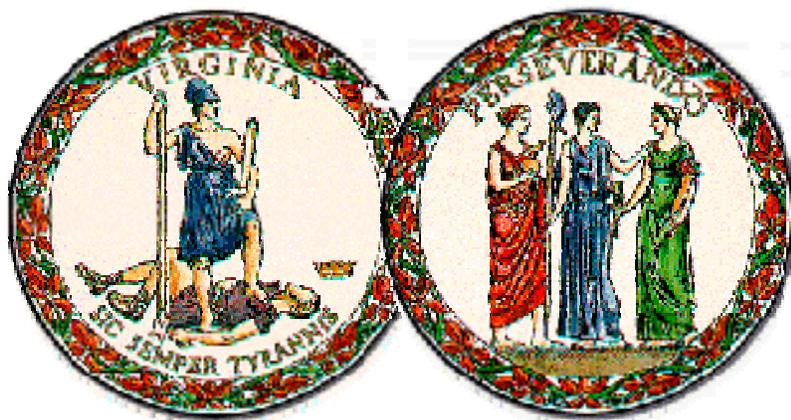


VOLUME V – PART 7

STEEL PLATE GIRDER STANDARDS



VIRGINIA DEPARTMENT OF
TRANSPORTATION

VOID



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

Charles A. Kilpatrick, P.E.
COMMISSIONER

March 10, 2015

SUBJECT: Manual of the Structure and Bridge Division – Part 7
Steel Plate Girder Standards

MEMORANDUM

TO: Holders of Manual

VOIDED:

None

NEW ISSUES:

None

REVISIONS:

| <u>File Number</u> | <u>Description of change(s)</u> |
|--------------------|--|
| TOC-1 | Revised dates. |
| INSTR-1 | Updated modification requirements and manual references. |

RETAIN THIS MEMO IN FRONT OF INDEX TO PART 7

/original signed/
Prasad Nallapaneni, P.E.
Assistant State Structure and Bridge Engineer

For: Kendal R. Walus, P.E.
State Structure and Bridge Engineer



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

Gregory A. Whirley
COMMISSIONER

August 30, 2012

SUBJECT: Manual of the Structure and Bridge Division
Volume V – Part 7
Steel Plate Girder Standards

MEMORANDUM

TO: Holders of Volume V – Part 7: Steel Plate Girder Standards

The revision is intended to clarify modifications to standards. Design waivers/exceptions are required when changes to the standards are made.

VOIDED:

None

NEW ISSUES:

None

REVISIONS:

| <u>File Number</u> | <u>Description of change(s)</u> |
|--------------------|---|
| TOC-1 | Revised date of sheet. |
| INSTR-1 | Added instructions for completing the sheet; revised modification policy. |

RETAIN THIS MEMO IN FRONT OF INDEX TO VOLUME V – PART 7

/original signed/
Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: Kendal R. Walus, P.E.
State Structure and Bridge Engineer



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

1401 EAST BROAD STREET
RICHMOND, 23219-2000

Gregory A. Whirley
Acting COMMISSIONER

June 14, 2010

SUBJECT: Manual of the Structure and Bridge Division
Volume V – Part 7
Steel Plate Girder Standards

MEMORANDUM

TO: Holders of Volume V – Part 7: Steel Plate Girder Standards

VOIDED:

None

NEW ISSUES:

| <u>File Number</u> | <u>Description of change(s)</u> |
|--------------------|---------------------------------|
|--------------------|---------------------------------|

None

REVISIONS:

Note: For all standards, the block with FHWA Region 3 and block in the upper right corner for Special Provisions/Copied Notes has been deleted. The copyright date has been changed to 2010.

RETAIN THIS MEMO IN FRONT OF INDEX TO VOLUME V – PART 7

/original signed/
Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: Kendal R. Walus, P.E.
State Structure and Bridge Engineer



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

David S. Ekern, P.E.
COMMISSIONER

May 29, 2009

SUBJECT: Manual of the Structure and Bridge Division
Volume V – Part 7
Steel Plate Girder Standards

MEMORANDUM

TO: Holders of Volume V – Part 7: Steel Plate Girder Standards

NOTE: Effective with the December Advertisement, Standards shall be sealed and signed in accordance with Volume V – Part 2, File No. 01.16.1 thru 01.16.7.

VOIDED STANDARDS:

None

NEW ISSUES:

None

REVISIONS:

| <u>File Number</u> | <u>Description of changes(s)</u> |
|---------------------|---|
| All standard sheets | All standard sheets have been revised to reflect the border for sealing and signing of plans. |
| SGDET1B-1 | Minor drafting correction. |
| SGDET1B-2 | NOTES TO DESIGNER: Added $\frac{1}{8}$ " increment on values. |
| SGDET1BC-1 | Minor drafting correction. |
| SGDET1BC-2 | NOTES TO DESIGNER: Added $\frac{1}{8}$ " increment on values. |

REVISIONS:

| <u>File Number</u> | <u>Description of changes(s)</u> |
|--------------------|---|
| SGCAM2-2 | NOTES TO DESIGNER: Added $\frac{1}{8}$ " increment on values. |
| SGDLD2-2 | NOTES TO DESIGNER: Added $\frac{1}{8}$ " increment on values. |
| SGCAM2C-2 | NOTES TO DESIGNER: Added $\frac{1}{8}$ " increment on values. |
| SGDLD2C-2 | NOTES TO DESIGNER: Added $\frac{1}{8}$ " increment on values. |
| SGCAM3-2 | NOTES TO DESIGNER: Added $\frac{1}{8}$ " increment on values. |
| SGDLD3-2 | NOTES TO DESIGNER: Added $\frac{1}{8}$ " increment on values. |
| SGCAM3C-2 | NOTES TO DESIGNER: Added $\frac{1}{8}$ " increment on values. |
| SGDLD3C-2 | NOTES TO DESIGNER: Added $\frac{1}{8}$ " increment on values. |
| SGCAM4-2 | NOTES TO DESIGNER: Added $\frac{1}{8}$ " increment on values. |
| SGDLD4A-2 | NOTES TO DESIGNER: Added $\frac{1}{8}$ " increment on values. |
| SGCAM4AC-2 | NOTES TO DESIGNER: Added $\frac{1}{8}$ " increment on values. |
| SGDLD4AC-2 | NOTES TO DESIGNER: Added $\frac{1}{8}$ " increment on values. |

RETAIN THIS MEMO IN FRONT OF INDEX TO VOLUME V – PART 7

/original signed/
Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: Kendal R. Walus, P.E.
State Structure and Bridge Engineer



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

David S. Ekern, P.E.
COMMISSIONER

July 11, 2008

SUBJECT: Manual of the Structure and Bridge Division
Volume V – Part 7
Steel Plate Girder Standards

MEMORANDUM

TO: Holders of Volume V – Part 7, Steel Plate Girder Standards

All of the standard sheets in this series have been revised. Two blocks for the P.E. stamp have been added to the lower left hand corner and the copyright date has been changed to 2008. Some details have been rearranged to provide space for the P.E. stamps.

NOTE: Standard sheets are not required to be sealed and signed at this time.

VOIDED STANDARDS:

None

NEW ISSUES:

| <u>File Number</u> | <u>Description</u> |
|--------------------|--|
| INSTR-2 and -3 | Added instructions for external users for accessing MicroStation (.dgn) files and cell library (sg.cel) and for printing manual. |

REVISIONS:

| <u>File Number</u> | <u>Description of changes(s)</u> |
|--------------------|--|
| TOC-1 thru -3 | Added -DGN link to each standard file. Table of contents updated. Added -CEL link for cell library. |
| INSTR-1 | Falcon location is changed. |

Page 2
July 11, 2008

RETAIN THIS MEMO IN FRONT OF INDEX TO VOLUME V – PART 7

/original signed/
Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: Kendal R. Walus, P.E.
State Structure and Bridge Engineer



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219-2000

David S. Ekern, P.E.
COMMISSIONER

August 31, 2007

MEMORANDUM

TO: Holders of Manual

SUBJECT: Manual of the Structure and Bridge Division
Volume V – Part 7
Steel Plate Girder Standards

All of the standards in the Manual of the Structure and Bridge Division Volume V – Part 7 have been revised including the NOTES TO DESIGNER. Major revisions include updating the standards to the drafting requirements of the office practice (Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 1) and conversion to MicroStation V8. Due to the numerous changes, many editorial in nature, not all of the specific changes are listed under REVISIONS. Only the major revisions will be noted. The cell library (sg.cel) has also been revised. The CELLS-series sheets have been totally reformatted.

VOIDED STANDARDS:

None

NEW ISSUES:

None

REVISIONS:

As noted in the introduction, only the major changes are noted below:

SGDET-series for simple and continuous spans:

Girder Detail, Tables and Notes: Added location of permissible bolted field splice and stud shear connectors spacings at/near the splice area. Cross frame connector plate: Requires plate size designation.

CELLS As noted in the introduction, the cell library (sg.cel) has been revised. The sheets have been totally reformatted. The sheets are now in 8 ½" x 11" format and include an index listing the cells in alphabetical order with a cross reference to the file number for easier location.

**RETAIN THIS MEMO IN FRONT OF INDEX
TO VOLUME V – PART 7**

/original signed/
Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: Kendal R. Walus, P.E.
State Structure and Bridge Engineer



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

1401 EAST BROAD STREET
RICHMOND, 23219-2000

CHARLES D. NOTTINGHAM
COMMISSIONER

MALCOLM T. KERLEY
STATE STRUCTURE AND BRIDGE ENGINEER

May 16, 2001

Manual of the Structure and Bridge Division
Volume V – Part 7
Steel Plate Girder Standards

MEMORANDUM

TO: Holders of Volume V – Part 7

NEW ISSUE:

The Manual of the Structure and Bridge Division, Volume V – Part 7 --- Steel Plate Girder Standards, is being reissued with the date of May 16, 2001 (05-16-01).

REVISIONS:

This reissue of the steel plate girder standards incorporates the new border sheet and includes an update on drafting and detailing corrections, specification updates, and numerous other corrections/revisions. Standards with a previous date of May 16, 2001 (05-16-01) issue have been placed in a VOIDED file for archival purposes.

RETAIN THIS MEMO IN FRONT OF INDEX TO VOLUME V – PART 7.

Julius F. J. Völgyi, Jr., P.E.
Assistant State Structure and Bridge Engineer

For: Malcolm T. Kerley, P.E.
State Structure and Bridge Engineer

Attachments

**VOLUME V – PART 7
STEEL PLATE GIRDER STANDARDS**

TABLE OF CONTENTS

| FILE NO. | TITLE | DATE |
|---|---|-----------|
| TABLE OF CONTENTS & GENERAL INSTRUCTIONS | | |
| TOC-1 | Table of Contents..... | 10Mar2015 |
| TOC-2 | Table of Contents – cont'd | 14Jun2010 |
| TOC-3 | Table of Contents – cont'd | 14Jun2010 |
| TOC-4 | Table of Contents – cont'd | 14Jun2010 |
| INSTR-1 | General Instructions..... | 10Mar2015 |
| INSTR-2 | External Users: File Access Instructions..... | 11Jul2008 |
| INSTR-3 | External Users: File Access Instructions..... | 11Jul2008 |

BOLTED SPLICE DETAILS

| | | |
|---------|--------------------------------|-----------|
| *SGBSPL | -1 Bolted Splice Details..... | 14Jun2010 |
| | -2 Notes to Designer | 31Aug2007 |
| | -DGN MicroStation Drawing File | |

SIMPLE SPAN(S) - STRAIGHT

| | | |
|----------|--------------------------------------|-----------|
| *SGDET1A | -1 Girder Details, sheet 1 of 2..... | 14Jun2010 |
| | -2 Notes to Designer | 31Aug2007 |
| | -DGN MicroStation Drawing File | |
| *SGDET1B | -1 Girder Details, sheet 2 of 2..... | 14Jun2010 |
| | -2 Notes to Designer | 29May2009 |
| | -DGN MicroStation Drawing File | |

SIMPLE SPAN(S) – TRAPEZOIDAL OR CURVED

| | | |
|-------------|-----------------------------------|-----------|
| *SGDET1AC-1 | Girder Details, sheet 1 of 2..... | 14Jun2010 |
| | -2 Notes to Designer | 31Aug2007 |
| | -DGN MicroStation Drawing File | |
| *SGDET1BC-1 | Girder Details, sheet 2 of 2..... | 14Jun2010 |
| | -2 Notes to Designer | 29May2009 |
| | -DGN MicroStation Drawing File | |

*Indicates 11 x 17 sheet; all others are 8½ x 11.

**VOLUME V – PART 7
STEEL PLATE GIRDER STANDARDS**

TABLE OF CONTENTS (cont'd)

| FILE NO. | TITLE | DATE |
|--|--------------------------------------|-----------|
| 2 – SPAN CONTINUOUS - STRAIGHT | | |
| *SGDET2 | -1 Girder Details | 14Jun2010 |
| | -2 Notes to Designer | 31Aug2007 |
| | -DGN MicroStation Drawing File | |
| *SGCAM2 | -1 Camber Diagram..... | 14Jun2010 |
| | -2 Notes to Designer | 29May2009 |
| | -DGN MicroStation Drawing File | |
| *SGDLD2 | -1 Dead Load Deflection Diagram..... | 14Jun2010 |
| | -2 Notes to Designer | 29May2009 |
| | -DGN MicroStation Drawing File | |
| 2 – SPAN CONTINUOUS – TRAPEZOIDAL OR CURVED | | |
| *SGDET2C | -1 Girder Details | 14Jun2010 |
| | -2 Notes to Designer | 31Aug2007 |
| | -DGN MicroStation Drawing File | |
| *SGCAM2C | -1 Camber Diagram..... | 14Jun2010 |
| | -2 Notes to Designer | 29May2009 |
| | -DGN MicroStation Drawing File | |
| *SGDLD2C | -1 Dead Load Deflection Diagram..... | 14Jun2010 |
| | -2 Notes to Designer | 29May2009 |
| | -DGN MicroStation Drawing File | |
| 3 – SPAN CONTINUOUS - STRAIGHT | | |
| *SGDET3 | -1 Girder Details | 14Jun2010 |
| | -2 Notes to Designer | 31Aug2007 |
| | -DGN MicroStation Drawing File | |
| *SGCAM3 | -1 Camber Diagram..... | 14Jun2010 |
| | -2 Notes to Designer | 29May2009 |
| | -DGN MicroStation Drawing File | |
| *SGDLD3 | -1 Dead Load Deflection Diagram..... | 14Jun2010 |
| | -2 Notes to Designer | 29May2009 |
| | -DGN MicroStation Drawing File | |

*Indicates 11 x 17 sheet; all others are 8½ x 11.

**VOLUME V – PART 7
STEEL PLATE GIRDER STANDARDS**

TABLE OF CONTENTS (cont'd)

| FILE NO. | TITLE | DATE |
|--|---|-----------|
| 3 – SPAN CONTINUOUS - TRAPEZOIDAL OR CURVED | | |
| *SGDET3C -1 | Girder Details | 14Jun2010 |
| -2 | Notes to Designer | 31Aug2007 |
| -DGN | MicroStation Drawing File | |
| *SGCAM3C -1 | Camber Diagram..... | 14Jun2010 |
| -2 | Notes to Designer | 29May2009 |
| -DGN | MicroStation Drawing File | |
| *SGDLD3C -1 | Dead Load Deflection Diagram..... | 14Jun2010 |
| -2 | Notes to Designer | 29May2009 |
| -DGN | MicroStation Drawing File | |
| 4 – SPAN CONTINUOUS – STRAIGHT | | |
| *SGDET4A -1 | Girder Details, sheet 1 of 2 | 14Jun2010 |
| -2 | Notes to Designer | 31Aug2007 |
| -DGN | MicroStation Drawing File | |
| *SGDET4B -1 | Girder Details, sheet 2 of 2 | 14Jun2010 |
| -2 | Notes to Designer | 31Aug2007 |
| -DGN | MicroStation Drawing File | |
| *SGCAM4 -1 | Camber Diagram, sheet 1 of 2..... | 14Jun2010 |
| -2 | Notes to Designer | 29May2009 |
| -DGN | MicroStation Drawing File | |
| *SGDLD4A -1 | Dead Load Deflection Diagram, sheet 1 of 2..... | 14Jun2010 |
| -2 | Notes to Designer | 29May2009 |
| -DGN | MicroStation Drawing File | |
| *SGDLD4B -1 | Dead Load Deflection Diagram, sheet 2 of 2..... | 14Jun2010 |
| -2 | Notes to Designer | 31Aug2007 |
| -DGN | MicroStation Drawing File | |

*Indicates 11 x 17 sheet; all others are 8½ x 11.

**VOLUME V – PART 7
STEEL PLATE GIRDER STANDARDS**

TABLE OF CONTENTS (cont'd)

| FILE NO. | TITLE | DATE |
|--|---|-----------|
| 4 – SPAN CONTINUOUS - TRAPEZOIDAL OR CURVED | | |
| *SGDET4AC-1 | Girder Details, sheet 1 of 2 | 14Jun2010 |
| -2 | Notes to Designer | 31Aug2007 |
| -DGN | MicroStation Drawing File | |
| *SGDET4BC-1 | Girder Details, sheet 2 of 2 | 14Jun2010 |
| -2 | Notes to Designer | 31Aug2007 |
| -DGN | MicroStation Drawing File | |
| *SGCAM4C-1 | Camber Diagram, sheet 1 of 2..... | 14Jun2010 |
| -2 | Notes to Designer | 29May2009 |
| -DGN | MicroStation Drawing File | |
| *SGDLD4AC-1 | Dead Load Deflection Diagram, sheet 1 of 2..... | 14Jun2010 |
| -2 | Notes to Designer | 29May2009 |
| -DGN | MicroStation Drawing File | |
| *SGDLD4BC-1 | Dead Load Deflection Diagram, sheet 2 of 2..... | 14Jun2010 |
| -2 | Notes to Designer | 31Aug2007 |
| -DGN | MicroStation Drawing File | |

CELLS FOR STEEL PLATE GIRDER STANDARDS

| | | |
|-------------|---------------------------|-----------|
| SGCELLIND-1 | Index of Cells | 31Aug2007 |
| SGCELLS -1 | Cells | 31Aug2007 |
| -2 | Cells | 31Aug2007 |
| -3 | Cells | 31Aug2007 |
| -4 | Cells | 31Aug2007 |
| -5 | Cells | 31Aug2007 |
| -6 | Cells | 31Aug2007 |
| -7 | Cells | 31Aug2007 |
| -8 | Cells | 31Aug2007 |
| -9 | Cells | 31Aug2007 |
| -10 | Cells | 31Aug2007 |
| -11 | Cells | 31Aug2007 |
| -12 | Cells | 31Aug2007 |
| -13 | Cells | 31Aug2007 |
| -14 | Cells | 31Aug2007 |
| -CEL | MicroStation Cell Library | |

*Indicates 11 x 17 sheet; all others are 8½ x 11.

MANUAL OF THE STRUCTURE AND BRIDGE DIVISION

VOLUME V – PART 7 STEEL PLATE GIRDER STANDARDS

The steel plate girder standards (SG-series) include standard sheets for girder details, camber diagram and dead load deflection diagram for straight and curved girders for simple and continuous spans (2, 3 and 4 spans). Also included are miscellaneous details and bolted splice details with uniform and staggered bolt patterns.

By filling in the sizes of plates (flanges and webs), lengths, stud shear connector spacings, weld size(s), ranges for tension flanges, deflections, etc. the designer can complete the basic plate girder details for inclusion into a set of bridge plans. Active points have been provided to help fill in the tables with the user command "btbl" (fill-in table). Use center top justification.

The tables found on the standards provide for a number of design data. If any of the data is not used, the designer should enter a long dash to indicate that particular piece of data was not left blank by error. For straight girders, there is room only for data for a single girder --- each separate span should have a separate sheet --- the title block can then be modified for example to indicate "GIRDER DETAILS – SPAN a". For straight, trapezoidal spans and curved girder spans, there is room for up to six girders of data. If more girders are used the table can be easily expanded. Remember that the bottom line is of a different weight.

