SI Version
Release 2.0

Product Catalogue

VERTI BLOCK®

www.verti-block.com

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Verti-Block specializes in innovative retaining wall systems known for their strength, beauty, and ease of installation. The values presented herein are based on various assumptions and are indicated accordingly. Verti-Block products are produced locally by independently owned and operated businesses, as such, weights and exact dimensions may vary.

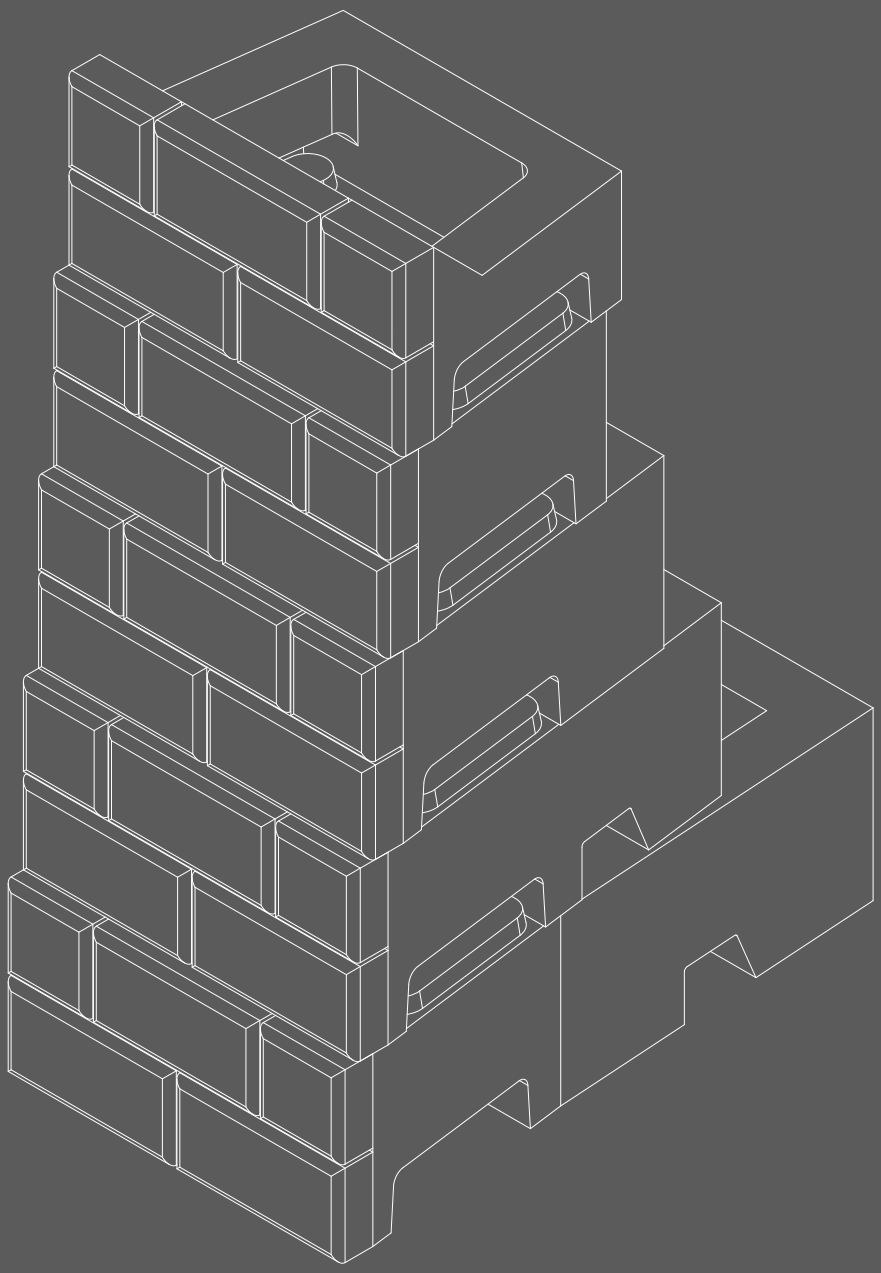
Engineers and construction professionals should use sound judgment to confirm product dimensions and conformity are within indicated tolerances before design and installation. Verti-Crete, LLC accepts no liability for any discrepancies or issues arising from variations. Although great care was taken in drafting this document, there may be some computational discrepancies due to rounding errors.

The final determination of the suitability of any design information and the appropriateness of this data for a given design purpose is the sole responsibility of the user.

For more information, visit www.verti-block.com.

BLOCK LIBRARY

Section 1

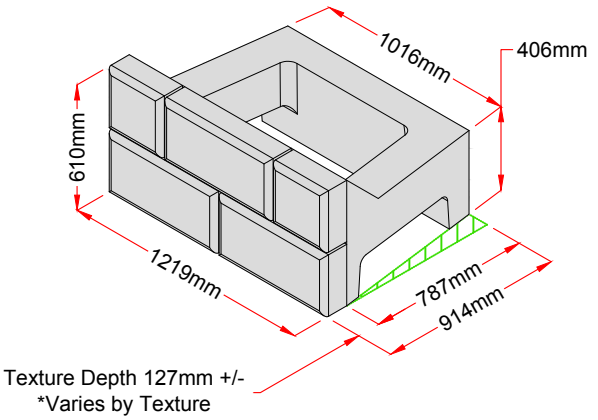


BLOCK LIBRARY

Retaining Blocks: Standard Series

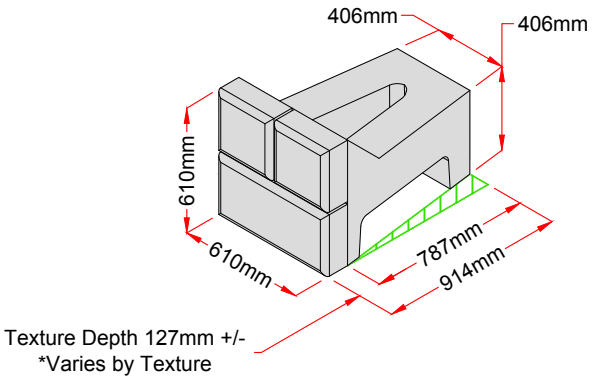
SD-36T: STANDARD TOP BLOCK 36" (914mm)

Block Volume:	0.26 m^3
Block Weight:	591 kg
Center of Gravity:	570 mm
Face Area:	0.74 m^2
Volume/Area:	0.35 m^3/m^2



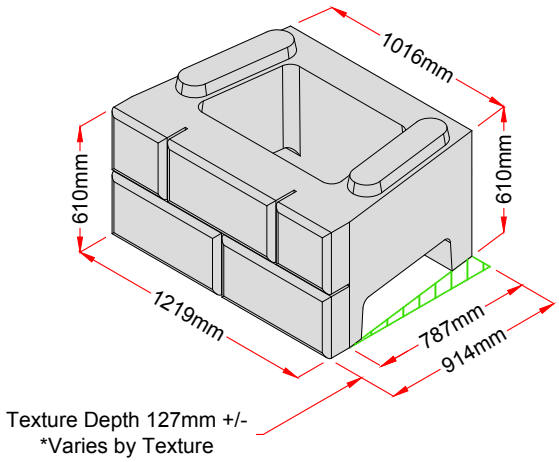
SD-36HT: STANDARD HALF TOP BLOCK 36" (914mm)

Block Volume:	0.15 m^3
Block Weight:	334 kg
Center of Gravity:	566 mm
Face Area:	0.37 m^2
Volume/Area:	0.40 m^3/m^2



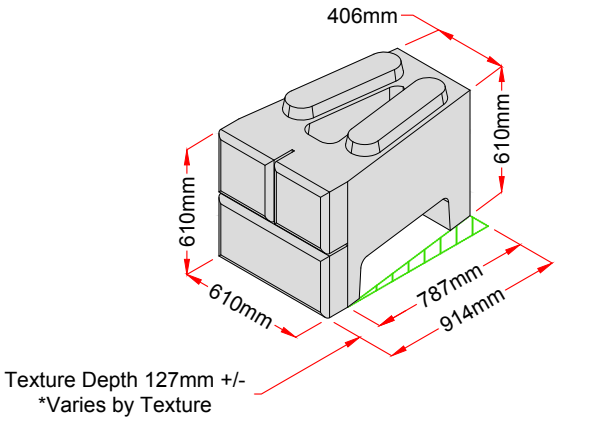
SD-36: STANDARD BLOCK 36" (914mm)

Block Volume:	0.35 m^3
Block Weight:	796 kg
Center of Gravity:	499 mm
Face Area:	0.74 m^2
Volume/Area:	0.47 m^3/m^2



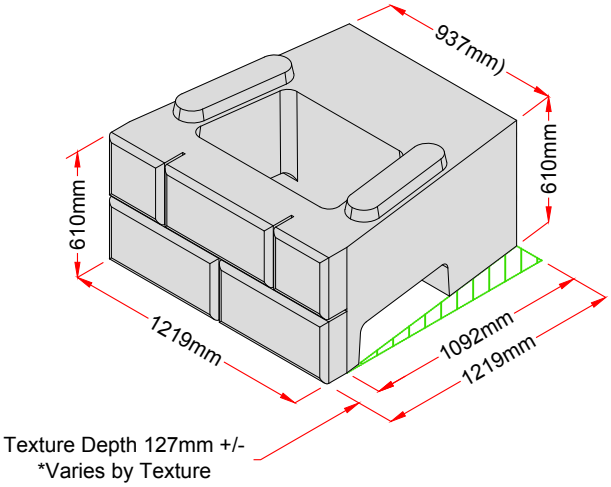
SD-36H: STANDARD HALF BLOCK 36" (914mm)

Block Volume:	0.21 m^3
Block Weight:	484 kg
Center of Gravity:	502 mm
Face Area:	0.37 m^2
Volume/Area:	0.37 m^2



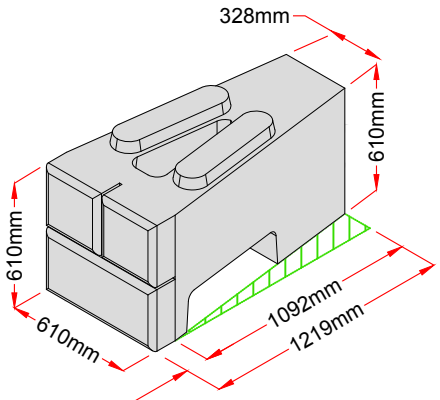
1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

ME-48: MASS EXTENDER 48" (1,219mm)	
Block Volume:	0.53m^3
Block Weight:	1,213 kg
Center of Gravity:	586 mm
Face Area:	0.74 m^2
Volume/Area:	0.72 m^3/m^2



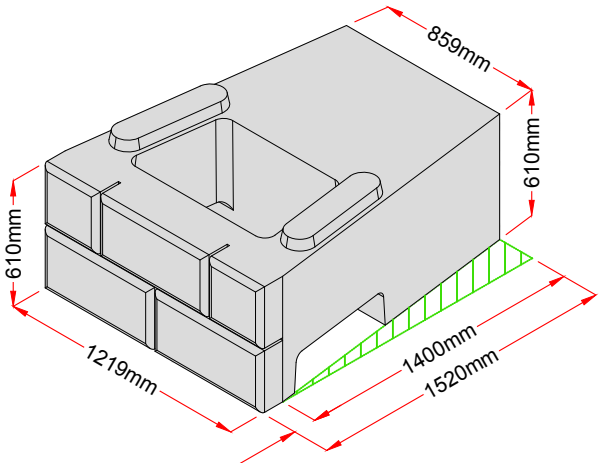
Texture Depth 127mm +/-
*Varies by Texture

ME-48H: MASS EXTENDER HALF 48" (1,219mm)	
Block Volume:	0.28 m^3
Block Weight:	631 kg
Center of Gravity:	651 mm
Face Area:	0.37 m^2
Volume/Area:	0.75 m^3/m^2



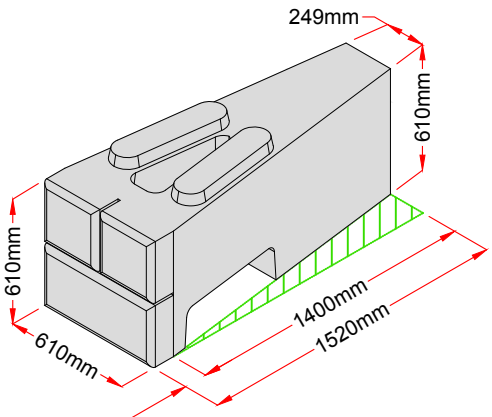
Texture Depth 127mm +/-
*Varies by Texture

ME-60: MASS EXTENDER 60" (1,520mm)	
Block Volume:	0.70 m^3
Block Weight:	1,592 kg
Center of Gravity:	715 mm
Face Area:	0.74 m^2
Volume/Area:	0.94 m^3/m^2



Texture Depth 127mm +/-
*Varies by Texture

ME-60H: MASS EXTENDER HALF 60" (1,520mm)	
Block Volume:	0.33 m^3
Block Weight:	754 kg
Center of Gravity:	828 mm
Face Area:	0.37 m^2
Volume/Area:	0.89 m^2



Texture Depth 127mm +/-
*Varies by Texture

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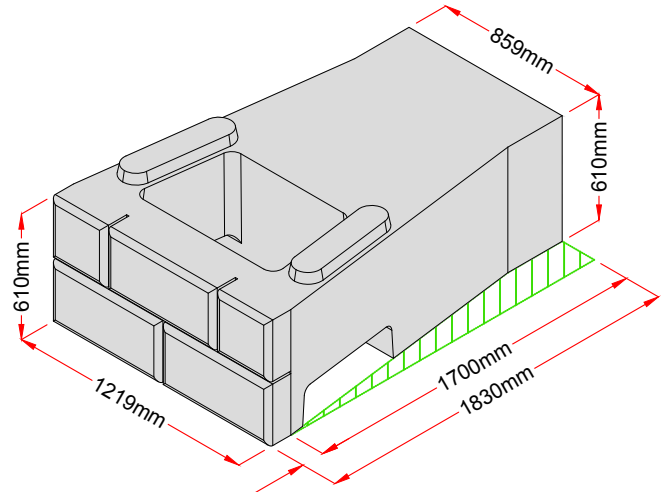
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

BLOCK LIBRARY

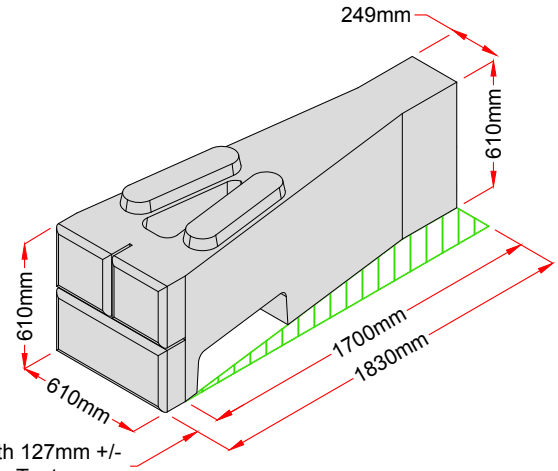
Retaining Blocks: Mass Extender Series

ME-72: MASS EXTENDER 72" (1,830mm)	
Block Volume:	0.86 m^3
Block Weight:	1949 kg
Center of Gravity:	858 mm
Face Area:	0.74 m^2
Volume/Area:	1.15 m^3/m^2



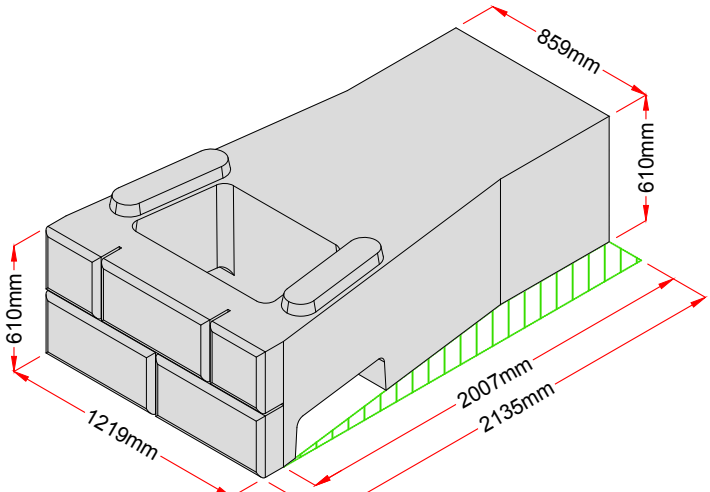
Texture Depth 127mm +/-
*Varies by Texture

ME-72H: MASS EXTENDER HALF 72" (1,830mm)	
Block Volume:	0.38 m^3
Block Weight:	855 kg
Center of Gravity:	1,010 mm
Face Area:	0.37 m^2
Volume/Area:	1.01 m^3/m^2



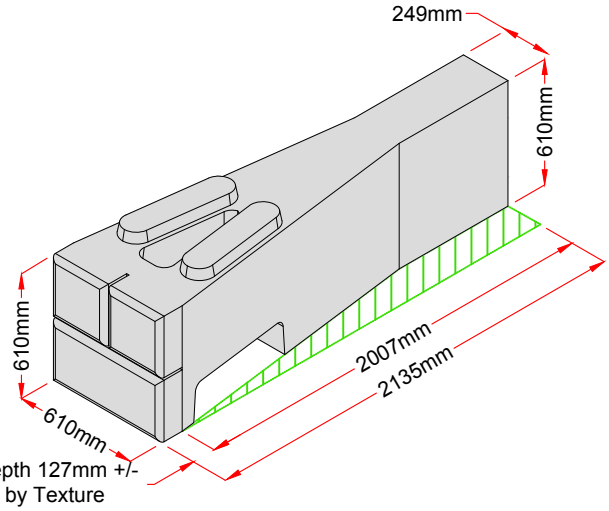
Texture Depth 127mm +/-
*Varies by Texture

