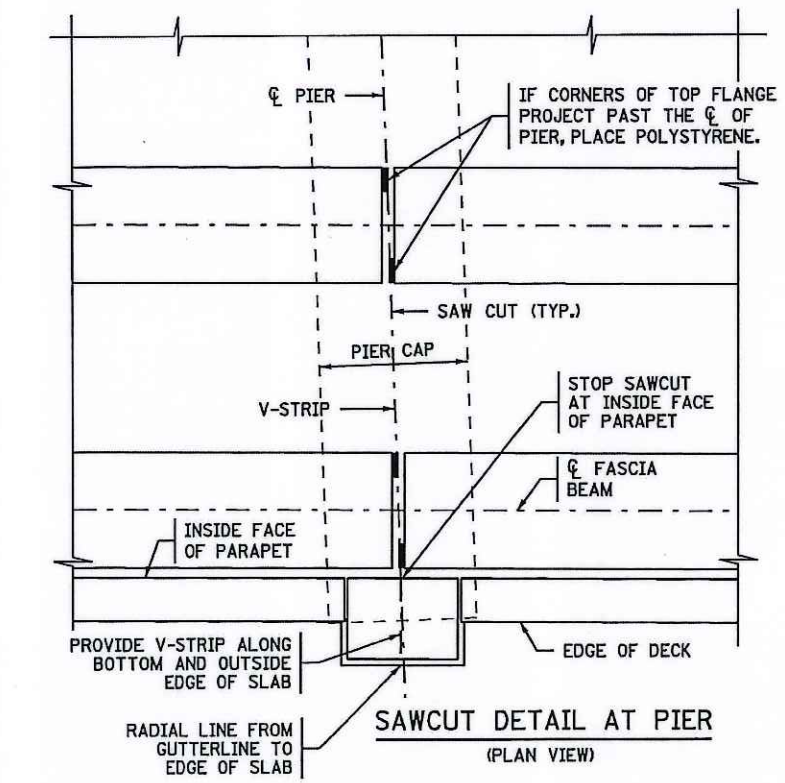
S627E

NOTES:

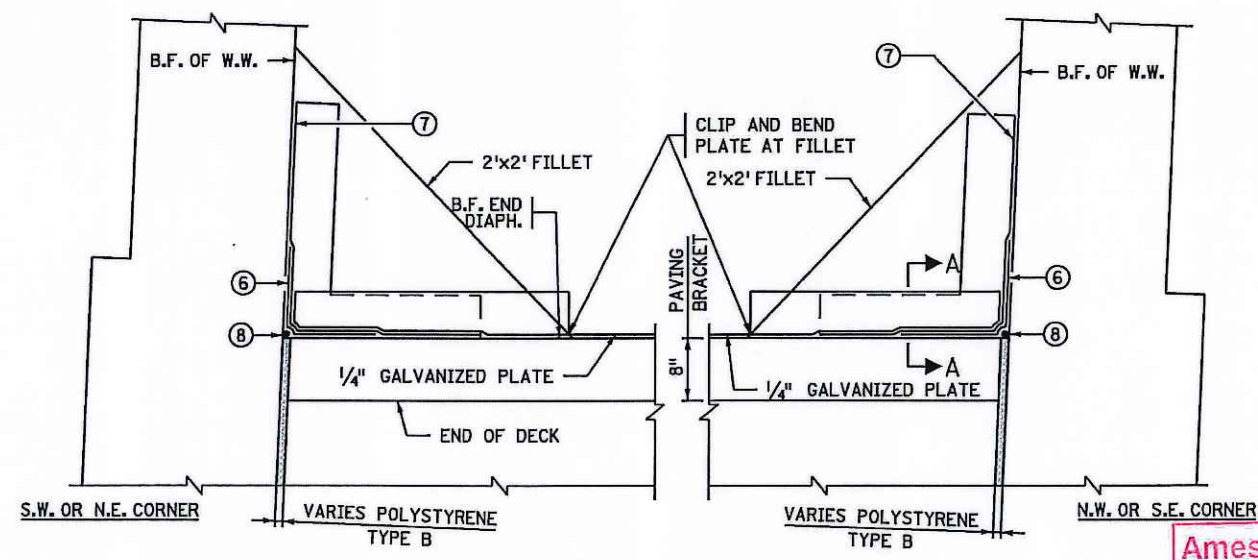
- SEE SHEET 35 AND 37 FOR CONCRETE DIAPHRAGM DETAILS.
- SEE SHEETS 41 & 42 FOR CONCRETE PARAPET TYPE P-1 MOD. AND TYPE P-4 MOD. DETAILS RESPECTIVELY.
- SEE SHEET 44 FOR ORNAMENTAL METAL RAILING (ST. PAUL MOD.) DETAILS.
- SEE SHEET 32 FOR SIDEWALK REINFORCEMENT DETAIL.
- ① "BRIDGE SLAB CONCRETE (3Y33HP)" VOLUME WAS COMPUTED USING AN AVERAGE STOOL HEIGHT OF 3" INCHES. ITEM INCLUDES APPROXIMATELY 429 CU. YDS. FOR SLAB, APPROXIMATELY 51 CU. YDS. FOR EACH END DIAPHRAGM, AND APPROXIMATELY 23 CU. YDS. FOR EACH PIER DIAPHRAGM.
- ② "TYPE P-1 MOD. RAILING CONCRETE (3Y46)" VOLUME IS APPROXIMATELY 31 CU. YDS.
- ③ "TYPE P-4 MOD. RAILING CONCRETE (3Y46)" VOLUME IS APPROXIMATELY 34 CU. YDS.
- ④ "SIDEWALK CONCRETE (3Y46)" VOLUME IS APPROXIMATELY 56 CU. YDS.
- ⑤ INCLUDES SLAB, PIER DIAPHRAGMS, SEAT BEAM, END DIAPHRAGMS, SIDEWALK, AND PARAPET REINFORCEMENT.
- ⑥ MEMBRANE WATERPROOFING SYSTEM PER MN/DOT SPEC. 2481.38 EXCEPT THAT THE STRIP SHALL BE 24" WIDE TO ALLOW MOVEMENT.
- ⑦ GEOTEXTILE FILTER TYPE II ATTACHED TO WINGWALL. DO NOT ATTACH TO DIAPHRAGM OR OTHER LAYER. LAP 2'-0" MIN.
- ⑧ 1" BACKER ROD.
- ⑨ S626S TO BE STAINLESS STEEL PER SPEC. 3312.

BILL OF REINFORCEMENT FOR SUPERSTRUCTURE

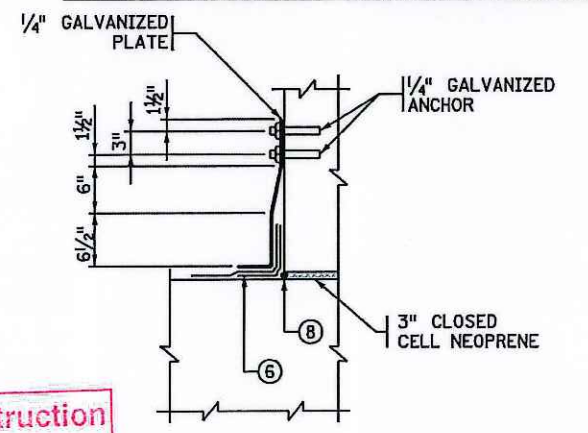
BAR	NO.	LENGTH	SHAPE	LOCATION
S501E	113	60'-0"	—	SLAB LONG. BOT.
S502E	226	60'-0"	—	SLAB LONG. BOT.
S503E	113	15'-2"	—	SLAB LONG. BOT.
S405E	51	60'-0"	—	SLAB LONG. TOP
S406E	102	60'-0"	—	SLAB LONG. TOP
S407E	51	12'-2"	—	SLAB LONG. TOP
S508E	408	60'-0"	—	SLAB TRANS. BOT.
S509E	408	17'-8"	—	SLAB TRANS. BOT.
S510E	408	60'-0"	—	SLAB TRANS. TOP
S511E	408	17'-6"	—	SLAB TRANS. TOP
S412E	27	60'-0"	—	SIDEWALK LONG.
S413E	9	12'-0"	—	SIDEWALK LONG.
S414E	252	3'-0"	—	SIDEWALK VERT.
S415E	126	7'-6"	—	SIDEWALK TRANS.
S421E	12	8'-5"	—	SLAB TRANS. TOP @ PILASTER
S422E	12	7'-0"	—	SLAB TRANS. BOT @ PILASTER
S423E	4	10'-0"	—	SLAB REINF. @ PILASTER
S424E	4	3'-0"	—	SLAB REINF. @ PILASTER
S626S	150	4'-0"	—	ABUT. TO APPROACH TIES
S627E	172	4'-5"	—	ABUT. DECK TIES
S630E	100	15'-0"	—	SLAB ADD'L LONG. TOP
S531E	248	8'-2"	—	PIER DIAPHRAGM STIRRUPS
S532E	42	5'-0"	—	PIER THROUGH BEAMS
S533E	74	7'-2"	—	PIER DIAPHRAGM DECK TIE
S934E	8	40'-10"	—	PIER SEAT BEAM BOTTOM
S535E	24	4'-8"	—	PIER DIAPHRAGM END TIES
S536E	28	7'-2"	—	PIER SLIDE SHOE BOT.
S537E	72	10'-3"	—	PIER DIAPHRAGM HORIZ.
S538E	48	8'-2"	—	PIER DIAPHRAGM HORIZ.
S939E	4	25'-4"	—	PIER SEAT BEAM TOP
S540E	24	5'-8"	—	PIER DIAPHRAGM END TIES
S641E	344	9'-8"	—	ABUT. DIAPHRAGM STIRRUPS
S542E	42	5'-0"	—	ABUT. THROUGH BEAMS
S543E	112	8'-8"	—	ABUT. DIAPHRAGM STIRRUPS B.F.
S944E	16	40'-10"	—	ABUT. SEAT BEAM BOTTOM
S545E	28	6'-6"	—	ABUT. DIAPHRAGM ENDS
S546E	56	7'-2"	—	ABUT. SLIDE SHOE BOTTOM
S647E	20	39'-6"	—	ABUT. DIAPHRAGM HORIZONTAL
S348E	152	3'-10"	—	ABUT. SEAT BEAM TIES
S949E	8	25'-4"	—	ABUT. SEAT BEAM TOP
S550E	172	6'-4"	—	ABUT. DIAPHRAGM STIRRUPS B.F.
S551E	156	4'-7"	—	ABUTMENT TIES
S652E	8	39'-6"	—	ABUT. SEAT BEAM HORIZONTAL
S653E	12	8'-2"	—	ABUT. DIAPHRAGM HORIZ.
S654E	36	10'-3"	—	ABUT. DIAPHRAGM HORIZ.
S655E	152	7'-0"	—	ABUT. DIAPHRAGM DECK TIES
S556E	28	7'-6"	—	ABUT. DIAPHRAGM END TIES
S457E	4	39'-0"	—	ABUT. DIAPHRAGM HORIZ.
S558E	28	4'-9"	—	ABUT. /PIER DIAPH. END TIES
S759E	6	6'-0"	—	ABUT. SEAT BEAM HORIZONTAL



SAWCUT DETAIL AT PIER (PLAN VIEW)



GEOTEXTILE FILTER DETAIL



SECTION A-A

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DES: AMW	DR: MMF	APPROVED:
CHK: ZAT	CHK: JLJ	

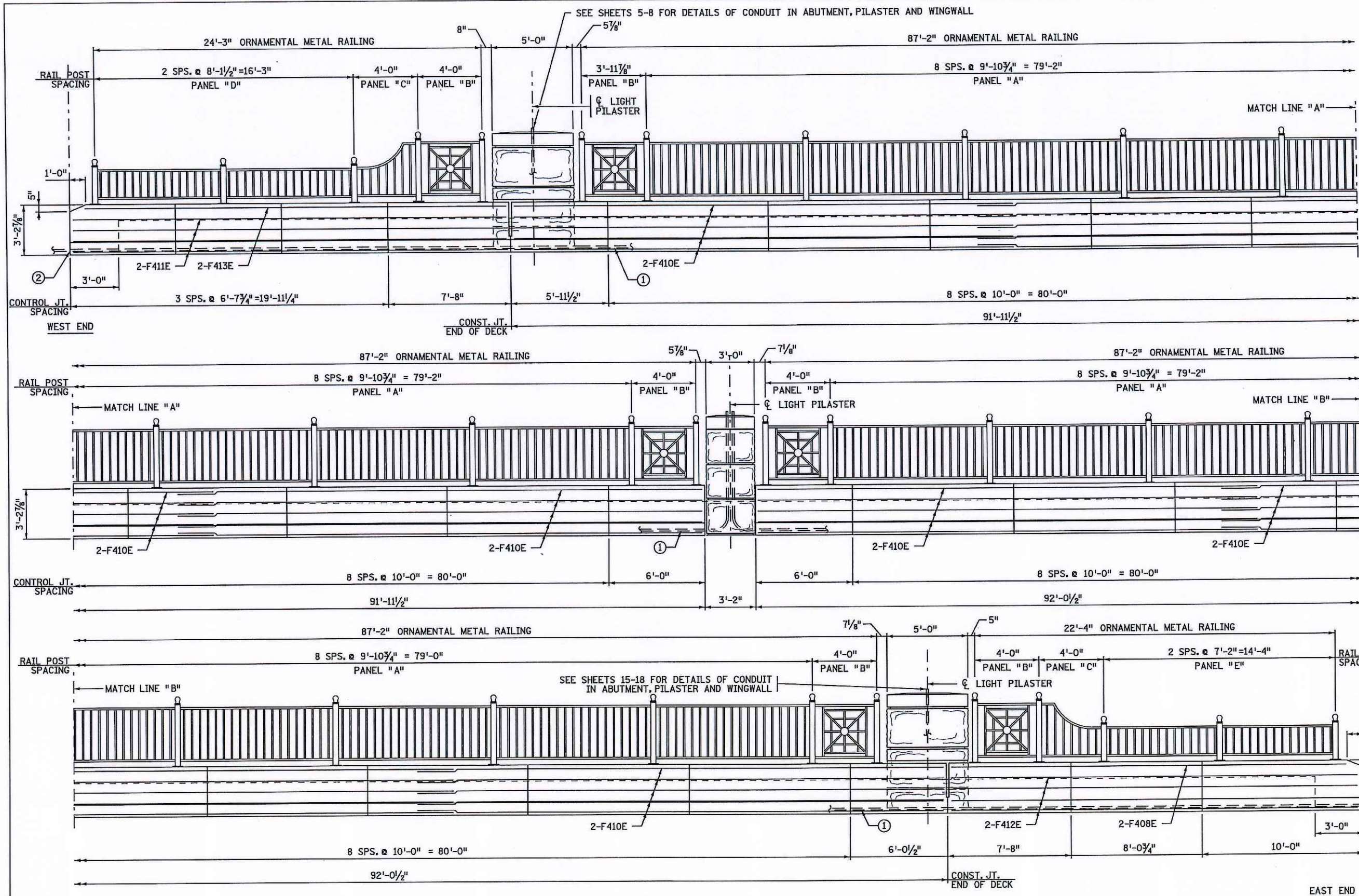
NO	DATE	BY	CKD	APPR	REVISION

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: GEORGE W. GORRILL
DATE: 4/10/14 LICENSE # 46863

MNDOT ACCEPTANCE
SIGNATURE: *David J. Horn*
DATE: 4/11/14



S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 38 OF 55
SUPERSTRUCTURE DETAILS & REINFORCEMENT		



Ames Construction
APR 11 2014
Released for Construction

- NOTES:**
GROUND ALL SECTIONS OF ORNAMENTAL METAL RAILINGS; SEE THE SPECIAL PROVISIONS. REFER TO THE ELECTRICAL PLANS AND ELECTRICAL SPECIAL PROVISIONS FOR DETAILS REGARDING BONDING MULTIPLE ELECTRICAL GROUNDING SYSTEMS.
- ① 1/2" R.S.C. LIGHTING CONDUIT, SEE LIGHTING PLAN FOR DETAILS.
 - ② CONDUIT EXPANSION FITTING, SEE LIGHTING PLAN FOR DETAILS.

INSIDE ELEVATION - NORTH CONCRETE PARAPET (TYPE P-1 MOD.) & ORNAMENTAL METAL RAILING (ST. PAUL MOD.)

DES: JLJ	DR: MMF	APPROVED:	
CHK: ZAT	CHK: ZAT		

S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 39 OF 55
ORNAMENTAL METAL RAILING (ST. PAUL MOD.) AND CONCRETE PARAPET (TYPE P-1 MOD.)		

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: GEORGE W. GORRILL
 SIGNATURE: *[Signature]*
 DATE: 4/10/14 LICENSE # 46863

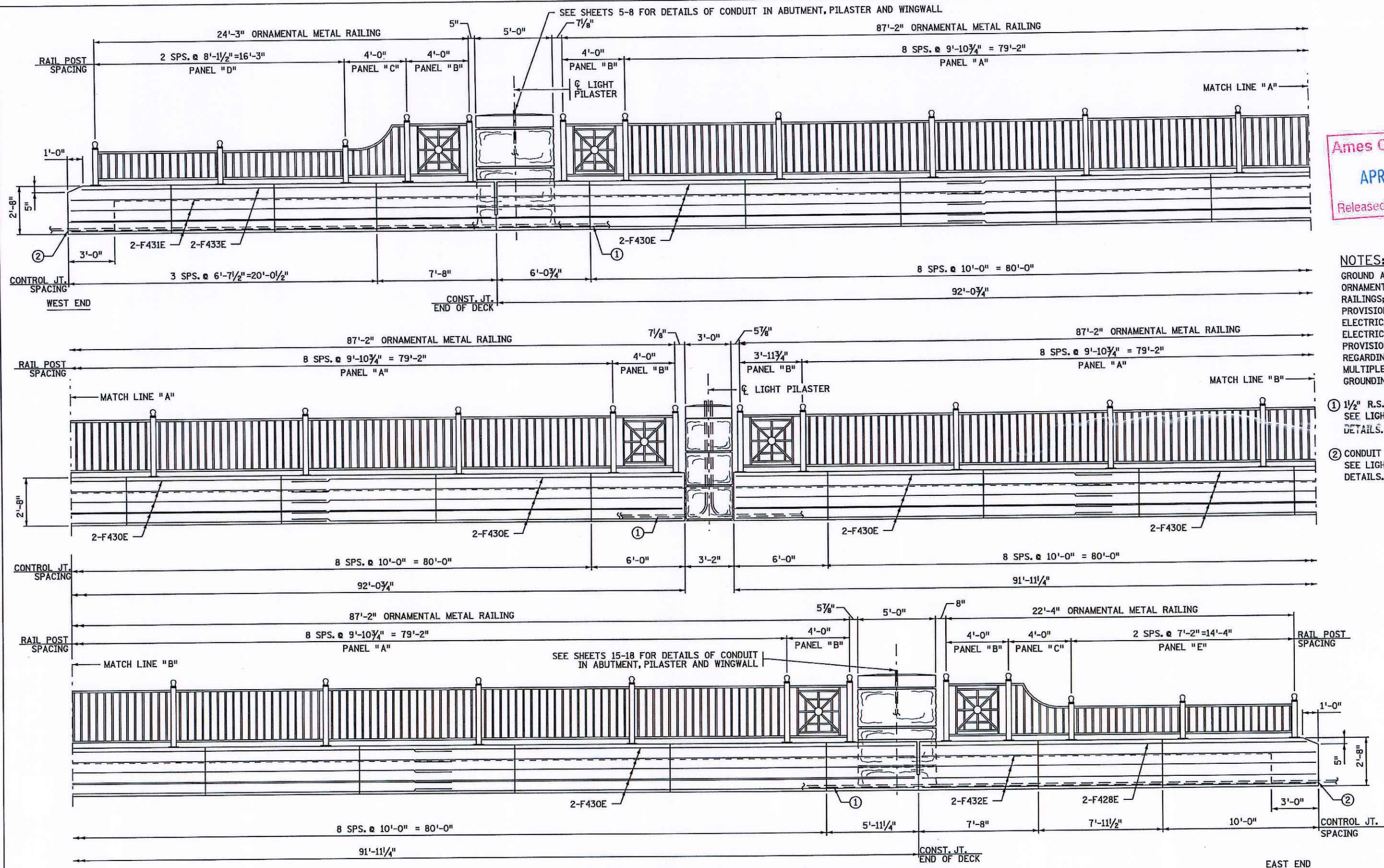
MDOT ACCEPTANCE

SIGNATURE: *[Signature]*
 DATE: 4/11/14



17115-2014 CB-6280-62646-RTT39.dgn

NO	DATE	BY	CKD	APPR	REVISION



Ames Construction
 APR 11 2014
 Released for Construction

NOTES:
 GROUND ALL SECTIONS OF ORNAMENTAL METAL RAILINGS; SEE THE SPECIAL PROVISIONS. REFER TO THE ELECTRICAL PLANS AND ELECTRICAL SPECIAL PROVISIONS FOR DETAILS REGARDING BONDING MULTIPLE ELECTRICAL GROUNDING SYSTEMS.

- ① 1/2" R.S.C. LIGHTING CONDUIT, SEE LIGHTING PLAN FOR DETAILS.
- ② CONDUIT EXPANSION FITTING, SEE LIGHTING PLAN FOR DETAILS.

INSIDE ELEVATION - SOUTH CONCRETE PARAPET (TYPE P-4 MOD.) &
 ORNAMENTAL METAL RAILING (ST. PAUL MOD.)