Completion of the project block, title block and lower left corner shall be in accordance with the requirements of File Nos. 04.04-1 thru -2 of Part 2 of this manual and as specified herein.

If a standard sheet is modified by the designer, the letters "MOD." (without quotes) shall be added behind the standard designation in the lower left portion of the border, e.g., SGBSPL-1 MOD. Completing items on the standard that are indicated in the NOTES TO DESIGNER are not considered to be modifications. Minor modifications do not require approval (except for those proposed by Concessionaire/Design-Builder where emailed approval by the District Structure and Bridge Engineer documented to the project design file is required for any modification). See Part 1 of this manual, File No. Pre.02-6 for definition of minor modification.

Modifications not considered minor as defined in File No. Pre.02-6 require email approval by the District Structure and Bridge Engineer documented to the project design file unless a design exception is required.

The CADD standard beam detail sheets are located in Falcon [..\PROJECTS\br-stand\sb\sg] directory (central office environment). The drawing file name for the standard sheet corresponds with the file number (name of standard sheet) as listed in the Table of Contents (minus the dash). For example, standard SGDET1A is drawing sgdet1a.dgn.

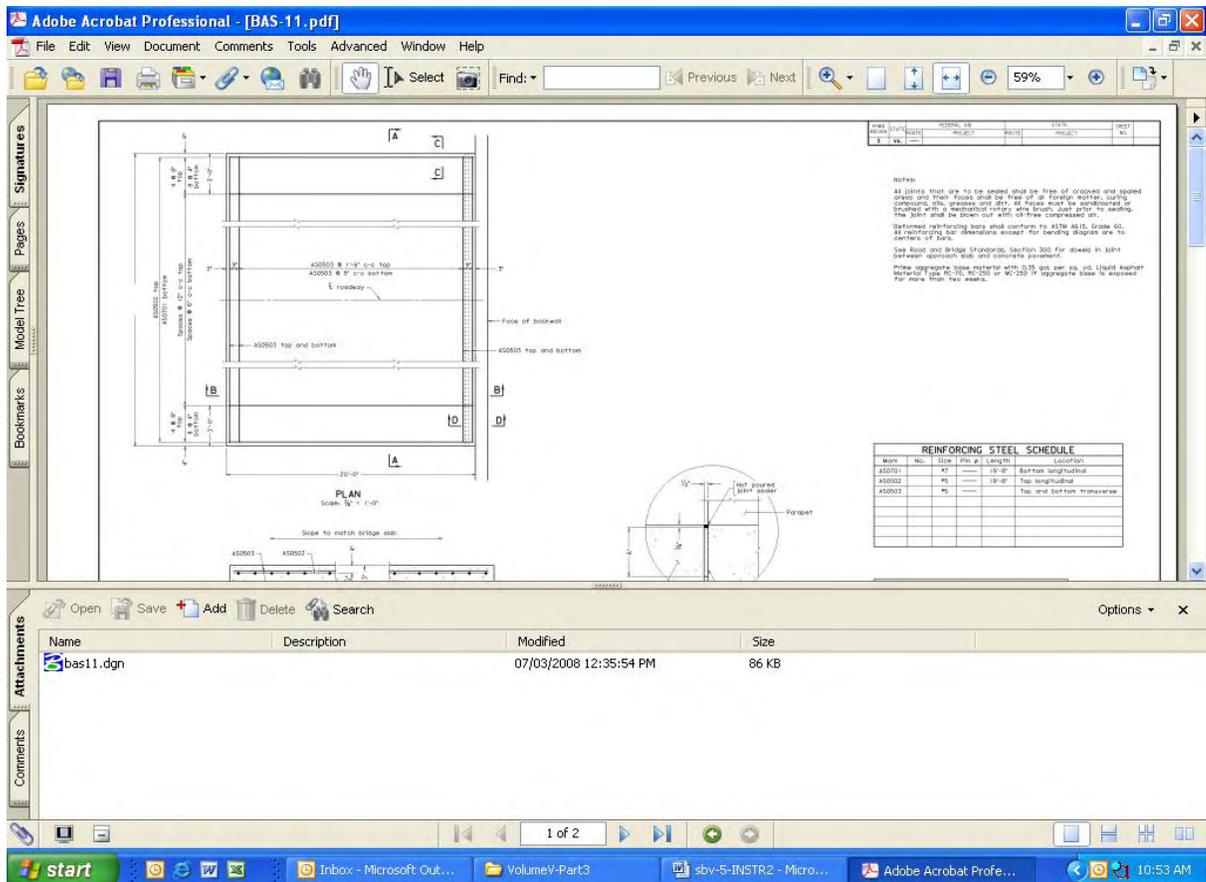
A cell library (sg.cel) is included with the standards to allow the designer to modify/replace details on the standard sheets. The SGCELLS-series sheets included herein depict the cells found in the cell library along with the name of the cell, an image of the cell, a description of the cell and the origin of cell. The origin of cell is indicated by a star ★. To attach the cell library, use the pull down menu in MicroStation under ELEMENT – CELLS and select FILE to get a drop-down listing of available cell libraries.

MANUAL OF THE STRUCTURE AND BRIDGE DIVISION

VOLUME V – PART 7 STEEL PLATE GIRDER STANDARDS

For external users, the CADD standard detail sheets are attached to the PDF files for each drawing located on VDOT's Structure and Bridge Division website. The user will need Adobe Reader version 7.0 or higher to be able to access the files. Either click on the DGN link in the table of contents or click on the attachment tab in the PDF file for each standard sheet.

Using either method, the screen will appear similar to that shown below.



By left clicking on the icon, the following menu will appear:



Users may then save the file to their computer.

STEEL PLATE GIRDER STANDARDS EXTERNAL DGN FILE ACCESS INSTRUCTIONS

VOL. V - PART 7
DATE: 11Jul2008
SHEET 2 of 3
FILE NO. INSTR-2

MANUAL OF THE STRUCTURE AND BRIDGE DIVISION

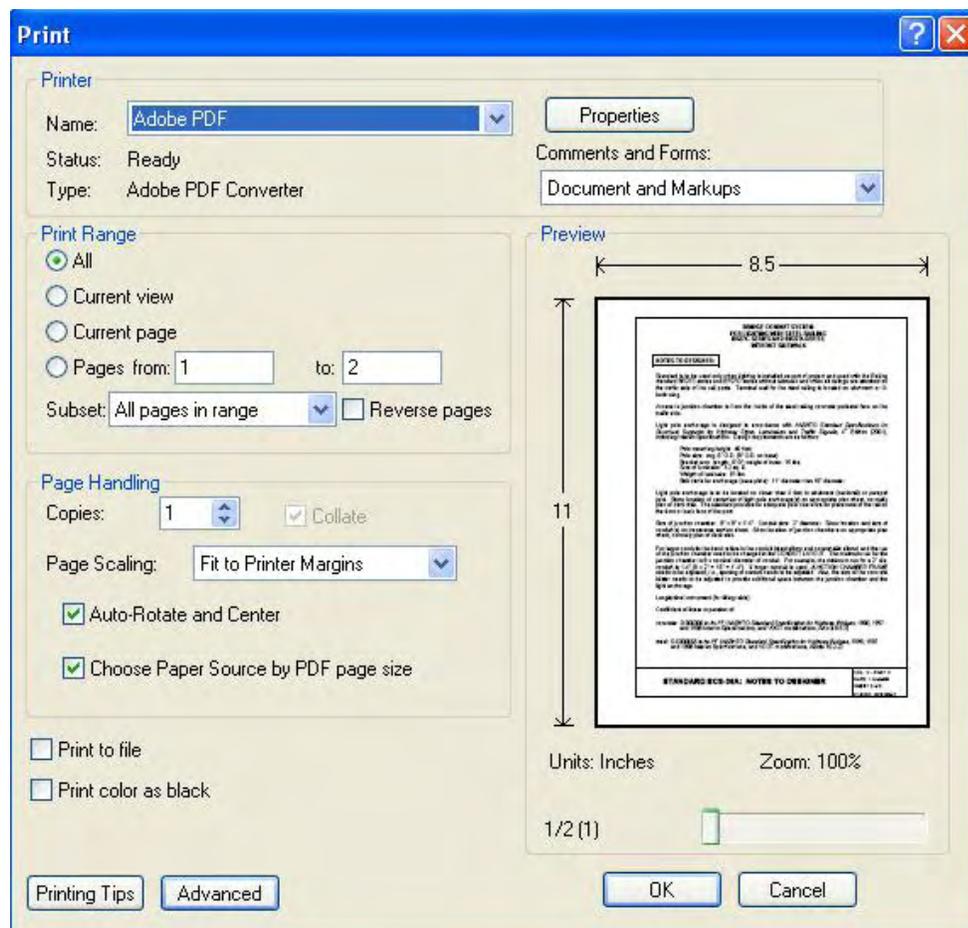
VOLUME V – PART 7 STEEL PLATE GIRDER STANDARDS

For accessing the cell library, click on CEL link in the table of contents.

To simplify printing of this manual, a PDF of the complete manual in one PDF file with no links may be accessed by clicking on the link below.

[Full manual no links](#)

If the printer has both 8 ½ x 11 and 11 x 17 paper sizes available, the drawings and notes to designer may be printed on the correct paper size by placing a check next to the item “Choose Paper Source by PDF page size” as shown in the dialog below:

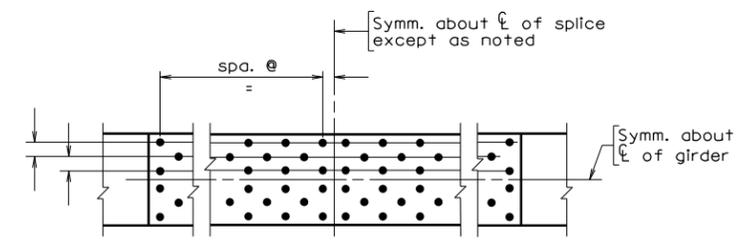


If the printer only has 8 ½ x 11 paper, the drawings will default to the reduced paper size.

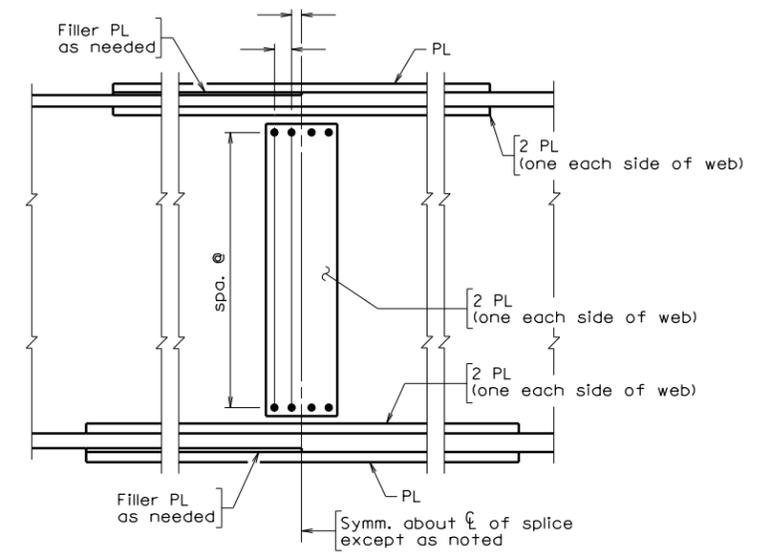
Depending on the printer margins, the 11 x 17 drawing(s) may not be true half-size drawing(s).

| | | | | |
|-------|-------------|-------|---------|-------|
| STATE | FEDERAL AID | | STATE | SHEET |
| ROUTE | PROJECT | ROUTE | PROJECT | NO. |
| VA. | | | | |

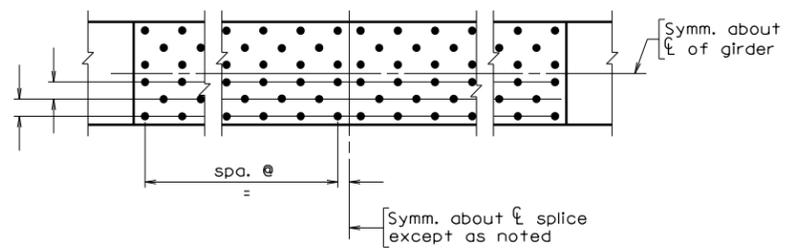
Notes:
 Stud shear connectors on top flange not shown. For spacing, see girder details, sheet .
 If Contractor increases the girder web thickness in order to eliminate the transverse stiffeners, no change will be made in the web splice.



TOP FLANGE



WEB



BOTTOM FLANGE
 BOLTED SPLICE DETAILS

sgbspl.dgn

06-14-2010

SCBSPL

VDOT S&B DIVISION
 RICHMOND, VA
 STRUCTURAL ENGINEER

Not to scale

© 2010, Commonwealth of Virginia

| | | | | |
|--|-------------|------|-----------------|-----------|
| COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION | | | | |
| STRUCTURE AND BRIDGE DIVISION | | | | |
| BOLTED SPLICE DETAILS | | | | |
| No. | Description | Date | Designed: | Date |
| | | | Drawn: | Plan No. |
| | | | Checked: | Sheet No. |
| Revisions | | | SGBSPL | |

**STEEL PLATE GIRDER
BOLTED SPLICE DETAILS**

NOTES TO DESIGNER:

Standard is to be used for bolted splices for straight or curved girders, simple and continuous spans. Up to three different splices may be shown on sheet. Designer can modify sheet as needed for bolt pattern in top and bottom flanges by placing the appropriate cell(s) from the cell library. For details of bolted splices, see Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

NOTES:

Add sheet number to first note.

TOP FLANGE:

Detail shows 4-2 stagger bolt pattern. See cell library (sg.cel) for other bolt patterns. Add dimensions for gage and pitch of bolts. Show stud shear connectors and spacing thru length of splice if irregular or different from girder detail sheet. Modify girder detail sheet (standard SGET-series).

WEB:

Add dimensions for gage and pitch of bolts. Add plate sizes for splice plates (web and flanges).

BOTTOM FLANGE:

Detail shows 4-2 stagger bolt pattern. See cell library for other bolt patterns. Add dimensions for gage and pitch of bolts. Show stud shear connectors and spacing thru length of splice if irregular or different from girder detail sheet. Modify girder detail sheet (standard SGET-series).

**STEEL PLATE GIRDER
SIMPLE SPAN – STRAIGHT
GIRDER DETAILS (SHEET 1 OF 2)**

NOTES TO DESIGNER:

Standard is to be used for straight, simple span(s), steel plate girders. The standard includes girder details: tables for plate sizes, dimensions, and tension flange limits; and details for stiffeners, connector plates, etc. The standard is used along with standard SGDET1B which includes camber note and table for top of slab elevations along centerline of girder.

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

NOTES:

Complete first note (alternate web thickness). Add sheet number(s) to note(s).

PLATE DIMENSION TABLE:

Fill in table.

GIRDER DIMENSION TABLE:

Fill in table.

BEARING STIFFENERS:

Add plate size(s) and location(s).

CROSS FRAME CONNECTOR PLATE:

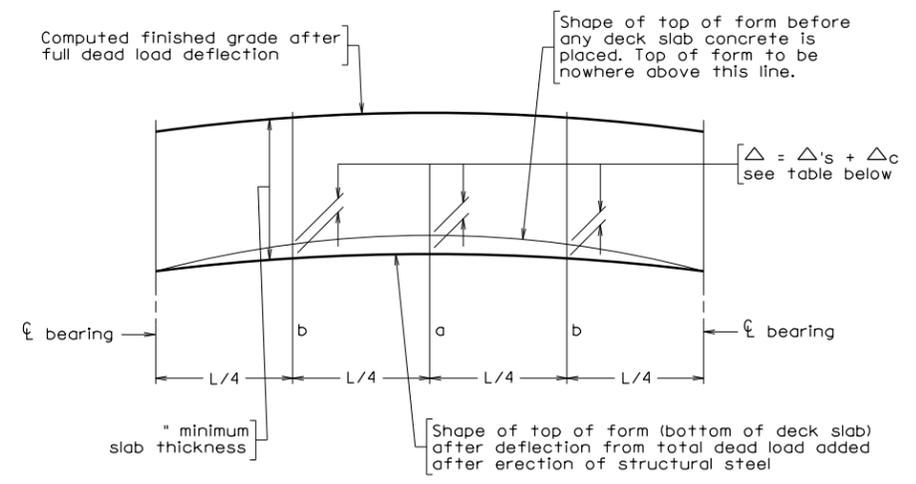
Add dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11. Add plates size(s) and location(s).

TRANSVERSE INTERMEDIATE STIFFENER:

Add plate size and dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.

FLANGE CLIP DETAIL:

Add flange clip detail from cell library (sg.cel) for skewed bridges. Add angle, dimension(s) and location(s). See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.



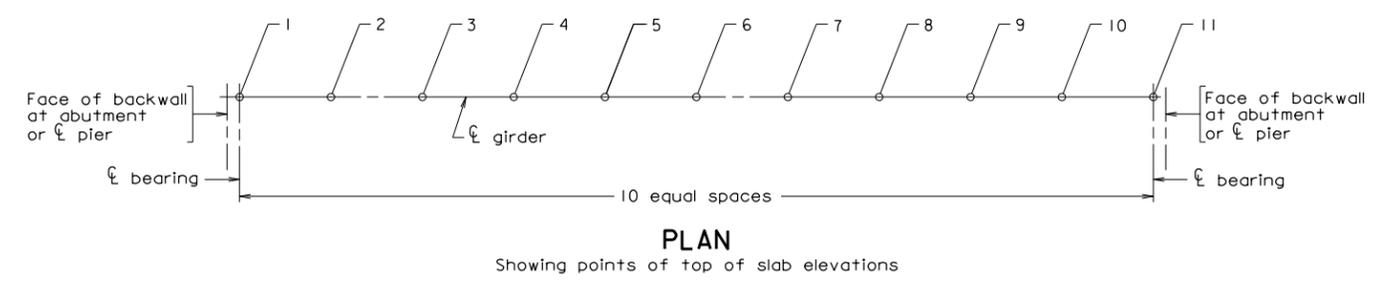
Adjustment of deck slab forms to correct for dead load deflections shall be made by varying thickness of concrete bolster between slab and girder without alteration of slab thickness. Longitudinal screed should be set above final finished grade by amounts equal to Δ_c .

| Girder | Dead Load Deflection at a | | Dead Load Deflection at b | | C | Δ_s |
|--------|---------------------------|------------|---------------------------|------------|---|------------|
| | $\Delta's$ | Δ_c | $\Delta's$ | Δ_c | | |
| | | | | | | |

- $\Delta's$ = Deflection of girder from dead load of concrete deck slab and bolsters.
- Δ_c = Deflection of girder from dead load (e.g. parapet) added after deck slab is cast.
- Δ_s = Deflection of girder from its own weight after erection including diaphragms, connectors, etc. at midspan.
- C = The required upward camber for girder at midspan.

DEAD LOAD DEFLECTION DIAGRAM

Camber Note: Girders shall be cambered up C at midspan. Computed deflection of girder from its own weight after erection, including struts (diaphragms), connectors, etc., Δ_s at midspan.



| TOP OF SLAB ELEVATIONS ALONG ℄ GIRDER | | | | | | | | | | | |
|---------------------------------------|---|---|---|---|---|---|---|---|---|----|----|
| Girder | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
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SGDET1B

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

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| COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION | | | | |
| STRUCTURE AND BRIDGE DIVISION | | | | |
| GIRDER DETAILS | | | | |
| No. | Description | Date | Designed: | Date |
| Revisions | | | Drawn: | Plan No. |
| | | | Checked: | Sheet No. |
| | | | SGDET1B | |

**STEEL PLATE GIRDER
SIMPLE SPAN – STRAIGHT
GIRDER DETAILS (SHEET 2 OF 2)**

NOTES TO DESIGNER:

Standard is to be used for straight, simple span(s), steel plate girders. The standard includes dead load deflection diagram, camber note, and table for top of slab elevations along centerline girder. The standard is used along with standard SGDET1A which includes girder details: tables for plate sizes, dimensions and tension flange limits; and details for stiffeners, connector plates, etc.