ME-84: MASS EXTENDER 84" (2,135mm)	
Block Volume:	1.02 m^3
Block Weight:	2312 kg
Center of Gravity:	1,067 mm
Face Area:	0.74 m^2
Volume/Area:	1.37 m^3/m^2



Texture Depth 127mm +/-
*Varies by Texture

ME-84H: MASS EXTENDER HALF 84" (2,135mm)	
Block Volume:	0.43 m^3
Block Weight:	967 kg
Center of Gravity:	1,188 mm
Face Area:	0.37 m^2
Volume/Area:	1.14 m^2



Texture Depth 127mm +/-
*Varies by Texture

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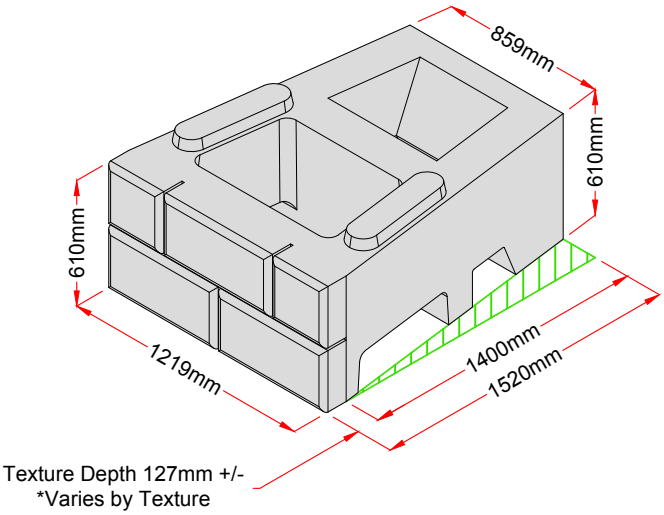
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

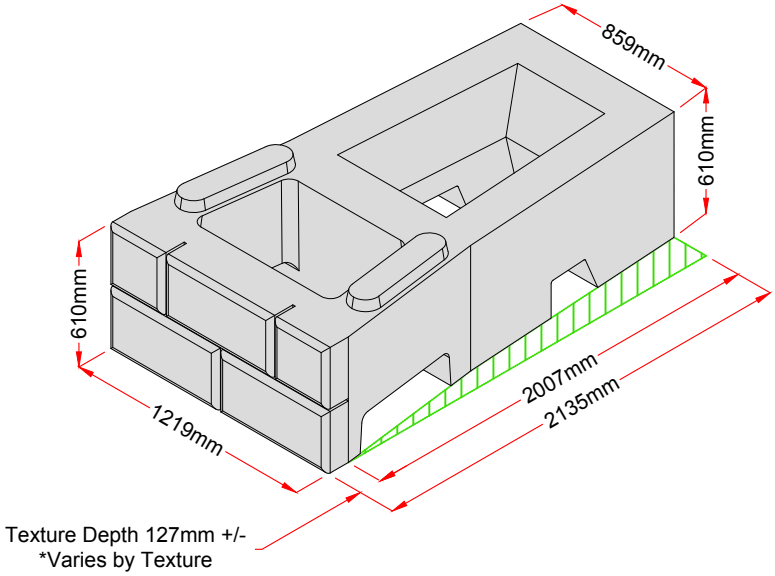
ME-60DC: MASS EXTENDER 60" (1,520mm) - DUAL CAVITY

Block Volume:	0.56 m^3
Block Weight:	1,262 kg
Center of Gravity:	792 mm
Face Area:	0.74 m^2
Volume/Area:	0.75 m^3/m^2



ME-84DC: MASS EXTENDER 84" (2,135mm) - DUAL CAVITY

Block Volume:	0.74 m^3
Block Weight:	1681 kg
Center of Gravity:	1,071 mm
Face Area:	0.74 m^2
Volume/Area:	0.99 m^3/m^2



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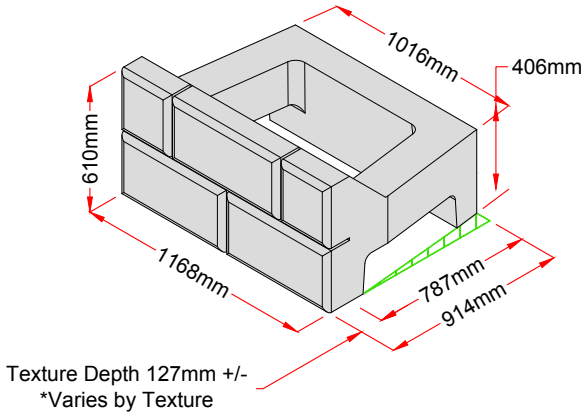
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

BLOCK LIBRARY

Retaining Blocks: Short Block Series

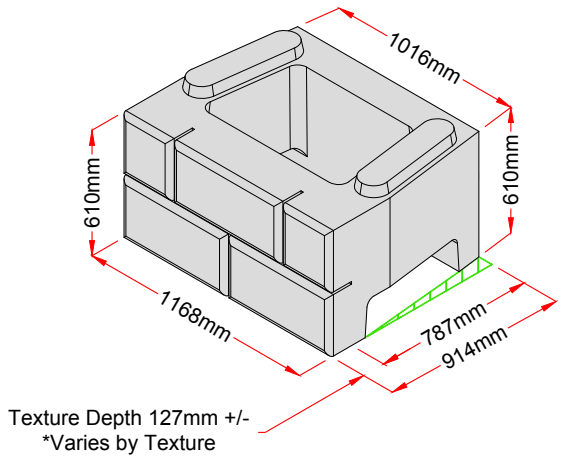
46-SBT: 46" SHORT TOP BLOCK

Block Volume:	0.25 m^3
Block Weight:	575 kg
Center of Gravity:	564 mm
Face Area:	0.71 m^2
Volume/Area:	0.35 m^3/m^2



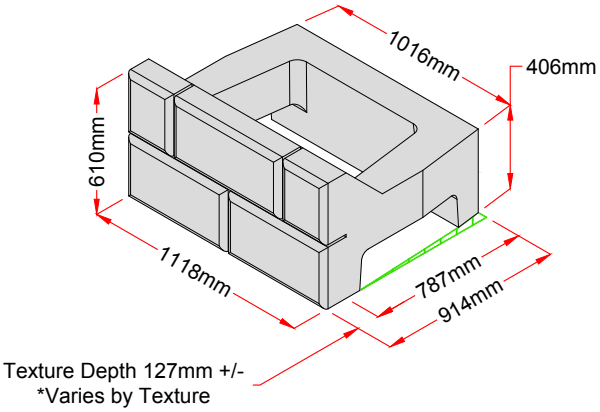
46-SB: 46" SHORT BLOCK

Block Volume:	0.34 m^3
Block Weight:	775 kg
Center of Gravity:	496 mm
Face Area:	0.71 m^2
Volume/Area:	0.48 m^3/m^2



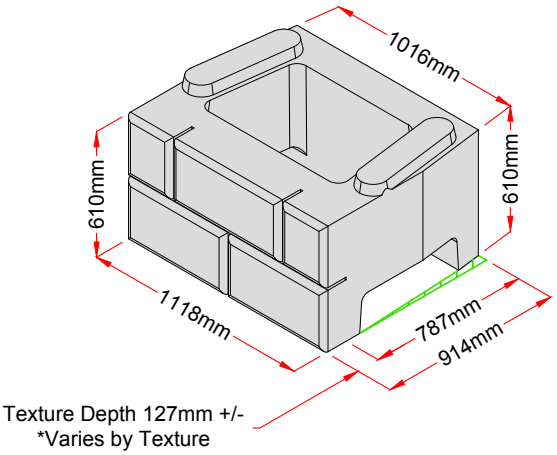
44-SBT: 44" SHORT TOP BLOCK

Block Volume:	0.24 m^3
Block Weight:	551 kg
Center of Gravity:	556 mm
Face Area:	0.68 m^2
Volume/Area:	0.36 m^3/m^2



44-SB: 44" SHORT BLOCK

Block Volume:	0.33 m^3
Block Weight:	747 kg
Center of Gravity:	488 mm
Face Area:	0.68 m^2
Volume/Area:	0.48 m^2



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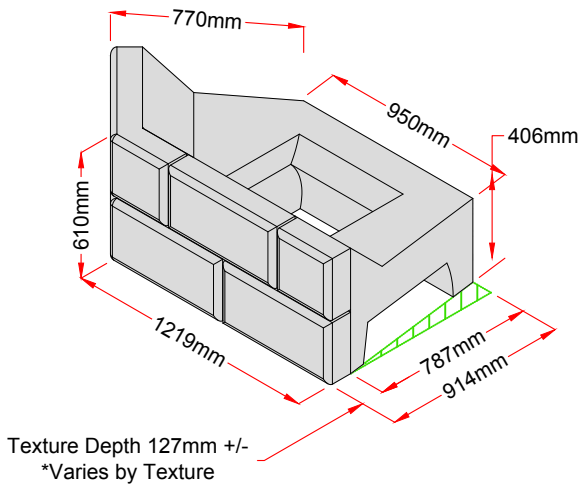
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

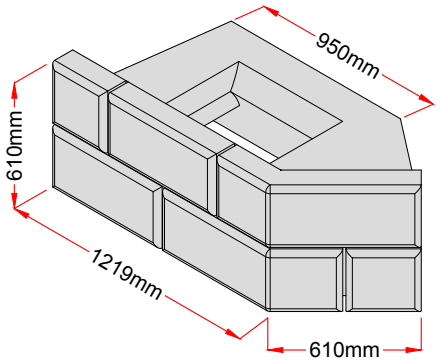
45C-LT: 45° CORNER TOP BLOCK (LEFT)

Block Volume:	0.42 m^3
Block Weight:	965 kg
Center of Gravity:	533 mm
Face Area:	1.11 m^2
Volume/Area:	0.38 m^3/m^2



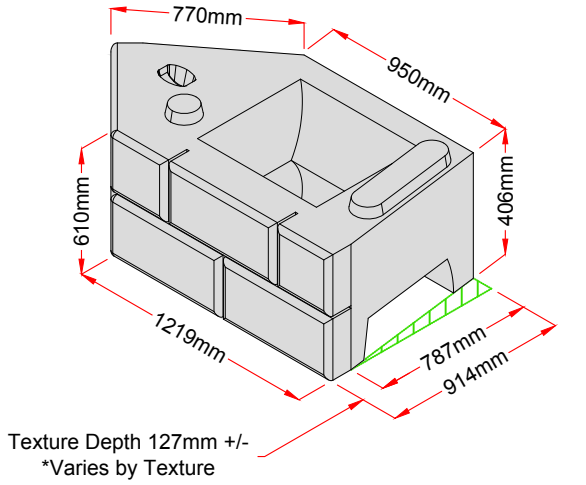
45C-RT: 45° CORNER TOP BLOCK (RIGHT)

Block Volume:	0.42 m^3
Block Weight:	965 kg
Center of Gravity:	533 mm
Face Area:	1.11 m^2
Volume/Area:	0.38 m^3/m^2



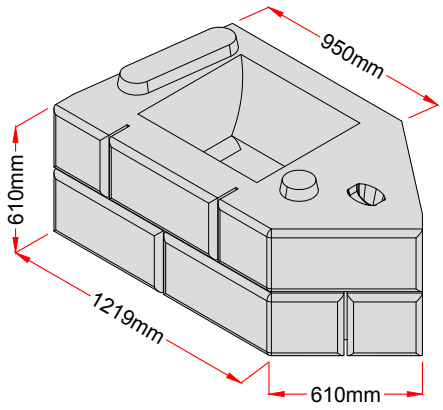
45C-L: 45° CORNER BLOCK (LEFT)

Block Volume:	0.53 m^3
Block Weight:	1216 kg
Center of Gravity:	490 mm
Face Area:	1.11 m^2
Volume/Area:	0.48 m^3/m^2



45C-R: 45° CORNER BLOCK (RIGHT)

Block Volume:	0.53 m^3
Block Weight:	1216 kg
Center of Gravity:	490 mm
Face Area:	1.11 m^2
Volume/Area:	0.48 m^2



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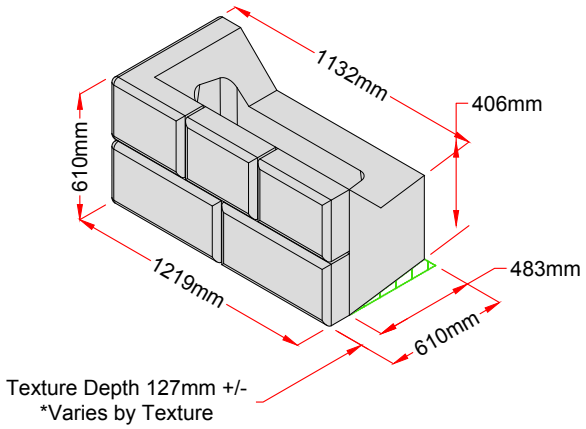
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

BLOCK LIBRARY

Retaining Blocks: Corner Block Series

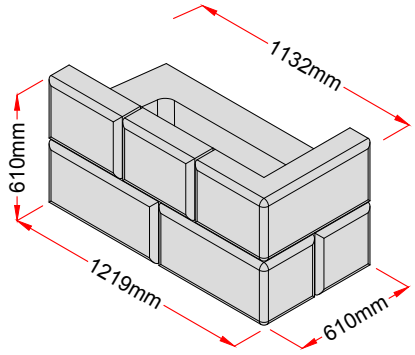
LCTB: LEFT CORNER TOP BLOCK

Block Volume:	0.27 m^3
Block Weight:	611 kg
Face Area:	0.74 m^2
Volume/Area:	0.36 m^3/m^2



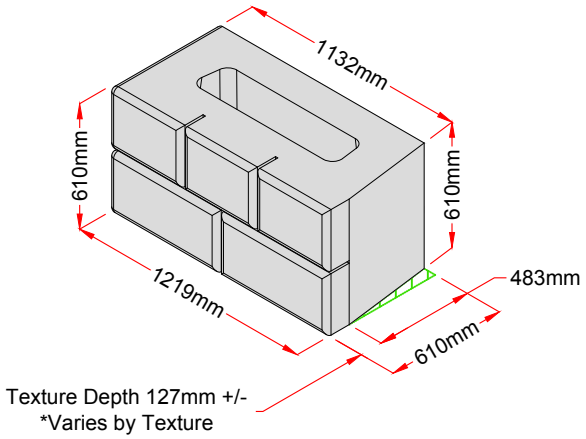
RCTB: RIGHT CORNER TOP BLOCK

Block Volume:	0.27 m^3
Block Weight:	611 kg
Face Area:	0.37 m^2
Volume/Area:	0.36 m^3/m^2



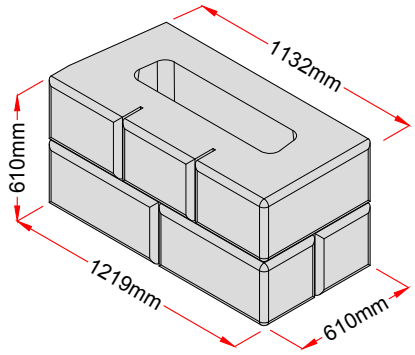
LCB: LEFT CORNER BLOCK

Block Volume:	0.32 m^3
Block Weight:	723 kg
Face Area:	0.74 m^2
Volume/Area:	0.43 m^3/m^2



RCB: RIGHT CORNER BLOCK

Block Volume:	0.32 m^3
Block Weight:	723 kg
Face Area:	0.37 m^2
Volume/Area:	0.43 m^2



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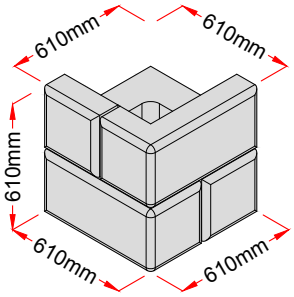
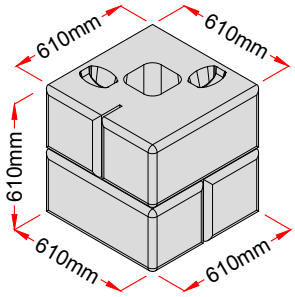
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

HCT: HALF CORNER TOP BLOCK	
Block Volume:	0.17 m^3
Block Weight:	376 kg
Face Area:	0.37 m^2
Volume/Area:	0.45 m^3/m^2



HC: HALF CORNER BLOCK	
Block Volume:	0.19 m^3
Block Weight:	428 kg
Face Area:	0.37 m^2
Volume/Area:	0.51 m^3/m^2



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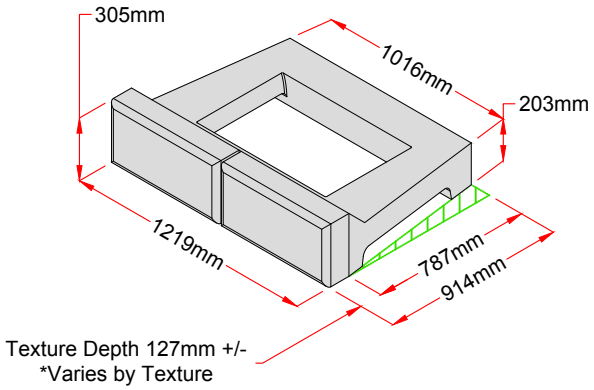
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