DES: JLJ	DR: MMF	APPROVED:
CHK: ZAT	CHK: ZAT	

S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 4.0
ORNAMENTAL METAL RAILING (ST. PAUL MOD.) AND CONCRETE PARAPET (TYPE P-4 MOD.)		OF 5.5

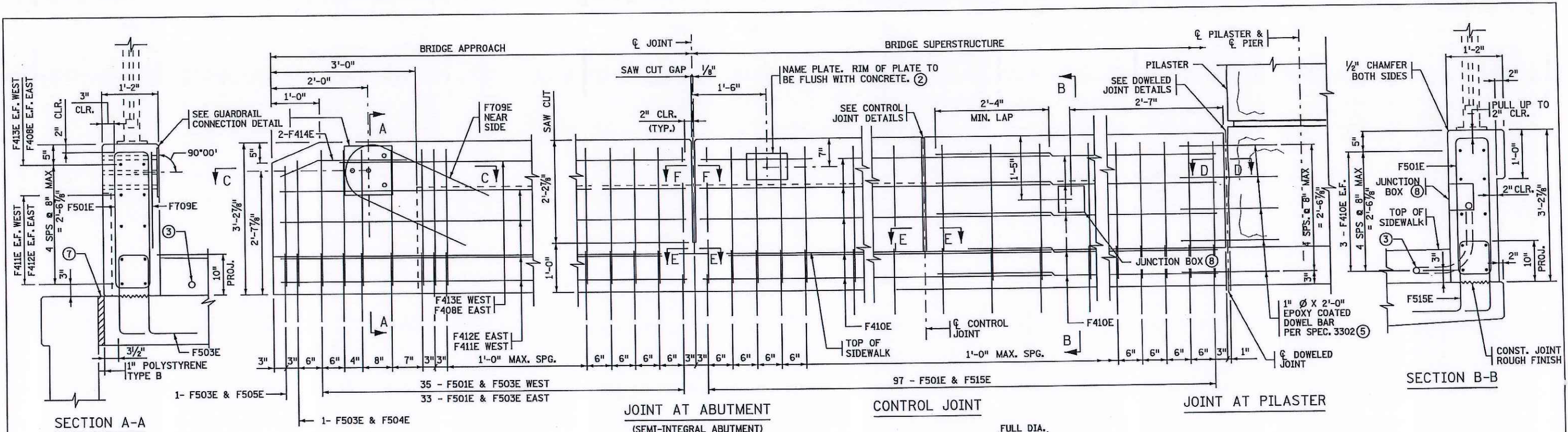
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: GEORGE W. GORRILL
 DATE: 4/10/14 LICENSE: 46863

MNDOT ACCEPTANCE
 SIGNATURE: *D.W.J. Herzog*
 DATE: 4/11/14

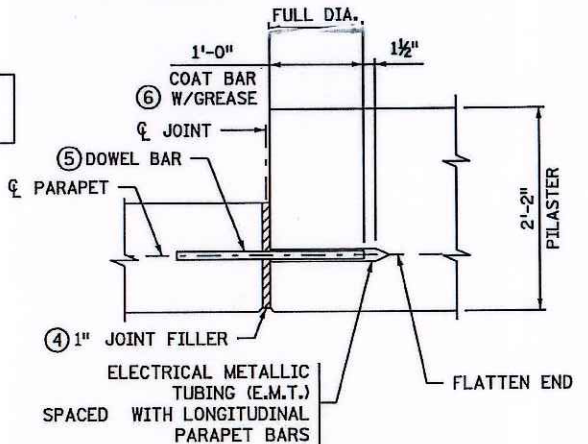


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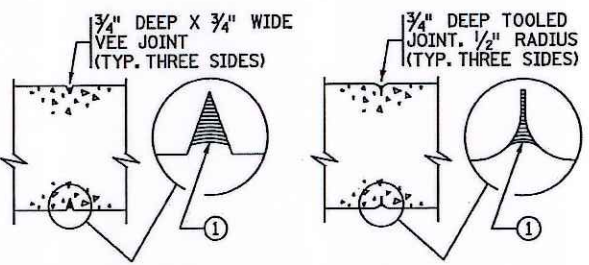
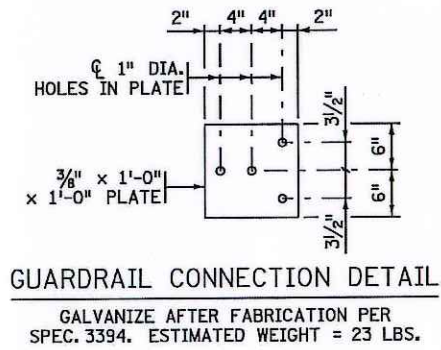
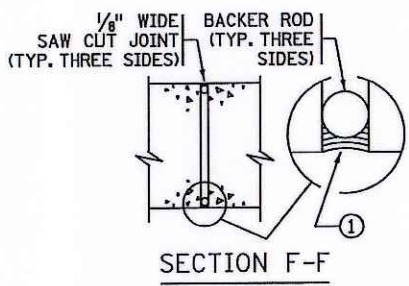
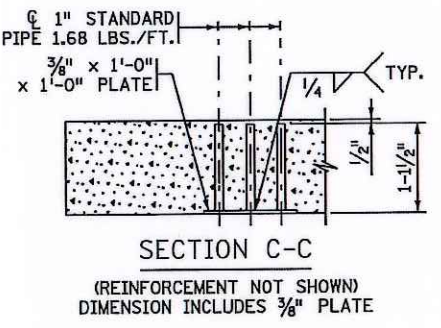
NO	DATE	BY	CKD	APPR	REVISION



JOINT AT ABUTMENT
(SEMI-INTEGRAL ABUTMENT)
INSIDE ELEVATION OF PARAPET
PARAPET MEETS TEST LEVEL 2
REQUIREMENTS OF NCHRP REPORT 350



- NOTES:**
- GROUND ALL SECTIONS OF ORNAMENTAL METAL RAILINGS; SEE THE SPECIAL PROVISIONS. REFER TO THE ELECTRICAL PLANS AND ELECTRICAL SPECIAL PROVISIONS FOR DETAILS REGARDING BONDING MULTIPLE ELECTRICAL GROUNDING SYSTEMS.
 - NORTH SIDE CONCRETE PARAPET = 516 LBS./FT. (0.127) CU. YDS./FT.)
 - FINISH ALL EDGES OF PARAPET WITH 1/2" CHAMFER, EXCEPT WHERE OTHERWISE NOTED.
 - MAXIMUM SPACING OF CONTROL JOINTS ON SUPERSTRUCTURE, APPROACH AND WINGWALL SHALL BE 10 FT. SEE SHEET 39 FOR JOINT SPACING.
 - GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, SPEC. 3306.
 - SEE SHEET 43 FOR PILASTER DETAILS.
 - PARAPET QUANTITIES ARE LISTED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.
 - SEE SHEET 42 FOR BILL OF REINFORCEMENT.
 - ① JOINT SEALANT PER MNDOT APPROVED/QUALIFIED PRODUCTS LIST - CRACK AND JOINT MATERIALS - SILICONE JOINT SEALERS.
 - ② SEE SHEET 1 FOR LOCATION OF NAME PLATE.
 - ③ 1/2" R.S.C. LIGHTING CONDUIT. SEE LIGHTING PLAN FOR DETAIL.
 - ④ JOINT FILLER SHALL BE CORK (SPEC. 2401.3E3).
 - ⑤ DOWEL BAR ASSEMBLY MUST BE INSTALLED PERPENDICULAR TO JOINT AND PARALLEL TO THE PARAPET FACE AND TO EACH OTHER.
 - ⑥ GREASE SHALL BE AN APPROVED HIGH PRESSURE TYPE THAT IS EFFECTIVE OVER THE RANGE OF EXPECTED TEMPERATURES AND RESISTANT TO CHEMICAL ACTION.
 - ⑦ SEAL WITH SELF-LEVELING SILICONE PER MNDOT 3722.
 - ⑧ ADJUST F410E BARS TO AVOID JUNCTION BOX.

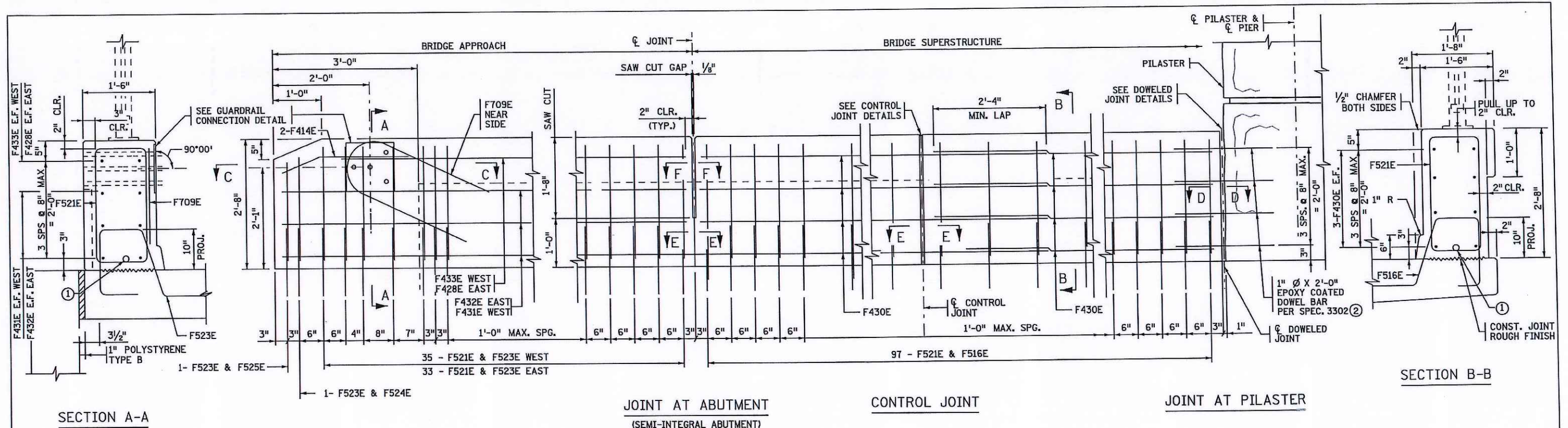


SECTION E-E CONTRACTOR OPTION 1
SECTION E-E CONTRACTOR OPTION 2
CONTROL JOINT DETAILS

WHEN USING SLIP FORM METHOD TO PLACE THE CONCRETE, CUT JOINT 3/4 INCHES DEEP USING MARGIN TROWEL OR SIMILAR MEANS IMMEDIATELY AFTER CONCRETE PLACEMENT (TYP. THREE SIDES)

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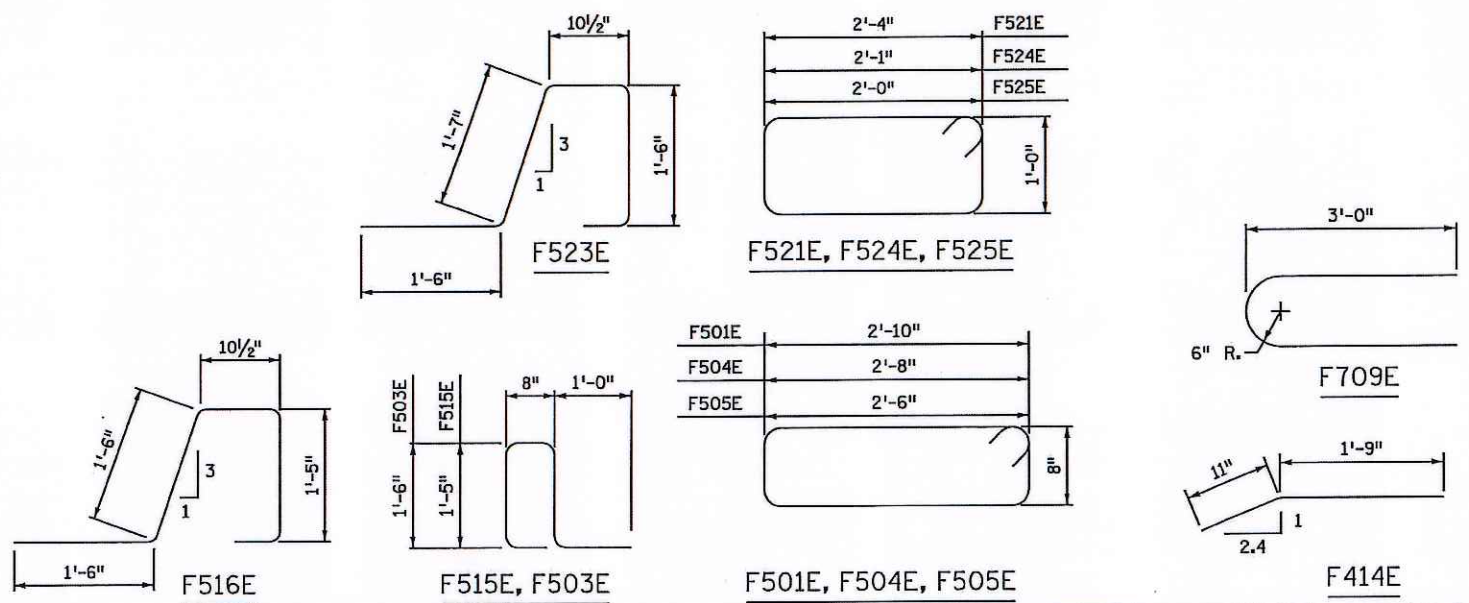
DRAWING NO.:	NO.	DATE	BY	CKD	APPR	REVISION	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: <u>GEORGE W. GORRILL</u> DATE: <u>4/10/14</u> LICENSE # <u>46863</u>	MNDOT ACCEPTANCE SIGNATURE: <u>[Signature]</u> DATE: <u>4/11/14</u>	S.P. NO. 6280-62646	BRIDGE NO. 62646	APPROVED: DES: <u>AW</u> DR: <u>MMF</u> CHK: <u>ZAT</u> CHK: <u>JLJ</u>	SHEET 41 OF 55
							AMES TEAM					



PARAPET MEETS TEST LEVEL 4 REQUIREMENTS OF NCHRP REPORT 350

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BILL OF REINFORCEMENT FOR PARAPET				
BAR	NO.	LENGTH	SHAPE	LOCATION
F501E	262	7'-11"	[Symbol]	PARAPET VERTICAL
F503E	72	5'-3"	[Symbol]	PARAPET VERTICAL
F504E	2	7'-7"	[Symbol]	PARAPET VERTICAL
F505E	2	7'-3"	[Symbol]	PARAPET VERTICAL
F408E	2	24'-4"	[Symbol]	PARAPET LONGIT.
F709E	4	6'-7"	[Symbol]	PARAPET VERTICAL
F410E	60	32'-3"	[Symbol]	PARAPET LONGIT.
F411E	8	27'-6"	[Symbol]	PARAPET LONGIT.
F412E	8	25'-6"	[Symbol]	PARAPET LONGIT.
F413E	2	26'-2"	[Symbol]	PARAPET LONGIT.
F414E	8	2'-8"	[Symbol]	PARAPET END
F515E	194	5'-1"	[Symbol]	PARAPET VERTICAL
F516E	194	5'-9"	[Symbol]	PARAPET VERTICAL
F521E	262	7'-7"	[Symbol]	PARAPET VERTICAL
F523E	72	5'-11"	[Symbol]	PARAPET VERTICAL
F524E	2	7'-1"	[Symbol]	PARAPET VERTICAL
F525E	2	6'-11"	[Symbol]	PARAPET VERTICAL
F428E	2	24'-0"	[Symbol]	PARAPET LONGIT.
F430E	48	32'-3"	[Symbol]	PARAPET LONGIT.
F431E	6	27'-6"	[Symbol]	PARAPET LONGIT.
F432E	6	25'-6"	[Symbol]	PARAPET LONGIT.
F433E	2	26'-4"	[Symbol]	PARAPET LONGIT.



- NOTES:**
- GROUND ALL SECTIONS OF ORNAMENTAL METAL RAILINGS; SEE THE SPECIAL PROVISIONS. REFER TO THE ELECTRICAL PLANS AND ELECTRICAL SPECIAL PROVISIONS FOR DETAILS REGARDING BONDING MULTIPLE ELECTRICAL GROUNDING SYSTEMS.
 - SOUTH SIDE CONCRETE PARAPET = 574 LBS/FT. (0.142) CU. YDS/FT.)
 - FINISH ALL EDGES OF PARAPET WITH 1/2" CHAMFER, EXCEPT WHERE OTHERWISE NOTED.
 - MAXIMUM SPACING OF CONTROL JOINTS ON SUPERSTRUCTURE, APPROACH AND WINGWALL SHALL BE 10 FT. SEE SHEET 40 FOR JOINT SPACING.
 - GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, SPEC. 3306.
 - SEE SHEET 43 FOR PILASTER DETAILS.
 - PARAPET QUANTITIES ARE LISTED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.
 - SEE SHEET 41 FOR SECTIONS C-C, D-D, E-E, F-F, GUARDRAIL CONNECTION DETAIL AND DOWEL JOINT DETAIL.
 - ① 1/2" R.S.C. LIGHTING CONDUIT. SEE LIGHTING PLAN FOR DETAIL.
 - ② DOWEL BAR ASSEMBLY MUST BE INSTALLED PERPENDICULAR TO JOINT AND PARALLEL TO THE PARAPET FACE AND TO EACH OTHER.

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.

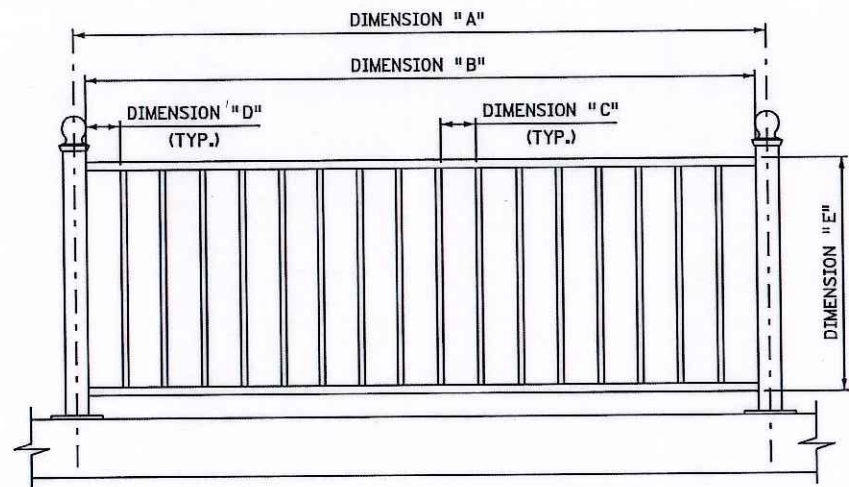
PRINT NAME: GEORGE W. GORRILL
 SIGNATURE: [Signature]
 DATE: 4/11/14 LICENSE # 46863

MNDOT ACCEPTANCE
 SIGNATURE: [Signature]
 DATE: 4/11/14

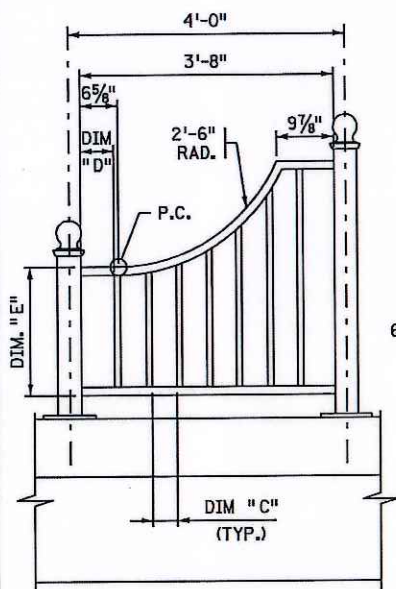
AMES TEAM

DES: AW DR: MMF APPROVED:
 CHK: ZAT CHK: JJJ

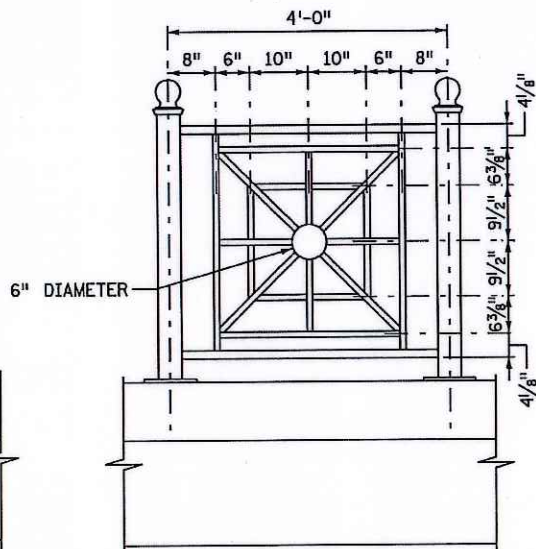
S.P. NO. 6280-62646 BRIDGE NO. 62646 SHEET 42 OF 55
 CONCRETE PARAPET (TYPE MOD. P4, TL-4)



TYPICAL PANEL
PANEL TYPES "A", "D", OR "E"

