pennsylvania
DEPARTMENT OF TRANSPORTATION

October 22, 2019

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
P. O. Box 3265
Harrisburg, PA 17105-3265

Re: Philadelphia County
City of Philadelphia
S.R. 0095, Section BR2
I-95: Betsey Ross Rmps A&B
DOT # 960 638 X
PUC Docket No. A-2019-3012529
MPMS No. 79904

Secretary Chiavetta:

The Pennsylvania Department of Transportation is submitting the relevant structure and construction plans for review and approval on the above subject project. As permitted by PUC filing rules, this is being submitted electronically in lieu of mailing to the PUC.

At the time this PUC Application was originally filed a DOT number had not been identified for this crossing. Since the original filing, Consolidated Rail Corporation (Conrail) provided additional information identifying the crossing DOT number as 960 638 X. This has been noted for reference purposes in parenthesis within the caption on the Certificate of Service.

Please review and approve these plans so that we may proceed with the construction of the project. A Certificate-of-Service, as required by the Rules of Procedures found in the Pennsylvania Code, is enclosed.

If you have any questions, please call me at 610-205-6532.

Sincerely,

Robert Magee
District Grade Crossing / Utility Engineer
Engineering District 6-0
Pennsylvania Department of Transportation

Enclosures:

cc: Parties of Record

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of the Commonwealth of Pennsylvania, Department of Transportation, for approval to replace the superstructure and substructure of the public above-grade crossing, where State Route 8017 (Ramp B) and State Route 8017 (Ramp D) cross above two tracks of Consolidated Rail Corporation and New Jersey Transit, DOT No. Unknown (Since Identified as DOT No. 960 638 X) in the City of Philadelphia, Philadelphia County.	Application Docket No. A-2019-3012529 **Electronically Filed**

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the foregoing document upon the participants listed below, in accordance with the requirements of 52 Pa. Code § 1.54, by first class mail, postage prepaid:

Mr. Ryan M. Hill, Director Design & Construction
Consolidated Rail Corporation
1000 Howard Blvd – 4th floor
Mount Laurel, NJ 08054-2355

Mr. Raymond Maleski
New Jersey Transit
One Penn Plaza East
Newark, NJ 07105-2246

Candace N. Hager , Third Party Development Lead
National Railroad Passenger Corporation
Engineering I&C
2955 Market St, Box 64
Philadelphia, PA 19104

Marcel S. Pratt, City Solicitor
City of Philadelphia Law Department
1515 Arch Street – 17th floor
Philadelphia, PA 19102-1676

Patrick O'Donnell, Right-of-Way Manager
City of Philadelphia Department of Streets
1401 JFK Boulevard – Room 940 MSB
Philadelphia, PA 19107-2994

Vahe Hovsepian, Design Manager
City of Philadelphia Water Department
1101 Market Street -5th Floor
Philadelphia, PA 19107-2994

Monica Lyv, Senior Staff Engineer
Philadelphia Gas Works
Planning Section – 2nd floor
800 West Montgomery Avenue
Philadelphia, PA 19122-2898

William Hensil, Program Manager
PECO Energy Company
1050 W Swedesford Road
Berwyn, PA 19312

Laura Lippincott, Senior Analyst
Verizon Pennsylvania, LLC
1050 Virginia Drive, Floor 4
Fort Washington, PA 19034

Dated this 22nd Day of October 2019

Robert Magee
District Grade Crossing / Utility Engineer

DISTRICT	COUNTY	TOWNSHIP	CITY	ROUTE	SECTION	TOTAL SHEETS
6-0	PHILADELPHIA	----	PHILADELPHIA	0095	BR2	127

ECMS NO. 79904

ESTABLISHED AS A LIMITED ACCESS HIGHWAY FROM STATION 345+00 TO STATION 846+50 BY PLAN FOR LEGISLATIVE ROUTE 1000 SECTION 2E APPROVED BY GOVERNOR GEORGE LEADER, DECEMBER 27, 1956.

ESTABLISHED AND RE-ESTABLISHED AS A LIMITED ACCESS HIGHWAY FROM STATION 424+10 TO STATION 493+00 BY PLAN FOR LEGISLATIVE ROUTE 1000 SECTION H-1 R/W AND FROM STATION 256+92 TO STATION 265+20 BY PLAN FOR LEGISLATIVE ROUTE 1078 SECTION C-3 R/W APPROVED BY GOVERNOR MILTON J. SHAPP, MARCH 8, 1972.

RE-ESTABLISHED AS A LIMITED ACCESS HIGHWAY FROM STATION 479+24 TO STATION 537+58.55 BY PLAN FOR LEGISLATIVE ROUTE 1000 SECTION H-2 R/W AND FROM STATION 229+70.41 TO STATION 256+92 BY PLAN FOR LEGISLATIVE ROUTE 1078 SECTION C-2 R/W APPROVED BY GOVERNOR MILTON J. SHAPP, APRIL 19, 1972.

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

DRAWINGS FOR CONSTRUCTION OF

STATE ROUTE 0095 SECTION BR2

IN PHILADELPHIA COUNTY

FROM STA 468+00.00 TO STA 502+00.00 LENGTH 2580.49 FT 0.489 MI

FROM SEG 0254 OFFSET 0838 TO SEG 0264 OFFSET 0941 (NB)

FROM SEG 0255 OFFSET 0797 TO SEG 0265 OFFSET 0941 (SB)

AND

STATE ROUTE 2001

FROM STA 24+10.00 TO STA 25+40.00 LENGTH 130.00 FT 0.025 MI

FROM SEG 0190 OFFSET 1603 TO SEG 0190 OFFSET 1733

ALSO

STATE ROUTE 8017

ALSO INCLUDED:

TRAFFIC CONTROL PLAN		116 SHEETS
SIGNING AND SIGN LIGHTING PLAN		31 SHEETS
PAVEMENT MARKING PLAN		17 SHEETS
POST CONSTRUCTION STORMWATER MANAGEMENT PLAN		38 SHEETS
EROSION AND SEDIMENT POLLUTION CONTROL PLAN		137 SHEETS
HIGHWAY LIGHTING PLAN		26 SHEETS
SOIL PROFILE PLAN		14 SHEETS
STRUCTURE PLANS		
S-37128	(RAMP A OVER FRANKFORD CREEK)	76 SHEETS
S-38366	(RAMP B OVER I-95)	167 SHEETS
S-38480	(RAMP B OVER CONRAIL)	37 SHEETS
S-37601	(RAMP B-D OVER GROUND)	72 SHEETS
S-37600	(RAMP BD OVER ABANDONED LUZERNE ST.)	83 SHEETS
S-37498	(RAMP D OVER CONRAIL)	26 SHEETS
S-37599	(RAMP H OVER ABANDONED THOMPSON ST.)	46 SHEETS
S-38636	(RETAINING WALL BD)	17 SHEETS
S-38635	(RETAINING WALL BH)	16 SHEETS
CROSS SECTIONS		123 SHEETS
EXISTING STRUCTURE PLANS		
S-10294		13 SHEETS
S-10295		68 SHEETS
S-32058		170 SHEETS
S-10300		56 SHEETS
S-34124		5 SHEETS
S-34125		5 SHEETS
S-19095		58 SHEETS
DRPA OVER RICHMOND STREET (ORIGINAL CONSTRUCTION)		60 SHEETS
DRPA OVER RICHMOND STREET (REHABILITATION)		13 SHEETS

SCALE

HORIZONTAL 0 25 50 FEET

VERTICAL 0 5 10 FEET

DESIGN DESIGNATION - SR 0095

HIGHWAY CLASSIFICATION - URBAN INTERSTATE
DESIGN SPEED - 60 MPH
PAVEMENT WIDTH - 2 @ 36'
SHOULDER WIDTH - 10'

TRAFFIC DATA

CURRENT YEAR A.D.T. - 165,900 (2020)
DESIGN YEAR A.D.T. - 170,700 (2040)
D.H.V. - 8,710
D - 51%
T - 17%

PUC APPLICATION DOCKET NO. A-2019-3012529

PLANS PREPARED BY
STV Incorporated
1818 MARKET STREET
SUITE 1410
PHILADELPHIA, PA 19103

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL GEOFFREY N. STRYKER ENGINEER No. PE 074971

GEOFFREY N. STRYKER P.E.
DATE: September 6, 2019

RECOMMENDED DATE: 10/16/19
DISTRICT EXECUTIVE

RECOMMENDED DATE: 10/17/19
DEPUTY SECRETARY

APPROVED DATE: 10/17/19
SECRETARY OF TRANSPORTATION
(ON BEHALF OF THE GOVERNOR AS WELL AS THE SECRETARY)

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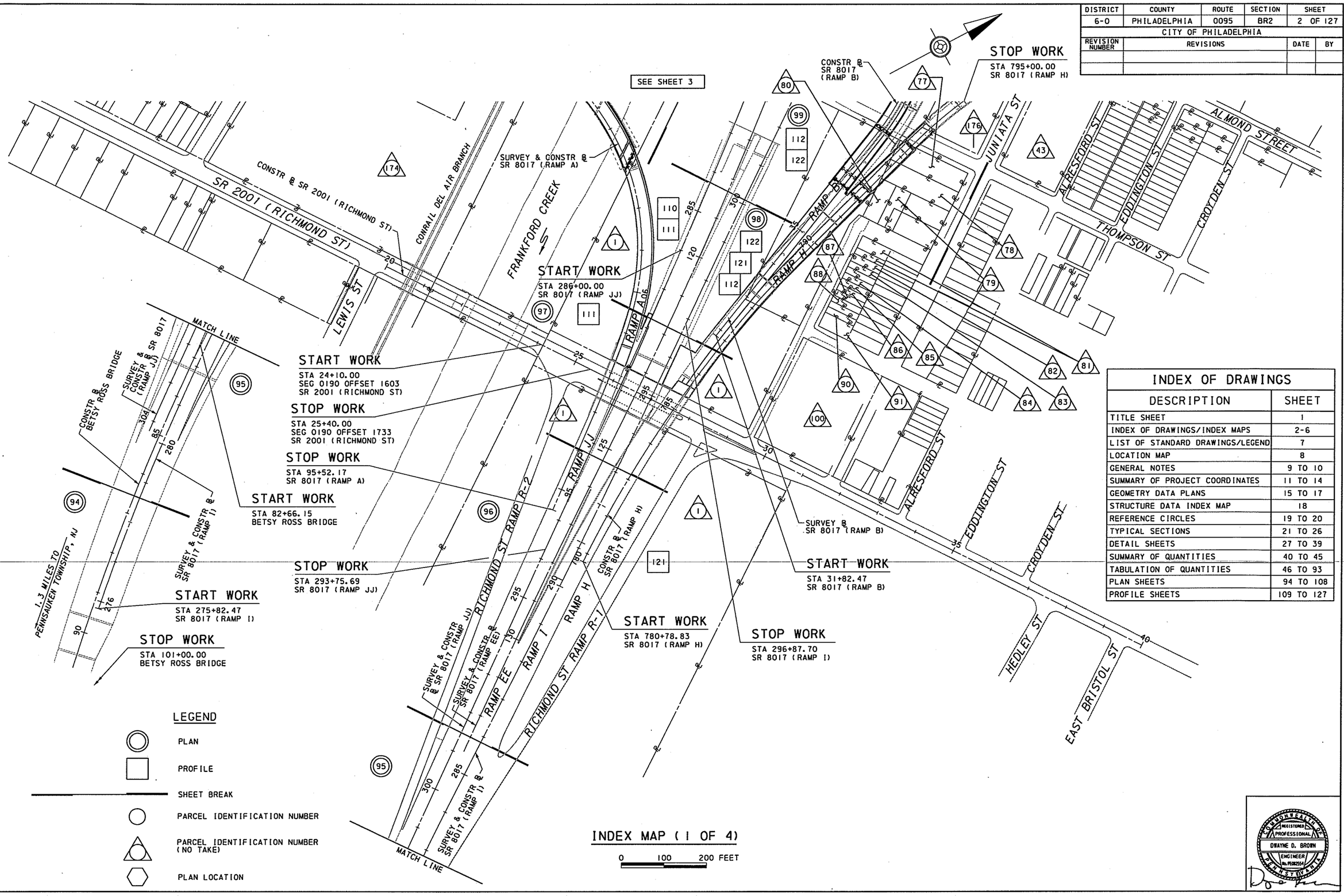
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0095	BR2	2 OF 127
CITY OF PHILADELPHIA				

REVISION NUMBER	REVISIONS	DATE	BY



INDEX OF DRAWINGS

DESCRIPTION	SHEET
TITLE SHEET	1
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LOCATION MAP	8
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LEGEND

- PLAN
- PROFILE
- SHEET BREAK
- PARCEL IDENTIFICATION NUMBER
- PARCEL IDENTIFICATION NUMBER (NO TAKE)
- PLAN LOCATION

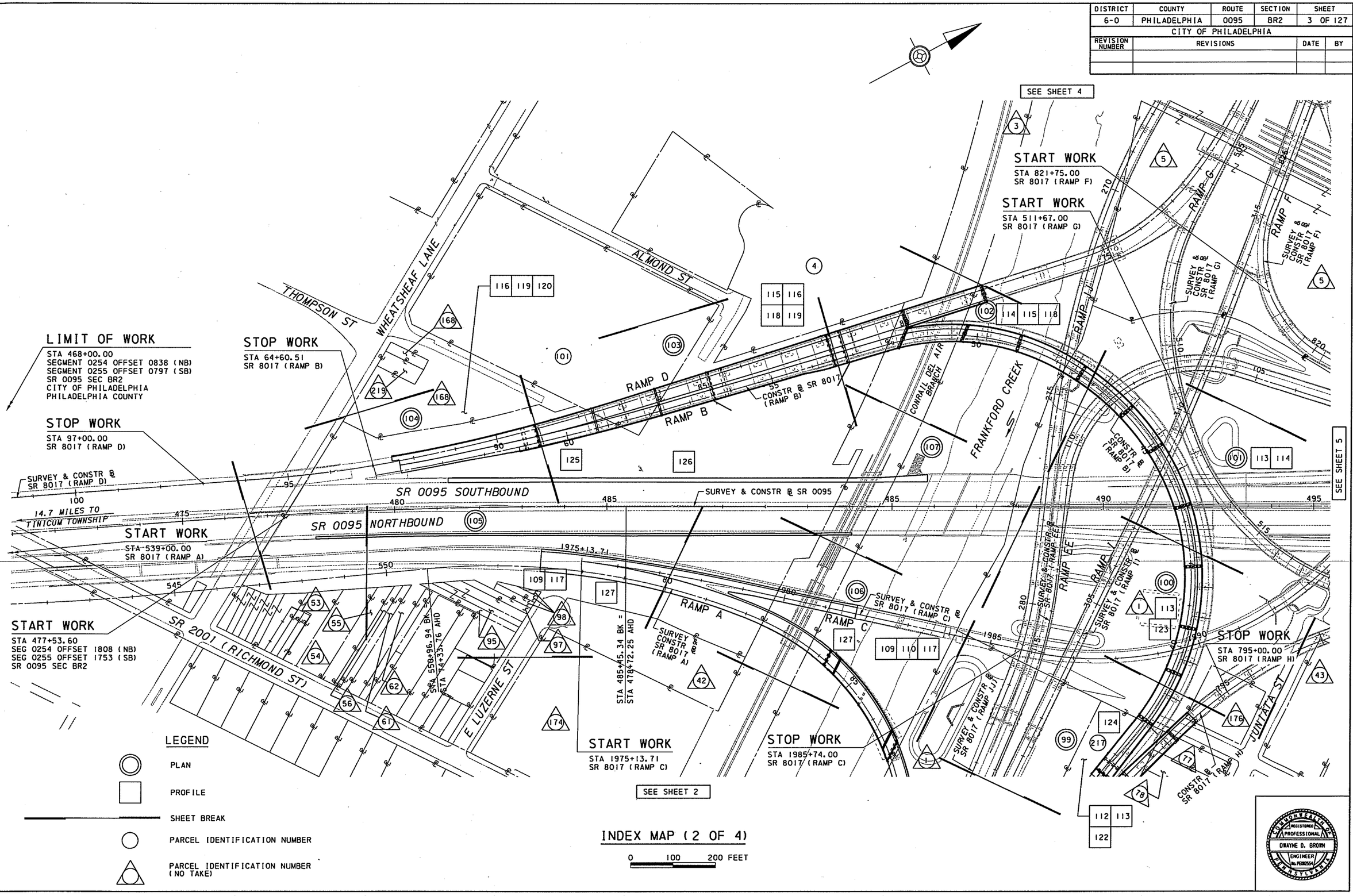
INDEX MAP (1 OF 4)

0 100 200 FEET

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DWAYNE D. BROWN
ENGINEER
No. PE082554

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0095	BR2	3 OF 127
	CITY OF PHILADELPHIA			

REVISION NUMBER	REVISIONS	DATE	BY



INDEX MAP (2 OF 4)

0 100 200 FEET

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL DWAYNE D. BROWN ENGINEER No. PE082554

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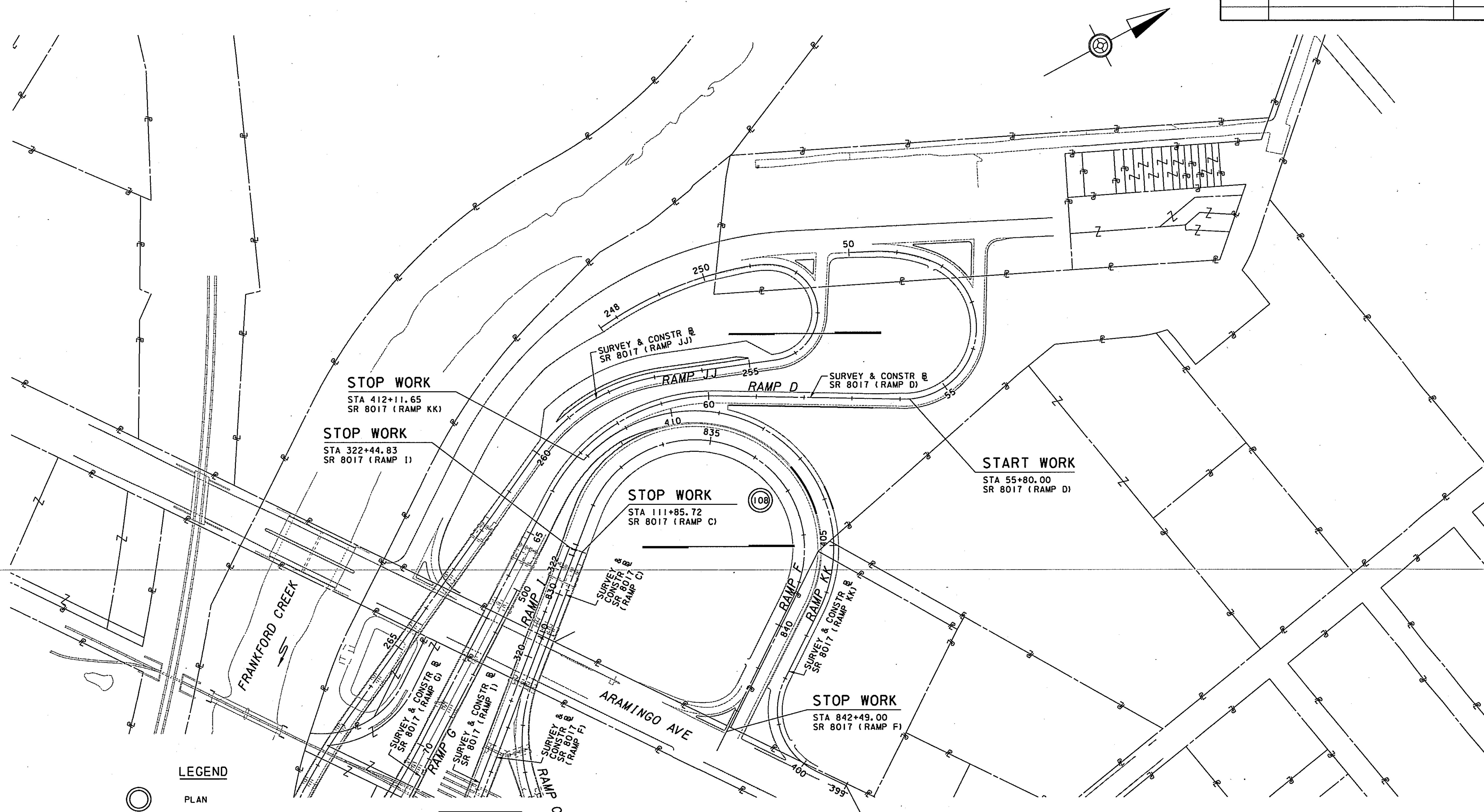
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0095	BR2	4 OF 127
CITY OF PHILADELPHIA				

REVISION NUMBER	REVISIONS	DATE	BY



SEE SHEET 3

START WORK
STA 399+00.00
SR 8017 (RAMP KK)

LEGEND

- PLAN
- PROFILE
- SHEET BREAK
- PARCEL IDENTIFICATION NUMBER
- PARCEL IDENTIFICATION NUMBER (NO TAKE)

INDEX MAP (3 OF 4)

0 100 200 FEET

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL DWAYNE D. BROWN ENGINEER No. PE082554

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0095	BR2	5 OF 127
CITY OF PHILADELPHIA				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 4

SEE SHEET 3

ARAMINGO AVE

DUNCAN ST

SEPVIYA ST

PEARCE ST

BERMUDA ST

ORTHODOX ST

MILNOR ST

SURVEY & CONSTR ℄ SR 8017 (RAMP C)

SURVEY & CONSTR ℄ SR 8017 (RAMP EE)

SURVEY & CONSTR ℄ SR 8017 (RAMP F)

SURVEY & CONSTR ℄ SR 0095

SURVEY & CONSTR ℄ SR 8017 (RAMP G)

CONSTR ℄ SR 8017 (RAMP H)

RAMP C

RAMP EE

RAMP F

RAMP G

RAMP H

SR 0095 SOUTHBOUND

SR 0095 NORTHBOUND

6.4 MILES TO BENSALEM TOWNSHIP

ALMOND ST

BELGRADE ST

LEFEVRE ST

STOP WORK
STA 496+61.00
SEG 0264 OFFSET 0402 (NB)
SEG 0265 OFFSET 0402 (SB)
SR 0095 SEC BR2

LIMIT OF WORK
STA 502+00.00
SEGMENT 0264 OFFSET 0941 (NB)
SEGMENT 0265 OFFSET 0941 (SB)
SR 0095 SEC BR2
CITY OF PHILADELPHIA
PHILADELPHIA COUNTY

START WORK
STA 522+88.00
SR 8017 (RAMP G)

(01) 113 | 114

5

43

LEGEND

- PLAN
- PROFILE
- SHEET BREAK
- PARCEL IDENTIFICATION NUMBER
- PARCEL IDENTIFICATION NUMBER (NO TAKE)

INDEX MAP (4 OF 4)

0 100 200 FEET

DWAYNE D. BROWN
REGISTERED PROFESSIONAL
ENGINEER
No. PE082554
COMMONWEALTH OF PENNSYLVANIA

LIST OF PROPERTY OWNERS

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0095	BR2	6 OF 127
CITY OF PHILADELPHIA				

REVISION NUMBER	REVISIONS	DATE	BY

1 DELAWARE RIVER PORT AUTHORITY

3 CONSOLIDATED RAIL CORPORATION, A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF PENNSYLVANIA

4 S.D. RICHMAN AND SONS, INC., A PENNSYLVANIA CORPORATION, W & A ASSOCIATES, LLC, AND LUZERNE REALTY PARTNERS, LLC, A PENNSYLVANIA LIMITED LIABILITY COMPANY

5 CONSOLIDATED RAIL CORPORATION, A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF PENNSYLVANIA

53 BALDOMIRO AND ANA SOARES, FATHER AND DAUGHTER

54 GEORGIANA SIKSAY & ROBERT SISKAY, HER HUSBAND

55 GEORGE A. BULDUC JR. AND HELEN M. BULDUC, HUSBAND AND WIFE

56 DENISE DIAMOND

61 KRISTEN C. WELSH

62 EDIBERTO JUNIOR TORRES

77 JOHN MORELL AND JANET MARY MORELL

78 HARRY MCKENNA AND ANNA MARIE MCKENNA

79 ROXANNE KUZOWSKI AND ALBERT KUZOWSKI

80 MICHAEL MEYERS

81 ANTER ASSOCIATES

82 TERRY L. AND ANITA I. STEEN

83 RAYMOND J. GUDKNECHT AND MARYANN GUDKNECHT, H/W

84 MADELINE MADDEN, WIDOW AND PATRICK M. MADDEN, SON

85 JOSEPH W. COTTER, JR. AND JOAN ESTELLE M. WILLIAMSON

86 STEVEN QUIGLY

87 RAYMOND P. COLLINS, RAYMOND J. COLLINS AND DANNY P. COLLINS

88 DANIEL F. COLLINS

90 JAMES M. EGAN AND MARY M. EGAN, HUSBAND AND WIFE

91 WILLIAM J. MARNOCH, JR.

95 JOSEPH B. BUTLER

97 LISA T. BUTLER

98 GEORGE T. GAYMOR

100 JOSEPH MARTIN

101 ELLIS PROPERTY DEVELOPMENT, LLC, A PENNSYLVANIA LIMITED LIABILITY COMPANY

168 2639 AND 2651 WHEATSHEAF LANE LLC.

176 COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF TRANSPORTATION

218 DELAWARE RIVER PORT AUTHORITY

88 DAVID D. KRESS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DWAYNE D. BROWN
ENGINEER
No. PE082254
PENNSYLVANIA

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0095	BR2	7 OF 127
	CITY OF PHILADELPHIA			

REVISION NUMBER	REVISIONS	DATE	BY

LIST OF STANDARD DRAWINGS

DETAILS, OTHER THAN THOSE INDICATED, ARE ON THE FOLLOWING STANDARD DRAWINGS:

RC-10M JUNE 1, 2010
RC-11M JUNE 1, 2010
RC-12M FEB 8, 2019
RC-13M JUNE 1, 2010
RC-14M SEPT 15, 2016
RC-20M SEPT 15, 2016
RC-21M JUNE 1, 2010
RC-22M FEB 8, 2019
RC-23M FEB 8, 2019
RC-24M JUNE 1, 2010
RC-25M FEB 8, 2019
RC-27M JUNE 1, 2010
RC-28M FEB 8, 2019
RC-30M FEB 8, 2019
RC-31M JUNE 1, 2010
RC-32M JUNE 1, 2010
RC-33M JUNE 1, 2010
RC-35M JUNE 1, 2010
RC-39M SEPT 15, 2016
RC-40M FEB 8, 2019
RC-43M FEB 8, 2019
RC-45M SEPT 15, 2016
RC-46M SEPT 15, 2016
RC-50M FEB 8, 2019
RC-51M FEB 8, 2019
RC-54M FEB 8, 2019
RC-57M JUNE 1, 2010
RC-58M AUG 4, 2017
RC-59M JUNE 1, 2010
RC-60M JUNE 1, 2010
RC-61M JUNE 1, 2010
RC-64M JUNE 1, 2010
RC-65M AUG 28, 2017
RC-67M JUNE 10, 2013
RC-70M FEB 8, 2019
RC-71M AUG 4, 2017
RC-72M FEB 8, 2019
RC-73M FEB 8, 2019
RC-74M FEB 8, 2019
RC-75M JUNE 1, 2010
RC-77M JUNE 1, 2010
RC-78M FEB 8, 2019
RC-80M JUNE 1, 2010
RC-81M JUNE 1, 2010
RC-82M JUNE 1, 2010
RC-83M FEB 8, 2019
RC-84M JUNE 1, 2010
RC-91M JUNE 1, 2010
RC-92M JUNE 1, 2010
BC-701M JAN 31, 2019
BC-719M JAN 31, 2019
BC-721M SEPT 30, 2016
BC-722M SEPT 30, 2016
BC-732M JAN 31, 2019
BC-734M JAN 31, 2019
BC-735M SEPT 30, 2016
BC-736M JAN 31, 2019
BC-739M JAN 31, 2019
BC-741M AUG 4, 2017
BC-744M AUG 4, 2017
BC-747M AUG 4, 2017
BC-751M JAN 31, 2019
BC-752M SEPT 30, 2016
BC-753M JAN 31, 2019
BC-754M JAN 31, 2019
BC-755M JAN 31, 2019
BC-756M SEPT 30, 2016
BC-757M SEPT 30, 2016
BC-766M JAN 31, 2019
BC-767M JAN 31, 2019
BC-772M SEPT 30, 2016
BC-775M SEPT 30, 2016
BC-782M SEPT 30, 2016
BC-788M JAN 31, 2019
BC-794M JAN 31, 2019
BC-798M JAN 31, 2019
BC-799M JAN 31, 2019
TC-8600 JUNE 13, 2013
TC-8602 JUNE 13, 2013
TC-8604 JUNE 13, 2013
TC-8700C JUNE 13, 2013
TC-8701A JUNE 13, 2013
TC-8701D JUNE 13, 2013
TC-8701E JUNE 13, 2013
TC-8701S JUNE 13, 2013
TC-8702A JUNE 13, 2013
TC-8702B JUNE 13, 2013
TC-8702C JUNE 13, 2013
TC-8702D JUNE 13, 2013
TC-8702E JUNE 13, 2013
TC-8710 JUNE 13, 2013
TC-8715 JUNE 13, 2013
TC-8716 JUNE 13, 2013
TC-8717 JUNE 13, 2013
TC-8802 DEC 12, 2011
TC-8804 DEC 12, 2011
TC-8805 DEC 12, 2011
ITS-1201 MAR 1, 2013
ITS-1210 MAR 1, 2013
ITS-1220 MAR 1, 2013
ITS-1230 MAR 1, 2013
ITS-1231 MAR 1, 2013

EARTHWORK SUMMARY ENTIRE PROJECT

THE INFORMATION ON ESTIMATED AMOUNTS OF EARTHWORK HAS BEEN USED IN THE PRELIMINARY ESTIMATE.
DO NOT USE AS A WAIVER OF ANY PROVISIONS OF THE SPECIFICATIONS AND CONTRACTS.

CUBIC YARDS OF EXCAVATION						CUBIC YARDS OF COMPLETED EMBANKMENT*	CUBIC YARDS OF BORROW EXCAVATION	CUBIC YARDS OF SELECT BORROW	LOAD, TRANSPORT AND DISPOSE-RESIDUAL/ NON HAZARDOUS WASTE (TON) ***	LOAD, TRANSPORT AND DISPOSE-HAZARDOUS WASTE (TON) ***	LOAD, TRANSPORT AND DISPOSE-CLEAN FILL (TON) ***	LOAD, TRANSPORT AND DISPOSE-REGULATED FILL (TON) ***
CLASS 1	CLASS 1A	CLASS 1B	CLASS 2	CLASS 3**	CLASS 4							
54,218	-	-	3,604	13,880	4,425	84,413	30,252	5,386	4,810	630	4,338	4,338

* INCLUDES ALL BORROW ITEMS

** INCLUDED IN LUMP SUM STRUCTURE ITEMS - CLASS 3 EXCAVATION MODIFIED.

*** UNIT WEIGHT = 110 PCF

LEGEND

EXISTING

- CITY INLETS
- SCUPPER
- SIGN
- CANTILEVER / OVERHEAD SIGN STRUCTURES
- STRUCTURES IDENTIFICATION
- JUNCTION BOX
- LP #DM — LIGHT POLE (ID #)

PROPOSED

- SCUPPER
- ENDWALL/HEADWALL
- WATER QUALITY STRUCTURE
- UB-8 — UNDERDRAINED BASIN IDENTIFICATION
- SIGN STRUCTURE IDENTIFICATION
- X-2 — SIGN STRUCTURE REMOVAL IDENTIFICATION
- STRUCTURE IDENTIFICATION
- CS — 2" CONDUIT IN STRUCTURE/BARRIER WALL.
- C — 2" DIRECT BURIAL CONDUIT UNLESS OTHERWISE NOTED
- E — OVERHEAD SPAN WIRE WITH ELECTRICAL CABLE
- CURVE NUMBER IDENTIFICATION
- BM #XX — BENCH MARK IDENTIFICATION
- CP #XX — CONTROL POINT IDENTIFICATION
- FF M — STATION EQUALITY IDENTIFICATION
- JUNCTION BOX
- PROPOSED LIGHT POLE (SEE LIGHTING PLANS)
- EXIST LIGHT POLE TO REMAIN
- EXIST LIGHT POLE TO BE REMOVED
- RIP RAP
- PARCEL IDENTIFICATION NUMBER
- PARCEL IDENTIFICATION NUMBER (NO TAKE)

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DWAYNE D. BROWN
ENGINEER
No. PE082054

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0095	BR2	8 OF 127
	CITY OF PHILADELPHIA			

REVISION NUMBER	REVISIONS	DATE	BY

LIST OF PUBLIC UTILITIES

—EU— PECO ENERGY C/O USIC
1050 WEST SWEDESFORD ROAD
BERWYN, PA 19312
LOU ROBINSON
610-879-7512
BILL HENSIL
610-725-7129

-ET-A— PECO ENERGY COMPANY
STEVE DASOVICH
610-648-7853

-ET-U— PECO ENERGY COMPANY
DAYTON DUNCAN
610-648-7949

— W — CITY OF PHILADELPHIA WATER DEPT.
— S — ARAMARK TOWER, 2ND FLOOR
1101 MARKET ST
PHILADELPHIA, PA 19107
VINU VARGHESE
215-285-6332

— G — PHILADELPHIA GAS WORKS
800 W. MONTGOMERY AVE.
PHILADELPHIA, PA 19122
WENBIN ZHAO
215-684-6504
MONICA LYV
215-684-6116

-TU— VERIZON PENNSYLVANIA LLC.
900 RACE ST, 6TH FLOOR
PHILADELPHIA, PA 19107
BRIAN MAGEE
215-351-6051

-CATV— COMCAST CABLE COMMUNICATIONS, INC.
MATT MURRAY
717-713-7586

PENNSYLVANIA ONE CALL SYSTEM, INC.
925 Irwin Run Road
West Mifflin, Pennsylvania
15122 - 1078

PENNSYLVANIA ONE CALL SYSTEM INC. 1-800-242-1776 STOP-CALL BEFORE YOU DIG!

BEFORE YOU DIG ANYWHERE IN PENNSYLVANIA CALL 1-800-242-1776

NON-MEMBERS MUST BE CONTACTED DIRECTLY

PA LAW REQUIRES THREE THROUGH TEN WORKING DAYS NOTICE TO UTILITIES BEFORE YOU EXCAVATE, DRILL, BLAST OR DEMOLISH

ROUTE / RAMP	S-NUMBER	TYPE	STATION	SEGMENT/ OFFSET
BRIDGES				
SR 8017 (RAMP A)	S-37128	2 SPAN CONTINUOUS STEEL GIRDER	85+45.45	0010 / 4309
SR 8017 (RAMP B)	S-38366	10 SPAN CONTINUOUS STEEL GIRDER	43+38.43	0760 / 0581
SR 8017 (RAMP B)	S-38480	1 SPAN STEEL GIRDER	51+06.00	0760 / 1349
SR 8017 (RAMP BD)	S-37601	1 SPAN STEEL GIRDER	52+64.18	0250 / 1544
SR 8017 (RAMP BD)	S-37600	3 SPAN CONTINUOUS STEEL GIRDER	58+55.54	0250 / 2133
SR 8017 (RAMP BD)	S-38636	PRECAST MODULAR RETAINING WALL	83+17.93	0250 / 1758
SR 8017 (RAMP BH)	S-38635	PRECAST MODULAR RETAINING WALL	790+86.15	0250 / 0442
SR 8017 (RAMP D)	S-37498	1 SPAN STEEL GIRDER	78+98.77	0250 / 1339
SR 8017 (RAMP H)	S-37599	2 SPAN SIMPLE STEEL GIRDER	792+76.92	0750 / 0633
SIGN STRUCTURES				
SR 8017 (RAMP A)	S-38630	FRAME MONOPIPE	77+00.00	0010 / 3526

TABULATION OF OVERALL LENGTH

OVERALL LENGTH
SR 0095 STA 468+00.00 TO STA 502+00.00 = 4073.09 FEET = 0.771 MILES

TABULATION OF CONSTRUCTION LENGTH

SR 0095 STA 477+53.60 TO STA 496+61.00 = 2580.09 FEET = 0.489 MILES

LIST OF EQUALITIES

SR 0095 STA 485+45.34 BACK = SR 0095 STA 478+72.25 AHEAD

SR 8017 (RAMP A) STA 550+96.94 BACK = SR 8017 (RAMP A) STA 74+33.76 AHEAD

SR 8017 (RAMP C) STA 2000+00.00 BACK = SR 8017 (RAMP C) STA 102+00.18 AHEAD

UTILITY NOTES

THE DEPARTMENT OF TRANSPORTATION DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS OF THE EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS, NOR DOES THE DEPARTMENT GUARANTEE THAT ALL STRUCTURES ARE SHOWN.

THREE THROUGH TEN WORKING DAYS PRIOR TO EXCAVATION THE CONTRACTOR MUST CONTACT THE PA ONE-CALL SYSTEM INC., PHONE 1-800-242-1776 SERIAL NUMBERS ARE ALL FOR THE CITY OF PHILADELPHIA:

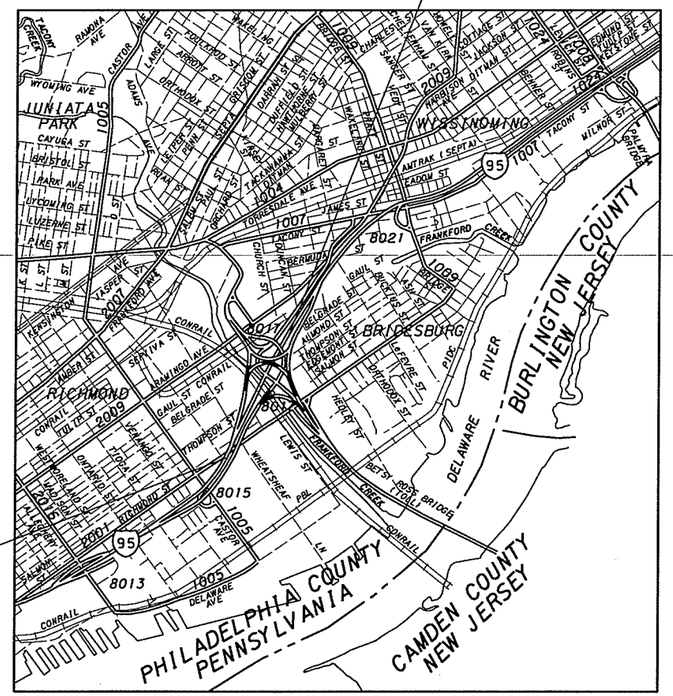
20140091415
20140091416
20140100702
20133112147
20140100614
20140100630
20140100640
20140100648
20140100669
20140100682
20140100685
20133450377
20133450378
20133450429
20133450430
20133450470
20133450471
20133450510

LIMIT OF WORK

STA 502+00.00
SEG 0264 OFFSET 0941 (NB)
SEG 0265 OFFSET 0941 (SB)
SR 0095 SEC BR2
CITY OF PHILADELPHIA
PHILADELPHIA COUNTY

LIMIT OF WORK

STA 468+00.00
SEG 0254 OFFSET 0838 (NB)
SEG 0255 OFFSET 0797 (SB)
SR 0095 SEC BR2
CITY OF PHILADELPHIA
PHILADELPHIA COUNTY



LOCATION MAP

0 0.5 1
SCALE IN MILES

LEGEND

PROJECT
STATE HIGHWAY
CITY STREET
RAILROAD
STATE LINE

TABULATION OF SEGMENT EQUALITIES

SR 0095

SEGMENT 0254 OFFSET 0000 = STATION 459+60.00
SEGMENT 0255 OFFSET 0000 = STATION 459+60.00
SEGMENT 0260 OFFSET 0000 = STATION 484+01.00 BACK STATION NB
SEGMENT 0261 OFFSET 0000 = STATION 484+01.00 BACK STATION SB
SEGMENT 0264 OFFSET 0000 = STATION 492+58.83 AHEAD STATION NB
SEGMENT 0265 OFFSET 0000 = STATION 492+58.83 AHEAD STATION SB

SR 8017

- RAMP A
RAMP A SEGMENT 0010 OFFSET 3919 =
STATION 81+42.65 AHEAD STATION =
RAMP C SEGMENT 0020 OFFSET 0000

- RAMP B
SEGMENT 0760 OFFSET 0000 = STATION 38+00.96
RAMP H SEGMENT 0520 OFFSET 0872 =
RAMP B SEGMENT 0760 OFFSET 1445 = STATION 51+21.00 =
RAMP D SEGMENT 0250 OFFSET 1406

- RAMP C
SEGMENT 0020 OFFSET 0000 = STATION 1978+69.39 AHD =
RAMP A SEGMENT 0010 OFFSET 3919

- RAMP D
SEGMENT 0250 OFFSET 0216 = STATION 78+01.19
SEGMENT 0250 OFFSET 1406 = STATION 79+54.62
RAMP B SEGMENT 0760 OFFSET 1445

- RAMP H
SEGMENT 0520 OFFSET 0000 = STATION 804+33.82
RAMP H SEGMENT 0520 OFFSET 0872 = STATION 793+14.21 =
RAMP B SEGMENT 0760 OFFSET 0000

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL DWAYNE D. BROWN ENGINEER No. PE062554

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0095	BR2	9 OF 127
CITY OF PHILADELPHIA				

REVISION NUMBER	REVISIONS	DATE	BY

GENERAL NOTES

BUILDINGS AND STRUCTURES MARKED Ⓜ ARE ENCROACHMENTS WHICH ARE THE RESPONSIBILITY OF THE PROPERTY OWNER TO REMOVE. IN CASE ANY ENCROACHMENTS SO MARKED ARE NOT REMOVED BY THE PROPERTY OWNER, DO NOT INTERFERE WITH OR REMOVE SAME UNTIL AUTHORIZED IN WRITING BY THE ENGINEER.

THE HORIZONTAL CONTROL IS BASED ON THE PENNSYLVANIA SOUTH STATE PLANE COORDINATE (NAD 83) SYSTEM. AVERAGE COMBINED SCALE FACTOR IS 0.99999483.

THE VERTICAL CONTROL IS BASED ON THE NORTH AMERICAN DATUM OF 1988 (NAVD 88). THERE IS A DIFFERENCE OF -4.63 FEET BETWEEN THE NATIONAL GEODETIC VERTICALDATUM USED FOR ELEVATIONS SHOWN ON THESE DRAWINGS AND THE DATUM USED BY THE CITY OF PHILADELPHIA FIFTH SURVEY DISTRICT. ELEV 10.00' NGVD = ELEV 5.37' CITY OF PHILADELPHIA.

DO NOT INTERFERE WITH THE OPERATION OF ANY FIRE HYDRANT, FIRE CALL BOX OR POLICE CALL BOX.

ALL CURVE DATA IS BASED ON THE ARC DEFINITION, UNLESS OTHERWISE NOTED.

SR 0095 IS A NHS ROUTE FROM STA 470+00.00 TO STA 500+00.00.

THE FRANKFORD CREEK IS A NAVIGABLE STREAM AND A PUBLIC HIGHWAY.

CHILTON ENGINEERING, INC. IS RESPONSIBLE FOR SURVEY BOOK GROUP NO. 10,373.

SUSQUEHANNA CIVIL, INC. IS RESPONSIBLE FOR SURVEY BOOK GROUP NO. 10,414.

PICKERING, CORTS AND SUMMERSON CONSULTING ENGINEERS AND SURVEYORS ARE RESPONSIBLE FOR SURVEY BOOK 2011-10246.

THIS IS A FEDERAL-AID PROJECT AND AS SUCH IS SUBJECT TO INSPECTION BY REPRESENTATIVES OF THE FEDERAL HIGHWAY ADMINISTRATION AND THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION.

THREE THROUGH TEN WORKING DAYS PRIOR TO EXCAVATION, THE CONTRACTOR MUST CONTACT THE PA ONE CALL SYSTEM, INC., PHONE 1-800-242-1776, SERIAL NUMBERS ARE ALL FOR THE CITY OF PHILADELPHIA:

20140091415	20133450377
20140091416	20133450378
20140100702	20133450429
20133112147	20133450430
20140100614	20133450470
20140100630	20133450471
20140100640	20133450510
20140100648	
20140100669	
20140100682	
20140100685	

REMOVE EXISTING GUIDE RAIL (DEPARTMENT PROPERTY), ITEM 0620-0502: WHEN INDICATED, THE REMOVED GUIDE RAIL AND IMPACT ATTENUATING DEVICES WILL BE RETAINED BY THE DEPARTMENT. CAREFULLY REMOVE THE EXISTING GUIDE RAIL AND IMPACT ATTENUATING DEVICES FROM LOCATIONS INDICATED. DELIVER TO THE PENNDOT PHILADELPHIA COUNTY MAINTENANCE OFFICE, 1901 RUFFNER STREET, PHILADELPHIA, PA 19401. PROVIDE TWO WEEKS NOTICE TO RODNEY STITH, COUNTY MAINTENANCE MANAGER AT 215-225-1415 EXTENSION 3006.A

TEMPORARY CONSTRUCTION EASEMENT. AN EASEMENT TO USE THE LAND AS NECESSARY DURING CONSTRUCTION OF THE PROJECT. THE EASEMENT IS REQUIRED ONLY UNTIL THE CONSTRUCTION OR WORK INDICATED BY THE PLAN IS COMPLETED, UNLESS SOONER RELINQUISHED IN WRITING BY THE DEPARTMENT.

DRAINAGE EASEMENT. AN EASEMENT FOR THE CONSTRUCTION, INSPECTION, MAINTENANCE, REPAIR, RECONSTRUCTION, AND ALTERATION OF HIGHWAY DRAINAGE FACILITIES. THE EASEMENT SHALL NOT PREVENT THE PROPERTY OWNER FROM MAKING ANY LEGAL USE OF THE AREA WHICH IS NOT DETRIMENTAL TO THE NECESSARY FLOW OF WATER. HOWEVER, NO STRUCTURE OF ANY KIND MAY BE ERECTED IN THE AREA, NOR MAY ANY PIPE OR DITCH BE CONNECTED TO THE DEPARTMENT'S PIPE OR DITCH WITHOUT ADVANCED WRITTEN APPROVAL BY THE DEPARTMENT OF TRANSPORTATION.

SR 0095 PREVIOUSLY KNOWN AS LR 1000

THE LEGAL RIGHT-OF-WAY ON SR 0095 (FORMERLY LR 1000) WAS ESTABLISHED FROM STA 345+00.00 TO STA 846+50.00 IS VARIABLE IN WIDTH BASED ON PLAN OF LR 1000 SECTION 2E APPROVED BY GOVERNOR GEORGE LEADER ON DECEMBER 27, 1956.

THE LEGAL RIGHT-OF-WAY FOR SR 0095 WAS ESTABLISHED AND RE-ESTABLISHED AS A LIMITED ACCESS HIGHWAY FROM STATION 424+10 TO STATION 493+00 BY PLAN FOR SR 0095 (FORMERLY LR 1000) SECTION H-1 R/W AND FROM STATION 256+92 TO STATION 265+20 BY PLAN FOR LEGISLATIVE ROUTE 1078 SECTION C-3 R/W APPROVED BY GOVERNOR MILTON J. SHAPP, MARCH 8, 1972.

THE LEGAL RIGHT-OF-WAY FOR SR 0095 WAS RE-ESTABLISHED AS A LIMITED ACCESS HIGHWAY FROM STATION 479+24 TO STATION 537+58.55 BY PLAN FOR SR 0095 (FORMERLY LR 1000) SECTION H-2 R/W AND FROM STATION 229+70.41 TO STATION 256+92 BY PLAN FOR LEGISLATIVE ROUTE 1078 SECTION C-2 R/W APPROVED BY GOVERNOR MILTON J. SHAPP, APRIL 19, 1972.

THE LEGAL RIGHT-OF-WAY FOR SR 0095 WAS ESTABLISHED AS A LIMITED ACCESS HIGHWAY FROM STATION 27+20 TO STATION 50+73 BY PLAN FOR STATE ROUTE 1026 SECTION H03 R/W APPROVED BY SECRETARY OF TRANSPORTATION BRADLEY L. MALLORY ON BEHALF OF GOVERNOR THOMAS J. RIDGE, APRIL 5, 1997.

THE LEGAL RIGHT-OF-WAY FOR SR 0095 WAS RE-ESTABLISHED AS A LIMITED ACCESS HIGHWAY FROM STATION 492+35.06 TO STATION 493+87.25 STATE ROUTE 0095 SECTION BRO R/W APPROVED BY THE SECRETARY OF TRANSPORTATION, MARCH 7, 2013 AND RECORDED ON MARCH 27, 2013.

THE LEGAL RIGHT-OF-WAY FOR SR 0095 WAS RE-ESTABLISHED AS A LIMITED ACCESS HIGHWAY FROM STATION 492+35.06 TO STATION 493+87.25 STATE ROUTE 0095 SECTION BRO R/W REV 1 APPROVED BY THE SECRETARY OF TRANSPORTATION, JANUARY 16, 2014 AND RECORDED ON FEBRUARY 11, 2014.

THE LEGAL RIGHT-OF-WAY FOR SR 0095 WAS RE-ESTABLISHED AS A LIMITED ACCESS HIGHWAY FROM STATION 492+35.06 TO STATION 493+87.25 STATE ROUTE 0095 SECTION BRO R/W REV 2 APPROVED BY THE SECRETARY OF TRANSPORTATION, APRIL 1, 2014 AND RECORDED ON MAY 7, 2014.

THE LEGAL RIGHT-OF-WAY FOR SR 1026 FROM STATION 1006+29.16 TO STATION 1010+13.02 IS VARIABLE IN WIDTH IN ACCORDANCE WITH DRAWINGS ESTABLISHING LIMITED ACCESS HIGHWAY AND AUTHORIZING ACQUISITION OF RIGHT-OF-WAY FOR SR 1026, SECTION H03 R/W APPROVED BY THE SECRETARY OF TRANSPORTATION ON APRIL 5, 1997 AND RECORDED ON APRIL 24, 1997 IN THE PHILADELPHIA COUNTY OFFICE FOR THE RECORDING OF DEEDS, ECT. IN PLAN BOOK 82, PAGES 39 TO 89.

THE LEGAL RIGHT-OF-WAY WIDTH FOR SR 1026 ON THE WEST SIDE OF THE WESTERLY LEGAL RIGHT-OF-WAY LINE OF SR 2009 (ARAMINGO AVENUE) IS VARIABLE IN WIDTH IN ACCORDANCE WITH DRAWINGS ESTABLISHING LIMITED ACCESS HIGHWAY AND AUTHORIZING ACQUISITION OF RIGHT OF WAY FOR SR 1026, SECTION H03 R/W APPROVED BY THE SECRETARY OF TRANSPORTATION ON APRIL 5, 1997 AND RECORDED ON APRIL 24, 1997 IN THE PHILADELPHIA COUNTY OFFICE FOR THE RECORDING OF DEEDS, ETC. IN PLAN BOOK 82, PAGES 39 TO 89.

THE LEGAL RIGHT-OF-WAY ON SR 1026 FROM STATION 1005+33.24 TO STATION 1006+29.16 IS VARIABLE IN WIDTH BASED ON THE PLAN OF SR 1026 SECTION BSR GR/W, SIGNED ON MARCH 7, 2013, AND RECORDED ON MARCH 27, 2013 IN THE PHILADELPHIA COUNTY RECORDER'S OFFICE IN PLAN BOOK 95, PAGE 1134.

THE LEGAL RIGHT-OF-WAY ON SR 1026 FROM STATION 1005+53.24 TO STATION 1007+44.08 IS VARIABLE IN WIDTH BASED ON THE PLAN OF SR 1026 SECTION BSR GR/W, SIGNED ON MARCH 7, 2013, AND RECORDED ON MARCH 27, 2013 IN THE PHILADELPHIA COUNTY RECORDER'S OFFICE IN PLAN BOOK 95, PAGE 1134.

THE LEGAL RIGHT-OF-WAY FOR SR 1026 FROM STATION 1010+13.02 TO STATION 1027+18.86 IS VARIABLE IN WIDTH IN ACCORDANCE WITH THE DRAWINGS ESTABLISHING LIMITED ACCESS HIGHWAY AND AUTHORIZING ACQUISITION RIGHT-OF-WAY FOR SR 1026, SECTION BRO R/W APPROVED BY THE SECRETARY OF TRANSPORTATION ON MARCH 7, 2013 AND RECORDED ON MARCH 27, 2013 IN THE PHILADELPHIA COUNTY RECORDER'S OFFICE IN PLAN BOOK 95, PAGE 1184.

THE LEGAL RIGHT-OF-WAY WIDTH FOR SR 2009 (ARAMINGO AVENUE) FROM WHEATSHEAF LANE TO DUNCAN STREET IS 108.27 FEET (CITY OF PHILADELPHIA DISTRICT STANDARD MEASUREMENT OF 108 FEET) BASED ON CITY STREET PLAN REVISING PORTIONS OF CITY PLANS NOS. 55 AND 187 OF THE 23RD AND 45TH WARDS AND AUTHORIZED BY ORDINANCES OF COUNCIL APPROVED FEBRUARY 17, 1948 AND DECEMBER 13, 1950, CONFIRMED BY BOARD OF SURVEYORS ON JANUARY 15, 1951 AND FILED IN THE CITY PLANS OFFICE, DEPARTMENT OF STREETS, PHILADELPHIA, PA.

THE LEGAL RIGHT-OF-WAY WIDTH FOR CHURCH STREET FROM SEPVIVA STREET TO SR 2009 (ARAMINGO AVENUE) IS 60.15 FEET (CITY OF PHILADELPHIA DISTRICT STANDARD MEASUREMENT OF 60 FEET) BASED ON CITY STREET PLAN REVISING PORTIONS OF CITY PLANS NOS. 55 AND 187 OF THE 23RD AND 45TH WARDS AND AUTHORIZED BY ORDINANCES OF COUNCIL APPROVED FEBRUARY 17, 1948 AND DECEMBER 13, 1950, CONFIRMED BY BOARD OF SURVEYORS ON JANUARY 15, 1951 AND FILED IN THE CITY PLANS OFFICE, DEPARTMENT OF STREETS, PHILADELPHIA, PA.

THE LEGAL RIGHT-OF-WAY WIDTH FOR DUNCAN STREET FROM SEPVIVA STREET TO SR 2009 (ARAMINGO AVENUE) IS 50.13 FEET (CITY OF PHILADELPHIA DISTRICT STANDARD MEASUREMENT OF 50 FEET) BASED ON CITY STREET PLAN REVISING PORTIONS OF CITY PLANS NOS. 55 AND 187 OF THE 23RD AND 45TH WARDS AND AUTHORIZED BY ORDINANCES OF COUNCIL APPROVED FEBRUARY 17, 1948 AND DECEMBER 13, 1950, CONFIRMED BY BOARD OF SURVEYORS ON JANUARY 15, 1951 AND FILED IN THE CITY PLANS OFFICE, DEPARTMENT OF STREETS, PHILADELPHIA, PA.

THE LEGAL RIGHT-OF-WAY WIDTH FOR JUNIATA STREET FROM SR 2001 (RICHMOND STREET) TO ALMOND STREET IS 60.15 FEET (CITY OF PHILADELPHIA DISTRICT STANDARD MEASUREMENT OF 60 FEET) BASED ON CITY STREET PLAN REVISING CITY PLAN CP305. APPROVED BY ORDINANCE OF PHILADELPHIA CITY COUNCIL ON OCTOBER 15, 1970, CONFIRMED BY BOARD OF SURVEYORS ON OCTOBER 18, 1971 AND APPROVED BY PHILADELPHIA CITY PLANNING COMMISSION ON DECEMBER 22, 1970.

THE LEGAL RIGHT-OF-WAY WIDTH FOR THOMPSON STREET FROM ADAMS AVENUE TO JUNIATA STREET IS 50.13 FEET (CITY OF PHILADELPHIA DISTRICT STANDARD MEASUREMENT OF 50 FEET) BASED ON CITY STREET PLAN REVISING CITY PLAN CP305. APPROVED BY ORDINANCE OF PHILADELPHIA CITY COUNCIL ON OCTOBER 15, 1970, CONFIRMED BY BOARD OF SURVEYORS ON OCTOBER 18, 1971 AND APPROVED BY THE PHILADELPHIA CITY PLANNING COMMISSION ON DECEMBER 22, 1970

THE LEGAL RIGHT-OF-WAY WIDTH FOR RICHMOND STREET FROM LEWIS STREET TO JUNIATA STREET IS VARIABLE IN WIDTH FROM 60.15 FEET (CITY OF PHILADELPHIA DISTRICT STANDARD MEASUREMENT OF 60.00 FEET) TO 92.23 FEET (CITY OF PHILADELPHIA DISTRICT STANDARD MEASUREMENT OF 92.00 FEET) BASED ON CITY STREET PLAN REVISING PORTIONS OF CITY PLAN NUMBER 305 OF THE 45TH WARD AND AUTHORIZED BY ORDINANCE OF COUNCIL, APPROVED OCTOBER 15, 1970, CONFIRMED BY THE BOARD OF SURVEYORS ON OCTOBER 18, 1971, AND APPROVED BY CITY PLANNING COMMISSION DECEMBER 22, 1970, FILED IN THE CITY PLANS OFFICE, DEPARTMENT OF STREETS, PHILADLEPHIA, PA.

FOR INFORMATION REGARDING THE PROTECTIVE COATING AND ARCHITECTURAL SURFACE TREATMENT, SEE THE SR 0095 SECTION BR2 GUIDE TO SURFACE TREATMENTS.

ECMTS NOTE

CONSTRUCT ALL WORK ITEMS IN ACCORDANCE WITH THE REQUIREMENTS LISTED IN THE PROJECT ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMTS) FORM. SUBMIT ALL REVISIONS FOR APPROVAL TO THE DESIGN ENGINEER AND THE DISTRICT ENVIRONMENTAL MANAGER FOR ECMTS COMPLIANCE.

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DWAYNE D. BROWN
ENGINEER
No. PE082554

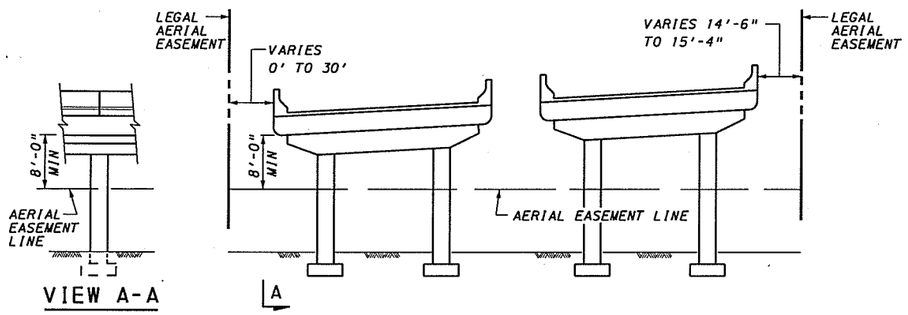
GENERAL NOTES

I:\Projects\041073\041073.0002\CAD\Drawings\Highways\Construction\general notes 01_I-95 BR2.dgn
10/18/2019 10:59:57 AM spadeama

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0095	BR2	10 OF 127
CITY OF PHILADELPHIA				

REVISION NUMBER	REVISIONS	DATE	BY

EXISTING AERIAL EASEMENT SKETCH



SKETCH SHOWING ESTATE PREVIOUSLY ACQUIRED FOR A LIMITED AERIAL EASEMENT

RAMP A SURVEY & R/W BASELINE: STA 24+88.96 TO STA 25+49.00
STA 33+21.56 TO STA 35+62.00
STA 36+52.50 TO STA 37+12.69
STA 53+36.14 TO STA 55+96.50

RAMP B SURVEY & R/W BASELINE: STA 51+01.00 TO STA 57+63.00
STA 33+76.00 TO STA 38+23.00

RAMP D SURVEY & R/W BASELINE: STA 57+78.00 TO STA 61+09.00
STA 50+44.00 TO STA 57+15.00

RAMP H SURVEY & R/W BASELINE: STA 42+15.00 TO STA 42+85.50
STA 33+70.00 TO STA 38+48.00

A PLANE 8' MIN. BELOW THE UNDERSIDE OF THE VIADUCT. THE ESTATE ACQUIRED ABOVE THIS PLANE MAY BE ENCROACHED ON BY MOVING VEHICLES SUCH AS TRUCKS OR RAILROAD ROLLING STOCK.

A PLANE 8' MIN. BELOW UNDERSIDE OF THE VIADUCT. THE ESTATE ACQUIRED ABOVE THIS PLANE MAY BE ENCROACHED ON BY THE MOVING VEHICLES SUCH AS TRUCKS OR RAILROAD ROLLING STOCK.

1. *WHERE AN AERIAL EASEMENT IS ACQUIRED, IT SHALL INCLUDE AN EASEMENT IN THE AIR FOR THE ACCOMMODATION OF THE ELEVATED HIGHWAY STRUCTURE UNLIMITED IN VERTICAL DIMENSION ABOVE THE STRUCTURE, A SURFACE EASEMENT UNLIMITED IN VERTICAL DIMENSION FOR THE ACCOMMODATION OF PIERS AND OTHER APPURTENANCES AND A TEMPORARY EASEMENT FOR CONSTRUCTION PURPOSES INCLUDING THE STORAGE OF MATERIALS DURING CONSTRUCTION FOR THE ENTIRE AREA. THE FOLLOWING LIMITATIONS SHALL BE IMPOSED ON THE PROPERTY BENEATH THE AREA AFFECTED BY THE AERIAL EASEMENT.*

2. *NO USE SHALL BE MADE OF THE PROPERTY WHICH SHALL ENDANGER THE STRUCTURE OR THE HEALTH, SAFETY OR WELFARE OF THE TRAVELING PUBLIC.*

3. *NO FLAMMABLE, EXPLOSIVE, DANGEROUS OR HAZARDOUS MATERIAL SHALL BE USED, PLACED OR STORED ON THE PROPERTY.*

4. *NO BUILDING OR OTHER FACILITY SHALL BE CONSTRUCTED ON THE PROPERTY WITHOUT PRIOR AUTHORITY OF THE DEPARTMENT OF TRANSPORTATION. IF AND WHEN SUCH AUTHORITY IS GRANTED, THE PLANS FOR THE BUILDING OR FACILITY AND CONSTRUCTION METHODS SHALL BE SUBJECT TO THE APPROVAL OF THE DEPARTMENT OF TRANSPORTATION.*

5. *NO INTERFERENCE SHALL BE MADE WITH THE RIGHT OF THE DEPARTMENT OF TRANSPORTATION TO ENTER UPON THE PROPERTY FOR THE PURPOSES OF INSPECTION, MAINTENANCE, REPAIR, PAINTING, RECONSTRUCTION OR ALTERATION OF THE STRUCTURE OR APPURTENANCES. MOVEABLE ITEMS MAY HAVE TO BE REMOVED BY THE OWNER DURING SOME OR ALL OF THE ABOVE OPERATIONS.*

6. *ANY SUBSTANTIAL CHANGE IN PROPERTY USE TO BE MADE SUBSEQUENT TO THE ACQUISITION OF THE EASEMENT SHALL BE SUBJECT TO THE APPROVAL OF THE DEPARTMENT OF TRANSPORTATION.*

7. *THE NOTES ON THESE DRAWINGS SHALL NOT BE CONSTRUED AS LIMITING OR INTERFERING IN ANY WAY WITH THE PRESENT AND FUTURE OPERATION, USE, MAINTENANCE, REPAIR, RENEWAL, CHANGE, ADDITION, BETTERMENT OR ALTERATION OF THE RAILROAD AND ITS SUPPORTING FACILITIES.*

GENERAL NOTES

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DWAYNE D. BROWN
ENGINEER
No. PE082554

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0095	BR2	102 OF 127
	CITY OF PHILADELPHIA			

REVISION NUMBER	REVISIONS	DATE	BY

BM #67 ELEV = 13.164
RAMP B ℄ STA 48+64, 25' RT
SQ CUT IN NORTH SIDE OF CONCRETE WALL
ON NORTH SIDE OF FRANKFORD CREEK

EXISTING COMMUNICATIONS JUNCTION BOX (SECTION BRO FIBER DEMARCATION)

EXISTING COMMUNICATIONS 4" CONDUIT W/ (4) 1-1/4" INNERDUCTS IN STRUCTURE BARRIER

CONNECT PROPOSED COMMUNICATIONS CONDUIT TO EXISTING COMMUNICATIONS CONDUIT IN STRUCTURE BARRIER

RIGHT-OF-WAY RESERVED BY THE CITY OF PHILADELPHIA FOR DRAINAGE EASEMENT

START WORK
STA 56+00.00
SR 8017 (RAMP D)

COMMONWEALTH OF PENNSYLVANIA

BEGIN STRUCTURE
STA 78+01.27
SR 8017 (RAMP D)

WATERS OF THE COMMONWEALTH

RIGHT-OF-WAY RESERVED BY PHILADELPHIA WATER DEPARTMENT

END STRUCTURE
STA 79+96.27
SR 8017 (RAMP D) /
BEGIN STRUCTURE
STA 79+96.27
SR 8017 (RAMP D)

BM #67

PROPOSED COMMUNICATIONS 4" CONDUIT W/ (4) 1-1/4" INNERDUCTS IN STRUCTURE BARRIER

(4) S.D. RICHMAN AND SONS, INC., A PENNSYLVANIA CORPORATION, W & A ASSOCIATES, LLC, AND LUZERNE REALTY PARTNERS, LLC, A PENNSYLVANIA LIMITED LIABILITY COMPANY

END STRUCTURE/
BEGIN FULL DEPTH RECONSTRUCTION
STA 81+87.79
SR 8017 (RAMP D)

RIGHT-OF-WAY FENCE

TEMPORARY CONSTRUCTION EASEMENT

RAMP D

RAMP B

RAMP JJ

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

SURVEY & CONSTR ℄ SR 8017 (RAMP D)

CONSTR ℄ SR 8017 (RAMP B)

ENTIRE AREA INCLUDED IN LEGAL RIGHT-OF-WAY FOR LIMITED ACCESS

END STRUCTURE/
BEGIN FULL DEPTH RECONSTRUCTION/
MOMENT SLAB
STA 53+48.37
SR 8017 (RAMP B)

CONRAIL OPERATING LEGAL AERIAL EASEMENT
RIGHT-OF-WAY LINE

CONFIRMED AND LEGAL CHANNEL LINE FOR FRANKFORD CREEK

CONRAIL DEL AIR

AMTRAK LINE OPERATED AT 138 KV (TIER 485)

PECO 220-56 LINE OPERATED AT 230 KV (TIER 485)

PECO 220-35 LINE OPERATED AT 138 KV (TIER 384)

PECO 330-35 LINE OPERATED AT 138 KV (TIER 384)

5/8" DIA. BRONZE STRAND (TOP TIER)

(3) CONSOLIDATED RAIL CORPORATION, A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF PENNSYLVANIA

CONFIRMED AND LEGAL CHANNEL LINE FOR FRANKFORD CREEK

FRANKFORD CREEK (WWF, MF)

PT STA 276+50.40

SR 0095

HYDROLOGIC AND HYDRAULIC DATA
DRAINAGE AREA: 36.8 SQUARE MILES

FRANKFORD CREEK		EXISTING	PROPOSED
50-YEAR (PENNDOT DESIGN FLOOD	DISCHARGE (CFS)	16,151	16,151
	WSEL (FT)	14.85	14.84
	VELOCITY (FT/S)	5.81	5.81
100-YEAR (DEP DESIGN FLOOD	DISCHARGE (CFS)	17,884	17,884
	WSEL (FT)	15.73	15.72
	VELOCITY (FT/S)	5.99	5.99
100-YEAR (FEMA DESIGN FLOOD	DISCHARGE (CFS)	17,500	17,500
	WSEL (FT)	15.41	15.40
	VELOCITY (FT/S)	6.01	6.01

SEE SHEET 103

SEE SHEET 107

SEE SHEET 101

LEGEND

◯ - CURVE NUMBERS (SEE GEOMETRY PLAN)

SCALE
0 25 50 FEET

FOR STRUCTURE DATA, SEE SHEET 18
FOR RAMPS B AND D PROFILES, SEE SHEETS 114-115 & 118
FOR REFERENCE CIRCLES, SEE SHEET 19
FOR GEOMETRY, SEE SHEET 15
SURVEY BOOK NO. 10,373

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DWAYNE D. BROWN
ENGINEER
No. PE082554
PENNSYLVANIA

\\stvgroup.stvinc.com\V3\06PA\Vol3\Projects\041047J3\041047J3.0002\CAD\Drawings\Highways\ConstructionPlan 08_I-95 BR2.dgn
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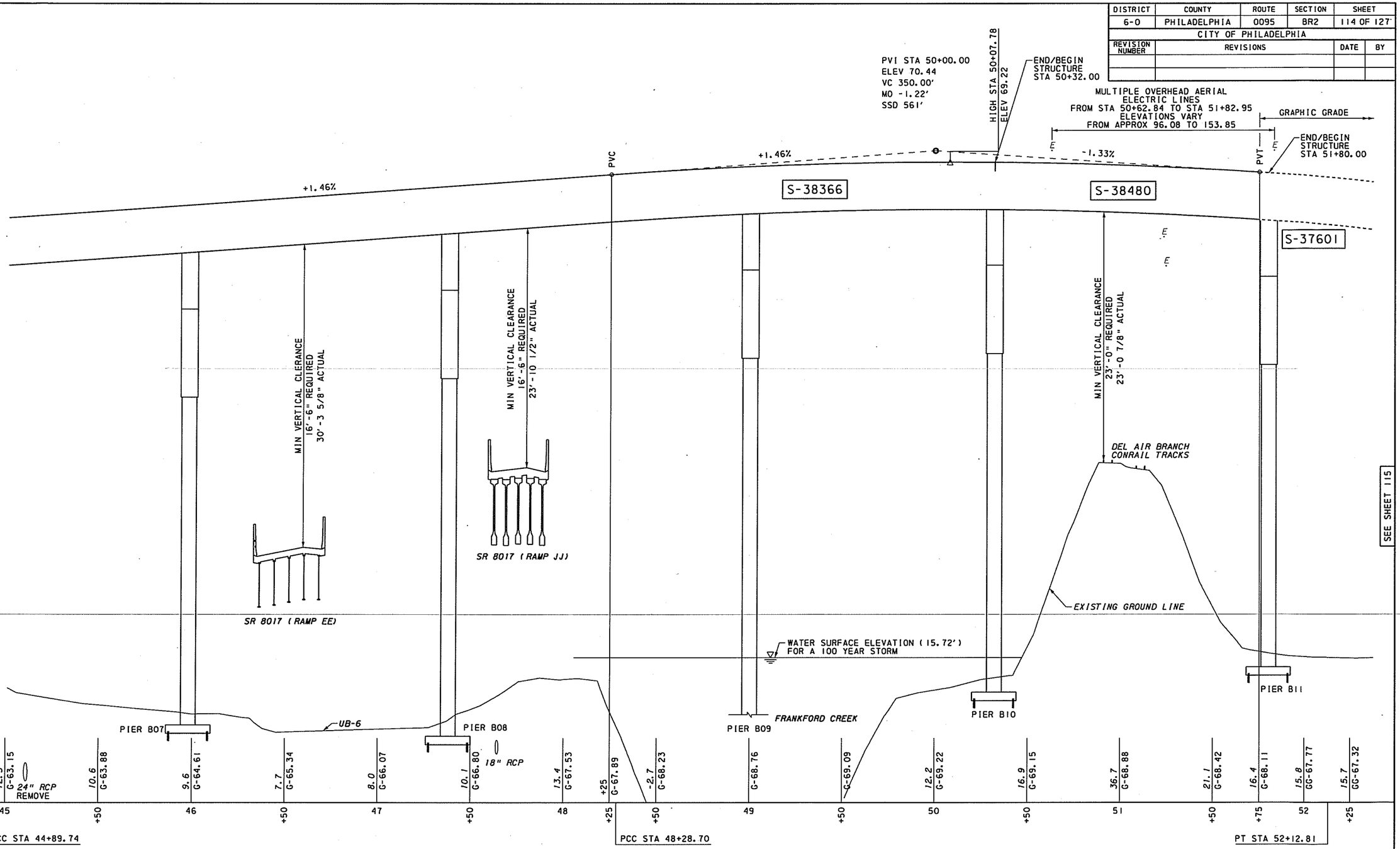
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0095	BR2	114 OF 127
CITY OF PHILADELPHIA				

REVISION NUMBER	REVISIONS	DATE	BY



PROFILE - SR 8017 (RAMP B)

0 25 50 HORIZONTAL

0 5 10 VERTICAL

SCALE IN FEET

SURVEY BOOK NO. 2011 - 10246

FOR PLAN, SEE SHEETS 101-102

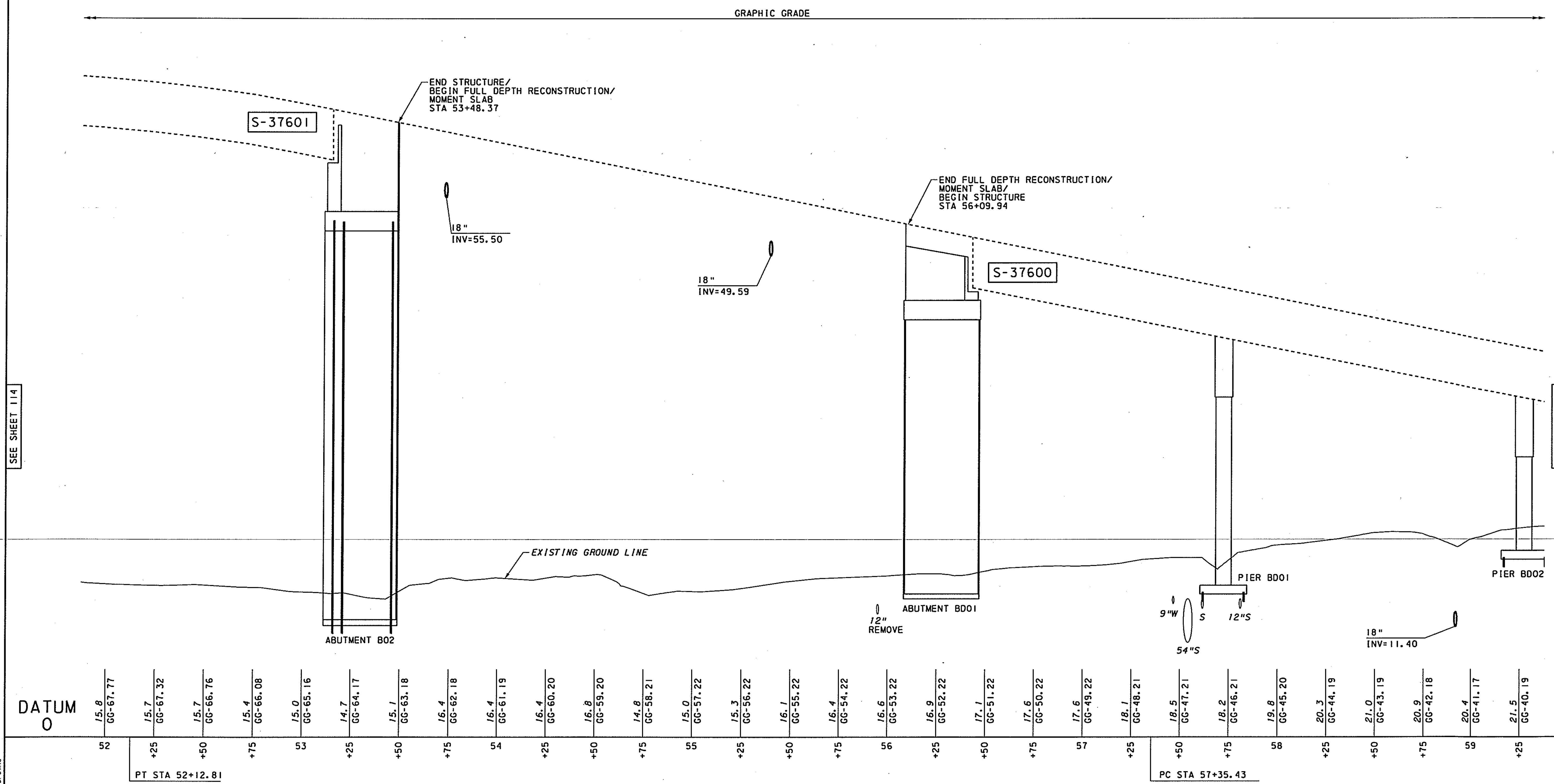
SURVEY BOOK NO. 10,373

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL DWAYNE D. BROWN ENGINEER No. PE082554

CITY OF PHILADELPHIA

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 114



SEE SHEET 116

PROFILE - SR 8017 (RAMP B)

0 25 50 HORIZONTAL

0 5 10 VERTICAL

SCALE IN FEET

SURVEY BOOK NO. 2011 - 10246

FOR PLAN, SEE SHEETS 102-103 & 107

SURVEY BOOK NO. 10,373

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL DWAYNE O. BROWN ENGINEER No. PE062554

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0095	BR2	118 OF 127
	CITY OF PHILADELPHIA			

REVISION NUMBER	REVISIONS	DATE	BY

START WORK
STA 56+00.00
SR 8017 (RAMP D)

PVI STA 76+85.00
ELEV 70.69
VC 369.00'
MO -1.88'
SSD 449'

3.48%

-0.61%

BEGIN STRUCTURE
STA 78+01.27

HIGH STA 78+14.60
ELEV 69.74

MULTIPLE OVERHEAD AERIAL ELECTRIC LINES
FROM STA 78+42.79 TO STA 79+75.40
ELEVATIONS VARY FROM APPROX 93.71 TO 151.63

PVT

-0.61%

PVC

-0.61%

END STRUCTURE
STA 79+96.27
BEGIN STRUCTURE
STA 79+96.27

PVI STA 80+50.00
ELEV 68.48
VC 170.00'
MO -0.72'
SSD 406'

-3.97%

PVT

PROPOSED GRADE LINE

END STRUCTURE/
BEGIN FULL DEPTH
RECONSTRUCTION
STA 81+87.79

-3.97%

S-37498

S-37601

E

E

MIN VERTICAL CLEARANCE
23'-0" REQUIRED
23'-7 1/2" ACTUAL

MIN VERTICAL CLEARANCE
23'-0" REQUIRED
23'-0" ACTUAL

18"
INV=56.66

18"
INV=50.09

DEL AIR BRANCH
CONRAIL TRACKS

WATER SURFACE ELEVATION (15.85')
FOR A 100 YEAR STORM

EXISTING GROUND LINE

PIER B12

ABUTMENT B02

FRANKFORD CREEK

PIER D10

DATUM 0	0.0 G-69.01	0.4 G-69.51	10.8 G-69.73	27.3 G-69.67	G-69.57	36.2 G-69.39	19.5 G-69.08	G-68.99	16.8 G-68.66	17.1 G-67.76	16.5 G-66.37	G-65.10	15.8 G-64.50	15.4 G-62.52	16.0 G-60.53	15.9 G-58.55	16.0 G-56.56	16.8 G-54.57
	77	+50	78	+50	+69.5	79	+50	+65	80	+50	81	+35	+50	82	+50	83	+50	84

SEE SHEET 119

PROFILE - SR 8017 (RAMP D)

0 25 50 HORIZONTAL
0 5 10 VERTICAL
SCALE IN FEET

SURVEY BOOK NO. 2011 - 10246

FOR PLAN, SEE SHEETS 102-103 & 107
SURVEY BOOK NO. 10,373

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DWAYNE D. BROWN
ENGINEER
No. PE082554

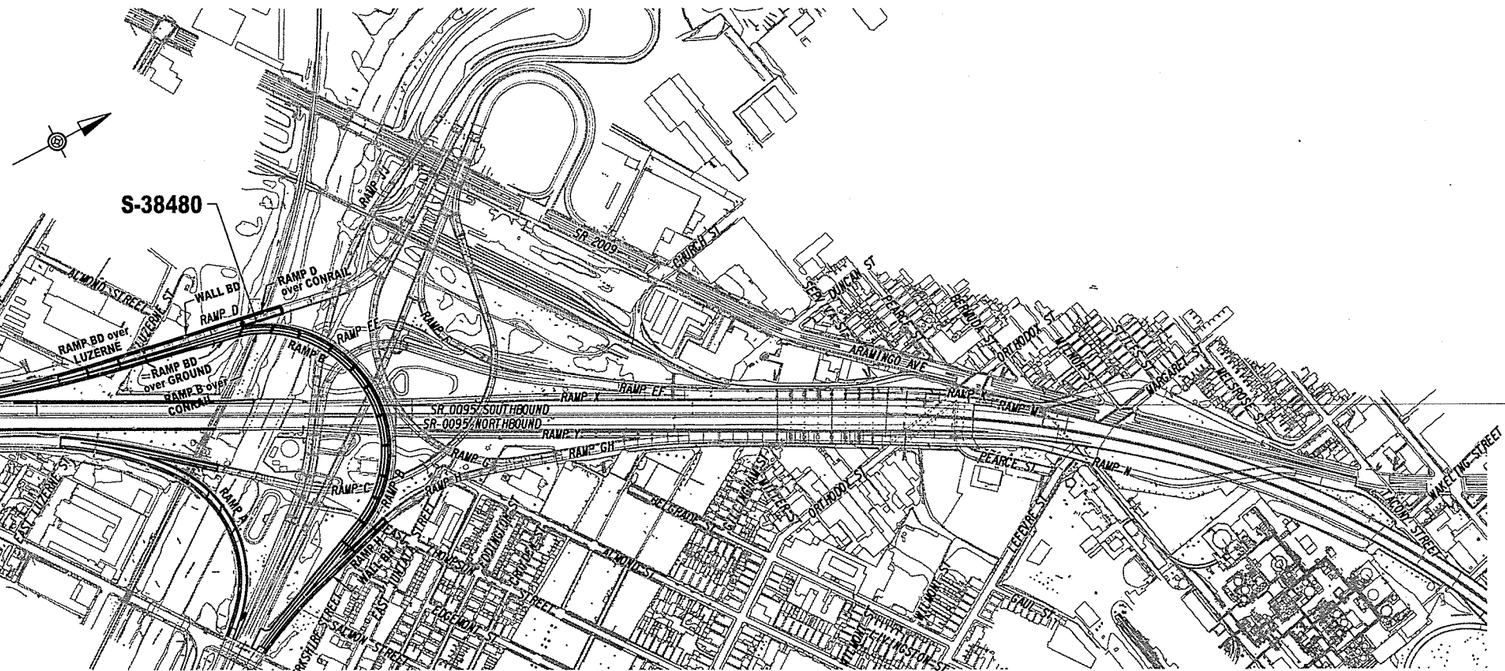
COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

DRAWINGS
FOR
BRIDGE CONSTRUCTION
OF

STATE ROUTE 8017 SECTION BR2

IN PHILADELPHIA COUNTY



PROJECT KEY MAP

NOTES
1. FOR SUMMARY OF BRIDGE LOAD RATINGS, SEE SHEET 5.
2. FOR INDEX OF DRAWINGS, SEE SHEET 4.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

DESIGNED: ZRC | CHECKED: ARG | CADD: JAS | CHECKED: ARG

DESIGN REVIEWED BY
Michael Baker International
500 OFFICE CENTER DRIVE, SUITE 210
FORT WASHINGTON, PA 19034

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ROBERT W. BONDI ENGINEER PE037612R

Robert W. Bondi 10-16-2019
REVIEW CONSULTANT'S SIGNATURE DATE

THE DESIGN REVIEW IS FOR GENERAL CONFORMANCE WITH THE DEPARTMENT'S DESIGN AND CONSTRUCTION CRITERIA AND STANDARDS AND IS NOT INTENDED TO RELIEVE THE DESIGNER OF FULL RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS OF THE PLANS.

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

PREPARED BY
STV
STV Incorporated
1818 MARKET STREET, SUITE 1410
PHILADELPHIA, PA 19103

PROFESSIONAL ENGINEER
DATE 9-30-19

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
TITLE SHEET

RECOMMENDED 10/18/2019
CHIEF BRIDGE ENGINEER

SHEET 1 OF 37 + SUPPLEMENTAL DRAWINGS
S- 38480

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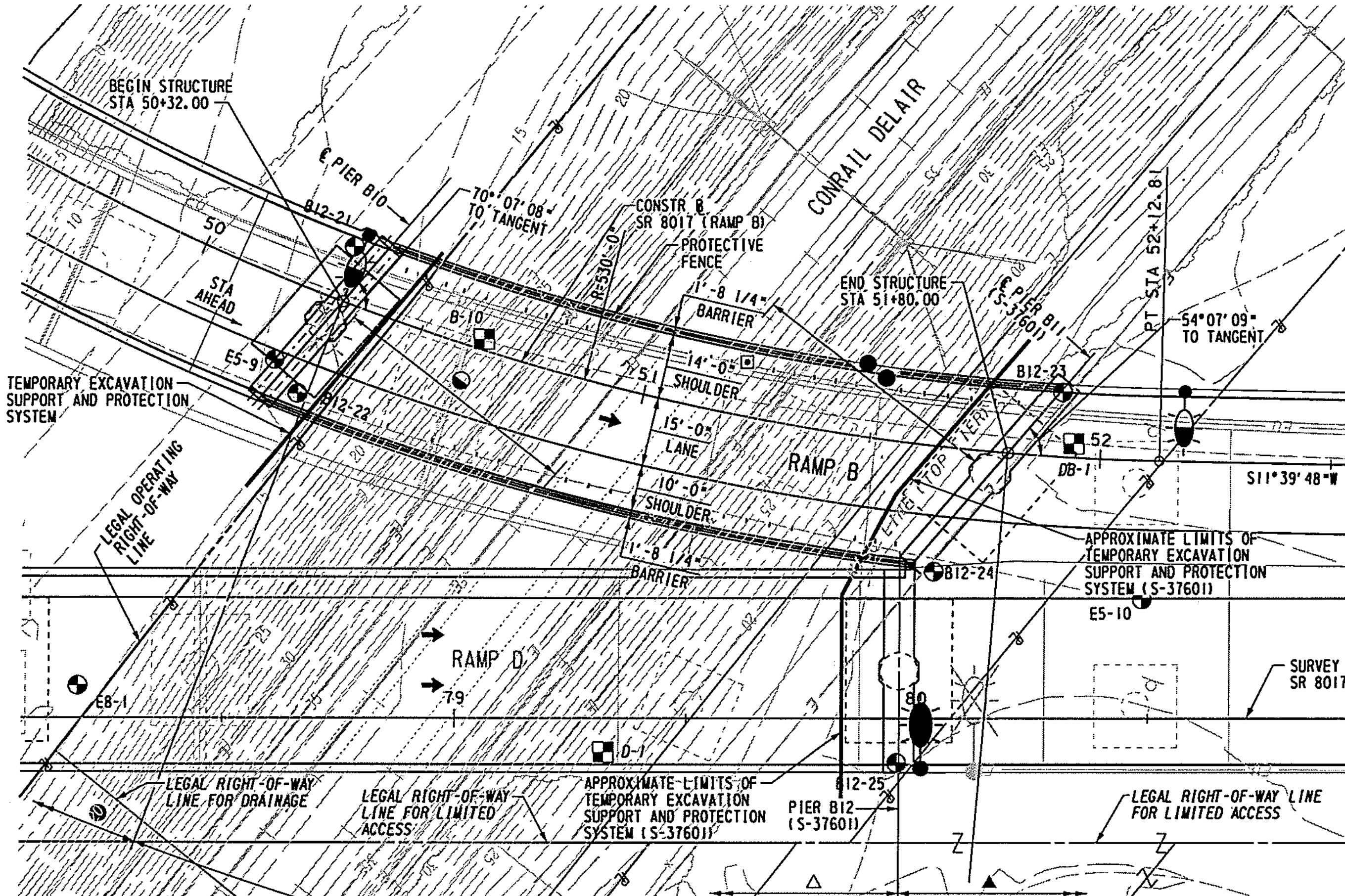
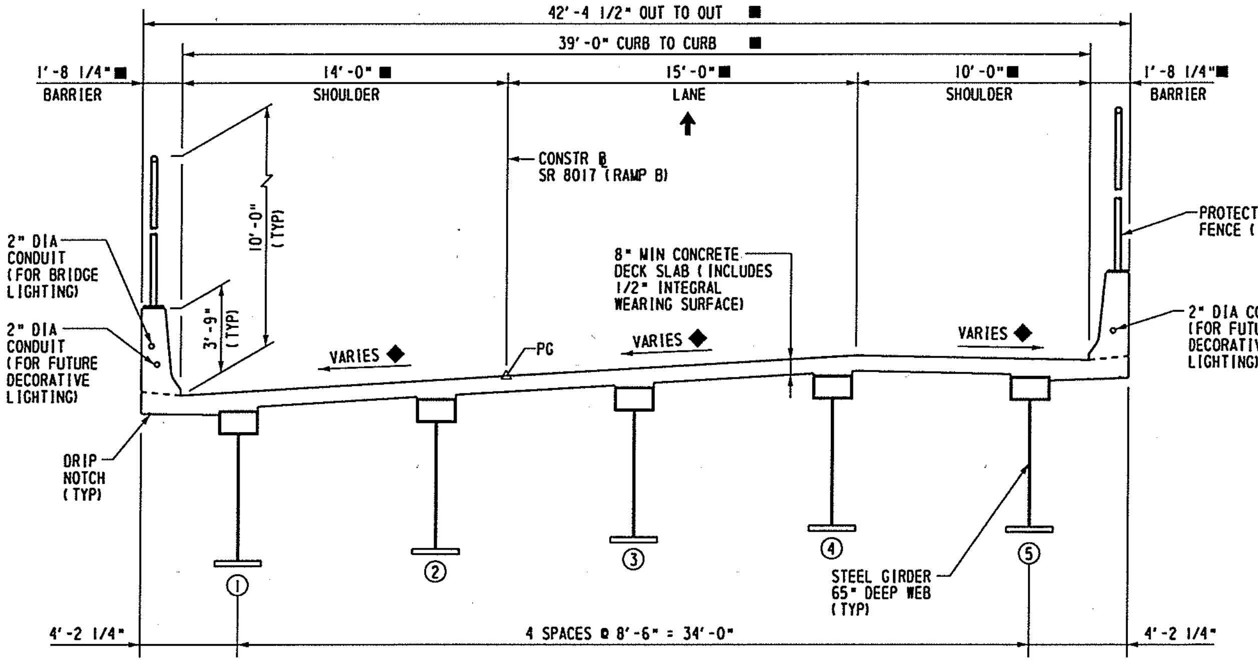


AS-DRILLED BORING LOCATIONS

BORING	STATION	OFFSET
B12-21	50+30	12' LT
B12-22	50+30	22' RT
B12-23	51+91	14' LT
B12-24	51+67	27' RT
B12-25	51+64	69' RT

PLAN

20' 0 20'



TYPICAL SECTION
(LOOKING STATION AHEAD)

4' 2' 0 4'

HORIZONTAL CURVE DATA

CONSTR ℄
SR 8017 (RAMP B)

PI STA 50+29.63
Δ = 41°31'28" LT
D = 10°48'38"
T = 200.93'
L = 384.11'
R = 530.00'
E = 36.81'

VERTICAL CURVE DATA

CONSTR ℄
SR 8017 (RAMP B)

+1.46 % -1.33 %

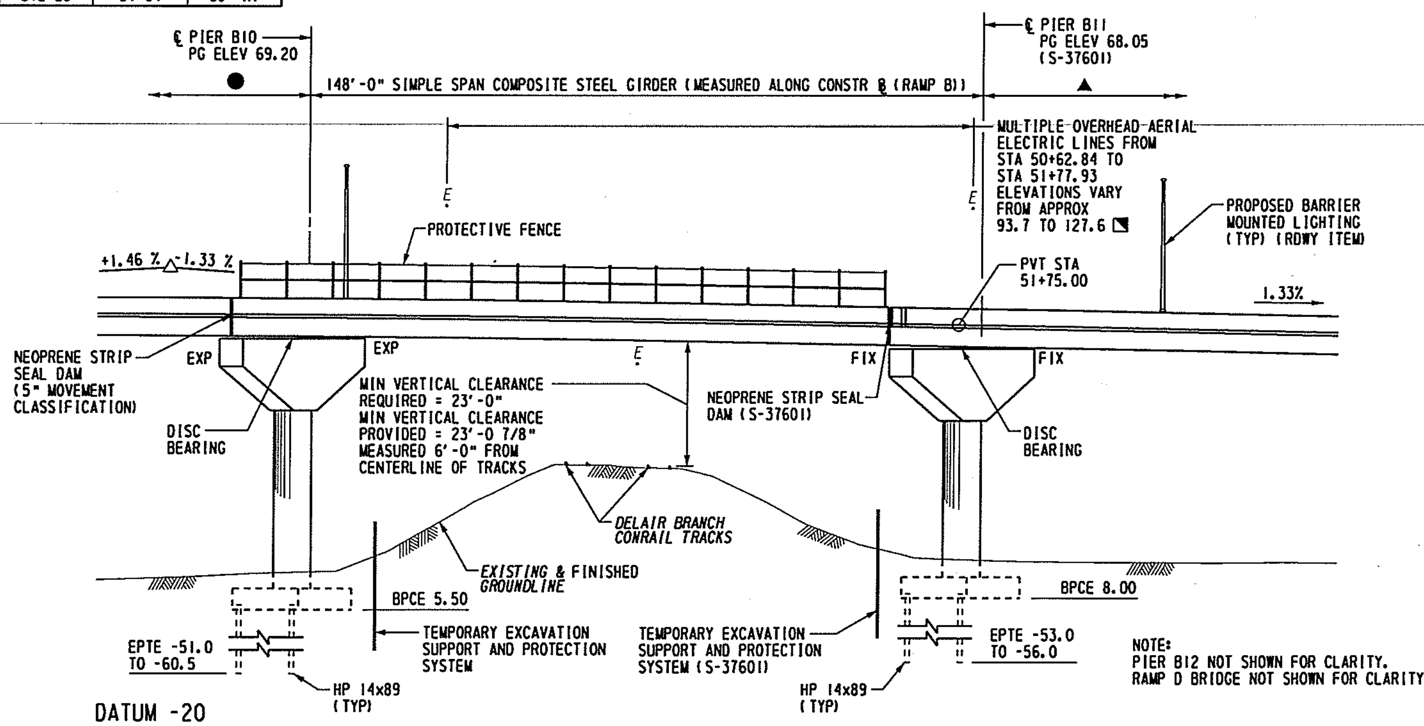
PVI STA 50+00.00
PVI ELEV = 70.44
VC = 350.00'
MO = -1.22'
SSD = 561'

HYDROLOGIC AND HYDRAULIC DATA - FRANKFORD CREEK

DRAINAGE AREA = 36.8 SQUARE MILES		EXISTING	PROPOSED
50-YEAR (PENNDOT DESIGN FLOOD)	DISCHARGE	16,151 CFS	16,151 CFS
	WATER SURFACE ELEV	14.85'	14.84'
	VELOCITY	5.81 FT/S	5.81 FT/S
100-YEAR (PADEP DESIGN FLOOD)	DISCHARGE	17,884 CFS	17,884 CFS
	WATER SURFACE ELEV	15.73'	15.72'
	VELOCITY	5.99 FT/S	5.99 FT/S
100-YEAR (FEMA DESIGN FLOOD)	DISCHARGE	17,500 CFS	17,500 CFS
	WATER SURFACE ELEV	15.41'	15.40'
	VELOCITY	6.01 FT/S	6.01 FT/S

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR INDEX OF DRAWINGS, SEE SHEET 4.
3. FOR LOAD RATINGS TABLE, SEE SHEET 5.
4. FOR STAKE-OUT PLAN, SEE SHEET 7.
5. ~~FOR SUMMARY OF QUANTITIES, SEE SHEET 6.~~
6. FOR FRAMING PLAN, SEE SHEET 11.
7. GIRDER SPACINGS MEASURED NORMAL TO GIRDERS. OVERHANG DIMENSIONS MEASURED NORMAL TO EXTERIOR GIRDERS.



ELEVATION

20' 0 20'

NOTE:
PIER B12 NOT SHOWN FOR CLARITY.
RAMP D BRIDGE NOT SHOWN FOR CLARITY.

LEGEND

— 20 —	EXISTING CONTOURS
→	DIRECTION OF TRAFFIC
▣	POINT OF MINIMUM VERTICAL UNDERCLEARANCE
	AS-DRILLED BORING LOCATION
	EXISTING BORING LOCATION
— E —	EXISTING AERIAL ELECTRICAL
— ℄ —	PROPERTY LINE
▲	SR 8017 (RAMP BD) OVER GROUND (S-37601)
△	SR 8017 (RAMP D) OVER CONRAIL (S-37498)
●	SR 8017 (RAMP B) OVER I-95 (S-38366)
■	MEASURED NORMAL TO CONSTR ℄ SR 8017 (RAMP B)
	CONTRACTOR TO VERIFY
	MIN HORIZ CLR PROVIDED = 54'-8" MIN HORIZ CLR REQUIRED = 12'-6"
●●	MIN HORIZ CLR PROVIDED = 56'-2" MIN HORIZ CLR REQUIRED = 12'-6"
◆	FOR SUPERELEVATION TRANSITION DIAGRAM, SEE SHEET 28.
	EXISTING BRIDGE MOUNTED LIGHTING (TO BE REMOVED)
	PROPOSED BARRIER MOUNTED LIGHTING (250W)
	PROPOSED BARRIER MOUNTED LIGHTING (400W)

Mark	Description	By	Chk'd.	Recm'd	Date

REVISIONS

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
GENERAL PLAN & ELEVATION

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

STV

RECOMMENDED 10/18/2019

SHEET 2 OF 37

S- 38480

DESIGNED: DDK | CHECKED: ARG | CADD: JAS | CHECKED: JSE

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GENERAL NOTES

GENERAL

1. PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH SPECIFICATIONS, PUBLICATION 408/2016, AASHTO/AWS D1.5M/D1.5, 2008 BRIDGE WELDING CODE (USE AASHTO/AWS D1.1/D1.1M, 2008 FOR WELDING NOT COVERED IN AASHTO/AWS D1.5M/D1.5, 2008), AND CONTRACT SPECIAL PROVISIONS.
2. PROVIDE STRUCTURAL STEEL CONFORMING TO ASTM A500 GRADE C (50 KSI) FOR TOP FLANGE TUBE. PROVIDE STRUCTURAL STEEL CONFORMING TO AASHTO M270/M270M (ASTM A709/A709M) GRADE 50 DESIGNATION, FOR ALL OTHER STRUCTURAL STEEL.
3. PROVIDE 2 INCHES CONCRETE COVER ON REINFORCEMENT BARS, EXCEPT AS NOTED.
4. USE CLASS AAAP CEMENT CONCRETE IN DECK SLABS.
5. USE CLASS AA CEMENT CONCRETE IN BARRIERS.
6. USE CLASS A CEMENT CONCRETE IN PIERS, PEDESTALS AND FOOTINGS.
7. A HIGHER CLASS CONCRETE MAY BE SUBSTITUTED FOR A LOWER CLASS CONCRETE AT NO ADDITIONAL COST TO THE DEPARTMENT, IF APPROVED BY THE DISTRICT BRIDGE ENGINEER.
8. PROVIDE GRADE 60 REINFORCING STEEL BARS (UNLESS NOTED OTHERWISE) THAT MEET THE REQUIREMENTS OF ASTM A615/A615M, A996/A996M, OR A706/A706M. DO NOT WELD GRADE 60 REINFORCING STEEL BARS UNLESS SPECIFIED. GRADE 40 REINFORCING STEEL BARS MAY BE SUBSTITUTED WITH A PROPORTIONAL INCREASE IN CROSS-SECTIONAL AREA, IF APPROVED BY THE CHIEF BRIDGE ENGINEER. DO NOT USE RAIL STEEL A996/A996M REINFORCEMENT BARS IN BRIDGE PIERS, FOOTINGS, PILES, BARRIERS, OR WHERE BENDING OR WELDING OF THE REINFORCEMENT BARS IS INDICATED.
9. USE EPOXY-COATED REINFORCEMENT BARS IN ALL CAST-IN-PLACE CONCRETE (UNLESS NOTED OTHERWISE).
10. GALVANIZED STEEL REINFORCING BARS MAY BE SUBSTITUTED FOR EPOXY COATED REINFORCING BARS AT NO ADDITIONAL COST TO THE DEPARTMENT.
11. PROVIDE GRADE 100 UNCOATED, CORROSION-RESISTANT REINFORCING STEEL BARS FOR VERTICAL STEEL IN PIER COLUMN THAT MEET THE REQUIREMENTS OF AASHTO M 334, TYPE CS AND SECTION 709.1(g). SAMPLE EACH SIZE AND LOT OF REINFORCEMENT BARS IN ACCORDANCE WITH PUB 408, SECTION 1002.2. DO NOT WELD GRADE 100 REINFORCING STEEL BARS UNLESS SPECIFIED. SUBSTITUTION OF OTHER GRADE OR SPECIFIED STEEL TYPE WILL NOT BE PERMITTED.
12. RAKE-FINISH ALL HORIZONTAL CONSTRUCTION JOINTS, EXCEPT AS INDICATED.
13. SITE CLASS IS NOT CLASS E.
14. VERIFY ALL DIMENSIONS AND GEOMETRY OF THE EXISTING STRUCTURE IN THE FIELD AS NECESSARY FOR PROPER FIT OF THE PROPOSED CONSTRUCTION.
15. CONSTRUCT DECK SLAB TRANSVERSE CONSTRUCTION JOINT PARALLEL TO BRIDGE CENTERLINE OF BEARINGS.
16. CHAMFER EXPOSED CONCRETE EDGES 1 IN X 1 IN, EXCEPT AS NOTED.
17. DECK SLAB THICKNESS INCLUDES A 1/2" INTEGRAL WEARING SURFACE.
18. ALL DIMENSIONS SHOWN ARE HORIZONTAL, EXCEPT AS NOTED.
19. USE EITHER PERMANENT METAL FORMS OR REMOVABLE FORMS TO CONSTRUCT THE DECK SLAB.
20. SUPERSTRUCTURE DIMENSIONS SHOWN ARE FOR A NORMAL TEMPERATURE OF 68°.
21. PROVIDE MINIMUM EMBEDMENT AND SPLICE LENGTHS IN ACCORDANCE WITH STANDARD DRAWING BC-736M, UNLESS OTHERWISE INDICATED.
22. SHOW ANY MODIFICATIONS TO REINFORCEMENT SPLICE AND BENDING DETAILS ON SHOP DRAWINGS.
23. PREPARE BEARING AREAS AS SPECIFIED IN PUBLICATION 408/2016, SECTION 1001.3 (k)9.
24. ADJUST TOP OF PEDESTAL AND BEAM SEAT ELEVATIONS IF ACTUAL BEARING HEIGHTS DEVIATE FROM BEARING HEIGHTS SHOWN ON THE PLANS.
25. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SAFE ERECTION OF ALL STRUCTURES. PROVIDE ALL NECESSARY BRACING AND SUPPORTS. CONSTRUCTION ACTIVITY WILL NOT BE ALLOWED OUTSIDE THE RIGHT-OF-WAY.
26. REMOVE PORTIONS OF THE EXISTING STRUCTURE ONLY AS CALLED FOR BY AN APPROVED DEMOLITION PLAN, OR AS PERMITTED BY THE INSPECTOR IN CHARGE. REPLACE IN KIND ANY PORTIONS REMOVED TO PERMIT ACCESS FOR REPAIRS. CONSIDER THIS REPLACEMENT INCIDENTAL TO THE ASSOCIATED WORK ITEMS, UNLESS SPECIFIED OTHERWISE.
27. REPAIR ANY AREAS DAMAGED BEYOND THE REMOVAL LIMITS AT NO EXPENSE TO THE DEPARTMENT.
28. ALL EXISTING CONCRETE REMOVED FROM THE STRUCTURE WILL BE DISPOSED OF, OFF SITE, TO THE SATISFACTION OF THE ENGINEER.
29. PLACE CURTAINWALLS CONCRETE AFTER GIRDERS ARE SET IN POSITION.
30. BRIDGE IS NOT WEIGHT RESTRICTED. SEE PUBLICATION 408 SECTION 105.17 FOR CONSTRUCTION LOADING LIMITS.

ECMTS NOTE

CONSTRUCT ALL WORK ITEMS IN ACCORDANCE WITH THE REQUIREMENTS LISTED IN THE PROJECT ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMTS) FORM. SUBMIT ALL REVISIONS FOR APPROVAL TO THE DESIGN ENGINEER AND THE DISTRICT ENVIRONMENTAL MANAGER FOR ECMTS COMPLIANCE.

DESIGN SPECIFICATIONS

1. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SEVENTH EDITION, 2014, AND AS SUPPLEMENTED BY DESIGN MANUAL, PART 4, APRIL 2015 EDITION.
2. LIVE LOAD DISTRIBUTION TO GIRDERS IS BASED UPON THREE DIMENSIONAL FINITE ELEMENT ANALYSIS.
3. DESIGN IS IN ACCORDANCE WITH THE LRFD METHOD.

DESIGN LIVE LOADS

1. PHL-93 OR P-82 (204 KIP PERMIT LOAD).
2. STEEL STRUCTURES FATIGUE DESIGN IS BASED ON THE FOLLOWING:
   ADTT: 1008 (2050)

DEAD LOADS

1. INCLUDES SURFACE AREA DENSITY OF 0.03 KSF FOR FUTURE WEARING SURFACE ON DECK SLAB.
2. INCLUDES A SURFACE AREA DENSITY OF 0.015 KSF FOR PERMANENT METAL DECK FORMS WHICH TAKES INTO ACCOUNT THE WEIGHT OF FORM, PLUS THE WEIGHT OF THE CONCRETE IN THE VALLEYS OF THE FORMS.

PROTECTIVE COATING

1. APPLY PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, REINFORCED CONCRETE SUBSTRUCTURE SURFACES) TO THE TOP OF ALL SUBSTRUCTURES AND PEDESTALS (EXCLUDING BEARING SURFACE). SEE COATING LIMIT SKETCHES, SHEET 4.
2. APPLY PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE) TO THE INSIDE FACE AND TOP SURFACE OF BOTH BARRIERS. ONLY APPLY PROTECTIVE COATING IF CONCRETE IS POURED BETWEEN SEPTEMBER 1 AND MARCH 1 PER PUB 408/2016, SECTION 1001.3(k)6. SEE COATING LIMIT SKETCHES, SHEET 4.
3. APPLY ACRYLIC PAINT TO ALL EXPOSED SURFACE OF SUBSTRUCTURE (EXCLUDING THE TOP) TO 1 FOOT BELOW THE FINISHED GROUND LINE FOR ALL PROPOSED SUBSTRUCTURES. ALSO APPLY TO THE OUTSIDE FACE OF THE BARRIER, THE OUTSIDE FACE OF THE DECK SLAB, AND THE UNDERSIDE OF THE DECK SLAB TO THE TOP FLANGE. SEE COATING LIMIT SKETCHES, SHEET 4.
4. FOR ADDITIONAL INFORMATION REGARDING THE PROTECTIVE COATING AND ARCHITECTURAL SURFACE TREATMENT, SEE THE SR 0095 SECTION BR2 GUIDE TO ARCHITECTURAL SURFACE TREATMENTS.

UTILITY NOTES

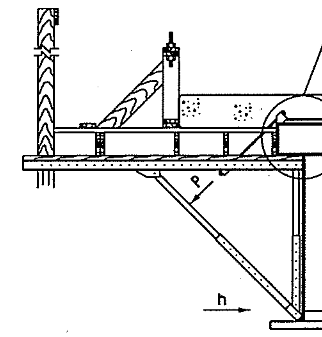
1. COORDINATE, LOCATE, AND CONDUCT ALL WORK RELATED TO PUBLIC AND PRIVATE UTILITIES IN ACCORDANCE WITH PUBLICATION 408/2016, SECTIONS 105.06 AND 107.12.

EXISTING STRUCTURE PLANS

1. DO NOT CONSIDER ANY OF THE DATA ON THE EXISTING STRUCTURE SUPPLIED IN THE ORIGINAL DESIGN DRAWINGS OR MADE AVAILABLE TO YOU BY THE DEPARTMENT OR ITS AUTHORIZED AGENTS AS POSITIVE REPRESENTATIONS OF ANY OF THE CONDITIONS THAT YOU WILL ENCOUNTER IN THE FIELD.
2. THE INFORMATION SHOWN ON THE PLANS FOR THE EXISTING STRUCTURE IS NOT PART OF THE PLANS, PROPOSAL, OR CONTRACT AND IS NOT TO BE CONSIDERED A BASIS FOR COMPUTATION OF THE UNIT PRICES USED FOR BIDDING PURPOSES. THERE IS NO EXPRESSED OR IMPLIED AGREEMENT THAT INFORMATION IS CORRECTLY SHOWN. THE BIDDER IS NOT TO RELY ON THIS INFORMATION, BUT IS TO ASSUME THE POSSIBILITY THAT CONDITIONS AFFECTING THE COST AND/OR QUANTITIES OF WORK TO BE PERFORMED MAY DIFFER FROM THOSE INDICATED.
3. ORIGINAL DESIGN DRAWINGS:
   S-10295 (NOVEMBER 1971)
4. THE EXISTING BRIDGE STRUCTURAL MEMBERS CONTAIN LEAD PAINT AND CHROMIUM BASED ON LABORATORY TESTING. NO KNOWN ASBESTOS CONTAINING MATERIAL ARE PRESENT ON THE SITE.

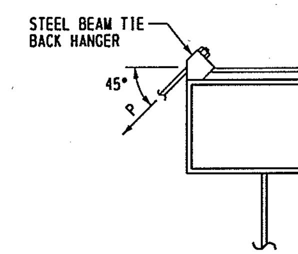
STRUCTURAL STEEL

1. DO NOT USE FORM SUPPORT SYSTEMS THAT WILL CAUSE UNACCEPTABLE OVERSTRESS OR DEFORMATION TO PERMANENT BRIDGE MEMBERS.
2. ALL FASTENERS ARE 7/8-INCH DIAMETER ASTM F3125, GRADE A325 HIGH STRENGTH BOLTS, EXCEPT AS NOTED. OVERSIZED HOLES ARE NOT PERMITTED, PROVIDE SUFFICIENT LENGTH TO NOT ALLOW ANY THREADS TO EXIST IN THE PLANE BETWEEN THE TWO CONNECTED PARTS (SHEAR PLANE).
3. REAM SUBDRILLED OR SUBPUNCHED HOLES FOR FIELD SPLICES IN THE FABRICATION SHOP.
4. DO NOT MAKE WELDS BY MANUAL SHIELDED METAL ARC PROCESS FOR PRIMARY GIRDER WELDS, SUCH AS FLANGE-TO-WEB WELDS OR FOR SHOP SPLICES OF WEBS AND FLANGES.
5. PROVIDE WELDED STUD SHEAR CONNECTORS MANUFACTURED FROM STEEL CONFORMING TO ASTM A108.
6. SET ANCHOR BOLTS TO TEMPLATE OR IN PREFORMED HOLES. DO NOT DRILL UNLESS SPECIFICALLY INDICATED ON PLANS. FILL THE PREFORMED HOLES WITH NON-SHRINK GROUT. FILL THE CLEARANCE BETWEEN ANCHOR BOLTS AND HOLES IN MASONRY PLATES WITH APPROVED NON-HARDENING CAULKING COMPOUND CONFORMING TO PUBLICATION 408/2016, SECTION 705.8.
7. PAINT STRUCTURAL STEEL IN ACCORDANCE WITH PUBLICATION 408/2016, SECTION 1060. SEE SPECIAL PROVISIONS FOR PAINT COLOR. FURNISH PAINT THAT HAS BEEN QUALIFIED AS CLASS B IN ACCORDANCE WITH SECTION 6.13.2.8 OF AASHTO LRFD SPECIFICATION.
8. STABILITY OF PARTIAL GIRDERS AND COMPLETE GIRDERS IS TO BE MAINTAINED BY THE CONTRACTOR DURING ERECTION, UNTIL ALL GIRDERS AND DIAPHRAGMS ARE IN-PLACE AND ALL BOLTS ARE PROPERLY INSTALLED. ERECTION LOADS INCLUDING SELF WEIGHT OF THE STEEL MEMBERS, WIND LOADING AND CONSTRUCTION LIVE LOAD EFFECTS ARE TO BE EVALUATED BY THE CONTRACTOR FOR STABILITY, STRESSES AND DEFLECTIONS ON THE STEEL MEMBERS DURING ANY STAGE OF ERECTION.
9. HEAT-CURVED GIRDERS ARE NOT PERMITTED.
10. THE STEEL SUPERSTRUCTURE SHALL BE DETAILED AND FABRICATED FOR STEEL DEAD LOAD FIT (SDLF) GIRDER WEBS SHALL BE PLUMB UNDER THE DEAD LOAD OF THE GIRDERS BEFORE ANY OTHER LOADS ARE APPLIED.
11. BLAST CLEAN THE FAYING SURFACES OF SPLICES AND CONNECTIONS OF ALL STRUCTURAL ELEMENTS IN ACCORDANCE WITH PUBLICATION 408/2016 SECTION 1060.3(b)3. REBLAST UNPAINTED ELEMENTS THAT REMAIN UNASSEMBLED FOR A PERIOD OF 12 MONTHS OR MORE FOLLOWING THE INITIAL CLEANING.
12. WELDING OF REINFORCEMENT BARS DURING THE FABRICATION OR CONSTRUCTION IS NOT PERMITTED UNLESS SPECIFIED.
13. SUPPORT DECK SLAB OVERHANG FORMS FROM THE BOTTOM FLANGE OF THE FASCIA GIRDER, UNLESS THE GIRDER WEB IS ADEQUATELY SUPPORTED TO PREVENT BUCKLING DUE TO LOADS FROM WEB-BEARING FORM SUPPORTS.
17. ALL STEEL IN MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS REQUIRE CHARPY V-NOTCH TESTING. THE STEEL REQUIRING THIS TESTING IS DESIGNATED ON THE PLANS BY "(CVN)". PERFORM CHARPY V-NOTCH TEST AS SPECIFIED IN PUBLICATION 408/2016, SECTION 1105.02(a)5.



TYPICAL OVERHANG FORMING DETAIL

NOT TO SCALE



DETAIL A

NOT TO SCALE

NOMINAL DEPTH y (in)	MAXIMUM PERMISSIBLE HORIZONTAL LOAD h (kip/ft)
36	1.250
56	0.750
76	0.540

MAXIMUM PERMISSIBLE JACK SPACING 4'

THE FASCIA GIRDERS ARE DESIGNED FOR A TEMPORARY CONSTRUCTION LOAD APPLIED TO THE WEB AT A MAXIMUM 4 FT. INTERVAL. THIS LOAD (SEE TABLE) APPROXIMATES THE HORIZONTAL COMPONENT OF A DECK OVERHANG FORM SUPPORT BRACKET AND CONSISTS OF AN ALLOWANCE FOR THE WEIGHT OF THE CONCRETE, FORMS, AND INCIDENTAL LOADS, PLUS THE DECK FINISHING MACHINE. WHERE A TRANSVERSE STIFFENER SPACING LESS THAN THAT REQUIRED FOR THE FINAL DESIGN SHEAR, IS INDICATED FOR CONSTRUCTIBILITY, THE SPACING FOR THE FINAL DESIGN SHEAR MAY BE USED IF THE OVERHANG FORMS ARE SUPPORTED FROM THE BOTTOM FLANGE OF THE FASCIA GIRDER, OR IF THE GIRDER WEB IS ADEQUATELY BRACED TO PREVENT BUCKLING DUE TO LOADS FROM WEB-BEARING FORM SUPPORT BRACKETS. THE CONTRACTOR HAS THE OPTION TO MODIFY THE OVERHANG BRACKET FROM THAT DESCRIBED HEREIN PROVIDED WORKING DRAWINGS INCLUDING CALCULATIONS, SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA, ARE SUBMITTED FOR REVIEW AND ACCEPTANCE AND SHOW THE MODIFICATIONS DO NOT CAUSE UNACCEPTABLE DEFORMATIONS OR STRESSES IN THE BRIDGE AND IT IS UNDERSTOOD THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE SATISFACTORY COMPLETION OF THE BRIDGE.

ALALYSIS SHOWS THE POTENTIAL FOR THE EXTERIOR GIRDERS TO BE OVERSTRESSED FOR AN ASSUMED TEMPORARY OVERHANG FORM SUPPORT BRACKET LOAD AND A WIND SPEED GREATER THAN 75 MPH. DO NOT POUR THE DECK IF WIND SPEEDS ARE EXPECTED TO EXCEED 75 MPH PRIOR TO DECK CURING, UNLESS WORKING DRAWINGS AND CALCULATIONS, SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA ARE SUBMITTED FOR REVIEW AND ACCEPTANCE AND SHOW THE OPERATION DOES NOT CAUSE UNACCEPTABLE STRESSES OF DEFORMATION IN THE GIRDER. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE SATISFACTORY COMPLETION OF THE BRIDGE.

WELDING NOTES

1. WELDING SPECIFICATIONS: AASHTO/AWS D1.5M/D1.5, 2008 BRIDGE WELDING CODE CONSISTENT WITH PUB 408 1105.03(m) AND THE CONTRACT SPECIAL PROVISIONS. DO NOT FIELD-WELD ON ANY PART OF THE EXISTING BRIDGE, WITHOUT PRIOR APPROVAL OF THE ENGINEER.
2. MAKE TACK WELDS WITH THE SAME TYPE OF ELECTRODE AND INCORPORATE IN THE FINAL WELD. NO OTHER TACK WELDING WILL BE PERMITTED.
3. DO NOT WELD WHEN SURFACES TO BE WELDED ARE MOIST OR EXPOSED TO RAIN, SNOW, OR WIND, OR WHEN WELDERS ARE EXPOSED TO INCLEMENT CONDITIONS THAT WILL ADVERSELY AFFECT THE QUALITY OF THE WORK.
4. DO NOT WELD OR BURN WHEN THE TEMPERATURE IS BELOW 0°F. PREHEAT AND MAINTAIN THE TEMPERATURE OF THE METAL TO AT LEAST 70°F WHEN THE TEMPERATURE OF THE METAL IS BETWEEN 0°F AND 32°F DURING WELDING OR BURNING.
5. PREHEAT THE STEEL TO THE SPECIFIED MINIMUM TEMPERATURE FOR A DISTANCE EQUAL TO THE THICKNESS OF THE PART BEING WELDED, BUT NOT LESS THAN 3 IN. IN ALL DIRECTIONS FROM THE POINT OF WELDING.
6. REMOVE BY APPLICATION OF HEAT ANY MOISTURE PRESENT AT POINT OF WELD. PROVIDE WINDBREAKS FOR PROTECTION FROM DIRECT WIND.
7. PRIOR TO PLACING THE WELD, THOROUGHLY CLEAN ALL PORTIONS OF NEW AND EXISTING SURFACES TO RECEIVE WELDS OF ALL FOREIGN MATTER, INCLUDING PAINT FILM, FOR A DISTANCE OF 2 IN. FROM EACH SIDE OF THE OUTSIDE LINES OF THE WELD.
8. TEST COMPLETED WELDS USING VISUAL AND NONDESTRUCTIVE METHODS IN ACCORDANCE WITH AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE CHAPTER 6.

LIST OF ABBREVIATIONS

- ADTT - AVERAGE DAILY TRUCK TRAFFIC
- AHD - AHEAD
- ALT - ALTERNATE
- APPROX - APPROXIMATE
- ℬ - BASELINE
- BOT - BOTTOM
- BPCE - BOTTOM OF PILE CAP ELEVATION
- BRG - BEARING
- CCNS - CLOSED CELL NEOPRENE SPONGE
- CE - CENTRIFUGAL FORCE
- CFS - CUBIC FEET PER SECOND
- CGS - CENTER OF GRAVITY OF STEEL
- ℄ - CENTERLINE
- CLR - CLEARANCE
- COL - COLUMN
- CONSTR - CONSTRUCTION
- CVN - CHARPY V-NOTCH
- DIA - DIAMETER
- DIST - DISTANCE
- DISTR - DISTRIBUTION
- DL - DEAD LOAD
- DWG - DRAWING
- EA - EACH
- EF - EACH FACE
- ELEV - ELEVATION
- EPTE - ESTIMATED PILE TIP ELEVATION
- EMBED - EMBEDMENT
- EQ - EQUAL
- ES - EQUAL SPACES
- EXP - EXPANSION
- E - EXTERNAL DISTANCE
- FF - FRONT FACE
- FT - FEET
- HORIZ - HORIZONTAL
- ID - INSIDE DIAMETER
- IN - INCHES
- INV - INVERT
- JT - JOINT
- KIP OR K - KILOPOUNDS
- KSF - KIPS PER SQUARE FOOT
- KSI - KIPS PER SQUARE INCH
- L - LENGTH
- LC - LONG CHORD
- LT - LONG TANGENT
- LL+I - LIVE LOAD PLUS IMPACT
- LONG - LONGITUDINAL
- LRFD - LOAD AND RESISTANCE FACTOR DESIGN
- LT - LEFT
- MAX - MAXIMUM
- MIN MINIMUM
- MO - MIDDLE ORDINATE
- NB - NORTHBOUND
- NO - NUMBER
- OD - OUTSIDE DIAMETER
- PCP - PREFORMED CELLULAR POLYSTYRENE
- PG - PROFILE GRADE
- ℘ OR PL - PLATE
- PSF - POUNDS PER SQUARE FOOT
- PSI - POUNDS PER SQUARE INCH
- PTFE - POLYTETRAFLUOROETHYLENE
- PVI - POINT OF VERTIVAL INTERSECTION
- R - RADIUS
- RCP - REINFORCED CONCRETE PIPE
- RDWY - ROADWAY
- REINF - REINFORCEMENT
- REQ'D - REQUIRED
- RF - REAR FACE
- RT - RIGHT
- SB - SOUTHBOUND
- SERV - SERVICE LIMIT STATE
- SHLDR - SHOULDER
- SPA - SPACES OR SPACING
- SQ - SQUARE
- SSD - STOPPING SIGHT DISTANCE
- STA - STATION
- STD - STANDARD
- STR - STRENGTH LIMIT STATE
- T - TANGENT
- TRANS - TRANSVERSE
- TYP - TYPICAL
- UNO - UNLESS NOTED OTHERWISE
- VERT - VERTICAL
- VC - VERTICAL CURVE
- W - WIND LOAD ON SUPERSTRUCTURE AND LIVE LOAD
- W/ - WITH
- WP - WORK POINT
- WSEL - WATER SURFACE ELEVATION
- YR - YEAR

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
GENERAL NOTES - 1

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

STV

RECOMMENDED 10/18/2019

SHEET 3 OF 37

S-38480

DESIGNED: JSE | CHECKED: ARG | CADD: JAS | CHECKED: ARG

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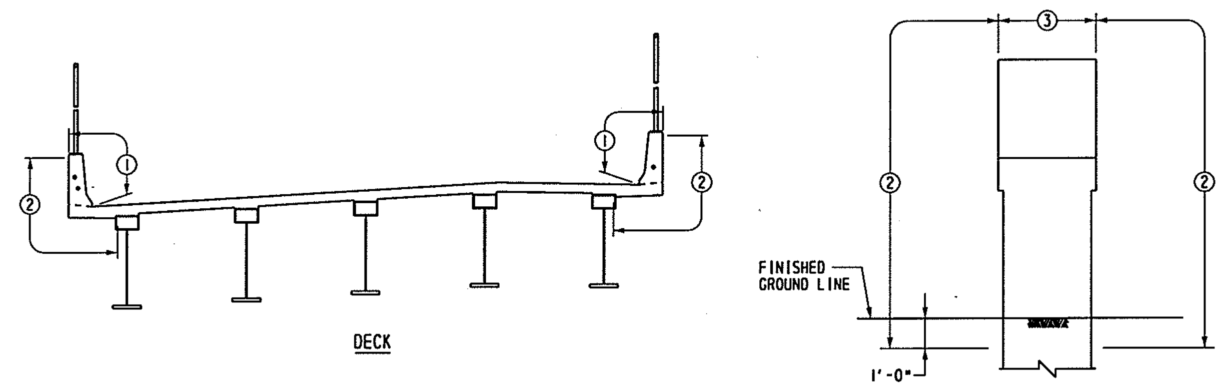
TEST PILE - AS BUILT INFORMATION						
SUBSTRUCTURE UNIT	PILE TYPE	PILE TIP (NONE/NORMAL/ HEAVY DUTY)	PILE TIP ELEVATION	FACTORED DESIGN LOAD (KIP)	ULTIMATE PILE CAPACITY AT END OF DRIVING (KIP)	WEAP OR PDA
PIER B10 - EAST	HP 14x89	HEAVY DUTY				
PIER B10 - WEST	HP 14x89	HEAVY DUTY				

FOUNDATION DESIGN PARAMETERS									
SUBSTRUCTURE	APPLICABLE BORINGS	FOUNDATION TYPE	BEARING STRATUM	ROCK RECOVERY	RQD OR SPT N-VALUE	BOTTOM OF PILE CAP ELEVATION (BPCE)	ESTIMATED PILE TIP ELEVATION (EPTE)	FACTORED RESISTANCE PER PILE STRENGTH/SERVICE	
								DESIGN FACTORED AXIAL RESISTANCE (KIPS)	DESIGN FACTORED LATERAL RESISTANCE (KIPS)
PIER B10	B12-21	VERTICAL HP14X89 END BEARING PILES DRIVEN TO ABSOLUTE REFUSAL	SCHIST/AMPHIBOLITE/ PEGMATITE	85%	43%	5.5	-51.0 TO -60.5	321.0/321.0	17.0/10.5
	B12-22			95%	74%				

FOUNDATION AND PILE NOTES

1. PROVIDE PILES, PILE SECTIONS, AND SPLICE MATERIAL ACCORDING TO AASHTO M270 (ASTM A709), GRADE 50; OR ASTM A572, GRADE 50.
2. PROVIDE HEAVY DUTY TIP REINFORCMENT ACCORDING TO AASHTO M103 (ASTM A27), GRADE 65-35 OR ASTM A148, GRADE 60 OR 90, AND FABRICATED TIP REINFORCEMENT ACCORDING TO AASHTO M270 (ASTM A709), GRADE 50.
3. PROVIDE TWO TEST PILES AT OPPOSITE ENDS OF EACH SUBSTRUCTURE. PROVIDE DYNAMIC PILE LOAD TESTING PER ITEM 9005-0001 FOR ALL TEST PILES.
4. DRIVE ALL PILES TO ABSOLUTE REFUSAL IN ACCORDANCE WITH PUB 408, SECTION 100.3 (b)4 CASE 2. CONTROL PILE DRIVING IN ACCORDANCE WITH DM-4 PP 1.7.5(a) METHOD A. THE REPRESENTATIVE SHALL DETERMINE THE ACCEPTABILITY OF PILES WHICH ATTAIN REFUSAL ABOVE THE ESTIMATED PILE TIP ELEVATION.
5. EXTRACT EXISTING PILES WHICH INTERFERE WITH THE DRIVING OF THE PROPOSED PILES. ADJUSTMENT OF THE PILE POSITION WITHOUT A REDESIGN IS PERMITTED UP TO 12 INCHES TO AVOID INTERFERENCE WITH EXISTING PILES. SUBMIT CHANGES TO THE REPRESENTATIVE FOR APPROVAL PRIOR TO DRIVING.
6. PROVIDE ADEQUATE DEWATERING METHODS DURING EXCAVATION AND FOUNDATION CONSTRUCTION SUCH THAT THE EXCAVATION IS DRY ENOUGH FOR INSPECTION AND CONCRETE PLACEMENT. ALL CONCRETE MUST BE PLACED ON A BEARING SURFACE FREE OF DEBRIS, LOOSE MATERIAL, AND SURFACE WATER.
7. CUT ALL PILES WITHIN FOUNDATION FOOTPRINTS THAT ARE NOT REMOVED TO AN ELEVATION BELOW THE PROPOSED BPCE.
8. EXCAVATE ACCORDING TO CURRENT OSHA OR OTHER APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE STABILITY OF THE EXCAVATIONS.
9. PROVIDE TEMPORARY EXCAVATION AND SUPPORT SYSTEMS PER ITEM 9203-0102.
10. MAINTAIN CLEARANCE TO PECO ELECTRIC LINES IN ACCORDANCE WITH PECO'S REQUIREMENTS.



COATING LIMITS
NOT TO SCALE

COATING LEGEND

① PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE).

② ACRYLIC PAINT.

③ PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, REINFORCED CONCRETE SUBSTRUCTURE SURFACES). (OMIT SEALER AT MASONRY PLATE AREAS, INCLUDES PEDESTALS).

INDEX OF DRAWINGS	
SHEET NUMBER	STATION
1	TITLE SHEET
2	GENERAL PLAN & ELEVATION
3	GENERAL NOTES - 1
4	GENERAL NOTES - 2
5	LOAD RATINGS
6	SUMMARY OF QUANTITIES
7	STAKE-OUT PLAN
8	PIER B10 - FOOTING PLAN & DETAILS
9	PIER B10 - PLAN & ELEVATION
10	REINF BAR SCHEDULE - PIER B10
11	FRAMING PLAN
12	STEEL GIRDER ELEVATION
13	STEEL GIRDER DETAILS
14	SECTION PROP & CAMBER DIAGRAM
15	MOMENT AND SHEAR DIAGRAMS - 1
16	MOMENT AND SHEAR DIAGRAMS - 2
17	MOMENT AND SHEAR DIAGRAMS - 3
18	DIAPHRAGM DETAILS
19	DISC BEARINGS - GENERAL
20	NON-GUIDED BEARING DETAILS
21	GUIDED BEARING DETAILS
22	FIXED BEARING DETAILS
23	DISC BEARING DETAILS
24	DECK SLAB PLAN
25	DECK SLAB SECTION
26	DECK SLAB DETAILS
27	REINF BAR SCHEDULE - DECK SLAB
28	SLAB ELEVATIONS - 1
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30	RATINGS PROCEDURE - 1
31	RATINGS PROCEDURE - 2
32	RATINGS PROCEDURE - 3
33	RATINGS PROCEDURE - 4
34	RATINGS PROCEDURE - 5
35	TEST BORINGS - 1
36	TEST BORINGS - 2
37	TEST BORINGS - 3

SUPPLEMENTAL DRAWINGS		
DESCRIPTION	DWG. NO.	APP. DATE
PROTECTIVE FENCE	BC-701M	1/31/19
ELECTRICAL DETAILS	BC-721M	9/30/2016
PERMANENT METAL DECK FORMS	BC-732M	1/31/19
ANCHOR SYSTEMS	BC-734M	1/31/19
WALL CONSTR. & EXP. JOINT DETAILS	BC-735M	9/30/2016
REINFORCEMENT BAR FABRICATION DETAILS	BC-736M	1/31/19
CONCRETE DECK SLAB DETAILS	BC-752M	9/30/2016
STEEL GIRDER DETAILS	BC-753M	1/31/19
STEEL PILE TIP REINFORCEMENTS & SPLICES	BC-757M	9/30/2016
NEOPRENE STRIP SEAL DAM FOR PRESTRESSED CONCRETE & STEEL I-BEAM BRIDGES.	BC-767M	1/31/19
TYPICAL WATERPROOFING AND EXPANSION DETAILS	BC-788M	1/31/19
CLASSIFICATION OF EARTHWORK FOR STRUCTURES	RC-11M	6/1/2010

Mark	Description	By	Chk'd.	Recm'd	Date

REVISIONS

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

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OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE

GENERAL NOTES - 2

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER PENNSYLVANIA

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SHEET 4 OF 37

S- 38480

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BRIDGE LOAD RATING TABLES

ADTT (2050) = 1008

65" DEEP WEB STEEL PLATE GIRDER (WITH FWS)							
CURVED, SPAN 1		H 20	HS 20	ML-80	TK-527	PHL-93	P-82
INVENTORY RATING (IR)	LOCATION	0.5L	0.5L	0.5L	0.5L	0.5L	-
	LIMIT STATE	STR I	STR I	STR I	STR I	STR I	-
	RATING FACTOR	3.70 M	2.20 M	2.02 M	1.93 M	1.42 M	-
	CRITICAL GIRDER	5	5	5	5	5	-
OPERATING RATING (OR)	LOCATION	0.5L	0.5L	0.5L	0.5L	0.5L	0.5L
	LIMIT STATE	STR II	STR II	STR II	STR II	STR IA	STR II
	RATING FACTOR	4.80 M	2.85 M	2.61 M	2.50 M	1.84 M	1.29 M
	CRITICAL GIRDER	5	5	5	5	5	5

65" DEEP WEB STEEL PLATE GIRDER (WITHOUT FWS)							
CURVED, SPAN 1		H 20	HS 20	ML-80	TK-527	PHL-93	P-82
INVENTORY RATING (IR)	LOCATION	0.5L	0.5L	0.5L	0.5L	0.5L	-
	LIMIT STATE	STR I	STR I	STR I	STR I	STR I	-
	RATING FACTOR	4.21 M	2.50 M	2.29 M	2.19 M	1.61 M	-
OPERATING RATING (OR)	CRITICAL GIRDER	5	5	5	5	5	-
	LOCATION	0.5L	0.5L	0.5L	0.5L	0.5L	0.5L
	LIMIT STATE	STR II	STR II	STR II	STR II	STR IA	STR II
	RATING FACTOR	5.45 M	3.24 M	2.97 M	2.84 M	2.08 M	1.46 M
	CRITICAL GIRDER	5	5	5	5	5	5

MAXIMUM FACTORED FLEXURAL RESISTANCE = 24,487 K-FT
LOCATION = 0.5 L

MAXIMUM FACTORED SHEAR RESISTANCE = 857 K
LOCATION = 0.0 L

RATING NOTES

1. BRIDGE LOAD RATINGS BASED ON PENNDOT STLRFD PROGRAM'S METHOD.
2. LOAD DISTRIBUTION PER CSIBRIDGE 3D SYSTEM ANALYSIS
3. "M" OR "V" DENOTE THAT MOMENT OR SHEAR CONTROLS THE RATING.
4. ML-80 INDICATES PENNSYLVANIA MAXIMUM LEGAL LOAD
   P-82 INDICATES PENNSYLVANIA PERMIT LOAD
   PHL-93 INDICATES AASHTO LRFD DESIGN LIVE LOAD, AS MODIFIED BY THE 2015 PENNDOT DESIGN MANUAL, PART 4
   TK-527 INDICATES PENNSYLVANIA SPECIAL LIVE LOAD

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR FRAMING PLAN, SEE SHEET 11.

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

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LOAD RATINGS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

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SHEET 5 OF 37

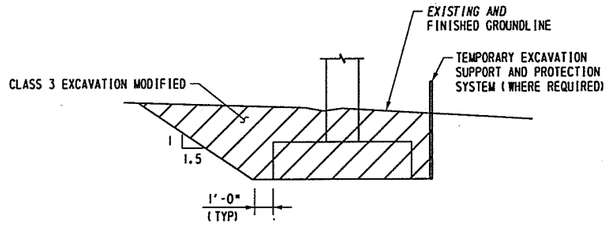
S- 38480

DESIGNED: JSE | CHECKED: ZAW | CADD: JAS | CHECKED: ZAW

ALTERNATE STRUCTURE ITEMS			
ITEM NO.	ITEM	UNIT	TOTAL
8010-0001	BRIDGE STRUCTURE, AS DESIGNED, S-38480	LS	LUMP SUM
8100-0001	STEEL BRIDGE STRUCTURE, S-38480	LS	LUMP SUM

APPROXIMATE QUANTITIES - BRIDGE STRUCTURE, AS DESIGNED					
ITEM NO.	ITEM	UNIT	PIER B10	SUPERSTRUCTURE	TOTAL
8010-0001	BRIDGE STRUCTURE, AS DESIGNED, S-38480 (7)	LS	---	---	---
(1)	CLASS 3 EXCAVATION MODIFIED (7)	CY	381	---	381
(1)	CLASS AAAP CEMENT CONCRETE (2)	CY	---	186	186
(1)	CLASS AA CEMENT CONCRETE (3)	CY	---	51	51
(1)	CLASS A CEMENT CONCRETE (10)	CY	282	---	282
(1)	NEOPRENE STRIP SEAL DAM, (5" MOVEMENT)	LF	---	53	53
(1)	STEEL BEAM TEST PILES, HP14x89 MODIFIED (4) (7)	LS	2 @ 62.3'	---	---
(1)	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE)	SY	---	160	160
(1)	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, REINFORCED CONCRETE SUBSTRUCTURE SURFACES)	SY	35	---	35
(1)	DISC BEARINGS - GUIDED (7)	EACH	---	2	2
(1)	DISC BEARINGS - NON-GUIDED (7)	EACH	---	6	6
(1)	DISC BEARINGS - FIXED (7)	EACH	---	2	2
(1)	FABRICATED STRUCTURAL STEEL (5)	LB	---	414,229	414,229
(1)	SHEAR CONNECTORS	EACH	---	3,136	3,136
(1)	JUNCTION BOXES J.B.-25	EACH	---	2	2
(1)	2" CONDUIT IN STRUCTURE (9)	LF	---	443	443
(1)	BARRIER PROTECTIVE FENCE, VINYL-COATED STEEL	LF	---	295	295
(1)	MEMBRANE WATERPROOFING SYSTEMS INSTALLED ON OTHER SURFACES	SY	6	---	6
(1)	ACRYLIC PAINT (7)	SF	2,204	2,333	4,537
AND					
1002-0191	REINFORCEMENT BARS, EPOXY COATED (6)	LB	34,739	55,473	90,212
AND					
1002-0230	REINFORCEMENT BARS, UNCOATED, CORROSION-RESISTANT STEEL (6)	LB	16,241	---	16,241
AND					
1005-1116	STEEL BEAM BEARING PILES, HP14X89 (8)	LF	1,432	---	1,432
AND					
1005-1280	STEEL BEAM (HEAVY DUTY) PILE TIP REINFORCEMENT, HP14X89 (8)	EACH	23	---	23
9000-5001	DEBRIS SHIELDING, S-38480 (7)	LS	---	---	---
9001-0920	CONTROL OF HEAT OF HYDRATION FOR STRUCTURAL MASS CONCRETE, S-38480 (7)	LS	---	---	---
9005-0001	DYNAMIC PILE LOAD TESTING, S-38480 (7)	EACH	2	---	2
9005-0601	PRE-DRILLING FOR UNFORESEEN OBSTRUCTIONS, EARTH DRILLING, S-38480 (7)	LF	144	---	144
9005-0611	PRE-DRILLING FOR UNFORESEEN OBSTRUCTIONS, OBSTRUCTION DRILLING, S-38480 (7)	LF	15	---	15
9005-0621	PILE EXTRACTION AND RE-DRIVING, S-38480 (7)	DOLLAR	---	---	5,000
9005-0683	PILE INTERFERENCE LOCATING AND MONITORING, S-38480 (7)	EACH	1	---	1
9005-0701	MOBILIZATION FOR PRE-DRILLING FOR UNFORESEEN OBSTRUCTIONS, S-38480 (7)	DOLLAR	---	---	10,000
9203-0102	TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM, S-38480 (7)	LS	---	---	---

(1) ITEMS IN BRIDGE STRUCTURE LUMP SUM ITEM 8010-0001 GIVEN FOR INFORMATION ONLY.
(2) INCLUDES CLASS AAAP CEMENT CONCRETE IN BRIDGE DECK, AND APPROXIMATELY 12 CY OF CLASS AAAP CEMENT CONCRETE TO ACCOUNT FOR CONCRETE IN THE VALLEYS OF THE STAY-IN-PLACE FORM TROUGHS.
(3) INCLUDES CLASS AA CEMENT CONCRETE IN BARRIERS.
(4) INCLUDES 2 STEEL BEAM (HEAVY DUTY) PILE TIP REINFORCEMENT HP14X89.
(5) INCLUDES 702 LBS. OF ANCHOR BOLTS.
(6) FOR AS DESIGNED STRUCTURE, INCLUDED IN BRIDGE BID ITEMS. FOR ALTERNATE DESIGNS, INCLUDED IN BRIDGE STRUCTURE LUMP SUM BID ITEM.
(7) SEE SPECIAL PROVISIONS.
(8) INCLUDED IN BRIDGE BID ITEMS.
(9) FITTINGS, EXPANSION/DEFLECTION FITTINGS, JOINTS, BENDS, GROUNDS, PROTECTIVE COATINGS, AND APPURTENANCES ARE INCIDENTAL TO CONDUIT.
(10) CCNS AND PCP ARE INCIDENTAL TO CLASS A CEMENT CONCRETE.



PAY LIMITS FOR EXCAVATION
NOT TO SCALE

NOTES
1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
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OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
SUMMARY OF QUANTITIES

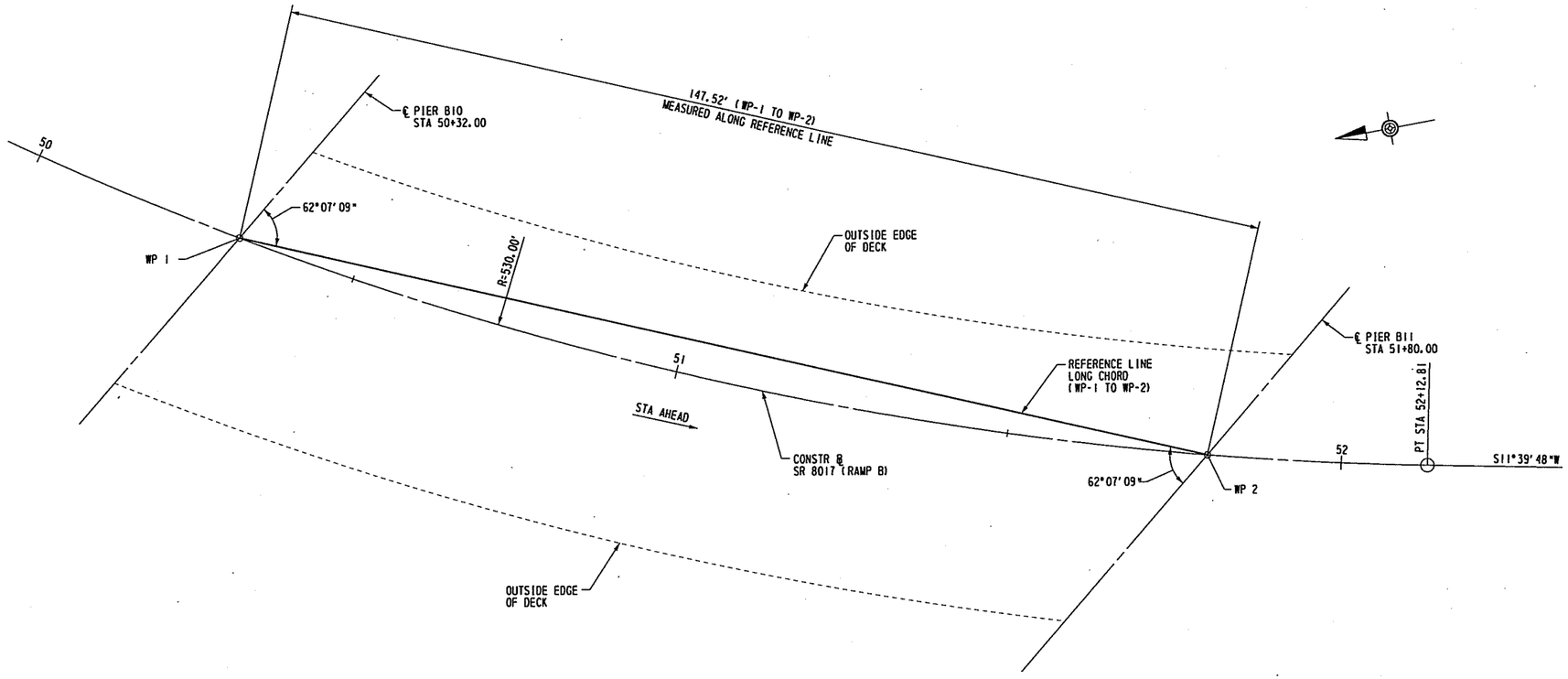
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER
STV

RECOMMENDED 10/18/2019

SHEET 6 OF 37

S- 38480

DESIGNED: JSE | CHECKED: CMP | CADD: TCK | CHECKED: CMP



STAKE-OUT PLAN
NOT TO SCALE

COORDINATES		
POINT	NORTHING	EASTING
WP 1	252890.3608	2715292.2328
WP 2	252754.7809	2715234.0938

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. ALL DIMENSIONS ARE HORIZONTAL.
3. FOUR PLACE COORDINATES ARE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO DECIMAL PLACES.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

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COMMONWEALTH OF PENNSYLVANIA
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OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
STAKE-OUT PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
JUSTIN SCOTT EBERHART
ENGINEER
No. 078132

STV

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SHEET 7 OF 37

S- 38480

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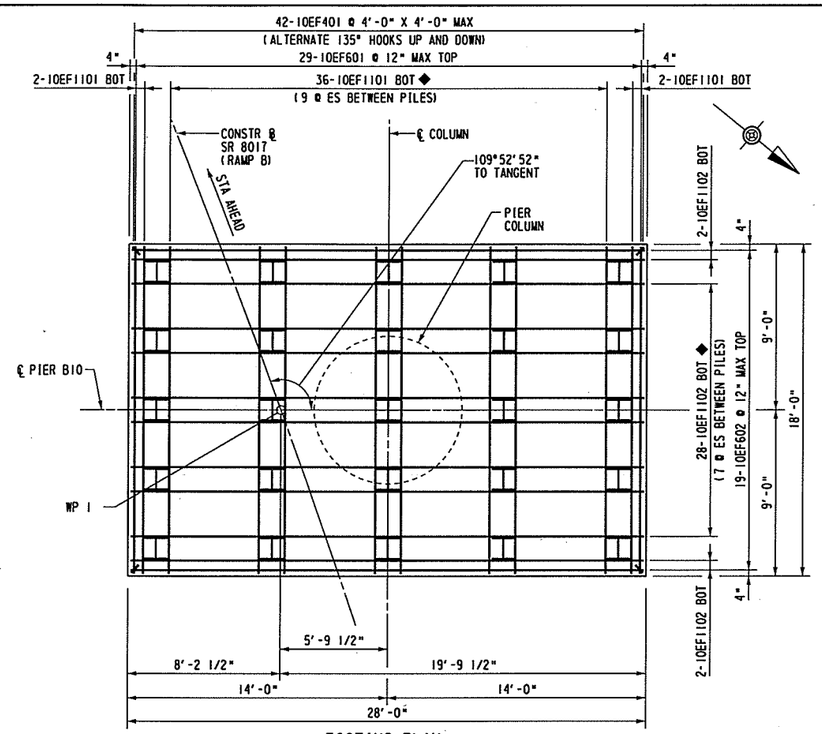
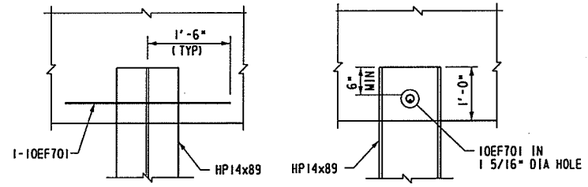


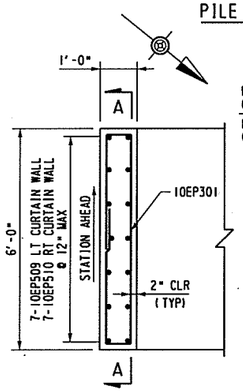
FOOTING PLAN

4' 2' 0 4'



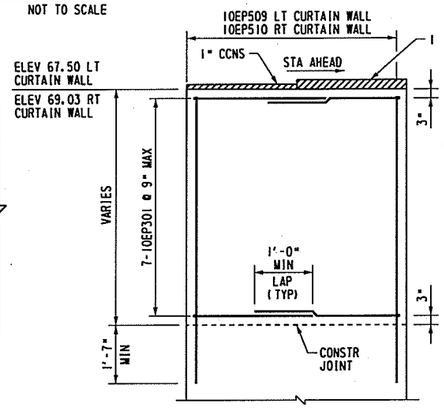
PILE ANCHORAGE DETAIL

NOT TO SCALE



CURTAIN WALL PLAN

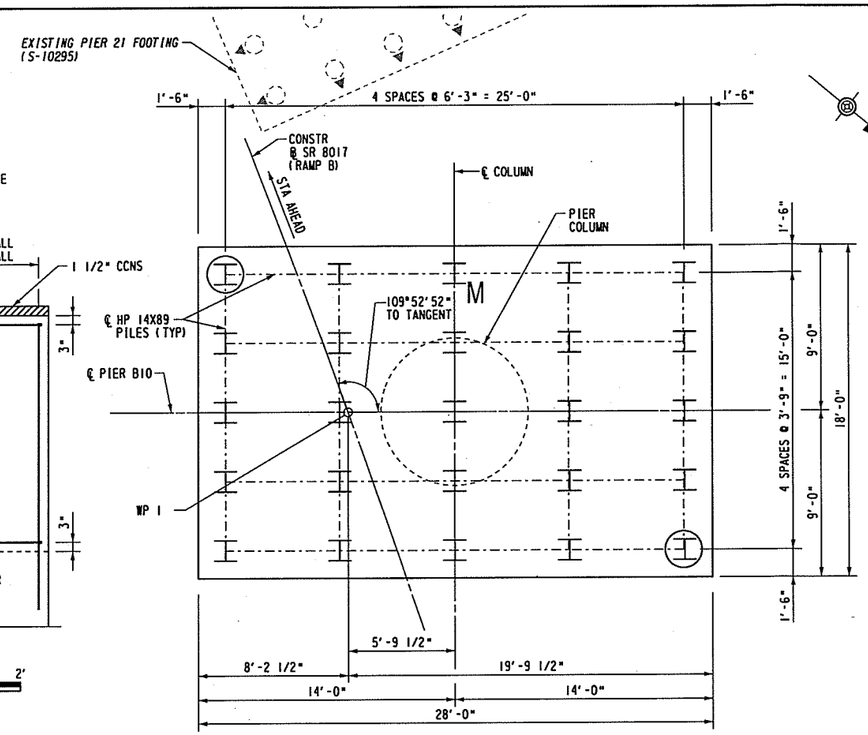
2' 1' 0 2'



NOTE: LT CURTAIN WALL SHOWN
RT CURTAIN WALL SIMILAR

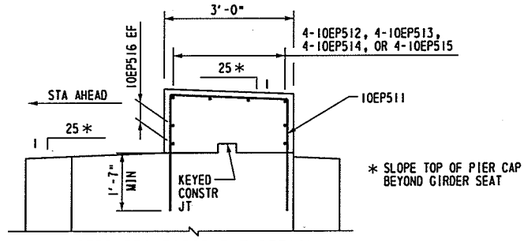
SECTION A-A

2' 1' 0 2'



PILE LAYOUT PLAN

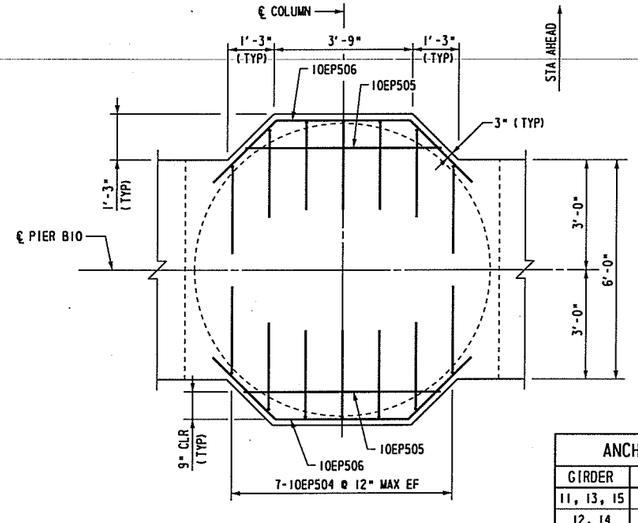
4' 2' 0 4'



* SLOPE TOP OF PIER CAP BEYOND GIRDER SEAT

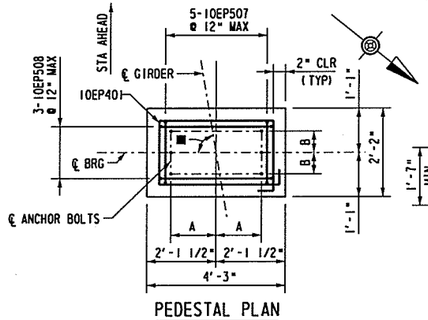
STEP REINFORCEMENT DETAIL
GIRDERS 11-15 (S-38366)

NOT TO SCALE



PIER CAP DETAIL

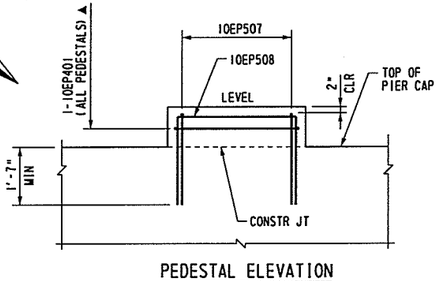
2' 1' 0 2'



PEDESTAL PLAN
GIRDERS 1-5

(ANCHOR BOLT PLAN S-38366 GIRDERS 11-15)

NOT TO SCALE



PEDESTAL ELEVATION
GIRDERS 1-5

NOT TO SCALE

ANCHOR BOLT LOCATIONS		
GIRDER	A	B
11, 13, 15	13 7/8"	5 1/8"
12, 14	15 1/8"	4 1/2"
1, 3	13 9/16"	4 1/2"
2, 4	19 1/8"	6 7/8"
5	14 3/16"	6 1/4"

PIER B10 PILE LOADING (KIPS) - HP14x89				
	CONTROLLING LIMIT STATE	LOAD CASE	FACTORED LOAD	RESISTANCE
LATERAL	SERV-1	MAX	3.25	10.50
AXIAL	STR-1	MAX	264.5	321.0

LEGEND

I — DENOTES TEST PILE

DENOTES EXISTING VERTICAL PILE

DENOTES EXISTING BATTERED PILE

M — DENOTES MONITORING THE DRIVING OF PROPOSED PILE (SEE SPECIAL PROVISION)

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR STAKE-OUT PLAN, SEE SHEET 7.
3. FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET 10.

◆ PLACE BOTTOM REINFORCEMENT AT EQUAL SPACES AS SHOWN, WITH 1" MIN CLEAR SPACE AT PILES.

■ FOR GIRDER ANGLES, SEE PIER PLAN & ELEVATION, SHEET 9.

▲ PLACE #4 TIE AT 1/2 PEDESTAL HEIGHT

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE

PIER B10 - FOOTING PLAN & DETAILS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132 PENNSYLVANIA

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SHEET 8 OF 37

S-38480

DESIGNED: TPL | CHECKED: KPF | CADD: JAS | CHECKED: OT

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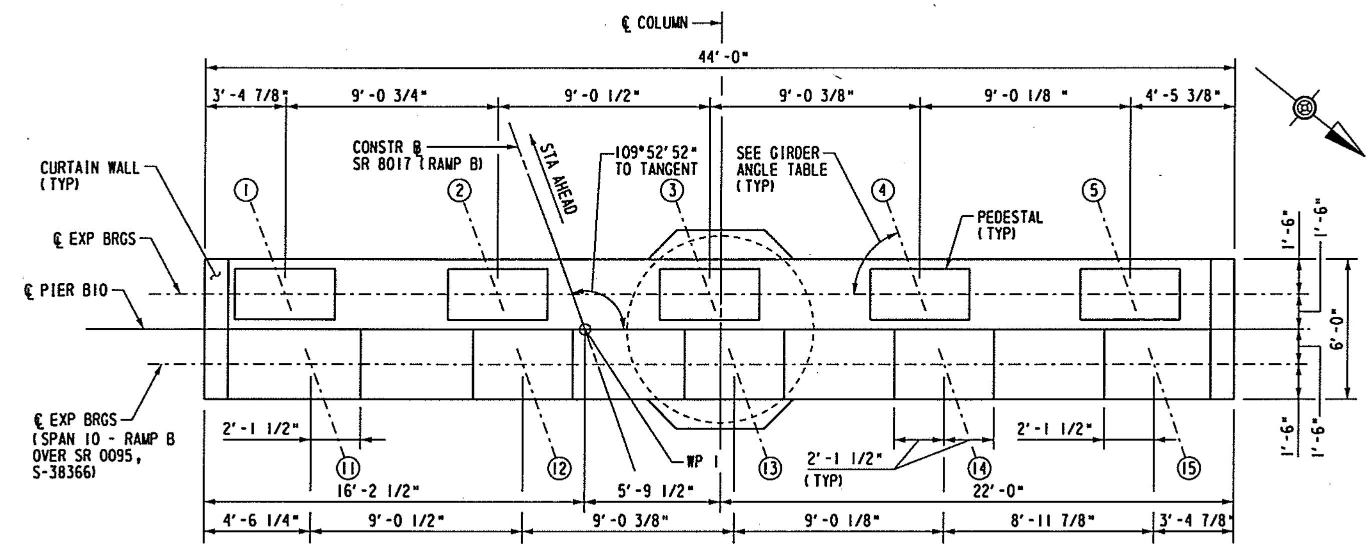
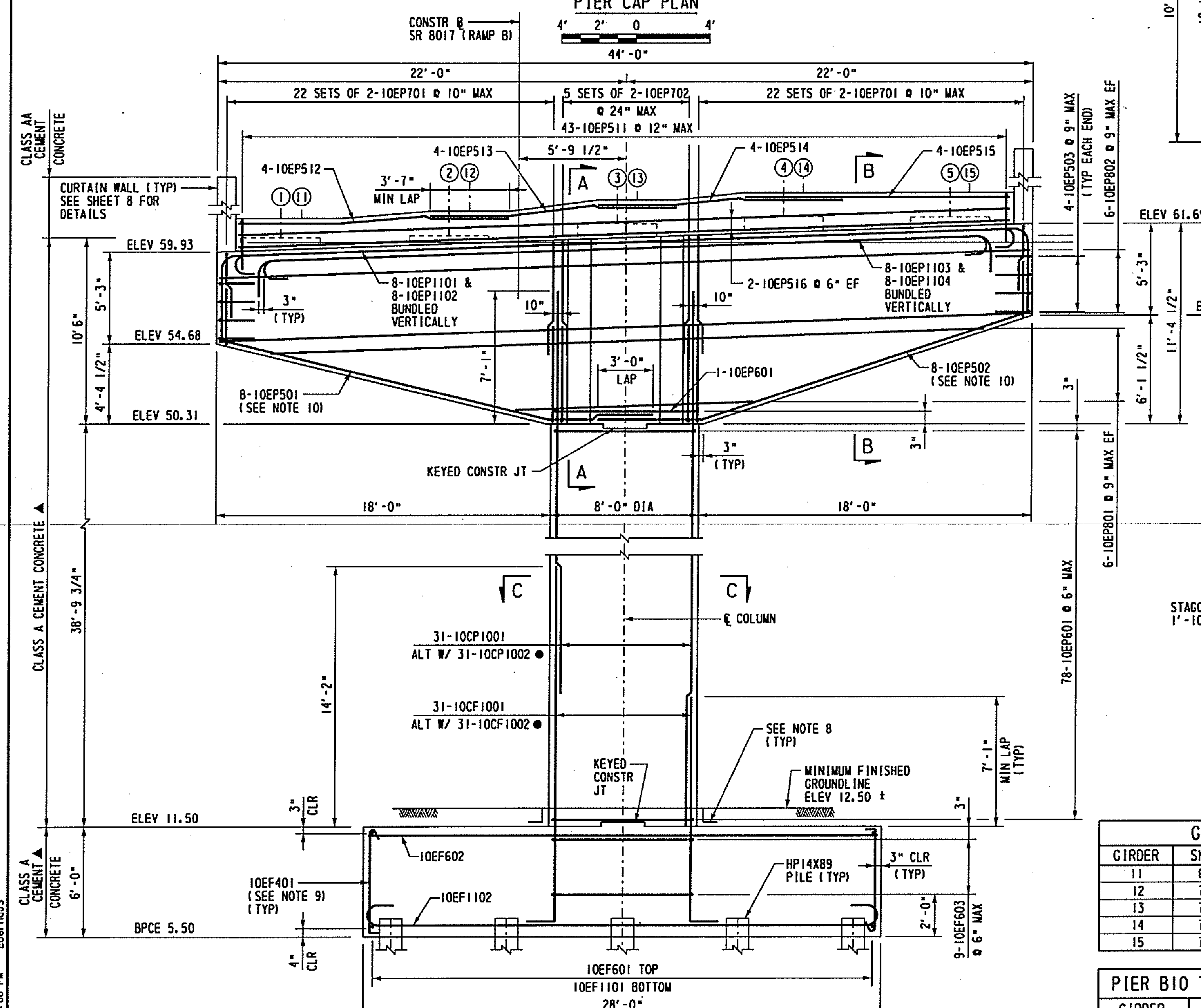
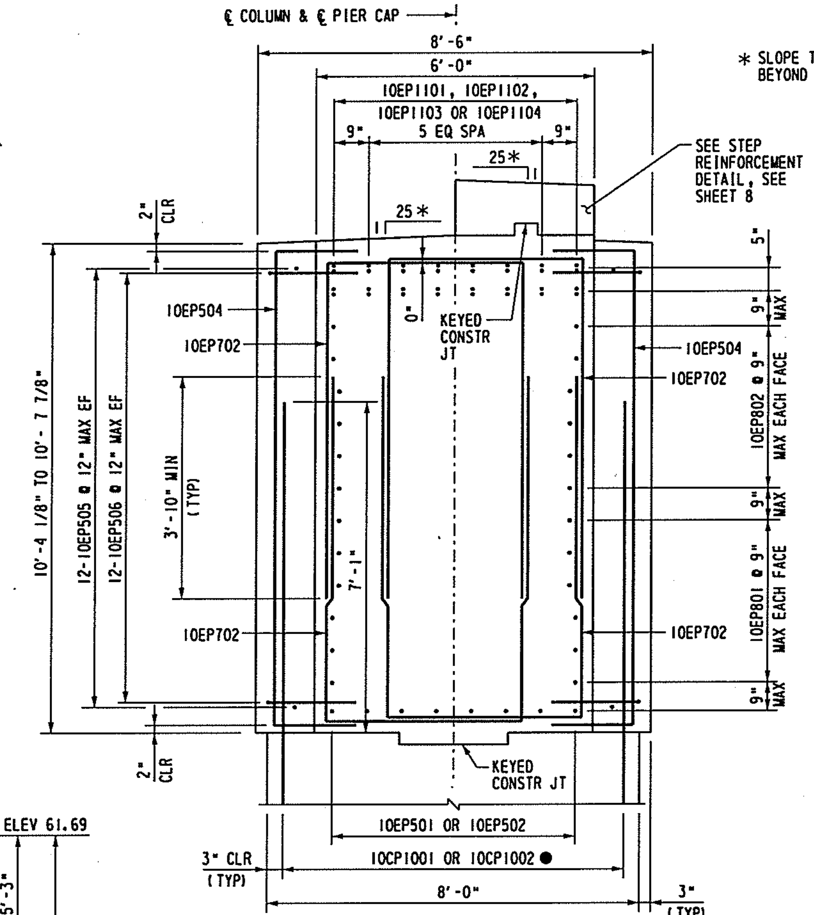


PIER CAP PLAN



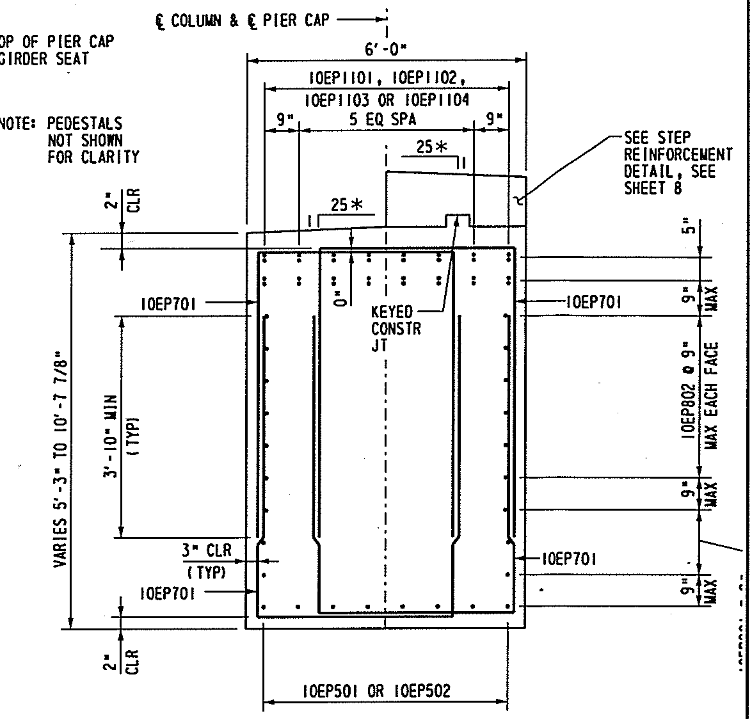
PIER ELEVATION
(LOOKING STATIONS AHEAD)



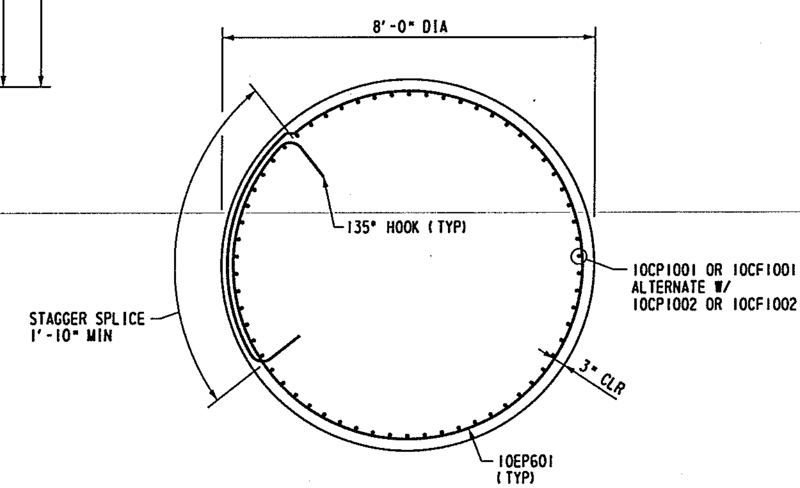
SECTION A-A

* SLOPE TOP OF PIER CAP BEYOND GIRDER SEAT

NOTE: PEDESTALS NOT SHOWN FOR CLARITY



SECTION B-B



SECTION C-C

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 6 & 7.
2. FOR STAKE-OUT PLAN, SEE SHEET 7.
3. FOR DETAILS OF KEYED CONSTRUCTION JOINT, SEE BC-735M.
4. FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET 10.
5. FOR PEDESTAL DETAILS, SEE SHEET 8.
6. FOR PILE LOCATIONS, SEE SHEET 8.
7. ADJUST VERTICAL COLUMN REINFORCEMENT TO PREVENT INTERFERENCE WITH PILES. MAINTAIN MINIMUM VERTICAL EMBEDMENT LENGTH OF L-HOOK INTO THE FOOTING.
8. FOR PIER WATER PROOFING DETAILS, SEE BC-788M.
9. TIE TOP AND BOTTOM MATS OF FOOTING REINFORCING STEEL WITH 10EF401 TIE BARS AT A MAXIMUM SPACING OF 4'-0" IN BOTH DIRECTIONS. ALTERNATE 135° HOOK UP AND DOWN.
10. COORDINATE BOTTOM FLEXURAL CAP REINFORCEMENT WITH VERTICAL COLUMN REINFORCEMENT TO AVOID INTERFERENCE.

(#) INDICATES GIRDER NUMBER.

● PROVIDE GRADE 100 UNCOATED, CORROSION RESISTANT STEEL BARS THAT MEET THE REQUIREMENTS OF AASHTO M334, TYPE CS AND SECTION 709.1(g).

▲ SEE SPECIAL PROVISION FOR CONTROL OF HEAT OF HYDRATION FOR STRUCTURAL MASS CONCRETE, S-38480.

GIRDER ANGLE TABLE

GIRDER	SKEW ANGLE	GIRDER	SKEW ANGLE
11	69°50'07"	1	69°28'54"
12	70°10'28"	2	69°49'38"
13	70°30'07"	3	70°09'40"
14	70°49'07"	4	70°29'01"
15	71°07'30"	5	70°47'45"

PIER B10 TOP OF PEDESTAL/STEP ELEVATIONS

GIRDER	1	2	3	4	5
ELEVATION	60.66	61.03	61.68	62.05	62.04
GIRDER	11	12	13	14	15
ELEVATION	61.95	62.35	62.96	63.36	63.38

Mark	Description	By	Chk'd.	Recm'd	Date

REVISIONS

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
PIER B10 - PLAN & ELEVATION

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

RECOMMENDED 10/18/2019

SHEET 9 OF 37

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S- 38480

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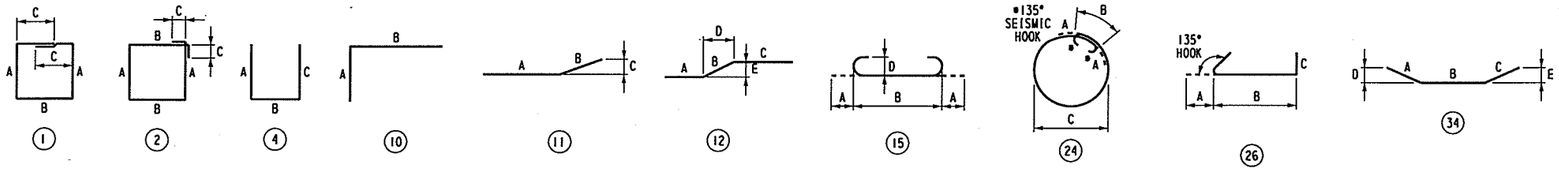
PIER B10 REINFORCEMENT BAR SCHEDULE

MARK	SIZE	NUMBER	LENGTH	TYPE	A	B	C	D	E	F	REMARKS
10EF401	4	42	6'-2"	26	4 1/2"	5'-5"	4 1/2"				
10EF601	6	29	17'-6"	STR							
10EF602	6	19	27'-6"	STR							
10EF603	6	9	26'-9"	24	8"	1'-10"	7'-6"				
10EF701	7	25	3'-0"	STR							
10EF1101	11	40	20'-8"	15	1'-7"	17'-6"					
10EF1102	11	32	30'-8"	15	1'-7"	27'-6"					
10CF1001	10	31	14'-9"	10	1'-10"	12'-11"					
10CF1002	10	31	22'-0"	10	1'-10"	20'-2"					
10CP1001	10	31	46'-0"	STR							
10CP1002	10	31	39'-0"	STR							
10EP301	3	14	13'-8"	1	8"	5'-8"	3'-4"				
10EP401	4	5	12'-3"	2	1'-10"	3'-11"	4 1/2"				
10EP501	5	8	23'-9"	11	5'-9"	18'-0"	4'-4 1/2"				
10EP502	5	8	24'-3"	11	5'-9"	18'-6"	6'-1 1/2"				
10EP503	5	8	9'-8"	4	2'-1"	5'-6"	2'-1"				
10EP504	5	14	14'-2" TO 14'-5 3/4"	4	2'-1"	VARIES 10'-0" TO 10'-3 3/4"	2'-1"				2 SETS OF 7 BARS, VARY EACH BAR BY 5/8"
10EP505	5	22	4'-9"	STR							
10EP506	5	22	9'-11"	34	3'-2"	3'-7"	3'-2"	2'-3"	2'-3"		
10EP507	5	25	6'-6"	4	2'-5"	1'-8"	2'-5"				
10EP508	5	15	8'-7"	4	2'-5"	3'-9"	2'-5"				
10EP509	5	14	9'-4"	STR							
10EP510	5	14	9'-2"	STR							
10EP511	5	43	10'-8"	4	4'-0"	2'-8"	4'-0"				
10EP512	5	4	14'-6 1/2"	12	5'-5 3/4"	4'-9 3/4"	4'-3"	4'-9 1/2"	4 3/4"		
10EP513	5	4	13'-3 3/4"	12	4'-3"	4'-9 3/4"	4'-3"	4'-9 3/8"	7 1/4"		
10EP514	5	4	13'-3 3/8"	12	4'-3"	4'-9 3/8"	4'-3"	4'-9 1/8"	4 3/4"		
10EP515	5	4	13'-4"	STR							
10EP516	5	4	41'-8"	STR							
10EP601	6	79	26'-9"	24	8"	1'-10"	7'-6"				
10EP701	7	176	13'-8" TO 20'-6"	4	4'-10" TO 8'-3"	4'-0"	4'-10" TO 8'-3"				8 SETS OF 22 BARS, VARY BARS "A" & "C" BY 2"
10EP702	7	20	20'-6"	4	8'-3"	4'-0"	8'-3"				
10EP801	8	12	13'-0" TO 38'-5"	STR							2 SETS OF 6 BARS, VARY EACH BAR BY 5'-1"
10EP802	8	12	43'-6"	STR							
10EP1101	11	8	46'-0"	15	1'-7"	42'-10"					
10EP1102	11	8	53'-2"	65	4'-11"	43'-4"	4'-11"	1'-8 3/4"			
10EP1103	11	8	42'-10"	15	1'-7"	39'-8"					
10EP1104	11	8	44'-2"	65	2'-0"	40'-2"	2'-0"	1'-7 1/4"			



NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEET 3 & 4.
2. FOR REINFORCEMENT BAR FABRICATION DETAILS, SEE BC-736M.
3. FIGURES IN CIRCLES INDICATE BAR TYPES.
4. "E" PREFIX IN BAR MARK DENOTES EPOXY-COATED BARS.
5. FOR ALL BAR TYPES SHOWN, DIMENSION A-F AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG THE INSIDE OF BAR.
6. "C" PREFIX IN BAR MARK DENOTES GRADE 100 UNCOATED, CORROSION-RESISTANT REINFORCING STEEL BARS THAT MEET THE REQUIREMENTS OF AASHTO M 334, TYPE CS AND SECTION 709.1 (g).

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
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SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE

REINF BAR SCHEDULE - PIER B10

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132 PENNSYLVANIA

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SHEET 10 OF 37

S-38480

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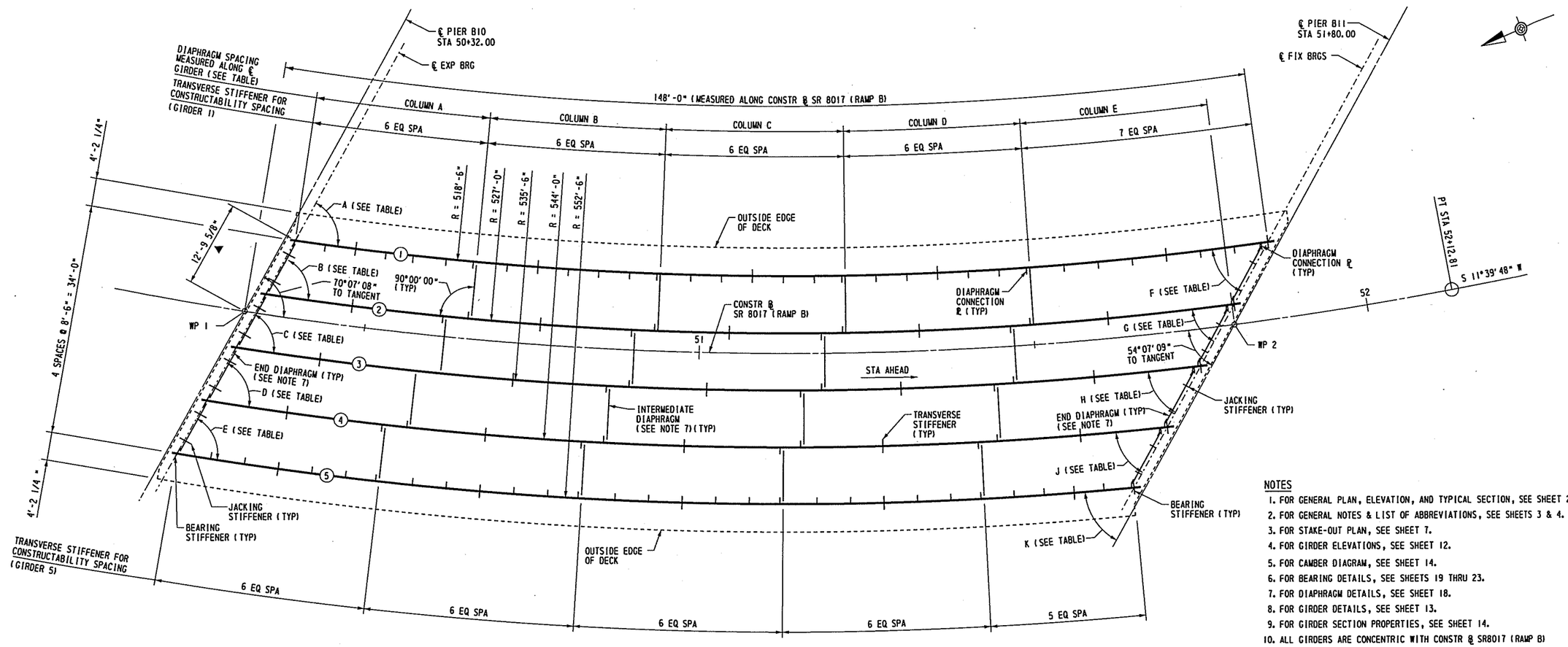

FRAMING PLAN

8' 4' 0 8'

NOTES

1. FOR GENERAL PLAN, ELEVATION, AND TYPICAL SECTION, SEE SHEET 2.
2. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
3. FOR STAKE-OUT PLAN, SEE SHEET 7.
4. FOR GIRDER ELEVATIONS, SEE SHEET 12.
5. FOR CAMBER DIAGRAM, SEE SHEET 14.
6. FOR BEARING DETAILS, SEE SHEETS 19 THRU 23.
7. FOR DIAPHRAGM DETAILS, SEE SHEET 18.
8. FOR GIRDER DETAILS, SEE SHEET 13.
9. FOR GIRDER SECTION PROPERTIES, SEE SHEET 14.
10. ALL GIRDERS ARE CONCENTRIC WITH CONSTR ℄ SR8017 (RAMP B)
11. FOR UNFACTORED REACTIONS PER GIRDER, SEE SHEETS 15 THRU 17.

(#) INDICATES GIRDER NUMBER

▲ WP 1 TO CL BEARING AT GIRDER 1, MEASURED ALONG SKEW.

MAXIMUM ALLOWABLE LOAD AT EACH JACKING STIFFENER (FOR FUTURE JACKING)

LOCATION	MAX LOAD (KIPS)
PIER B10	323
PIER B11	323

NOTE: JACKING LOAD PER GIRDER = 1.3 x MAX UNFACTORED TOTAL DL REACTION (SEE NOTE 10) JACKING LOAD INCLUDES FWS.

GIRDER ANGLES (TO TANGENT)

A	69°28'55"	F	53°24'05"
B	69°49'38"	G	54°05'05"
C	70°09'40"	H	54°44'26"
D	70°29'01"	J	55°22'16"
E	70°47'45"	K	55°58'40"

NOTE: ALL ANGLES ARE TO TANGENT.

DIAPHRAGM SPACING

GIRDER	COLUMN A	COLUMN B	COLUMN C	COLUMN D	COLUMN E
1	27'-2 3/4"	27'-4 1/2"	27'-6 1/8"	27'-7 1/4"	35'-9 1/2"
2	27'-1 1/2"	28'-1 5/8"	28'-2 1/2"	28'-3"	33'-0 7/8"
3	27'-0 1/4"	28'-10 5/8"	28'-11 1/8"	28'-10 3/4"	30'-4 3/4"
4	26'-9 3/4"	29'-9"	29'-7 1/2"	29'-6 1/2"	27'-9 1/8"

Mark	Description	By	Chk'd.	Recm'd	Date
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COMMONWEALTH OF PENNSYLVANIA
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SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
FRAMING PLAN

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 078132 PENNSYLVANIA

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SHEET 11 OF 37

S- 38480

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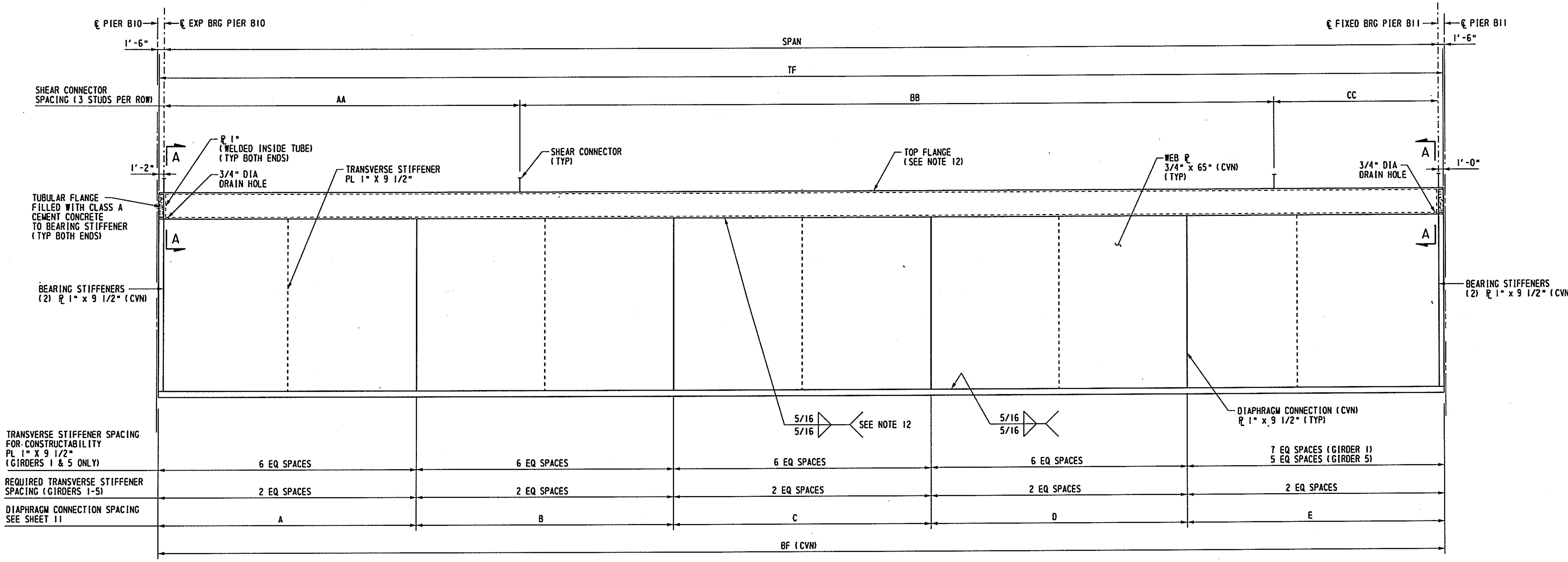
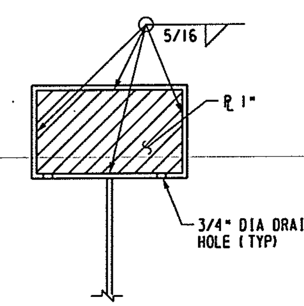


GIRDER ELEVATION - GIRDERS 1 THRU 5

NOT TO SCALE



SECTION A-A

NOT TO SCALE

GIRDER SCHEDULE

GIRDER	RADIUS	SPAN LENGTH	TOP FLANGE RECTANGULAR TUBE (SEE NOTE 12)	BOTTOM FLANGE PLATE
		SPAN 1	TF	BF
1	518'-6"	145'-6 1/8"	HSS 20" x 12" x 5/8" x 147'-8 1/4"	℄ 2 3/4" x 24" x 147'-8 1/4"
2	527'-0"	144'-9 1/2"	HSS 20" x 12" x 5/8" x 146'-11 1/2"	℄ 2 3/4" x 24" x 146'-11 1/2"
3	535'-6"	144'-1 1/2"	HSS 20" x 12" x 5/8" x 146'-3 1/2"	℄ 2 3/4" x 24" x 145'-3 1/2"
4	544'-0"	143'-5 7/8"	HSS 20" x 12" x 5/8" x 145'-7 7/8"	℄ 2 3/4" x 24" x 145'-7 7/8"
5	552'-6"	142'-10 5/8"	HSS 20" x 12" x 5/8" x 145'-0 5/8"	℄ 2 3/4" x 24" x 145'-0 5/8"

GIRDER	SHEAR CONNECTOR SPACING (SEE NOTE 14)		
	AA	BB	CC
1	80 SPA @ 9" = 60'-0"	105 SPA @ 8" MAX = 70'-6 1/8"	20 SPA @ 9" = 15'-0"
2	80 SPA @ 9" = 60'-0"	104 SPA @ 8" MAX = 69'-9 1/2"	20 SPA @ 9" = 15'-0"
3	80 SPA @ 9" = 60'-0"	103 SPA @ 8" MAX = 69'-1 1/2"	20 SPA @ 9" = 15'-0"
4	80 SPA @ 9" = 60'-0"	102 SPA @ 8" MAX = 68'-5 7/8"	20 SPA @ 9" = 15'-0"
5	80 SPA @ 9" = 60'-0"	101 SPA @ 8" MAX = 67'-10 5/8"	20 SPA @ 9" = 15'-0"

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR FRAMING PLAN, SEE SHEET 11.
3. FOR GIRDER DETAILS, SEE SHEET 13.
4. FOR GIRDER SECTION PROPERTIES, CAMBER, AND DIAGRAMS, SEE SHEET 14.
5. FOR DIAPHRAGM DETAILS, SEE SHEET 18.
6. FOR BEARING DETAILS, SEE SHEETS 19 THRU 23.
7. ALL GIRDER ARE CONCENTRIC WITH CONSTR ℄ RAMP B.
8. PLACE ALL INTERMEDIATE STIFFENERS ON INSIDE FACE OF WEB OF GIRDERS 1 AND 5.
9. ALL DIMENSIONS ARE ALONG ℄ OF GIRDER.
10. (CVN) INDICATES CHARPY V-NOTCH TEST REQUIRED. SEE PUB 408 SECTION 1105.02(a) 5.
11. 3 SHEAR CONNECTORS PER ROW REQUIRED. FOR TYPICAL SHEAR CONNECTOR DETAIL, SEE SHEET 13.
12. FABRICATE THE RECTANGULAR TUBE SUCH THAT THE WELD SEAM OF THE TUBE IS NOT ON THE SAME SIDE OF THE TUBE THAT WILL BE WELDED TO THE WEB. COORDINATE WORK BETWEEN THE FABRICATOR AND BENDER/ROLLER OF THE RECTANGULAR TUBE.
13. FOR STAKE-OUT PLAN, SEE SHEET 7.
14. STAGGER SHEAR CONNECTORS IN ACCORDANCE WITH BC-753M, SHEET 3. MINIMUM ALLOWED SPACING OF CONNECTORS ALONG GIRDERS IS 6".

Mark	Description	By	Chk'd.	Recm'd	Date

REVISIONS

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
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SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
STEEL GIRDER ELEVATION

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

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RECOMMENDED 10/18/2019

SHEET 12 OF 37

S-38480

DESIGNED: DDK | CHECKED: MVR | CADD: JAS | CHECKED: MVR

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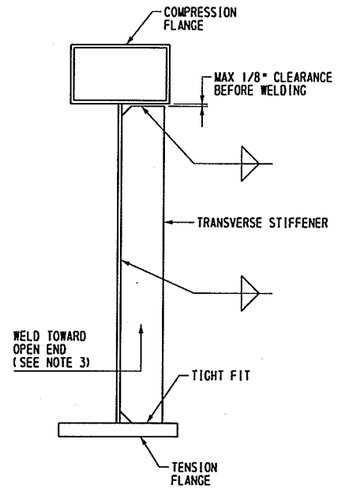
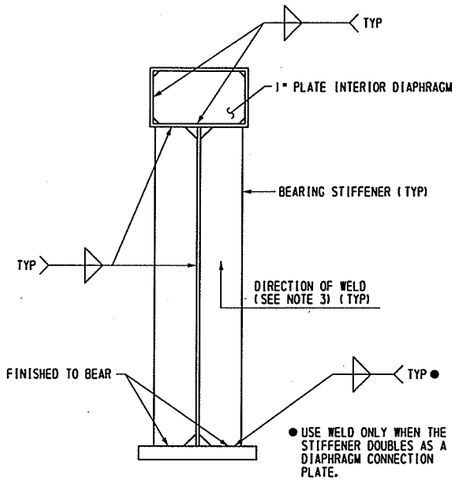


TRANSVERSE STIFFENER DETAIL FOR CONSTRUCTABILITY

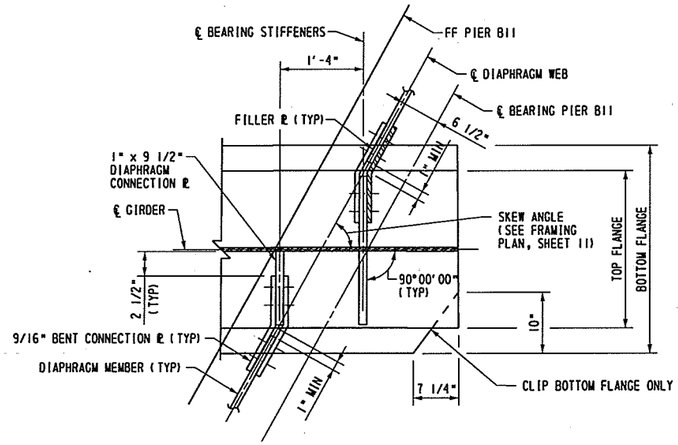
NOT TO SCALE



NOTE: FOR ANGLES OF SKEWED CONNECTION PLATES OR STIFFENERS SEE FRAMING PLAN.

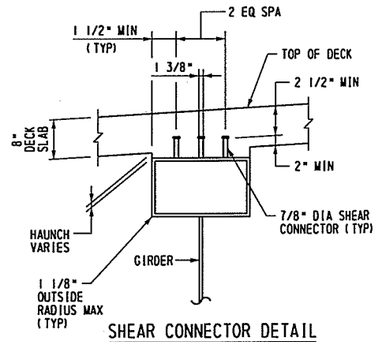
BEARING STIFFENER DETAIL

NOT TO SCALE



END DIAPHRAGM CONNECTION AT PIER BII

NOT TO SCALE

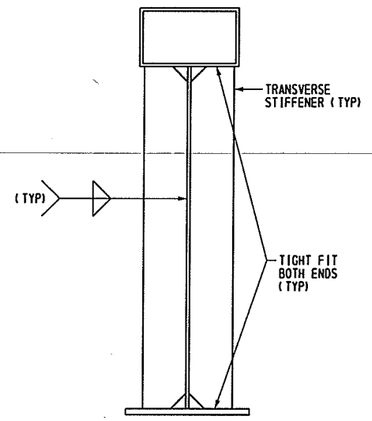


SHEAR CONNECTOR DETAIL

NOT TO SCALE

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR FRAMING PLAN, SEE SHEET 11.
3. DIRECTION OF WELD IS NOT APPLICABLE IF STIFFENERS ARE FITTED WITH TACK WELDS.
4. FOR GIRDER ELEVATION, SEE SHEET 12.
5. FOR DIAPHRAGM DETAILS, SEE SHEET 18.
6. BEARING AND JACKING STIFFENERS SHALL BE ORIENTED PARALLEL TO ℄ OF BRGS.
7. SEE GIRDER ELEVATION FOR STIFFENER PLATE SIZES, SHEET 12.
8. UNDER FULL DEAD LOAD, GIRDER ENDS AND ALL BEARING STIFFENERS, INCLUDING BEARING STIFFENERS AT PIERS, ARE VERTICAL TO WITHIN APPLICABLE AASHTO/AWS FABRICATION AND CONSTRUCTION TOLERANCES.
9. FOR ADDITIONAL DETAILS, SEE BC-753M.
10. JACKING STIFFENERS ARE DESIGNED FOR FULL DEAD LOAD PLUS LIVE LOAD AND IMPACT.



REQUIRED TRANSVERSE STIFFENER DETAIL

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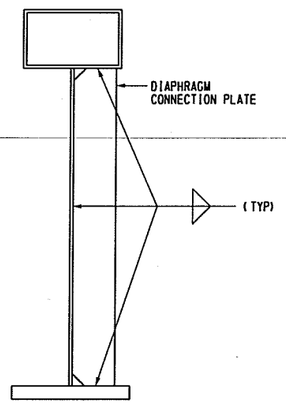

DIAPHRAGM CONNECTION PLATE DETAIL

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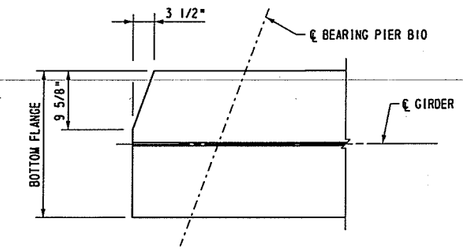

GIRDER BOTTOM FLANGE CLIP AT PIER BIO

NOT TO SCALE

FILLET WELD TABLE	
THICKNESS OF THICKER PLATE JOINED	MINIMUM WELD SIZE
TO 3/4" INCLUSIVE	1/4"
OVER 3/4"	5/16"

WELD SIZE NOT TO EXCEED THE THICKNESS OF THE THINNER PLATE JOINED

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE

STEEL GIRDER DETAILS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. PE036120 PENNSYLVANIA

STV

RECOMMENDED 10/18/2019

SHEET 13 OF 37

S- 38480

DESIGNED: DDK | CHECKED: MVR | CADD: JAS | CHECKED: MVR

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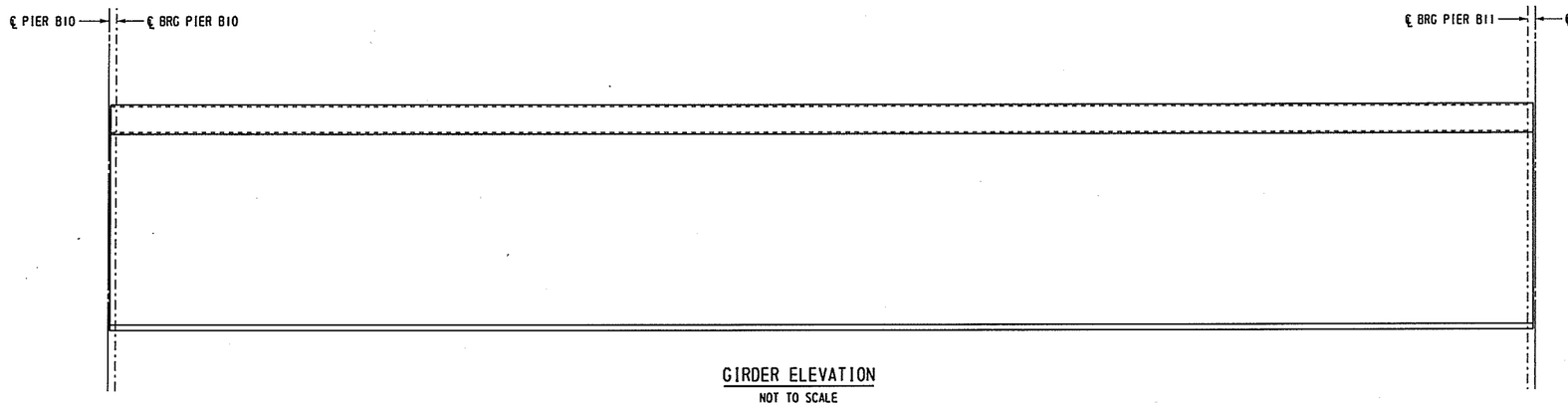


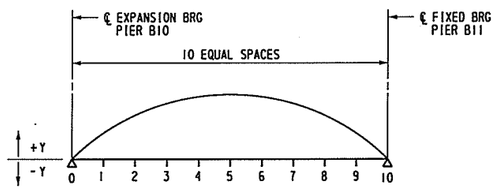
GIRDER ELEVATION

NOT TO SCALE

GIRDER	SECTION	COMPOSITE SECTION PROPERTIES				
		MOMENT OF INERTIA (IN^4)	NEUTRAL AXIS TO TOP OF GIRDER (IN)	NEUTRAL AXIS TO BOTTOM OF GIRDER (IN)	SECTION MODULUS AT TOP OF GIRDER (IN^3)	SECTION MODULUS AT BOTTOM OF GIRDER (IN^3)
1 - 5	3n - DECK CONCRETE	217234	40.98	38.77	5301	5603
	n - DECK CONCRETE	311398	29.41	50.34	10588	6186

GIRDER	NON-COMPOSITE SECTION PROPERTIES									
	MOMENT OF INERTIA (X-AXIS) (IN^4)	NEUTRAL AXIS TO TOP OF GIRDER (IN)	NEUTRAL AXIS TO BOTTOM OF GIRDER (IN)	SECTION MODULUS AT TOP OF GIRDER (IN^3)	SECTION MODULUS AT BOTTOM OF GIRDER (IN^3)	MOMENT OF INERTIA (Y-AXIS) (IN^4)	MOMENT OF INERTIA (Y-AXIS) (TOP FLANGE) (IN^4)	MOMENT OF INERTIA (Y-AXIS) (BOTTOM FLANGE) (IN^4)	RADIUS OF GYRATION (Y-AXIS) (IN)	RADIUS OF GYRATION (X-AXIS) (IN)
1 - 5	140403	50.43	29.32	2784	4789	5050	1880	3168	5.81	30.62

CAMBER ORDINATES "Y", INCHES											
TYPE OF CAMBER	GIRDER	0	1	2	3	4	5	6	7	8	9	10
STEEL DEAD LOAD	1	0.00	0.34	0.63	0.86	1.00	1.05	1.00	0.85	0.62	0.33	0.00
	2	0.00	0.41	0.78	1.06	1.23	1.28	1.22	1.03	0.75	0.40	0.00
	3	0.00	0.48	0.91	1.23	1.44	1.50	1.42	1.21	0.88	0.46	0.00
	4	0.00	0.57	1.08	1.47	1.72	1.78	1.69	1.43	1.04	0.54	0.00
	5	0.01	0.70	1.33	1.82	2.12	2.23	2.11	1.81	1.31	0.69	0.01
DECK DEAD LOAD	1	0.01	0.59	1.10	1.49	1.74	1.83	1.73	1.48	1.08	0.57	0.01
	2	0.00	0.71	1.33	1.81	2.11	2.19	2.08	1.76	1.29	0.68	0.00
	3	0.00	0.83	1.57	2.12	2.48	2.59	2.45	2.08	1.51	0.80	0.00
	4	0.00	1.01	1.90	2.58	3.01	3.13	2.97	2.50	1.82	0.95	0.00
	5	0.02	1.27	2.39	3.27	3.82	4.02	3.80	3.26	2.36	1.25	0.02
SUPER-IMPOSED DEAD LOAD	1	0.00	0.13	0.25	0.33	0.39	0.42	0.40	0.35	0.26	0.15	0.00
	2	0.00	0.12	0.22	0.31	0.36	0.38	0.36	0.31	0.22	0.12	0.00
	3	0.00	0.14	0.26	0.36	0.42	0.43	0.41	0.34	0.24	0.13	0.00
	4	0.00	0.20	0.37	0.50	0.59	0.60	0.57	0.47	0.34	0.17	0.00
	5	0.01	0.30	0.55	0.75	0.87	0.91	0.86	0.74	0.53	0.28	0.00
GEOMETRIC	1	0.00	0.90	1.60	2.07	2.34	2.41	2.25	1.89	1.32	0.53	0.00
	2	0.00	0.90	1.61	2.11	2.41	2.51	2.41	2.11	1.60	0.89	0.00
	3	0.00	0.88	1.56	2.05	2.33	2.43	2.34	2.04	1.55	0.88	0.00
	4	0.00	0.84	1.49	1.96	2.24	2.33	2.25	1.96	1.50	0.84	0.00
	5	0.00	0.45	0.72	0.81	1.25	1.51	1.58	1.48	1.19	0.74	0.00
TOTAL	1	0.01	1.96	3.57	4.75	5.47	5.70	5.38	4.58	3.28	1.58	0.01
	2	0.01	2.14	3.94	5.28	6.11	6.36	6.08	5.21	3.87	2.08	0.01
	3	0.01	2.33	4.29	5.76	6.67	6.96	6.62	5.67	4.19	2.27	0.01
	4	0.01	2.62	4.85	6.52	7.56	7.84	7.48	6.36	4.69	2.51	0.01
	5	0.03	2.72	5.00	6.65	8.06	8.67	8.36	7.28	5.39	2.97	0.03



CAMBER DIAGRAM

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR GIRDER ELEVATIONS, SEE SHEET 12.
3. FOR FRAMING PLANS, SEE SHEET 11.
4. FOR SHEAR AND MOMENT DIAGRAMS, SEE SHEETS 15 THRU 17.
5. SUPERIMPOSED DL CAMBERS INCLUDE BARRIER.
6. SUPERIMPOSED DL CAMBERS DO NOT INCLUDE FUTURE WEARING SURFACE.
7. DECK DEAD LOAD INCLUDES CONCRETE SLAB AND HAUNCH.

