

LOAD AND RESISTANCE FACTOR RATING (LRFD) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS

LOAD FACTORS:

| | | | |
|----------------------------|-------------|---------------|---------------|
| DESIGN LOAD RATING FACTORS | LIMIT STATE | γ_{DC} | γ_{DW} |
| | STRENGTH I | 1.25 | 1.50 |
| | SERVICE III | 1.00 | 1.00 |

| LEVEL | VEHICLE | WEIGHT (W) (TONS) | CONTROLLING LOAD RATING | MINIMUM RATING FACTORS (RF) | TONS = W X RF | STRENGTH I LIMIT STATE | | | | | | | | | | SERVICE III LIMIT STATE | | | | | COMMENT NUMBER | | | |
|--------------------------|------------|----------------------|----------------------------|-----------------------------------|---------------|------------------------|------------------------------|---------------|------|-----------------|---|------------------------------|---------------|------|-----------------|---|---------------------|------------------------------|---------------|------|----------------|-----------------|---|--|
| | | | | | | LIVELOAD FACTORS | MOMENT | | | | | SHEAR | | | | | LIVELOAD FACTORS | MOMENT | | | | | | |
| | | | | | | | DISTRIBUTION FACTORS (DF) | RATING FACTOR | SPAN | GIRDER LOCATION | DISTANCE FROM LEFT END OF SPAN (ft) | DISTRIBUTION FACTORS (DF) | RATING FACTOR | SPAN | GIRDER LOCATION | DISTANCE FROM LEFT END OF SPAN (ft) | | DISTRIBUTION FACTORS (DF) | RATING FACTOR | SPAN | | GIRDER LOCATION | DISTANCE FROM LEFT END OF SPAN (ft) | |
| DESIGN LOAD RATING | HL-93(In) | N/A | 1 | 1.04 | -- | 1.75 | 0.271 | 1.06 | 70' | EL | 34.5 | 0.507 | 1.34 | 70' | EL | 6.9 | 0.80 | 0.271 | 1.04 | 70' | EL | 34.5 | | |
| | HL-93(0pr) | N/A | -- | 1.37 | -- | 1.35 | 0.271 | 1.37 | 70' | EL | 34.5 | 0.507 | 1.73 | 70' | EL | 6.9 | N/A | -- | -- | -- | -- | -- | | |
| | HS-20(In) | 36.000 | 2 | 1.35 | 48.464 | 1.75 | 0.271 | 1.37 | 70' | EL | 34.5 | 0.507 | 1.67 | 70' | EL | 6.9 | 0.80 | 0.271 | 1.35 | 70' | EL | 34.5 | | |
| | HS-20(0pr) | 36.000 | -- | 1.78 | 63.994 | 1.35 | 0.271 | 1.78 | 70' | EL | 34.5 | 0.507 | 2.16 | 70' | EL | 6.9 | N/A | -- | -- | -- | -- | -- | | |
| LEGAL LOAD RATING | SV | SNSH | 13.500 | -- | 3.01 | 40.588 | 1.4 | 0.271 | 3.83 | 70' | EL | 34.5 | 0.507 | 4.92 | 70' | EL | 6.9 | 0.80 | 0.271 | 3.01 | 70' | EL | 34.5 | |
| | | SNGARBS2 | 20.000 | -- | 2.25 | 45.085 | 1.4 | 0.271 | 2.87 | 70' | EL | 34.5 | 0.507 | 3.51 | 70' | EL | 6.9 | 0.80 | 0.271 | 2.25 | 70' | EL | 34.5 | |
| | | SNAGRIS2 | 22.000 | -- | 2.14 | 47.093 | 1.4 | 0.271 | 2.73 | 70' | EL | 34.5 | 0.507 | 3.26 | 70' | EL | 6.9 | 0.80 | 0.271 | 2.14 | 70' | EL | 34.5 | |
| | | SNCOTTS3 | 27.250 | -- | 1.5 | 40.780 | 1.4 | 0.271 | 1.91 | 70' | EL | 34.5 | 0.507 | 2.46 | 70' | EL | 6.9 | 0.80 | 0.271 | 1.50 | 70' | EL | 34.5 | |
| | | SNAGGRS4 | 34.925 | -- | 1.26 | 43.861 | 1.4 | 0.271 | 1.6 | 70' | EL | 34.5 | 0.507 | 2.05 | 70' | EL | 6.9 | 0.80 | 0.271 | 1.26 | 70' | EL | 34.5 | |
| | | SNS5A | 35.550 | -- | 1.23 | 43.646 | 1.4 | 0.271 | 1.56 | 70' | EL | 34.5 | 0.507 | 2.08 | 70' | EL | 6.9 | 0.80 | 0.271 | 1.23 | 70' | EL | 34.5 | |
| | | SNS6A | 39.950 | -- | 1.13 | 45.090 | 1.4 | 0.271 | 1.44 | 70' | EL | 34.5 | 0.507 | 1.9 | 70' | EL | 6.9 | 0.80 | 0.271 | 1.13 | 70' | EL | 34.5 | |
| | SNS7B | 42.000 | -- | 1.08 | 45.146 | 1.4 | 0.271 | 1.37 | 70' | EL | 34.5 | 0.507 | 1.87 | 70' | EL | 6.9 | 0.80 | 0.271 | 1.07 | 70' | EL | 34.5 | | |
| | TTST | TNAGRIT3 | 33.000 | -- | 1.38 | 45.441 | 1.4 | 0.271 | 1.75 | 70' | EL | 34.5 | 0.507 | 2.26 | 70' | EL | 6.9 | 0.80 | 0.271 | 1.38 | 70' | EL | 34.5 | |
| | | TNT4A | 33.075 | -- | 1.38 | 45.765 | 1.4 | 0.271 | 1.76 | 70' | EL | 34.5 | 0.507 | 2.2 | 70' | EL | 6.9 | 0.80 | 0.271 | 1.38 | 70' | EL | 34.5 | |
| | | TNT6A | 41.600 | -- | 1.13 | 47.151 | 1.4 | 0.271 | 1.44 | 70' | EL | 34.5 | 0.507 | 2 | 70' | EL | 6.9 | 0.80 | 0.271 | 1.13 | 70' | EL | 34.5 | |
| | | TNT7A | 42.000 | -- | 1.14 | 47.889 | 1.4 | 0.271 | 1.45 | 70' | EL | 34.5 | 0.507 | 1.96 | 70' | EL | 6.9 | 0.80 | 0.271 | 1.14 | 70' | EL | 34.5 | |
| | | TNT7B | 42.000 | -- | 1.18 | 49.660 | 1.4 | 0.271 | 1.51 | 70' | EL | 34.5 | 0.507 | 1.82 | 70' | EL | 6.9 | 0.80 | 0.271 | 1.18 | 70' | EL | 34.5 | |
| | | TNAGRIT4 | 43.000 | -- | 1.12 | 48.277 | 1.4 | 0.271 | 1.43 | 70' | EL | 34.5 | 0.507 | 1.76 | 70' | EL | 6.9 | 0.80 | 0.271 | 1.12 | 70' | EL | 34.5 | |
| TNAGT5A | | 45.000 | -- | 1.06 | 47.593 | 1.4 | 0.271 | 1.35 | 70' | EL | 34.5 | 0.507 | 1.76 | 70' | EL | 6.9 | 0.80 | 0.271 | 1.06 | 70' | EL | 34.5 | | |
| TNAGT5B | 45.000 | 3 | 1.04 | 46.979 | 1.4 | 0.271 | 1.33 | 70' | EL | 34.5 | 0.507 | 1.68 | 70' | EL | 6.9 | 0.80 | 0.271 | 1.04 | 70' | EL | 34.5 | | | |