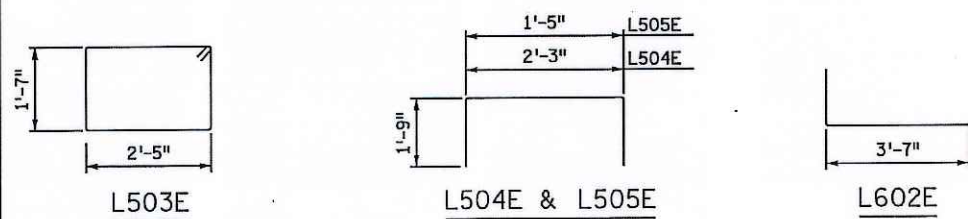


TRANSITION PANEL
PANEL TYPE "C"

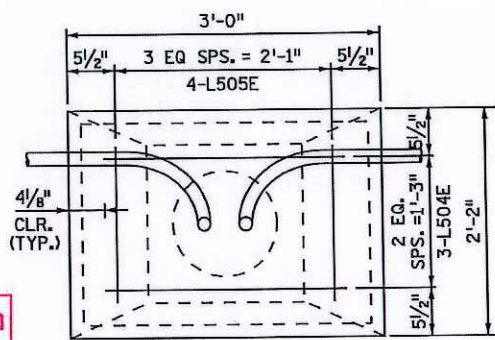


END PANEL
PANEL TYPE "B"

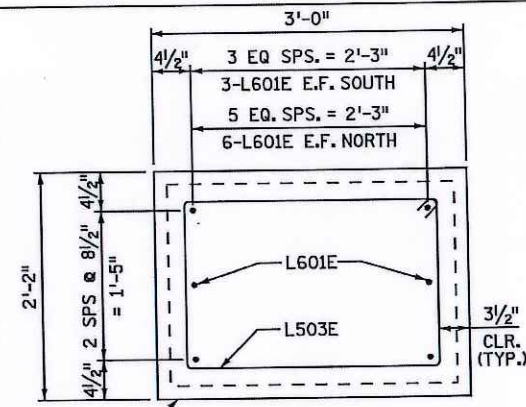
TYPICAL PANEL DIMENSION TABLE						
	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"	DIM. "E"	QUANTITY
PANEL TYPE "A"	9'-10 3/4"	9'-6 3/4"	5"	5 7/8"	3'-4"	32
PANEL TYPE "B"	SEE DETAIL			5 7/8"	1'-10"	4
PANEL TYPE "C"	SEE DETAIL			5 7/8"	1'-10"	4
PANEL TYPE "D"	8'-1 1/2"	7'-9 1/2"	5"	4 1/4"	1'-10"	4
PANEL TYPE "E"	7'-2"	6'-10"	5"	4 1/2"	1'-10"	4



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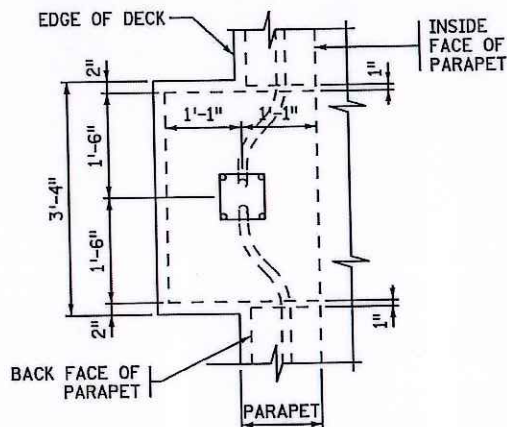


VIEW B-B

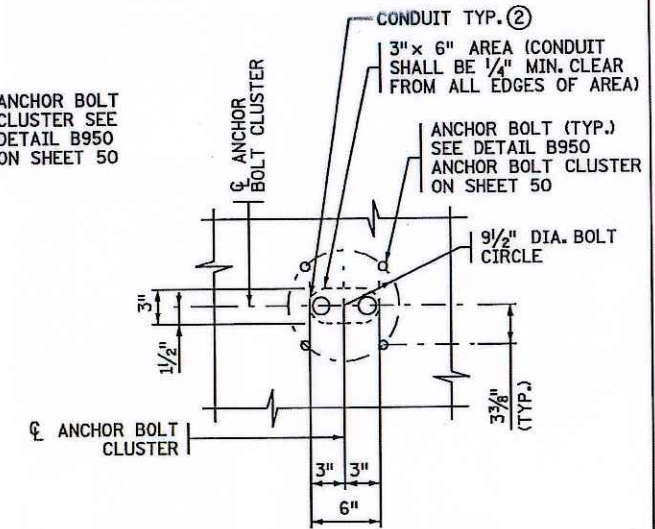
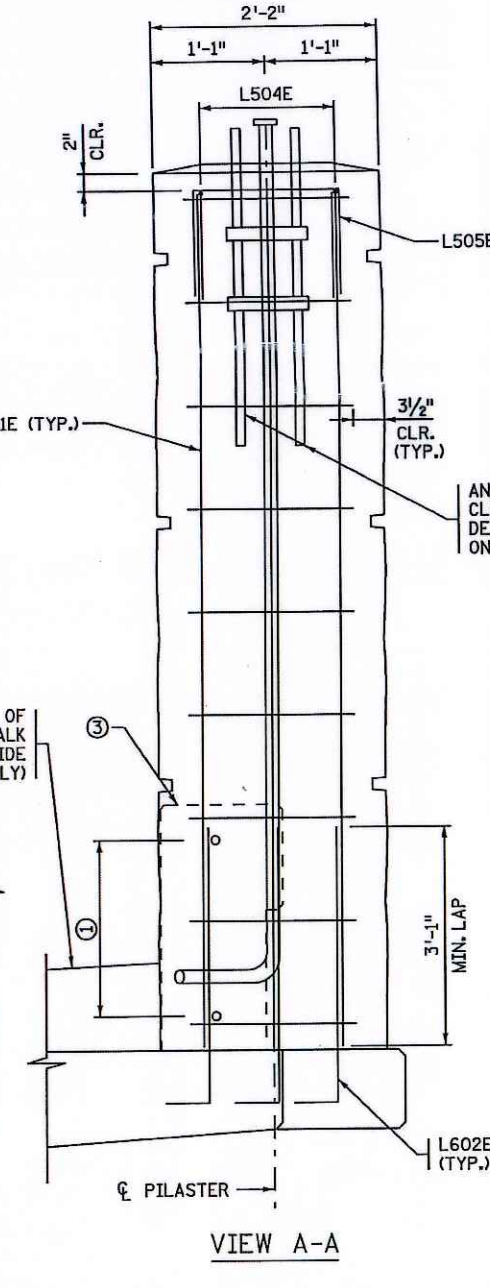
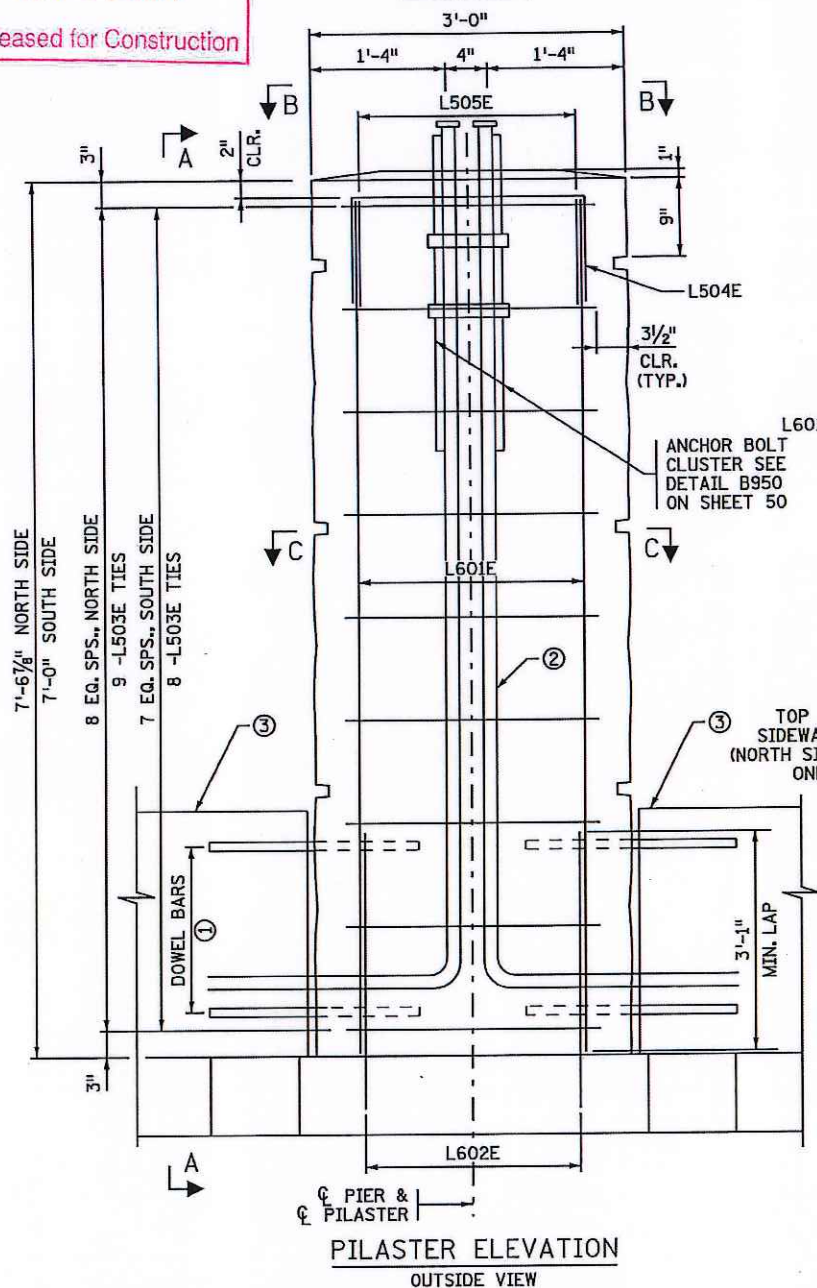


SECTION C-C

BILL OF REINFORCEMENT FOR LIGHT PILASTERS				
BAR	NO.	LENGTH	SHAPE	LOCATION
L601E	22	6'-8"	—	PILASTER VERTICAL
L602E	22	4'-7"	—	PILASTER VERTICAL
L503E	17	8'-11"	□	LONGIT. TIE
L504E	6	5'-9"	□	VERTICAL TIE
L505E	8	4'-11"	□	VERTICAL TIE



LIGHT POLE ANCHORAGE AT PIER PILASTER



CONDUIT PLACEMENT DETAIL

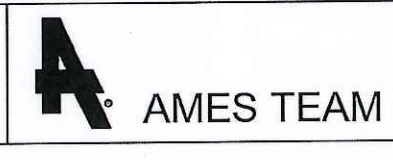
NOTES:
ALL DIMENSIONS GIVEN ALONG C OF RAILING.
BOND AND GROUND THE CONDUIT SYSTEM (LIGHTING) IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF Mn/DOT SPEC 2545.3R.
① DOWELS FOR DOWEL JOINT. SEE SHEET 41.
② THE 1 1/2" DIA. CONDUIT SHALL EXTEND 3" MIN. ABOVE THE PILASTER AND BE CAPPED.
③ SEE CONCRETE PARAPET SHEETS FOR TYPICAL PARAPET REINFORCEMENT.

DES: AW	DR: MMF	APPROVED:
CHK: ZAT	CHK: JLJ	

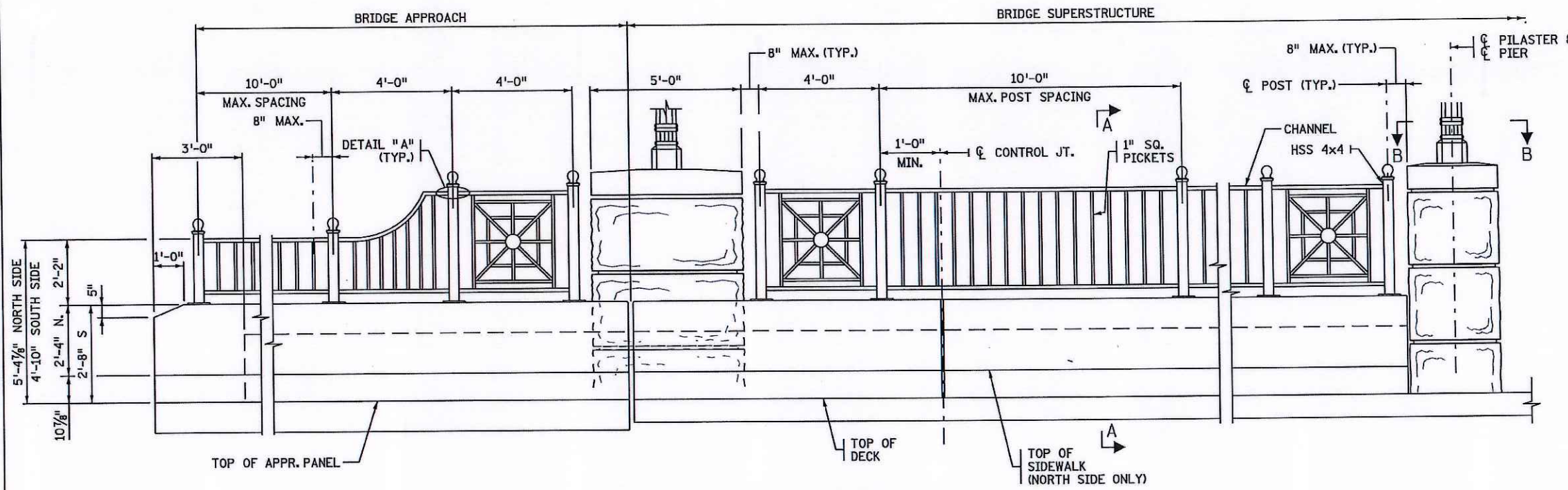
NO	DATE	BY	CKD	APPR	REVISION

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: GEORGE W. GORRILL
DATE: 4/10/14 LICENSE: 46863

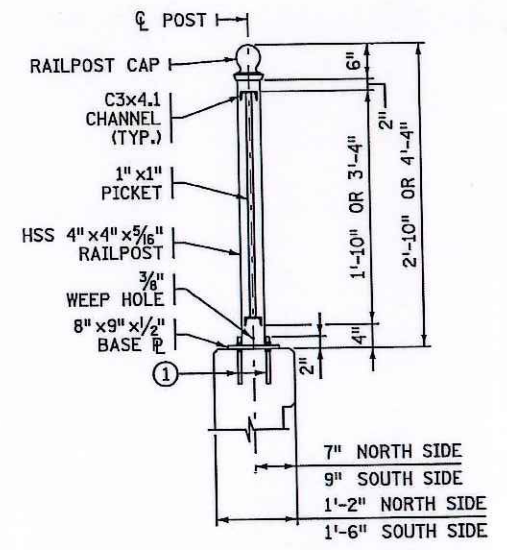
MNDOT ACCEPTANCE
SIGNATURE: DWJ Hornum
DATE: 4/11/14



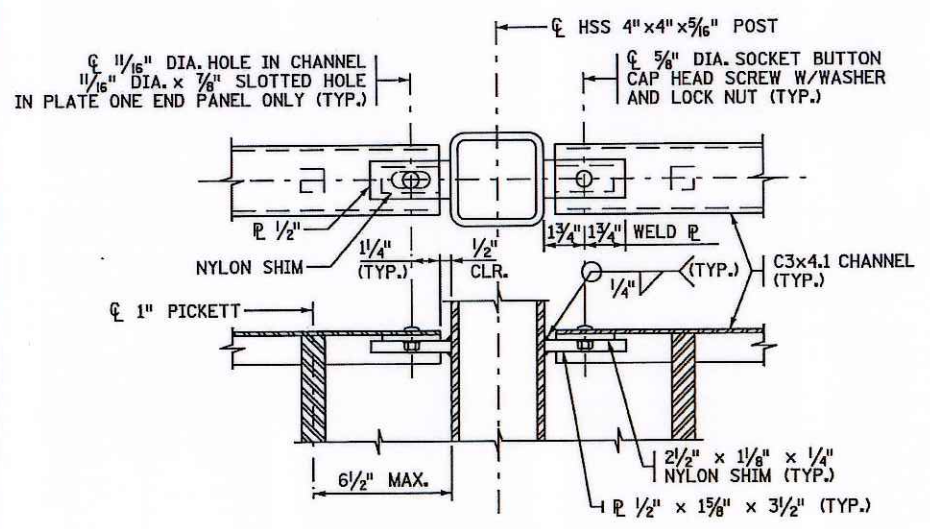
S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 43 OF 55
PILASTER DETAILS		



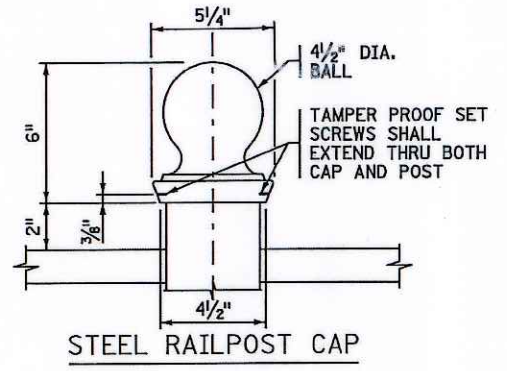
ORNAMENTAL METAL RAILING ELEVATION
(TYPICAL OF NORTH AND SOUTH RAILINGS)



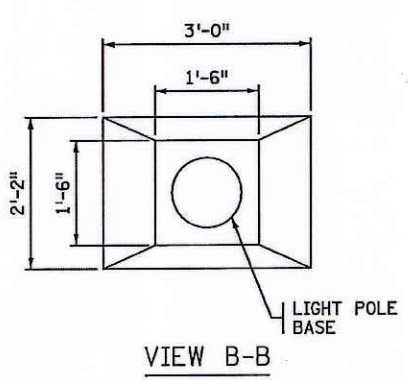
SECTION A-A



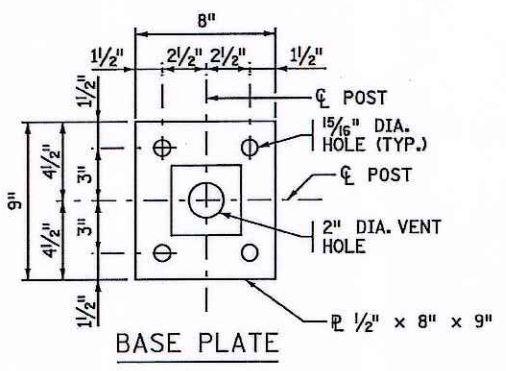
DETAIL "A"



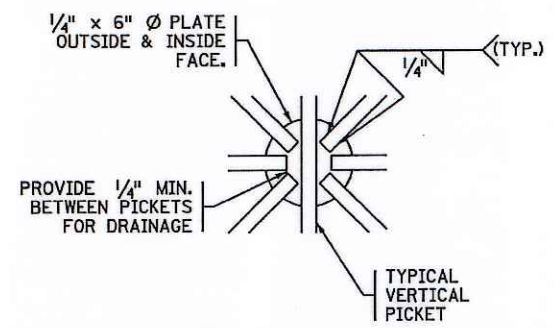
STEEL RAILPOST CAP



VIEW B-B



BASE PLATE



PANEL CENTER DETAIL
(FACING 1/4" x 6" Ø PLATE NOT SHOWN)

NOTES:

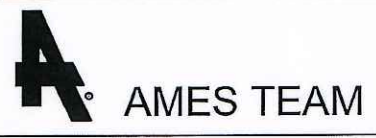
- HORIZONTAL RAILS SHALL BE CAMBERED/CURVED WHERE APPLICABLE AND PARALLEL TO THE EDGE OF DECK PROFILE.
- DRILLED IN ANCHORAGES WILL BE PERMITTED IN LIEU OF ANCHORAGE SHOWN, SEE NOTE 1. SPACE RAILPOST ANCHORAGE TO CLEAR REINFORCEMENT IN CONCRETE PARAPET.
- ALL STRUCTURAL STEEL MATERIAL (EXCEPT POSTS) SHALL COMPLY WITH MnDOT SPEC.3306, UNLESS OTHERWISE NOTED.
- RAILING POSTS SHALL CONFORM TO MnDOT SPEC. 3361, TYPE A.
- GALVANIZE BOLTS, NUTS AND WASHERS PER MnDOT SPEC. 3394. AFTER FABRICATION.
- ALL RAILING MEMBERS SHALL BE FLAT AFTER FABRICATION AND GALVANIZING TO WITHIN 1/8" IN 10 FT. VERTICALLY AND HORIZONTALLY BY MECHANICAL MEANS WITHOUT DAMAGE TO THE ZINC COATING.
- VENT HOLES SHALL BE DRILLED IN THE RAILING POST BASE AS NECESSARY TO FACILITATE GALVANIZING.
- SEE SPECIAL PROVISIONS FOR PAINT TO BE APPLIED TO METAL RAILING.
- MAX. CONTROL JOINT SPACING SHALL BE 10'-0". SEE SHEET 40 FOR JOINT SPACING AND PANEL LAYOUT.
- METAL RAILING SHALL BE CONTINUOUSLY GROUNDED, SEE SPECIAL PROVISIONS. METAL RAILING SHALL BE CONTINUOUSLY GROUNDED WITH 5/8" DIA. COPPER ROD PER MnDOT SPEC. 2557.
- RAILPOSTS AND PICKETS SHALL BE VERTICAL.
- ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF METAL RAILING. SET VERTICAL.
- ① 5/8" DIA. GALVANIZED CHEMICAL ANCHOR RODS, MnDOT SPEC. 3385, TYPE A, WITH HEX NUTS AND WASHERS. MINIMUM ULTIMATE BOND STRENGTH SHALL BE 20,000 LBS. WITH A MINIMUM 6" EMBEDMENT LENGTH.

Ames Construction
APR 11 2014
Released for Construction

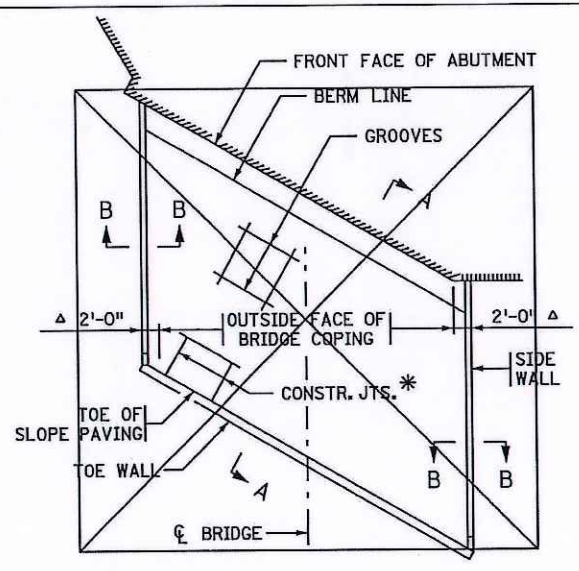
NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: GEORGE W. GORRILL
DATE: 4/6/14 LICENSE # 46863

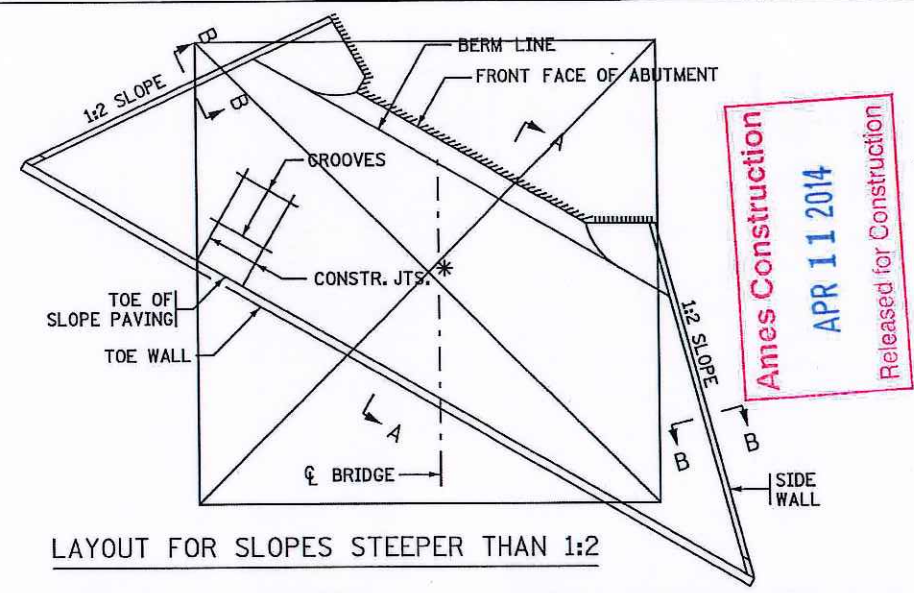
MNDOT ACCEPTANCE
SIGNATURE: *David J. Heron*
DATE: 4/11/14



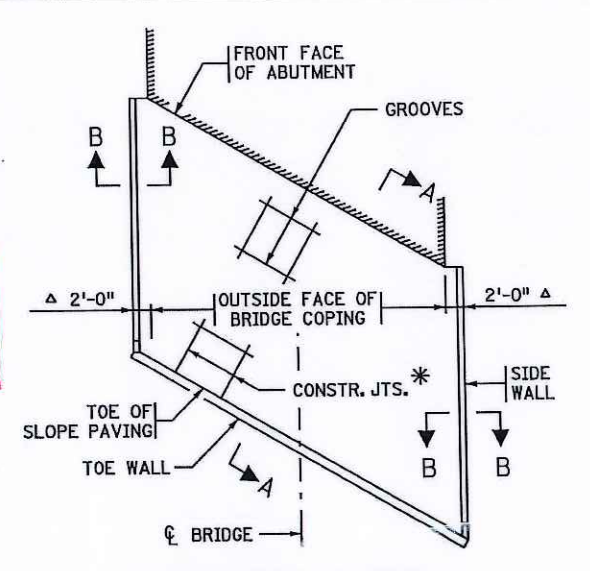
DES: AW	DR: MMF	APPROVED:
CHK: ZAT	CHK: JLJ	
S.P. NO. 6280-62646		BRIDGE NO. 62646
ORNAMENTAL METAL RAILING (ST. PAUL MOD.)		SHEET 44 OF 55



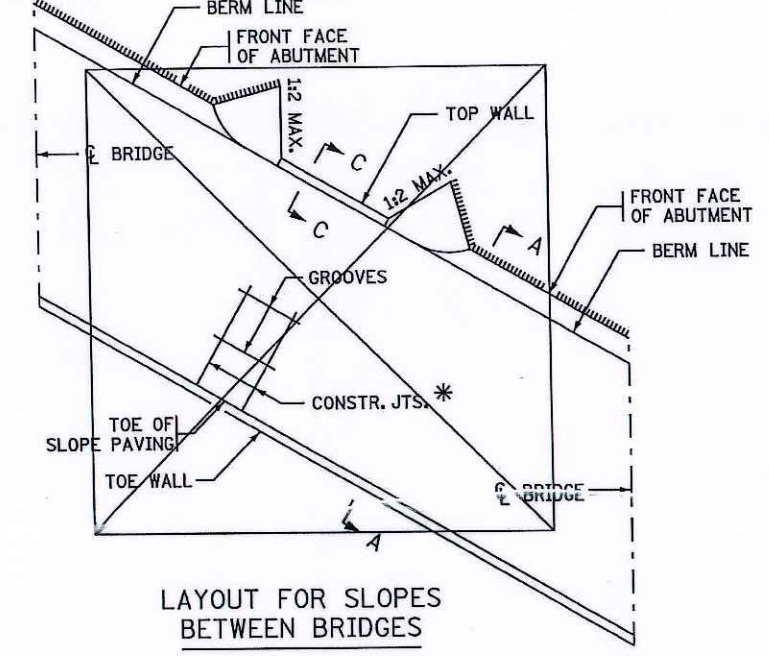
LAYOUT FOR SLOPES 1:2 OR FLATTER



LAYOUT FOR SLOPES STEEPER THAN 1:2



LAYOUT FOR SLOPES AT ABUTMENTS WITH 8' OR GREATER EXPOSURE

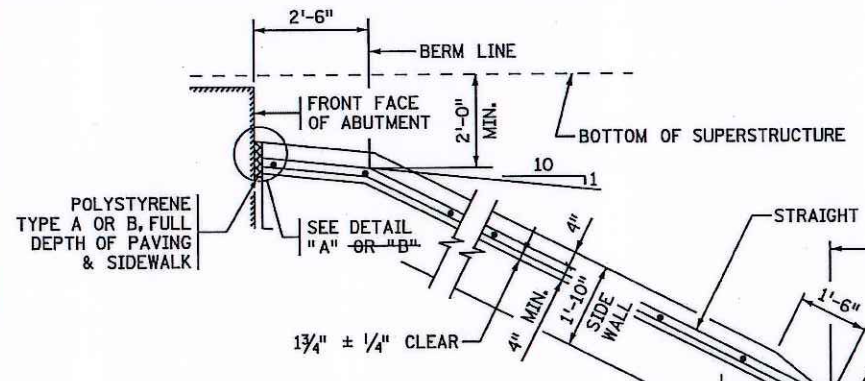


LAYOUT FOR SLOPES BETWEEN BRIDGES

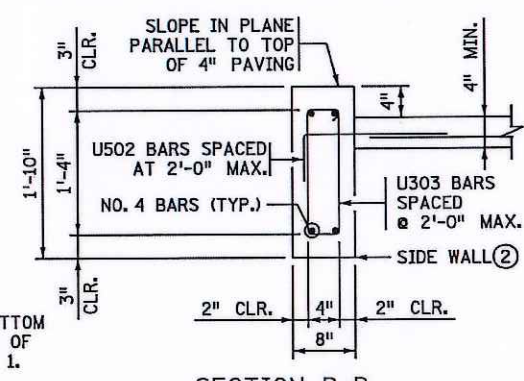
Δ 2'-0" FOR TANGENT BRIDGE SUPERSTRUCTURES. VARIES 2'-0" MINIMUM FOR CURVED BRIDGE SUPERSTRUCTURE.

* VERTICAL CONSTRUCTION JOINTS MAY BE CONSTRUCTED PARALLEL TO CL OF BRIDGE FOR SKEWS TO 10° ONLY.

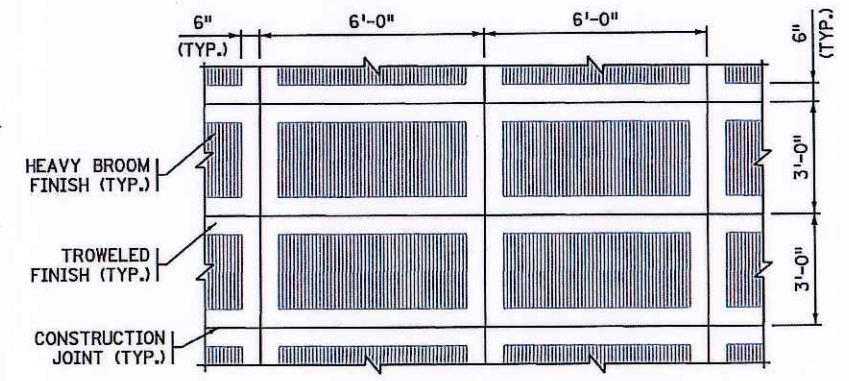
Ames Construction
APR 11 2014
Released for Construction



SECTION A-A
1:2 SLOPE SHOWN



SECTION B-B
NORMAL TO SLOPE

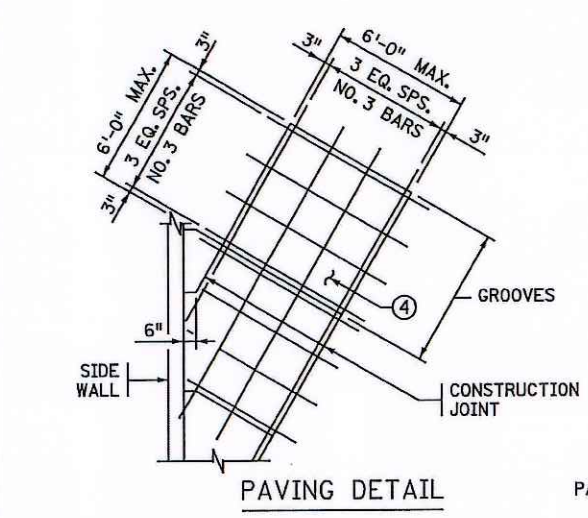


SLOPE PAVING DETAIL

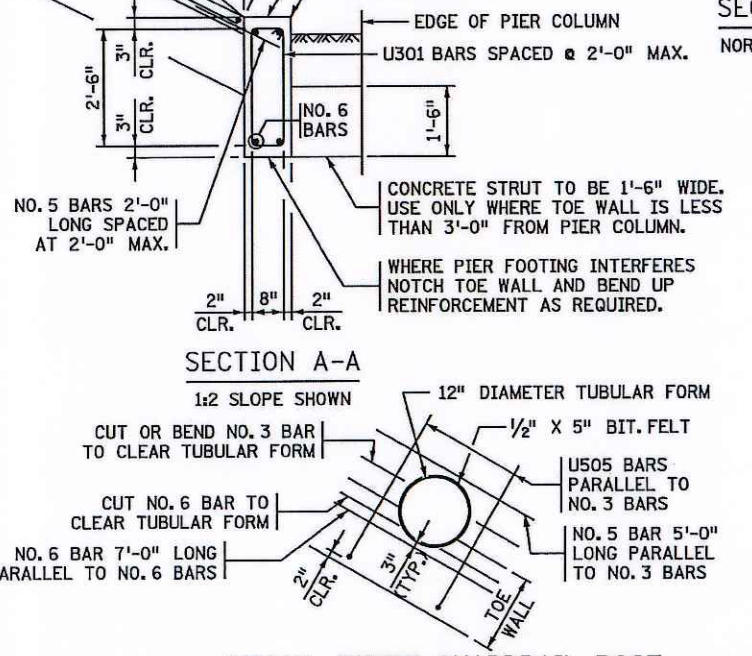
CONCRETE & REINFORCEMENT UNIT QUANTITIES

- ① 0.111 CU. YD. OF CONCRETE/LIN. FT. 8.37 LBS. OF REINFORCEMENT/LIN. FT.
- ② 0.046 CU. YD. OF CONCRETE/LIN. FT. 4.46 LBS. OF REINFORCEMENT/LIN. FT.
- ③ 0.058 CU. YD. OF CONCRETE/LIN. FT. 3.70 LBS. OF REINFORCEMENT/LIN. FT. BASED ON A SLOPE OF 1:2
- ④ 0.111 CU. YD. OF CONCRETE/SQ. YD. 4.50 LBS. OF REINFORCEMENT/SQ. YD.

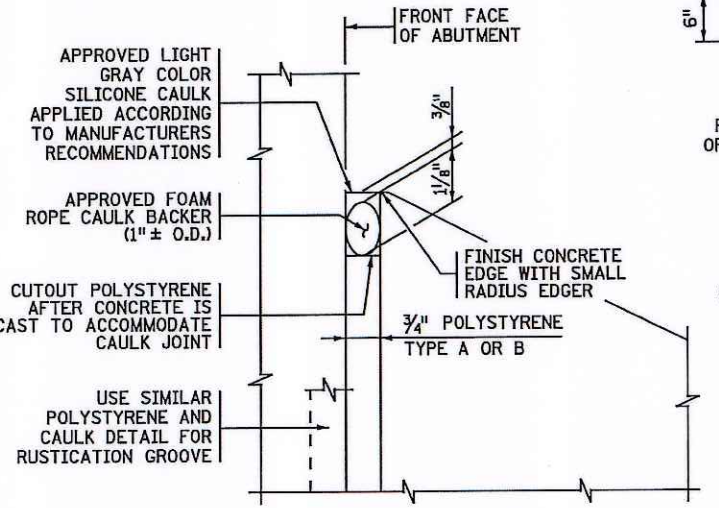
GENERAL NOTE
SLOPES ARE EXPRESSED AS A RATIO OF VERTICAL DISTANCE: HORIZONTAL DISTANCE.
SLOPE PAVING PER SPEC. 2514.



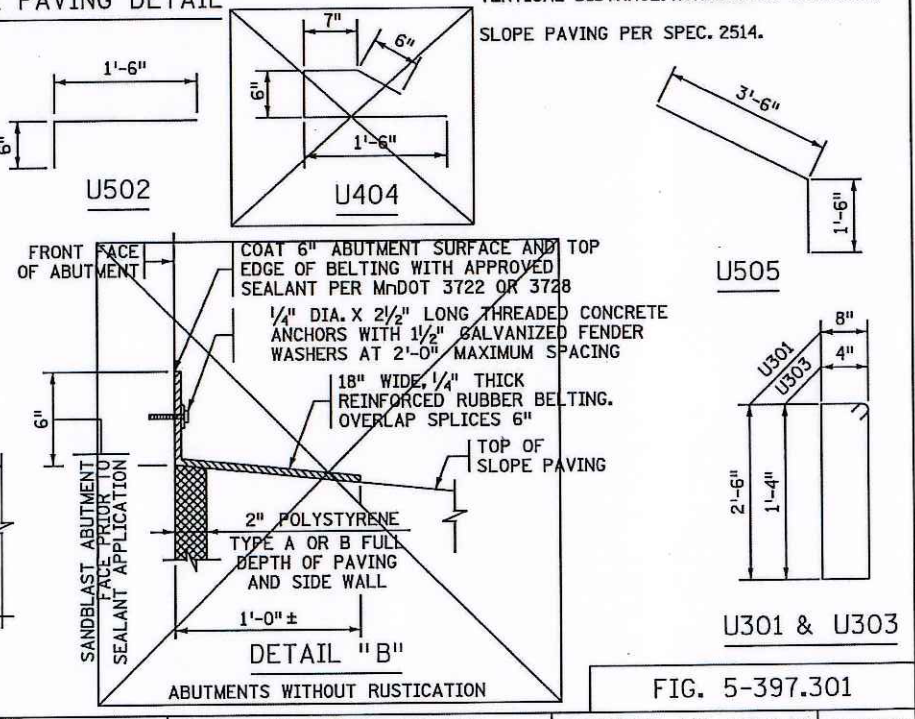
PAVING DETAIL



DETAIL WHERE GUARDRAIL POST EXTENDS THROUGH SLOPE PAVING
SPACE U301 BARS TO MISS TUBULAR FORM



DETAIL "A"
ABUTMENTS WITH RUSTICATION



DETAIL "B"
ABUTMENTS WITHOUT RUSTICATION

REVISION: 04-17-2013
APPROVED: SEPTEMBER 26, 2003
STATE BRIDGE ENGINEER

DES: AW DR: GJS APPROVED:
CHK: JLJ CHK: JLJ

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: GEORGE W. GOBRILL
DATE: 4/11/14 LICENSE #: 46863

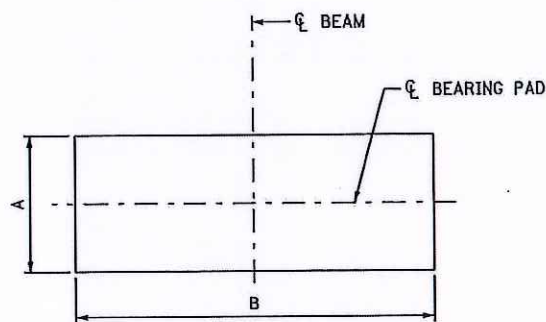
MDOT ACCEPTANCE
SIGNATURE: DJJ Herm
DATE: 4/11/14

AMES TEAM

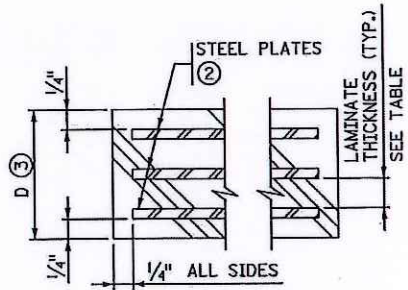
S.P. NO. 6280-62646 BRIDGE NO. 62646 SHEET 45 OF 55
CONCRETE SLOPE PAVING UNDER BRIDGES

FIG. 5-397.301

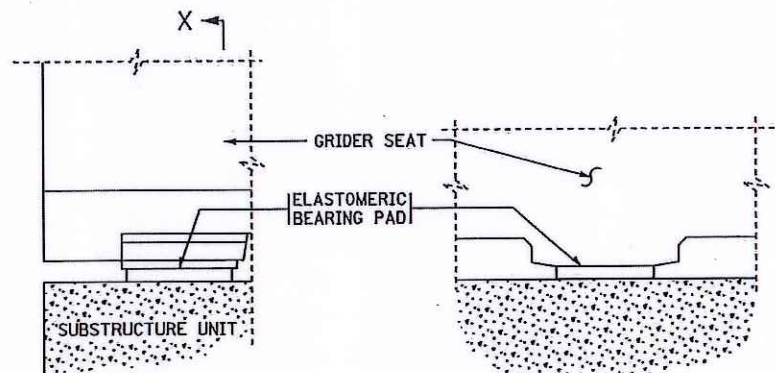
17-15 APR-2014 08:52:46 447-45.dgn



PLAN
(BEAM NOT SHOWN)



SECTION THROUGH
ELASTOMERIC BEARING PAD



SIDE ELEVATION

SECTION X-X

PAD TYPE	LOCATION	BEAM SIZE	BEARING PAD SIZE			STEEL PLATES	LAMINATES		SHAPE FACTOR
			A	B	D		NO.	THICK.	
E1	ABUT	MN	12	24	1 1/8	3	2	1/2	8.0
F1	PIER	MN	12	24	1 1/8	3	2	1/2	8.0

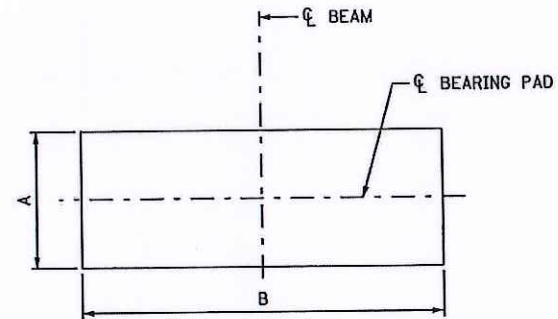
QUANTITIES	
PAD TYPE	COUNT
E1	14
F1	14

NOTES:

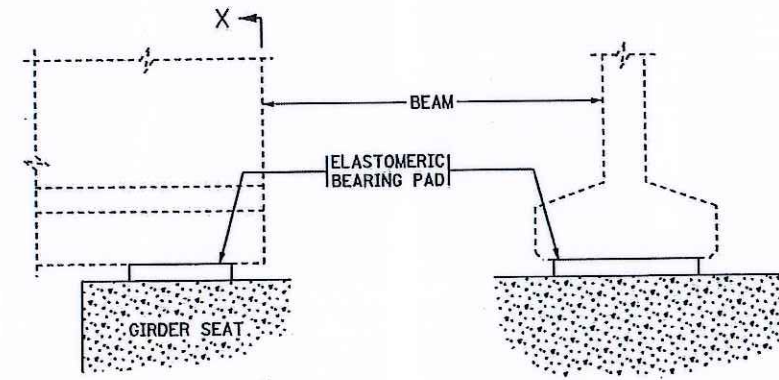
ELASTOMERIC MATERIALS AND PAD CONSTRUCTION SHALL COMPLY WITH SPEC. 3741.