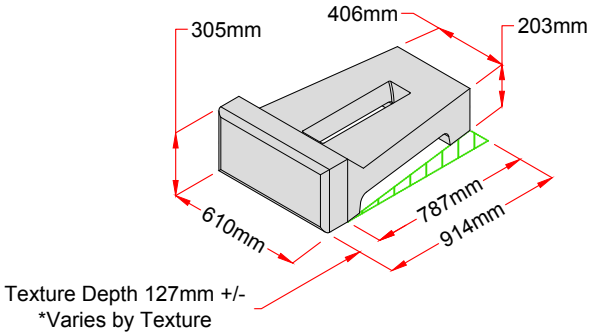
BLOCK LIBRARY

Retaining Blocks: Half Step Series

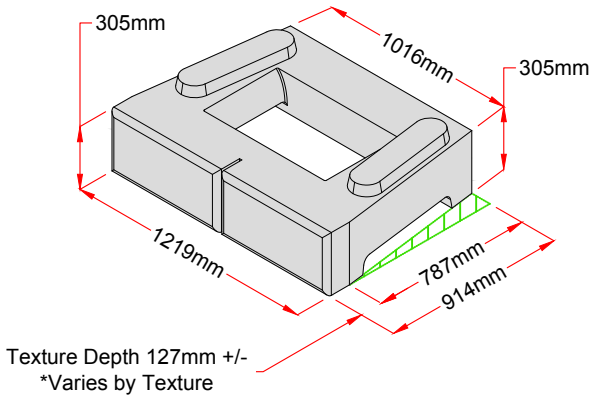
HSTB: HALF-STEP STANDARD TOP BLOCK 36" (914mm)	
Block Volume:	0.13 m^3
Block Weight:	305 kg
Center of Gravity:	564 mm
Face Area:	0.37 m^2
Volume/Area:	0.36 m^3/m^2



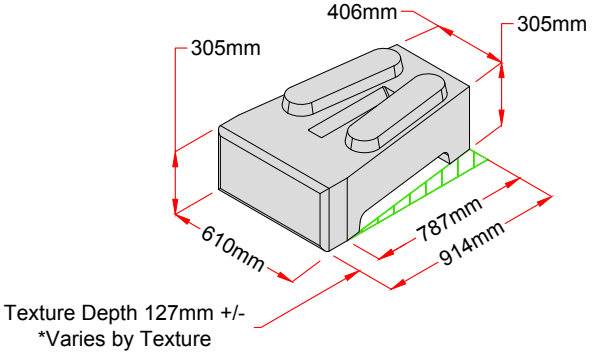
HHT: HALF-STEP HALF TOP BLOCK 36" (914mm)	
Block Volume:	0.08 m^3
Block Weight:	173 kg
Center of Gravity:	562 mm
Face Area:	0.19 m^2
Volume/Area:	0.41 m^3/m^2



HS: HALF-STEP STANDARD BLOCK 36" (914mm)	
Block Volume:	0.19 m^3
Block Weight:	437 kg
Center of Gravity:	497 mm
Face Area:	0.37 m^2
Volume/Area:	0.52 m^3/m^2



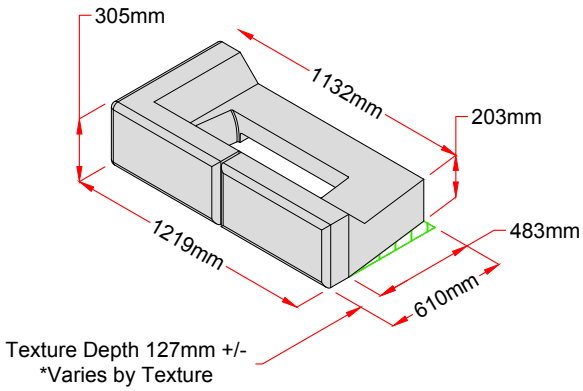
HH: HALF-STEP HALF BLOCK 36" (914mm)	
Block Volume:	0.12 m^3
Block Weight:	265 kg
Center of Gravity:	498 mm
Face Area:	0.19 m^2
Volume/Area:	0.63 m^2



1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

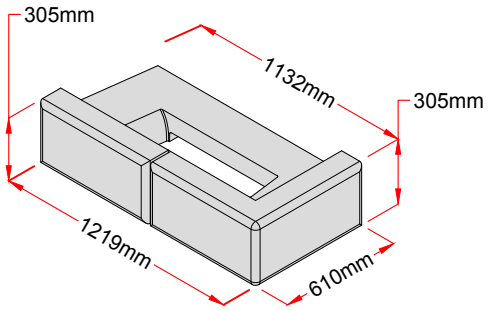
HSLCT: HALF-STEP LEFT CORNER TOP BLOCK

Block Volume:	0.14 m^3
Block Weight:	310 kg
Face Area:	0.37 m^2
Volume/Area:	0.37 m^3/m^2



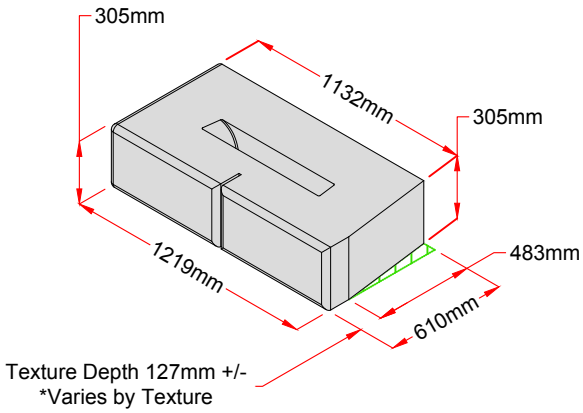
HSRCT: HALF-STEP RIGHT CORNER TOP BLOCK

Block Volume:	0.14 m^3
Block Weight:	310 kg
Face Area:	0.37 m^2
Volume/Area:	0.37 m^3/m^2



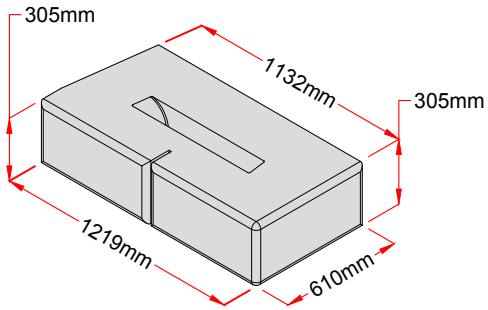
HSLC: HALF-STEP LEFT CORNER BLOCK

Block Volume:	0.17 m^3
Block Weight:	389 kg
Face Area:	0.37 m^2
Volume/Area:	0.46 m^3/m^2



HSRC: HALF-STEP RIGHT CORNER BLOCK

Block Volume:	0.17 m^3
Block Weight:	389 kg
Face Area:	0.37 m^2
Volume/Area:	0.46 m^2



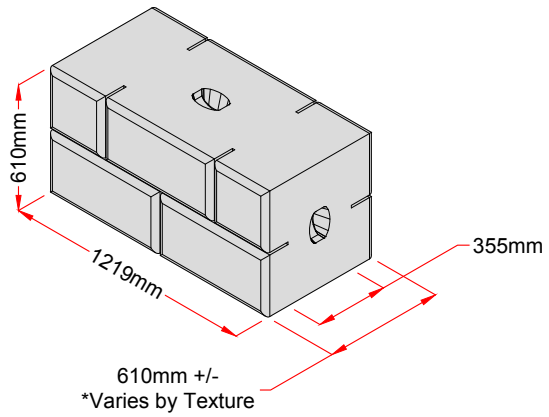
1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

BLOCK LIBRARY

Two & Three Sided Series

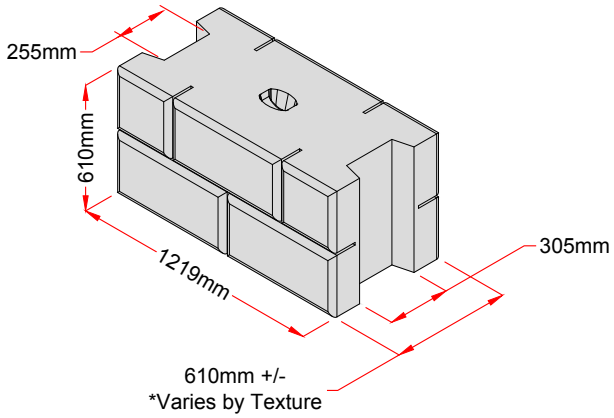
F-2T: TWO SIDED BLOCK - WITHOUT SHEAR LUGS

Block Volume:	0.42 m^3
Block Weight:	949 kg
Face Area:	0.74 m^2
Volume/Area:	0.56 m^3/m^2



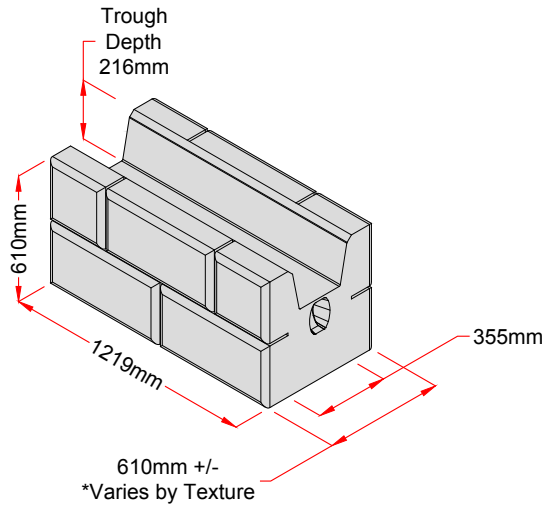
F-2TV: TWO SIDED VARIABLE CURVE BLOCK - NO SHEAR LUGS

Block Volume:	0.38 m^3
Block Weight:	874 kg
Face Area:	0.74 m^2
Volume/Area:	0.52 m^3/m^2



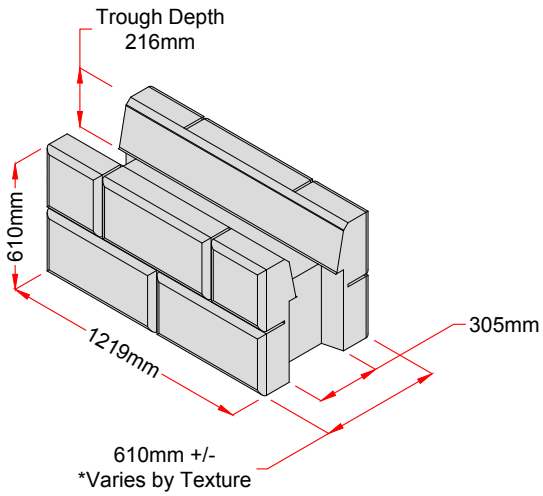
F-2P: TWO SIDED PLANTER BLOCK

Block Volume:	0.35 m^3
Block Weight:	786 kg
Face Area:	0.74 m^2
Volume/Area:	0.47 m^3/m^2



F-2PV: TWO SIDED PLANTER VARIABLE CURVE BLOCK

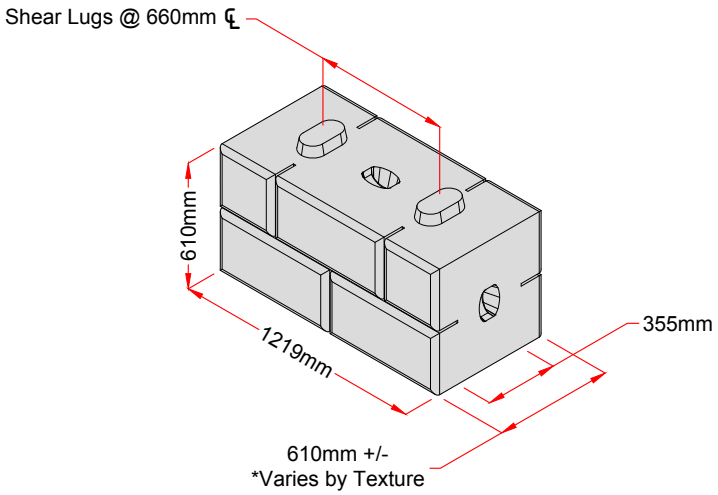
Block Volume:	0.32 m^3
Block Weight:	739 kg
Face Area:	0.74 m^2
Volume/Area:	0.44 m^2



1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

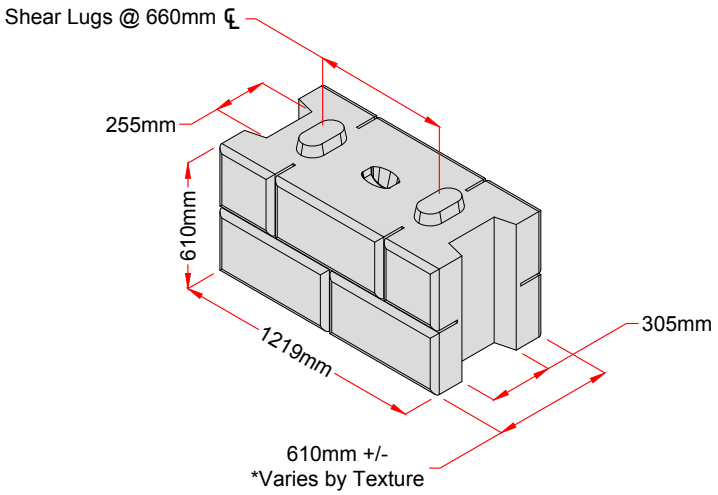
F-2M: TWO SIDED BLOCK WITH SHEAR LUGS

Block Volume:	0.42 m^3
Block Weight:	954 kg
Face Area:	0.74 m^2
Volume/Area:	0.56 m^3/m^2



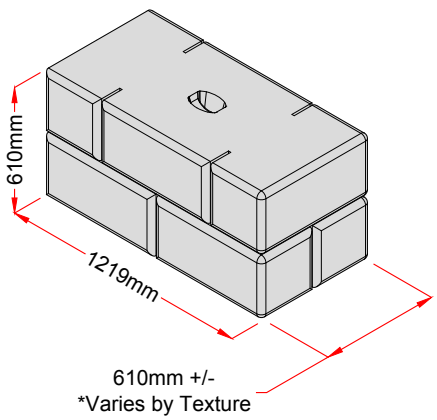
F-2MV: TWO SIDED VARIABLE CURVE BLOCK WITH SHEAR LUGS

Block Volume:	0.39 m^3
Block Weight:	879 kg
Face Area:	0.74 m^2
Volume/Area:	0.52 m^3/m^2



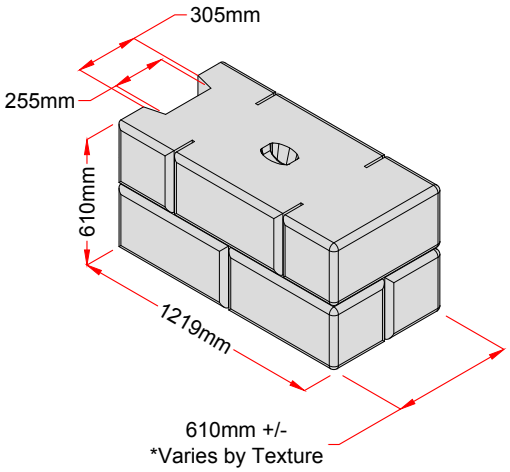
F-3T: THREE SIDED BLOCK - WITHOUT SHEAR LUGS

Block Volume:	0.42 m^3
Block Weight:	946 kg
Face Area:	0.74 m^2
Volume/Area:	0.56 m^3/m^2



F-3TV: THREE SIDED VARIABLE CURVE BLOCK - NO SHEAR LUGS

Block Volume:	0.40 m^3
Block Weight:	909 kg
Face Area:	0.74 m^2
Volume/Area:	0.54 m^2



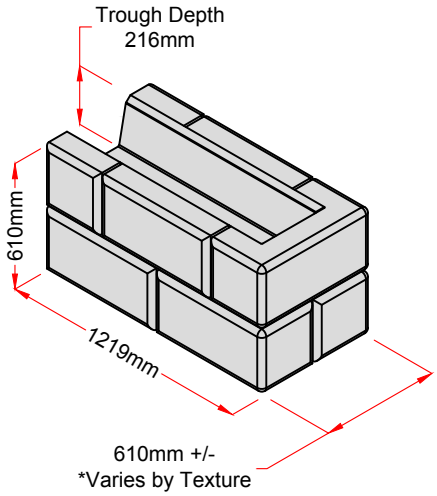
1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

BLOCK LIBRARY

Two & Three Sided Series

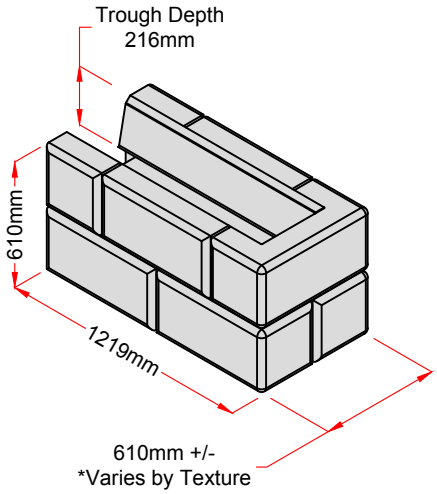
F-3P: THREE SIDED PLANTER BLOCK

Block Volume:	0.35 m^3
Block Weight:	807 kg
Face Area:	0.74 m^2
Volume/Area:	0.48 m^3/m^2



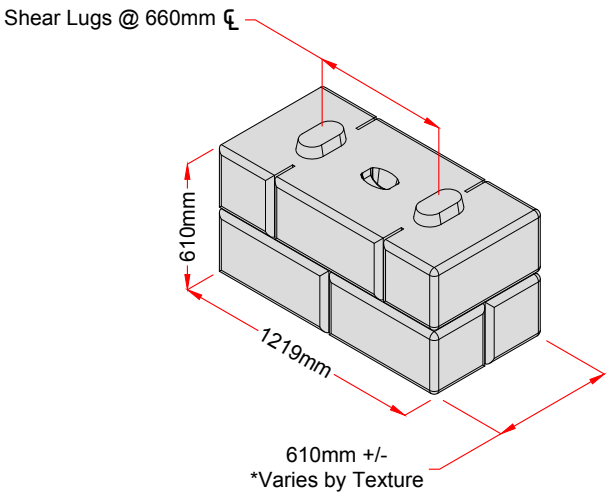
F-3PV: THREE SIDED PLANTER VARIABLE CURVE BLOCK

Block Volume:	0.34 m^3
Block Weight:	783 kg
Face Area:	0.74 m^2
Volume/Area:	0.46 m^3/m^2



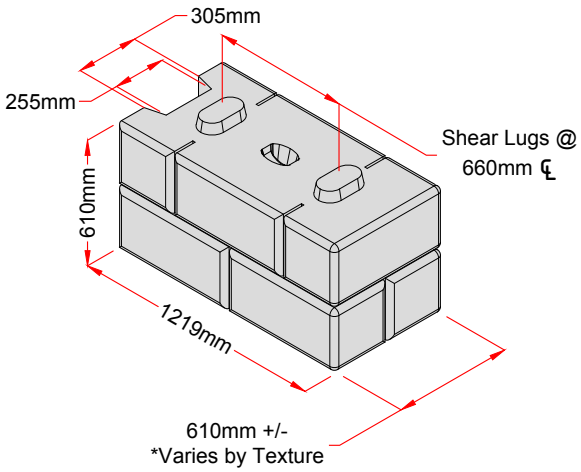
F-3M: THREE SIDED BLOCK WITH SHEAR LUGS

Block Volume:	0.42 m^3
Block Weight:	951 kg
Face Area:	0.74 m^2
Volume/Area:	0.56 m^3/m^2



F-3MV: THREE SIDED VARIABLE CURVE BLOCK WITH SHEAR LUGS

Block Volume:	0.40 m^3
Block Weight:	915 kg
Face Area:	0.74 m^2
Volume/Area:	0.54 m^2



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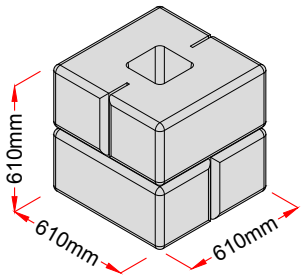
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

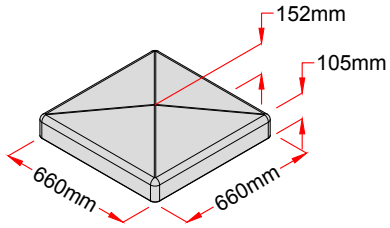
A-C: FREE STANDING COLUMN

Block Volume:	0.20 m^3
Block Weight:	462 kg



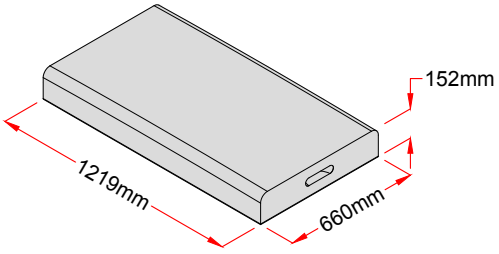
A-CC: FREE STANDING COLUMN CAP

Block Volume:	0.04 m^3
Block Weight:	99 kg



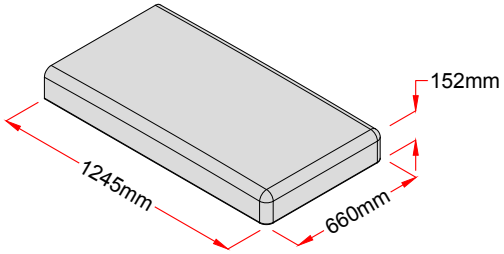
A-2SC: 6" (152mm) TWO SIDED CAP

Block Volume:	0.09 m^3
Block Weight:	211 kg



A-3SC: 6" (152mm) THREE SIDED CAP

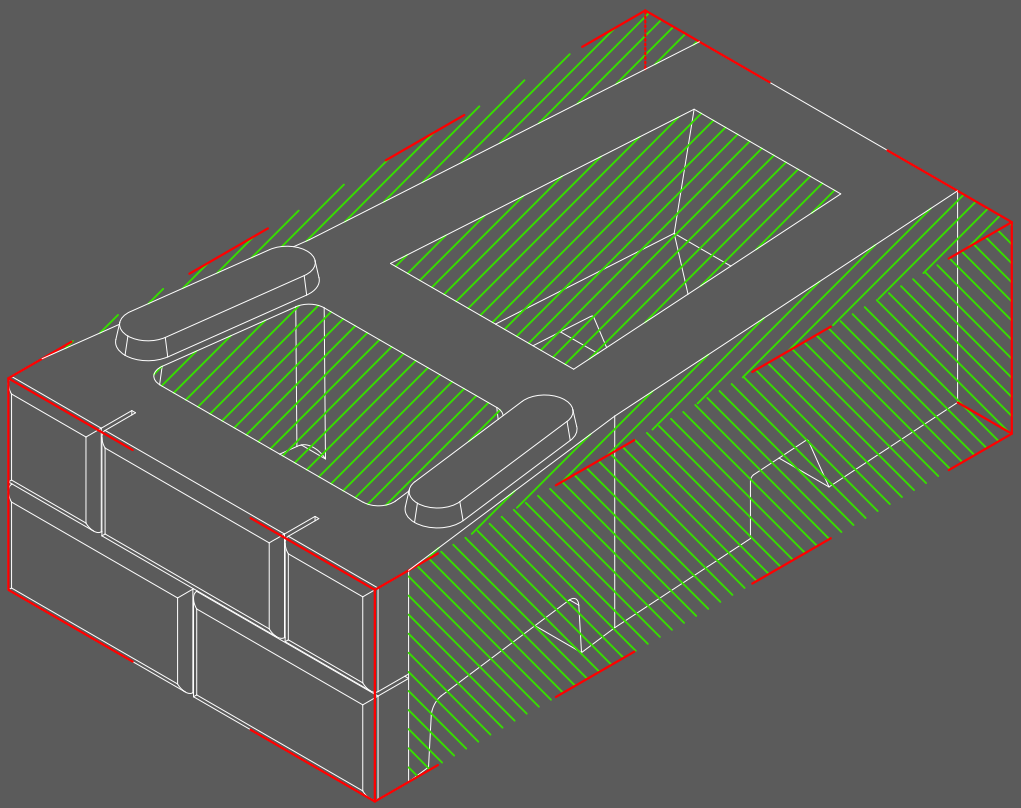
Block Volume:	0.10 m^3
Block Weight:	216 kg



1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

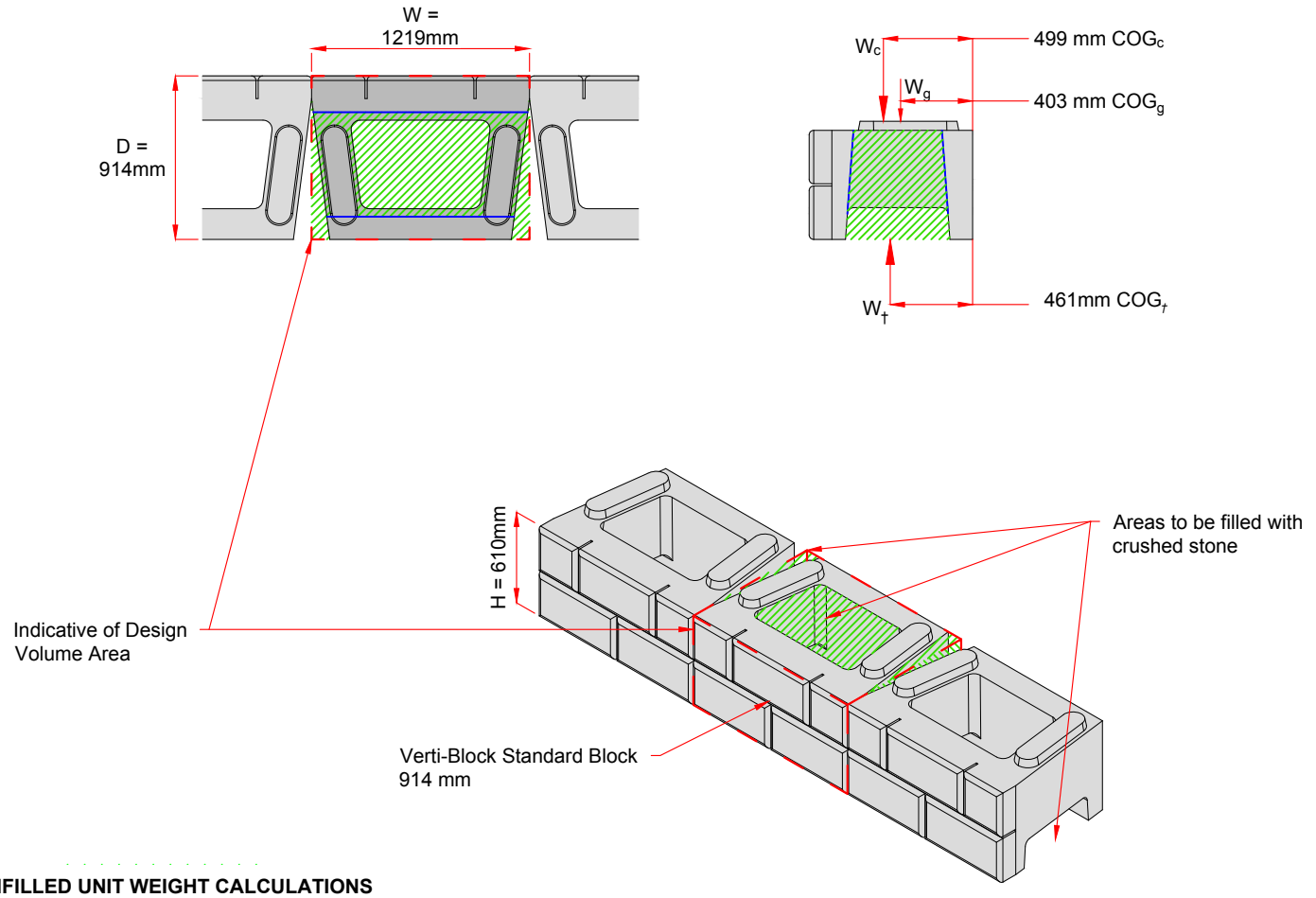
Unit Infill Weight Calculations

Section 2



INFILL UNIT WEIGHT CALCULATIONS

SD-36: STANDARD BLOCK 36" (914mm) & GRAVEL INFILL



INFILLED UNIT WEIGHT CALCULATIONS

CONCRETE BLOCK DATA

Design Unit Weight (γ_c)	=	2,275 kg/m^3
Volume (V_c)	=	0.35 m^3
Block Weight (W_c)	=	2,275 kg/m^3 *x* 0.35 m^3 = 796 kg
Center of Gravity (COG_c)	=	499 mm (From CAD Model)

GRAVEL INFILL DATA

Design Unit Weight (γ_g)	=	1,762 kg/m^3
Volume (V_g)	=	0.33 m^3
Gravel Weight (W_g)	=	1,762 kg/m^3 *x* 0.33 m^3 = 581 kg
Center of Gravity (COG_g)	=	403 mm (From CAD Model)

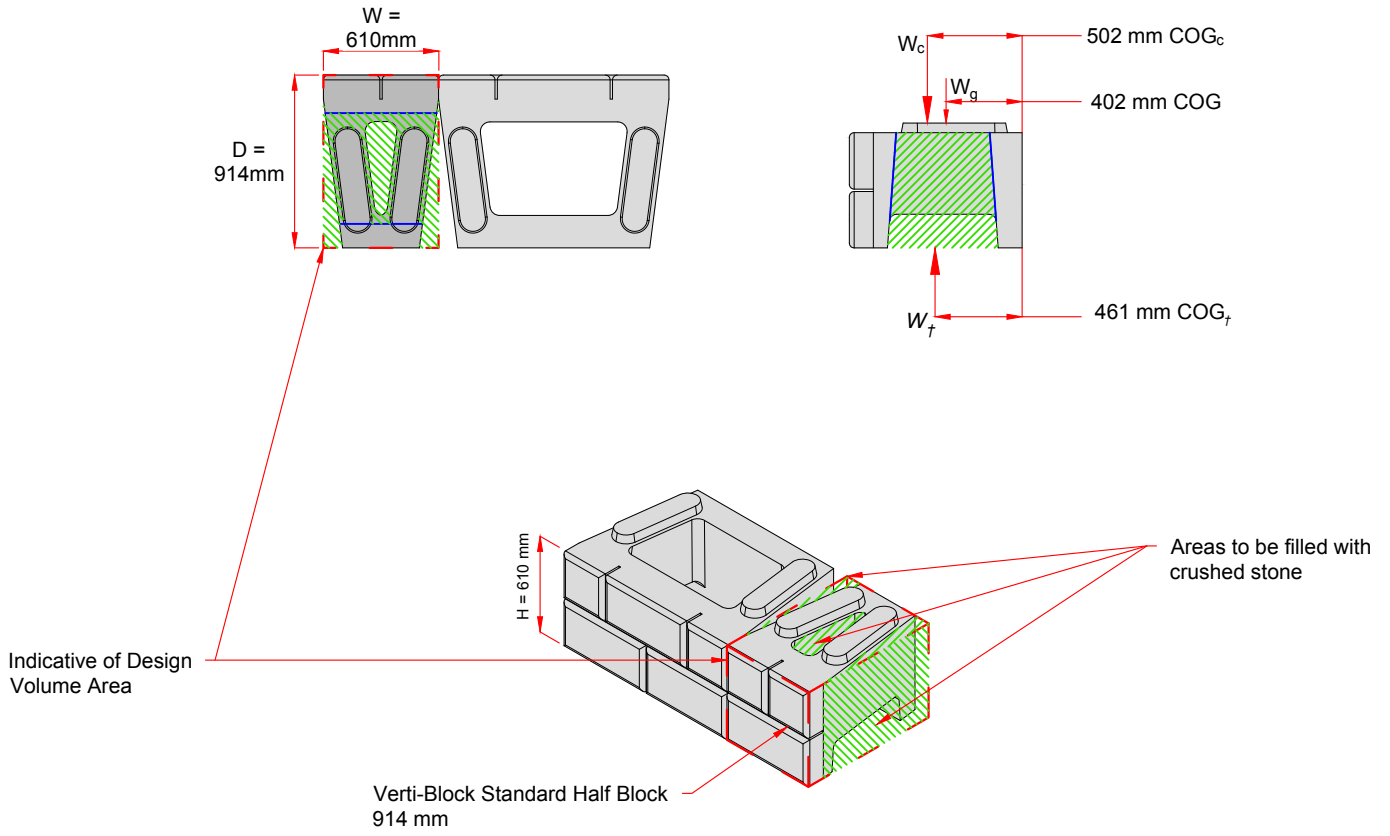
COMBINED UNIT DATA

Combined Unit Weight	=	796 kg + 581 kg = 1,377 kg
Design Volume (D x W x H)	=	914 mm x 1,219 mm x 610 mm = 0.68 m^3
Total Unit Weight (W_t)	=	(796 kg + 581 kg) / 0.68 m^3 = **2,026 kg/m^3**
Center of Gravity (COG_t)	=	461 mm (From CAD Model)

NOTES:

The unit weights of the concrete blocks used above and infill calculations are based on standard assumptions. Block weights may vary due to variances in concrete density. The unit weight for the infill gravel is assumed to be 17.30 kN/m^3, less than 80% of the upper range (18.85 - 22.00 kN/m^3) for well-graded gravels, as per AASHTO recommendation under **Section 11.11.4.4** for units with a non-solid bottom. Engineers are advised to exercise sound engineering judgment when determining the appropriate infill weight for analysis, as these values are indicative only and subject to variation. The values above were calculated using CAD software. COG measurements are from the back of the blocks.