NOTES:

MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

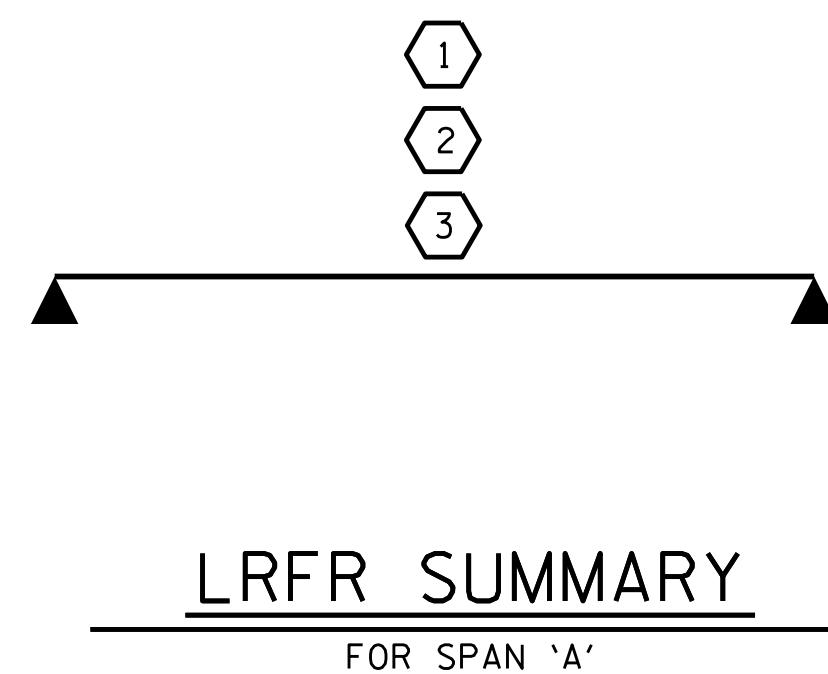
2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING **

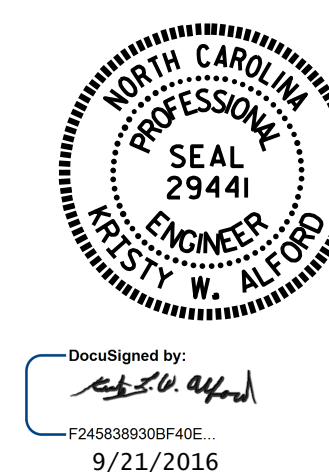
** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

I - INTERIOR GIRDER
EL - EXTERIOR LEFT GIRDER
ER - EXTERIOR RIGHT GIRDER



PROJECT NO. B-5343
ROCKINGHAM COUNTY
STATION: 16+60.00 -L-



| | | | | | |
|---|-----|-------|-----|-----|--------------------|
| STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH | | | | | |
| LRFR SUMMARY FOR 70' CORED SLAB UNIT 90° SKEW (NON-INTERSTATE TRAFFIC) | | | | | |
| REVISIONS | | | | | |
| NO. | BY: | DATE: | NO. | BY: | DATE: |
| 1 | | | 3 | | |
| 2 | | | 4 | | |
| | | | | | SHEET NO. S-4 |
| | | | | | TOTAL SHEETS 18 |

ASSEMBLED BY : H.B. DESAI DATE : 10/2015
CHECKED BY : E.J. OMILE DATE : 11/2015
DRAWN BY : CVC 6/10
CHECKED BY : DNS 6/10

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED