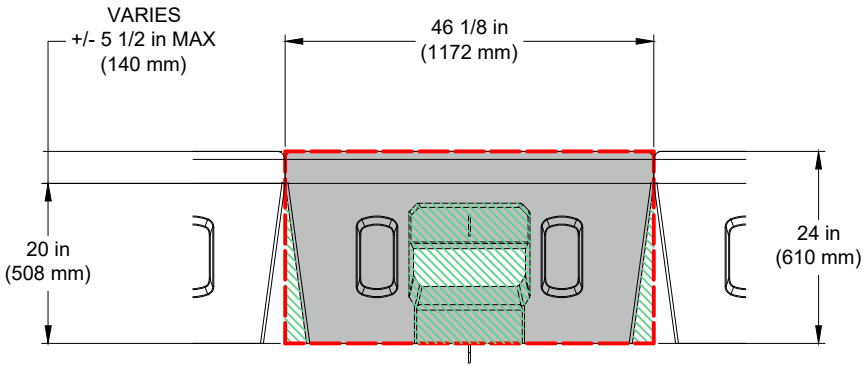
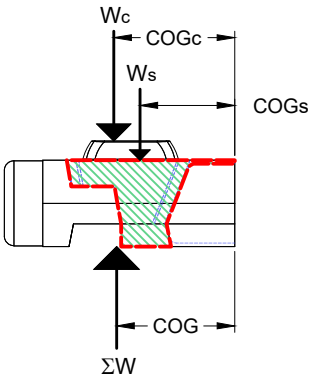
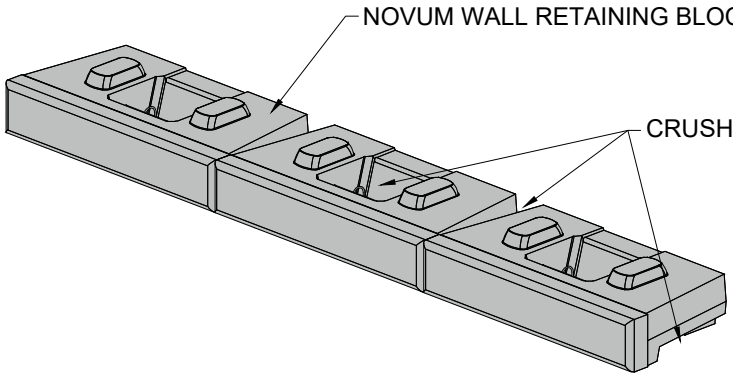
Infill Weight Calculations

NW-R NOVUM WALL RETAINING BLOCK WITH SOIL INFILL







INFILLED UNIT WEIGHT CALCULATIONS

Note: 24 in (610 mm) dimension used in infilled unit weight calculations. Blocks with wider face textures may result in slightly higher weights.

CONCRETE

Design Unit Weight = 143 pcf (2291 kg/m^3)

RIDGE FACE TEXTURE

Average Volume (Vc)	4.38 cft (0.12 m^3) (From CAD Model)
Concrete Block Weight (Wc)	Wc = 4.38 cft x 143 pcf = 626 lbs (284 kg)

SUMMIT FACE TEXTURE

Average Volume (Vc)	4.29 cft (0.12 m^3) (From CAD Model)
Concrete Block Weight (Wc)	Wc = 4.29 cft x 143 pcf = 613 lbs (278 kg)
Average Center of Gravity (COGc)	12.6 in (320 mm) (Data from CAD Model)

INFILL SOIL

Design Unit Weight = 100 pcf (1602 kg/m^3)

Soil considered as infill includes the soil between adjacent blocks and in the geogrid slot.

Volume (Vs)	0.79 cft (0.02 m^3) (From CAD Model)
Infill Soil Weight (Ws)	Ws = 0.79 cft x 100 pcf = 79 lbs (36 kg)
Center of Gravity (COGs)	9.9 in (252 mm) (Data from CAD Model)

AVERAGE COG FROM BACK OF BLOCK = 12.3 in

DESIGN VOLUME

24 in x 46.125 in x 9 in = 9,963 in^3 = 5.77 cft
(610 mm x 1172 mm x 229 mm = 0.16 m^3)

INFILLED UNIT WEIGHT

RIDGE FACE TEXTURE

γ_{INFILL} = (626 lb + 79 lb) / 5.77 cft = **122.2 pcf**
((284 kg + 36 kg) / 0.16 m^3 = 2,000 kg/m^3)

SUMMIT FACE TEXTURE

γ_{INFILL} = (613 lb + 79 lb) / 5.77 cft = **119.9 pcf**
((278 kg + 36 kg) / 0.16 m^3 = 1,962.5 kg/m^3)

NOTE: The infilled unit weights shown here are reference values. Several factors can cause the unit weights of both concrete and infill soil to vary. The designer should use sound engineering judgement when assigning an infilled unit weight value for analysis.