

TRANSVERSE SECTION

NOTES:

- ① CONC. PARAPET (TYPE P-1) (MOD.) FIG 5-397.119 W/ORNAMENTAL METAL RAILING (TYP.)
- ② 1-1/2" Ø R.S.C. (LIGHTING)
- ③ 1-1/2" Ø R.S.C. (ITS)

Plotted By: 00010292
 Date Plotted: 27-APR-2012
 Time Plotted: 9:12:56 AM
 Pen Table: Mndot-Ipilot.pen
 File Path: 02-TransverseSect Ion_s12.dgn

MnDOT RELEASE FOR CONSTRUCTION
 702 [Signature] 5/11/2012
 SIGNATURE DATE

REVISION		DR.	CHK.	APPROVED
DATE	DESCRIPTION			

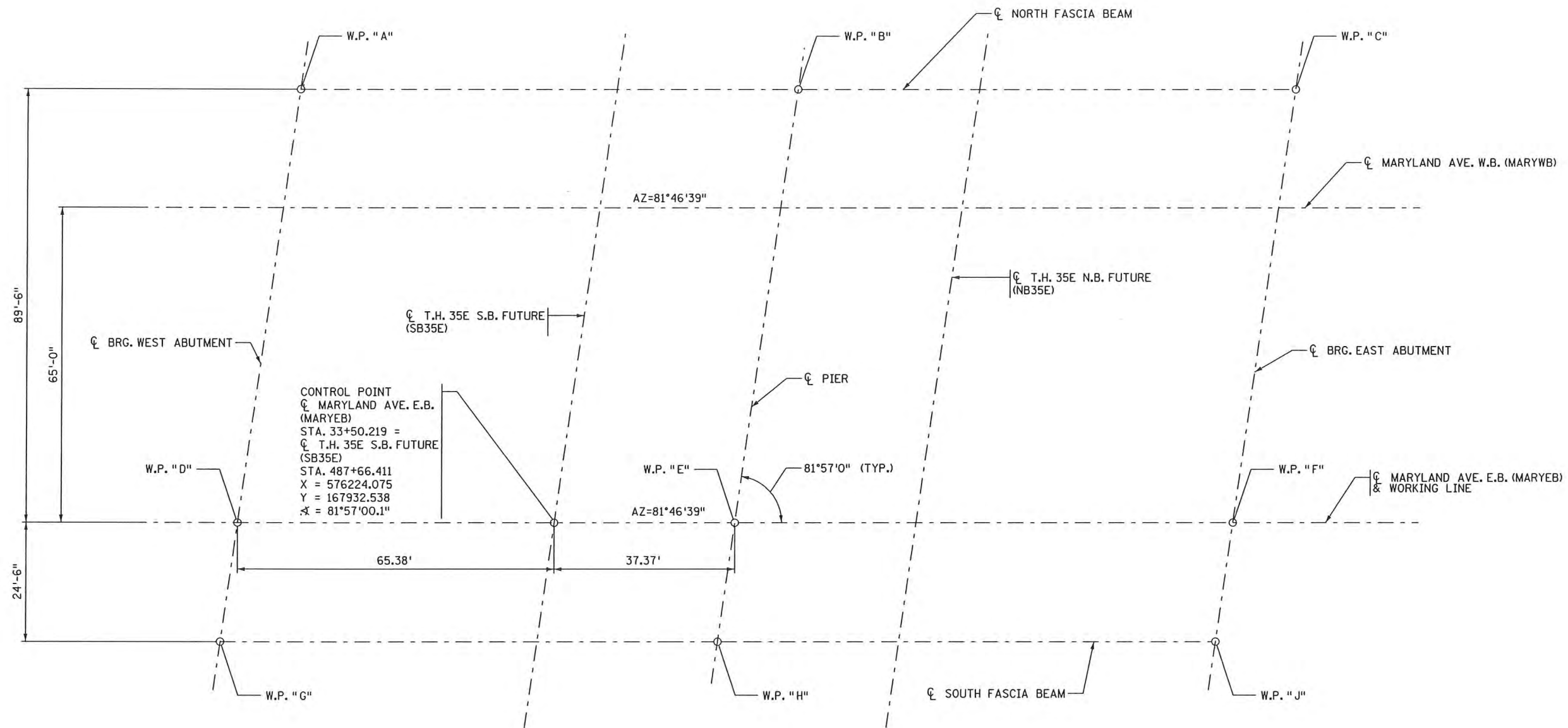


CERTIFIED BY *David L. St. Peter* 4/30/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: TRANSVERSE SECTION

DES: BJB DR: BJB APPROVED:
 CHK: DLS CHK: DLS
 SHEET NO. 2 OF 69

BRIDGE NO. 62626



CONTROL POINT
 CL MARYLAND AVE. E.B.
 (MARYEB)
 STA. 33+50.219 =
 CL T.H. 35E S.B. FUTURE
 (SB35E)
 STA. 487+66.411
 X = 576224.075
 Y = 167932.538
 Z = 81°57'00.1"

WORKING POINT LAYOUT

Plotted By: p0010292
 Date Plotted: 27-APR-2012
 Time Plotted: 3:13:06 AM
 Pen Table: Mndot-Iplot.pen
 File Path: 03_Br IdgeLayout_s12.dgn

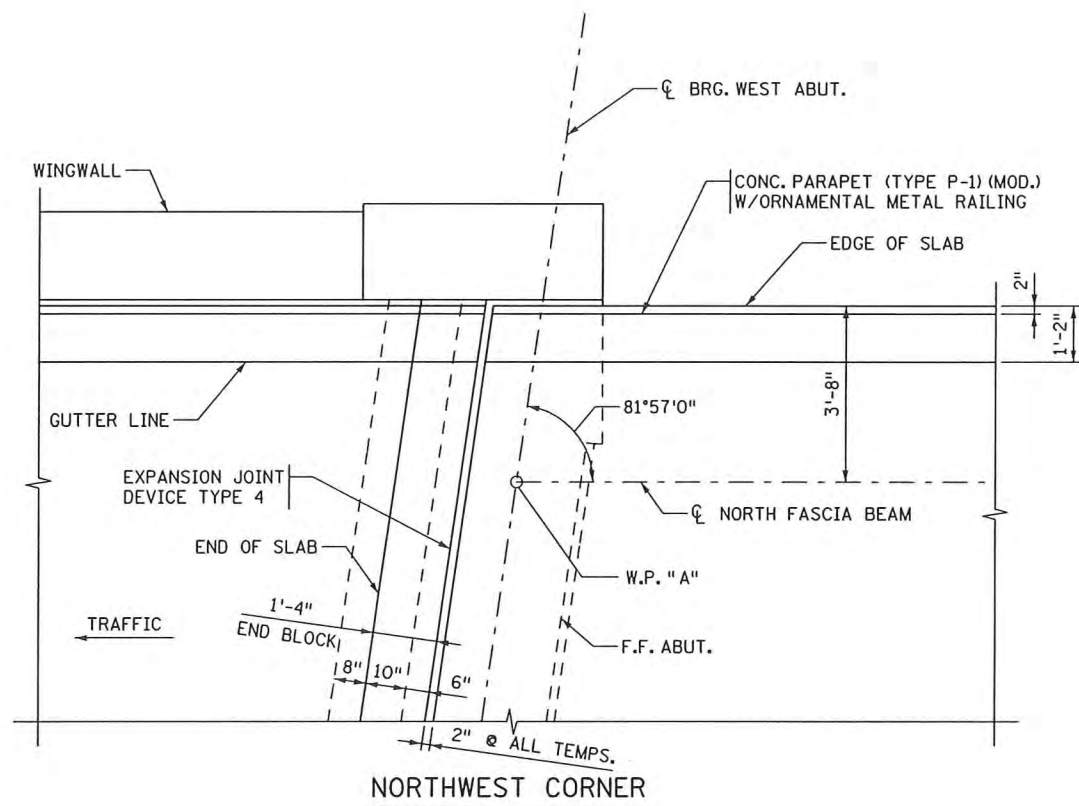
DIMENSIONS BETWEEN WORKING POINTS ELEVATIONS

POINT	STATION	X-COORDIN	Y-COORDIN	DIMENSIONS BETWEEN WORKING POINTS								ELEVATIONS			POINT	
				A	B	C	D	E	F	G	H	J	TOP OF ROADWAY	TOP OF RDWY TO BR. SEAT		BRIDGE SEAT
A	32+97.49	576159.093	168013.577		102.75		90.39	126.99		143.18	221.04	825.17	5.19	819.98	A	
B	34+00.24	576260.787	168028.272			102.75		90.39	126.99	164.70		143.18	828.04	5.09	822.95	B
C	35+03.00	576362.481	168042.968						90.39	249.22	164.70		830.92	5.19	825.73	C
D	32+84.84	576159.366	167923.187					102.75		24.74	102.26		825.40			D
E	33+87.59	576261.059	167937.882						102.75	24.74	102.26		828.28			E
F	34+90.34	576362.753	167952.577								24.74		831.16			F
G	32+81.37	576159.440	167898.443								102.75		824.94	5.19	819.75	G
H	33+84.12	576261.134	167913.138								102.75		827.81	5.09	822.72	H
J	34+86.87	576362.827	167927.834										830.69	5.19	825.50	J

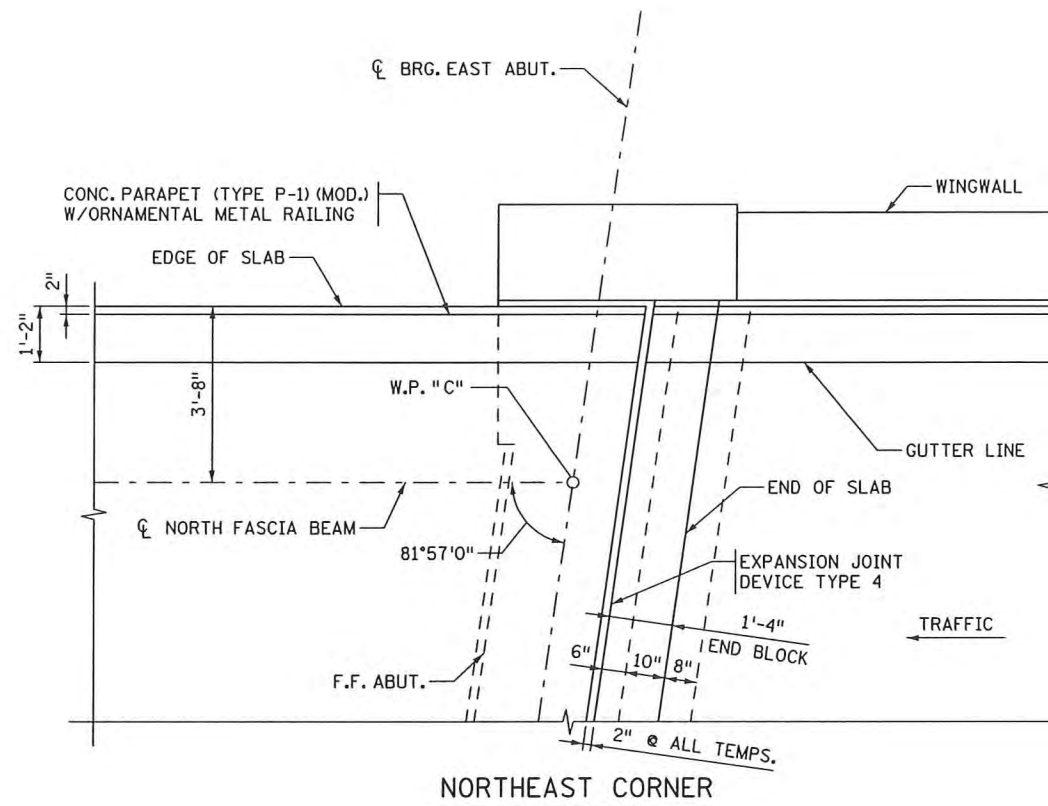
	DECK THICKNESS ①	STOOL HEIGHT ②	BEAM HEIGHT	BEARING HEIGHT	TOTAL	
					INCHES	FEET
W. ABUT	9 3/8"	3 5/8"	45"	4 5/8"	62 5/8"	5.22'
PIER - BACK	9 3/8"	3 5/8"	45"	3 1/4"	61 1/4"	5.10'
PIER - AHEAD	9 3/8"	4 1/8"	45"	3 1/4"	61 3/4"	5.15'
E. ABUT.	9 3/8"	3 5/8"	45"	4 5/8"	62 5/8"	5.22'

- NOTES:**
- ① DIMENSIONS ON THIS SHEET ARE GIVEN IN FEET EXCEPT AS NOTED.
 - ② 9" STRUCTURAL CONCRETE SLAB AND 3/8" CHIP SEAL WEARING COURSE. NO WEARING COURSE UNDER MEDIAN AND SIDEWALKS.
 - ③ THE STOOL HEIGHT AT THE "PIER - AHEAD" IS INCREASED 1/2" SO THE BEARING SEATS FOR BACK AND AHEAD ARE THE SAME ELEVATION. THE AVERAGE IS REPORTED AT THE WORKING POINT.

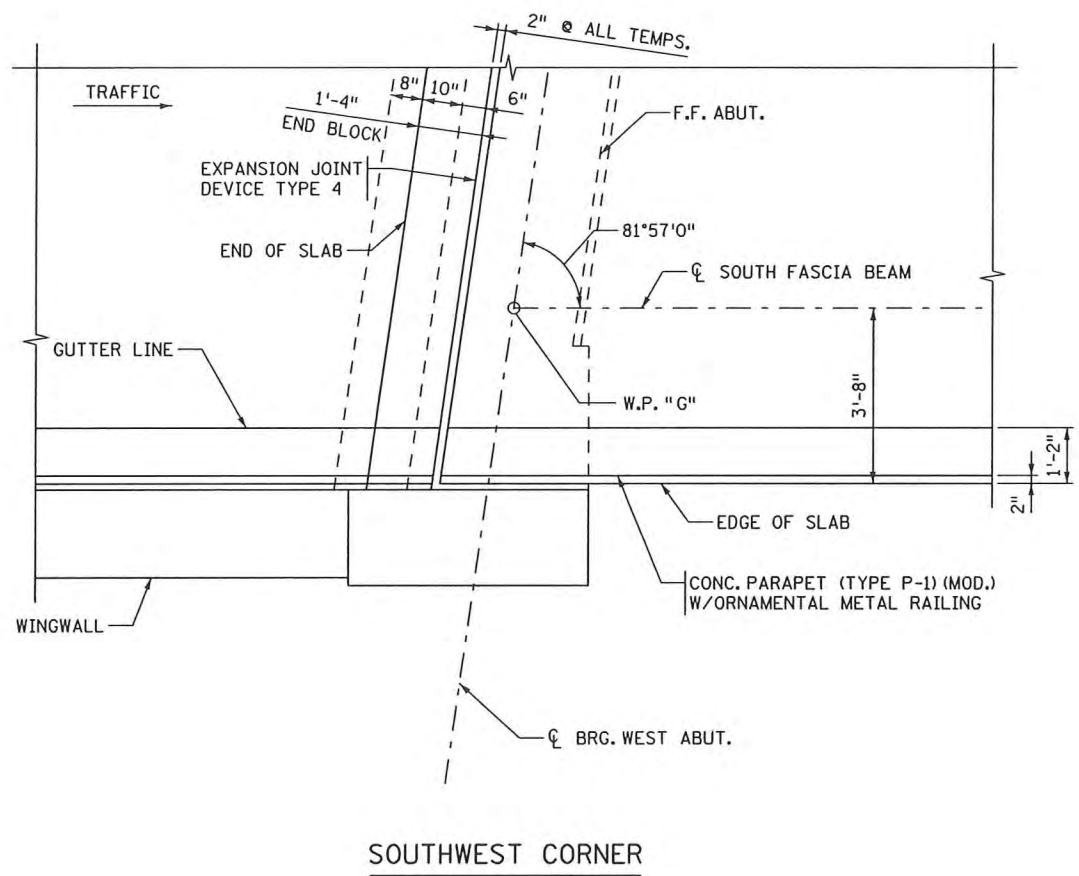
MndOT RELEASE FOR CONSTRUCTION SIGNATURE	REVISION DATE DESCRIPTION DR. CHK. APPROVED DATE	 PARSONS	CERTIFIED BY LICENSED PROFESSIONAL ENGINEER NAME: DAVID L. ST. PETER	4/30/12 DATE LIC. NO. 46841	TITLE: BRIDGE LAYOUT	DES: BJB	DR: BJB	APPROVED:	BRIDGE NO. 62626
						CHK: DLS	CHK: DLS		



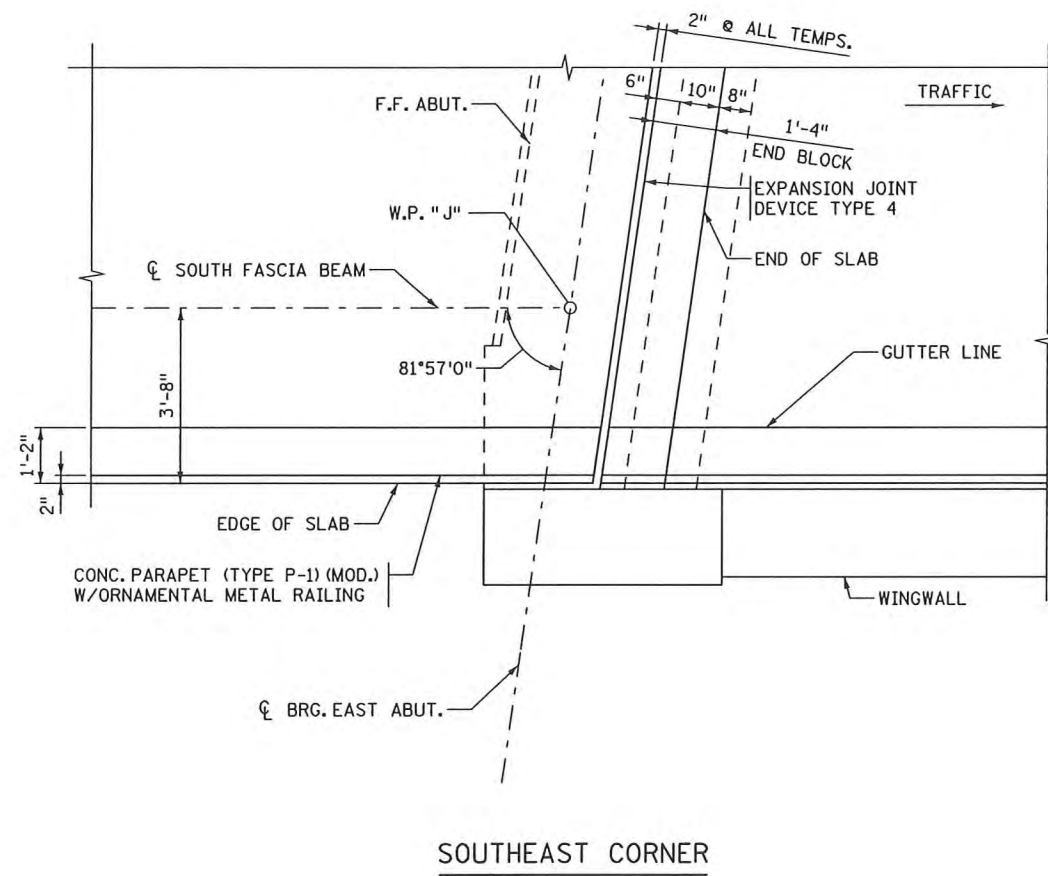
NORTHWEST CORNER



NORTHEAST CORNER



SOUTHWEST CORNER



SOUTHEAST CORNER

Plotted By: p0010292
 Date Plotted: 27-APR-2012
 Time Plotted: 9:13:16 AM
 Pen Table: MnDOT-Iplot.pen
 File Path: 04_CornerDetails_s12.dgn

MnDOT RELEASE FOR CONSTRUCTION

David L. St. Peter
 SIGNATURE

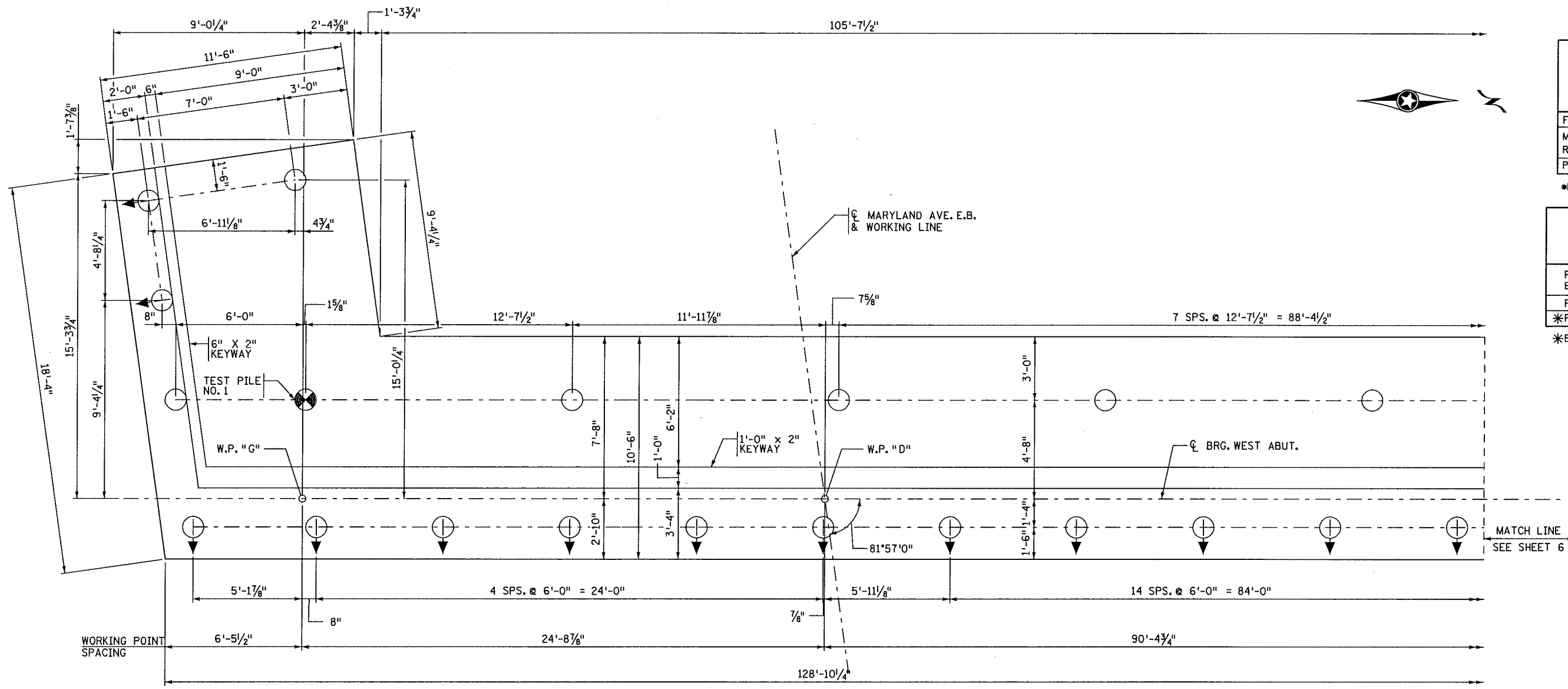
REVISION		DR.	CHK.	APPROVED
DATE	DESCRIPTION			
5/11/2012				



CERTIFIED BY *David L. St. Peter* 4/30/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: CORNER DETAILS

DES: BJB	DR: BJB	APPROVED:	BRIDGE NO. 62626
CHK: DLS	CHK: DLS	SHEET NO. 4 OF 69	



WEST ABUTMENT REQUIRED NOMINAL PILE BEARING RESISTANCE R _n - TONS/PILE		
FIELD CONTROL METHOD	φ _{dyn}	*R _n
MnDOT NOMINAL RESISTANCE FORMULA	0.40	309.3
PDA	0.65	190.3

*R_n = (FACTORED DESIGN LOAD)/φ_{dyn}

WEST ABUTMENT COMPUTED PILE LOAD - TONS/PILE	
FACTORED DEAD LOAD + EARTH PRESSURE	105.5
FACTORED LIVE LOAD	18.2
*FACTORED DESIGN LOAD	123.7

*BASED ON STRENGTH I LOAD COMBINATION

SOUTHWEST CORNER

FOOTING PLAN

PILE NOTES:

- 2 CAST-IN-PLACE CONC. TEST PILES 85 FT. LONG
- 38 CAST-IN-PLACE CONC. PILES EST. LENGTH 75 FT.
- 40 CAST-IN-PLACE CONC. PILES REQ'D FOR WEST ABUT.
- PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.
- ALL PILES TO HAVE A NOMINAL DIAMETER OF 12" AND A MINIMUM WALL THICKNESS OF 1/4".
- FOR PILE SPLICE DETAILS SEE SHEET 59, DETAIL B201.
- PILES MARKED THUS ⊙ TO BE BATTERED 3" PER FOOT IN DIRECTION SHOWN.
- ⊙ DENOTES TEST PILE.
- AT THE CONTRACTOR'S OPTION, PILES MAY BE DRIVEN LONGER TO ACHIEVE CAPACITY IN LIEU OF PERFORMING A RESTRIKE. SEE BRIDGE FADR DATED APRIL 6, 2012 FOR THE MARYLAND AVENUE BRIDGE DESIGN-BUILD PROJECT.
- PILE DRIVING AT THE WEST ABUTMENT SHALL NOT COMMENCE UNTIL AFTER GRADE HAS BEEN REESTABLISHED FROM EXCAVATION FOR 66" STORM DRAIN AT WEST EMBANKMENT.

Plotted By: p0010292
 Date Plotted: 07-JUN-2012
 Time Plotted: 2:03:27 PM
 Pen Table: MnDOT-Ip.lor.pen
 File Path: 05_WestAbutmentDetail1.s1_obt.dgn

MnDOT RELEASE FOR CONSTRUCTION
 Signature: *David L. St. Peter*
 Date: 6/11/12

REVISION		DR.	CHK.	APPROVED
DATE	DESCRIPTION	DLS	BJB	VTG
06/07/12	WINGWALL PILE MODIFICATION			

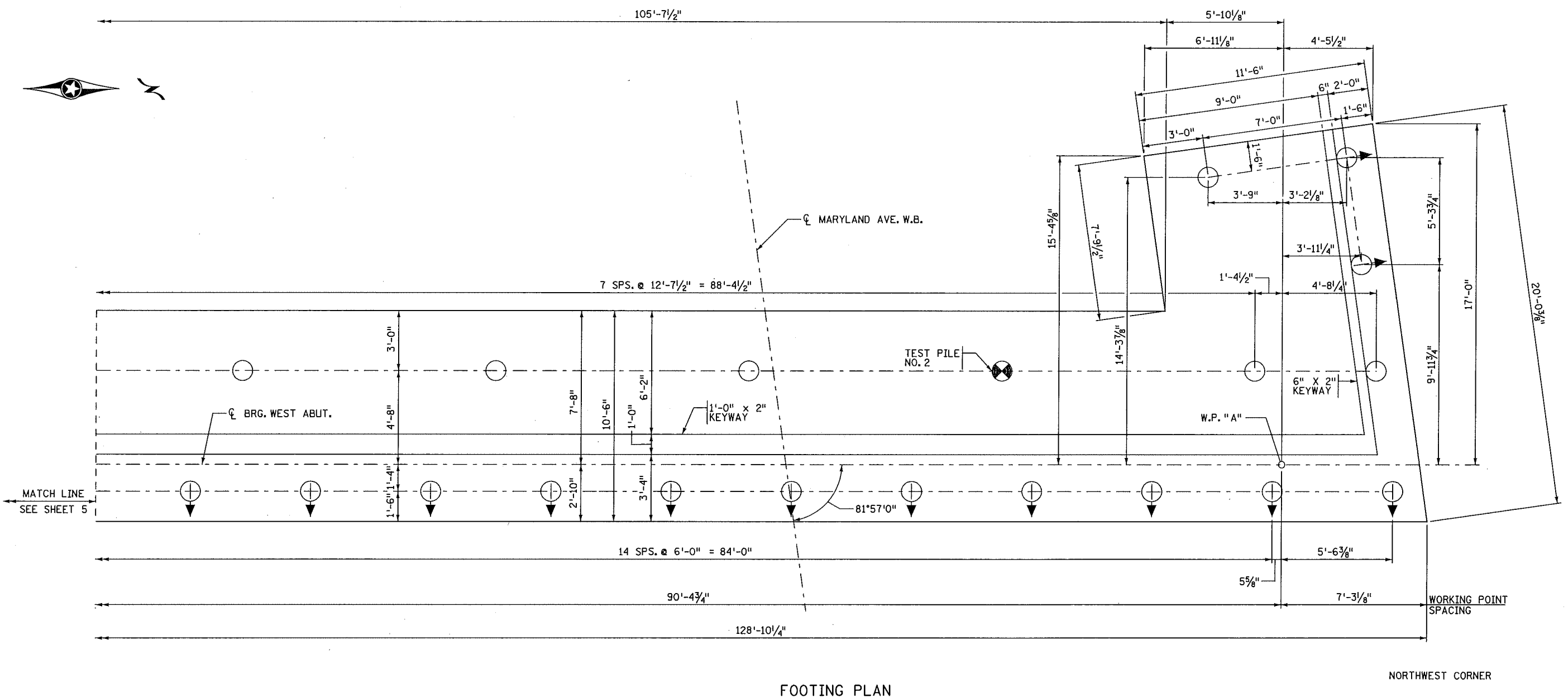


CERTIFIED BY *David L. St. Peter* 6/8/12
 LICENSED PROFESSIONAL ENGINEER
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: WEST ABUTMENT
 DETAILS 1

DES: KBD	DR: BJB	APPROVED:
CHK: BJB	CHK: DLS	
SHEET NO. 5 OF 69		

BRIDGE NO.
 62626



FOOTING PLAN

NORTHWEST CORNER

PILE NOTES:
SEE SHEET 5 FOR PILE NOTES.

Plotted By: p0010292
Date Plotted: 07-JUN-2012
Time Plotted: 2:03:38 PM
Pen Table: Mndot-Iplot.pen
File Path: 06_WestAbutmentDetail1.s2_dbt.dgn

MNDOT RELEASE FOR CONSTRUCTION
SIGNATURE: *David L. St. Peter*
DATE: 6/18/12

DATE	REVISION DESCRIPTION	DR.	CHK.	APPROVED
06/07/12	WINGWALL PILE MODIFICATION	DLS	BJB	YTC

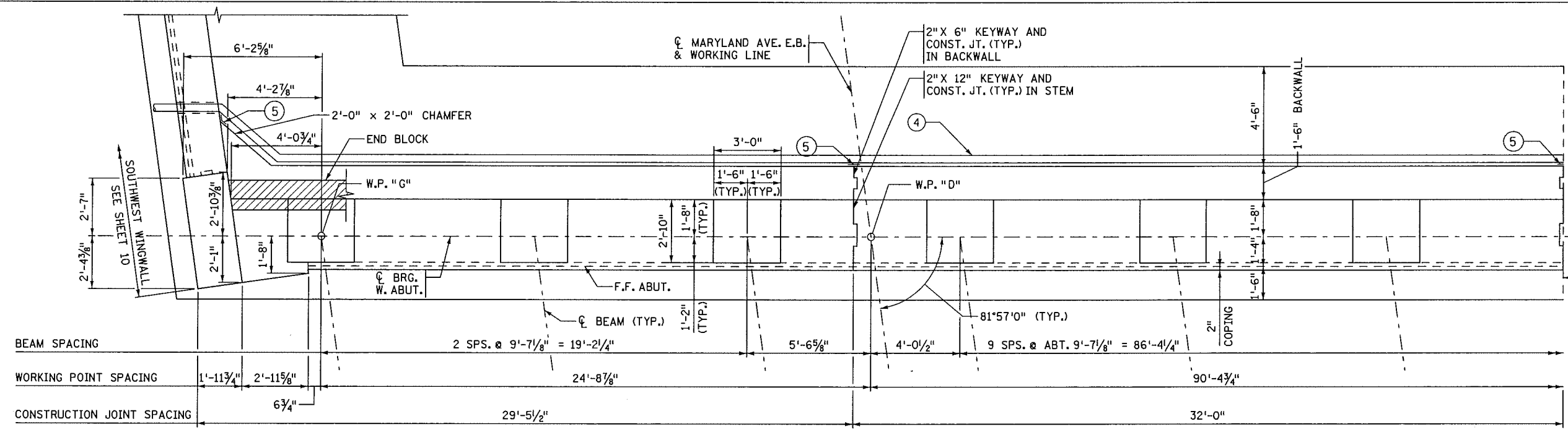


CERTIFIED BY: *David L. St. Peter* 6/8/12
LICENSED PROFESSIONAL ENGINEER
NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: WEST ABUTMENT
DETAILS 2

DES: KBD DR: BJB APPROVED:
CHK: BJB CHK: DLS
SHEET NO. 6 OF 69

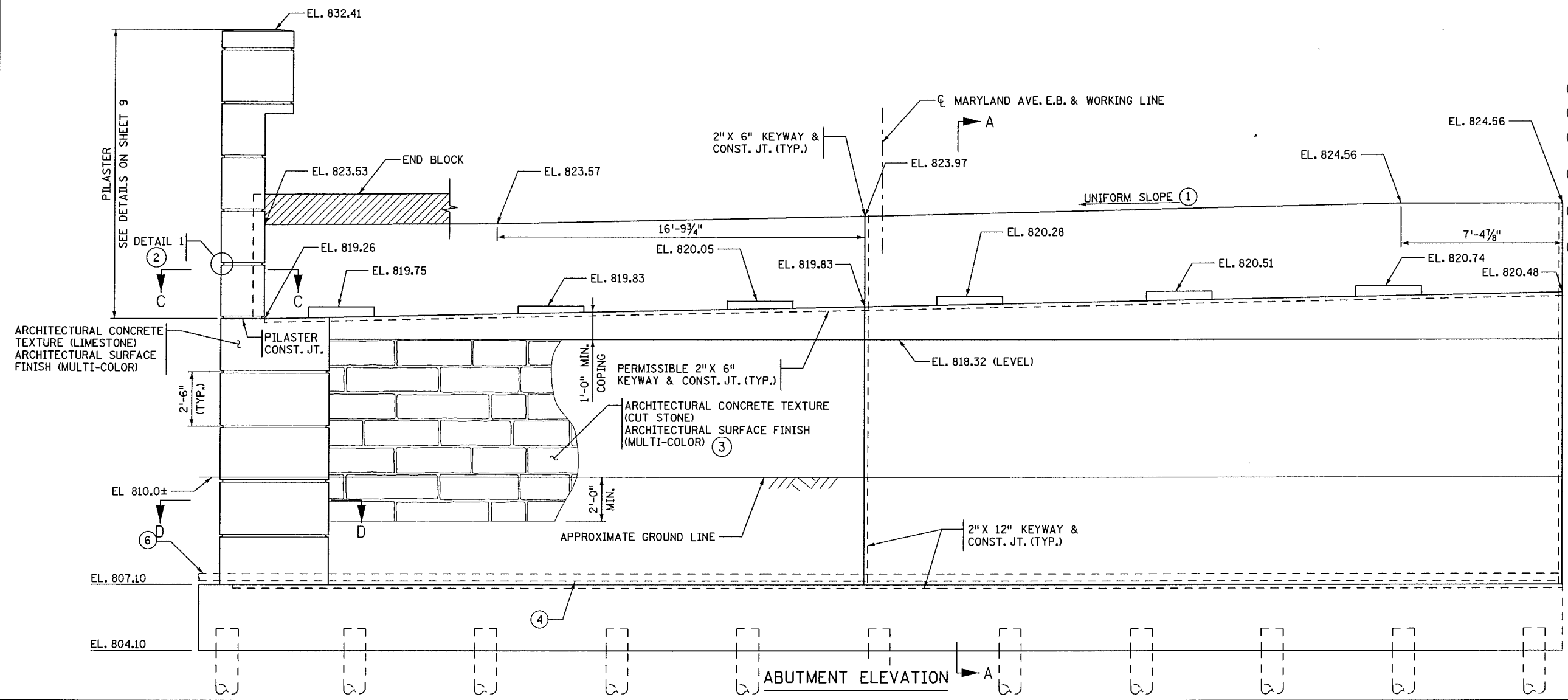
BRIDGE NO. 62626



ABUTMENT PLAN

NOTES:

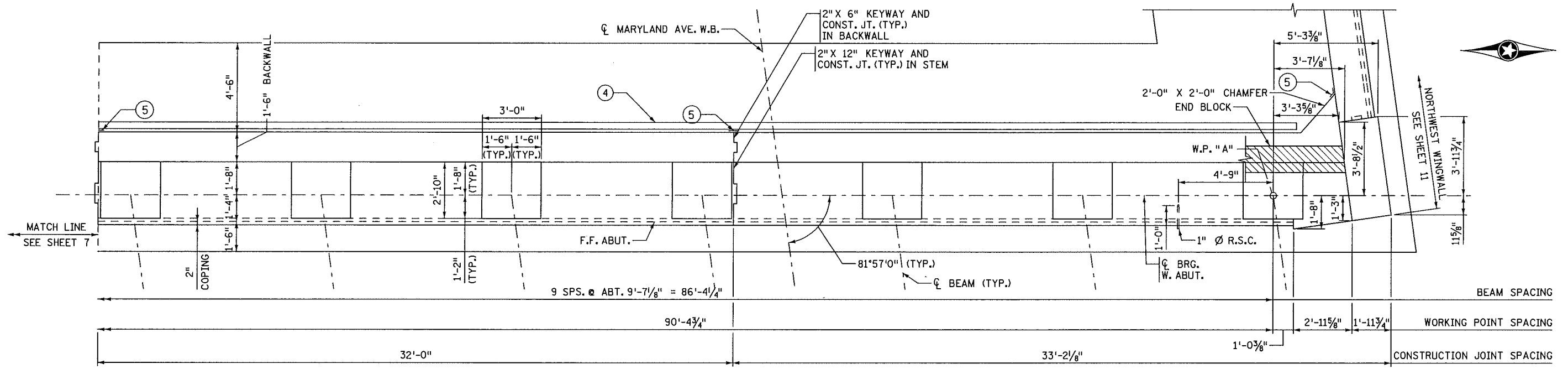
- FOR SECTIONS A-A, C-C & D-D SEE SHEET 9.
- HATCHED AREA INDICATES BRIDGE SLAB CONCRETE (3Y36).
- PROVIDE A 72 HOUR MINIMUM TIME DELAY BETWEEN CONCRETE POURS ON ADJACENT ABUTMENT SECTIONS.
- TOP OF BACKWALL ELEVATIONS ARE TAKEN ALONG BACK FACE OF BACKWALL.
- ABUTMENT STEM DIMENSIONS TAKEN ALONG F.F. ABUTMENT, AT THE BRIDGE SEAT.
- HORIZONTAL BACKWALL DIMENSIONS ARE TAKEN ALONG BACK FACE OF BACKWALL.
- ① UNIFORM SLOPE BETWEEN ELEVATIONS.
- ② SEE DETAIL 1 ON SHEET 9.
- ③ ARCHITECTURAL CONCRETE TEXTURE SHALL EXTEND 2'-0" MIN. BELOW FINISHED GRADE.
- ④ 4" NOMINAL DIA. PERFORATED PIPE INCLUDED IN DRAINAGE SYSTEM TYPE B910.
- ⑤ MEMBRANE WATERPROOFING SYSTEM PER MDOT SPEC. 2481.3B.
- ⑥ SLEEVE THRU WINGWALL, SEE SHEET 10.



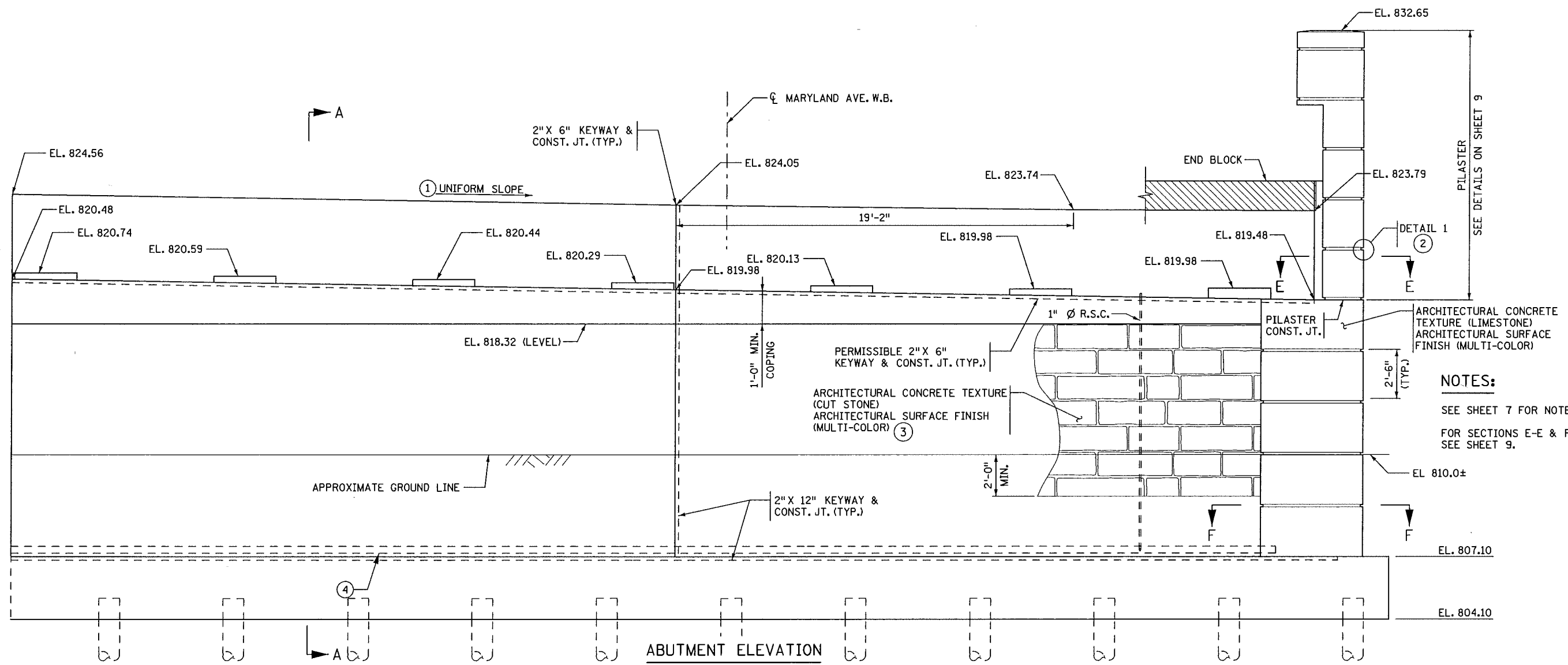
ABUTMENT ELEVATION

Plotted By: P0007740
 Date Plotted: 23-APR-2012
 Time Plotted: 2:06:46 PM
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MndOT RELEASE FOR CONSTRUCTION		REVISION		CERTIFIED BY		TITLE:		DES: KBD		DR: BJB		APPROVED:		BRIDGE NO.	
Signature: <i>David L. St. Peter</i> DATE: 6/11/12		DATE: _____ DESCRIPTION: _____ DR. CHK. APPROVED: _____		NAME: DAVID L. ST. PETER LIC. NO. 46841		DATE: 5/25/12 LICENSED PROFESSIONAL ENGINEER		WEST ABUTMENT DETAILS 3		CHK: BJB CHK: DLS		SHEET NO. 7 OF 69		62626	



ABUTMENT PLAN

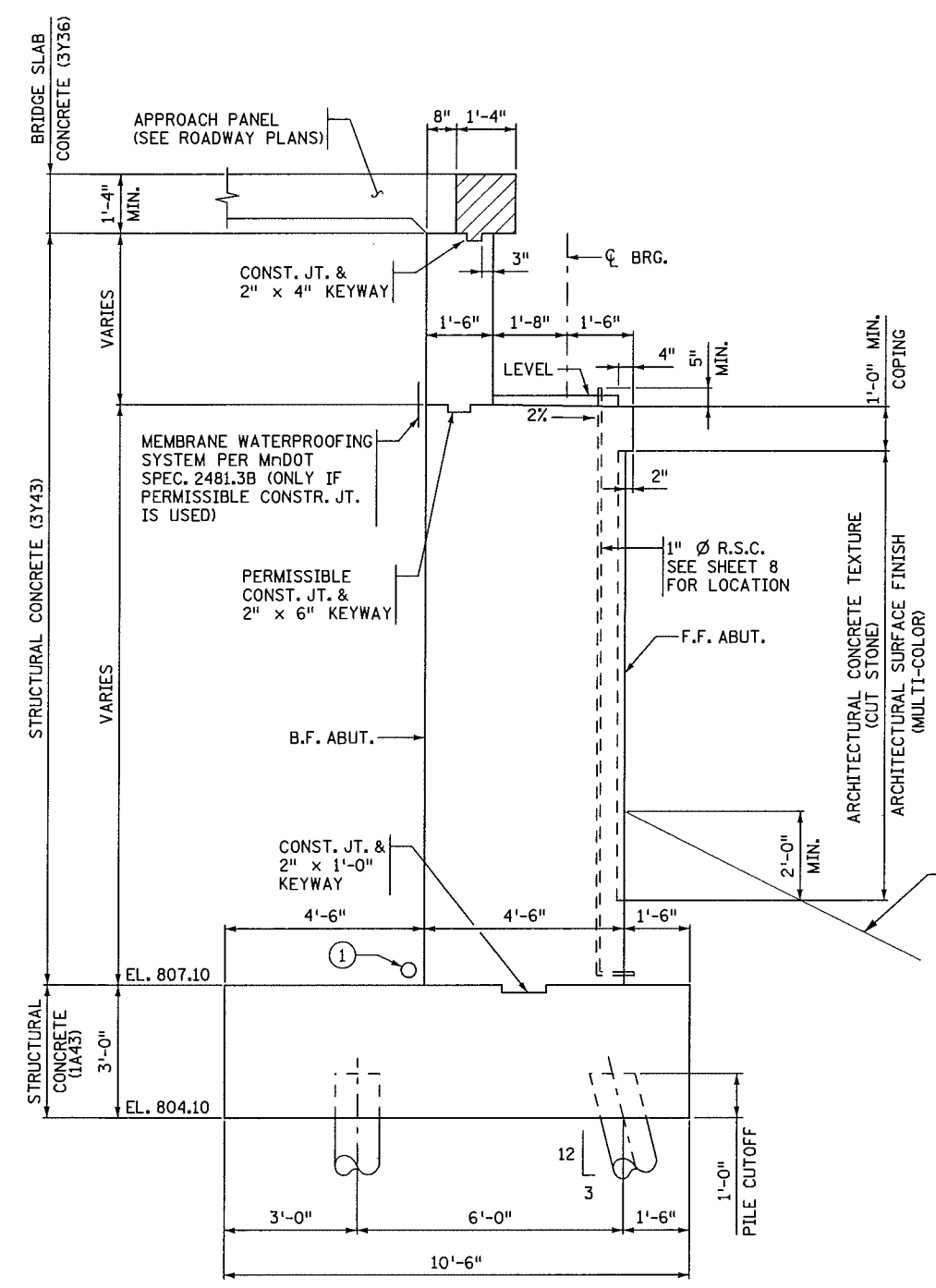


ABUTMENT ELEVATION

NOTES:
 SEE SHEET 7 FOR NOTES.
 FOR SECTIONS E-E & F-F
 SEE SHEET 9.

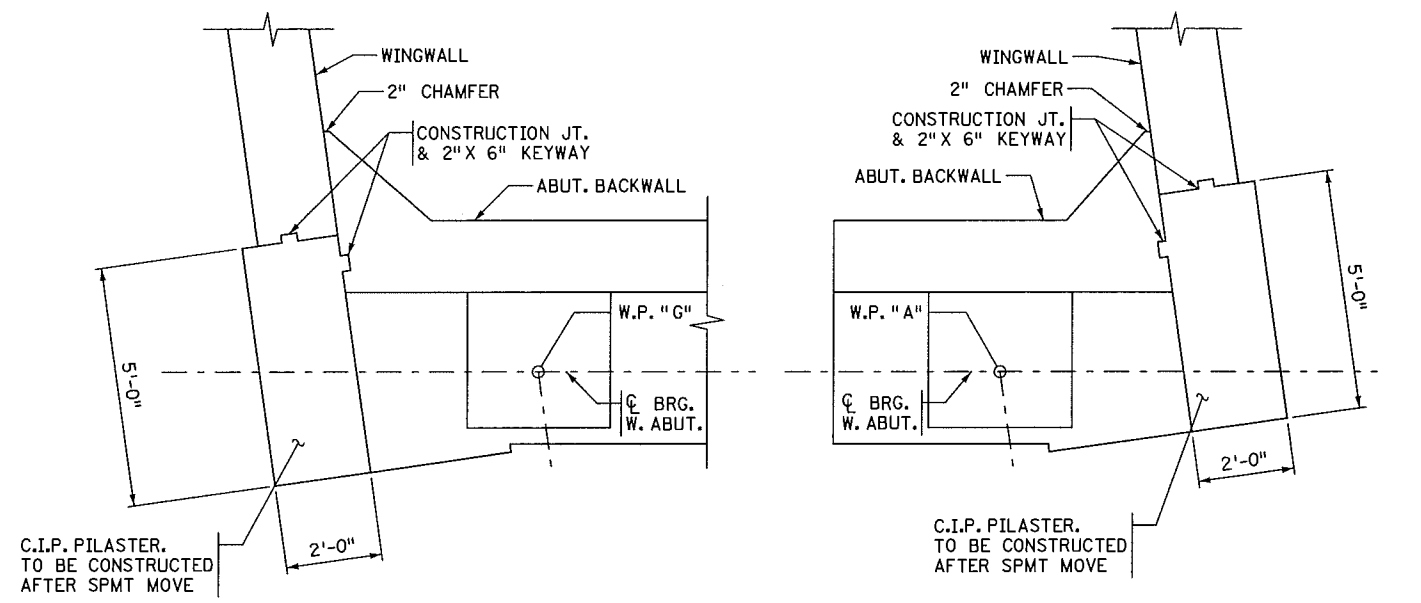
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 Date Plotted: 24-MAY-2012
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Plotted By: P0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 11:44:28 AM
 Pen Table: Mndot-Iplot.pen
 File Path: 09_WestAbutmentDetails5_abt.dgn



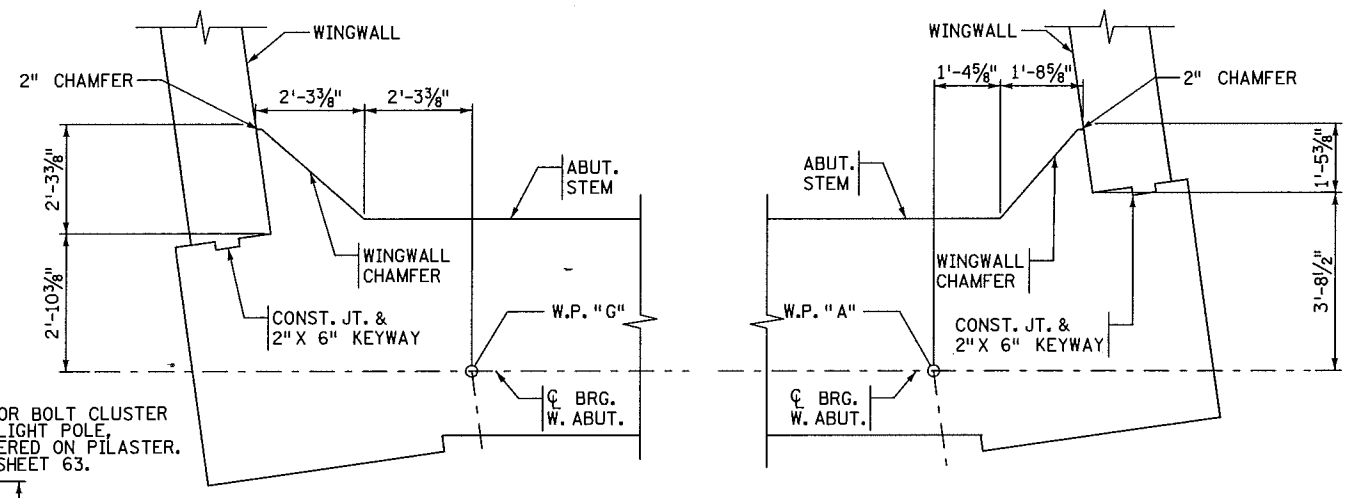
SECTION A-A

- NOTES:**
- FOR LOCATIONS OF SECTION A-A SEE SHEETS 7 & 8.
 - FOR LOCATIONS OF SECTIONS C-C & D-D SEE SHEET 7.
 - FOR LOCATIONS OF SECTIONS E-E & F-F SEE SHEET 8.
 - ① 4" NOMINAL DIA. PERFORATED PIPE INCLUDED IN DRAINAGE SYSTEM TYPE B910.
 - ② EXTEND CONDUIT 3" ABOVE TOP OF PILASTER AND CAP.



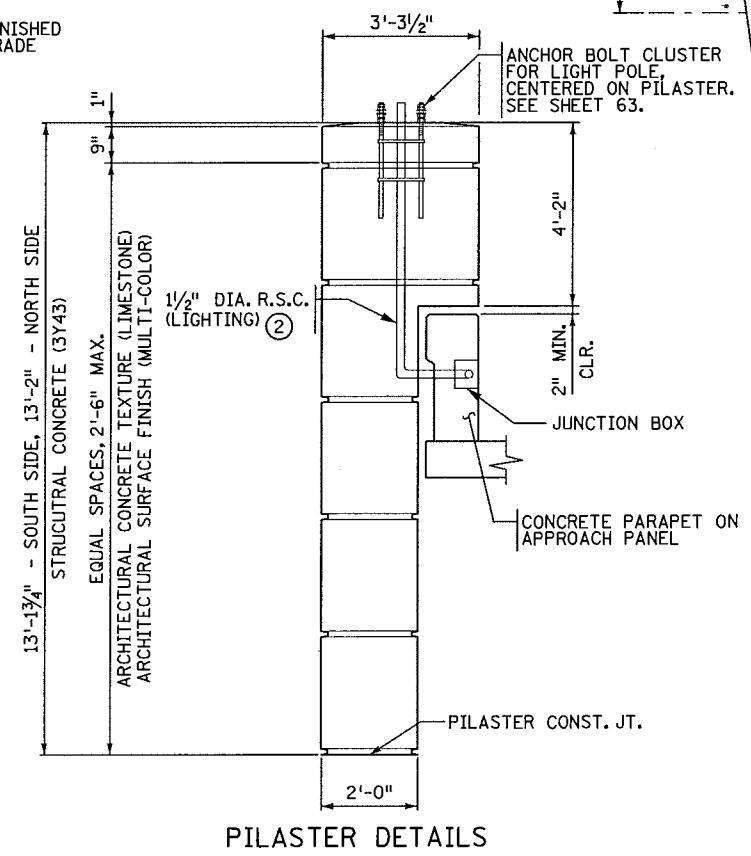
SECTION C-C

SECTION E-E

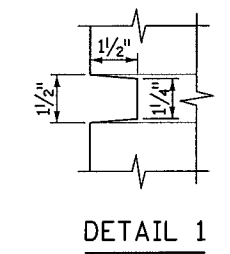


SECTION D-D

SECTION F-F



PILASTER DETAILS

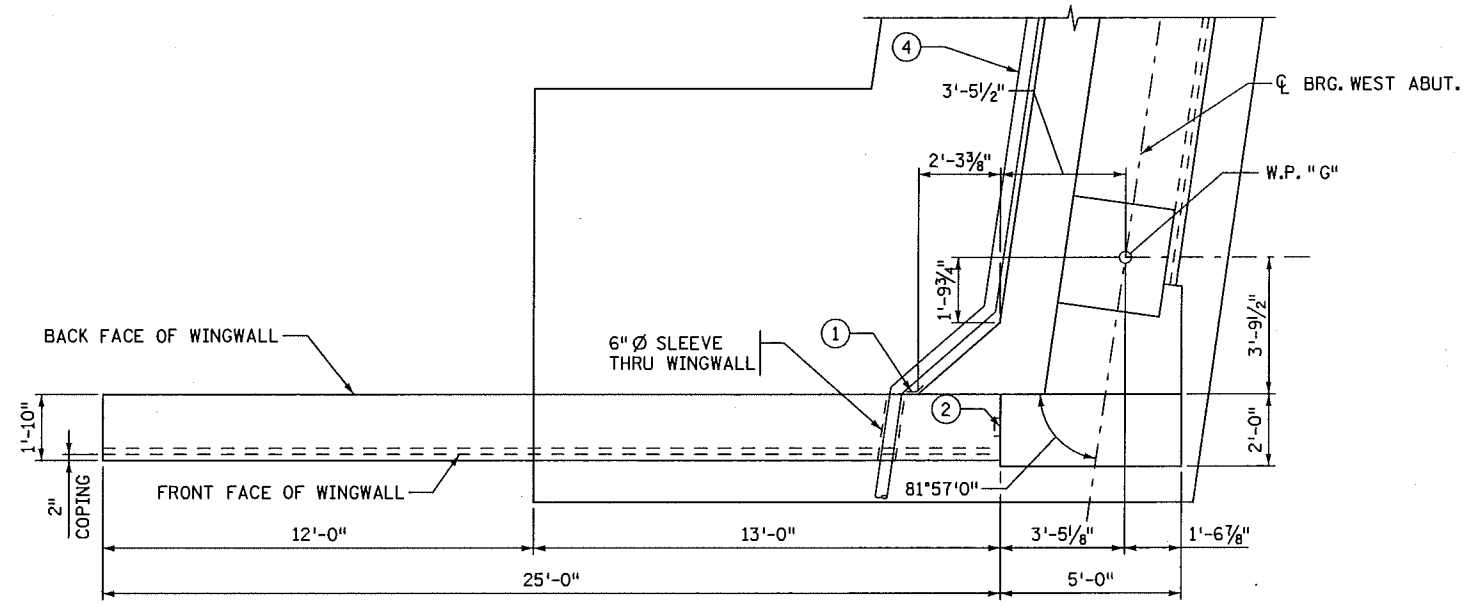


DETAIL 1

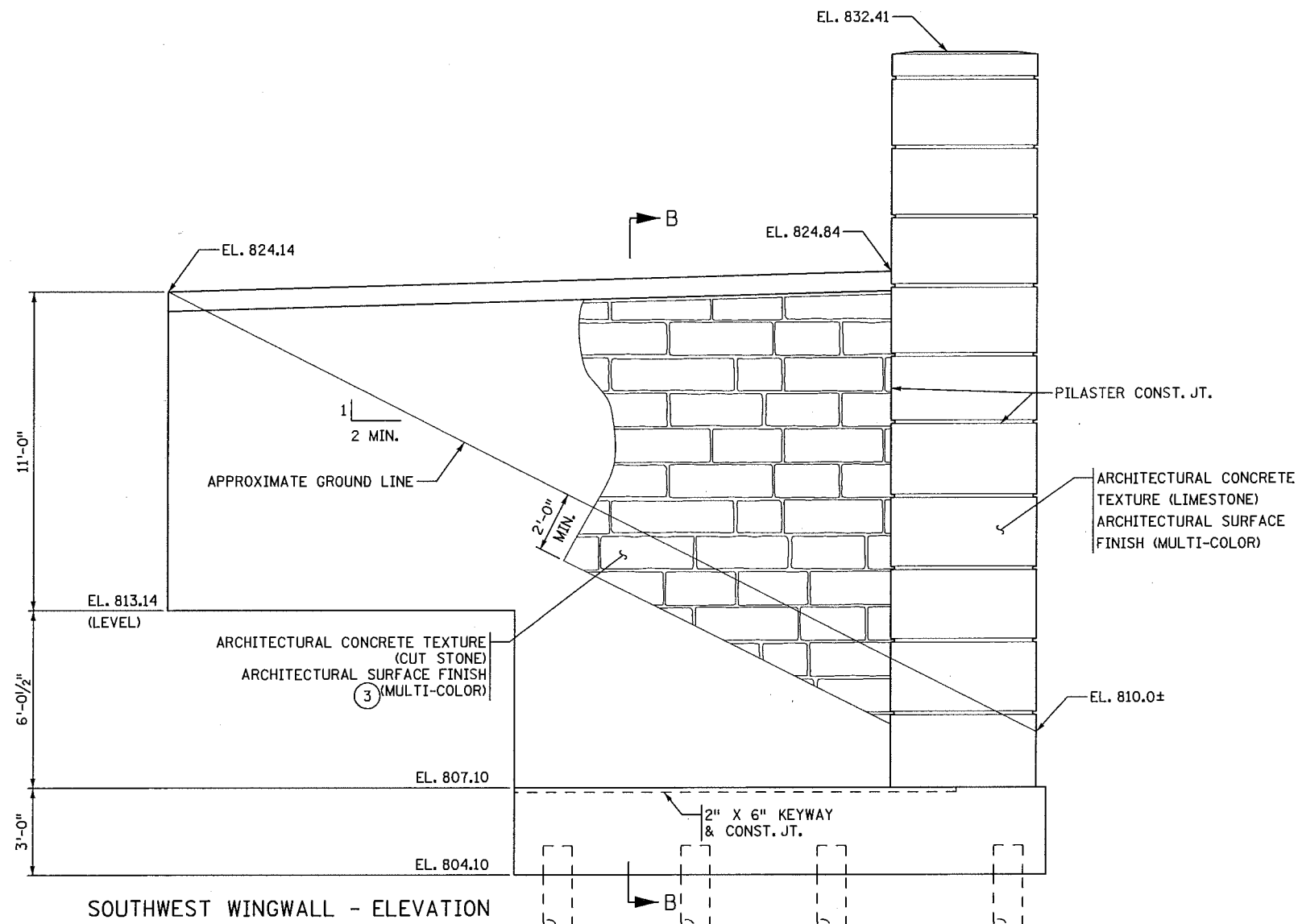
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<i>David L. St. Peter</i> 6/11/12		DATE	DESCRIPTION	DR.	CHK.	APPROVED	DATE	DATE	CHK: BJB	CHK: DLS	SHEET NO. 9 OF 69				
SIGNATURE		DATE													



LICENSED PROFESSIONAL ENGINEER
 NAME: DAVID L. ST. PETER LIC. NO. 46841



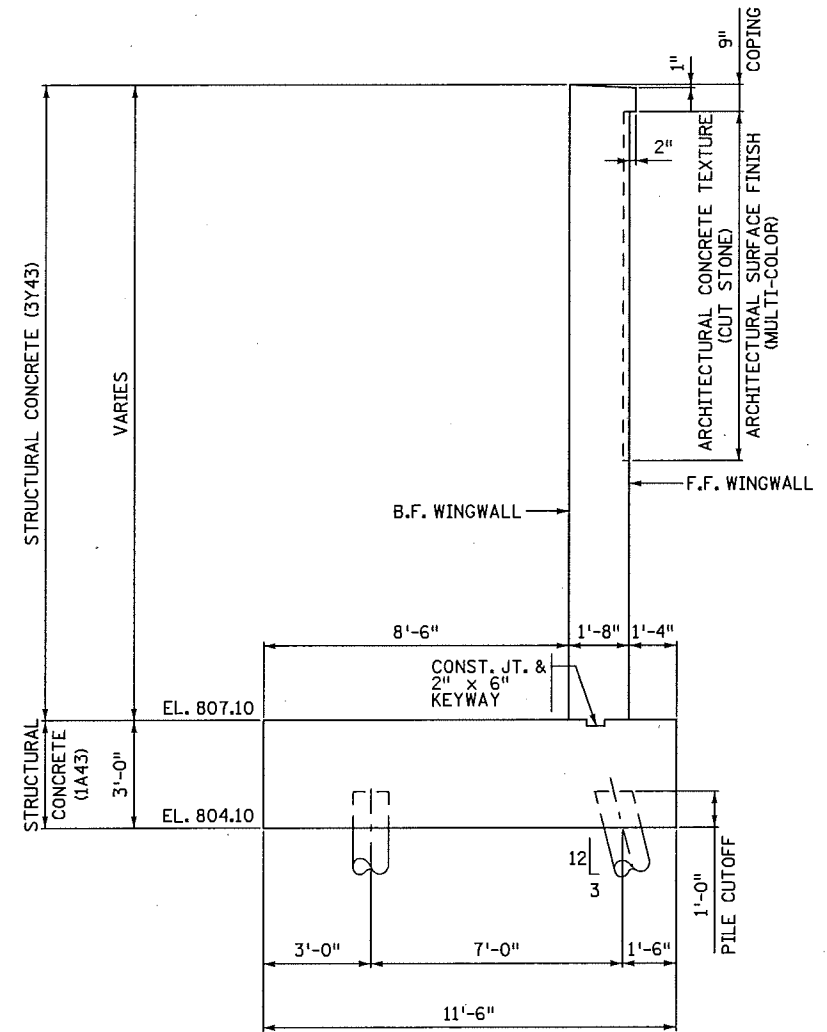
SOUTHWEST WINGWALL - PLAN



SOUTHWEST WINGWALL - ELEVATION

NOTES:

- TOP OF WINGWALL ELEVATIONS ARE GIVEN AT BACK FACE OF WINGWALL.
- ① MEMBRANE WATERPROOFING SYSTEM PER MNDOT SPEC. 2481.3B.
- ② 2" x 6" KEYWAY & CONST. JT.
- ③ ARCHITECTURAL CONCRETE TEXTURE SHALL EXTEND 2'-0" MIN. BELOW FINISHED GRADE.
- ④ 4" NOMINAL DIA. PERFORATED PIPE INCLUDED IN DRAINAGE SYSTEM TYPE B910, SEE SHEET 63.



