

| DATA FOR STANDARD SCC PRECAST GIRDER BRIDGES WITH CAST-IN-PLACE CONCRETE HIGH BACKWALL ABUTMENT |    |          |       |       |          |       |       |            |       |       |            |       |       |            |       |       |            |       |       |
|---|----|----------|-------|-------|----------|-------|-------|------------|-------|-------|------------|-------|-------|------------|-------|-------|------------|-------|-------|
| CLEAR ROADWAY WIDTH (NOM) (GIRDERS PER SPAN)  |    | 8720 (8) |       |       | 9940 (9) |       |       | 11160 (10) |       |       | 12380 (11) |       |       | 13600 (12) |       |       | 14820 (13) |       |       |
| OVERALL WIDTH (NOM)   |    | 9870     |       |       | 11090    |       |       | 12310      |       |       | 13530      |       |       | 14750      |       |       | 15970      |       |       |
| SKEW  |    | 0°       |       | 15°   |          | 30°   |       | 0°         |       | 15°   |            | 30°   |       | 0°         |       | 15°   |            | 30°   |       |
| BACKWALL  | A  | 11726    | 12140 | 13540 | 12946    | 13403 | 14949 | 14166      | 14666 | 16357 | 15386      | 15929 | 17766 | 16606      | 17192 | 19175 | 17826      | 18455 | 20584 |
|   | W  | 10016    | 10016 | 10016 | 11236    | 11236 | 11236 | 12456      | 12456 | 12456 | 13676      | 13676 | 13676 | 14896      | 14896 | 14896 | 16116      | 16116 | 16116 |
|   | Q  | 5772     | 5943  | 6567  | 6382     | 6575  | 7271  | 6992       | 7206  | 7976  | 7602       | 7838  | 8680  | 8212       | 8469  | 9384  | 8822       | 9101  | 10089 |
|   | F* | 3484     | 3484  | 3484  | 3472     | 3472  | 3472  | 3459       | 3459  | 3459  | 3447       | 3447  | 3447  | 3435       | 3435  | 3435  | 3423       | 3423  | 3423  |
| DOWELS  | V  | 928      | 961   | 1072  | 928      | 961   | 1072  | 928        | 961   | 1072  | 928        | 961   | 1072  | 928        | 961   | 1072  | 928        | 961   | 1072  |
|   | U  | 840      | 870   | 970   | 840      | 870   | 970   | 840        | 870   | 970   | 840        | 870   | 970   | 840        | 870   | 970   | 840        | 870   | 970   |
|   | S  | 1220     | 1263  | 1409  | 1220     | 1263  | 1409  | 1220       | 1263  | 1409  | 1220       | 1263  | 1409  | 1220       | 1263  | 1409  | 1220       | 1263  | 1409  |
|   | J  | 50       | 53    | 63    | 50       | 53    | 63    | 50         | 53    | 63    | 50         | 53    | 63    | 50         | 53    | 63    | 50         | 53    | 63    |
| BEARING PILES   | E  | 5313     | 5502  | 6136  | 5920     | 6132  | 6840  | 6534       | 6768  | 7545  | 7145       | 7395  | 8250  | 7750       | 8025  | 8954  | 8360       | 8657  | 9660  |
|   | P  | 1518     | 1572  | 1534  | 1480     | 1533  | 1520  | 1452       | 1504  | 1509  | 1429       | 1479  | 1500  | 1550       | 1605  | 1628  | 1520       | 1574  | 1610  |