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

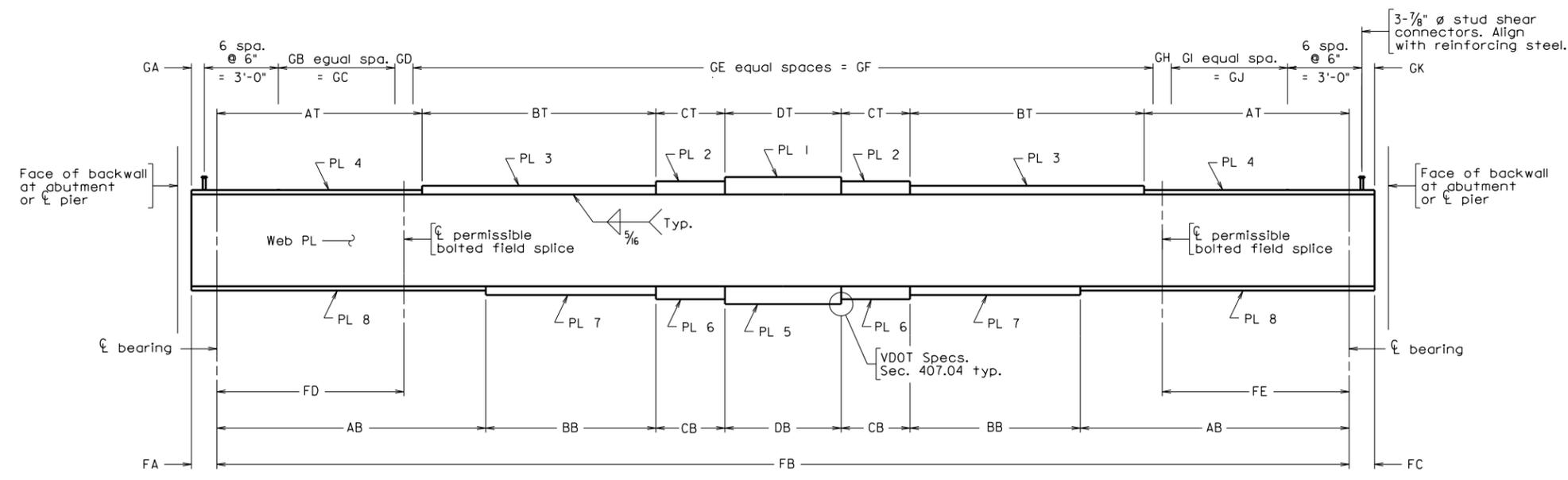
NOTES:

Deflected shape is shown for hump vertical curve and may be replaced with other shape(s) (straight gradient, sag vertical curve) in the cell library. See file no. SGCELLS for modification with other cells.

Add dimension for minimum slab thickness in dead load deflection diagram. Fill in table. Show values using $\frac{1}{8}$ " increments.

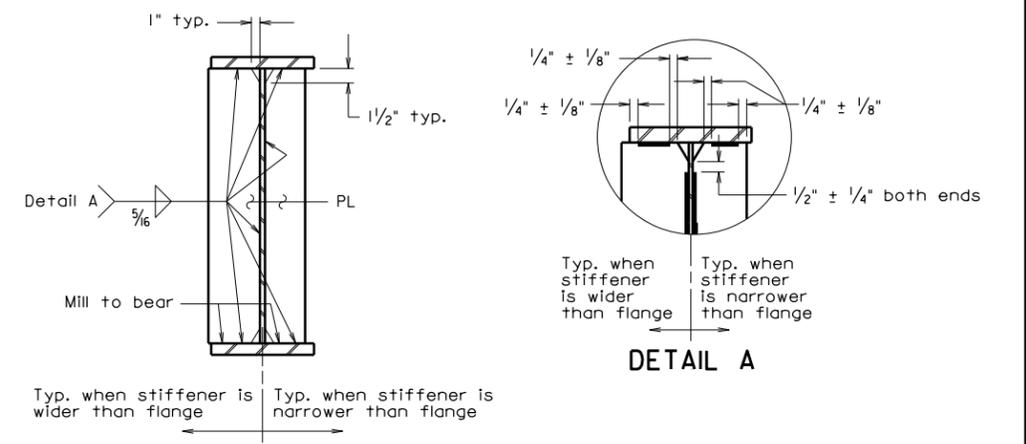
TOP OF SLAB ELEVATIONS ALONG CENTERLINE GIRDER:

Fill in table.



GIRDER ELEVATION

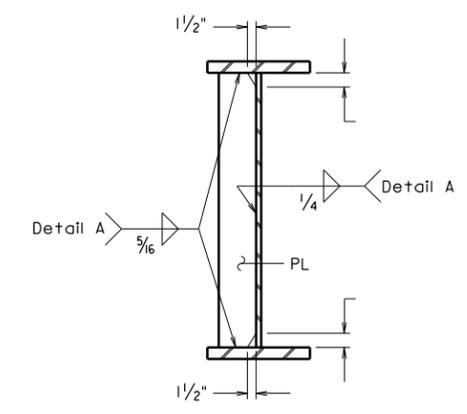
Notes:
 The Contractor has the option of eliminating the transverse intermediate stiffeners by increasing the web thickness to .
 For spacing of transverse intermediate stiffeners, see framing plan, sheet .
 The bottom flange, web, and all splice plates are areas of tensile stress for Charpy V-Notch impact requirements.
 For stud shear connector spacing in vicinity of permissible bolted field splice, see bolted splice details, sheet .
 Symbol ϕ = diameter.



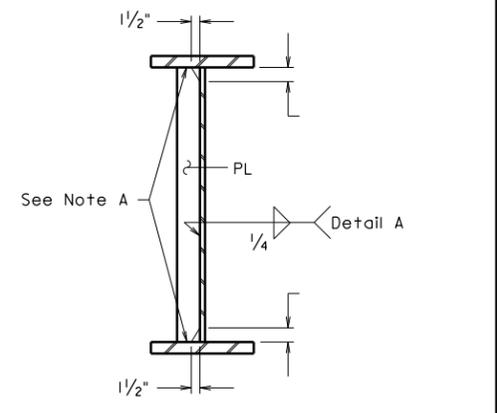
BEARING STIFFENERS

| Span | Girder | Web PL | PL 1 | PL 2 | PL 3 | PL 4 | PL 5 | PL 6 | PL 7 | PL 8 |
|------|--------|--------|------|------|------|------|------|------|------|------|
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| Span | Girder | AB | AT | BB | BT | CB | CT | DB | DT | GA | GB | GC | GD | GE | GF | GH | GI | GJ | GK | |
|------|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
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CROSS FRAME CONNECTOR PLATE



TRANSVERSE INTERMEDIATE STIFFENER

Note A: 5/16" fillet weld (both sides) to compression flange(s). Tight fit to tension flange(s).

| Span | Girder | FA | FB | FC | FD | FE | Radius |
|------|--------|----|----|----|----|----|--------|
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SGDET IAC 06-14-2010

VDOT S&B DIVISION
 RICHMOND, VA
 STRUCTURAL ENGINEER

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| GIRDER DETAILS | | | | | |
| No. | Description | Date | Designed: | Date | Plan No. |
| Revisions | | | Drawn: | Sheet No. | |
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**STEEL PLATE GIRDER
SIMPLE SPAN – TRAPEZOIDAL OR CURVED
GIRDER DETAILS (SHEET 1 OF 2)**

NOTES TO DESIGNER:

Standard is to be used for trapezoidal or curved, simple span(s), steel plate girders. The standard includes girder details; tables for plate sizes, dimensions, and tension flange limits; and details for stiffeners, connector plates, etc. The standard is used along with standard SGDET1BC which includes camber note and table for top of slab elevations along centerline of girder.

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

NOTES:

Complete first note (alternate web thickness). Add sheet number(s) to note(s).

PLATE DIMENSION TABLE:

Fill in table.

GIRDER DIMENSION TABLE:

Fill in table.

BEARING STIFFENERS:

Add plate size(s) and location(s).

CROSS FRAME CONNECTOR PLATE:

Add dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11. Add plates size(s) and location(s).

TRANSVERSE INTERMEDIATE STIFFENER:

Add plate size and dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.

FLANGE CLIP DETAIL:

Add flange clip detail from cell library (sg.cel) for skewed bridges. Add angle, dimension(s) and location(s). See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.

**STEEL PLATE GIRDER
SIMPLE SPAN – TRAPEZOIDAL OR CURVED
GIRDER DETAILS (SHEET 2 OF 2)**

NOTES TO DESIGNER:

Standard is to be used for trapezoidal or curved, simple span(s), steel plate girders. The standard includes dead load deflection diagram, camber note, and table for top of slab elevations along centerline girder. The standard is used along with standard SGDET1AC which includes girder details; tables for plate sizes, dimensions and tension flange limits; and details for stiffeners, connector plates, etc.

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

NOTES:

Deflected shape is shown for hump vertical curve and may be replaced with other shape(s) (straight gradient, sag vertical curve) in the cell library (sg.cel).

Add dimension for minimum slab thickness in dead load deflection diagram. Fill in table. Show values using $\frac{1}{8}$ " increments.

TOP OF SLAB ELEVATIONS ALONG CENTERLINE GIRDER:

Fill in table.

**STEEL PLATE GIRDER
2-SPAN CONTINUOUS - STRAIGHT
GIRDER DETAILS**

NOTES TO DESIGNER:

Standard is to be used for straight, 2-span continuous, steel plate girders. The standard includes girder details; tables for plate sizes, dimensions, and tension flange limits; and details for stiffeners, connector plates, etc. The standard is used along with standards SGCAM2 (camber diagram) and SGDL2 (dead load deflection and top of slab elevations along centerline girder).

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

NOTES:

Complete first note (alternate web thickness). Add sheet number(s) to note(s).

PLATE DIMENSION TABLE:

Fill in table.

TENSION FLANGES:

Fill in table.

GIRDER DIMENSION TABLE:

Fill in table.

BEARING STIFFENERS:

Add plate size(s) and location(s).

CROSS FRAME CONNECTOR PLATE:

Add dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11. Add plates size(s) and location(s).

TRANSVERSE INTERMEDIATE STIFFENER:

Add plate size and dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.

FLANGE CLIP DETAIL:

Add flange clip detail from cell library (see file no. SGCELLS) for skewed bridges. Add angle, dimension(s) and location(s). Details may have to be moved to place cell. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.

**STEEL PLATE GIRDER
2-SPAN CONTINUOUS - STRAIGHT
CAMBER DIAGRAM**

NOTES TO DESIGNER:

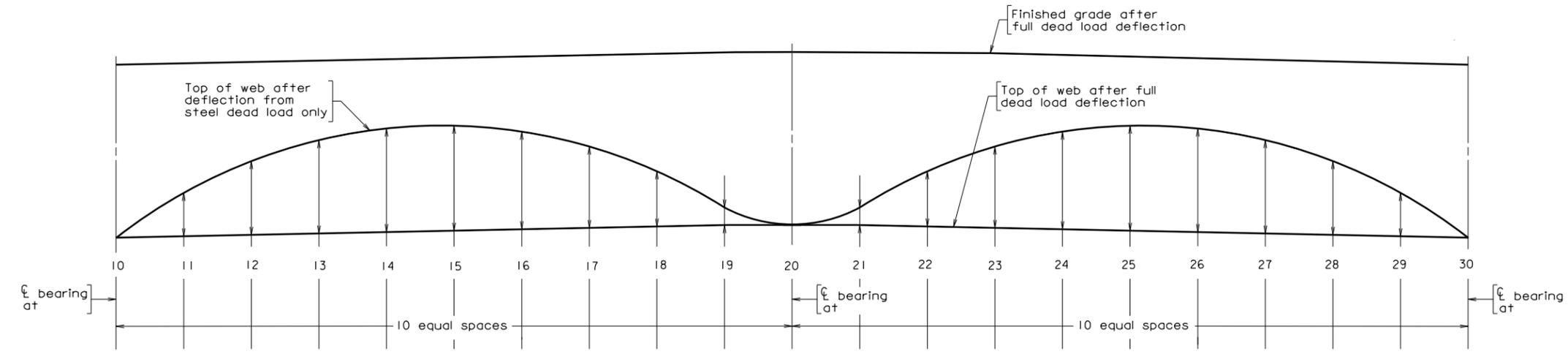
Standard is to be used for straight, 2-span continuous, steel plate girders. The standard includes the camber diagram and table for deflections. The standard is used along with standards SGDET2 (girder details) and SGDL2 (dead load deflections and top of slab elevations along centerline girder).

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

CAMBER DIAGRAM:

Detail shows hump vertical curve with left support at a higher elevation than right support. Detail may be replaced with other shapes in cell library (sg.cel).

Fill in dimensions on diagram and fill in table. Show values using $\frac{1}{8}$ " increments.



| | | | | | | | | | | | | | | | | | | | | | | | |
|--------|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| | Point | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | | |

All values in Dead Load Deflection Table are in inches.
 Δ_s = Deflection of girder from dead load of concrete deck slab and bolsters.
 Δ_c = Deflection of girder from dead load (e.g. parapet) added after deck slab is cast.

DEAD LOAD DEFLECTIONS

| TOP OF SLAB ELEVATIONS ALONG \bar{C} GIRDER | | | | | | | | | | | | | | | | | | | | | | |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Point | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |
| Girder | | | | | | | | | | | | | | | | | | | | | | |
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sgdlid2.dgn

06-14-2010

SGDLID2

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

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| COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION | | | | |
| STRUCTURE AND BRIDGE DIVISION | | | | |
| DEAD LOAD DEFLECTIONS AND SLAB ELEVATIONS | | | | |
| No. | Description | Date | Designed: | Date |
| Revisions | | | Drawn: | Plan No. |
| | | | Checked: | Sheet No. |
| | | | SGDLID2 | |

**STEEL PLATE GIRDER
2-SPAN CONTINUOUS – STRAIGHT
DEAD LOAD DEFLECTION**

NOTES TO DESIGNER:

Standard is to be used for straight, 2-span continuous, steel plate girders. The standard includes table for deflections and table for top of slab elevations along centerline girder. The standard is used along with standards SGDET2 (girder details) and SGCAM2 (camber diagram).

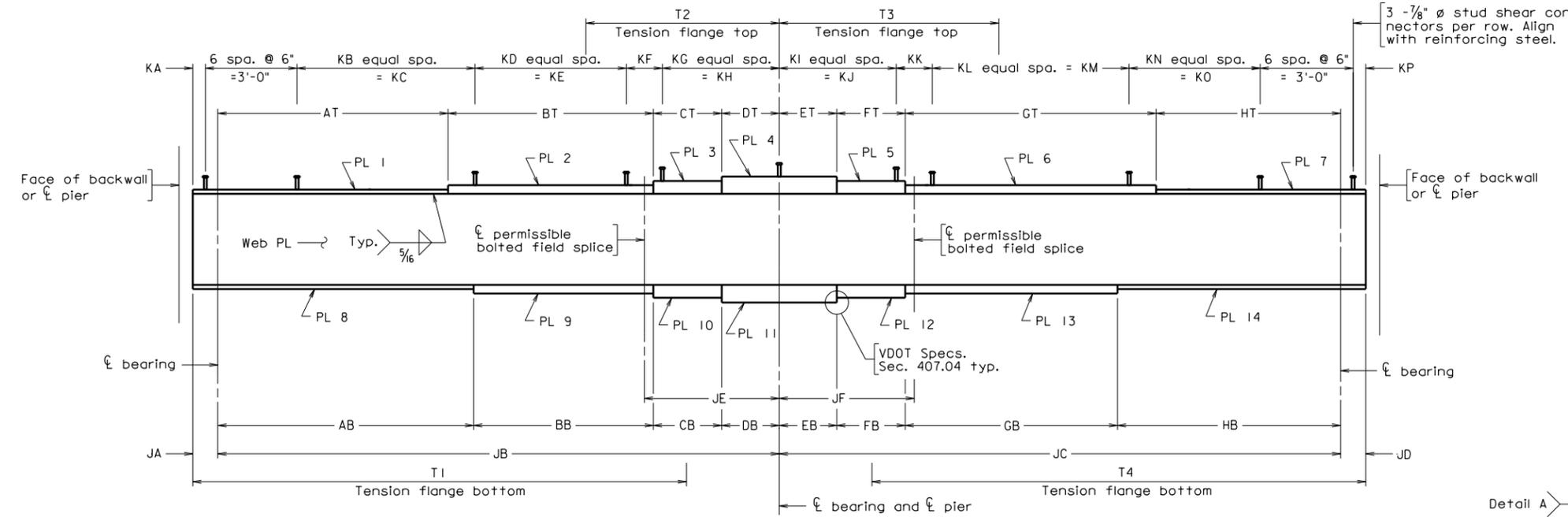
ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

DEAD LOAD DEFLECTION DIAGRAM:

Fill in table of dead load deflections. Show values using $\frac{1}{8}$ " increments.

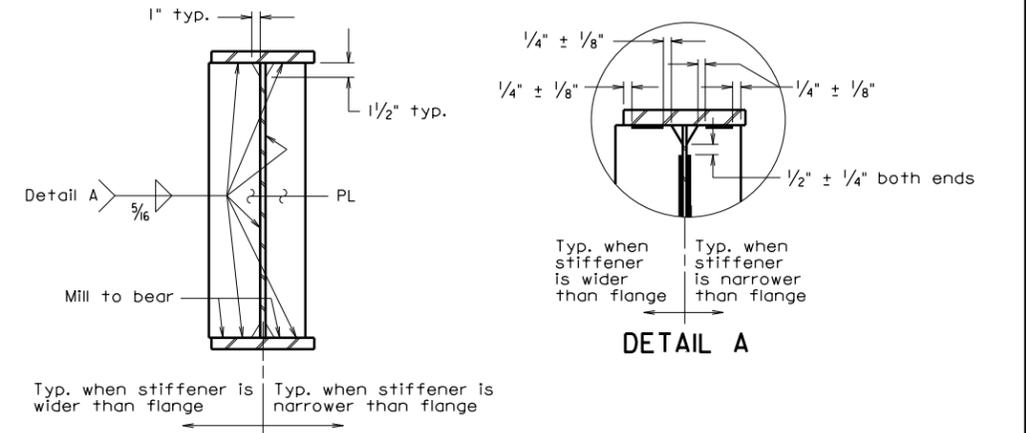
TOP OF SLAB ELEVATIONS ALONG CENTERLINE GIRDER:

Fill in table.



GIRDER ELEVATION

Notes:
 The Contractor has the option of eliminating the intermediate web stiffeners by increasing the web thickness to .
 For spacing of intermediate diaphragm connector PL's and intermediate web stiffener PL's, see Framing Plan, sheet .
 For spacing of stud shear connectors in vicinity of permissible bolted field splice, see bolted splice details, sheet .
 The top and bottom flanges as shown in Girder Elevation, the web and all splice plates are areas of tensile stress for Charpy V-Notch impact requirements.
 Symbol ϕ = diameter.