SECTION B-B

Plotted By: P0010292
 Date Plotted: 07-JUN-2012
 Time Plotted: 2:03:44 PM
 Pen Table: Mndot-Iplot.pen
 File Path: 10_WestAbutmentDetail1.s6_cbt.dgn

MNDOT RELEASE FOR CONSTRUCTION

SIGNATURE: *David L. St. Peter* DATE: 6/11/12

DATE	REVISION DESCRIPTION	DR.	CHK.	APPROVED
06/07/12	WINGWALL PILE MODIFICATION	DLS	BJB	VTG

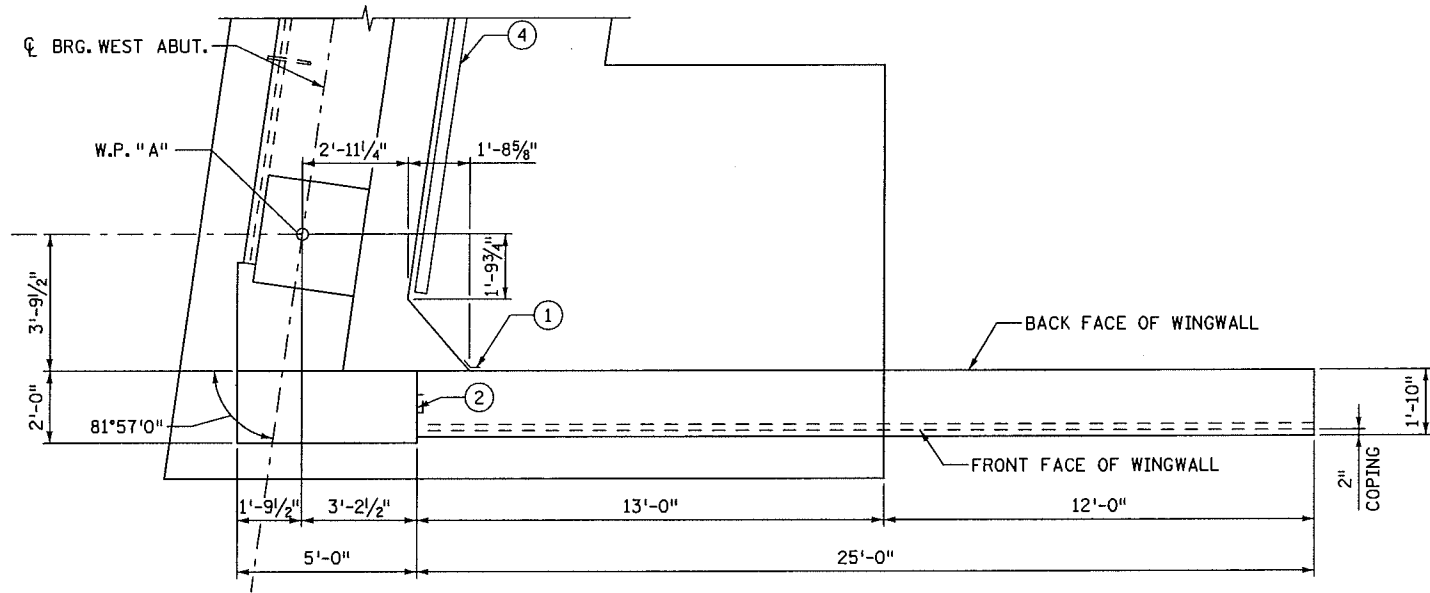


CERTIFIED BY: *David L. St. Peter* 6/9/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

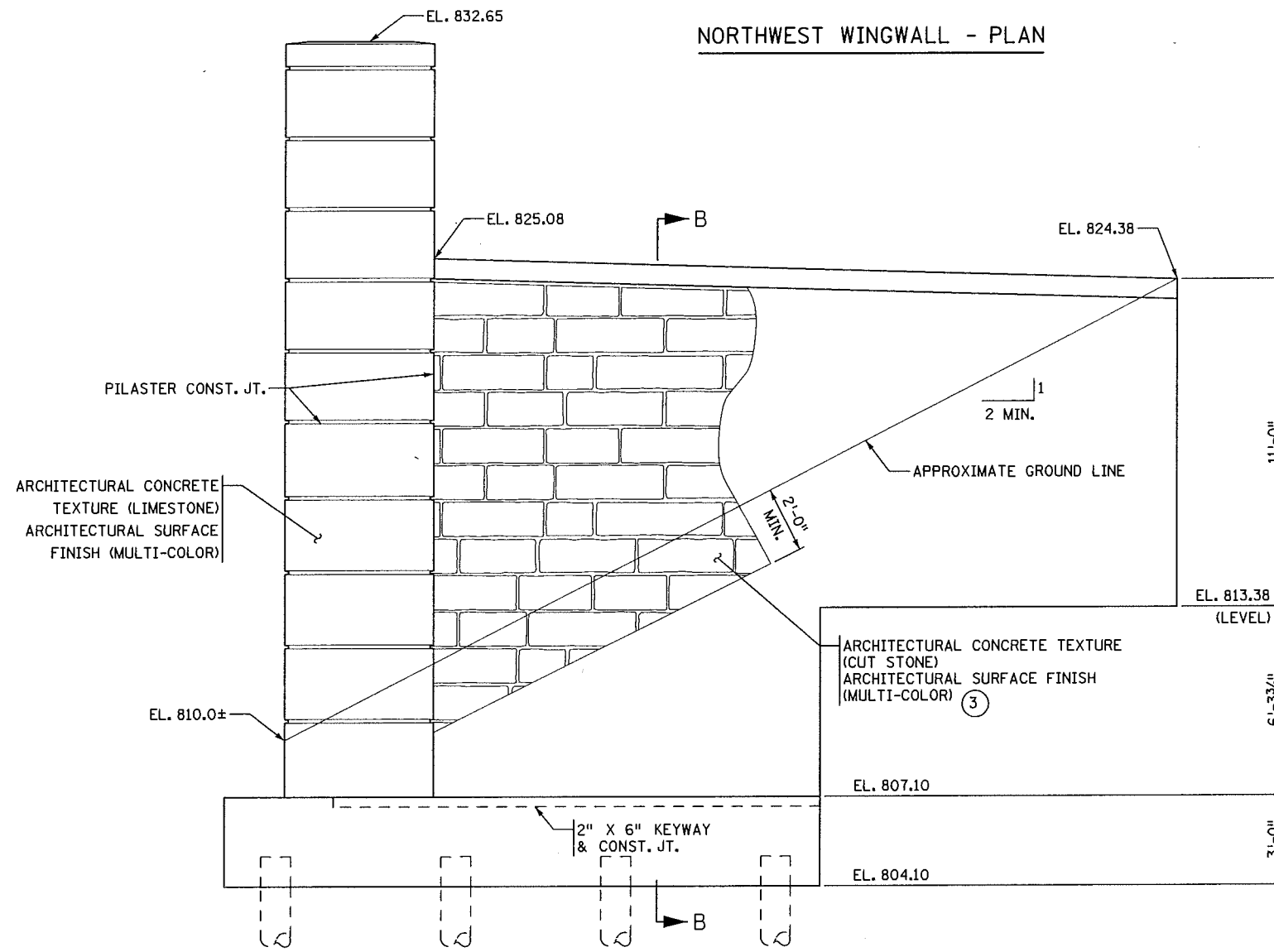
TITLE: WEST ABUTMENT DETAILS 6

DES: KBD	DR: BJB	APPROVED:
CHK: BJB	CHK: DLS	
SHEET NO. 10 OF 69		

BRIDGE NO. 62626



NORTHWEST WINGWALL - PLAN



NORTHWEST WINGWALL - ELEVATION

NOTES:

TOP OF WINGWALL ELEVATIONS ARE GIVEN AT BACK FACE OF WINGWALL.

FOR SECTION B-B SEE SHEET 10.

- ① MEMBRANE WATERPROOFING SYSTEM PER MnDOT SPEC. 2481.3B.
- ② 2" x 6" KEYWAY & CONST. JT.
- ③ ARCHITECTURAL CONCRETE TEXTURE SHALL EXTEND 2'-0" MIN. BELOW FINISHED GRADE.
- ④ 4" NOMINAL DIA. PERFORATED PIPE INCLUDED IN DRAINAGE SYSTEM TYPE B910, SEE SHEET 63.



Plotted By: 00010292
 Date Plotted: 07-JUN-2012
 Time Plotted: 2:03:52 PM
 Pen Table: Mndot-Iplot.pen
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MnDOT RELEASE FOR CONSTRUCTION
 Signature: *David L. St. Peter*
 Date: _____

REVISION		DR.	CHK.	APPROVED
DATE	DESCRIPTION	DLS	BJB	VTG
06/07/12	WINGWALL PILE MODIFICATION			

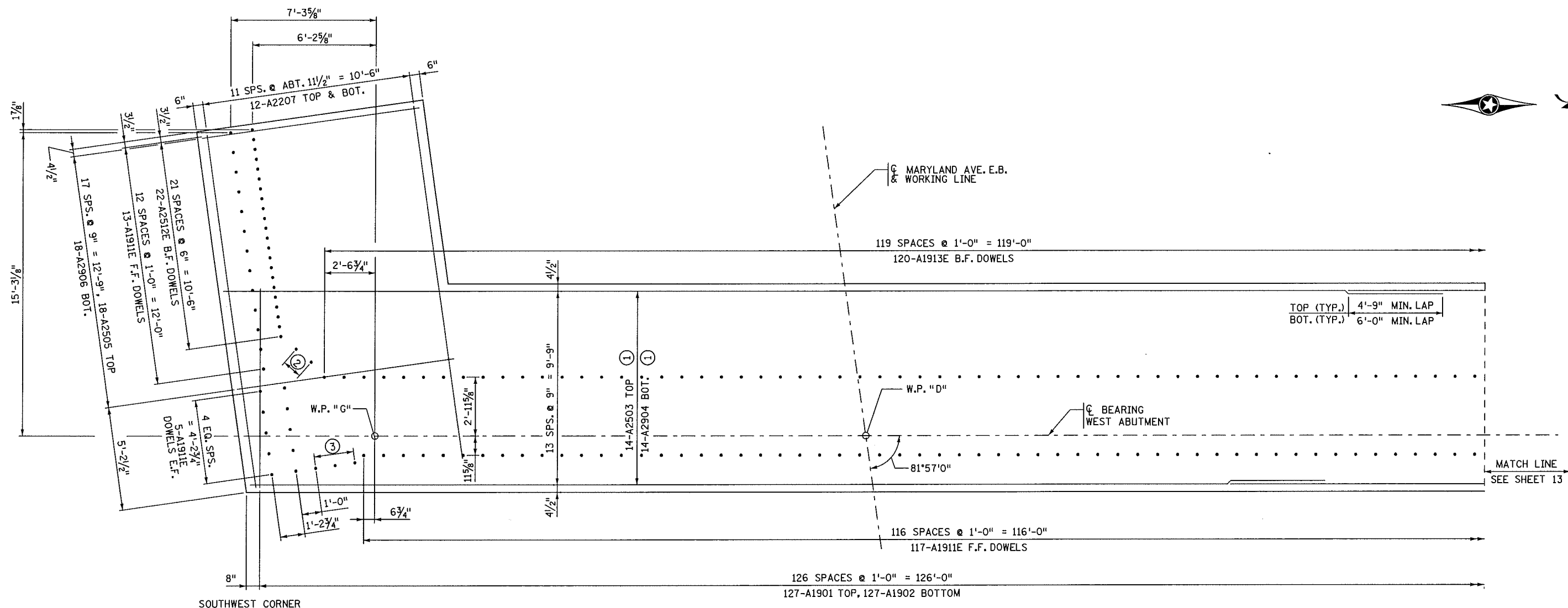


CERTIFIED BY *David L. St. Peter* 6/8/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

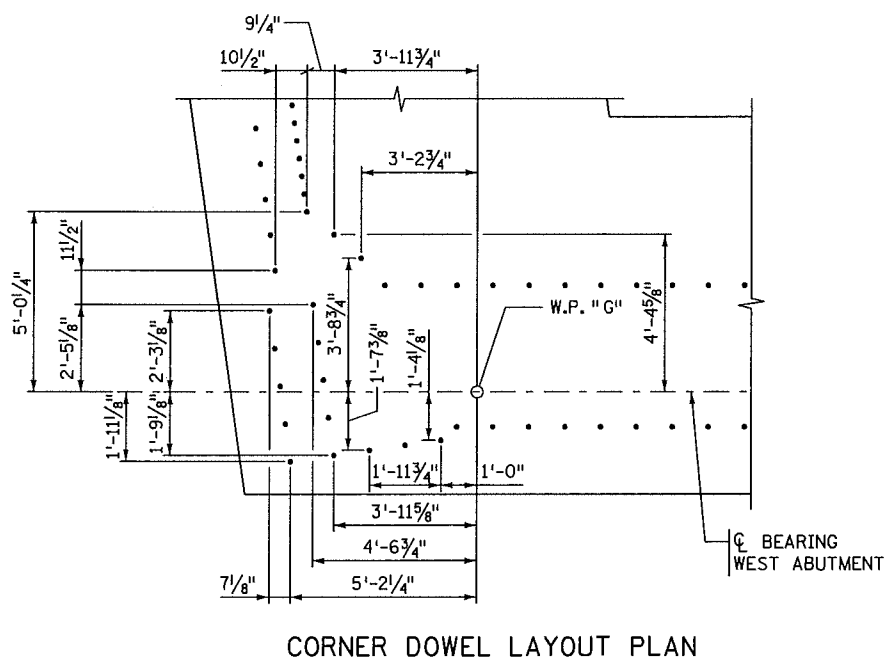
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DES: KBD	DR: BJB	APPROVED:
CHK: BJB	CHK: DLS	
SHEET NO. 11 OF 69		

BRIDGE NO. 62626



FOOTING REINFORCEMENT PLAN



CORNER DOWEL LAYOUT PLAN

NOTES:

- B.F. DENOTES BACK FACE
- F.F. DENOTES FRONT FACE
- ① ALTERNATE PLACEMENT OF A2503 & A2508 AND OF A2904 & A2909 TO STAGGER LAPS (SEE SHEET 13).
- ② 1 SPS. @ 1'-0" = 1'-0"
2-A1913E B.F. DOWELS
- ③ 2 SPS. @ 1'-0" = 2'-0"
3-A1911E F.F. DOWELS

Plotted By: p0010292
 Date Plotted: 07-JUN-2012
 Time Plotted: 2:03:59 PM
 Pen Table: MndOT-Plot.pen
 File Path: 12_WestAbutmentReinforcement1_cbt.dgn

MndOT RELEASE FOR CONSTRUCTION
 Signature: *David L. St. Peter*
 Date: 6/11/12

REVISION		DR.	CHK.	APPROVED
DATE	DESCRIPTION	DLS	BJS	YTG
06/07/12	WINGWALL PILE MODIFICATION			

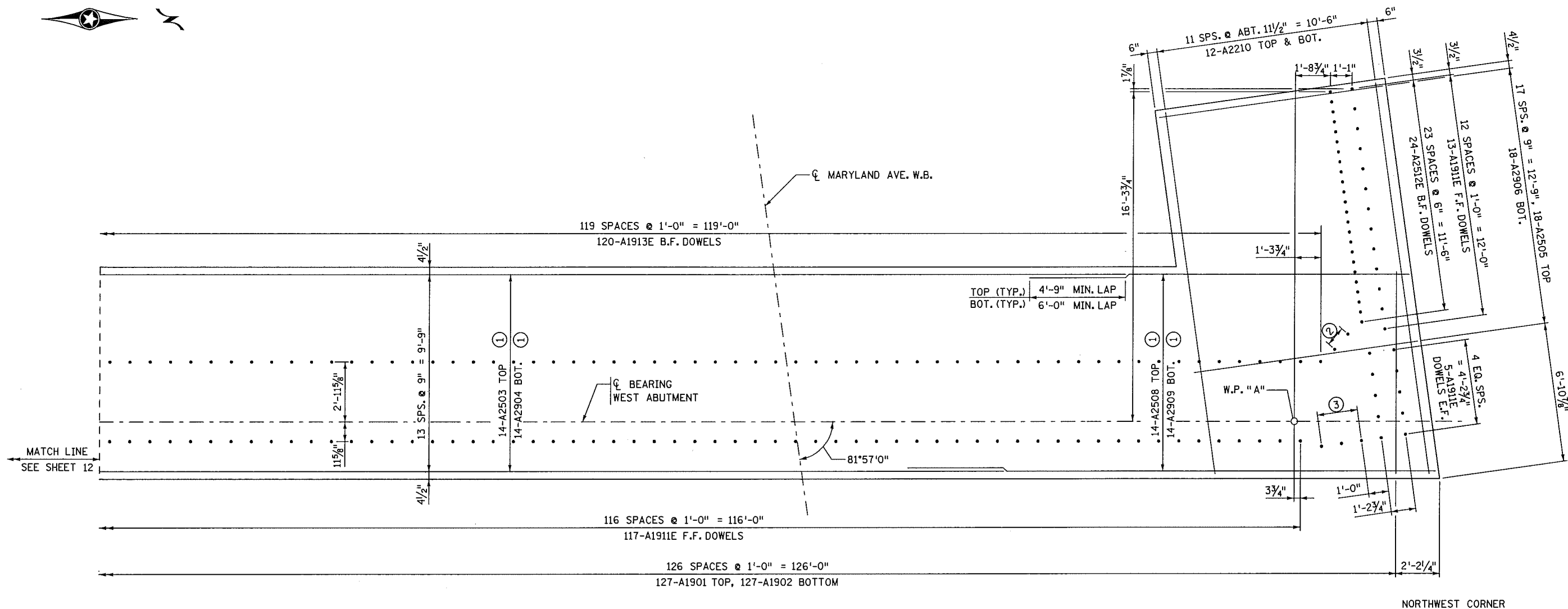


CERTIFIED BY *David L. St. Peter* 6/8/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

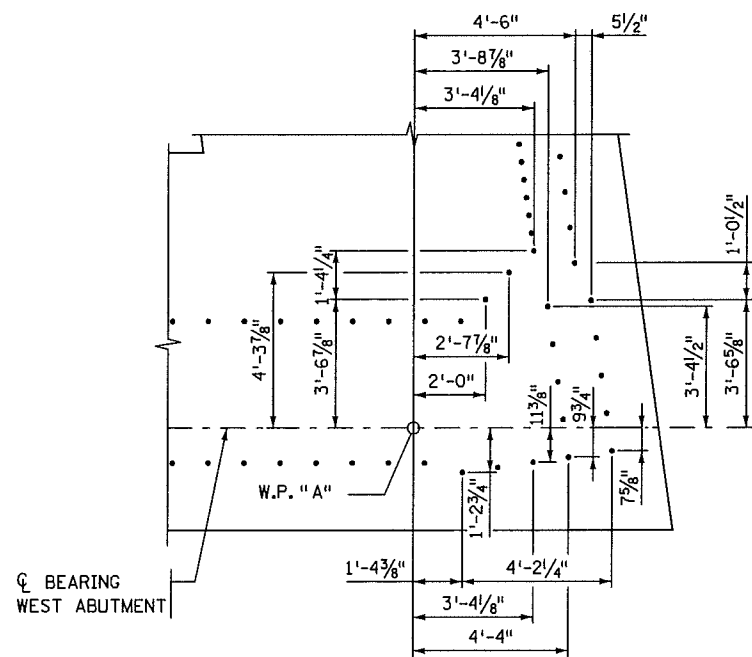
TITLE: WEST ABUTMENT REINFORCEMENT 1

DES: KBD	DR: MLS	APPROVED:
CHK: BJB	CHK: GX	
SHEET NO. 12 OF 69		

BRIDGE NO. 62626



FOOTING REINFORCEMENT PLAN



CORNER DOWEL LAYOUT PLAN

NOTES:

- B.F. DENOTES BACK FACE
- F.F. DENOTES FRONT FACE
- ① ALTERNATE PLACEMENT OF A2503 & A2508 AND OF A2904 & A2909 TO STAGGER LAPS (SEE SHEET 12).
- ② 1 SPS. @ 1'-0" = 1'-0"
2-A1913E B.F. DOWELS
- ③ 2 SPS. @ 1'-0" = 2'-0"
3-A1911E F.F. DOWELS

Plotted By: p0010292
 Date Plotted: 07-JUN-2012
 Time Plotted: 2:04:07 PM
 Pen Table: MndOT-Plot.pen
 File Path: 13_WestAbutmentReinforcement2_obt.dgn

MNDOT RELEASE FOR CONSTRUCTION

David L. St. Peter 6/8/12
 SIGNATURE DATE

REVISION		DR.	CHK.	APPROVED
DATE	DESCRIPTION	DLS	B.B.	VTG
06/07/12	WINGWALL PILE MODIFICATION			

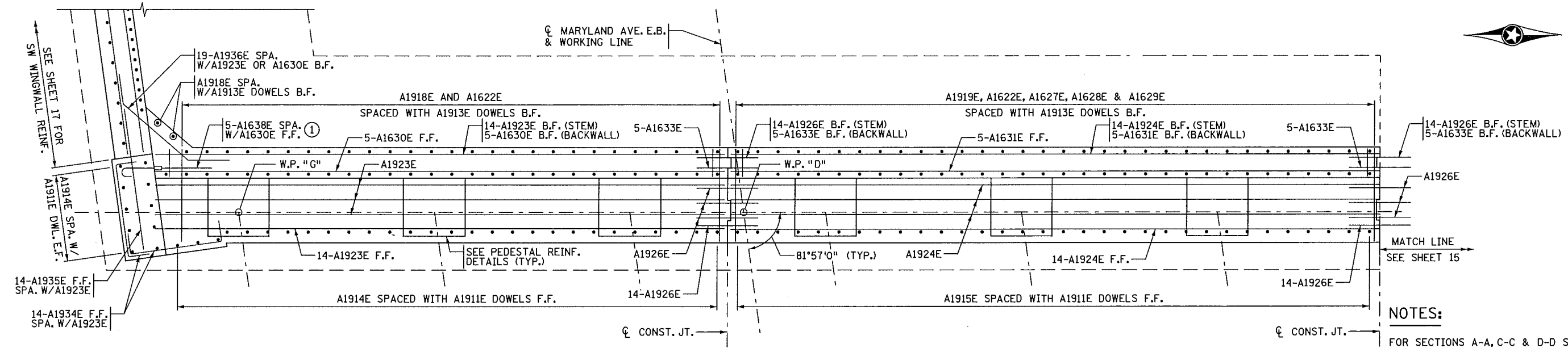


CERTIFIED BY *David L. St. Peter* 6/8/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: WEST ABUTMENT REINFORCEMENT 2

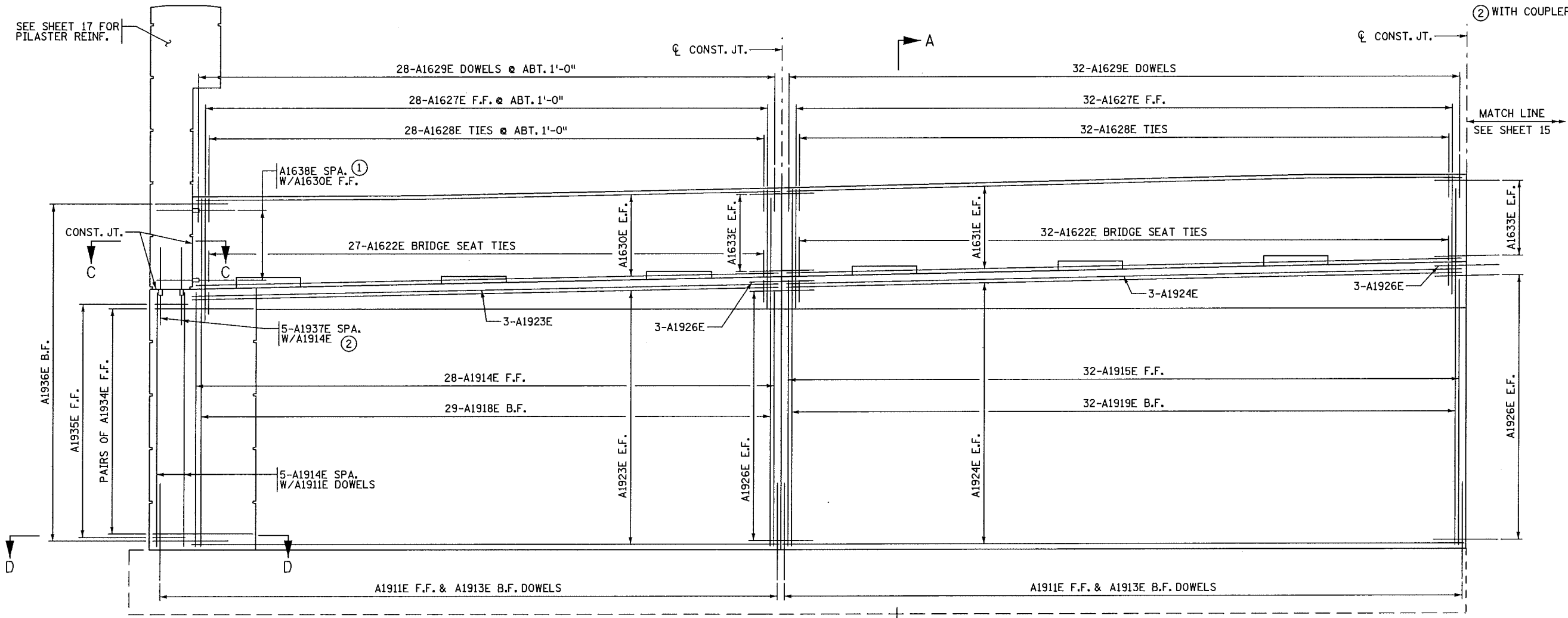
DES: KBD	DR: MLS	APPROVED:
CHK: BJB	CHK: GX	
SHEET NO. 13 OF 69		

BRIDGE NO. 62626



PLAN

- NOTES:**
- FOR SECTIONS A-A, C-C & D-D SEE SHEET 16.
 - FOR PEDESTAL REINFORCEMENT DETAIL SEE SHEET 16.
 - F.F. DENOTES FRONT FACE.
 - B.F. DENOTES BACK FACE.
 - ① WITH COUPLERS (REINFORCEMENT BARS) T-16.
 - ② WITH COUPLERS (REINFORCEMENT BARS) T-19.



ELEVATION

Plotted By: P0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 11:03:19 AM
 Pen Table: MndOT-Plot.pen
 File Path: 14_WestAbutmentReinforcement3_cbt.dgn

MnDOT RELEASE FOR CONSTRUCTION

David L. St. Peter
 SIGNATURE DATE

DATE	REVISION DESCRIPTION	DR.	CHK.	APPROVED

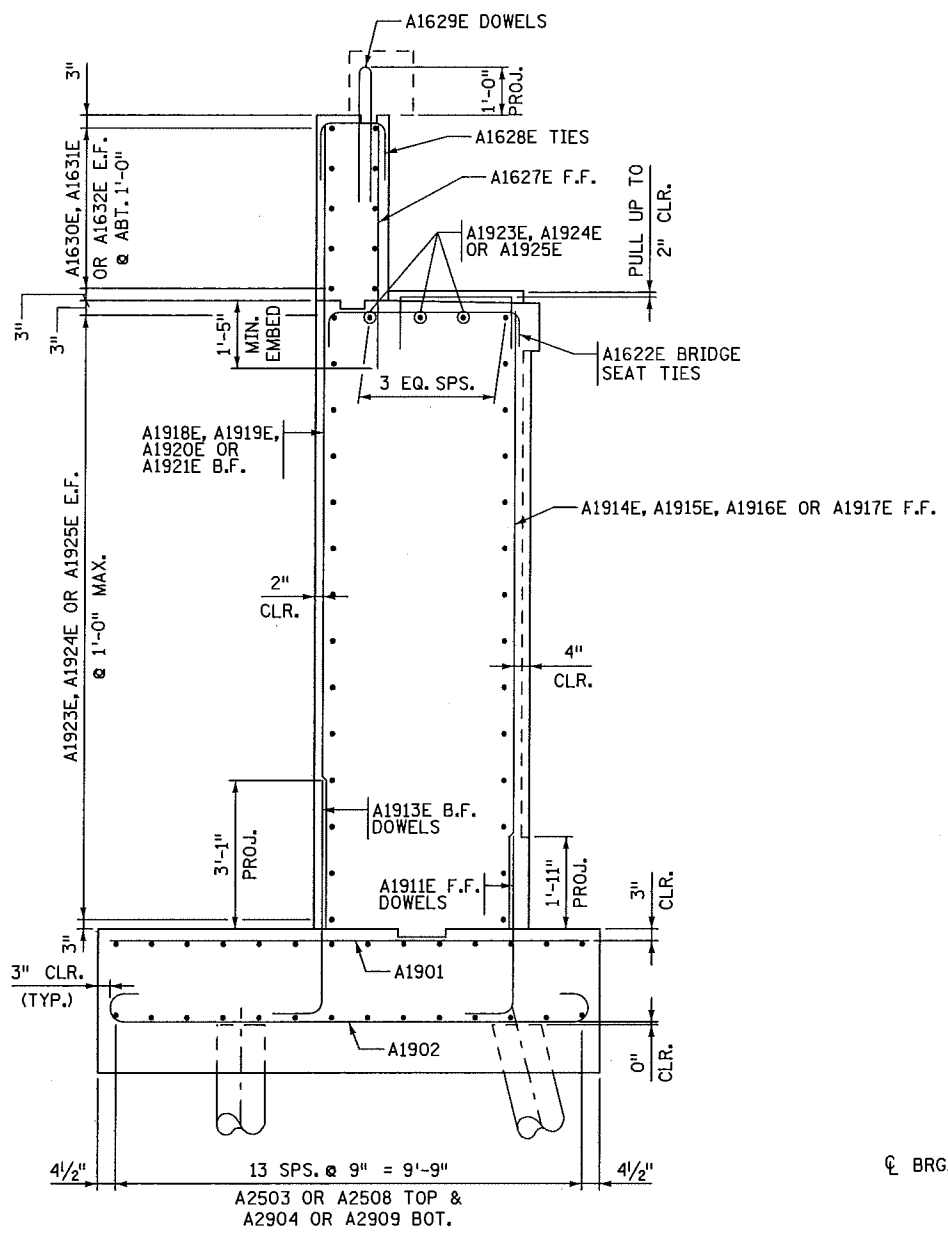


CERTIFIED BY *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: WEST ABUTMENT REINFORCEMENT 3

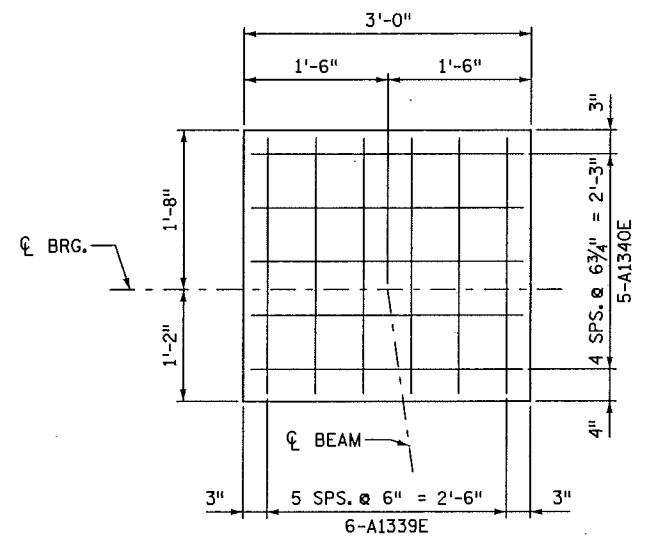
DES: KBD	DR: MLS	APPROVED:
CHK: BJB	CHK: KBD	
SHEET NO. 14 OF 69		

BRIDGE NO. 62626



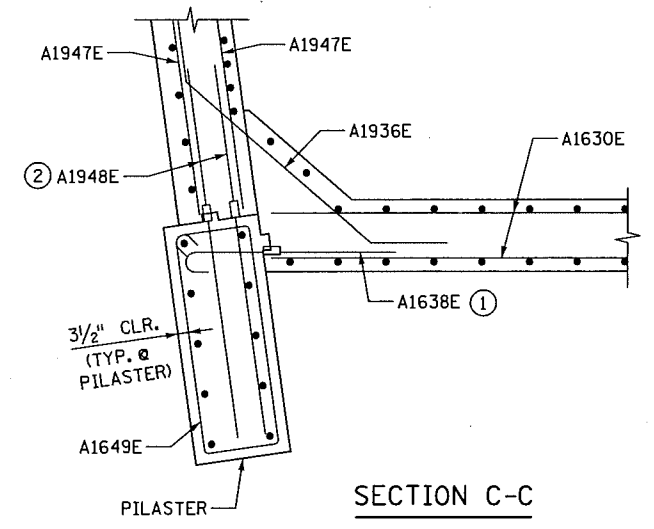
SECTION A-A

NOTES:
 FOR LOCATIONS OF SECTION A-A SEE SHEETS 14 & 15.
 FOR LOCATIONS OF SECTIONS C-C & D-D SEE SHEET 14.
 FOR LOCATIONS OF SECTIONS E-E & F-F SEE SHEET 15.
 B.F. DENOTES BACK FACE.
 F.F. DENOTES FRONT FACE.
 ① WITH COUPLERS (REINFORCEMENT BARS) T-16
 ② WITH COUPLERS (REINFORCEMENT BARS) T-19

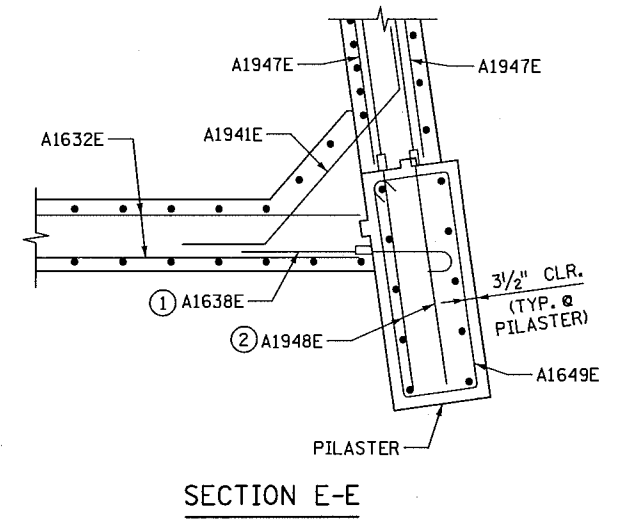


PEDESTAL REINFORCEMENT DETAIL

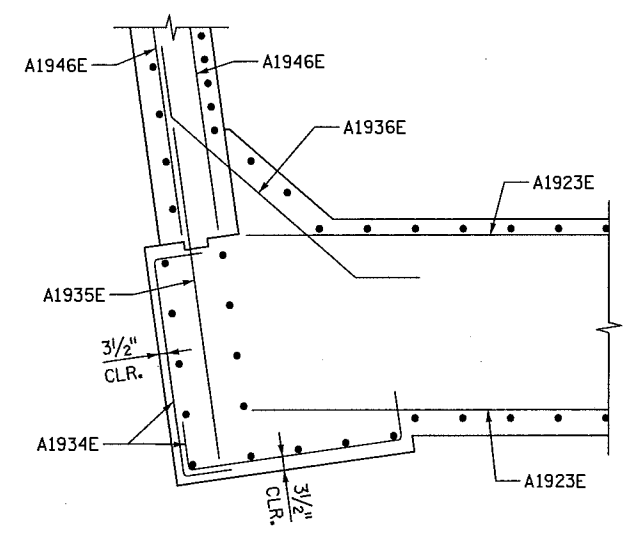
PROVIDE 2" CLR. FROM TOP OF PEDESTAL TO REINFORCEMENT.



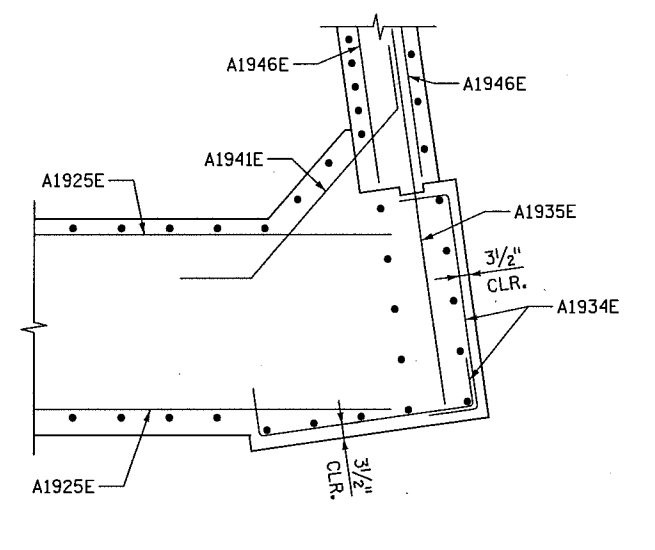
SECTION C-C



SECTION E-E



SECTION D-D



SECTION F-F

Plotted By: P0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 3:28:32 PM
 Pen Table: MnDOT-Plot.pen
 File Path: 16_WestAbutmentReinforcement5_cbt.dgn

MnDOT RELEASE FOR CONSTRUCTION
 Signature: *David L. St. Peter*
 Date: 6/4/12

DATE	REVISION DESCRIPTION	DR.	CHK.	APPROVED



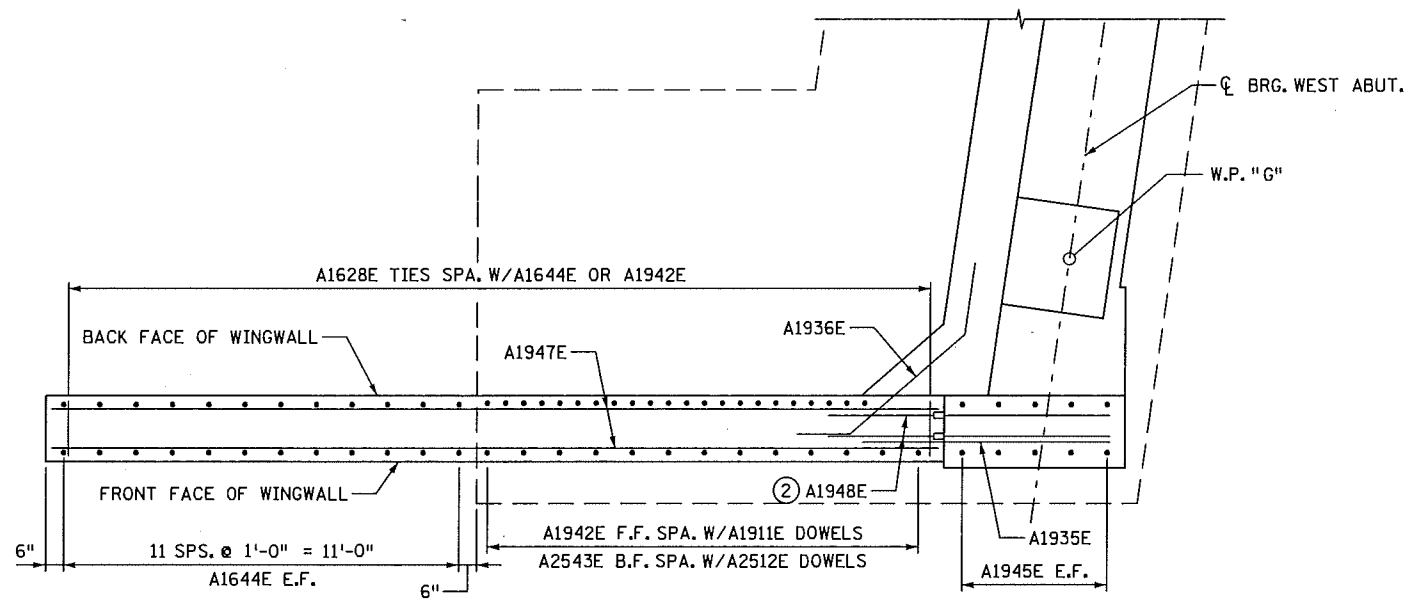
CERTIFIED BY *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: WEST ABUTMENT REINFORCEMENT 5

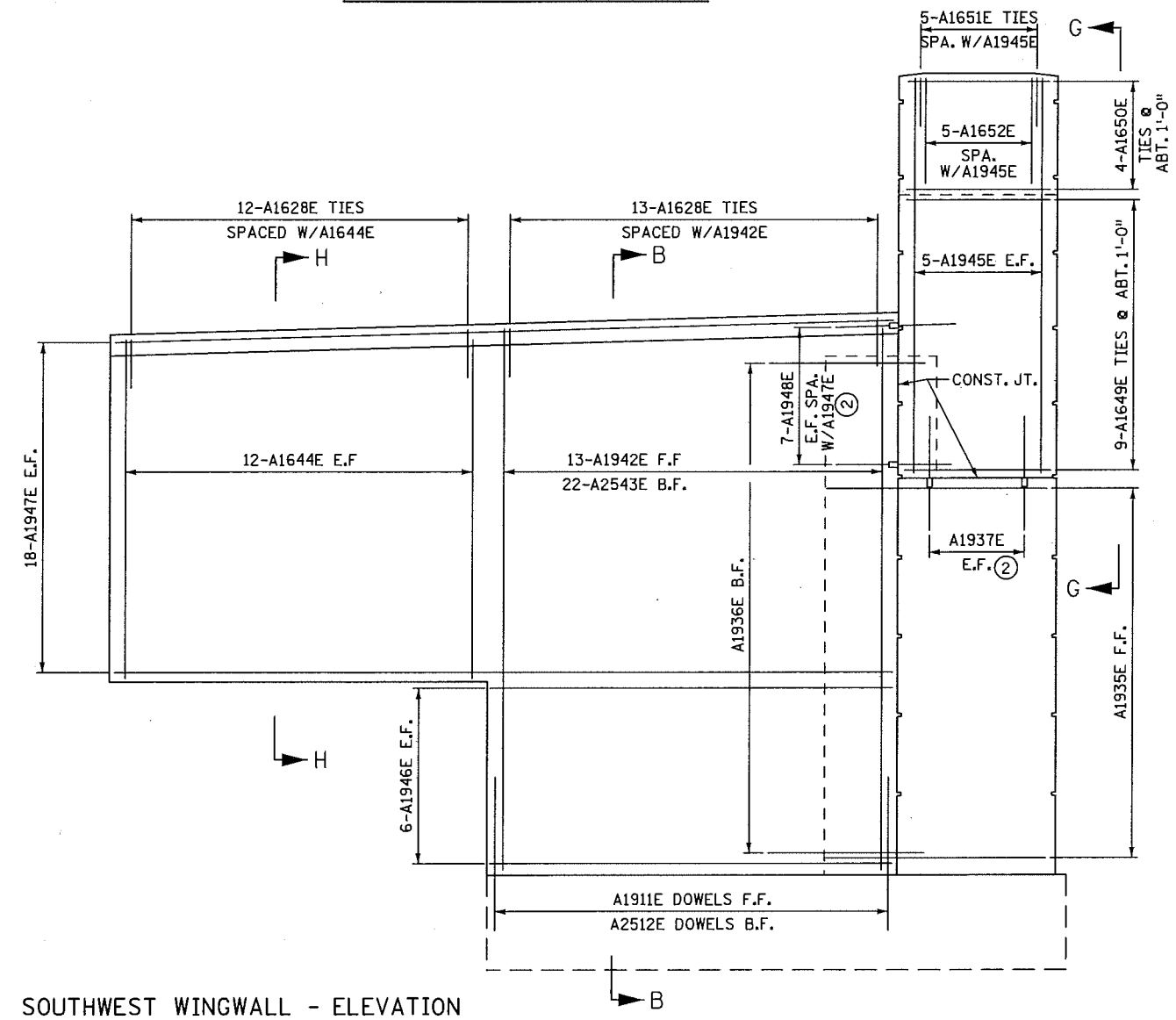
DES: KBD DR: MLS APPROVED: *[Signature]*
 CHK: BJB CHK: KBD
 SHEET NO. 16 OF 69

BRIDGE NO. 62626

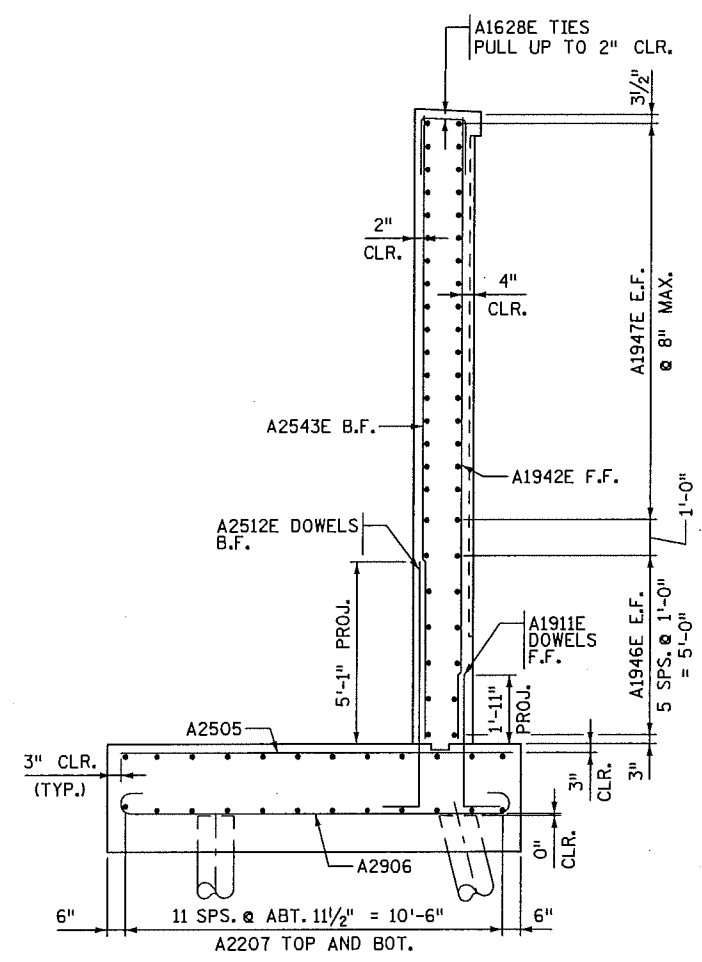
Plotted By: p0010292
 Date Plotted: 07-JUN-2012
 Time Plotted: 2:04:15 PM
 Pen Table: Mndot-Plot.den
 File Path: 17_WestAbutmentReinforcement6_abt.dgn



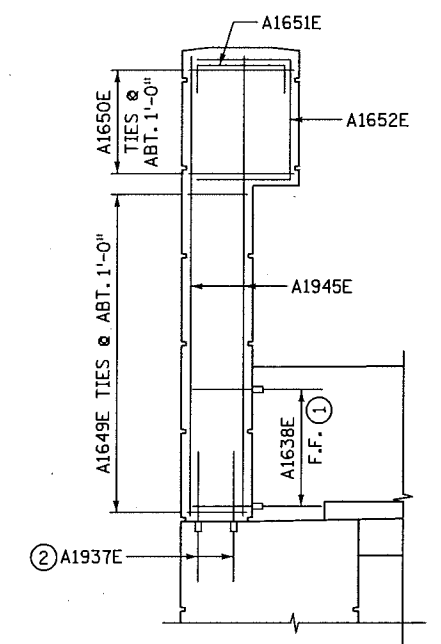
SOUTHWEST WINGWALL - PLAN



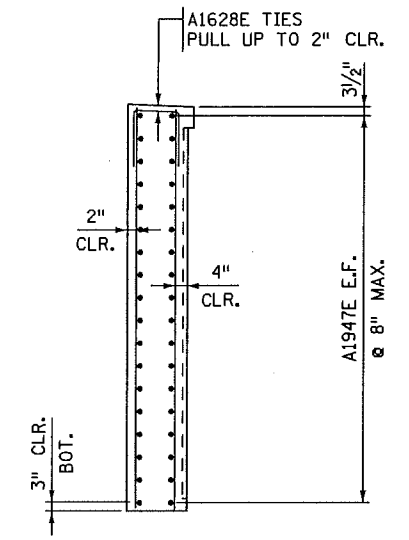
SOUTHWEST WINGWALL - ELEVATION



SECTION B-B



VIEW G-G
 SHOWING PILASTER REINFORCEMENT



SECTION H-H

NOTES:

- F.F. DENOTES FRONT FACE.
- B.F. DENOTES BACK FACE.
- (1) WITH COUPLERS (REINFORCEMENT BARS) T-16.
- (2) WITH COUPLERS (REINFORCEMENT BARS) T-19.

MNDOT RELEASE FOR CONSTRUCTION

David L. St. Peter 6/18/12
 SIGNATURE DATE

DATE	REVISION DESCRIPTION	DR.	CHK.	APPROVED
06/07/12	WINGWALL PILE MODIFICATION	DLS	BJB	VTG



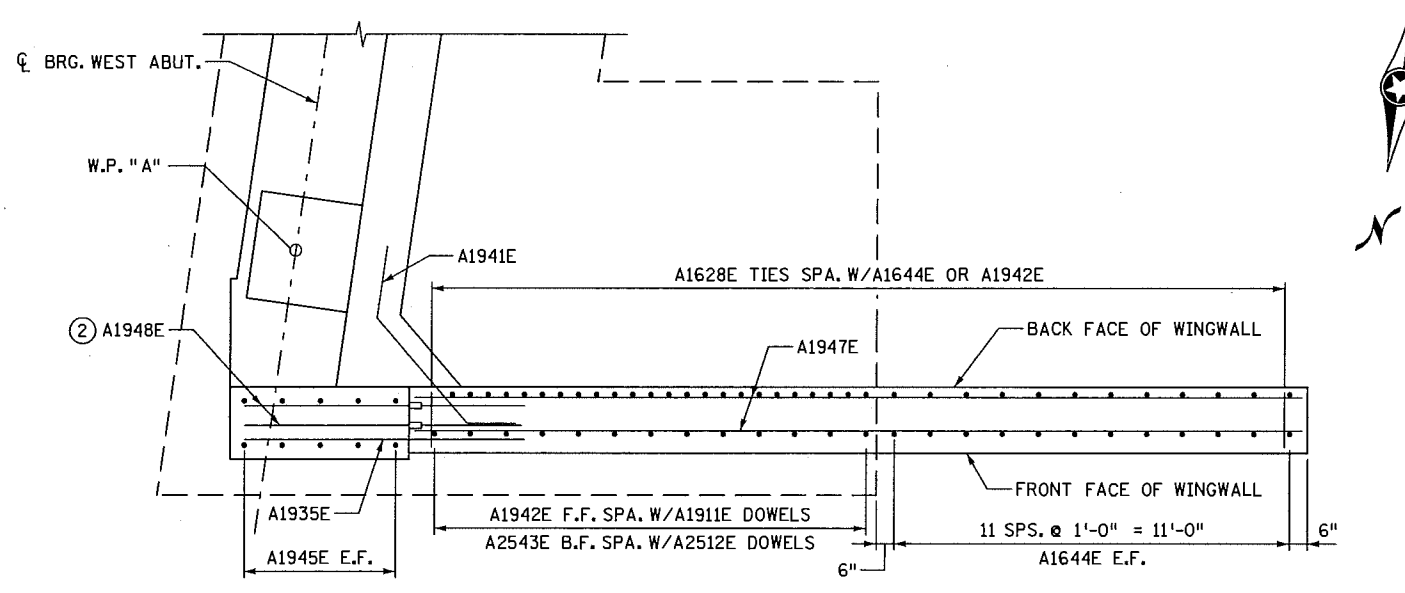
CERTIFIED BY *David L. St. Peter* 6/18/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: WEST ABUTMENT REINFORCEMENT 6

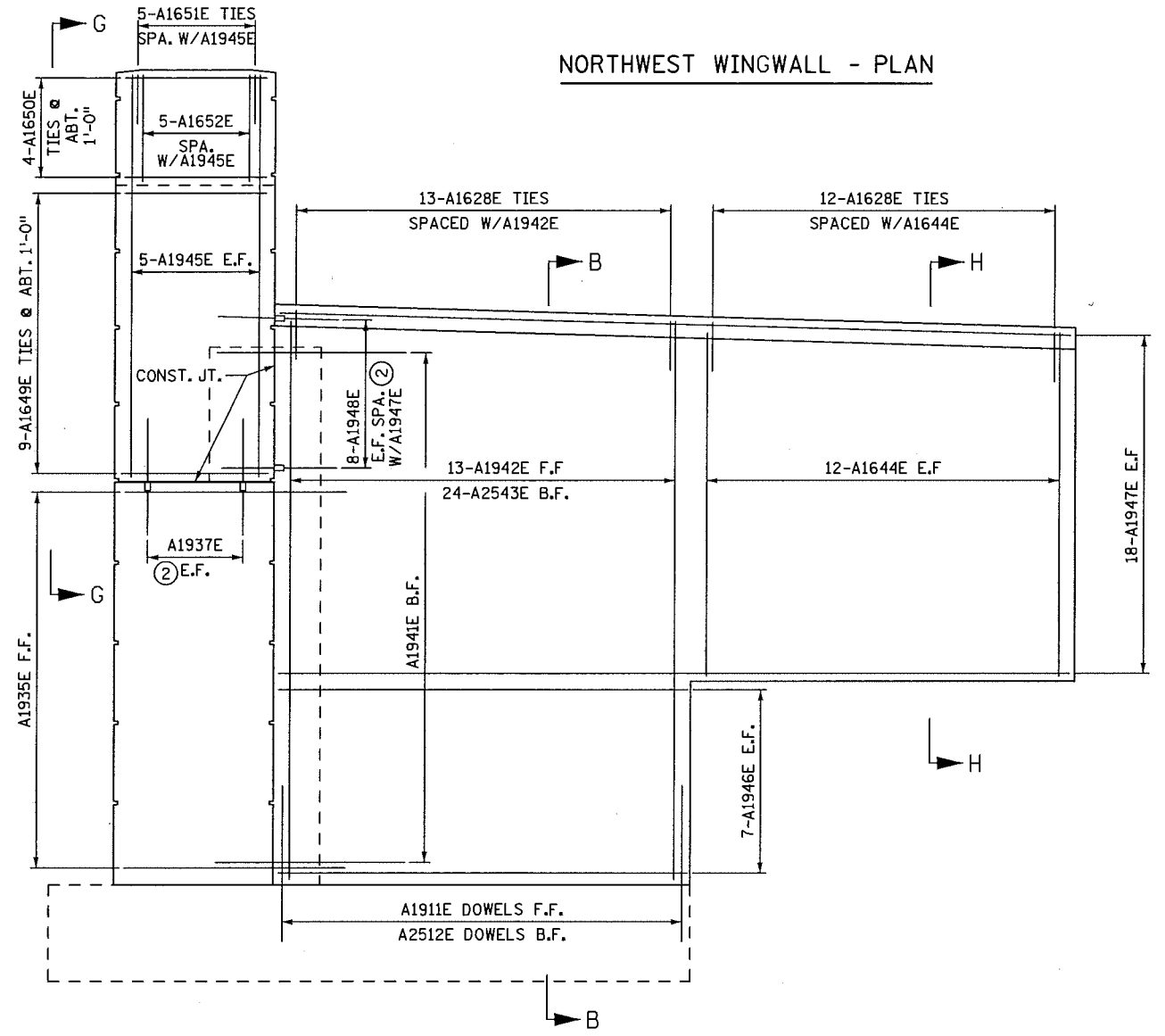
DES: KBD DR: MLS APPROVED:
 CHK: BJB CHK: KBD
 SHEET NO. 17 OF 69

BRIDGE NO. 62626

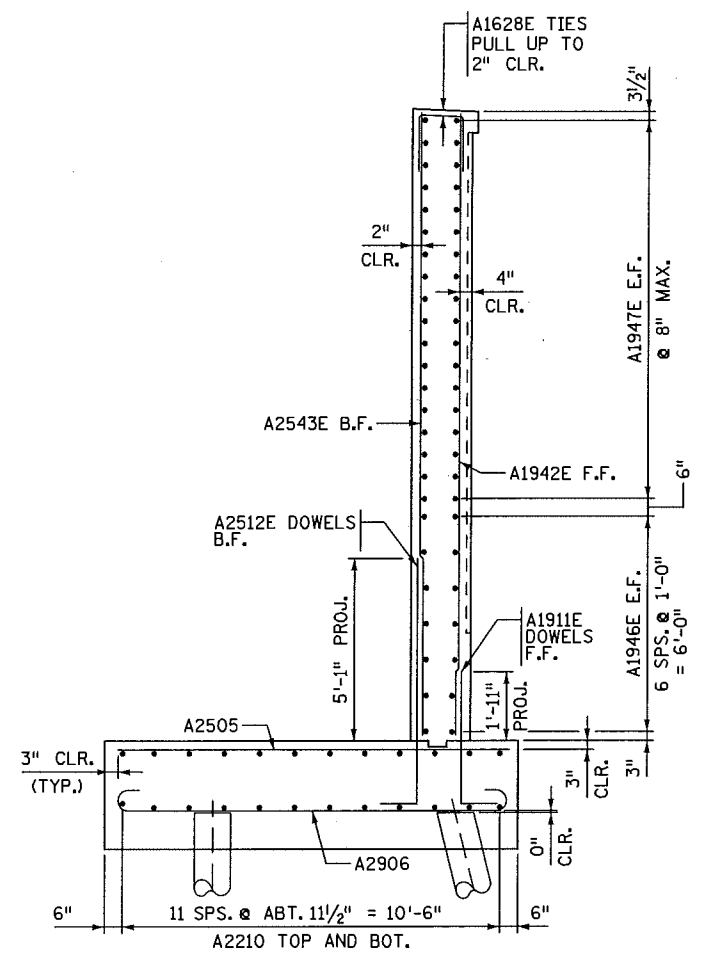
Plotted By: p0010292
 Date Plotted: 07-JUN-2012
 Time Plotted: 2:04:22 PM
 Pen Table: MndOT-Ipilot.pen
 File Path: 18_WestAbutmentReinforcement7_cbrt.dgn



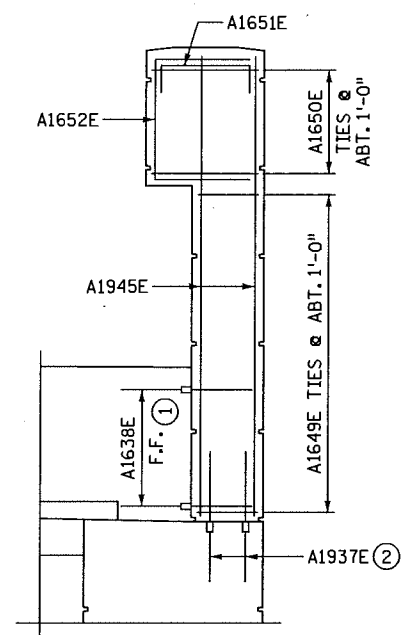
NORTHWEST WINGWALL - PLAN



NORTHWEST WINGWALL - ELEVATION

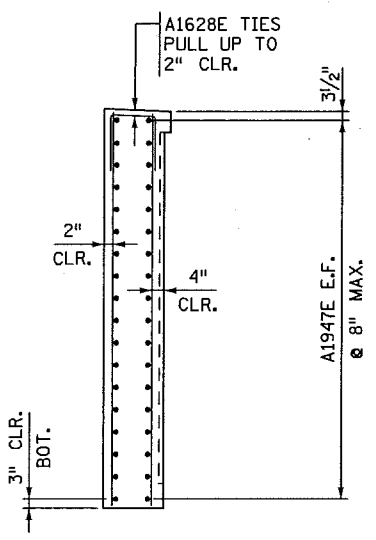


SECTION B-B



VIEW G-G

SHOWING PILASTER REINFORCEMENT



SECTION H-H

NOTES:

- F.F. DENOTES FRONT FACE.
- B.F. DENOTES BACK FACE.
- ① WITH COUPLERS (REINFORCEMENT BARS) T-16.
- ② WITH COUPLERS (REINFORCEMENT BARS) T-19.