ALL STEEL PLATES SHALL COMPLY WITH MnDOT SPEC 3306.

MODIFICATIONS: CHANGED THE BEAM TO SHOW SLIDE SHOE. INCLUDED REINFORCED BEARING PAD DETAILS. ADDED QUANTITIES



PLAN
(BEAM NOT SHOWN)



SIDE ELEVATION

SECTION X-X

PAD TYPE	LOCATION	BEAM SIZE	BEARING PAD SIZE			SHAPE FACTOR
			A	B	D ①	
1	GIRDER	MN	12	24	1/2	8.0

QUANTITIES	
PAD TYPE	COUNT
1	28

NOTES:

ELASTOMERIC MATERIALS AND PAD CONSTRUCTION SHALL COMPLY WITH SPEC. 3741.

① "D" INDICATES THE THICKNESS OF THE BEARING PAD.

MODIFICATIONS: ADDED QUANTITIES

Ames Construction
MAR 06 2014
Released for Construction

APPROVED: DR: MMF GDF
CHK: ZAT GDF

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
ELASTOMERIC BEARING PAD
(SEAT BEAM)

REVISION
12-17-2008
05-24-2012

DETAIL NO.
B305
(MOD.)

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
ELASTOMERIC BEARING PAD
(PRESTRESSED CONCRETE BEAMS)

REVISION
12-17-2008
05-24-2012

DETAIL NO.
B305
(MOD.)

NO	DATE	BY	CKD	APPR	REVISION

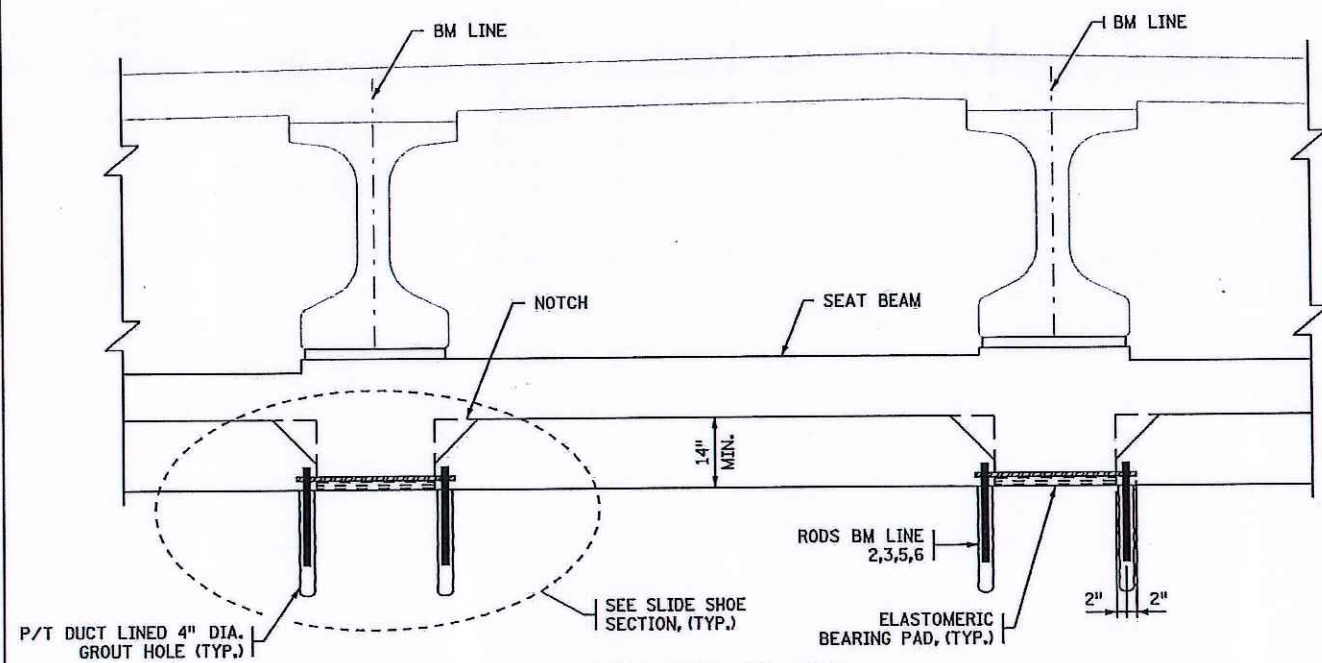
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: GEORGE W. CORRILL
DATE: 2/27/14 LICENSE: 46863

MN DOT ACCEPTANCE
SIGNATURE: DWJ
DATE: 3/3/14

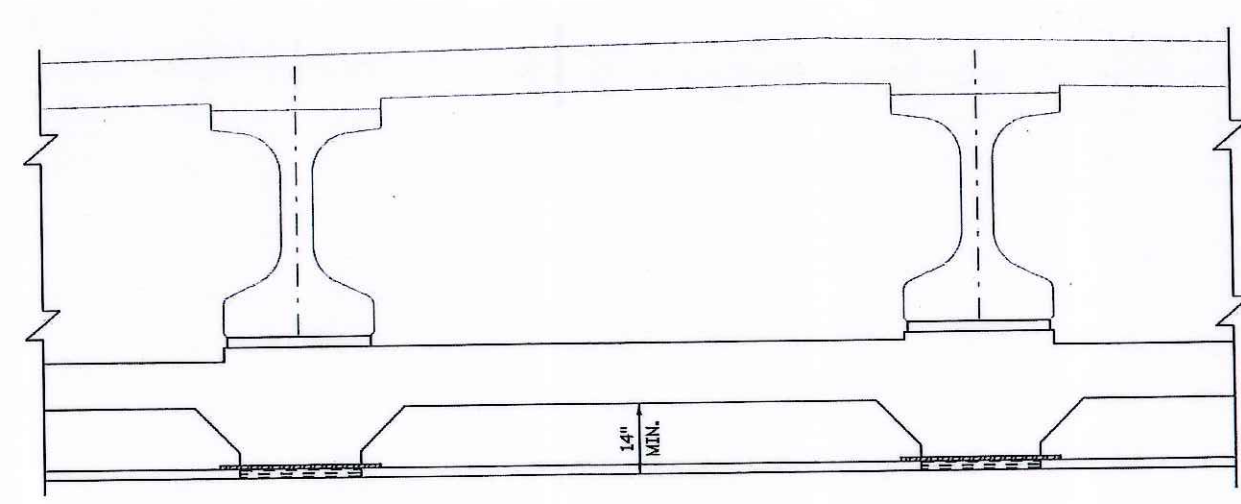
AMES TEAM

S.P. NO. 6280-62646 BRIDGE NO. 62646 SHEET
BEARING DETAILS 46 OF 55

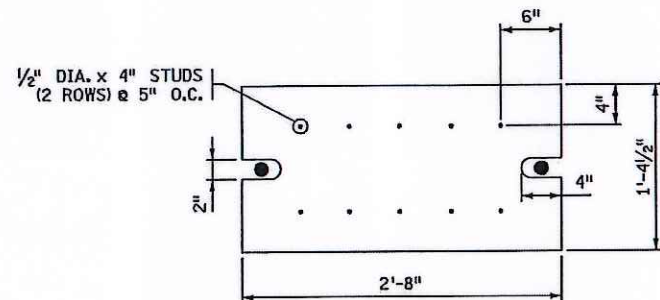
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26-FEB-2014
05-62646-STR-46.dgn



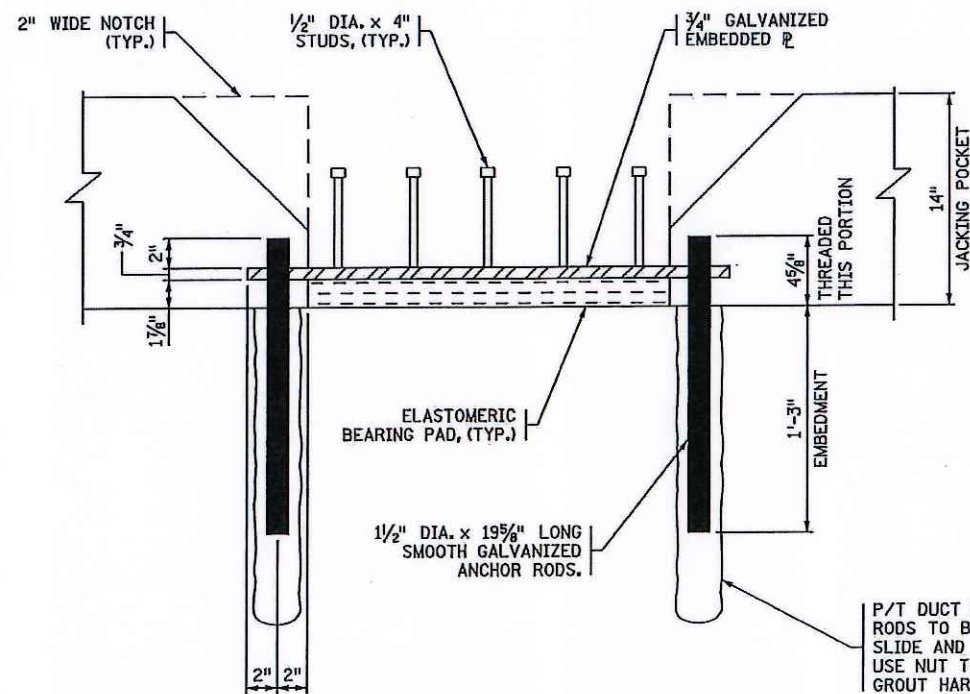
ELEVATION AT PIER
(LOOKING AHEAD STATION)



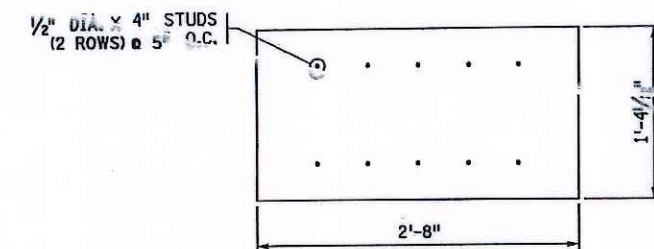
ELEVATION AT ABUTMENT



3/4" GALVANIZED EMBEDDED PLATE
(AT PIER)
TYP. ANCHOR ROD LOCATIONS



SLIDE SHOE SECTION



3/4" GALVANIZED EMBEDDED PLATE
(AT ABUTMENT)

QUANTITIES	
1/2" DIA. x 19 5/8" GALV. RODS.	16
SLOTTED PL'S	14
UNSLOTTED PL'S	14

Ames Construction
MAR 06 2014
Released for Construction

NOTES:

STEEL PLATES SHALL COMPLY WITH SPEC 3306. GALVANIZE PER SPEC 3392.

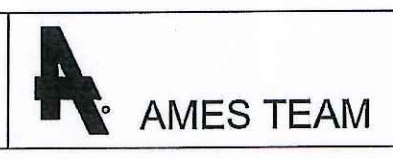
ANCHOR RODS SHALL COMPLY WITH SPEC 3306. GALVANIZE PER SPEC 3392.

P/T DUCT LINED HOLE TO BE 21" DEEP. RODS TO BE PICKED UP AFTER BRIDGE SLIDE AND GROUTED IN PLACE AS SHOWN. USE NUT TO HOLD ROD IN PLACE UNTIL GROUT HARDENS, THEN REMOVE NUT.

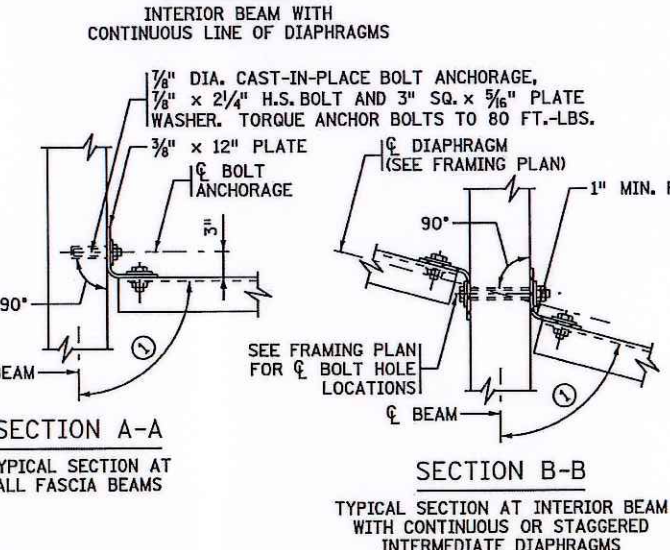
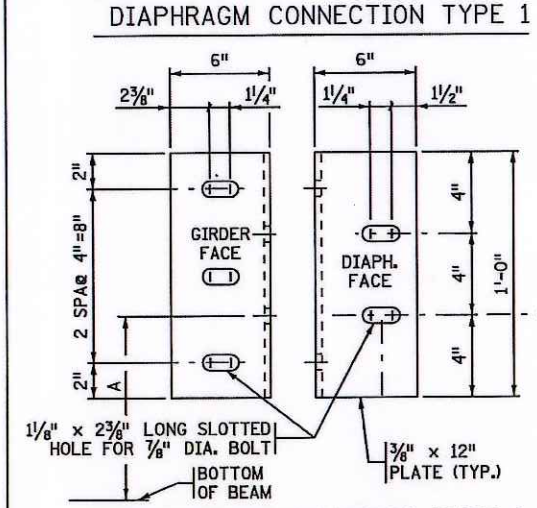
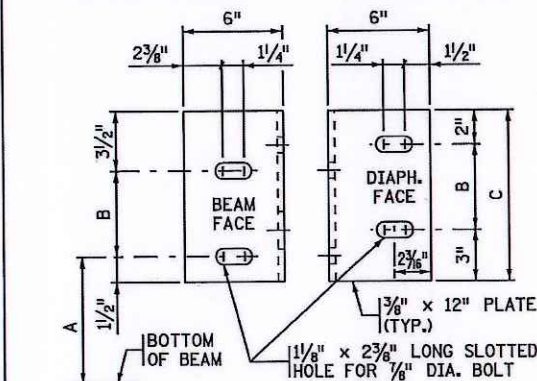
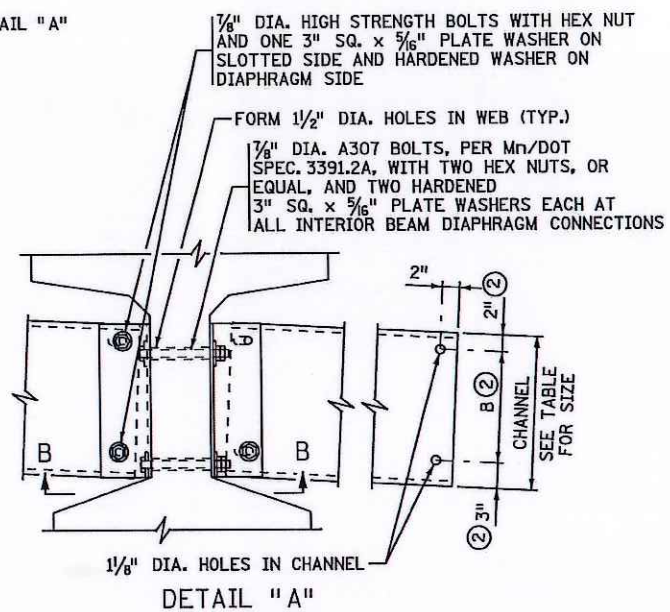
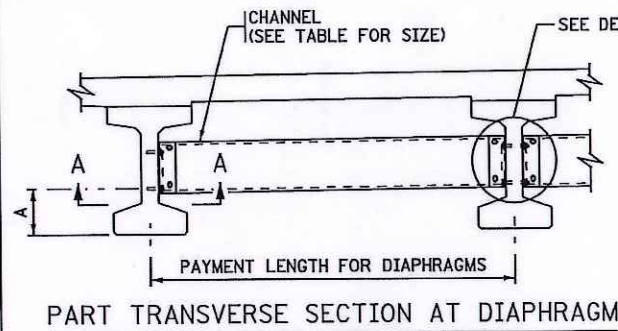
NO	DATE	BY	CHKD	APPR	REVISION

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PRINT NAME: GEORGE W. GORRELL
DATE: 2/27/14 LICENSE: 46863

WHDOT ACCEPTANCE
SIGNATURE: D. J. Herman
DATE: 3/3/14



S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 47 OF 55
BEARING DETAILS		



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 3/4" x 6" x 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 3/8" IN THICKNESS, AND HAVE LEGS 5" LONG.
 STEEL PLATES AND SHAPES SHALL BE GALVANIZED IN ACCORDANCE WITH Mn/DOT SPEC. 3394.
 GALVANIZE BOLTS, NUTS AND WASHERS PER Mn/DOT SPEC. 3392.
 ① FOR SKEW ANGLES UNDER 20°, USE 90° LESS THE SKEW ANGLE. FOR SKEW ANGLES OVER 20°, USE 90°.
 ② 4" FOR DIAPHRAGM CONNECTION TYPE 2.

BEAM HEIGHT	DISTANCE			CHANNEL SIZE
	A	B	C	
36M	1'-3"	7"	1'-0"	C12x20.7
45M	1'-3 3/4"	1'-1"	1'-6"	MC18x42.7
54M	1'-2 3/4"	1'-1"	2'-6"	MC18x42.7
MN45	1'-7 3/4"	7"	1'-0"	C12x20.7
MN54	1'-7 3/4"	1'-1"	1'-9"	MC18x42.7
MN63	1'-7 3/4"	1'-1"	2'-6"	MC18x42.7

APPROVED: OCTOBER 26, 2005
David J. Morgan
 STATE BRIDGE ENGINEER

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
STEEL INTERMEDIATE DIAPHRAGM
 (FOR 36M - 54M, MN45 - MN63 PRESTRESSED CONCRETE BEAMS)

REVISD
 06-14-2006
 10-22-2009
 DETAIL NO.
B403
 MODIFIED

APPROVED:
 DR: MMF
 CHK: JJJ
 DES: ZAT
 CHK: GDF

APPROVED: SEPTEMBER 22, 2011
Nancy Dubenberger
 STATE BRIDGE ENGINEER

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
SOLE PLATE
 (PRESTRESSED CONCRETE BEAMS)
 (FOR BEARINGS WITH PINTLES)

REVISED
 DETAIL NO.
B303
 MODIFIED

NO	DATE	BY	CKD	APPR	REVISION

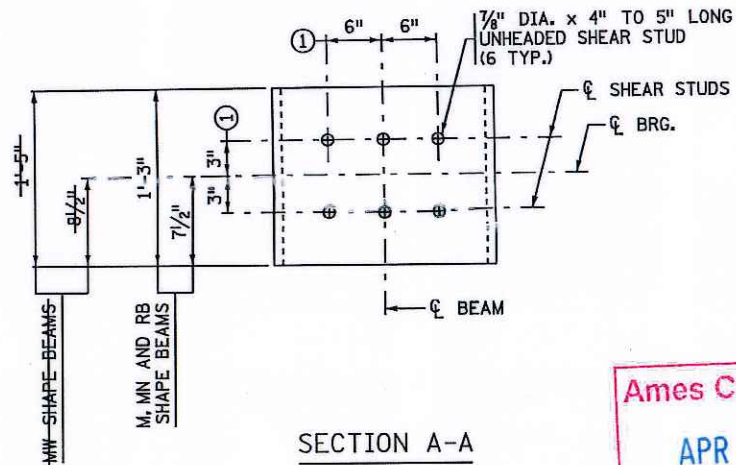
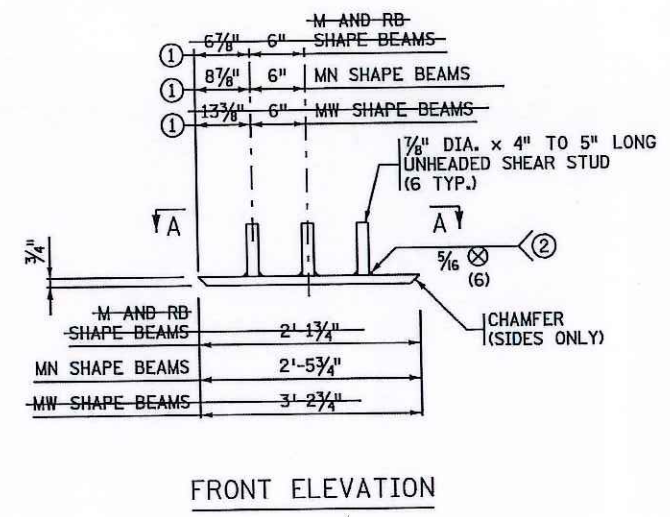
DRAWING NO. 1

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: **GEORGE W. GORRILL**
 DATE: *4/10/14* LICENSE # **45883**

MNDOT ACCEPTANCE
D.J. Horn
 SIGNATURE
 DATE: *4/10/14*



S.P. NO. 6280-62646
 BRIDGE NO. 62646
 SHEET
 48
 OF
 55
DETAILS



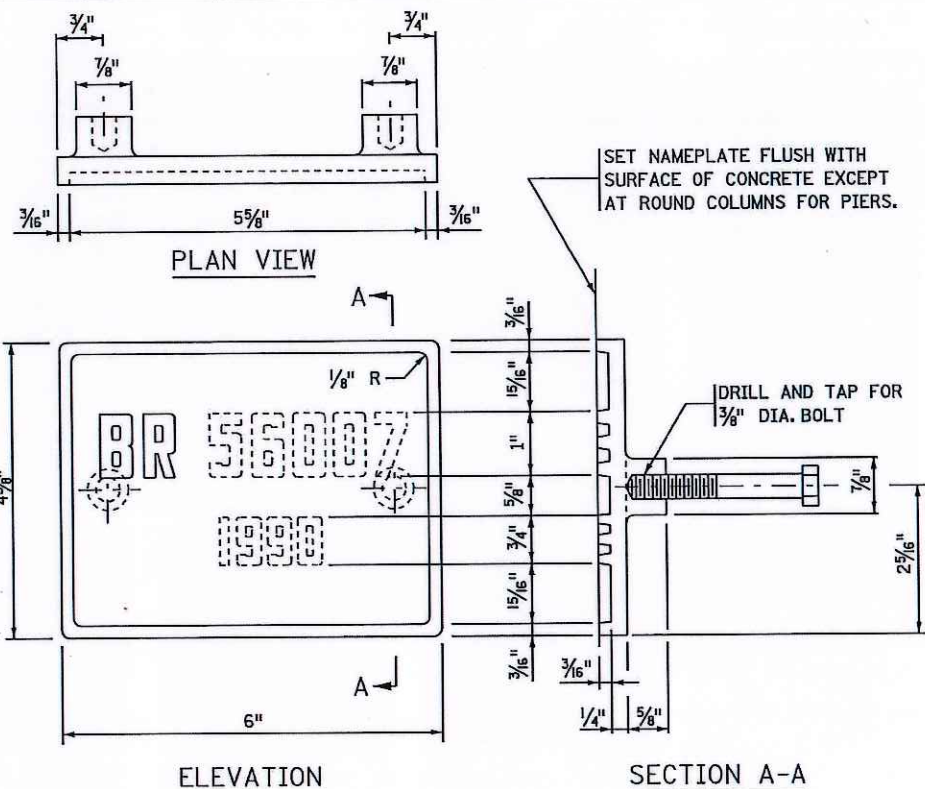
Ames Construction
 APR 11 2014
 Released for Construction

NOTES:

MATERIAL TO BE STRUCTURAL STEEL PER MnDOT SPEC. 3306.
 WELDED STUDS TO BE WELDABLE CARBON STEEL PER MnDOT SPEC. 3391.2D.
 SOLE PLATE FOR BEARING ASSEMBLY TO BE GALVANIZED PER MnDOT SPEC. 3394 AFTER FABRICATION.
 SOLE PLATES ARE INCIDENTAL TO PRESTRESSED CONCRETE BEAMS.
 ① THESE DIMENSIONS MAY BE MODIFIED TO CLEAR PRESTRESSED STRANDS. HOWEVER, CHANGES MUST BE APPROVED BY THE ENGINEER.
 ② THE REQUIREMENTS FOR WELDING STUDS SHALL COMPLY WITH AASHTO/AWS D1.1.

