Weekly Average Mass Loading:

M $_{Weekly}$ = Q $_{Weekly}$ (MGD) × [C] $_{Monthly}$ (mg/L or ppm) × 8.34 (lbs/gal)

Refer to *Appendix B* for the calculated results.

4.7.5   *Ammonia:*

Weekly Average Concentration:

[C] $_{Weekly}$ = [C] $_{Monthly}$ (mg/L) x 1.5

Monthly Average Mass Loading:

M $_{Monthly}$ = Q $_{Monthly}$ (MGD) × [C] $_{Monthly}$ (mg/L or ppm) × 8.34 (lbs/gal)

Weekly Average Mass Loading:

M $_{Weekly}$ = Q $_{Weekly}$ (MGD) × [C] $_{Monthly}$ (mg/L or ppm) × 8.34 (lbs/gal)

Refer to *Appendix B* for the calculated results.

Ammonia Toxicity Analysis (freshwater stream only):

The chronic criterion based on *Villosa iris* (rainbow mussel) is determined as follows:

$$CCC = 0.8876 \times \left(\frac{0.0278}{1 + 10^{7.688\text{-pH}}} + \frac{1.1994}{1 + 10^{\text{pH-}7.688}} \right) \times 2.126 \times 10^{0.028 \times (20\text{-MAX(T,7)})} \text{ mg/L}$$

Where: pH   : pH of receiving stream and discharge
          T   : Temperature of receiving stream
          CCC : Chronic Continuous Concentration

The ammonia effluent limit (monthly average) is then calculated as follows:

$[NH_3]$ $_{Effluent}$ =

$$\frac{(Q_{\text{Effluent}} \, (\text{ft}^3/\text{sec}) \; + \; 30Q3 \, (\text{ft}^3/\text{sec})) \times CCC \, (\text{mg/L}) - 7Q10 (\text{ft}^3/\text{sec}) \times [NH_3]_{\text{Stream Background}} (\text{mg/L})}{Q_{\text{Effluent}} (\text{ft}^3/\text{sec})}$$

Refer to *Appendix C* for detailed calculations.