

| LEVEL                     |                                      | VEHICLE           | WEIGHT (W)<br>(TONS) | CONTROLLING<br>LOAD RATING<br><div>#</div> | MINIMUM<br>RATING FACTORS<br>(RF) | TONS = W × RF | STRENGTH I LIMIT STATE                  |               |         |                 |                                              |               |         |                 | COMMENT<br>NUMBER |                                              |
|---------------------------|--------------------------------------|-------------------|----------------------|--------------------------------------------|-----------------------------------|---------------|-----------------------------------------|---------------|---------|-----------------|----------------------------------------------|---------------|---------|-----------------|-------------------|----------------------------------------------|
|                           |                                      |                   |                      |                                            |                                   |               | LIVE-LOAD<br>FACTORS (γ <sub>LL</sub> ) | MOMENT        |         |                 |                                              | SHEAR         |         |                 |                   |                                              |
|                           |                                      |                   |                      |                                            |                                   |               |                                         | RATING FACTOR | BOX NO. | ELEMENT<br>TYPE | DISTANCE FROM<br>LEFT END OF<br>ELEMENT (ft) | RATING FACTOR | BOX NO. | ELEMENT<br>TYPE |                   | DISTANCE FROM<br>LEFT END OF<br>ELEMENT (ft) |
| DESIGN<br>LOAD<br>RATING  |                                      | HL-93 (INVENTORY) | N/A                  | 1                                          | 1.27                              | --            | 1.75                                    | 1.27          | 1       | TOP SLAB        | 3.33                                         | 1.38          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | HL-93 (OPERATING) | N/A                  |                                            | 1.65                              | --            | 1.35                                    | 1.65          | 1       | TOP SLAB        | 3.33                                         | 1.79          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | HS-20 (INVENTORY) | 36,000               | 2                                          | 1.34                              | 48.24         | 1.75                                    | 1.34          | 1       | BOTT. SLAB      | 6.33                                         | 1.61          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | HS-20 (OPERATING) | 36,000               |                                            | 1.74                              | 62.64         | 1.35                                    | 1.74          | 1       | BOTT. SLAB      | 6.33                                         | 2.09          | 1       | TOP SLAB        | 6.50              |                                              |
| LEGAL<br>LOAD<br>RATING   | SINGLE VEHICLE<br>(SV)               | SNSH              | 13,500               |                                            | 2.32                              | 31.32         | 1.40                                    | 2.32          | 1       | TOP SLAB        | 3.33                                         | 2.53          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | SNGARBS2          | 20,000               |                                            | 2.17                              | 43.40         | 1.40                                    | 2.17          | 1       | TOP SLAB        | 3.33                                         | 2.37          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | SNAGRIS2          | 22,000               |                                            | 2.32                              | 51.04         | 1.40                                    | 2.32          | 1       | TOP SLAB        | 3.33                                         | 2.53          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | SNCOTTS3          | 27,250               |                                            | 1.61                              | 43.87         | 1.40                                    | 1.61          | 1       | BOTT. SLAB      | 6.33                                         | 1.94          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | SNAGGRS4          | 34,925               |                                            | 1.63                              | 56.93         | 1.40                                    | 1.63          | 1       | BOTT. SLAB      | 6.33                                         | 2.26          | 1       | BOTT. SLAB      | 6.67              |                                              |