MODIFICATIONS:
 REMOVED PINTLE HOLES FROM SOLE PLATE.
 REMOVED NOTES REFERING TO PINTLE HOLES.

17-15
 06-1-APR-2014
 CBI-622646-11r-1B.dgn

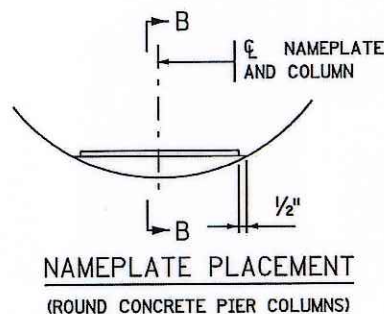


SET NAMEPLATE FLUSH WITH SURFACE OF CONCRETE EXCEPT AT ROUND COLUMNS FOR PIERS.

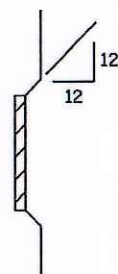
DRILL AND TAP FOR 3/8" DIA. BOLT

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

BRIDGE 62646
YEAR 2014



NAMEPLATE PLACEMENT
(ROUND CONCRETE PIER COLUMNS)

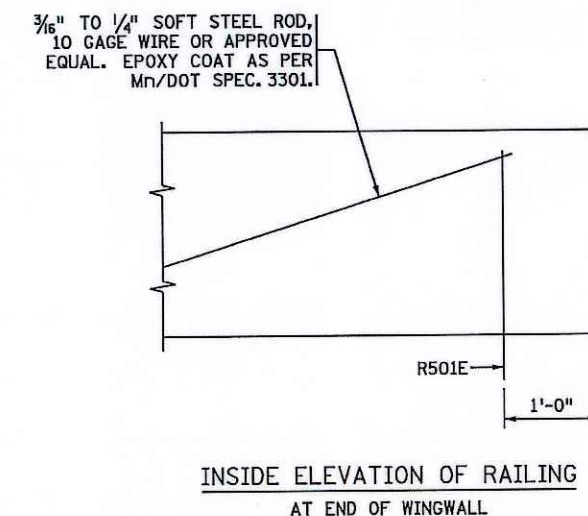
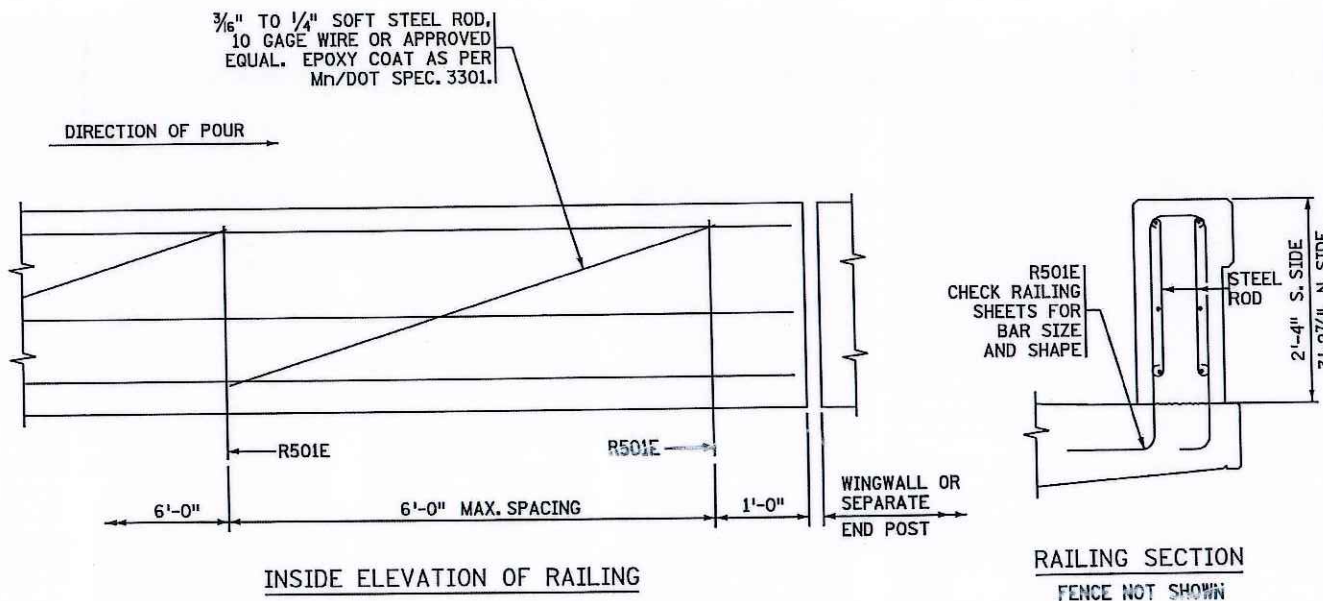


SECTION B-B



NUMBERS FOR NAMEPLATE

- NOTES:**
- NO SHOP DRAWING REQUIRED.
 - MATERIAL SHALL COMPLY WITH Mn/DOT SPEC. 3327.
 - LETTERS AND NUMBERS SHALL CONFORM TO THOSE SHOWN.
 - DRAFT ON LETTERS AND NUMBERS SHALL NOT BE MORE THAN 3" IN 12".
 - HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.
 - TOP SURFACE OF LETTERS, NUMBERS AND FRAMES SHALL BE BURNISHED.
 - FURNISH 2 STEEL BOLTS 3/8" DIA. x 3" LONG WITH EACH PLATE.
 - ALL DIMENSIONS FOR 3/4" HIGH LETTERS AND NUMBERS SHALL BE IN DIRECT PROPORTION TO THOSE SHOWN FOR THE 1" HIGH LETTERS AND NUMBERS.



Ames Construction
APR 11 2014
Released for Construction

- 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

Daniel J. Morgan
STATE BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE NAMEPLATE
(FOR NEW BRIDGES)

REVISION
DETAIL NO.

B101

APPROVED:
DES: ZAT
CHK: GDF
DR: MMF
CHK: JLJ

APPROVED: NOVEMBER 22, 2002

Daniel J. Morgan
STATE BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET RAILING
(SLIPFORM ALTERNATE)

REVISION
4-17-2013

DETAIL NO.

B831

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: GEORGE W. GORRILL
DATE: 4/11/14 LICENSE # 46863

MANDOT ACCEPTANCE
SIGNATURE: *Daniel J. Morgan*
DATE: 4/11/14

AMES TEAM

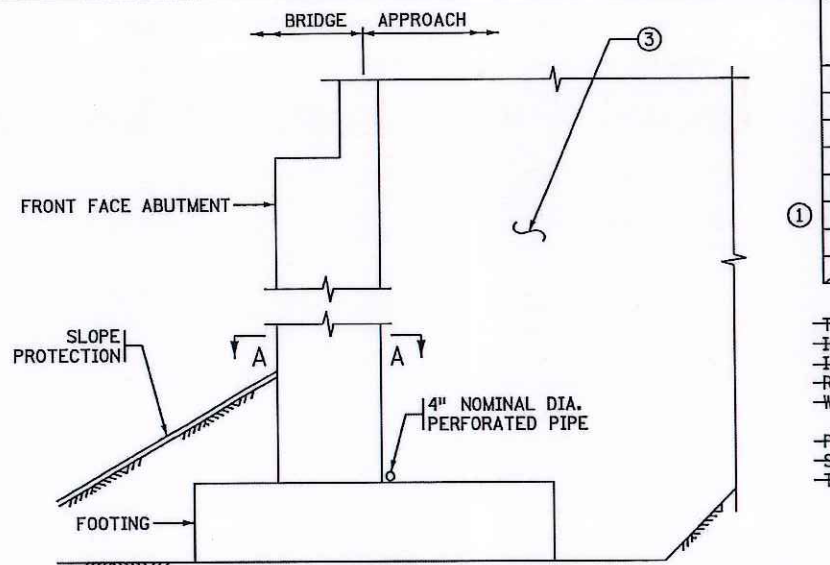
S.P. NO. 6280-62646

BRIDGE NO. 62646

SHEET

DETAILS

49
OF
55

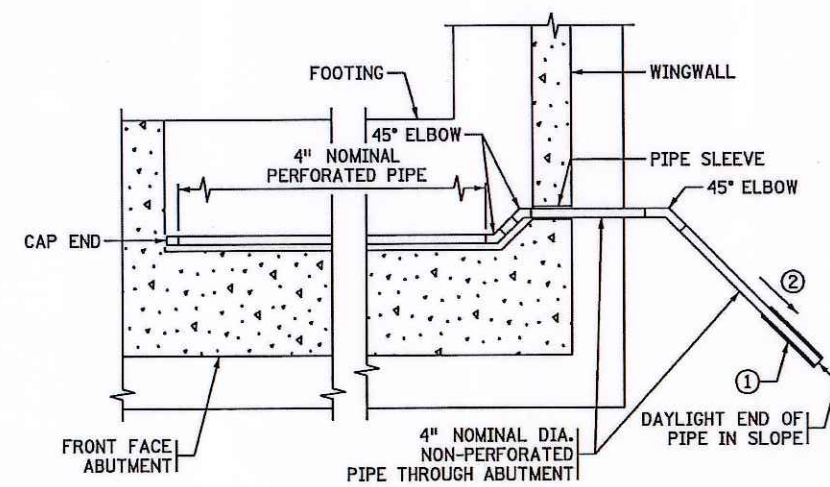


SECTION THROUGH PARAPET AND SEMI INTEGRAL ABUTMENTS

SUMMARY OF QUANTITIES FOR DRAINAGE SYSTEM	
4" DIA. PERFORATED PIPE	- LIN. FT.
4" DIA. NON-PERFORATED PIPE	- LIN. FT.
45° ELBOW	- EACH
4" DIA. END CAP	- EACH
PIPE SLEEVE	- EACH
PRECAST CONCRETE HEADWALL	- EACH
(FOR INFORMATION ONLY)	

① THE SUMMARY OF QUANTITIES FOR DRAINAGE SYSTEM IS AS SHOWN ABOVE. ANY ADDITIONAL MINOR ITEMS OR SLIGHT CHANGES OF QUANTITIES REQUIRED SHALL BE FURNISHED BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION.

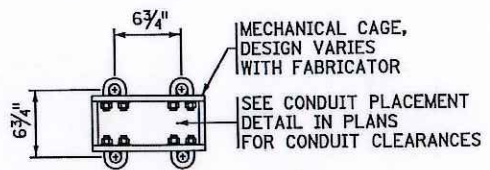
PAYMENT WILL BE INCLUDED IN THE SINGLE LUMP-SUM PRICE FOR ITEM 2502.502 "DRAINAGE SYSTEM - TYPE (B910)".



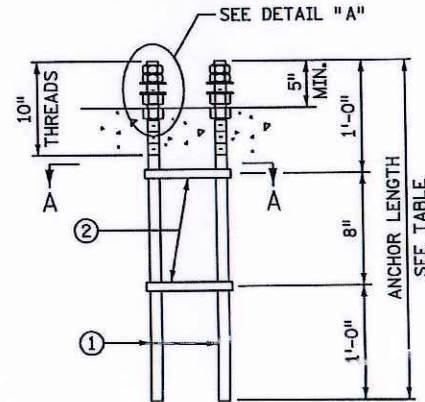
SECTION A-A ④

- NOTES:**
- ALL PIPE SHALL COMPLY WITH Mn/DOT SPEC. 3245.
 - WRAP PERFORATED PIPE WITH GEOTEXTILE AS PER Mn/DOT SPEC. 3733, TYPE 1. ATTACH TO PIPE AS PER Mn/DOT SPEC. 2502.
 - ① PRECAST CONCRETE HEADWALL WITH RODENT SCREEN. SEE STANDARD PLATE 3131 FOR DETAILS.
 - ② 1/8" PER FT. MINIMUM SLOPE.
 - ③ MATERIAL SHALL COMPLY WITH Mn/DOT SPEC. 3149.2B SELECT GRANULAR BORROW, MODIFIED SO THAT NO MORE THAN 10% PASSES A NO. 200 SIEVE. (UNDER GRADING PORTION OF CONTRACT)
 - ④ SEE SHEET 5 AND 15 FOR EXACT LOCATION OF DRAINAGE SYSTEM AT EACH ABUTMENT.

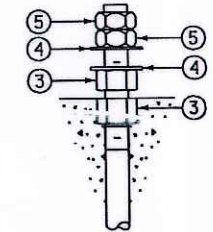
MODIFICATIONS:
ADDED TWO 45° BENDS AT ABUTMENT CORNER FILLETS.



SECTION A-A
ALTERNATE MECHANICAL CAGE



ELEVATION



DETAIL "A"

Ames Construction
 APR 11 2014
 Released for Construction

STANDARD RAIL TYPES (SEE PLANS FOR TYPE)	ANCHOR LENGTH
CONCRETE PARAPET TYPE P-1 MOD	2'-8"
CONCRETE PARAPET TYPE P-4 MOD	2'-8"

- NOTES:**
- ALL RODS ARE TO BE 3/4" NOMINAL DIA. WITH 1 - 8UNC - 2A THREADS. HEAVY HEX NUTS, JAM NUTS, AND FLAT WASHERS PER Mn/DOT SPEC. 3391.2A FOR 3/4" DIA. THREADED RODS. NUTS TO BE TAPPED 1/64" OVERSIZED PRIOR TO GALVANIZING, AND RETAPPED TO STANDARD SIZE AFTER GALVANIZING.
 - GALVANIZE THREADED RODS, CAGES, AND NUTS AFTER FABRICATION AS PER Mn/DOT SPEC. 3392.
 - TOP OF THE LOWER NUTS SHALL BE FLUSH WITH TOP OF CONCRETE RAILING.
 - SUBSTITUTE MATERIALS PER Mn/DOT SPEC. 1605.
 - ① THREADED RODS, STEEL AS PER Mn/DOT SPEC. 3309, 3310, OR 3385 TYPE B (4 REQUIRED).
 - ② PROVIDE A MECHANICAL CAGE FOR ROD ALIGNMENT. STEEL AS PER Mn/DOT SPEC. 3306 (2 REQUIRED).
 - ③ HEAVY HEX NUTS FOR 3/4" DIA. RODS (8 REQUIRED).
 - ④ FLAT WASHERS FOR 3/4" DIA. RODS (8 REQUIRED).
 - ⑤ JAM NUTS FOR 3/4" DIA. RODS (8 REQUIRED).

MODIFICATIONS:
REMOVED TWO ANCHOR RODS AND ADJUSTED ELEVATION MECHANICAL DETAILS ACCORDINGLY.
REMOVED WELDED CAGE ALTERNATIVE.
MODIFIED ANCHOR ROD DIA. TO 3/4".

DES: ZAT
 CHK: GBF
 DR: MMF
 CHK: JLJ
 APPROVED:

APPROVED: MARCH 26, 2009
Daniel J. Morgan
STATE BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
DRAINAGE SYSTEM

REVISED 10-22-2009
DETAIL NO. B910 MODIFIED

APPROVED: NOVEMBER 22, 2002
Daniel J. Morgan
STATE BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
ANCHOR BOLT CLUSTER FOR LIGHT POLES

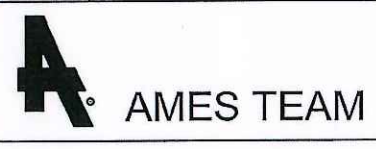
REVISED 10-26-2004
03-02-2005
DETAIL NO. B950 MODIFIED

NO	DATE	BY	CKD	APPR	REVISION

DRAWING NO. 1

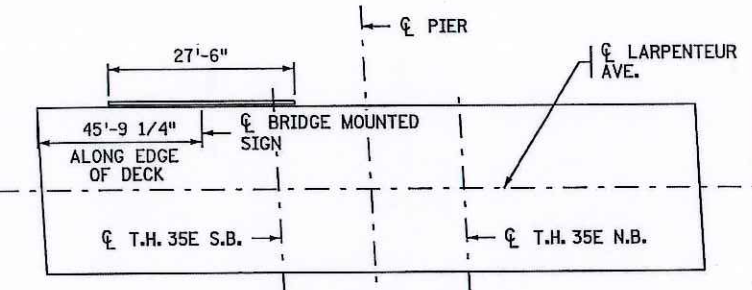
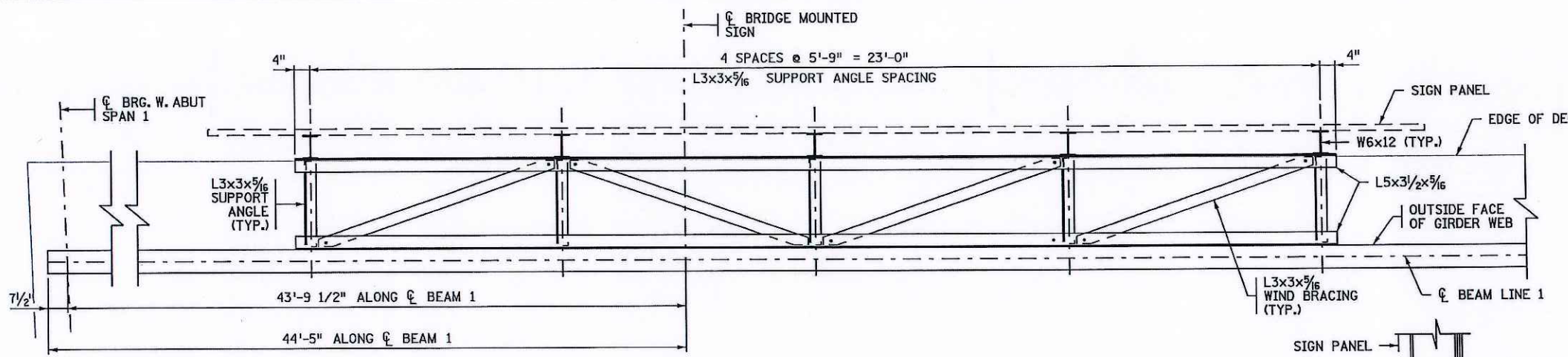
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: GEORGE W. GORRILL
DATE: 4/10/14 LICENSE # 46863