1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm



INFILLED UNIT WEIGHT CALCULATIONS

CONCRETE BLOCK DATA

Design Unit Weight (γ_c)	=	2,275 kg/m^3
Volume (V_c)	=	0.21 m^3
Block Weight (W_c)	=	2,275 kg/m^3 *x* 0.21 m^3 = 484 kg
Center of Gravity (COG_c)	=	502 mm (From CAD Model)

GRAVEL INFILL DATA

Design Unit Weight (γ_g)	=	1,762 kg/m^3
Volume (V_g)	=	0.13 m^3
Gravel Weight (W_g)	=	1,762 kg/m^3 *x* 0.13 m^3 = 224 kg
Center of Gravity (COG_g)	=	402 mm (From CAD Model)

COMBINED UNIT DATA

Combined Unit Weight	=	484 kg + 224 kg = 708 kg
Design Volume (D x W x H)	=	914 mm x 610 mm x 610 mm = 0.34 m^3
Total Unit Weight (W_t)	=	(484 kg + 224 kg) / 0.34 m^3 = **2,083 kg/m^3**
Center of Gravity (COG_t)	=	461 mm (From CAD Model)

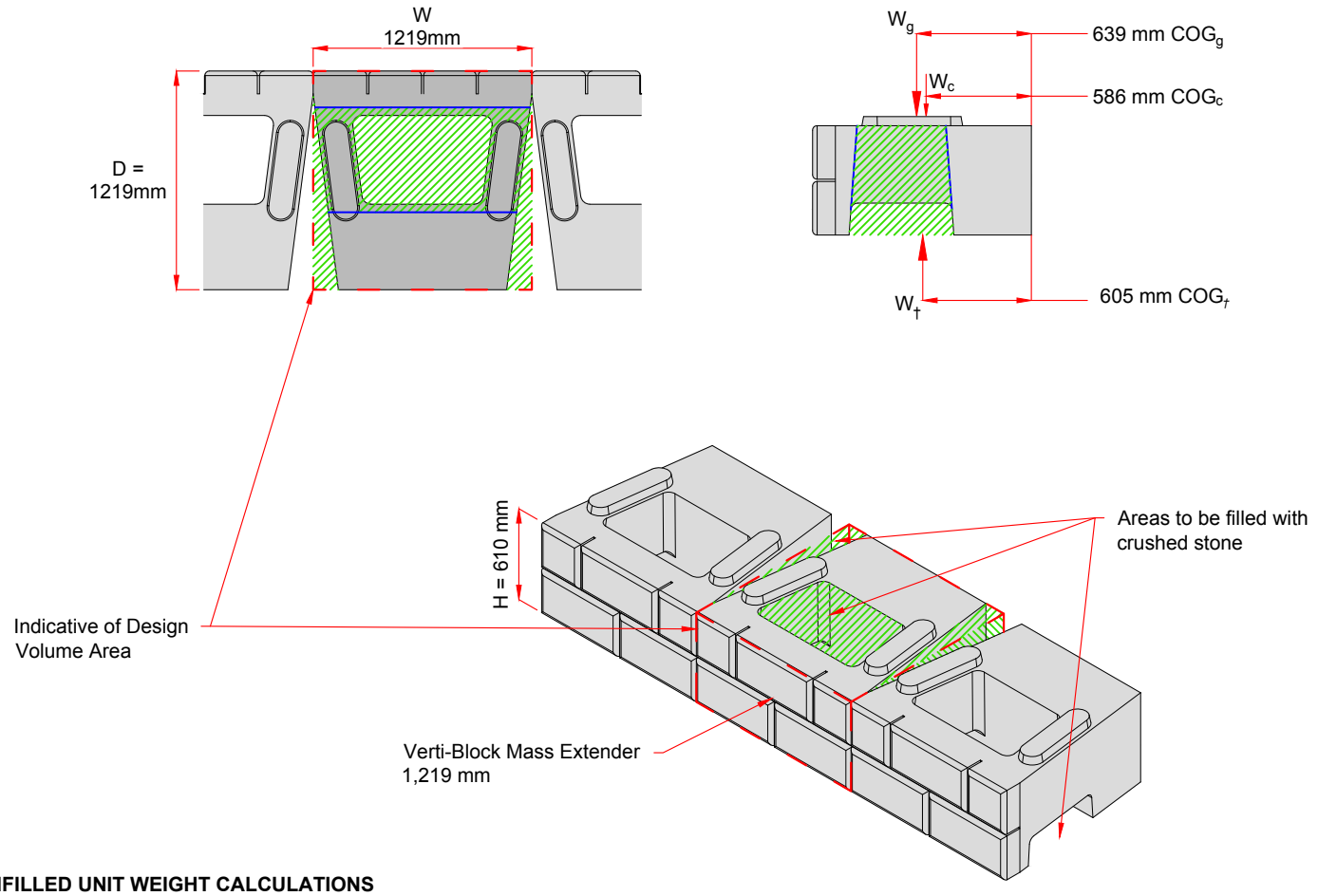
NOTES:

The unit weights of the concrete blocks used above and infill calculations are based on standard assumptions. Block weights may vary due to variances in concrete density. The unit weight for the infill gravel is assumed to be 17.30 kN/m^3, less than 80% of the upper range (18.85 - 22.00 kN/m^3) for well-graded gravels, as per AASHTO recommendation under **Section 11.11.4.4** for units with a non-solid bottom. Engineers are advised to exercise sound engineering judgment when determining the appropriate infill weight for analysis, as these values are indicative only and subject to variation. The values above were calculated using CAD software. COG measurements are from the back of the blocks.

1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

INFILL UNIT WEIGHT CALCULATIONS

ME-48: MASS EXTENDER 48" (1,219mm) & GRAVEL INFILL



INFILLED UNIT WEIGHT CALCULATIONS

CONCRETE BLOCK DATA

Design Unit Weight (γ_c)	=	2,275 kg/m^3
Volume (V_c)	=	0.53 m^3
Block Weight (W_c)	=	2,275 kg/m^3 *x* 0.53 m^3 = 1,213 kg
Center of Gravity (COG_c)	=	586 mm (From CAD Model)

GRAVEL INFILL DATA

Design Unit Weight (γ_g)	=	1,762 kg/m^3
Volume (V_g)	=	0.37 m^3
Gravel Weight (W_g)	=	1,762 kg/m^3 *x* 0.37 m^3 = 657 kg
Center of Gravity (COG_g)	=	639 mm (From CAD Model)

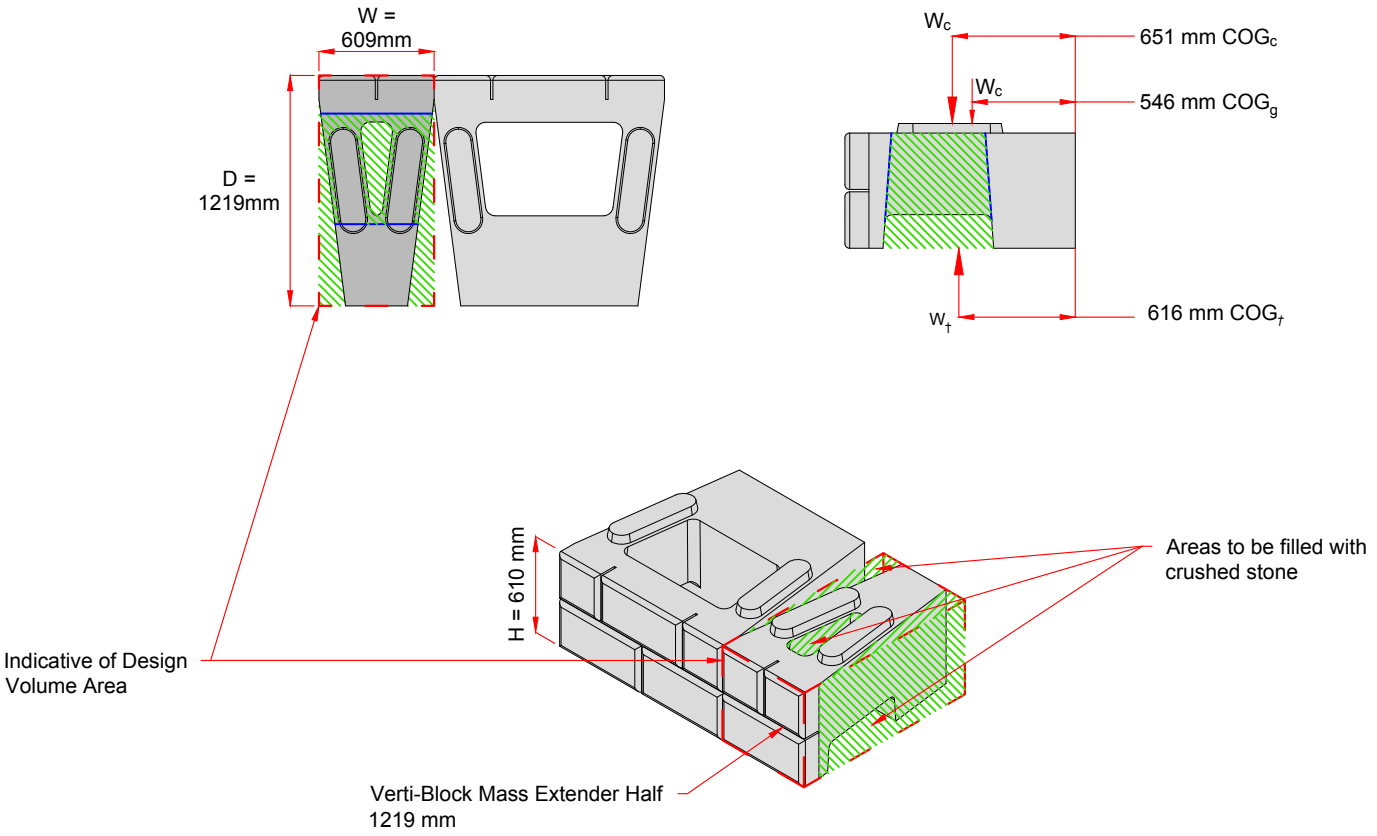
COMBINED UNIT DATA

Combined Unit Weight	=	1,213 kg + 657 kg = 1,870 kg
Design Volume (D x W x H)	=	1,219 mm x 1,219 mm x 610 mm = 0.906 m^3
Total Unit Weight (W_t)	=	(1,213 kg + 657 kg) / 0.906 m^3 = **2,064 kg/m^3**
Center of Gravity (COG_t)	=	605 mm (From CAD Model)

NOTES:

The unit weights of the concrete blocks used above and infill calculations are based on standard assumptions. Block weights may vary due to variances in concrete density. The unit weight for the infill gravel is assumed to be 17.30 kN/m^3, less than 80% of the upper range (18.85 - 22.00 kN/m^3) for well-graded gravels, as per AASHTO recommendation under **Section 11.11.4.4** for units with a non-solid bottom. Engineers are advised to exercise sound engineering judgment when determining the appropriate infill weight for analysis, as these values are indicative only and subject to variation. The values above were calculated using CAD software. COG measurements are from the back of the blocks.

1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm



INFILLED UNIT WEIGHT CALCULATIONS

CONCRETE BLOCK DATA

Design Unit Weight (γ_c)	=	2,275 kg/m^3
Volume (V_c)	=	0.28 m^3
Block Weight (W_c)	=	2,275 kg/m^3 *x* 0.28 m^3 = 631 kg
Center of Gravity (COG_c)	=	651 mm (From CAD Model)

GRAVEL INFILL DATA

Design Unit Weight (γ_g)	=	1,762 kg/m^3
Volume (V_g)	=	0.18 m^3
Gravel Weight (W_g)	=	1,762 kg/m^3 *x* 0.18 m^3 = 309 kg
Center of Gravity (COG_g)	=	546 mm (From CAD Model)

COMBINED UNIT DATA

Combined Unit Weight	=	631 kg + 309 kg = 941 kg
Design Volume (D x W x H)	=	1,219 mm x 610 mm x 610 mm = 0.453 m^3
Total Unit Weight (W_t)	=	(1,631 kg + 309 kg) / 0.453 m^3 = **2,076 kg/m^3**
Center of Gravity (COG_t)	=	615 mm (From CAD Model)

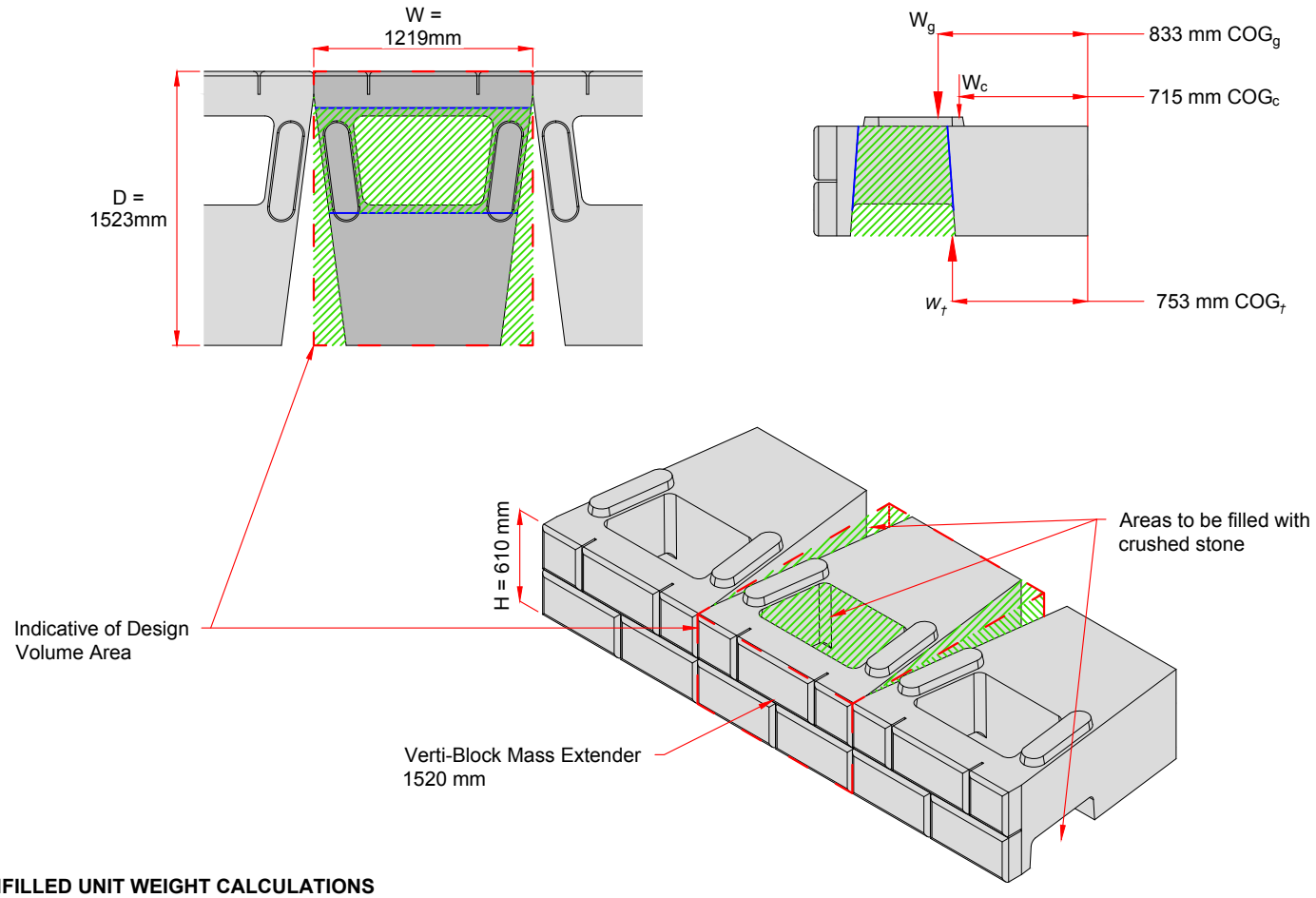
NOTES:

The unit weights of the concrete blocks used above and infill calculations are based on standard assumptions. Block weights may vary due to variances in concrete density. The unit weight for the infill gravel is assumed to be 17.30 kN/m^3, less than 80% of the upper range (18.85 - 22.00 kN/m^3) for well-graded gravels, as per AASHTO recommendation under **Section 11.11.4.4** for units with a non-solid bottom. Engineers are advised to exercise sound engineering judgment when determining the appropriate infill weight for analysis, as these values are indicative only and subject to variation. The values above were calculated using CAD software. COG measurements are from the back of the blocks.

1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

INFILL UNIT WEIGHT CALCULATIONS

ME-60: MASS EXTENDER 60" (1,520mm) & GRAVEL INFILL



INFILLED UNIT WEIGHT CALCULATIONS

CONCRETE BLOCK DATA

Design Unit Weight (γ_c)	=	2,275 kg/m^3
Volume (V_c)	=	0.70 m^3
Block Weight (W_c)	=	2,275 kg/m^3 *x* 0.70 m^3 = 1,592 kg
Center of Gravity (COG_c)	=	715 mm (From CAD Model)

GRAVEL INFILL DATA

Design Unit Weight (γ_g)	=	1,762 kg/m^3
Volume (V_g)	=	0.43 m^3
Gravel Weight (W_g)	=	1,762 kg/m^3 *x* 0.43 m^3 = 763 kg
Center of Gravity (COG_g)	=	833 mm (From CAD Model)