MNDOT RELEASE FOR CONSTRUCTION

Signature: *D.J. Perry*
 Date: 6/4/12

DATE	DESCRIPTION	DR.	CHK.	APPROVED
06/07/12	WINGWALL PILE MODIFICATION	DLS	BJB	YTG

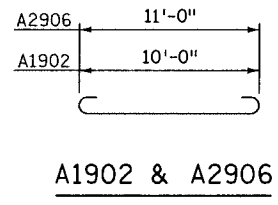


CERTIFIED BY: *David L. St. Peter* 6/8/12
 LICENSED PROFESSIONAL ENGINEER
 NAME: DAVID L. ST. PETER LIC. NO. 46841

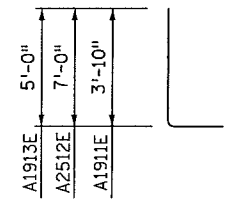
TITLE: WEST ABUTMENT REINFORCEMENT 7

DES: KBD	DR: MLS	APPROVED:
CHK: BJB	CHK: KBD	
SHEET NO. 18 OF 69		

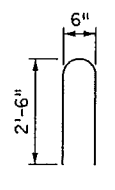
BRIDGE NO. 62626



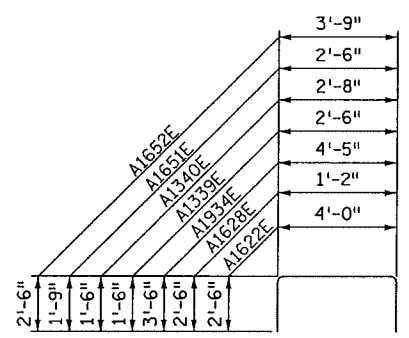
A1902 & A2906



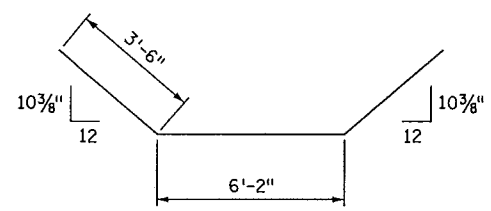
A1911E, A2512E & A1913E



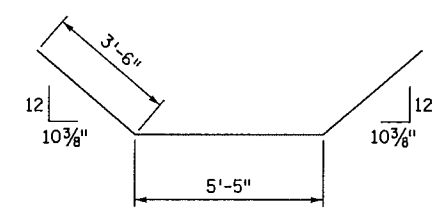
A1629E



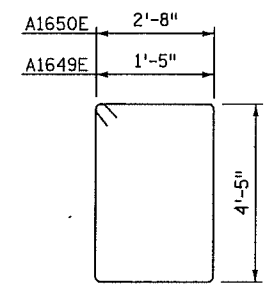
A1622E, A1628E, A1934E, A1339E, A1340E, A1651E & A1652E



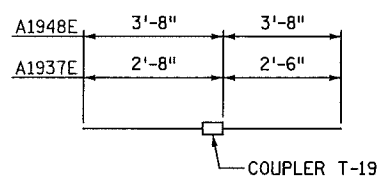
A1936E



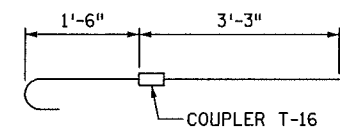
A1941E



A1649E & A1650E



A1937E & A1948E



A1638E

BILL OF REINFORCEMENT FOR WEST ABUTMENT

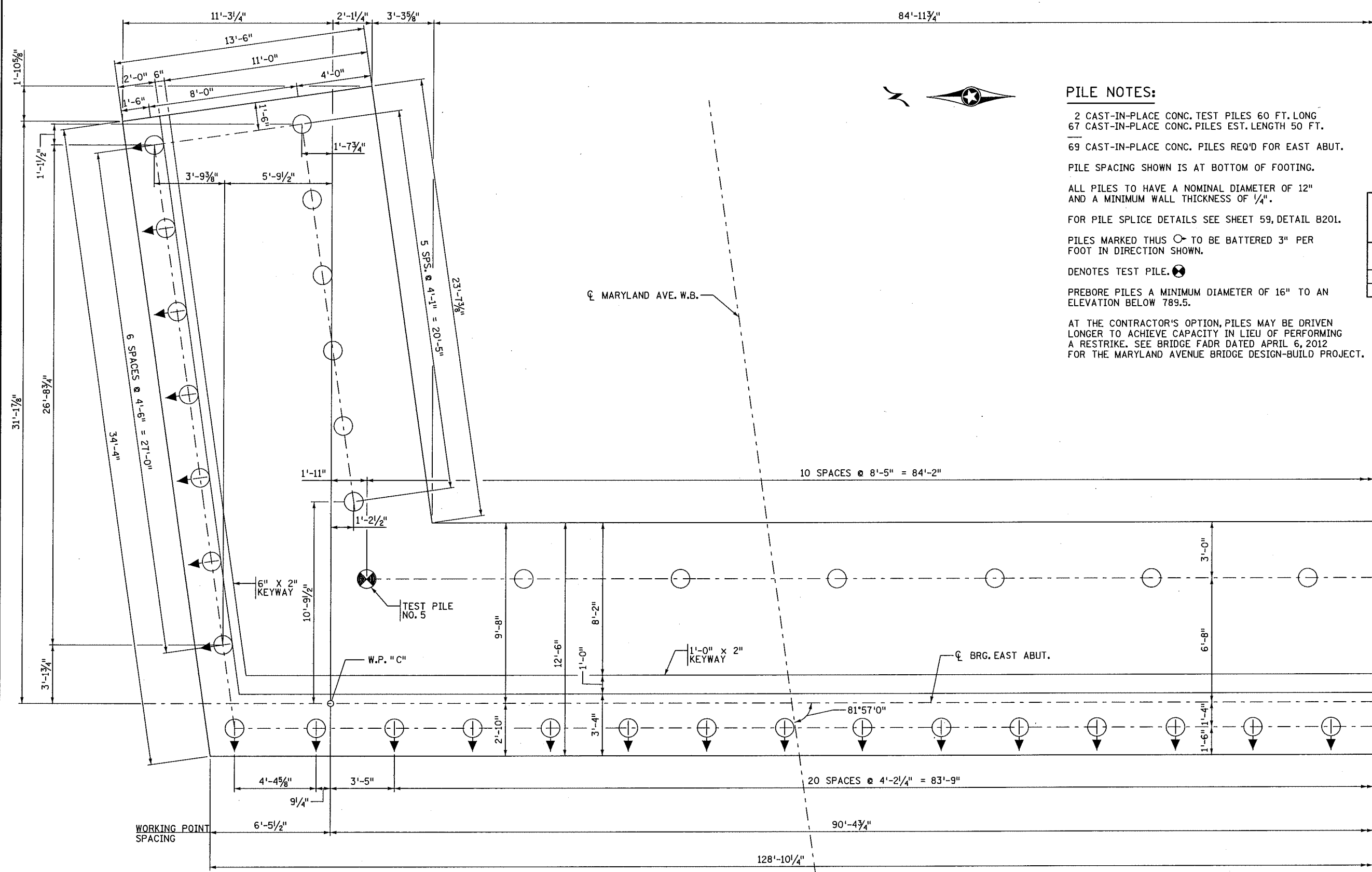
BAR	NO.	LENGTH	SHAPE	LOCATION
A1901	127	10'-0"	—	TRANSVERSE FOOTING TOP
A1902	127	11'-4"	—	TRANSVERSE FOOTING BOTTOM
A2503	28	60'-0"	—	LONGITUDINAL FOOTING TOP
A2904	28	60'-0"	—	LONGITUDINAL FOOTING BOTTOM
A2505	36	11'-0"	—	TRANSVERSE FOOTING TOP
A2906	36	12'-4"	—	TRANSVERSE FOOTING BOTTOM
A2207	24	17'-10"	—	LONGITUDINAL FOOTING
A2508	14	18'-0"	—	LONGITUDINAL FOOTING TOP
A2909	14	20'-6"	—	LONGITUDINAL FOOTING BOTTOM
A2210	2 SERIES OF 12	17'-11" TO 19'-5"	—	LONGITUDINAL FOOTING
A1911E	169	4'-10"	—	FOOTING DOWELS F.F.
A2512E	46	8'-4"	—	FOOTING DOWELS B.F.
A1913E	124	6'-0"	—	FOOTING DOWELS B.F.
A1914E	38	12'-0"	—	ABUTMENT VERTICAL F.F.
A1915E	32	12'-6"	—	ABUTMENT VERTICAL F.F.
A1916E	32	12'-8"	—	ABUTMENT VERTICAL F.F.
A1917E	41	12'-2"	—	ABUTMENT VERTICAL F.F.
A1918E	29	16'-3"	—	ABUTMENT VERTICAL B.F.
A1919E	32	16'-8"	—	ABUTMENT VERTICAL B.F.
A1920E	32	16'-9"	—	ABUTMENT VERTICAL B.F.
A1921E	31	16'-6"	—	ABUTMENT VERTICAL B.F.
A1622E	120	9'-0"	—	BRIDGE SEAT TIES
A1923E	31	27'-8"	—	ABUTMENT HORIZONTAL
A1924E	62	31'-8"	—	ABUTMENT HORIZONTAL
A1925E	31	31'-3"	—	ABUTMENT HORIZONTAL
A1926E	93	7'-4"	—	ABUTMENT HORIZONTAL SPLICE
A1627E	123	5'-4"	—	BACKWALL VERTICAL F.F.
A1628E	173	6'-2"	—	VERTICAL TIES
A1629E	123	5'-4"	—	END BLOCK DOWELS
A1630E	10	27'-8"	—	BACKWALL HORIZONTAL
A1631E	20	31'-8"	—	BACKWALL HORIZONTAL
A1632E	10	30'-3"	—	BACKWALL HORIZONTAL
A1633E	30	6'-2"	—	BACKWALL HORIZONTAL SPLICE
A1934E	56	11'-5"	—	ABUTMENT HORIZONTAL
A1935E	28	7'-4"	—	WINGWALL DOWELS
A1936E	19	13'-2"	—	WINGWALL DOWELS
A1937E	20	5'-2"	—	ABUTMENT VERTICAL SPLICE
A1638E	10	5'-4"	—	BACKWALL HORIZONTAL SPLICE
A1339E	78	5'-6"	—	PEDESTAL
A1340E	65	5'-8"	—	PEDESTAL
A1941E	19	12'-5"	—	WINGWALL DOWELS
A1942E	26	17'-2"	—	WINGWALL VERTICAL F.F.
A2543E	46	17'-2"	—	WINGWALL VERTICAL B.F.
A1644E	48	10'-6"	—	WINGWALL VERTICAL
A1945E	20	12'-7"	—	PILASTER VERTICAL
A1946E	26	12'-8"	—	WINGWALL HORIZONTAL
A1947E	72	24'-8"	—	WINGWALL HORIZONTAL
A1948E	30	7'-4"	—	WINGWALL HORIZONTAL SPLICE
A1649E	18	12'-7"	—	PILASTER TIES
A1650E	8	15'-1"	—	PILASTER TIES
A1651E	10	6'-0"	—	PILASTER TIES
A1652E	10	8'-9"	—	PILASTER VERTICAL

NOTES:

B.F. DENOTES BACK FACE
F.F. DENOTES FRONT FACE

Plotted By: p0010292
Date Plotted: 07-JUN-2012
Time Plotted: 2:04:29 PM
Pen Table: MnDOT-1p10t.pen
File Path: 19_WestAbutmentReinforcement8_cbt.dgn

MnDOT RELEASE FOR CONSTRUCTION <i>David L. St. Peter</i> SIGNATURE	DATE 06/07/12	REVISION	DR. DLS	CHK. BJB	APPROVED YTC			CERTIFIED BY <i>David L. St. Peter</i> 6/8/12 LICENSED PROFESSIONAL ENGINEER NAME: DAVID L. ST. PETER LIC. NO. 46841	TITLE: WEST ABUTMENT REINFORCEMENT 8	DES: KBD	DR: MLS	APPROVED:	BRIDGE NO. 62626
		DESCRIPTION WINGWALL PILE MODIFICATION								CHK: KBD	SHEET NO. 19 OF 69		



FOOTING PLAN

PILE NOTES:

2 CAST-IN-PLACE CONC. TEST PILES 60 FT. LONG
 67 CAST-IN-PLACE CONC. PILES EST. LENGTH 50 FT.
 69 CAST-IN-PLACE CONC. PILES REQ'D FOR EAST ABUT.
 PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.
 ALL PILES TO HAVE A NOMINAL DIAMETER OF 12"
 AND A MINIMUM WALL THICKNESS OF 1/4".
 FOR PILE SPLICE DETAILS SEE SHEET 59, DETAIL B201.
 PILES MARKED THIS \odot TO BE BATTERED 3" PER
 FOOT IN DIRECTION SHOWN.
 DENOTES TEST PILE. \otimes
 PREBORE PILES A MINIMUM DIAMETER OF 16" TO AN
 ELEVATION BELOW 789.5.
 AT THE CONTRACTOR'S OPTION, PILES MAY BE DRIVEN
 LONGER TO ACHIEVE CAPACITY IN LIEU OF PERFORMING
 A RESTRIKE. SEE BRIDGE FADR DATED APRIL 6, 2012
 FOR THE MARYLAND AVENUE BRIDGE DESIGN-BUILD PROJECT.

EAST ABUTMENT
 REQUIRED NOMINAL PILE
 BEARING RESISTANCE
 Rn - TONS/PILE

FIELD CONTROL METHOD	ϕ dyn	*Rn
MnDOT NOMINAL RESISTANCE FORMULA	0.40	311.5
PDA	0.65	191.7

*Rn = (FACTORED DESIGN LOAD)/ ϕ dyn

EAST ABUTMENT
 COMPUTED PILE LOAD -
 TONS/PILE

FACTORED DEAD LOAD + EARTH PRESSURE	110.6
FACTORED LIVE LOAD	14.0
*FACTORED DESIGN LOAD	124.6

*BASED ON STRENGTH I LOAD COMBINATION

Plotted By: P0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 7:39:24 AM
 Pen Table: MnDOT-IPlot.pen
 File Path: 20_EastAbutmentDetails_cabt.dgn

MnDOT RELEASE FOR CONSTRUCTION
 Signature: *David L. St. Peter*
 Date: 5/25/12

DATE	REVISION DESCRIPTION	DR.	CHK.	APPROVED

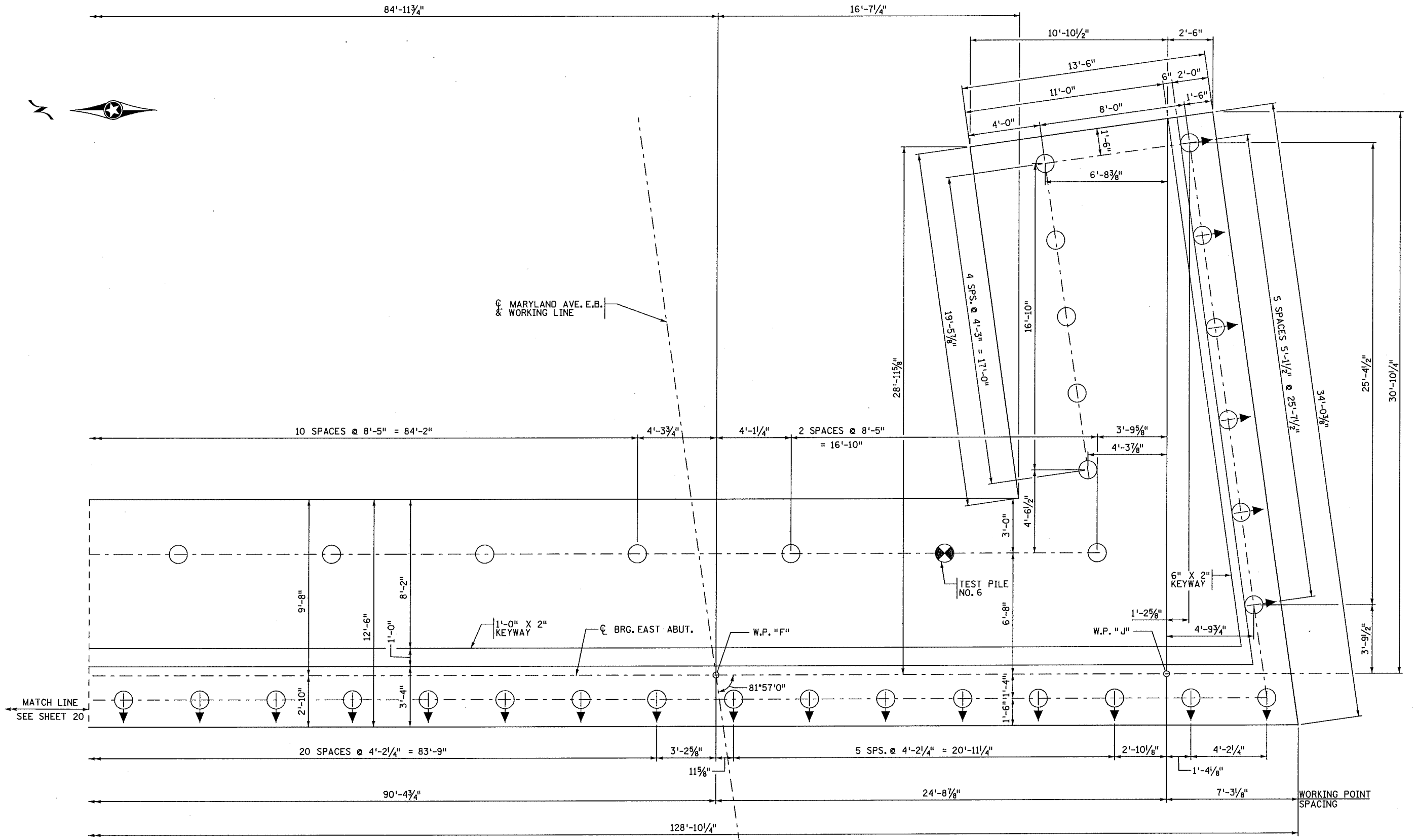


CERTIFIED BY *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: EAST ABUTMENT
 DETAILS 1

DES: KBD DR: MLS APPROVED:
 CHK: BJB CHK: DLS
 SHEET NO. 20 OF 69

BRIDGE NO.
 62626



FOOTING PLAN

SOUTHEAST CORNER

PILE NOTES:

SEE SHEET 20 FOR PILE NOTES.

Plotted By: p0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 7:42:06 AM
 Pen Table: MndOT-Iplot.pen
 File Path: 21_EastAbutmentDetails2_cbt.dgn

MNDOT RELEASE FOR CONSTRUCTION
 Signature: *David L. St. Peter*
 Date: 6/11/12

DATE	REVISION DESCRIPTION	DR.	CHK.	APPROVED
03/03/12				

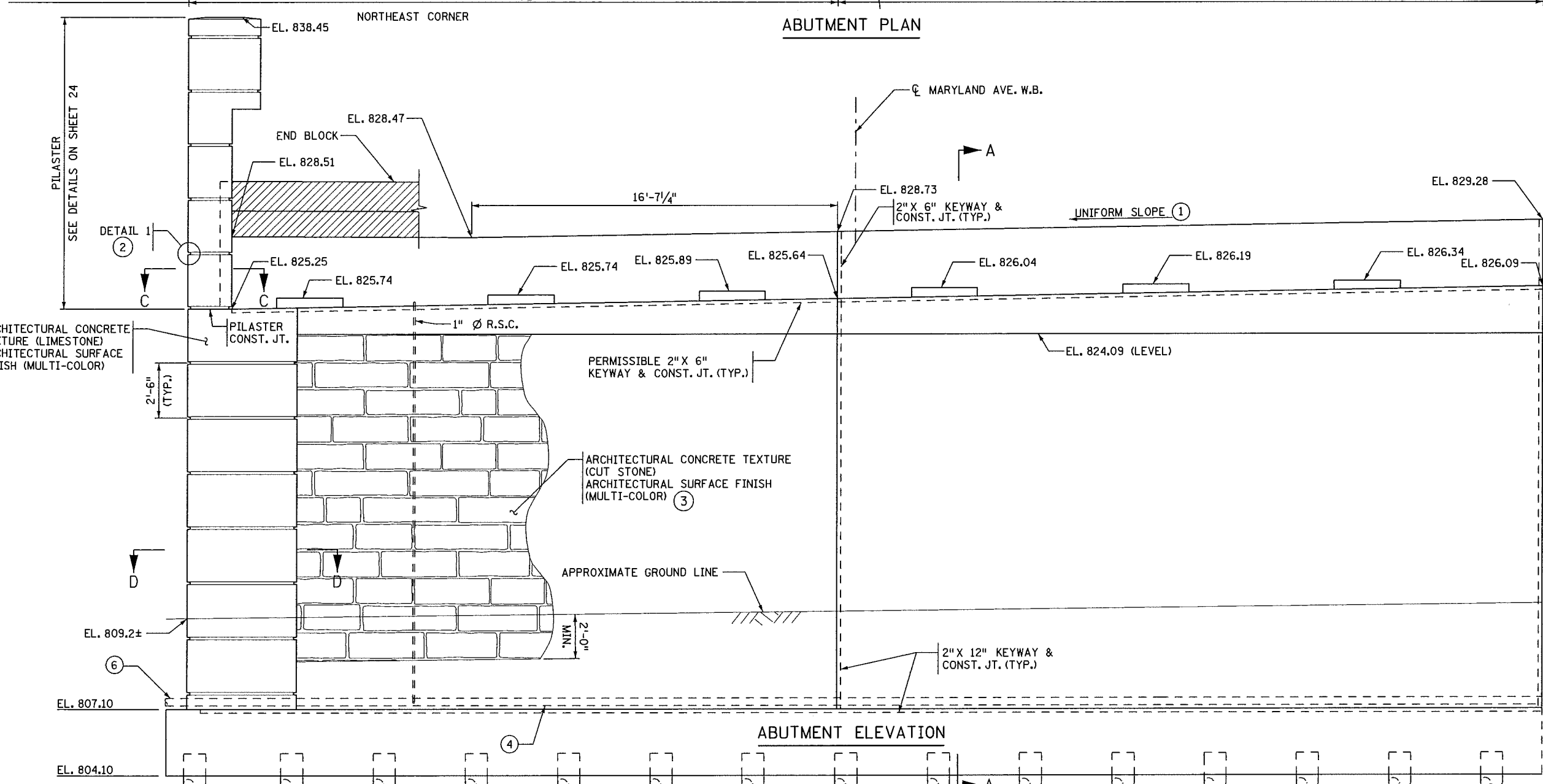
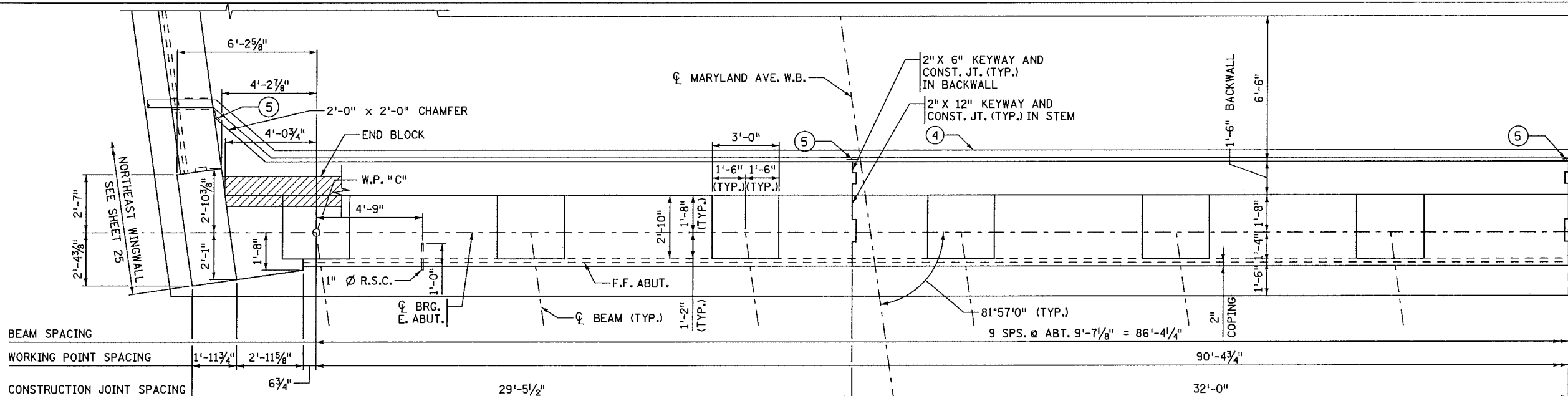


CERTIFIED BY: *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER
 NAME: DAVID L. ST. PETER
 LIC. NO. 46841

TITLE: EAST ABUTMENT
 DETAILS 2

DES: KBD
 DR: MLS
 CHK: BJB
 CHK: DLS
 APPROVED:
 SHEET NO. 21 OF 69

BRIDGE NO.
 62626



MATCH LINE
SEE SHEET 23

NOTES:

- FOR SECTIONS A-A, C-C & D-D SEE SHEET 24.
- HATCHED AREA INDICATES BRIDGE SLAB CONCRETE (3Y36).
- PROVIDE A 72 HOUR MINIMUM TIME DELAY BETWEEN CONCRETE POURS ON ADJACENT ABUTMENT SECTIONS.
- TOP OF BACKWALL ELEVATIONS ARE TAKEN ALONG FRONT FACE OF BACKWALL.
- ABUTMENT STEM DIMENSIONS TAKEN ALONG F.F. ABUTMENT, AT THE BRIDGE SEAT.
- HORIZONTAL BACKWALL DIMENSIONS ARE TAKEN ALONG FRONT FACE OF BACKWALL.
- ① UNIFORM SLOPE BETWEEN ELEVATIONS.
- ② SEE DETAIL 1 ON SHEET 24.
- ③ ARCHITECTURAL CONCRETE TEXTURE SHALL EXTEND 2'-0" MIN. BELOW FINISHED GRADE.
- ④ 4" NOMINAL DIA. PERFORATED PIPE INCLUDED IN DRAINAGE SYSTEM TYPE B910.
- ⑤ MEMBRANE WATERPROOFING SYSTEM PER MNDOT SPEC. 2481.3B.
- ⑥ SLEEVE THRU WINGWALL, SEE SHEET 25.

Plotted By: P0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 9:06:25 AM
 Pen Table: Mndot-Iplot.pen
 File Path: 22_EastAbutmentDetail1s3_abt.dgn

MNDOT RELEASE FOR CONSTRUCTION
 Signature: *David L. St. Peter*
 Date: 6/11/12

REVISION	DESCRIPTION	DR.	CHK.	APPROVED



CERTIFIED BY: *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER
 NAME: DAVID L. ST. PETER LIC. NO. 46841

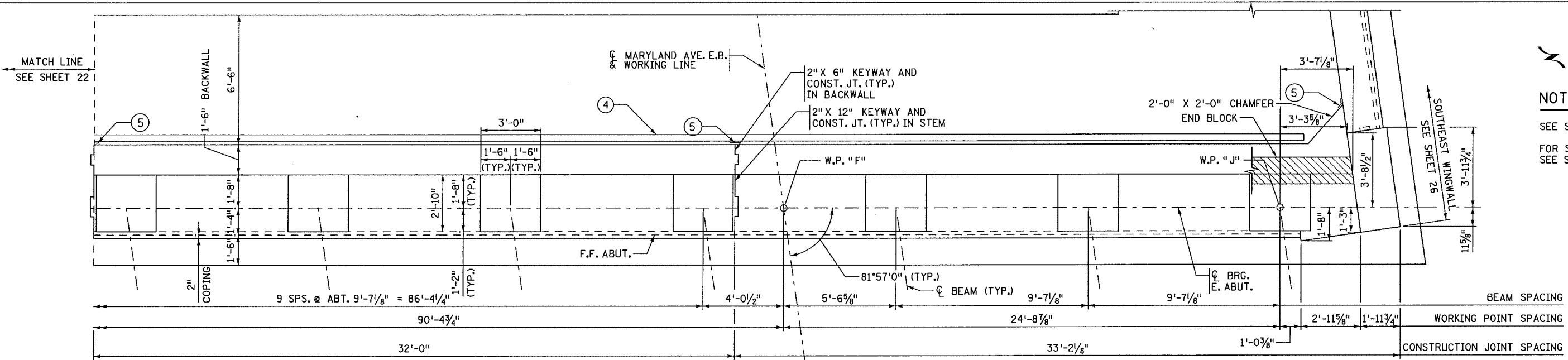
TITLE: EAST ABUTMENT
 DETAILS 3

DES: KBD	DR: BJB	APPROVED:
CHK: BJB	CHK: DLS	
SHEET NO. 22 OF 69		

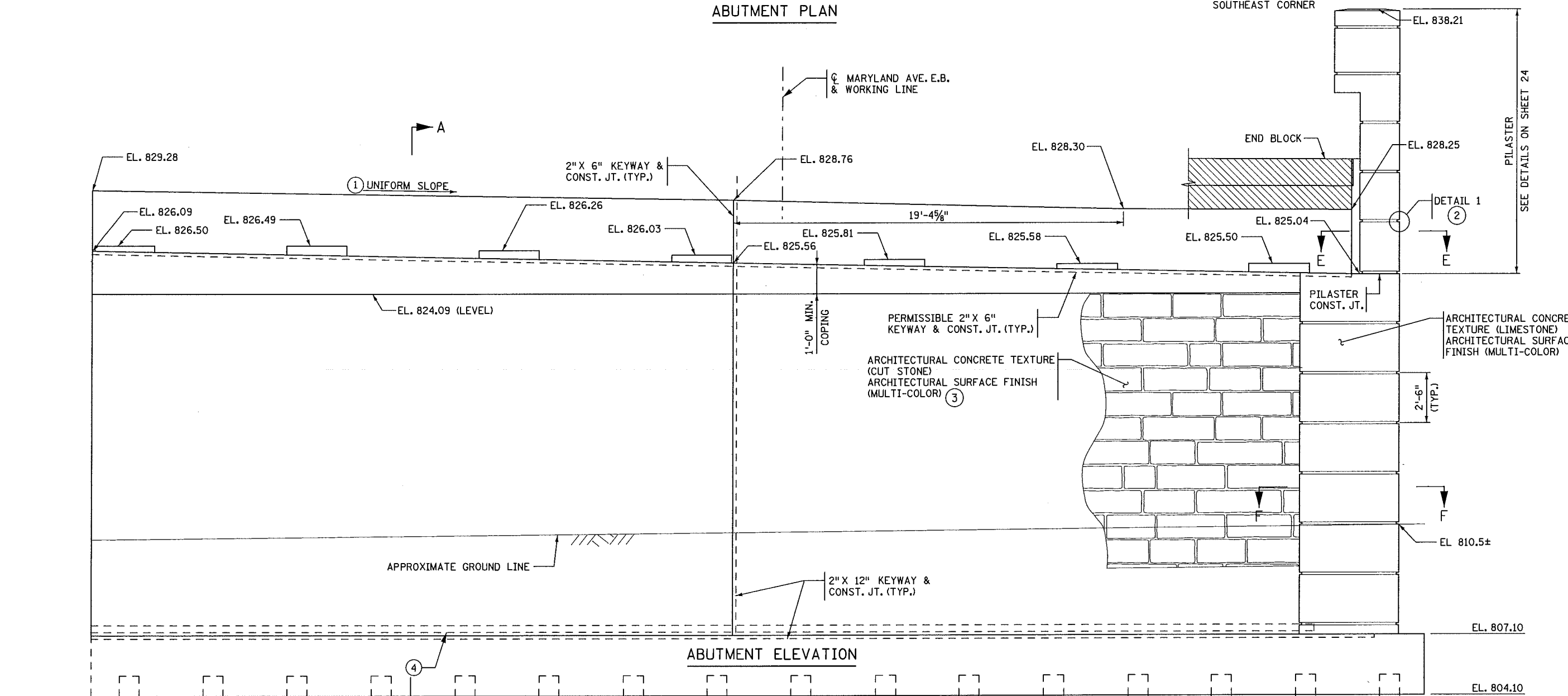
BRIDGE NO.
62626



NOTES:
 SEE SHEET 22 FOR NOTES.
 FOR SECTIONS E-E & F-F
 SEE SHEET 24.



ABUTMENT PLAN



ABUTMENT ELEVATION

Plotted By: p0007740
 Date Plotted: 24-APR-2012
 Time Plotted: 10:38:59 AM
 Pen Table: Mndot-Iplot.pen
 File Path: 23_EastAbutmentDetails4_obt.dgn

MNDOT RELEASE FOR CONSTRUCTION
 Signature: *David L. St. Peter*
 Date: 6/11/12

REVISION	DATE	DESCRIPTION	DR.	CHK.	APPROVED

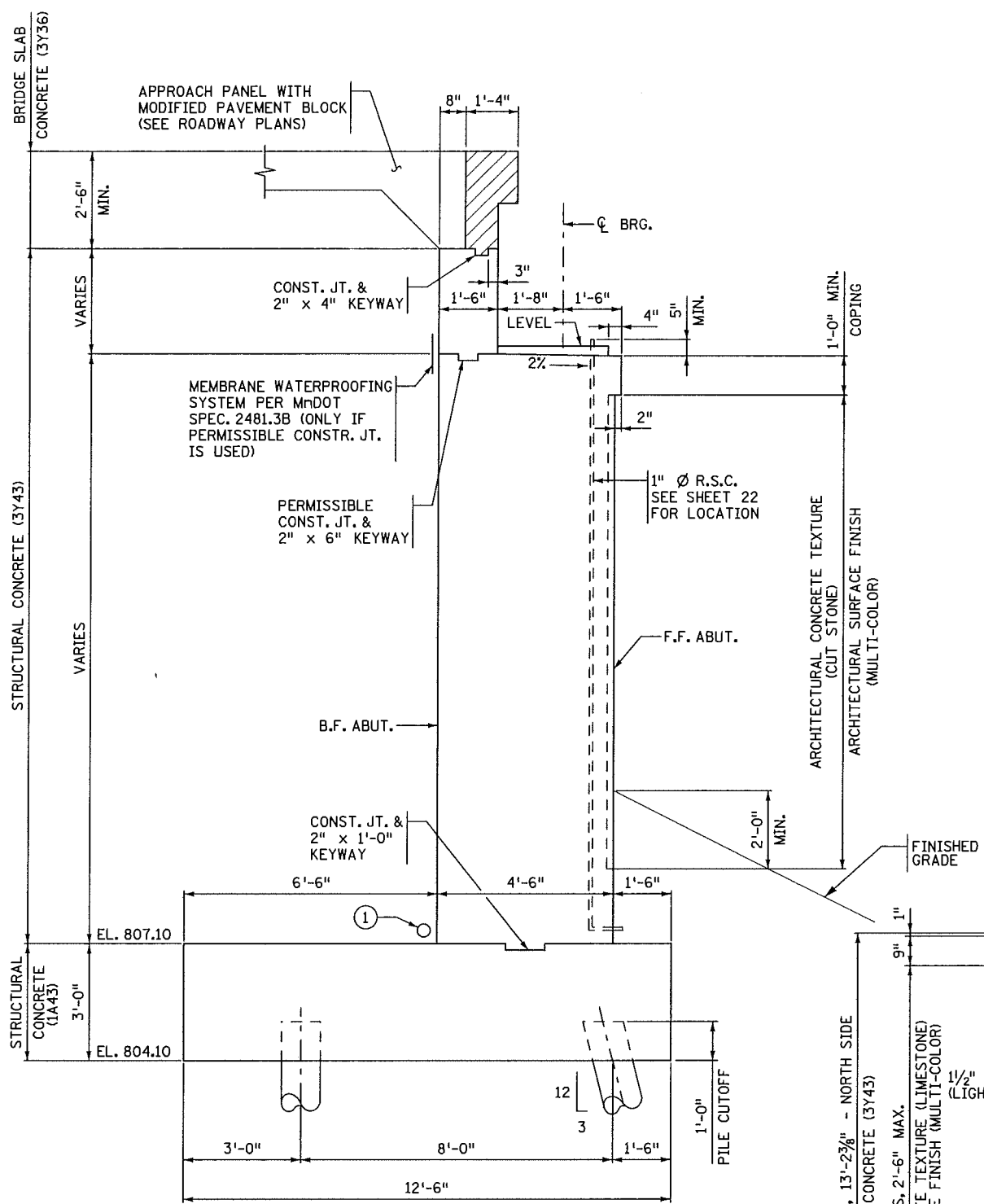


CERTIFIED BY: *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER
 NAME: DAVID L. ST. PETER
 LIC. NO. 46841

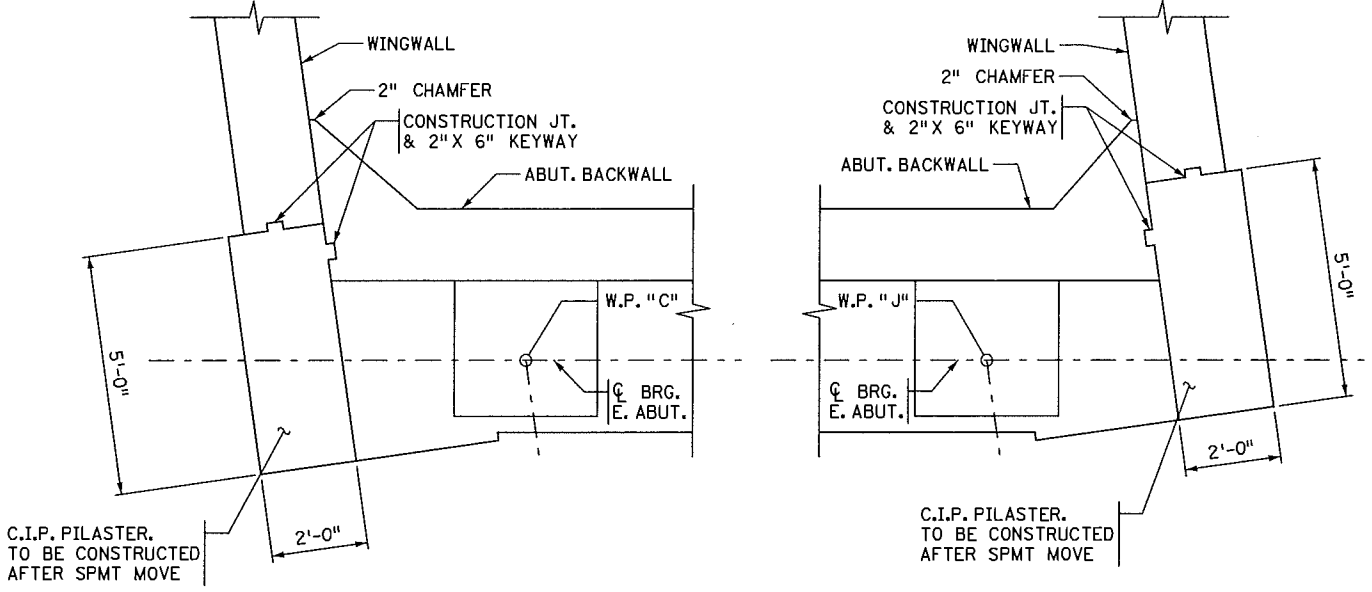
TITLE: EAST ABUTMENT
 DETAILS 4

DES: KBD
 CHK: BJB
 DR: BJB
 CHK: DLS
 APPROVED:
 SHEET NO. 23 OF 69

BRIDGE NO.
 62626

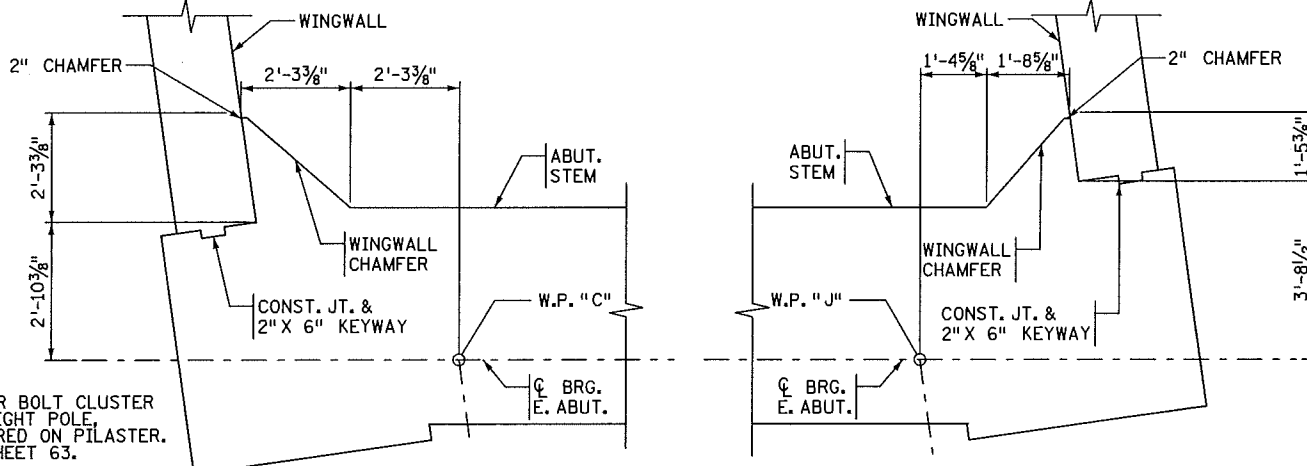


SECTION A-A



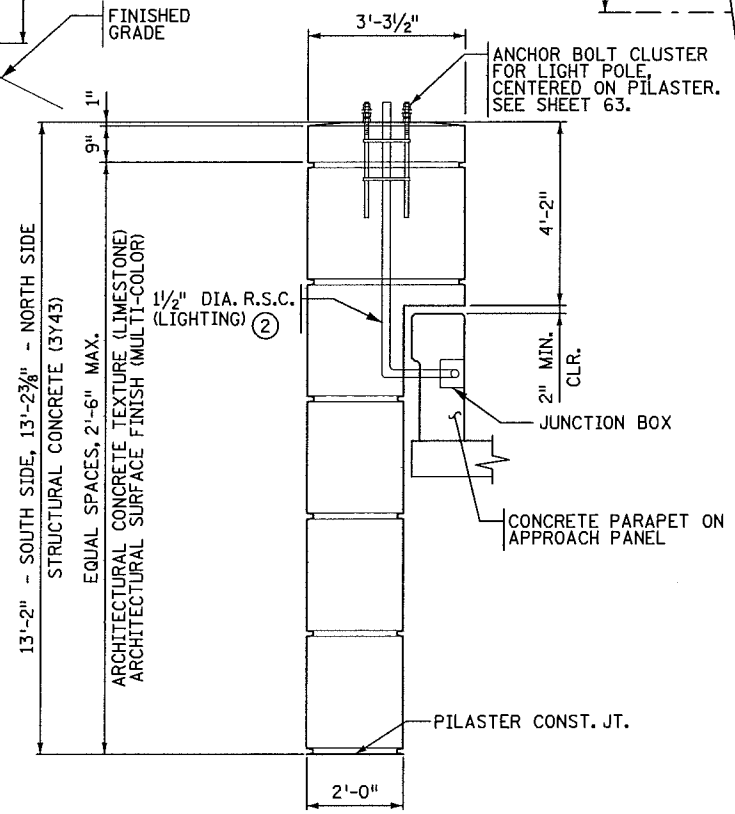
SECTION C-C

SECTION E-E

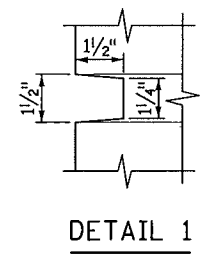


SECTION D-D

SECTION F-F



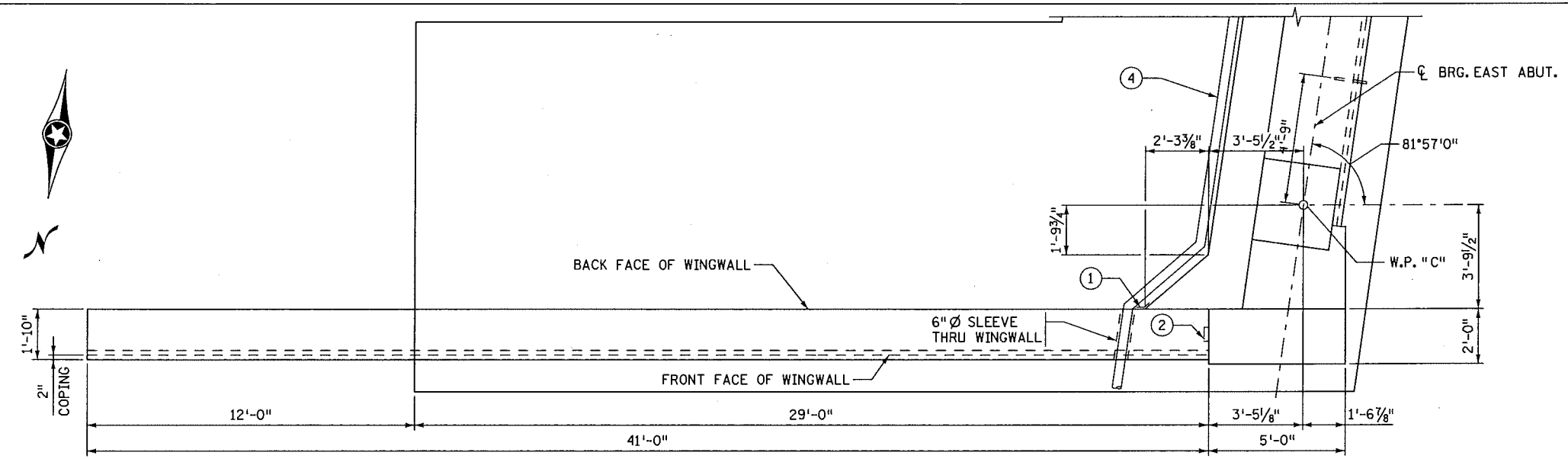
PILASTER DETAILS



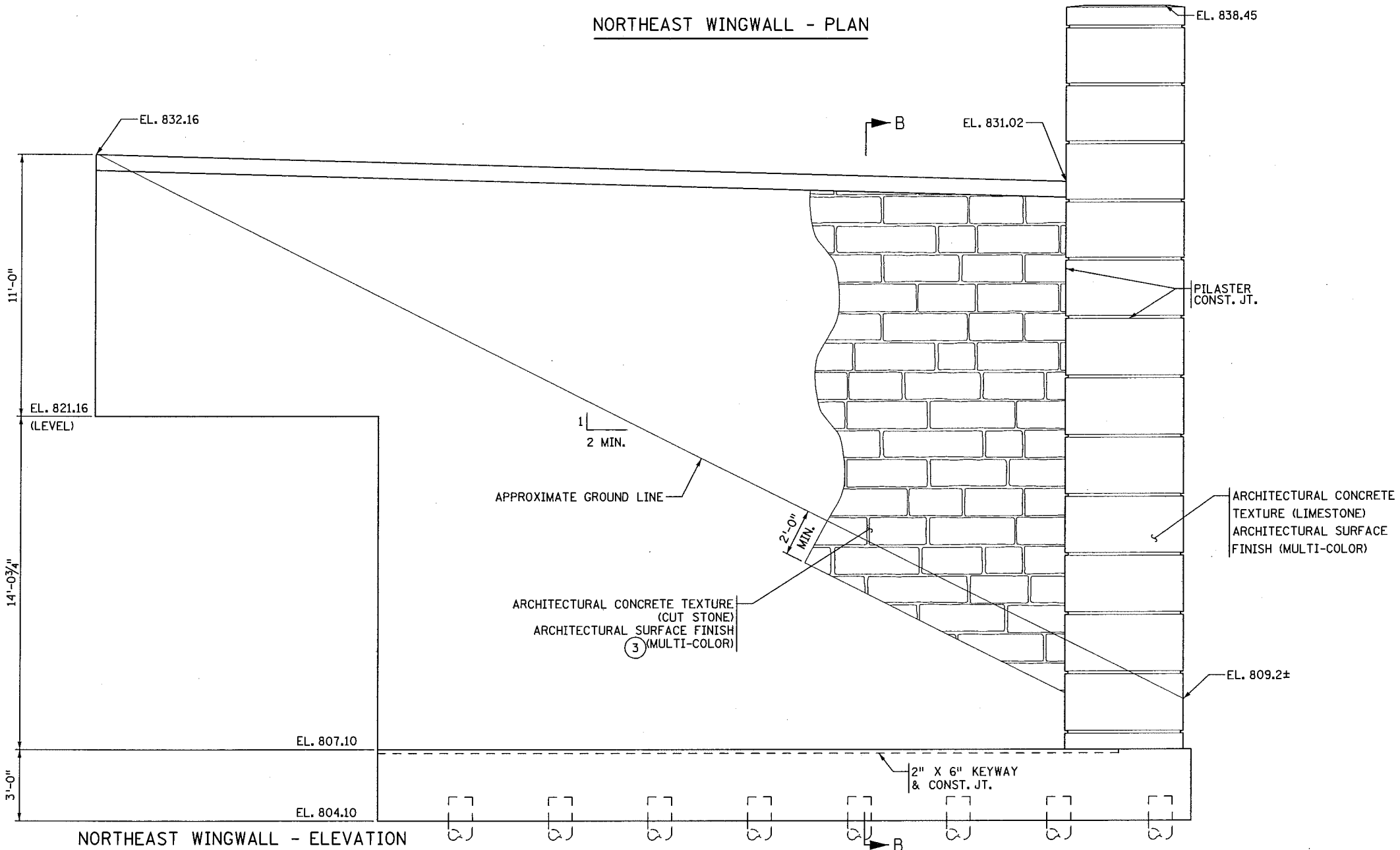
DETAIL 1

- NOTES:**
- FOR LOCATIONS OF SECTION A-A SEE SHEETS 22 & 23.
 - FOR LOCATIONS OF SECTIONS C-C & D-D SEE SHEET 22.
 - FOR LOCATIONS OF SECTIONS E-E & F-F SEE SHEET 23.
 - ① 4" NOMINAL DIA. PERFORATED PIPE INCLUDED IN DRAINAGE SYSTEM TYPE B910.
 - ② EXTEND CONDUIT 3" ABOVE TOP OF PILASTER AND CAP.

Plotted By: p0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 10:57:04 AM
 Pen Table: MnDOT-ip lot.pen
 File Path: 24_EastAbutmentDetails5_abt.dgn



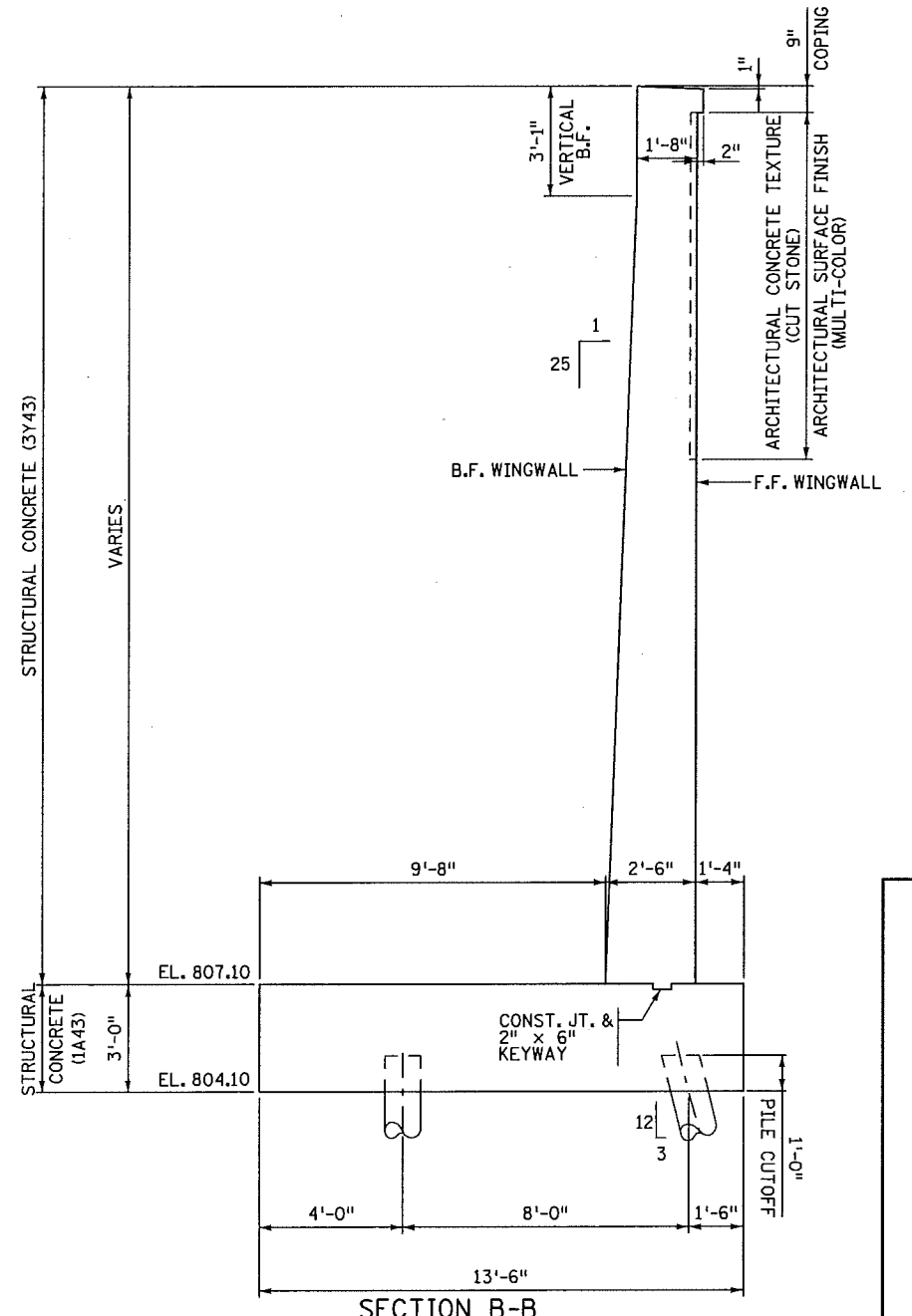
NORTHEAST WINGWALL - PLAN



NORTHEAST WINGWALL - ELEVATION

NOTES:

- TOP OF WINGWALL ELEVATIONS ARE GIVEN AT BACK FACE OF WINGWALL.
- ① MEMBRANE WATERPROOFING SYSTEM PER MNDOT SPEC. 2481.3B.
- ② 2" x 6" KEYWAY & CONST. JT.
- ③ ARCHITECTURAL CONCRETE TEXTURE SHALL EXTEND 2'-0" MIN. BELOW FINISHED GRADE.
- ④ 4" NOMINAL DIA. PERFORATED PIPE INCLUDED IN DRAINAGE SYSTEM TYPE B910, SEE SHEET 63.



SECTION B-B

Plotted By: P0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 9:44:46 AM
 Pen Table: Mndot-plot.pen
 File Path: 25_EastAbutmentDetail1.sab.dgn

MNDOT RELEASE FOR CONSTRUCTION
 Signature: *David L. St. Peter*
 DATE: _____

REVISION	DATE	DESCRIPTION	DR.	CHK.	APPROVED



CERTIFIED BY: *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: EAST ABUTMENT DETAILS 6

DES: KBD DR: BJB APPROVED:
 CHK: BJB CHK: DLS
 SHEET NO. 25 OF 69

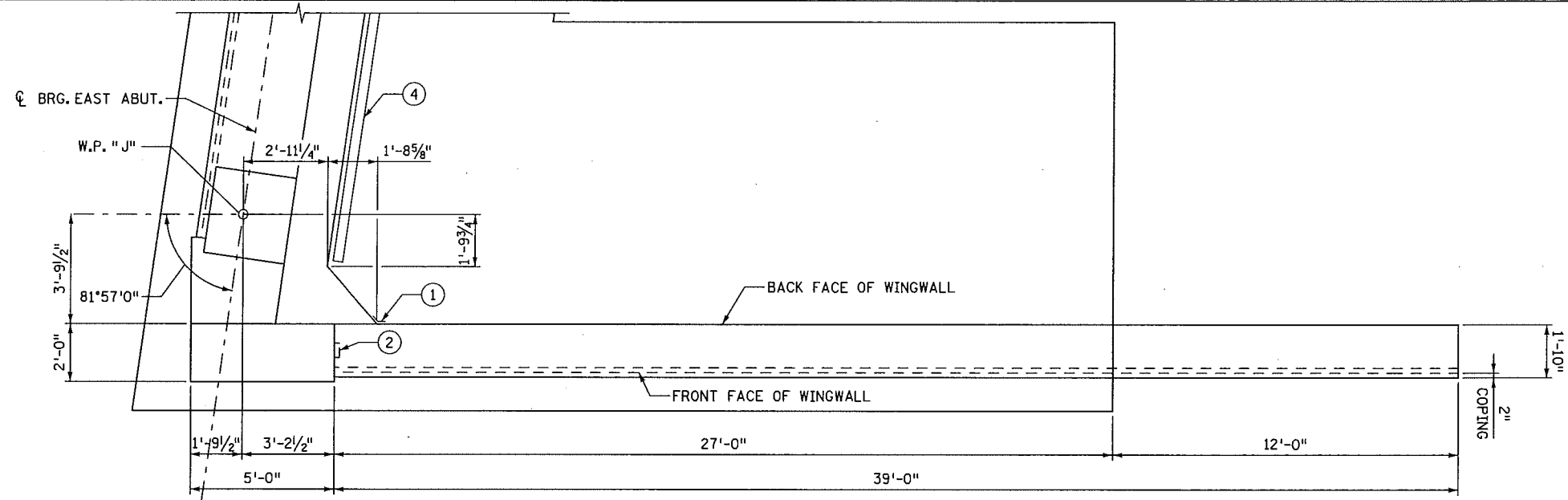
BRIDGE NO. 62626

NOTES:

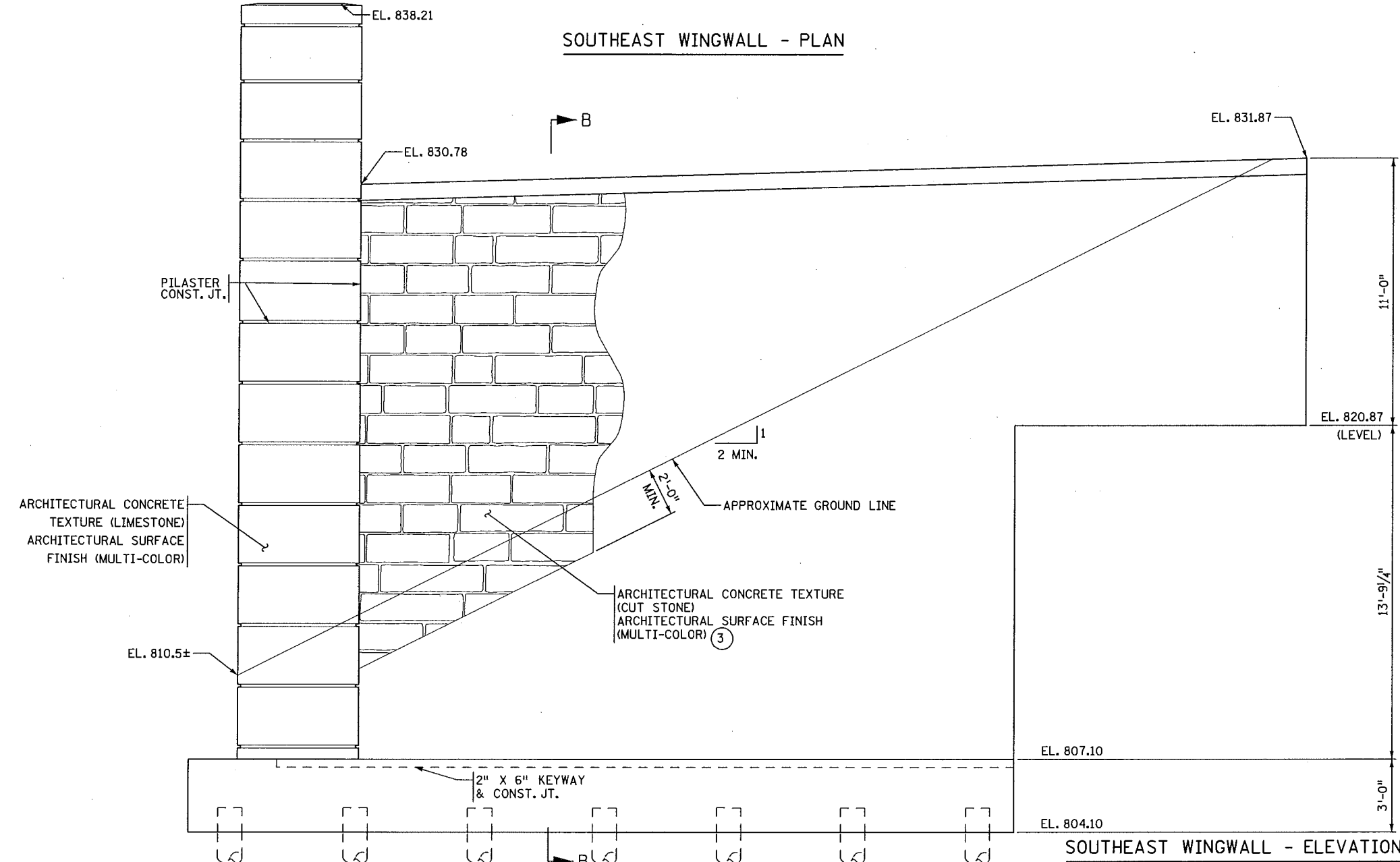
TOP OF WINGWALL ELEVATIONS ARE GIVEN AT BACK FACE OF WINGWALL.