Mark	Description	By	Chk'd	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE

SECTION PROP & CAMBER DIAGRAM

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

STV

RECOMMENDED 10/18/2019

SHEET 14 OF 37

S- 38480

DESIGNED: ARG | CHECKED: CMP | CADD: JAS | CHECKED: CMP

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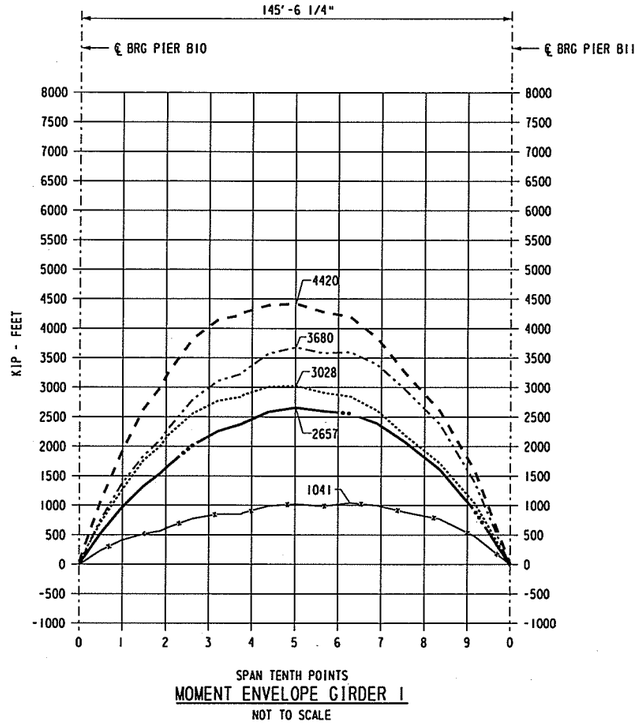
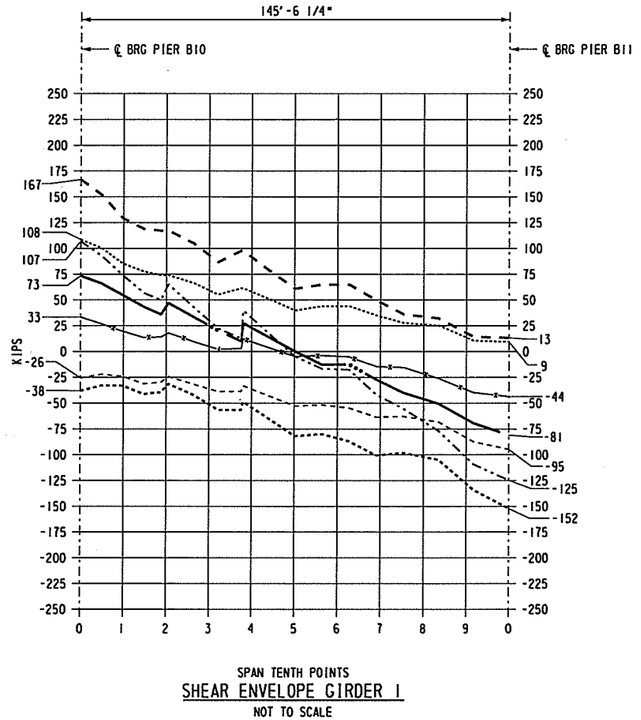


MOMENT ENVELOPE GIRDER 1

NOT TO SCALE



SHEAR ENVELOPE GIRDER 1

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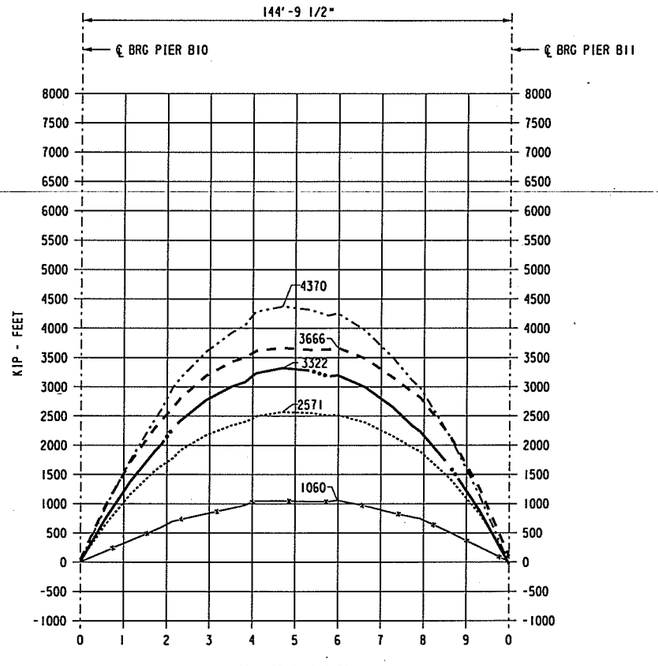

MOMENT ENVELOPE GIRDER 2

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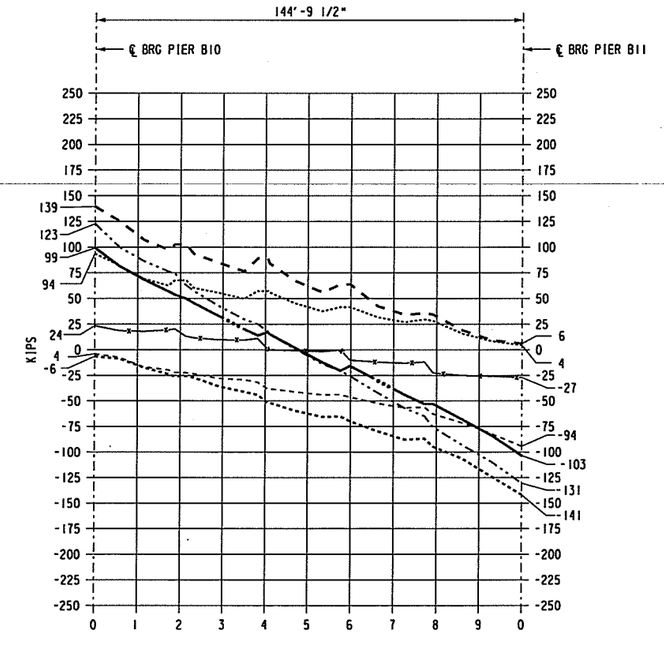

SHEAR ENVELOPE GIRDER 2

NOT TO SCALE

REACTIONS PER GIRDER (UNFACTORED) KIPS			
GIRDER 1			
LOAD TYPE		PIER B10	PIER B11
NONCOMPOSITE DEAD LOAD (DC1)		74	82
COMPOSITE DEAD LOAD (DC2)		34	44
TOTAL DEAD LOAD		108	126
PHL-93	MAX	109	10
	MIN	-26	-95
P-82	MAX	167	14
	MIN	-39	-153

REACTIONS PER GIRDER (UNFACTORED) KIPS			
GIRDER 2			
LOAD TYPE		PIER B10	PIER B11
NONCOMPOSITE DEAD LOAD (DC1)		100	104
COMPOSITE DEAD LOAD (DC2)		24	28
TOTAL DEAD LOAD		124	132
PHL-93	MAX	94	5
	MIN	-5	-95
P-82	MAX	140	7
	MIN	-7	-142

MOMENT AND SHEAR ENVELOPE LEGEND

- POSITIVE LIVE LOAD + IMPACT AND CENTRIFUGAL FORCE (PHL-93)
- NEGATIVE LIVE LOAD + IMPACT AND CENTRIFUGAL FORCE (PHL-93)
- POSITIVE LIVE LOAD + IMPACT AND CENTRIFUGAL FORCE (P-82)
- NEGATIVE LIVE LOAD + IMPACT AND CENTRIFUGAL FORCE (P-82)
- NONCOMPOSITE DEAD LOAD
- COMPOSITE DEAD LOAD
- TOTAL DEAD LOAD

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR BRIDGE LOAD RATINGS, SEE SHEET 5.
3. COMPOSITE DEAD LOAD VALUES INCLUDE 30 PSF FUTURE WEARING SURFACE.
4. PHL-93 AND P-82 LIVE LOAD VALUES INCLUDE IMPACT AND CENTRIFUGAL FORCE.
5. MOMENT AND SHEAR VALUES ARE UNFACTORED.
6. FOR STEEL GIRDER SECTION PROPERTIES, SEE SHEET 14.

Mark	Description	By	Chk'd	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
MOMENT AND SHEAR DIAGRAMS - 1

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132

STV

RECOMMENDED 10/18/2019

SHEET 15 OF 37

S-38480

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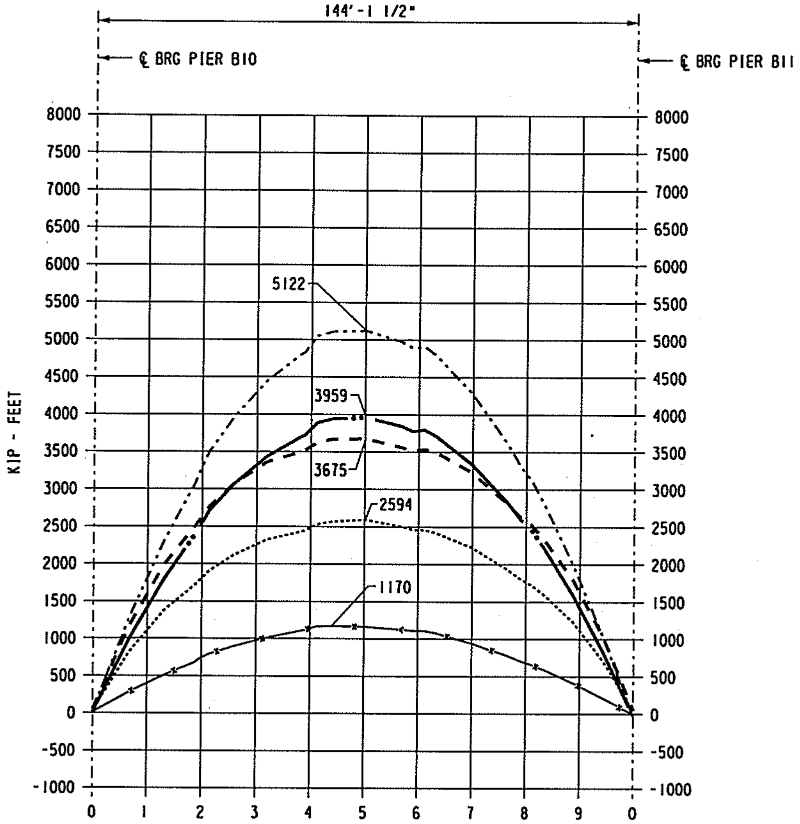
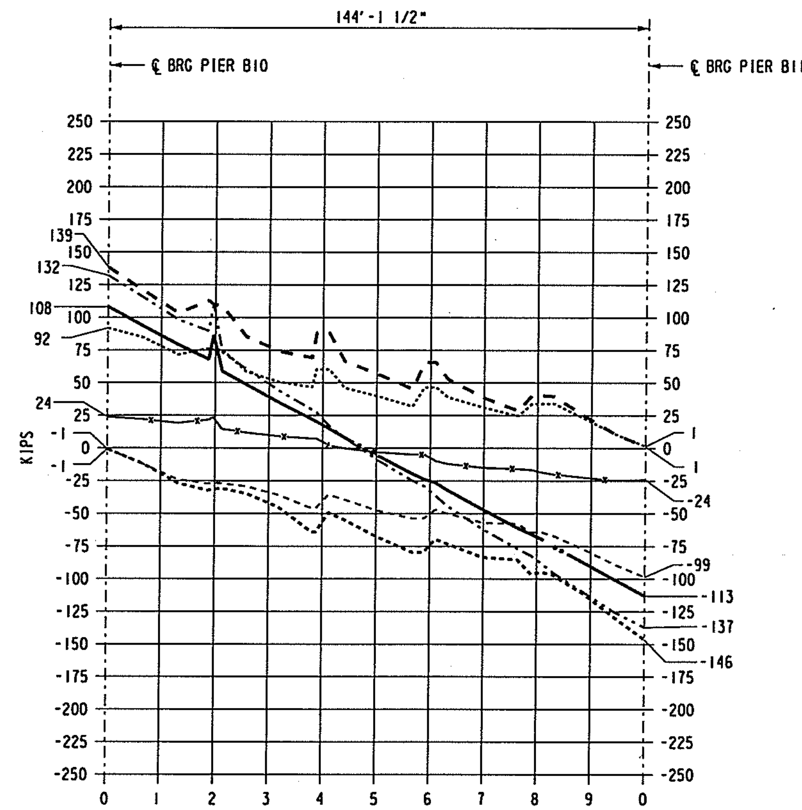


MOMENT ENVELOPE GIRDER 3
NOT TO SCALE



SHEAR ENVELOPE GIRDER 3
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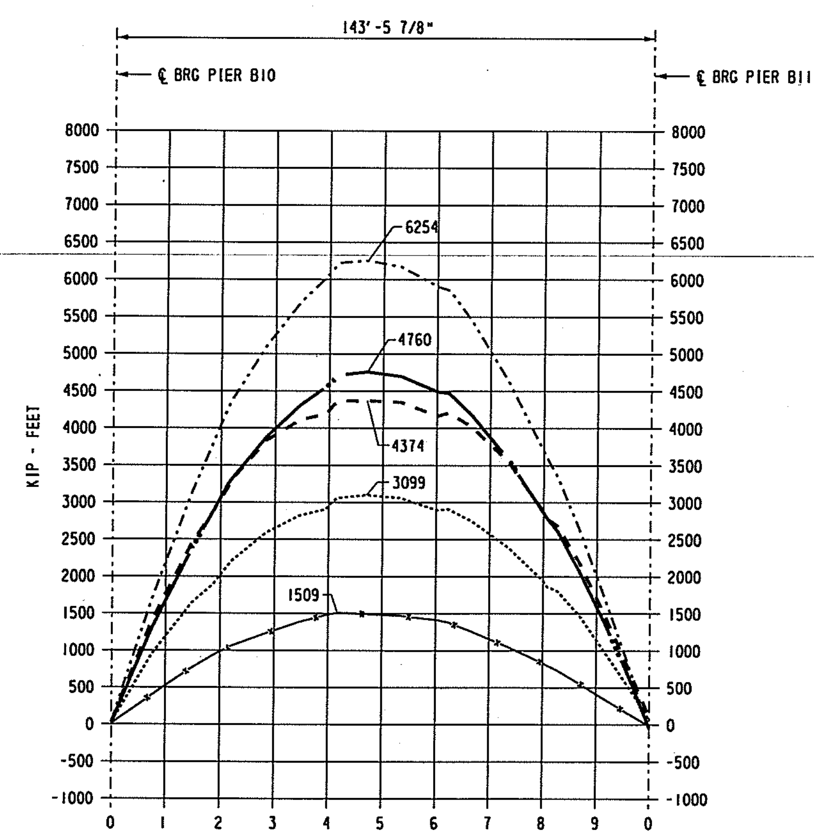

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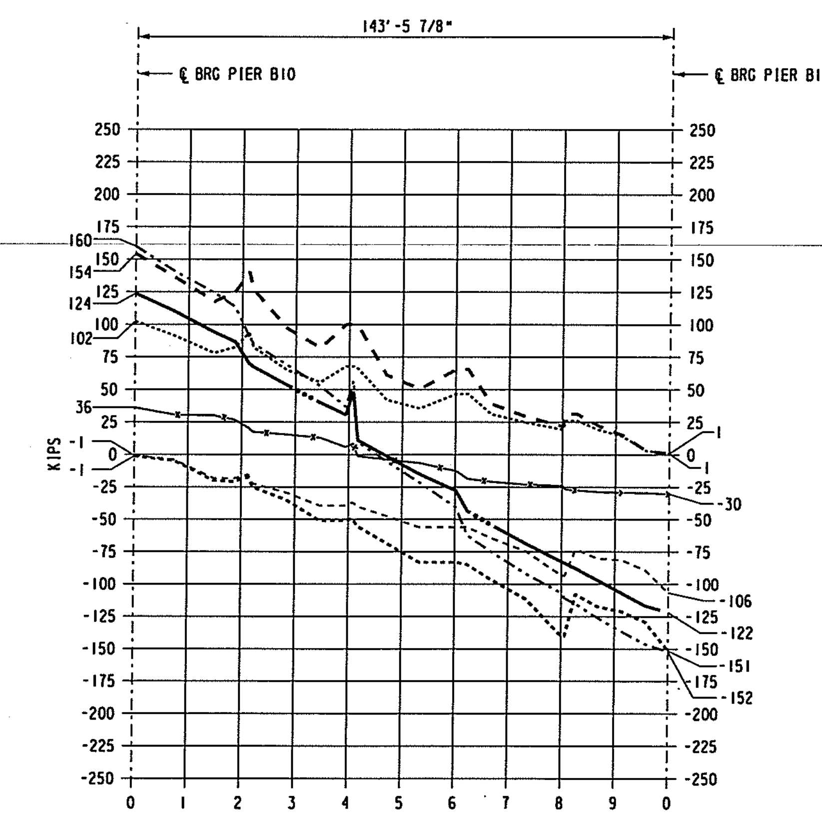


SHEAR ENVELOPE GIRDER 4
NOT TO SCALE

REACTIONS PER GIRDER (UNFACTORED) KIPS — GIRDER 3

LOAD TYPE		PIER B10	PIER B11
NONCOMPOSITE DEAD LOAD (DC1)		109	114
COMPOSITE DEAD LOAD (DC2)		24	25
TOTAL DEAD LOAD		133	139
PHL-93	MAX	92	2
	MIN	-1	-99
P-82	MAX	139	2
	MIN	-1	-147

REACTIONS PER GIRDER (UNFACTORED) KIPS — GIRDER 4

LOAD TYPE		PIER B10	PIER B11
NONCOMPOSITE DEAD LOAD (DC1)		124	122
COMPOSITE DEAD LOAD (DC2)		37	31
TOTAL DEAD LOAD		161	153
PHL-93	MAX	103	1
	MIN	-1	-107
P-82	MAX	155	1
	MIN	-2	-152

MOMENT AND SHEAR ENVELOPE LEGEND

- POSITIVE LIVE LOAD + IMPACT AND CENTRIFUGAL FORCE (PHL-93)
- NEGATIVE LIVE LOAD + IMPACT AND CENTRIFUGAL FORCE (PHL-93)
- POSITIVE LIVE LOAD + IMPACT AND CENTRIFUGAL FORCE (P-82)
- NEGATIVE LIVE LOAD + IMPACT AND CENTRIFUGAL FORCE (P-82)
- NONCOMPOSITE DEAD LOAD
- COMPOSITE DEAD LOAD
- TOTAL DEAD LOAD

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR BRIDGE LOAD RATINGS, SEE SHEET 5.
3. COMPOSITE DEAD LOAD VALUES INCLUDE 30 PSF FUTURE WEARING SURFACE.
4. PHL-93 AND P-82 LIVE LOAD VALUES INCLUDE IMPACT AND CENTRIFUGAL FORCE.
5. MOMENT AND SHEAR VALUES ARE UNFACTORED.
6. FOR STEEL GIRDER SECTION PROPERTIES, SEE SHEET 14.

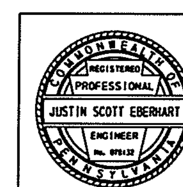
Mark	Description	By	Chk'd.	Recm'd	Date

REVISIONS

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
MOMENT AND SHEAR DIAGRAMS - 2



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SHEET 16 OF 37

S- 38480

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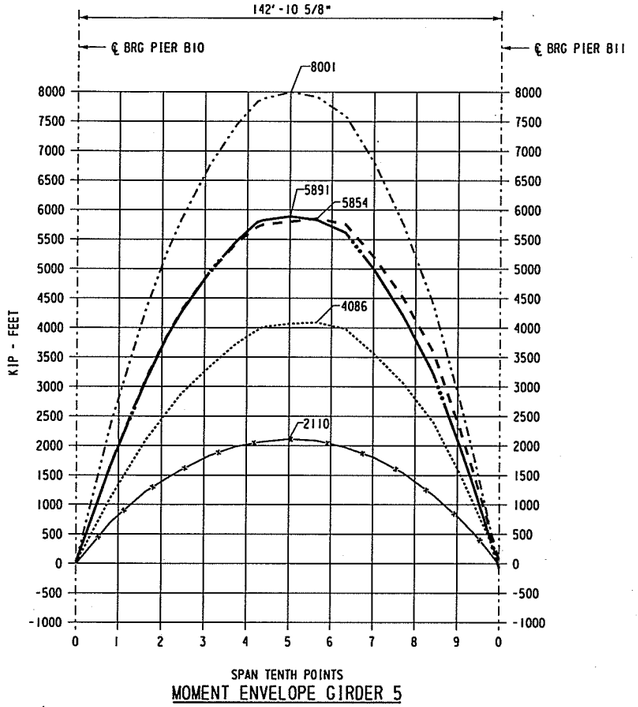
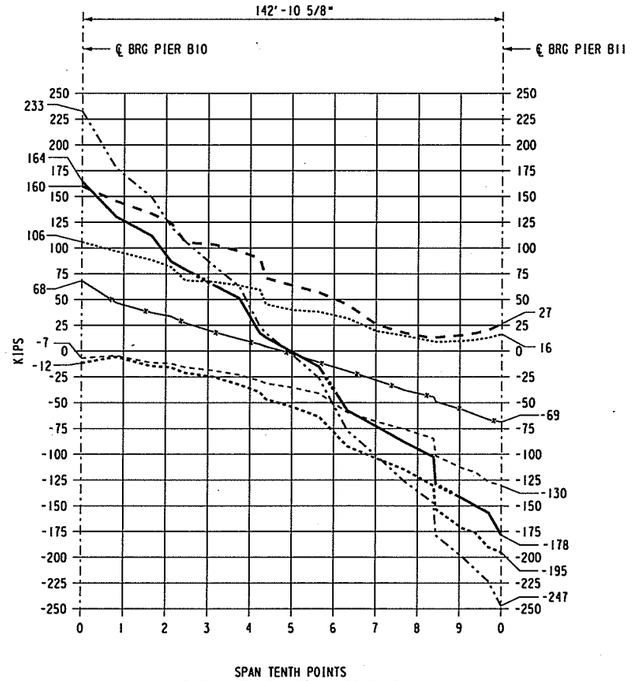


MOMENT ENVELOPE GIRDER 5

NOT TO SCALE



SHEAR ENVELOPE GIRDER 5

NOT TO SCALE

REACTIONS PER GIRDER (UNFACTORED) KIPS			
GIRDER 5			
LOAD TYPE		PIER B10	PIER B11
NONCOMPOSITE DEAD LOAD (DC1)		165	179
COMPOSITE DEAD LOAD (DC2)		69	69
TOTAL DEAD LOAD		234	248
PHL-93	MAX	106	17
	MIN	-7	-131
P-82	MAX	160	27
	MIN	-12	-195

MOMENT AND SHEAR ENVELOPE LEGEND

- POSITIVE LIVE LOAD + IMPACT AND CENTRIFUGAL FORCE (PHL-93)
- NEGATIVE LIVE LOAD + IMPACT AND CENTRIFUGAL FORCE (PHL-93)
- POSITIVE LIVE LOAD + IMPACT AND CENTRIFUGAL FORCE (P-82)
- NEGATIVE LIVE LOAD + IMPACT AND CENTRIFUGAL FORCE (P-82)
- NONCOMPOSITE DEAD LOAD
- COMPOSITE DEAD LOAD
- TOTAL DEAD LOAD

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR BRIDGE LOAD RATINGS, SEE SHEET 5.
3. COMPOSITE DEAD LOAD VALUES INCLUDE 30 PSF FUTURE WEARING SURFACE.
4. PHL-93 AND P-82 LIVE LOAD VALUES INCLUDE IMPACT AND CENTRIFUGAL FORCE.
5. MOMENT AND SHEAR VALUES ARE UNFACTORED.
6. FOR STEEL GIRDER SECTION PROPERTIES, SEE SHEET 14.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
MOMENT AND SHEAR DIAGRAMS - 3

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 078132 PENNSYLVANIA

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SHEET 17 OF 37

S- 38480

DESIGNED: ARG | CHECKED: CMP | CADD: JAS | CHECKED: CMP

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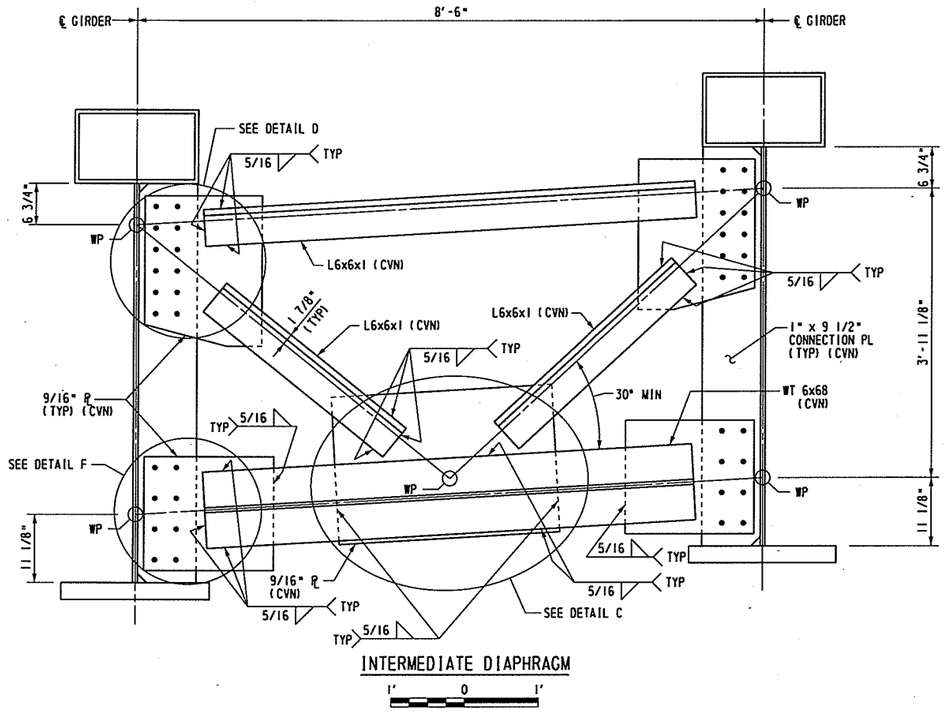

INTERMEDIATE DIAPHRAGM

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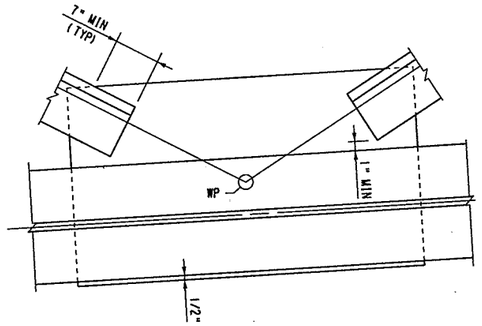

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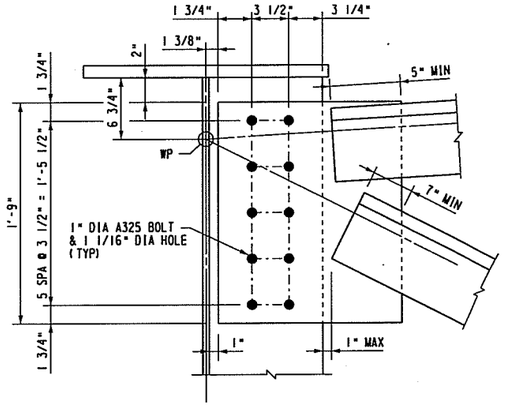

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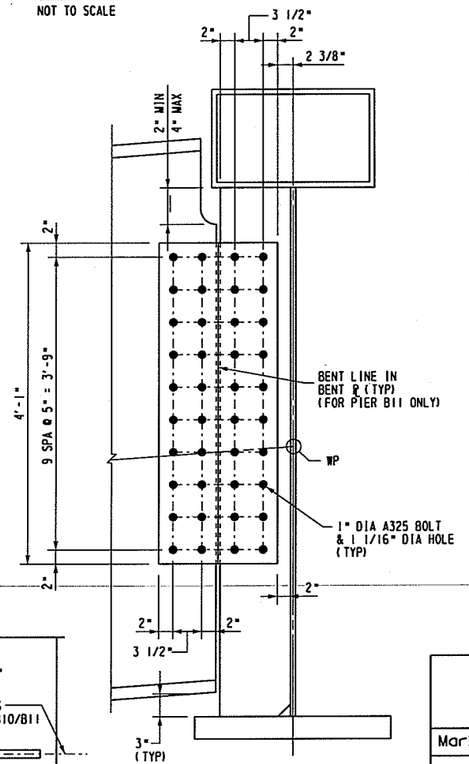

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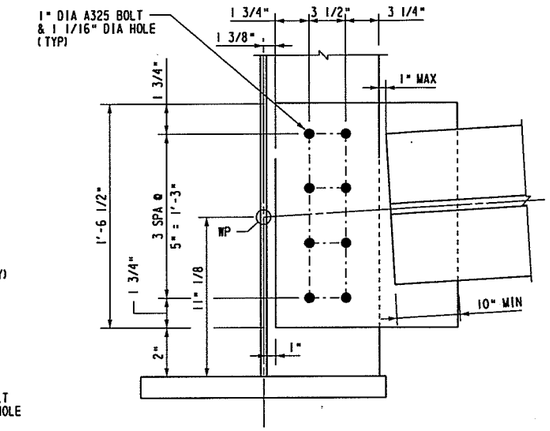

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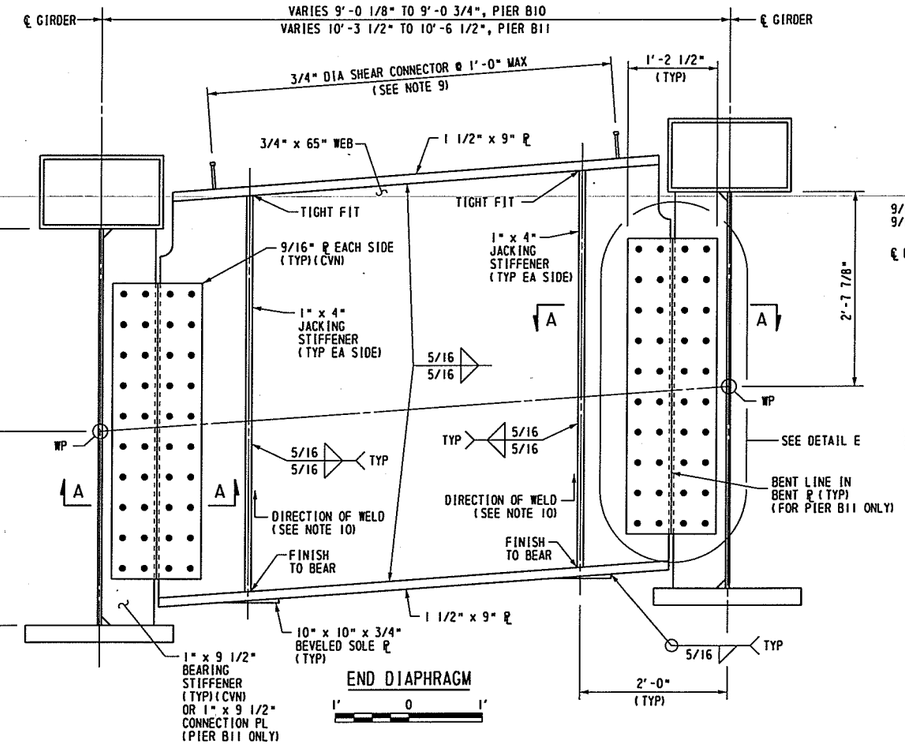

END DIAPHRAGM

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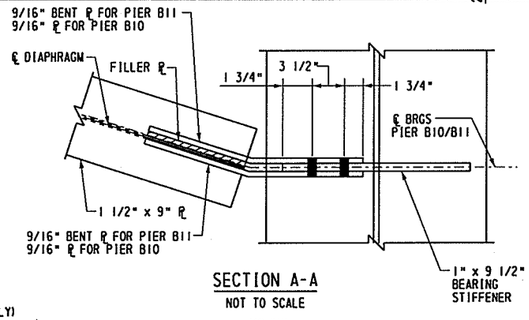

SECTION A-A
NOT TO SCALE

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR FRAMING PLAN, SEE SHEET 11.
3. FOR GIRDER ELEVATION, SEE SHEET 12.
4. FOR GIRDER DETAILS, SEE SHEET 13.
5. FOR END DIAPHRAGM CONNECTION AT PIER B11, SEE SHEET 13.
6. BOLTED CONNECTIONS ARE TO BE SLIP CRITICAL CONNECTIONS, WITH CLASS B SURFACE CONDITION.
7. (CVN) INDICATES CHARPY V-NOTCH TEST REQUIRED. SEE PUB 408/2016 SECTION 1105.02(a)5
8. TERMINATE WELDS 1/2" SHORT OF EDGE AT END OF EACH WELD.
9. 1 SHEAR CONNECTOR PER ROW REQUIRED.
10. DIRECTION OF WELD IS NOT APPLICABLE IF STIFFENERS ARE FITTED WITH TACK WELDS.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE

DIAPHRAGM DETAILS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 078132 PENNSYLVANIA

STV

RECOMMENDED 10/18/2019

SHEET 18 OF 37

S- 38480

DESIGNED: ARG | CHECKED: CMP | CADD: JAS | CHECKED: CMP

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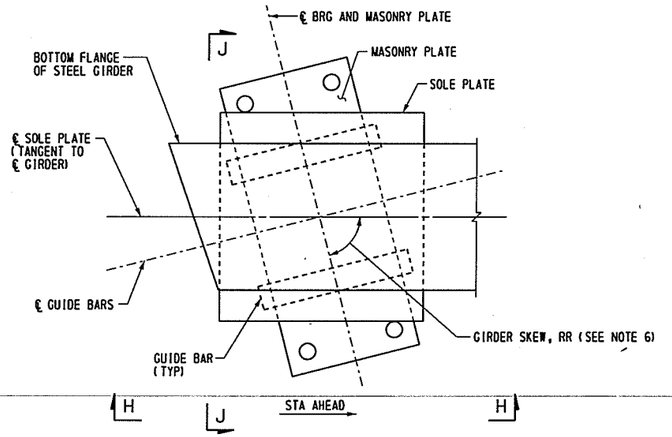
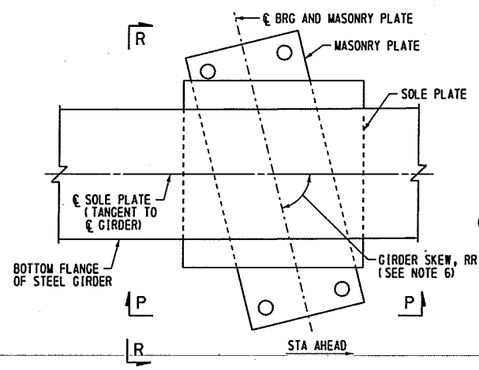
DISC BEARING SCHEDULE AND DESIGN DATA							
LOCATION		PIER B10			PIER B11		
TYPE		NON-GUIDED EXPANSION	GUIDED EXPANSION	NON-GUIDED EXPANSION	NON-GUIDED EXPANSION	FIXED	NON-GUIDED EXPANSION
GIRDER NUMBER		1, 3	2, 4	5	1, 3	2, 4	5
BEARING TYPE		250 KIP DISC BEARING	300 KIP DISC BEARING	400 KIP DISC BEARING	250 KIP DISC BEARING	500 KIP DISC BEARING	400 KIP DISC BEARING
HORIZONTAL LOAD CAPACITY		25	90	40	25	150	40
DESIGN ROTATION (RADIANS) ●		0.022	0.022	0.022	0.022	0.022	0.022
ONE-WAY DESIGN MOVEMENT (INCHES) ■	TRANS	1.72	0.00	1.72	1.72	0.00	1.72
	LONG	2.20	2.40	2.20	2.20	0.00	2.20
COEFFICIENT OF FRICTION		0.04	0.04	0.04	0.04	0.04	0.04

DISC BEARING DESIGN LOADS															
LOCATION	BEARING TYPE	VERTICAL - SERVICE I (KIPS)						VERTICAL - EXTREME (KIPS)		HORIZONTAL - SERVICE I (KIPS)			HORIZONTAL - EXTREME EVENT I (KIPS)		
		DL + W + TU		LL + I + CE		TOTAL		DL = TOTAL		TRANS	LONG	RESOLUTION	TRANS	LONG	RESOLUTION
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX						
PIER B10	GUIDED	119.43	164.35	-5.50	103.89	113.93	268.24	106.72	204.58	70.20	6.39	70.49	64.18	4.26	64.32
	NON-GUIDED G1 & G3	100.72	138.38	-27.12	93.40	73.60	231.78	93.87	169.47	0.00	5.29	5.29	0.00	3.52	3.52
	NON-GUIDED G5	225.89	239.31	-8.49	107.24	217.40	346.54	203.96	296.12	0.00	9.30	9.30	0.00	6.20	6.20
PIER B11	FIXED	128.60	155.84	-5.81	108.05	122.79	263.89	113.80	194.85	69.73	63.76	94.49	21.13	142.96	144.51
	NON-GUIDED G1 & G3	122.72	139.13	-10.84	100.04	111.88	239.18	109.52	175.62	0.00	5.49	5.49	0.00	3.66	3.66
	NON-GUIDED G5	244.12	250.10	-17.87	131.87	226.25	381.98	216.17	315.12	0.00	9.88	9.88	0.00	6.59	6.59



TYPICAL GUIDED DISC BEARING PLAN

NOT TO SCALE



TYPICAL NON-GUIDED DISC BEARING PLAN

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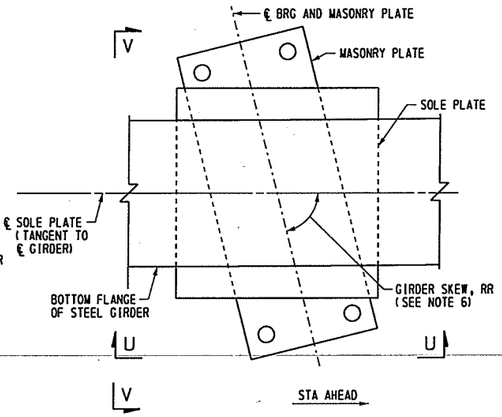
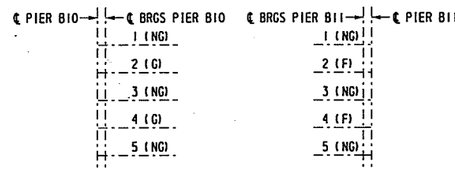


TYPICAL FIXED DISC BEARING PLAN

NOT TO SCALE



PIER B10 PIER B11

(G) = GUIDED DISC BEARING (NG) = NON-GUIDED DISC BEARING (F) = FIXED DISC BEARING

BEARING LAYOUT

NOT TO SCALE

DISC BEARING NOTES

GENERAL

1. PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH SPECIFICATIONS, PUBLICATION 408/2016, ANSI/AASHTO/AWS/D1.5M/D1.5:2008 BRIDGE WELDING CODE, AND CONTRACT SPECIAL PROVISIONS.
2. ALL BEARING DIMENSIONS SHOWN ARE CONCEPTUAL. CONTRACTOR TO PROVIDE DISC BEARING DESIGN AND DETAILING IN ACCORDANCE WITH THE DISC BEARING SPECIAL PROVISION.
3. MARK CENTERLINE OF GUIDED AND NON-GUIDED DISC BEARINGS ON THE SIDES OF MASONRY PLATE AND SOLE PLATE. THE CENTERLINE IDENTIFICATION MARKS WILL BE USEFUL TO LOCATE OFFSET DISTANCES IN THE FIELD. USE INDELIBLE INK TO PLACE ALL MARKS.
4. MARK EACH BEARING WITH THE NAME OF THE MANUFACTURER, TYPE OR MODEL NUMBER, INSTALLATION LOCATION, AND DATE OF MANUFACTURE. PLACE THE NAME OF THE MANUFACTURER AND TYPE OR MODEL NUMBER IN A PERMANENT MANNER AND LOCATION SO THAT IT IS VISIBLE AFTER ERECTION.
5. ENSURE ALL BEARING SURFACES, INCLUDING THE BEARING SEAT, ARE LEVEL PRIOR TO INSTALLATION OF DISC BEARINGS IN ACCORDANCE WITH PUBLICATION 408, SECTION 1001.3(k).
6. FABRICATION TOLERANCES SHALL BE IN ACCORDANCE WITH PUBLICATION 408, SECTION 1111.03.

MATERIALS

1. STRUCTURAL STEEL: AASHTO M270/M270M (ASTM A709/A709M), GRADE 50.
2. STAINLESS STEEL: 12 GAUGE, ASTM A240 TYPE 304, NO 8 BRIGHT MIRROR FINISH.
3. POLYTRON DISC: SHALL MEET THE APPLICABLE MATERIAL REQUIREMENTS OF PUBLICATION 408, SECTION 1111.02 (b). THE TOP AND BOTTOM SURFACES OF THE POLYTRON DISC SHALL BE ROUGHENED.
4. PTFE SHEET SHALL BE UNFILLED AND SHALL MEET THE APPLICABLE MATERIAL REQUIREMENTS OF PUBLICATION 408, SECTION 1111.02 (c). ALL PTFE SHALL BE ETCHED ON ONE SIDE PRIOR TO BONDING. A UNIFORM LAYER OF CHEMGRIP ADHESIVE SHALL BE APPLIED FOR EFFECTIVE BONDING.
5. ANCHOR BOLTS: ASTM F1554, GRADE 55
6. NUTS: ASTM A 563/A 563M, GRADE DH
7. WASHERS: ASTM F436/F436M, TYPE 1
8. SHEAR PINS: ASTM A193 GR B7, UNLESS NOTED OTHERWISE.
9. BEDDING MATERIAL: PUBLICATION 408, SECTION 1113.03 (h), TYPE II.

COATINGS

1. ALL MILL SCALE SHALL BE REMOVED FROM STEEL PLATES VIA ABRASIVE BLASTING IN ACCORDANCE WITH SSPC-SP10. THE PLATE SURFACES ABOVE AND BELOW THE POLYTRON DISC SHALL BE ABRASIVE BLASTED TO A NEAR WHITE CONDITION AS DEFINED IN SSPC-SP10. THE BLAST PROFILE SHALL BE JAGGED RATHER THAN "PEENED".
2. PAINT ALL EXPOSED STEEL SURFACES IN ACCORDANCE WITH PUBLICATION 408, SECTION 1060. THE FOLLOWING AREAS ARE NOT TO BE PAINTED:
   - -AREAS DIRECTLY ABOVE AND BELOW THE POLYTRON DISC.
   - -ALL STAINLESS STEEL AND PTFE SURFACES.
   - -SHEAR PIN AND SHEAR PIN HOLE.

   THE FOLLOWING AREAS ARE TO RECEIVE PRIME COAT ONLY:
   - -TOP OF SOLE PLATE.
   - -BOTTOM OF MASONRY PLATE.
3. ANCHOR BOLTS, HEAVY HEX NUTS, AND HARDENED WASHERS SHALL BE HOT-DIP GALVANIZED BY A METHOD CONFORMING TO ASTM A153.

SHIPPING AND HANDLING

1. PTFE AND STAINLESS STEEL SHALL BE PROTECTED FROM DAMAGE, AIRBORNE DEBRIS AND CONTAMINANTS AT ALL TIMES. THESE SURFACES SHALL BE INSPECTED FOR SUCH DAMAGE AND DEBRIS PRIOR TO FINAL ASSEMBLY AND INSTALLATION.
2. COMPLETED BEARINGS SHALL BE INDIVIDUALLY STEEL BANDED IN THE UPRIGHT POSITION. STEEL BANDS SHALL PREVENT SEPARATION OF UPPER AND LOWER BEARING COMPONENTS AND SHALL NOT BE REMOVED PRIOR TO INSTALLATION.
3. BEARING ASSEMBLIES SHALL BE HANDLED BY THEIR BOTTOM SURFACES ONLY, AND SHALL NOT BE LIFTED BY THEIR TOPS, SIDES AND/OR SHIPPING BANDS.
4. BEARINGS SHALL BE STORED IN A CLEAN, DRY AND UPRIGHT POSITION.
5. AT NO TIME PRIOR TO THE COMPLETION OF THE PROJECT MAY ANY BEARING BE DISASSEMBLED WITHOUT AUTHORIZATION FROM THE BEARING MANUFACTURER.
6. AFTER HANDLING AND INSTALLATION IS COMPLETE, ANY EXPOSED STEEL SHALL BE TOUCHED UP IN ACCORDANCE WITH THE SPECIFIED PAINT SYSTEM.

TESTING

1. BEARINGS SHALL BE TESTED IN ACCORDANCE WITH PUBLICATION 408, SECTION 1111.03 (e).
2. TESTING SHALL BE CONDUCTED AT A TESTING FACILITY WITH PRIOR EXPERIENCE TESTING BEARINGS OF THIS TYPE.

WELDING

1. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH ANSI/AASHTO/AWS D1.5M/D1.5:2008 BRIDGE WELDING CODE.
2. WELDING TO BEARING PLATES AFTER ASSEMBLY IS PERMITTED PROVIDED WELDING PROCEDURES RESTRICT THE MAXIMUM TEMPERATURE IN THE AREAS OF THE POLYTRON DISC AND PTFE TO NO MORE THAN 225° F AS DETERMINED BY USE OF TEMPERATURE INDICATING WAX PENCILS. PROTECTIVE MATERIAL SHALL BE PLACED OVER THE BEARING ASSEMBLY TO PROTECT AGAINST SPARKS AND FLASH. AFTER WELDING IS COMPLETE, EXPOSED STEEL SHALL BE TOUCHED UP IN ACCORDANCE WITH THE SPECIFIED PAINT SYSTEM.

MATERIAL DESIGN PARAMETERS

1. ALLOWABLE PRESSURE IN POLYURETHANE DISC: 5000 PSI
2. ALLOWABLE PRESSURE IN PTFE: 4500 PSI
3. COEFFICIENT OF FRICTION BETWEEN PTFE AND STAINLESS STEEL: 0.04
4. CONCRETE BEARING STRENGTH: f'c = 3000 PSI

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR GUIDED DISC BEARING SECTIONS & DETAILS, SEE SHEET 21.
3. FOR NON-GUIDED DISC BEARING SECTIONS & DETAILS, SEE SHEET 20.
4. FOR FIXED DISC BEARING SECTIONS & DETAILS, SEE SHEET 22.
5. FOR DISC BEARING DETAILS, SEE SHEET 23.
6. FOR GIRDER SKEW ANGLES, SEE SHEET 11.

● INCLUDES 0.02 RADIAN CONSTRUCTION TOLERANCE.
■ TOTAL TRANSVERSE MOVEMENT PERPENDICULAR TO STRUCTURE BASELINE INCLUDES 0.75" CONSTRUCTION TOLERANCE. TOTAL LONGITUDINAL MOVEMENT ALONG BASELINE OR GUIDE BARS INCLUDES 1" CONSTRUCTION TOLERANCE.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
DISC BEARINGS - GENERAL

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132

STV

RECOMMENDED 10/18/2019

SHEET 19 OF 37

S-38480

DESIGNED: MVR | CHECKED: JLG | CADD: JCD | CHECKED: CMP

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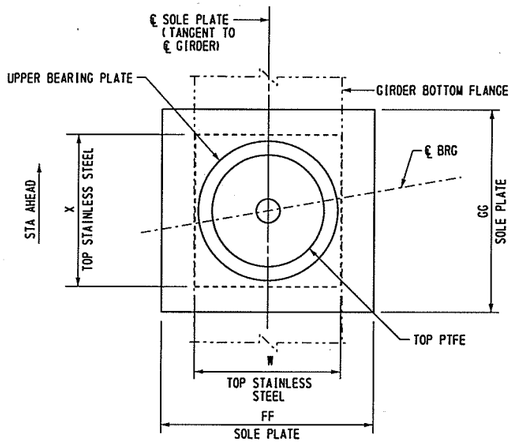
NON-GUIDED DISC BEARINGS - SIZE CHART

LOCATION	GIRDERS	CAPACITY		MASONRY PLATE					ANCHOR BOLT		DISC			SRM		UPPER BEARING PLATE		TOP PTFE		TOP STAINLESS STEEL			SOLE PLATE					BEARING HEIGHT▲
		VERTICAL	HORIZONTAL	A	B	C	D	E	QTY	G	H	J	K	L	M	N	Q	R	S	W	X	Y	FF	GG	HH	JJ	F	KK
PIER B10	1	250	25	31 1/2"	13 3/8"	3/4"	13 9/16"	4 1/2"	4		10 1/2"	2 1/8"	1 3/4"	2.79"	2"	11 5/8"	3/4"	10 3/4"	3/16"	14 1/2"	16"	12 GAGE	18"	17"	1 1/8"	1/16"	1 1/4"	4.762"
	3	250	25	31 1/2"	13 3/8"	3/4"	13 9/16"	4 1/2"	4	1 1/4"	10 1/2"	2 1/8"	1 3/4"	2.79"	2"	11 5/8"	3/4"	10 3/4"	3/16"	14 1/2"	16"	12 GAGE	18"	17"	1 1/8"	1/16"	1 1/4"	4.762"
	5	400	40	32 3/4"	16 7/8"	1"	14 3/16"	6 1/4"	4		13"	2 5/8"	2 1/8"	3.27"	2 1/2"	14 3/8"	3/4"	13 1/2"	3/16"	17 1/4"	18 3/4"	12 GAGE	18 1/4"	19 3/4"	1 1/4"	1/16"	1 3/8"	5.512"
PIER B11	1	250	25	31 1/2"	13 3/8"	3/4"	13 9/16"	4 1/2"	4		10 1/2"	2 1/8"	1 3/4"	2.79"	2"	11 5/8"	3/4"	10 3/4"	3/16"	14 1/2"	16"	12 GAGE	18"	17"	1 1/8"	1/16"	1 1/4"	4.762"
	3	250	25	31 1/2"	13 3/8"	3/4"	13 9/16"	4 1/2"	4	1 1/4"	10 1/2"	2 1/8"	1 3/4"	2.79"	2"	11 5/8"	3/4"	10 3/4"	3/16"	14 1/2"	16"	12 GAGE	18"	17"	1 1/8"	1/16"	1 1/4"	4.762"
	5	400	40	32 3/4"	16 7/8"	1"	14 3/16"	6 1/4"	4		13"	2 5/8"	2 1/8"	3.27"	2 1/2"	14 3/8"	3/4"	13 1/2"	3/16"	17 1/4"	18 3/4"	12 GAGE	18 1/4"	19 3/4"	1 1/4"	1/16"	1 3/8"	5.512"

▲ BEARING HEIGHT INCLUDES 1/8" BEDDING MATERIAL



SECTION S-S AT PIER B10

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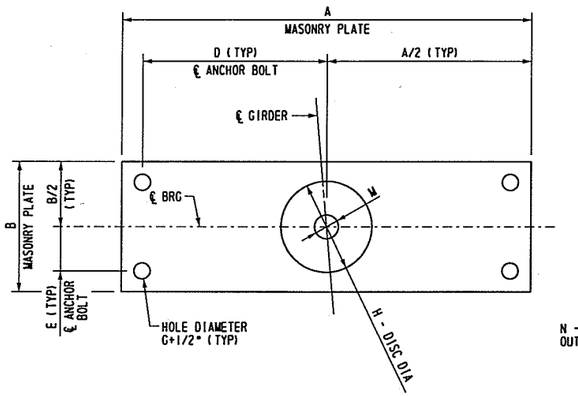

SECTION T-T

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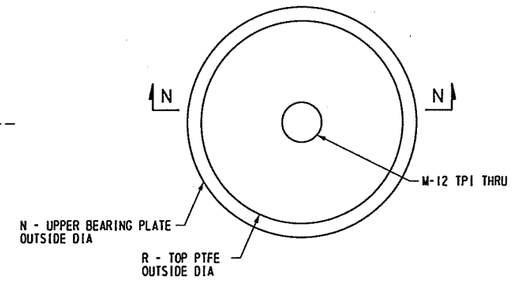
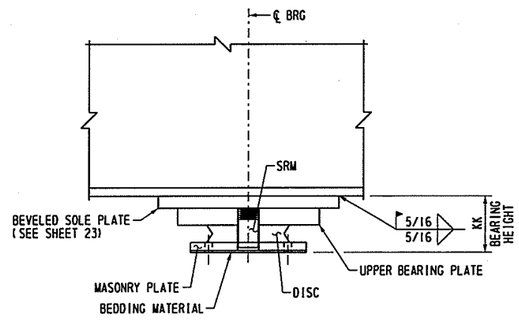


UPPER BEARING PLATE - PLAN

NOT TO SCALE



SECTION P-P

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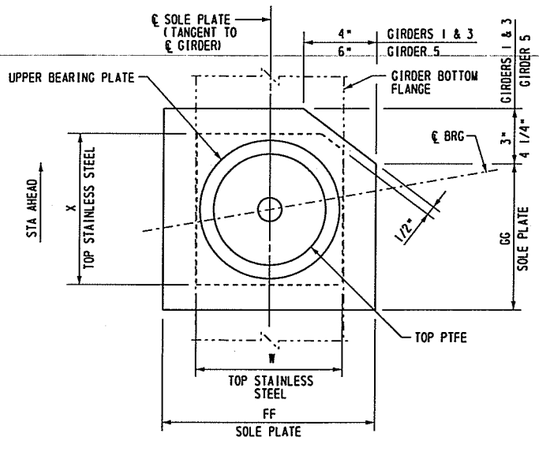

SECTION S-S AT PIER B11

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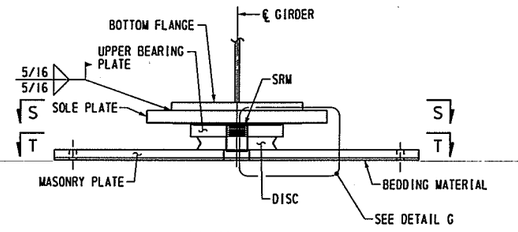

SECTION R-R

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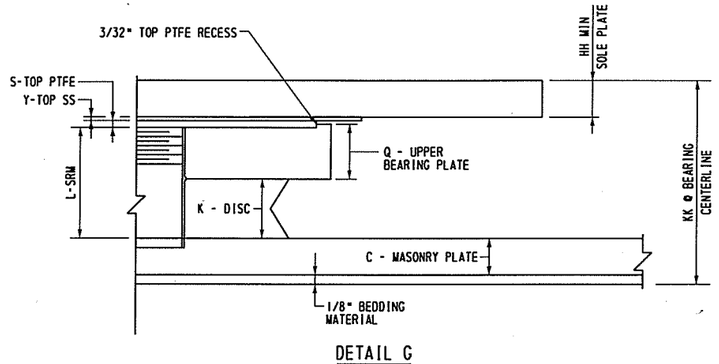

DETAIL G

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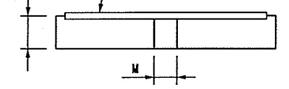
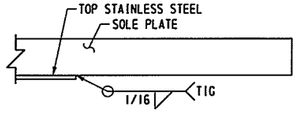


UPPER BEARING PLATE - SECTION N-N

NOT TO SCALE



STAINLESS STEEL WELD DETAIL

NOT TO SCALE

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR DISC BEARING SCHEDULE, LOADS, AND NOTES, SEE SHEET 19.
3. FOR DISC BEARING DETAILS, SEE SHEET 23.
4. FOR LOCATION OF SECTIONS P-P AND R-R, SEE SHEET 19.

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
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PHILADELPHIA COUNTY
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NON-GUIDED BEARING DETAILS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 078132

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RECOMMENDED 10/18/2019

SHEET 20 OF 37

S- 38480

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GUIDED DISC BEARINGS - SIZE CHART

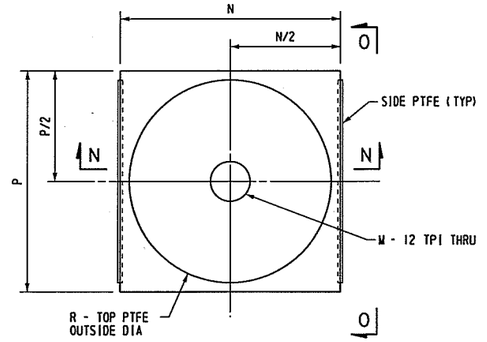
LOCATION	GIRDERS	CAPACITY		MASONRY PLATE					ANCHOR BOLT		DISC			SRM		BEARING BLOCK			TOP PTFE		SIDE PTFE		
		VERTICAL	HORIZONTAL	A	B	C	D	E	QTY	G	H	J	K	L	M	N	P	Q	R	S	T	U	V
PIER B10	2	300	90	43 1/2"	19"	1 1/8"	19 1/8"	6 7/8"	4	1 1/2"	11 3/4"	3 3/8"	1 7/8"	4.52"	3 1/4"	13 1/4"	13 1/4"	1 7/8"	11 7/8"	3/16"	11 7/8"	1 1/2"	3/16"
	4	300	90	43 1/2"	19"	1 1/8"	19 1/8"	6 7/8"	4		11 3/4"	3 3/8"	1 7/8"	4.52"	3 1/4"	13 1/4"	13 1/4"	1 7/8"	11 7/8"	3/16"	11 7/8"	1 1/2"	3/16"

GUIDED DISC BEARINGS - SIZE CHART (CONTINUED)

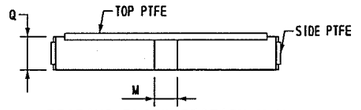
LOCATION	GIRDERS	CAPACITY		TOP STAINLESS STEEL			SIDE STAINLESS STEEL			GUIDE BARS			SOLE PLATE					BEARING HEIGHT ▲
		VERTICAL	HORIZONTAL	W	X	Y	Z	AA	BB	CC	DD	EE	FF	GG	HH	JJ	F	KK
PIER B10	2	300	90	12 1/8"	17 1/8"	12 GAGE	17 1/8"	1 3/4"	12 GAGE	18 1/8"	2 1/8"	2"	26"	26"	1 1/4"	0.00	1 1/4"	6.449
	4	300	90	12 1/8"	17 1/8"	12 GAGE	17 1/8"	1 3/4"	12 GAGE	18 1/8"	2 1/8"	2"	26"	26"	1 1/4"	0.00	1 1/4"	6.449

▲ BEARING HEIGHT INCLUDES 1/8" BEDDING MATERIAL

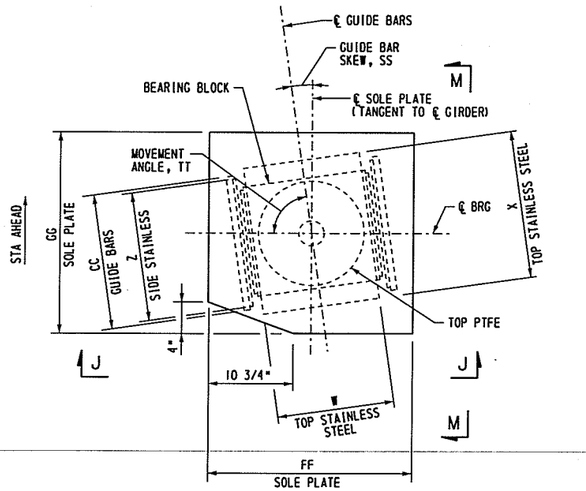
LOCATION	GIRDERS	GIRDER SKEW	GUIDE BAR SKEW	MOVEMENT ANGLE
		RR	SS	TT
PIER B10	2	69°49'38"	28°51'40"	40°57'58"
	4	70°29'01"	35°40'42"	34°48'19"



BEARING BLOCK - PLAN
NOT TO SCALE



BEARING BLOCK SECTION N-N
NOT TO SCALE



SECTION K-K
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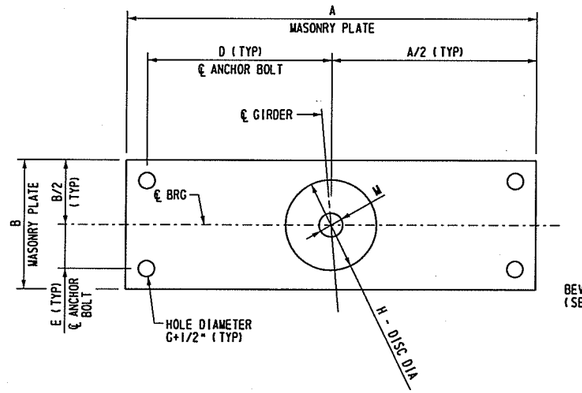

SECTION M-M
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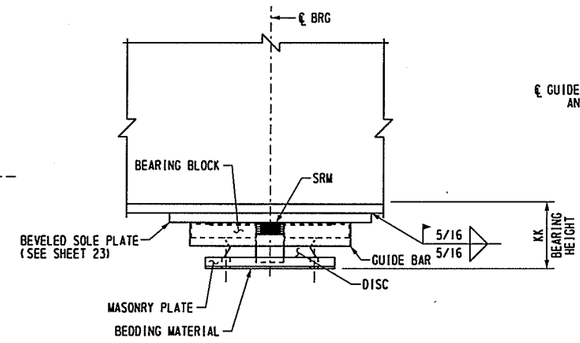

SECTION H-H
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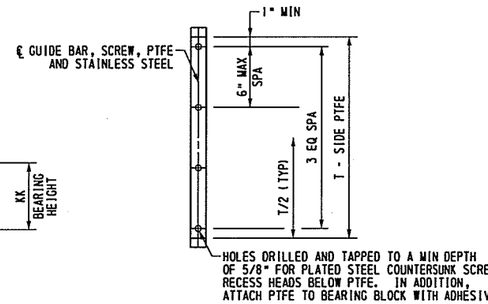

SECTION O-O
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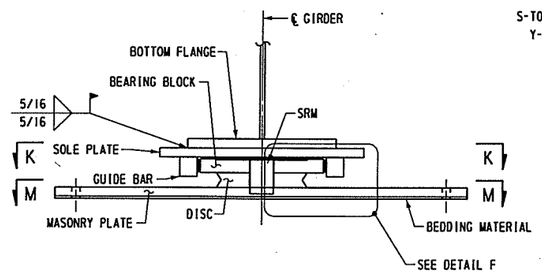

SECTION J-J
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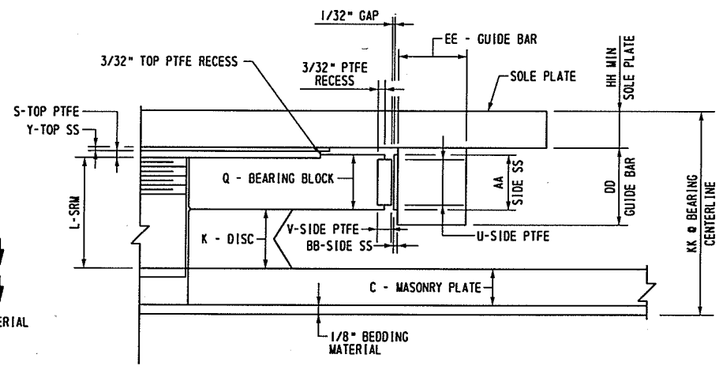
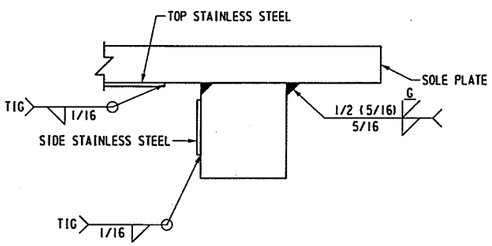


DETAIL F
NOT TO SCALE



GUIDE BAR & STAINLESS STEEL WELD DETAIL
NOT TO SCALE

NOTES
1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR DISC BEARING SCHEDULE, LOADS, AND NOTES, SEE SHEET 19.
3. FOR DISC BEARING DETAILS, SEE SHEET 23.
4. FOR LOCATION OF SECTIONS H-H AND J-J, SEE SHEET 19.

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

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DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
GUIDED BEARING DETAILS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132

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SHEET 21 OF 37

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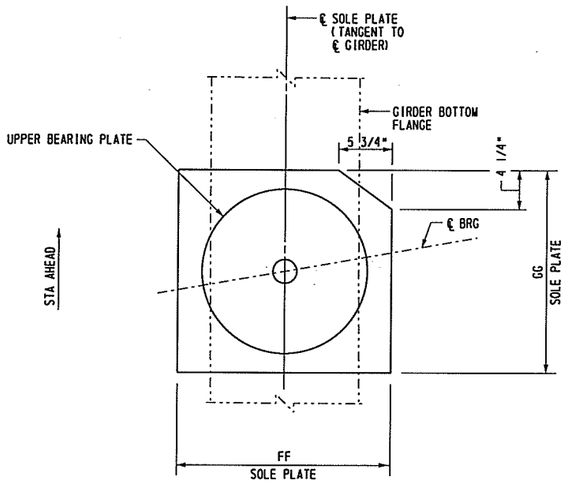
FIXED DISC BEARINGS - SIZE CHART

LOCATION	GIRDERS	CAPACITY		MASONRY PLATE					ANCHOR BOLT		DISC			SRM		UPPER BEARING PLATE		SOLE PLATE					BEARING HEIGHT ▲
		VERTICAL	HORIZONTAL	A	B	C	D	E	QTY	G	H	J	K	L	M	N	Q	FF	GG	HH	JJ	F	KK
PIER B11	2	500	150	33"	18 7/8"	1 1/2"	13"	5 15/16"	4	2"	15"	4 1/8"	2 3/8"	5.05"	4"	17"	1 5/8"	19"	19"	7/8"	1/8"	1 1/8"	6 5/8"
	4	500	150	33"	18 7/8"	1 1/2"	13"	5 15/16"	4	2"	15"	4 1/8"	2 3/8"	5.05"	4"	17"	1 5/8"	19"	19"	7/8"	1/8"	1 1/8"	6 5/8"

▲ BEARING HEIGHT INCLUDES 1/8" BEDDING MATERIAL



SECTION W-W
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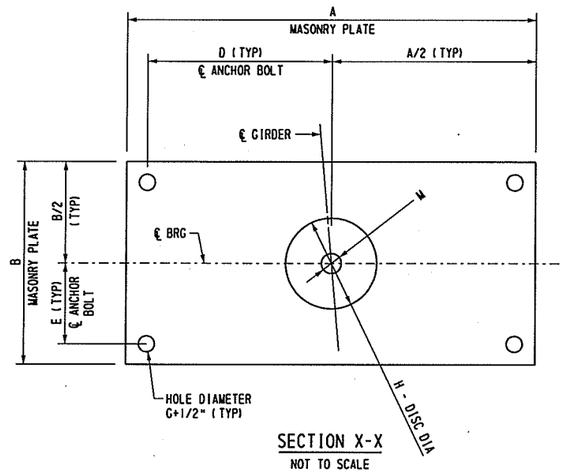
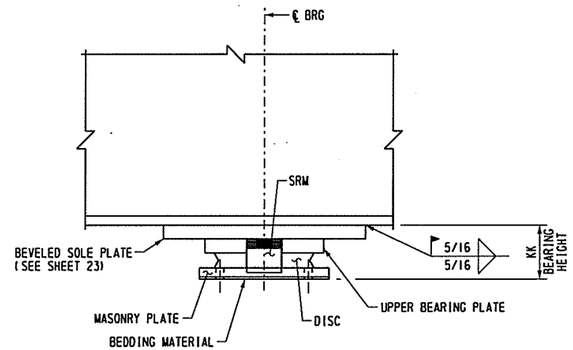


SECTION X-X
NOT TO SCALE



SECTION U-U
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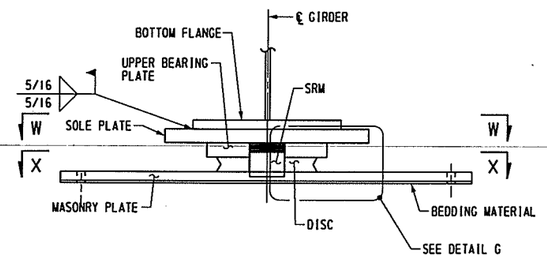

SECTION V-V
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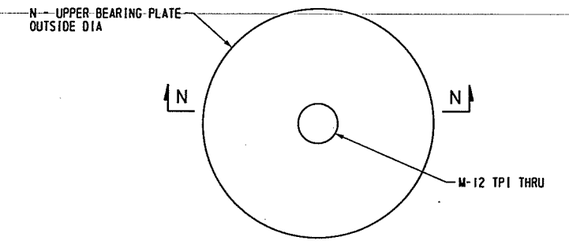
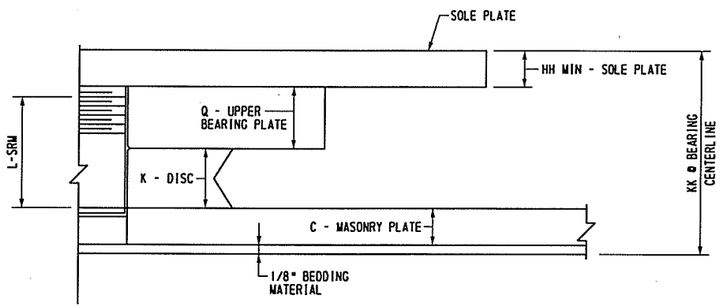
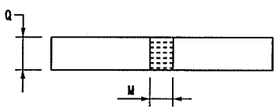


UPPER BEARING PLATE - PLAN
NOT TO SCALE



DETAIL G
NOT TO SCALE



UPPER BEARING PLATE - SECTION N-N
NOT TO SCALE

NOTES
1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR DISC BEARING SCHEDULE, LOADS, AND NOTES, SEE SHEET 19.
3. FOR GENERAL DISC BEARING DETAILS, SEE SHEET 23.
4. FOR LOCATION OF SECTIONS U-U AND V-V, SEE SHEET 19.