**BACKWALL REINFORCEMENT (ONE ABUTMENT)**

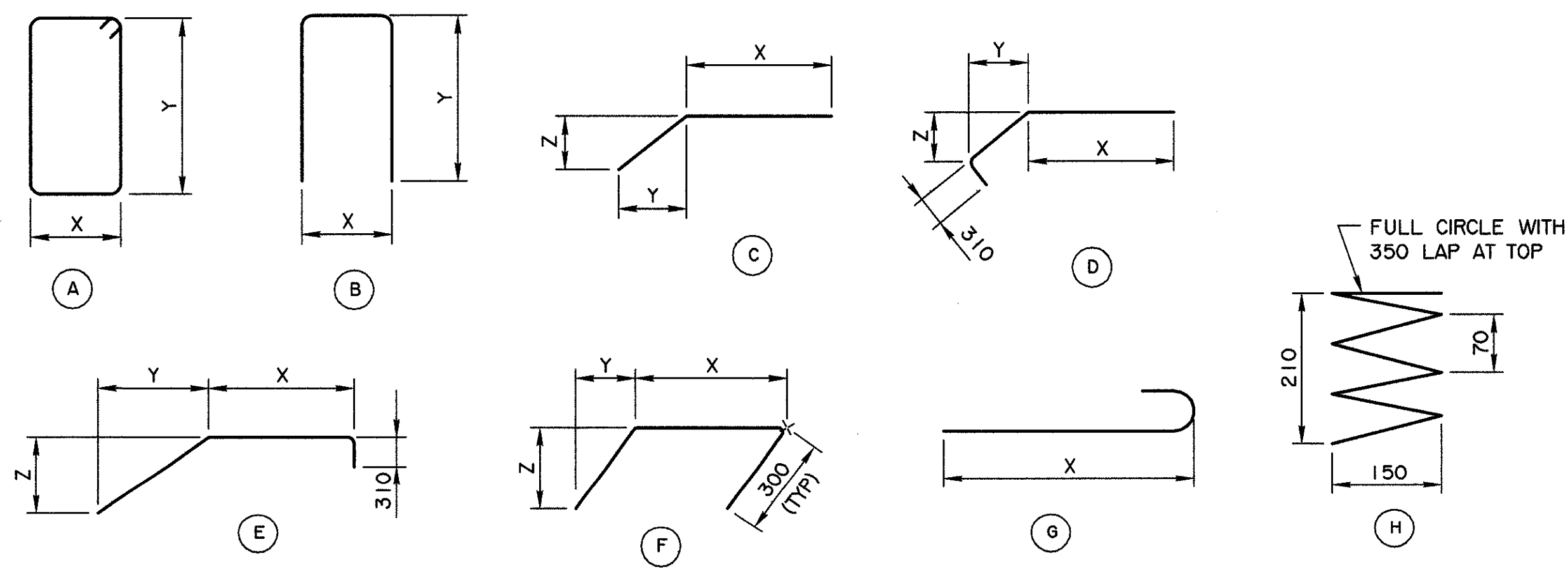
| MARK  | SIZE | TYPE | X   | Y    | Z | LENGTH |
|-------|------|------|-----|------|---|--------|
| A1001 | 10   | H    |     |      |   | 2250   |
| A1501 | 15   | B    | 600 | 1100 |   | 2800   |
| A1502 | 15   | STR  |     |      |   | L      |
| A1503 | 15   | STR  |     |      |   | L      |
| A1504 | 15   | B    | 600 | 1850 |   | 4300   |
| A1505 | 15   | B    | X   | 1850 |   | L      |
| A2001 | 20   | A    | 600 | 2160 |   | 5960   |
| A2002 | 20   | A    | 750 | 640  |   | 3220   |
| A2003 | 20   | STR  | X   | Y    | Z | L      |
| A2004 | 20   | STR  |     |      |   | L      |
| A2005 | 20   | STR  |     |      |   | L      |
| A2501 | 25   | STR  |     |      |   | L      |
| A2502 | 25   | STR  |     |      |   | L      |
| A2503 | 25   | STR  |     |      |   | L      |

| BACKWALL/WINGWALL JUNCTION AREA REINFORCEMENT (ONE ABUTMENT) |                |            |            |             |            |             |  |
|--|----------------|------------|------------|-------------|------------|-------------|--|
| SKEW   |                | 0°         |            | 15°         |            | 30°         |  |
|  |                | BOTH SIDES | ACUTE SIDE | OBTUSE SIDE | ACUTE SIDE | OBTUSE SIDE |  |
| C1501  | NUMBER OF BARS | 4          | 2          | 2           | 2          | 2           |  |
|  | X              | 600        | 621        | 621         | 693        | 693         |  |
|  | Y              | 0          | 78         | 78          | 150        | 150         |  |
|  | Z              | 300        | 290        | 290         | 260        | 260         |  |
| C2001  | NUMBER OF BARS | 2          | 1          | 1           | 1          | 1           |  |
|  | X              | 850        | 750        | 1000        | 700        | 1230        |  |
|  | Y              | 296        | 276        | 318         | 254        | 343         |  |
|  | Z              | 296        | 329        | 267         | 363        | 240         |  |
| C2002  | NUMBER OF BARS | 2          | 1          | 1           | 1          | 1           |  |
|  | X              | 850        | 870        | 880         | 950        | 990         |  |
|  | Y              | 303        | 323        | 279         | 338        | 252         |  |
|  | Z              | 303        | 271        | 333         | 237        | 360         |  |
| C2003  | NUMBER OF BARS | 4          | 2          | 2           | 2          | 2           |  |
|  | Y*             | 662        | 656        | 668         | 650        | 673         |  |
|  | Z*             | 156        | 178        | 128         | 197        | 94          |  |
|  | X              | 850        | 750        | 1000        | 700        | 1230        |  |
| C2004  | NUMBER OF BARS | 4          | 2          | 2           | 2          | 2           |  |
|  | Y              | 707        | 643        | 766         | 574        | 819         |  |
|  | Z              | 707        | 766        | 643         | 819        | 574         |  |
|  | L              | 1850       | 1750       | 2000        | 1700       | 2230        |  |
| C2005  | NUMBER OF BARS | 4          | 2          | 2           | 2          | 2           |  |
|  | X              | 1430       | 1400       | 1530        | 1440       | 1720        |  |
|  | Y              | 212        | 193        | 230         | 172        | 246         |  |
|  | Z              | 212        | 230        | 193         | 246        | 172         |  |
| C2006  | NUMBER OF BARS | 4          | 2          | 2           | 2          | 2           |  |
|  | Y              | 707        | 643        | 766         | 574        | 819         |  |
|  | Z              | 707        | 766        | 643         | 819        | 574         |  |
|  | L              | 1730       | 1700       | 1830        | 1740       | 2020        |  |
| C2007  | NUMBER OF BARS | 4          | 2          | 2           | 2          | 2           |  |
|  | Y              | 707        | 643        | 766         | 574        | 819         |  |
|  | Z              | 707        | 766        | 643         | 819        | 574         |  |
|  | L              | 1730       | 1700       | 1830        | 1740       | 2020        |  |
| C2008  | NUMBER OF BARS | 4          | 2          | 2           | 2          | 2           |  |
|  | Y              | 212        | 193        | 230         | 172        | 246         |  |
|  | Z              | 212        | 230        | 193         | 246        | 172         |  |
|  | L              | 1730       | 1700       | 1830        | 1740       | 2020        |  |
| C2009  | NUMBER OF BARS | 4          | 2          | 2           | 2          | 2           |  |
|  | Y              | 707        | 643        | 766         | 574        | 819         |  |
|  | Z              | 707        | 766        | 643         | 819        | 574         |  |
|  | L              | 1730       | 1700       | 1830        | 1740       | 2020        |  |
| C2010  | NUMBER OF BARS | 4          | 2          | 2           | 2          | 2           |  |
|  | Y              | 707        | 643        | 766         | 574        | 819         |  |
|  | Z              | 707        | 766        | 643         | 819        | 574         |  |
|  | L              | 1730       | 1700       | 1830        | 1740       | 2020        |  |
| C2011  | NUMBER OF BARS | 4          | 2          | 2           | 2          | 2           |  |
|  | Y              | 707        | 643        | 766         | 574        | 819         |  |
|  | Z              | 707        | 766        | 643         | 819        | 574         |  |
|  | L              | 1730       | 1700       | 1830        | 1740       | 2020        |  |
| C2012  | NUMBER OF BARS | 4          | 2          | 2           | 2          | 2           |  |
|  | Y              | 332        | 315        | 352         | 292        | 377         |  |
|  | Z              | 332        | 375        | 296         | 418        | 264         |  |
|  | L              | 1780       | 1800       | 1770        | 1820       | 1770        |  |
| C2013  | NUMBER OF BARS | 4          | 2          | 2           | 2          | 2           |  |
|  | Y              | 424        | 460        | 386         | 491        | 344         |  |
|  | Z              | 424        | 386        | 460         | 344        | 491         |  |
|  | L              | 1730       | 1700       | 1830        | 1740       | 2020        |  |