FOR SECTION B-B SEE SHEET 25.

- ① MEMBRANE WATERPROOFING SYSTEM PER MNDOT SPEC. 2481.3B.
- ② 2" x 6" KEYWAY & CONST. JT.
- ③ ARCHITECTURAL CONCRETE TEXTURE SHALL EXTEND 2'-0" MIN. BELOW FINISHED GRADE.
- ④ 4" NOMINAL DIA. PERFORATED PIPE INCLUDED IN DRAINAGE SYSTEM TYPE B910, SEE SHEET 63.



SOUTHEAST WINGWALL - PLAN



SOUTHEAST WINGWALL - ELEVATION

Plotted By: P0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 9:46:58 AM
 Pen Table: Mndot-Iplot.pen
 File Path: 26_EastAbutmentDetail1s7_abt.dgn

MNDOT RELEASE FOR CONSTRUCTION
 Signature: *David J. Henry*
 Date: 6/11/12

DATE	REVISION DESCRIPTION	DR.	CHK.	APPROVED



CERTIFIED BY: *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: EAST ABUTMENT DETAILS 7

DES: KBD	DR: BJB	APPROVED:
CHK: BJB	CHK: DLS	
SHEET NO. 26 OF 69		

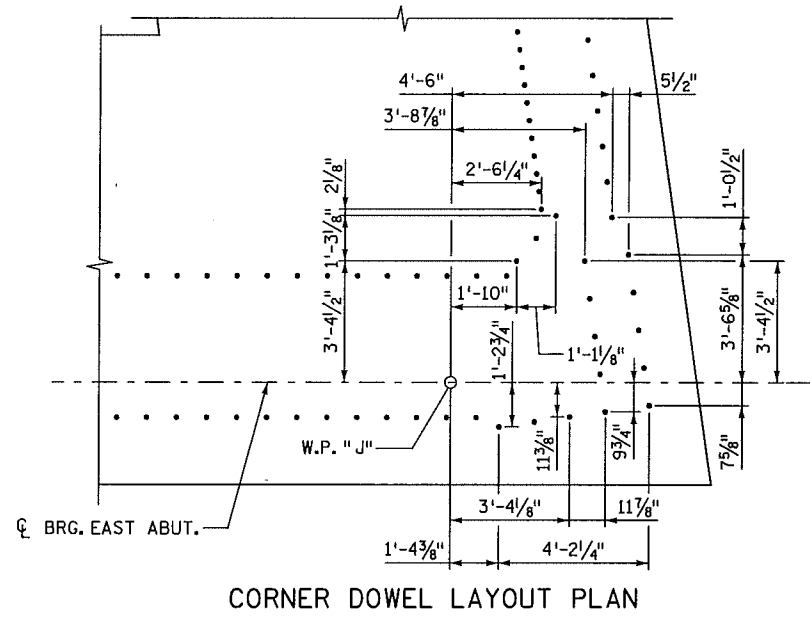
BRIDGE NO. 62626

NOTES:

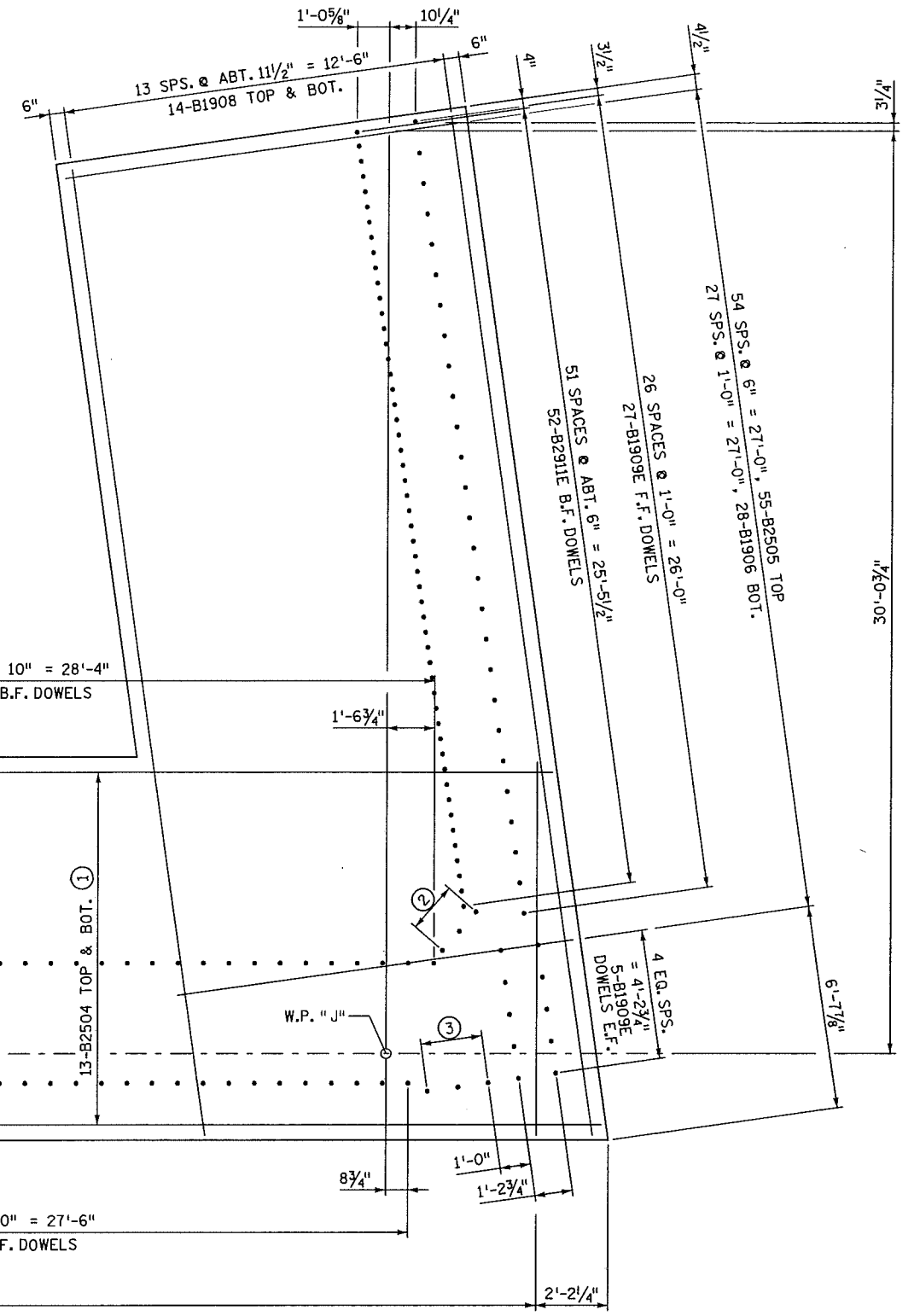
B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

- ① ALTERNATE PLACEMENT OF B2503 & B2504 TO STAGGER LAPS (SEE SHEET 27).
- ② 2 SPS. @ 10" = 1'-8"
3-B2510E B.F. DOWELS
- ③ 2 SPS. @ 1'-0" = 2'-0"
3-B1909E F.F. DOWELS



CL MARYLAND AVE. E.B. & WORKING LINE



SOUTHEAST CORNER

FOOTING REINFORCEMENT PLAN

Plotted By: p0007740
 Date Plotted: 23-APR-2012
 Time Plotted: 12:57:05 PM
 Pen Table: mndot-1plot.pen
 File Path: 28_EastAbutmentReinforcement2_obt.dgn

MnDOT RELEASE FOR CONSTRUCTION
 Signature: *David L. St. Peter*
 Date: 6/11/12

REVISION		DR.	CHK.	APPROVED
DATE	DESCRIPTION			

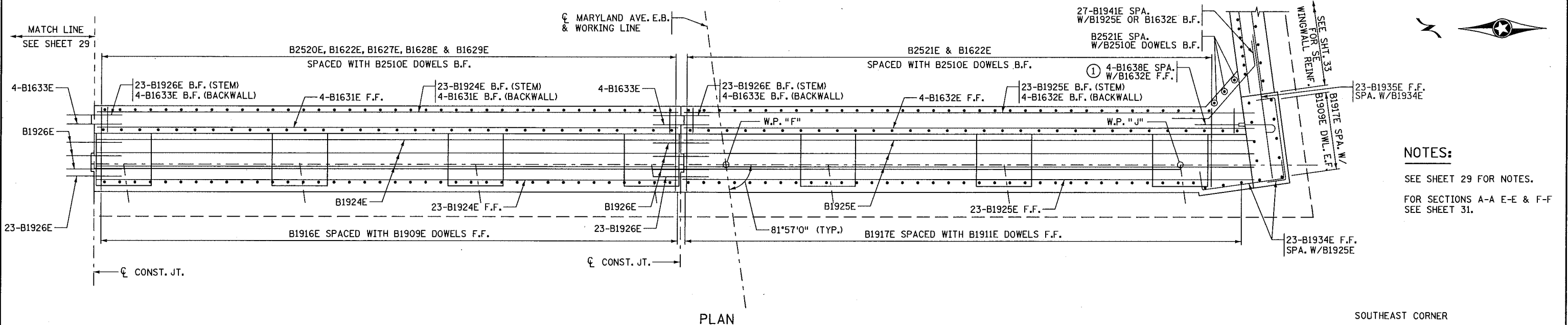


CERTIFIED BY *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

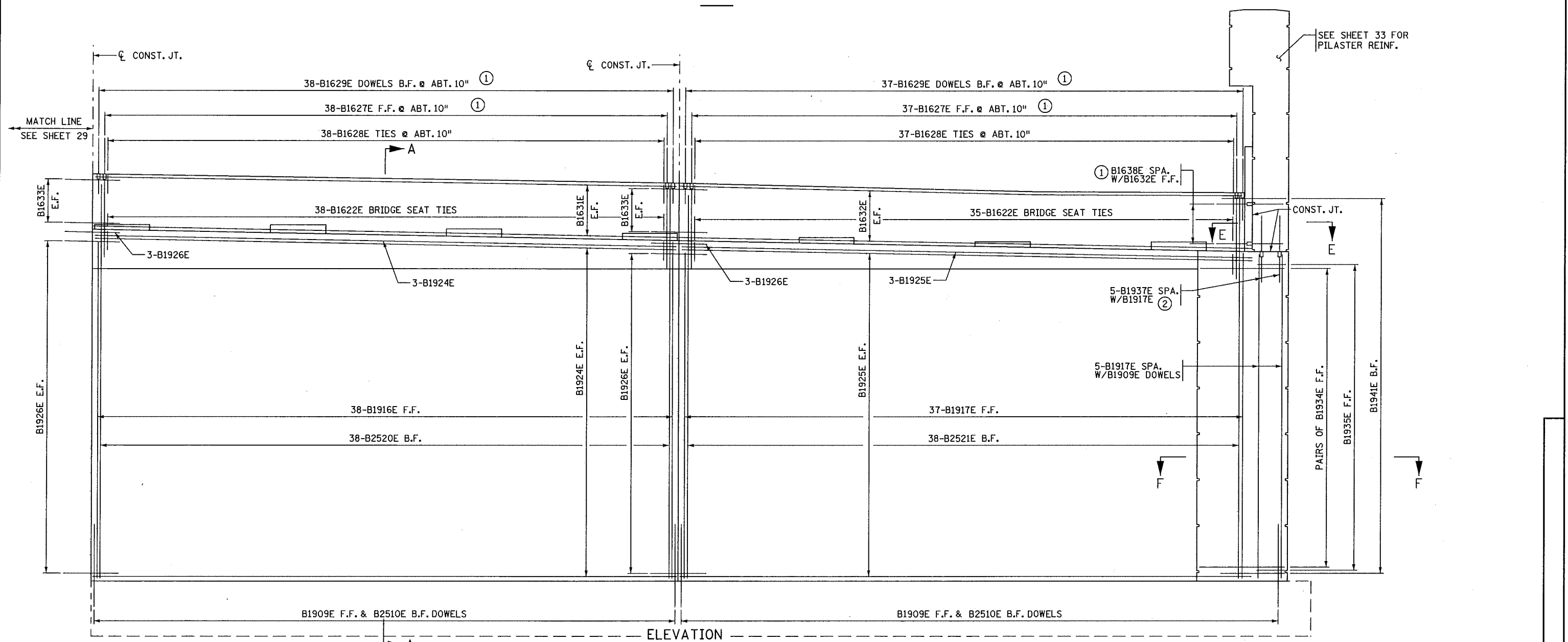
TITLE: EAST ABUTMENT REINFORCEMENT 2

DES: KBD	DR: MLS	APPROVED:
CHK: BJB	CHK: GX	
SHEET NO. 28 OF 69		

BRIDGE NO. 62626



NOTES:
 SEE SHEET 29 FOR NOTES.
 FOR SECTIONS A-A E-E & F-F
 SEE SHEET 31.



MnDOT RELEASE FOR CONSTRUCTION
 Signature: *David L. St. Peter*
 DATE: _____

DATE	REVISION DESCRIPTION	DR.	CHK.	APPROVED



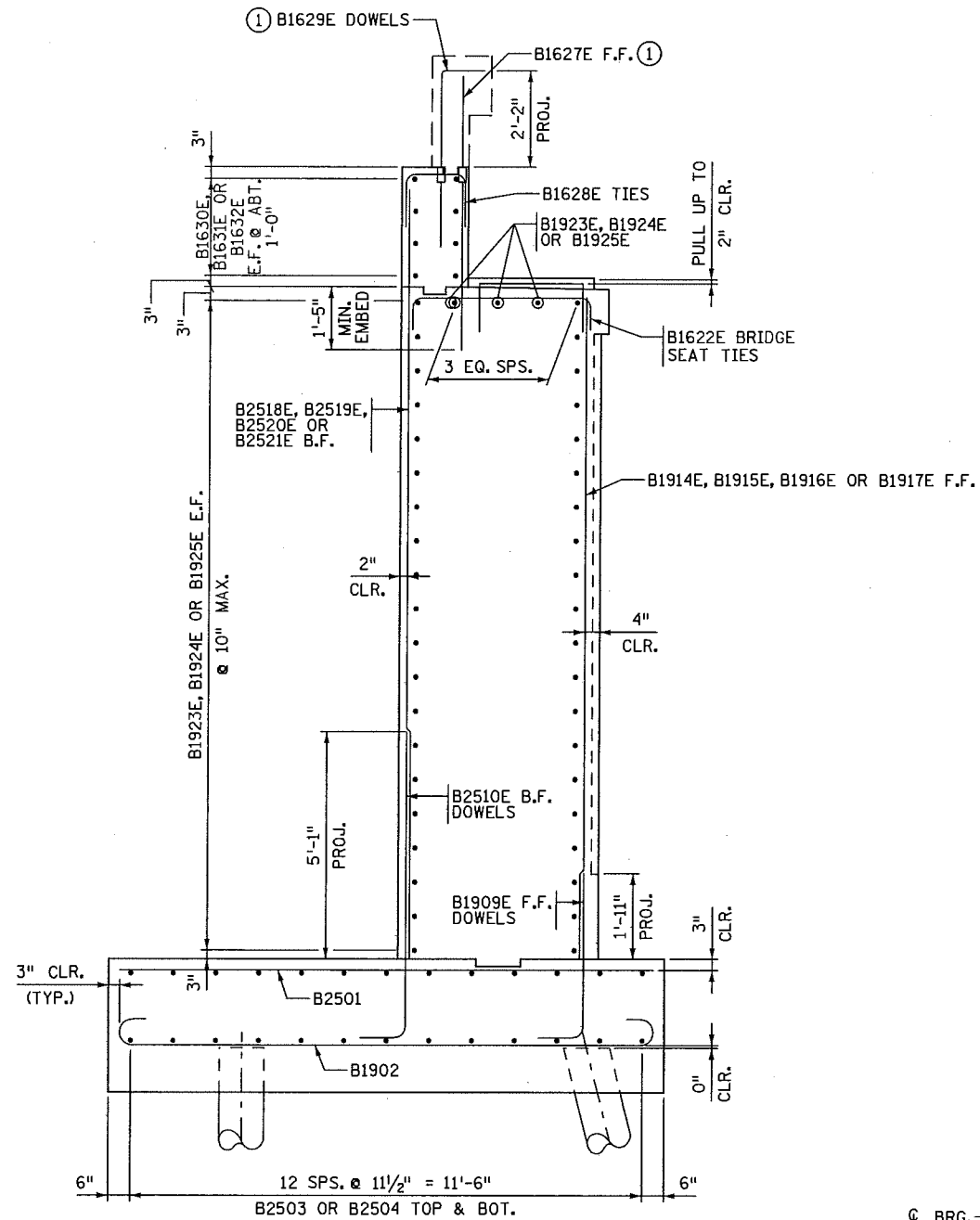
CERTIFIED BY *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: EAST ABUTMENT REINFORCEMENT 4

DES: KBD DR: MLS APPROVED: _____
 CHK: BJB CHK: KBD
 SHEET NO. 30 OF 69

BRIDGE NO. 62626

Plotted By: P0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 9:57:51 AM
 Pen Table: MnDOT-Plot.pen
 File Path: 30_EastAbutmentReinforcement4_abt.dgn

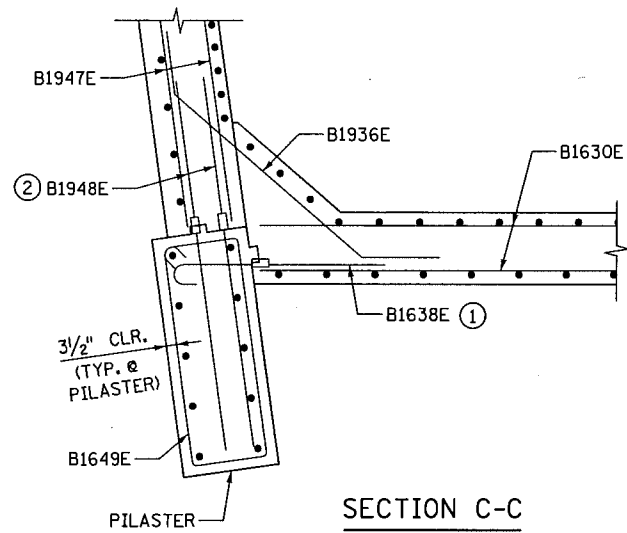


SECTION A-A

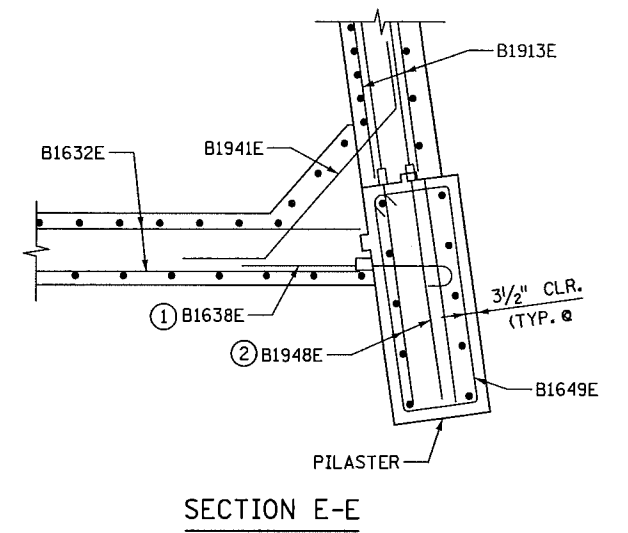
NOTES:

- FOR LOCATIONS OF SECTION A-A SEE SHEETS 29 & 30.
- FOR LOCATIONS OF SECTIONS C-C & D-D SEE SHEET 29.
- FOR LOCATIONS OF SECTIONS E-E & F-F SEE SHEET 30.
- F.F. DENOTES FRONT FACE.
- B.F. DENOTES BACK FACE.

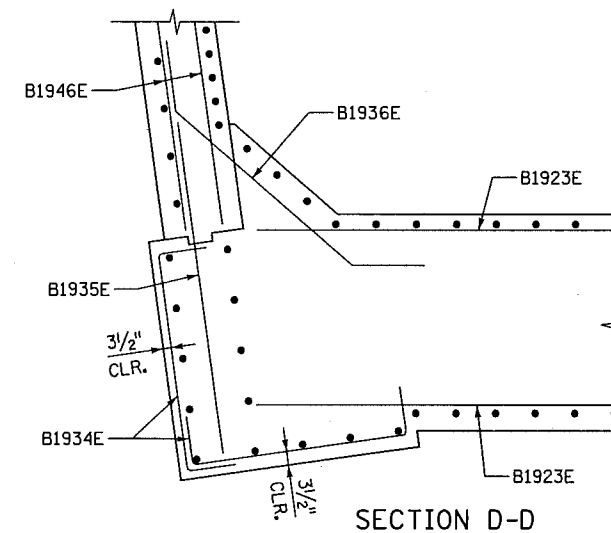
- ① WITH COUPLERS (REINFORCEMENT BARS) T-16.
- ② WITH COUPLERS (REINFORCEMENT BARS) T-19.



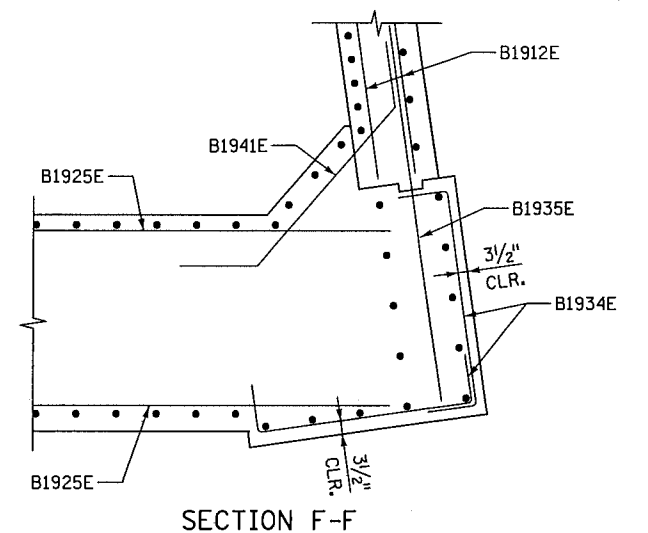
SECTION C-C



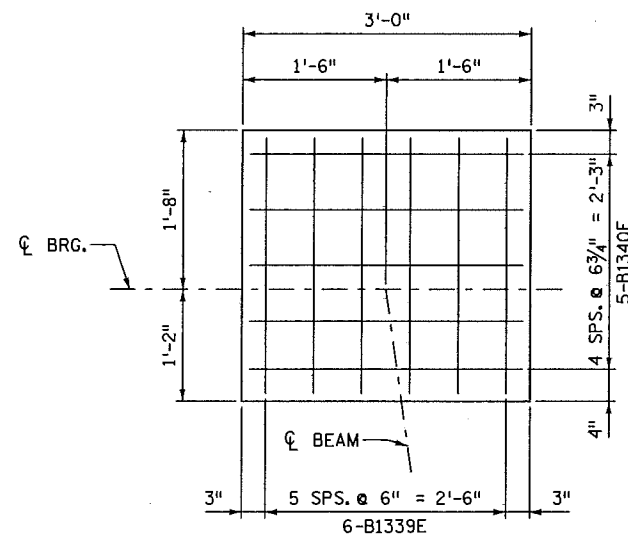
SECTION E-E



SECTION D-D



SECTION F-F



PEDESTAL REINFORCEMENT DETAIL

PROVIDE 2" CLR. FROM TOP OF PEDESTAL TO REINFORCEMENT.

Plotted By: 00007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 3:31:15 PM
 Pen Table: MndOT-Iplot.pen
 File Path: 31_EastAbutmentReinforcement5_abt.dgn

MndOT RELEASE FOR CONSTRUCTION
David L. St. Peter
 SIGNATURE DATE

REVISION		DR.	CHK.	APPROVED
DATE	DESCRIPTION			



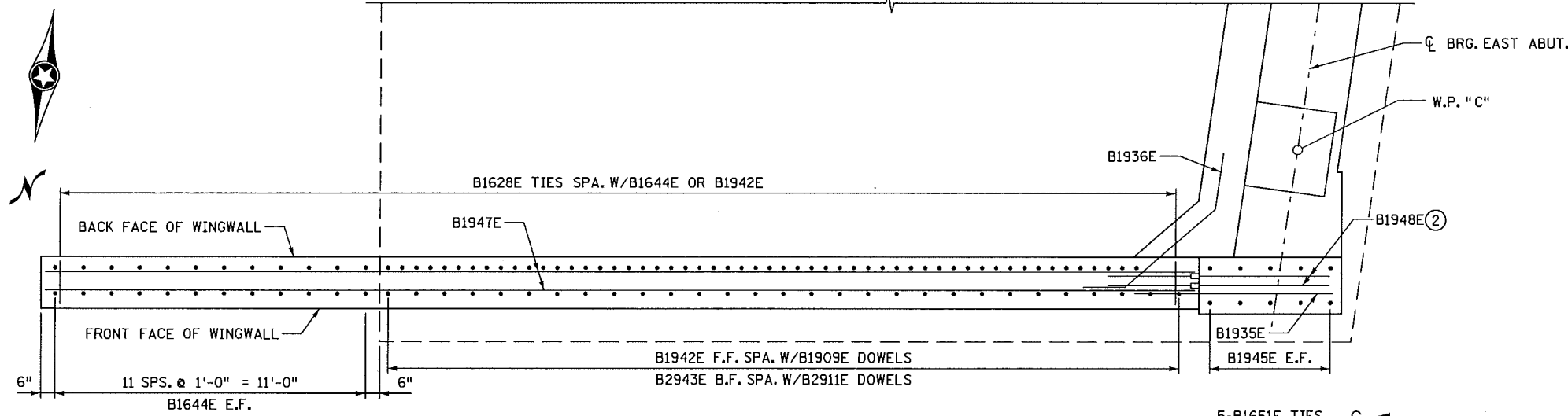
CERTIFIED BY *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: EAST ABUTMENT REINFORCEMENT 5

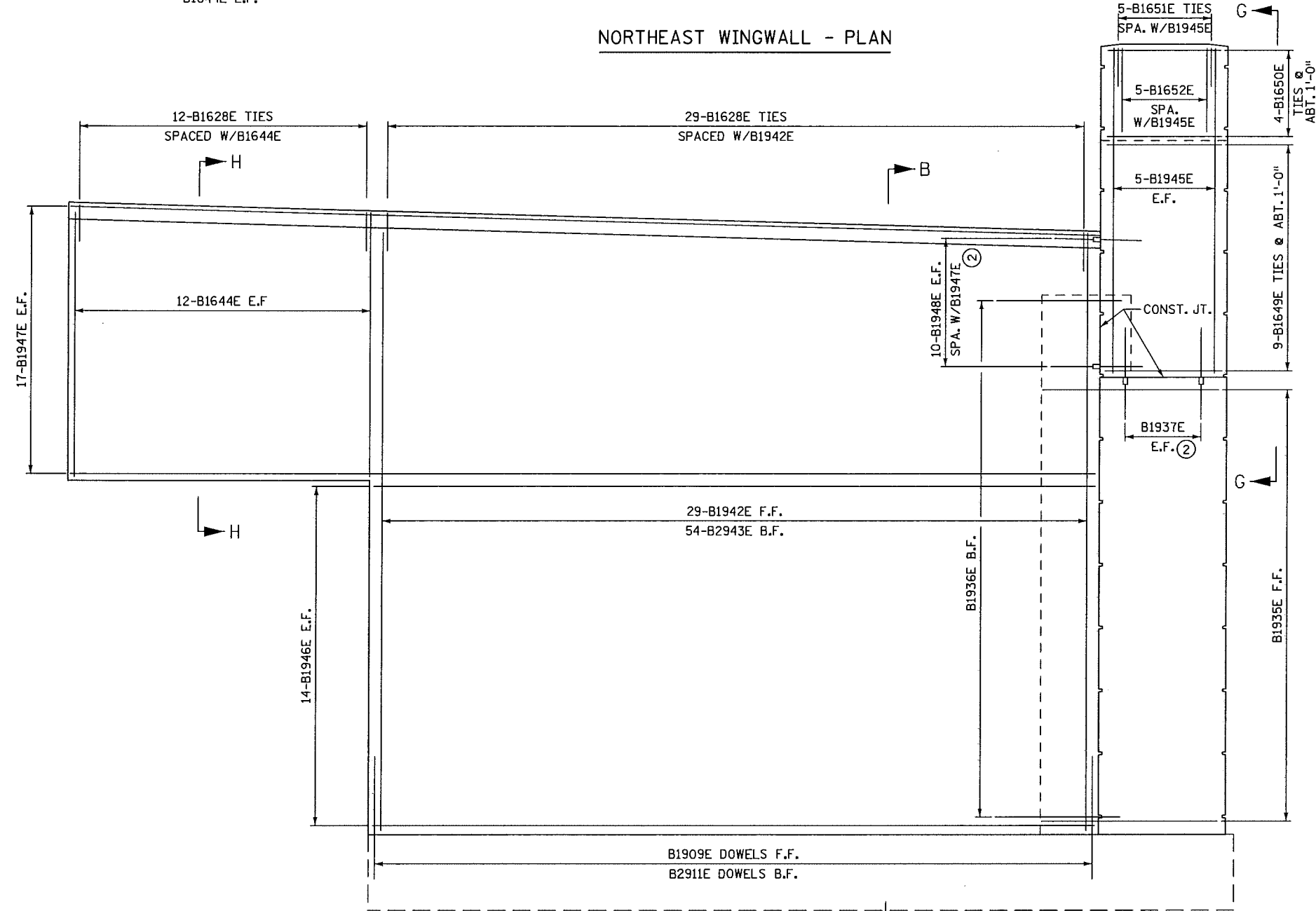
DES: KBD DR: MLS APPROVED:
 CHK: BJB CHK: KBD
 SHEET NO. 31 OF 69

BRIDGE NO. 62626

Plotted By: P000774D
 Date Plotted: 24-MAY-2012
 Time Plotted: 10:15:56 AM
 Pen Table: MNDOT-IPLOT.DEN
 File Path: 32_EastAbutmentReinforcement6_abt.dgn

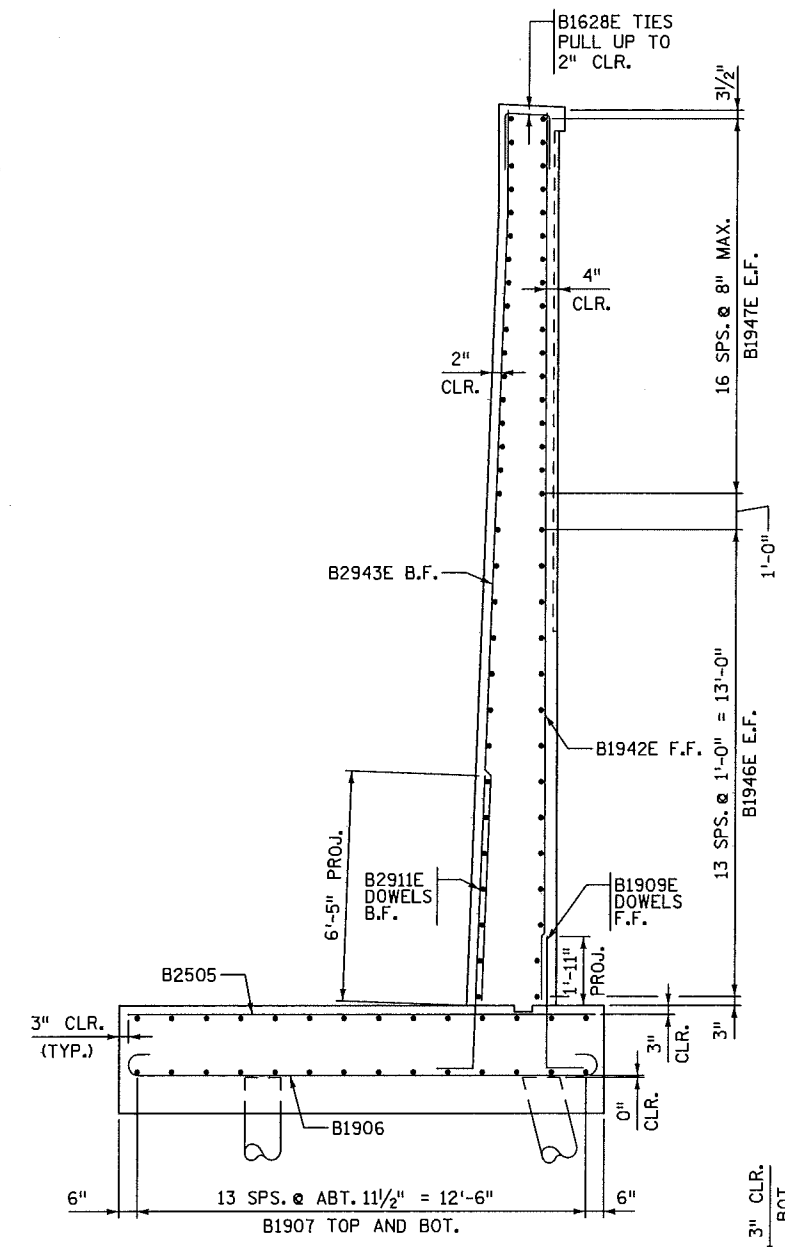


NORTHEAST WINGWALL - PLAN

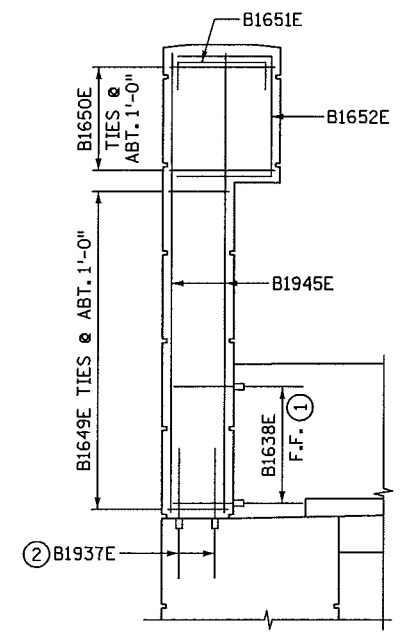


NORTHEAST WINGWALL - ELEVATION

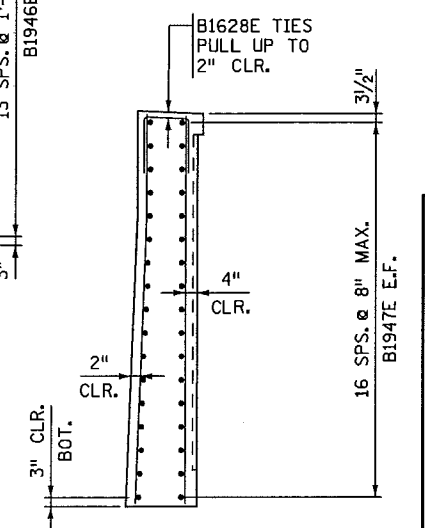
- NOTES:**
- F.F. DENOTES FRONT FACE.
 - B.F. DENOTES BACK FACE.
 - (1) WITH COUPLERS (REINFORCEMENT BARS) T-16.
 - (2) WITH COUPLERS (REINFORCEMENT BARS) T-19.



SECTION B-B



VIEW G-G
SHOWING PILLASTER REINFORCEMENT



SECTION H-H

MNDOT RELEASE FOR CONSTRUCTION
 Signature: *David L. St. Peter*
 Date: 6/11/12

REVISION	DATE	DESCRIPTION	DR.	CHK.	APPROVED



CERTIFIED BY *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: EAST ABUTMENT REINFORCEMENT 6

DES: KBD DR: MLS APPROVED:
 CHK: BJB CHK: KBD
 SHEET NO. 32 OF 69

BRIDGE NO. 62626

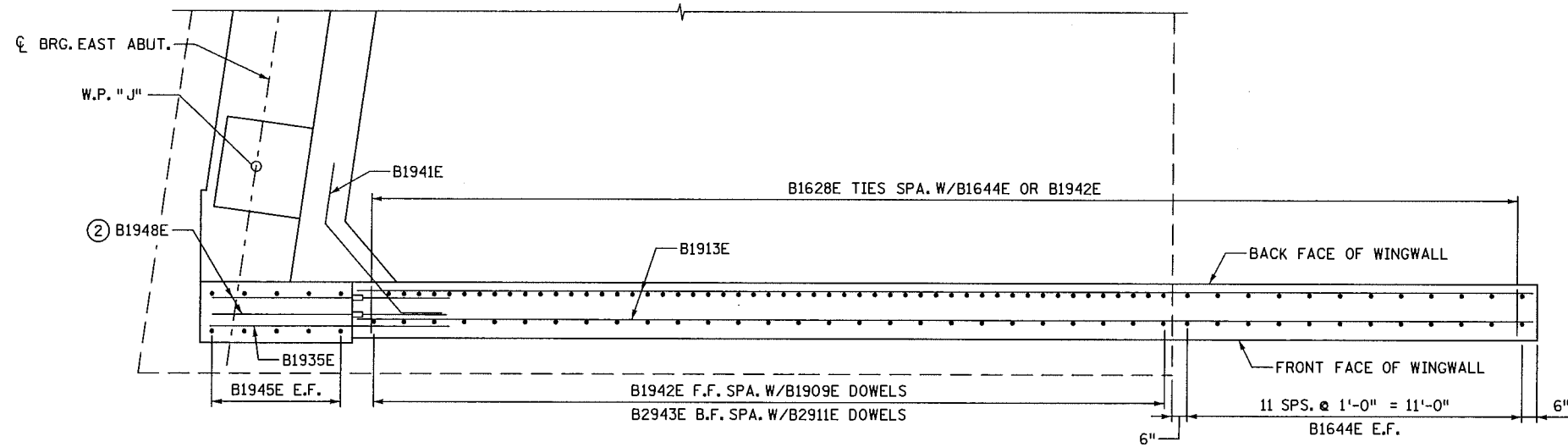
NOTES:

F.F. DENOTES FRONT FACE.

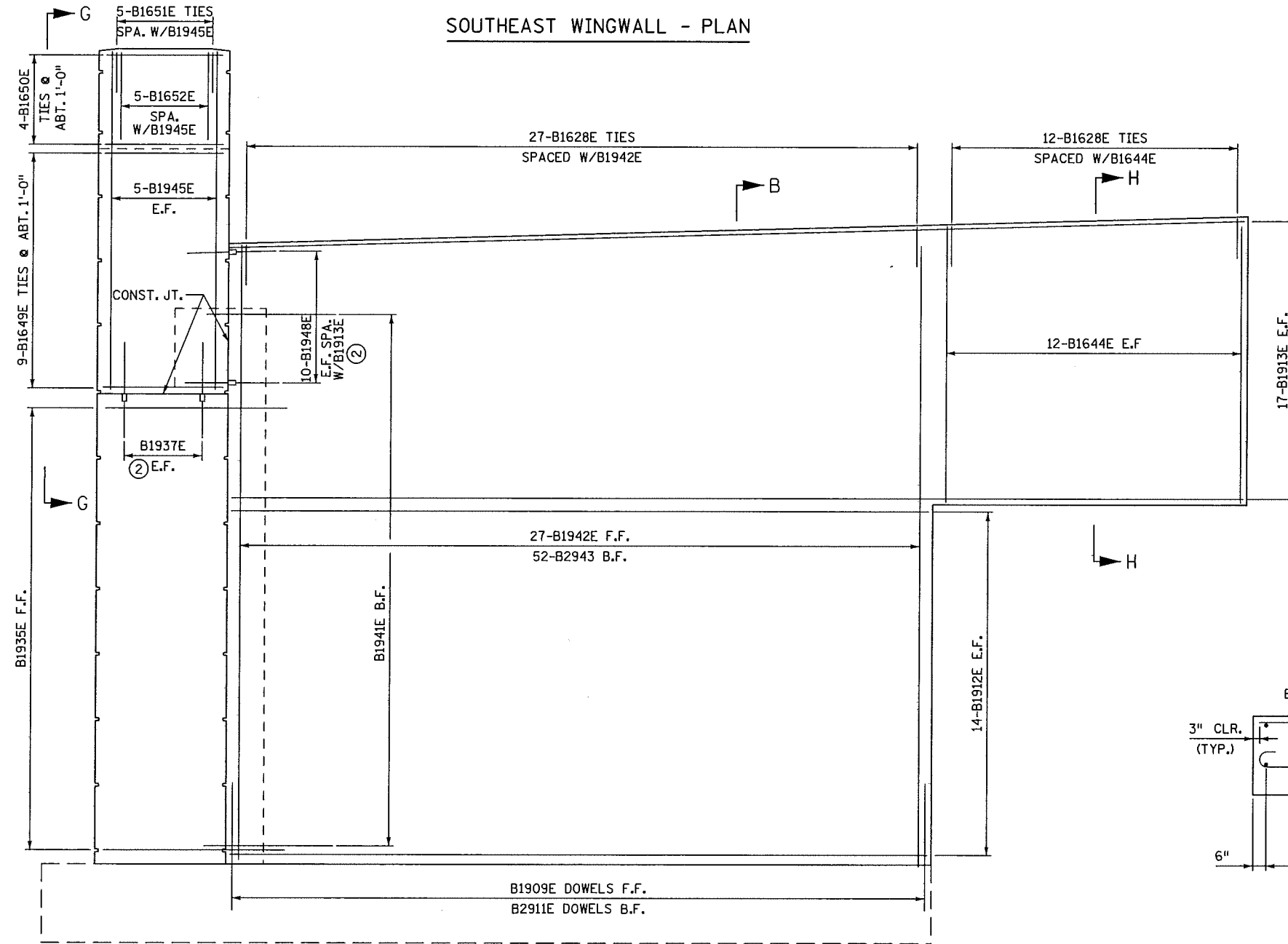
B.F. DENOTES BACK FACE.

① WITH COUPLERS (REINFORCEMENT BARS) T-16.

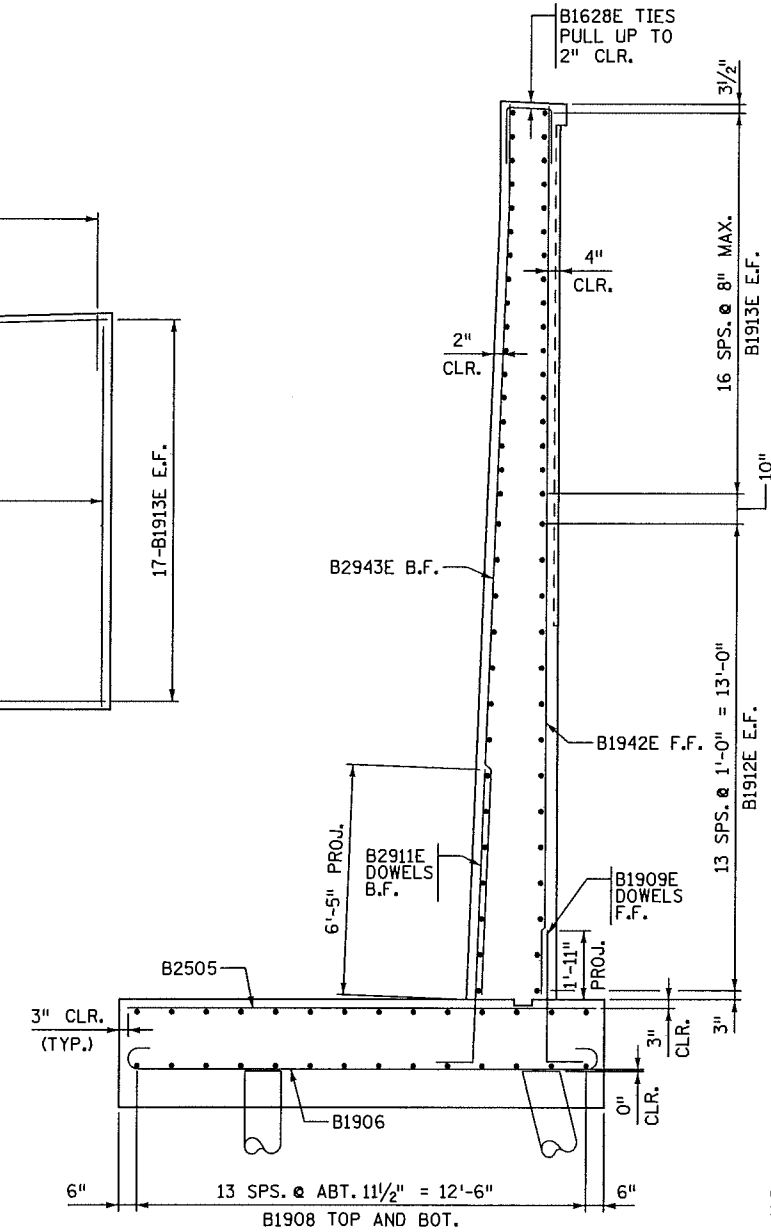
② WITH COUPLERS (REINFORCEMENT BARS) T-19.



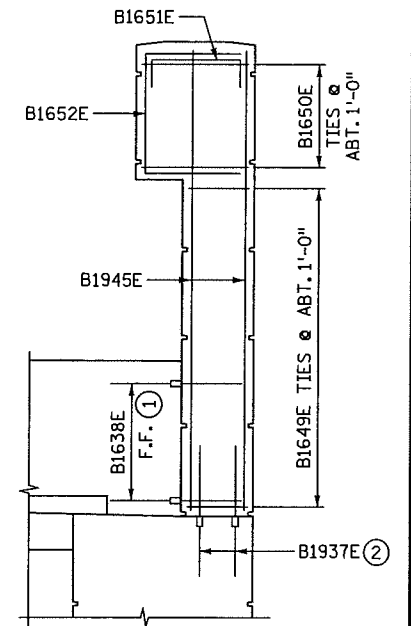
SOUTHEAST WINGWALL - PLAN



SOUTHEAST WINGWALL - ELEVATION

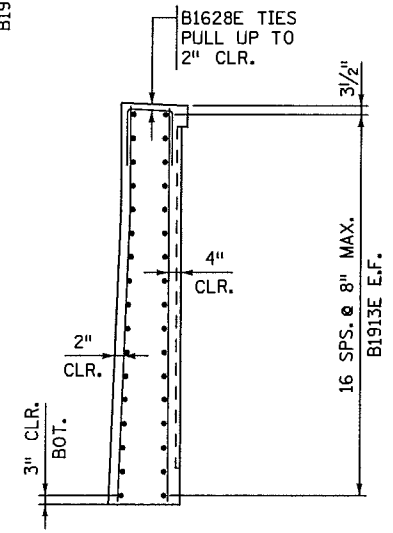


SECTION B-B



VIEW G-G

SHOWING PILASTER REINFORCEMENT



SECTION H-H

Plotted By: p0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 10:50:30 AM
 Pen Table: MndOT-Iplot.pen
 File Path: 33-EastAbutmentReinforcement7_abt.dgn

MndOT RELEASE FOR CONSTRUCTION
 Signature: *David L. St. Peter*
 Date: 6/11/12

REVISION		DR.	CHK.	APPROVED
DATE	DESCRIPTION			



CERTIFIED BY *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

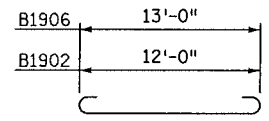
TITLE: EAST ABUTMENT REINFORCEMENT 7

DES: KBD DR: MLS APPROVED:
 CHK: BJB CHK: KBD
 SHEET NO. 33 OF 69

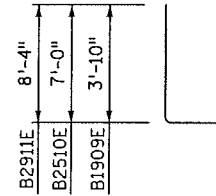
BRIDGE NO. 62626

**BILL OF REINFORCEMENT
FOR EAST ABUTMENT**

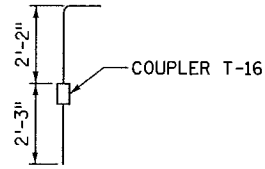
BAR	NO.	LENGTH	SHAPE	LOCATION
B2501	169	12'-0"	—	TRANSVERSE FOOTING TOP
B1902	169	13'-4"	—	TRANSVERSE FOOTING BOTTOM
B2503	52	60'-0"	—	LONGITUDINAL FOOTING
B2504	26	18'-0"	—	LONGITUDINAL FOOTING
B2505	114	13'-0"	—	TRANSVERSE FOOTING TOP
B1906	58	14'-4"	—	TRANSVERSE FOOTING BOTTOM
B1907	28	33'-10"	—	LONGITUDINAL FOOTING
B1908	2 SERIES OF 14	31'-8" TO 33'-5"	—	LONGITUDINAL FOOTING
B1909E	222	4'-10"	—	FOOTING DOWELS F.F.
B2510E	149	8'-4"	—	FOOTING DOWELS B.F.
B2911E	106	9'-11"	—	FOOTING DOWELS B.F.
B1912E	28	26'-8"	—	WINGWALL HORIZONTAL
B1913E	34	38'-8"	—	WINGWALL HORIZONTAL
B1914E	43	17'-11"	—	ABUTMENT VERTICAL F.F.
B1915E	38	18'-3"	—	ABUTMENT VERTICAL F.F.
B1916E	38	18'-4"	—	ABUTMENT VERTICAL F.F.
B1917E	47	17'-9"	—	ABUTMENT VERTICAL F.F.
B2518E	35	21'-2"	—	ABUTMENT VERTICAL B.F.
B2519E	38	21'-5"	—	ABUTMENT VERTICAL B.F.
B2520E	38	21'-6"	—	ABUTMENT VERTICAL B.F.
B2521E	38	20'-11"	—	ABUTMENT VERTICAL B.F.
B1622E	143	9'-0"	—	BRIDGE SEAT TIES
B1923E	49	27'-8"	—	ABUTMENT HORIZONTAL
B1924E	98	31'-8"	—	ABUTMENT HORIZONTAL
B1925E	49	31'-3"	—	ABUTMENT HORIZONTAL
B1926E	147	7'-4"	—	ABUTMENT HORIZONTAL SPLICE
B1627E	146	6'-11"	—	BACKWALL VERTICAL F.F.
B1628E	226	6'-2"	—	VERTICAL TIES
B1629E	146	5'-3"	—	END BLOCK DOWELS
B1630E	8	27'-8"	—	BACKWALL HORIZONTAL
B1631E	16	31'-8"	—	BACKWALL HORIZONTAL
B1632E	8	30'-3"	—	BACKWALL HORIZONTAL
B1633E	24	6'-2"	—	BACKWALL HORIZONTAL SPLICE
B1934E	92	11'-5"	—	ABUTMENT HORIZONTAL
B1935E	46	7'-4"	—	WINGWALL DOWELS
B1936E	27	13'-2"	—	WINGWALL DOWELS
B1937E	20	5'-2"	—	ABUTMENT VERTICAL SPLICE
B1638E	8	5'-4"	—	BACKWALL HORIZONTAL SPLICE
B1339E	78	5'-6"	—	PEDESTAL
B1340E	65	5'-8"	—	PEDESTAL
B1941E	27	12'-5"	—	WINGWALL DOWELS
B1942E	56	23'-5"	—	WINGWALL VERTICAL F.F.
B2943E	106	23'-5"	—	WINGWALL VERTICAL B.F.
B1644E	48	10'-2"	—	WINGWALL VERTICAL
B1945E	20	12'-9"	—	PILASTER VERTICAL
B1946E	28	28'-8"	—	WINGWALL HORIZONTAL
B1947E	34	40'-8"	—	WINGWALL HORIZONTAL
B1948E	40	7'-4"	—	WINGWALL HORIZONTAL SPLICE
B1649E	18	12'-7"	—	PILASTER TIES
B1650E	8	15'-1"	—	PILASTER TIES
B1651E	10	6'-0"	—	PILASTER TIES
B1652E	10	8'-9"	—	PILASTER VERTICAL



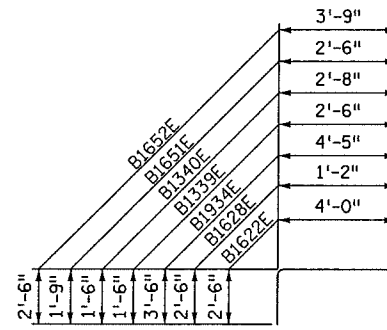
B1902 & B1906



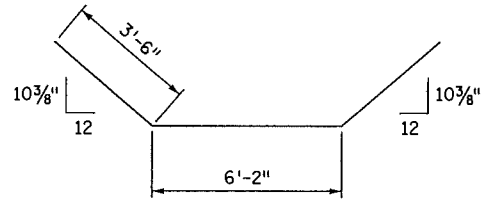
B1909E, B2510E & B2911E



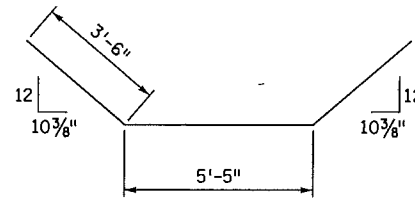
B1629E



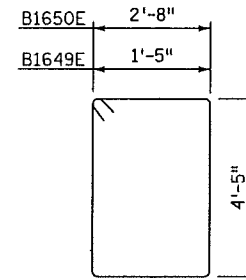
**B1622E, B1628E, B1934E,
B1339E, B1340E, B1651E & B1652E**



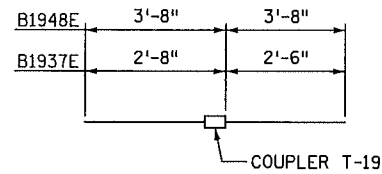
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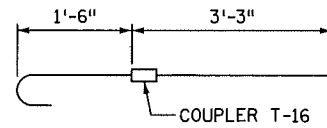
B1941E



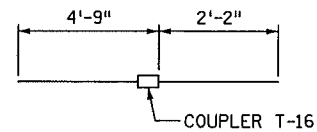
B1649E & B1650E



B1937E & B1948E



B1638E



B1627E

NOTES:

F.F. DENOTES FRONT FACE.

B.F. DENOTES BACK FACE.

Plotted By: p0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 10:19:47 AM
 Pen Table: MndOT-Ip lot.pen
 File Path: 34_EastAbutmentReinforcement8_abt.dgn

MnDOT RELEASE FOR CONSTRUCTION
 Signature: *[Signature]* DATE: 6/11/12

REVISION			
DATE	DESCRIPTION	DR.	CHK. APPROVED

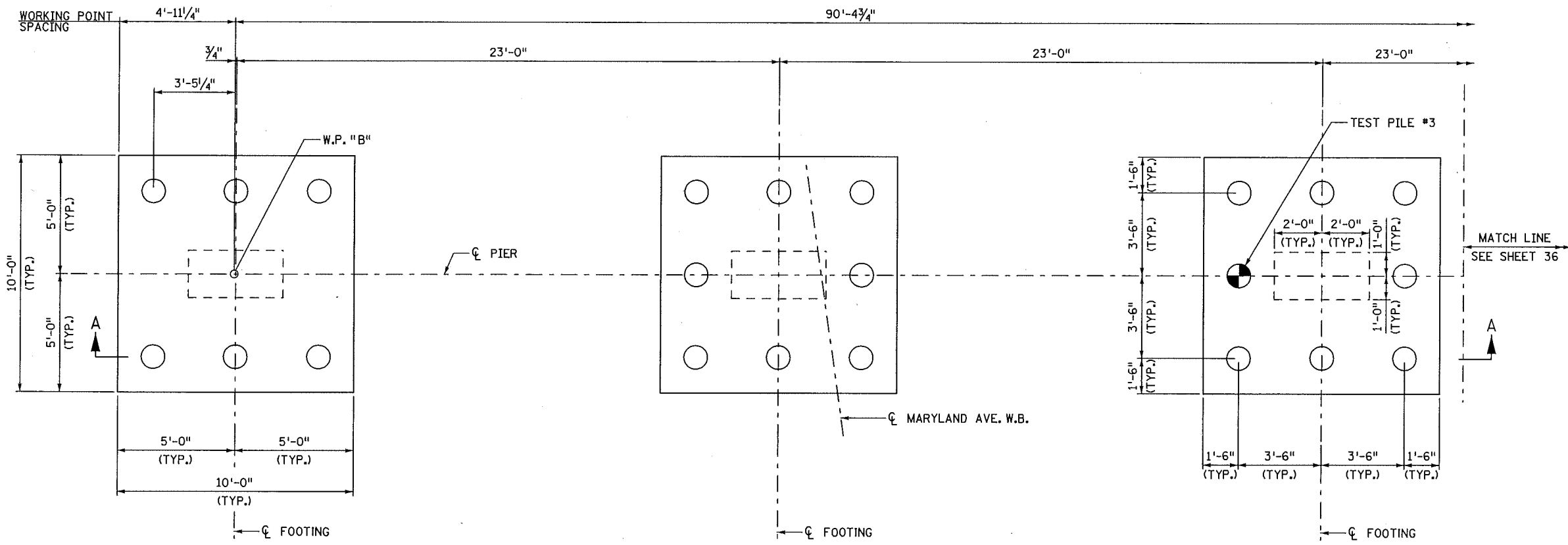


CERTIFIED BY *[Signature]* 5/25/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: EAST ABUTMENT REINFORCEMENT 8

DES: KBD DR: MLS APPROVED: CHK: BJB CHK: KBD SHEET NO. 34 OF 69

BRIDGE NO. 62626



FOOTING PLAN

PIER REQUIRED NOMINAL PILE BEARING RESISTANCE R _n - TONS/PILE		
FIELD CONTROL METHOD	φ _{dyn}	*R _n
MNDOT NOMINAL RESISTANCE FORMULA	0.40	310.3
PDA	0.65	190.9

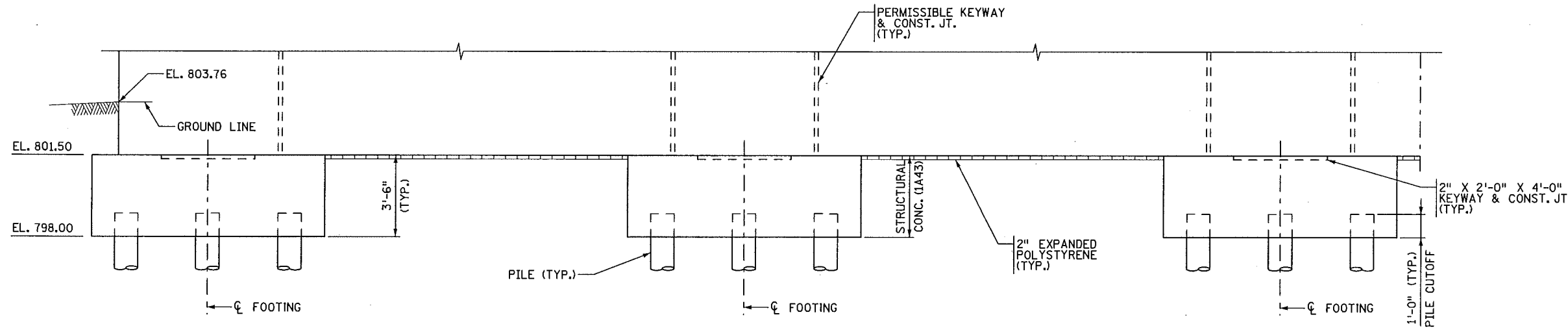
*R_n = (FACTORED DESIGN LOAD)/φ_{dyn}

PIER COMPUTED PILE LOAD - TONS/PILE	
FACTORED DEAD LOAD	67.3
FACTORED LIVE LOAD	28.5
FACTORED OVERTURNING	28.3
*FACTORED DESIGN LOAD	124.1

*BASED ON STRENGTH I LOAD COMBINATION

PILE NOTES:

- 2 CAST-IN-PLACE CONC. TEST PILES 70 FT.
- 42 CAST-IN-PLACE CONC. PILES EST. LENGTH 60 FT.
- 44 CAST-IN-PLACE CONC. PILES REQ'D. FOR PIER.
- PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.
- FOR PILE SPLICE DETAILS SEE DETAIL B201 ON SHEET 59, BRIDGE DETAILS 1.
- ALL PILES TO BE VERTICAL.
- ALL PILES TO HAVE A NOMINAL DIAMETER OF 12" AND HAVE A MINIMUM WALL THICKNESS OF 1/4".
- ⊙ DENOTES TEST PILE.
- AT CONTRACTOR'S OPTION, PILES MAY BE DRIVEN LONGER TO ACHIEVE CAPACITY IN LIEU OF PERFORMING A RESTRIKE. SEE BRIDGE FADR DATED APRIL 6, 2012 FOR THE MARYLAND AVENUE BRIDGE DESIGN-BUILD PROJECT.

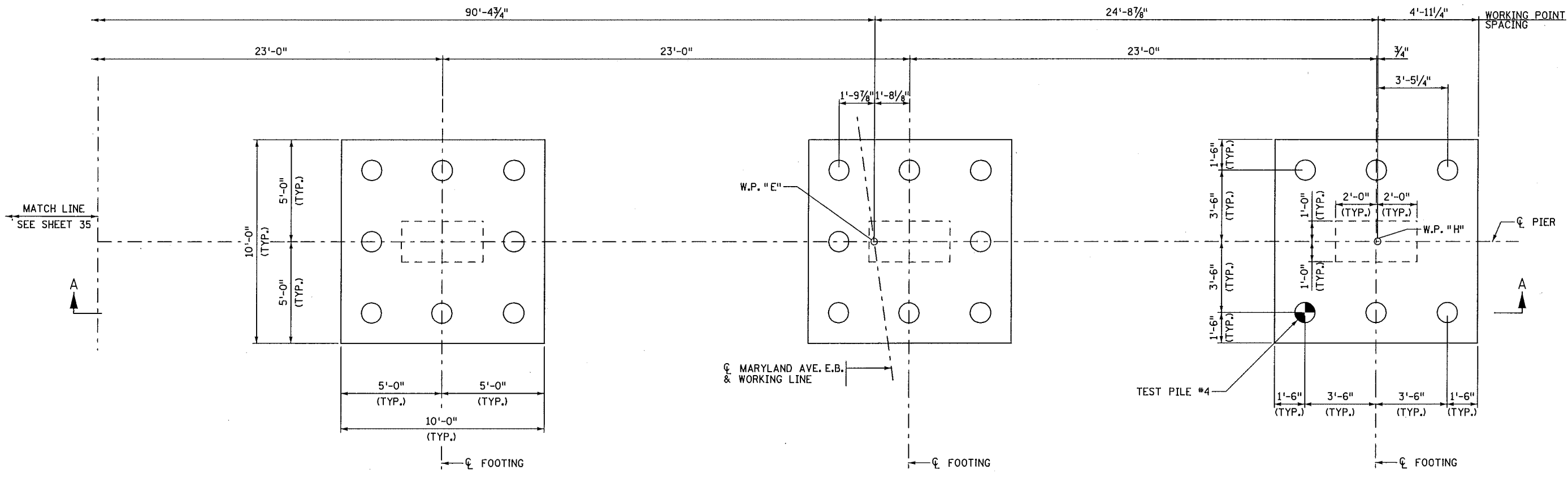


SECTION A-A

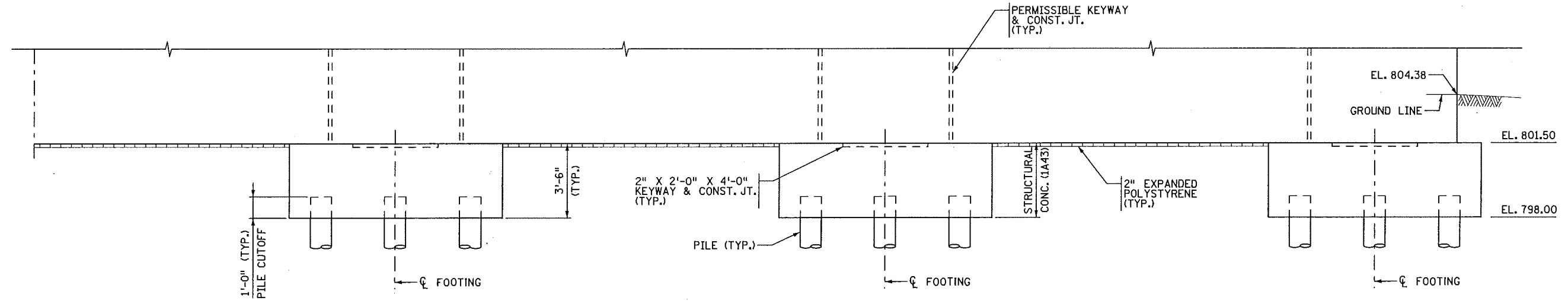
Plotted By: p0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 11:52:39 AM
 Pen Table: Mndot-Iplot.pen
 File Path: 35_PierDetail1.s1_p.ir.sgn

Mndot RELEASE FOR CONSTRUCTION SIGNATURE	DATE	REVISION	DR.	CHK.	APPROVED	CERTIFIED BY LICENSED PROFESSIONAL ENGINEER DATE 5/25/12 NAME: DAVID L. ST. PETER LIC. NO. 46841	TITLE: PIER DETAILS 1	DES: KBD	DR: MLS	APPROVED:	BRIDGE NO.
	DATE	DESCRIPTION					PIER DETAILS 1	CHK: BJB	CHK: BJB	APPROVED:	62626





FOOTING PLAN



SECTION A-A

NOTES:
SEE SHEET 35 FOR PILE NOTES.

Plotted By: p0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 2:49:15 PM
 Pen Table: M:\DOT-IP\lot.pen
 File Path: 36_PierDetails2.pir.dgn

MdOT RELEASE FOR CONSTRUCTION
 Signature: *David J. Harry*
 Date: 6/11/12

REVISION			
DATE	DESCRIPTION	DR.	CHK. APPROVED

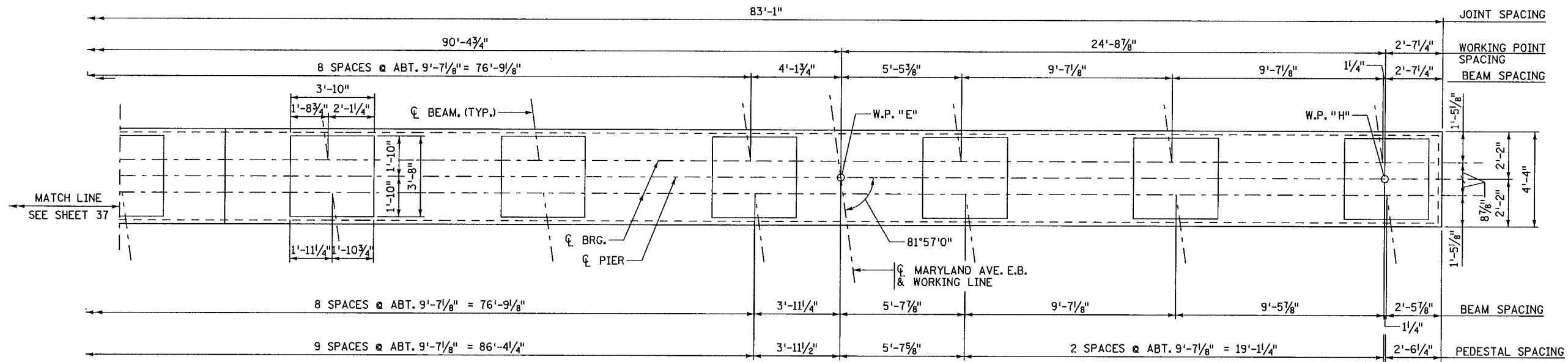


CERTIFIED BY *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

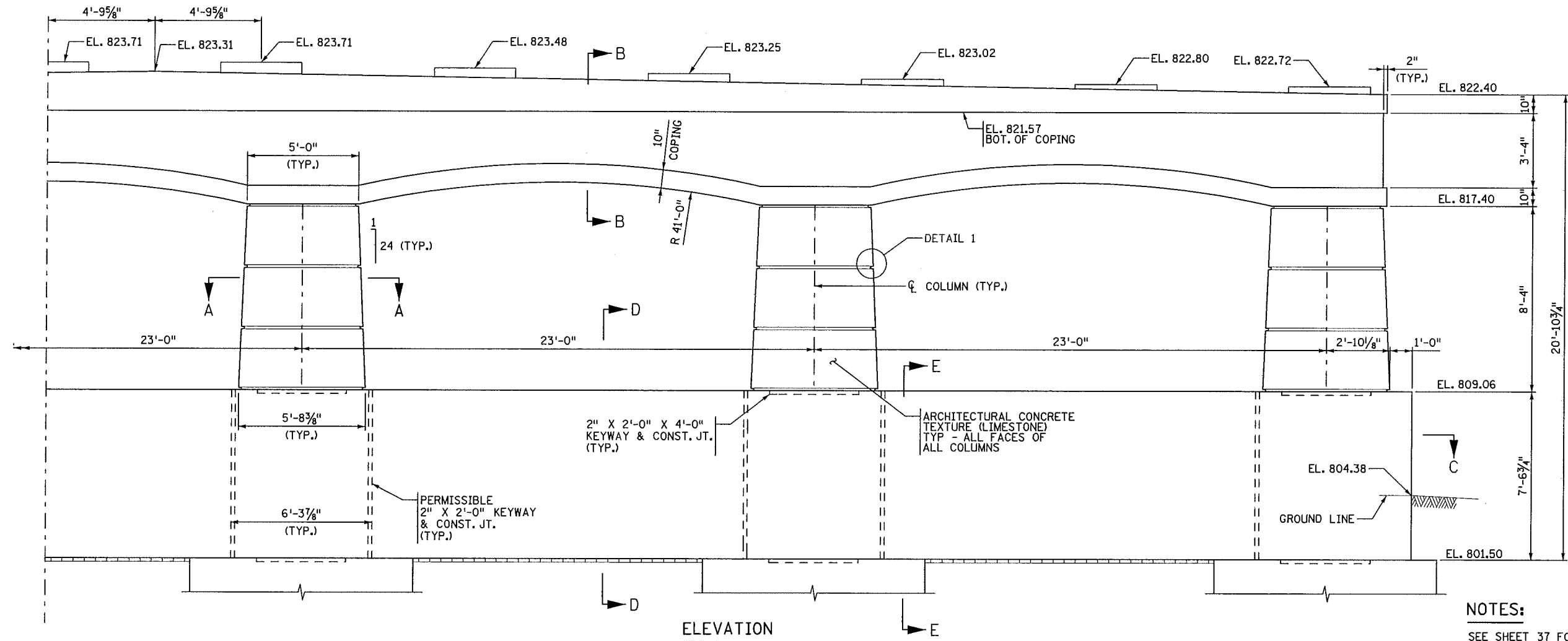
TITLE: PIER DETAILS 2

DES: KBD DR: MLS APPROVED:
 CHK: BJB CHK: BJB
 SHEET NO. 36 OF 69

BRIDGE NO. 62626



PLAN



ELEVATION

NOTES:
SEE SHEET 37 FOR NOTES.

Plotted By: p0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 12:11:42 PM
 Pen Table: MndOT-Iplot.dgn
 File Path: 38_PierDetail1.s4-plr.dgn

MndOT RELEASE FOR CONSTRUCTION
David L. St. Peter 6/1/12
 SIGNATURE DATE

DATE	REVISION DESCRIPTION	DR.	CHK.	APPROVED



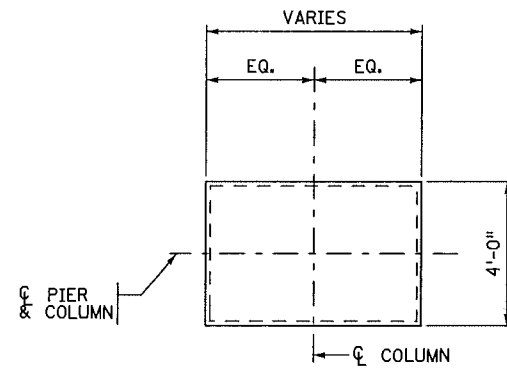
CERTIFIED BY *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: PIER DETAILS 4

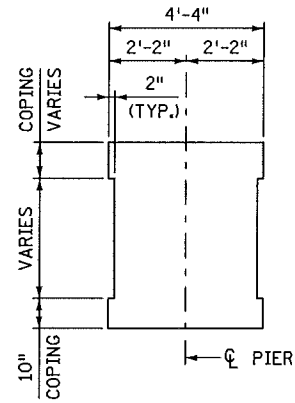
DES: KBD	DR: MLS	APPROVED:
CHK: BJB	CHK: BJB	
SHEET NO. 38 OF 69		

BRIDGE NO.
62626

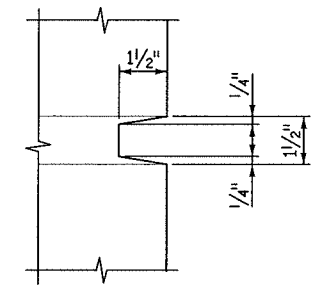
Plotted By: P0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 12:19:31 PM
 Pen Table: MnDOT-Plot.pen
 File Path: 39_PierDetails5_pir.dgn



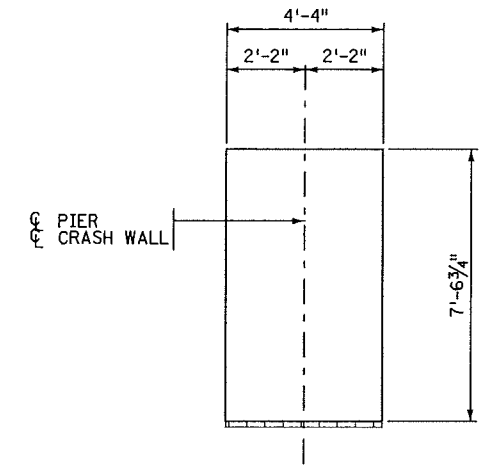
SECTION A-A



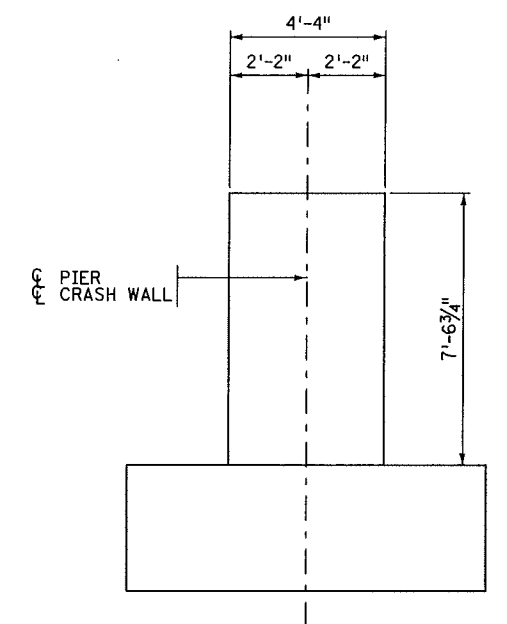
SECTION B-B



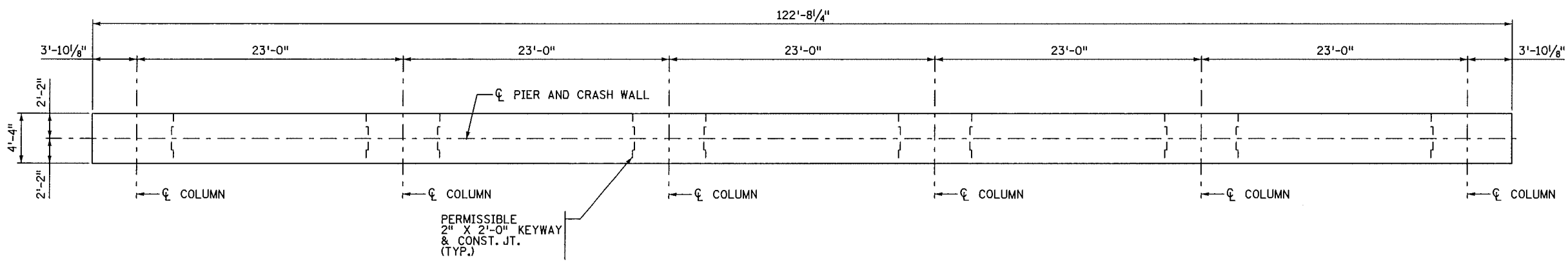
DETAIL 1



SECTION D-D



SECTION E-E



SECTION C-C

NOTES:
 FOR SECTION A-A, B-B, C-C, D-D, E-E
 AND DETAIL 1 SEE SHEET 37 AND 38.

MnDOT RELEASE FOR CONSTRUCTION
 Signature: *David L. St. Peter*
 Date: 6/14/12

REVISION		DR.	CHK.	APPROVED
DATE	DESCRIPTION			

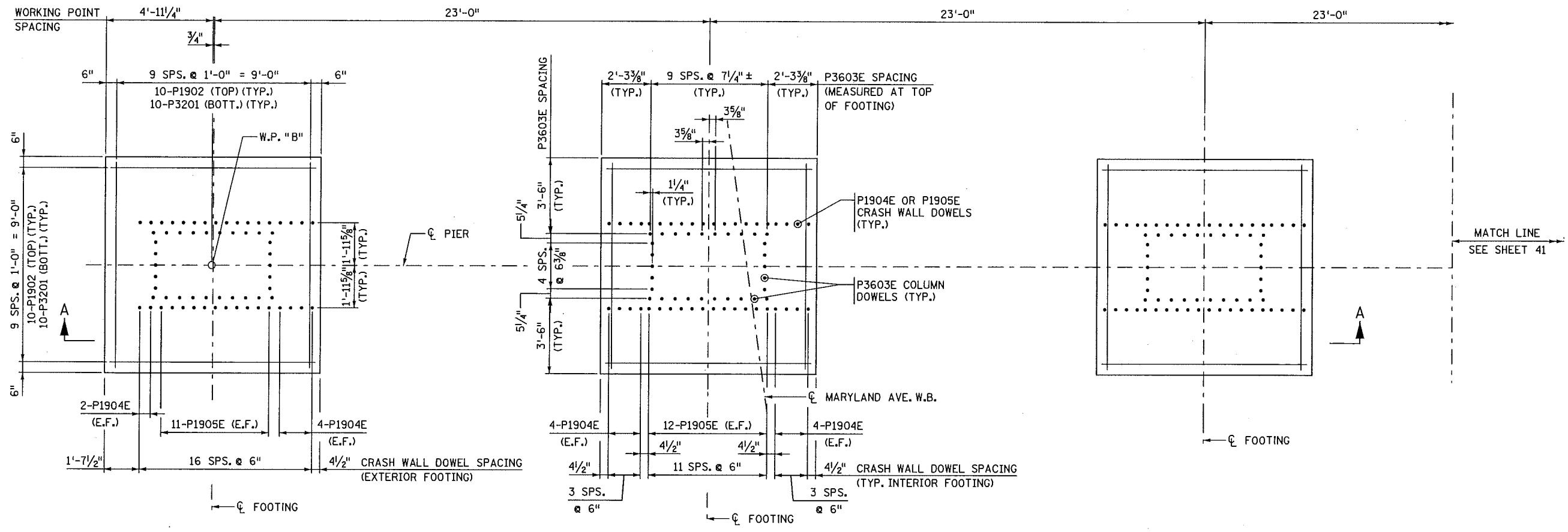


CERTIFIED BY: *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER
 NAME: DAVID L. ST. PETER LIC. NO. 46841

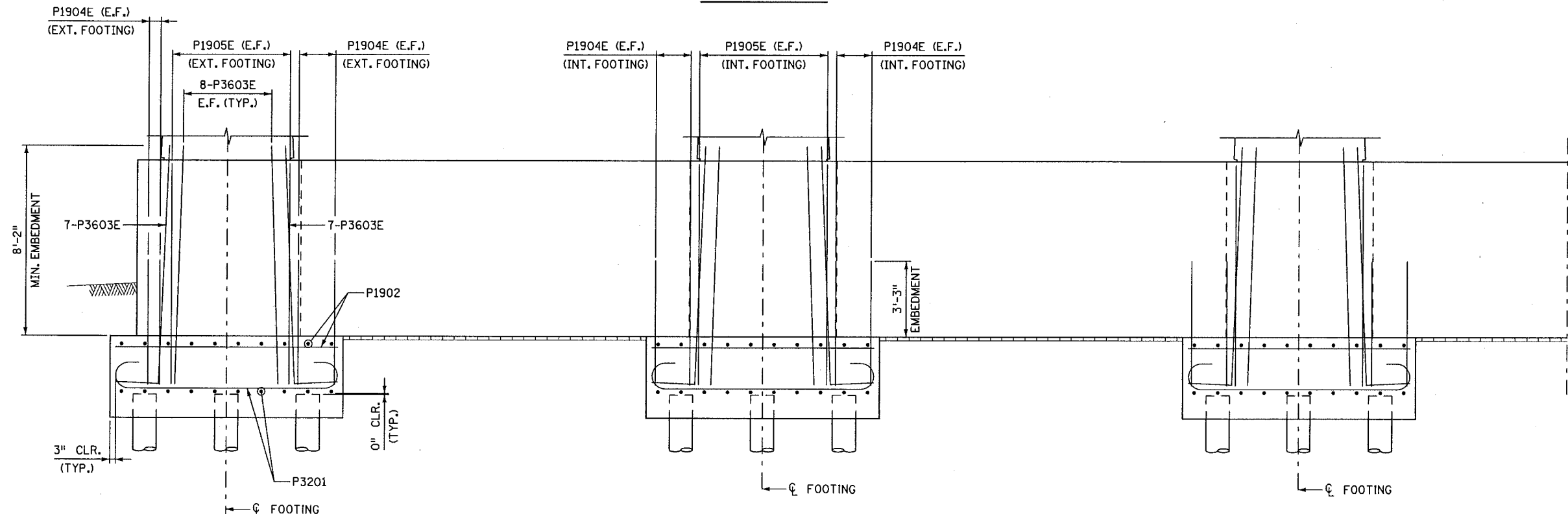
TITLE: PIER DETAILS 5

DES: KBD
 CHK: BJB
 DR: MLS
 CHK: BJB
 APPROVED:
 SHEET NO. 39 OF 69

BRIDGE NO.
 62626



FOOTING PLAN



SECTION A-A

NOTES:
SEE SHEET 45 FOR BAR LIST.

Plotted By: D0010292
Date Plotted: 25-APR-2012
Time Plotted: 7:41:42 AM
Pen Table: Mndot-Iplot.pen
File Path: 40_PierReinf1.plt.dgn

MNDOT RELEASE FOR CONSTRUCTION
Signature: *David L. St. Peter*
Date: 5/11/12

DATE	REVISION DESCRIPTION	DR.	CHK.	APPROVED

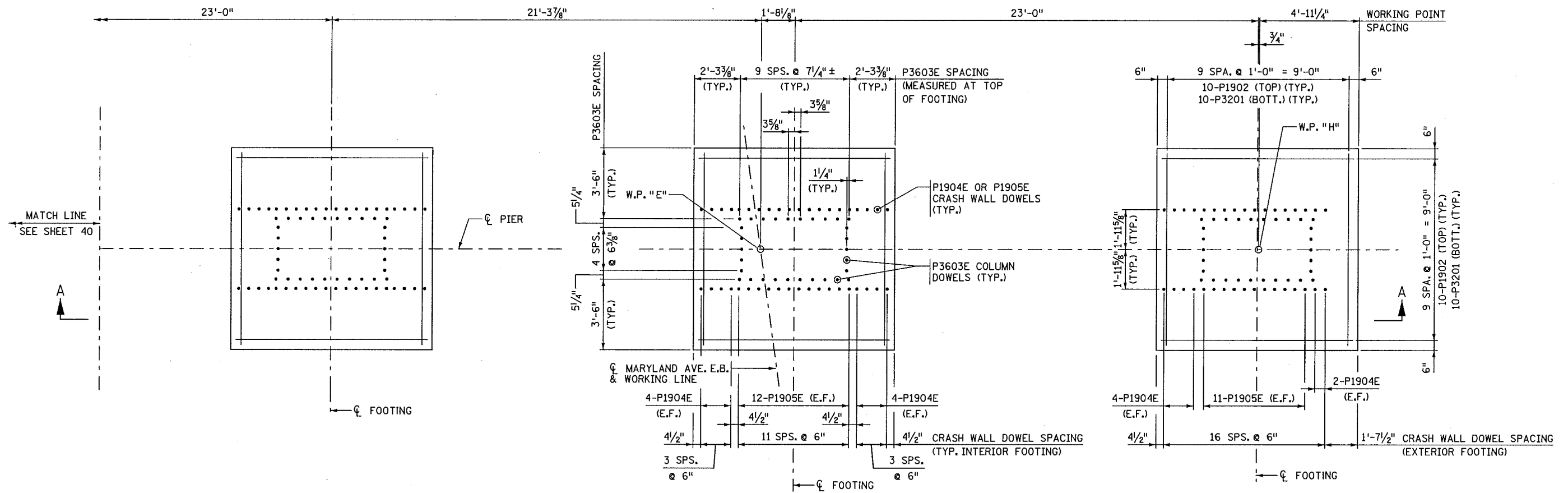


CERTIFIED BY *David L. St. Peter* 5/25/12
LICENSED PROFESSIONAL ENGINEER
NAME: DAVID L. ST. PETER LIC. NO. 46841

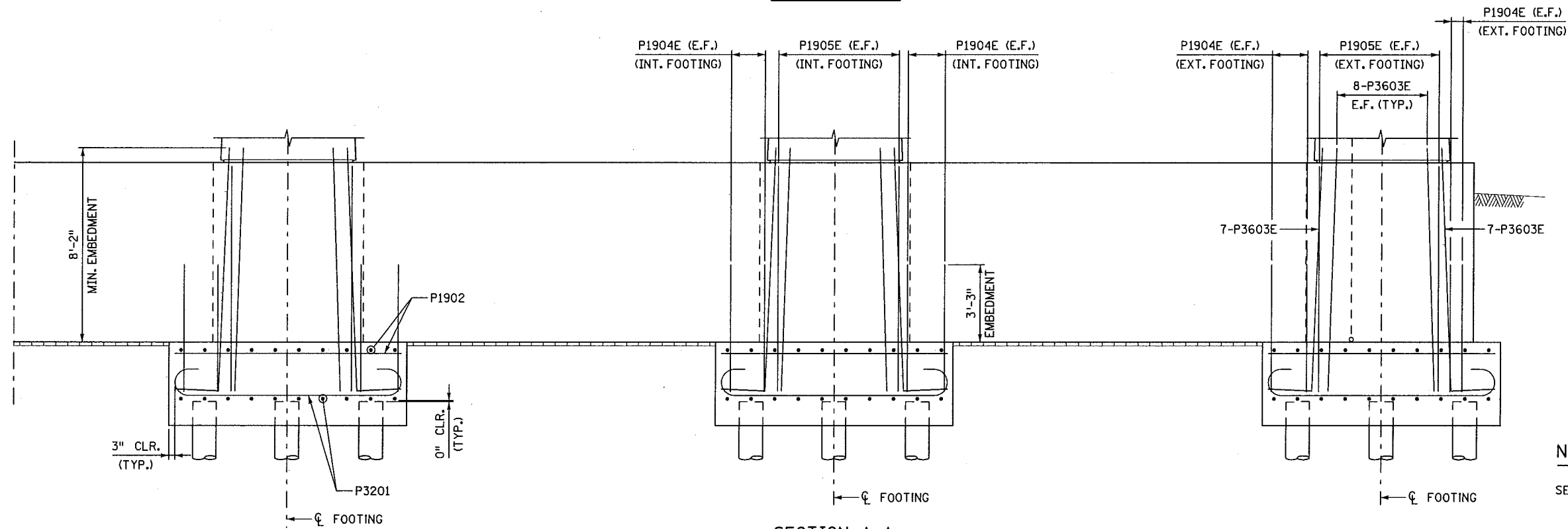
TITLE: PIER REINFORCEMENT 1

DES: KBD
CHK: BJB
DR: KDK
CHK: BJB
APPROVED:
SHEET NO. 40 OF 69

BRIDGE NO. 62626



FOOTING PLAN

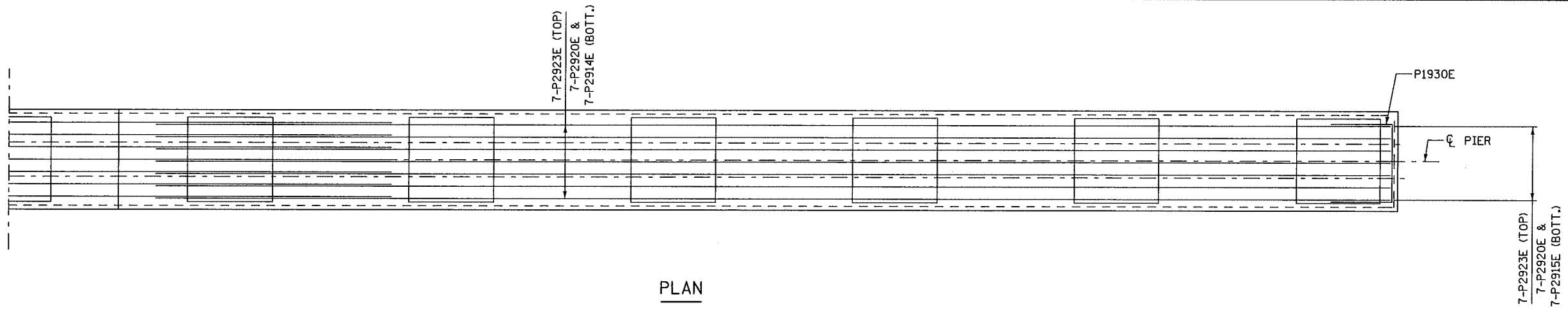


SECTION A-A

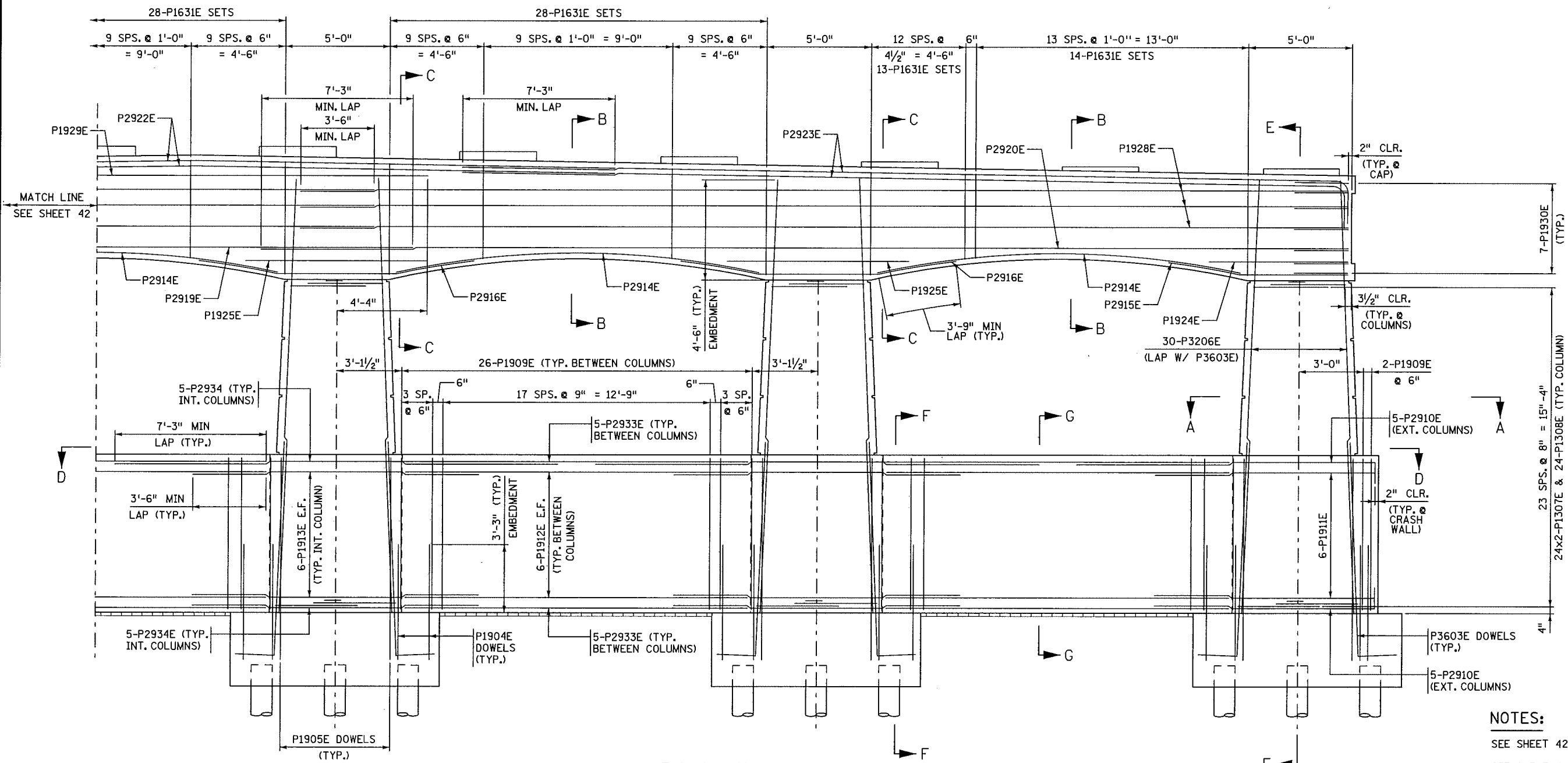
NOTES:
SEE SHEET 45 FOR BAR LIST.

Plotted By: 0010292
Date Plotted: 25-APR-2012
Time Plotted: 7:41:54 AM
Pen Table: MndOT-Iplot.pen
File Path: 41_PierReinf2_pir.dgn

MndOT RELEASE FOR CONSTRUCTION		REVISION				PARSONS	CERTIFIED BY <i>David L. St. Peter</i> 5/25/12 LICENSED PROFESSIONAL ENGINEER DATE NAME: DAVID L. ST. PETER LIC. NO. 46841	TITLE: PIER REINFORCEMENT 2	DES: KBD	DR: KDK	APPROVED:	BRIDGE NO. 62626
SIGNATURE <i>David J. Berry</i>	DATE 6/11/12	DATE	DESCRIPTION	DR.					CHK.	APPROVED	CHK: BJB	



PLAN



ELEVATION

NOTES:
 SEE SHEET 42 FOR NOTES.
 SEE SHEET 42 FOR PEDESTAL REINFORCEMENT.

Plotted By: 00007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 1:57:25 PM
 Pen Table: MbdOT-Iplot.pen
 File Path: 43_PierReinf4_pir.dgn

MNDOT RELEASE FOR CONSTRUCTION
 Signature: *David J. Henry* 6/11/12
 DATE

DATE	REVISION DESCRIPTION	DR.	CHK.	APPROVED

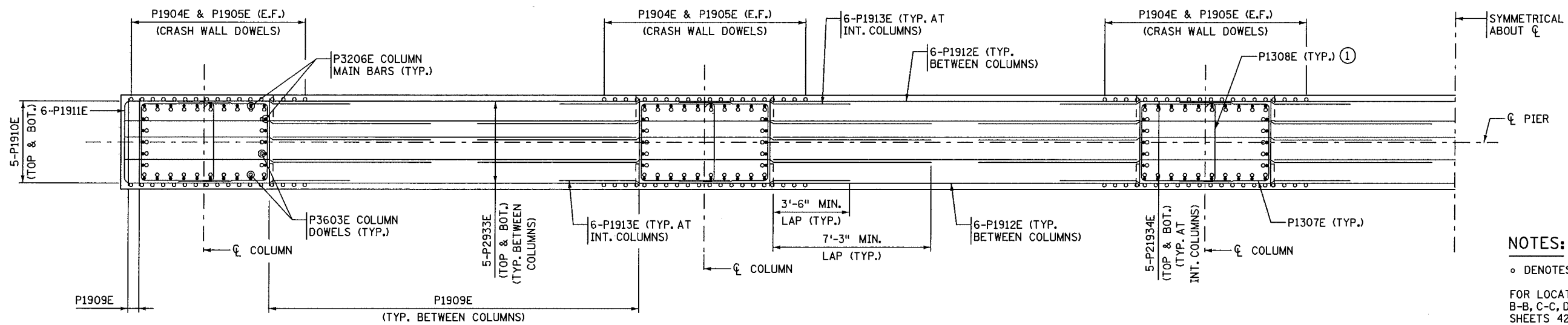
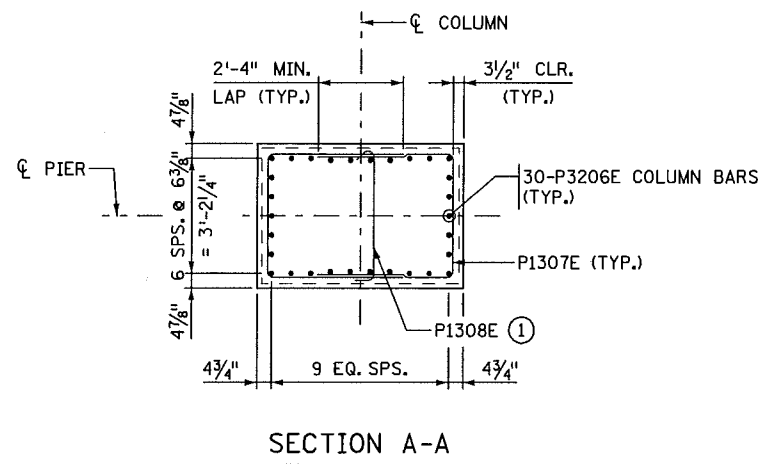
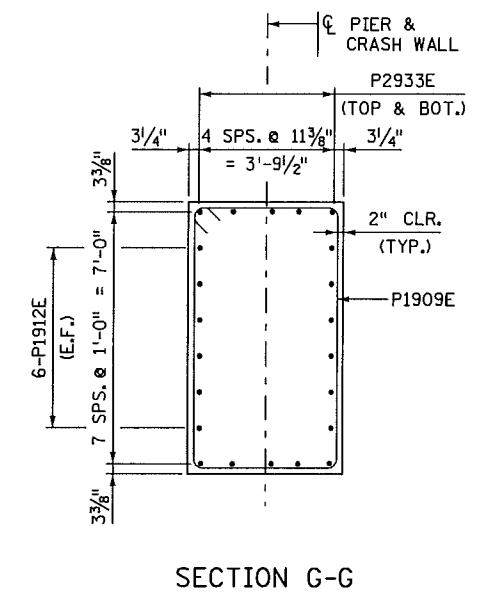
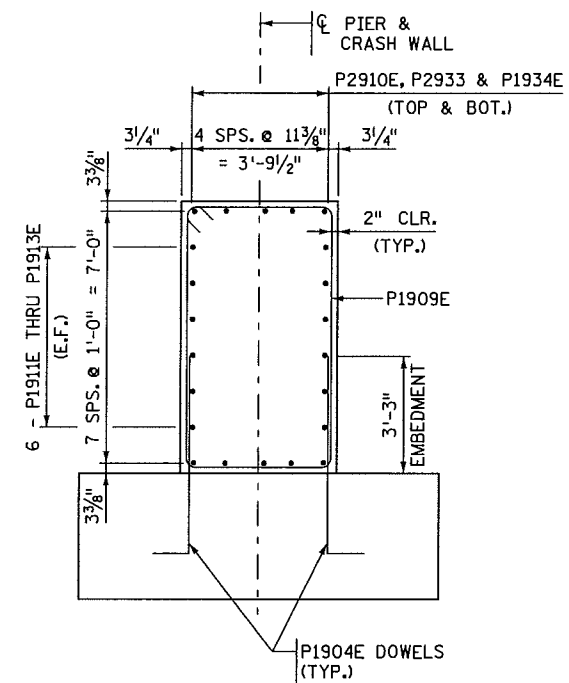
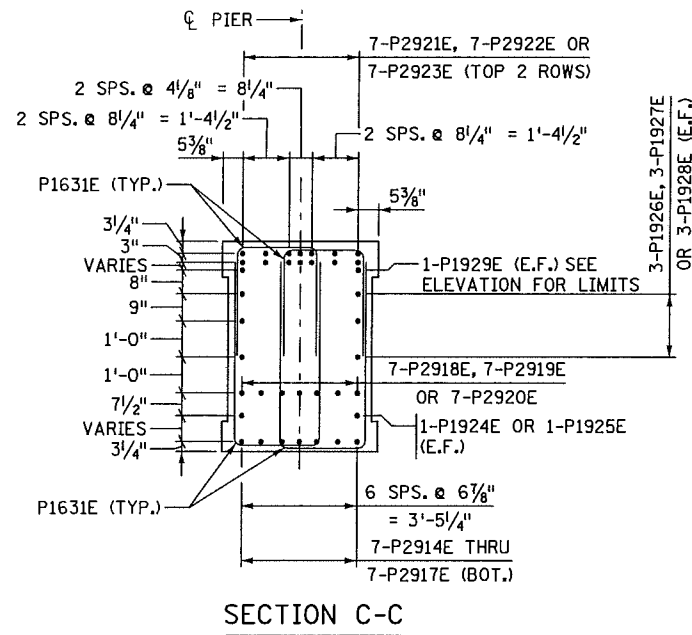
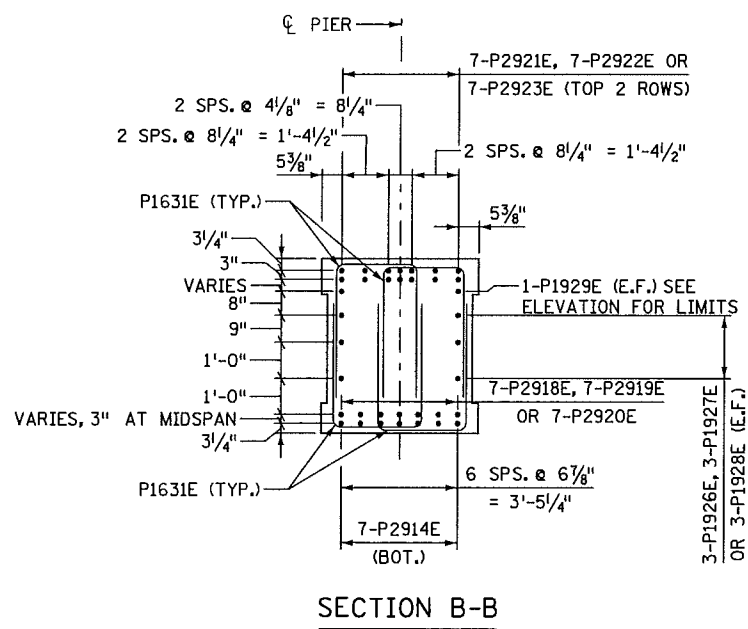


CERTIFIED BY *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: PIER REINFORCEMENT 4

DES: KBD
 CHK: BJB
 DR: KDK
 CHK: BJB
 APPROVED:
 SHEET NO. 43 OF 69

BRIDGE NO. 62626



NOTES:
 ○ DENOTES DOWEL BARS.
 FOR LOCATIONS OF SECTIONS A-A, B-B, C-C, D-D, F-F AND G-G SEE SHEETS 42 AND 43.
 (1) ALTERNATE POSITION OF HOOKS IN PLACING SUCCESSIVE SETS OF TIES.

Plotted By: P0007740
 Date Plotted: 24-MAY-2012
 Time Plotted: 2:44:31 PM
 Pen Table: MfDOT-IP/ot.pen
 File Path: 44_PierReinf5_pir.dgn

MnDOT RELEASE FOR CONSTRUCTION
 Signature: *David J. Henry* 6/11/12
 DATE

REVISION	DATE	DESCRIPTION	DR.	CHK.	APPROVED



CERTIFIED BY *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

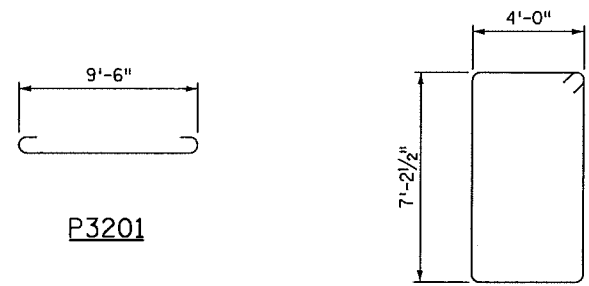
TITLE:
 PIER REINFORCEMENT 5

DES: KBD DR: KDK APPROVED:
 CHK: BJB CHK: BJB
 SHEET NO. 44 OF 69

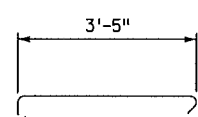
BRIDGE NO.
 62626

BILL OF REINFORCEMENT FOR PIER

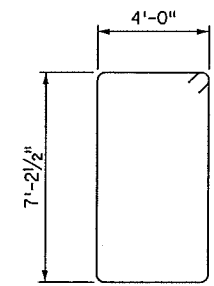
BAR	NO.	LENGTH	SHAPE	LOCATION
P3201	120	12'-4"	U	FOOTING BOTTOM
P1902	120	9'-6"	U	FOOTING TOP
P3603E	180	12'-8"	U	COLUMN DOWELS
P1904E	88	6'-9"	U	CRASH WALL DOWELS
P1905E	140	10'-8"	U	CRASH WALL DOWELS AT COLUMN
P3206E	180	20'-5"	U	COLUMN VERTICAL BARS
P1307E	288	10'-11"	U	COLUMN TIE
P1308E	144	4'-2"	U	COLUMN TIE
P1909E	134	23'-9"	U	CRASH WALL STIRRUP
P2910E	20	15'-9"	U	CRASH WALL END TOP & BOTT.
P1911E	12	25'-0"	U	CRASH WALL END FACE HORIZ.
P1912E	60	16'-8"	U	CRASH WALL HORIZ. BTWN. COLUMNS
P1913E	48	13'-6"	U	CRASH WALL HORIZ. AT COLUMNS
P2914E	28	18'-3"	U	CAP BOTTOM LONG. BTWN. COLUMNS
P2915E	14	8'-11"	U	CAP BOTTOM LONG. EXT. COLUMNS
P2916E	28	12'-11"	U	CAP BOTTOM LONG. INT. COLUMNS
P2917E	14	8'-10"	U	CAP BOTTOM LONG. NEAR OPEN JT.
P2918E	7	36'-7"	U	CAP BOTTOM LONGITUDINAL
P2919E	7	37'-11"	U	CAP BOTTOM LONGITUDINAL
P2920E	7	52'-0"	U	CAP BOTTOM LONGITUDINAL
P2921E	14	39'-9"	U	CAP TOP LONGITUDINAL
P2922E	14	51'-1"	U	CAP TOP LONGITUDINAL
P2923E	14	42'-2"	U	CAP TOP LONGITUDINAL
P1924E	4	6'-9"	U	CAP SIDE LONGITUDINAL
P1925E	8	8'-9"	U	CAP SIDE LONGITUDINAL
P1926E	6	36'-7"	U	CAP SIDE LONGITUDINAL
P1927E	6	36'-0"	U	CAP SIDE LONGITUDINAL
P1928E	6	50'-6"	U	CAP SIDE LONGITUDINAL
P1929E	2	23'-6"	U	CAP SIDE LONGITUDINAL
P1930E	26	10'-8"	U	CAP END FACE
P1631E	556	10'-0"	U	CAP STIRRUP BARS
P1632E	182	7'-10"	U	PEDESTAL BARS
P2933E	50	16'-8"	U	CRASH WALL HORIZ TOP & BOTT
P2934E	40	20'-10"	U	CRASH WALL HORIZ TOP & BOTT
P1335E	78	5'-0"	U	SUPPORT BARS



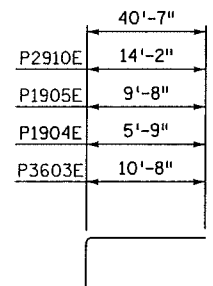
P3201



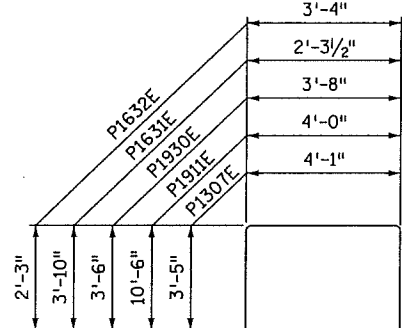
P1308E



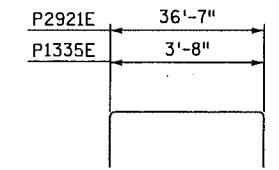
P1909E



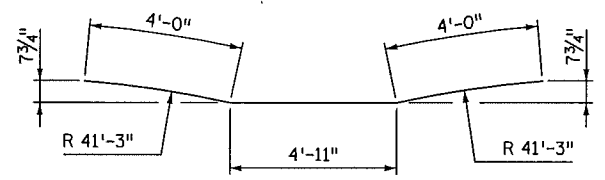
P3603E, P1904E, P1905E, P2910E & P2923E



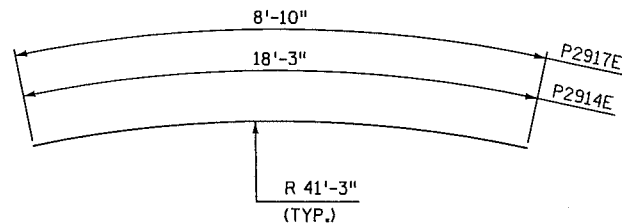
P1307E, P1911E, P1930E, P1631E & P1632E



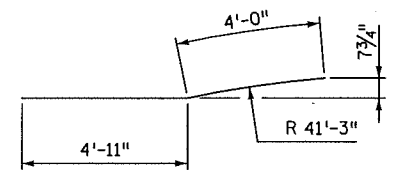
P2921E & P1335E



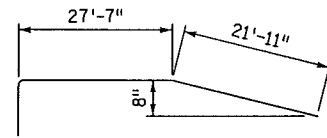
P2916E



P2914E & P2917E



P2915E

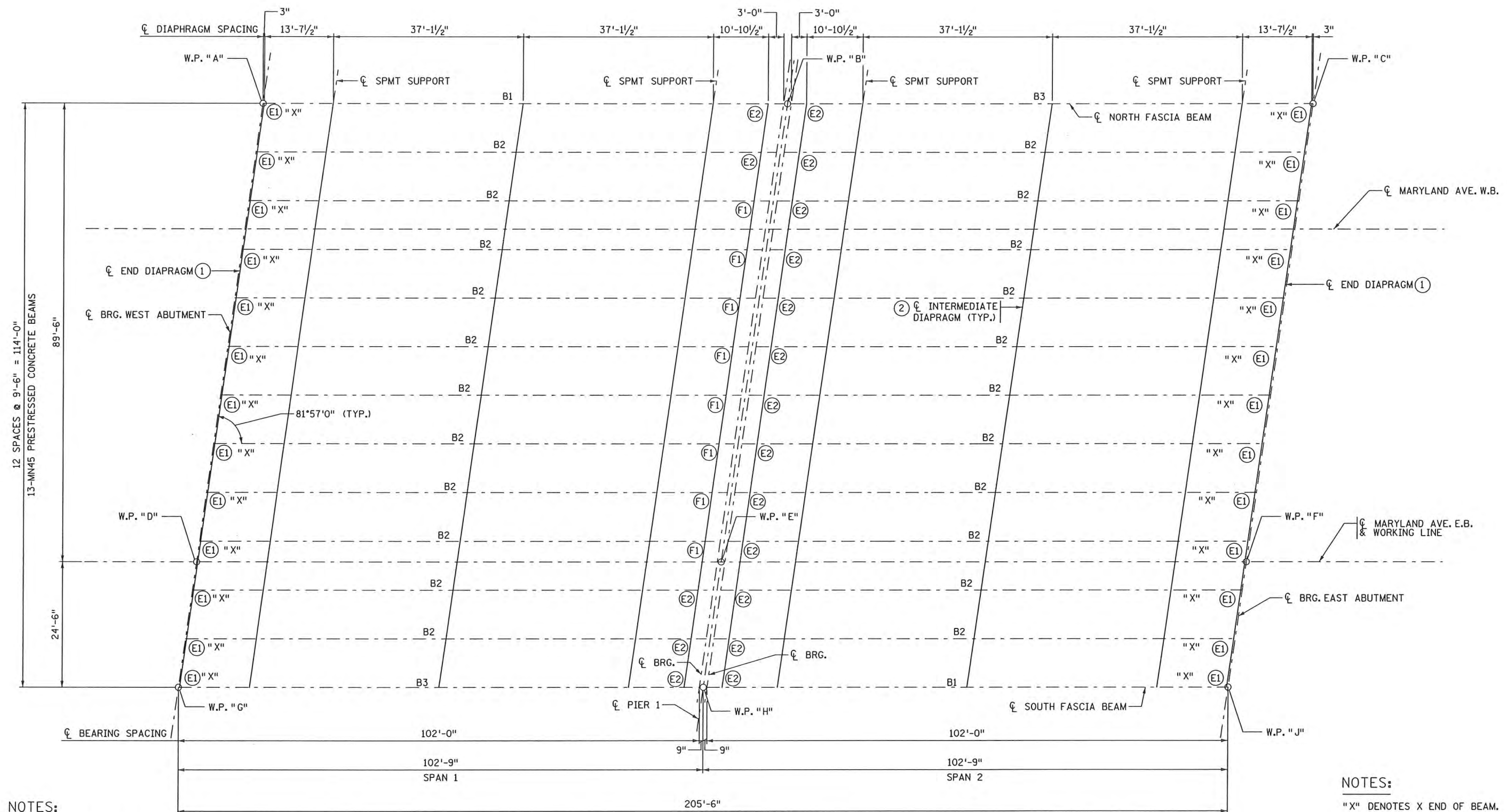


P2922E

NOTES:

① P1335E BARS PROVIDED AT 3'-0" ± TO SUPPORT TOP AND BOTTOM #29'S AS NEEDED.

Plotted By: p0007740
Date Plotted: 24-MAY-2012
Time Plotted: 12:43:43 PM
Pen Table: M:\DOT-Input\pen
File Path: 45_PierReinfrs.pir.dgn



SPMT NOTES:

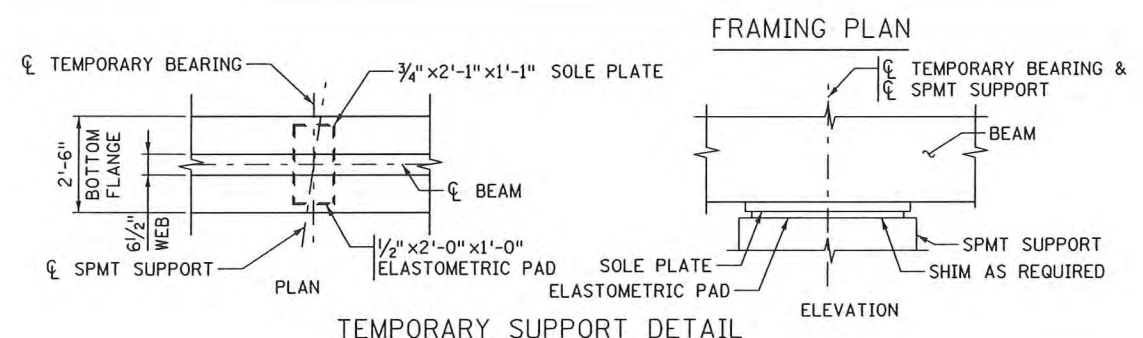
SPMT = SELF-PROPELLED MODULAR TRANSPORTER

TEMPORARY SUPPORTS FOR THE SPMT MOVE SHALL BE PLACED AS DETAILED ON THE FRAMING PLAN AND BEAM DETAILS.

THE CONTRACTOR SHALL PLACE A TEMPORARY SOLE PLATE AND BEARING PAD AT THE SUPPORT LOCATION DURING THE MOVE. SEE TEMPORARY SUPPORT DETAIL.

ELASTOMERIC PAD SHALL BE PER MnDOT SPEC 3741. SOLE PLATE SHALL BE PER MnDOT SPEC 3306.

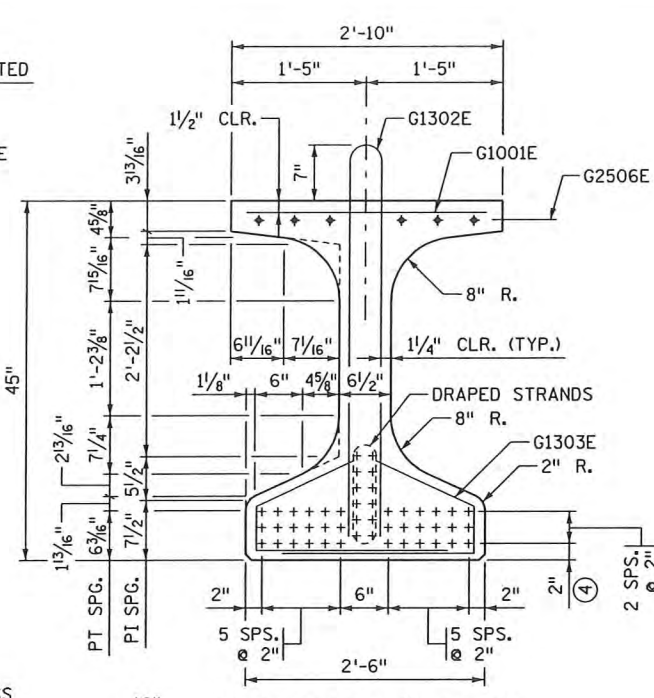
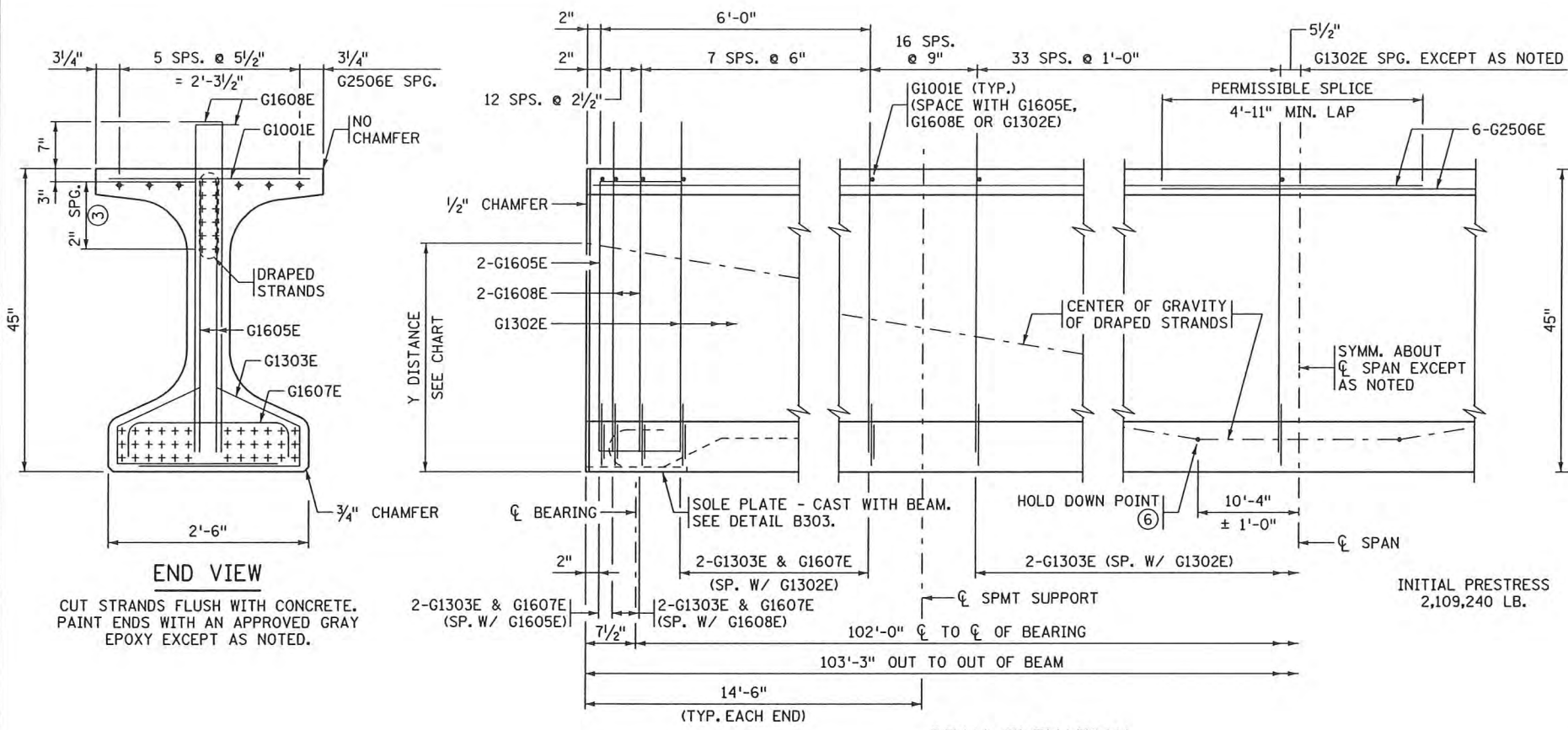
SEE SPMT PLANS FOR LIFTING AND MOVING TOLERANCES AND REQUIREMENTS.



- NOTES:**
- "X" DENOTES X END OF BEAM.
 - (E1) = EXPANSION BEARING TYPE E1 SEE DETAIL B311 ON SHEET 61.
 - (E2) = EXPANSION BEARING TYPE E2 SEE DETAIL B311 ON SHEET 61.
 - (F1) = FIXED BEARING TYPE F1 SEE DETAIL B310 ON SHEET 60.
 - (1) SEE DETAILS ON B814 ON SHEET 62.
 - (2) SEE DETAILS ON B403 ON SHEET 61.

Plotted By: P0010292
 Date Plotted: 27-APR-2012
 Time Plotted: 9:13:28 AM
 Pen Table: Mndot-Iplot.pen
 File Path: 46-FramingPlan_sup.dgn

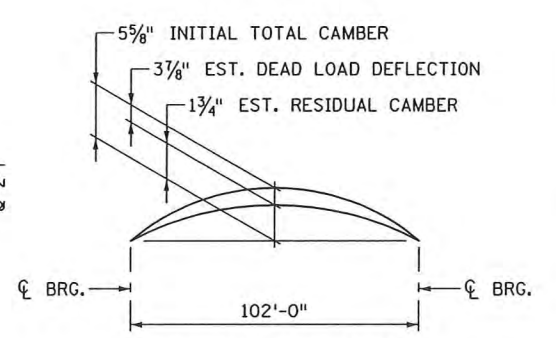
MnDOT RELEASE FOR CONSTRUCTION SIGNATURE	DATE 5/11/2012	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">REVISION</th> <th>DR.</th> <th>CHK.</th> <th>APPROVED</th> </tr> <tr> <th>DATE</th> <th>DESCRIPTION</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISION		DR.	CHK.	APPROVED	DATE	DESCRIPTION									 PARSONS LICENSED PROFESSIONAL ENGINEER NAME: DAVID L. ST. PETER LIC. NO. 46841	CERTIFIED BY DATE 4/30/12	TITLE: FRAMING PLAN	DES: KBD CHK: DLS	DR: BJB CHK: DLS	APPROVED: 	BRIDGE NO. 62626
REVISION		DR.	CHK.	APPROVED																				
DATE	DESCRIPTION																							
SHEET NO. 46 OF 69																								



Y DISTANCES (IN INCHES)			
	NO.	CL SPAN	END
STRAIGHT STRANDS	36	4.00	
DRAPED STRANDS	12	8.00	37.00 ^a
TOTAL STRANDS	48	5.00	

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.