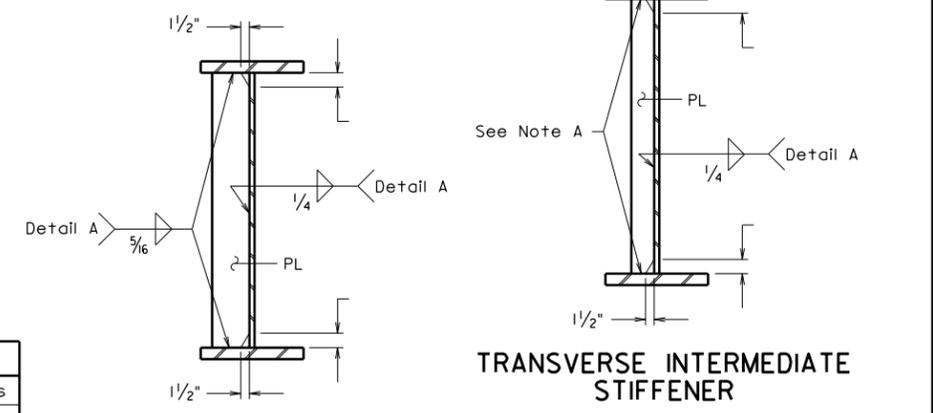


BEARING STIFFENERS

| Girder | Web PL | PL 1 | PL 2 | PL 3 | PL 4 | PL 5 | PL 6 | PL 7 | PL 8 | PL 9 | PL 10 | PL 11 | PL 12 | PL 13 | PL 14 |
|--------|--------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
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| Girder | AB | AT | BB | BT | CB | CT | DB | DT | EB | ET | FB | FT | GB | GT | HB | HT |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
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| Girder | JA | JB | JC | JD | JE | JF | KA | KB | KC | KD | KE | KF | KG | KH | KI | KJ | KK | KL | KM | KN | KO | KP | Radius |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|
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CROSS FRAME CONNECTOR PLATE

TRANSVERSE INTERMEDIATE STIFFENER

Note A: 5/16" fillet weld (both sides) to compression flange(s). Tight fit to tension flange(s).

| Girder | T1 | T2 | T3 | T4 |
|--------|----|----|----|----|
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VDOT S&B DIVISION
 RICHMOND, VA
 STRUCTURAL ENGINEER

COMMONWEALTH OF VIRGINIA
 DEPARTMENT OF TRANSPORTATION
 STRUCTURE AND BRIDGE DIVISION

GIRDER DETAILS

| | | | | | | |
|-----------|-------------|------|-----------------|------|----------|-----------|
| No. | Description | Date | Designed: | Date | Plan No. | Sheet No. |
| Revisions | | | Drawn: | | SGDET2C | |
| | | | Checked: | | | |

sgdet2c.dgn 06-14-2010 SGDET2C

**STEEL PLATE GIRDER
2-SPAN CONTINUOUS – TRAPEZOIDAL OR CURVED
GIRDER DETAILS**

NOTES TO DESIGNER:

Standard is to be used for trapezoidal or curved, 2-span continuous, steel plate girders. The standard includes girder details; tables for plate sizes, dimensions, and tension flange limits; and details for stiffeners, connector plates, etc. The standard is used along with standards SGCAM2C (camber diagram) and SGDL2C (dead load deflection and top of slab elevations along centerline girder).

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

NOTES:

Complete first note (alternate web thickness). Add sheet number(s) to note(s).

PLATE DIMENSION TABLE:

Fill in table.

TENSION FLANGES:

Fill in table.

GIRDER DIMENSION TABLE:

Fill in table.

BEARING STIFFENERS:

Add plate size(s) and location(s).

CROSS FRAME CONNECTOR PLATE:

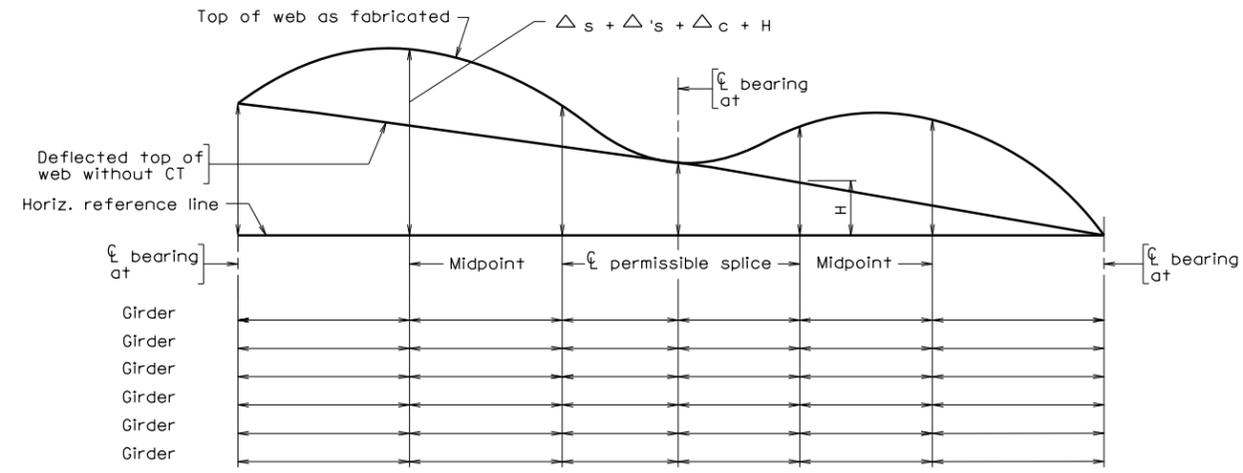
Add dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11. Add plates size(s) and location(s).

TRANSVERSE INTERMEDIATE STIFFENER:

Add plate size and dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.

FLANGE CLIP DETAIL:

Add flange clip detail from cell library (sg.cel) for skewed bridges. Add angle, dimension(s) and location(s). Details may have to be moved to place cell. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.



| | | | | | | | | | |
|--------|------------|--|--|--|--|--|--|--|--|
| Girder | Δ_s | | | | | | | | |
| | $\Delta's$ | | | | | | | | |
| | Δ_c | | | | | | | | |
| | H | | | | | | | | |
| | Total | | | | | | | | |
| Girder | Δ_s | | | | | | | | |
| | $\Delta's$ | | | | | | | | |
| | Δ_c | | | | | | | | |
| | H | | | | | | | | |
| | Total | | | | | | | | |
| Girder | Δ_s | | | | | | | | |
| | $\Delta's$ | | | | | | | | |
| | Δ_c | | | | | | | | |
| | H | | | | | | | | |
| | Total | | | | | | | | |
| Girder | Δ_s | | | | | | | | |
| | $\Delta's$ | | | | | | | | |
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| | Total | | | | | | | | |
| Girder | Δ_s | | | | | | | | |
| | $\Delta's$ | | | | | | | | |
| | Δ_c | | | | | | | | |
| | H | | | | | | | | |
| | Total | | | | | | | | |

CAMBER

Δ_s = Deflection of girder from its own weight after erection including diaphragms, connectors, etc.

$\Delta's$ = Deflection of girder from dead load of concrete deck slab and bolsters.

Δ_c = Deflection of girder from dead load (e.g. parapet) added after deck slab is cast.

H = Distance between horizontal reference line and deflected top of web at any point being considered.

sgcam2c.dgn

06-14-2010

SGCAM2C

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

Not to scale

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| STRUCTURE AND BRIDGE DIVISION | | | | |
| CAMBER DIAGRAM | | | | |
| No. | Description | Date | Designed: | Date |
| | | | Drawn: | Plan No. |
| | | | Checked: | Sheet No. |
| Revisions | | | SGCAM2C | |

**STEEL PLATE GIRDER
2-SPAN CONTINUOUS – TRAPEZOIDAL OR CURVED
CAMBER DIAGRAM**

NOTES TO DESIGNER:

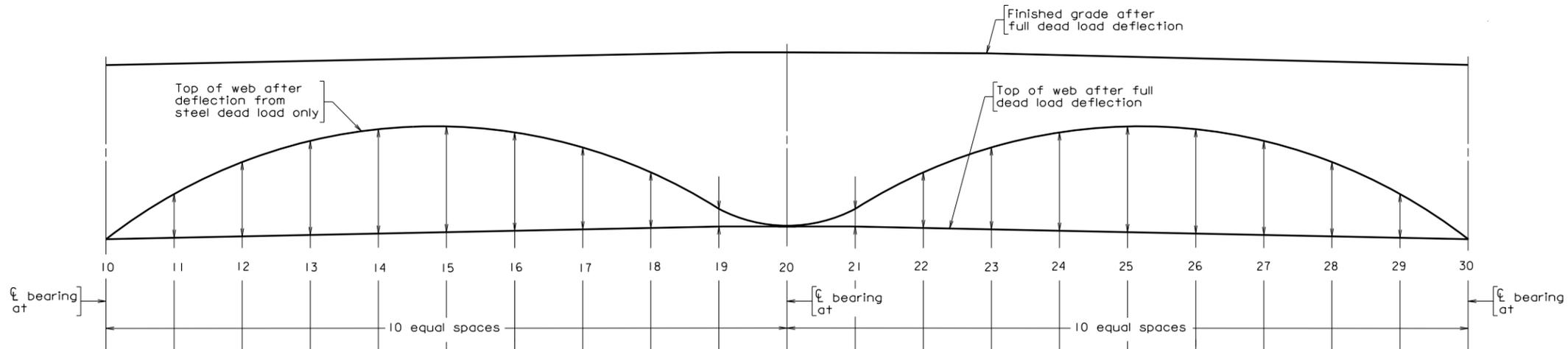
Standard is to be used for trapezoidal or curved, 2-span continuous, steel plate girders. The standard includes the camber diagram and table for deflections. The standard is used along with standards SGET2C (girder details) and SGDL2C (dead load deflections and top of slab elevations along centerline girder).

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

CAMBER DIAGRAM:

Detail shows hump vertical curve with left support at a higher elevation than right support. Detail may be replaced with other shapes in cell library (sg.cel).

Fill in dimensions on diagram and fill in table. Show values using $\frac{1}{8}$ " increments.



| | Point | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |
|--------|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | | |

All values in Dead Load Deflection Table are in inches.

Δ_s = Deflection of girder from dead load of concrete deck slab and bolsters.

Δ_c = Deflection of girder from dead load (e.g. parapet) added after deck slab is cast.

DEAD LOAD DEFLECTIONS

TOP OF SLAB ELEVATIONS ALONG \bar{C} GIRDER

| Point | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Girder | | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | | |

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| STRUCTURE AND BRIDGE DIVISION | | | | |
| DEAD LOAD DEFLECTIONS AND SLAB ELEVATIONS | | | | |
| No. | Description | Date | Designed: | Date |
| | | | Drawn: | Plan No. |
| | | | Checked: | Sheet No. |
| Revisions | | | SGDL2C | |

**STEEL PLATE GIRDER
2-SPAN CONTINUOUS – TRAPEZOIDAL OR CURVED
DEAD LOAD DEFLECTION**

NOTES TO DESIGNER:

Standard is to be used for trapezoidal or curved, 2-span continuous, steel plate girders. The standard includes table for deflections and table for top of slab elevations along centerline girder. The standard is used along with standards SGDET2C (girder details) and SGCAM2C (camber diagram).

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

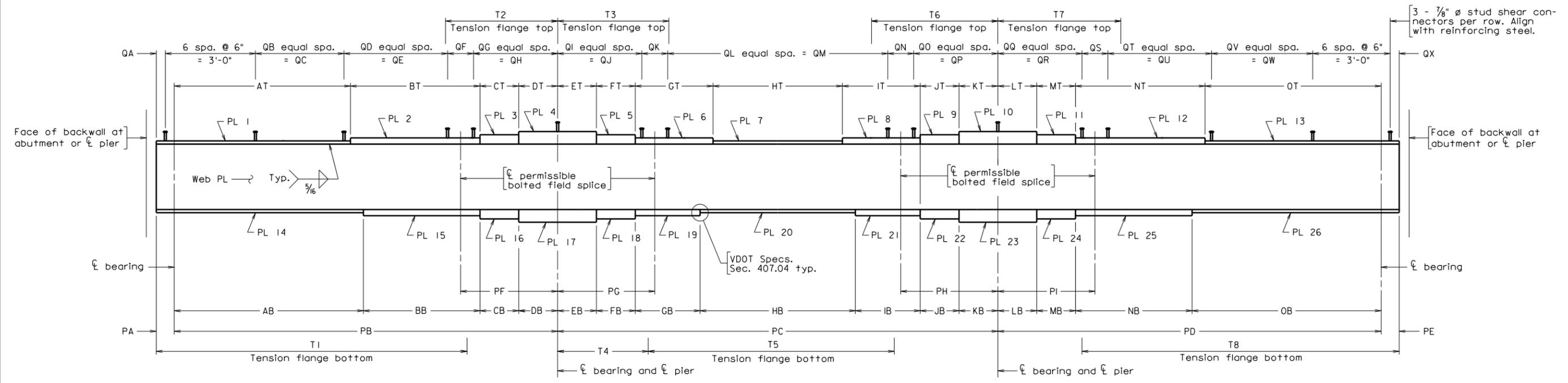
DEAD LOAD DEFLECTION DIAGRAM:

Fill in table of dead load deflections. Show values using $\frac{1}{8}$ " increments.

TOP OF SLAB ELEVATIONS ALONG CENTERLINE GIRDER:

Fill in table.

For notes and details, see sheet .
 Symbol ϕ = diameter.



GIRDER ELEVATION

| PLATE DIMENSION TABLE | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|--------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Girder | Web PL | PL 1 | PL 2 | PL 3 | PL 4 | PL 5 | PL 6 | PL 7 | PL 8 | PL 9 | PL 10 | PL 11 | PL 12 | PL 13 | PL 14 | PL 15 | PL 16 | PL 17 | PL 18 | PL 19 | PL 20 | PL 21 | PL 22 | PL 23 | PL 24 | PL 25 | PL 26 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| GIRDER DIMENSION TABLE | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Girder | AB | AT | BB | BT | CB | CT | DB | DT | EB | ET | FB | FT | GB | GT | HB | HT | IB | IT | JB | JT | KB | KT | LB | LT | MB | MT | NB | NT |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| GIRDER DIMENSION TABLE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Girder | OB | OT | PA | PB | PC | PD | PE | PF | PG | PH | PI | QA | QB | QC | QD | QE | QF | QG | QH | QI | QJ | QK | QL | QM | QN | QO | QP | QQ | QR | QS | QT |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| GIRDER DIMENSION TABLE | | | | |
|------------------------|----|----|----|----|
| Girder | QU | QV | QW | QX |
| | | | | |

| TENSION FLANGES | | | | | | | | |
|-----------------|----|----|----|----|----|----|----|----|
| Girder | T1 | T2 | T3 | T4 | T5 | T6 | T7 | T8 |
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| GIRDER DETAILS | | | | |
| No. | Description | Date | Designed: | Date |
| Revisions | | Checked: | Plan No. | Sheet No. |
| | | | SGDET3 | |

**STEEL PLATE GIRDER
3-SPAN CONTINUOUS – STRAIGHT
GIRDER DETAILS**

NOTES TO DESIGNER:

Standard is to be used for straight, 3-span continuous, steel plate girders. The standard includes girder details and tables for plate sizes, dimensions, and tension flange limits. The standard is used along with standards SGCAM3C (camber diagram) and SGDL3 (dead load deflection and top of slab elevations along centerline girder).

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

NOTES:

Add sheet number(s) to note(s).

PLATE DIMENSION TABLE:

Fill in table.

GIRDER DIMENSION TABLE:

Fill in table.

TENSION FLANGE:

Fill in table.

**STEEL PLATE GIRDER
3-SPAN CONTINUOUS – STRAIGHT
CAMBER DIAGRAM**

NOTES TO DESIGNER:

Standard is to be used for straight, 3-span continuous, steel plate girders. The standard includes camber diagram and table for deflections; notes, and details for stiffeners, connector plates, etc. The standard is used along with SGDET3 (girder details) and SGDL3 (dead load deflection and top of slab elevations along centerline girder).

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

CAMBER DIAGRAM:

Detail shows hump vertical curve with left support at a higher elevation than right support. Detail may be replaced with other shapes in cell library (sg.cel).

Fill in dimensions on diagram and fill in table. Show values using $\frac{1}{8}$ " increments.

NOTES:

Complete first note (alternate web thickness). Add sheet number(s) to note(s).

BEARING STIFFENERS:

Add plate size(s) and location(s).

CROSS FRAME CONNECTOR PLATE:

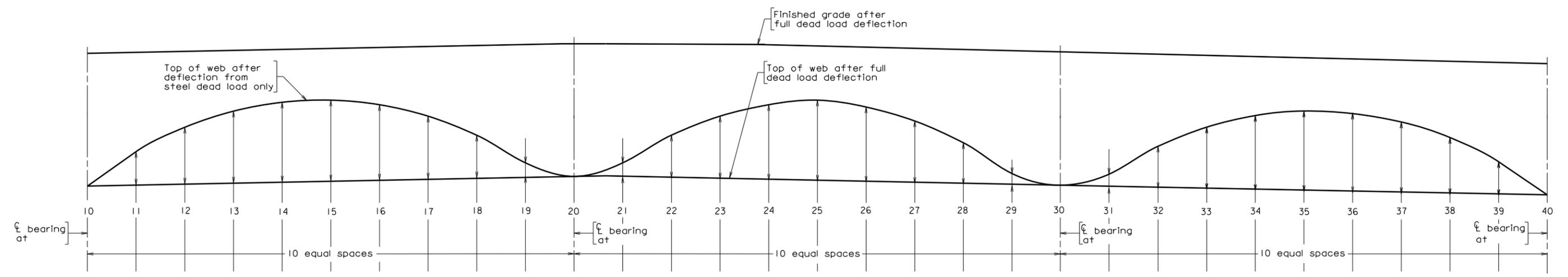
Add dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11. Add plates size(s) and location(s).

TRANSVERSE INTERMEDIATE STIFFENER:

Add plate size and dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.

FLANGE CLIP DETAIL:

Add flange clip detail from cell library (see file no. SGCELLS) for skewed bridges. Add angle, dimension(s) and location(s). See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.



| Point | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | |
|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Δ_s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Δ_c | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

All values in Dead Load Deflection Table are in inches.
 Δ_s = Deflection of girder from dead load of concrete deck slab and bolsters.
 Δ_c = Deflection of girder from dead load (e.g. parapet) added after deck slab is cast.

DEAD LOAD DEFLECTIONS

TOP OF SLAB ELEVATIONS ALONG GIRDER

| Point | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Girder | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| STRUCTURE AND BRIDGE DIVISION | | | | |
| DEAD LOAD DEFLECTIONS AND SLAB ELEVATIONS | | | | |
| No. | Description | Date | Designed: | Date |
| Revisions | | | Drawn: | Plan No. |
| | | | Checked: | Sheet No. |
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**STEEL PLATE GIRDER
3-SPAN CONTINUOUS – STRAIGHT
DEAD LOAD DEFLECTION**

NOTES TO DESIGNER:

Standard is to be used for straight, 3-span continuous, steel plate girders. The standard includes table for deflections and table for top of slab elevations along centerline girder. The standard is used along with standards SGDET3 (girder details) and SGCAM3 (camber diagram).

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

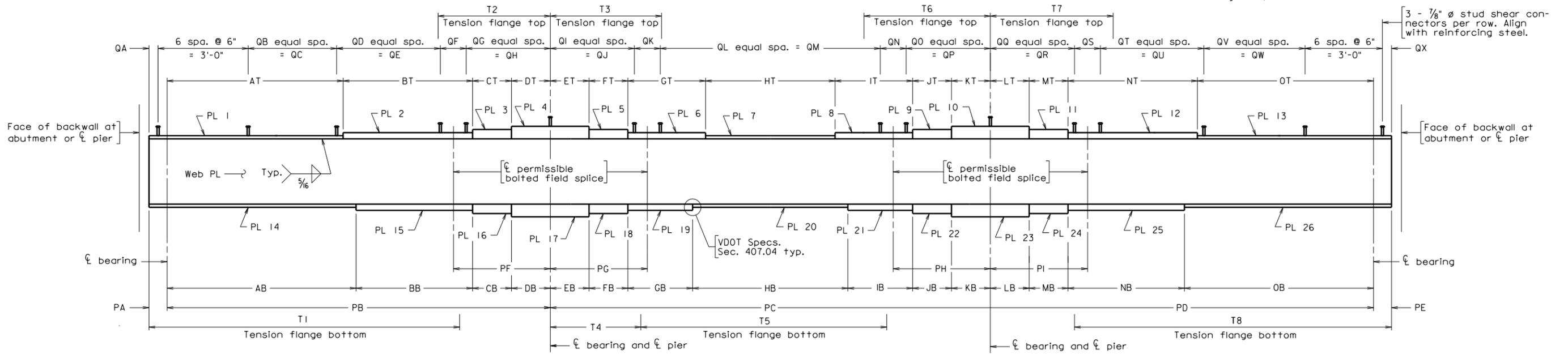
DEAD LOAD DEFLECTION DIAGRAM:

Fill in table of dead load deflections. Show values using $\frac{1}{8}$ " increments.