COMBINED UNIT DATA

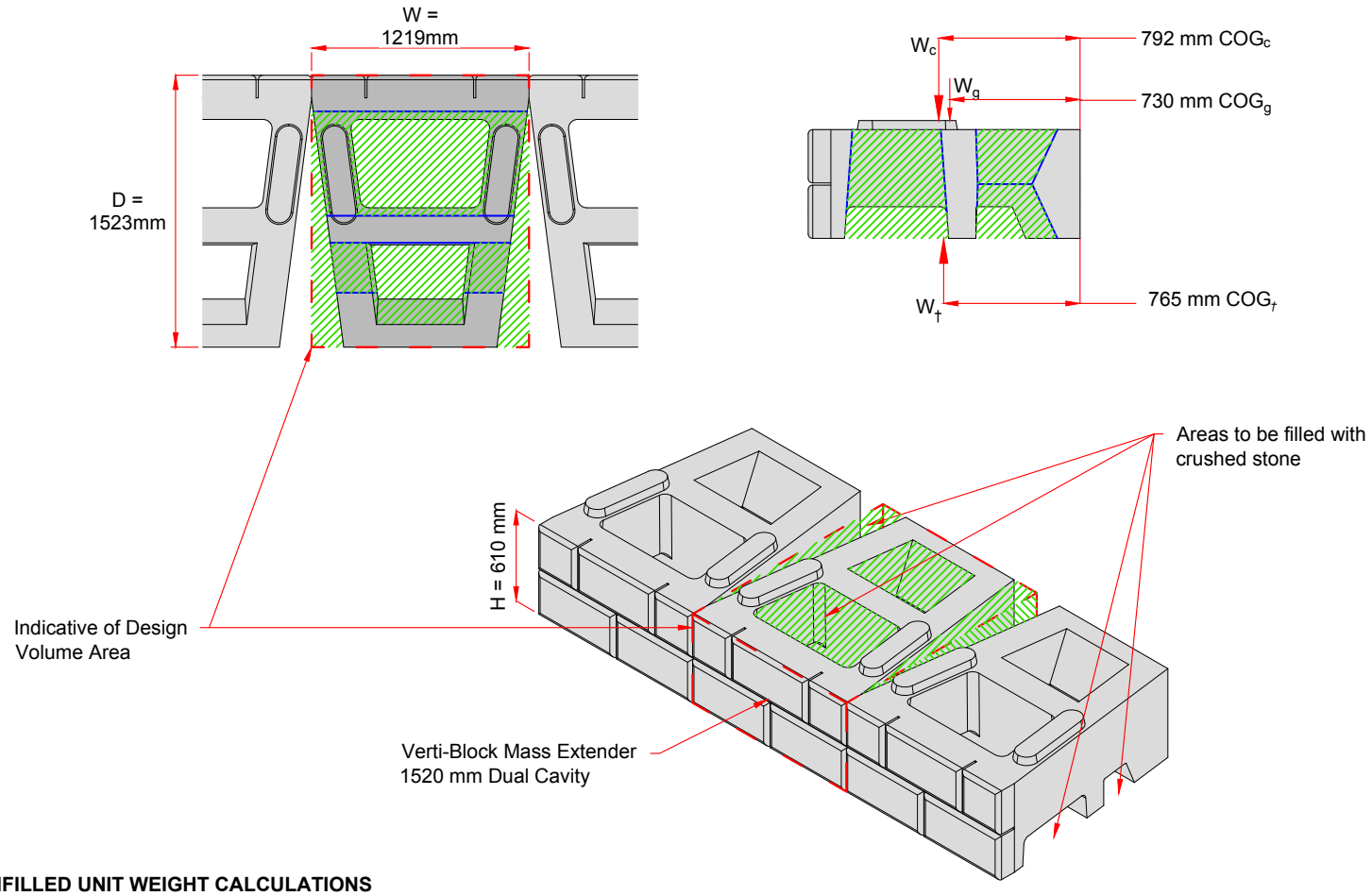
Combined Unit Weight	=	1,592 kg + 753 kg = 2,354 kg
Design Volume (D x W x H)	=	1,520 mm x 1,219 mm x 610 mm = 1.13 m^3
Total Unit Weight (W_t)	=	(1,592 kg + 763 kg) / 1.13 m^3 = **2,079 kg/m^3**
Center of Gravity (COG_t)	=	753 mm (From CAD Model)

NOTES:

The unit weights of the concrete blocks used above and infill calculations are based on standard assumptions. Block weights may vary due to variances in concrete density. The unit weight for the infill gravel is assumed to be 17.30 kN/m^3, less than 80% of the upper range (18.85 - 22.00 kN/m^3) for well-graded gravels, as per AASHTO recommendation under **Section 11.11.4.4** for units with a non-solid bottom. Engineers are advised to exercise sound engineering judgment when determining the appropriate infill weight for analysis, as these values are indicative only and subject to variation. The values above were calculated using CAD software. COG measurements are from the back of the blocks.

1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

ME-60DC: MASS EXTENDER 60" (1,520mm) DUAL CAVITY & GRAVEL INFILL



INFILLED UNIT WEIGHT CALCULATIONS

CONCRETE BLOCK DATA

Design Unit Weight (γ_c)	=	2,275 kg/m^3
Volume (V_c)	=	0.56 m^3
Block Weight (W_c)	=	2,275 kg/m^3 *x* 0.56 m^3 = 1,262 kg
Center of Gravity (COG_c)	=	792 mm (From CAD Model)

GRAVEL INFILL DATA

Design Unit Weight (γ_g)	=	1,762 kg/m^3
Volume (V_g)	=	0.58 m^3
Gravel Weight (W_g)	=	1,762 kg/m^3 *x* 0.58 m^3 = 1,023 kg
Center of Gravity (COG_g)	=	730 mm (From CAD Model)

COMBINED UNIT DATA

Combined Unit Weight	=	1,262 kg + 1,023 kg = 2,286 kg
Design Volume (D x W x H)	=	1,520 mm x 1,219 mm x 610 mm = 1.133 m^3
Total Unit Weight (W_t)	=	(1,262 kg + 1,023 kg) / 1.133 m^3 = **2,018 kg/m^3**
Center of Gravity (COG_t)	=	765 mm (From CAD Model)

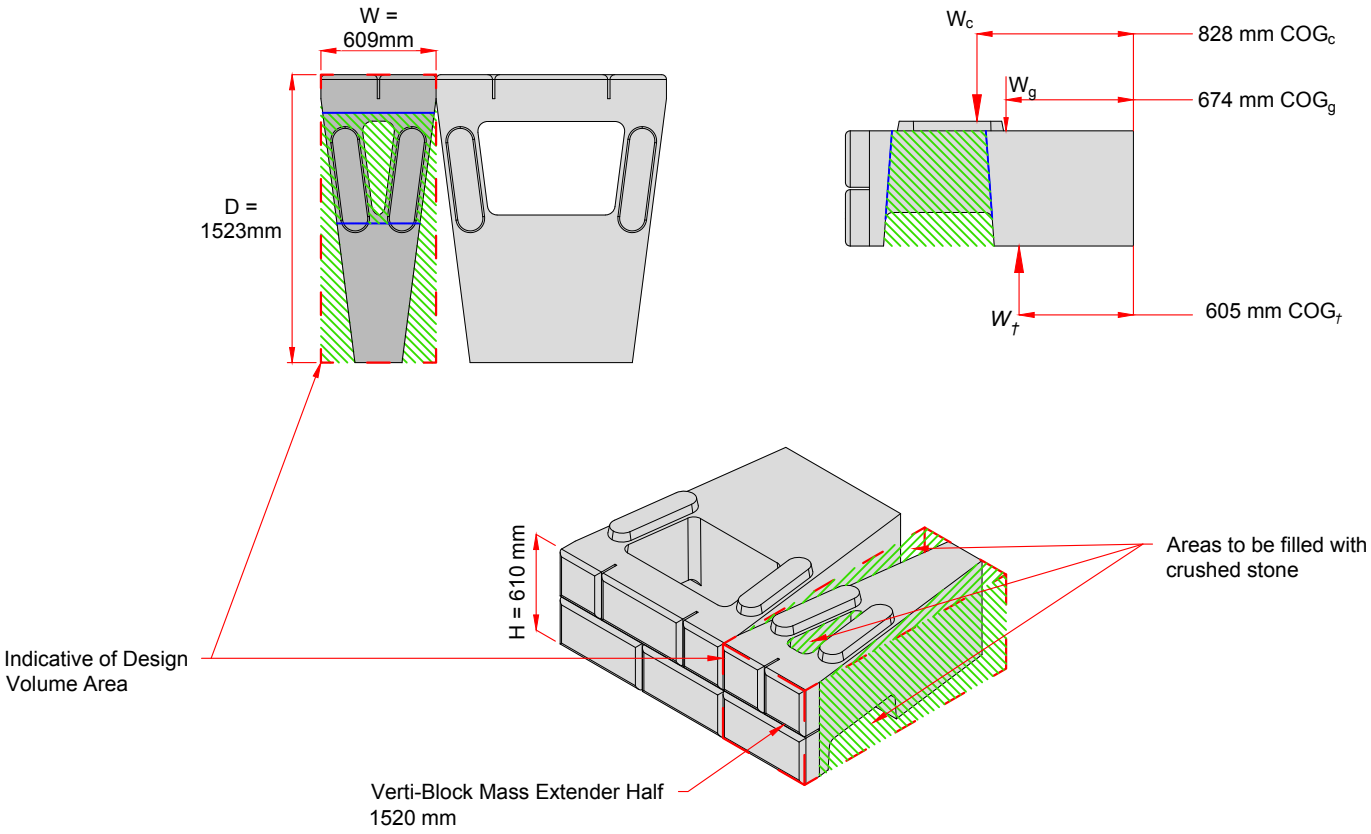
NOTES:

The unit weights of the concrete blocks used above and infill calculations are based on standard assumptions. Block weights may vary due to variances in concrete density. The unit weight for the infill gravel is assumed to be 17.30 kN/m^3, less than 80% of the upper range (18.85 - 22.00 kN/m^3) for well-graded gravels, as per AASHTO recommendation under **Section 11.11.4.4** for units with a non-solid bottom. Engineers are advised to exercise sound engineering judgment when determining the appropriate infill weight for analysis, as these values are indicative only and subject to variation. The values above were calculated using CAD software. COG measurements are from the back of the blocks.

1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

INFILL UNIT WEIGHT CALCULATIONS

ME-60H: MASS EXTENDER HALF 60" (1,520mm) & GRAVEL INFILL



INFILLED UNIT WEIGHT CALCULATIONS

CONCRETE BLOCK DATA

Design Unit Weight (γ_c)	=	2,275 kg/m^3
Volume (V_c)	=	0.33 m^3
Block Weight (W_c)	=	2,275 kg/m^3 *x* 0.33 m^3 = 754 kg
Center of Gravity (COG_c)	=	828 mm (From CAD Model)

GRAVEL INFILL DATA

Design Unit Weight (γ_g)	=	1,762 kg/m^3
Volume (V_g)	=	0.24 m^3
Gravel Weight (W_g)	=	1,762 kg/m^3 *x* 0.24 m^3 = 414 kg
Center of Gravity (COG_g)	=	833 mm (From CAD Model)

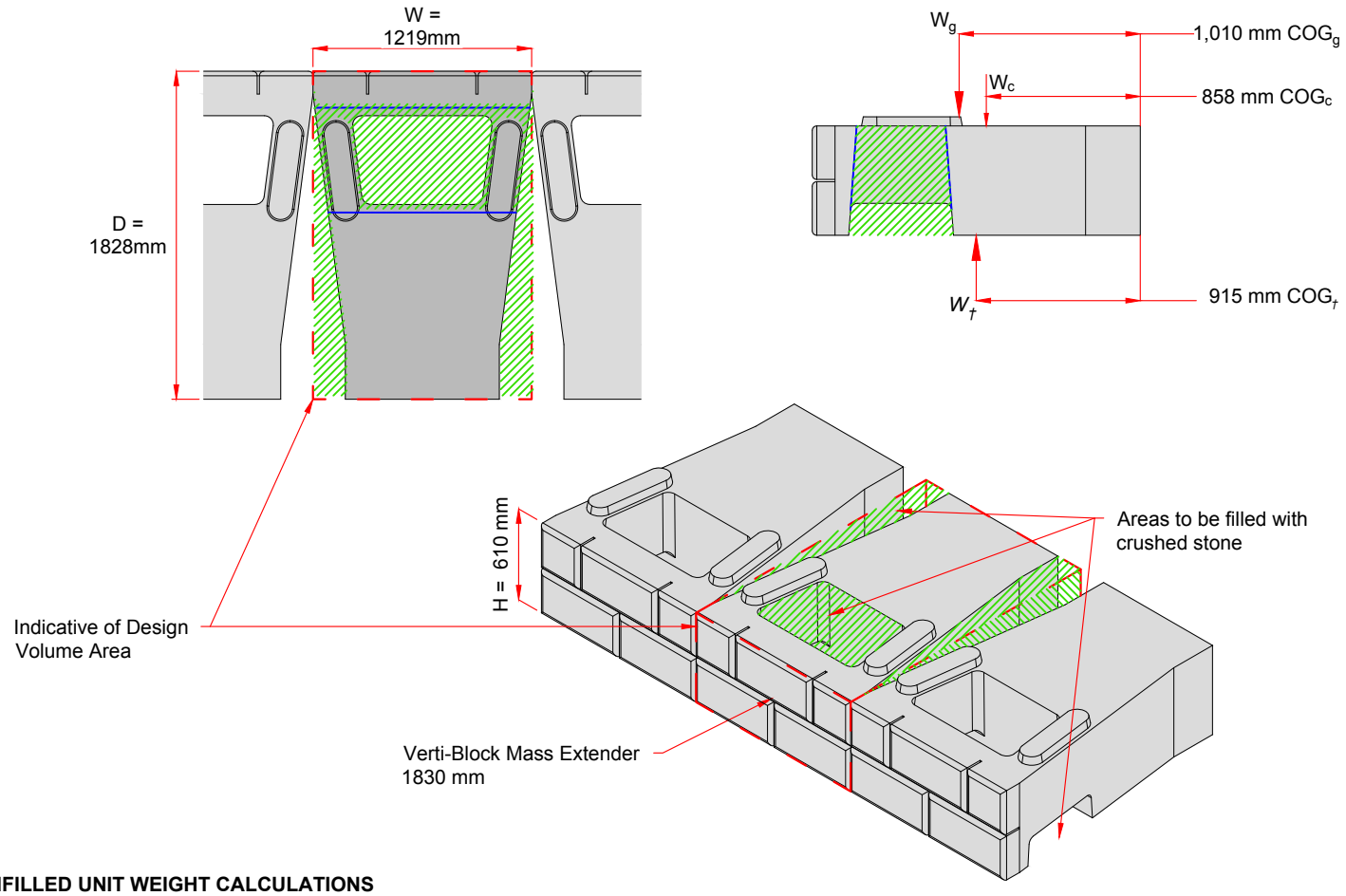
COMBINED UNIT DATA

Combined Unit Weight	=	754 kg + 414 kg = 1,168 kg
Design Volume (D x W x H)	=	1,520 mm x 610 mm x 610 mm = 0.566 m^3
Total Unit Weight (W_t)	=	(754 kg + 414 kg) / 0.68 m^3 = **2,062 kg/m^3**
Center of Gravity (COG_t)	=	605 mm (From CAD Model)

NOTES:

The unit weights of the concrete blocks used above and infill calculations are based on standard assumptions. Block weights may vary due to variances in concrete density. The unit weight for the infill gravel is assumed to be 17.30 kN/m^3, less than 80% of the upper range (18.85 - 22.00 kN/m^3) for well-graded gravels, as per AASHTO recommendation under **Section 11.11.4.4** for units with a non-solid bottom. Engineers are advised to exercise sound engineering judgment when determining the appropriate infill weight for analysis, as these values are indicative only and subject to variation. The values above were calculated using CAD software. COG measurements are from the back of the blocks.

1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm



INFILLED UNIT WEIGHT CALCULATIONS

CONCRETE BLOCK DATA

Design Unit Weight (γ_c)	=	2,275 kg/m^3
Volume (V_c)	=	0.86 m^3
Block Weight (W_c)	=	2,275 kg/m^3 *x* 0.86 m^3 = 1,949 kg
Center of Gravity (COG_c)	=	858 mm (From CAD Model)

GRAVEL INFILL DATA

Design Unit Weight (γ_g)	=	1,762 kg/m^3
Volume (V_g)	=	0.51 m^3
Gravel Weight (W_g)	=	1,762 kg/m^3 *x* 0.51 m^3 = 891 kg
Center of Gravity (COG_g)	=	1,010 mm (From CAD Model)

COMBINED UNIT DATA

Combined Unit Weight	=	1,949 kg + 891 kg = 2,480 kg
Design Volume (D x W x H)	=	1,830 mm x 1,219 mm x 610 mm = 1.359 m^3
Total Unit Weight (W_t)	=	(1,949 kg + 891 kg) / 1.359 m^3 = **2,089 kg/m^3**
Center of Gravity (COG_t)	=	915 mm (From CAD Model)

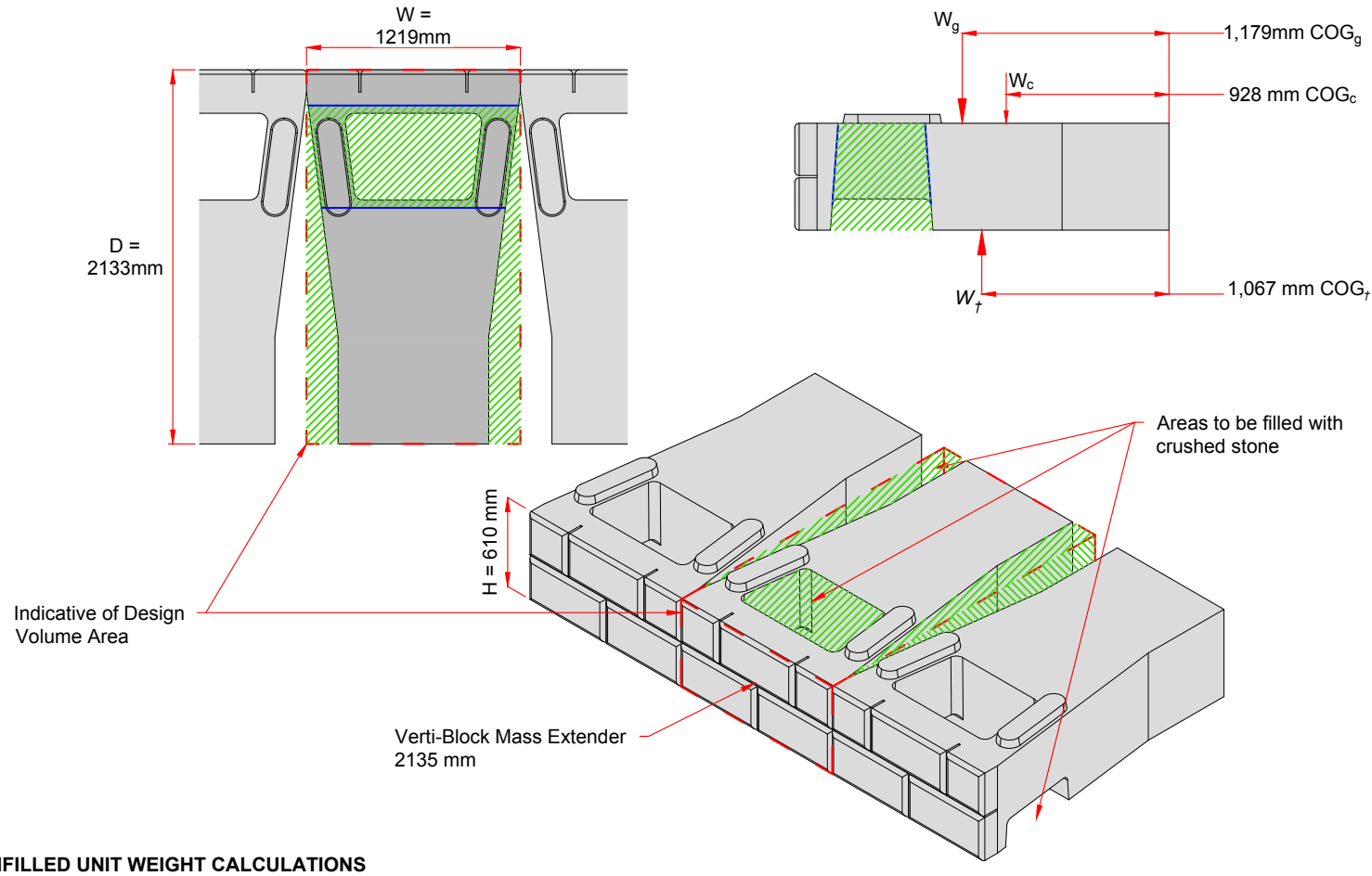
NOTES:

The unit weights of the concrete blocks used above and infill calculations are based on standard assumptions. Block weights may vary due to variances in concrete density. The unit weight for the infill gravel is assumed to be 17.30 kN/m^3, less than 80% of the upper range (18.85 - 22.00 kN/m^3) for well-graded gravels, as per AASHTO recommendation under **Section 11.11.4.4** for units with a non-solid bottom. Engineers are advised to exercise sound engineering judgment when determining the appropriate infill weight for analysis, as these values are indicative only and subject to variation. The values above were calculated using CAD software. COG measurements are from the back of the blocks.

1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

INFILL UNIT WEIGHT CALCULATIONS

ME-84: MASS EXTENDER 84" (2,135mm) & GRAVEL INFILL



INFILLED UNIT WEIGHT CALCULATIONS

CONCRETE BLOCK DATA

Design Unit Weight (γ_c)	=	2,275 kg/m^3
Volume (V_c)	=	1.02 m^3
Block Weight (W_c)	=	2,275 kg/m^3 *x 1.02* m^3 = 2,312 kg
Center of Gravity (COG_c)	=	928 mm (From CAD Model)

GRAVEL INFILL DATA

Design Unit Weight (γ_g)	=	1,762 kg/m^3
Volume (V_g)	=	0.57 m^3
Gravel Weight (W_g)	=	1,762 kg/m^3 *x* 0.57 m^3 = 1,008 kg
Center of Gravity (COG_g)	=	1,179 mm (From CAD Model)

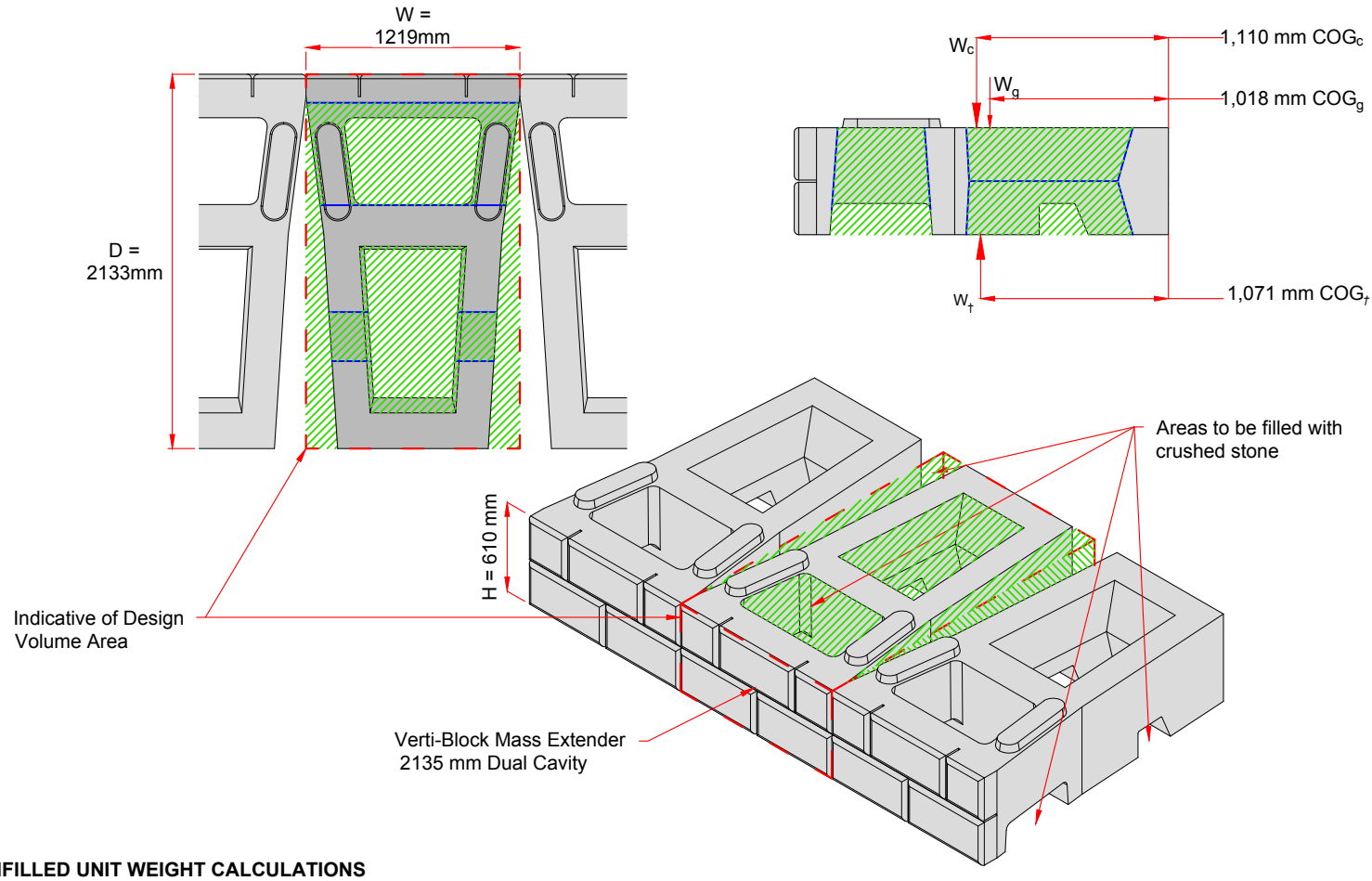
COMBINED UNIT DATA

Combined Unit Weight	=	2,312 kg + 1,008 kg = 3,320 kg
Design Volume (D x W x H)	=	2,135 mm x 1,219 mm x 610 mm = 1.59 m^3
Total Unit Weight (W_t)	=	(2,312 kg + 1,008 kg) / 1.59 m^3 = **2,094 kg/m^3**
Center of Gravity (COG_t)	=	1,067 mm (From CAD Model)

NOTES:

The unit weights of the concrete blocks used above and infill calculations are based on standard assumptions. Block weights may vary due to variances in concrete density. The unit weight for the infill gravel is assumed to be 17.30 kN/m^3, less than 80% of the upper range (18.85 - 22.00 kN/m^3) for well-graded gravels, as per AASHTO recommendation under **Section 11.11.4.4** for units with a non-solid bottom. Engineers are advised to exercise sound engineering judgment when determining the appropriate infill weight for analysis, as these values are indicative only and subject to variation. The values above were calculated using CAD software. COG measurements are from the back of the blocks.

1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm



INFILLED UNIT WEIGHT CALCULATIONS

CONCRETE BLOCK DATA

Design Unit Weight (γ_c)	=	2,275 kg/m^3
Volume (V_c)	=	0.74 m^3
Block Weight (W_c)	=	2,275 kg/m^3 *x* 0.74 m^3 = 1,681 kg
Center of Gravity (COG_c)	=	1,110 mm (From CAD Model)

GRAVEL INFILL DATA

Design Unit Weight (γ_g)	=	1,762 kg/m^3
Volume (V_g)	=	0.85 m^3
Gravel Weight (W_g)	=	1,762 kg/m^3 *x* 0.85 m^3 = 1,497 kg
Center of Gravity (COG_g)	=	1,018 mm (From CAD Model)

COMBINED UNIT DATA

Combined Unit Weight	=	1,681 kg + 1,497 kg = 3,178 kg
Design Volume (D x W x H)	=	2,135 mm x 1,219 mm x 610 mm = 1.59 m^3
Total Unit Weight (W_t)	=	(1,681 kg + 1,497 kg) / 1.59 m^3 = **2,004 kg/m^3**
Center of Gravity (COG_t)	=	1,071 mm (From CAD Model)

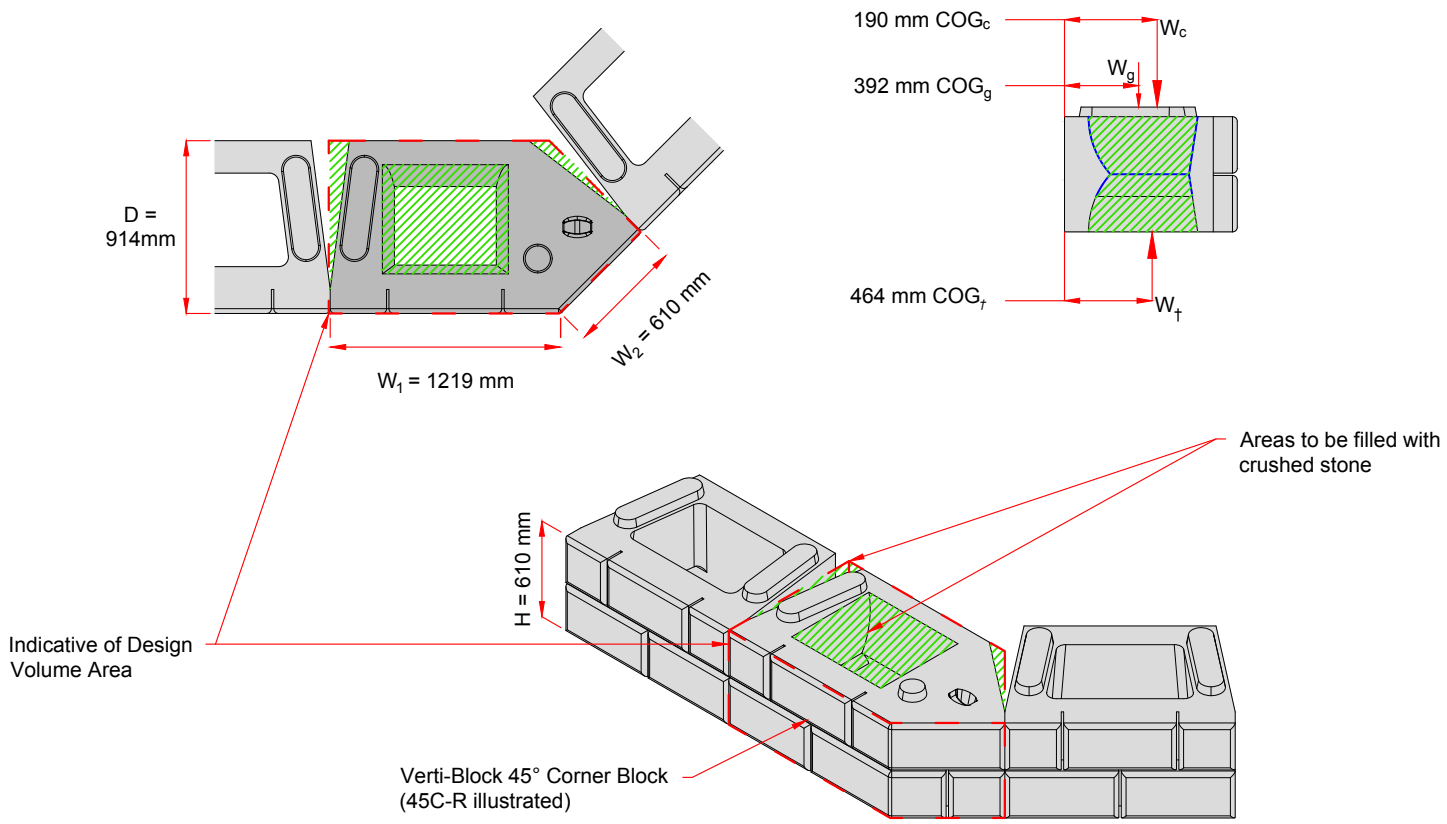
NOTES:

The unit weights of the concrete blocks used above and infill calculations are based on standard assumptions. Block weights may vary due to variances in concrete density. The unit weight for the infill gravel is assumed to be 17.30 kN/m^3, less than 80% of the upper range (18.85 - 22.00 kN/m^3) for well-graded gravels, as per AASHTO recommendation under **Section 11.11.4.4** for units with a non-solid bottom. Engineers are advised to exercise sound engineering judgment when determining the appropriate infill weight for analysis, as these values are indicative only and subject to variation. The values above were calculated using CAD software. COG measurements are from the back of the blocks.

1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

INFILL UNIT WEIGHT CALCULATIONS

45C: 45° INTERLOCKING CORNER BLOCK + GRAVEL INFILL



INFILLED UNIT WEIGHT CALCULATIONS

CONCRETE BLOCK DATA

Design Unit Weight (γ_c)	=	2,275 kg/m^3
Volume (V_c)	=	0.53 m^3
Block Weight (W_c)	=	2,275 kg/m^3 *x* 0.53 m^3 = 1,216 kg
Center of Gravity (COG_c)	=	490 mm (From CAD Model)

GRAVEL INFILL DATA

Design Unit Weight (γ_g)	=	1,762 kg/m^3
Volume (V_g)	=	0.26 m^3
Gravel Weight (W_g)	=	1,762 kg/m^3 *x* 0.26 m^3 = 452 kg
Center of Gravity (COG_g)	=	392 mm (From CAD Model)

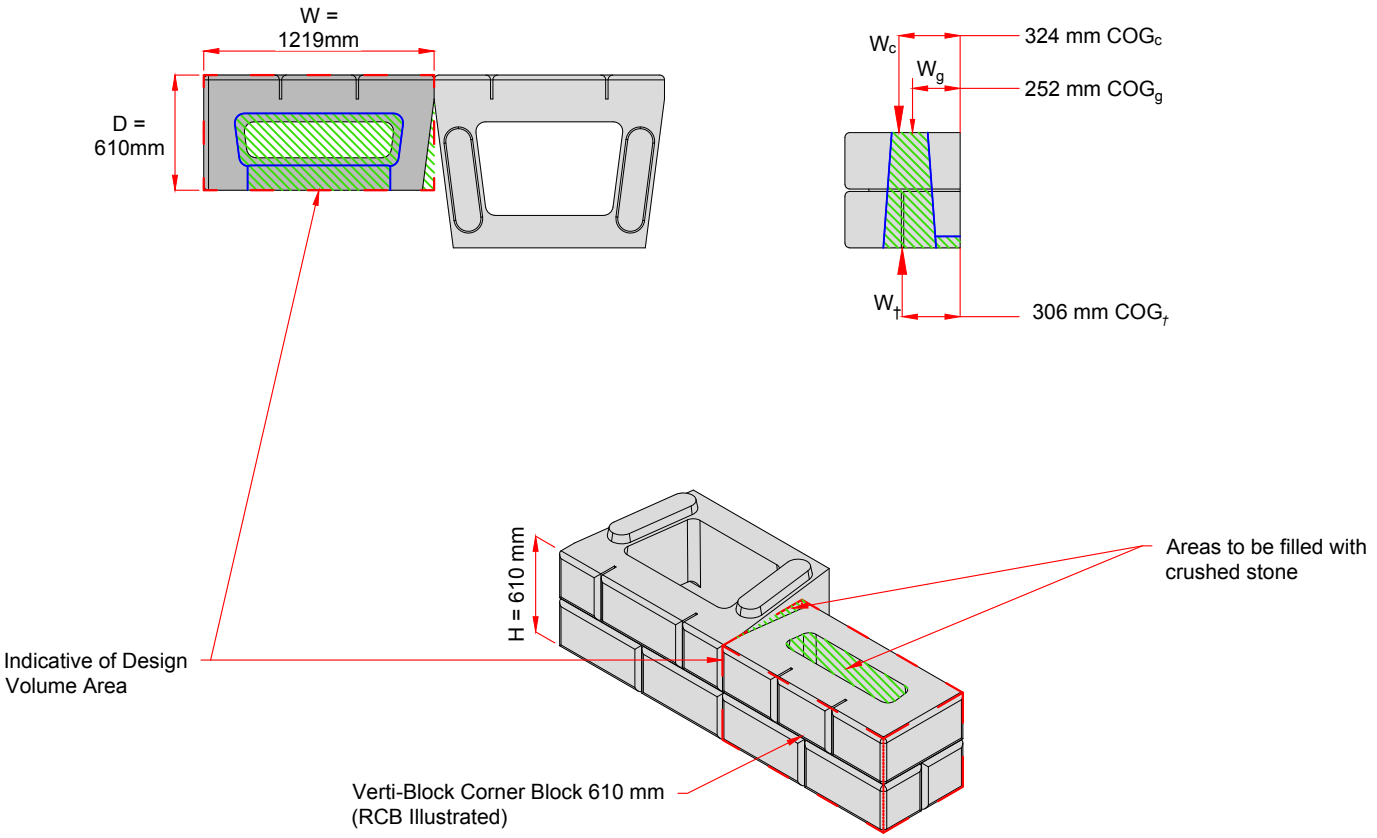
COMBINED UNIT DATA

Combined Unit Weight	=	1,216 kg + 452 kg = 1,668 kg
Design Volume (D x W x H)	=	0.53 m^3 + 0.26 m^3 = 0.791 m^3
Total Unit Weight (W_t)	=	(1,216 kg + 452 kg) / 0.791 m^3 = **2,108 kg/m^3**
Center of Gravity (COG_t)	=	464 mm (From CAD Model)

NOTES:

The unit weights of the concrete blocks used above and infill calculations are based on standard assumptions. Block weights may vary due to variances in concrete density. The unit weight for the infill gravel is assumed to be 17.30 kN/m^3, less than 80% of the upper range (18.85 - 22.00 kN/m^3) for well-graded gravels, as per AASHTO recommendation under **Section 11.11.4.4** for units with a non-solid bottom. Engineers are advised to exercise sound engineering judgment when determining the appropriate infill weight for analysis, as these values are indicative only and subject to variation. The values above were calculated using CAD software. COG measurements are from the back of the blocks.