| BAR LIST: ABUTMENT              |      |      |      |      |    |          |
|---------------------------------|------|------|------|------|----|----------|
| MARK                            | SIZE | TYPE | X    | Y    | Z  | LENGTH   |
| BACKWALL                        |      |      |      |      |    |          |
| A1001                           | 10   | H    |      |      |    | 2250     |
| A1501                           | 15   | B    | 600  | 1100 |    | 2800     |
| A1502                           | 15   | STR  |      |      |    | L        |
| A1503                           | 15   | STR  |      |      |    | L        |
| A1504                           | 15   | B    | 600  | 1850 |    | 4300     |
| A1505                           | 15   | B    | X    | 1850 |    | L        |
| A2001                           | 20   | A    | 600  | 2160 |    | 5960     |
| A2002                           | 20   | A    | 750  | 640  |    | 3220     |
| A2003                           | 20   | STR  | X    | Y    | Z  | L        |
| A2004                           | 20   | STR  |      |      |    | L        |
| A2005                           | 20   | STR  |      |      |    | L        |
| A2501                           | 25   | STR  |      |      |    | L        |
| A2502                           | 25   | STR  |      |      |    | L        |
| A2503                           | 25   | STR  |      |      |    | L        |
| BACKWALL/WINGWALL JUNCTION AREA |      |      |      |      |    |          |
| C1501                           | 15   | F    | X    | Y    | Z  | L        |
| C2001                           | 20   | D    | X    | Y    | Z  | L        |
| C2002                           | 20   | D    | X    | Y    | Z  | L        |
| C2003                           | 20   | E    | 370  | Y    | Z  | 1360     |
| C2004                           | 20   | C    | X    | Y    | Z  | L        |
| C2005                           | 20   | C    | X    | Y    | Z  | L        |
| C2006                           | 20   | STR  |      |      |    | 1520     |
| C2007                           | 20   | C    | 1000 | Y    | Z  | 2000     |
| C2008                           | 20   | C    | 2200 | Y    | Z  | 2500     |
| C2009                           | 20   | G    | 2200 |      |    | 2420     |
| C2010                           | 20   | E    | 400  | SP   | SP | 1710     |
| C2011                           | 20   | C    | 1000 | SP   | SP | 2000     |
| C2012                           | 20   | D    | 1000 | Y    | Z  | L        |
| C2013                           | 20   | D    | 1000 | Y    | Z  | 1910     |
| WINGWALL                        |      |      |      |      |    |          |
| W1501                           | 15   | STR  |      |      |    | SP OR FC |
| W1502                           | 15   | STR  |      |      |    | SP OR FC |
| W1503                           | 15   | B    | 450  | 300  |    | 1050     |
| W2001                           | 20   | STR  |      |      |    | SP OR FC |
| W2002                           | 20   | A    | 600  | 640  |    | 2920     |
| W2003                           | 20   | STR  |      |      |    | L        |
| W2501                           | 25   | STR  |      |      |    | SP       |
| W2502                           | 25   | STR  |      |      |    | SP       |
| W2503                           | 25   | STR  |      |      |    | SP       |