TOP OF SLAB ELEVATIONS ALONG CENTERLINE GIRDER:

Fill in table.

For notes and details, see sheet .
Symbol ϕ = diameter.



GIRDER ELEVATION

PLATE DIMENSION TABLE

| Girder | Web PL | PL 1 | PL 2 | PL 3 | PL 4 | PL 5 | PL 6 | PL 7 | PL 8 | PL 9 | PL 10 | PL 11 | PL 12 | PL 13 | PL 14 | PL 15 | PL 16 | PL 17 | PL 18 | PL 19 | PL 20 | PL 21 | PL 22 | PL 23 | PL 24 | PL 25 | PL 26 |
|--------|--------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
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GIRDER DIMENSION TABLE

| Girder | AB | AT | BB | BT | CB | CT | DB | DT | EB | ET | FB | FT | GB | GT | HB | HT | IB | IT | JB | JT | KB | KT | LB | LT | MB | MT | NB | NT |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
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GIRDER DIMENSION TABLE

| Girder | OB | OT | PA | PB | PC | PD | PE | PF | PG | PH | PI | QA | QB | QC | QD | QE | QF | QG | QH | QI | QJ | QK | QL | QM | QN | QO | QP | QO | QR | QS | QT |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
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GIRDER DIMENSION TABLE

| Girder | QU | QV | QW | QX | Radius |
|--------|----|----|----|----|--------|
| | | | | | |
| | | | | | |
| | | | | | |

TENSION FLANGES

| Girder | T1 | T2 | T3 | T4 | T5 | T6 | T7 | T8 |
|--------|----|----|----|----|----|----|----|----|
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COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

GIRDER DETAILS

| | | | | | | |
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**STEEL PLATE GIRDER
3-SPAN CONTINUOUS – TRAPEZOIDAL OR CURVED
GIRDER DETAILS**

NOTES TO DESIGNER:

Standard is to be used for trapezoidal or curved, 3-span continuous, steel plate girders. The standard includes girder details and tables for plate sizes, dimensions, and tension flange limits. The standard is used along with standards SGCAM3C (camber diagram) and SGDL3C (dead load deflection and top of slab elevations along centerline girder).

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

NOTES:

Add sheet number(s) to note(s).

PLATE DIMENSION TABLE:

Fill in table.

GIRDER DIMENSION TABLE:

Fill in table.

TENSION FLANGE:

Fill in table.

**STEEL PLATE GIRDER
3-SPAN CONTINUOUS – TRAPEZOIDAL OR CURVED
CAMBER DIAGRAM**

NOTES TO DESIGNER:

Standard is to be used for trapezoidal or curved, 3-span continuous, steel plate girders. The standard includes camber diagram and table for deflections; notes, and details for stiffeners, connector plates, etc. The standard is used along with SGDET3C (girder details) and SGDL3C (dead load deflection and top of slab elevations along centerline girder).

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

CAMBER DIAGRAM:

Detail shows hump vertical curve with left support at a higher elevation than right support. Detail may be replaced with other shapes in cell library (sg.cel).

Fill in dimensions on diagram and fill in table. Show values using $\frac{1}{8}$ " increments.

NOTES:

Complete first note (alternate web thickness). Add sheet number(s) to note(s).

BEARING STIFFENERS:

Add plate size(s) and location(s).

CROSS FRAME CONNECTOR PLATE:

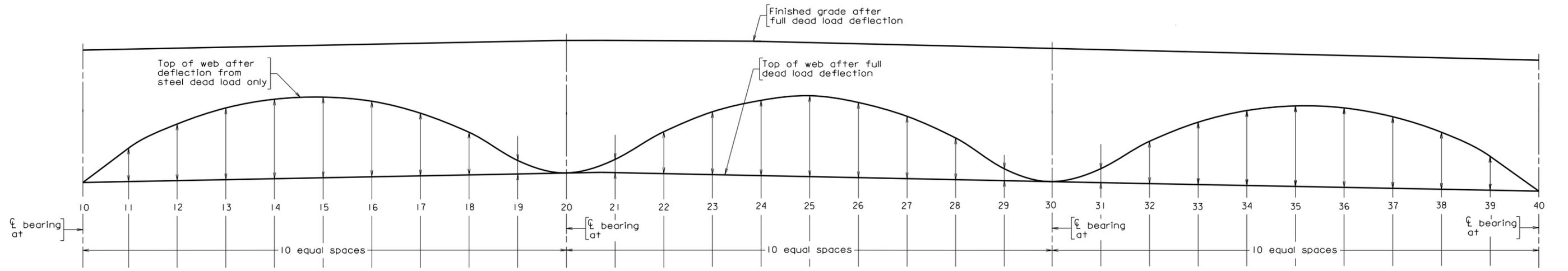
Add dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11. Add plates size(s) and location(s).

TRANSVERSE INTERMEDIATE STIFFENER:

Add plate size and dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.

FLANGE CLIP DETAIL:

Add flange clip detail from cell library (see file no. SGCELLS) for skewed bridges. Add angle, dimension(s) and location(s). Details may have to be moved to place cell. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.



| | Point | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|--------|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

All values in Dead Load Deflection Table are in inches.
 Δ_s = Deflection of girder from dead load of concrete deck slab and bolsters.
 Δ_c = Deflection of girder from dead load (e.g. parapet) added after deck slab is cast.

DEAD LOAD DEFLECTIONS

TOP OF SLAB ELEVATIONS ALONG \bar{C} GIRDER

| Point | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Girder | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| STRUCTURE AND BRIDGE DIVISION | | | | |
| DEAD LOAD DEFLECTIONS AND SLAB ELEVATIONS | | | | |
| No. | Description | Date | Designed: | Date |
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| Revisions | | | SGDL3C | |

**STEEL PLATE GIRDER
3-SPAN CONTINUOUS – TRAPEZOIDAL OR CURVED
DEAD LOAD DEFLECTION**

NOTES TO DESIGNER:

Standard is to be used for trapezoidal or curved, 3-span continuous, steel plate girders. The standard includes table for deflections and table for top of slab elevations along centerline girder. The standard is used along with standards SGDET3C (girder details) and SGCAM3C (camber diagram).

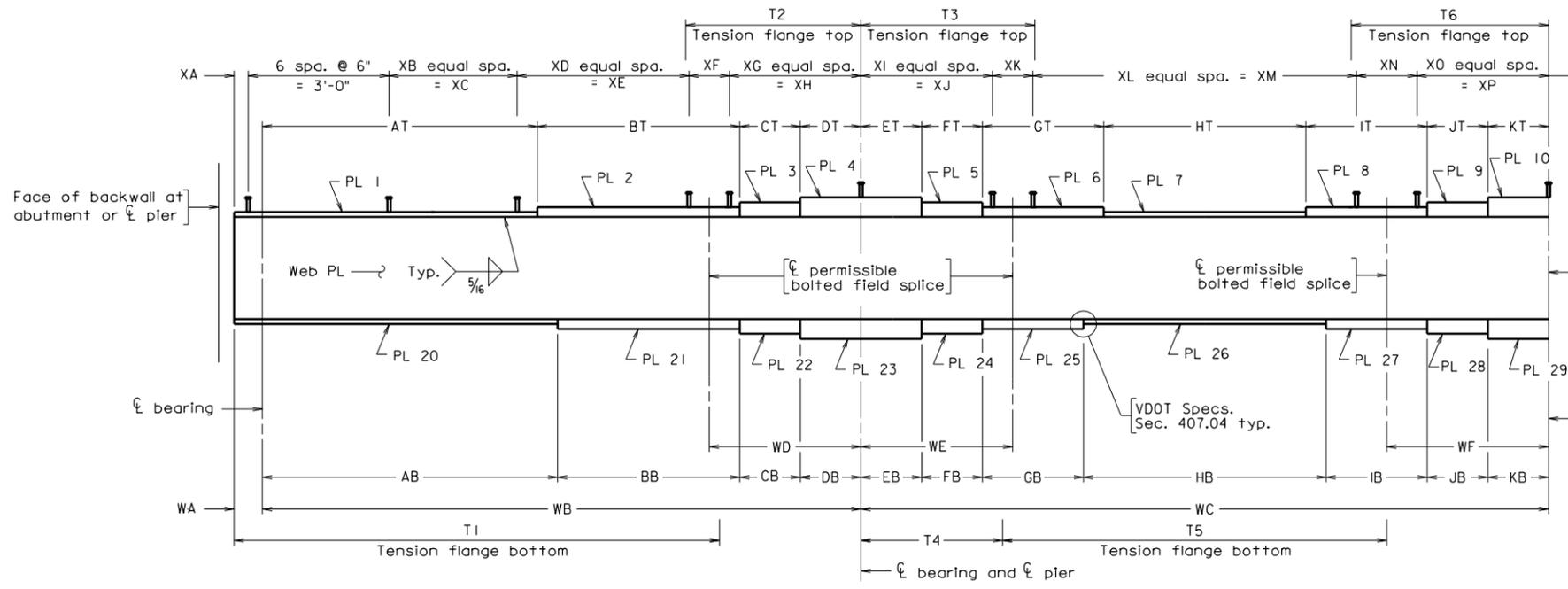
ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

DEAD LOAD DEFLECTION DIAGRAM:

Fill in table of dead load deflections. Show values using $\frac{1}{8}$ " increments.

TOP OF SLAB ELEVATIONS ALONG CENTERLINE GIRDER:

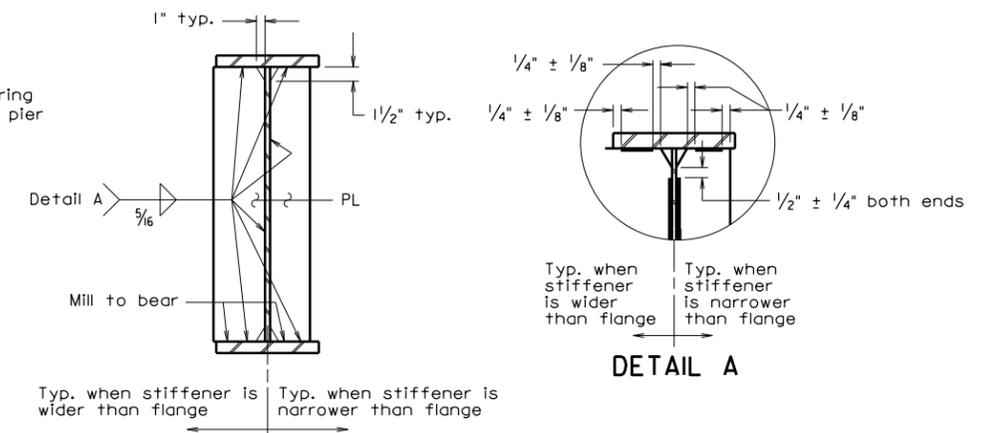
Fill in table.



GIRDER ELEVATION

3 - 7/8" Ø stud shear connectors per row. Align with reinforcing steel.

Notes:
 The Contractor has the option of eliminating the intermediate web stiffeners by increasing the web thickness to .
 For spacing of intermediate diaphragm connector PL's and intermediate web stiffener PL's, see Framing Plan, sheet .
 For spacing of stud shear connectors in vicinity of permissible bolted field splice, see bolted splice details, sheet .
 The top and bottom flanges as shown in Girder Elevation, the web and all splice plates are areas of tensile stress for Charpy V-Notch impact requirements.
 Symbol Ø = diameter.



BEARING STIFFENERS

DETAIL A

CROSS FRAME CONNECTOR PLATE

| PLATE DIMENSION TABLE | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|--------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| Girder | Web PL | PL 1 | PL 2 | PL 3 | PL 4 | PL 5 | PL 6 | PL 7 | PL 8 | PL 9 | PL 10 | PL 20 | PL 21 | PL 22 | PL 23 | PL 24 | PL 25 | PL 26 | PL 27 | PL 28 | PL 29 | |
| | | | | | | | | | | | | | | | | | | | | | | |

| GIRDER DIMENSION TABLE | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Girder | AB | AT | BB | BT | CB | CT | DB | DT | EB | ET | FB | FT | GB | GT | HB | HT | IB | IT | JB | JT | KB | KT | |
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| GIRDER DIMENSION TABLE | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|
| Girder | WA | WB | WC | WD | WE | WF | XA | XB | XC | XD | XE | XF | XG | XH | XI | XJ | XK | XL | XM | XN | XO | XP | Radius |
| | | | | | | | | | | | | | | | | | | | | | | | |

| TENSION FLANGES | | | | | | |
|-----------------|----|----|----|----|----|----|
| Girder | T1 | T2 | T3 | T4 | T5 | T6 |
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06-14-2010 SGDET4A

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| STRUCTURE AND BRIDGE DIVISION | | | | |
| GIRDER DETAILS | | | | |
| No. | Description | Date | Designed: | Date |
| | | | Drawn: | Plan No. |
| | | | Checked: | Sheet No. |
| Revisions | | | SGDET4A | |

**STEEL PLATE GIRDER
4-SPAN CONTINUOUS – STRAIGHT
GIRDER DETAILS (SHEET 1 OF 2)**

NOTES TO DESIGNER:

Standard is to be used for straight, 4-span continuous, steel plate girders. The standard includes girder details: tables for plate sizes, dimensions, and tension flange limits; and details for stiffeners, connector plates, etc. Details for two spans of a 4-span continuous unit are on this standard and continued on standard SGDET4B. The standard is used along with standards SGCAM4(camber diagram) and standard SGDLD4A and SGDLD4B (dead load deflection and top of slab elevations along centerline girder).

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

NOTES:

Complete first note (alternate web thickness). Add sheet number(s) to note(s). .

PLATE DIMENSION TABLE:

Fill in table.

TENSION FLANGES:

Fill in table.

GIRDER DIMENSION TABLE:

Fill in table.

BEARING STIFFENERS:

Add plate size(s) and location(s).

CROSS FRAME CONNECTOR PLATE:

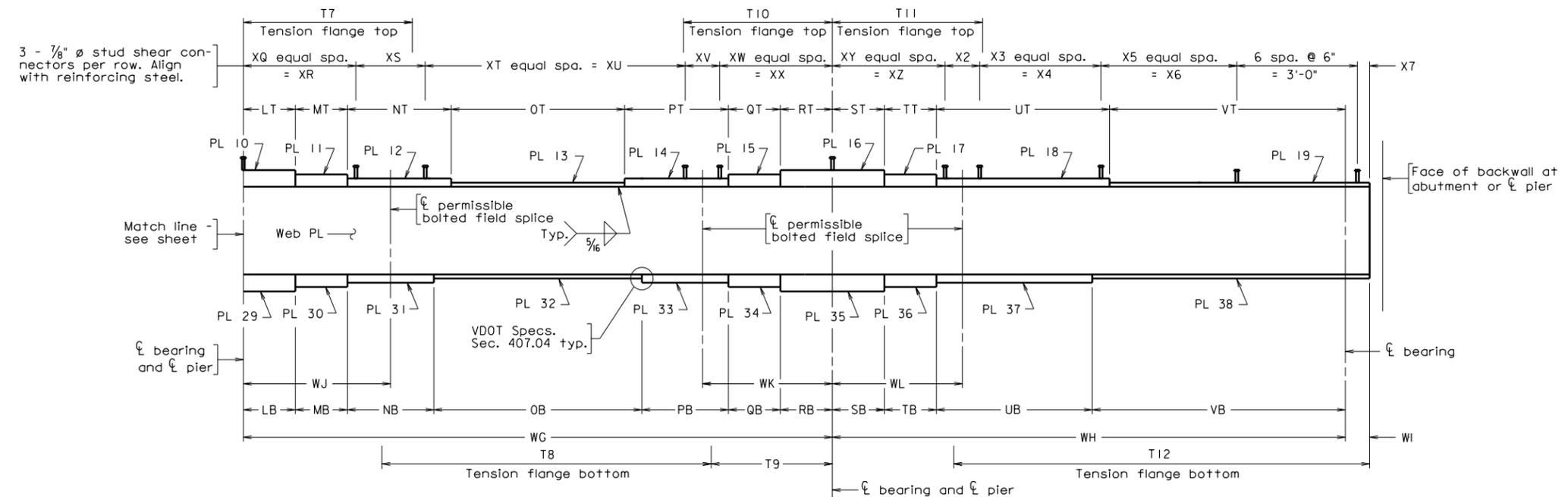
Add dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11. Add plate size(s) and locations(s).

TRANSVERSE INTERMEDIATE STIFFENER:

Add plate size and dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.

FLANGE CLIP DETAIL:

Add flange clip detail from cell library (sg.cel) for skewed bridges. Add angle, dimension(s) and location(s). See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.



Notes:
 For notes and details, see sheet .
 Symbol ϕ = diameter.

GIRDER ELEVATION

| PLATE DIMENSION TABLE | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Girder | Web PL | PL 10 | PL 11 | PL 12 | PL 13 | PL 14 | PL 15 | PL 16 | PL 17 | PL 18 | PL 19 | PL 29 | PL 30 | PL 31 | PL 32 | PL 33 | PL 34 | PL 35 | PL 36 | PL 37 | PL 38 |
| | | | | | | | | | | | | | | | | | | | | | |

| GIRDER DIMENSION TABLE | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Girder | LB | LT | MB | MT | NB | NT | OB | OT | PB | PT | QB | QT | RB | RT | SB | ST | TB | TT | UB | UT | VB | VT |
| | | | | | | | | | | | | | | | | | | | | | | |

| GIRDER DIMENSION TABLE | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|
| Girder | WC | WH | WI | WJ | WK | WL | XQ | XR | XS | XT | XU | XV | XW | XX | XY | XZ | X2 | X3 | X4 | X5 | X6 | X7 | Radius |
| | | | | | | | | | | | | | | | | | | | | | | | |

| TENSION FLANGES | | | | | | |
|-----------------|----|----|----|-----|-----|-----|
| Girder | T7 | T8 | T9 | T10 | T11 | T12 |
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VDOT S&B DIVISION
 RICHMOND, VA
 STRUCTURAL ENGINEER

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| COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION | | | | |
| STRUCTURE AND BRIDGE DIVISION | | | | |
| GIRDER DETAILS | | | | |
| No. | Description | Date | Designed: | Date |
| Revisions | | Checked: | Plan No. | Sheet No. |
| | | | SGDET4B | |

**STEEL PLATE GIRDER
4-SPAN CONTINUOUS – STRAIGHT
GIRDER DETAILS (SHEET 2 of 2)**

NOTES TO DESIGNER:

Standard is the continuation of standard SGDET4A. See notes to designer on that standard.

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

PLATE DIMENSION TABLE:

Fill in table.

TENSION FLANGES:

Fill in table.

GIRDER DIMENSION TABLE:

Fill in table.

FLANGE CLIP DETAIL:

Add flange clip detail from cell library (sg.cel) for skewed bridges. Add angle, dimension(s) and location(s). See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.