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

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SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
FIXED BEARING DETAILS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132

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SHEET 22 OF 37

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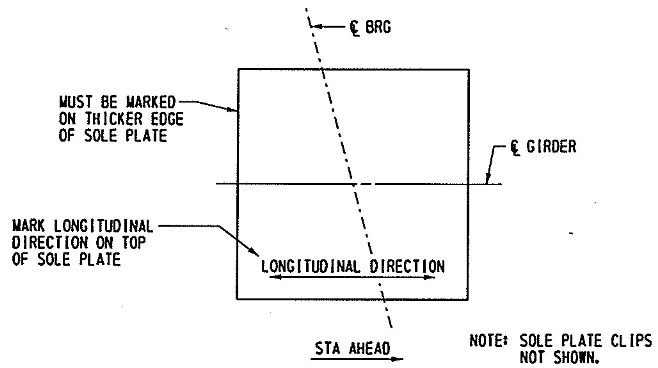
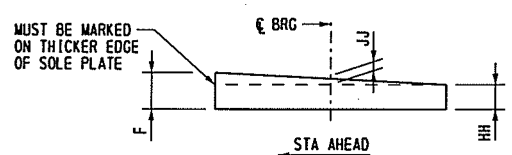
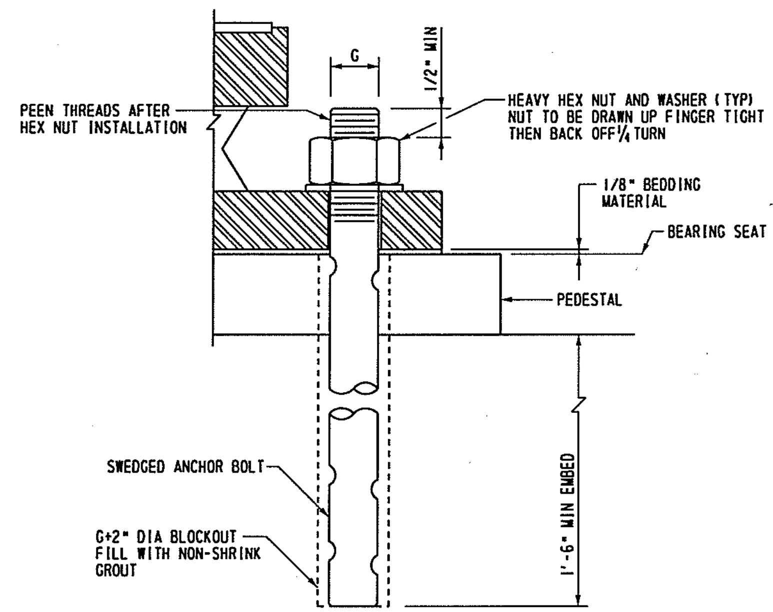


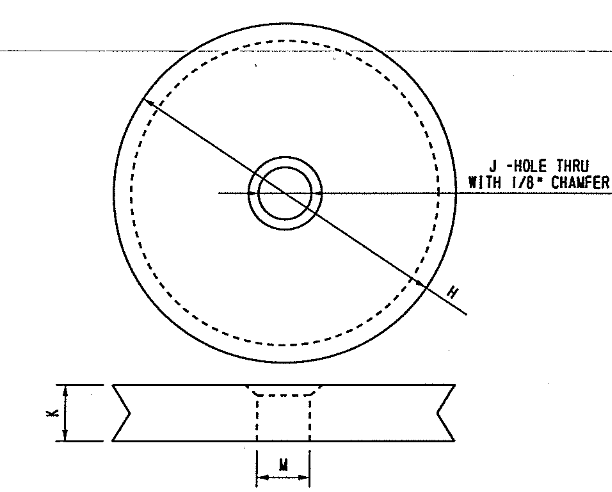
SOLE PLATE PLAN
NOT TO SCALE



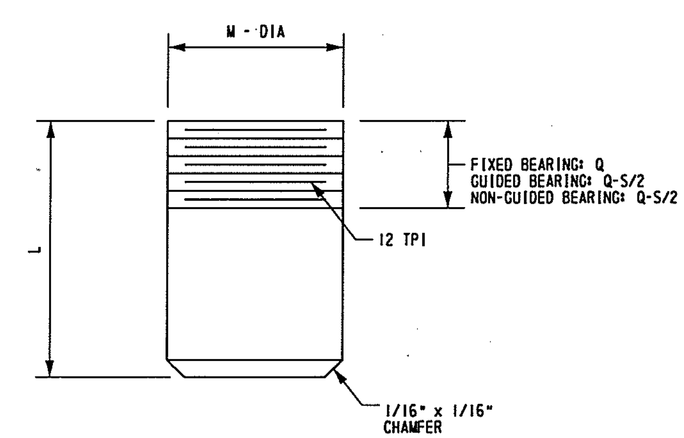
SOLE PLATE SIDE VIEW
NOT TO SCALE



ANCHOR BOLT DETAIL
NOT TO SCALE



DISC
NOT TO SCALE



SHEAR RESISTANCE MECHANISM (SRM)
NOT TO SCALE

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR GUIDED DISC BEARING PLAN AND DETAILS, SEE SHEET 21.
3. FOR NON-GUIDED DISC BEARING PLAN AND DETAILS, SEE SHEET 20.
4. FOR FIXED DISC BEARING PLAN AND DETAILS, SEE SHEET 22.
5. FOR DISC BEARING SCHEDULE, LOADS, AND NOTES, SEE SHEET 19.

Mark	Description	By	Chk'd.	Recm'd	Date

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OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
DISC BEARING DETAILS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

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SHEET 23 OF 37

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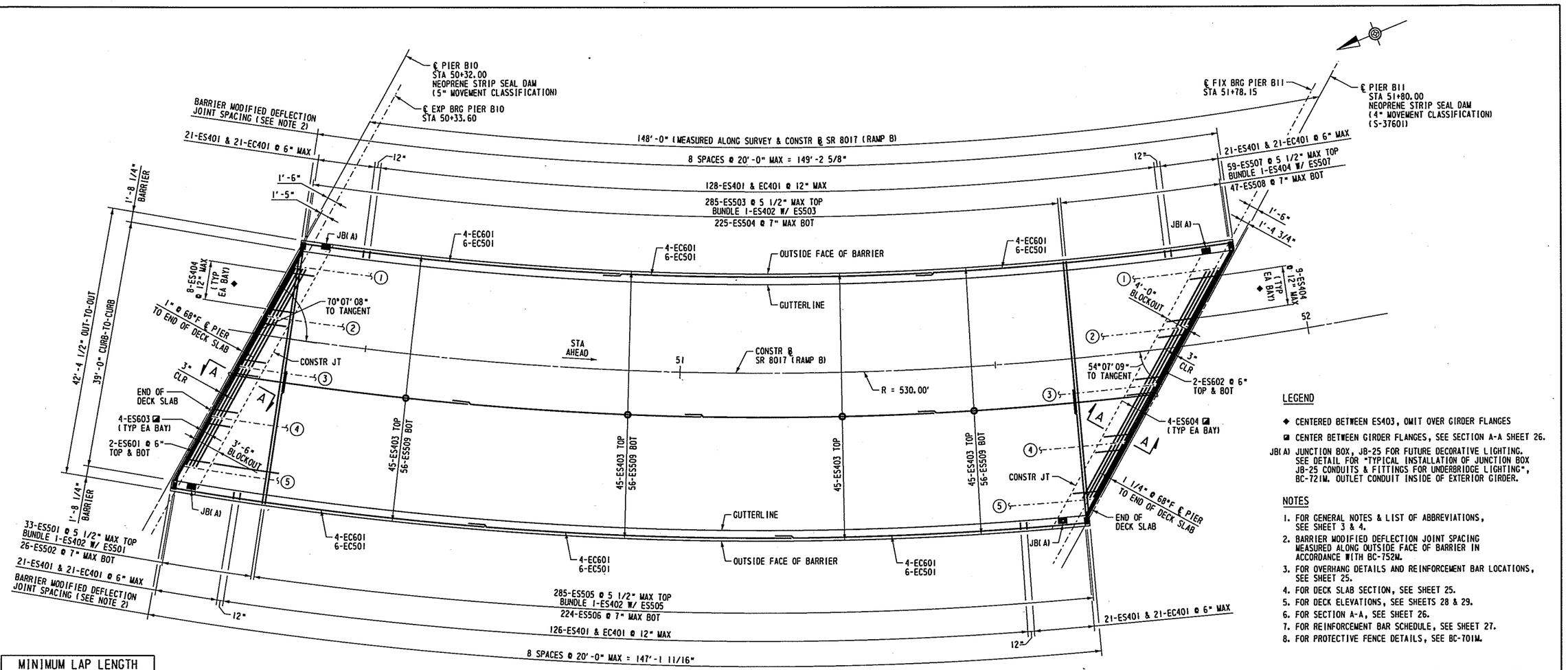

DECK SLAB PLAN

8' 4' 0 8'

MINIMUM LAP LENGTH		
BAR SIZE	DECK SLAB	BARRIER
#4	2'-1"	---
#5	2'-10"	3'-7"
#6	3'-10"	4'-4"

LEGEND

◆ CENTERED BETWEEN ES403, OMIT OVER GIRDER FLANGES

◪ CENTER BETWEEN GIRDER FLANGES, SEE SECTION A-A SHEET 26.

JB(A) JUNCTION BOX, JB-25 FOR FUTURE DECORATIVE LIGHTING. SEE DETAIL FOR "TYPICAL INSTALLATION OF JUNCTION BOX JB-25 CONDUITS & FITTINGS FOR UNDERBRIDGE LIGHTING", BC-721M. OUTLET CONDUIT INSIDE OF EXTERIOR GIRDER.

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEET 3 & 4.
2. BARRIER MODIFIED DEFLECTION JOINT SPACING MEASURED ALONG OUTSIDE FACE OF BARRIER IN ACCORDANCE WITH BC-752M.
3. FOR OVERHANG DETAILS AND REINFORCEMENT BAR LOCATIONS, SEE SHEET 25.
4. FOR DECK SLAB SECTION, SEE SHEET 25.
5. FOR DECK ELEVATIONS, SEE SHEETS 28 & 29.
6. FOR SECTION A-A, SEE SHEET 26.
7. FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET 27.
8. FOR PROTECTIVE FENCE DETAILS, SEE BC-701M.

Mark	Description	By	Chk'd.	Recm'd	Date
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OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
DECK SLAB PLAN

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132 PENNSYLVANIA

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SHEET 24 OF 37

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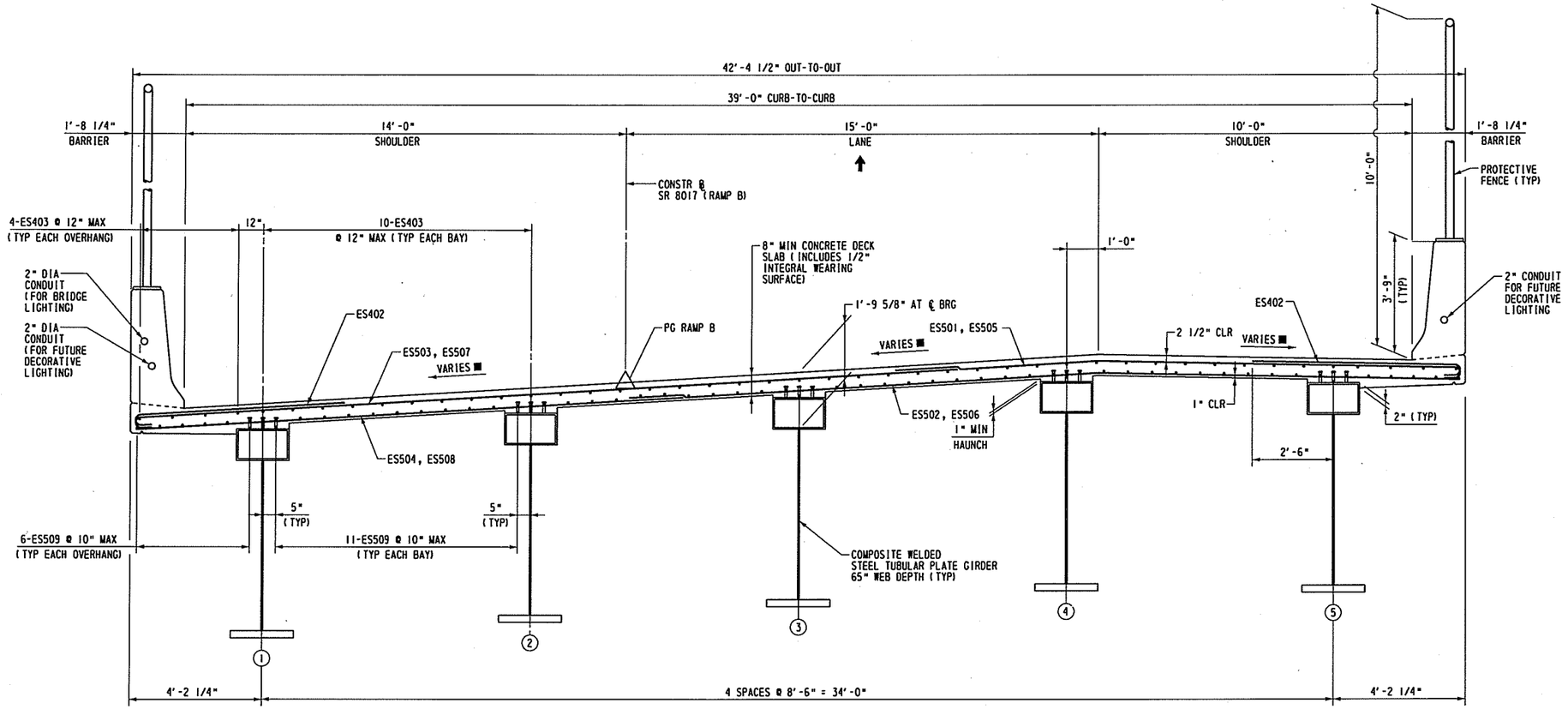
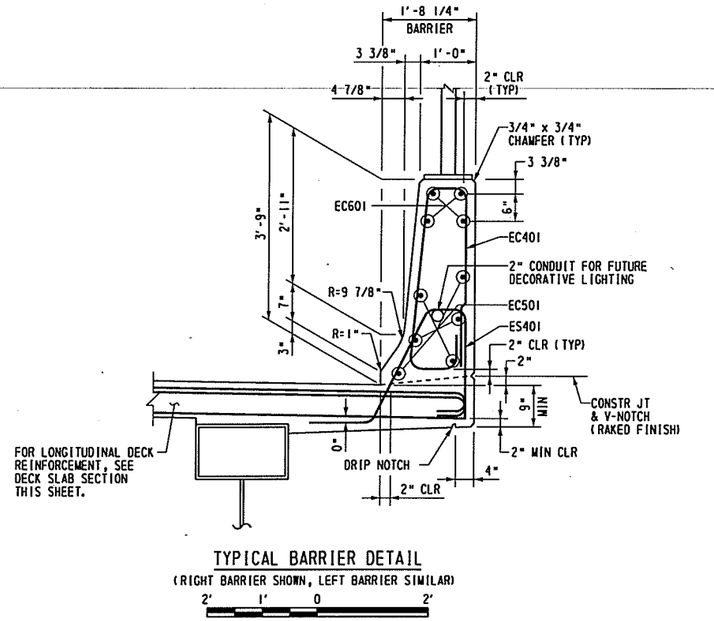


DECK SLAB SECTION

2' 1' 0 2'



TYPICAL BARRIER DETAIL

(RIGHT BARRIER SHOWN, LEFT BARRIER SIMILAR)

2' 1' 0 2'

LEGEND

Ⓑ INDICATES GIRDER NUMBER

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR DECK SLAB PLAN, SEE SHEET 24.
3. FOR TOP OF DECK ELEVATIONS, SEE SHEETS 28 & 29.
4. FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET 27.
5. DECK SLAB DIMENSIONS ARE MEASURED PERPENDICULAR TO CONSTRUCTION ℄ SR 8017 (RAMP B). GIRDER SPACING AND OVERHANG DIMENSIONS ARE MEASURED NORMAL TO GIRDERS.

■ FOR SUPERELEVATION TRANSITION DIAGRAM, SEE SHEET 28.

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

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SINGLE SPAN CURVED STEEL GIRDER BRIDGE
DECK SLAB SECTION

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132

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SHEET 25 OF 37

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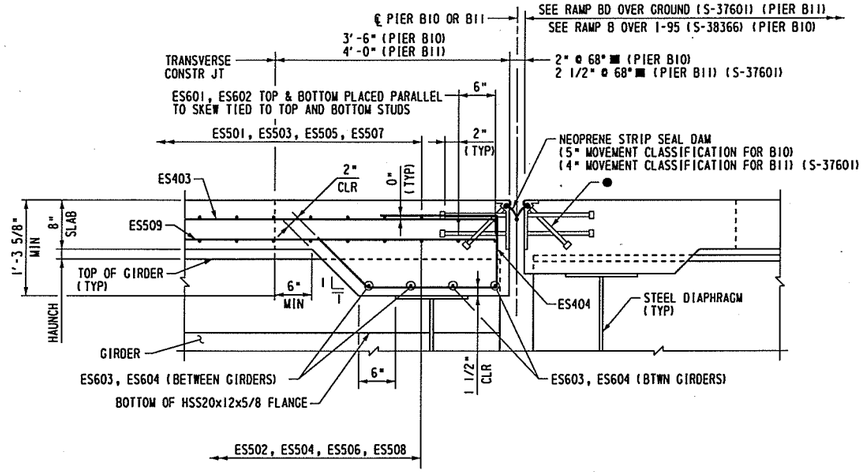

SECTION A-A

(JOINT AT PIER B11 SHOWN, PIER B10 SIMILAR AND OPPOSITE HAND)

1' 0 1'

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR DECK SLAB PLAN, SEE SHEET 24.
3. FOR SLAB PLAN ELEVATIONS, SEE SHEETS 28 & 29.
4. FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET 27.
5. FOR LOCATION OF SECTIONS A-A, SEE SHEET 24.
6. FOR DIAPHRAGM DETAILS, SEE SHEET 18.
7. FOR ADDITIONAL NEOPRENE STRIP SEAL DETAILS, SEE BC-767M.

■ JOINT OPENING TO BE SHOWN ON SHOP DRAWINGS.

● REDUCE DIAGONAL STUD LENGTH AS NEEDED TO AVOID INTERFERENCE WITH GIRDER TOP FLANGES. DETAIL STUD LENGTH ON SHOP DRAWINGS.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

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DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
DECK SLAB DETAILS

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SHEET 26 OF 37

S-38480

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 075132

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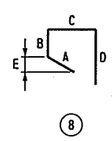
DECK SLAB REINFORCEMENT BAR SCHEDULE

MARK	SIZE	NUMBER	LENGTH	TYPE	A	B	C	D	E	F	REMARKS
ES401	4	338	5'-9 1/2"	27	1'-9"	4"	10 1/8"	1'-11"			
ES402	4	658	7'-1"	14	6"	6'-7"		3"			
ES403	4	180	40'-0"	STR							BEND IN FIELD
ES404	4	64	7'-4 1/8"	8	7 1/2"	2'-6 5/8"	8"	3'-6"	5 3/8"		
ES501	5	33	3'-7" TO 40'-11 1/4"	14	7"	3'-0" TO 40'-4 1/4"		3 3/4"			VARY BY 1'-2" EA, BEND IN FIELD
ES502	5	26	3'-7" TO 40'-11 1/4"	STR							VARY BY 1'-5 7/8" EA, BEND IN FIELD
ES503	5	285	29'-0"	14	7"	28'-5"					BEND IN FIELD
ES504	5	224	24'-6"	STR							BEND IN FIELD
ES505	5	285	21'-0"	14	7"	20'-5"					BEND IN FIELD
ES506	5	224	24'-6"	STR							BEND IN FIELD
ES507	5	59	2'-7 1/2" TO 40'-9"	14	7"	2'-1/2" TO 40'-2"					VARY BY 7 7/8" EA, BEND IN FIELD
ES508	5	47	2'-7 1/2" TO 40'-9"	STR							VARY BY 10" EA, BEND IN FIELD
ES509	5	168	52'-6"	STR							BEND IN FIELD
ES601	6	4	44'-6"	STR							
ES602	6	4	50'-1 1/2"	STR							
ES603	6	8	8'-6"	STR							
ES604	6	8	10'-1"	STR							
EC401	4	338	8'-6 1/8"	28	3'-0 1/2"	3 3/8"	3 3/8"	2'-10 3/4"	6 3/4"		
EC501	5	36	53'-0"	STR							BEND IN FIELD
EC601	6	24	54'-0"	STR							BEND IN FIELD



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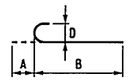

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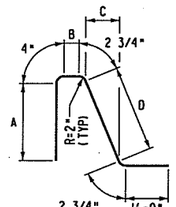

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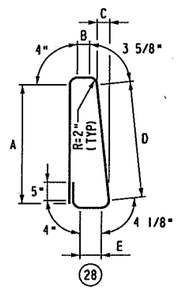


(28)

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FIGURES IN CIRCLES INDICATE BAR TYPES.
3. "E" PREFIX IN BAR MARKS DENOTES EPOXY-COATED BARS.
4. FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DWG BC-736M.
5. FOR ALL BAR TYPES SHOWN, DIMENSION A-F AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG THE INSIDE OF BAR.
6. "D" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE STANDARD HOOKS ARE TO BE USED.

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
REINF BAR SCHEDULE - DECK SLAB

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132

STV

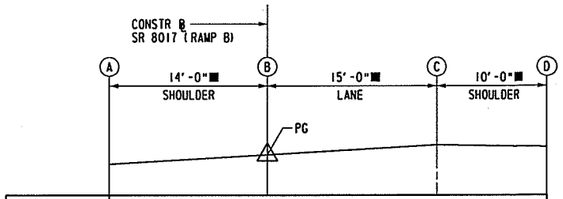
RECOMMENDED 10/18/2019

SHEET 27 OF 37

S-38480

DESIGNED: MBP | CHECKED: CMS | CADD: JCD | CHECKED: CMS

TOP OF DECK SLAB ELEVATIONS AT BREAK POINTS ◆					
LOCATION	STATION	A	B	C	D
℄ PIER B10	50+23.39				69.90
	50+26.73			70.09	
	50+32.00		69.20		
	50+37.21	68.36			
℄ BRG PIER B10	50+24.91				69.90
	50+28.28			70.09	
	50+33.60		69.20		
	50+38.85	68.36			
	50+30.00			70.09	69.89
	50+40.00	68.36	69.18	70.07	69.87
	50+50.00	68.33	69.15	70.04	69.84
	50+60.00	68.29	69.11	70.00	69.80
	50+70.00	68.24	69.07	69.95	69.77
	50+80.00	68.19	69.02	69.90	69.76
	50+90.00	68.13	68.95	69.84	69.74
	51+00.00	68.06	68.88	69.77	69.71
	51+10.00	67.98	68.81	69.69	69.68
	51+20.00	67.90	68.72	69.61	69.63
	51+30.00	67.80	68.63	69.51	69.58
	51+40.00	67.70	68.53	69.41	69.53
	51+50.00	67.59	68.42	69.30	69.46
	51+60.00	67.47	68.30	69.18	69.39
	51+70.00	67.35	68.17		
	51+80.00	67.22	68.04		
	51+90.00	67.14			
℄ BRG PIER B11	51+61.20				69.37
	51+67.75			69.09	
	51+78.15		68.07		
	51+88.55	67.15			
℄ PIER B10	51+62.93				69.35
	51+69.52			69.06	
	51+80.00		68.04		
	51+90.48	67.14			



STATION	CROSS SLOPE		
50+67.00	5.9%	5.9%	2.0%
51+60.00	5.9%	5.9%	2.0%
51+78.81	5.9%	5.9%	2.0%
52+28.50	4.0%	4.0%	2.0%

SUPERELEVATION TRANSITION DIAGRAM
(LOOKING STATIONS AHEAD)
NOT TO SCALE

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR TYPICAL SECTION, SEE SHEET 25.
3. FOR FRAMING PLAN, SEE SHEET 11.
4. FOR DECK SLAB PLAN, SEE SHEET 24.
5. FOR TOP OF DECK SLAB ELEVATIONS ALONG ℄ GIRDERS, SEE SHEET 29.
6. ALL ELEVATIONS ARE IN FEET.

■ MEASURED PERPENDICULAR TO CONSTRUCTION ℄ SR 8017 (RAMP B)

◆ DECK ELEVATIONS GIVEN ARE FINAL. ADJUST TO ACCOUNT FOR THICKNESS LOST DURING GRINDING OF DECK. SEE SPECIAL PROVISION FOR "GRINDING OF CONCRETE PAVEMENT MODIFIED"

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
SLAB ELEVATIONS - 1

RECOMMENDED 10/18/2019

SHEET 28 OF 37

S-38480

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132

STV

DESIGNED: MAL | CHECKED: MVR | CADD: JAS | CHECKED: PHM

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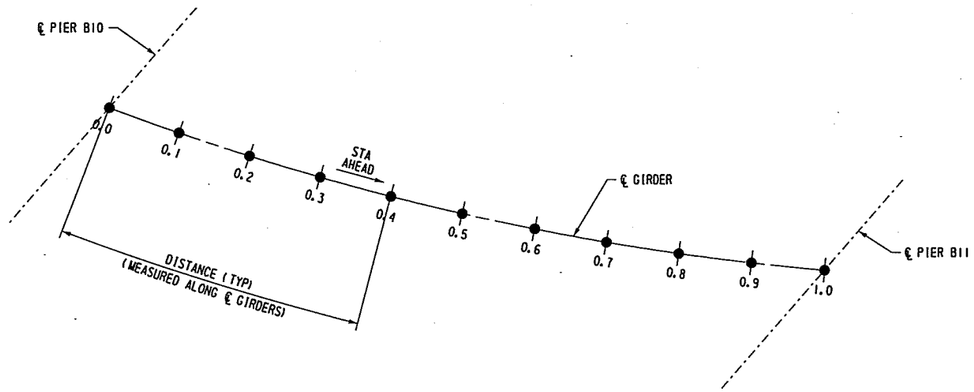
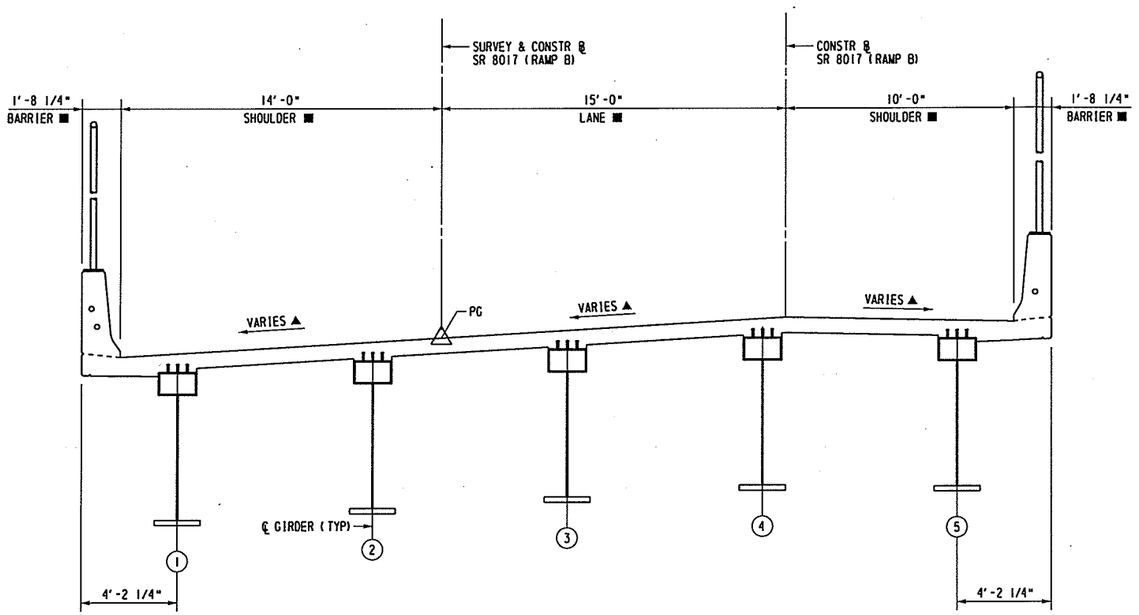
TOP OF DECK SLAB ELEVATIONS ◆

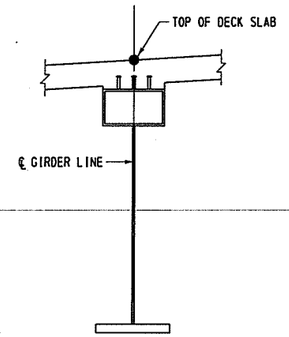
SPAN		LOCATION	GIRDER LINE 1		GIRDER LINE 2		GIRDER LINE 3		GIRDER LINE 4		GIRDER LINE 5	
			DISTANCE	ELEVATION	DISTANCE	ELEVATION	DISTANCE	ELEVATION	DISTANCE	ELEVATION	DISTANCE	ELEVATION
1	0.0	℄ BRGS PIER B10	0.00	68.51	0.00	69.02	0.00	69.53	0.00	70.03	0.00	69.95
	0.1	1ST TENTH POINT	14.55	68.46	14.48	68.98	14.41	69.49	14.35	70.00	14.29	69.92
	0.2	2ND TENTH POINT	29.10	68.40	28.96	68.92	28.82	69.44	28.70	69.95	28.58	69.88
	0.3	3RD TENTH POINT	43.66	68.32	43.44	68.85	43.24	69.37	43.05	69.89	42.87	69.82
	0.4	4TH TENTH POINT	58.21	68.22	57.92	68.76	57.65	69.29	57.40	69.81	57.16	69.79
	0.5	5TH TENTH POINT	72.76	68.11	72.40	68.65	72.06	69.19	71.74	69.72	71.45	69.75
	0.6	6TH TENTH POINT	87.31	67.98	86.88	68.53	86.47	69.07	86.09	69.61	85.73	69.69
	0.7	7TH TENTH POINT	101.86	67.83	101.36	68.38	100.89	68.94	100.44	69.49	100.02	69.62
	0.8	8TH TENTH POINT	116.42	67.66	115.84	68.23	115.30	68.79	114.79	69.35	114.31	69.53
	0.9	9TH TENTH POINT	130.97	67.47	130.32	68.05	129.71	68.62	129.14	69.19	128.60	69.43
	1.0	℄ BRG PIER B11	145.52	67.31	144.80	67.86	144.12	68.44	143.49	69.02	142.89	69.30



TYPICAL PLAN
LOCATIONS OF TOP OF DECK SLAB ELEVATIONS OVER ALONG ℄ GIRDER
NOT TO SCALE



TYPICAL SECTION
(LOOKING STATIONS AHEAD)
NOT TO SCALE



TYPICAL GIRDER
NOT TO SCALE

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR TOP OF DECK SLAB ELEVATIONS AT BREAK POINTS, SEE SHEET 28.
3. FOR FRAMING PLAN, SEE SHEET 11.
4. FOR SUPERELEVATION TRANSITION DIAGRAM, SEE SHEET 28.
5. ALL ELEVATIONS ARE IN FEET.

(#) INDICATES GIRDER NUMBER
■ MEASURED PERPENDICULAR TO CONSTRUCTION ℄ SR 8017 (RAMP B)
▲ FOR SUPERELEVATION TRANSITION TABLE, SEE SHEET 28.
◆ DECK ELEVATIONS GIVEN ARE FINAL. ADJUST TO ACCOUNT FOR THICKNESS LOST DURING GRINDING OF DECK. SEE SPECIAL PROVISION FOR "GRINDING OF CONCRETE PAVEMENT MODIFIED"

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 · OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
SLAB ELEVATIONS - 2

RECOMMENDED 10/18/2019

SHEET 29 OF 37

S-38480

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132 PENNSYLVANIA

STV

DESIGNED: ZRC | CHECKED: MVR | CADD: JAS | CHECKED: NJD

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SUMMARY OF DESIGN AND RATING PARAMETERS FOR FLEXURE - GIRDER 1

TENTH POINT	DEAD LOADS									POSITIVE LL+I						NEGATIVE LL+I					
	DL1					DL2,FWS				SECTION MODULUS (in^3)		MOMENT DISTRIBUTION FACTORS				SECTION MODULUS (in^3)		MOMENT DISTRIBUTION FACTORS			
	SECTION MODULUS (in^3)				(UNFACTORED) MOMENT (K-FT)	SECTION MODULUS (in^3)		(UNFACTORED) MOMENT (K-FT)													
	S_{BF}	S_{TF}	S_{TRF}	S_{TTF}	M_{DL1}	S_{BF}	S_{TF}	M_{DL2}	M_{FWS}	S_{BF}	S_{TF}	1 LANE	2 LANES	3 LANES		S_{BF}	S_{TF}	1 LANE	2 LANES	3 LANES	
0	4778.00	2788.00	264.00	188.00	4.99	5593.00	5302.00	-7.93	2.44	6177.00	10585.00	---	---	---		---	---	---	---	---	
1	4778.00	2788.00	264.00	188.00	971.70	5593.00	5302.00	249.18	129.37	6177.00	10585.00	0.59	0.64	0.54		---	---	---	---	---	
2	4778.00	2788.00	264.00	188.00	1637.92	5593.00	5302.00	385.26	221.04	6177.00	10585.00	0.55	0.61	0.52		---	---	---	---	---	
3	4778.00	2788.00	264.00	188.00	2172.44	5593.00	5302.00	520.60	301.00	6177.00	10585.00	0.54	0.60	0.51		---	---	---	---	---	
4	4778.00	2788.00	264.00	188.00	2460.36	5593.00	5302.00	564.44	345.46	6177.00	10585.00	0.50	0.57	0.48		---	---	---	---	---	
5	4778.00	2788.00	264.00	188.00	2655.26	5593.00	5302.00	644.65	378.23	6177.00	10585.00	0.49	0.56	0.48		---	---	---	---	---	
6	4778.00	2788.00	264.00	188.00	2575.10	5593.00	5302.00	635.57	369.35	6177.00	10585.00	0.49	0.56	0.48		---	---	---	---	---	
7	4778.00	2788.00	264.00	188.00	2340.12	5593.00	5302.00	640.38	338.15	6177.00	10585.00	0.50	0.56	0.48		---	---	---	---	---	
8	4778.00	2788.00	264.00	188.00	1810.81	5593.00	5302.00	541.32	260.56	6177.00	10585.00	0.50	0.55	0.48		---	---	---	---	---	
9	4778.00	2788.00	264.00	188.00	1055.46	5593.00	5302.00	375.66	149.09	6177.00	10585.00	0.58	0.60	0.51		---	---	---	---	---	
10	4778.00	2788.00	264.00	188.00	-21.58	5593.00	5302.00	-0.52	-3.07	6177.00	10585.00	---	---	---		---	---	---	---	---	

SUMMARY OF DESIGN AND RATING PARAMETERS FOR SHEAR - GIRDER 1

TENTH POINT	DL1	DL2	FWS	POSITIVE SHEAR DISTRIBUITION FACTORS			NEGATIVE SHEAR DISTRIBUITION FACTORS		
	V_{DL1} (Kips)	V_{DL2} (Kips)	V_{FWS} (Kips)	1 LANE	2 LANES	3 LANES	1 LANE	2 LANES	3 LANES
0	76.95	24.26	9.43	0.67	0.67	0.57	---	---	---
1	54.19	12.79	6.76	0.56	0.59	0.50	2.44	3.07	2.73
2	49.07	15.93	7.04	0.61	0.64	0.55	0.63	0.87	0.74
3	26.34	5.42	4.18	0.55	0.59	0.50	0.80	0.80	0.69
4	23.55	8.99	3.39	0.63	0.62	0.57	0.61	0.57	0.48
5	2.28	2.41	1.48	0.59	0.58	0.56	0.65	0.60	0.51
6	-5.28	4.32	-0.58	0.80	0.83	0.75	0.56	0.57	0.49
7	-29.07	-9.79	-4.73	0.55	0.68	0.60	0.64	0.65	0.56
8	-40.92	-6.81	-6.01	0.96	1.05	0.90	0.45	0.50	0.43
9	-63.20	-17.67	-8.49	0.78	1.22	1.05	0.48	0.51	0.45
10	-85.50	-29.15	-10.73	---	---	---	0.59	0.60	0.52

NOTES

1. DISTRIBUTION FACTORS PROVIDED ABOVE ARE DETERMINED BASED ON THE PHL-93 DESIGN TRUCK.
   USE OF THESE DISTRIBUTION FACTORS IS AN APPROXIMATION AND PROVIDED TO AID IN FUTURE RATINGS OF THE BRIDGE.

APPROXIMATE RATING PROCEDURE USING LINE-GIRDER ANALYSIS

1. PREFORM AN APPROPRIATE LINE-GIRDER ANALYSIS WITH AXLE DISTRIBUTION FACTOR = 1.0 TO OBTAIN LL+I MOMENTS AND SHEARS FOR THE INVESTIGATED UNUSUAL VEHICLE(S).
2. USE THE LARGEST DISTRIBUTION FACTOR AT THE POINT OF INTEREST CORRESPONDING TO ALL APPLICABLE LANES FROM THE SUMMARY TABLE OF DESIGN AND RATING PARAMETERS. (SEE THIS SHEET AND SHEETS 31 THRU 34)
3. CALCULATE THE INVESTIGATED LL+I BENDING MOMENT (MLL+I) AT THE POINT OF INTEREST BY MULTIPLYING STEP 1 (MLL+I) AND STEP 2 (DF).
4. CALCULATE THE LATERAL FLANGE BENDING MOMENTS DUE TO NORMAL DL1, DL2, FWS AND THE INVESTIGATED LL+I.
   M_{FB} MAY BE APPROXIMATED BY $[(M_B)(L^2)]/[10 \cdot R(D)]$.

   $M_{FB.DL1} = [(M_{DL1})(L^2)]/[10\ (R)\ (D)]$
   $M_{FB.DL2} = [(M_{DL2})(L^2)]/[10\ (R)\ (D)]$
   $M_{FB.FWS} = [(M_{FB.FWS})(L^2)]/[10\ (R)\ (D)]$
   $M_{FB.LL+I.} = [(M_{FB.LL+I.})(L^2)]/[10\ (R)\ (D)]$

   WHERE: $M_{FB.DL1}$ = LATERAL FLANGE BENDING MOMENT DUE TO NORMAL DL1
   $M_{FB.DL2}$ = LATERAL FLANGE BENDING MOMENT DUE TO NORMAL DL2
   $M_{FB.FWS}$ = LATERAL FLANGE BENDING MOMENT DUE TO NORMAL FWS
   $M_{FB.LL+I.}$ = LATERAL FLANGE BENDING MOMENT DUE TO NORMAL LL+I
   L = DIAPHRAGM OR CROSS GIRDER SPACING AT THE POINT OF INTEREST
   R = RADIUS OF GIRDER
   D = WEB DEPTH
   M_{DL1} = BENDING MOMENT DUE TO NORMAL DL1*
   M_{DL2} = BENDING MOMENT DUE TO NORMAL DL2*
   M_{FWS} = BENDING MOMENT DUE TO NORMAL FWS*
   $M_{LL+I.}$ = BENDING MOMENT DUE TO NORMAL LL+I AS COMPUTED IN STEP 3
   * AS INDICATED IN THE SUMMARY TABLE OF DESIGN AND RATING PARAMETERS FOR FLEXURE (SEE THIS SHEET AND SHEETS 31 THRU 34)
5. CALCULATE THE LATERAL BENDING STRESSES IN THE BOTTOM FLANGE DUE TO THE LATERAL BENDING MOMENT:

   $F_{B.DL1} = M_{FB.DL1}/S_{T.FLG}$
   $F_{B.DL2} = M_{FB.DL2}/S_{T.FLG}$
   $F_{B.FWS} = M_{FB.FWS}/S_{T.FLG}$
   $F_{B.LL+I.} = M_{FB.LL+I.}/S_{T.FLG}$

   WHERE: $F_{B.DL1}$ = LATERAL BENDING STRESS IN BOTTOM FLANGE DUE TO THE LATERAL BENDING MOMENT OF DL1
   $F_{B.DL2}$ = LATERAL BENDING STRESS IN BOTTOM FLANGE DUE TO THE LATERAL BENDING MOMENT OF DL2
   $F_{B.FWS}$ = LATERAL BENDING STRESS IN BOTTOM FLANGE DUE TO THE LATERAL BENDING MOMENT OF FWS
   $F_{B.LL+I.}$ = LATERAL BENDING STRESS IN BOTTOM FLANGE DUE TO THE LATERAL BENDING MOMENT OF LL+I
   $S_{T.FLG}$ = SECTION MODULUS OF BOTTOM FLANGE AT THE POINT OF INTEREST
6. CALCULATE THE BENDING STRESS IN THE BOTTOM FLANGE AT THE POINT OF INTEREST DUE TO NORMAL DL1, DL2, FWS AND THE INVESTIGATED LL+I.

   $F_{B.DL1} = M_{DL1}/S_{BF.DL1}$
   $F_{B.DL2} = M_{DL2}/S_{BF.DL2}$
   $F_{B.FWS} = M_{FWS}/S_{BF.DL2}$
   $F_{B.LL+I.} = M_{LL+I.}/S_{BF.LL+I.}$
   WHERE: $F_{B.DL1}$ = BENDING STRESS IN BOTTOM FLANGE AT THE POINT OF INTEREST DUE TO NORMAL DL1
   $F_{B.DL2}$ = BENDING STRESS IN BOTTOM FLANGE AT THE POINT OF INTEREST DUE TO NORMAL DL2
   $F_{B.FWS}$ = BENDING STRESS IN BOTTOM FLANGE AT THE POINT OF INTEREST DUE TO NORMAL FWS
   $F_{B.LL+I.}$ = BENDING STRESS IN BOTTOM FLANGE AT THE POINT OF INTEREST DUE TO LL+I
   $S_{BF.DL1}$ = GIRDER SECTION MODULUS FOR NORMAL DL1 AT THE POINT OF INTEREST*
   $S_{BF.DL2}$ = GIRDER SECTION MODULUS FOR NORMAL DL2 AT THE POINT OF INTEREST*
   $S_{BF.LL+I.}$ = GIRDER SECTION MODULUS FOR LL AT THE POINT OF INTEREST*
   * AS INDICATED IN THE SUMMARY TABLE OF DESIGN AND RATING PARAMETERS FOR FLEXURE (SEE THIS SHEET AND SHEETS 31 THRU 34)
7. CALCULATE THE OPERATING RATING (OR) FACTOR AND, IF APPLICABLE, THE INVENTORY RATING (IR) FACTOR, USING THE FOLLOWING EQUATION.

   $OR = [F_R - \gamma_{DL1}(F_{B.DL1} + F_{W.DL1}/3) - \gamma_{DL2}(F_{B.DL2} + F_{W.DL2}/3) - \gamma_{FWS}(F_{B.FWS} + F_{W.FWS}/3)]/[\gamma_{LL+I}(F_{B.LL+I} + F_{W.LL+I}/3)]$

   WHERE: γ_{DL1} = LOAD FACTOR FOR DL1
   γ_{DL2} = LOAD FACTOR FOR DL2
   $\gamma_{LL+I.}$ = LOAD FACTOR FOR LL
   F_R = FACTORED FLEXURAL STRESS
   FOR FLANGE IN TENSION: $F_R = F_T = 50.0$ KSI
   FOR FLANGE IN COMPRESSION: $F_R <= F_T = 50.0$ KSI.
8. IF SATISFACTORY RATING FACTORS ARE PRODUCED BY THE ABOVE METHOD, NO FURTHER MODIFICATIONS NEED TO BE MADE. HOWEVER, IF AN UNSATISFACTORY RATING FACTOR IS OBTAINED, USE THE DISTRIBUTION FACTORS AT THE POINT OF INTEREST WITH THE NUMBER OF LOADED LANES THE DEPARTMENT DEEMS APPROPRIATE AND THE IMPACT FACTOR THE DEPARTMENT DEEMS APPROPRIATE FOR THE UNUSUAL VEHICLE, TO OBTAIN A REVISED RATING FACTOR.
9. REPEAT THE ABOVE PROCEDURE TO CALCULATE THE LOAD RATING(S) FOR TOP FLANGE.
10. CHECK THE SHEAR RATING(S) TO COMPLETE THE RATING ANALYSIS.

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR LOAD RATINGS, SEE SHEET 5.
3. FOR GIRDER SPAN LENGTHS (ARC LENGTHS) AND GIRDER WEB DEPTH (D), SEE GIRDER ELEVATION SHEET 12.
4. FOR DIAPHRAGM OR CROSS GIRDER SPACING (L) AND GIRDER RADIUS (R). SEE FRAMING PLAN SHEET 11.
5. FOR ADDITIONAL GIRDER SECTION PROPERTIES, SEE SHEET 14.

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
RATINGS PROCEDURE - 1

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132

STV

RECOMMENDED 10/18/2019

SHEET 30 OF 37

S- 38480

DESIGNED: ZRC | CHECKED: OT | CADD: ZRC | CHECKED: OT

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SUMMARY OF DESIGN AND RATING PARAMETERS FOR FLEXURE - GIRDER 2

TENTH POINT	DEAD LOADS									POSITIVE LL+I					NEGATIVE LL+I				
	DL1					DL2+FWS				SECTION MODULUS (in^3)		MOMENT DISTRIBUTION FACTORS			SECTION MODULUS (in^3)		MOMENT DISTRIBUTION FACTORS		
	SECTION MODULUS (in^3)				(UNFACTORED) MOMENT (K-FT)	SECTION MODULUS (in^3)		(UNFACTORED) MOMENT (K-FT)											
	S_{BF}	S_{TF}	S_{TBF}	S_{TTF}	M_{DL1}	S_{BF}	S_{TF}	M_{DL2}	M_{FWS}	S_{BF}	S_{TF}	1 LANE	2 LANES	3 LANES	S_{BF}	S_{TF}	1 LANE	2 LANES	3 LANES
0	4778.00	2788.00	264.00	188.00	12.74	5597.00	5321.00	5.43	1.58	6181.00	10645.00	---	---	---	---	---	---	---	---
1	4778.00	2788.00	264.00	188.00	1218.46	5597.00	5321.00	122.82	188.14	6181.00	10645.00	0.34	0.51	0.50	---	---	---	---	---
2	4778.00	2788.00	264.00	188.00	2156.72	5597.00	5321.00	317.19	328.95	6181.00	10645.00	0.34	0.49	0.48	---	---	---	---	---
3	4778.00	2788.00	264.00	188.00	2808.22	5597.00	5321.00	414.31	421.91	6181.00	10645.00	0.34	0.49	0.47	---	---	---	---	---
4	4778.00	2788.00	264.00	188.00	3195.21	5597.00	5321.00	549.25	476.06	6181.00	10645.00	0.34	0.48	0.46	---	---	---	---	---
5	4778.00	2788.00	264.00	188.00	3302.15	5597.00	5321.00	547.91	488.25	6181.00	10645.00	0.34	0.47	0.45	---	---	---	---	---
6	4778.00	2788.00	264.00	188.00	3191.77	5597.00	5321.00	586.16	468.08	6181.00	10645.00	0.35	0.49	0.47	---	---	---	---	---
7	4778.00	2788.00	264.00	188.00	2797.01	5597.00	5321.00	483.37	407.04	6181.00	10645.00	0.36	0.50	0.47	---	---	---	---	---
8	4778.00	2788.00	264.00	188.00	2159.15	5597.00	5321.00	399.63	310.74	6181.00	10645.00	0.39	0.53	0.49	---	---	---	---	---
9	4778.00	2788.00	264.00	188.00	1210.25	5597.00	5321.00	183.97	176.60	6181.00	10645.00	0.41	0.56	0.51	---	---	---	---	---
10	4778.00	2788.00	264.00	188.00	-34.48	5597.00	5321.00	7.82	-1.71	6181.00	10645.00	---	---	---	---	---	---	---	---

SUMMARY OF DESIGN AND RATING PARAMETERS FOR SHEAR - GIRDER 2

TENTH POINT	DL1	DL2	FWS	POSITIVE SHEAR DISTRIBUTION FACTORS			NEGATIVE SHEAR DISTRIBUITION FACTORS		
	V_{DL1} (Kips)	V_{DL2} (Kips)	V_{FWS} (Kips)	1 LANE	2 LANES	3 LANES	1 LANE	2 LANES	3 LANES
0	94.22	6.91	13.80	0.35	0.54	0.52	---	---	---
1	73.08	8.38	11.67	0.33	0.51	0.49	0.85	1.01	0.96
2	72.59	16.01	10.24	0.42	0.60	0.57	0.62	0.87	0.74
3	31.12	7.05	3.92	0.36	0.52	0.47	0.59	0.70	0.65
4	41.06	14.57	5.20	0.53	0.71	0.65	0.34	0.53	0.47
5	-4.01	0.71	-0.84	0.39	0.55	0.50	0.43	0.60	0.56
6	-15.94	-6.60	-3.36	0.45	0.58	0.51	0.40	0.57	0.53
7	-37.30	-5.98	-5.42	0.46	0.67	0.58	0.37	0.54	0.51
8	-54.33	-14.31	-8.40	0.42	0.63	0.62	0.40	0.54	0.50
9	-75.87	-12.78	-10.67	0.62	0.99	1.13	0.41	0.55	0.50
10	-97.41	-10.58	-13.12	---	---	---	0.40	0.55	0.49

NOTES

1. DISTRIBUTION FACTORS PROVIDED ABOVE ARE DETERMINED BASED ON THE PHL-93 DESIGN TRUCK.
   USE OF THESE DISTRIBUTION FACTORS IS AN APPROXIMATION AND PROVIDED TO AID IN FUTURE RATINGS OF THE BRIDGE.

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR LOAD RATINGS, SEE SHEET 5.
3. FOR GIRDER SPAN LENGTHS (ARC LENGTHS) AND GIRDER WEB DEPTH (D), SEE GIRDER ELEVATION SHEET 12.
4. FOR DIAPHRAGM OR CROSS GIRDER SPACING (L) AND GIRDER RADIUS (R). SEE FRAMING PLAN SHEET 11.
5. FOR ADDITIONAL GIRDER SECTION PROPERTIES, SEE SHEET 14.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
RATINGS PROCEDURE - 2

RECOMMENDED 10/18/2019

SHEET 31 OF 37

S- 38480

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132

STV

DESIGNED: ZRC | CHECKED: OT | CADD: ZRC | CHECKED: OT

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SUMMARY OF DESIGN AND RATING PARAMETERS FOR FLEXURE - GIRDER 3

TENTH POINT	DEAD LOADS									POSITIVE LL+I						NEGATIVE LL+I				
	DL1					DL2,FWS														
	SECTION MODULUS (in^3)				(UNFACTORED) MOMENT (K-FT)	SECTION MODULUS (in^3)		(UNFACTORED) MOMENT (K-FT)		SECTION MODULUS (in^3)		MOMENT DISTRIBUTION FACTORS			SECTION MODULUS (in^3)		MOMENT DISTRIBUTION FACTORS		
	S_{BF}	S_{TF}	S_{TBF}	S_{TTF}	M_{DL1}	S_{BF}	S_{TF}	M_{DL2}	M_{FWS}	S_{BF}	S_{TF}	1 LANE	2 LANES	3 LANES	S_{BF}	S_{TF}	1 LANE	2 LANES	3 LANES
0	4778.00	2788.00	264.00	188.00	16.06	5597.00	5321.00	13.02	3.46	6181.00	10645.00	---	---	---	---	---	---	---	---
1	4778.00	2788.00	264.00	188.00	1410.12	5597.00	5321.00	162.32	222.18	6181.00	10645.00	0.39	0.50	0.56	---	---	---	---	---
2	4778.00	2788.00	264.00	188.00	2553.42	5597.00	5321.00	343.49	399.20	6181.00	10645.00	0.32	0.44	0.52	---	---	---	---	---
3	4778.00	2788.00	264.00	188.00	3324.00	5597.00	5321.00	454.90	512.53	6181.00	10645.00	0.30	0.42	0.50	---	---	---	---	---
4	4778.00	2788.00	264.00	188.00	3806.46	5597.00	5321.00	558.31	578.81	6181.00	10645.00	0.27	0.40	0.48	---	---	---	---	---
5	4778.00	2788.00	264.00	188.00	3958.95	5597.00	5321.00	564.63	597.81	6181.00	10645.00	0.27	0.40	0.48	---	---	---	---	---
6	4778.00	2788.00	264.00	188.00	3786.68	5597.00	5321.00	547.12	561.64	6181.00	10645.00	0.26	0.39	0.47	---	---	---	---	---
7	4778.00	2788.00	264.00	188.00	3325.03	5597.00	5321.00	432.63	488.55	6181.00	10645.00	0.28	0.42	0.49	---	---	---	---	---
8	4778.00	2788.00	264.00	188.00	2527.39	5597.00	5321.00	314.61	364.96	6181.00	10645.00	0.30	0.44	0.51	---	---	---	---	---
9	4778.00	2788.00	264.00	188.00	1411.28	5597.00	5321.00	144.59	206.85	6181.00	10645.00	0.38	0.51	0.57	---	---	---	---	---
10	4778.00	2788.00	264.00	188.00	-37.13	5597.00	5321.00	1.76	-4.94	6181.00	10645.00	---	---	---	---	---	---	---	---

SUMMARY OF DESIGN AND RATING PARAMETERS FOR SHEAR - GIRDER 3

TENTH POINT	DL1	DL2	FWS	POSITIVE SHEAR DISTRIBUITION FACTORS			NEGATIVE SHEAR DISTRIBUITION FACTORS		
	V_{DL1} (Kips)	V_{DL2} (Kips)	V_{FWS} (Kips)	1 LANE	2 LANES	3 LANES	1 LANE	2 LANES	3 LANES
0	107.99	8.77	15.88	0.44	0.52	0.56	---	---	---
1	86.69	8.60	13.41	0.39	0.48	0.53	1.58	1.52	1.29
2	85.59	11.40	12.24	0.49	0.61	0.64	0.98	1.05	0.91
3	40.32	5.62	6.25	0.37	0.47	0.50	0.61	0.69	0.60
4	50.86	7.69	6.40	0.56	0.70	0.72	0.52	0.63	0.54
5	-3.53	-0.37	0.09	0.50	0.58	0.58	0.50	0.55	0.57
6	6.56	0.63	-0.16	0.76	0.88	0.83	0.40	0.51	0.48
7	-47.25	-6.90	-8.10	0.52	0.57	0.51	0.43	0.52	0.56
8	-48.22	-6.67	-7.42	1.38	1.39	1.25	0.35	0.46	0.48
9	-90.31	-9.01	-13.60	1.32	1.47	1.25	0.41	0.52	0.58
10	-111.35	-9.07	-15.76	---	---	---	0.45	0.54	0.59

NOTES

1. DISTRIBUTION FACTORS PROVIDED ABOVE ARE DETERMINED BASED ON THE PHL-93 DESIGN TRUCK.
   USE OF THESE DISTRIBUTION FACTORS IS AN APPROXIMATION AND PROVIDED TO AID IN FUTURE RATINGS OF THE BRIDGE.

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR LOAD RATINGS, SEE SHEET 5.
3. FOR GIRDER SPAN LENGTHS (ARC LENGTHS) AND GIRDER WEB DEPTH (D), SEE GIRDER ELEVATION SHEET 12.
4. FOR DIAPHRAGM OR CROSS GIRDER SPACING (L) AND GIRDER RADIUS (R). SEE FRAMING PLAN SHEET 11.
5. FOR ADDITIONAL GIRDER SECTION PROPERTIES, SEE SHEET 14.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
RATINGS PROCEDURE - 3

RECOMMENDED 10/18/2019

SHEET 32 OF 37

S- 38480

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079130

STV

DESIGNED: ZRC | CHECKED: OT | CADD: ZRC | CHECKED: OT

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SUMMARY OF DESIGN AND RATING PARAMETERS FOR FLEXURE - GIRDER 4

TENTH POINT	DEAD LOADS									POSITIVE LL+I						NEGATIVE LL+I				
	DL1					DL2,FWS														
	SECTION MODULUS (in^3)				(UNFACTORED) MOMENT (K-FT)	SECTION MODULUS (in^3)		(UNFACTORED) MOMENT (K-FT)		SECTION MODULUS (in^3)		MOMENT DISTRIBUTION FACTORS			SECTION MODULUS (in^3)		MOMENT DISTRIBUTION FACTORS		
	S_{BF}	S_{TF}	S_{TBF}	S_{TTF}	M_{DL1}	S_{BF}	S_{TF}	M_{DL2}	M_{FWS}	S_{BF}	S_{TF}	1 LANE	2 LANES	3 LANES	S_{BF}	S_{TF}	1 LANE	2 LANES	3 LANES
0	4778.00	2788.00	264.00	188.00	22.87	5597.00	5321.00	12.45	3.65	6181.00	10645.00	---	---	---	---	---	---	---	---
1	4778.00	2788.00	264.00	188.00	1675.86	5597.00	5321.00	260.36	253.00	6181.00	10645.00	0.45	0.61	0.58	---	---	---	---	---
2	4778.00	2788.00	264.00	188.00	3070.30	5597.00	5321.00	524.91	457.82	6181.00	10645.00	0.43	0.59	0.58	---	---	---	---	---
3	4778.00	2788.00	264.00	188.00	3995.74	5597.00	5321.00	666.65	598.81	6181.00	10645.00	0.43	0.60	0.59	---	---	---	---	---
4	4778.00	2788.00	264.00	188.00	4595.77	5597.00	5321.00	803.19	679.78	6181.00	10645.00	0.40	0.56	0.57	---	---	---	---	---
5	4778.00	2788.00	264.00	188.00	4730.24	5597.00	5321.00	771.59	706.57	6181.00	10645.00	0.39	0.56	0.57	---	---	---	---	---
6	4778.00	2788.00	264.00	188.00	4491.78	5597.00	5321.00	744.16	664.95	6181.00	10645.00	0.38	0.54	0.56	---	---	---	---	---
7	4778.00	2788.00	264.00	188.00	3875.85	5597.00	5321.00	572.40	579.58	6181.00	10645.00	0.39	0.56	0.58	---	---	---	---	---
8	4778.00	2788.00	264.00	188.00	2867.58	5597.00	5321.00	406.74	426.28	6181.00	10645.00	0.37	0.54	0.57	---	---	---	---	---
9	4778.00	2788.00	264.00	188.00	1596.22	5597.00	5321.00	169.98	236.67	6181.00	10645.00	0.38	0.56	0.59	---	---	---	---	---
10	4778.00	2788.00	264.00	188.00	-45.88	5597.00	5321.00	-8.83	-7.00	6181.00	10645.00	---	---	---	---	---	---	---	---

SUMMARY OF DESIGN AND RATING PARAMETERS FOR SHEAR - GIRDER 4

TENTH POINT	DL1	DL2	FWS	POSITIVE SHEAR DISTRIBUITION FACTORS			NEGATIVE SHEAR DISTRIBUITION FACTORS		
	V_{DL1} (Kips)	V_{DL2} (Kips)	V_{FWS} (Kips)	1 LANE	2 LANES	3 LANES	1 LANE	2 LANES	3 LANES
0	126.46	15.28	18.05	0.48	0.61	0.58	---	---	---
1	105.01	17.03	15.27	0.44	0.59	0.57	0.46	0.45	0.40
2	96.37	13.23	14.42	0.56	0.77	0.75	0.75	0.64	0.55
3	50.49	8.93	6.67	0.43	0.56	0.54	0.68	0.70	0.60
4	50.16	1.60	7.47	0.58	0.82	0.79	0.46	0.47	0.40
5	-6.76	-2.59	-1.12	0.43	0.52	0.48	0.55	0.70	0.62
6	-27.76	-2.76	-3.75	0.43	0.53	0.49	0.54	0.68	0.60
7	-60.21	-11.67	-8.84	0.57	0.56	0.48	0.49	0.65	0.61
8	-81.46	-10.75	-11.38	0.73	0.70	0.60	0.50	0.65	0.61
9	-103.26	-12.80	-14.95	1.88	1.60	1.37	0.41	0.59	0.60
10	-125.16	-10.41	-18.03	---	---	---	0.41	0.57	0.58

NOTES

1. DISTRIBUTION FACTORS PROVIDED ABOVE ARE DETERMINED BASED ON THE PHL-93 DESIGN TRUCK.
   USE OF THESE DISTRIBUTION FACTORS IS AN APPROXIMATION AND PROVIDED TO AID IN FUTURE RATINGS OF THE BRIDGE.

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR LOAD RATINGS, SEE SHEET 5.
3. FOR GIRDER SPAN LENGTHS (ARC LENGTHS) AND GIRDER WEB DEPTH (D), SEE GIRDER ELEVATION SHEET 12.
4. FOR DIAPHRAGM OR CROSS GIRDER SPACING (L) AND GIRDER RADIUS (R). SEE FRAMING PLAN SHEET 11.
5. FOR ADDITIONAL GIRDER SECTION PROPERTIES, SEE SHEET 14.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
RATINGS PROCEDURE - 4

RECOMMENDED 10/18/2019

SHEET 33 OF 37

S- 38480

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132

STV

DESIGNED: ZRC | CHECKED: OT | CADD: ZRC | CHECKED: OT

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SUMMARY OF DESIGN AND RATING PARAMETERS FOR FLEXURE - GIRDER 5

TENTH POINT	DEAD LOADS									POSITIVE LL+I						NEGATIVE LL+I					
	DL1					DL2,FWS				SECTION MODULUS (in^3)		MOMENT DISTRIBUTION FACTORS				SECTION MODULUS (in^3)		MOMENT DISTRIBUTION FACTORS			
	SECTION MODULUS (in^3)				(UNFACTORED) MOMENT (K-FT)	SECTION MODULUS (in^3)		(UNFACTORED) MOMENT (K-FT)													
	S_{BF}	S_{TF}	S_{TRF}	S_{TTF}	M_{DL1}	S_{BF}	S_{TF}	M_{DL2}	M_{FWS}	S_{BF}	S_{TF}	1 LANE	2 LANES	3 LANES		S_{BF}	S_{TF}	1 LANE	2 LANES	3 LANES	
0	4778.00	2788.00	264.00	188.00	29.79	5593.00	5302.00	-3.01	-1.17	6177.00	10585.00	---	---	---		---	---	---	---	---	
1	4778.00	2788.00	264.00	188.00	1996.73	5593.00	5302.00	518.99	271.67	6177.00	10585.00	0.73	0.83	0.75		---	---	---	---	---	
2	4778.00	2788.00	264.00	188.00	3669.86	5593.00	5302.00	854.05	507.33	6177.00	10585.00	0.72	0.86	0.78		---	---	---	---	---	
3	4778.00	2788.00	264.00	188.00	4825.61	5593.00	5302.00	1109.59	673.52	6177.00	10585.00	0.75	0.89	0.81		---	---	---	---	---	
4	4778.00	2788.00	264.00	188.00	5639.01	5593.00	5302.00	1211.42	799.03	6177.00	10585.00	0.74	0.91	0.83		---	---	---	---	---	
5	4778.00	2788.00	264.00	188.00	5889.74	5593.00	5302.00	1268.75	837.41	6177.00	10585.00	0.74	0.92	0.83		---	---	---	---	---	
6	4778.00	2788.00	264.00	188.00	5714.92	5593.00	5302.00	1202.68	821.19	6177.00	10585.00	0.77	0.95	0.86		---	---	---	---	---	
7	4778.00	2788.00	264.00	188.00	4995.80	5593.00	5302.00	1068.86	721.69	6177.00	10585.00	0.79	0.96	0.87		---	---	---	---	---	
8	4778.00	2788.00	264.00	188.00	3794.17	5593.00	5302.00	827.99	555.37	6177.00	10585.00	0.81	0.98	0.88		---	---	---	---	---	
9	4778.00	2788.00	264.00	188.00	2105.70	5593.00	5302.00	460.22	316.10	6177.00	10585.00	0.84	1.00	0.90		---	---	---	---	---	
10	4778.00	2788.00	264.00	188.00	-68.49	5593.00	5302.00	-17.00	-2.15	6181.00	10585.00	---	---	---		---	---	---	---	---	

SUMMARY OF DESIGN AND RATING PARAMETERS FOR SHEAR - GIRDER 5

TENTH POINT	DL1	DL2	FWS	POSITIVE SHEAR DISTRIBUITION FACTORS			NEGATIVE SHEAR DISTRIBUITION FACTORS		
	V_{DL1} (Kips)	V_{DL2} (Kips)	V_{FWS} (Kips)	1 LANE	2 LANES	3 LANES	1 LANE	2 LANES	3 LANES
0	148.54	40.72	19.67	0.84	0.93	0.84	---	---	---
1	126.71	29.62	17.30	0.85	0.97	0.88	0.87	0.62	0.98
2	105.42	22.09	15.41	0.89	1.02	0.93	0.65	0.68	0.75
3	68.81	16.61	10.66	0.92	1.00	0.89	0.48	0.53	0.56
4	45.98	4.20	7.50	0.92	1.03	0.91	0.53	0.64	0.62
5	1.41	4.06	1.16	0.87	0.82	0.70	0.60	0.69	0.65
6	-22.01	-8.88	-2.31	0.71	0.67	0.57	0.51	0.60	0.56
7	-70.47	-9.66	-9.35	0.59	0.54	0.46	0.64	0.61	0.71
8	-94.10	-24.72	-13.40	0.40	0.45	0.39	0.69	0.70	0.77
9	-139.87	-29.62	-19.84	1.42	1.51	1.31	0.81	0.79	0.91
10	-162.58	-42.56	-23.90	---	---	---	0.86	0.88	0.98

NOTES

1. DISTRIBUTION FACTORS PROVIDED ABOVE ARE DETERMINED BASED ON THE PHL-93 DESIGN TRUCK. USE OF THESE DISTRIBUTION FACTORS IS AN APPROXIMATION AND PROVIDED TO AID IN FUTURE RATINGS OF THE BRIDGE.

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR LOAD RATINGS, SEE SHEET 5.
3. FOR GIRDER SPAN LENGTHS (ARC LENGTHS) AND GIRDER WEB DEPTH (D), SEE GIRDER ELEVATION SHEET 12.
4. FOR DIAPHRAGM OR CROSS GIRDER SPACING (L) AND GIRDER RADIUS (R). SEE FRAMING PLAN SHEET 11.
5. FOR ADDITIONAL GIRDER SECTION PROPERTIES, SEE SHEET 14.

