### LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR STEEL GIRDER

**STRENGTH I LIMIT STATE**

<table>
<thead>
<tr>
<th>Girder Location</th>
<th>Rating</th>
<th>Load Factors</th>
<th>Moment</th>
<th>Shear</th>
<th>Span</th>
<th>Shear Location</th>
<th>Strength I Limit State</th>
<th>Rating Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-33 (Inventory)</td>
<td>1.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DC</td>
<td>1.00</td>
</tr>
<tr>
<td>M-33 (Operating)</td>
<td>1.26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DC</td>
<td>1.00</td>
</tr>
<tr>
<td>M-20 (Inventory)</td>
<td>1.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DC</td>
<td>1.00</td>
</tr>
<tr>
<td>M-20 (Operating)</td>
<td>1.28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DC</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**SERVICE II LIMIT STATE**

<table>
<thead>
<tr>
<th>Girder Location</th>
<th>Rating</th>
<th>Load Factors</th>
<th>Moment</th>
<th>Shear</th>
<th>Span</th>
<th>Shear Location</th>
<th>Service II Limit State</th>
<th>Rating Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-33 (Inventory)</td>
<td>1.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DW</td>
<td>1.00</td>
</tr>
<tr>
<td>M-33 (Operating)</td>
<td>1.26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DW</td>
<td>1.00</td>
</tr>
<tr>
<td>M-20 (Inventory)</td>
<td>1.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DW</td>
<td>1.00</td>
</tr>
<tr>
<td>M-20 (Operating)</td>
<td>1.28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DW</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**NOTES:**
- Minimum rating factors are based on the Strength I and Service II limit states.
- Allowable stresses for Service II limit state are as required for design.

**COMMENTS:**

1. 
2. 
3. 
4. 

**LOAD FACTORS:**

- **Strength I Limit State**
  - DC: 1.25
- **Service II Limit State**
  - DW: 1.40

**LOAD FACTORS FOR HD-93 and HL-93**

<table>
<thead>
<tr>
<th>Load Factor</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HL-93 (Inventory)</td>
<td>1.75</td>
</tr>
<tr>
<td>HL-93 (Operating)</td>
<td>1.35</td>
</tr>
<tr>
<td>HS-20 (Inventory)</td>
<td>N/A</td>
</tr>
<tr>
<td>HS-20 (Operating)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**LOAD FACTORS FOR HD-93 and HL-93**

- **Factors (DF)**
  - Distribution Factors: 1.30
  - Service Factors: 1.00
  - Dead Factors: 1.30

**GIRDER LOCATION**

- **Interior Girder**
  - BENT 1
  - END BENT 1
- **Exterior Left Girder**
  - BENT 2
  - END BENT 2
- **Exterior Right Girder**
  - BENT 3
  - END BENT 3
- **Exterior Right Girder**
  - BENT 4
  - END BENT 4

**LRFR SUMMARY**

- **LRFR SUMMARIZED FOR STEEL GIRDER**
- **MINIMUM TONS = W x RF**
- **FACTORs (DF)**
  - Distribution Factors: 1.30
  - Service Factors: 1.00
  - Dead Factors: 1.30

**SIGNATURES COMPLETED**

- **Final unless all documents completed**

**PROJECT NO.**

- **COUNTY**

**STATION:**

- **DEPARTMENT OF TRANSPORTATION**
  - **STANDARD**
  - **LRFR SUMMARY FOR STEEL GIRDER**
  - **(NON-INTERSTATE TRAFFIC)**