**STEEL PLATE GIRDER
4-SPAN CONTINUOUS – STRAIGHT
CAMBER DIAGRAM**

NOTES TO DESIGNER:

Standard is to be used for straight, 4-span continuous, steel plate girders. The standard includes camber diagram and table for deflections. The standard is used along with standards SGDET4A and SGDET4B (girder details; tables for plate sizes, dimensions, and tension flange limits; and details for stiffeners, connector plates, etc.) and SGDLD4A and SGDLD4B (dead load deflection and top of slab elevations along centerline girder).

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

CAMBER DIAGRAM:

Detail shows hump vertical curve with left support at a higher elevation than right support. Detail may be replaced with other shapes in cell library (sg.cel).

Fill in dimensions on diagram and fill in table. Show values using $\frac{1}{8}$ " increments.

**STEEL PLATE GIRDER
4-SPAN CONTINUOUS – STRAIGHT
DEAD LOAD DEFLECTION (SHEET 1 OF 2)**

NOTES TO DESIGNER:

Standard is to be used for straight, 4-span continuous, steel plate girders. The standard includes table for deflections and top of slab elevations along centerline girder for the first two spans of a 4-span continuous unit and is continued on standard SGDL4B. The standard is used along with standards SGDET4A and SGDET4B (girder details; tables for plate sizes, dimensions, and tension flange limits; and details for stiffeners, connector plates, etc.) and standard SGCAM4 (camber diagram).

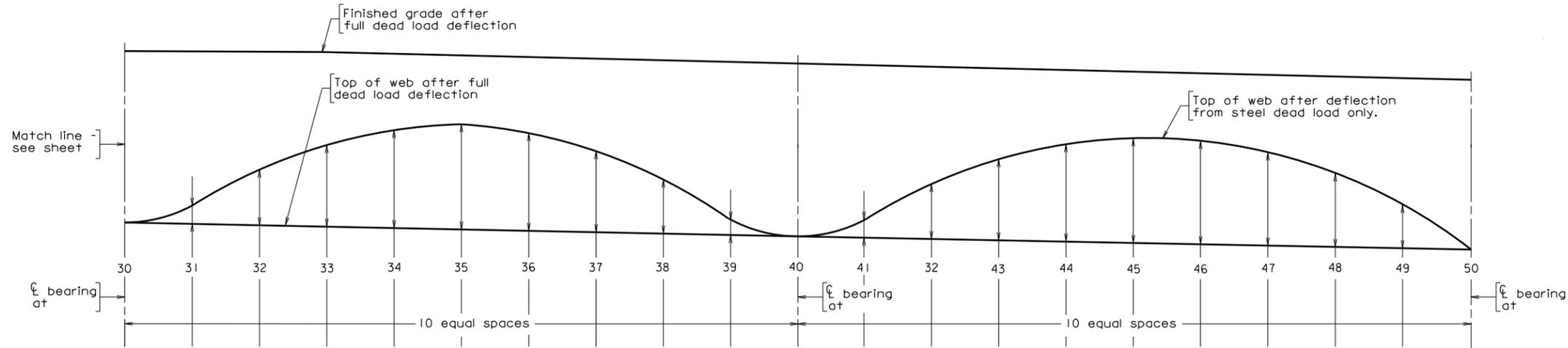
ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

DEAD LOAD DEFLECTION DIAGRAM:

Fill in table of dead load deflections. Show values using $\frac{1}{8}$ " increments.

TOP OF SLAB ELEVATIONS ALONG CENTERLINE GIRDER:

Fill in table.



| Point | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
|-------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Girder Δ_s | | | | | | | | | | | | | | | | | | | | | |
| Girder Δ_c | | | | | | | | | | | | | | | | | | | | | |
| Girder Total | | | | | | | | | | | | | | | | | | | | | |

All values in Dead Load Deflection Table are in inches.

Δ_s = Deflection of girder from dead load of concrete deck slab and bolsters.

Δ_c = Deflection of girder from dead load (e.g. parapet) added after deck slab is cast.

DEAD LOAD DEFLECTIONS

TOP OF SLAB ELEVATIONS ALONG G GIRDER

| Point | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Girder | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | |
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| DEAD LOAD DEFLECTIONS AND SLAB ELEVATIONS | | | | |
| No. | Description | Date | Designed: | Date |
| | | | Drawn: | Plan No. |
| | | | Checked: | Sheet No. |
| Revisions | | | SGDL4B | |

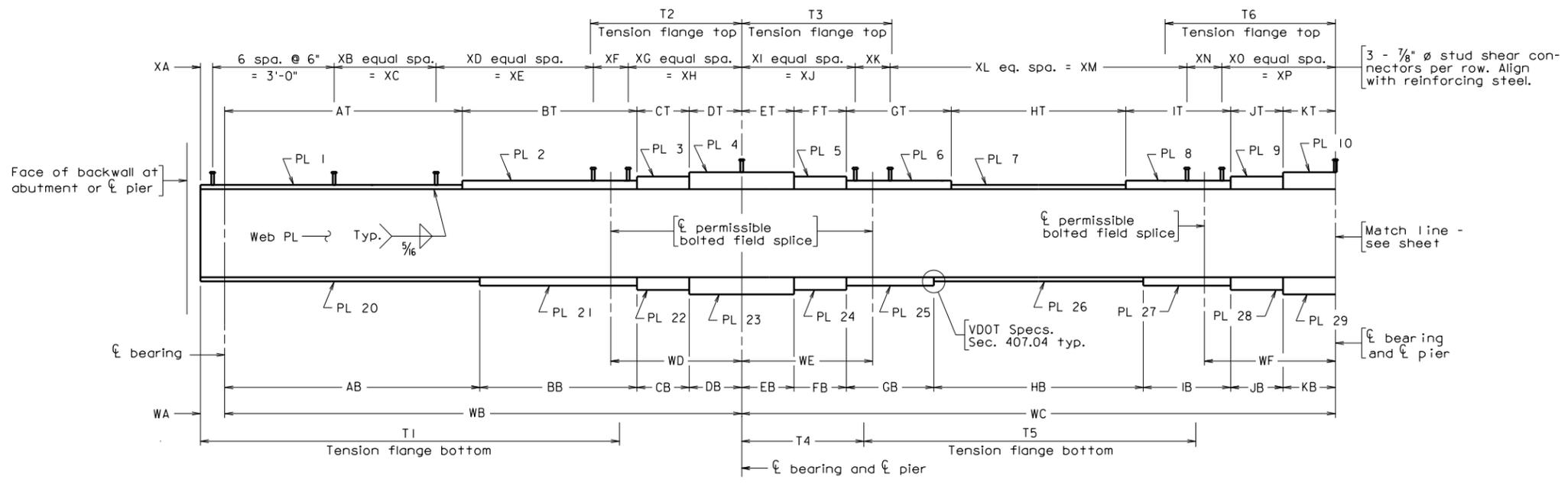
**STEEL PLATE GIRDER
4-SPAN CONTINUOUS – STRAIGHT
DEAD LOAD DEFLECTION (SHEET 2 OF 2)**

NOTES TO DESIGNER:

Standard is the continuation of standard SGDLD4A. See notes to designer on that standard.

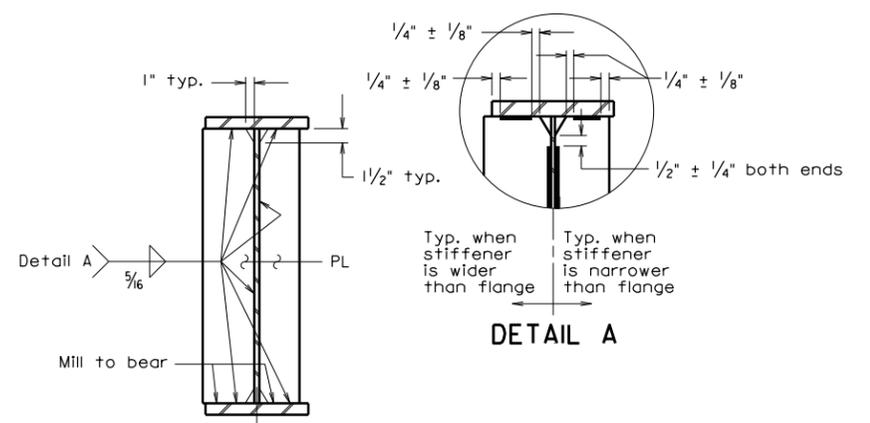
ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

See standard SGDLD4A.



GIRDER ELEVATION

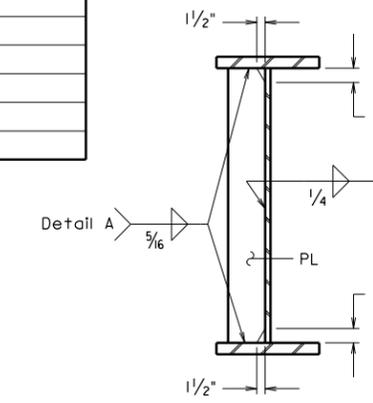
Notes:
 The Contractor has the option of eliminating the intermediate web stiffeners by increasing the web thickness to .
 For spacing of intermediate diaphragm connector PL's and intermediate web stiffener PL's, see Framing Plan, sheet .
 For spacing of stud shear connectors in vicinity of permissible bolted field splice, see bolted splice details, sheet .
 The top and bottom flanges as shown in Girder Elevation, the web and all splice plates are areas of tensile stress for Charpy V-Notch impact requirements.
 Symbol ϕ = diameter.



BEARING STIFFENERS

TRANSVERSE INTERMEDIATE STIFFENER

Typ. when stiffener is wider than flange
 Typ. when stiffener is narrower than flange



CROSS FRAME CONNECTOR PLATE

Note A: 5/16" fillet weld (both sides) to compression flange(s). Tight fit to tension flange(s).

PLATE DIMENSION TABLE

| Girder | Web PL | PL 1 | PL 2 | PL 3 | PL 4 | PL 5 | PL 6 | PL 7 | PL 8 | PL 9 | PL 10 | PL 20 | PL 21 | PL 22 | PL 23 | PL 24 | PL 25 | PL 26 | PL 27 | PL 28 | PL 29 | |
|--------|--------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
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GIRDER DIMENSION TABLE

| Girder | AB | AT | BB | BT | CB | CT | DB | DT | EB | ET | FB | FT | GB | GT | HB | HT | IB | IT | JB | JT | KB | KT | |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
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GIRDER DIMENSION TABLE

| Girder | WA | WB | WC | WD | WE | WF | XA | XB | XC | XD | XE | XF | XG | XH | XI | XJ | XK | XL | XM | XN | XO | XP | Radius |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|
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TENSION FLANGES

| Girder | T1 | T2 | T3 | T4 | T5 | T6 |
|--------|----|----|----|----|----|----|
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| GIRDER DETAILS | | | | |
| No. | Description | Date | Designed: | Date |
| Revisions | | Checked: | Plan No. | Sheet No. |
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**STEEL PLATE GIRDER
4-SPAN CONTINUOUS – TRAPEZOIDAL OR CURVED
GIRDER DETAILS (SHEET 1 OF 2)**

NOTES TO DESIGNER:

Standard is to be used for trapezoidal or curved, 4-span continuous, steel plate girders. The standard includes girder details; tables for plate sizes, dimensions, and tension flange limits; and details for stiffeners, connector plates, etc. Details for two spans of a 4-span continuous unit are on this standard and continued on standard SGDET4BC. The standard is used along with standard SGCAM4 (camber diagram) and standards SGDL4AC and SGDL4BC (dead load deflection and top of slab elevations along centerline girder).

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

NOTES:

Complete first note (alternate web thickness). Add sheet number(s) to note(s).

PLATE DIMENSION TABLE:

Fill in table.

TENSION FLANGES:

Fill in table.

GIRDER DIMENSION TABLE:

Fill in table.

BEARING STIFFENERS:

Add plate size(s) and location(s).

CROSS FRAME CONNECTOR PLATE:

Add dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11. Add plate size(s) and location(s).

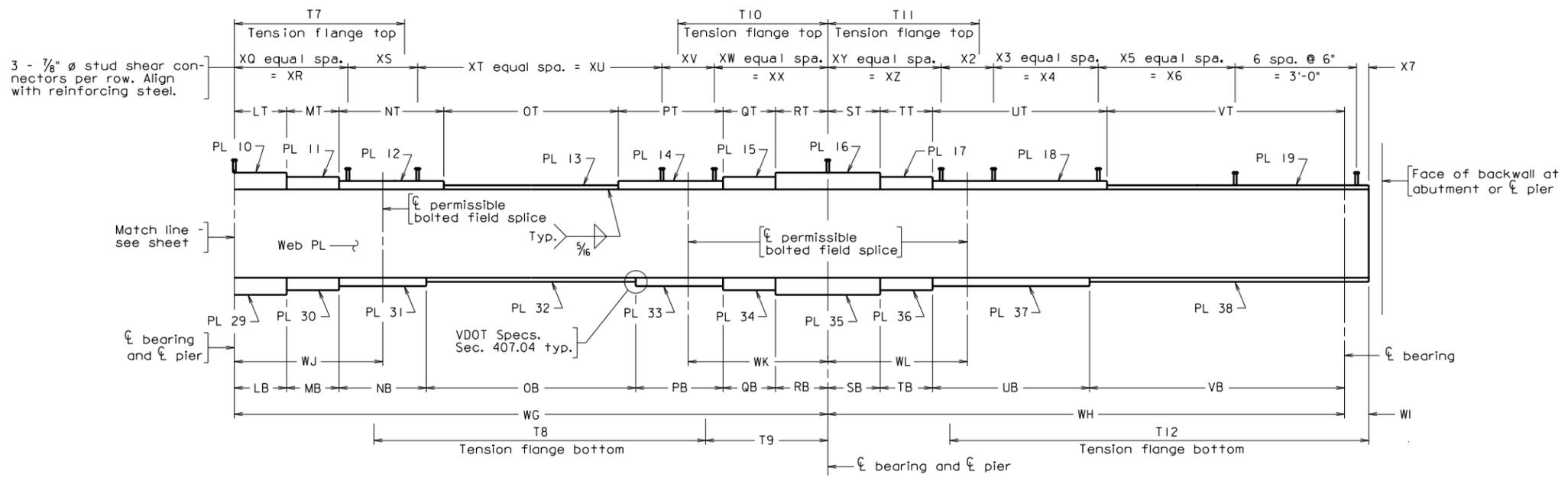
TRANSVERSE INTERMEDIATE STIFFENER:

Add plate size and dimensions. See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.

FLANGE CLIP DETAIL:

Add flange clip detail from cell library (sg.cel) for skewed bridges. Add angle, dimension(s) and location(s). See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.

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| STATE | FEDERAL AID | | STATE | SHEET |
| ROUTE | PROJECT | | ROUTE | PROJECT |
| VA. | | | | NO. |



GIRDER ELEVATION

| PLATE DIMENSION TABLE | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Girder | Web PL | PL 10 | PL 11 | PL 12 | PL 13 | PL 14 | PL 15 | PL 16 | PL 17 | PL 18 | PL 19 | PL 29 | PL 30 | PL 31 | PL 32 | PL 33 | PL 34 | PL 35 | PL 36 | PL 37 | PL 38 |
| | | | | | | | | | | | | | | | | | | | | | |
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| GIRDER DIMENSION TABLE | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Girder | LB | LT | MB | MT | NB | NT | OB | OT | PB | PT | QB | QT | RB | RT | SB | ST | TB | TT | UB | UT | VB | VT |
| | | | | | | | | | | | | | | | | | | | | | | |
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| GIRDER DIMENSION TABLE | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|
| Girder | WG | WH | WI | WJ | WK | WL | X0 | XR | XS | XT | XU | XV | XW | XX | XY | XZ | X2 | X3 | X4 | X5 | X6 | X7 | Radius |
| | | | | | | | | | | | | | | | | | | | | | | | |
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| TENSION FLANGES | | | | | | |
|-----------------|----|----|----|-----|-----|-----|
| Girder | T7 | T8 | T9 | T10 | T11 | T12 |
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| GIRDER DETAILS | | | | |
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| Revisions | | | Drawn: | Plan No. |
| | | | Checked: | Sheet No. |
| | | | SGDET4BC | |

**STEEL PLATE GIRDER
4-SPAN CONTINUOUS – TRAPEZOIDAL OR CURVED
GIRDER DETAILS (SHEET 2 of 2)**

NOTES TO DESIGNER:

Standard is the continuation of standard SGDET4AC. See notes to designer on that standard.

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

PLATE DIMENSION TABLE:

Fill in table.

TENSION FLANGES:

Fill in table.

GIRDER DIMENSION TABLE:

Fill in table.

FLANGE CLIP DETAIL:

Add flange clip detail from cell library (sg.cel) for skewed bridges. Add angle, dimension(s) and location(s). See Manual of the Structure and Bridge Division, Volume V – Part 2, Chapter 11.

**STEEL PLATE GIRDER
4-SPAN CONTINUOUS – TRAPEZOIDAL OR CURVED
CAMBER DIAGRAM**

NOTES TO DESIGNER:

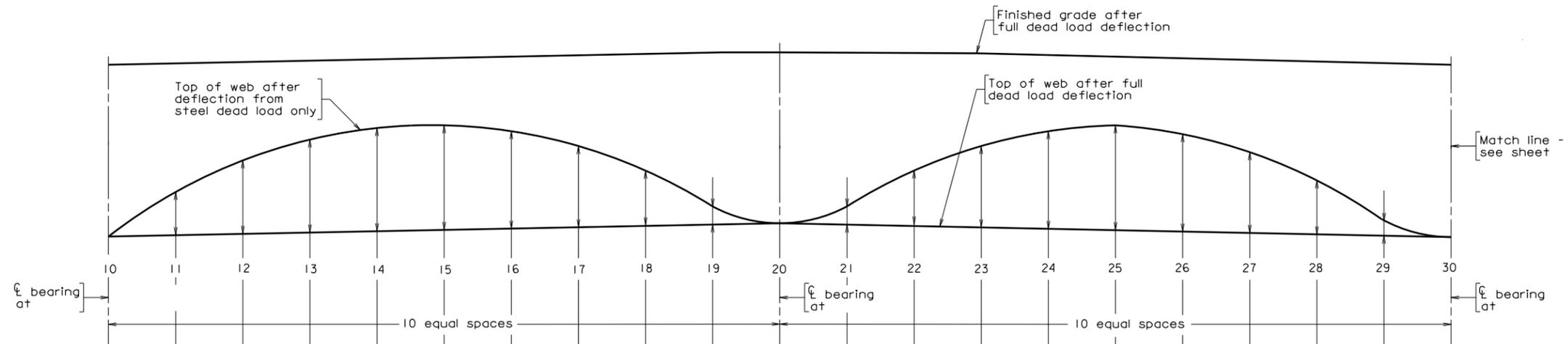
Standard is to be used for trapezoidal or curved, 4-span continuous, steel plate girders. The standard includes the camber diagram and table for deflections. The standard is used along with standards SGET4AC and SGET4BC (girder details; tables for plate sizes, dimensions, and tension flange limits; and details for stiffeners, connector plates, etc.) and SGDL4AC and SGDL4BC (dead load deflection and top of slab elevations along centerline girder).

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

CAMBER DIAGRAM:

Detail shows hump vertical curve with left support at a higher elevation than right support. Detail may be replaced with other shapes in cell library (sg.cel).

Fill in dimensions on diagram and fill in table. Show values using $\frac{1}{8}$ " increments.



| | Point | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|--------|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | |

All values in Dead Load Deflection Table are in inches.
 Δ_s = Deflection of girder from dead load of concrete deck slab and bolsters.
 Δ_c = Deflection of girder from dead load (e.g. parapet) added after deck slab is cast.