|                           |                                      | SNS5A             | 35,550               |                                            | 1.83                              | 65.06         | 1.40                                    | 1.83          | 1       | BOTT. SLAB      | 6.33                                         | 2.52          | 1       | BOTT. SLAB      | 6.67              |                                              |
|                           |                                      | SNS6A             | 39,950               | 3                                          | 1.58                              | 63.12         | 1.40                                    | 1.58          | 1       | BOTT. SLAB      | 6.33                                         | 2.20          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | SNS7B             | 42,000               |                                            | 1.58                              | 66.36         | 1.40                                    | 1.58          | 1       | BOTT. SLAB      | 6.33                                         | 2.16          | 1       | TOP SLAB        | 6.50              |                                              |
|                           | TRUCK TRACTOR SEMI-TRAILER<br>(TTST) | TNAGRIT3          | 33,000               |                                            | 1.99                              | 65.67         | 1.40                                    | 1.99          | 1       | BOTT. SLAB      | 6.33                                         | 2.42          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | TNT4A             | 33,075               |                                            | 1.88                              | 62.18         | 1.40                                    | 1.88          | 1       | BOTT. SLAB      | 6.33                                         | 2.29          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | TNT6A             | 41,600               |                                            | 1.71                              | 71.14         | 1.40                                    | 1.71          | 1       | BOTT. SLAB      | 6.33                                         | 2.21          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | TNT7A             | 42,000               |                                            | 1.84                              | 77.28         | 1.40                                    | 1.84          | 1       | BOTT. SLAB      | 6.33                                         | 2.26          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | TNT7B             | 42,000               |                                            | 1.61                              | 67.62         | 1.40                                    | 1.61          | 1       | BOTT. SLAB      | 6.33                                         | 2.17          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | TNAGRIT4          | 43,000               |                                            | 1.84                              | 79.12         | 1.40                                    | 1.84          | 1       | BOTT. SLAB      | 6.33                                         | 2.27          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | TNAGT5A           | 45,000               |                                            | 1.84                              | 82.80         | 1.40                                    | 1.84          | 1       | BOTT. SLAB      | 6.33                                         | 2.27          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | TNAGT5B           | 45,000               |                                            | 1.84                              | 82.80         | 1.40                                    | 1.84          | 1       | BOTT. SLAB      | 6.33                                         | 2.28          | 1       | TOP SLAB        | 6.50              |                                              |
| EMERGENCY<br>VEHICLE (EV) |                                      | EV2               | 28,750               |                                            | 1.64                              | 47.15         | 1.30                                    | 1.64          | 1       | TOP SLAB        | 3.33                                         | 1.80          | 1       | TOP SLAB        | 6.50              |                                              |
|                           |                                      | EV3               | 43,000               | 4                                          | 1.40                              | 60.20         | 1.30                                    | 1.40          | 1       | BOTT. SLAB      | 6.33                                         | 1.68          | 1       | TOP SLAB        | 6.50              |                                              |

### DESIGN LOAD RATING FACTORS

| LOAD TYPE | MAX FACTOR | MIN FACTOR |
|-----------|------------|------------|
| DC        | 1.25       | 0.90       |
| DW        | 1.50       | 0.65       |
| EV        | 1.30       | 0.90       |
| EH        | 1.35       | 0.90       |
| ES        | 1.35       | 0.90       |
| LS        | 1.75       | --         |
| WA        | 1.00       | --         |

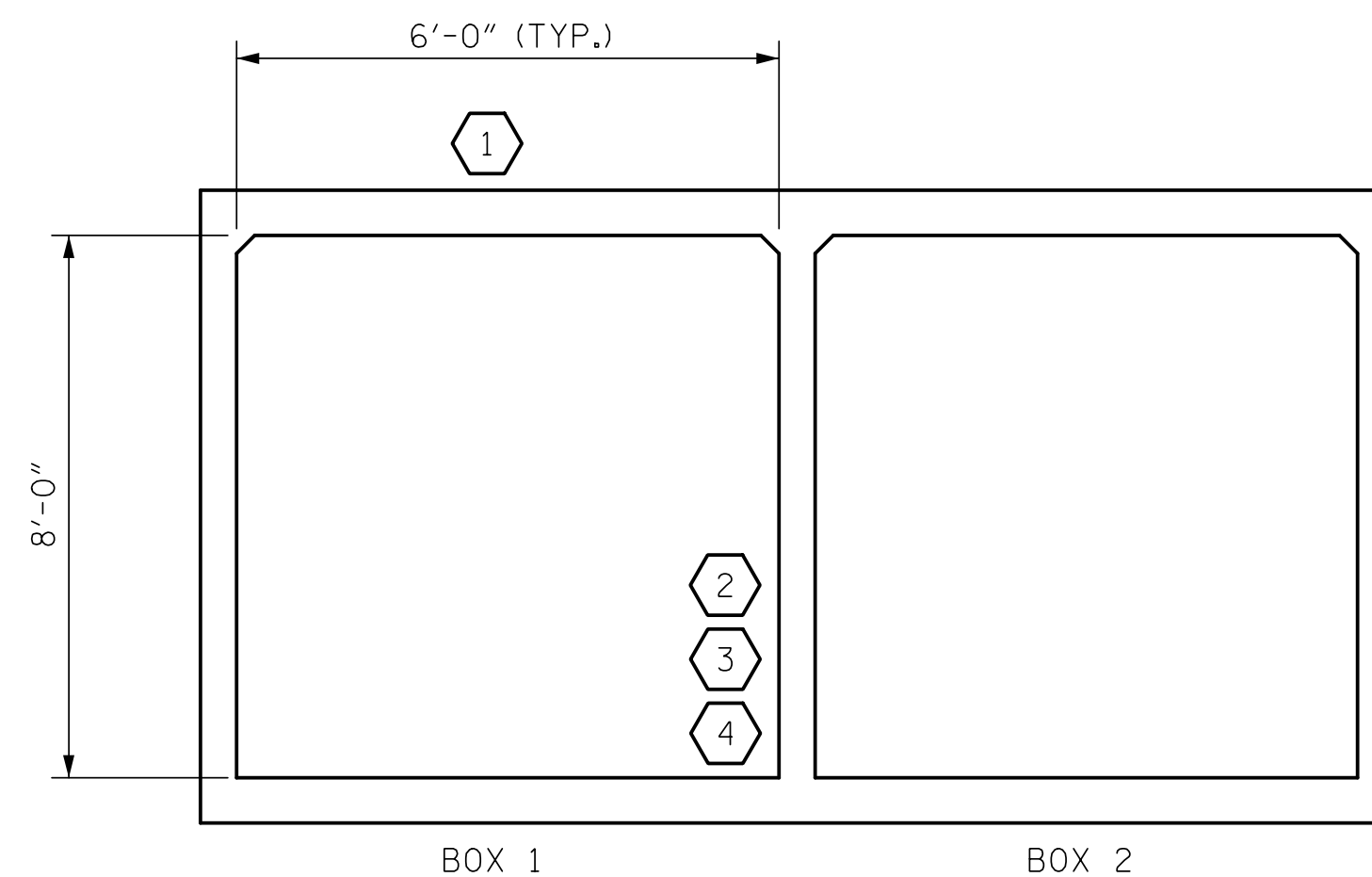
RATING FACTORS ARE BASED ON THE STRENGTH I LIMIT STATE.

- 1.
- 2.
- 3.
- 4.

## # CONTROLLING LOAD RATING

- 1 DESIGN LOAD RATING (HL-93)
- 2 DESIGN LOAD RATING (HS-20)
- 3 LEGAL LOAD RATING \*\*
- 4 EMERGENCY VEHICLE LOAD RATING \*\*

