

**Table 3.4.1-1—Load Combinations and Load Factors**

Load Combination Limit State	DC DD DW EH EV ES EL PS CR SH	LL IM CE BR PL LS	WA	WS	WL	FR	TU	TG	SE	Use One of These at a Time				
										EQ	IC	CT	CV	SC <sup>1</sup>
Strength-I	$\gamma_p$	1.75	1.00	-	-	1.00	0.50/1.20	$\gamma_{TG}$	$\gamma_{SE}$	-	-	-	-	-
Strength-II	$\gamma_p$	1.35	1.00	-	-	1.00	0.50/1.20	$\gamma_{TG}$	$\gamma_{SE}$	-	-	-	-	-
Strength-III	$\gamma_p$	-	1.00	1.40	-	1.00	0.50/1.20	$\gamma_{TG}$	$\gamma_{SE}$	-	-	-	-	-
Strength-IV	$\gamma_p$	-	1.00	-	-	1.00	0.50/1.20	-	-	-	-	-	-	-
Strength-V	$\gamma_p$	1.35	1.00	0.40	1.00	1.00	0.50/1.20	$\gamma_{TG}$	$\gamma_{SE}$	-	-	-	-	-
Extreme Event-I	$\gamma_p$	<b>0.25<sup>2</sup></b>	1.00	-	-	1.00	-	-	-	1.00	-	-	-	-
Extreme Event-II	$\gamma_p$	0.50	1.00	-	-	1.00	-	-	-	-	1.00	1.00	1.00	-
<b>Extreme Event-III<sup>1</sup></b>	<b><math>\gamma_p</math></b>	<b>1.75</b>	<b>1.00</b>	<b>0.30</b>	-	<b>1.00</b>	-	<b><math>\gamma_{TG}</math></b>	<b><math>\gamma_{SE}</math></b>	-	-	-	-	<b>1.00</b>
<b>Extreme Event-IV<sup>1</sup></b>	<b><math>\gamma_p</math></b>	-	<b>1.00</b>	<b>1.40</b>	-	<b>1.00</b>	-	<b><math>\gamma_{TG}</math></b>	<b><math>\gamma_{SE}</math></b>	-	-	-	-	<b>0.70</b>
<b>Extreme Event-V<sup>1</sup></b>	<b><math>\gamma_p</math></b>	-	<b>1.00</b>	-	-	<b>1.00</b>	-	-	-	-	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>0.60</b>
<b>Extreme Event-VI<sup>1</sup></b>	<b><math>\gamma_p</math></b>	-	<b>1.00</b>	-	-	<b>1.00</b>	-	-	-	<b>1.00</b>	-	-	-	<b>0.25</b>
Service-I	1.00	1.00	1.00	0.30	1.00	1.00	1.00/1.20	$\gamma_{TG}$	$\gamma_{SE}$	-	-	-	-	-
Service-II	1.00	1.30	1.00	-	-	1.00	1.00/1.20	-	-	-	-	-	-	-
Service-III	1.00	<b>1.00<sup>3</sup></b>	1.00	-	-	1.00	1.00/1.20	$\gamma_{TG}$	$\gamma_{SE}$	-	-	-	-	-
Service-IV	1.00	-	1.00	0.70	-	1.00	1.00/1.20	-	1.00	-	-	-	-	-
Fatigue- I LL, IM & CE only	-	1.50	-	-	-	-	-	-	-	-	-	-	-	-
Fatigue- II LL, IM & CE only	-	0.75	-	-	-	-	-	-	-	-	-	-	-	-

1. SC (Scour) is the total scour depth determined by Bridge Hydraulic Engineer in accordance with *HEC-18*. Scour is not a load, but an extreme event that alters geometry of the foundation, possibly causing structural collapse or amplification of applied load effects. Adopted factors for SC are based on NCHRP Report 489, *Design of Highway Bridges for Extreme Events*, and modified for Louisiana practice.
2. NCHRP Report 489 has shown that the commonly used live load factor of 0.50 in combination with earthquake effects is conservative and a reduced live load factor of 0.25 will provide an adequate safety level. Since probability of a major earthquake occurring in Louisiana is generally very low, it is reasonable to use a live load factor of 0.25.

(continued on next page)