DEAD LOAD DEFLECTIONS

| TOP OF SLAB ELEVATIONS ALONG \bar{C} GIRDER | | | | | | | | | | | | | | | | | | | | | |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Point | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Girder | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | |
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| DEAD LOAD DEFLECTIONS AND SLAB ELEVATIONS | | | | | |
| No. | Description | Date | Designed: | Date | Plan No. |
| | | | Drawn: | | |
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| Revisions | | | SGDL4AC | | |

**STEEL PLATE GIRDER
4-SPAN CONTINUOUS – TRAPEZOIDAL OR CURVED
DEAD LOAD DEFLECTION (SHEET 1 OF 2)**

NOTES TO DESIGNER:

Standard is to be used for trapezoidal or curved, 4-span continuous, steel plate girders. The standard includes table for deflections and top of slab elevations along centerline girder for the first two spans of a 4-span continuous unit and is continued on standard SGDL4BC. The standard is used along with standards SGDET4AC and SGDET4BC (girder details; tables for plate sizes, dimensions, and tension flange limits; and details for stiffeners, connector plates, etc.) and standard SGCAM4C (camber diagram).

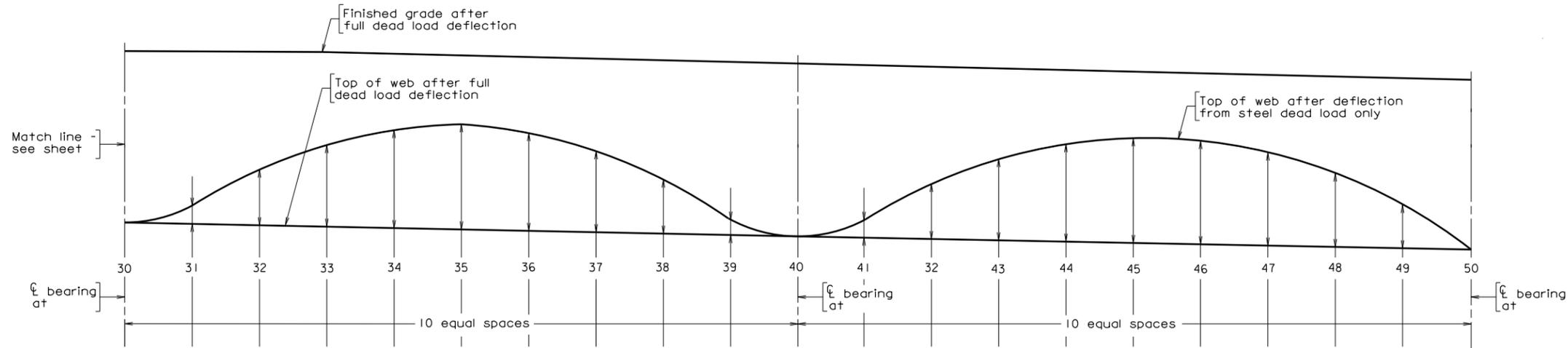
ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

DEAD LOAD DEFLECTION DIAGRAM:

Fill in table of dead load deflections. Show values using $\frac{1}{8}$ " increments.

TOP OF SLAB ELEVATIONS ALONG CENTERLINE GIRDER:

Fill in table.



| | Point | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
|--------|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | |
| Girder | Δ_s | | | | | | | | | | | | | | | | | | | | | |
| | Δ_c | | | | | | | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | | | | | | | |

All values in Dead Load Deflection Table are in inches.

Δ_s = Deflection of girder from dead load of concrete deck slab and bolsters.

Δ_c = Deflection of girder from dead load (e.g. parapet) added after deck slab is cast.

DEAD LOAD DEFLECTIONS

TOP OF SLAB ELEVATIONS ALONG ϕ GIRDER

| Point | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Girder | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | |
| Girder | | | | | | | | | | | | | | | | | | | | | |

sgdlld4bc.dgn

SGDL4BC 06-14-2010

| | |
|--|--|
| VDOT S&B DIVISION RICHMOND, VA STRUCTURAL ENGINEER | |
|--|--|

Not to scale

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| | | | | | |
|--|-------------|------|-----------------|------|-----------|
| COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION | | | | | |
| STRUCTURE AND BRIDGE DIVISION | | | | | |
| DEAD LOAD DEFLECTIONS AND SLAB ELEVATIONS | | | | | |
| No. | Description | Date | Designed: | Date | Plan No. |
| Revisions | | | Checked: | | Sheet No. |
| | | | SGDL4BC | | |

**STEEL PLATE GIRDER
4-SPAN CONTINUOUS – TRAPEZOIDAL OR CURVED
DEAD LOAD DEFLECTION (SHEET 2 OF 2)**

NOTES TO DESIGNER:

Standard is the continuation of standard SGDL4AC. See notes to designer on that standard.

ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

See standard SGDL4AC.

**STEEL PLATE GIRDER STANDARDS
CELL LIBRARY: SG.CEL**

INDEX OF CELLS

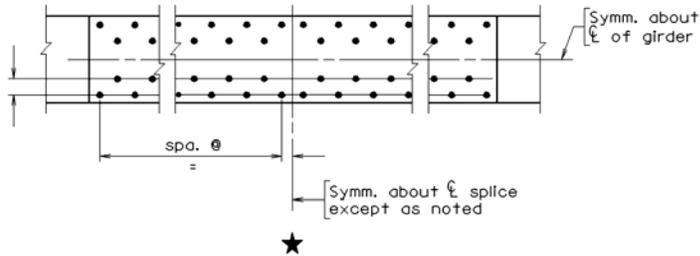
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|------------------|-----------------|-------------|
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| BF42..... | SGCELLS-1..... | 31Aug2007 |
| BF44..... | SGCELLS-1..... | 31Aug2007 |
| BSTIFF..... | SGCELLS-2..... | 31Aug2007 |
| CLIPLL..... | SGCELLS-2..... | 31Aug2007 |
| CLIPLR..... | SGCELLS-2..... | 31Aug2007 |
| CLIPRL..... | SGCELLS-3..... | 31Aug2007 |
| CLIPRR..... | SGCELLS-3..... | 31Aug2007 |
| CONNPL..... | SGCELLS-3..... | 31Aug2007 |
| DETA..... | SGCELLS-4..... | 31Aug2007 |
| DLDGRA..... | SGCELLS-4..... | 31Aug2007 |
| DLDHUM..... | SGCELLS-4..... | 31Aug2007 |
| DLDSAG..... | SGCELLS-5..... | 31Aug2007 |
| NOTEA..... | SGCELLS-5..... | 31Aug2007 |
| PPTOP5..... | SGCELLS-5..... | 31Aug2007 |
| SGCG2L..... | SGCELLS-5..... | 31Aug2007 |
| SGCG2R..... | SGCELLS-6..... | 31Aug2007 |
| SGCG3L..... | SGCELLS-6..... | 31Aug2007 |
| SGCG3R..... | SGCELLS-6..... | 31Aug2007 |
| SGCG4L..... | SGCELLS-6..... | 31Aug2007 |
| SGCG4R..... | SGCELLS-7..... | 31Aug2007 |
| SGCH2R..... | SGCELLS-7..... | 31Aug2007 |
| SGCH3L..... | SGCELLS-7..... | 31Aug2007 |
| SGCH3R..... | SGCELLS-8..... | 31Aug2007 |
| SGCH4L..... | SGCELLS-8..... | 31Aug2007 |
| SGCH4R..... | SGCELLS-8..... | 31Aug2007 |
| SGCS2L..... | SGCELLS-8..... | 31Aug2007 |
| SGCS2R..... | SGCELLS-9..... | 31Aug2007 |
| SGCS3L..... | SGCELLS-9..... | 31Aug2007 |
| SGCS3R..... | SGCELLS-9..... | 31Aug2007 |
| SGCS4L..... | SGCELLS-9..... | 31Aug2007 |
| SGCS4R..... | SGCELLS-10..... | 31Aug2007 |
| SGLB1..... | SGCELLS-10..... | 31Aug2007 |
| SGLB2..... | SGCELLS-10..... | 31Aug2007 |
| SGLB3..... | SGCELLS-11..... | 31Aug2007 |
| SGLB4..... | SGCELLS-11..... | 31Aug2007 |
| SGNT1..... | SGCELLS-11..... | 31Aug2007 |
| SGNT2..... | SGCELLS-12..... | 31Aug2007 |
| TBL5PT..... | SGCELLS-12..... | 31Aug2007 |
| TF22..... | SGCELLS-12..... | 31Aug2007 |
| TF42..... | SGCELLS-13..... | 31Aug2007 |
| TF44..... | SGCELLS-13..... | 31Aug2007 |
| TRSTIFF..... | SGCELLS-13..... | 31Aug2007 |
| WEB..... | SGCELLS-14..... | 31Aug2007 |

CELL

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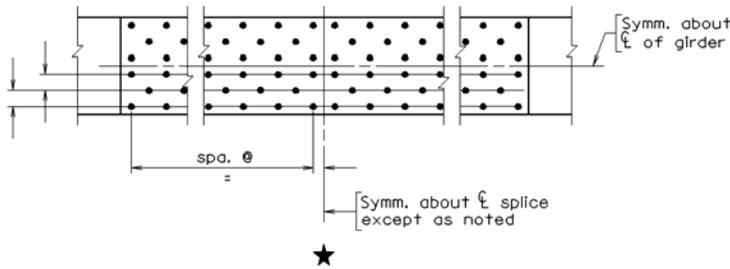
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BF22



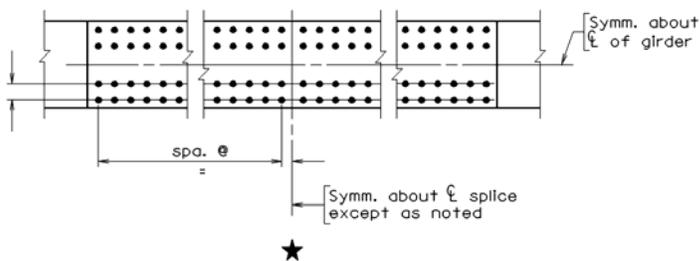
Bottom flange splice with 2-2 stagger bolt pattern
(approx. 0.45 of actual cell size)

BF42



Bottom flange splice with 4-2 stagger bolt pattern
(approx. 0.45 of actual cell size)

BF44



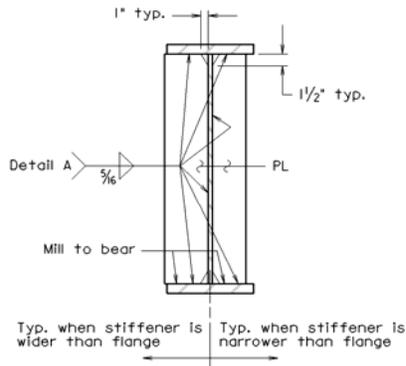
Bottom flange splice with 4 uniform bolt pattern
(approx. 0.45 of actual cell size)

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CELL DESCRIPTION

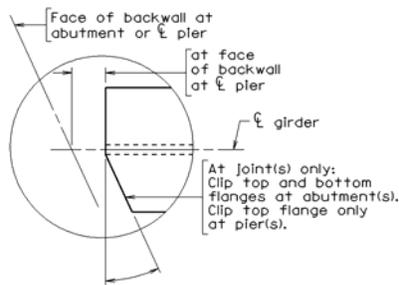
BSTIFF



Bearing stiffener detail
(approx. 0.40 of actual cell size)

BEARING STIFFENERS

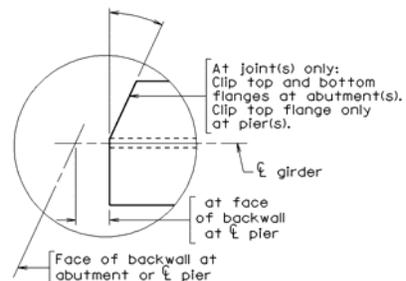
CLIPLL



Flange clip details, clip at left end, left skew (approx. 0.40 of actual cell size)

FLANGE CLIP DETAILS

CLIPLR



Flange clip details, clip at left end, right skew (approx. 0.40 of actual cell size)

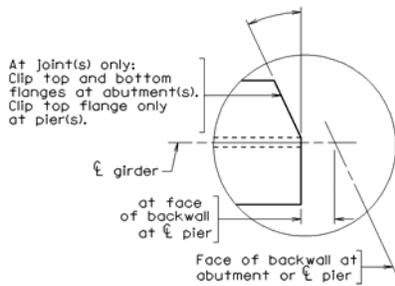
FLANGE CLIP DETAILS

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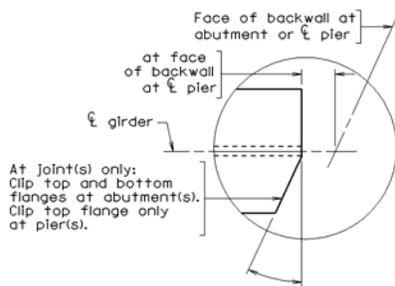
CLIPRL



Flange clip details, clip at right end, left skew (approx. 0.40 of actual cell size)

FLANGE CLIP DETAILS

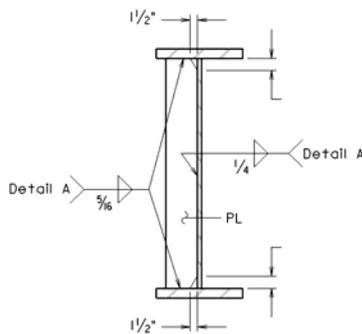
CLIPRR



Flange clip details, clip at right end, right skew (approx. 0.40 of actual cell size)

FLANGE CLIP DETAILS

CONNPL



Cross frame connector plate detail (approx. 0.40 of actual cell size)

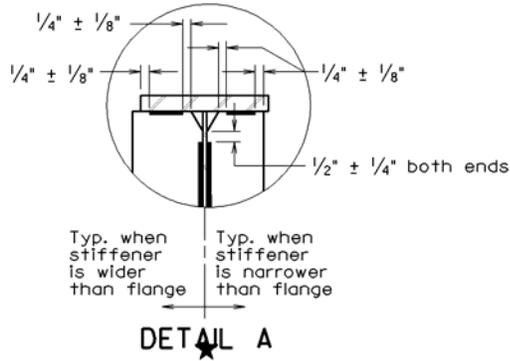
CROSS FRAME CONNECTOR PLATE

CELL

CELL NAME

CELL DESCRIPTION

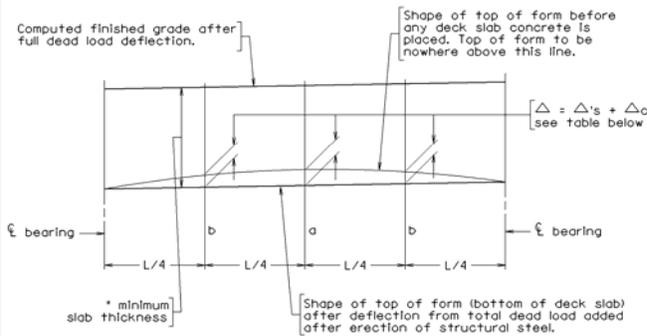
DETA



Welding details for connector plates wider and narrower than the flange (approx. 0.50 of actual cell size)

DETAIL A

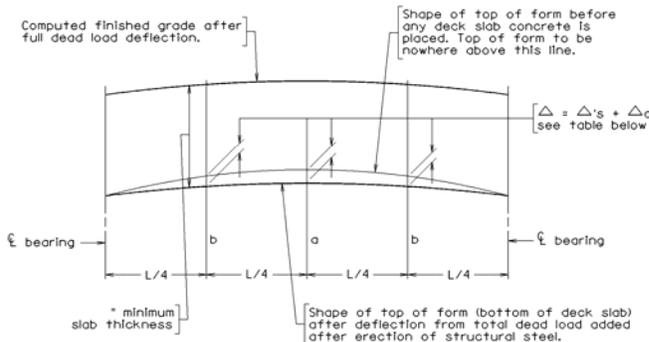
DLDGRA



Deflection diagram single span gradient (approx. 0.35 of actual cell size)



DLDHUM



Deflection diagram single span hump (approx. 0.35 of actual cell size)

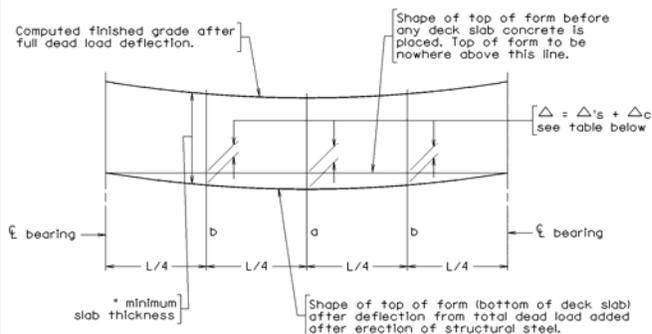


CELL

CELL NAME

CELL DESCRIPTION

DLDSAG



Deflection diagram single span sag
(approx. 0.35 of actual cell size)

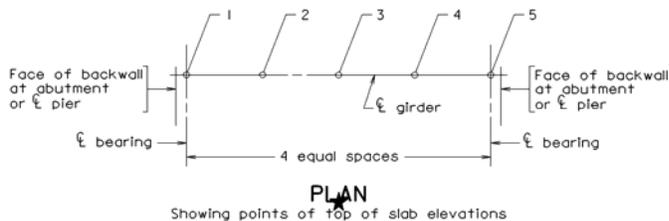


NOTEA

★ Note A: 5/16" fillet weld (both sides)
to compression flange(s).
Tight fit to tension flange(s).