\*\* SEE CHART FOR VEHICLE TYPE



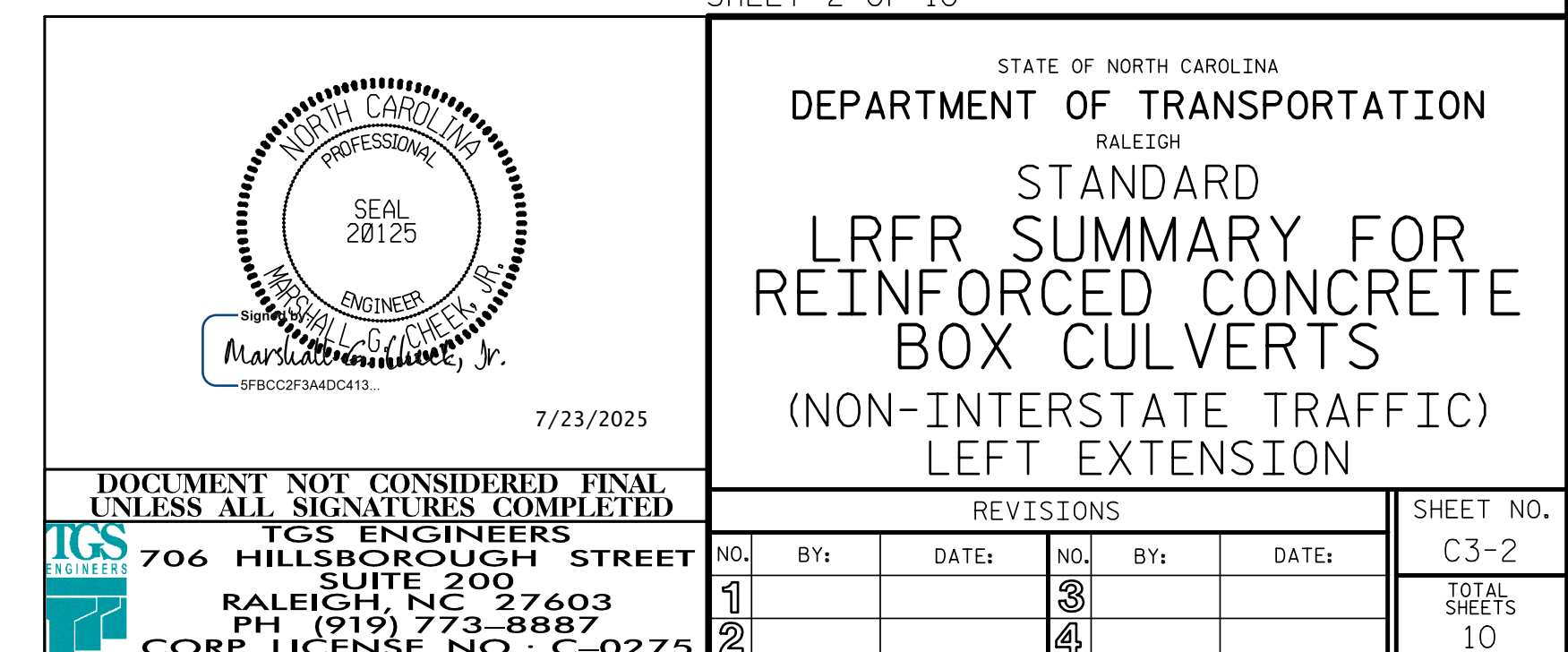
(LOOKING DOWNSTREAM)

|                      |  |                     |  |
|----------------------|--|---------------------|--|
| ASSEMBLED BY : ZCS   |  | DATE : 07/23        |  |
| CHECKED BY : MGC     |  | DATE : 11/23        |  |
| DRAWN BY : WMC 7/II  |  | REV. 10/1/II MAA/GM |  |
| CHECKED BY : GM 7/II |  | REV. 12/17 MAA/THA  |  |
|                      |  | REV. 04/23 BNB/AA   |  |

11/29/2023  
X:\NCDOT\R-5739\Structures\Str. #3 (324 + 27.00 -L-)\Final Plans\DGNS\413-001.R-5739-SMU-C3-2.dgn  
User:ZSmith

PROJECT NO. R-5739  
NORTHAMPTON COUNTY  
 STATION: 324+27.00 -L-

SHEET 2 OF 10



STR. #3

STD. NO. LRFR5