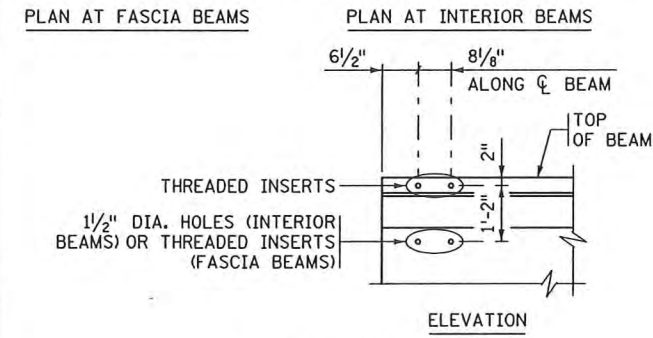
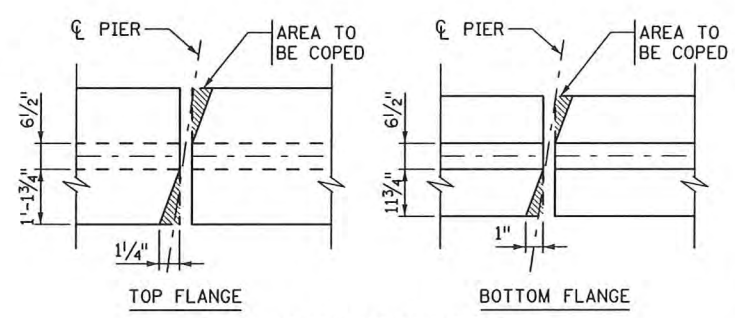
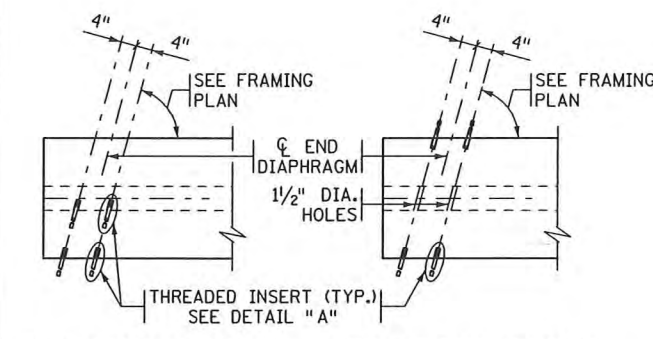
^a A TOLERANCE OF ± 1" WILL BE PERMITTED IN THIS DIMENSION.



INITIAL CAMBER IS GIVEN AFTER DIAPHRAGMS ARE IN PLACE.

DEAD LOAD DEFLECTION SHOWN IS FOR WEIGHT OF SLAB, WEARING COURSE, RAILING, SIDEWALK AND MEDIAN WHERE APPLICABLE AND INCLUDES 3/8" ESTIMATED DEFLECTION DUE TO DECK POST-TENSIONING.

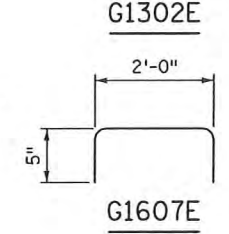
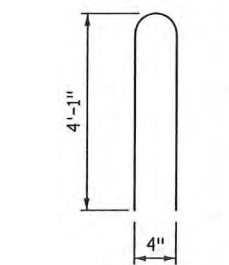
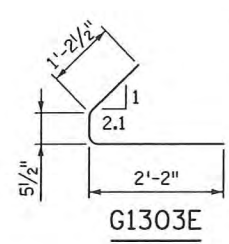
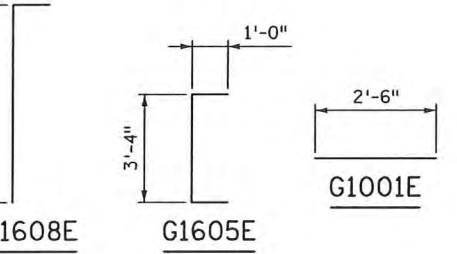
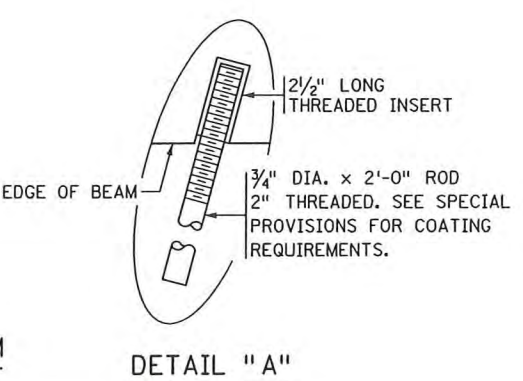
ENGINEER WILL TAKE ELEVATIONS AT TOP OF BEAMS AFTER ERECTION AND WILL ALLOW FOR DEFLECTION SHOWN TO ENABLE CONTRACTOR TO BUILD FORMS TO CORRECT GRADE AND SPECIFIED SLAB THICKNESS.



CALCULATED PRESTRESS LOSSES	
ELASTIC SHORTENING LOSS	26.1 KSI
LONG TERM LOSSES	25.9 KSI
TOTAL LOSSES	52.0 KSI

MINIMUM CONCRETE STRENGTH - K.S.I.	
① f'cl	② f'c
7.8 KSI	10.1 KSI

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



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 STENCILED AND BE CLEARLY LEGIBLE. FOR LOCATION OF BEAMS, SEE FRAMING PLAN.
- ALL MATERIAL AND WORK SHOWN OR NOTED ON THIS SHEET SHALL BE PER MDOT SPEC. 2405, PRESTRESSED CONCRETE BEAMS.
- SEE FRAMING PLAN FOR BEAM END MARKED "X" AND DIAPHRAGM SPACING.
- APPROXIMATE WEIGHT OF BEAM IS 39 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 CENTER OF GRAVITY OF HOLD DOWNS WHEN MULTIPLE HOLD DOWNS ARE USED.

Plotted By: P0010292
 Date & Time: 27-APR-2012
 Pen Table: Mndot-Iplot.pen
 File Path: 47_MN45PCB_sup.dgn

REVISED: 10-22-2009
 APPROVED: OCTOBER 26, 2005
 David L. St. Peter
 STATE BRIDGE ENGINEER

STEEL INTERMEDIATE DIAPHRAGM
 (SEE DETAIL B403 FOR DIAPHRAGM DETAILS)

BEAMS B1, B2 & B3
 FIG. 5-397.507 MOD.

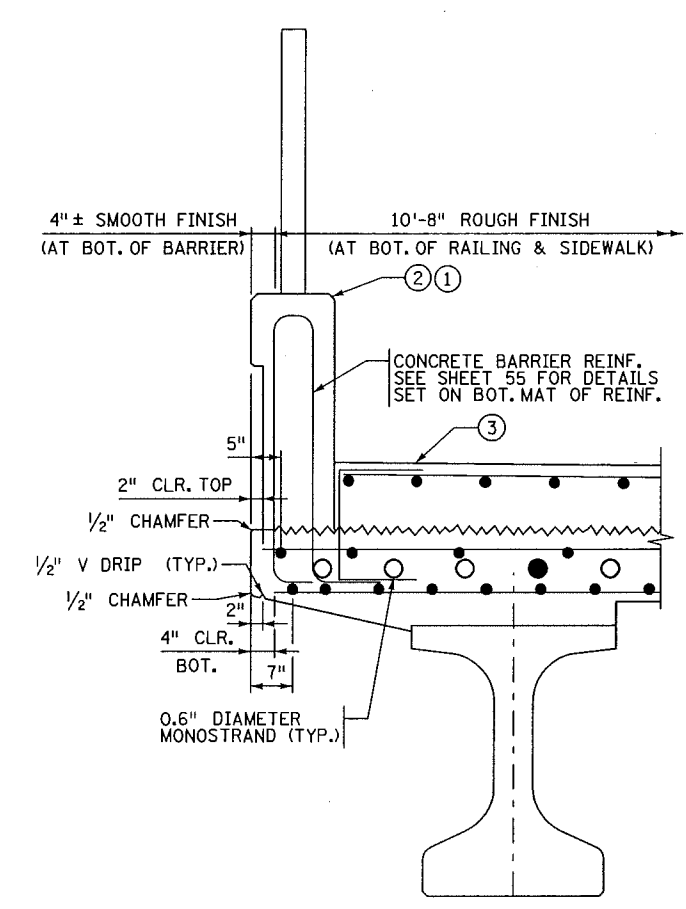
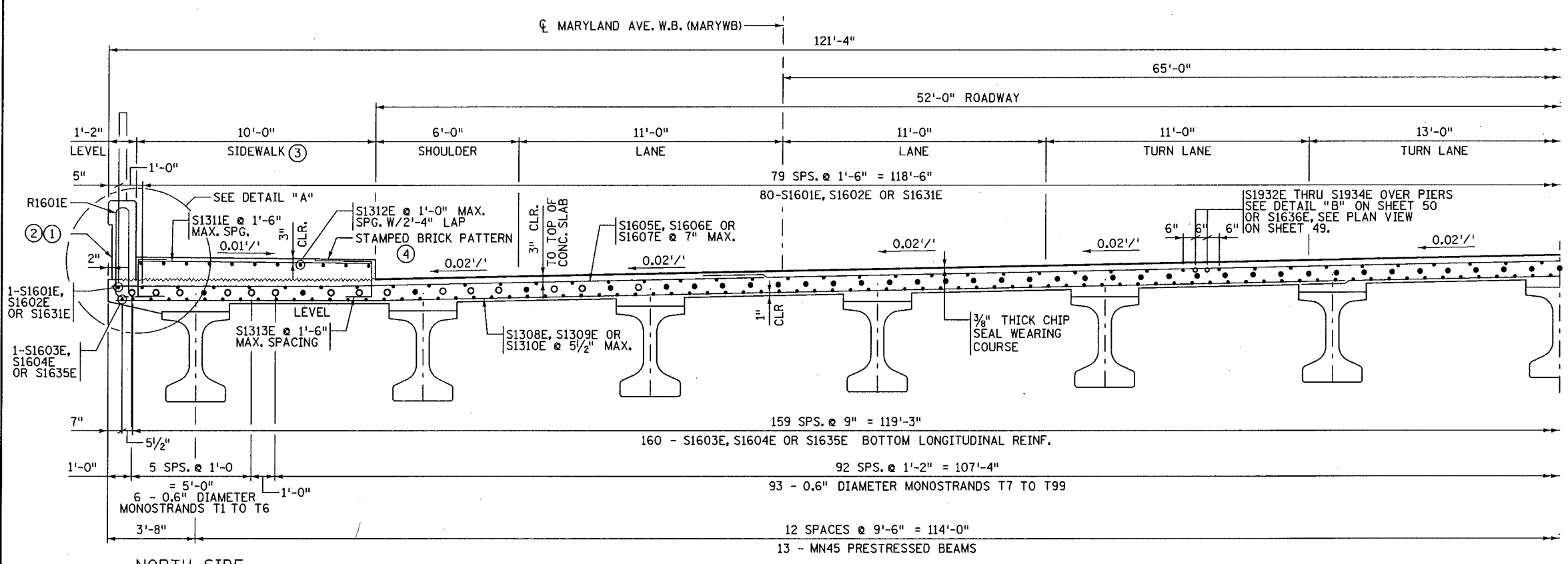
MNDOT RELEASE FOR CONSTRUCTION		REVISION	
DATE	DESCRIPTION	DR.	CHK. APPROVED
7/25/2012			



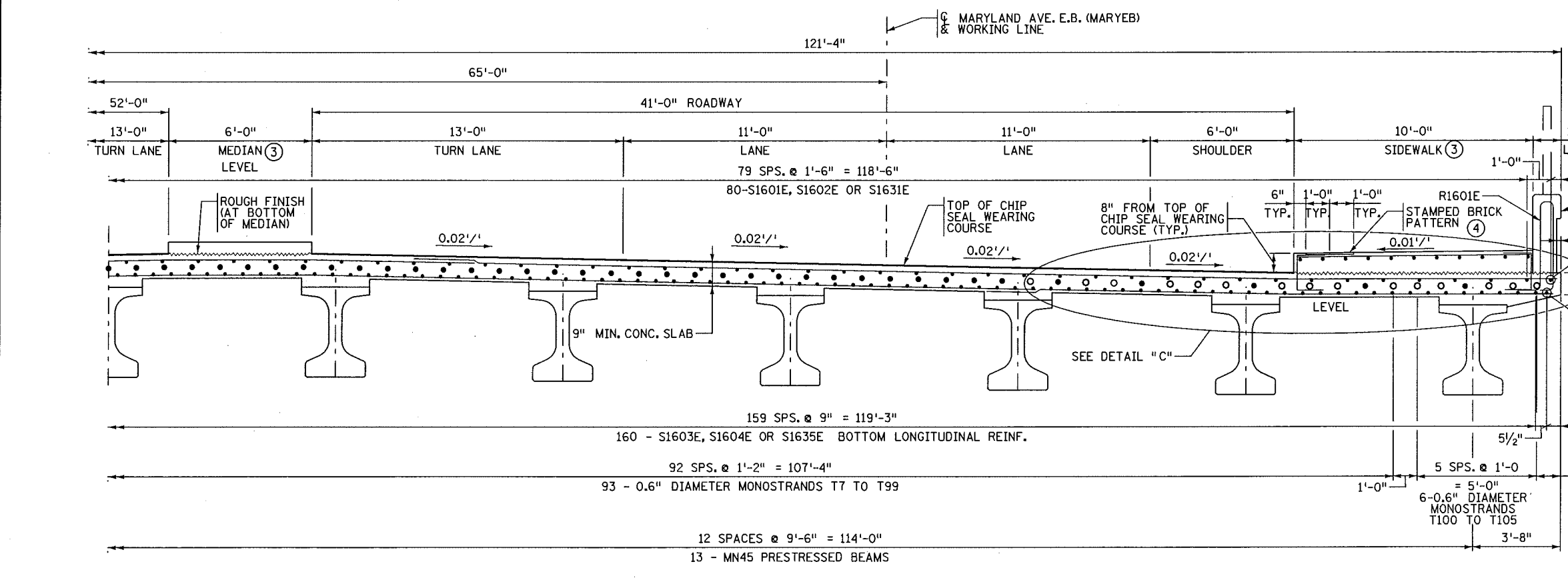
CERTIFIED BY David L. St. Peter 4/30/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE
 MN45" PRESTRESSED CONCRETE BEAM (PRETENSIONED) MN45-104

DES:	DR:	APPROVED:	BRIDGE NO.
KBD	BJB		62626
CHK: DLS	CHK: DLS		
SHEET NO. 47 OF 69			



DETAIL "A"
NORTH SIDE SHOWN
SOUTH SIDE SIMILAR



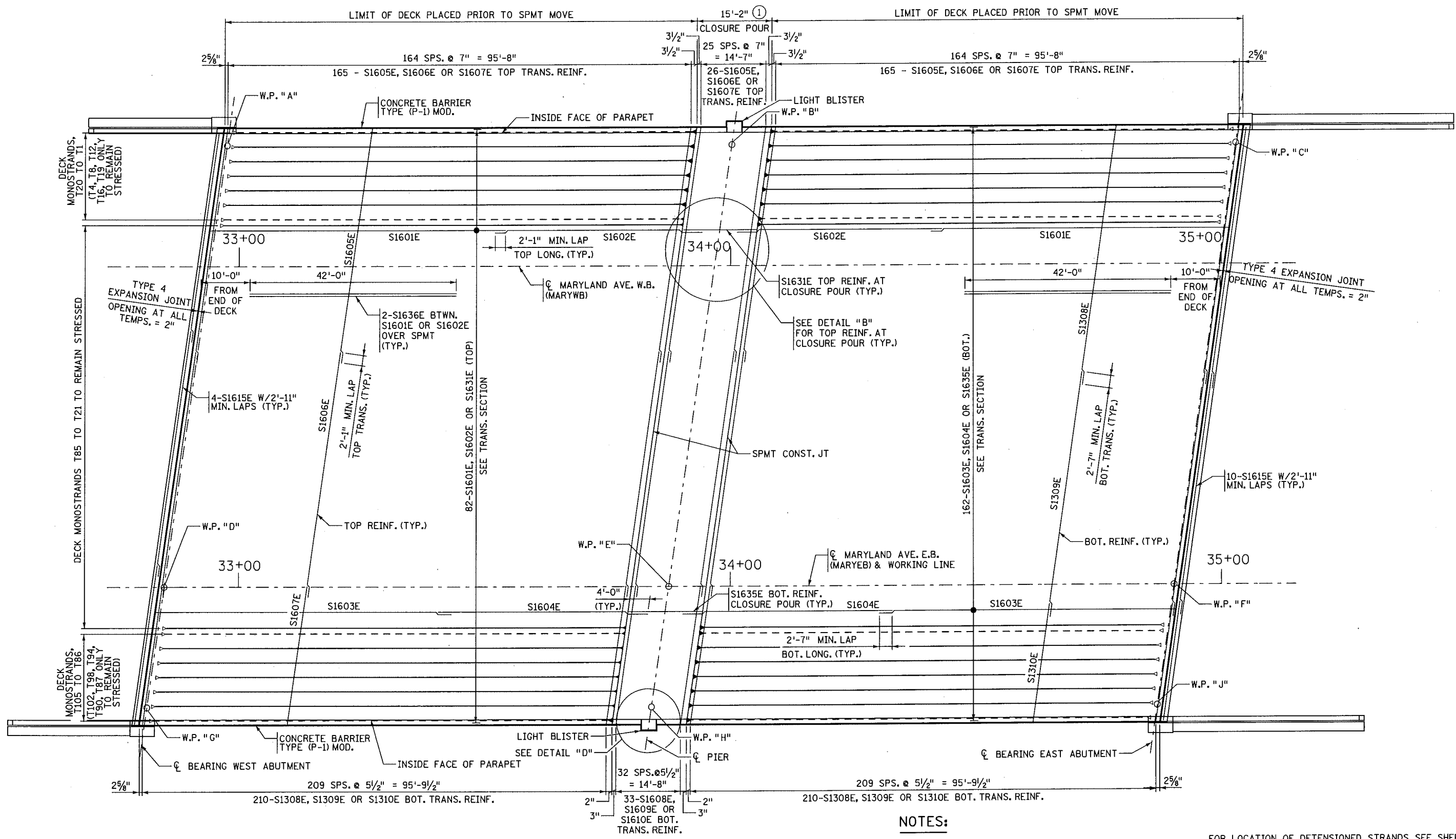
TRANSVERSE SECTION

SOUTH SIDE

- NOTES:
- DECK THICKNESS EXAGGERATED FOR CLARITY.
 - SEE SHEET 50 FOR DETAIL B.
 - SEE SHEET 51 FOR DETAIL C.
 - ① CONC. PARAPET (TYPE P-1) (MOD.) W/ORNAMENTAL METAL RAILING (TYP.)
 - ② PLACE BARRIER PRIOR TO STRESSING DECK MONOSTRANDS.
 - ③ PLACE SIDEWALK AND MEDIAN AFTER SPANS ARE IN THEIR FINAL LOCATION.
 - ④ ARCHITECTURAL CONCRETE PAVEMENT, SEE SPECIAL PROVISIONS, SEE SHEET 50 FOR STAMPED BRICK PATTERN PLAN VIEW.
- MONOSTRAND DESIGNATION
- MONOSTRAND TO REMAIN STRESSED IN DECK PERMANENTLY
 - MONOSTRAND TO BE DETENSIONED AFTER MOVE

Plotted By: p0007740
 Date Plotted: 08-JUN-2012
 Time Plotted: 11:56:13 AM
 Pen Table: MndOT-Ipilot.pen
 File Path: 48_SuperstructureDetail1.s1_sup.dgn

MndOT RELEASE FOR CONSTRUCTION		REVISION			CERTIFIED BY <i>David L. St. Peter</i> 6/12/12 LICENSED PROFESSIONAL ENGINEER NAME: DAVID L. ST. PETER LIC. NO. 46841	TITLE: SUPERSTRUCTURE DETAILS 1	DES: GX	DR: GX	APPROVED:	BRIDGE NO. 62626
SIGNATURE	DATE	DATE	DESCRIPTION				DR.	CHK.	APPROVED	



DECK PLAN

NOTES:

- MONOSTRAND DESIGNATION
 - ▶ STRESSING END
 - ▷ NON-STRESSING END
 - - MONOSTRAND TO BE DETENSIONED
 - MONOSTRAND TO REMAIN STRESSED PERMANENTLY
- SEE SHEET 50, FOR DETAIL B & D.
- FOR LOCATION OF DETENSIONED STRANDS SEE SHEET 48.
- ALTERNATE PLACEMENT OF S1601E & S1602E, S1603E & S1604E, S1605E & S1607E, AND S1608E & S1610E TO STAGGER LAPS.
- TRANSVERSE REINFORCEMENT TO BE PLACED PARALLEL TO SKEW.
- FOR CONCRETE BARRIER TYPE (P-1) MOD. DETAILS SEE SHEET 55.
- ① PLACE CLOSURE POUR AND BARRIER AFTER BRIDGE SPANS ARE IN THEIR FINAL LOCATION.

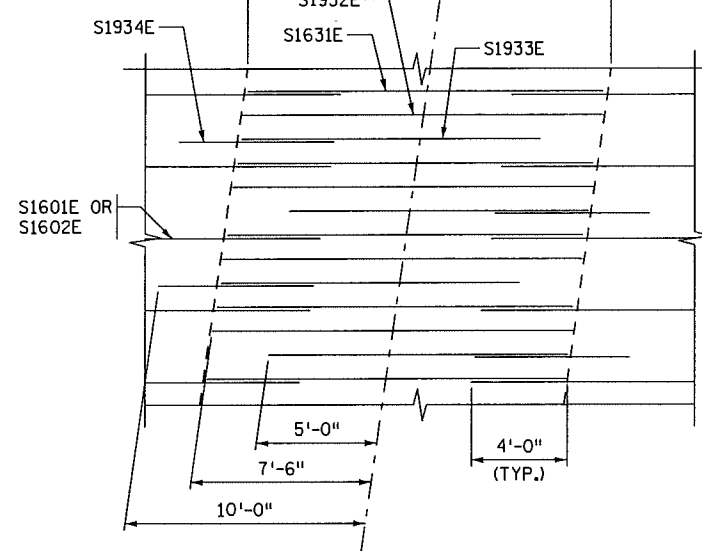
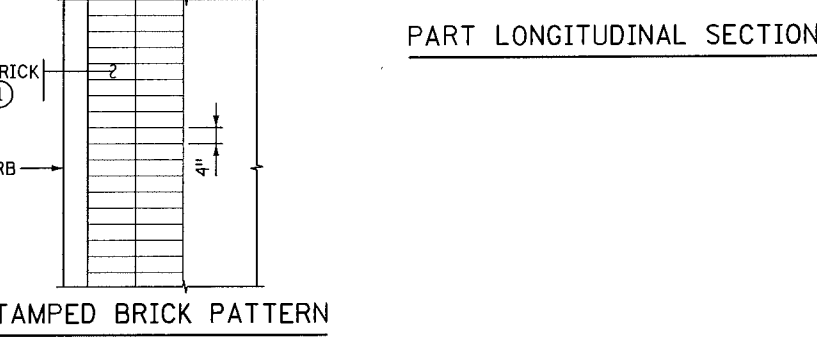
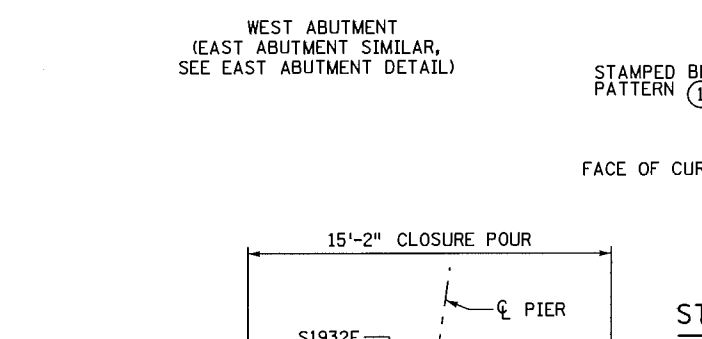
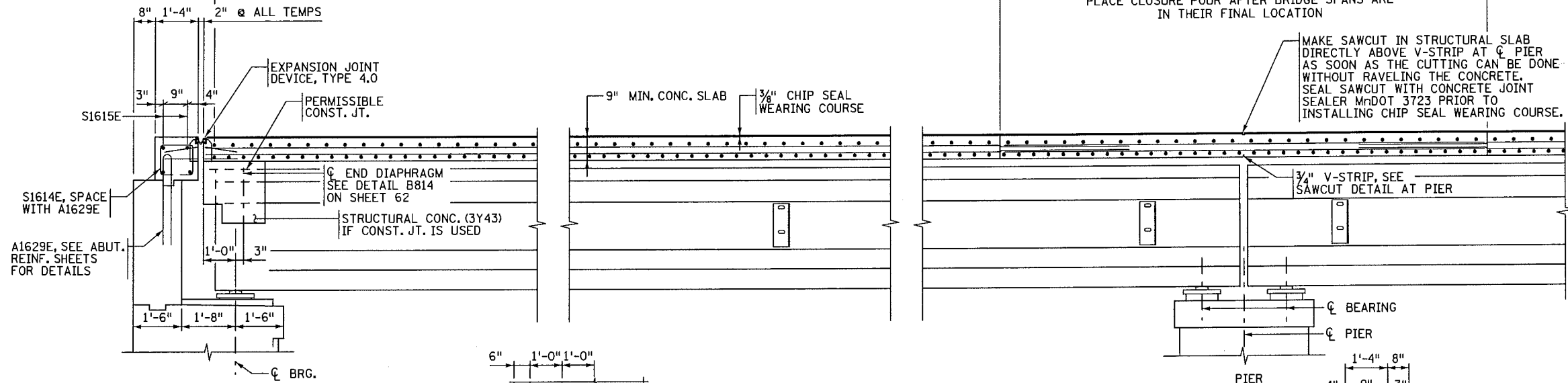
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MndOT RELEASE FOR CONSTRUCTION SIGNATURE	DATE 6/14/2012	REVISION DESCRIPTION DR. CHK. APPROVED	 	CERTIFIED BY LICENSED PROFESSIONAL ENGINEER NAME: DAVID L. ST. PETER DATE: 6/12/12 LIC. NO. 46841	TITLE: SUPERSTRUCTURE DETAILS 2	DES: GX CHK: BJB	DR: GX CHK: BJB	APPROVED: 	BRIDGE NO. 62626
SHEET NO. 49 OF 69									

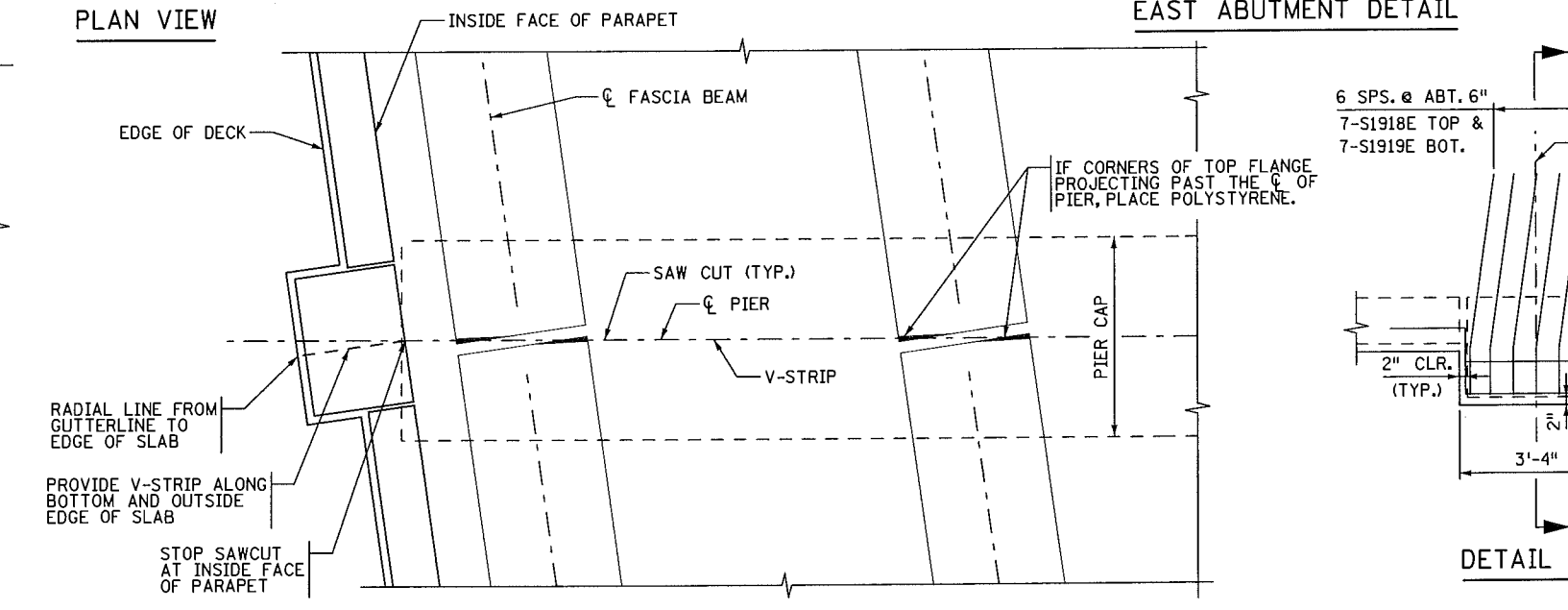
BILL OF REINFORCEMENT FOR SUPERSTRUCTURE

BAR	NO.	LENGTH	SHAPE	LOCATION
S1601E	164	60'-0"	—	DECK TOP LONGITUDINAL
S1602E	164	42'-2"	—	DECK TOP LONGITUDINAL
S1603E	324	60'-0"	—	DECK BOT. LONGITUDINAL
S1604E	324	42'-8"	—	DECK BOT. LONGITUDINAL
S1605E	356	48'-0"	—	DECK TOP TRANSVERSE
S1606E	356	50'-0"	—	DECK TOP TRANSVERSE
S1607E	356	28'-7"	—	DECK TOP TRANSVERSE
S1308E	453	53'-0"	—	DECK BOT. TRANSVERSE
S1309E	453	50'-0"	—	DECK BOT. TRANSVERSE
S1310E	453	24'-5"	—	DECK BOT. TRANSVERSE
S1311E	280	9'-8"	—	SIDEWALK TRANSVERSE
S1312E	88	53'-7"	—	SIDEWALK LONGITUDINAL
S1313E	560	3'-0"	□	SIDEWALK VERTICAL
S1614E	269	3'-6"	□	END BLOCK
S1615E	42	42'-11"	—	END BLOCK
S1916E	4	3'-0"	—	DECK REINF. AT PILASTER
S1917E	4	10'-0"	—	DECK REINF. AT PILASTER
S1918E	14	8'-5"	—	DECK REINF. AT PILASTER
S1919E	14	7'-0"	—	DECK REINF. AT PILASTER
S1631E	82	15'-0"	—	TOP LONG. CLOSURE POUR
S1932E	80	15'-0"	—	TOP LONG. OVER PIER
S1933E	80	12'-6"	—	TOP LONG. OVER PIER
S1934E	80	6'-6"	—	TOP LONG. OVER PIER
S1635E	162	15'-0"	—	BOTT. LONG. CLOSURE POUR
S1636E	316	42'-0"	—	ADDITIONAL TOP LONG.
S1337E	1680	2'-4"	□	MONOSTRAND ANCHORAGE REINF.
S1338E	48	42'-0"	—	MONOSTRAND ANCHORAGE REINF.

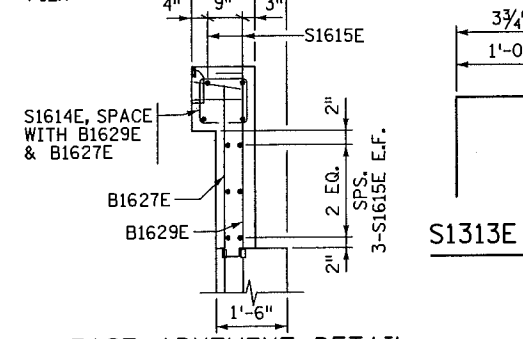
S1605E, S1606E OR S1607E TOP, S1608E, S1609E OR S1610E BOTTOM
SEE DECK PLAN FOR TRANSVERSE BAR SPACING



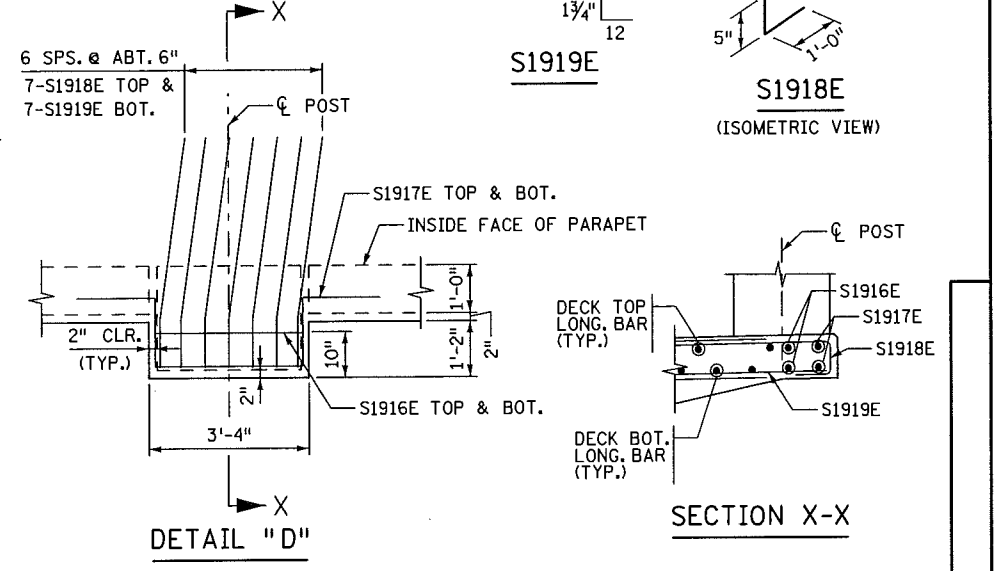
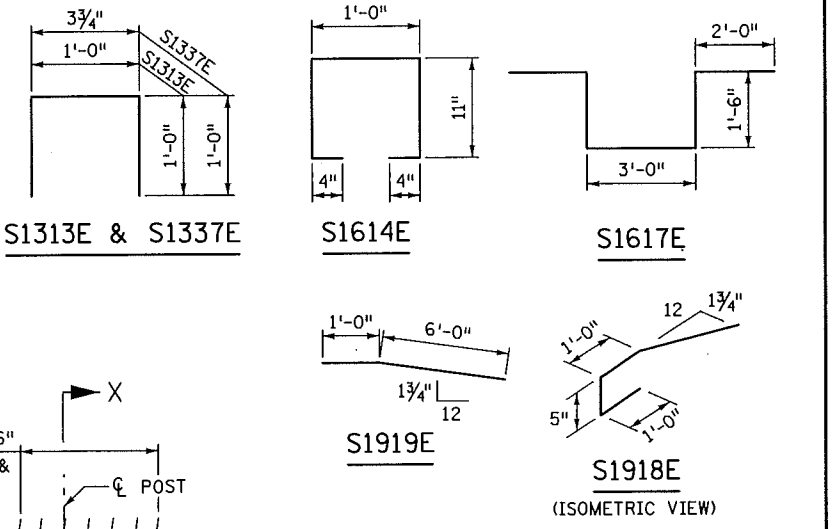
DETAIL "B"
STAGGER DIAGRAM



SAWCUT DETAIL AT PIER
PLAN VIEW



EAST ABUTMENT DETAIL



DETAIL "D"

SECTION X-X

NOTES:
FOR LOCATION OF DETAIL B & D, SEE SHEET 49.
① ARCHITECTURAL CONCRETE PAVEMENT, SEE SPECIAL PROVISIONS.

P0043638
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 Time Plotted: 10:41:17 AM
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 DATE: 6/14/2012

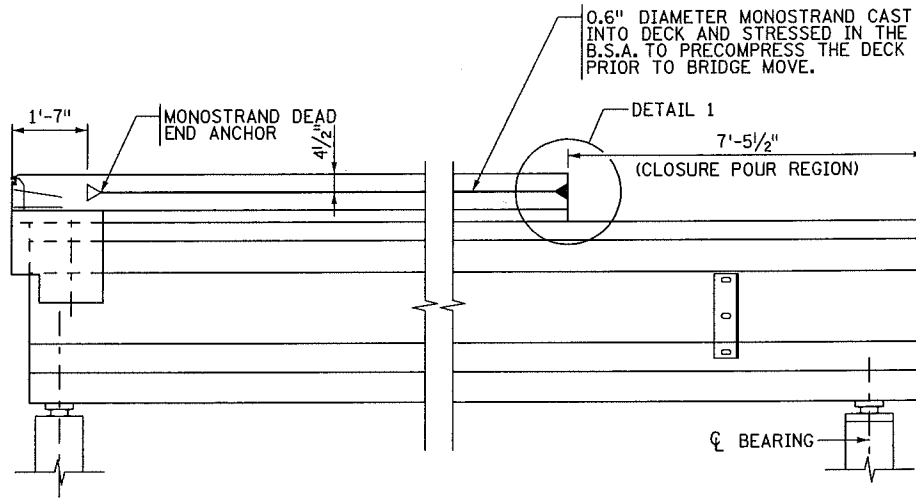
DATE	REVISION DESCRIPTION	DR.	CHK.	APPROVED



CERTIFIED BY: *[Signature]* 6/12/12
 LICENSED PROFESSIONAL ENGINEER
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: SUPERSTRUCTURE DETAILS 3

DES: GX	DR: GX	APPROVED:	BRIDGE NO. 62626
CHK: BJB	CHK: BJB	SHEET NO. 50 OF 69	



DECK PT ELEVATION

ONE SPAN SHOWN, THE OTHER SIMILAR

MONOSTRAND STRESSING SEQUENCE							
STRESSING GROUP	1	2	3	4	5	6	7
MONOSTRANDS	T46 - T60	T31 - T45	T61 - T75	T16 - T30	T76 - T90	T1 - T15	T91 - T105
STRESSING ORDER W/IN STRESSING GROUP	1	2	3	4	5	6	7
1	T53	T38	T68	T23	T83	T8	T98
2	T52	T37	T67	T22	T82	T7	T97
3	T54	T39	T69	T24	T84	T9	T99
4	T51	T36	T66	T21	T81	T6	T96
5	T55	T40	T70	T25	T85	T10	T100
6	T50	T35	T65	T20	T80	T5	T95
7	T56	T41	T71	T26	T86	T11	T101
8	T49	T34	T64	T19	T79	T4	T94
9	T57	T42	T72	T27	T87	T12	T102
10	T48	T33	T63	T18	T78	T3	T93
11	T58	T43	T73	T28	T88	T13	T103
12	T47	T32	T62	T17	T77	T2	T92
13	T59	T44	T74	T29	T89	T14	T104
14	T46	T31	T61	T16	T76	T1	T91
15	T60	T45	T75	T30	T90	T15	T105

MONOSTRAND DETENSIONING SEQUENCE					
GROUP	1	2	3	4	5
DETENSIONING ORDER W/IN GROUP	1	2	3	4	5
1	T86	T91	T95	T99	T103
2	T88	T92	T96	T100	T104
3	T89	T93	T97	T101	T105
4	T20	T15	T11	T7	T3
5	T18	T14	T10	T6	T2
6	T17	T13	T9	T5	T1

NOTES:

- MONOSTRAND DESIGNATION
- ▶ STRESSING END
- ▷ NON-STRESSING END
- MONOSTRAND TO REMAIN STRESSED PERMANENTLY
- MONOSTRAND TO BE DETENSIONED

POST TENSIONING SHALL BE PERFORMED PER THE PROVISIONS OF DBSB 2401.21 AND MONOSTRANDS SHALL COMPLY WITH "SPECIFICATION FOR UNBONDED SINGLE STRAND TENDONS", 2ND EDITION, POST-TENSIONING INSTITUTE, 2000 (PTI SPEC.) AND THE FOLLOWING.

ALL MONOSTRAND SHALL BE 0.60" DIAMETER SIZE AND SHALL CONFORM TO ASTM A416, SEVEN WIRE GRADE 270, LOW RELAXATION STANDARDS.

ALL MONOSTRANDS SHALL BE SINGLE-END STRESSED TO A STRESSING FORCE OF 44 KIPS EACH.

MONOSTRAND ANCHORAGES WILL COMPLY WITH PTI SPEC. 2.2.6.1 FOR ANCHORAGES IN AGGRESSIVE ENVIRONMENTS WITH A WATERTIGHT CONNECTION OF THE SHEATHING TO THE ANCHORAGE AND WEDGE CAVITY. THE BODY OF THE ANCHORAGE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123. OTHER COMPONENTS OF THE ANCHORAGE INCLUDING WEDGES, WEDGE PLATE ARE NOT GALVANIZED.

ALL MONOSTRANDS SHALL BE COATED WITH CORROSION-INHIBITING GREASE (P-T COATING) AND ENCASED IN HIGH DENSITY POLYETHYLENE (HDPE) SHEATHING WITH 50 MIL. WALL THICKNESS. SHEATHING SHALL COMPLY WITH PTI SPEC. 2.3 AND P-T COATING SHALL COMPLY WITH PTI SPEC. 2.4.

MONOSTRAND INSTALLATION SHALL COMPLY WITH PTI SPEC. 3.2.

MINIMUM CONCRETE STRENGTH PRIOR TO STRESSING IS 3000 PSI.

THE LOCAL ZONE REINFORCING IS THE RESPONSIBILITY OF THE POST-TENSIONING SYSTEM SUPPLIER. THE LOCAL ZONE SHALL BE VERIFIED FOR STRUCTURAL ADEQUACY AND SHALL BE COMPATIBLE WITH THE ANCHORAGE SYSTEM SUPPLIED.

SEE SHEET 48, FOR LOCATION OF DETAIL "C".

CONSTRUCTION SEQUENCE:

1. IN BRIDGE STAGING AREA (B.S.A.) ERECT BEAMS ON TEMPORARY SUPPORTS LOCATED ALONG FINAL ϕ BEARING LOCATIONS.
2. INSTALL REINFORCEMENT, MONOSTRANDS, AND CAST DECK AND BARRIERS FROM END OF BRIDGE AT ABUTMENT TO WITHIN 7'-5 1/2" FROM THE PIER END OF BEAMS. MONOSTRANDS SHALL NOT BE TENSIONED PRIOR TO OR DURING CONCRETE POUR.
3. ONCE DECK AND BARRIER CONCRETE REACHES MINIMUM STRENGTH OF 3000PSI, STRESS DECK MONOSTRANDS T1 THROUGH T105. SEE TABLE ON THIS SHEET FOR MONOSTRAND STRESSING SEQUENCE.
4. EXECUTE SPMT BRIDGE MOVE PER APPROVED PROCEDURES.
5. ONCE SPAN IS SUPPORTED ON FINAL BEARING LOCATIONS AND SPMT EQUIPMENT REMOVED, DETENSION MONOSTRANDS AS INDICATED PER DETAIL "C" ON THIS SHEET. DETENSIONING SHALL BE ACCOMPLISHED THROUGH USE OF JACKING CHAIRS OR OTHER APPROVED METHODS. DETENSIONING BY BURNING OUT OF MONOSTRAND ENDS WILL NOT BE PERMITTED. SEE TABLE ON THIS SHEET FOR MONOSTRAND DETENSIONING SEQUENCE.
6. PROTECT MONOSTRAND RECESSED ANCHORAGES PER THE REQUIREMENTS INDICATED ON THIS SHEET.
7. REPEAT STEPS 1 THROUGH 6 ABOVE FOR OTHER BRIDGE SPAN.
8. INSTALL REINFORCEMENT AND CAST DECK AND BARRIERS ALONG 'CLOSURE POUR' REGION OVER PIER.

9. PROTECT MONOSTRAND RECESSED ANCHORAGES PER THE REQUIREMENTS INDICATED ON THIS SHEET.
10. REPEAT STEPS 1 THROUGH 6 ABOVE FOR OTHER BRIDGE SPAN.

PROTECTION OF MONOSTRAND RECESSED ANCHORAGES:

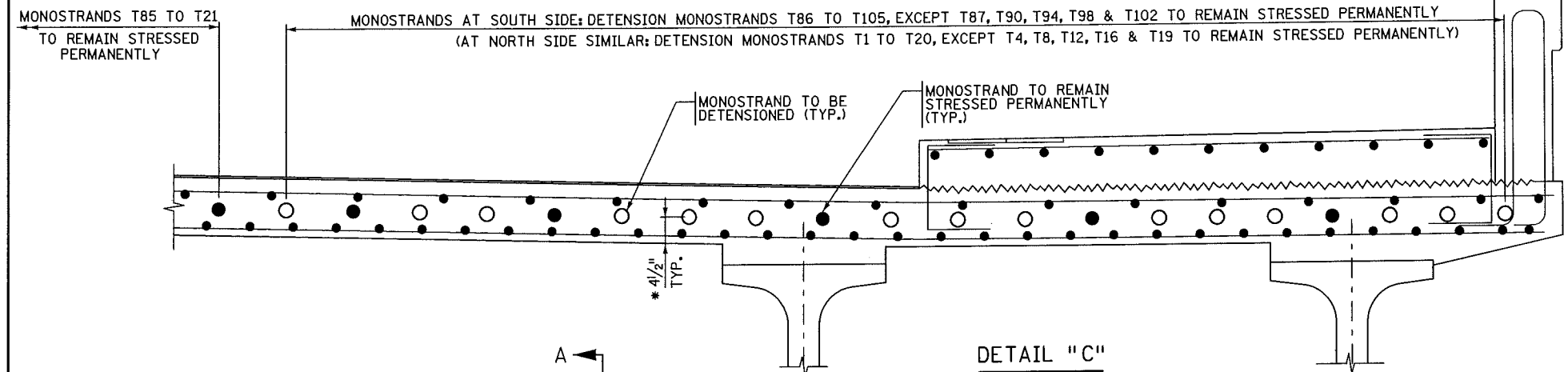
FOR MONOSTRANDS THAT REMAIN STRESSED PERMANENTLY, CUT MONOSTRAND TAIL TO WITHIN 3/4" TO 1" FROM THE FACE OF ANCHORAGE.

FOR MONOSTRANDS THAT ARE DETENSIONED, CUT MONOSTRAND TAIL FLUSH WITH FACE OF ANCHORAGE.

ALL MONOSTRANDS ARE TO REMAIN IN THE DECK PERMANENTLY.

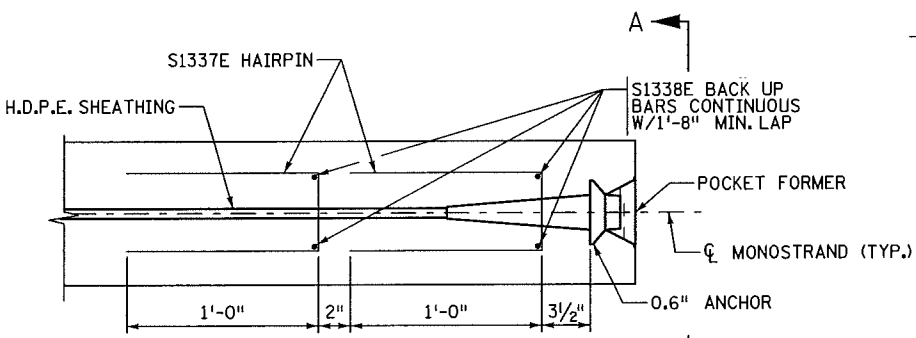
APPLY AN APPROVED EPOXY OR ELASTOMERIC PROTECTIVE COATING OVER ALL EXPOSED MONOSTRAND TAIL AND ANCHORAGE SURFACES.

THE ANCHORAGE RECESS SHALL BE THEN FILLED WITH AN APPROVED EPOXY GROUT.

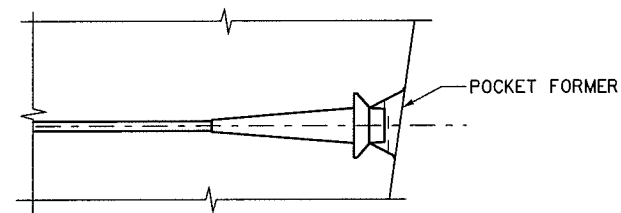


DETAIL "C"

* DIMENSIONS MEASURED TO ϕ OF MONOSTRAND.

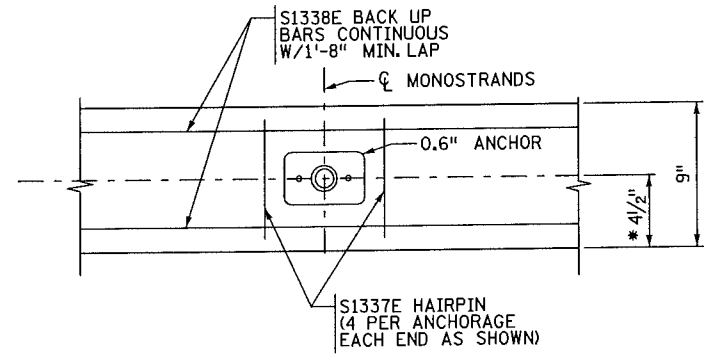


DETAIL 1 - ELEVATION



DETAIL 1 - PLAN VIEW

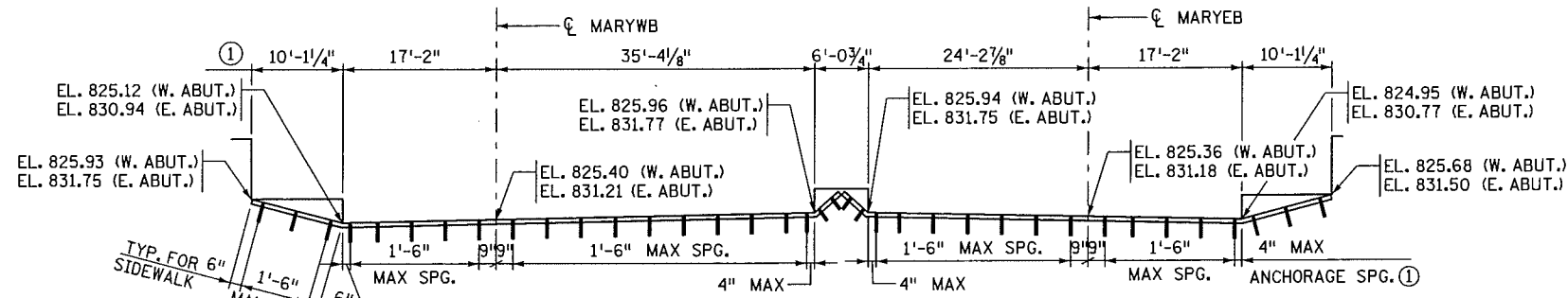
STRESSING END SHOWN (DEAD END SIMILAR)



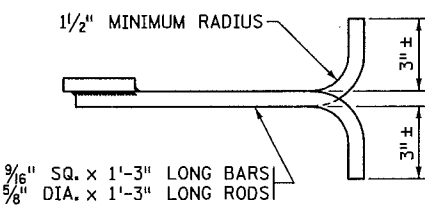
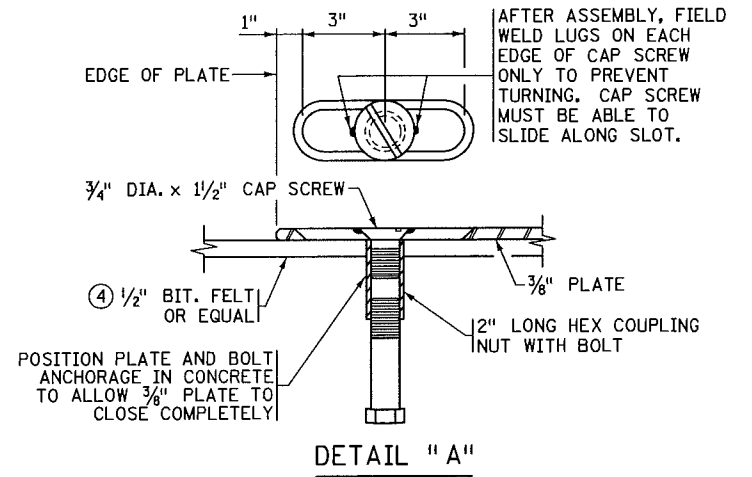
SECTION A-A

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 Time Plotted: 10:54:30 AM
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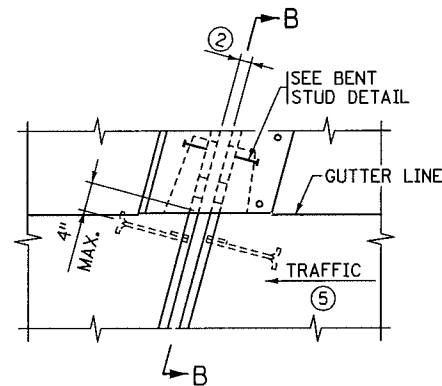
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	SHEET NO. 51 OF 69									



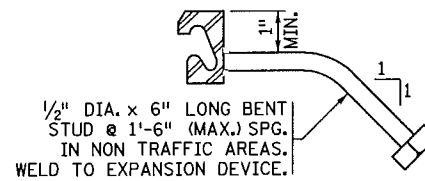
SECTION B-B ~ ALONG CL JOINT
ELEVATIONS SHOWN ARE 1/8" BELOW TOP OF SLAB @ CL JOINT



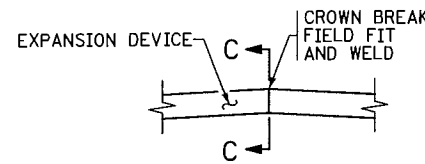
BAR-ROD DETAIL



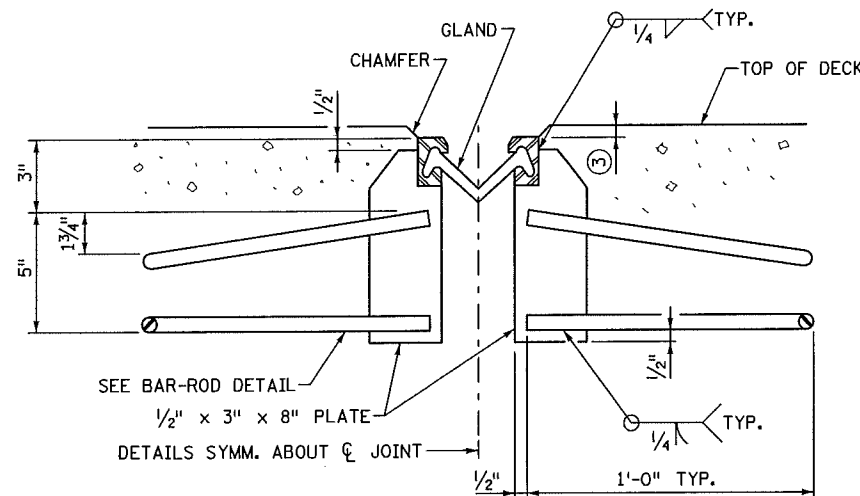
PLAN VIEW @ EXPANSION DEVICE
MEDIAN OR SIDEWALK ALTERNATE



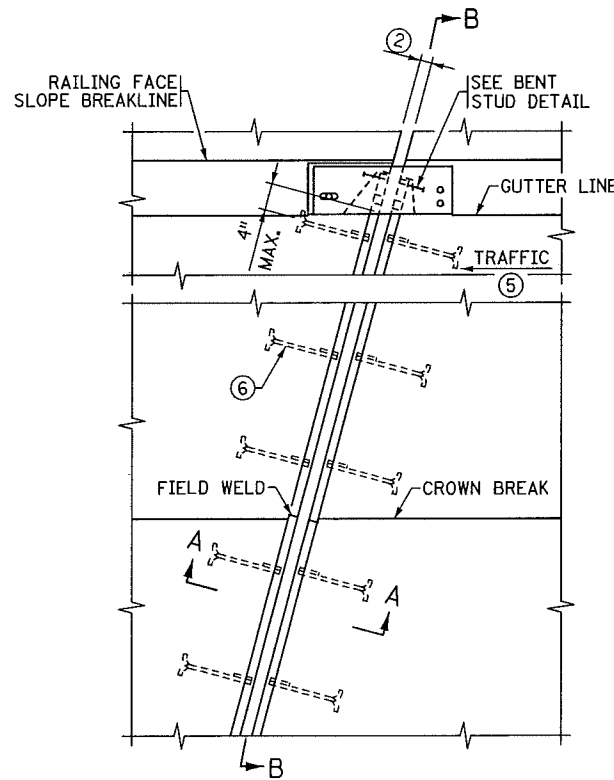
BENT STUD DETAIL



DETAIL "B"



SECTION A-A



PLAN VIEW @ EXPANSION DEVICE
WITH STRAIGHT DEVICE

GENERAL NOTES

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

JOINTS IN EXTRUSION SHALL BE LOCATED AT BREAKS IN TRANSVERSE PROFILE AND AS OTHERWISE REQUIRED. JOINTS SHALL BE CLOSE FIT AND WELDED. REPAIR AFTER WELDING AS PER MnDOT SPEC. 2471.3L.

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

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

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

- ① DIMENSIONS ARE ALONG CENTERLINE OF JOINT.
- ② 2" AT ALL TEMPERATURES
- ③ 1/8" (1/4" MAX.).
- ④ USE THE LARGEST SINGLE PIECE POSSIBLE. USE OF SMALL PIECES OR SCRAPS SECURED TOGETHER IS PROHIBITED.
- ⑤ SEE SHEET NO. 1 FOR DIRECTION OF TRAFFIC.
- ⑥ PLACE BAR-ROD NORMAL TO JOINT ON NEW BRIDGES AND JOINT REPLACEMENTS. ON JOINT REPLACEMENTS WHEN SKEW IS OVER 15° AND LESS THAN 50° BEND RODS PARALLEL TO CL ROADWAY.

Plotted By: p0010292
 Date & Time: 01-MAY-2012
 Pen Table: Mndot-Iplot.pen
 File Path: 52_WaterProofExpans:lonDev:loc_sup.dgn

REVISION: 02-23-2011
APPROVED: NOVEMBER 6, 1995
<i>Donald J. Fleming</i> STATE BRIDGE ENGINEER
MnDOT RELEASE FOR CONSTRUCTION
<i>78</i> SIGNATURE 6/14/2012 DATE

DATE	REVISION DESCRIPTION	DR.	CHK.	APPROVED



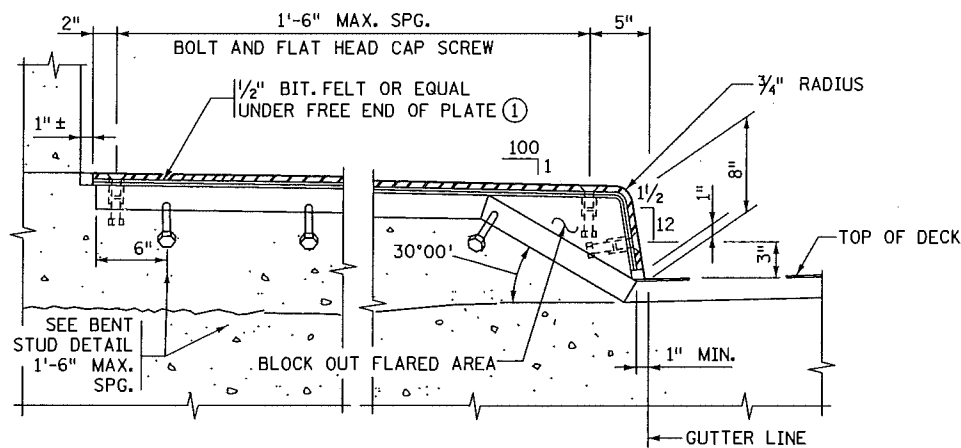
CERTIFIED BY *David L. St. Peter* 6/12/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: WATERPROOF EXPANSION DEVICE

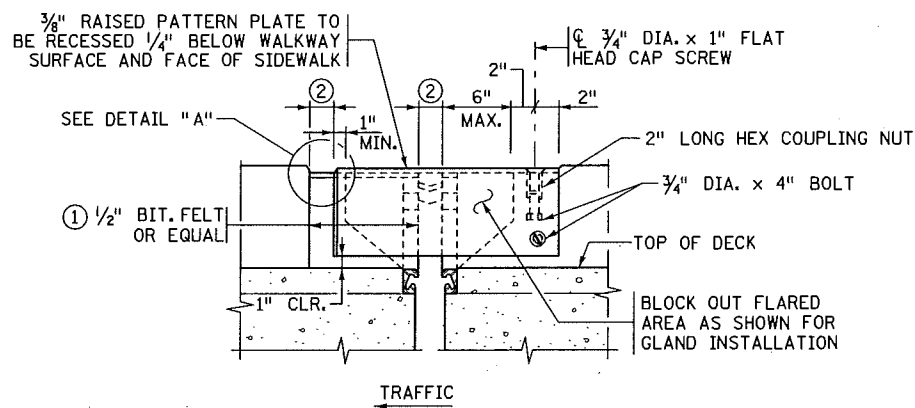
DES: BJB	DR: GX	APPROVED:
CHK: GX	CHK: BJB	
SHEET NO. 52 OF 69		

BRIDGE NO. 62626

FIG. 5-397.627 MOD.

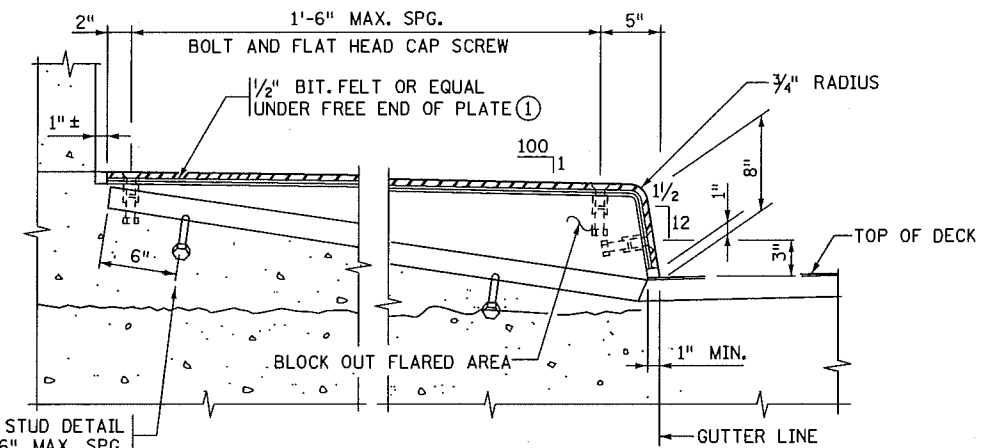


SECTION THROUGH SIDEWALK - OPTION 1

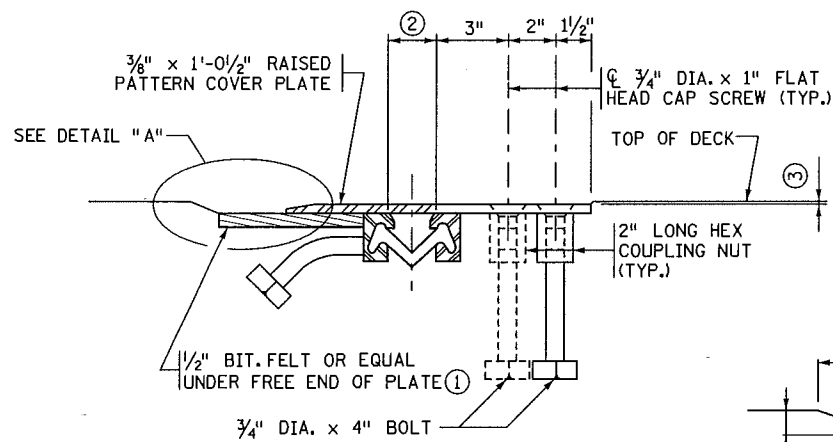


ELEVATION

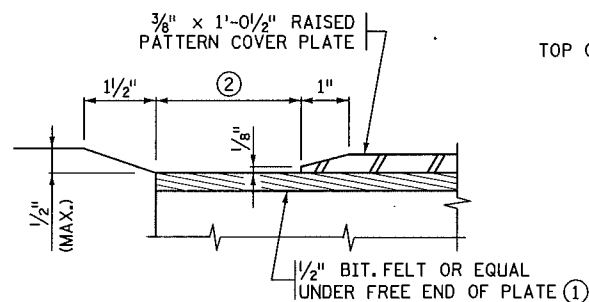
SIDEWALK DETAILS



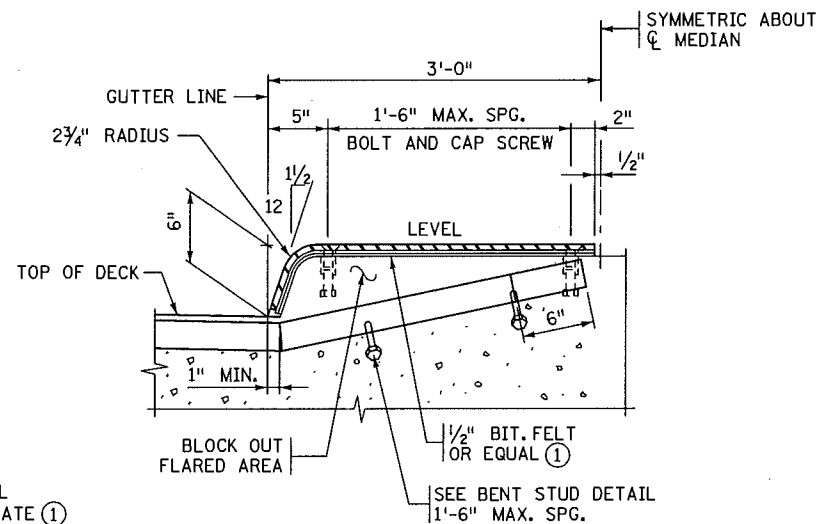
SECTION THROUGH SIDEWALK - OPTION 2



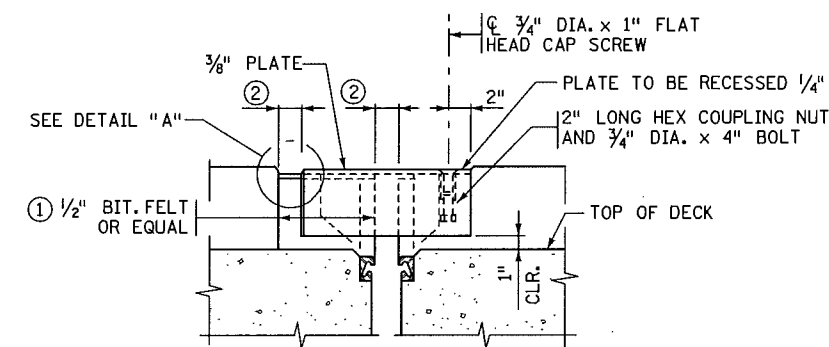
SECTION D-D



DETAIL "A"

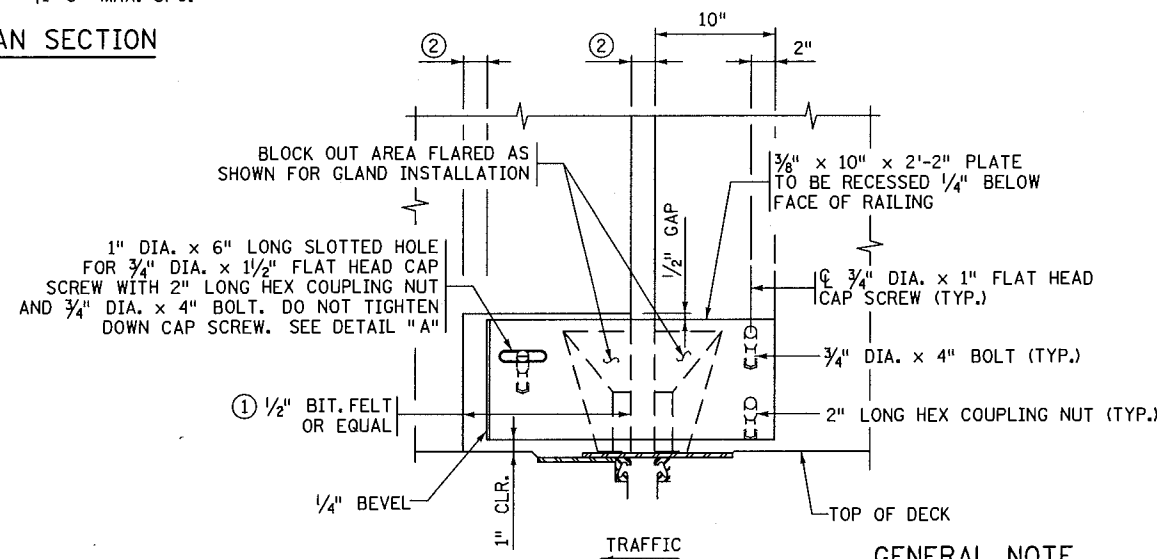


MEDIAN SECTION



MEDIAN ELEVATION

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



INSIDE ELEVATION (CONCRETE PARAPET RAILING)

GENERAL NOTE
SEE DETAIL 5-397.627 FOR ADDITIONAL DETAILS AND NOTES.
① USE LARGEST SINGLE PIECE POSSIBLE. USE OF SMALL PIECES OR SCRAPS SECURED TOGETHER IS PROHIBITED.
② SEE NOTE ② ON DETAIL SHEET 5-397.627.
③ 1/8" (1/4" MAX.)

FIG. 5-397.630 MOD.

Plotted By: p0007740
 Date & Time: 30-MAY-2012
 Pen Table: MnDOT-Ipilot.pen
 File Path: 53_WaterProofExpansionDevice_sup.dgn

REVISION: 02-23-2011
 APPROVED: SEPTEMBER 26, 2003
 STATE BRIDGE ENGINEER

MnDOT RELEASE FOR CONSTRUCTION
 SIGNATURE: [Signature] DATE: 6/14/2012

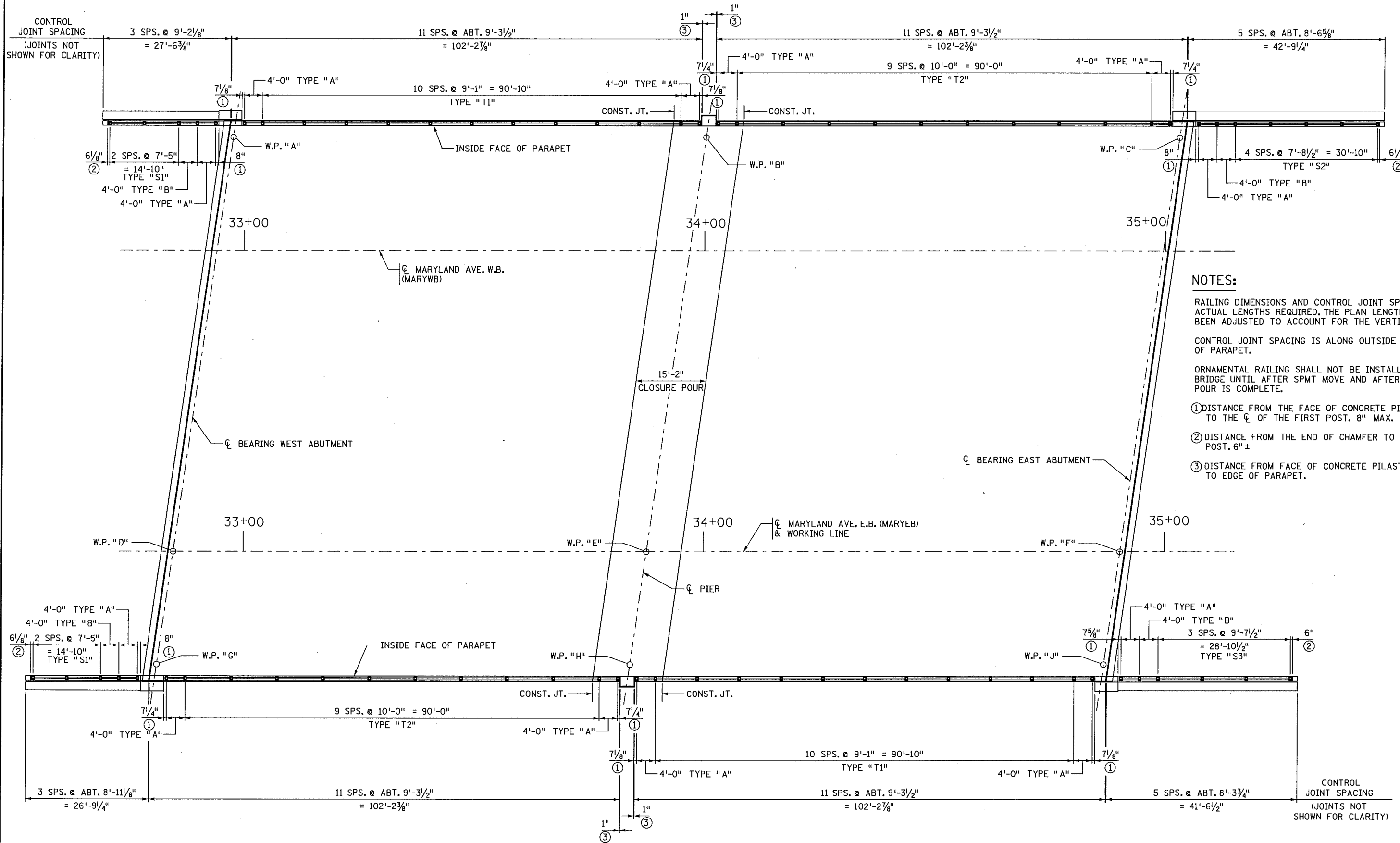
DATE	REVISION DESCRIPTION	DR.	CHK.	APPROVED



CERTIFIED BY: [Signature] 6/12/12
 LICENSED PROFESSIONAL ENGINEER
 NAME: DAVID L. ST. PETER LIC. NO. 46841

WATERPROOF EXPANSION DEVICE (WITH RAISED MEDIAN OR SIDEWALK)

DES: BJB DR: GX APPROVED: [Signature] BRIDGE NO. 62626
 CHK: GX CHK: BJB SHEET NO. 53 OF 69



- NOTES:**
- RAILING DIMENSIONS AND CONTROL JOINT SPACINGS ARE ACTUAL LENGTHS REQUIRED. THE PLAN LENGTH HAS BEEN ADJUSTED TO ACCOUNT FOR THE VERTICAL PROFILE.
 - CONTROL JOINT SPACING IS ALONG OUTSIDE FACE OF PARAPET.
 - ORNAMENTAL RAILING SHALL NOT BE INSTALLED ON THE BRIDGE UNTIL AFTER SPMT MOVE AND AFTER CLOSURE POUR IS COMPLETE.
 - ① DISTANCE FROM THE FACE OF CONCRETE PILASTER TO THE ϕ OF THE FIRST POST. 8" MAX.
 - ② DISTANCE FROM THE END OF CHAMFER TO THE FIRST POST. 6" \pm
 - ③ DISTANCE FROM FACE OF CONCRETE PILASTER TO EDGE OF PARAPET.

CONCRETE PARAPET AND ORNAMENTAL RAILING PLAN

Plotted By: P0007740
 Date Plotted: 04-MAY-2012
 Time Plotted: 11:11:06 AM
 Pen Table: MndOT-Plot.pen
 File Path: S4_ConcParapetOrnamentalRailIngl_sup.dgn

MndOT RELEASE FOR CONSTRUCTION
 78 *[Signature]* 6/14/2012
 SIGNATURE DATE

REVISION		DR.	CHK.	APPROVED
DATE	DESCRIPTION			

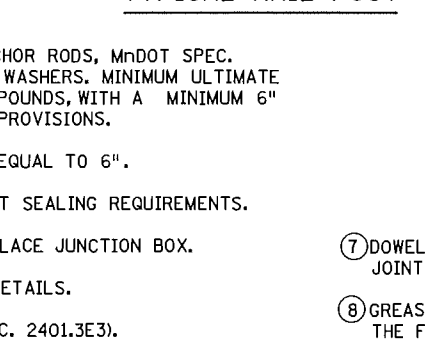
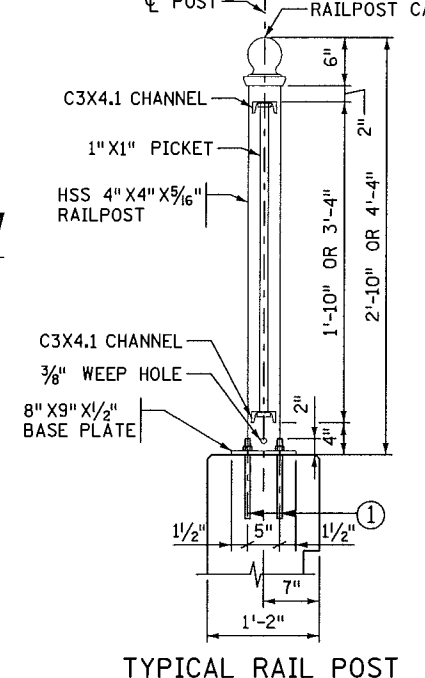
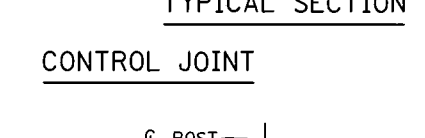
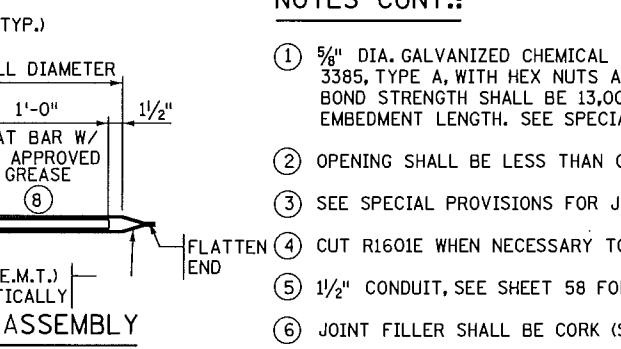
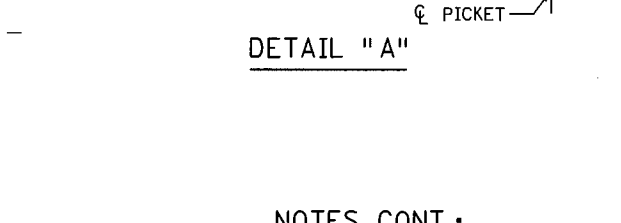
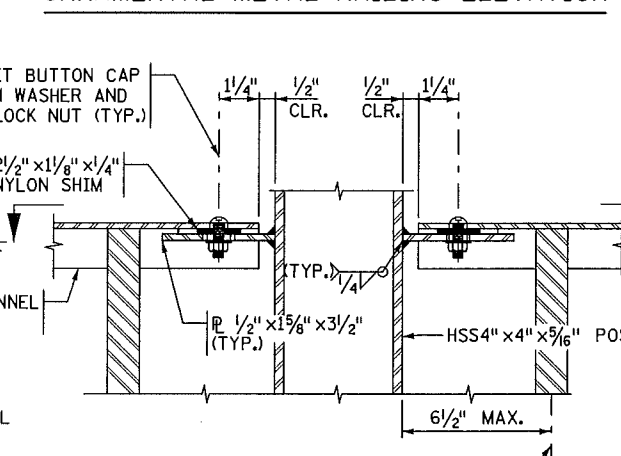
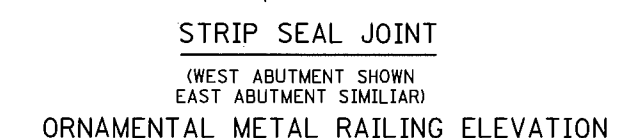
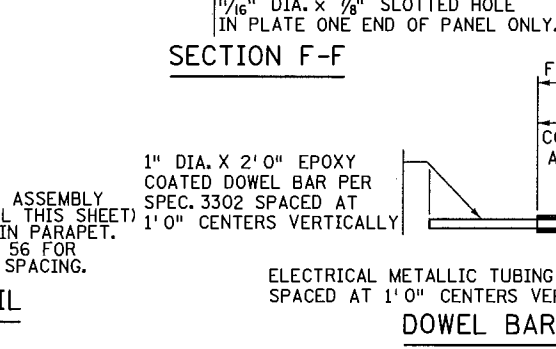
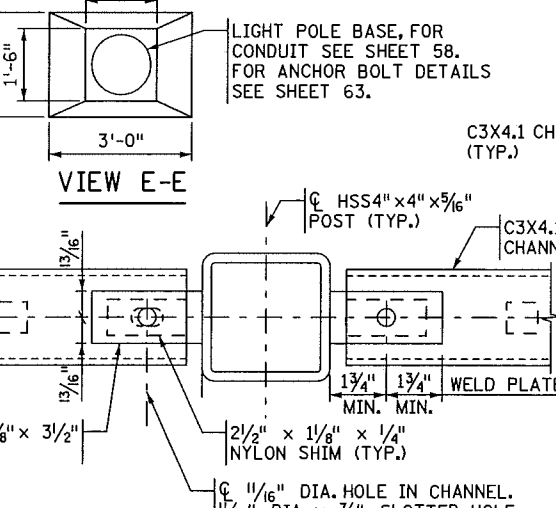
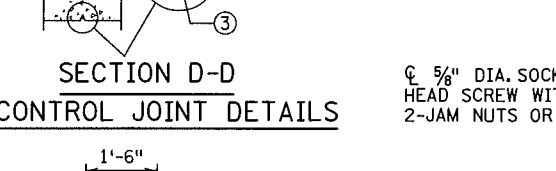
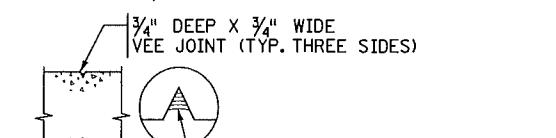
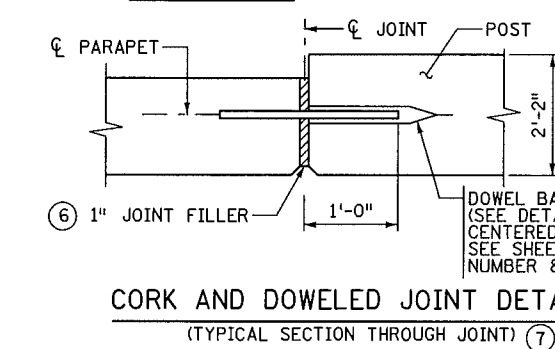
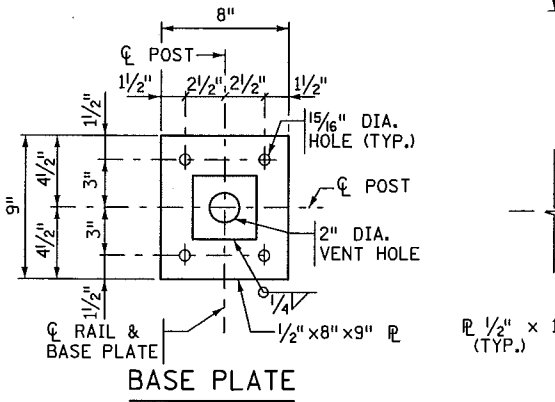
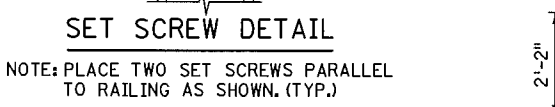
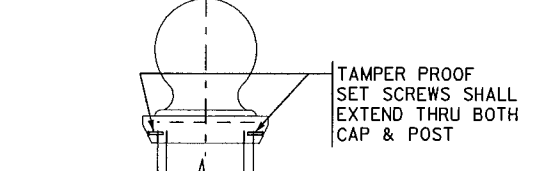
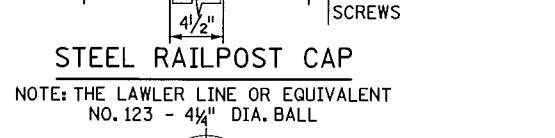
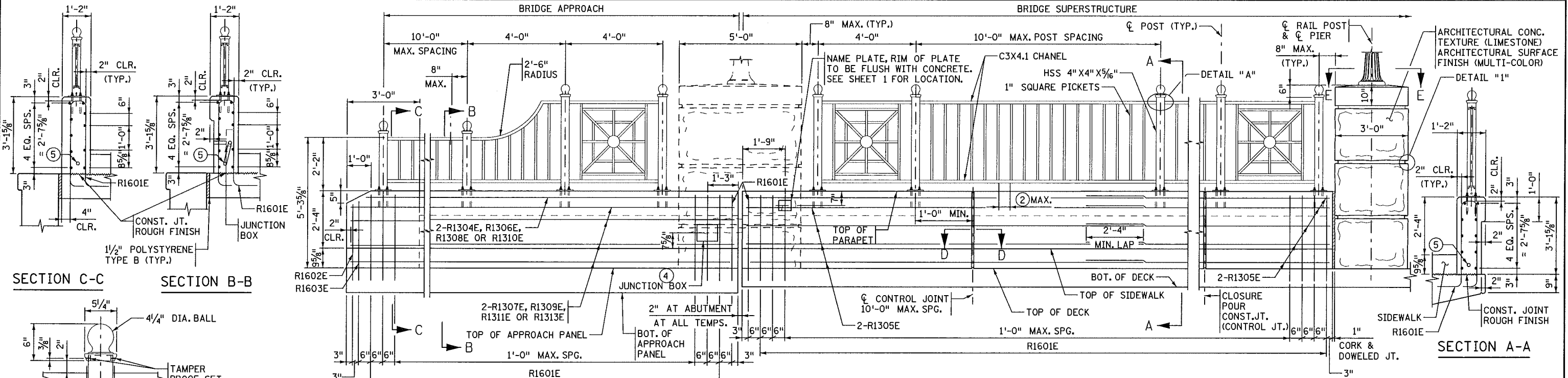


CERTIFIED BY *[Signature]* 6/12/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE:
**CONC. PARAPET W/
 ORNAMENTAL RAILING 1**

DES: GX DR: BJB APPROVED:
 CHK: DLS CHK: DLS
 SHEET NO. 54 OF 69

BRIDGE NO.
 62626



NOTES:

CONCRETE PARAPET = 492 LBS./FT. (0.121 CU. YDS./FT.)

FINISH ALL EDGES OF CONCRETE PARAPET WITH 1/2" CHAMFER, EXCEPT WHERE OTHERWISE NOTED.

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. 3392.

GALVANIZE ALL OTHER STRUCTURAL STEEL 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 RAIL 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 54 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.

(7) DOWEL BAR ASSEMBLY MUST BE INSTALLED PERPENDICULAR TO JOINT AND PARALLEL TO THE PARAPET FACE, AND TO EACH OTHER.

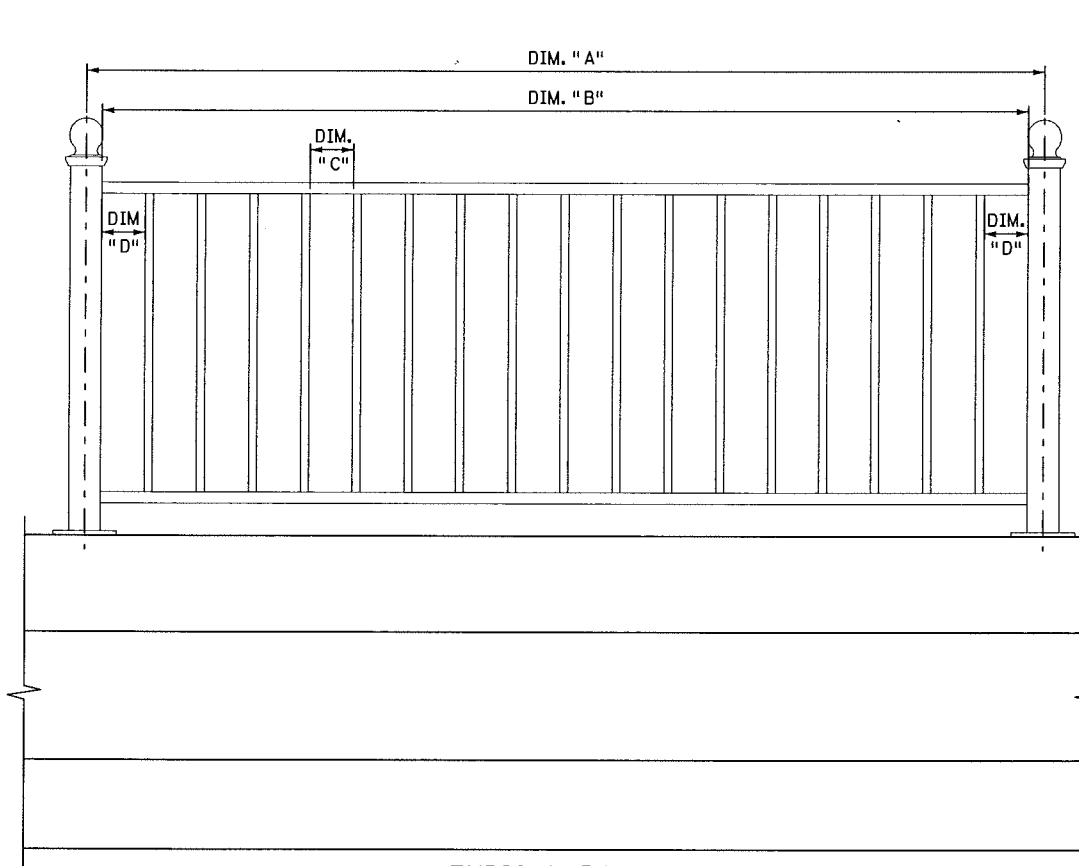
(8) GREASE SHALL BE AN APPROVED HIGH PRESSURE TYPE THAT IS EFFECTIVE OVER THE FULL RANGE OF EXPECTED TEMPERATURES AND RESISTANT TO CHEMICAL ACTION.

Plotted By: 60007740
 Date Plotted: 04-JUN-2012
 Time Plotted: 9:42:46 AM
 Pen Table: Mndot-plot.pen
 File Path: 55_OrnamentalRail11ngbeta11s2_sup.dgn

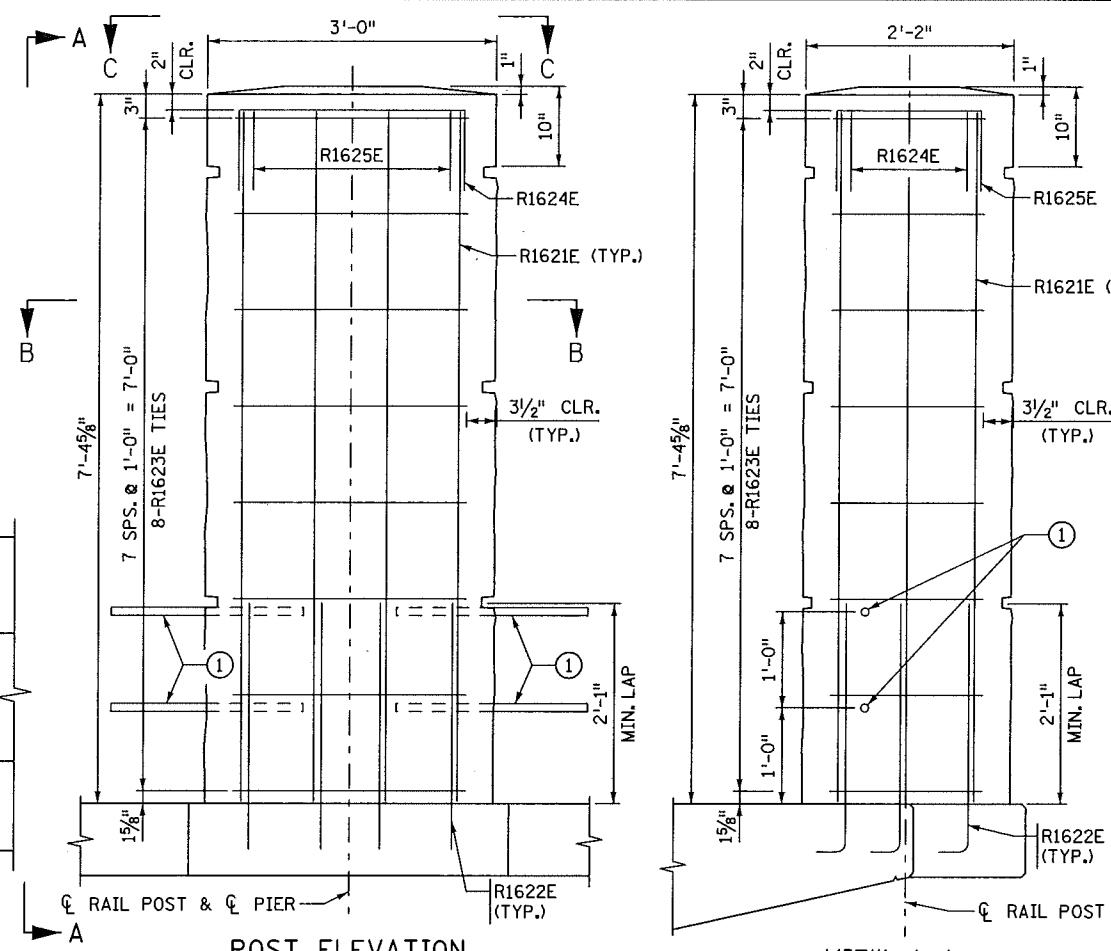
MNDOT RELEASE FOR CONSTRUCTION		REVISION		CERTIFIED BY		TITLE:		DES: GX		DR: GX		APPROVED:		BRIDGE NO.	
DATE		DESCRIPTION		DATE		CONC. PARAPET W/ ORNAMENTAL RAILING 2		CHK: DLS		CHK: DLS		SHEET NO. 55 OF 69		62626	
SIGNATURE		DATE		NAME: DAVID L. ST. PETER		LIC. NO. 46841									



CERTIFIED BY *David L. St. Peter* 6/12/12
 LICENSED PROFESSIONAL ENGINEER
 NAME: DAVID L. ST. PETER LIC. NO. 46841



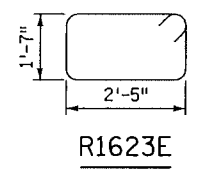
TYPICAL PANEL
(PANEL TYPE "T1" & "T2")



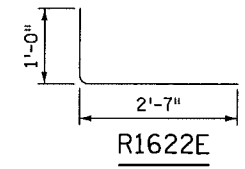
POST ELEVATION
OUTSIDE VIEW

VIEW A-A

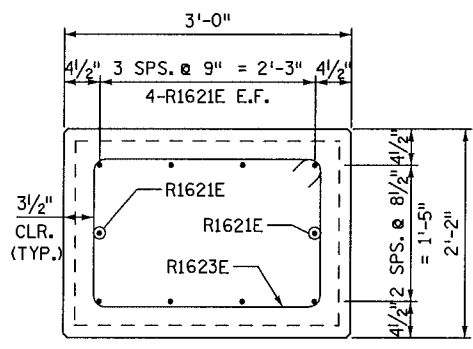
BILL OF REINFORCEMENT FOR BARRIER				
BAR	NO.	LENGTH	SHAPE	LOCATION
R1601E	574	9'-5"		BARRIER VERTICAL
R1602E	4	8'-7"		BARRIER VERTICAL
R1603E	4	9'-0"		BARRIER VERTICAL
R1304E	2	26'-2"		N.W. APPR. BARRIER LONG.
R1305E	80	52'-3"		BARRIER LONG.
R1306E	2	25'-5"		S.W. APPR. BARRIER LONG.
R1307E	8	27'-2"		N.W. APPR. BARRIER LONG.
R1308E	2	41'-5"		N.E. APPR. BARRIER LONG.
R1309E	8	26'-5"		S.W. APPR. BARRIER LONG.
R1310E	2	40'-2"		S.E. APPR. BARRIER LONG.
R1311E	8	42'-5"		N.E. APPR. BARRIER LONG.
R1313E	8	41'-2"		S.E. APPR. BARRIER LONG.
R1621E	20	7'-3"		CONC. POST VERTICAL BAR
R1622E	20	3'-7"		CONC. POST DOWEL
R1623E	16	8'-11"		CONC. POST TIE
R1624E	6	4'-4"		CONC. POST TOP
R1625E	8	3'-6"		CONC. POST TOP



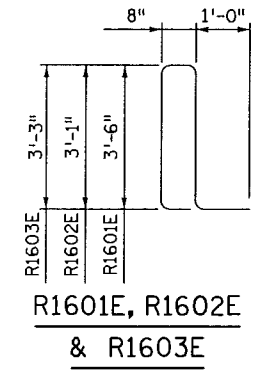
R1623E



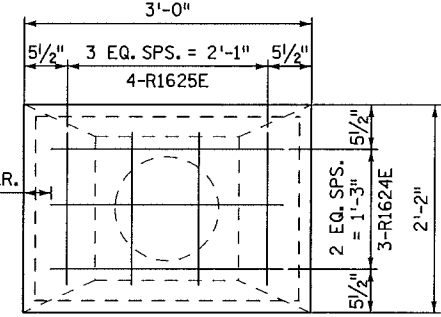
R1622E



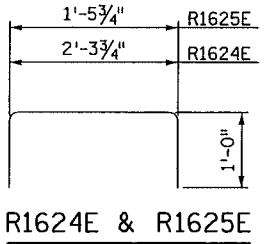
SECTION B-B



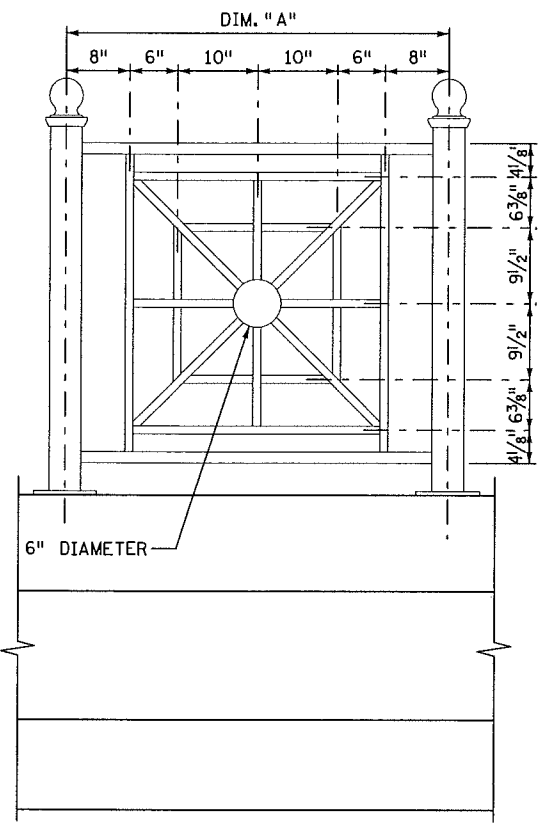
R1601E, R1602E
& R1603E



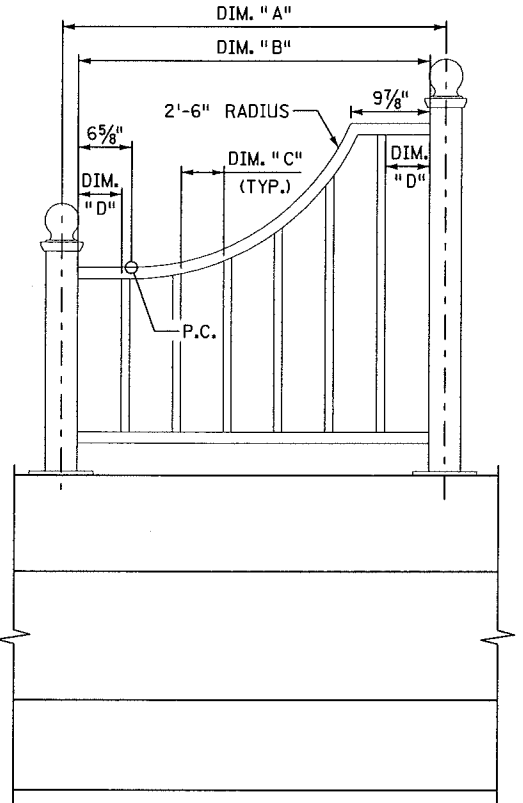
SECTION C-C



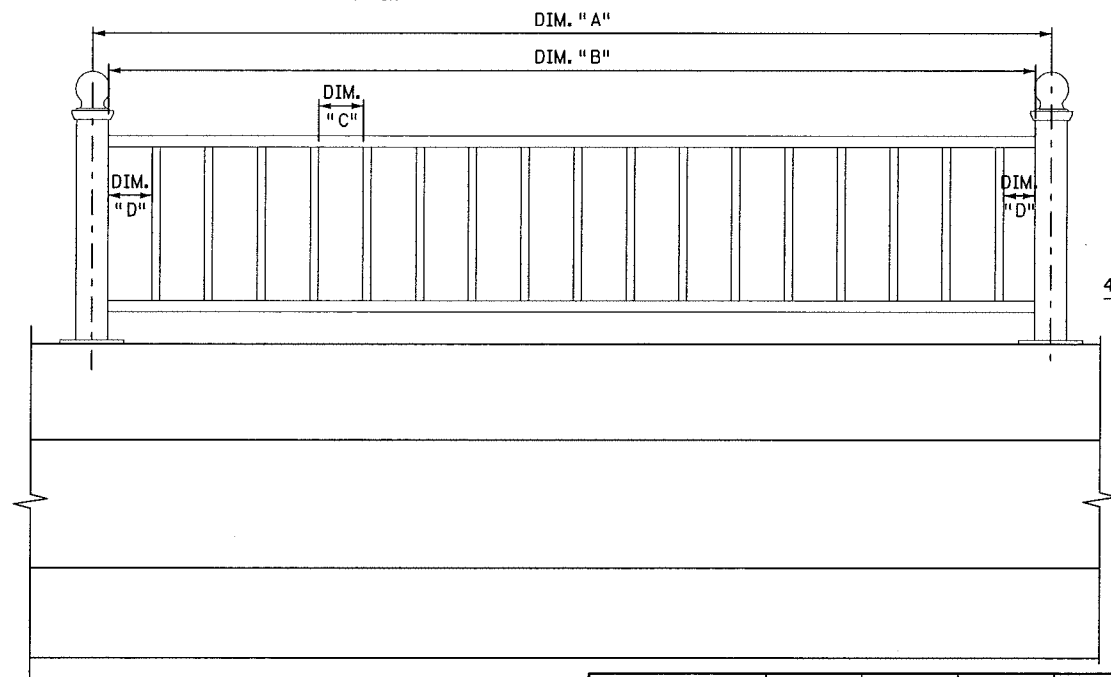
R1624E & R1625E



PANEL TYPE "A"
(PANEL TYPE "A")



TRANSITION PANEL "B"
(PANEL TYPE "B")

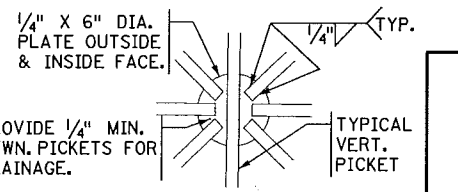


SHORT PANEL "S"
(PANEL TYPE "S1", "S2" & "S3")

	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"	QUANTITY
PANEL TYPE "A"	4'-0"	SEE DETAIL			12
PANEL TYPE "B"	4'-0"	3'-8"	5 1/4"	5 7/8"	4
PANEL TYPE "S1"	7'-5"	7'-1"	5 5/8"	5 5/8"	4
PANEL TYPE "S2"	7'-8 1/2"	7'-4 1/2"	5 5/8"	5 15/16"	4
PANEL TYPE "S3"	9'-7 1/2"	9'-3 1/2"	5 5/8"	5 5/8"	3
PANEL TYPE "T1"	9'-1"	8'-9"	5 5/8"	5 5/8"	20
PANEL TYPE "T2"	10'-0"	9'-8"	5 5/8"	5 15/16"	18

NOTES:

- ALL DIMENSIONS GIVEN ALONG ϕ OF RAILING.
- DIM. "B" SHALL BE 4" LESS THAN DIM. "A".
- DIM. "C" & "D" SHALL BE LESS THAN 6".
- SHORT PANEL "S" SHALL BE THE SHORT PANELS ON WING WALL.
- IF ADJUSTMENTS ARE REQUIRED, DIM "A" SHALL NOT EXCEED 10'-0" FOR TYPICAL PANELS.
- ① DOWELS FOR CORK AND DOWEL JOINTS. SEE SHEET 55.



RAILING CENTER DETAIL
(FACING 1/4" X 6" DIA. PLATE NOT SHOWN)

Plotted By: P0007740
 Date Plotted: 04-JUN-2012
 Time Plotted: 11:11:44 AM
 Pen Table: MndOT-Idiot.pen
 File Path: 56_OrnamentalRaillingDetailIs3_sup.dgn

MNDOT RELEASE FOR CONSTRUCTION
 7/5 [Signature]
 SIGNATURE DATE 6/14/2012

REVISION	DATE	DESCRIPTION	DR.	CHK.	APPROVED



CERTIFIED BY [Signature] 6/12/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: CONC. PARAPET W/
 ORNAMENTAL RAILING 3

DES: GX DR: GX APPROVED:
 CHK: DLS CHK: DLS SHEET NO. 56 OF 69

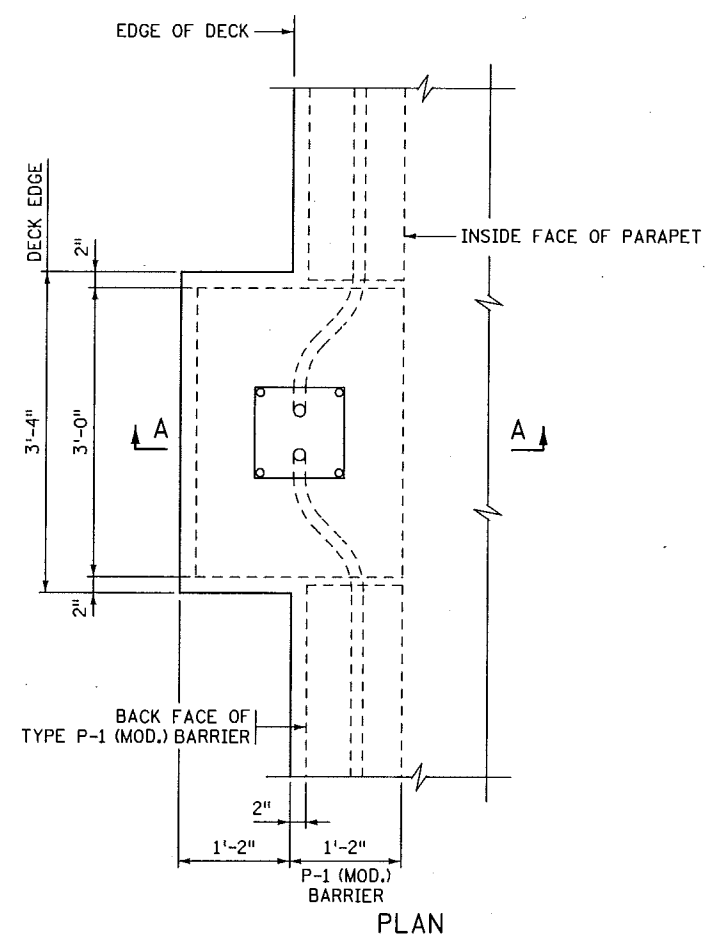
BRIDGE NO. 62626

SUMMARY OF QUANTITIES FOR CONDUIT SYSTEM (LIGHTING & ITS) ③

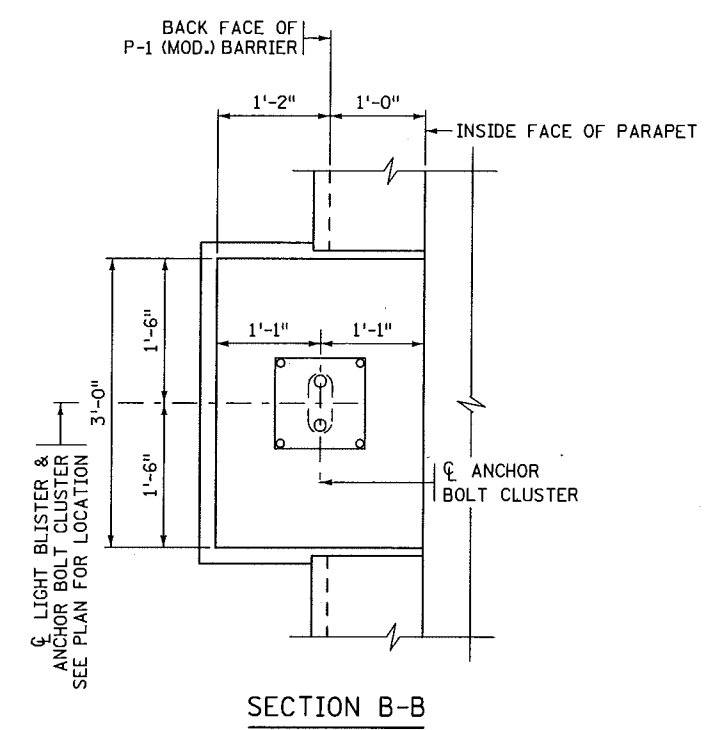
ANCHOR BOLT CLUSTER	6 EACH
1/2" DIA. R.S.C.	1270 LIN. FT.
1/2" DIA. END CAPS	10 EACH
COMBINATION DEFLECTION/EXPANSION FITTING	8 EACH
10" x 8" x 6" JUNCTION BOX	4 EACH
P.V.C. HANDHOLE / PULLBOX (STD. PLATE 8114)	4 EACH

GENERAL NOTES

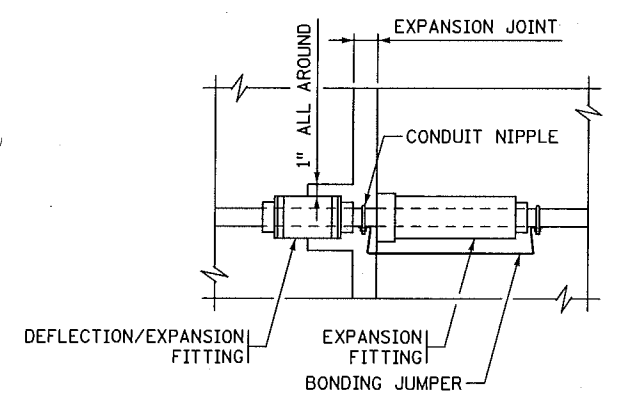
- BOND AND GROUND THE CONDUIT SYSTEM (LIGHTING) IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF MDOT SPEC 2545.3R.
- ① THE 1/2" DIA. CONDUIT SHALL EXTEND 3" ABOVE THE POST AND BE CAPPED.
 - ② SEE CONCRETE PARAPET SHEETS FOR PARAPET & POST REINFORCEMENT.
 - ③ QUANTITIES LISTED ARE FOR INFORMATIONAL PURPOSES, AND INCLUDE CONDUITS SHOWN ON PIER AND ABUTMENT SHEETS.



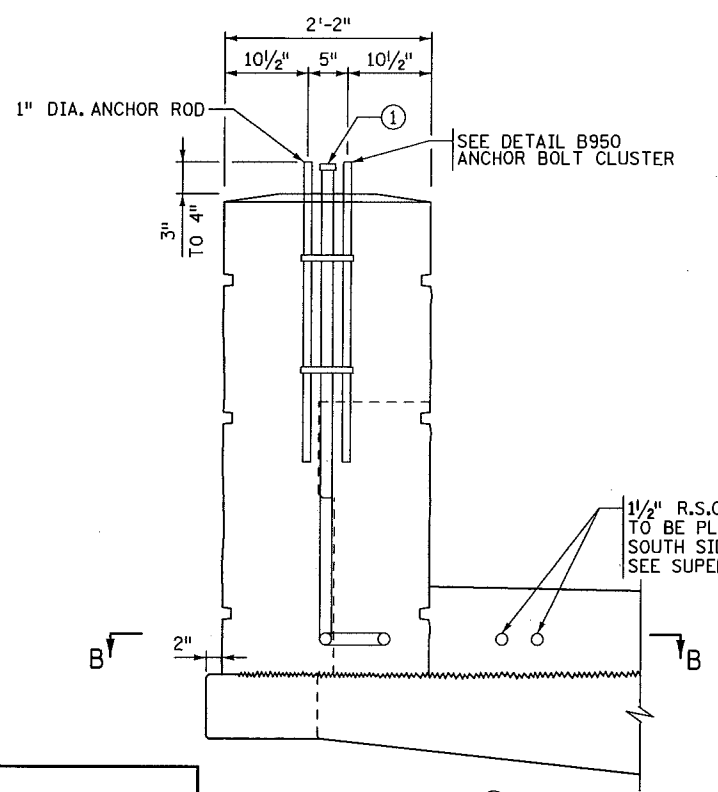
PLAN
LIGHT POLE ANCHORAGE AT PIER POST ②



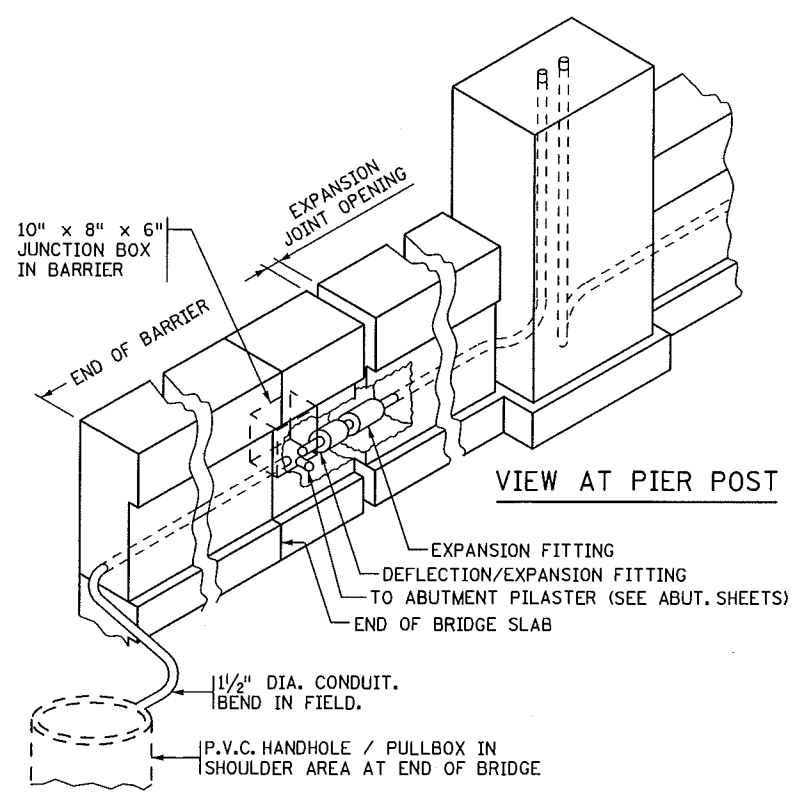
SECTION B-B



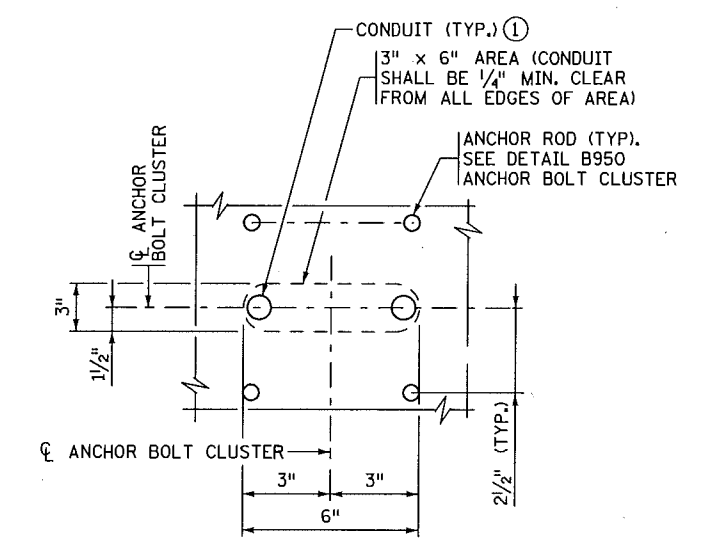
COMBINATION DEFLECTION/EXPANSION FITTING



SECTION A-A ②



VIEW AT END OF BRIDGE
APPROACH SLAB NOT SHOWN



CONDUIT PLACEMENT DETAIL

Plotted By: P0007740
Date & Time: 04-MAY-2012
Pen Table: Mndot-Iplot.pen
File Path: 58_ConduitSystem_sys.dgn

REVISED:
APPROVED:
STATE BRIDGE ENGINEER

MDOT RELEASE FOR CONSTRUCTION
6/14/2012
SIGNATURE: [Signature] DATE: 6/14/2012

REVISION	DATE	DESCRIPTION	DR.	CHK.	APPROVED

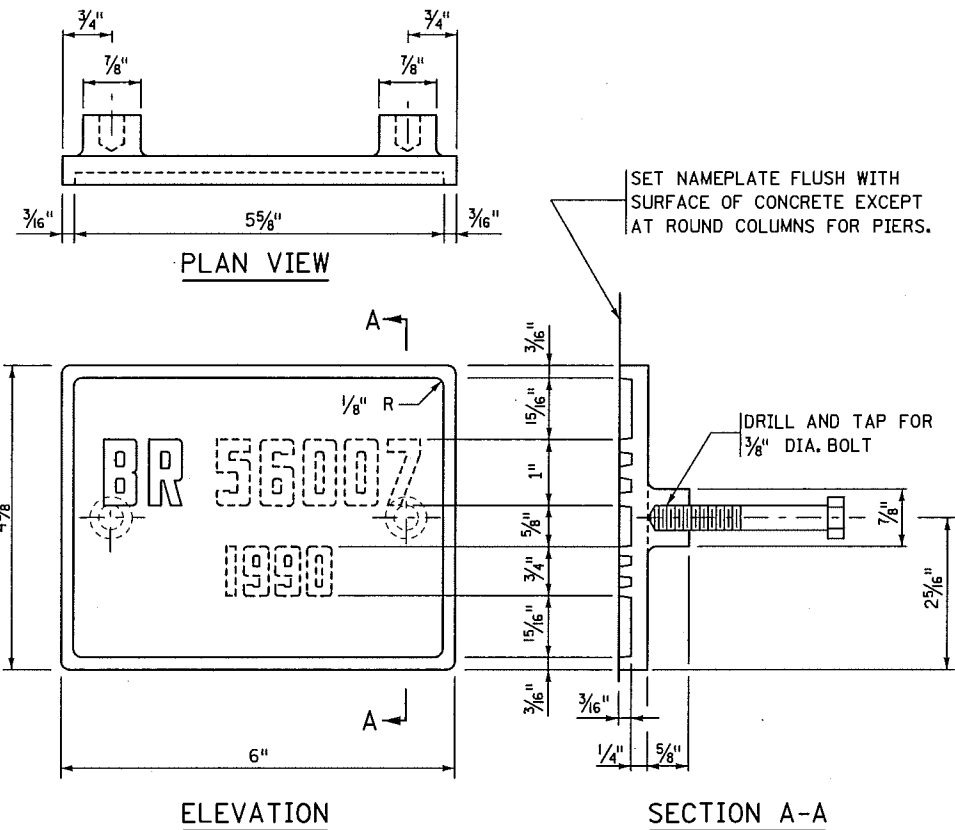


CERTIFIED BY: [Signature] 6/12/12
LICENSED PROFESSIONAL ENGINEER
NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: CONDUIT SYSTEM (LIGHTING & ITS)

DES: BJB DR: BJB APPROVED: [Signature] BRIDGE NO. 62626
CHK: DLS CHK: DLS SHEET NO. 58 OF 69

FIG. 5-397.406 MOD.

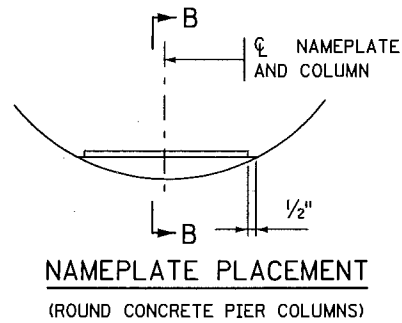


SET NAMEPLATE FLUSH WITH SURFACE OF CONCRETE EXCEPT AT ROUND COLUMNS FOR PIERS.

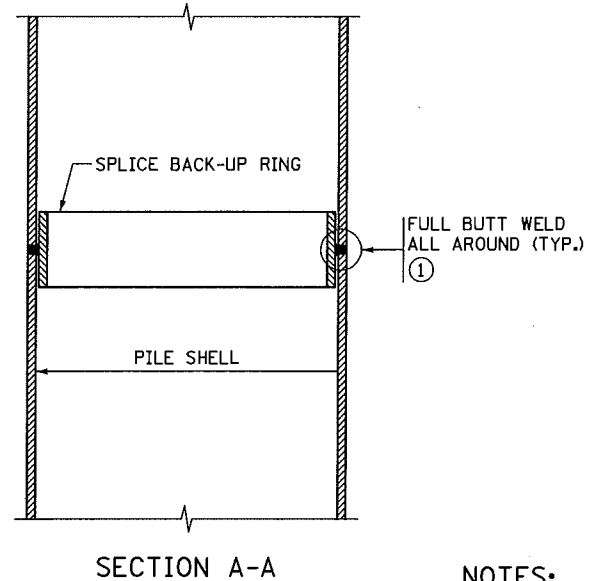
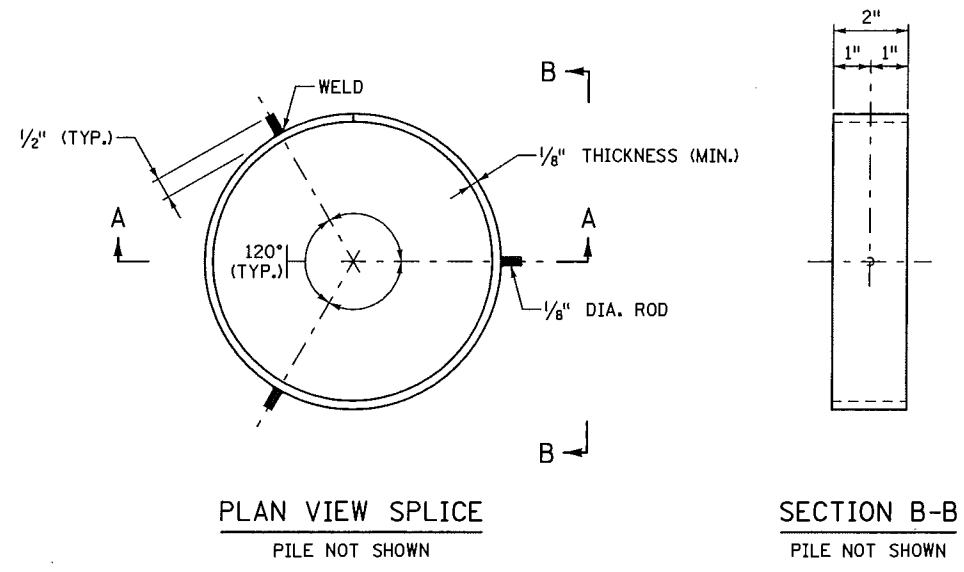
DRILL AND TAP FOR 3/8" DIA. BOLT

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

BRIDGE 62626
YEAR 2012



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.



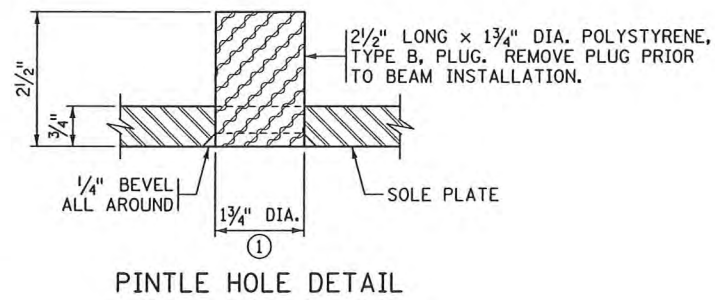
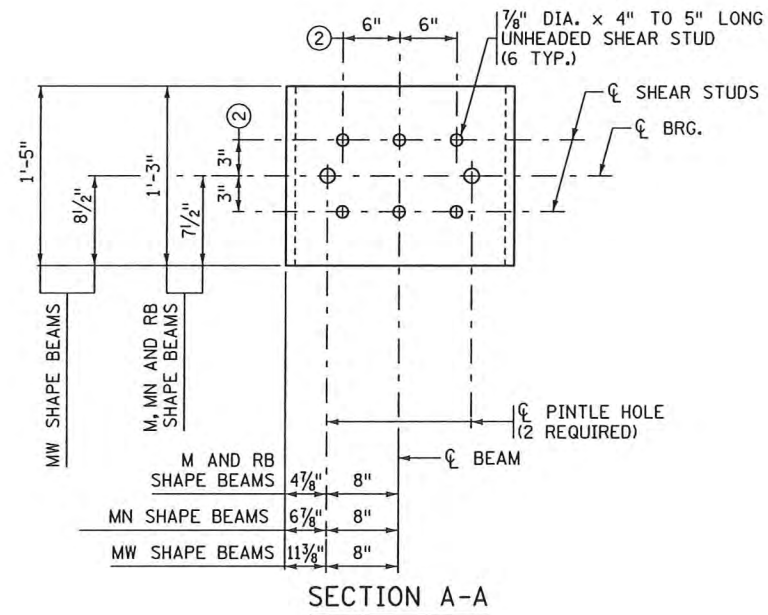
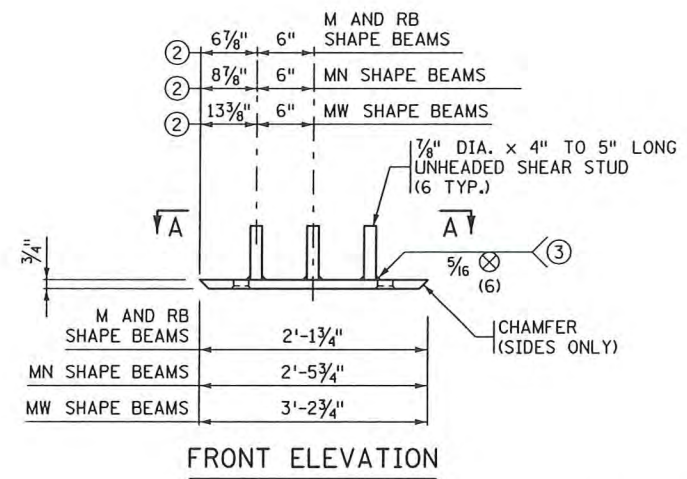
NOTES:
APPROVED COMMERCIAL PILE SPLICE BACK-UP RING MAY BE USED IN LIEU OF THE TYPE DETAILED. BACK-UP RING SHALL HAVE A TIGHT FIT.
WELDING ELECTRODES SHALL BE CELLULOSIC TYPE ELECTRODES E-6010 OR E-6011.
ELECTRODES WHICH HAVE BECOME WET, SOILED OR DAMAGED SHALL NOT BE USED.
WELDING SHALL NOT BE DONE WHEN THE AMBIENT TEMPERATURE IS LOWER THAN 0° F. OR WHEN THE PILE IS WET OR EXPOSED TO FALLING RAIN OR SNOW. WHEN THE PILE METAL TEMPERATURE IS BELOW 32° F., THE PILE METAL IN THE AREA OF THE WELD SHALL BE HEATED TO A MINIMUM TEMPERATURE OF 70° F. AND MAINTAINED AT THIS TEMPERATURE DURING WELDING.
① FOR PILE SHELL THICKNESSES GREATER THAN 1/2", USE A B-U4g WELD CONFIGURATION.

APPROVED: NOVEMBER 22, 2002	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
<i>Daniel J. Morgan</i> STATE BRIDGE ENGINEER	BRIDGE NAMEPLATE (FOR NEW BRIDGES)		B101

APPROVED: NOVEMBER 22, 2002	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
<i>Daniel J. Morgan</i> STATE BRIDGE ENGINEER	PILE SPLICE (CAST-IN-PLACE CONCRETE PILES)		B201

MnDOT RELEASE FOR CONSTRUCTION <i>David J. Herzig</i> SIGNATURE	DATE 5/25/12	REVISION	DR.	CHK.	APPROVED	LUNDA CONSULTANTS	PARSONS	CERTIFIED BY <i>David L. St. Peter</i> LICENSED PROFESSIONAL ENGINEER	DATE 5/25/12	TITLE: BRIDGE DETAILS 1	DES: BJB	DR: BJB	APPROVED:	BRIDGE NO. 62626
		DATE									DESCRIPTION	CHK: DLS		

Plotted By: P0010292
 Date Plotted: 23-APR-2012
 Time Plotted: 1:19:12 PM
 Pen Table: MnDOT-Ipilot.pen
 File Path: 59_BridgeDetail1sl_det.dgn



NOTES:

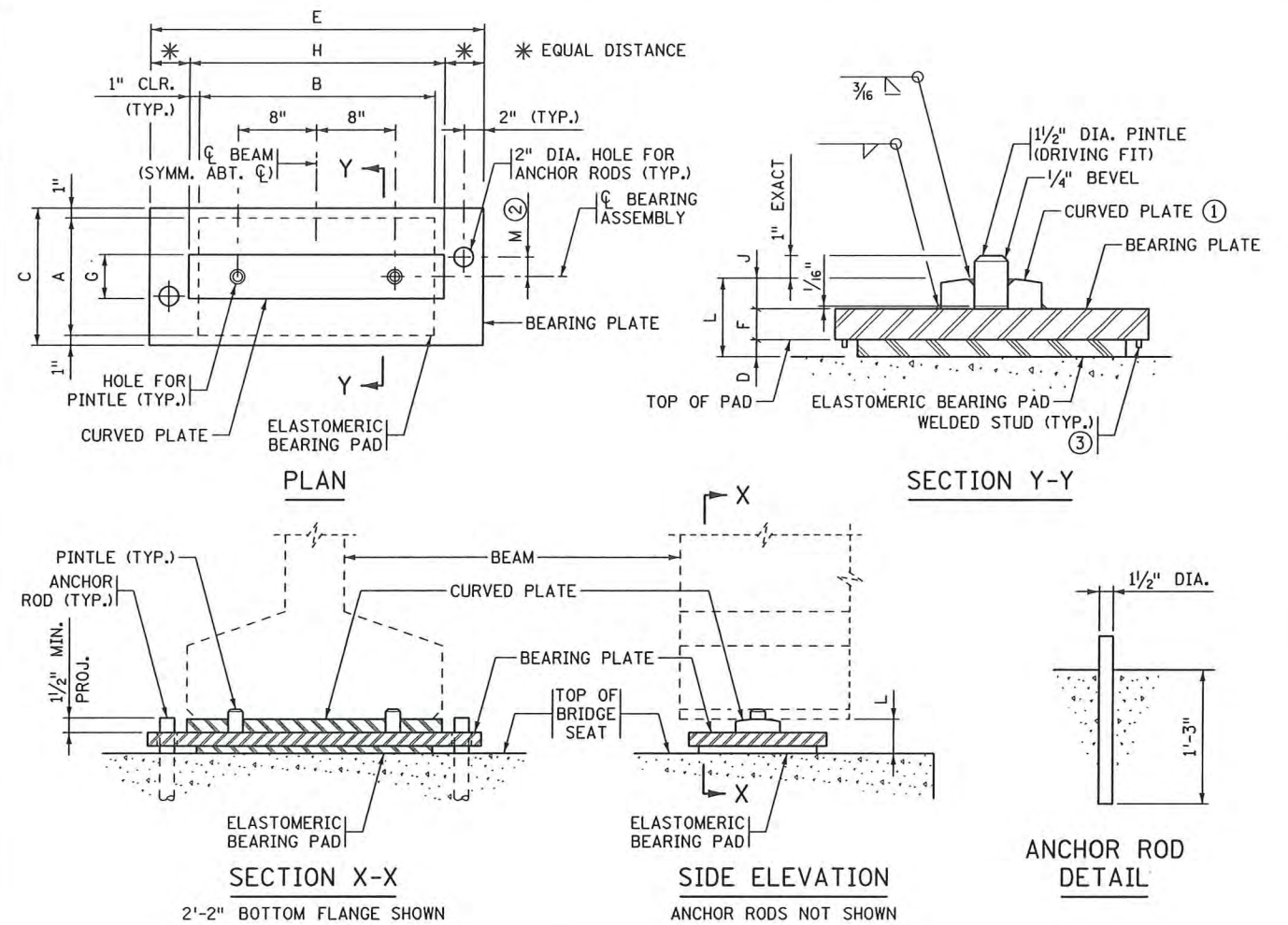
MATERIAL TO BE STRUCTURAL STEEL PER MnDOT SPEC. 3306.

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.

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

- ① FOR 1 1/2" DIA. PINTLES.
- ② THESE DIMENSIONS MAY BE MODIFIED TO CLEAR PRESTRESSED STRANDS. HOWEVER, CHANGES MUST BE APPROVED BY THE ENGINEER.
- ③ THE REQUIREMENTS FOR WELDING STUDS SHALL COMPLY WITH AASHTO/AWS D1.1.



ASSEMBLY TYPE	LOCATION	BEAM SIZE	BEARING PAD SIZE			SHAPE FACTOR	BEARING PLATE SIZE			CURVED PLATE SIZE			ANCHOR ROD OFFSET		ASSY. HEIGHT	CURVED PLATE
			A	B	D		C	E	F	G	H	J	+/-	M		
F1	PIER	MN45	12"	24"	1/2"	8.0	14"	38"	1 1/2"	4 1/2"	26"	1 1/4"	-	2 3/8"	3 1/4"	16"

NOTES:

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

ALL STEEL PLATES SHALL COMPLY WITH MnDOT SPEC. 3306.

ANCHOR RODS SHALL COMPLY WITH MnDOT SPEC. 3306. GALVANIZE PER MnDOT SPEC. 3394.

PINTLES SHALL COMPLY WITH MnDOT SPEC. 3309.

GALVANIZE STRUCTURAL STEEL BEARING ASSEMBLY AFTER FABRICATION PER MnDOT SPEC. 3394, EXCEPT AS NOTED.

- ① THE MIN. RADIUS SHALL BE 16" UNLESS OTHERWISE SPECIFIED IN THE TABLE. THE MAX. RADIUS SHALL BE 24". FINISH TO 250 MICRO. THE FINISHED THICKNESS OF THE PLATE MAY BE 1/16" LESS THAN SHOWN.
- ② "+" DENOTES OFFSET AS SHOWN. "-" DENOTES OFFSET OPPOSITE OF SHOWN.
- ③ 3/16" DIA. x 3/8" KNOCK-OFF WELD STUDS INSTALLED ON BEARING PLATE AROUND PERIMETER OF BEARING PAD. CENTERLINE STUD TO EDGE OF PAD DIMENSION = 1/2", MAX. STUD SPACING = 4", AND MAX. SPACING TO PAD CORNER = 2".

DESIGN DATA:
MAXIMUM HORIZONTAL LOAD IS TO KIPS FOR 1 1/2" PINTLES.

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 Date Plotted: 27-APR-2012
 Time Plotted: 9:13:50 AM
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APPROVED: SEPTEMBER 22, 2011	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISED	DETAIL NO.
<i>Nancy Dubenberger</i> STATE BRIDGE ENGINEER	SOLE PLATE (PRESTRESSED CONCRETE BEAMS) (FOR BEARINGS WITH PINTLES)		B303

APPROVED: SEPTEMBER 22, 2011	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISED	DETAIL NO.
<i>Nancy Dubenberger</i> STATE BRIDGE ENGINEER	CURVED PLATE BEARING ASSEMBLY (PRESTRESSED CONCRETE BEAMS) (FIXED)		B310

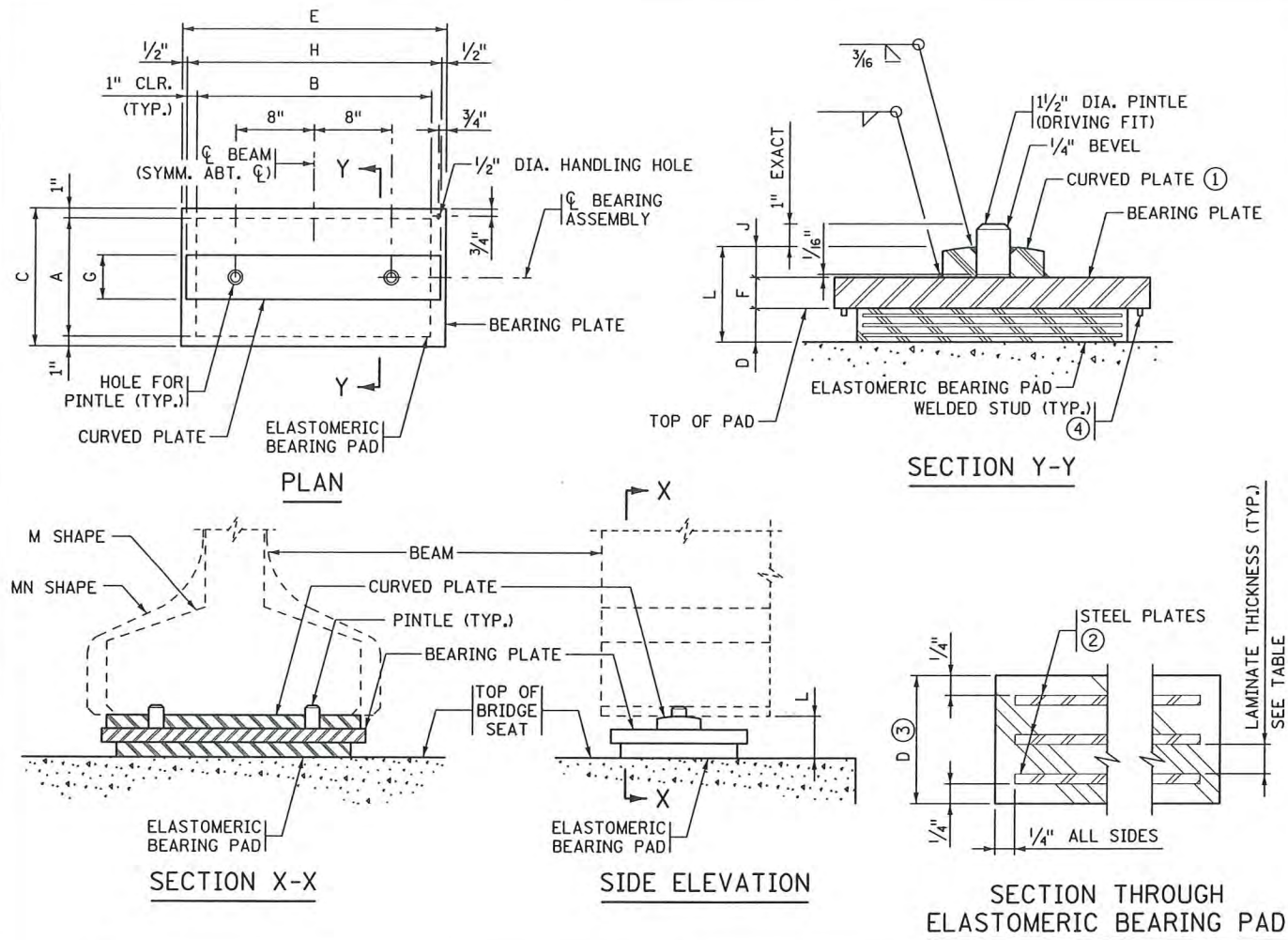
MnDOT RELEASE FOR CONSTRUCTION	REVISION	DR.	CHK.	APPROVED
<i>David L. St. Peter</i> 5/11/2012				

CERTIFIED BY *David L. St. Peter* 4/30/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: BRIDGE DETAILS 2

DES: BJB	DR: BJB	APPROVED:	BRIDGE NO.
CHK: DLS	CHK: DLS		62626

SHEET NO. 60 OF 69



ASSEMBLY TYPE	LOCATION	BEAM SIZE	BEARING PAD SIZE			STEEL PLATES		LAMINATES			SHAPE FACTOR	BEARING PLATE SIZE			CURVED PLATE SIZE			ASSY. HEIGHT	CURVED PLATE R (1)
			A	B	D	NO.	THICK.	NO.	THICK.	C		E	F	G	H	J	L		
E1	ABUT.	MN45	12"	24"	17/8"	3	1/8"	2	1/2"	8.0	14"	27"	1 1/2"	4 1/2"	26"	1 1/4"	4 5/8"	16"	
E2	PIER	MN45	12"	24"	1/2"	---	---	1	1/2"	8.0	14"	27"	1 1/2"	4 1/2"	26"	1 1/4"	3 1/4"	16"	

NOTES:

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

ALL STEEL PLATES SHALL COMPLY WITH MnDOT SPEC. 3306.

PINTLES SHALL COMPLY WITH MnDOT SPEC. 3309.

GALVANIZE STRUCTURAL STEEL BEARING ASSEMBLY AFTER FABRICATION PER MnDOT SPEC. 3394, EXCEPT AS NOTED.

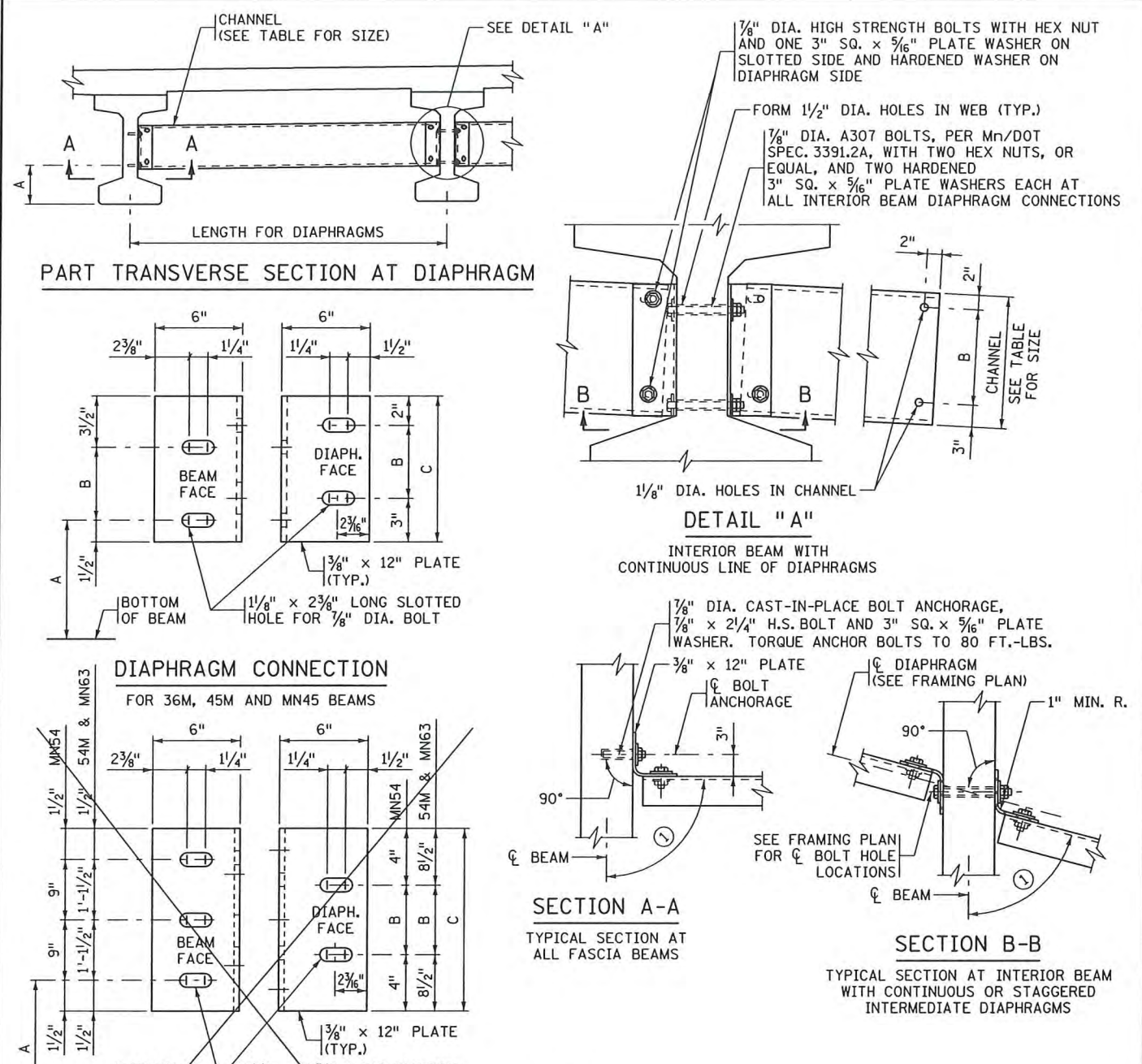
(1) THE MIN. RADIUS SHALL BE 16" UNLESS OTHERWISE SPECIFIED IN THE TABLE. THE MAX. RADIUS SHALL BE 24". FINISH TO 250 MICRO. THE FINISHED THICKNESS OF THE PLATE MAY BE 1/16" LESS THAN SHOWN.

(2) DO NOT GALVANIZE THESE PLATES.

(3) THE TOTAL THICKNESS SHOWN INCLUDES THE STEEL PLATES.

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

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



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 1/4"	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

NOTES:

ALL STEEL SHALL CONFORM TO MnDOT SPEC. 3306.

INSTALLATION SHALL CONFORM TO MnDOT SPEC. 2405.3M.

THE LEG OF THE 12" PLATE SHALL BE SHOP BENT TO CONFORM TO THE DIAPHRAGM.

BENT PLATES MAY BE USED IN PLACE OF CHANNELS. THE BENT PLATES MUST BE THE SAME HEIGHT AS THE CHANNELS THEY REPLACE, BE 5/16" IN THICKNESS, AND HAVE LEGS 5" LONG.

STEEL PLATES AND SHAPES SHALL BE GALVANIZED IN ACCORDANCE WITH MnDOT SPEC. 3394.

GALVANIZE BOLTS, NUTS AND WASHERS PER MnDOT SPEC. 3392.

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

APPROVED: SEPTEMBER 22, 2011

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION

Nancy Subenberger
 STATE BRIDGE ENGINEER

CURVED PLATE BEARING ASSEMBLY
 (PRESTRESSED CONCRETE BEAMS)
 (EXPANSION)

REVISOR: _____

DETAIL NO. **B311**

APPROVED: OCTOBER 26, 2005

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION

Daniel J. Johnson
 STATE BRIDGE ENGINEER

STEEL INTERMEDIATE DIAPHRAGM
 (FOR 36M - 54M, MN45 - MN63 PRESTRESSED CONCRETE BEAMS)

REVISOR: _____

DETAIL NO. **B403**

MnDOT RELEASE FOR CONSTRUCTION

REVISION

DATE	DESCRIPTION	DR.	CHK.	APPROVED
5/11/2012				

David L. St. Peter 4/30/12
 LICENSED PROFESSIONAL ENGINEER DATE

NAME: DAVID L. ST. PETER LIC. NO. 46841

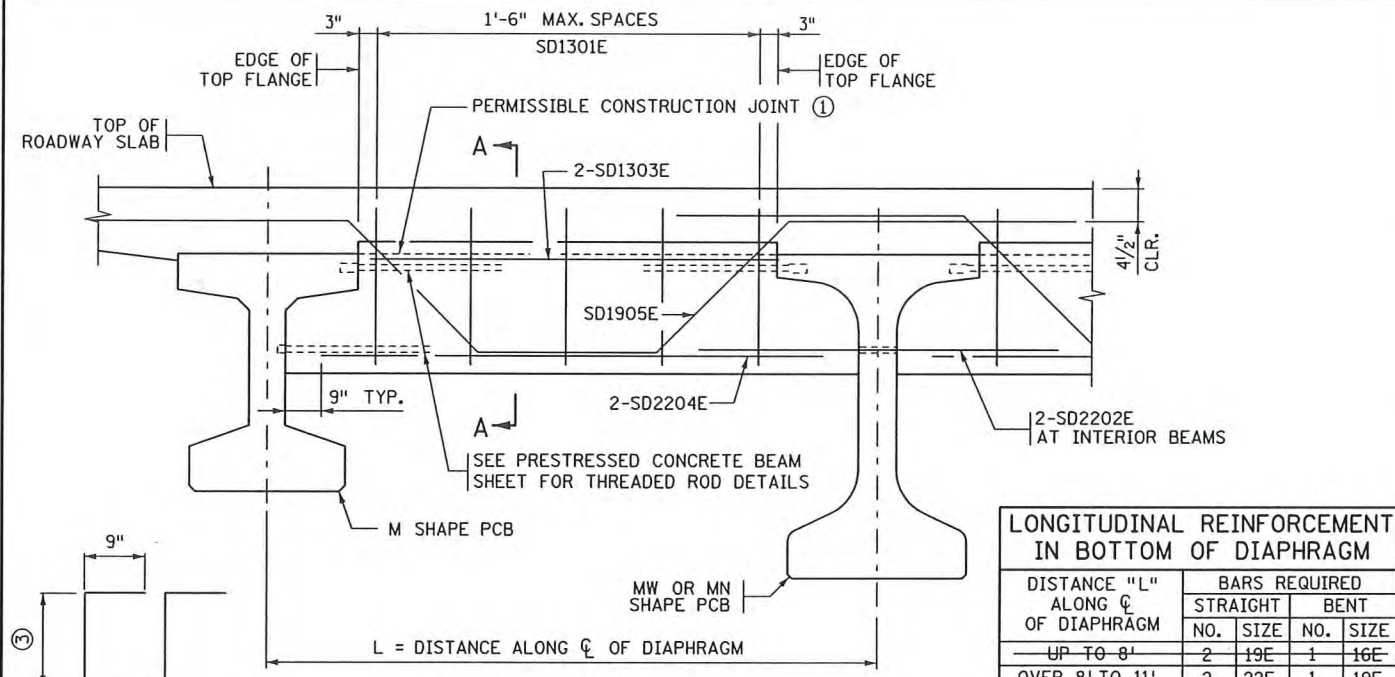
TITLE: **BRIDGE DETAILS 3**

DES: BJB DR: BJB APPROVED: _____
 CHK: DLS CHK: DLS SHEET NO. 61 OF 69

BRIDGE NO. **62626**

Plotted By: p0010292
 Date Plotted: 27-APR-2012
 Time Plotted: 9:13:59 AM
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 File Path: 61-brIDGEDETAILS3_det.dgn

Plotted By: p0010292
 Date Plotted: 27-APR-2012
 Time Plotted: 9:14:10 AM
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 File Path: 62-Br IdgeDefa11s4_det.dgn



LONGITUDINAL REINFORCEMENT IN BOTTOM OF DIAPHRAGM

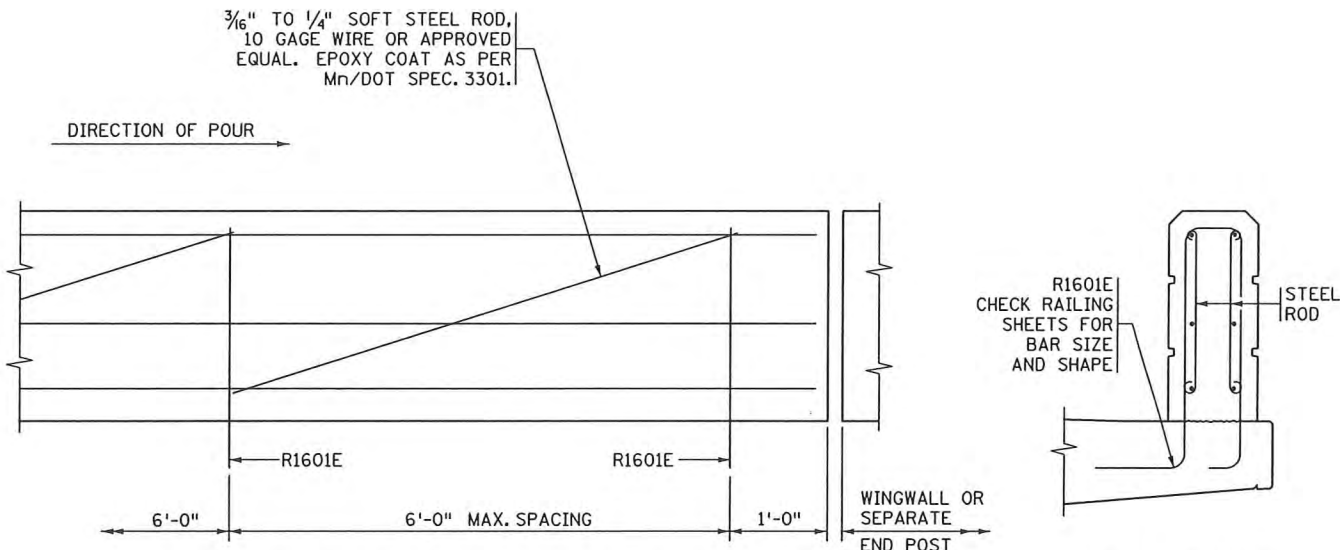
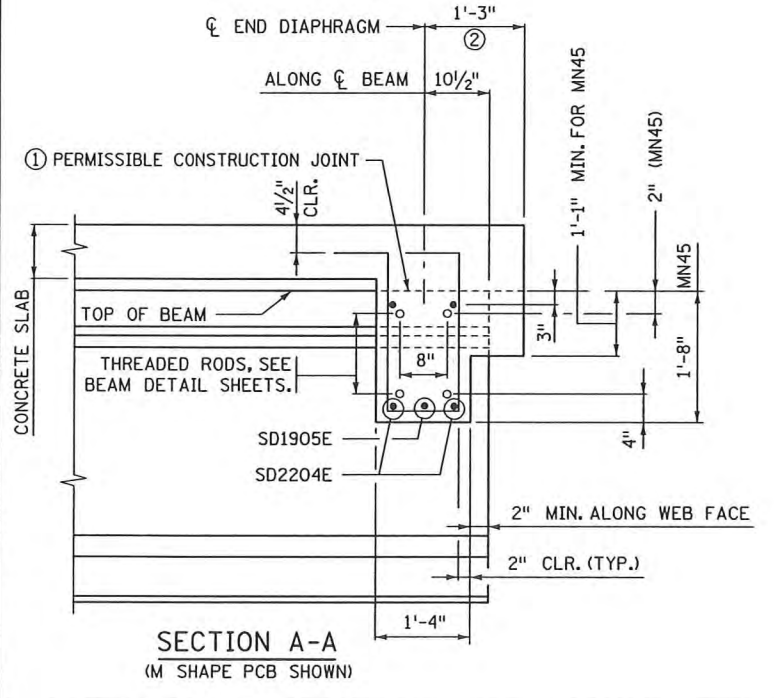
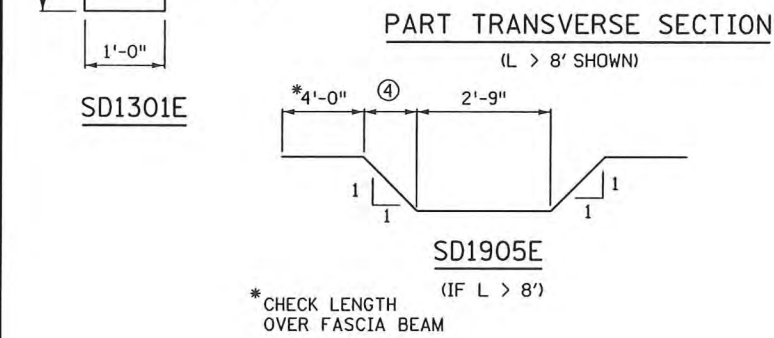
DISTANCE "L" ALONG CL OF DIAPHRAGM	BARS REQUIRED			
	NO.	SIZE	NO.	SIZE
UP TO 8'	2	19E	1	16E
OVER 8' TO 11'	2	22E	1	19E
OVER 11' TO 13'	2	25E	1	25E
OVER 13' TO 15'	2	29E	1	32E
OVER 15' TO 18'	2	36E	1	36E

BILL OF REINFORCEMENT FOR END DIAPHRAGM

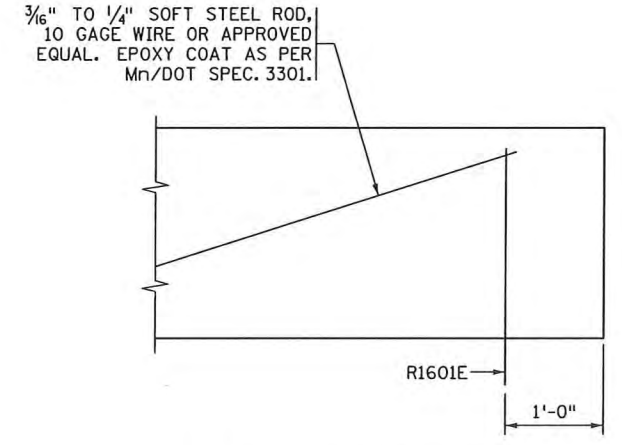
BAR	NO.	LENGTH	SHAPE	LOCATION
SD1301E	72	6'-8"	□	VERTICAL TIE
SD2202E	22	5'-0"	—	LONG. THRU BEAM
SD1303E	24	6'-4"	—	LONG. TOP
SD2204E	24	7'-6"	—	LONG. BOTTOM
SD1905E	12	16'-5"	—	LONGITUDINAL

REINFORCEMENT SHOWN FOR ONE END DIAPHRAGM, TWO REQUIRED.

- NOTES:**
- CONCRETE FOR END DIAPHRAGMS SHALL BE THE SAME MIX AS USED IN DECK.
 - THREADED RODS ARE INCIDENTAL TO PRESTRESSED CONCRETE BEAMS.
 - ① USE OF CONSTRUCTION JOINT REQUIRES CLEARANCE FOR EXPANSION DEVICE. WHEN CONSTRUCTION JOINT IS USED AT THIS LOCATION, DIAPHRAGM FALSEWORK SHALL REMAIN INPLACE UNTIL COMPLETION OF SLAB CURING PERIOD.
 - ② PERPENDICULAR TO CENTERLINE OF DIAPHRAGM.
 - ③ 2'-1" (MN45) BASED ON 3" STOOL AND 9" DECK.
 - ④ 2'-0" (MN45) BASED ON NOTE ③.



INSIDE ELEVATION OF RAILING



INSIDE ELEVATION OF RAILING AT END OF WINGWALL

- NOTES:**
- CONTRACTOR WILL TOOL V-GROOVE AT DEFLECTION JOINTS AT TIME RAIL IS CAST AND SHALL EXTEND V-GROOVE AROUND ENTIRE PERIMETER OF RAIL.
 - FOR ADDITIONAL DIMENSIONS, DETAILS, REINFORCEMENT AND NOTES SEE RAILING SHEET.
 - FORM RAIL FOR A MINIMUM OF 2' ON EACH SIDE OF EXPANSION DEVICES, LIGHT STANDARDS AND DECK DRAIN BOX OUTS.
 - USE A SIMILAR METHOD FOR TALLER RAILINGS OR MODIFIED VERSIONS OF THIS RAILING.

APPROVED: SEPTEMBER 22, 2011

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

REVISOR

DETAIL NO. B814

Nancy Subenberger
STATE BRIDGE ENGINEER

CONCRETE END DIAPHRAGM
(27M & 36M, MN45 - MN63, 82MW & 96MW PRESTRESSED CONCRETE BEAMS)
(PARAPET ABUTMENT)

APPROVED: NOVEMBER 22, 2002

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

REVISION

DETAIL NO. B831

David L. St. Peter
STATE BRIDGE ENGINEER

CONCRETE PARAPET RAILING
(SLIPFORM ALTERNATE)

MnDOT RELEASE FOR CONSTRUCTION

5/11/2012

REVISION

DATE DESCRIPTION DR. CHK. APPROVED

DATE DESCRIPTION DR. CHK. APPROVED

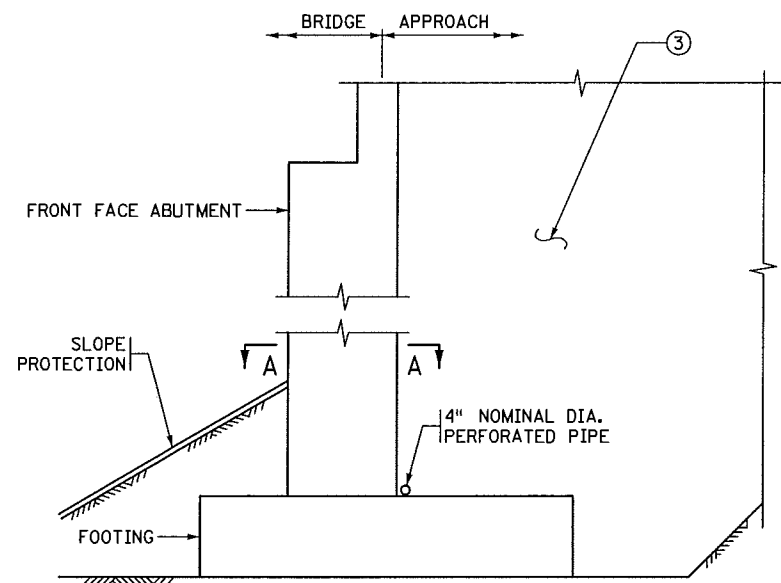
CERTIFIED BY *David L. St. Peter* 4/30/12
LICENSED PROFESSIONAL ENGINEER DATE

NAME: DAVID L. ST. PETER LIC. NO. 46841

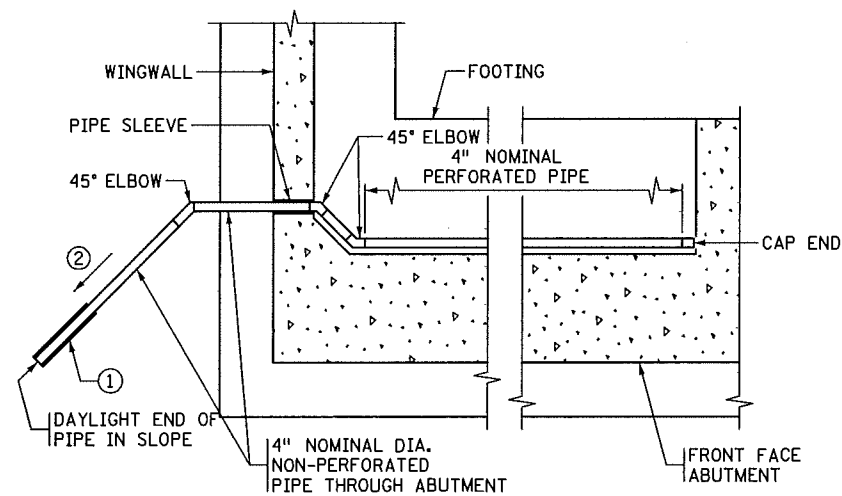
TITLE: BRIDGE DETAILS 4

DES: BJB DR: BJB APPROVED: BRIDGE NO. 62626
CHK: DLS CHK: DLS SHEET NO. 62 OF 69





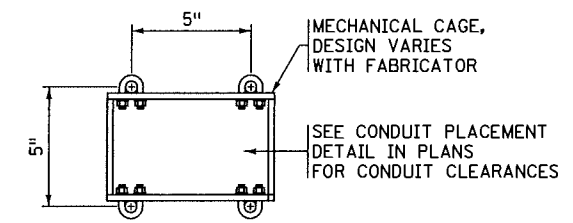
SECTION THROUGH PARAPET AND SEMI INTEGRAL ABUTMENTS



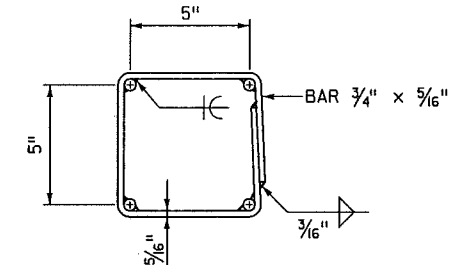
SECTION A-A

SUMMARY OF QUANTITIES FOR DRAINAGE SYSTEM	
4" DIA. PERFORATED PIPE	240 LIN. FT.
4" DIA. NON-PERFORATED PIPE	50 LIN. FT.
45° ELBOW	6 EACH
4" DIA. END CAP	2 EACH
PIPE SLEEVE	2 EACH
PRECAST CONCRETE HEADWALL	2 EACH

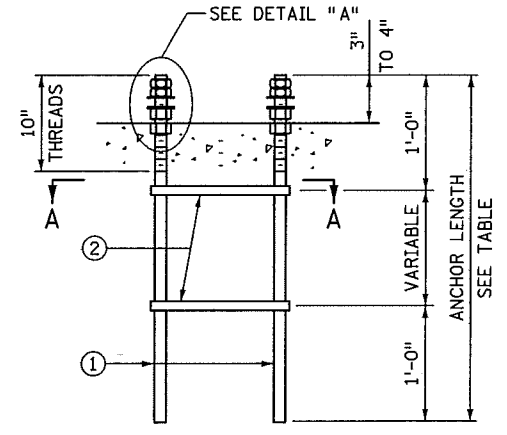
- NOTES:**
- ALL PIPE SHALL COMPLY WITH MnDOT SPEC. 3245.
 - WRAP PERFORATED PIPE WITH GEOTEXTILE AS PER MnDOT SPEC. 3733, TYPE 1. ATTACH TO PIPE AS PER MnDOT SPEC. 2502.
 - ① PRECAST CONCRETE HEADWALL WITH RODENT SCREEN. SEE STANDARD PLATE 3131 FOR DETAILS.
 - ② 1/8" PER FT. MINIMUM SLOPE.
 - ③ MATERIAL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



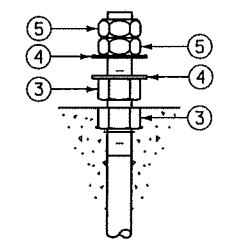
SECTION A-A
ALTERNATE MECHANICAL CAGE



SECTION A-A
ALTERNATE WELDED CAGE



ELEVATION



DETAIL "A"

NOTES:

ALL RODS ARE TO BE 1" NOMINAL DIA. WITH 1 - 8UNC - 2A THREADS. HEAVY HEX NUTS, JAM NUTS, AND FLAT WASHERS PER MnDOT SPEC. 3391.2A FOR 1" 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 MnDOT SPEC. 3392.

TOP OF THE LOWER NUTS SHALL BE FLUSH WITH TOP OF CONCRETE RAILING.

SUBSTITUTE MATERIALS PER MnDOT SPEC. 1605.

- ① THREADED RODS, STEEL AS PER MnDOT SPEC. 3309, 3310, OR 3385 TYPE B (4 REQUIRED).
- ② PROVIDE A MECHANICAL OR WELDED CAGE FOR ROD ALIGNMENT. STEEL AS PER MnDOT SPEC. 3306 (2 REQUIRED).
- ③ HEAVY HEX NUTS FOR 1" DIA. RODS (8 REQUIRED).
- ④ FLAT WASHERS FOR 1" DIA. RODS (8 REQUIRED).
- ⑤ JAM NUTS FOR 1" DIA. RODS (8 REQUIRED).

STANDARD RAIL TYPES (SEE PLANS FOR TYPE)	ANCHOR LENGTH
CONCRETE PILASTERS	3'-0"

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 Date Plotted: 24-MAY-2012
 Time Plotted: 12:22:59 PM
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APPROVED: MARCH 26, 2009

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

Daniel J. Morgan
STATE BRIDGE ENGINEER

DRAINAGE SYSTEM

REVISED 10-22-2009

DETAIL NO. B910 MODIFIED

APPROVED: NOVEMBER 22, 2002

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

Daniel J. Morgan
STATE BRIDGE ENGINEER

ANCHOR BOLT CLUSTER FOR LIGHT POLES

REVISED 10-26-2004
03-02-2005

DETAIL NO. B950 MODIFIED

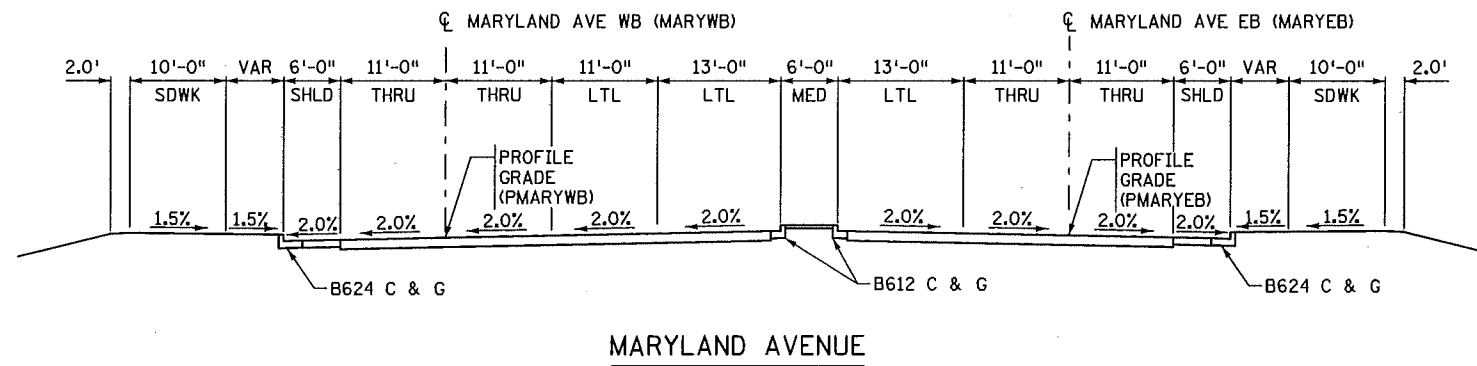
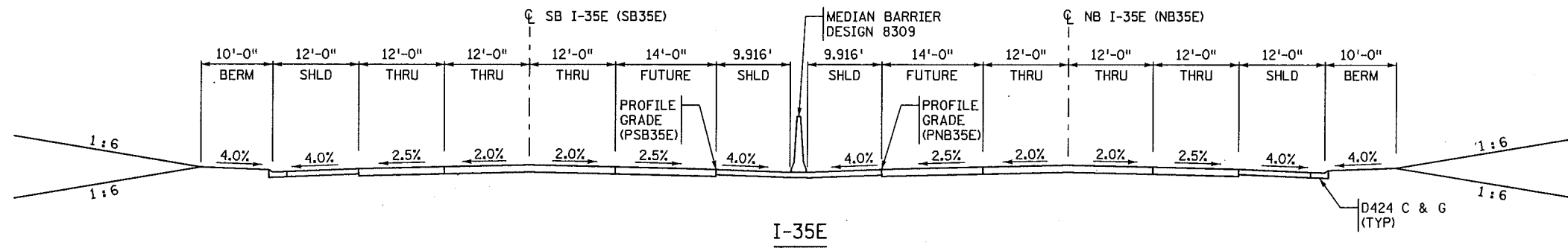
MnDOT RELEASE FOR CONSTRUCTION		REVISION			
SIGNATURE	DATE	DATE	DESCRIPTION	DR.	CHK. APPROVED
<i>David L. St. Peter</i>	6/11/12				

CERTIFIED BY *David L. St. Peter* 5/25/12
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DAVID L. ST. PETER LIC. NO. 46841

TITLE: BRIDGE DETAILS 5

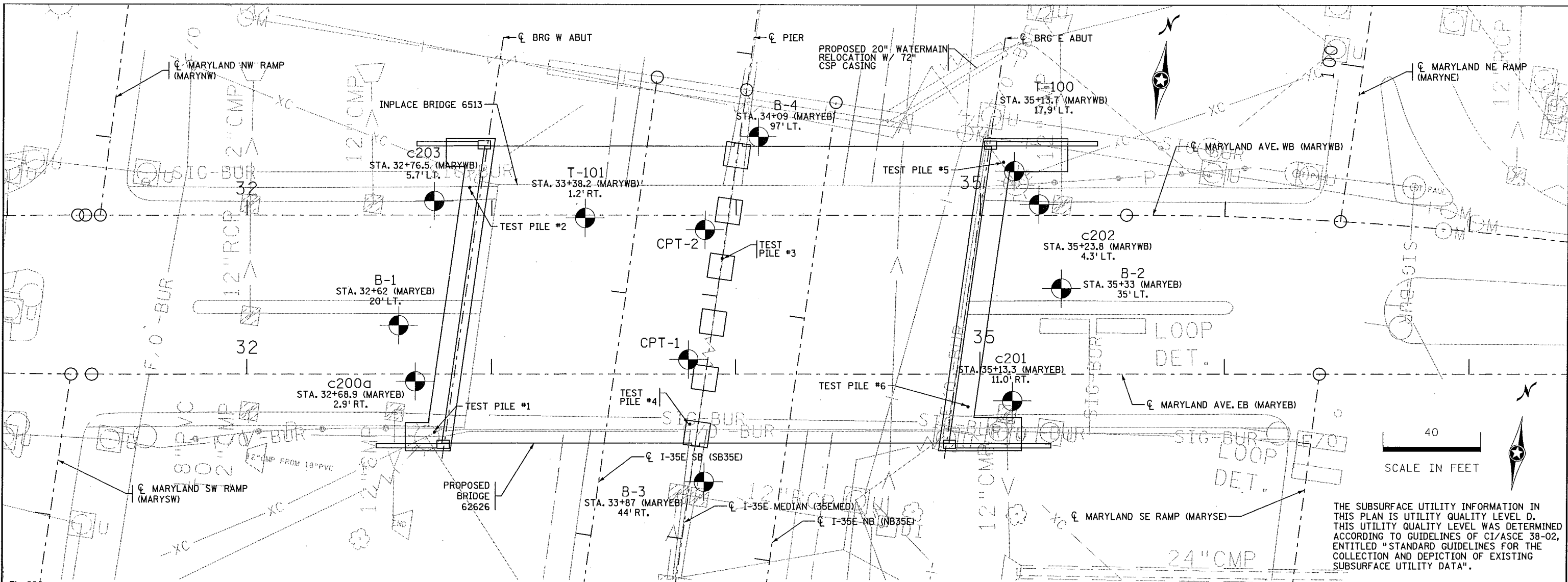
DES: BJB	DR: BJB	APPROVED:	BRIDGE NO. 62626
CHK: DLS	CHK: DLS	SHEET NO. 63 OF 69	



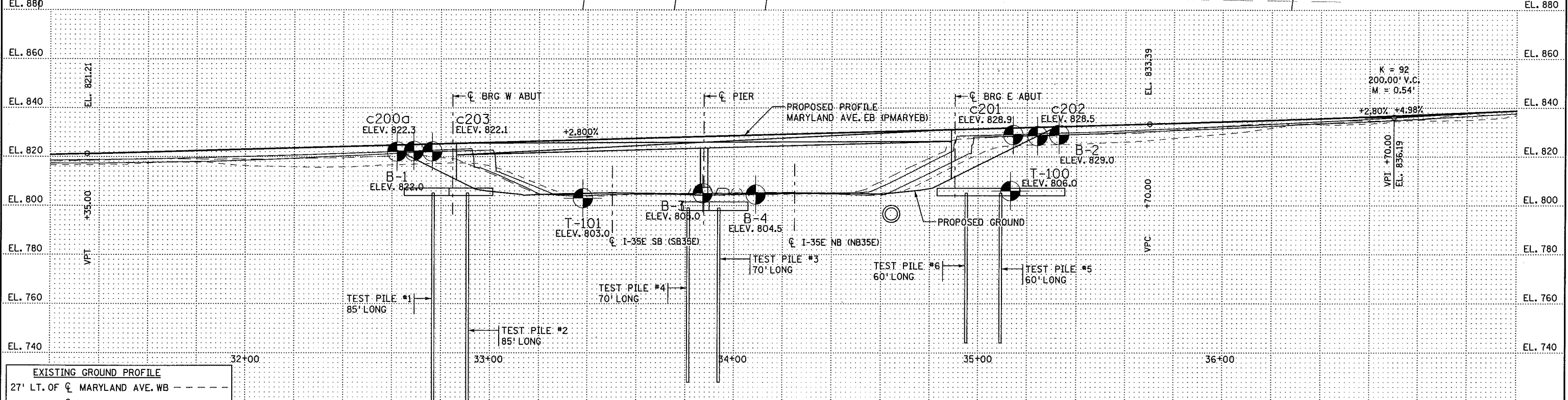
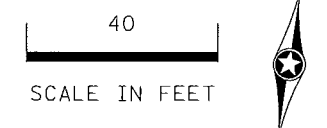


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TYPICAL SECTIONS		DR: BJB	CHK: DLS	BRIDGE NO.
STATE PROJECT NO. 6280-62626		SHEET NO. 66 OF 69		62626

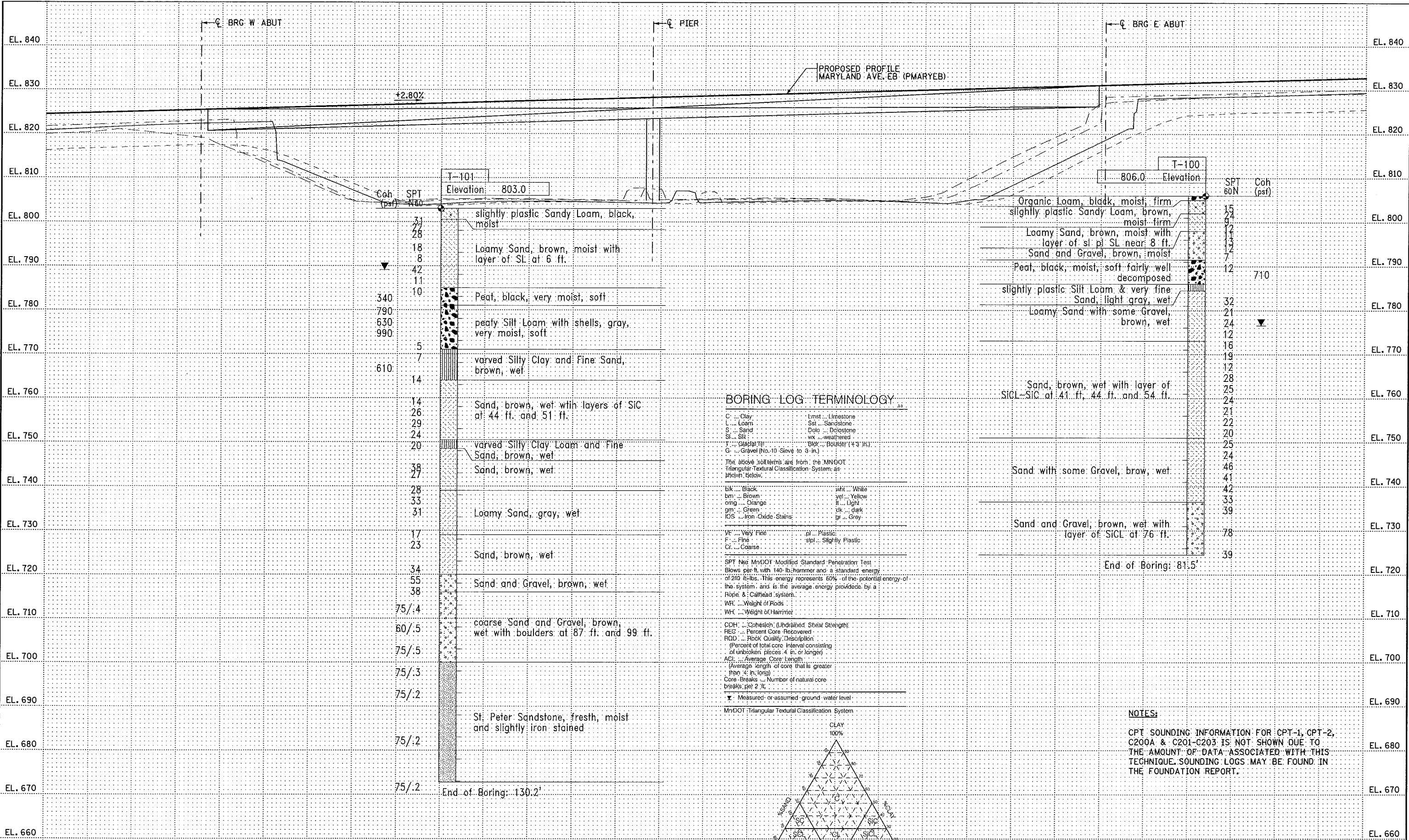


THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".



EXISTING GROUND PROFILE	
27' LT. OF	CL MARYLAND AVE. WB
	CL MARYLAND AVE. WB
	CL MARYLAND AVE. EB
27' RT. OF	CL MARYLAND AVE. EB

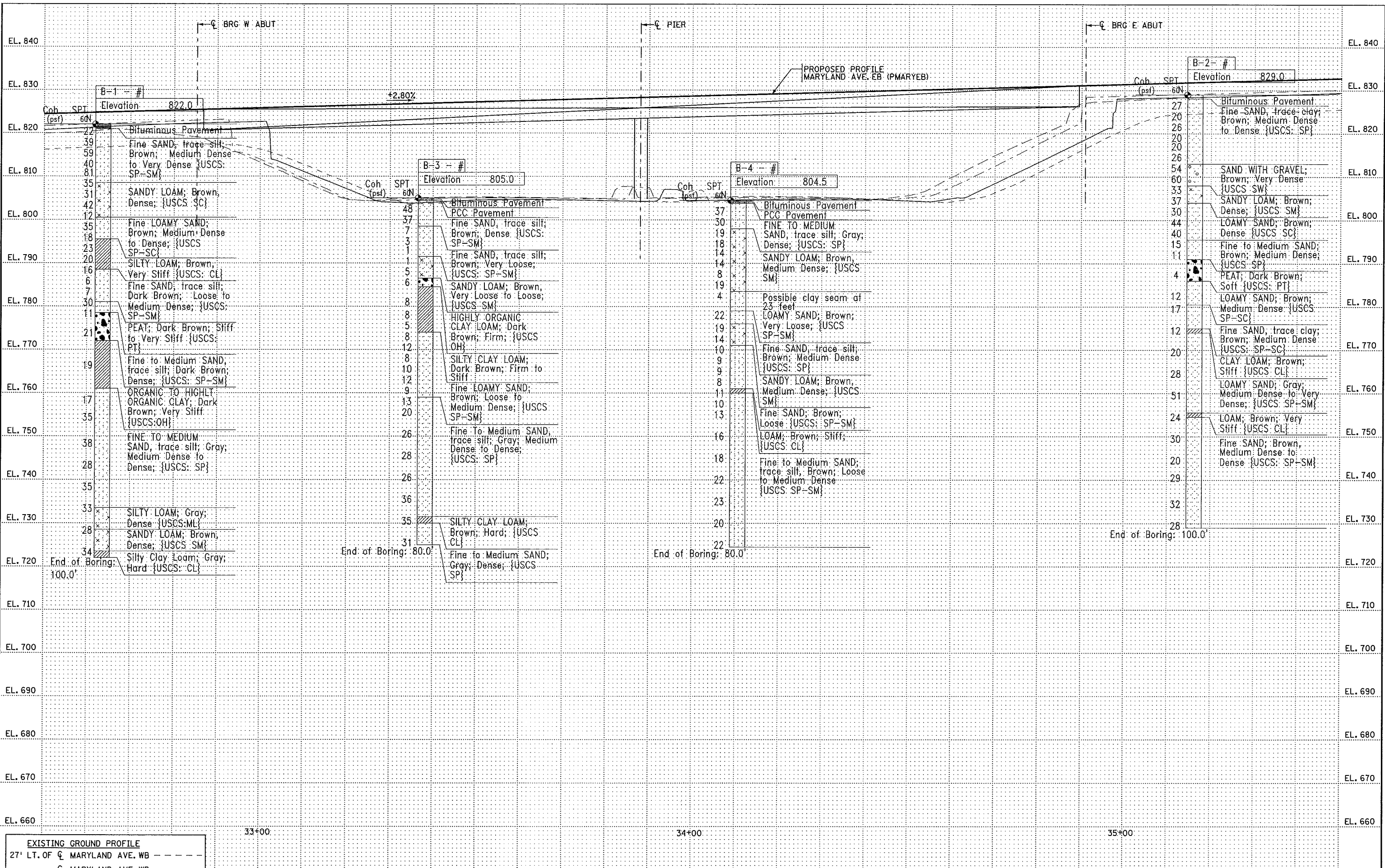
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Plotted By: P0010292
 Time Plotted: 1:19:57 PM
 Date Plotted: 23-APR-2012
 Pen Table: MNDOT-Ip101.pen
 File Path: 68_BridgeSurvey-Borings.sur.dgn

EXISTING GROUND PROFILE
 27' LT. OF MARYLAND AVE. WB - - - - -
 MARYLAND AVE. WB _____
 MARYLAND AVE. EB - - - - -
 27' RT. OF MARYLAND AVE. EB - - - - -

NOTES:
 CPT SOUNDING INFORMATION FOR CPT-1, CPT-2, C200A & C201-C203 IS NOT SHOWN DUE TO THE AMOUNT OF DATA ASSOCIATED WITH THIS TECHNIQUE. SOUNDING LOGS MAY BE FOUND IN THE FOUNDATION REPORT.



EXISTING GROUND PROFILE	
27' LT. OF	☉ MARYLAND AVE. WB
	☉ MARYLAND AVE. WB
	☉ MARYLAND AVE. EB
27' RT. OF	☉ MARYLAND AVE. EB

Plotted By: p0010292
 Time Plotted: 1:20:14 PM
 Date Plotted: 23-APR-2012
 Pen Table: MnDOT-plot.pen
 File Path: 69_BridgeSurvey-Borings.sur.dgn