

TABLE 1 - STRENGTHENING OF AS-BUILT CROSS SECTIONS - TRUSS VERTICALS / DIAGONALS:

| S.NO. | ELEMENT        | N        | P   | SECTION NAME | ASSESSED CAPACITY | ASSESSED CATEGORY | PROPOSED WORKS                        | C (STR) |
|-------|----------------|----------|-----|--------------|-------------------|-------------------|---------------------------------------|---------|
| 1     | TRUSS VERTICAL | 102, 202 | 88  | VERG 355     | RA10              | B                 | OVERPLATING TO TOP AND BOTTOM FLANGES | RA11    |
| 2     | TRUSS VERTICAL | 110, 210 | 176 | VER 419      | RA10              | B                 | OVERPLATING TO TOP AND BOTTOM FLANGES | RA13    |
| 3     | TRUSS VERTICAL | 113, 213 | 209 | VER 419      | RA9               | C                 | OVERPLATING TO TOP AND BOTTOM FLANGES | RA10    |
| 4     | TRUSS DIAGONAL | 114, 214 | 220 | DIA 406      | RA9               | A3                | OVERPLATING TO TOP AND BOTTOM FLANGES | RA14    |
| 5     | TRUSS VERTICAL | 115, 215 | 231 | VER 406      | RA11              | A3                | OVERPLATING TO TOP AND BOTTOM FLANGES | RA10    |

(NOTE: DRAWING REFERENCE 152093-ARC-DRG-ECV-000017)

TABLE 2 - STRENGTHENING OF REDUCED CROSS SECTIONS - TRUSS VERTICALS / DIAGONALS:

| S.NO. | ELEMENT        | N        | P   | SECTION NAME | ASSESSED CAPACITY | ASSESSED CATEGORY | PROPOSED WORKS                                              | C (STR) |
|-------|----------------|----------|-----|--------------|-------------------|-------------------|-------------------------------------------------------------|---------|
| 1     | TRUSS VERTICAL | 108, 208 | 154 | VER 406      | RA7               | C                 | OVERPLATING BOTH FLANGES AND ADDITION OF NEW ANGLE SECTIONS | RA13    |
| 2     | TRUSS DIAGONAL | 109, 209 | 165 | DIA 406      | RA4               | C                 | OVERPLATING BOTH FLANGES AND ADDITION OF NEW ANGLE SECTIONS | RA14    |
| 3     | TRUSS VERTICAL | 110, 210 | 176 | VER 419      | RA6               | D                 | OVERPLATING BOTH FLANGES AND ADDITION OF NEW ANGLE SECTIONS | RA15    |
| 4     | TRUSS VERTICAL | 113, 213 | 209 | VER 419      | RA5               | E                 | OVERPLATING BOTH FLANGES AND ADDITION OF NEW ANGLE SECTIONS | RA11    |
| 5     | TRUSS DIAGONAL | 114, 214 | 220 | DIA 406      | RA2               | D                 | OVERPLATING BOTH FLANGES AND ADDITION OF NEW ANGLE SECTIONS | RA11    |
| 6     | TRUSS VERTICAL | 115, 215 | 231 | VER 406      | RA6               | D                 | OVERPLATING BOTH FLANGES AND ADDITION OF NEW ANGLE SECTIONS | RA11    |
| 7     | TRUSS DIAGONAL | 116, 216 | 242 | DIA 381      | RA8               | B                 | OVERPLATING BOTH FLANGES AND ADDITION OF NEW ANGLE SECTIONS | RA15    |
| 8     | TRUSS VERTICAL | 121, 221 | 297 | VER 355      | RA7               | C                 | OVERPLATING BOTH FLANGES AND ADDITION OF NEW ANGLE SECTIONS | RA10    |

(NOTE: DRAWING REFERENCE 152093-ARC-DRG-ECV-000015)

TABLE 3 - STRENGTHENING OF AS-BUILT CROSS SECTIONS - TRUSS TOP BOOM:

| S.NO. | ELEMENT  | N        | P   | SECTION NAME | ASSESSED CAPACITY | ASSESSED CATEGORY | PROPOSED WORKS            | C (STR) |
|-------|----------|----------|-----|--------------|-------------------|-------------------|---------------------------|---------|
| 1     | TOP BOOM | 158, 258 | 674 | TB ED        | RA10              | A3                | OVERPLATING TO TOP FLANGE | RA14    |

(NOTE: DRAWING REFERENCE 152093-ARC-DRG-ECV-000018)