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
RATINGS PROCEDURE - 5

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132

STV

RECOMMENDED 10/18/2019

SHEET 34 OF 37

S- 38480

DESIGNED: ZRC | CHECKED: OT | CADD: ZRC | CHECKED: OT

\\stvgroup.stvinc.com\V3\GDPA\Vol3\Projects\041047 3\041047 3.0002\CAD\Drawings\Structures\Ramp B over Conrail\Final Design\rating procedure 05_Ramp B over Conrail_I-95-BR2.dgn
10/21/2019 5:49:33 PM EbernaJS

PIER B10

BORING NUMBER B12-21
STATION 50+30 OFFSET 12' LT (RAMP B)

EL. 13.5

A	B	C	D	E	F	G	H	I	J
1.5	S-1	4-8-15	1.0'	67	-	sp	m	0.0' to 5.0' Poorly Graded Sand with Gravel (sp), dark brown, moist, medium dense, (fill)	0-13.5': Logged by Tim Heiser.
3.0	S-2	10-12-17	1.2'	80	-		m		
4.5	S-3	15-16-12	1.0'	67	-	a-1-b	m	EL. 8.5	
6.0	S-4	2-2-3	1.1'	73	-	sp	m	5.0' to 13.5' Poorly Graded Fine Sand with Gravel (sp), dark brown, moist to dry, loose to dense	
7.5	S-5	4-12-16	1.5'	100	-		m		
9.0	S-6	19-25-25	1.5'	100	-		d		
10.5	S-7	10-20-27	1.3'	87	-		d		
12.0	S-8	21-24-20	1.0'	67	-		d		0 HRS., EL=2.5
13.5	S-9	19-29-13	1.5'	100	-	a-3	d - m	EL. 0.0	24 HRS., EL=0.2
15.0	S-10	7-9-10	1.5'	100	-	gw	w	13.5' to 19.5' Well Graded Medium To Coarse Gravel with Sand (gw), brown, moist to wet, medium dense to very dense, rounded, homogeneous, (alluvium)	13.0': Sand became moist. S-10: Water on spoon.
16.5	S-11	14-19-27	1.5'	100	-		m		
18.0	S-12	21-32-47	1.5'	100	-		m		
19.5	S-13	12-35-35	1.5'	100	-	a-1-a	m	EL. -6.0	
21.0	S-14	WOH-1 -WOH	0.5'	33	-	sp-sm	w	19.5' to 40.5' Poorly Graded Fine To Medium Sand with Silt (sp-sm), brown to gray, wet, very loose to medium dense, homogeneous, (alluvium)	19.5': Switched to spin casing.
22.5	S-15	2-5-8	1.5'	100	-		w		
24.0	S-16	8-12-14	1.5'	100	-		w		
25.5	S-17	9-10-9	1.5'	100	-		w		
27.0	S-18	6-8-6	1.5'	100	-		w		
28.5	S-19	3-5-5	1.5'	100	-		w		
30.0	S-20	3-3-4	1.5'	100	-		w		
31.5	S-21	6-7-8	1.5'	100	-		w		
33.0	S-22	6-6-7	1.5'	100	-		w		
34.5	S-23	2-2-4	1.5'	100	-		w		
36.0	S-24	3-3-4	1.5'	100	-		w		
37.5	S-25	4-4-5	1.5'	100	-		w		
39.0	S-26	1-2-5	1.5'	100	-		w		
40.5	S-27	2-4-7	1.5'	100	-	a-1-b	w	EL. -27.0	
42.0	S-28	4-4-4	1.5'	100	-	sc / a-2-6	m	40.5' to 42.0' Clayey Sand (sc), orangish brown, moist, loose, homogeneous, (alluvium) EL. -28.5	
43.5	S-29	3-4-5	1.5'	100	-	sp	w	42.0' to 46.5' Poorly Graded Medium Sand (sp), reddish brown, wet, loose to medium dense, homogeneous, (alluvium)	
45.0	S-30	WOH-5-6	1.5'	100	-		w		
46.5	S-31	7-5-7	1.5'	100	-	a-1-b	w	EL. -33.0	
48.0	S-32	18-13-31	1.5'	100	-	gp	w	46.5' to 49.5' Poorly Graded Medium To Coarse Gravel with Sand (gp), brown, moist to wet, dense to very dense, homogeneous, (alluvium)	
49.1	S-33	32-49-50/0.1	0.8'	73	-	a-1-a	w		EL. -36.0

BPCE 5.5

ELEVATION, FEET: 14 to -36

Continued Above

BORING NUMBER B12-21 (CONTINUED)
STATION 50+30 OFFSET 12' LT (RAMP B)

EL. 13.5

A	B	C	D	E	F	G	H	I	J
51.0	S-34	6-13-23	1.5'	100	-	sm	m	49.5' to 64.5' Silty Fine Sand (sm), gray, dry to moist, medium dense to very dense, homogeneous, (saprolite), contains mica and weathered garnet	
52.5	S-35	17-26-26	1.5'	100	-		m		
54.0	S-36	18-21-21	1.5'	100	-		m		
55.5	S-37	4-6-12	1.5'	100	-		m		
57.0	S-38	12-16-18	1.5'	100	-		m		
58.5	S-39	15-24-32	1.5'	100	-		d		
60.0	S-40	14-27-42	1.5'	100	-		d		
60.9	S-41	35-50/0.4	0.9'	100	-		d		
63.0	S-42	17-26-40	1.5'	100	-		d		
63.9	S-43	22-50/0.4	0.9'	100	-	a-2-4	d	EL. -51.0	
64.5	S-44	50/0.0	0.0'	0	-		-	64.5' to 74.5' Schist, gray with white, medium hard, moderately weathered to slightly weathered, not distinctly foliated, (RD = 30°-55°), medium fractured, (RD = 0°, 30°), contains garnet, (RQD = 43%)	
66.5	R-1		1.5'	75 / 25	-		-		Lab Tested 65.2' to 65.7': Compressive Str. = 1,368 psi
69.5	R-2		3.0'	100 / 87	-		-		Lab Tested 66.5' to 67.2': Compressive Str. = 1,827 psi
74.5	R-3		4.0'	80 / 24	-		-	EL. -61.0	

TOR/ EPTE -51.0

ELEVATION, FEET: -36 to -60

End of Boring @ 74.5 ft.

NOTE: SEE SHEET 37 FOR BORING LOCATION PLAN

GENERAL NOTES

B12-21: STARTED: 10/27/2017 COMPLETED: 10/31/2017
DRILLER: RICK MILLER/ ALLIED WELL DRILLING
RIG TYPE: DIEDRICH D50 TRACK RIG W/ AUTOMATIC HAMMER
INSPECTOR/CERT. NO: DEREK RIDINGER/324-13 / TIM HEISER/192-07
DRILLING METHOD: 4.25' I.D. HSA, 3.00" I.D. SPIN CASING AND ROLLER BIT, 2.0" O.D. SPLIT SPOON, NQ-2 WIRELINE W/ WATER

SPOON SIZE	2" O.D.
CASING SIZE	3.00" I.D.
CASING DEPTH	54.0 FT.
HAMMER WEIGHT	140 LBS
HAMMER DROP	30"
CORE BIT SIZE	NQ-2

THE DESCRIPTION OF MATERIALS ENCOUNTERED HAVE BEEN VERIFIED.

ENGINEER/GEOLOGIST 05/02/2019 DATE

LEGEND

COLUMN A - LOWER LIMIT OF SAMPLES OR CORE RUNS IN FEET
COLUMN B - SAMPLE OR CORE RUN IDENTIFICATION NUMBERS
COLUMN C - SAMPLE BLOWS PER .50 FT.
COLUMN D - RECOVERY IN FEET
COLUMN E - PERCENTAGE OF SOIL SAMPLE RECOVERY OR ROCK CORE RECOVERY/ROCK QUALITY DESIGNATION
COLUMN F - POCKET PENETROMETER TEST READING IN TSF
COLUMN G - USCS/AASHTO
COLUMN H - WATER CONTENT
COLUMN I - DESCRIPTION
COLUMN J - REMARKS
▽ - 0HR WATER READING
▼ - 24HR WATER READING

ABBREVIATIONS

d - DRY
m - MOIST
w - WET
BPCE - BOTTOM OF PILE CAP ELEVATION
EPTE - ESTIMATED PILE TIP ELEVATION
TOR - TOP OF ROCK ELEVATION
WOH - WEIGHT OF HAMMER

NOTE: ALL STATIONS, OFFSETS, AND ELEVATION ARE IN FEET.

Mark	Description	By	Chk'd.	Recm'd	Date

REVISIONS

S.R. 0095 PREVIOUSLY KNOWN AS L.R. 1000

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408, SECTION 102.05 FOR FURTHER INFORMATION.

THE SUBSURFACE EXPLORATION DATA PRESENTED ON THE DRAWINGS, (INCLUDING BORING LOGS; EARTH SAMPLES; ROCK CORES; CLASSIFICATION OF MATERIALS; AND DEPTH OF BORINGS), ACCURATELY REPRESENT THE CONDITIONS ENCOUNTERED BY THE TEST BORING PROGRAM AT EACH BORING LOCATION.

ENGINEER/GEOLOGIST MAY 02, 2019 DATE

PREPARED BY SUSQUEHANNA CIVIL INC. 50 GRUMBACHER ROAD YORK, PA 17406

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JEREMIAH N. GREENLAND GEOLOGIST PG005177

REG. PROF. ENGINEER/GEOLOGIST

DATE MAY 02, 2019

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
TEST BORINGS - 1

SHEET 35 OF 37

DISTRICT GEOTECHNICAL ENGINEER DATE

S- 38480

BORING NUMBER B12-22
STATION 50+30 OFFSET 22' RT (RAMP B)

A	B	C	D	E	F	G	H	I (EL. 13.0)	J
1.5	S-1	11-22-18	1.2'	80	-	gm	d	0.0' to 4.5' Silty Medium Gravel with Sand (gm), dark gray, dry, medium dense to dense, homogeneous, (fill)	
3.0	S-2	11-22-13	1.2'	80	-		d		
4.5	S-3	8-9-8	1.1'	73	-	a-1-b	d	EL. 8.5	
6.0	S-4	11-14-18	1.4'	93	-	sp-sm	d	4.5' to 12.0' Poorly Graded Fine Sand with Silt and Gravel (sp-sm), grayish brown, dry, dense to very dense, homogeneous, (fill)	
7.5	S-5	14-23-31	1.3'	87	-		d		
9.0	S-6	31-20-29	1.2'	80	-		d		
10.5	S-7	18-24-38	1.2'	80	-		d		
12.0	S-8	48-41-26	1.5'	100	-	a-1-b	d	EL. 1.0	
13.5	S-9	22-21-21	1.5'	100	-	SP-SM	m	12.0' to 21.0' POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM), brown, moist to wet, medium dense to very dense, homogeneous, (alluvium)	24 HRS., EL=0.3
15.0	S-10	3-6-7	1.5'	100	-		w		S-9 to S-14 Lab Tested: W = 7.6 %, LL = NP, PL = NP, Fines = 6.3%, Friction Angle = 37.8°, Cohesion = 190 psf
16.5	S-11	10-11-18	1.5'	100	-		w		S-10: Water on spoon.
18.0	S-12	13-24-28	1.5'	100	-		w		0 HRS., EL=-5.3
19.5	S-13	10-7-16	1.5'	100	-		w		19.5': Switched to spin casing.
21.0	S-14	4-7-12	1.5'	100	-	A-1-b	w	EL. -8.0	
22.5	S-15	5-9-7	1.3'	87	-	SM	w	21.0' to 42.0' SILTY SAND (SM), orangish brown to gray, wet, very loose to medium dense, homogeneous, (alluvium)	S-16 to S-21 Lab Tested: W = 23.4%, LL = NP, PL = NP, Fines = 15.4%, Friction Angle = 40.1°, Cohesion = 80 psf
24.0	S-16	6-9-8	1.5'	100	-		w		
25.5	S-17	5-5-1	1.2'	80	-		w		
27.0	S-18	7-3-3	1.5'	100	-		w		
28.5	S-19	2-2-3	1.5'	100	-		w		
30.0	S-20	4-3-4	1.5'	100	-		w		
31.5	S-21	6-7-6	1.5'	100	-		w		
33.0	S-22	5-3-6	1.5'	100	-		w		
34.5	S-23	4-3-4	1.5'	100	-		w		
36.0	S-24	4-5-7	1.5'	100	-		w		
37.5	S-25	4-5-5	1.5'	100	-		w		
39.0	S-26	WOH-1-1	1.5'	100	-		w		
40.5	S-27	1-4-5	1.5'	100	-		w		
42.0	S-28	3-2-4	1.5'	100	-	A-2-4	w	EL. -29.0	
43.5	S-29	5-6-7	1.5'	100	-	sp	w	42.0' to 45.5' Poorly Graded Medium Sand (sp), reddish brown, wet, medium dense to medium dense, homogeneous, (alluvium)	
45.0	S-30	3-4-9	1.5'	100	-	a-1-b	w	EL. -32.5	
46.5	S-31	15-18-27	1.5'	100	-	gp	w	45.5' to 49.5' Poorly Graded Medium To Coarse Gravel with Sand (gp), brown, moist to wet, medium dense to very dense, homogeneous, (alluvium)	
48.0	S-32	46-33-40	1.5'	100	-		m		
49.5	S-33	27-15-15	0.1'	7	-	a-1-a	m	EL. -36.5	S-33: Low recovery due to gravel stuck in spoon tip.

BPCE 5.5

Continued Above

BORING NUMBER B12-22 (CONTINUED)
STATION 50+30 OFFSET 22' RT (RAMP B)

A	B	C	D	E	F	G	H	I (EL. 13.0)	J
51.0	S-34	10-14-17	1.5'	100	-	SM	m	49.5' to 73.5' SILTY SAND (SM), gray to dark green, dry to moist, dense to very dense, homogeneous, (saprolite), contains weathered garnet until 60.0'	S-34 to S-39 Lab Tested: W = 17.9%, LL = NP, PL = NP, Fines = 23.6%, Friction Angle = 28.5°, Cohesion = 440 psf
52.5	S-35	20-27-30	1.5'	100	-		m		
54.0	S-36	13-18-23	1.1'	73	-		m		
55.5	S-37	23-32-41	1.5'	100	-		d		
57.0	S-38	27-37-47	1.5'	100	-		d		
57.8	S-39	40-50/0.3	0.8'	100	-		d		
58.9	S-40	50/0.4	0.4'	100	-		d		
61.5	S-41	21-19-17	1.5'	100	-		m		
63.0	S-42	27-27-30	1.5'	100	-		m		
64.5	S-43	23-24-23	1.5'	100	-		m		
66.0	S-44	10-12-18	1.5'	100	-		m		
67.5	S-45	12-30-34	1.5'	100	-		m		
69.0	S-46	20-20-30	1.5'	100	-		m		
70.5	S-47	13-24-47	1.5'	100	-		m		
70.9	S-48	50/0.4	0.4'	100	-		d		
72.9	S-49	35-50/0.4	0.9'	100	-		d		
73.5	S-50	50/0.0	0.0'	0	-	A-2-4	-	EL. -60.5	73.5' to 79.3' Pegmatitic Schist, gray and greenish white, medium hard to very hard, moderately weathered to slightly weathered, very thinly foliated to thinly foliated, (RD = 45°), medium fractured, (RD = 0°, 20°), (RQD = 66%)
75.5	R-1		0.8'	40/40	-		-		Lab Tested 75.5' to 76.0': Compressive Str. = 4,270 psi
78.5	R-2		3.0'	100/100	-		-	EL. -66.3	Lab Tested 76.0' to 76.5': Compressive Str. = 2,831 psi
83.5	R-3		4.7'	94/8	-		-	79.3' to 83.5' Schist, greenish gray, soft, completely weathered to highly weathered, not distinctly foliated, (RD = 45°), (RD = 0°, 90°), (RQD = 10%)	
88.5	R-4		5.0'	100/90	-		-	EL. -70.5 83.5' to 103.5' Pegmatitic Schist, gray and white, medium hard to very hard, slightly weathered, very thinly foliated to medium foliated, (RD = 45°), medium fractured to widely fractured, (RD = 45°, 135°), (RQD = 91%)	Lab Tested 83.5' to 84.2': Compressive Str. = 1,788 psi Lab Tested 86.5' to 87.4': Compressive Str. = 3,952 psi

TOR/EPTE -60.5

Continued on Next Sheet

NOTE: SEE SHEET 37 FOR BORING LOCATION PLAN

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408, SECTION 102.05 FOR FURTHER INFORMATION.

GENERAL NOTES

B12-22: STARTED: 10/31/2017 COMPLETED: 11/02/2017
DRILLER: RICK MILLER/ ALLIED WELL DRILLING
RIG TYPE: DIEDRICH D50 TRACK RIG W/ AUTOMATIC HAMMER
INSPECTOR/CERT. NO: DEREK RIDINGER/324-13
DRILLING METHOD: 4.25' I.D. HSA, 3.00" I.D. SPIN CASING AND ROLLER BIT, 2.0" O.D. SPLIT SPOON, NQ-2 WIRELINE W/ WATER

SPOON SIZE	2" O.D.
CASING SIZE	3.00" I.D.
CASING DEPTH	54.0 FT.
HAMMER WEIGHT	140 LBS
HAMMER DROP	30"
CORE BIT SIZE	NQ-2

THE DESCRIPTION OF MATERIALS ENCOUNTERED HAVE BEEN VERIFIED.

ENGINEER/GEOLOGIST — 05/02/2019 DATE

LEGEND

COLUMN A - LOWER LIMIT OF SAMPLES OR CORE RUNS IN FEET
COLUMN B - SAMPLE OR CORE RUN IDENTIFICATION NUMBERS
COLUMN C - SAMPLE BLOWS PER .50 FT.
COLUMN D - RECOVERY IN FEET
COLUMN E - PERCENTAGE OF SOIL SAMPLE RECOVERY OR ROCK CORE RECOVERY/ROCK QUALITY DESIGNATION
COLUMN F - POCKET PENETROMETER TEST READING IN TSF
COLUMN G - USCS/AASHTO
COLUMN H - WATER CONTENT
COLUMN I - DESCRIPTION
COLUMN J - REMARKS
▼ - 0HR WATER READING
▼ - 24HR WATER READING

ABBREVIATIONS

d - DRY
m - MOIST
w - WET
BPCE - BOTTOM OF PILE CAP ELEVATION
EPTE - ESTIMATED PILE TIP ELEVATION
TOR - TOP OF ROCK ELEVATION
WOH - WEIGHT OF HAMMER

NOTE: ALL STATIONS, OFFSETS, AND ELEVATION ARE IN FEET.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

S.R. 0095 PREVIOUSLY KNOWN AS L.R. 1000

PREPARED BY
SUSQUEHANNA CIVIL INC.
50 GRUMBACHER ROAD
YORK, PA 17406

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JEREMIAH M. GREENLAND GEOLOGIST PG005117 PENNSYLVANIA

REG. PROF. ENGINEER/GEOLOGIST
DATE MAY 02, 2019

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
TEST BORINGS - 2

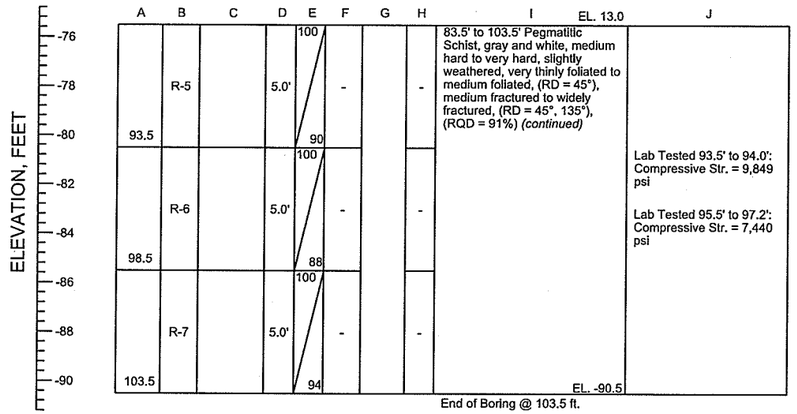
10-21-19
DATE

SHEET 36 OF 37

S-38480

$FILE$ $DATE$ $TIME$ $USER$

BORING NUMBER B12-22 (CONTINUED)
STATION 50+30 OFFSET 22' RT (RAMP B)



A	B	C	D	E	F	G	H	I (EL. 13.0)	J
93.5	R-5		5.0'	100 / 90	-		-	83.5' to 103.5' Pegmatitic Schist, gray and white, medium hard to very hard, slightly weathered, very thinly foliated to medium foliated, (RD = 45°), medium fractured to widely fractured, (RD = 45°, 135°), (RQD = 91%) *(continued)*	
98.5	R-6		5.0'	100 / 88	-		-		Lab Tested 93.5' to 94.0': Compressive Str. = 9,849 psi Lab Tested 95.5' to 97.2': Compressive Str. = 7,440 psi
103.5	R-7		5.0'	100 / 94	-		-	EL. -90.5	

End of Boring @ 103.5 ft.

GENERAL NOTES

B12-22: STARTED: 10/31/2017 COMPLETED: 11/02/2017
DRILLER: RICK MILLER/ ALLIED WELL DRILLING
RIG TYPE: DIEDRICH D50 TRACK RIG W/ AUTOMATIC HAMMER
INSPECTOR/CERT. NO: DEREK RIDINGER/324-13
DRILLING METHOD: 4.25' I.D. HSA, 3.00" I.D. SPIN CASING AND ROLLER BIT, 2.0" O.D. SPLIT SPOON, NQ-2 WIRELINE W/ WATER

SPOON SIZE	2" O.D.
CASING SIZE	3.00" I.D.
CASING DEPTH	54.0 FT.
HAMMER WEIGHT	140 LBS
HAMMER DROP	30"
CORE BIT SIZE	NQ-2

THE DESCRIPTION OF MATERIALS ENCOUNTERED HAVE BEEN VERIFIED.

ENGINEER/GEOLOGIST — 05/02/2019 DATE

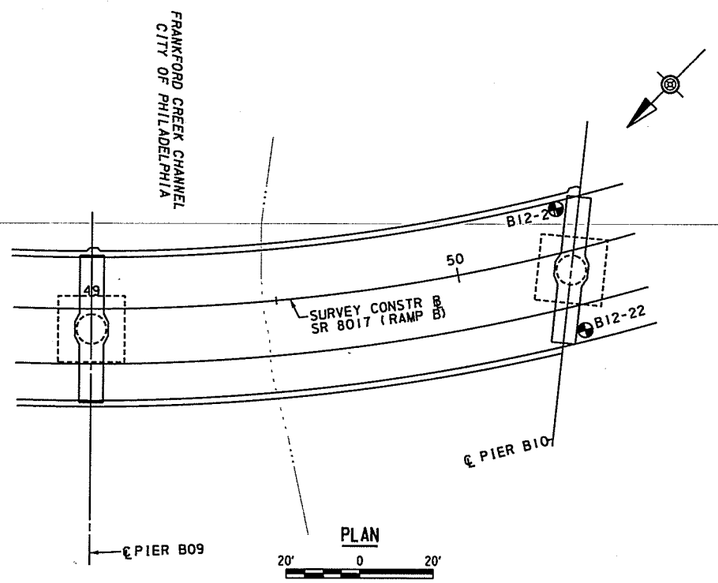
LEGEND

COLUMN A - LOWER LIMIT OF SAMPLES OR CORE RUNS IN FEET
COLUMN B - SAMPLE OR CORE RUN IDENTIFICATION NUMBERS
COLUMN C - SAMPLE BLOWS PER .50 FT.
COLUMN D - RECOVERY IN FEET
COLUMN E - PERCENTAGE OF SOIL SAMPLE RECOVERY OR ROCK CORE RECOVERY/ROCK QUALITY DESIGNATION
COLUMN F - POCKET PENETROMETER TEST READING IN TSF
COLUMN G - USCS/AASHTO
COLUMN H - WATER CONTENT
COLUMN I - DESCRIPTION
COLUMN J - REMARKS
▼ - 0HR WATER READING
▼ - 24HR WATER READING

ABBREVIATIONS

d - DRY
m - MOIST
w - WET
TOR - TOP OF ROCK ELEVATION

NOTE: ALL STATIONS, OFFSETS, AND ELEVATION ARE IN FEET.



AS-DRILLED BORING LOCATIONS

MARK	STATION	OFFSET
B12-21	50+30	12.0' LT
B12-22	50+30	22.0' RT

⊕ DENOTES AS-DRILLED BORING LOCATION

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408, SECTION 102.05 FOR FURTHER INFORMATION.

Mark	Description	By	Chk'd.	Recm'd	Date

REVISIONS

S.R. 0095 PREVIOUSLY KNOWN AS L.R. 1000

PREPARED BY
SUSQUEHANNA CIVIL INC.
50 GRUMBACHER ROAD
YORK, PA 17406

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JEREMIAH N. GREENLAND GEOLOGIST PG005177

REG. PROF. ENGINEER/GEOLOGIST
DATE MAY 02, 2019

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0760 OFFSET 1349
SR 8017 (RAMP B), STA 51+06.00
OVER CONRAIL
SINGLE SPAN CURVED STEEL GIRDER BRIDGE
TEST BORINGS - 3

10-21-19
DATE

SHEET 37 OF 37

S- 38480

#FILE# #DATE# #TIME# #USER#

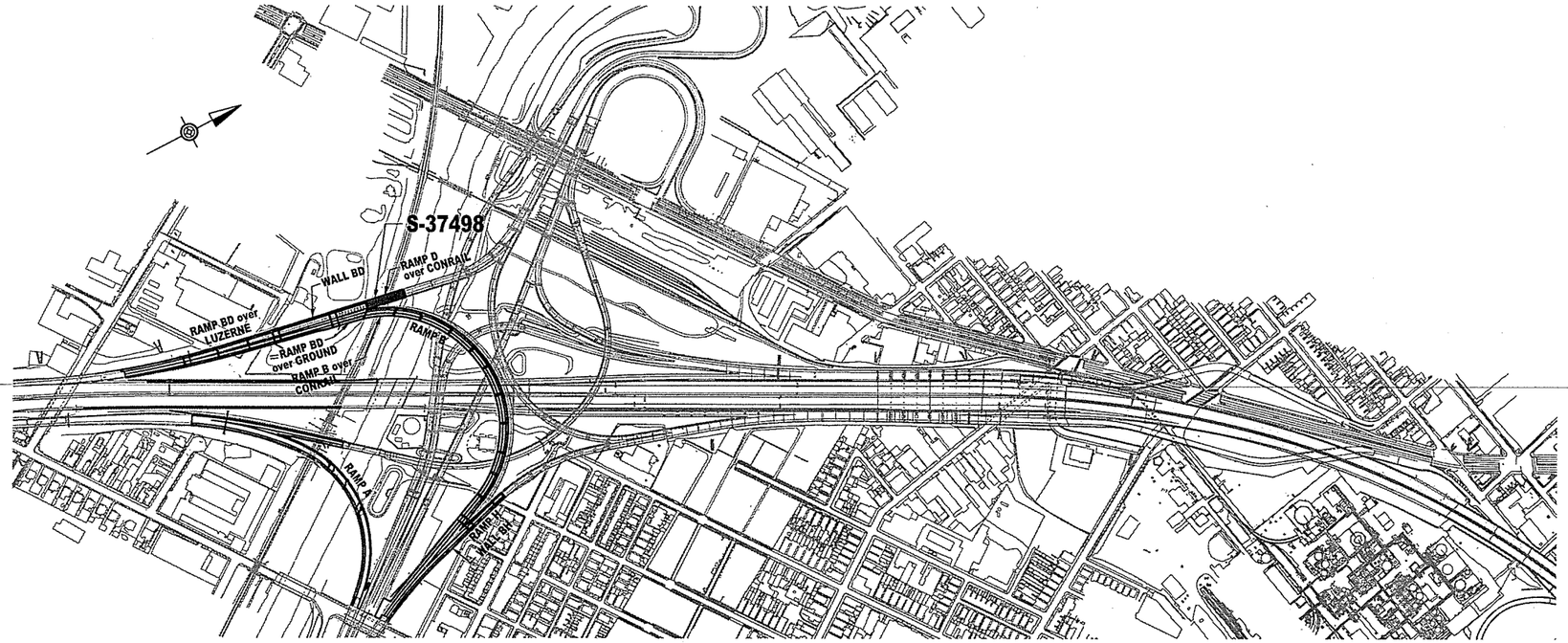
COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

DRAWINGS
FOR
BRIDGE CONSTRUCTION
OF

STATE ROUTE 8017 SECTION BR2

IN PHILADELPHIA COUNTY



PROJECT KEY MAP

NOTES

1. FOR SUMMARY OF BRIDGE LOAD RATINGS, SEE SHEET 5.
2. FOR INDEX OF DRAWINGS, SEE SHEET 3.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

DESIGNED: BRY | CHECKED: PHM | CADD: JLD | CHECKED: SEY

DESIGN REVIEWED BY

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ROBERT W. BONDI ENGINEER PE037832R

Michael Baker International
500 OFFICE CENTER DRIVE, SUITE 210
FORT WASHINGTON, PA 19034

Robert W. Bondi 10-18-2019

REVIEW CONSULTANT'S SIGNATURE DATE

THE DESIGN REVIEW IS FOR GENERAL CONFORMANCE WITH THE DEPARTMENT'S DESIGN AND CONSTRUCTION CRITERIA AND STANDARDS AND IS NOT INTENDED TO RELIEVE THE DESIGNER OF FULL RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS OF THE PLANS.

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132

PROFESSIONAL ENGINEER

DATE 10-18-19

PREPARED BY

STV

STV Incorporated
1818 MARKET STREET, SUITE 1410
PHILADELPHIA, PA 19103

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
TITLE SHEET

RECOMMENDED 10/21/2019

James J. Ruggi

CHIEF BRIDGE ENGINEER

SHEET 1 OF 26 + SUPPLEMENTAL DRAWINGS

S-37498

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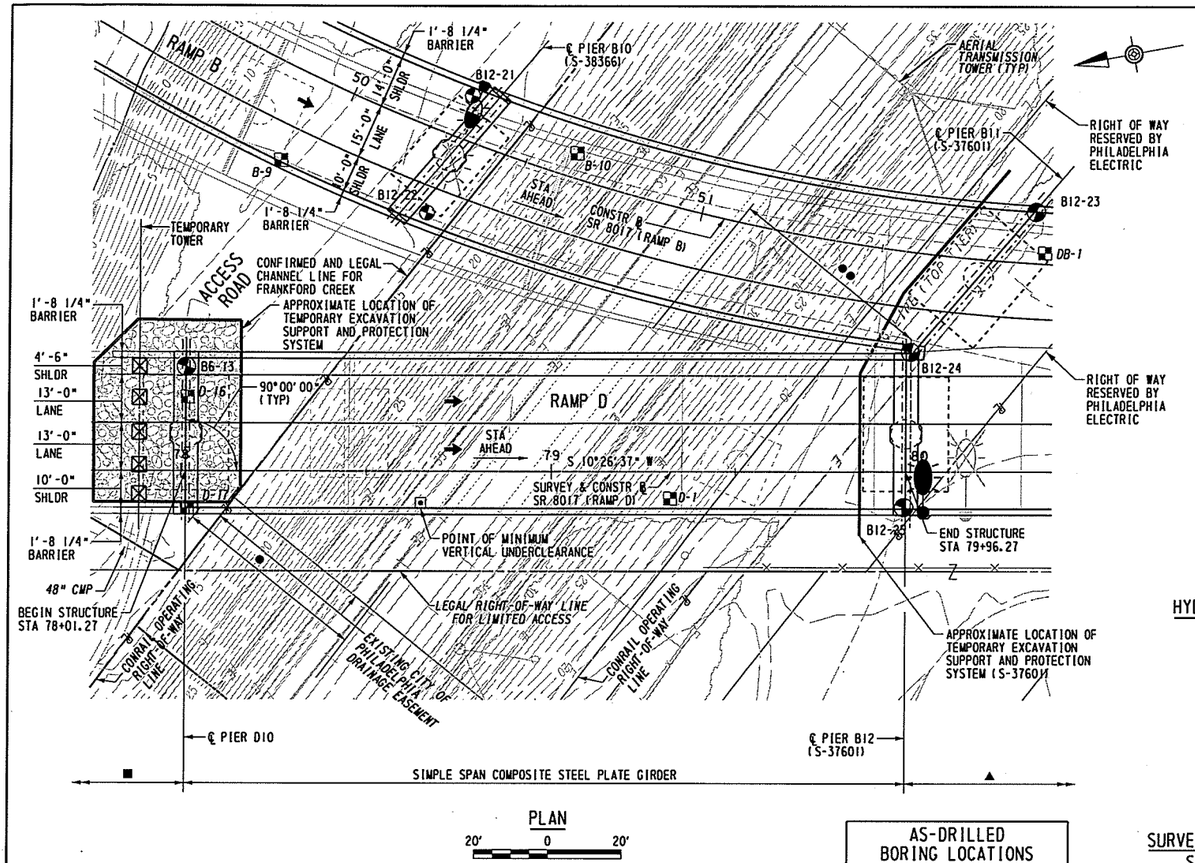
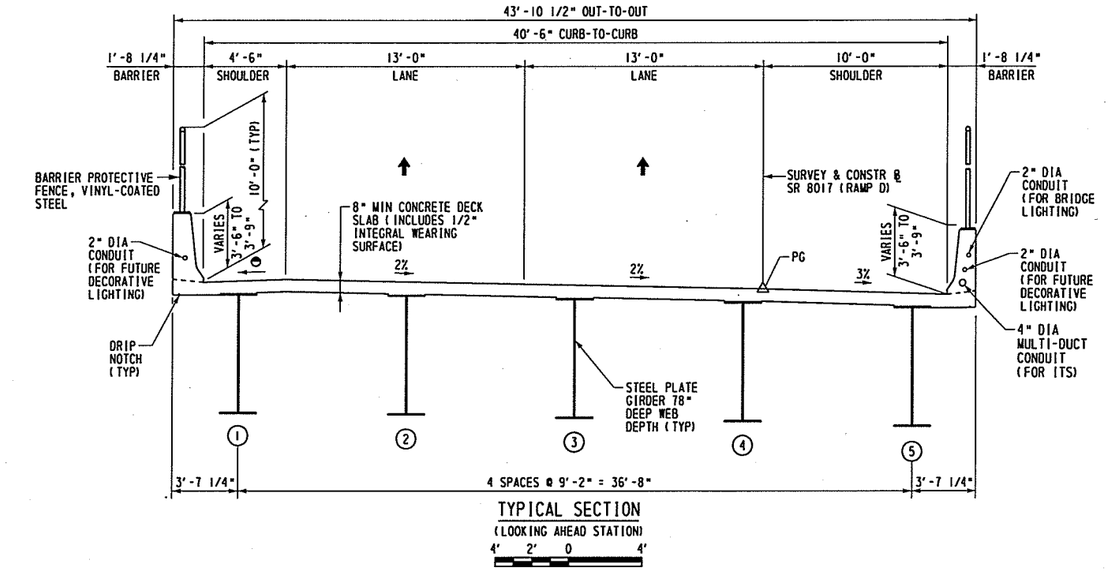


PLAN

20' 0 20'

AS-DRILLED BORING LOCATIONS		
BORING	STATION	OFFSET
B6-13	78+01	28.25' LT
D-16◒	78+01	20' LT



TYPICAL SECTION
(LOOKING AHEAD STATION)

4' 2' 0 4'

HYDROLOGIC AND HYDRAULIC DATA - FRANKFORD CREEK

DRAINAGE AREA= 36.8 SQUARE MILES

FRANKFORD CREEK		EXISTING	PROPOSED
50-YEAR (PENNDOT DESIGN FLOOD	DISCHARGE (CFS)	16,151	16,151
	WSEL (FT)	14.97	14.96
	VELOCITY (FT/S)	5.53	5.54
100-YEAR (DEP DESIGN FLOOD	DISCHARGE (CFS)	17,884	17,884
	WSEL (FT)	15.85	15.85
	VELOCITY (FT/S)	5.66	5.66
100-YEAR (FEMA DESIGN FLOOD	DISCHARGE (CFS)	17,500	17,500
	WSEL (FT)	15.54	15.53
	VELOCITY (FT/S)	5.70	5.70

SURVEY & CONSTRUCTION ℄ SR 8017 (RAMP D) VERTICAL CURVE DATA

+3.48% △ -0.61%

PVI STA 76+85.00
ELEV 70.69
VC 369.00'
MO -1.88'
SSD 449'

-0.61% △ -3.97%

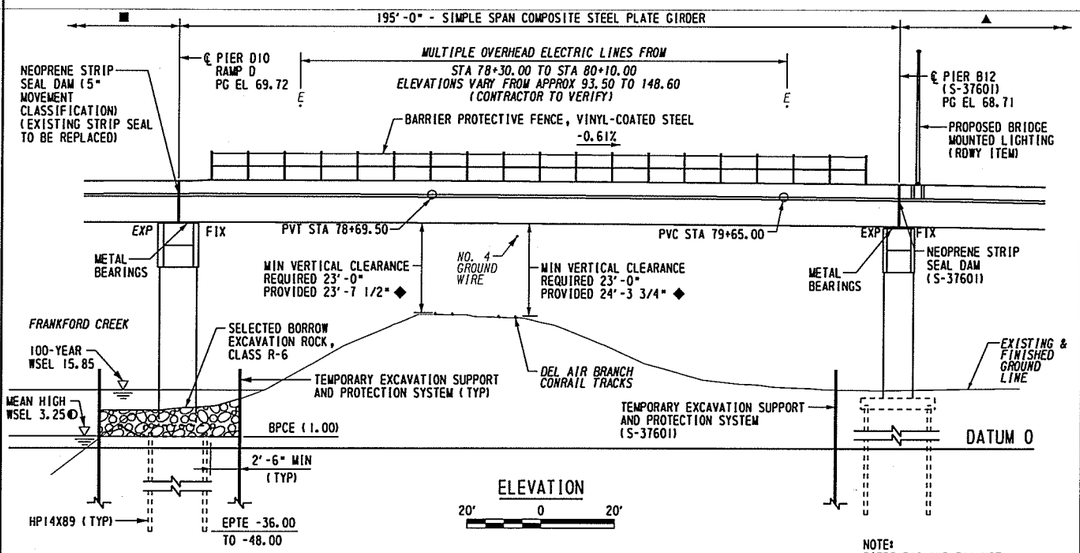
PVI STA 80+50.00
ELEV 68.48
VC 170.00'
MO -0.72'
SSD 406'

SURVEY & CONSTRUCTION ℄ SR 8017 (RAMP D) HORIZONTAL CURVE DATA

TANGENT
S 10°26'37" W

LEGEND

- 20 — EXISTING CONTOURS
- AS-DRILLED BORING LOCATION
- EXISTING BORING LOCATION
- DIRECTION OF TRAFFIC
- ℄ PROPERTY LINE
- EXISTING FENCE
- RIGHT-OF-WAY FENCE
- E EXISTING AERIAL TRANSMISSION
- FRANKFORD CREEK EXPERIENCES TIDAL FLOWS IN THIS AREA
- POINT OF MINIMUM VERTICAL UNDERCLEARANCE
- SELECTED BORROW EXCAVATION ROCK, CLASS R-6
- TEMPORARY TOWER
- EXISTING BARRIER MOUNTED LIGHTING TO BE REMOVED
- PROPOSED BARRIER MOUNTED LIGHTING (400 W)
- ■ SR 8017 (RAMP D) OVER CONRAIL, ARAMINGO AVE, RAMP JJ, & FRANKFORD CREEK (S-32058)
- ▲ SR 8017 (RAMP BD S-37601) OVER GROUND
- ●● 48'-3" MIN LATERAL CLR 12'-6" MIN REQUIRED
- ● 49'-10" MIN LATERAL CLR 12'-6" MIN REQUIRED
- ◆ MEASURED 6'-0" FROM ℄ OF TRACKS
- ◓ FOR SUPERELEVATION TABLE, SEE SHEET 24.
- ◒ FOR BORING LOGS, REFER TO EXISTING PLANS S-19095



ELEVATION

20' 0 20'

NOTE:
PIERS B10 AND B11 NOT SHOWN FOR CLARITY.

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR INDEX OF DRAWINGS, SEE SHEET 3.
3. FOR LOAD RATINGS, SEE SHEET 5.
4. FOR SUMMARY OF QUANTITIES, SEE SHEET 6.
5. FOR STAKE-OUT PLAN, SEE SHEET 7.
6. FOR SLAB ELEVATIONS, SEE SHEETS 24 AND 25.

SUPPLEMENTAL DRAWINGS		
DESCRIPTION	DWG. NO.	APP. DATE
PROTECTIVE FENCE	BC-701M	1/31/2019
ELECTRICAL DETAILS	BC-721M	9/30/2016
PERMANENT METAL DECK FORMS	BC-732M	1/31/2019
ANCHOR SYSTEMS	BC-734M	1/31/2019
WALL CONSTR. & EXP. JOINT DETAILS	BC-735M	9/30/2016
REINFORCEMENT BAR FABRICATION DETAILS	BC-736M	1/31/2019
CONCRETE DECK SLAB DETAILS	BC-752M	9/30/2016
STEEL GIRDER DETAILS	BC-753M	1/31/2019
STEEL DIAPHRAGMS FOR STEEL BEAM/GIRDER STRUCTURES (STRAIGHT GIRDERS ONLY)	BC-754M	1/31/2019
BEARINGS	BC-755M	1/31/2019
STEEL PILE TIP REINFORCEMENTS & SPLICES	BC-757M	9/30/2016
NEOPRENE STRIP SEAL DAM FOR PRESTRESSED CONCRETE & STEEL I-BEAM BRIDGES	BC-767M	1/31/2019
TYPICAL WATERPROOFING AND EXPANSION DETAILS	BC-788M	1/31/2019
CLASSIFICATION OF EARTHWORK FOR STRUCTURES	RC-11M	6/1/2010

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
GENERAL PLAN & ELEVATION

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 075132 PENNSYLVANIA

STV

RECOMMENDED 10/21/2019

SHEET 2 OF 26

S-37498

DESIGNED: PHM | CHECKED: DDK | CADD: JLD | CHECKED: SEY

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GENERAL NOTES

GENERAL

1. PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH SPECIFICATIONS, PUBLICATION 408/2016, AASHTO/AWS D1.5M/D1.5, 2008 BRIDGE WELDING CODE (USE AASHTO/AWS D1.1/D1.1M, 2008 FOR WELDING NOT COVERED IN AASHTO/AWS D1.5M/D1.5, 2008), AND CONTRACT SPECIAL PROVISIONS.
2. PROVIDE STRUCTURAL STEEL CONFORMING TO AASHTO M270/M270M (ASTM A709/A709M) GRADE 50 DESIGNATION, EXCEPT WHEN OTHERWISE NOTED.
3. PROVIDE 2 INCHES CONCRETE COVER ON REINFORCEMENT BARS, EXCEPT AS NOTED.
4. USE CLASS AAAP CEMENT CONCRETE IN DECK SLABS.
5. USE CLASS AA CEMENT CONCRETE IN BARRIERS.
6. USE CLASS A CEMENT CONCRETE IN PIERS, PEDESTALS, AND FOOTINGS.
7. A HIGHER CLASS CONCRETE MAY BE SUBSTITUTED FOR A LOWER CLASS CONCRETE AT NO ADDITIONAL COST TO THE DEPARTMENT, IF APPROVED BY THE DISTRICT BRIDGE ENGINEER.
8. PROVIDE GRADE 60 REINFORCING STEEL BARS (UNLESS NOTED OTHERWISE) THAT MEET THE REQUIREMENTS OF ASTM A615/A615M, A996/A996M, OR A706/A706M. DO NOT WELD GRADE 60 REINFORCING STEEL BARS UNLESS SPECIFIED. GRADE 40 REINFORCING STEEL BARS MAY BE SUBSTITUTED WITH A PROPORTIONAL INCREASE IN CROSS-SECTIONAL AREA, IF APPROVED BY THE CHIEF BRIDGE ENGINEER. DO NOT USE RAIL STEEL A996/A996M REINFORCEMENT BARS IN BRIDGE PIERS, FOOTINGS, PILES, BARRIERS, OR WHERE BENDING OR WELDING OF THE REINFORCEMENT BARS IS INDICATED.
9. USE EPOXY-COATED REINFORCEMENT BARS IN ALL CAST-IN-PLACE CONCRETE (UNLESS NOTED OTHERWISE).
10. GALVANIZED STEEL REINFORCING BARS MAY BE SUBSTITUTED FOR EPOXY COATED REINFORCING BARS AT NO ADDITIONAL COST TO THE DEPARTMENT.
11. PROVIDE GRADE 100 UNCOATED, CORROSION-RESISTANT REINFORCING STEEL BARS FOR VERTICAL STEEL IN PIER COLUMN THAT MEET THE REQUIREMENTS OF AASHTO M 334, TYPE CS AND SECTION 709.1(g). SAMPLE EACH SIZE AND LOT OF REINFORCEMENT BARS IN ACCORDANCE WITH PUB 408, SECTION 1002.2. DO NOT WELD GRADE 100 REINFORCING STEEL BARS UNLESS SPECIFIED. SUBSTITUTION OF OTHER GRADE OR SPECIFIED STEEL TYPE WILL NOT BE PERMITTED.
12. RAKE-FINISH ALL HORIZONTAL CONSTRUCTION JOINTS, EXCEPT AS INDICATED.
13. SITE CLASS IS NOT CLASS E OR F.
14. VERIFY ALL DIMENSIONS AND GEOMETRY OF THE EXISTING STRUCTURE IN THE FIELD AS NECESSARY FOR PROPER FIT OF THE PROPOSED CONSTRUCTION.
15. CONSTRUCT DECK SLAB TRANSVERSE CONSTRUCTION JOINT PARALLEL TO BRIDGE CENTERLINE OF BEARINGS.
16. CHAMFER EXPOSED CONCRETE EDGES 1 IN X 1 IN, EXCEPT AS NOTED.
17. PLACE CURTAIN WALLS AFTER GIRDERS ARE SET IN POSITION.
18. ALL DIMENSIONS SHOWN ARE HORIZONTAL, EXCEPT AS NOTED.
19. USE EITHER PERMANENT METAL FORMS OR REMOVABLE FORMS TO CONSTRUCT THE DECK SLAB.
20. DECK SLAB THICKNESS INCLUDES A 1/2" INTEGRAL WEARING SURFACE.
21. SUPERSTRUCTURE DIMENSIONS SHOWN ARE FOR A NORMAL TEMPERATURE OF 68°.
22. PROVIDE MINIMUM EMBEDMENT AND SPLICE LENGTHS IN ACCORDANCE WITH STANDARD DRAWING BC-736M, UNLESS OTHERWISE INDICATED.
23. SHOW ANY MODIFICATIONS TO REINFORCEMENT SPLICE AND BENDING DETAILS ON SHOP DRAWINGS.
24. PREPARE BEARING AREAS AS SPECIFIED IN PUBLICATION 408/2016, SECTION 1001.3(k)9.
25. BRIDGE IS NOT WEIGHT RESTRICTED. SEE PUBLICATION 408/2016 SECTION 105.17 FOR CONSTRUCTION LOADING LIMITS.
26. ADJUST TOP OF PEDESTAL AND BEAM SEAT ELEVATIONS IF ACTUAL BEARING HEIGHTS DEVIATE FROM BEARING HEIGHTS SHOWN ON THE PLANS.
27. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SAFE ERECTION OF ALL STRUCTURES. PROVIDE ALL NECESSARY BRACING AND SUPPORTS. CONSTRUCTION ACTIVITY WILL NOT BE ALLOWED OUTSIDE THE RIGHT-OF-WAY.
28. REMOVE PORTIONS OF THE EXISTING STRUCTURE ONLY AS CALLED FOR BY AN APPROVED DEMOLITION PLAN, OR AS PERMITTED BY THE INSPECTOR IN CHARGE. REPLACE IN KIND ANY PORTIONS REMOVED TO PERMIT ACCESS FOR REPAIRS. CONSIDER THIS REPLACEMENT INCIDENTAL TO THE ASSOCIATED WORK ITEMS, UNLESS SPECIFIED OTHERWISE.
29. REPAIR ANY AREAS DAMAGED BEYOND THE REMOVAL LIMITS AT NO EXPENSE TO THE DEPARTMENT.
30. ALL EXISTING CONCRETE REMOVED FROM THE STRUCTURE WILL BE DISPOSED OF, OFF SITE, TO THE SATISFACTION OF THE ENGINEER.
31. PROVIDE 2" INSTALLATION OPENING AT 68°F FOR CONTINUOUS NEOPRENE STRIP SEAL DAM AT PIER D10.

NOMINAL DEPTH y (in)	MAXIMUM PERMISSIBLE HORIZONTAL LOAD h (kip/ft)
36	1.250
56	0.750
76	0.540

MAXIMUM PERMISSIBLE JACK SPACING 4'

THE FASCIA GIRDERS ARE DESIGNED FOR A TEMPORARY CONSTRUCTION LOAD APPLIED TO THE WEB AT A MAXIMUM 4 FT. INTERVAL. THIS LOAD (SEE TABLE) APPROXIMATES THE HORIZONTAL COMPONENT OF A DECK OVERHANG FORM SUPPORT BRACKET AND CONSISTS OF AN ALLOWANCE FOR THE WEIGHT OF THE CONCRETE, FORMS, AND INCIDENTAL LOADS, PLUS THE DECK FINISHING MACHINE. WHERE A TRANSVERSE STIFFENER SPACING LESS THAN THAT REQUIRED FOR THE FINAL DESIGN SHEAR, IS INDICATED FOR CONSTRUCTIBILITY, THE SPACING FOR THE FINAL DESIGN SHEAR MAY BE USED IF THE OVERHANG FORMS ARE SUPPORTED FROM THE BOTTOM FLANGE OF THE FASCIA GIRDER, OR IF THE GIRDER WEB IS ADEQUATELY BRACED TO PREVENT BUCKLING DUE TO LOADS FORM WEB-BEARING FORM SUPPORT BRACKETS. THE CONTRACTOR HAS THE OPTION TO MODIFY THE OVERHANG BRACKET FROM THAT DESCRIBED HEREIN PROVIDED WORKING DRAWINGS INCLUDING CALCULATIONS, SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA, ARE SUBMITTED FOR REVIEW AND ACCEPTANCE AND SHOW THE MODIFICATIONS DO NOT CAUSE UNACCEPTABLE DEFORMATIONS OR STRESSES IN THE BRIDGE AND IT IS UNDERSTOOD THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE SATISFACTORY COMPLETION OF THE BRIDGE.

DESIGN SPECIFICATIONS

1. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SEVENTH EDITION, 2014, AND AS SUPPLEMENTED BY DESIGN MANUAL, PART 4, APRIL 2015 EDITION.
2. LIVE LOAD DISTRIBUTION TO GIRDERS IS BASED UPON DM-4 DISTRIBUTION FACTORS.
3. DESIGN IS IN ACCORDANCE WITH THE LRFD METHOD.

DESIGN LIVE LOADS

1. PHL-93 OR P-82 (204 KIP PERMIT LOAD).
2. STEEL STRUCTURES FATIGUE DESIGN IS BASED ON THE FOLLOWING:
   ADTT: 1168 (2050)

DEAD LOADS

1. INCLUDES SURFACE AREA DENSITY OF 0.03 KSF FOR FUTURE WEARING SURFACE ON DECK SLAB.
2. INCLUDES A SURFACE AREA DENSITY OF 0.015 KSF FOR PERMANENT METAL DECK FORMS WHICH TAKES INTO ACCOUNT THE WEIGHT OF FORM, PLUS THE WEIGHT OF THE CONCRETE IN THE VALLEYS OF THE FORMS.
3. INCLUDES 0.024 k/ft FOR PROTECTIVE FENCE.

PROTECTIVE COATING

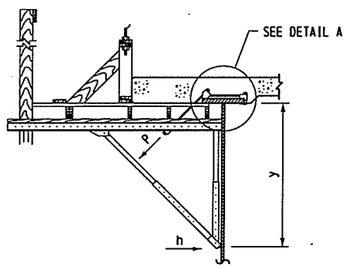
1. APPLY PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, REINFORCED CONCRETE SUBSTRUCTURE SURFACES) TO THE TOP OF ALL SUBSTRUCTURES AND PEDESTALS (EXCLUDING BEARING SURFACE). SEE COATING LIMIT SKETCHES, SEE SHEET 4.
2. APPLY PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE) TO THE INSIDE FACE AND TOP SURFACE OF BOTH BARRIERS. ONLY APPLY PROTECTIVE COATING IF CONCRETE IS POURED BETWEEN SEPTEMBER 1 AND MARCH 1 PER PUB 408/2016, SECTION 1001.3(k)6. SEE COATING LIMIT SKETCHES, SHEET 4.
3. APPLY ACRYLIC PAINT TO ALL EXPOSED SURFACES OF SUBSTRUCTURE (EXCLUDING THE TOP) AND TO 1 FOOT BELOW THE FINISHED GROUND LINE FOR PROPOSED SUBSTRUCTURES. ALSO APPLY TO THE OUTSIDE FACE OF THE BARRIER, THE OUTSIDE FACE OF THE DECK SLAB, AND THE UNDERSIDE OF THE DECK SLAB TO THE TOP FLANGE. SEE COATING LIMIT SKETCHES, SHEET 4.
4. FOR ADDITIONAL INFORMATION REGARDING THE PROTECTIVE COATING AND ARCHITECTURAL SURFACE TREATMENT, SEE THE SR 0095 SECTION BR2 GUIDE TO ARCHITECTURAL SURFACE TREATMENTS.

UTILITY NOTES

1. COORDINATE, LOCATE, AND CONDUCT ALL WORK RELATED TO PUBLIC AND PRIVATE UTILITIES IN ACCORDANCE WITH PUBLICATION 408/2016, SECTIONS 105.06 AND 107.12.

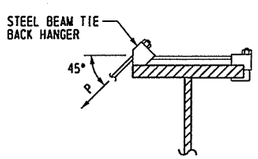
EXISTING STRUCTURE PLANS

1. DO NOT CONSIDER ANY OF THE DATA ON THE EXISTING STRUCTURE SUPPLIED IN THE ORIGINAL DESIGN DRAWINGS OR MADE AVAILABLE TO YOU BY THE DEPARTMENT OR ITS AUTHORIZED AGENTS AS POSITIVE REPRESENTATIONS OF ANY OF THE CONDITIONS THAT YOU WILL ENCOUNTER IN THE FIELD.
2. THE INFORMATION SHOWN ON THE PLANS FOR THE EXISTING STRUCTURE IS NOT PART OF THE PLANS, PROPOSAL, OR CONTRACT AND IS NOT TO BE CONSIDERED A BASIS FOR COMPUTATION OF THE UNIT PRICES USED FOR BIDDING PURPOSES. THERE IS NO EXPRESSED OR IMPLIED AGREEMENT THAT INFORMATION IS CORRECTLY SHOWN. THE BIDDER IS NOT TO RELY ON THIS INFORMATION, BUT IS TO ASSUME THE POSSIBILITY THAT CONDITIONS AFFECTING THE COST AND/OR QUANTITIES OF WORK TO BE PERFORMED MAY DIFFER FROM THOSE INDICATED.
3. ORIGINAL DESIGN DRAWINGS:
   S-10295 (NOVEMBER 1971)
   S-19095 (AUGUST 1997)
   S-32058 (AUGUST 2014)
4. THE EXISTING BRIDGE STRUCTURAL MEMBERS CONTAIN LEAD PAINT AND CHROMIUM BASED ON LABORATORY TESTING. NO KNOWN ASBESTOS CONTAINING MATERIAL ARE PRESENT ON THE SITE.



TYPICAL OVERHANG FORMING DETAIL

NOT TO SCALE



DETAIL A

NOT TO SCALE

STRUCTURAL STEEL

1. IF GIRDERS CANNOT BE SHIPPED IN THE LENGTHS SHOWN ON THE PLANS, FIELD SPLICE(S) WILL BE PERMITTED AT THE REQUEST OF THE CONTRACTOR, BUT NO COMPENSATION WILL BE ALLOWED FOR THE SPLICES.
2. IF GIRDERS CAN BE FABRICATED IN LENGTHS LONGER THAN THE SECTIONS SHOWN ON THE PLANS BY ELIMINATING FIELD SPLICES, FIELD SPLICE(S) MAY BE OMITTED AT THE REQUEST OF THE CONTRACTOR. THE CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR SECURING A HAULING PERMIT. APPROVAL FOR ELIMINATION OF A FIELD SPLICE AT THE SHOP DRAWING STAGE DOES NOT OBLIGATE THE DEPARTMENT TO ISSUE A HAULING PERMIT.
3. DO NOT USE FORM SUPPORT SYSTEMS THAT WILL CAUSE UNACCEPTABLE OVERSTRESS OR DEFORMATION TO PERMANENT BRIDGE MEMBERS.
4. ALL FASTENERS ARE 7/8-INCH DIAMETER ASTM F3125, GRADE A325 HIGH STRENGTH BOLTS, EXCEPT AS NOTED. OVER SIZED HOLES ARE NOT PERMITTED. PROVIDE SUFFICIENT LENGTH TO NOT ALLOW ANY THREADS TO EXIST IN THE PLANE BETWEEN THE TWO CONNECTED PARTS (SHEAR PLANE).
5. REAM SUBDRILLED OR SUBPUNCHED HOLES FOR FIELD SPLICES IN THE FABRICATION SHOP.
6. DO NOT MAKE WELDS BY MANUAL SHIELDED METAL ARC PROCESS FOR PRIMARY GIRDER WELDS, SUCH AS FLANGE-TO-WEB WELDS OR FOR SHOP SPLICES OF WEBS AND FLANGES.
7. WELDING OF REINFORCEMENT BARS DURING THE FABRICATION OR CONSTRUCTION IS NOT PERMITTED UNLESS SPECIFIED.
8. PROVIDE WELDED STUD SHEAR CONNECTORS MANUFACTURED FROM STEEL CONFORMING TO ASTM A108.
9. SET ANCHOR BOLTS TO TEMPLATE OR IN PREFORMED HOLES. DO NOT DRILL UNLESS SPECIFICALLY INDICATED ON PLANS. FILL THE PREFORMED HOLES WITH NON-SHRINK GROUT. FILL THE CLEARANCE BETWEEN ANCHOR BOLTS AND HOLES IN MASONRY PLATES WITH APPROVED NON-HARDENING CAULKING COMPOUND CONFORMING TO PUBLICATION 408/2016, SECTION 705.8.
10. PAINT STRUCTURAL STEEL IN ACCORDANCE WITH PUBLICATION 408/2016, SECTION 1060. SEE SPECIAL PROVISIONS FOR PAINT COLOR.
11. STABILITY OF PARTIAL GIRDERS AND COMPLETE GIRDERS IS TO BE MAINTAINED BY THE CONTRACTOR DURING ERECTION, UNTIL ALL GIRDERS AND DIAPHRAGMS ARE IN-PLACE AND ALL BOLTS ARE PROPERLY INSTALLED. ERECTION LOADS INCLUDING SELF WEIGHT OF THE STEEL MEMBERS, WIND LOADING AND CONSTRUCTION LIVE LOAD EFFECTS ARE TO BE EVALUATED BY THE CONTRACTOR FOR STABILITY, STRESSES AND DEFLECTIONS ON THE STEEL MEMBERS DURING ANY STAGE OF ERECTION.
12. BLAST CLEAN THE FAYING SURFACES OF SPLICES AND CONNECTIONS OF ALL STRUCTURAL ELEMENTS IN ACCORDANCE WITH PUBLICATION 408/2016 SECTION 1060.3(b)3. REBLAST UNPAINTED ELEMENTS THAT REMAIN UNASSEMBLED FOR A PERIOD OF 12 MONTHS OR MORE FOLLOWING THE INITIAL CLEANING.
13. ALL STEEL IN MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS REQUIRE CHARPY V-NOTCH TESTING. THE STEEL REQUIRING THIS TESTING IS DESIGNATED ON THE PLANS BY "(CVN)". PERFORM CHARPY V-NOTCH TEST AS SPECIFIED IN PUBLICATION 408/2016, SECTION 1105.02(a)5.
14. THE STEEL SUPERSTRUCTURE SHALL BE DETAILED AND FABRICATED FOR TOTAL DEAD LOAD FIT (TDLF). GIRDER WEBS SHALL BE PLUMB UNDER THE FULL DEAD LOAD EXISTING AT THE END OF CONSTRUCTION.

WELDING NOTES

1. WELDING SPECIFICATIONS: AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE (2008) CONSISTENT WITH PUB 408 1105.03(a) AND THE CONTRACT SPECIAL PROVISIONS. DO NOT FIELD-WELD ON ANY PART OF THE EXISTING BRIDGE WITHOUT PRIOR APPROVAL OF THE ENGINEER.
2. MAKE TACK WELDS WITH THE SAME TYPE OF ELECTRODE AND INCORPORATE IN THE FINAL WELD. NO OTHER TACK WELDING WILL BE PERMITTED.
3. DO NOT WELD WHEN SURFACES TO BE WELDED ARE MOIST OR EXPOSED TO RAIN, SNOW, OR WIND, OR WHEN WELDERS ARE EXPOSED TO INCLEMENT CONDITIONS THAT WILL ADVERSLY AFFECT THE QUALITY OF THE WORK.
4. DO NOT WELD OR BURN WHEN THE TEMPERATURE IS BELOW 0°F. PREHEAT AND MAINTAIN THE TEMPERATURE OF THE METAL TO AT LEAST 70°F WHEN THE TEMPERATURE OF THE METAL IS BETWEEN 0°F AND 32°F DURING WELDING OR BURNING
5. PREHEAT THE STEEL TO THE SPECIFIED MINIMUM TEMPERATURE FOR A DISTANCE EQUAL TO THE THICKNESS OF THE PART BEING WELDED, BUT NOT LESS THAN 3 IN. IN ALL DIRECTIONS FROM THE POINT OF WELDING.
6. REMOVE BY APPLICATION OF HEAT ANY MOISTURE PRESENT AT POINT OF WELD. PROVIDE WINDBREAKS FOR PROTECTION FROM DIRECT WIND.
7. PRIOR TO PLACING THE WELD, THOROUGHLY CLEAN ALL PORTIONS OF NEW AND EXISTING SURFACES TO RECEIVE WELDS OF ALL FOREIGN MATTER, INCLUDING PAINT FILM, FOR A DISTANCE OF 2 IN. FROM EACH SIDE OF THE OUTSIDE LINES OF THE WELD.
8. TEST COMPLETED WELDS USING VISUAL AND NONDESTRUCTIVE METHODS IN ACCORDANCE WITH AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE CHAPTER 6.

LIST OF ABBREVIATIONS

ADTT - AVERAGE DAILY TRUCK TRAFFIC
AHD - AHEAD
ALT - ALTERNATE
APPROX - APPROXIMATE
℄ - BASELINE
BOT - BOTTOM
BPCE - BOTTOM OF PILE CAP ELEVATION
BRG - BEARING
CCNS - CLOSED CELL NEOPRENE SPONGE
CFS - CUBIC FEET PER SECOND
CGS - CENTER OF GRAVITY OF STEEL
℄ - CENTERLINE
CLR - CLEARANCE
COL - COLUMN
CONSTR - CONSTRUCTION
CVN - CHARPY V-NOTCH
DIA - DIAMETER
DIST - DISTANCE
DISTR - DISTRIBUTION
DL - DEAD LOAD
DWG - DRAWING
EA - EACH
EF - EACH FACE
ELEV - ELEVATION
EPTE - ESTIMATED PILE TIP ELEVATION
EMBED - EMBEDMENT
EQ - EQUAL
ES - EQUAL SPACES
EXP - EXPANSION
E - EXTERNAL DISTANCE
FF - FRONT FACE
FT - FEET
HORIZ - HORIZONTAL
ID - INSIDE DIAMETER
IN - INCHES
INV - INVERT
JT - JOINT
KIP OR K - KILOPOUNDS
KSF - KIPS PER SQUARE FOOT
KSI - KIPS PER SQUARE INCH
L - LENGTH
LL+I - LIVE LOAD PLUS IMPACT
LONG - LONGITUDINAL
LRFD - LOAD AND RESISTANCE FACTOR DESIGN
LT - LEFT
MAX - MAXIMUM
MIN - MINIMUM
MO - MIDDLE ORDINATE
NB - NORTHBOUND
NO - NUMBER
OD - OUTSIDE DIAMETER
PCP - PREFORMED CELLULAR POLYSTYRENE
PG - PROFILE GRADE
PL - PLATE
PSF - POUNDS PER SQUARE FOOT
PSI - POUNDS PER SQUARE INCH
PTFE - POLYTETRAFLUOROETHYLENE
PVI - POINT OF VERTICAL INTERSECTION
R - RADIUS
RCP - REINFORCED CONCRETE PIPE
RDWY - ROADWAY
REINF - REINFORCEMENT
REQ'D - REQUIRED
RF - REAR FACE
RT - RIGHT
SB - SOUTHBOUND
SERV - SERVICE LIMIT STATE
SHLDR - SHOULDER
SPA - SPACES OR SPACING
SQ - SQUARE
SSD - STOPPING SIGHT DISTANCE
STA - STATION
STD - STANDARD
STR - STRENGTH LIMIT STATE
T - TANGENT
TRANS - TRANSVERSE
TYP - TYPICAL
UNO - UNLESS NOTED OTHERWISE
VERT - VERTICAL
VC - VERTICAL CURVE
W/ - WITH
WP - WORK POINT
WSEL - WATER SURFACE ELEVATION
YR - YEAR

ECMTS NOTE

CONSTRUCT ALL WORK ITEMS IN ACCORDANCE WITH THE REQUIREMENTS LISTED IN THE PROJECT ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMTS) FORM. SUBMIT ALL REVISIONS FOR APPROVAL TO THE DESIGN ENGINEER AND THE DISTRICT ENVIRONMENTAL MANAGER FOR ECMTS COMPLIANCE.

INDEX OF SHEETS

Mark	Description	By	Chk'd	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
GENERAL NOTES - 1

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 075132 PENNSYLVANIA

STV

RECOMMENDED 10/21/2019

SHEET 3 OF 26

S-37498

DESIGNED: PHM | CHECKED: DDK | CADD: JAS | CHECKED: TJ

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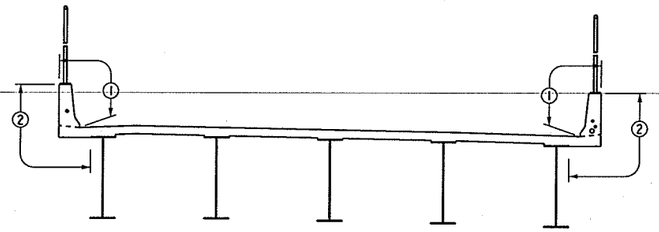
TEST PILE - AS BUILT INFORMATION						
SUBSTRUCTURE UNIT	PILE TYPE	PILE TIP (NONE/NORMAL/ HEAVY DUTY)	PILE TIP ELEVATION	FACTORED DESIGN LOAD (KIP)	ULTIMATE PILE CAPACITY AT END OF DRIVING (KIP)	WEAP OR PDA
PIER D10 NORTH	HP 14x89	HEAVY DUTY				
PIER D10 SOUTH	HP 14x89	HEAVY DUTY				

FOUNDATION DESIGN PARAMETERS									
SUBSTRUCTURE	APPLICABLE BORINGS	FOUNDATION TYPE	BEARING STRATUM	ROCK RECOVERY	RQD OR SPT N-VALUE	BOTTOM OF PILE CAP ELEVATION (BPCE) (FEET)	ESTIMATED PILE TIP ELEVATION (EPTE) (FEET)	FACTORED RESISTANCE PER PILE STRENGTH/SERVICE	
								DESIGN FACTORED AXIAL RESISTANCE (KIPS)	DESIGN FACTORED LATERAL RESISTANCE (KIPS)
PIER D10	*B6-13 & D-16*	VERTICAL HP14X89 END BEARINGS PILES DRIVEN TO ABSOLUTE REFUSAL ON BEDROCK OR WEATHERED BEDROCK	AMPHIBOLITE/SCHIST	85%	39%	1.0	-36.0 TO -48.0	321.0 / 321.0	15.3 / 10.4

GENERAL NOTES

FOUNDATION AND PILE NOTES

1. PROVIDE HEAVY DUTY TIP REINFORCEMENT ACCORDING TO AASHTO M103 (ASTM A27), GRADE 65-35 OR ASTM A148, GRADE 60 OR 90, AND FABRICATED TIP REINFORCEMENT ACCORDING TO AASHTO M270 (ASTM A709), GRADE 50.
2. PROVIDE TWO TEST PILES AT OPPOSITE ENDS OF THE SUBSTRUCTURE. PROVIDE DYNAMIC PILE LOAD TESTING PER ITEM 9005-0005 FOR ALL TEST PILES.
3. DRIVE ALL PILES TO ABSOLUTE REFUSAL IN ACCORDANCE WITH PUB 408, SECTION 1005.3(B)4 CASE 2. CONTROL PILE DRIVING IN ACCORDANCE WITH DM-4 PP 1.7.5(A) METHOD A. THE REPRESENTATIVE SHALL DETERMINE THE ACCEPTABILITY OF PILES WHICH ATTAIN REFUSAL ABOVE THE ESTIMATED PILE TIP ELEVATION.
4. EXTRACT EXISTING PILES WHICH INTERFERE WITH THE DRIVING OF THE PROPOSED PILES. ADJUSTMENT OF PILE POSITION WITHOUT A REDESIGN IS PERMITTED UP TO 12 INCHES TO AVOID INTERFERENCE WITH EXISTING PILES. SUBMIT CHANGES TO THE REPRESENTATIVE FOR APPROVAL PRIOR TO DRIVING.
5. PROVIDE ADEQUATE DEWATERING METHODS DURING EXCAVATION AND FOUNDATION CONSTRUCTION SUCH THAT THE EXCAVATION IS DRY ENOUGH FOR INSPECTION AND CONCRETE PLACEMENT. ALL CONCRETE MUST BE PLACED ON A BEARING SURFACE FREE OF DEBRIS, LOOSE MATERIAL, AND SURFACE WATER.
6. EXCAVATE ACCORDING TO CURRENT OSHA OR OTHER APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE STABILITY OF THE EXCAVATIONS.
7. TEMPORARY EXCAVATION AND SUPPORT SYSTEMS SHALL FOLLOW THE SPECIAL PROVISION FOR TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEMS.
8. MAINTAIN CLEARANCE TO PECO ELECTRIC LINES IN ACCORDANCE WITH PECO'S REQUIREMENTS.