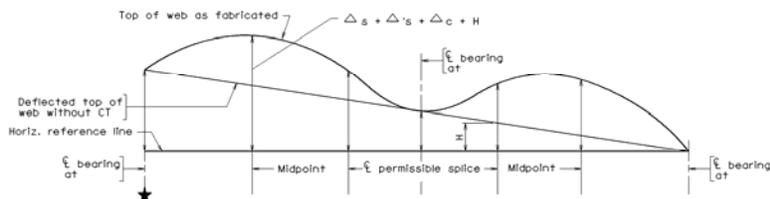
Note for fillet weld tight fit (approx. 0.60
of actual cell size)

PPTOP5

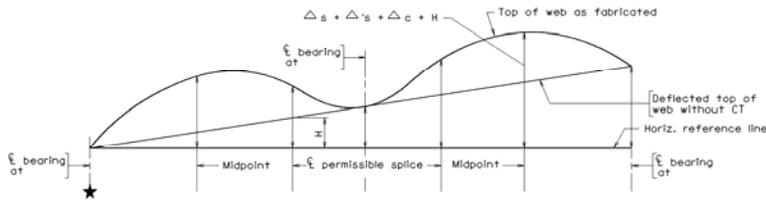


Plan showing 5 points
(approx. 0.40 of actual cell size)

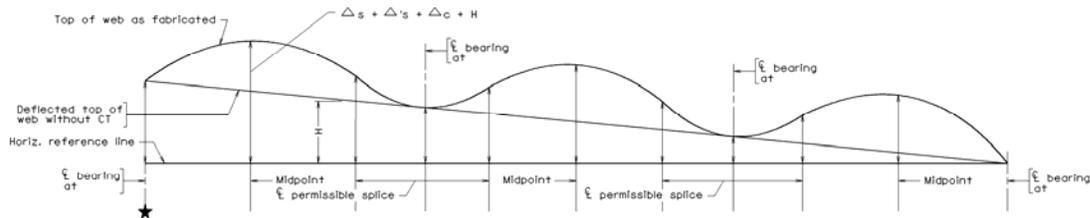
SGCG2L



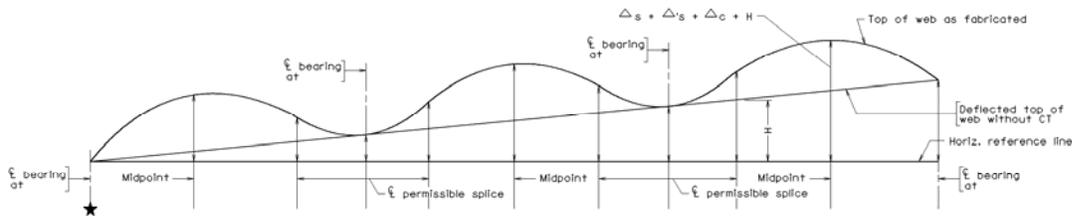
Camber diagram two span gradient
maximum at left end (approx. 0.30
of actual cell size)

CELL**CELL NAME****CELL DESCRIPTION****SGCG2R**

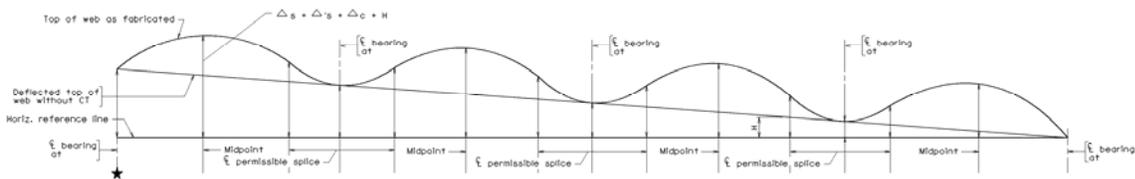
Camber diagram two span
gradient maximum at right end
(approx. 0.30 of actual cell size)

SGCG3L

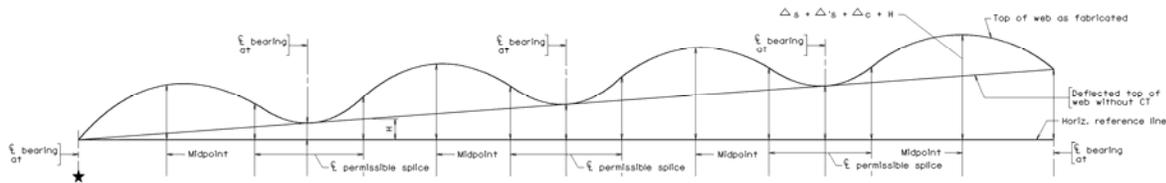
Camber diagram three span
gradient maximum at left end (approx. 0.30 of actual cell size)

SGCG3R

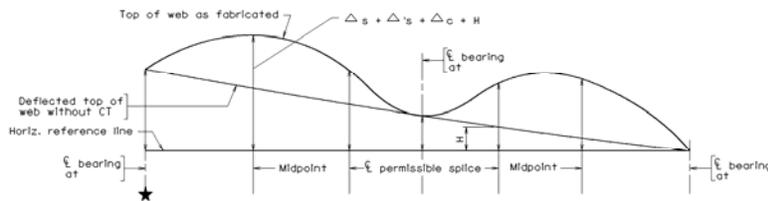
Camber diagram three span
gradient maximum at right end (approx. 0.30 of actual cell size)

SGCG4L

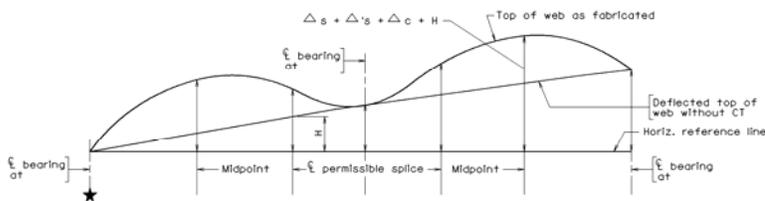
Camber diagram four span
gradient maximum at left end (approx. 0.25 of actual cell size)

CELL**CELL NAME****CELL DESCRIPTION****SGCG4R**

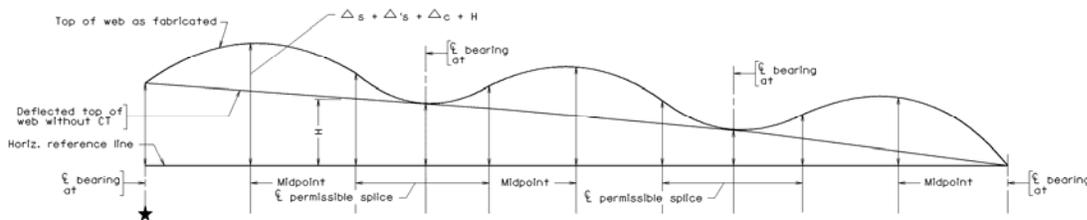
Camber diagram four span gradient maximum at right end (approx. 0.25 of actual cell size)

SGCH2L

Camber diagram two span hump curve maximum at left end (approx. 0.30 of actual cell size)

SGCH2R

Camber diagram two span hump curve maximum at right end (approx. 0.30 of actual cell size)

SGCH3L

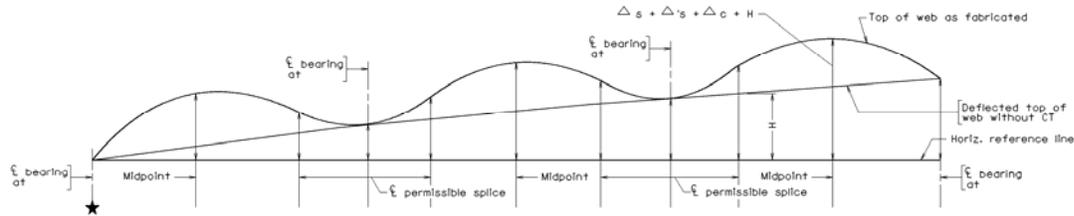
Camber diagram three span hump curve maximum at left end (approx. 0.30 of actual cell size)

CELL

CELL NAME

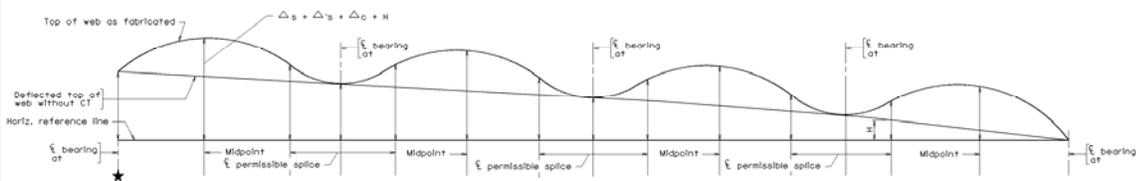
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SGCH3R



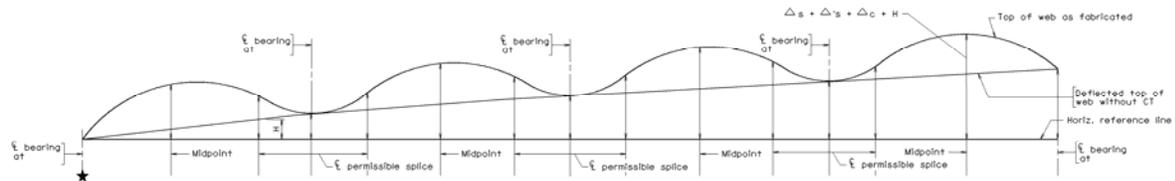
Camber diagram three span hump curve maximum at left end (approx. 0.30 of actual cell size)

SGCH4L



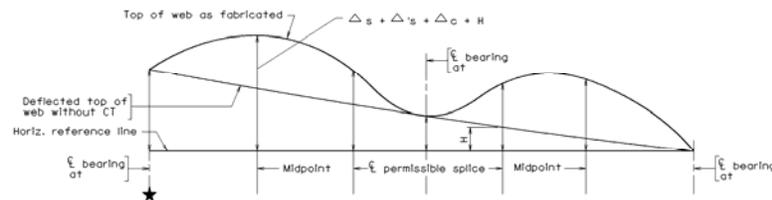
Camber diagram four span hump curve maximum at left end (approx. 0.25 of actual cell size)

SGCH4R



Camber diagram four span hump curve maximum at right end (approx. 0.25 of actual cell size)

SGCS2L



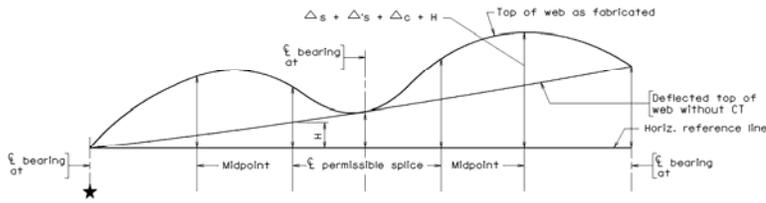
Camber diagram two span sag curve maximum at left end (approx. 0.30 of actual cell size)

CELL

CELL NAME

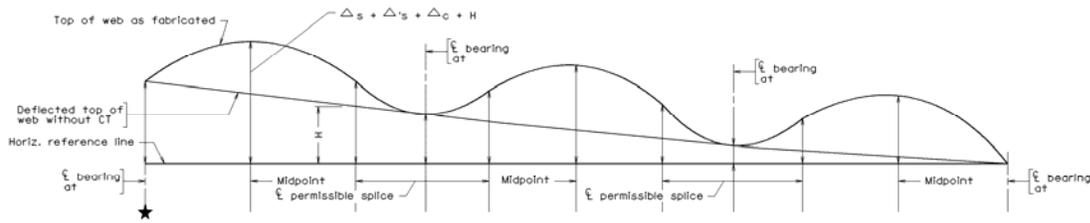
CELL DESCRIPTION

SGCS2R



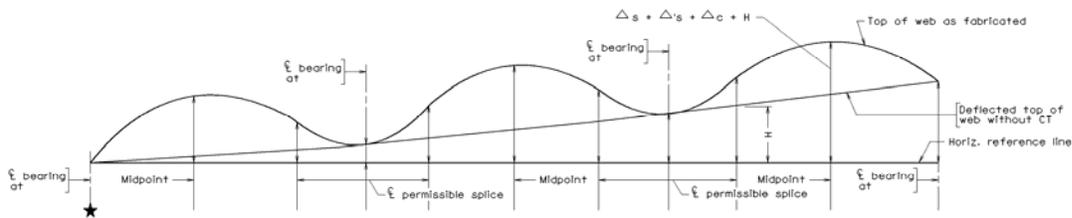
Camber diagram two span sag curve maximum at right end (approx. 0.30 of actual cell size)

SGCS3L



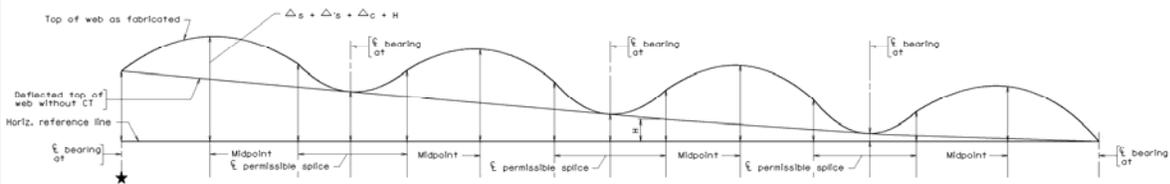
Camber diagram three span sag curve maximum at left end (approx. 0.30 of actual cell size)

SGCS3R



Camber diagram three span sag curve maximum at left end (approx. 0.30 of actual cell size)

SGCS4L



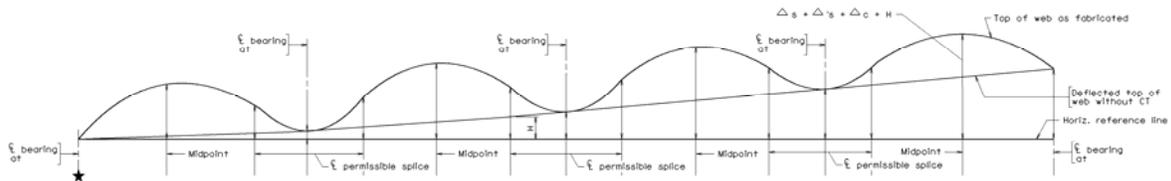
Camber diagram four span sag curve maximum at left end (approx. 0.25 of actual cell size)

CELL

CELL NAME

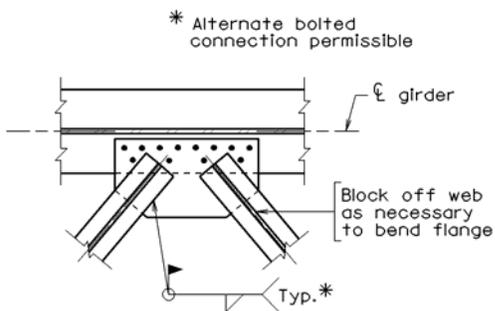
CELL DESCRIPTION

SGCS4R



Camber diagram four span sag curve maximum at right end (approx. 0.25 of actual cell size)

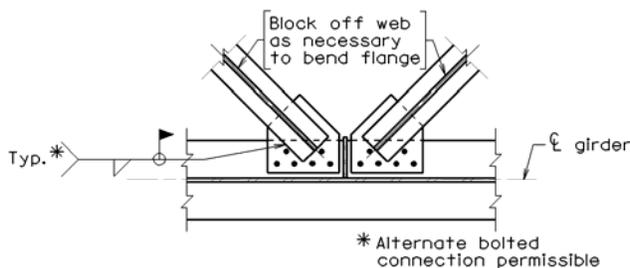
SGLB1



Lateral bracing connection detail without stiffener (approx. 0.50 of actual cell size)

CONNECTION WITHOUT STIFFENER

SGLB2



Lateral bracing connection detail at intermediate stiffener (approx. 0.50 of actual cell size)

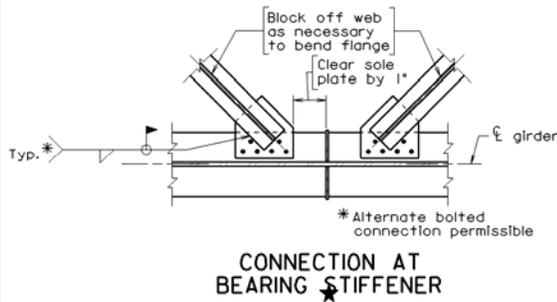
CONNECTION AT INTERMEDIATE STIFFENER

CELL

CELL NAME

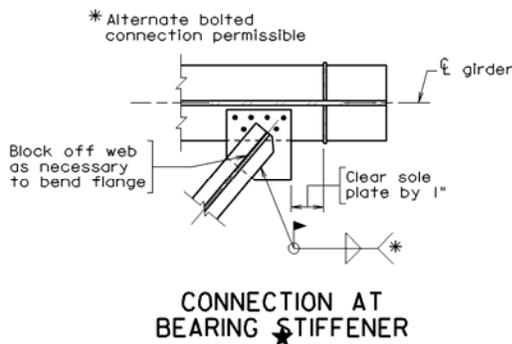
CELL DESCRIPTION

SGLB3



Lateral bracing connection detail at bearing stiffener (approx. 0.40 of actual cell size)

SGLB4



Lateral bracing connection detail at bearing stiffener (approx. 0.45 of actual cell size)

SGNT1

★Notes:

The Contractor has the option of eliminating the transverse intermediate stiffeners by increasing the web thickness to .

For spacing of transverse intermediate stiffeners, see framing plan, sheet .

The bottom flange, web, and all splice plates are areas of tensile stress for Charpy V-Notch impact requirements.

For stud shear connector spacing in vicinity of permissible bolted field splice, see bolted splice details, sheet .

Symbol ϕ = diameter.

Notes for simple spans (approx. 0.40 of actual cell size)

CELL

CELL NAME

CELL DESCRIPTION

SGNT2

★Notes:

The Contractor has the option of eliminating the intermediate web stiffeners by increasing the web thickness to .

For spacing of intermediate diaphragm connector PL's and intermediate web stiffener PL's, see Framing Plan, sheet .

For spacing of stud shear connectors in vicinity of permissible bolted field splice, see bolted splice details, sheet .

The top and bottom flanges as shown in Girder Elevation, the web and all splice plates are areas of tensile stress for Charpy V-Notch impact requirements.

Symbol ϕ = diameter.

Notes for continuous spans
(approx. 0.40 of actual cell size)

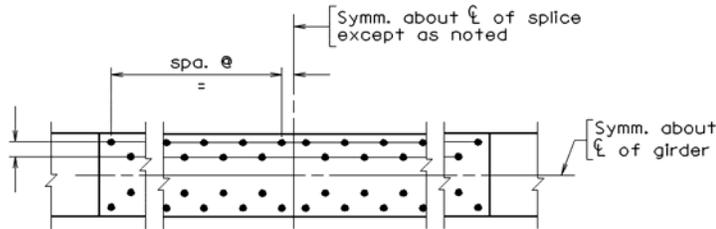
TBL5PT



| TOP OF SLAB ELEVATIONS ALONG \bar{C} GIRDERS | | | | | |
|--|---|---|---|---|---|
| Girder | 1 | 2 | 3 | 4 | 5 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Table for top of slab elevations 5 points
(approx. 0.40 of actual cell size)

TF22



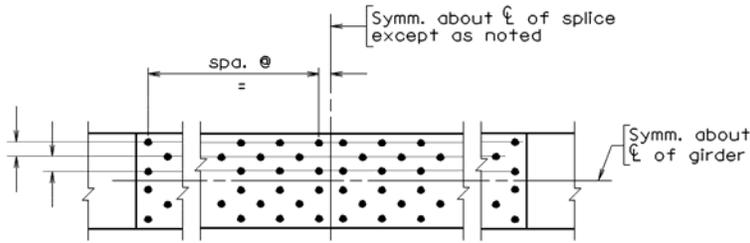
Top flange splice with 2-2
stagger bolt pattern
(approx. 0.50 of actual cell size)

CELL

CELL NAME

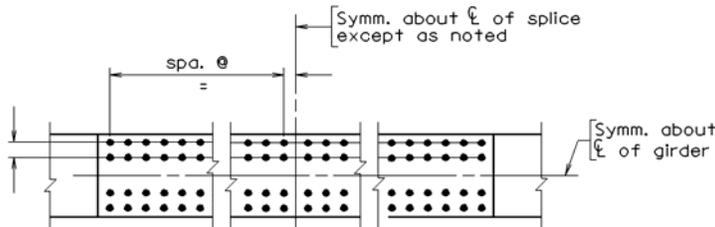
CELL DESCRIPTION

TF42



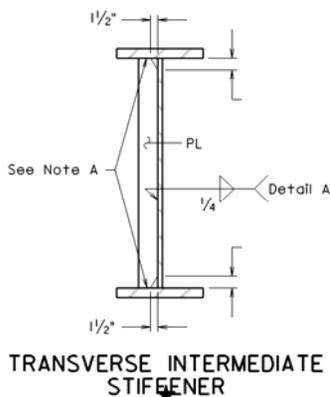
Top flange splice with 4-2 stagger bolt pattern (approx. 0.50 of actual cell size)

TF44



Top flange splice with 4 uniform bolt pattern (approx. 0.50 of actual cell size)

TRSTIFF



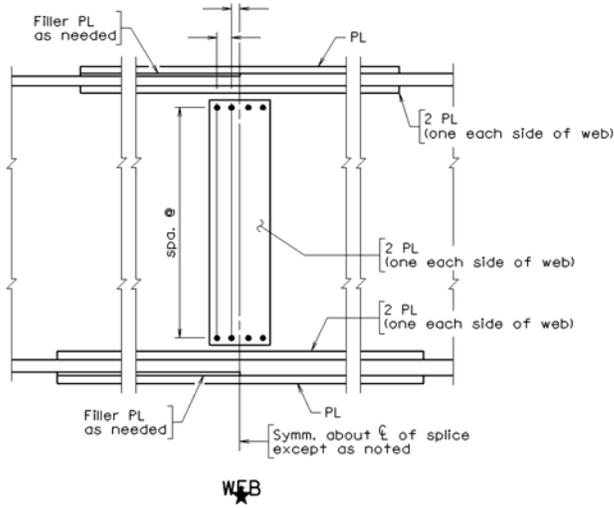
Transverse intermediate stiffener detail (approx. 0.40 of actual cell size)

CELL

CELL NAME

CELL DESCRIPTION

WEB



Web splice detail
(approx. 0.40 of actual cell size)