TABLE 4 - STRENGTHENING OF REDUCED CROSS SECTIONS - TRUSS TOP BOOM (END SPAN):

| S.NO. | ELEMENT  | N   | P   | SECTION NAME | ASSESSED CAPACITY | ASSESSED CATEGORY | PROPOSED WORKS                                     | C (STR) |
|-------|----------|-----|-----|--------------|-------------------|-------------------|----------------------------------------------------|---------|
| 1     | TOP BOOM | 152 | 541 | TB ED        | RA7               | C                 | OVERPLATING TO TOP FLANGE AND ADDITIONAL WEB PLATE | RA13    |
| 2     | TOP BOOM | 153 | 554 | TB ED        | RA7               | C                 | OVERPLATING TO TOP FLANGE AND ADDITIONAL WEB PLATE | RA15    |
| 3     | TOP BOOM | 157 | 606 | TB ED        | RA7               | C                 | OVERPLATING TO TOP FLANGE AND ADDITIONAL WEB PLATE | RA14    |
| 4     | TOP BOOM | 158 | 673 | TB ED        | RA5               | D                 | OVERPLATING TO TOP FLANGE AND ADDITIONAL WEB PLATE | RA10    |
| 5     | TOP BOOM | 159 | 632 | TB ED        | RA11              | A3                | OVERPLATING TO TOP FLANGE AND ADDITIONAL WEB PLATE | RA15    |

(NOTE: DRAWING REFERENCE 152093-ARC-DRG-ECV-000016)

TABLE 5 - STRENGTHENING OF REDUCED CROSS SECTIONS - TRUSS TOP BOOM (MID SPAN):

| S.NO. | ELEMENT                | N   | P   | SECTION NAME | ASSESSED CAPACITY | ASSESSED CATEGORY | PROPOSED WORKS                                     | C (STR) |
|-------|------------------------|-----|-----|--------------|-------------------|-------------------|----------------------------------------------------|---------|
| 1     | TOP BOOM - NORTH TRUSS | 154 | 568 | TB MD        | RA7               | C                 | OVERPLATING TO TOP FLANGE AND ADDITIONAL WEB PLATE | RA15    |
| 2     | TOP BOOM - NORTH TRUSS | 155 | 581 | TB MD        | RA7               | C                 | OVERPLATING TO TOP FLANGE AND ADDITIONAL WEB PLATE | RA12    |
| 3     | TOP BOOM - NORTH TRUSS | 156 | 594 | TB MD        | RA7               | C                 | OVERPLATING TO TOP FLANGE AND ADDITIONAL WEB PLATE | RA15    |
| 4     | TOP BOOM - SOUTH TRUSS | 254 | 568 | TB MD        | RA7               | C                 | OVERPLATING TO TOP FLANGE                          | RA13    |
| 5     | TOP BOOM - SOUTH TRUSS | 255 | 591 | TB MD        | RA7               | C                 | OVERPLATING TO TOP FLANGE                          | RA10    |
| 6     | TOP BOOM - SOUTH TRUSS | 256 | 594 | TB MD        | RA7               | C                 | OVERPLATING TO TOP FLANGE                          | RA11    |

(NOTE: DRAWING REFERENCE 152093-ARC-DRG-ECV-000015)

TABLE 6 - STRENGTHENING OF REDUCED CROSS SECTIONS - TRUSS BOTTOM BOOM:

| S.NO. | ELEMENT     | N        | P   | SECTION NAME | ASSESSED CAPACITY | ASSESSED CATEGORY | PROPOSED WORKS                                                    | C (STR) |
|-------|-------------|----------|-----|--------------|-------------------|-------------------|-------------------------------------------------------------------|---------|
| 1     | BOTTOM BOOM | 181, 281 | 475 | BB ED        | RA8               | C                 | OVERPLATING TO BOTTOM FLANGE AND ADDITION OF ANGLES AT TOP OF WEB | RA12    |

(NOTE: DRAWING REFERENCE 152093-ARC-DRG-ECV-000016)

TABLE 7 - STRENGTHENING OF AS-BUILT CROSS SECTIONS - CROSS GIRDERS:

| S.NO. | ELEMENT                          | N | P   | SECTION NAME | ASSESSED CAPACITY | ASSESSED CATEGORY | PROPOSED WORKS               | C (STR) |
|-------|----------------------------------|---|-----|--------------|-------------------|-------------------|------------------------------|---------|
| 1     | TYPICAL CROSS GIRDER             | - | 716 | XG1 MD       | RA9               | A3                | OVERPLATING TO BOTTOM FLANGE | RA10    |
| 2     | TYPICAL CROSS GIRDER             | - | 717 | XG1 ED       | RA5               | C                 | OVERPLATING TO WEB           | RA12    |
| 3     | CROSS GIRDER OVER MIDDLE SUPPORT | - | 733 | XG12 ED      | RA8               | A3                | OVERPLATING TO WEB           | RA10    |

(NOTE: DRAWING REFERENCE 152093-ARC-DRG-ECV-000018)