MDOT ACCEPTANCE
SIGNATURE: *D. J. Herman*
DATE: 4/11/14

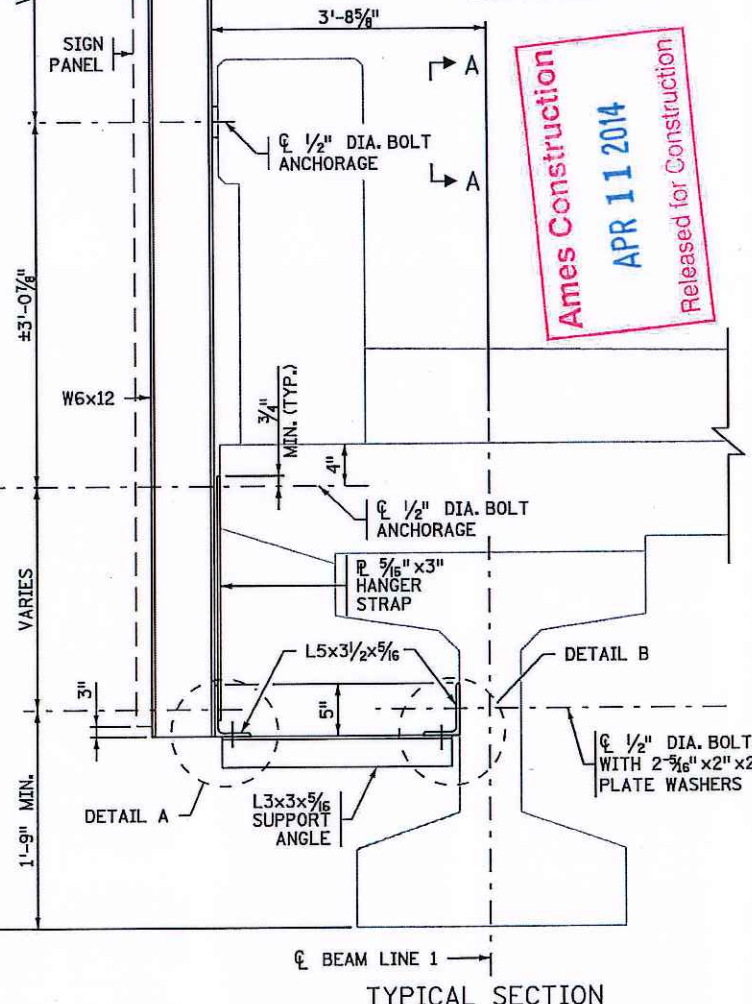
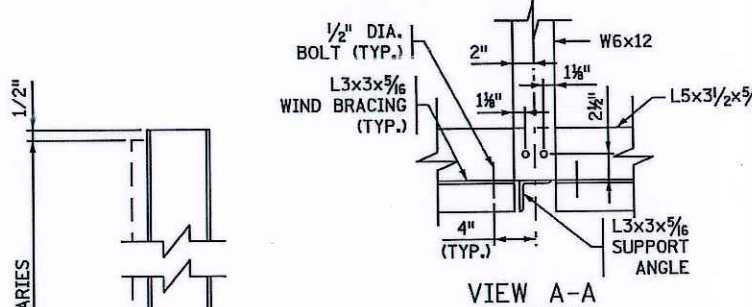
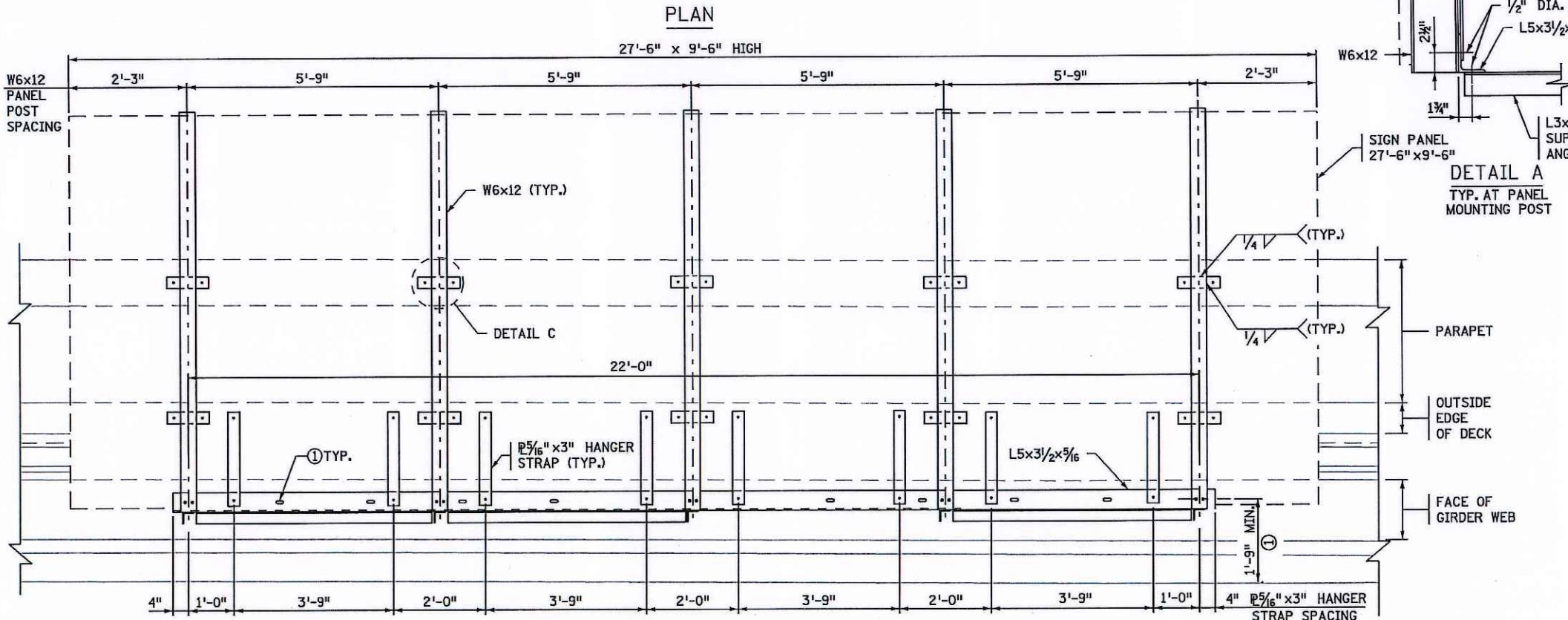


S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 5.0 OF 5.5
DETAILS		

17.17
 08-APR-2014
 GB-62646-11T-50.dgn

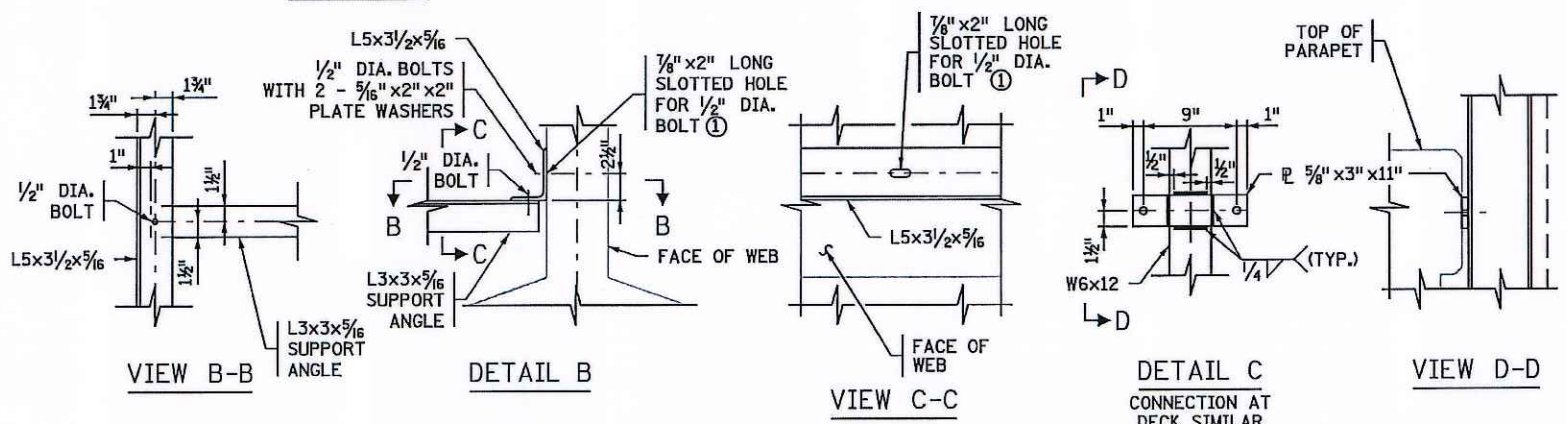


SIGN LOCATION
BR62646 E. LARPENTEUR AVE.
OVER T.H. 35E IN ST. PAUL



Ames Construction
APR 11 2014
Released for Construction

NOTES:
SIGN SUPPORTS TO BE VERTICAL.
SIGN TO BE PLACED HORIZONTALLY.
ALL CONNECTIONS TO BE 1/2" DIA. BOLTS PER MN/DOT 3391 (A325), EXCEPT AS NOTED. HOLES TO BE 5/16" DIA.
BOLT ANCHORAGES SHALL BE 1/2" DIA. CHEMICAL ADHESIVE TYPE, APPROVED BY THE ENGINEER. HOLES TO BE 4/2" DEEP, MINIMUM, AND SHALL HAVE A MINIMUM ULTIMATE PULLOUT STRENGTH OF 8000*.
ALL STEEL SHALL CONFORM TO MN/DOT 3306.
STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH SPEC. 3394.



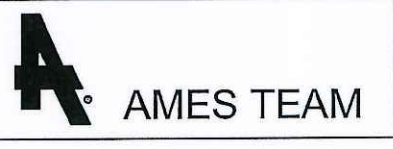
① FOR BOLT HOLES THRU GIRDER, SEE FORMED HOLE DIMENSION TABLES ON SHEET 30.

DES: ZAT	DR: MMF	APPROVED:
CHK: GDF	CHK: JLJ	

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: GEORGE W. GORRILL
DATE: 4/10/14 LICENSE # 48863

MNDOT ACCEPTANCE
SIGNATURE: Daw J Herman
DATE: 4/11/14



S.P. NO. 6280-62646	BRIDGE NO. 62646	SHEET 51 OF 55
BRIDGE MOUNTED SIGN		

17:18 08-APR-2014 08:52:46 .R1P51.dgn

CONCRETE WEARING COURSE

LOW SLUMP
OTHER TYPE OR MANUFACTURER

EXPANSION JOINTS

JOINT MANUFACTURER
MANUFACTURER'S IDENTIFICATION MFR'S No. AND/OR LETTER DESIGNATION FOR JOINT USED
GLAND MANUFACTURER NAME AND ADDRESS (CITY, STATE)
SIZE OF GLAND
MANUFACTURER'S IDENTIFICATION MFR'S No. AND/OR LETTER DESIGNATION FOR GLAND USED

ELASTOMERIC BEARING PADS

PAD MANUFACTURER NAME AND ADDRESS (CITY, STATE)

SPECIAL SURFACE FINISH

SYSTEM: COLOR:

FINISHING ROADWAY FACES OF BARRIER RAILING

TYPE: COLOR:

ANTI-GRAFFITI COATING

MANUFACTURER NAME AND ADDRESS (CITY, STATE)
PRODUCT NAME: LOCATION:

PAINT SYSTEM

Mn/DOT SPECIFICATION NUMBER 2478 OR 2479 OR OTHER
MANUFACTURER NAME AND ADDRESS (CITY, STATE)
PRIME COAT Mn/DOT MATERIAL SPECIFICATION NUMBER
INTERMEDIATE COAT Mn/DOT MATERIAL SPECIFICATION NUMBER
FINISH COAT Mn/DOT MATERIAL SPECIFICATION NUMBER COLOR

PLAN QUALITY

RATE 1 (AGREE), 2 (NEUTRAL), OR 3 (DISAGREE, PLEASE COMMENT BELOW)
DIMENSIONING AND DETAILING ADEQUATELY DESCRIBED REQUIRED CONSTRUCTION.
BAR LISTS AND QUANTITIES WERE TYPICALLY COMPLETE AND FREE OF ERRORS.
SCALE OF DRAWINGS AND OVERALL LEGIBILITY OF LINES AND TEXT WAS GOOD.
(SB) SPECIAL PROVISIONS ADEQUATELY DESCRIBED SPECIAL WORK AND PAYMENT.
COMMENTS:
NUMBER OF BRIDGE SUPPLEMENTAL AGREEMENTS: COST: \$

LIST SIGNIFICANT ERRORS OR OMISSIONS IN PLAN DETAILS OR PAY QUANTITIES IN THE SPACE PROVIDED AT RIGHT.

BRIDGE REMOVAL / BRIDGE OPENING

NUMBER OF AND DATE OLD BRIDGE WAS REMOVED (IF APPLICABLE):
BRIDGE NUMBER DATE REMOVED
DATE NEW BRIDGE WAS OPENED TO TRAFFIC
NOTIFY THE BRIDGE OFFICE BRIDGE MANAGEMENT UNIT WITH THIS INFORMATION AS SOON AS POSSIBLE. (651) 366-4557

OTHER ITEMS

UTILITIES ADDED DURING CONSTRUCTION AND SPECIALTY ITEMS.
FINAL QUANTITIES ENTERED ON SCHEDULE OF QUANTITIES: YES NO

SUMMARY OF SIGNIFICANT AS-BUILT CHANGES

Blank lines for summary of significant as-built changes.

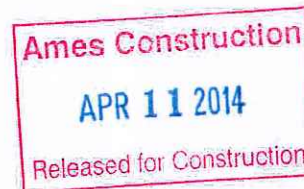
THE AS-BUILT INFORMATION WAS ADDED TO THE PLAN BY:

INSPECTOR(S) SIGNATURE DATE

CHECKED BY: PROJECT ENGINEER/SUPERVISOR SIGNATURE DATE

AT THE TIME OF THE FINAL, THIS COMPLETED AS-BUILT BRIDGE DATA SHEET MUST BE SUBMITTED TO THE BRIDGE OFFICE - ATTN: REGIONAL CONSTRUCTION ENGINEER (MS610).

AS-BUILT DETAILS (AS NEEDED)



REVISION: 10-28-2008
APPROVED: SEPTEMBER 26, 2003
State Bridge Engineer signature

DES: ZAT DR: MMF APPROVED:
CHK: GDF CHK: JLJ

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: GEORGE W. GORBILL
DATE: 4/10/14 LICENSE #: 46863

MNDOT ACCEPTANCE
SIGNATURE: [Signature]
DATE: 4/11/14



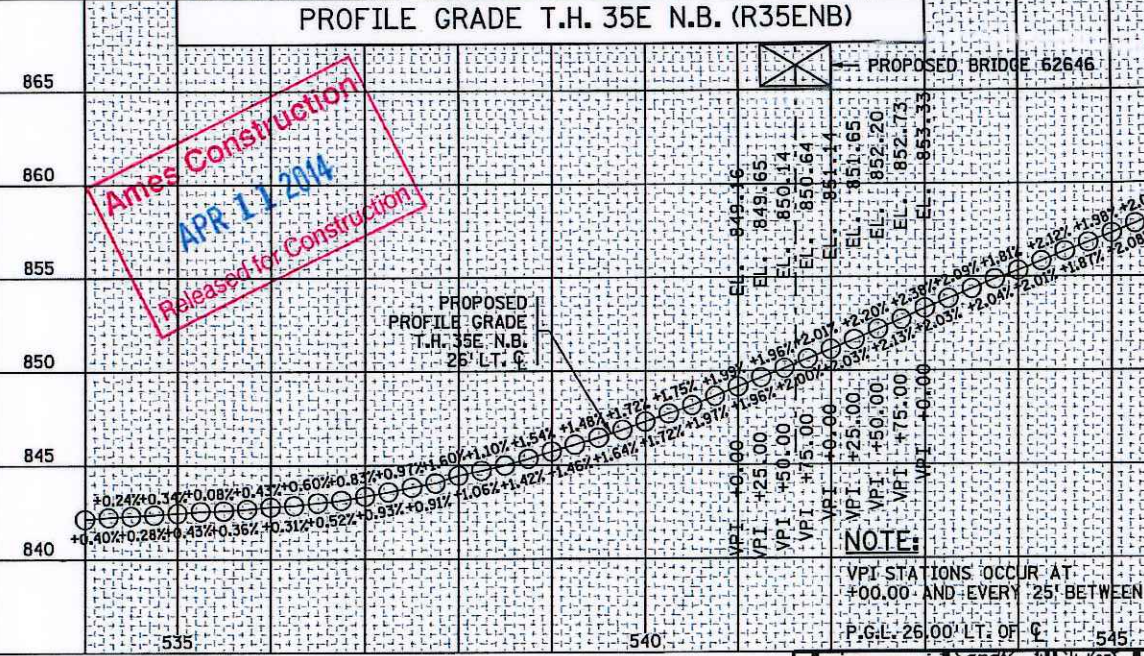
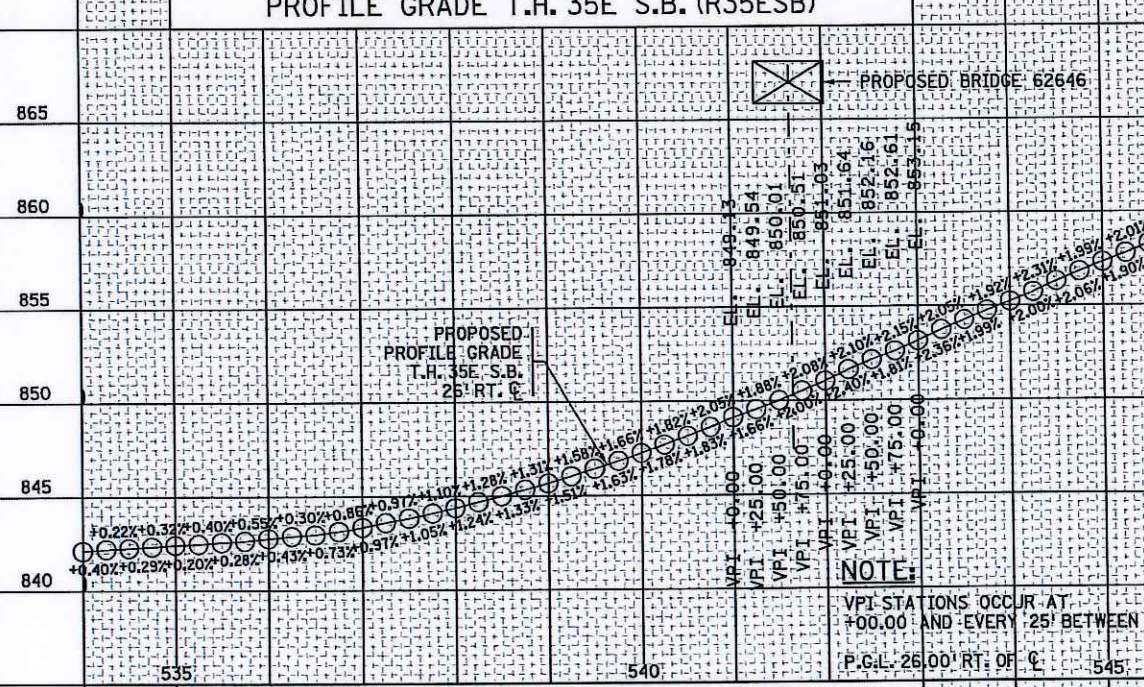
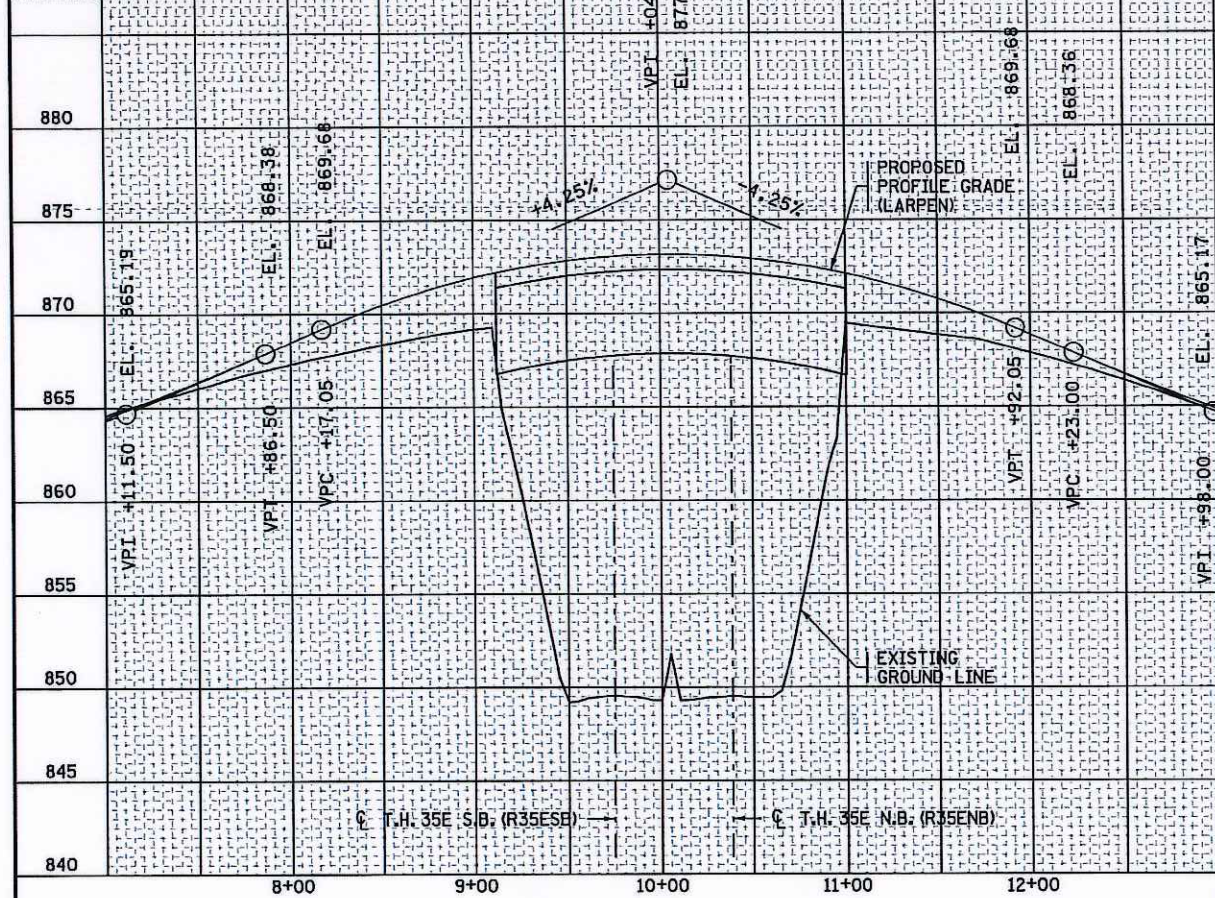
S.P. NO. 6280-62646 BRIDGE NO. 62646 SHEET 52 OF 55
AS-BUILT BRIDGE DATA

CONTRACTED PROFILE
SCALE: 0 25' 50' 0 2.5' 5'
HORIZONTAL VERTICAL

PROFILE GRADE LARPEN AVE. (LARPEN)

TYPICAL SECTIONS & PERTINENT DATA
SCALES AS SHOWN

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE



- SPECIAL FEATURES: WATERFALLS, DAMS, FLOODS, ICE, DEBRIS, SLIDING BANKS, RECREATIONAL BOATING.
- 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.
- APPARENT HIGHWATER ELEVATION OBTAINED FROM:
- OTHER DATA: APPROX. VELOCITY OF WATER AT TIME OF SURVEY.

