

# FOUNDATION REVIEW, LRFD

, 20

TO:

Manager, Office of Geotechnical Services

FROM:

Route:

Structure No.:

Des. No.:

Construction Project No.:

Over:

It is recommended that the following foundations be used for the structure identified above.

Support	No. 1	No. 2	No. 3	No. 4
Type				
Size, incl. Shell Thickness				
Factored Design Load, $Q_F$ (kip)				
Nominal Design Load, $Q_N$ (kip)				
Min. Pile Tip Elev. for Scour				
Pile Tips	Yes <input type="checkbox"/> No <input type="checkbox"/>			
Bottom of Footing Elevation				
Top of Footing Elevation				

The structure is on piles, so the Summary of Pile Loading for Geotechnical Testing is completed as shown below. Yes  No  n/a

## SUMMARY OF PILE LOADING FOR GEOTECHNICAL TESTING

Support	No. 1	No. 2	No. 3	No. 4
Pile Size, Type, and Grade				
Factored Design Load, $Q_F$ (kip)				
Factored Design Soil Resistance, $R_R$ (kip)				
Resistance Factor $\phi_{dyn}$				
Downdrag Load, $DD$ (kip)				
Nominal Soil Resistance, $R_n$ (kip) *				
Downdrag friction, $R_{s\ dd}$ (kip)				
Scour Zone Friction, $R_{s\ scour}$ (kip)				
Relaxation of Tip in Shale, $R_{relax}$ (kip)				
Nominal Driving Resistance, $R_{ndr}$ (kip)				
Testing Method	Standard Specifications Section 701.05(      )			

The MSE-wall or modular-block-wall factored applied pressure shown on the wall envelope is less than the factored bearing resistance. Yes  No  n/a

Notes:

\* In Calculation of  $DD$ ,  $\gamma_p = 1.4$

$$Q_F \leq Q_{F\ max}$$

$$Q_F \leq R_R$$

To calculate  $R_n$ : 
$$R_n = \frac{R_R + g_p(DD)}{f_{dyn}}$$

To calculate  $R_{ndr}$ : 
$$R_{ndr} = R_n + (\text{Geotechnical Losses}) (R_{s\ scour} \text{ or } R_{s\ dd} \text{ or } R_{s\ liq})$$

Other:

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signed) Geotechnical Engineer

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signed) Reviewer,  INDOT  Consultant,

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signed) Director, Bridge