TABLE 8 - STRENGTHENING OF REDUCED CROSS SECTIONS - CROSS GIRDERS:

| S.NO. | ELEMENT                          | N | P   | SECTION NAME | ASSESSED CAPACITY | ASSESSED CATEGORY | PROPOSED WORKS                                      | C (STR) |
|-------|----------------------------------|---|-----|--------------|-------------------|-------------------|-----------------------------------------------------|---------|
| 1     | TYPICAL CROSS GIRDER             | - | 717 | XG1 ED       | RA5               | C                 | OVERPLATING TO WEB                                  | RA12    |
| 2     | CROSS GIRDER OVER MIDDLE SUPPORT | - | 732 | XG12 ED      | RA6               | B                 | OVERPLATING TO WEB AND OVERPLATING TO BOTTOM FLANGE | RA10    |

(NOTE: DRAWING REFERENCE 152093-ARC-DRG-ECV-000016)

NOTE:

- \* AS-BUILT CROSS-SECTION: CROSS-SECTION WITHOUT ANY DEFECTS.
- \* REDUCED CROSS-SECTION: CROSS-SECTION WITH LOSS OF SECTION (L.O.S) / DEFECTS NOTED IN ASSESSMENT REPORT REF. 152093-ARC-CAL-ECV-000001 AND NOTED IN DRAWINGS REF. 152093-ARC-DRG-ECV-000007 & 000008.
- \* ASSESSED CATEGORY HAS BEEN CALCULATED AGAINST RA10 IN ACCORDANCE WITH NR-L2-CIV-035-MOD01 (ISSUE 1 DECEMBER 2017)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES ADD UNLESS NOTED OTHERWISE.
2. THE AS-BUILT SECTIONS WITH ASSESSMENT CATEGORY WORSER THAN A2 HAVE BEEN STRENGTHENED AS PER THE PROPOSAL ON THIS DRAWING IN ACCORDANCE WITH CLAUSE 7.2 OF NR-L3-CIV-020.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS:  
152093-ARC-DRG-ECV-000007 &  
152093-ARC-DRG-ECV-000008.
4. THE STRENGTHENING MEASURES PROPOSED IN THIS DRAWING HAVE BEEN ARRIVED AT BASED ON THE SECTION LOSS RECORDED IN EXISTING GENERAL ARRANGEMENT DRAWING 152093-ARC-DRG-ECV-000007 AND 152093-ARC-DRG-ECV-000008. GRIP 6-8 CONTRACTOR TO NOTIFY THE DESIGNER IN CASE POST GRIT BLAST INSPECTION SHOWS A HIGHER EXTENT OF LOSS DUE TO CORROSION.

LEGEND:-

- N        -    ELEMENT NO. FROM ANALYSIS MODEL
- P        -    PAGE NUMBER FROM ASSESSMENT
- C (STR) -    CAPACITY OF STRENGTHENED SECTION

LEGEND TO SECTION NAMES:-

- VER     -    TRUSS VERTICAL
- DIA     -    TRUSS DIAGONAL
- TB      -    TOP BOOM
- BB      -    BOTTOM BOOM
- XGI     -    CROSS-GRIDER

|     |            |                          |       |      |      |  |
|-----|------------|--------------------------|-------|------|------|--|
|     |            |                          |       |      |      |  |
| A02 | 12.06.2020 | UPDATED TO DRN COMMENTS  | T.A   | B.K  | J.L  |  |
| A01 | 24.04.2020 | FOR FORM 001 REVIEW      | K.S   | B.K  | J.L  |  |
| Rev | Date       | Description of Revisions | Drawn | Chkd | Appr |  |

|        |                     |    |
|--------|---------------------|----|
| Status | FOR FORM 001 REVIEW | S3 |
|--------|---------------------|----|



Contractor(s):



Project:

RIVER NEATH SWING  
BRIDGE GRIP 4

Drawing Title:

SWING SPAN 4  
TABLE OF STRENGTHENING

|                           |             |                                     |     |      |            |
|---------------------------|-------------|-------------------------------------|-----|------|------------|
| Designed                  | S. ALURU    | Signed                              | S.A | Date | 12.06.2020 |
| Drawn                     | K. SRILEKHA | Signed                              | K.S | Date | 12.06.2020 |
| Checked                   | B. KING     | Signed                              | B.K | Date | 12.06.2020 |
| Approved                  | J. LYNN     | Signed                              | J.L | Date | 12.06.2020 |
| Scale(s)                  |             | ELR & Mileage                       |     |      |            |
|                           |             | AS SHOWN @ A1        SD11 207m 63ch |     |      |            |
| Alternative Reference     |             |                                     |     |      | Sheet      |
| 152093                    |             |                                     |     |      | 1 of 1     |
| Drawing Number            |             |                                     |     |      | Revision   |
| 152093-ARC-DRG-ECV-000022 |             |                                     |     |      | A02        |