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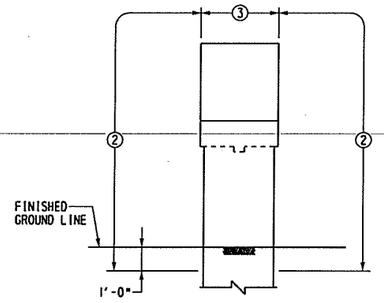

PIER

COATING LIMITS
NOT TO SCALE

PILE INFORMATION	
PILE TYPE	HP14X89
NOMINAL AXIAL RESISTANCE (KIPS)	641.9
STRENGTH RESISTANCE FACTOR	0.50

COATING LEGEND:

1. PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE).
2. ACRYLIC PAINT.
3. PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, REINFORCED CONCRETE SUBSTRUCTURE SURFACES). (OMIT SEALER AT MASONRY PLATE AREAS, INCLUDES PEDESTALS).

Mark	Description	By	Chk'd	Recm'd	Date
	REVISIONS				

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
GENERAL NOTES - 2

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 075132

STV

RECOMMENDED 10/21/2019

SHEET 4 OF 26

S- 37498

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BRIDGE LOAD RATING TABLES

ADTT 1168 (2050)

78" DEEP WEB STEEL PLATE GIRDER (WITH FWS)							
SPAN 1		H20	HS20	ML-80	TK-527	PHL-93	P-82
INVENTORY RATING (IR)	LL DIST FACTOR	0.833	0.833	0.833	0.833	0.833	---
	LOCATION	49.00 L	49.00 L	49.00 L	49.00 L	49.00 L	---
	LIMIT STATE	STR I	STR I	STR I	STR I	STR I	---
	RATING FACTOR	1.62 M	1.62 M	1.80 M	1.69 M	1.14 M	---
	CRITICAL GIRDER	GIRDERS 2 & 4	GIRDERS 2 & 4	GIRDERS 2 & 4	GIRDERS 2 & 4	GIRDERS 2 & 4	---
OPERATING RATING (OR)	LL DIST FACTOR	0.833	0.833	0.833	0.833	0.833	0.833
	LOCATION	49.00 L	49.00 L	49.00 L	49.00 L	49.00 L	49.00 L
	LIMIT STATE	STR II	STR II	STR II	STR II	STR IA	STR II
	RATING FACTOR	2.10 M	2.10 M	2.33 M	2.19 M	1.48 M	1.07 M
	CRITICAL GIRDER	GIRDERS 2 & 4	GIRDERS 2 & 4	GIRDERS 2 & 4	GIRDERS 2 & 4	GIRDERS 2 & 4	GIRDERS 2 & 4

78" DEEP WEB STEEL PLATE GIRDER (WITHOUT FWS)							
SPAN 1		H20	HS20	ML-80	TK-527	PHL-93	P-82
INVENTORY RATING (IR)	LL DIST FACTOR	0.833	0.833	0.833	0.833	0.833	---
	LOCATION	49.00 L	49.00 L	49.00 L	49.00 L	49.00 L	---
	LIMIT STATE	STR I	STR I	STR I	STR I	STR I	---
	RATING FACTOR	1.87 M	1.87 M	2.07 M	1.94 M	1.31 M	---
	CRITICAL GIRDER	GIRDERS 2 & 4	GIRDERS 2 & 4	GIRDERS 2 & 4	GIRDERS 2 & 4	GIRDERS 2 & 4	---
OPERATING RATING (OR)	LL DIST FACTOR	0.833	0.833	0.833	0.833	0.833	0.833
	LOCATION	49.00 L	49.00 L	49.00 L	49.00 L	49.00 L	49.00 L
	LIMIT STATE	STR II	STR II	STR II	STR II	STR IA	STR-II
	RATING FACTOR	2.42 M	2.42 M	2.68 M	2.52 M	1.70 M	1.23 M
	CRITICAL GIRDER	GIRDERS 2 & 4	GIRDERS 2 & 4	GIRDERS 2 & 4	GIRDERS 2 & 4	GIRDERS 2 & 4	GIRDERS 2 & 4

MAXIMUM FACTORED FLEXURAL RESISTANCE 27,511.40 K-FT
LOCATION / SPAN NO. 49.00 L / SPAN 1

MAXIMUM FACTORED SHEAR RESISTANCE 714.14 KIPS
LOCATION / SPAN NO. 0.00 L / SPAN 1

NOTES

1. FOR GENERAL NOTES AND LIST OF ABREVIATIONS, SEE SHEETS 3 & 4.
2. FOR FRAMING PLAN, SEE SHEET 12.

RATING NOTES

1. BRIDGE LOAD RATINGS BASED ON PENNDOT STLRFD PROGRAM'S METHOD.
2. THE GIVEN DISTRIBUTION FACTOR IS THE VEHICULAR LIVE LOAD DISTRIBUTION FACTOR USED TO PRODUCE THE GIVEN RATING.
3. "M" OR "V" DENOTE THAT MOMENT OR SHEAR RESPECTIVELY CONTROLS THE RATING.
4. ML-80 INDICATES PENNSYLVANIA MAXIMUM LEGAL LOAD
   P-82 INDICATES PENNSYLVANIA PERMIT LOAD
   PHL-93 INDICATES AASHTO LRFD DESIGN LIVE LOAD, AS MODIFIED BY THE 2015 PENNDOT DESIGN MANUAL, PART 4
   TK-527 INDICATES PENNSYLVANIA SPECIAL LIVE LOAD

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

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PHILADELPHIA COUNTY
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OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
LOAD RATINGS

RECOMMENDED 10/21/2019

SHEET 5 OF 26

S-37498

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079130 PENNSYLVANIA

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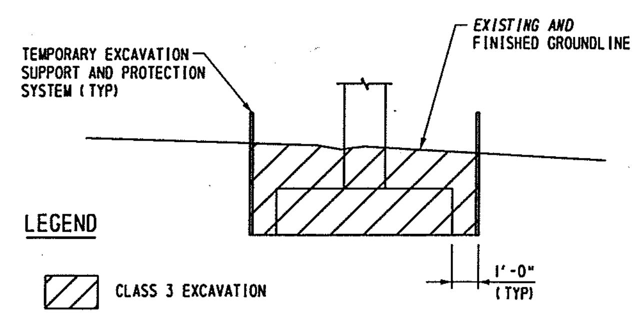
APPROXIMATE QUANTITIES - BRIDGE STRUCTURE, AS DESIGNED

ITEM NO.	ITEM	UNIT	PIER D10	SUPERSTRUCTURE	TOTAL
8010-0005	BRIDGE STRUCTURE, AS DESIGNED, S-37498 (6)	LS	---	---	---
(1)	CLASS 3 EXCAVATION MODIFIED (6)	CY	749	---	749
(1)	SELECTED BORROW EXCAVATION ROCK, CLASS R-6	CY	672	---	672
(1)	CLASS AAAP CEMENT CONCRETE (2)	CY	---	249	249
(1)	CLASS AA CEMENT CONCRETE (3)	CY	---	71	71
(1)	CLASS A CEMENT CONCRETE	CY	342	---	342
(1)	BARRIER PROTECTIVE FENCE, VINYL-COATED STEEL	LF	---	390	390
(1)	STEEL BEAM TEST PILES, HP14x89 MODIFIED (4) (6)	LS	2 @ 44'	---	---
(1)	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE)	SY	---	212	212
(1)	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, REINFORCED CONCRETE SUBSTRUCTURE SURFACES)	SY	32	---	32
(1)	ACRYLIC PAINT (6)	SF	1,207	2,789	3,996
(1)	METAL BEARINGS - EXPANSION (1)(E)	EACH	---	5	5
(1)	METAL BEARINGS - FIXED (1)F)	EACH	---	5	5
(1)	FABRICATED STRUCTURAL STEEL (9)	LB	---	544,662	544,662
(1)	SHEAR CONNECTORS	EACH	---	2,220	2,220
(1)	MEMBRANE WATERPROOFING SYSTEMS INSTALLED ON OTHER SURFACES	SY	9	---	9
(1)	JUNCTION BOXES J.B.-25	EACH	---	4	4
(1)	2" CONDUIT IN STRUCTURE (10)	LF	---	585	585
(1)	4" DIAMETER MULTI-DUCT CONDUIT (6) (10)	LF	---	195	195
AND					
1002-0195	REINFORCEMENT BARS, EPOXY COATED (5)	LB	38,105	68,369	106,474
AND					
1002-0233	REINFORCEMENT BARS, UNCOATED, CORROSION-RESISTANT STEEL (5)	LB	12,500	---	12,500
AND					
1005-1324	STEEL BEAM (HEAVY DUTY) PILE TIP REINFORCEMENT, HP14X89 (7)	EACH	52	---	52
AND					
1005-1340	STEEL BEAM BEARING PILES, HP14X89 (7)	LF	2,288	---	2,288
9000-0300	REPLACEMENT OF NEOPRENE STRIP SEAL DAM, (5" MOVEMENT), S-37498 (6)	LF	---	44	44
9000-0500	REMOVE AND RESET EXISTING HLMR POT BEARINGS, S-37498 (6)	EACH	5	---	5
9000-0654	EXISTING PILE EXTRACTION, S-37498 (6) (8)	EACH	6	---	6
9000-5004	DEBRIS SHIELDING, S-37498 (6)	LS	---	---	---
9001-0923	CONTROL OF HEAT OF HYDRATION FOR STRUCTURAL MASS CONCRETE, S-37498 (6)	LS	---	---	---
9005-0005	DYNAMIC PILE LOAD TESTING, S-37498 (6)	EACH	2	---	2
9005-0605	PRE-DRILLING FOR UNFORESEEN OBSTRUCTIONS, EARTH DRILLING, S-37498 (6)	LF	238	---	238
9005-0615	PRE-DRILLING FOR UNFORESEEN OBSTRUCTIONS, OBSTRUCTION DRILLING, S-37498 (6)	LF	24	---	24
9005-0625	PILE EXTRACTION AND RE-DRIVING, S-37498 (6)	DOLLA	---	---	5,000
9005-0686	PILE INTERFERENCE LOCATING AND MONITORING, S-37498 (6)	EACH	12	---	12
9005-0705	MOBILIZATION FOR PRE-DRIVING FOR UNFORESEEN OBSTRUCTIONS, S-37498 (6)	DOLLA	---	---	10,000
9203-0106	TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM, S-37498 (6)	LS	---	---	---
9018-0050	REMOVAL OF PORTION OF EXISTING BRIDGE, S-37498 (6)	LS	---	---	---

ALTERNATE STRUCTURE ITEMS

ITEM NO.	ITEM	UNIT	TOTAL
8010-0005	BRIDGE STRUCTURE, AS DESIGNED, S-37498	LS	LUMP SUM
8000-0005	PRESTRESSED CONCRETE BRIDGE STRUCTURE, S-37498	LS	LUMP SUM
8100-0005	STEEL BRIDGE STRUCTURE, S-37498	LS	LUMP SUM

(1) ITEMS IN BRIDGE STRUCTURE LUMP SUM ITEM 8010-0005 GIVEN FOR INFORMATION ONLY.
(2) INCLUDES CLASS AAAP CEMENT CONCRETE IN BRIDGE DECK AND APPROXIMATELY 18 CY OF CLASS AAAP CEMENT CONCRETE TO ACCOUNT FOR STAY-IN-PLACE FORM TROUGHS.
(3) INCLUDES CLASS AA CEMENT CONCRETE IN BARRIERS.
(4) INCLUDES 2 STEEL BEAM (HEAVY DUTY) PILE TIP REINFORCEMENT, HP14X89.
(5) FOR AS DESIGNED STRUCTURE, INCLUDED IN BRIDGE BID ITEMS. FOR ALTERNATE DESIGNS, INCLUDED IN BRIDGE STRUCTURE LUMP SUM BID ITEM.
(6) SEE SPECIAL PROVISIONS.
(7) INCLUDED IN BRIDGE BID ITEMS.
(8) QUANTITY IS AN ESTIMATED VALUE. EXISTING PILES TO BE REMOVED BASED ON PROPOSED PILE LAYOUT IN THE FIELD.
(9) INCLUDES 822 LBS OF ANCHOR BOLTS.
(10) FITTINGS, EXPANSION/DEFLECTION FITTINGS, JOINTS, BENDS, GROUNDS, PROTECTIVE COATINGS, AND APPURTENANCES ARE INCIDENTAL TO CONDUIT.



PAY LIMITS FOR EXCAVATION - PIER D10

NOT TO SCALE

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.

Mark	Description	By	Chk'd.	Recm'd	Date

REVISIONS

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
SUMMARY OF QUANTITIES

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

RECOMMENDED 10/21/2019

SHEET 6 OF 26

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S-37498

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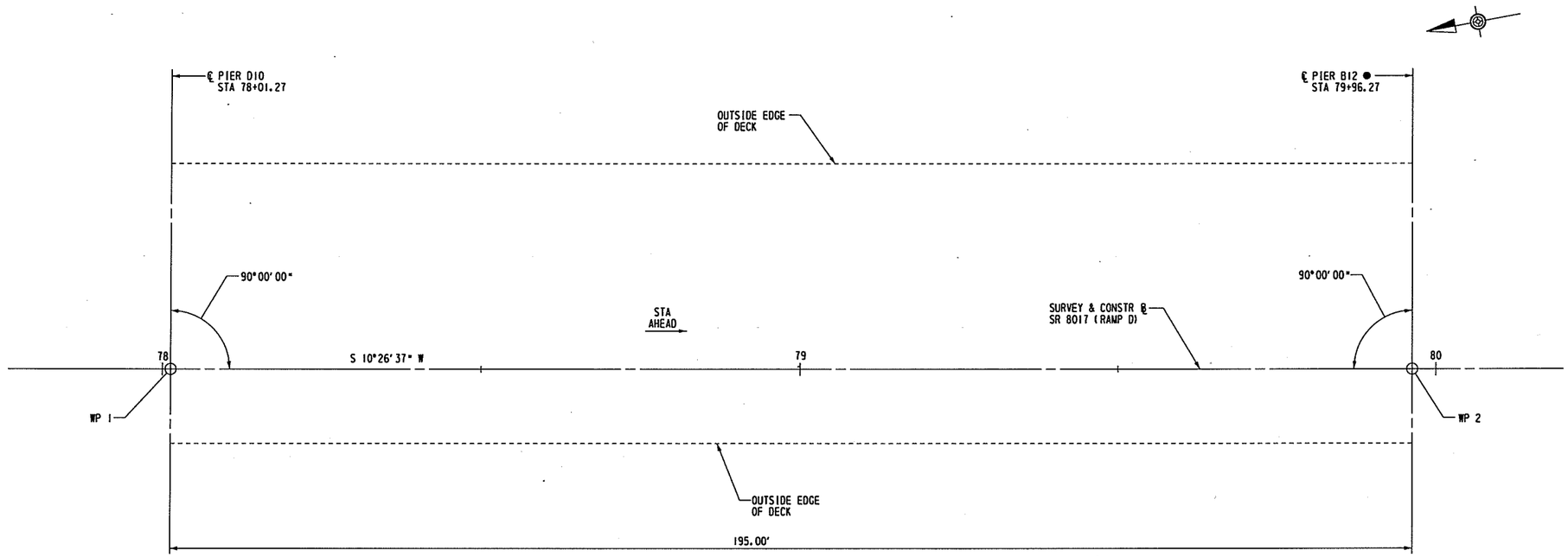

STAKE-OUT PLAN
NOT TO SCALE

COORDINATES		
POINT	NORTHING	EASTING
WP 1	252979.7964	2715217.2204
WP 2	252788.0268	2715181.8733

NOTES
1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. ALL DIMENSIONS ARE HORIZONTAL.
3. FOUR PLACE COORDINATES ARE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO DECIMAL PLACES.

● SR 8017 (RAMP B) OVER CONRAIL (S-37601).

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
STAKE-OUT PLAN

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

STV

RECOMMENDED 10/21/2019

SHEET 7 OF 26

S- 37498

DESIGNED: PHM | CHECKED: BRY | CADD: JAS | CHECKED: SEY

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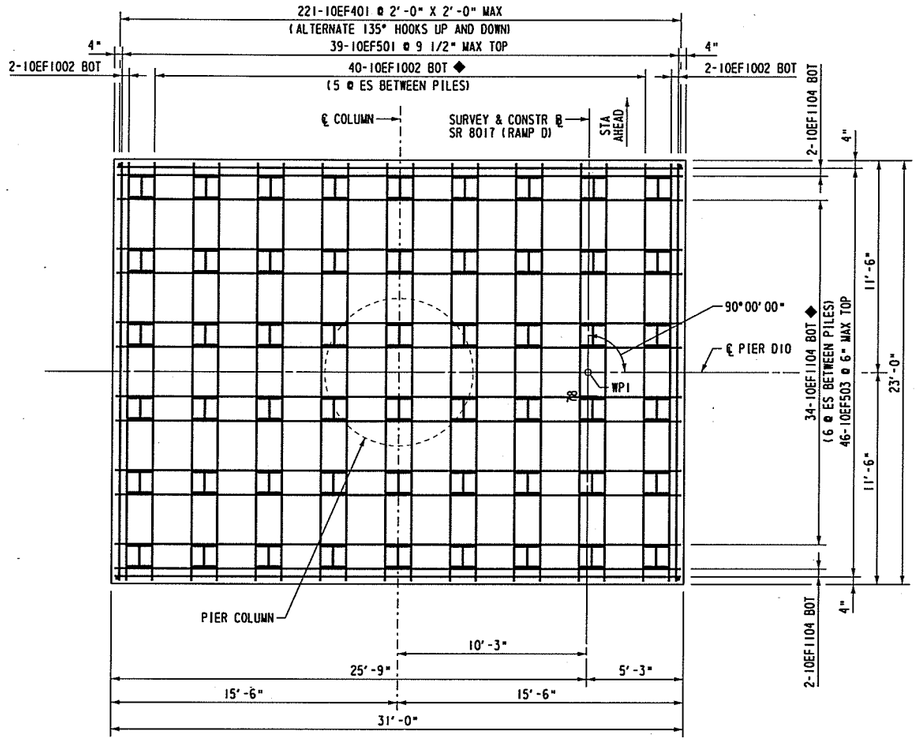
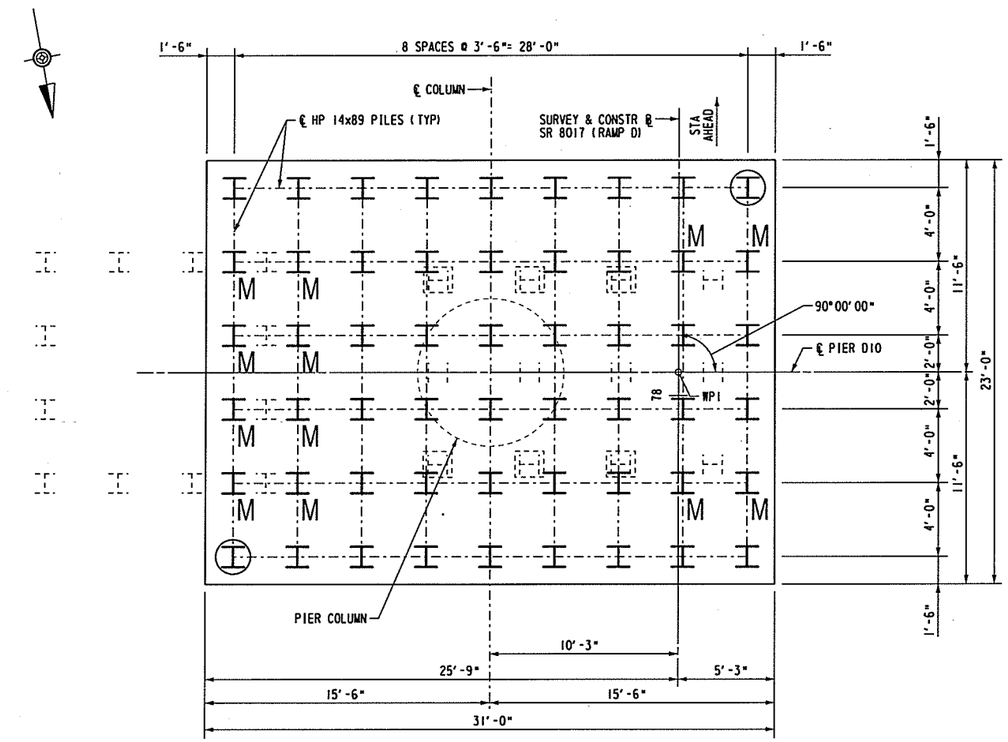


FOOTING PLAN

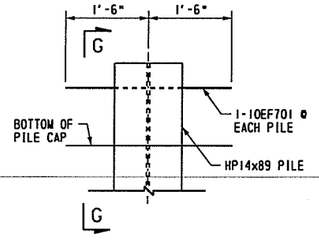
4' 2' 0 4'



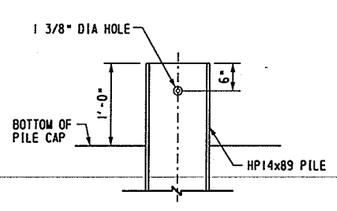
PILE LAYOUT PLAN

4' 2' 0 4'

NOTE:
EXISTING PILE LOCATIONS NOT SHOWN FOR CLARITY. SEE PILE LAYOUT PLAN FOR EXISTING PILE LOCATIONS.



ELEVATION



SECTION G-G

H-PILE-TO-PILE CAP
CONNECTION DETAIL
NOT TO SCALE

PIER D10 PILE LOADING (KIPS) - HP14x89				
	CONTROLLING LIMIT STATE	LOAD CASE	FACTORED LOAD	RESISTANCE
AXIAL	STR-V	MAX	145.5	321.0
LATERAL	STR-VI	MAX	9.3	15.3

LEGEND

- I — DENOTES VERTICAL PILE
- (I) — DENOTES TEST PILE
- [I] — DENOTES EXISTING VERTICAL PILE
- [I] — DENOTES EXISTING VERTICAL PILE TO BE EXTRACTED (SEE SPECIAL PROVISION)
- M — DENOTES MONITORING THE DRIVING OF PROPOSED PILE (SEE SPECIAL PROVISION)

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR STAKE-OUT PLAN, SEE SHEET 7.
3. FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET 11.

◆ PLACE BOTTOM REINFORCEMENT AT EQUAL SPACES AS SHOWN, WITH 1" MIN CLEAR SPACE AT PILES.

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
PIER D10 - FOOTING PLAN

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

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SHEET 8 OF 26

S-37498

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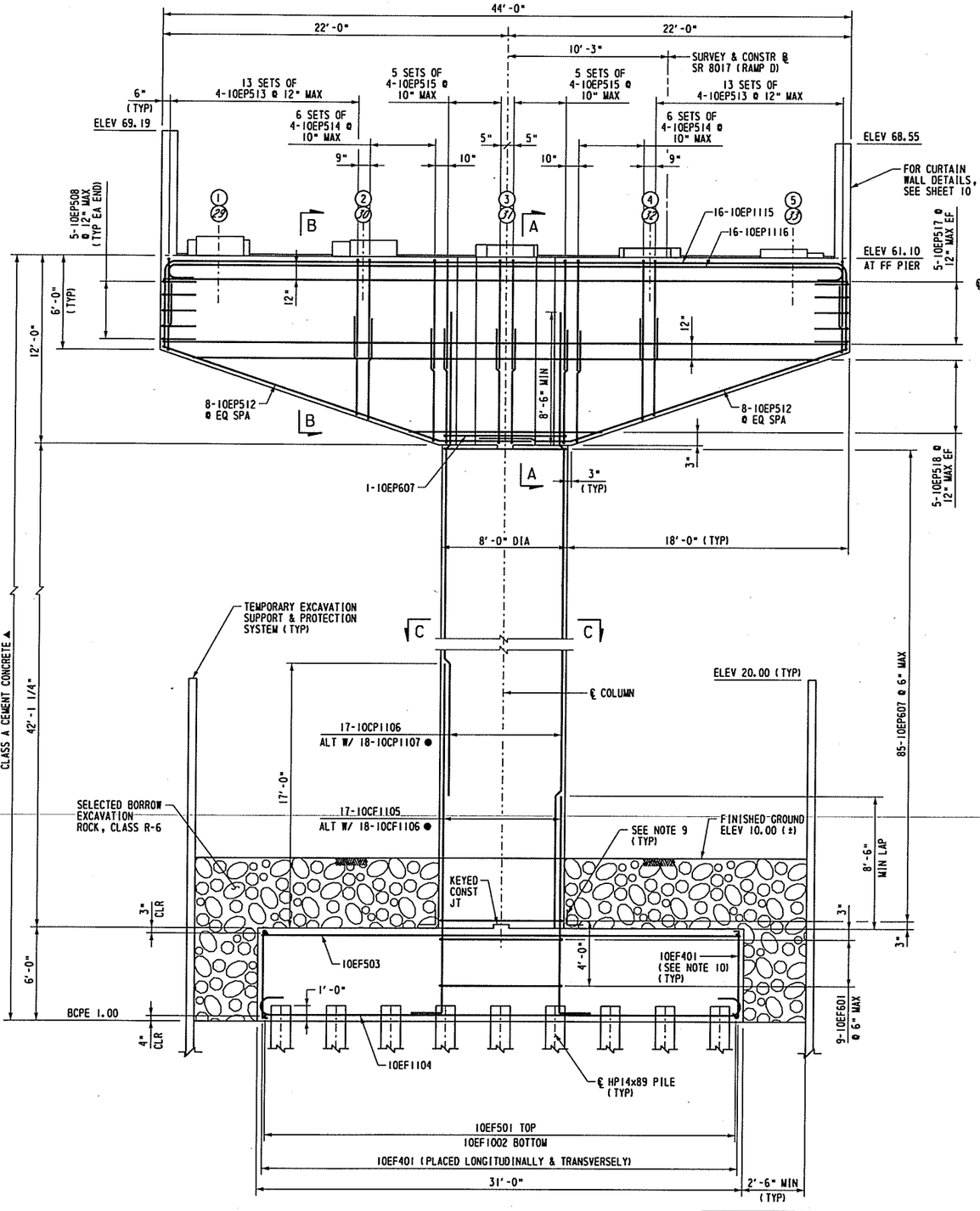
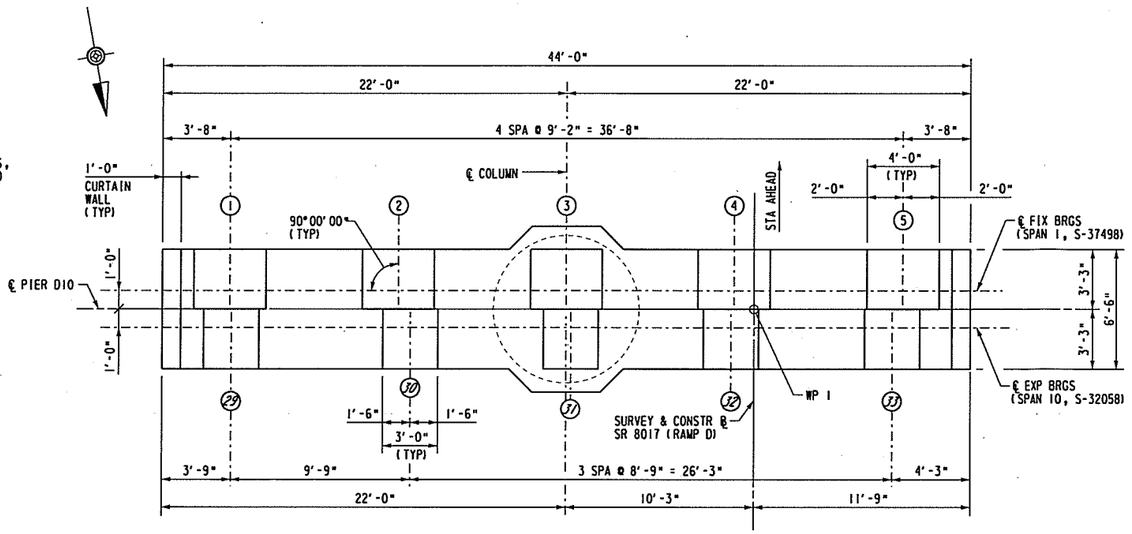


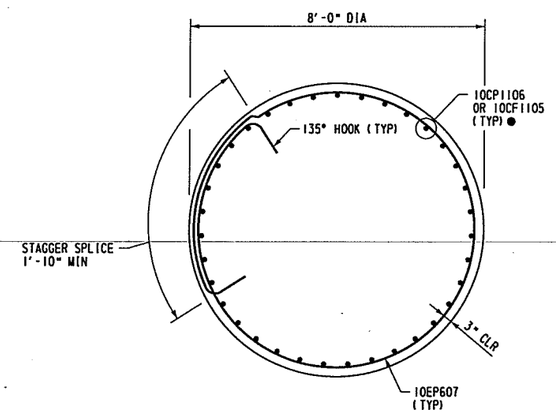
PIER ELEVATION

4' 2' 0 4'



PIER CAP PLAN

4' 2' 0 4'



SECTION C-C

2' 1' 0 2'

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR STAKE-OUT PLAN, SEE SHEET 7.
3. FOR DETAILS OF KEYED CONSTRUCTION JOINT, SEE BC-735M.
4. FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET 11.
5. FOR PEDESTAL DETAILS, SEE SHEET 10.
6. FOR PILE LOCATIONS, SEE SHEET 8.
7. ADJUST VERTICAL COLUMN REINFORCEMENT TO PREVENT INTERFERENCE WITH PILES. MAINTAIN MINIMUM VERTICAL EMBEDMENT LENGTH OF L-HOOK INTO THE FOOTING.
8. FOR SECTION A-A & B-B, SEE SHEET 10.
9. FOR PIER WATER PROOFING DETAILS, SEE BC-788M.
10. TIE TOP AND BOTTOM MATS OF REINFORCING STEEL WITH 10EF401 TIE BARS AT A MAXIMUM SPACING OF 2'-0" IN BOTH DIRECTIONS. ALTERNATE 135° HOOKS UP AND DOWN.

(#) INDICATES GIRDER NUMBER.

▲ SEE SPECIAL PROVISION FOR CONTROL OF HEAT OF HYDRATION FOR STRUCTURAL MASS CONCRETE, S-37498.

● PROVIDE GRADE 100 UNCOATED, CORROSION-RESISTANT REINFORCING STEEL BARS THAT MEET THE REQUIREMENTS OF AASHTO M 334, TYPE CS AND SECTION 709.1(g).

TOP OF PEDESTAL ELEVATIONS										
GIRDER	29	30	31	32	33	1	2	3	4	5
ELEVATION	CONTRACTOR TO SURVEY TOP OF PEDESTAL ELEVATION PRIOR TO REMOVAL OF EXISTING PIER D10					62.09	62.06	61.88	61.69	61.43

Mark	Description	By	Chk'd.	Recm'd	Date
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
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SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
PIER D10 - PLAN & ELEVATION

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 070132 PENNSYLVANIA

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SHEET 9 OF 26

S-37498

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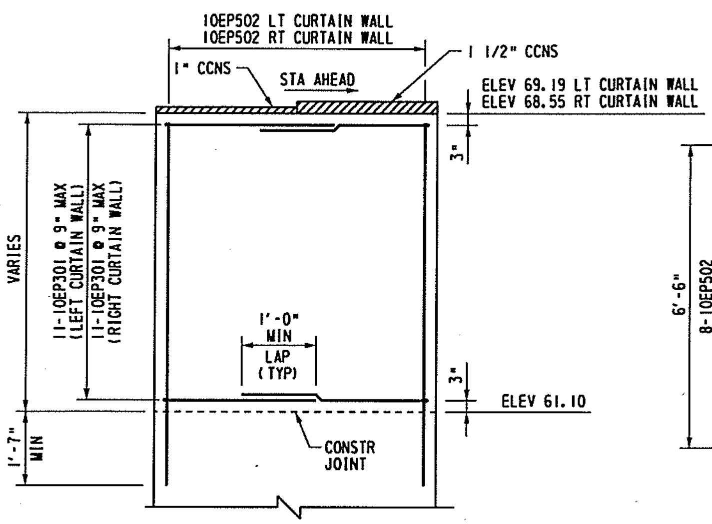
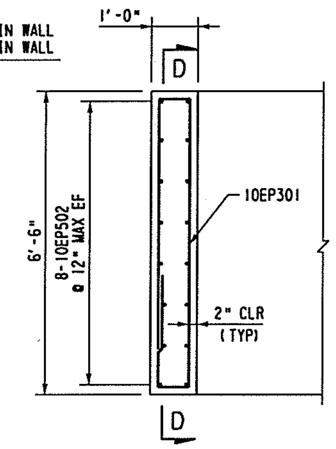


SECTION D-D

2' 1' 0 2'

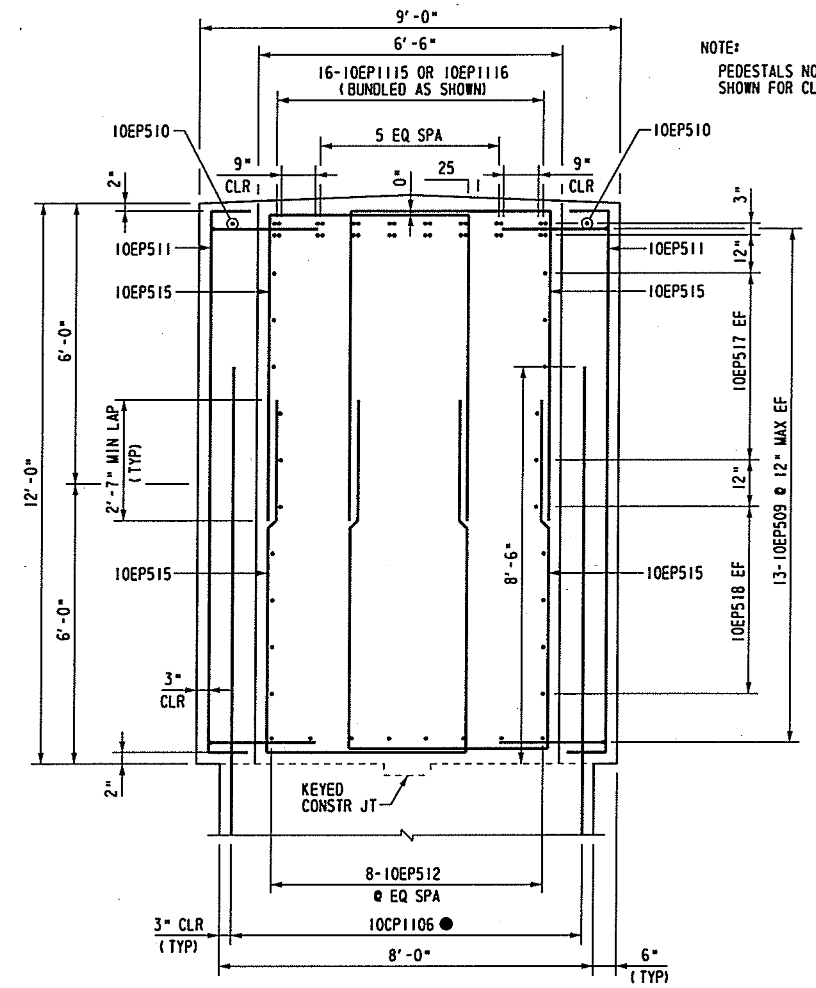
NOTE: LT CURTAIN WALL SHOWN
RT CURTAIN WALL SIMILAR



CURTAIN WALL PLAN

2' 1' 0 2'

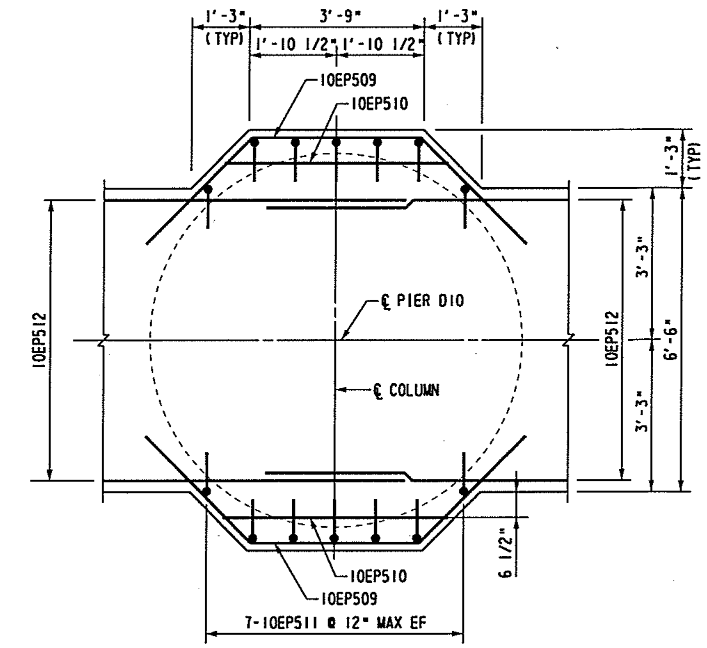
NOTE: LT CURTAIN WALL SHOWN
RT CURTAIN WALL SIMILAR



NOTE:
PEDESTALS NOT SHOWN FOR CLARITY

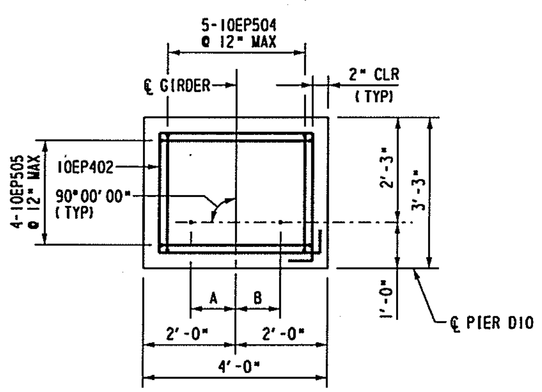
SECTION A-A

2' 1' 0 2'

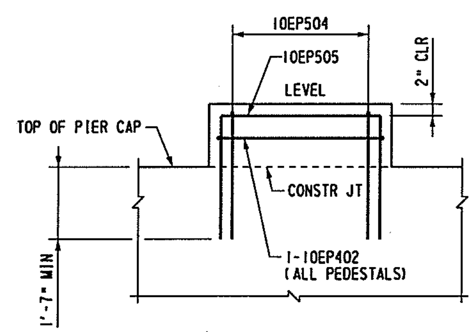


PIER CAP DETAIL

2' 1' 0 2'

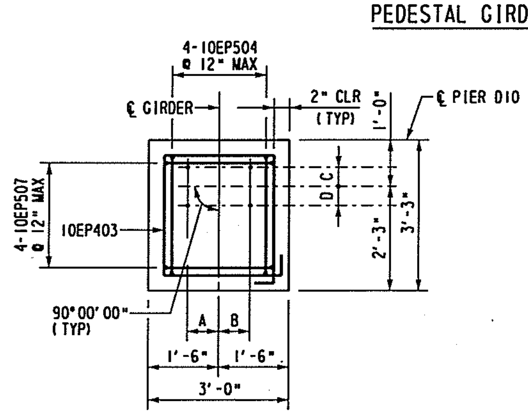


PLAN
NOT TO SCALE

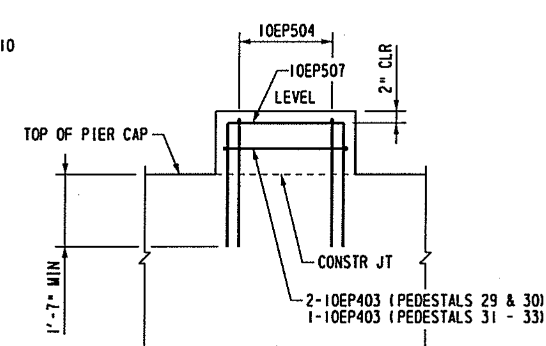


ELEVATION
NOT TO SCALE

PEDESTAL GIRDERS 1 THRU 5

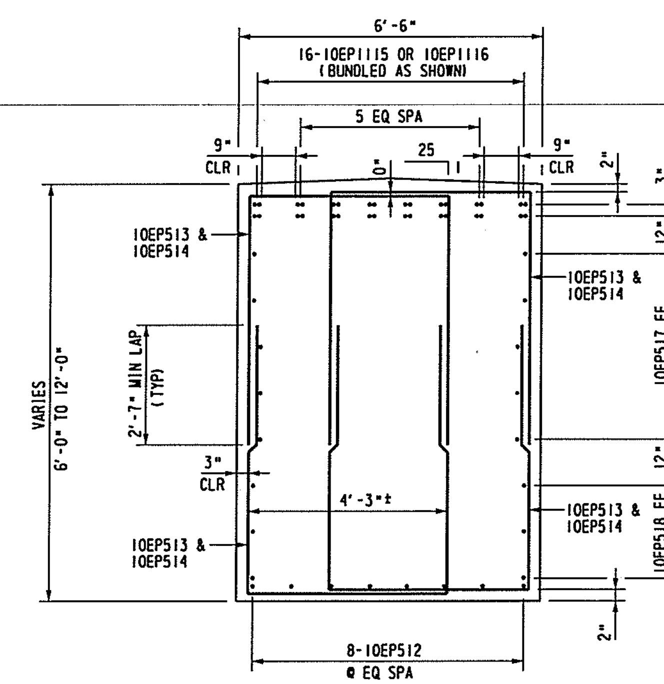


PLAN
NOT TO SCALE



ELEVATION
NOT TO SCALE

PEDESTAL GIRDERS 29 THRU 33



SECTION B-B

2' 1' 0 2'

ANCHOR BOLT LOCATIONS				
GIRDER	PIER D10			
	A	B	C	D
1 - 5	17 1/2"	17 1/2"	-	-
29	8 3/16"	8 3/16"	4 5/16"	4 5/16"
30 - 33	11 3/4"	11 3/4"	6 3/4"	6 3/4"

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR STAKE-OUT PLAN, SEE SHEET 7.
3. FOR DETAILS OF KEYED CONSTRUCTION JOINT, SEE BC-735M.
4. FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET 11.
5. FOR LOCATION OF SECTIONS A-A AND B-B, SEE SHEET 9.
6. FOR ANCHOR BOLT DETAILS, SEE SHEET 19.
7. FOR PEDESTAL ELEVATIONS, SEE SHEET 10.
8. FOR PEDESTAL DETAILS & ANCHOR BOLT LOCATIONS AT PIER B12, SEE S-37601 PLANS.

● ~~PROVIDE GRADE 100 UNCOATED, CORROSION-RESISTANT REINFORCING STEEL~~ BARS THAT MEET THE REQUIREMENTS OF AASHTO M 334, TYPE CS AND SECTION 709.1(g)

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
PIER D10 - DETAILS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER JUSTIN SCOTT EBERHART

STV

RECOMMENDED 10/21/2019

SHEET 10 OF 26

S-37498

DESIGNED: BRY | CHECKED: TJI | CADD: JAS | CHECKED: TJI

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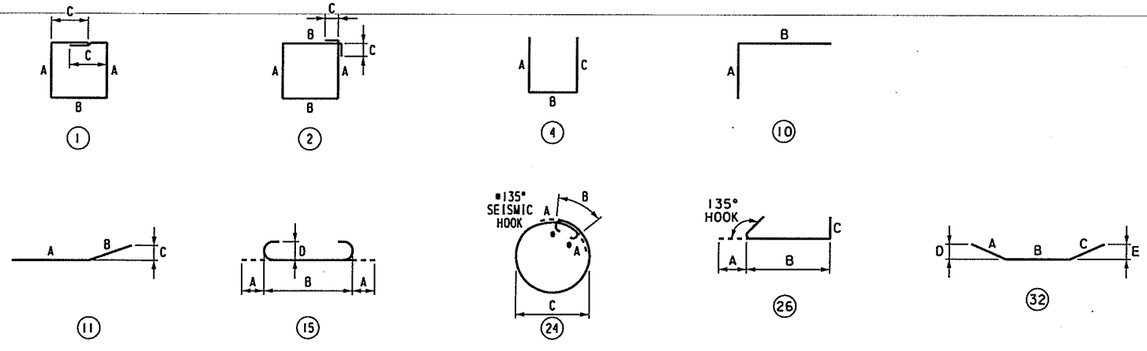
UNIT 1 - PIER D10 REINFORCEMENT BAR SCHEDULE

MARK	SIZE	NUMBER	LENGTH	TYPE	A	B	C	D	E	F	REMARKS
10CF1105	11	17	16'-6"	10	2'-0"	14'-6"					SEE NOTE 7
10CF1106	11	18	25'-0"	10	2'-0"	23'-0"					SEE NOTE 7
10CP1106	11	17	50'-8 1/2"	STR							SEE NOTE 7
10CP1107	11	18	42'-2 1/2"	STR							SEE NOTE 7
10EF401	4	221	6'-3"	26	4 1/2"	5'-6"	4 1/2"				
10EF501	5	39	22'-4"	STR							
10EF503	5	46	30'-4"	STR							
10EF601	6	9	26'-9"	24	8"	1'-10	7'-6"				
10EF701	7	54	3'-0"	STR							
10EF1002	10	44	25'-2"	15	1'-5"	22'-4"		1'-1 1/4"			
10EF1104	11	38	33'-6"	15	1'-7"	30'-4"		1'-2 3/4"			
10EP301	3	22	15'-3"	1	8"	6'-2"	3'-10 1/2"				
10EP402	4	5	13'-9"	2	2'-11"	3'-7"	4 1/2"				
10EP403	4	7	11'-11"	2	2'-11"	2'-8"	4 1/2"				
10EP502	5	32	9'-6"	STR							
10EP504	5	45	8'-4"	4	2'-9"	2'-10"	2'-9"				
10EP505	5	20	8'-4"	4	2'-5"	3'-6"	2'-5"				
10EP507	5	20	8'-1"	4	2'-9"	2'-7"	2'-9"				
10EP508	5	10	9'-2"	4	1'-7"	6'-0"	1'-7"				
10EP509	5	26	9'-9 3/4"	32	3'-1 1/4"	3'-7 1/4"	3'-1 1/4"	2'-2 5/16"	2'-2 5/16"		
10EP510	5	4	4'-11 1/2"	STR							
10EP511	5	14	13'-3"	4	10"	11'-7"	10"				
10EP512	5	16	24'-3 1/4"	11	5'-9"	18'-6 1/4"	5'-11 1/8"				
10EP513	5	104	15'-9"	4	5'-9"	4'-3"	5'-9"				
10EP514	5	48	17'-5"	4	6'-7"	4'-3"	6'-7"				
10EP515	5	40	17'-7"	4	6'-8"	4'-3"	6'-8"				
10EP517	5	10	43'-6"	STR							
10EP518	5	10	12'-0" TO 39'-6"	STR							2 SETS OF 5 BARS, VARY BARS BY 6'-10 1/2"
10EP607	6	86	26'-9"	24	8"	1'-10"	7'-6"				
10EP1115	11	16	54'-8"	4	5'-7"	43'-6"	5'-7"				
10EP1116	11	16	46'-5"	15	1'-7"	43'-3"					



NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEET 3 & 4.
2. FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DWG BC-736M.
3. FIGURES IN CIRCLES INDICATE BAR TYPES.
4. "E" PREFIX IN BAR MARK DENOTES EPOXY-COATED BARS.
5. FOR ALL BAR TYPES SHOWN, DIMENSION A-F AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG THE INSIDE OF BAR.
6. "D" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE STANDARD HOOKS ARE TO BE USED.
7. "C" PREFIX IN BAR MARK DENOTES GRADE 100 UNCOATED, CORROSION-RESISTANT REINFORCING STEEL BARS THAT MEET THE REQUIREMENTS OF AASHTO M 334, TYPE CS AND SECTION 709.1(g).

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
REINF BAR SCHEDULE - PIER D10

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

STV

RECOMMENDED 10/21/2019

SHEET 11 OF 26

S-37498

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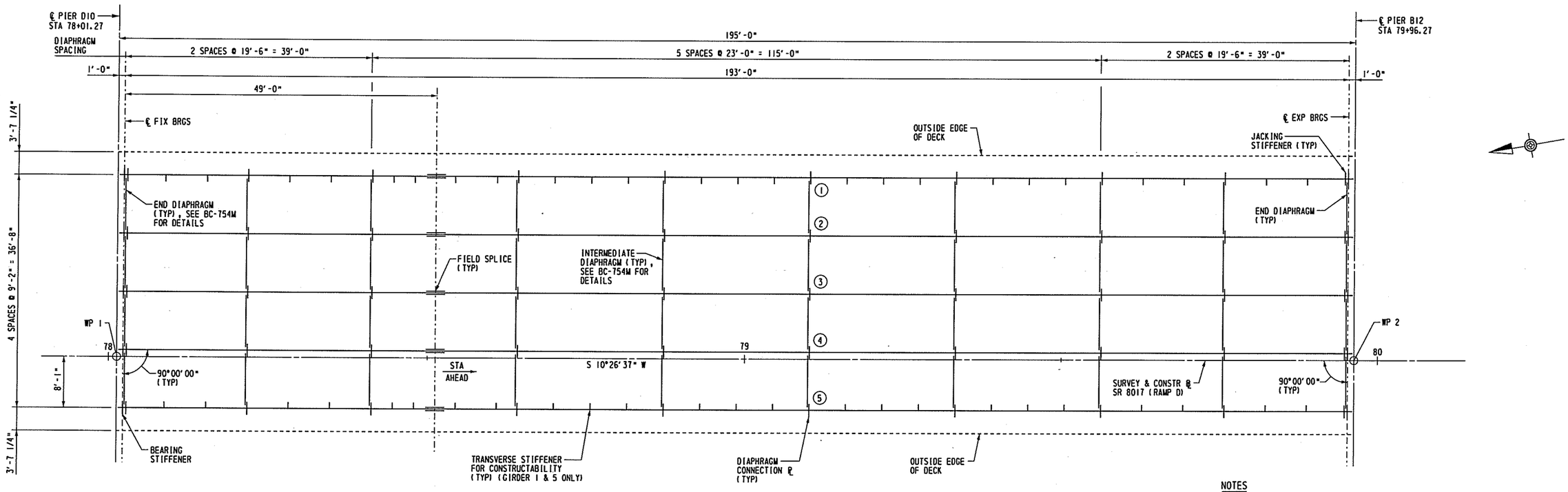

FRAMING PLAN

8' 4' 0 8'

MAXIMUM ALLOWABLE LOAD AT EACH JACKING STIFFENER (FOR FUTURE JACKING)	
LOCATION	MAX LOAD (KIPS)
PIER D10	273
PIER B12	273

NOTE: JACKING LOAD PER GIRDER = 1.3 x MAX UNFACTORED TOTAL DL REACTION
JACKING LOAD INCLUDES FWS.

NOTES

1. FOR GENERAL PLAN, ELEVATION, AND TYPICAL SECTION, SEE SHEET 2.
2. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
3. FOR STAKE-OUT PLAN, SEE SHEET 7.
4. FOR GIRDER ELEVATIONS AND STIFFENER SPACING, SEE SHEET 13.
5. FOR STIFFENER DETAILS, SEE SHEET 14.
6. FOR FIELD SPLICE DETAILS, SEE SHEET 15.
7. FOR CAMBER DIAGRAMS, SEE SHEET 16.
8. FOR BEARING DETAILS, SEE SHEETS 17 THRU 19.

(#) INDICATES GIRDER NUMBER

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SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
FRAMING PLAN

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

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SHEET 12 OF 26

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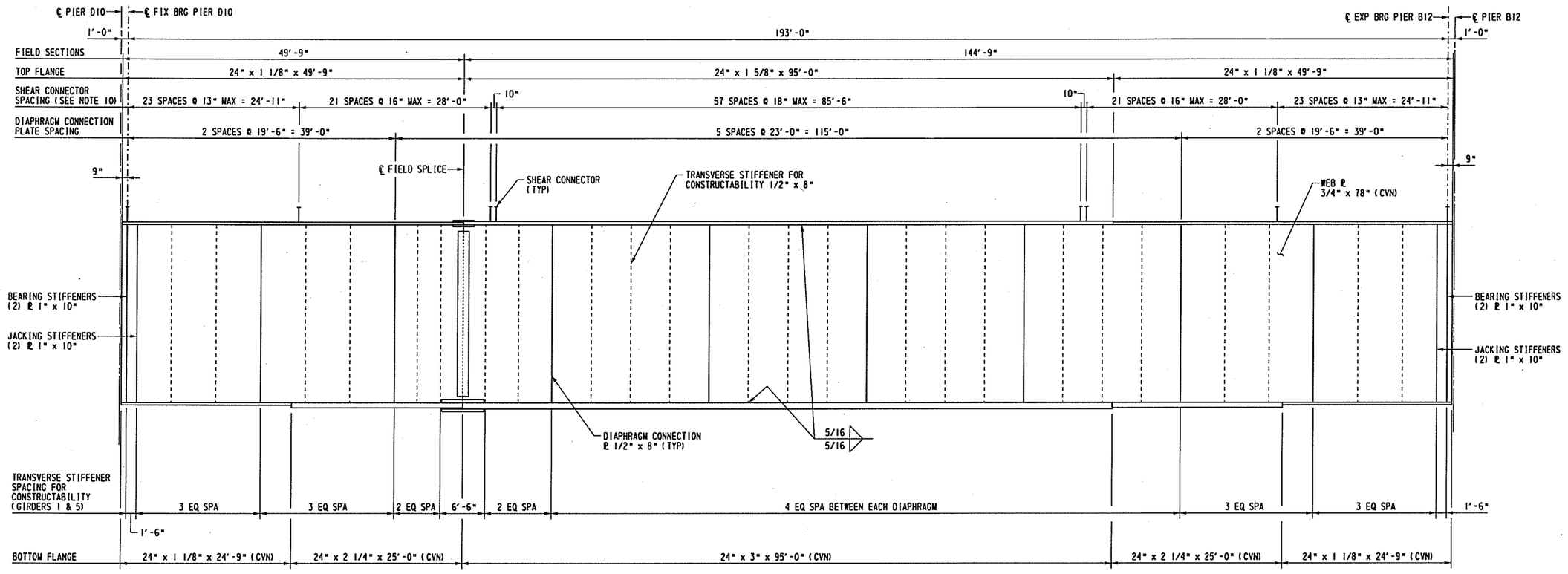

ELEVATION - GIRDERS 1 THRU 5

NOT TO SCALE

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR STAKE-OUT PLAN, SEE SHEET 7.
3. FOR FRAMING PLAN, SEE SHEET 12.
4. FOR GIRDER DETAILS, SEE SHEET 14.
5. FOR FIELD SPLICE DETAILS, SEE SHEET 15.
6. FOR CAMBER DIAGRAMS, SEE SHEET 16.
7. FOR DIAPHRAGM DETAILS, SEE BC-754M.
8. FOR BEARING DETAILS, SEE SHEETS 17 THRU 19.
9. FOR NEOPRENE STRIP SEAL DAW DETAIL, SEE SHEET 22.
10. 3 SHEAR CONNECTORS PER ROW REQUIRED.
11. (CVN) INDICATES CHARPY V-NOTCH TEST REQUIRED. SEE PUB 408 SECTION 1105.02(a)5.

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SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
STEEL GIRDER ELEVATION

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 071132

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RECOMMENDED 10/21/2019

SHEET 13 OF 26

S-37498

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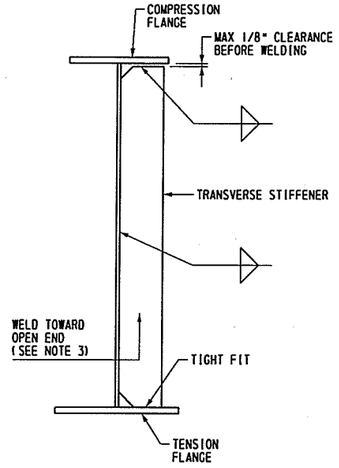
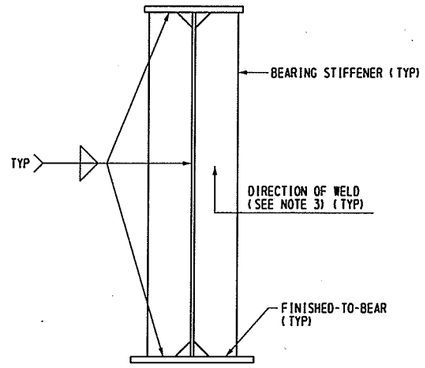


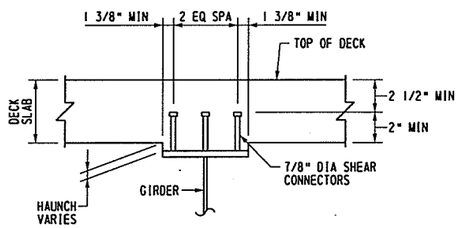
TRANSVERSE STIFFENER DETAIL

NOT TO SCALE



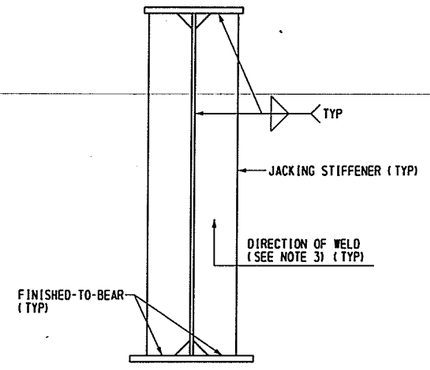
BEARING STIFFENER DETAIL

NOT TO SCALE



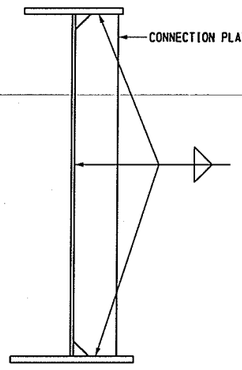
SHEAR CONNECTOR DETAIL

NOT TO SCALE



JACKING STIFFENER DETAIL

NOT TO SCALE



INTERMEDIATE DIAPHRAGM CONNECTION PLATE DETAIL

NOT TO SCALE

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR FRAMING PLAN, SEE SHEET 12.
3. DIRECTION OF WELD IS NOT APPLICABLE IF STIFFENERS ARE FITTED WITH TACK WELDS.
4. FOR GIRDER ELEVATION, SEE SHEET 13.
5. FOR DIAPHRAGM DETAILS, SEE BC-754M
6. BEARING AND JACKING STIFFENERS SHALL BE ORIENTED PARALLEL TO ℄ BRG.
7. SEE GIRDER ELEVATION FOR STIFFENER PLATE SIZES.
8. UNDER FULL DEAD LOAD GIRDER ENDS AND ALL BEARING STIFFENERS ARE VERTICAL TO WITHIN APPLICABLE AASHTO/AWS FABRICATION AND CONSTRUCTION TOLERANCES.
9. FOR ADDITIONAL DETAILS, SEE BC-753M.
10. JACKING STIFFENERS ARE DESIGNED FOR FULL DEAD LOAD PLUS LIVE LOAD AND IMPACT.

FILLET WELD TABLE	
THICKNESS OF THICKER PLATE JOINED	MINIMUM WELD SIZE
TO 3/4" INCLUSIVE	1/4"
OVER 3/4"	5/16"

WELD SIZE NOT TO EXCEED THE THICKNESS OF THE THINNER PLATE JOINED

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
STEEL GIRDER DETAILS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

STV

RECOMMENDED 10/21/2019

SHEET 14 OF 26

S-37498

DESIGNED: PHM | CHECKED: ZRC | CADD: JAS | CHECKED: PHM

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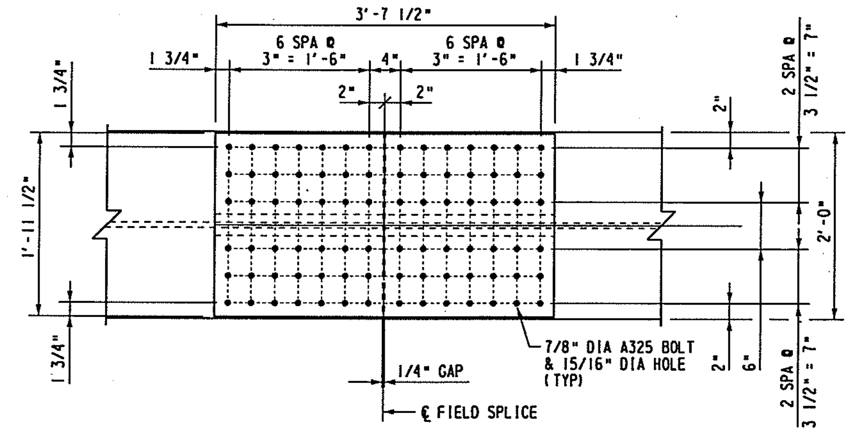
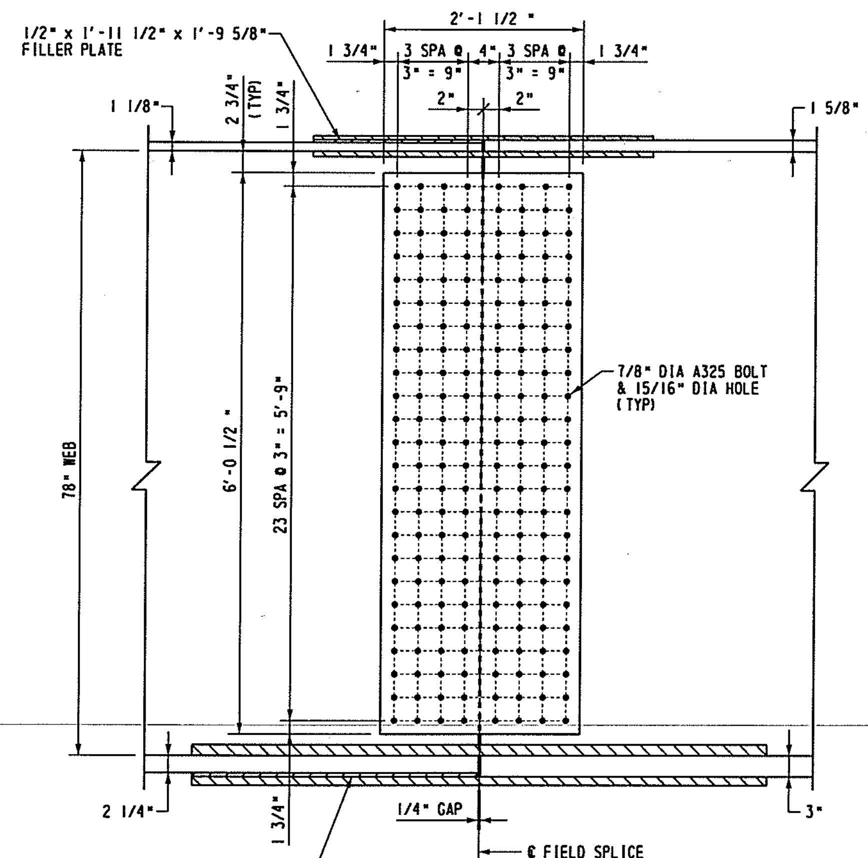
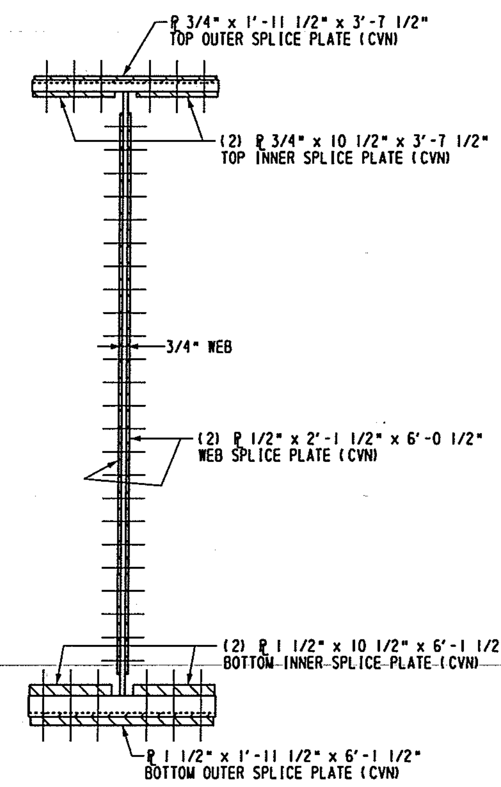


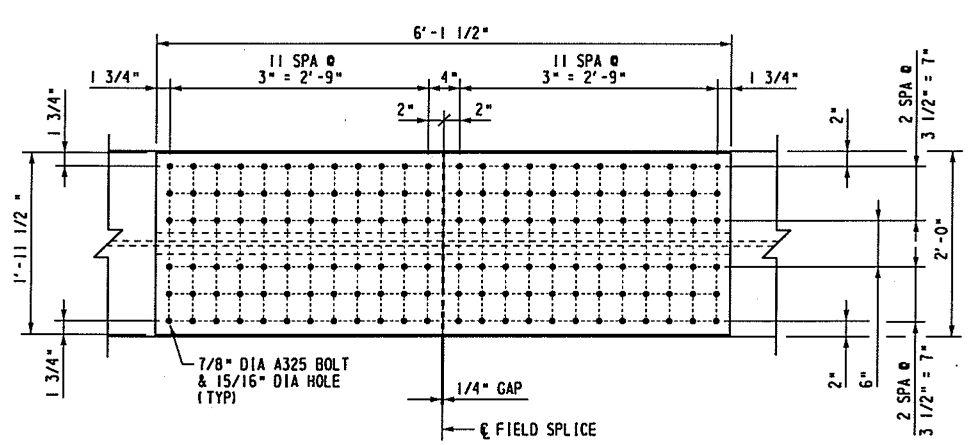
TOP FLANGE



ELEVATION



SECTION



BOTTOM FLANGE

FIELD SPLICE DETAILS

1' 0 1'

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR FRAMING PLAN, SEE SHEET 12.
3. FOR GIRDER ELEVATION, SEE SHEET 13.
4. ALL FASTENERS ARE 7/8" DIA ASTM A325 HS BOLTS. USE SLIP-CRITICAL CONNECTIONS WITH CLASS A SURFACE CONDITION.
5. GIRDER COMPONENTS MARKED "CVN" MUST MEET THE CHARPY V-NOTCH TOUGHNESS REQUIREMENTS SPECIFIED IN PUB 408, SECTION 1105.
6. SPLICES ARE DESIGNED FOR BOLT THREADS NOT TO BE EXCLUDED FROM SHEAR PLANE.
7. SHEAR CONNECTORS AT SPLICE PLATE LOCATIONS SHOULD BE ARRANGED TO CLEAR FASTENERS AND WELDED TO THE SPLICE PLATE. UP TO 20% FEWER CONNECTORS THAN SHOWN ON THE GIRDER ELEVATION ARE ACCEPTABLE IN THE SPLICE ZONE, PROVIDED THAT THE DELETED CONNECTORS ARE FURNISHED AS ADDITIONAL CONNECTORS ADJACENT TO THE SPLICE PLATE.
8. PLACE BOLT HEAD ON EXPOSED SIDE OF FASCIA GIRDER.
9. PLACE NUTS ON TOP OF SURFACE OF LOWER FLANGE SPLICE.
10. FOR ADDITIONAL DETAILS, SEE BC-753M.
11. BOLTED CONNECTIONS ARE TO BE SLIP CRITICAL CONNECTIONS WITH A CLASS A SURFACE CONDITION.