| DATA FOR WINGWALLS                    |                |            |            |             |            |             |  |
|---------------------------------------|----------------|------------|------------|-------------|------------|-------------|--|
| SKEW                                  |                | 0°         |            | 15°         |            | 30°         |  |
|                                       |                | BOTH SIDES | ACUTE SIDE | OBTUSE SIDE | ACUTE SIDE | OBTUSE SIDE |  |
| NUMBER OF PILES PER WINGWALL          |                | 4          | 3          | 5           | 3          | 6           |  |
| a                                     | 45°            | 50°        | 40°        | 55°         | 35°        |             |  |
| K                                     | 5900           | 5300       | 6800       | 4800        | 8200       |             |  |
| K1                                    | 1400           | 1500       | 1400       | 1500        | 1400       |             |  |
| K2                                    | 1100           | 1500       | 600        | 1000        | 600        |             |  |
| K3                                    | 600            | 800        | 600        | 800         | 600        |             |  |
| K4                                    | 912            | 1089       | 888        | 1087        | 925        |             |  |
| M*                                    | 1390           | 1440       | 1300       | 1450        | 1150       |             |  |
| WINGWALL REINFORCEMENT (ONE ABUTMENT) |                |            |            |             |            |             |  |
| W1501                                 | NUMBER OF BARS | 62         | 26         | 36          | 24         | 43          |  |
| W1502                                 | NUMBER OF BARS | 44         | 22         | 22          | 22         | 22          |  |
| W1503                                 | NUMBER OF BARS | SP         | SP         | SP          | SP         | SP          |  |
| W2001                                 | NUMBER OF BARS | 60         | 25         | 35          | 23         | 42          |  |
| W2002                                 | NUMBER OF BARS | 44         | 19         | 25          | 17         | 30          |  |
| W2003                                 | NUMBER OF BARS | 4          | 2          | 2           | 2          | 2           |  |
| L*                                    | 5980           | 5410       | 6840       | 4930        | 8200       |             |  |
| W2501                                 | NUMBER OF BARS | 6          | 3          | 3           | 3          | 3           |  |
| W2502                                 | NUMBER OF BARS | 4          | 2          | 2           | 2          | 2           |  |
| W2503                                 | NUMBER OF BARS | 4          | 2          | 2           | 2          | 2           |  |

**BAR TYPES**



**NOTES:**

- DIAMETERS OF ALL HOOKS AND BENDS OF ALL REINFORCING STEEL, UNLESS NOTED OTHERWISE, SHALL BE BENT USING THE PIN DIAMETERS AND DIMENSIONS AS RECOMMENDED IN THE REINFORCING STEEL INSTITUTE OF CANADA, (RSIC), MANUAL OF STANDARD PRACTICE, LATEST EDITION
- ALL BAR DIMENSIONS ARE OUT TO OUT
- WHERE LAP IS REQUIRED, USE THE FOLLOWING LAP LENGTHS:
  - 15 Ø BAR - 620 mm
  - 20 Ø BAR - 830 mm
  - 25 Ø BAR - 1290 mm
- CLEAR ROADWAY WIDTH AS SHOWN IS FOR BRIDGE DECK WITH WEARING SURFACE. FOR CONCRETE DECK TO GRADE, CLEAR ROADWAY WIDTH EQUALS TO THE NUMBERS AS SHOWN MINUS 20 mm
- "SP" DENOTES AS SPECIFIED ON SITE-SPECIFIC DRAWINGS
- "FC" DENOTES FIELD CUT TO FIT
- "\*" DENOTES THE DIMENSIONS APPLY TO 0° SKEW BRIDGE, OR SKEWED BRIDGE WITH 0% GRADE SLOPE ONLY. FOR SKEWED BRIDGE WITH GRADE SLOPE, THE DIMENSIONS FOR BOTH SIDES OF CENTERLINE ROADWAY SHALL BE AS SPECIFIED ON SITE-SPECIFIC DRAWINGS

|                     |  |                           |                        |  |  |  |
|---------------------|--|---------------------------|------------------------|--|--|--|
|                     | PERMIT TO PRACTICE<br>EXH ENGINEERING SERVICES LTD.<br>Signature: <i>[Signature]</i><br>Date: <b>Aug. 14, 2007</b><br>PERMIT NUMBER: P 5347<br>The Association of Professional Engineers,<br>Geologists and Geophysicists of Alberta | DESIGNER<br>              | CHECKER<br>            | RECOMMENDED<br>DIRECTOR BRIDGE ENGINEERING<br> | APPROVED<br>EXECUTIVE DIRECTOR<br>TECHNICAL STANDARDS BRANCH<br> | <b>Albarta</b> INFRASTRUCTURE AND TRANSPORTATION |
|                     | <b>SCC PRECAST GIRDER BRIDGES WITH CAST-IN-PLACE CONCRETE HIGH BACKWALL ABUTMENTS - SHT 5</b>  |                           |                        |  |  |  |
| DEPARTMENT BAR CODE |  | DATE<br><b>2007-06-07</b> | SHEET<br><b>5 OF 5</b> | DRAWING<br><b>S-1710-07</b>                    |  |  |