HYDRAULIC ENGINEERS RECOMMENDATION

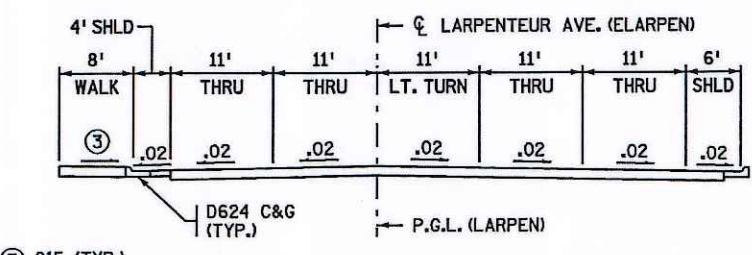
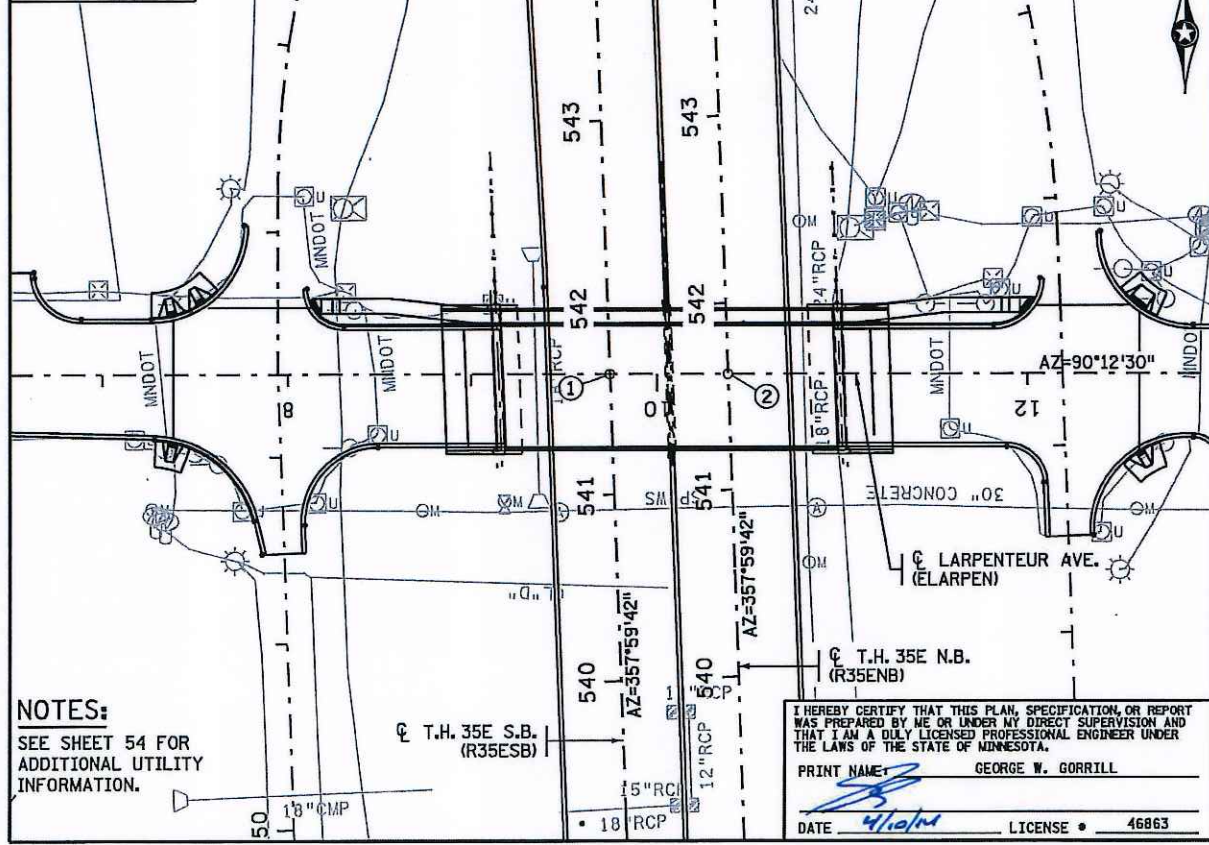
DATE: XX-XX-XX
STREAM OR DITCH DESIGNATION: XXX
DRAINAGE AREA: XXX SQ. MI.
MAX. FLOOD ON RECORD: XXX C.F.S. (XX-XX-XX)
MAXIMUM OBSERVED HIGHWATER ELEVATION: XXX.X FT.
DESIGN FLOOD (XX YR. FREQ.): XXX C.F.S.
HEADWATER ELEVATION: XXX.X FT.
DESIGN MEAN VELOCITY THROUGH STRUCTURE: X.X F.P.S.
TOTAL STAGE INCREASE: XXX FT.
LOW MEMBER AT OR ABOVE ELEVATION: XXX.X FT.
WATERWAY AREA REQUIRED BELOW ELEV. XXX.X = XXX SQ. FT. AT RIGHT ANGLES TO CHANNEL
BASIC FLOOD (100 YR. FREQ.): XXXX C.F.S.
HEADWATER ELEVATION: XXX.X FT.
TOTAL STAGE INCREASE: X.X FT.
MEAN VELOCITY THROUGH STRUCTURE: X.X F.P.S.
FLOWLINE ELEVATION: XXX.X FT. SKEW ANGLE: XX°
ESTIMATED PRELIMINARY TOTAL SCOUR AT PIER EL. XXX.X (500 OR 01 YR. FREQ.)

SCOUR CONFIRMATION RECOMMENDATION

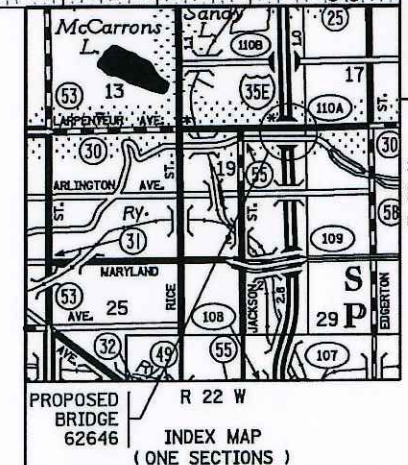
DATE: XX-XX-XX
TOTAL SCOUR AT PIER EL. XXX.XX (500 OR 01 YR. FREQ.)
SCOUR CODE: OBTAIN FROM HYDRAULIC ENGINEER

BRIDGE SURVEY SHEETS MADE FROM :
cd6280367_pr.dgn; Exhibit_6H_Certified_SUE_PLANS.dgn;
CD6280367_gm.dgn; cd6280367_cl.dgn
BENCH MARK ELEVATION 872.308 (N.A.V.D. 88 ADJ.)
LOCATION #24829 6280 AH RESET
AT ST. PAUL-MAPLEWOOD CITY LIMITS, IN BRIDGE RAILING IN SOUTHEAST CORNER OF LARPEN AVE BRIDGE NUMBER 6514 OVER INTERSTATE HIGHWAY 35E, 0.6 MILE WEST ALONG LARPEN AVE FROM JUNCTION OF LARPEN AVE AND EDGERTON STREET.
2nd BENCH MARK ELEVATION 863.253 (N.A.V.D. 88 ADJ.)
LOCATION #24827 6280 AG
IN ST. PAUL, IN SOUTHEAST CORNER OF WHELOCK PARKWAY BRIDGE NUMBER 6511 OVER INTERSTATE HIGHWAY 35E, 0.7 MILE WEST-NORTHWEST ALONG WHELOCK PARKWAY FROM THE JUNCTION OF WHELOCK PARKWAY AND EDGERTON STREET IN ST. PAUL.

PLAT
SCALE: 0 25' 50'



TYPICAL APPROACH SECTION
① C LARPEN AVE. STA. 9+74.39
X = 576,050.659 Y = 173,325.222
② C LARPEN AVE. STA. 10+38.44
X = 576,114.706 Y = 173,324.989



MINNESOTA
DEPARTMENT OF TRANSPORTATION
BRIDGE SURVEY
PROPOSED BRIDGE LOCATED 1.3 MILES SOUTH OF JCT. OF T.H. 36
SEC 19 T 29 N R 22 W
COUNTY: RAMSEY
CITY OF ST. PAUL
BRIDGE NO: 62646

STATE PROJECT NO. 6280-367

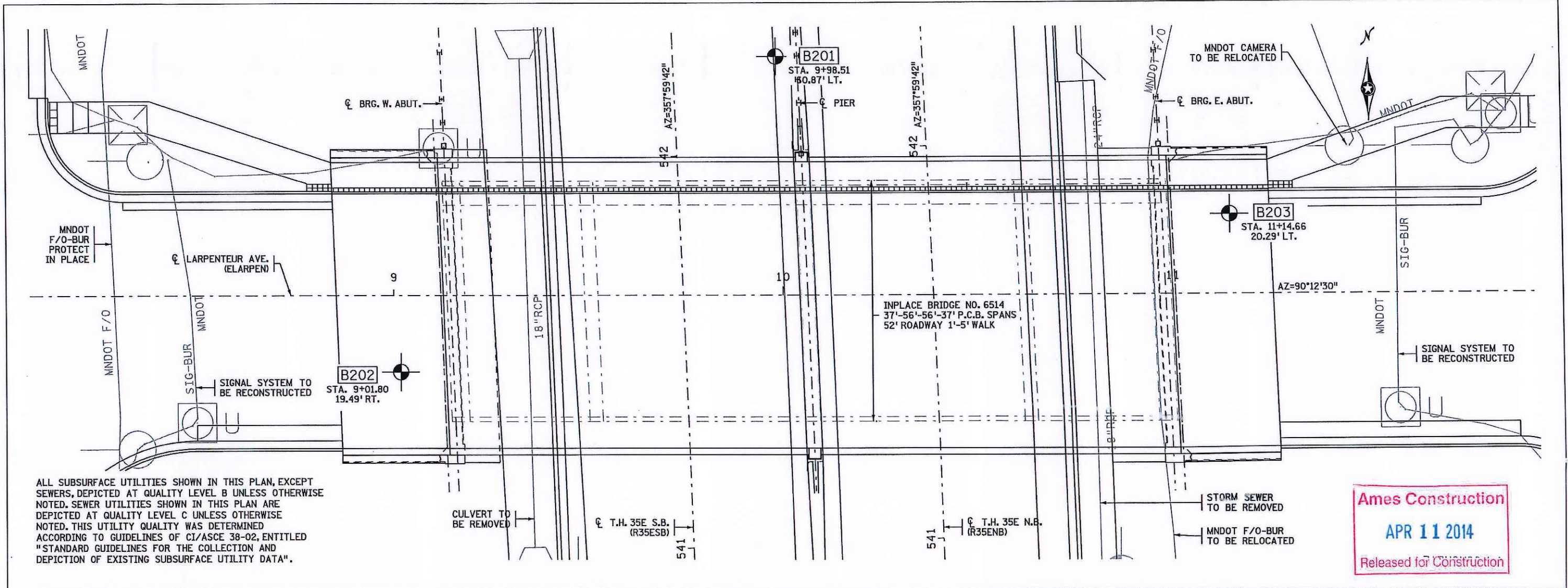
Accepted by: *Dan J. Horn*
Date: 4/11/14

SHEET NO. 53 OF 55 SHEETS

10-APR-2014 09:56 CBR62646_sfr53.dgn

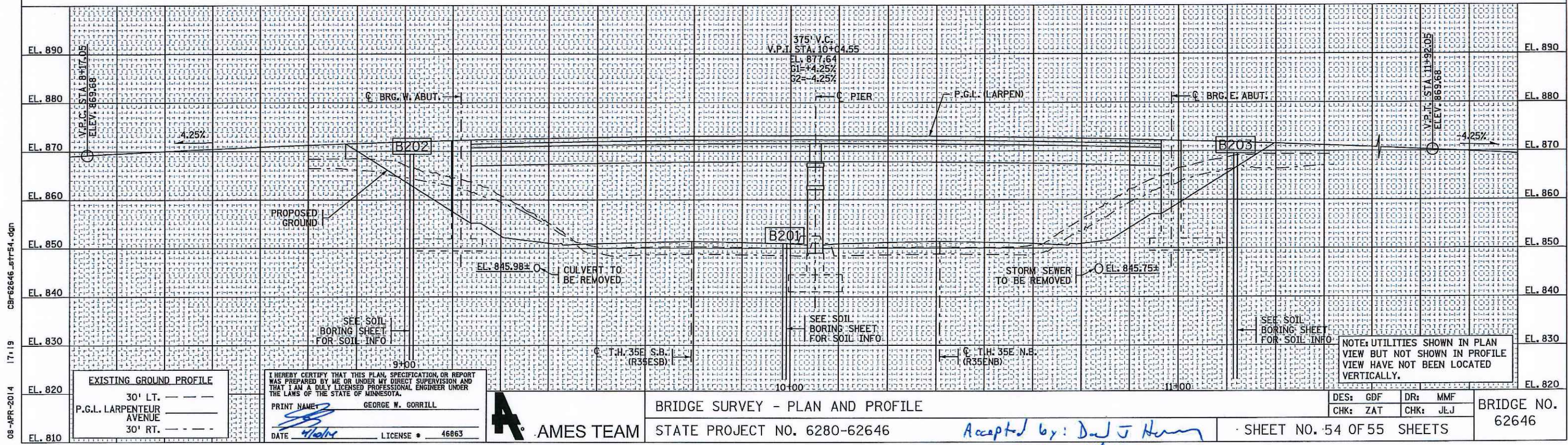
NOTES:
SEE SHEET 54 FOR ADDITIONAL UTILITY INFORMATION.

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: GEORGE W. GORRILL
DATE: 4/10/14 LICENSE: 46863



ALL SUBSURFACE UTILITIES SHOWN IN THIS PLAN, EXCEPT SEWERS, DEPICTED AT QUALITY LEVEL B UNLESS OTHERWISE NOTED. SEWER UTILITIES SHOWN IN THIS PLAN ARE DEPICTED AT QUALITY LEVEL C UNLESS OTHERWISE NOTED. THIS UTILITY QUALITY WAS DETERMINED ACCORDING TO GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

Ames Construction
 APR 11 2014
 Released for Construction

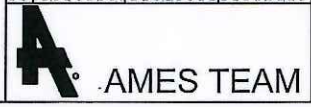


NOTE: UTILITIES SHOWN IN PLAN VIEW BUT NOT SHOWN IN PROFILE VIEW HAVE NOT BEEN LOCATED VERTICALLY.

08-APR-2014 17:19 CBR62646.stn54.dgn

EXISTING GROUND PROFILE
 30' LT. ---
 P.G.L. LARPEL AVE
 30' RT. ---

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: GEORGE W. GORRILL
 DATE: 4/11/14 LICENSE #: 46863

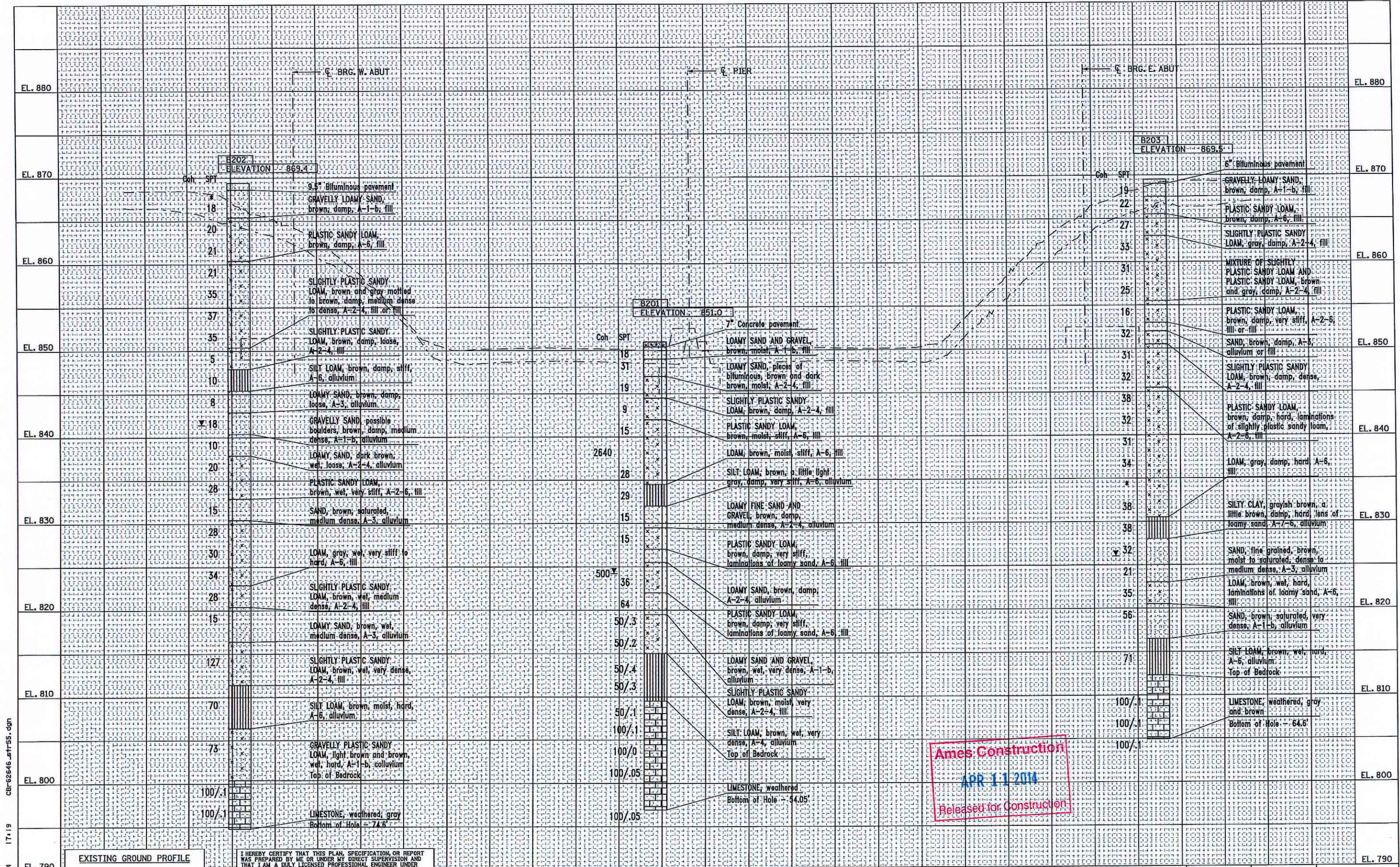


BRIDGE SURVEY - PLAN AND PROFILE
 STATE PROJECT NO. 6280-62646

Accepted by: *Dan J. Henn*
 Date: 4/11/14

DES: GDF DR: MMF
 CHK: ZAT CHK: JLJ

BRIDGE NO. 62646
 SHEET NO. 54 OF 55 SHEETS

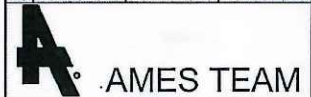


Ames Construction
APR 11 2014
Released for Construction

08-APR-2014 17:19 CB-62646.dwg

EXISTING GROUND PROFILE
30' LT. - - - - -
30' RT. - - - - -

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: **GEORGE W. GORRILL**
DATE: *4/10/14* LICENSE # 46863



BRIDGE SURVEY - SOIL BORINGS B201, B202, & B203
STATE PROJECT NO. 6280-62646

Accepted by: *D.J. Helm*
Date: *4/11/14*

DES: GDF DR: MMF
CHK: ZAT CHK: JLJ
SHEET NO. 55 OF 55 SHEETS
BRIDGE NO. 62646