Mark	Description	By	Chk'd.	Recm'd	Date

REVISIONS

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COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY

SR 8017 SEC BR2

SEGMENT 0250 OFFSET 1339

SR 8017 (RAMP D), STA 78+98.77

OVER CONRAIL

SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE

FIELD SPLICE DETAILS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

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SHEET 15 OF 26

S- 37498

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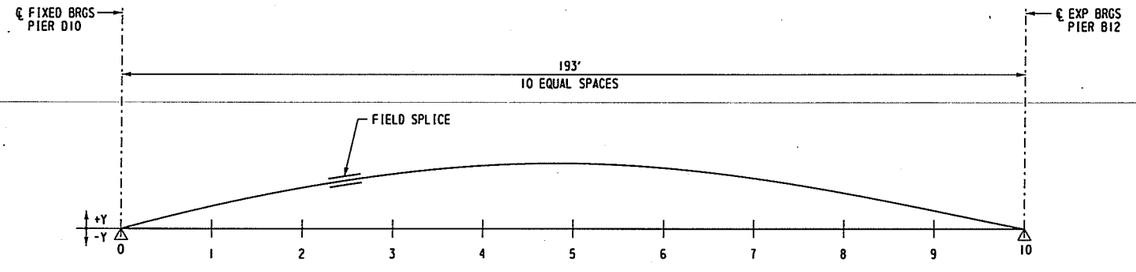
CAMBER ORDINATES "Y", INCHES													
TYPE OF CAMBER	GIRDER	0	1	2	FS	3	4	5	6	7	8	9	10
STEEL DEAD LOAD	1	0.00	1.06	1.96	2.36	2.64	3.05	3.20	3.05	2.64	1.96	1.06	0.00
	2	0.00	1.08	2.00	2.40	2.69	3.11	3.26	3.11	2.69	2.00	1.08	0.00
	3	0.00	1.08	2.00	2.40	2.69	3.11	3.26	3.11	2.69	2.00	1.08	0.00
	4	0.00	1.08	2.00	2.40	2.69	3.11	3.26	3.11	2.69	2.00	1.08	0.00
	5	0.00	1.06	1.96	2.36	2.64	3.05	3.20	3.05	2.64	1.96	1.06	0.00
DECK DEAD LOAD	1	0.00	1.92	3.55	4.26	4.76	5.50	5.76	5.50	4.76	3.55	1.92	0.00
	2	0.00	1.89	3.50	4.20	4.69	5.42	5.67	5.42	4.69	3.50	1.89	0.00
	3	0.00	1.99	3.69	4.43	4.94	5.71	5.98	5.71	4.94	3.69	1.99	0.00
	4	0.00	1.89	3.50	4.20	4.69	5.42	5.67	5.42	4.69	3.50	1.89	0.00
	5	0.00	1.92	3.55	4.26	4.76	5.50	5.76	5.50	4.76	3.55	1.92	0.00
SUPER-IMPOSED DEAD LOAD	1	0.00	0.50	0.93	1.12	1.26	1.46	1.53	1.46	1.26	0.93	0.50	0.00
	2	0.00	0.49	0.91	1.09	1.22	1.42	1.49	1.42	1.22	0.91	0.49	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.00	0.49	0.91	1.09	1.22	1.42	1.49	1.42	1.22	0.91	0.49	0.00
	5	0.00	0.50	0.93	1.12	1.26	1.46	1.53	1.46	1.26	0.93	0.50	0.00
GEOMETRIC	1	0.00	1.10	1.70	1.82	1.81	1.49	1.12	0.74	0.36	0.17	0.59	0.00
	2	0.00	1.28	2.07	2.29	2.37	2.24	2.05	1.85	1.66	1.47	1.14	0.00
	3	0.00	1.28	2.07	2.29	2.37	2.24	2.05	1.85	1.66	1.47	1.14	0.00
	4	0.00	1.28	2.07	2.29	2.37	2.24	2.05	1.85	1.66	1.47	1.14	0.00
	5	0.00	1.28	2.07	2.29	2.37	2.24	2.05	1.85	1.66	1.47	1.14	0.00
TOTAL	1	0.00	4.57	8.15	9.57	10.46	11.51	11.60	10.75	9.01	6.61	4.07	0.00
	2	0.00	4.74	8.48	9.99	10.96	12.18	12.46	11.80	10.26	7.88	4.59	0.00
	3	0.00	4.35	7.76	9.12	9.99	11.06	11.28	10.68	9.29	7.16	4.20	0.00
	4	0.00	4.74	8.48	9.99	10.96	12.18	12.46	11.80	10.26	7.88	4.59	0.00
	5	0.00	4.76	8.52	10.04	11.02	12.25	12.53	11.87	10.32	7.92	4.61	0.00



CAMBER DIAGRAM - GIRDERS 1 THRU 5

NOT TO SCALE

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR STEEL GIRDER ELEVATION, SEE SHEET 13.
3. FOR FRAMING PLAN, SEE SHEET 12.
4. FOR FIELD SPLICE DETAILS, SEE SHEET 15.
5. SUPERIMPOSED DL CAMBERS INCLUDE BARRIERS AND PROTECTIVE FENCE.
6. SUPERIMPOSED DL CAMBERS DO NOT INCLUDE FUTURE WEARING SURFACE.
7. DECK DEAD LOAD INCLUDES CONCRETE SLAB, HAUNCH, SIP FORMS, AND WEIGHT OF CONCRETE IN THE VALLEYS.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
CAMBER DIAGRAMS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132

STV

RECOMMENDED 10/21/2019

SHEET 16 OF 26

S- 37498

DESIGNED: PHM | CHECKED: BRY | CADD: JAS | CHECKED: PHM

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FACTORED BEARING DESIGN LOADS

LOCATION	BEARING TYPE	VERTICAL - SERVICE I (KIPS)						VERTICAL - EXTREME EVENT I (KIPS)		HORIZONTAL - SERVICE I (KIPS)			HORIZONTAL - STRENGTH III (KIPS)			HORIZONTAL - EXTREME EVENT I (KIPS)		
		DL + W + TU		LL + I		TOTAL		DL = TOTAL		TRANS	LONG	RESOLUTION	TRANS	LONG	RESOLUTION	TRANS	LONG	RESOLUTION
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX									
PIER D10	IIF (FIXED)	138.14	214.03	0.00	136.88	138.14	350.91	130.12	265.35	31.67	42.36	52.89	102.74	20.76	104.82	51.90	146.15	155.09
PIER B12	IIIE (EXPANSION)	138.14	214.03	0.00	136.88	138.14	350.91	130.12	265.35	31.67	99.38	104.30	102.74	99.38	142.94	51.90	99.38	112.11

DL = DEAD LOAD
W = WIND LOAD ON SUPERSTRUCTURE/LIVE LOAD
TU = THERMAL LOAD
LL+I = LIVE LOAD + IMPACT

BEARING SCHEDULE AND DESIGN DATA

TYPE		IIF	IIIE
LOCATION		PIER D10	PIER B12
GIRDER NUMBER		1-5	1-5
NUMBER REQUIRED FOR CONSTRUCTION		5	5
DESIGN ROTATION (RADIANS) *		0.04014	0.04014
DESIGN MOVEMENT (INCHES)	TRANS	0.00	0.00
	LONG	0.00	5.74
COEFFICIENT OF FRICTION		0.10	0.10

* INCLUDES 0.02 RADIAN CONSTRUCTION TOLERANCE.

EXPANSION BEARINGS IIIE

LOCATION	DEAD LOAD (KIPS)	LIVE LOAD (KIPS)	TOTAL LOAD (KIPS)	MARK	DIMENSIONS (IN)								WEIGHT (LBS)
					b	B	j	L	S	T1	T2	T	
PIER B12	207.59	136.88	344.47	IIIE	14.75	39.00	20.50	39.00	16.25	0.750	1.50	3.125	985

FIXED BEARINGS IIF

LOCATION	DEAD LOAD (KIPS)	LIVE LOAD (KIPS)	TOTAL LOAD (KIPS)	MARK	DIMENSIONS (IN)						WEIGHT (LBS)
					S	j	B	L	T1	T2	
PIER D10	207.59	136.88	344.47	IIF	12.00	14.00	42.00	42.00	4.00	1.50	822

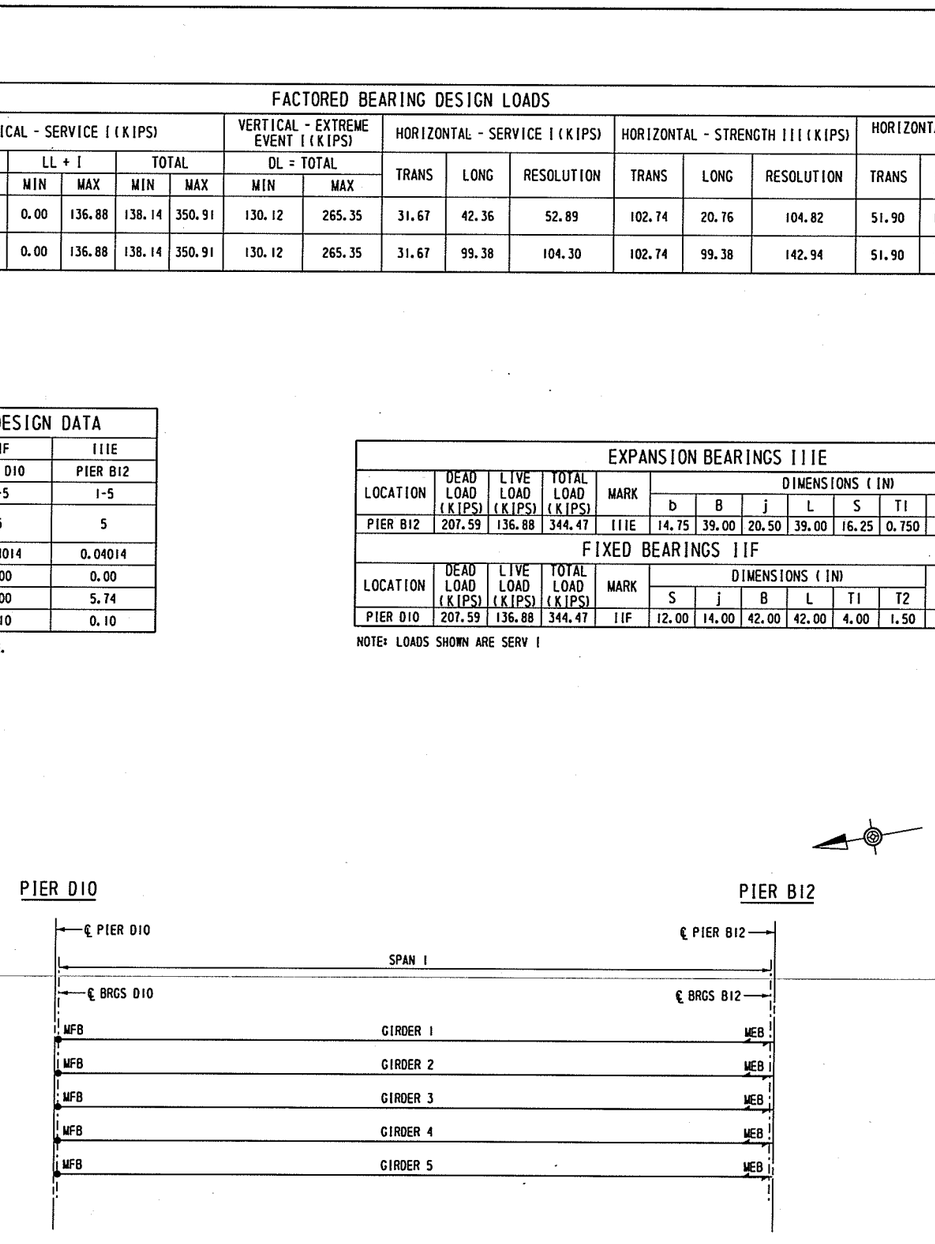
NOTE: LOADS SHOWN ARE SERV I

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR TYPE IIIE BEARINGS, SEE SHEET 18.
3. FOR TYPE IIF BEARINGS AND ANCHOR BOLT DETAILS, SEE SHEET 19.
4. FOR ADDITIONAL METAL BEARING NOTES AND DETAILS, SEE BC-755M.
5. PREPARE BEARING AREAS IN ACCORDANCE WITH PUB. 408, SECTION 1001.3(K)9 AND FURNISH TYPE II BEDDING MATERIAL AS SPECIFIED IN SECTION 1113.03(h).

MATERIALS

1. STRUCTURAL STEEL:	AASHTO M270/M270M (ASTM A709/A709M, GRADE 36
2. BRONZE BEARING PLATES:	AASHTO M107 (ASTM B22) ALLOY NO. C91300 OR C91300
3. ANCHOR BOLTS:	ASTM F1554, GRADE 105
4. NUTS:	ASTM A563/A563M, GRADE DH
5. WASHERS:	ASTM F436/F436M, TYPE 1
6. GALVANIZING OF ANCHOR BOLTS, NUTS, AND WASHERS:	PUB. 408, SECTION 1105.02(S).



BEARING LAYOUT
NOT TO SCALE

LEGEND

● MFB - METAL FIXED BEARING, TYPE IIF

⟿ - DIRECTION OF MOVEMENT, EXPANSION BEARING

MEB - METAL EXPANSION BEARING, TYPE IIIE

Mark	Description	By	Chk'd	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
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PHILADELPHIA COUNTY
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SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
METAL BEARINGS - GENERAL

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132

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SHEET 17 OF 26

S-37498

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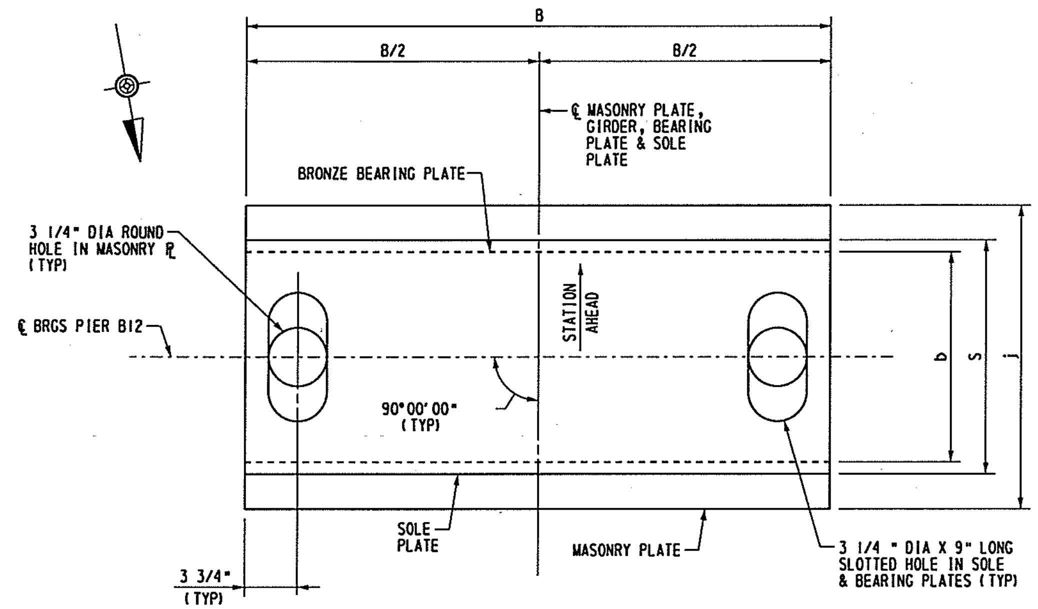
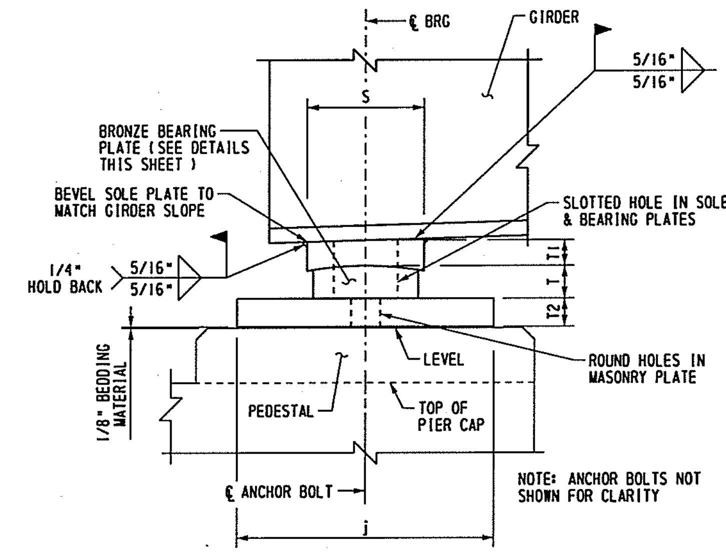
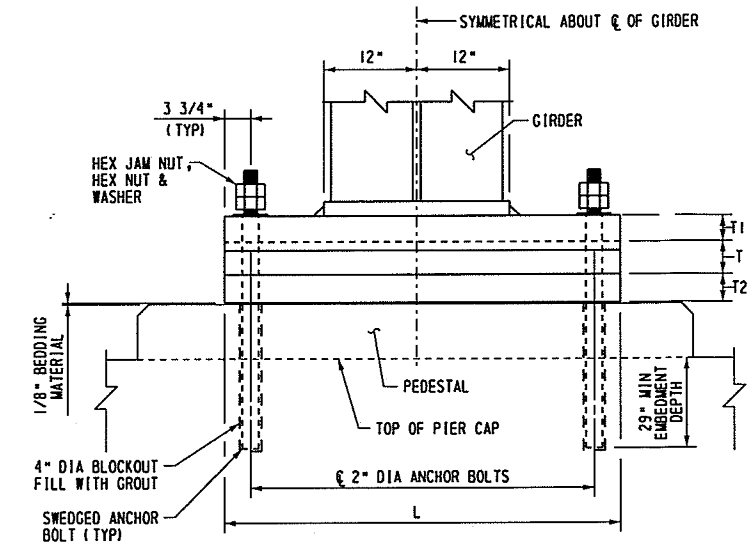


EXPANSION BEARING IIIE PLAN
NOT TO SCALE

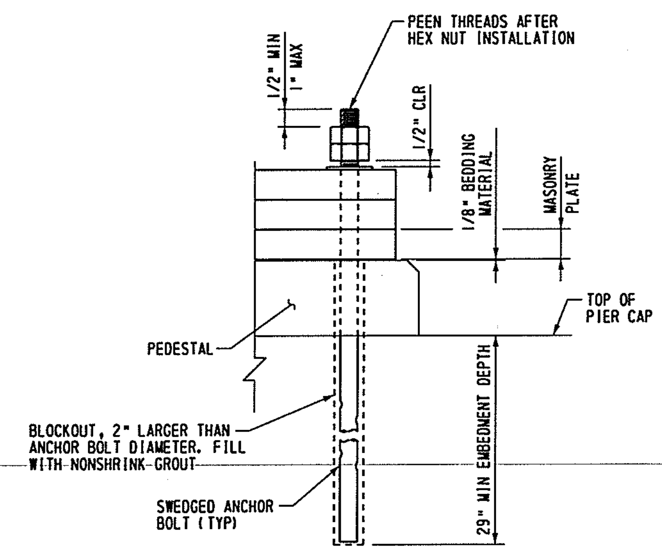


ELEVATION

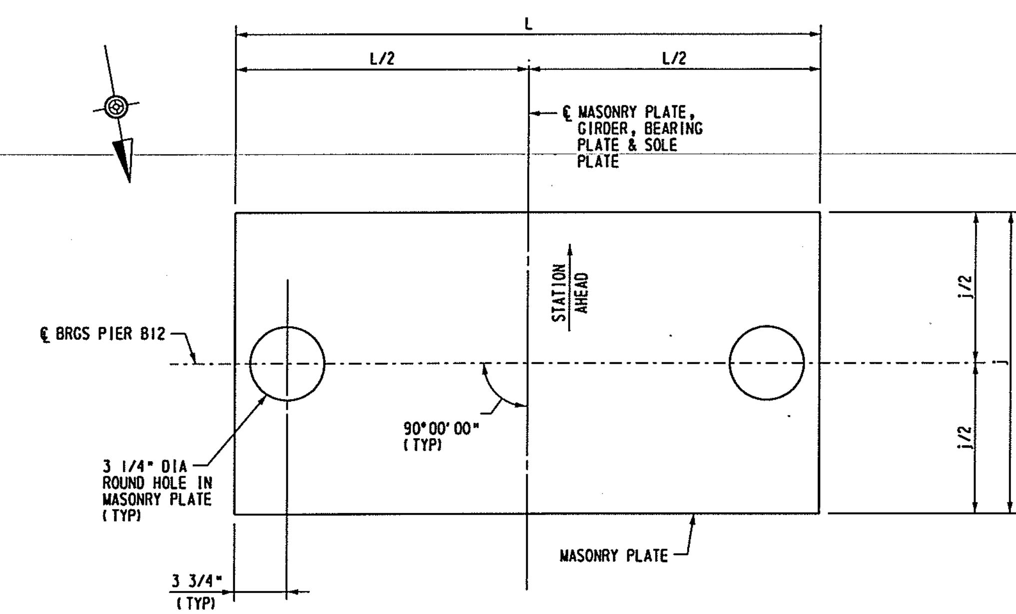


SECTION

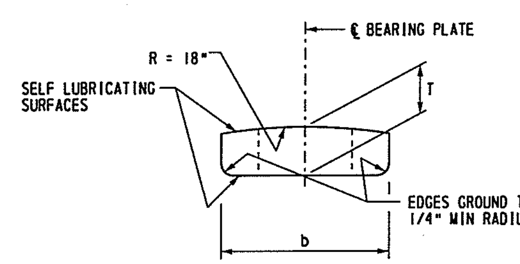
EXPANSION BEARINGS IIIE
NOT TO SCALE



ANCHOR BOLT DETAIL
NOT TO SCALE



MASONRY PLATE FOR IIIE BEARINGS
NOT TO SCALE



BRONZE BEARING PLATE FOR IIIE BEARINGS
NOT TO SCALE

LOCATION	MARK	ANCHOR BOLT DIA	HOLE SIZE	
			MASONRY PLATE	SOLE PLATE & BEARING PLATE
PIER B12	IIIE	2"	3 1/4" DIA	3 1/4" DIA x 9" LONG SLOTTED

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR METAL BEARING LOADS SCHEDULE AND DESIGN DATA, SEE SHEET 17.
3. FOR TYPE IIF BEARINGS, SEE SHEET 19.
4. FOR ADDITIONAL METAL BEARING NOTES AND DETAILS, SEE BC-755M.

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
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OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
METAL EXPANSION BEARINGS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

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SHEET 18 OF 26

S-37498

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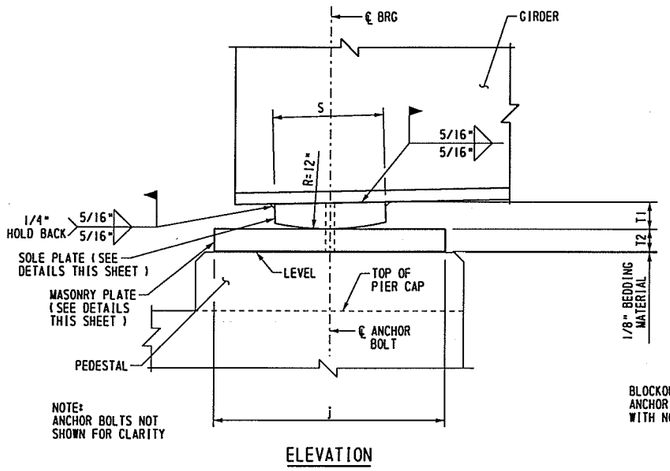
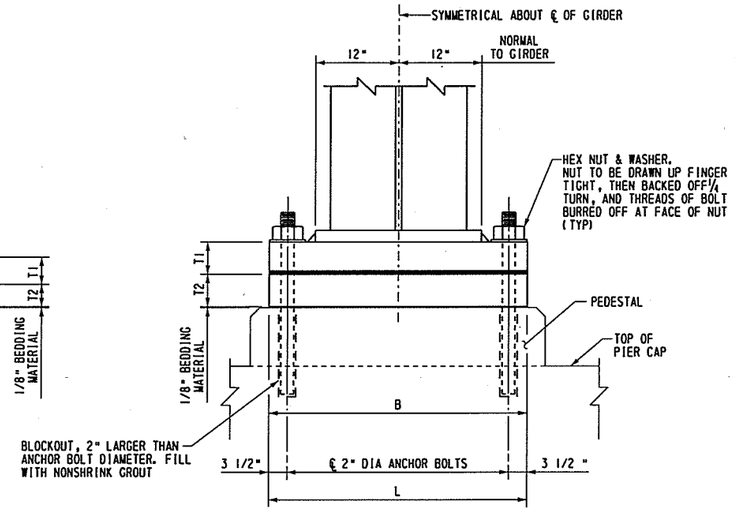


ELEVATION



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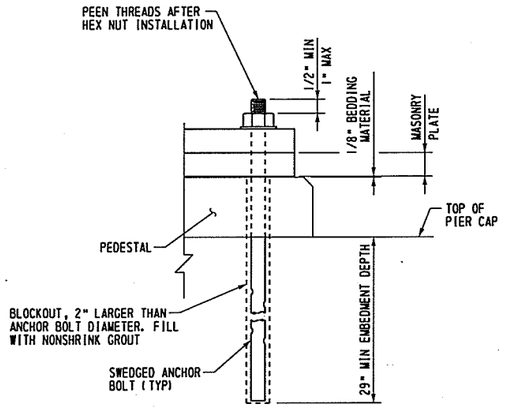
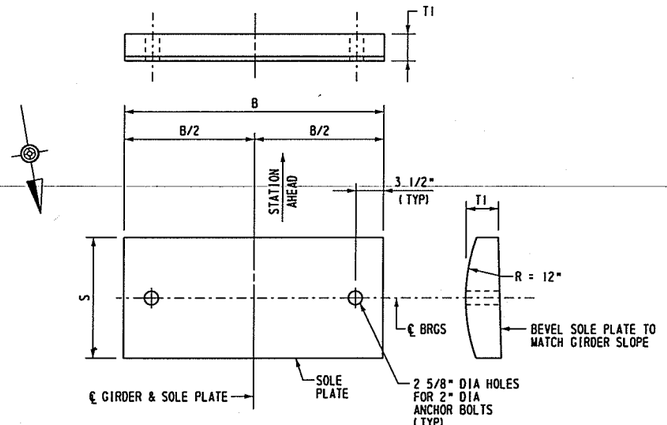


ANCHOR BOLT DETAIL

NOT TO SCALE

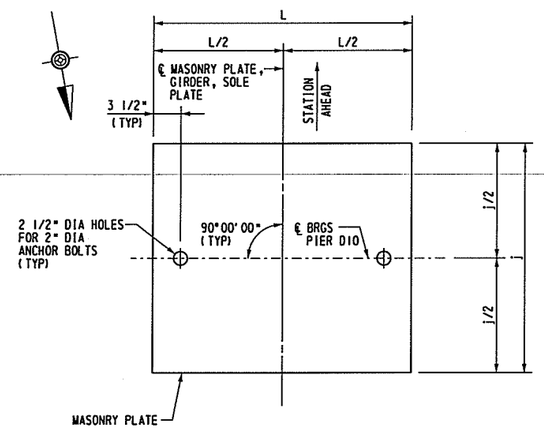
FIXED BEARINGS IIF

NOT TO SCALE



SOLE PLATE (IIF BEARING)

NOT TO SCALE



MASONRY PLATE FOR IIF BEARINGS

NOT TO SCALE

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR METAL BEARING LOADS SCHEDULE AND DESIGN DATA, SEE SHEET 17.
3. FOR TYPE IIIE BEARINGS, SEE SHEET 18.
4. FOR ADDITIONAL METAL BEARING NOTES AND DETAILS, SEE BC-755M.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY

SR 8017 SEC BR2

SEGMENT 0250 OFFSET 1339

SR 8017 (RAMP D), STA 78+98.77

OVER CONRAIL

SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE

METAL FIXED BEARINGS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

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SHEET 19 OF 26

S- 37498

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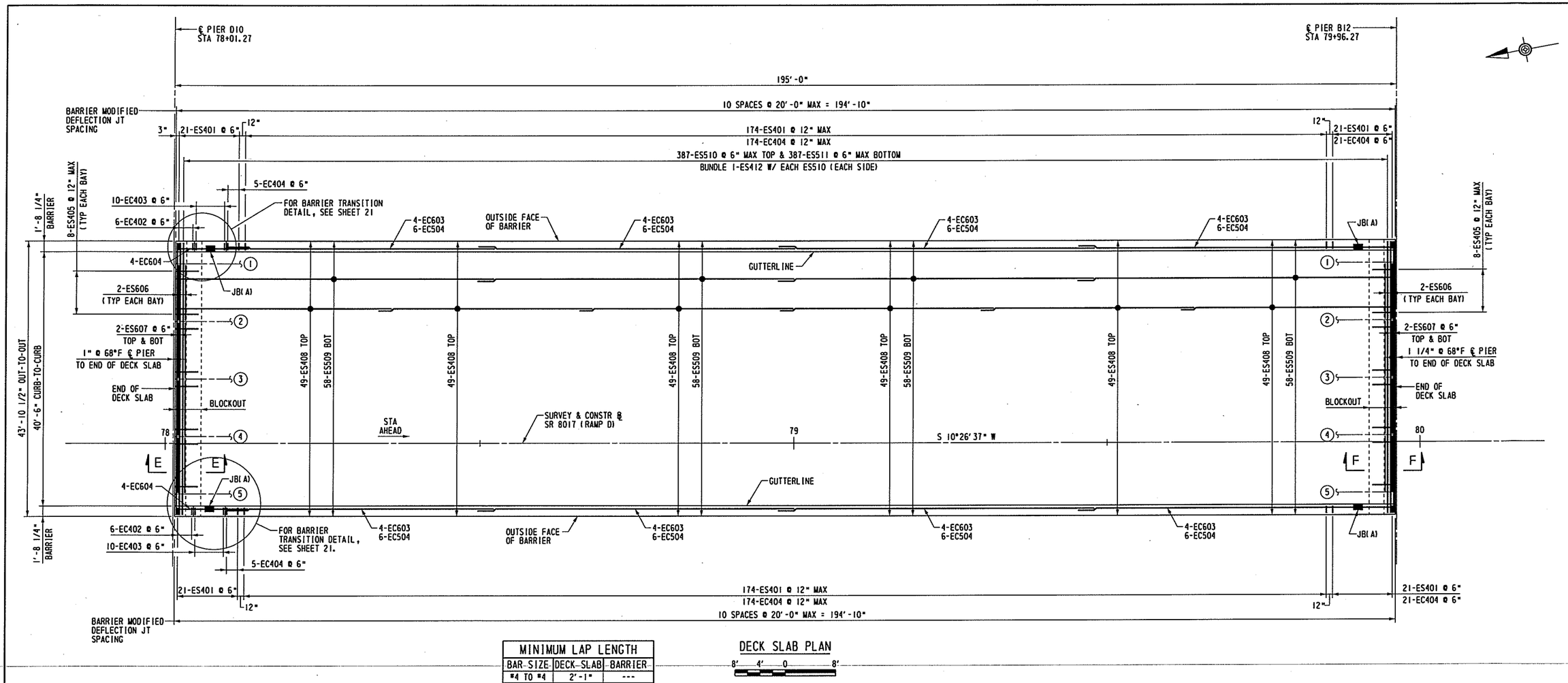

MINIMUM LAP LENGTH		
BAR SIZE	DECK SLAB	BARRIER
#4 TO #4	2'-1"	---
#5 TO 5"	2'-10"	3'-7"
#6 TO 6"	---	4'-4"

DECK SLAB PLAN

8' 4' 0 8'

NOTES
1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. BARRIER MODIFIED DEFLECTION JOINTS IN ACCORDANCE WITH BC-752M.
3. FOR OVERHANG DETAILS AND REINFORCEMENT BAR LOCATIONS, SEE SHEET 21.
4. FOR DECK SLAB SECTION, SEE SHEET 21.
5. FOR DECK ELEVATIONS, SEE SHEETS 24 AND 25.
6. FOR SECTIONS E-E & F-F, SEE SHEET 22.
7. FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET 23.
8. FOR PROTECTIVE FENCE DETAILS, SEE BC-701M.
(#) DENOTES GIRDER NUMBER

LEGEND

JB(A) - JUNCTION BOX, JB-25 FOR FUTURE DECORATIVE LIGHTING. SEE DETAIL FOR "TYPICAL INSTALLATION OF JUNCTION BOX JB-25 CONDUITS & FITTINGS FOR UNDERBRIDGE LIGHTING", BC-721M. OUTLET CONDUIT INSIDE OF EXTERIOR GIRDER.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
DECK SLAB PLAN

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 078132

STV

RECOMMENDED 10/21/2019

SHEET 20 OF 26

S-37498

DESIGNED: STB | CHECKED: JMP | CADD: JAS | CHECKED: BRY

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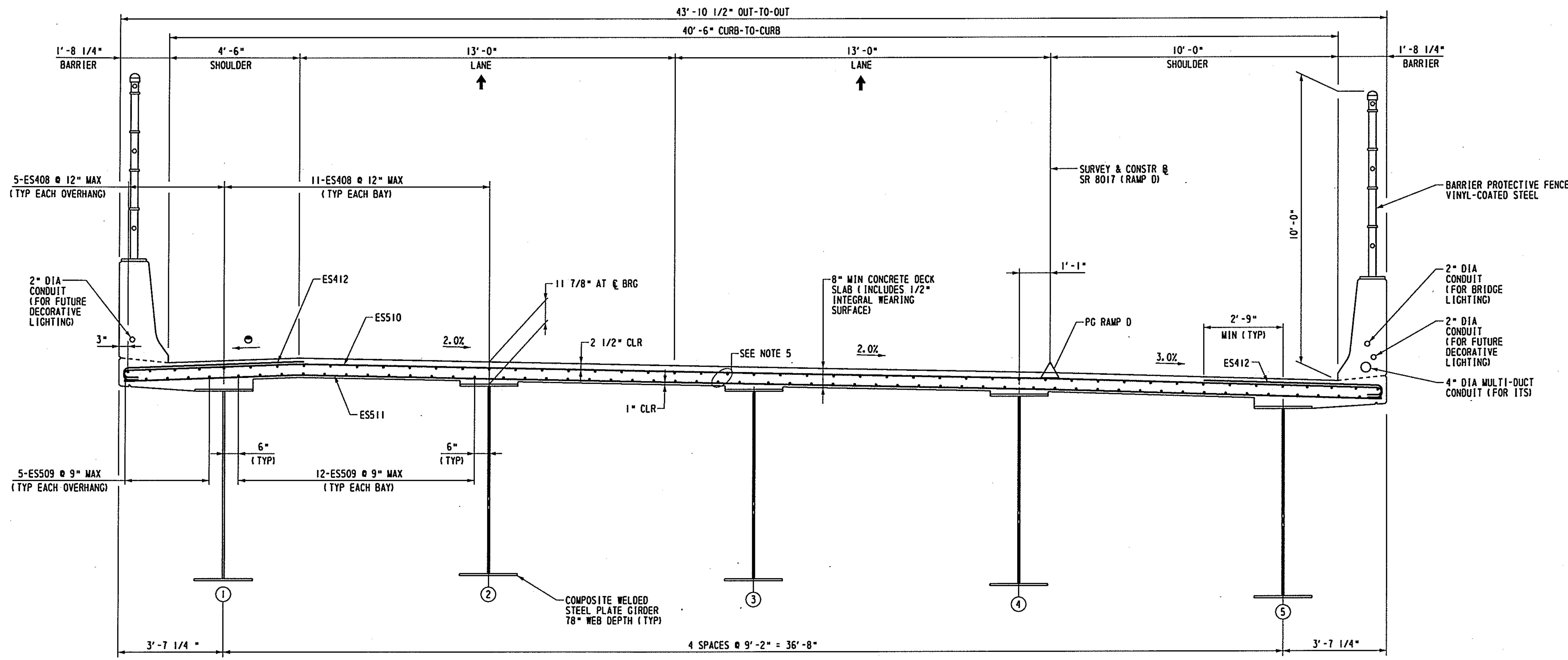
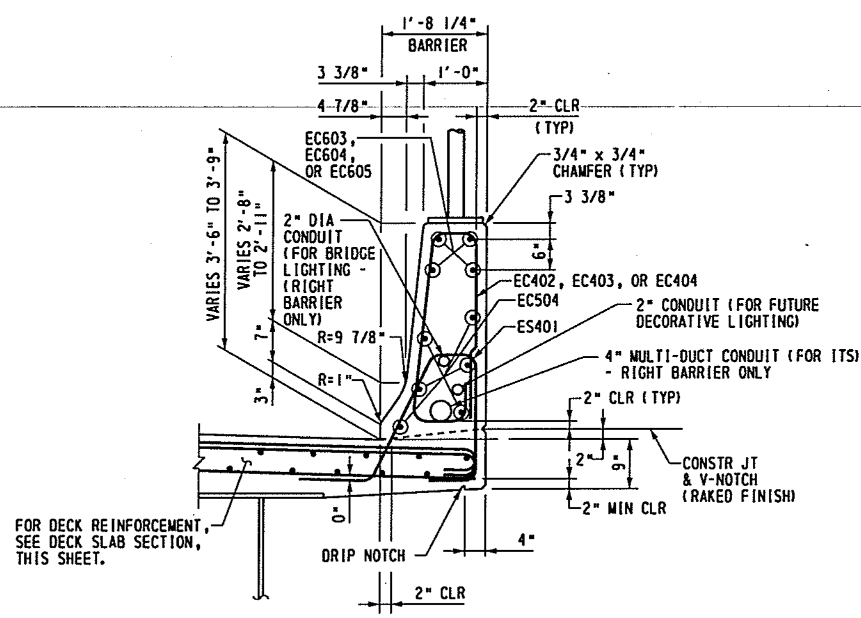


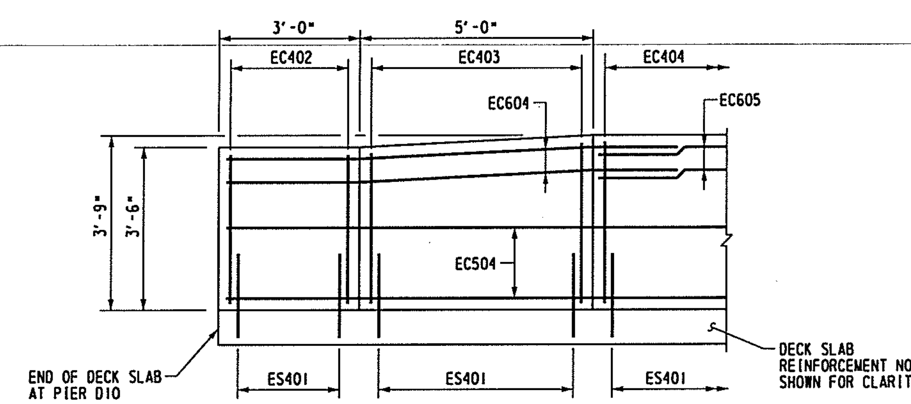
DECK SLAB SECTION

2' 1' 0 2'



TYPICAL BARRIER DETAIL

2' 1' 0 2'



BARRIER TRANSITION DETAIL

NOT TO SCALE

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR DECK SLAB PLAN AND DETAILS, SEE SHEETS 20 & 22.
3. FOR DECK ELEVATIONS, SEE SHEETS 24 & 25.
4. FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET 23.
5. STAGGER TOP AND BOTTOM LONGITUDINAL REINFORCEMENT BARS TO ACHIEVE A MINIMUM OF 2" CLEAR BETWEEN THE MATS.
6. FOR ALUMINUM PROTECTIVE BARRIER DETAILS, SEE BC-711M.

(#) INDICATES GIRDER NUMBER

⊖ FOR SUPER ELEVATION TABLE, SEE SHEET 24.

Mark	Description	By	Chk'd.	Recm'd	Date

REVISIONS

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
DECK SLAB SECTIONS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

STV

RECOMMENDED 10/21/2019

SHEET 21 OF 26

S-37498

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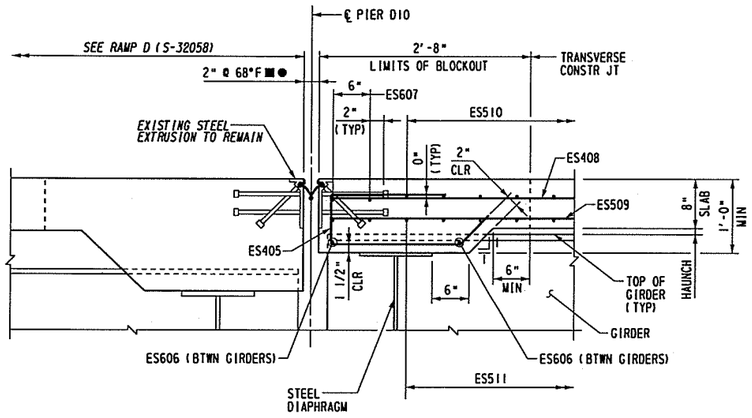
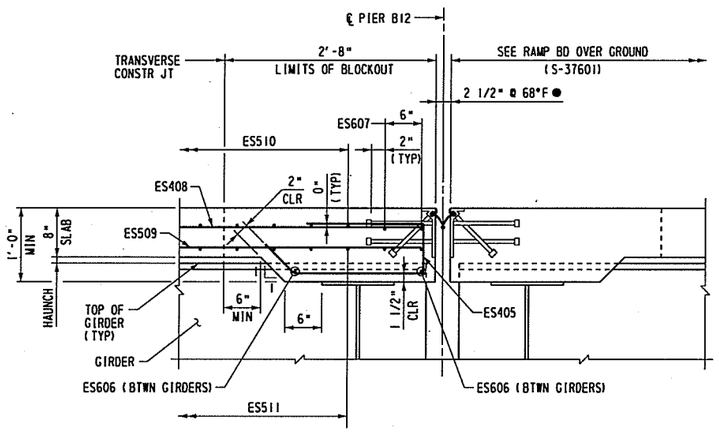


SECTION E-E

1' 0 1'



SECTION F-F

1' 0 1'

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEETS 3 & 4.
2. FOR DECK SLAB PLAN, SEE SHEET 20.
3. FOR SLAB PLAN ELEVATIONS, SEE SHEET 21.
4. FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET 23.
5. FOR LOCATION OF SECTIONS E-E AND F-F, SEE SHEET 22.
6. FOR DIAPHRAGM DETAILS, SEE STANDARD DRAWING BC-754M
7. FOR ADDITIONAL NEOPRENE STRIP SEAL DETAILS, SEE BC-767M.

■ PROVIDE INITIAL JOINT OPEN OF 2" AT 68° F
THIS IS A DEVIATION FROM BC-767M.

● JOINT OPENING TO BE SHOWN ON SHOP DRAWINGS.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

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PHILADELPHIA COUNTY
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SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
DECK SLAB DETAILS

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SHEET 22 OF 26

S-37498

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER No. 079132 PENNSYLVANIA

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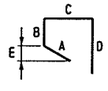
UNIT 1 - DECK SLAB REINFORCEMENT BAR SCHEDULE

MARK	SIZE	NUMBER	LENGTH	TYPE	A	B	C	D	E	F	REMARKS
EC402	4	12	8'-0 1/8"	28	2'-9 1/2"	3 3/8"	3 3/8"	2'-7 3/4 "	6 3/4"		
EC403	4	20	8'-0 1/8" TO 8'-4 5/8"	28	2'-9 1/2" TO 2'-11 3/4"	3 3/8"	3 3/8"	2'-7 3/4" TO 2'-10"	6 3/4"		2 SET OF 10 VARY "A" BY 1/4" VARY "D" BY 1/4"
EC404	4	400	8'-6 1/8"	28	3'-0 1/2"	3 3/8"	3 3/8"	2'-10 3/4"	6 3/4"		
EC504	5	48	51'-4 1/4"	STR							
EC603	6	32	51'-11"	STR							
EC604	6	8	11'-7"	12	2'-9"	5'-0"	3'-10"	5'-0"	3"		
ES401	4	432	5'-9 1/2"	27	1'-9"	4"	10 1/8"	1'-11"			
ES405	4	64	5'-3 3/8"	8	5"	1'-8 3/8"	8"	2'-6"	3 1/2"		
ES408	4	294	35'-0"	STR							
ES412	4	774	6'-8 1/4"	14	6"	6'-2 1/4"		4"			
ES509	5	232	51'-0"	STR							
ES510	5	387	44'-8 1/2"	15	7"	43'-6 1/2"		5"			
ES511	5	387	43'-6 1/2"	STR							
ES606	6	16	8'-8"	STR							
ES607	6	8	43'-6 1/2"	STR							



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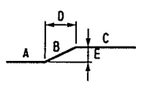

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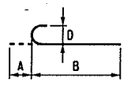

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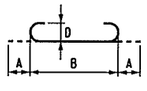

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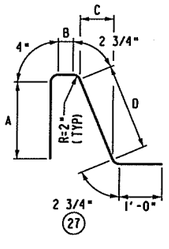

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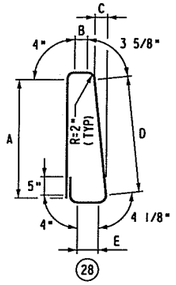

(28)

NOTES

1. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEET 3 & 4.
2. FOR REINFORCEMENT BAR FABRICATION DETAILS, SEE BC-736M.
3. FIGURES IN CIRCLES INDICATE BAR TYPES.
4. "E" PREFIX IN BAR MARK DENOTES EPOXY-COATED BARS.
5. FOR ALL BAR TYPES SHOWN, DIMENSION A-F AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG THE INSIDE OF BAR.
6. "D" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE STANDARD HOOKS ARE TO BE USED.

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
REINF BAR SCHEDULE - DECK SLAB

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER

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RECOMMENDED 10/21/2019

SHEET 23 OF 26

S-37498

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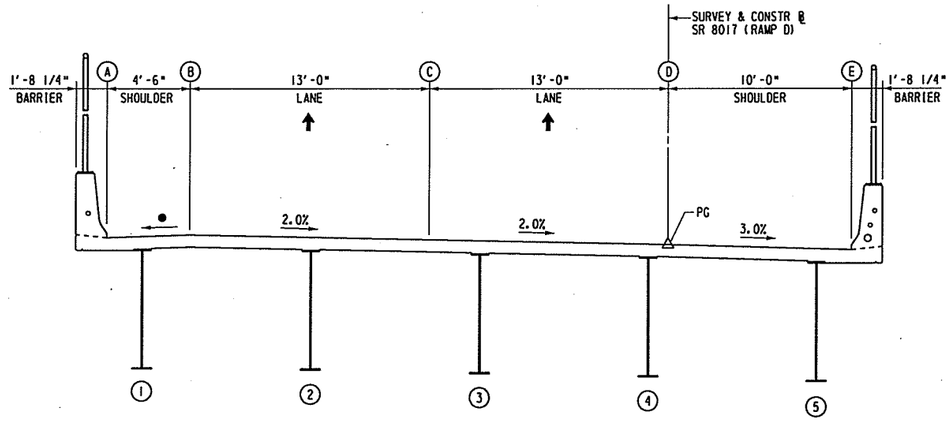
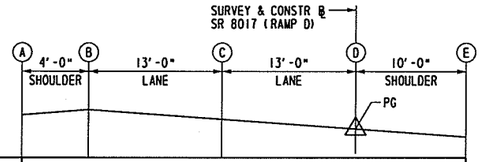
TOP OF DECK SLAB ELEVATIONS AT BREAK POINTS ◆

LOCATION	STATION	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
℄ PIER D10	78+01.27	70.06	70.24	69.98	69.72	69.42
E/DECK-SPAN 11-PIER D10	78.01.35	70.06	70.24	69.98	69.72	69.42
℄ BRGS PIER D10	78+02.27	70.06	70.24	69.98	69.72	69.42
	78+10.00	70.07	70.25	69.99	69.73	69.43
	78+20.00	70.07	70.25	69.99	69.73	69.43
	78+30.00	70.06	70.24	69.98	69.72	69.42
	78+40.00	70.04	70.22	69.96	69.70	69.40
	78+50.00	70.00	70.18	69.92	69.66	69.36
	78+60.00	69.96	70.14	69.88	69.62	69.32
	78+70.00	69.90	70.08	69.82	69.56	69.26
	78+80.00	69.84	70.02	69.76	69.50	69.20
	78+90.00	69.78	69.96	69.70	69.44	69.14
	79+00.00	69.72	69.90	69.64	69.38	69.08
	79+10.00	69.66	69.84	69.58	69.32	69.02
	79+20.00	69.60	69.78	69.52	69.26	68.96
	79+30.00	69.54	69.72	69.46	69.20	68.90
	79.40.00	69.47	69.65	69.39	69.13	68.83
	79+50.00	69.42	69.59	69.33	69.07	68.77
	79+60.00	69.42	69.53	69.27	69.01	68.71
	79+70.00	69.43	69.49	69.23	68.97	68.67
	79+80.00	69.41	69.40	69.14	68.88	68.58
	79+90.00	69.37	69.30	69.04	68.78	68.48
℄ BRGS PIER B12	79+95.27	69.33	69.24	68.98	68.72	68.42
E/DECK-SPAN 11-PIER B12	79+96.19	69.32	69.23	68.97	68.71	68.41
℄ PIER B12	79+96.27	69.32	69.23	68.97	68.71	68.41



TYPICAL SECTION
(LOOKING STATIONS AHEAD)
NOT TO SCALE



STATION	CROSS SLOPE			
78+01.27 TO 79+48.00	4.0%	2.0%	2.0%	3.0%
79+95.00	2.0%	2.0%	2.0%	3.0%
79+96.27	2.0%	2.0%	2.0%	3.0%

SUPERELEVATION TRANSITION DIAGRAM
(LOOKING STATIONS AHEAD)
NOT TO SCALE

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS SEE SHEETS 2 & 3.
2. FOR TYPICAL SECTION, SEE SHEET 2.
3. FOR FRAMING PLAN, SEE SHEETS 12.
4. FOR DECK SLAB PLAN, SEE SHEET 20.
5. FOR TOP OF DECK ELEVATIONS OVER ℄ GIRDERS, SEE SHEET 25.
6. ALL ELEVATIONS ARE IN FEET.

(#) INDICATES GIRDER NUMBER

● FOR CROSS SLOPES, SEE SUPERELEVATION TRANSITIONAL DIAGRAM, THIS SHEET.

◆ DECK ELEVATIONS GIVEN ARE FINAL. ADJUST TO ACCOUNT FOR THICKNESS LOST DURING GRINDING OF DECK. SEE SPECIAL PROVISION FOR "GRINDING OF CONCRETE PAVEMENT MODIFIED".

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
SLAB ELEVATIONS - 1

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
JUSTIN SCOTT EBERHART
ENGINEER
PENNSYLVANIA

STV

RECOMMENDED 10/21/2019

SHEET 24 OF 26

S-37498

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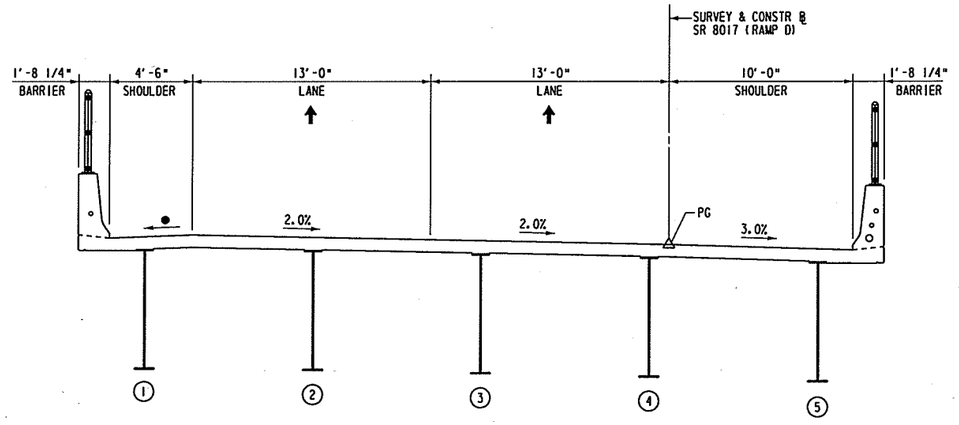
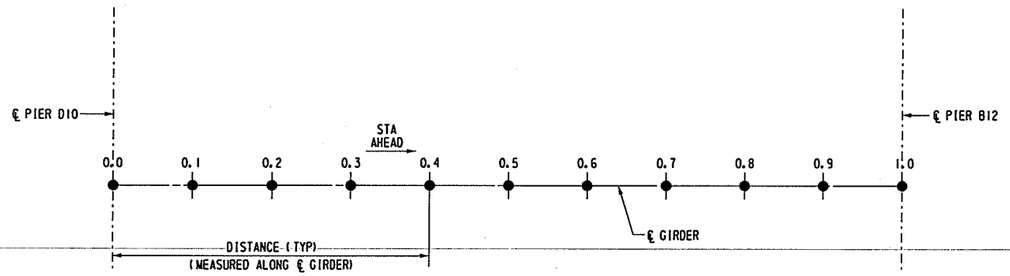
TOP OF DECK SLAB ELEVATIONS @ ℄ GIRDERS ◆

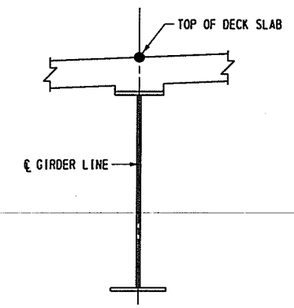
SPAN	LOCATION		GIRDER LINE 1		GIRDER LINE 2		GIRDER LINE 3		GIRDER LINE 4		GIRDER LINE 5	
			DISTANCE	ELEVATION	DISTANCE	ELEVATION	DISTANCE	ELEVATION	DISTANCE	ELEVATION	DISTANCE	ELEVATION
1	0.0	℄ BRGS PIER D10	0.00	70.14	0.00	70.11	0.00	69.93	0.00	69.75	0.00	69.48
	0.1	1ST TENTH POINT	19.30	70.15	19.30	70.12	19.30	69.94	19.30	69.75	19.30	69.49
	0.2	2ND TENTH POINT	38.60	70.11	38.60	70.08	38.60	69.90	38.60	69.72	38.60	69.45
	0.3	3RD TENTH POINT	57.90	70.03	57.90	70.01	57.90	69.82	57.90	69.64	57.90	69.37
	0.4	4TH TENTH POINT	77.20	69.92	77.20	69.89	77.20	69.71	77.20	69.53	77.20	69.26
	0.5	5TH TENTH POINT	96.50	69.80	96.50	69.77	96.50	69.59	96.50	69.41	96.50	69.14
	0.6	6TH TENTH POINT	115.80	69.69	115.80	69.66	115.80	69.47	115.80	69.29	115.80	69.03
	0.7	7TH TENTH POINT	135.10	69.57	135.10	69.54	135.10	69.36	135.10	69.17	135.10	68.91
	0.8	8TH TENTH POINT	154.40	69.48	154.40	69.42	154.40	69.24	154.40	69.05	154.40	68.79
	0.9	9TH TENTH POINT	173.70	69.43	173.70	69.31	173.70	69.13	173.70	68.94	173.70	68.68
	1.0	℄ BRGS PIER B12	193.00	69.30	193.00	69.11	193.00	68.93	193.00	68.75	193.00	68.48



TYPICAL SECTION
(LOOKING STATIONS AHEAD)
NOT TO SCALE



TYPICAL PLAN
LOCATIONS OF TOP OF DECK SLAB ELEVATIONS OVER ℄ GIRDER
NOT TO SCALE



TYPICAL GIRDER
NOT TO SCALE

NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS SEE SHEETS 2 & 3.
2. FOR TYPICAL SECTION, SEE SHEET 2.
3. FOR FRAMING PLAN, SEE SHEETS 12.
4. FOR DECK SLAB PLAN, SEE SHEET 20.
5. FOR TOP OF DECK ELEVATIONS AT BREAK POINTS, SEE SHEET 24.
6. ALL ELEVATIONS ARE IN FEET.

(#) INDICATES GIRDER NUMBER

● FOR CROSS SLOPES, SEE SUPERELEVATION TRANSITIONAL DIAGRAM, SHEET 24.

◆ DECK ELEVATIONS GIVEN ARE FINAL. ADJUST TO ACCOUNT FOR THICKNESS LOST DURING GRINDING OF DECK. SEE SPECIAL PROVISION FOR "GRINDING OF CONCRETE PAVEMENT MODIFIED".

Mark	Description	By	Chk'd.	Recm'd	Date
	REVISIONS				

SR 0095 PREVIOUSLY KNOWN AS LR 1000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN COMPOSITE STEEL PLATE GIRDER BRIDGE
SLAB ELEVATIONS - 2

RECOMMENDED 10/21/2019

SHEET 25 OF 26

S-37498

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JUSTIN SCOTT EBERHART ENGINEER PENNSYLVANIA

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PIER D10

BORING B6-13
STATION 78+01 OFFSET 28.25' LT

A	B	C	D	E	F	G	H	I	J
1.5	S-1	4-11-11	1.1'	73	-	gm	d	0.0' to 3.6' Silty Gravel (gm), dark brown, dry, medium dense, homogeneous, (fill)	Gravel consists of angular rock fragments, concrete and brick. Low recovery due to gravel in spoon tip.
3.0	S-2	6-5-6	0.2'	13	-		d	EL. 8.0	
4.5	S-3	7-11-10	1.2'	80	-	a-1-b	d	3.6' to 6.2' Silty Sand (sm), light brown, dry, medium dense, homogeneous, (fill)	
6.0	S-4	6-8-12	1.5'	100	-	sm	d	EL. 5.4	
7.2	S-5	16-32-50/0.2	1.0'	83	-	a-4	d	6.2' to 10.5' Well Graded Gravel with Silt (gw-gm), light brown, dry, very dense, homogeneous, (fill)	Gravel consists of subrounded stones to angular rock fragments. No recovery due to gravels impeding spoon retrieval.
9.0	S-6	20-27-35	1.2'	80	-	gw-gm	d	EL. 1.1	
9.2	S-7	50/0.2	0.0'	0	-		-		0 HRS., EL=1.2
BPCE 1.00						a-1-a			
12.0	S-8	7-14-21	0.9'	60	-	gw	w	10.5' to 12.5' Well Graded Gravel with Sand (gw), orangish brown, wet, medium dense to dense, homogeneous, (alluvium)	
13.5	S-9	8-9-11	1.3'	87	-	a-1-a	w	EL. -0.9	24 HRS., EL=-1.6
15.0	S-10	4-7-12	1.1'	73	-	sm	w	12.5' to 14.7' Silty Sand (sm), orangish brown, wet, medium dense, homogeneous, (alluvium)	
16.5	S-11	8-15-22	0.8'	53	-	a-2-4	w	EL. -3.1	
18.0	S-12	15-25-19	0.6'	40	-	gm	w	14.7' to 21.5' Silty Gravel with Sand (gm), orangish brown, wet, medium dense to dense, homogeneous, (alluvium)	Gravel consists of subangular to subrounded stones and angular rock fragments. Low recoveries due to gravel in spoon tip.
19.5	S-13	25-25-22	0.5'	33	-		w		
21.0	S-14	17-16-16	0.4'	27	-		w	EL. -9.9	
22.2	S-15	13-33-50/0.2	1.0'	83	-	a-1-b	w	21.5' to 22.5' Well Graded Gravel with Silt (gw-gm), wet, very dense, homogeneous, (alluvium)	Gravel consists of subangular stones and angular rock fragments. Cobbles/small boulders 22.3'-22.5'.
24.0	S-16	1-2-3	1.1'	73	-	gw-gm	w	EL. -10.9	
25.5	S-17	6-7-7	1.3'	87	-	a-1-a	w	22.5' to 25.8' Silty Sand (sm), dark brown to brownish orange, wet, loose to medium dense, homogeneous, (alluvium)	
27.0	S-18	2-3-3	0.5'	33	-	sm	w	EL. -14.2	
28.5	S-19	3-4-5	1.5'	100	-	a-2-4	w	25.8' to 40.3' SILTY SAND (SM), brown to gray, wet, very loose to medium dense, homogeneous, (alluvium)	Low recovery due to loose soils. S-19 to S-21 Lab Tested: W = 21.4%, LL = NP, PI = NP, Specific Gravity = 2.66, Fines = 21.0%
30.0	S-20	4-4-6	1.5'	100	-	SM	w		
31.5	S-21	2-4-6	0.8'	53	-		w		
33.0	S-22	3-4-4	1.2'	80	-		w		
34.5	S-23	2-1-3	1.0'	67	-		w		
36.0	S-24	1-4-4	0.8'	53	-		w		
37.5	S-25	3-3-4	1.3'	87	-		w		
39.0	S-26	3-5-6	1.4'	93	-		w		
40.5	S-27	1-3-4	1.4'	93	-	A-2-4	w	EL. -28.7	
42.0	S-28	3-3-5	0.9'	60	-	sm	w	40.3' to 44.8' Silty Sand (sm), dark brown to orange, wet, loose to medium dense, homogeneous, (alluvium)	
43.5	S-29	3-5-8	1.5'	100	-		w		
45.0	S-30	6-9-21	1.3'	87	-	a-2-4	w	EL. -33.2	
45.3	S-31	50/0.3	0.2'	67	-	gw	w	44.8' to 49.5' Well Graded Gravel (gw), orange, wet, very dense, homogeneous, (alluvium)	Gravel consists of angular rock fragments. Low recovery due to gravel impeding spoon retrieval.
46.5									
47.7	S-32	20-34-50/0.2	0.3'	25	-		w		
48.0	S-33	50/0.0	0.0'	-	-		-		Conglomerate boulder 47.7'-48.3'.
49.5						a-1-a		EL. -37.9	

Continued Above

ELEVATION, FEET

BORING B6-13 (CONTINUED)
STATION 78+01 OFFSET 28.25' LT

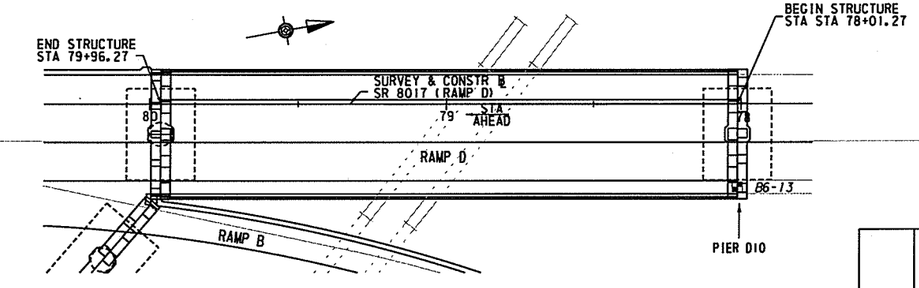
A	B	C	D	E	F	G	H	I	J
51.0	S-34	6-9-12	1.3'	87	-	ml	m	49.5' to 55.1' Sandy Silt (ml), light green, moist, medium dense to very dense, homogeneous, (saprolite)	
52.5	S-35	14-16-20	0.9'	60	-		m		
54.0	S-36	9-13-18	1.5'	100	> 4.5		m		
55.5	S-37	12-21-30	1.0'	67	> 4.5	a-4	m	EL. -43.5	
57.0	S-38	8-20-29	1.5'	100	-	sm	m	55.1' to 59.9' Silty Sand (sm), light green, moist, very dense, homogeneous, (saprolite)	
57.9	S-39	22-50/0.4	0.9'	100	-		m		
58.5									
59.9	S-40	15-18-50/0.4	1.4'	100	-	a-2-4	m	EL. -48.3	
62.0	R-1		1.7'	81/29	-		-	59.9' to 65.4' Amphibolite, dark greenish gray, soft to medium hard, moderately weathered, very thinly foliated (RD= 60° -65°), very closely fractured to closely fractured (RD= 10° -20°) (RQD= 18%)	TOR at 59.9'.
65.0	R-2		3.0'	100/13	-		-	EL. -53.8	Pyrite on fracture planes. Interlayered pegmatite 63.3'-63.7'. Soft highly weathered rock 66.8'-66.9' & 69.6'-69.8'.
70.0	R-3		5.0'	100/66	-		-	65.4' to 70.0' Amphibolite, dark greenish gray, medium hard, moderately weathered to slightly weathered, very thinly foliated (RD= 60°-65°), very closely fractured to medium fractured (RD= 10°-25°) (RQD= 72%)	
								EL. -58.4	

EPTE -36.0
TO -48.0
TOR -48.3

End of Boring @ 70.0 ft.

ELEVATION, FEET

HISTORICAL BORING LOCATIONS			
BORING	STATION	OFFSET	DATE
B6-13	78+01	28.25' LT	8/7/2012



PLAN
40' 0 40'

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408, SECTION 102.05 FOR FURTHER INFORMATION.

THE SUBSURFACE EXPLORATION DATA PRESENTED ON THE DRAWINGS, (INCLUDING BORING LOGS; EARTH SAMPLES; ROCK CORES; CLASSIFICATION OF MATERIALS; AND DEPTH OF BORINGS), ACCURATELY REPRESENT THE CONDITIONS ENCOUNTERED BY THE TEST BORING PROGRAM AT EACH BORING LOCATION.

ENGINEER/GEOLOGIST — MARCH 21, 2019 DATE

GENERAL NOTES

B6-13: STARTED: 08/07/2012 COMPLETED: 08/08/2012
DRILLER: WILL DENNIGER/EICHELBERGERS
RIG TYPE: DIETRICH D-50 TURBO TRACK WITH SAFETY HAMMER
INSPECTOR/CERT. NO: WILLIAM WETTSTEIN/287-01
DRILLING METHOD: 4.0" O.D. SPIN CASING, 2.0" O.D. SPLIT SPOON, NQ WIRELINE SPLIT BARREL

SPOON SIZE	2" O.D.
CASING SIZE	3.25" I.D.
CASING DEPTH	58.5 FT.
HAMMER WEIGHT	140 LBS
HAMMER DROP	30"
CORE BIT SIZE	NQ-2

THE DESCRIPTION OF MATERIALS ENCOUNTERED HAVE BEEN VERIFIED.

ENGINEER/GEOLOGIST — 03/21/2019 DATE

LEGEND

COLUMN A - LOWER LIMIT OF SAMPLES OR CORE RUNS IN FEET
COLUMN B - SAMPLE OR CORE RUN IDENTIFICATION NUMBERS
COLUMN C - SAMPLE BLOWS PER .50 FT.
COLUMN D - RECOVERY IN FEET
COLUMN E - PERCENTAGE OF SOIL SAMPLE RECOVERY OR ROCK CORE RECOVERY/ROCK QUALITY DESIGNATION
COLUMN F - POCKET PENETROMETER TEST READING IN TSF
COLUMN G - USCS/AASHTO
COLUMN H - WATER CONTENT
COLUMN I - DESCRIPTION
COLUMN J - REMARKS
▼ - 0HR WATER READING
▼ - 24HR WATER READING

ABBREVIATIONS

d - DRY
m - MOIST
w - WET
TOR - TOP OF ROCK ELEVATION
BPCE - BOTTOM OF PILE CAP ELEVATION
EPTE - ESTIMATED PILE TIP ELEVATION

NOTE: ALL STATIONS, OFFSETS, AND ELEVATION ARE IN FEET.

Mark	Description	By	Chk'd.	Recm'd	Date
REVISIONS					

S.R. 0095 PREVIOUSLY KNOWN AS L.R. 1000

PREPARED BY
SUSQUEHANNA CIVIL INC.
50 GRUMBACHER ROAD
YORK, PA 17406

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — JEREMIAH N. GREENLAND — GEOLOGIST PG005177

REG. PROF. ENGINEER/GEOLOGIST
DATE MARCH 21, 2019

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

PHILADELPHIA COUNTY
SR 8017 SEC BR2
SEGMENT 0250 OFFSET 1339
SR 8017 (RAMP D), STA 78+98.77
OVER CONRAIL
SIMPLE SPAN STEEL PLATE GIRDER BRIDGE
TEST BORINGS - I

DISTRICT GEOTECHNICAL ENGINEER — DATE

SHEET 26 OF 26
S- 38480