1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm



INFILLED UNIT WEIGHT CALCULATIONS

CONCRETE BLOCK DATA

Design Unit Weight (γ_c)	=	2,275 kg/m^3
Volume (V_c)	=	0.32 m^3
Block Weight (W_c)	=	2,275 kg/m^3 *x* 0.32 m^3 = 723 kg
Center of Gravity (COG_c)	=	324 mm (From CAD Model)

GRAVEL INFILL DATA

Design Unit Weight (γ_g)	=	1,762 kg/m^3
Volume (V_g)	=	0.14 m^3
Gravel Weight (W_g)	=	1,762 kg/m^3 *x* 0.14 m^3 = 238 kg
Center of Gravity (COG_g)	=	252 mm (From CAD Model)

COMBINED UNIT DATA

Combined Unit Weight	=	723 kg + 238 kg = 961 kg
Design Volume (D x W x H)	=	610 mm x 1,219 mm x 610 mm = 0.453 m^3
Total Unit Weight (W_t)	=	(796 kg + 238 kg) / 0.453 m^3 = **2,122 kg/m^3**
Center of Gravity (COG_t)	=	307 mm (From CAD Model)

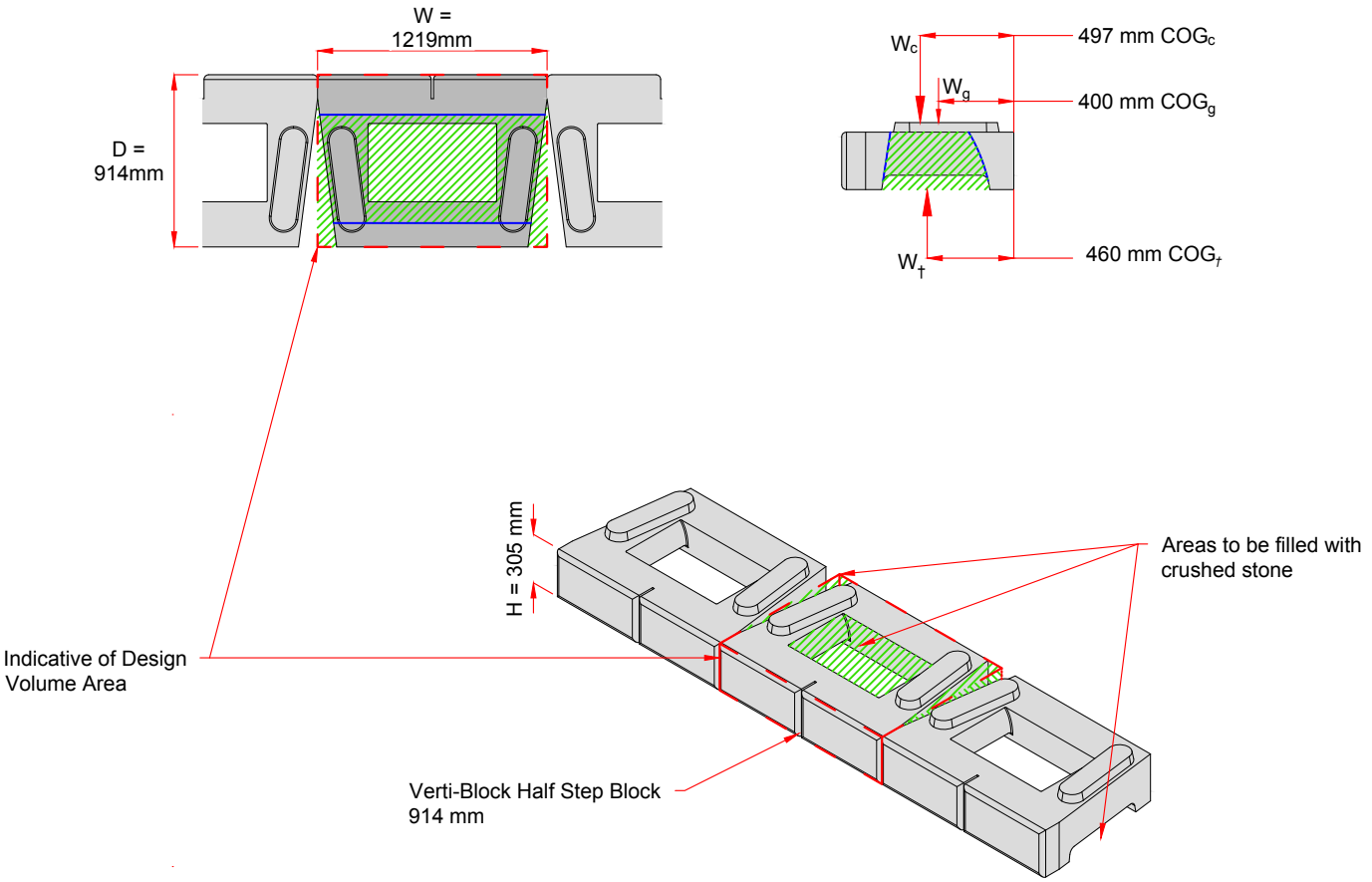
NOTES:

The unit weights of the concrete blocks used above and infill calculations are based on standard assumptions. Block weights may vary due to variances in concrete density. The unit weight for the infill gravel is assumed to be 17.30 kN/m^3, less than 80% of the upper range (18.85 - 22.00 kN/m^3) for well-graded gravels, as per AASHTO recommendation under **Section 11.11.4.4** for units with a non-solid bottom. Engineers are advised to exercise sound engineering judgment when determining the appropriate infill weight for analysis, as these values are indicative only and subject to variation. The values above were calculated using CAD software. COG measurements are from the back of the blocks.

1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

INFILL UNIT WEIGHT CALCULATIONS

HS: HALF-STEP STANDARD BLOCK 36" (914mm) & GRAVEL INFILL



INFILLED UNIT WEIGHT CALCULATIONS

CONCRETE BLOCK DATA

Design Unit Weight (γ_c)	=	2,275 kg/m^3
Volume (V_c)	=	0.19 m^3
Block Weight (W_c)	=	2,275 kg/m^3 *x* 0.19 m^3 = 437 kg
Center of Gravity (COG_c)	=	497 mm (From CAD Model)

GRAVEL INFILL DATA

Design Unit Weight (γ_g)	=	1,762 kg/m^3
Volume (V_g)	=	0.15 m^3
Gravel Weight (W_g)	=	1,762 kg/m^3 *x* 0.15m^3 = 271 kg
Center of Gravity (COG_g)	=	400 mm (From CAD Model)

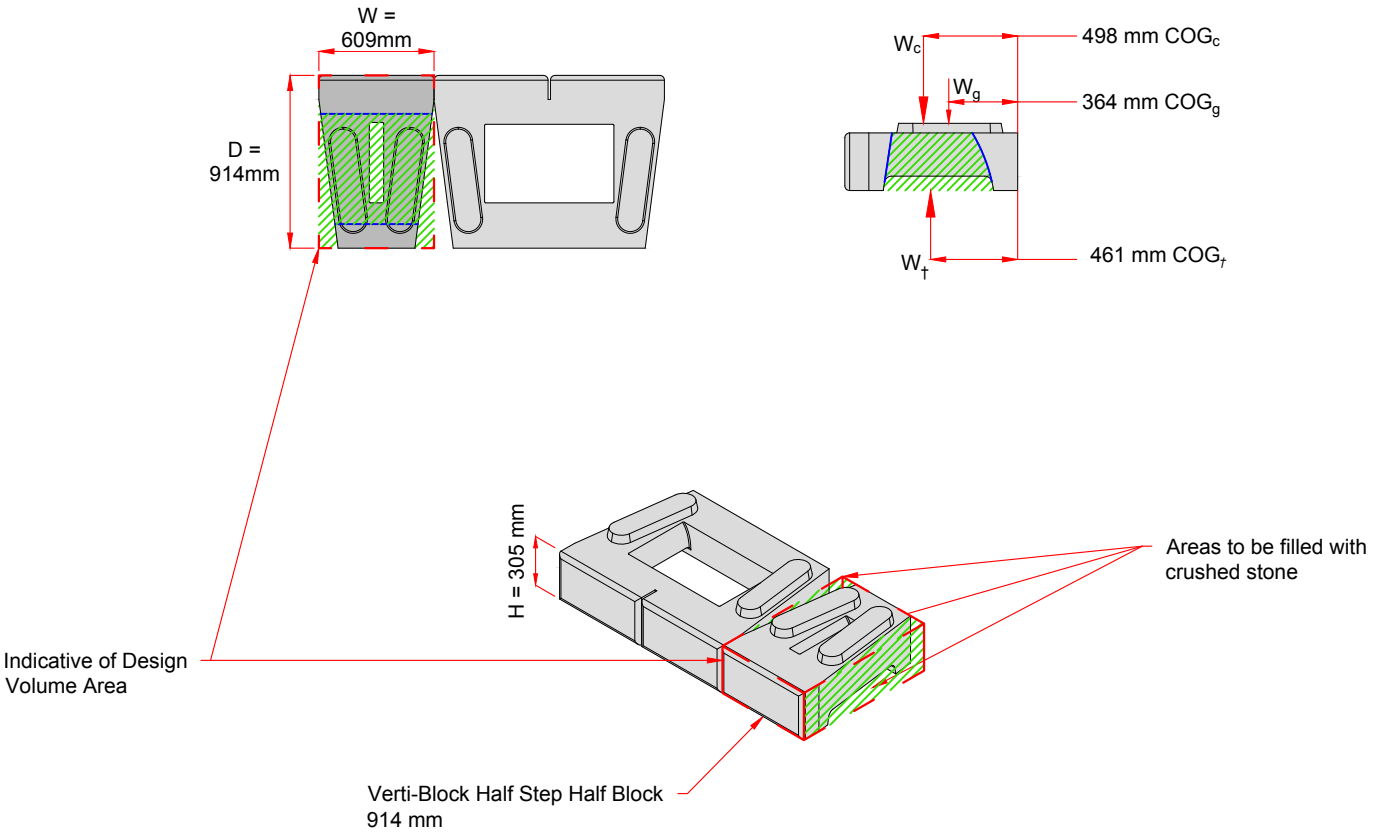
COMBINED UNIT DATA

Combined Unit Weight	=	437 kg + 271 kg = 697 kg
Design Volume (D x W x H)	=	914 mm x 1,219 mm x 610 mm = 0.34 m^3
Total Unit Weight (W_t)	=	(437 kg + 271 kg) / 0.34 m^3 = **2,086 kg/m^3**
Center of Gravity (COG_t)	=	461 mm (From CAD Model)

NOTES:

The unit weights of the concrete blocks used above and infill calculations are based on standard assumptions. Block weights may vary due to variances in concrete density. The unit weight for the infill gravel is assumed to be 17.30 kN/m^3, less than 80% of the upper range (18.85 - 22.00 kN/m^3) for well-graded gravels, as per AASHTO recommendation under **Section 11.11.4.4** for units with a non-solid bottom. Engineers are advised to exercise sound engineering judgment when determining the appropriate infill weight for analysis, as these values are indicative only and subject to variation. The values above were calculated using CAD software. COG measurements are from the back of the blocks.

1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm



INFILLED UNIT WEIGHT CALCULATIONS

CONCRETE BLOCK DATA

Design Unit Weight (γ_c)	=	2,275 kg/m^3
Volume (V_c)	=	0.12 m^3
Block Weight (W_c)	=	2,275 kg/m^3 *x* 0.12 m^3 = 265 kg
Center of Gravity (COG_c)	=	498 mm (From CAD Model)

GRAVEL INFILL DATA

Design Unit Weight (γ_g)	=	1,762 kg/m^3
Volume (V_g)	=	0.06 m^3
Gravel Weight (W_g)	=	1,762 kg/m^3 *x* 0.06 m^3 = 107 kg
Center of Gravity (COG_g)	=	364 mm (From CAD Model)

COMBINED UNIT DATA

Combined Unit Weight	=	265 kg + 107 kg = 372 kg
Design Volume (D x W x H)	=	914 mm x 610 mm x 610 mm = 0.17 m^3
Total Unit Weight (W_t)	=	(265 kg + 107 kg) / 0.17 m^3 = **2,190 kg/m^3**
Center of Gravity (COG_t)	=	461 mm (From CAD Model)

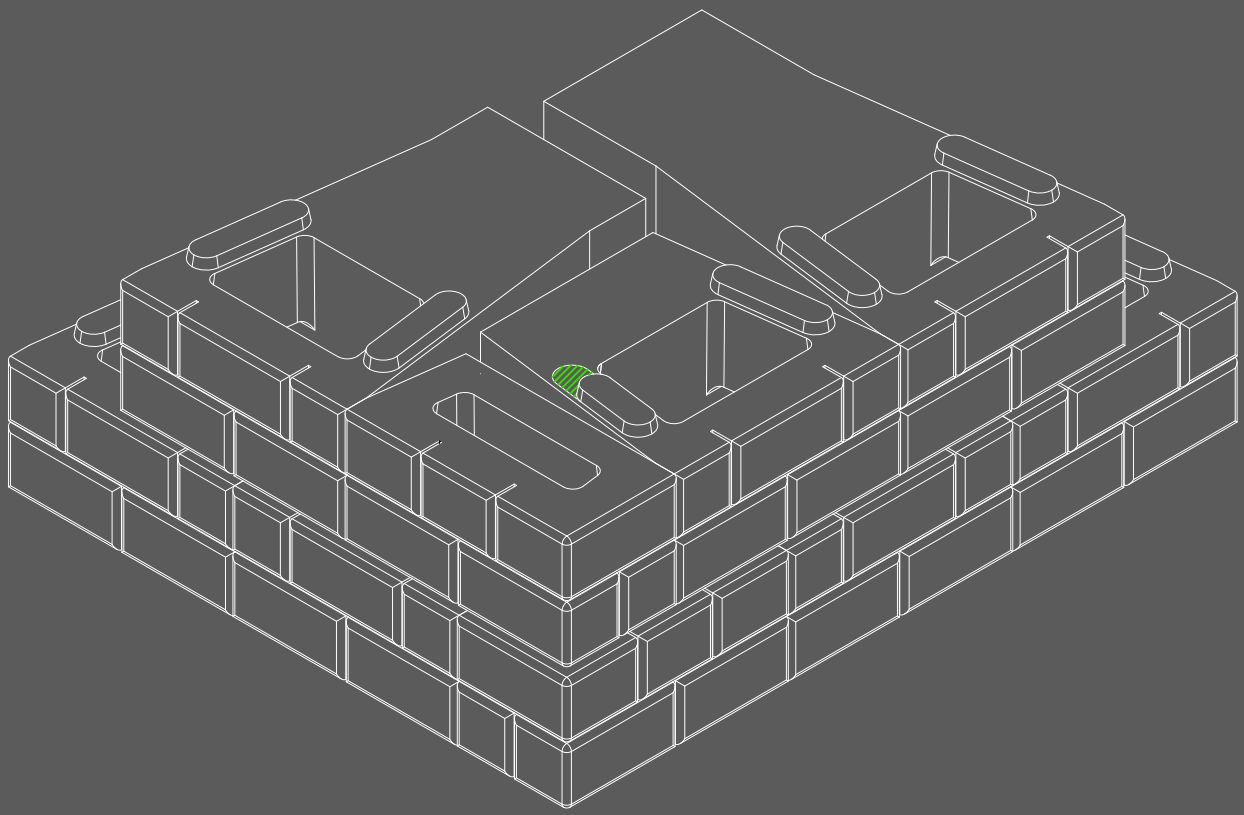
NOTES:

The unit weights of the concrete blocks used above and infill calculations are based on standard assumptions. Block weights may vary due to variances in concrete density. The unit weight for the infill gravel is assumed to be 17.30 kN/m^3, less than 80% of the upper range (18.85 - 22.00 kN/m^3) for well-graded gravels, as per AASHTO recommendation under **Section 11.11.4.4** for units with a non-solid bottom. Engineers are advised to exercise sound engineering judgment when determining the appropriate infill weight for analysis, as these values are indicative only and subject to variation. The values above were calculated using CAD software. COG measurements are from the back of the blocks.

1. ALL DIMENSIONS IN *mm* UNLESS OTHERWISE SPECIFIED.
2. Numerical values are DECIMAL FORMAT (Example - 1,000.00)
3. Block volumes, weights & dimensions may vary by production location
4. Confirm Product availability with your local producer before formal design and order.
5. **Do not scale** from this drawing
6. Center of Gravity is measured from the back of block.
7. Lifting hooks or anchor location may vary depending on producer.
8. Assumed concrete density = **2,275 kg/m^3**
9. Depth & Width Tolerance: +/- 13mm; excludes variable depth of the texture
10. Height Tolerance: 3mm

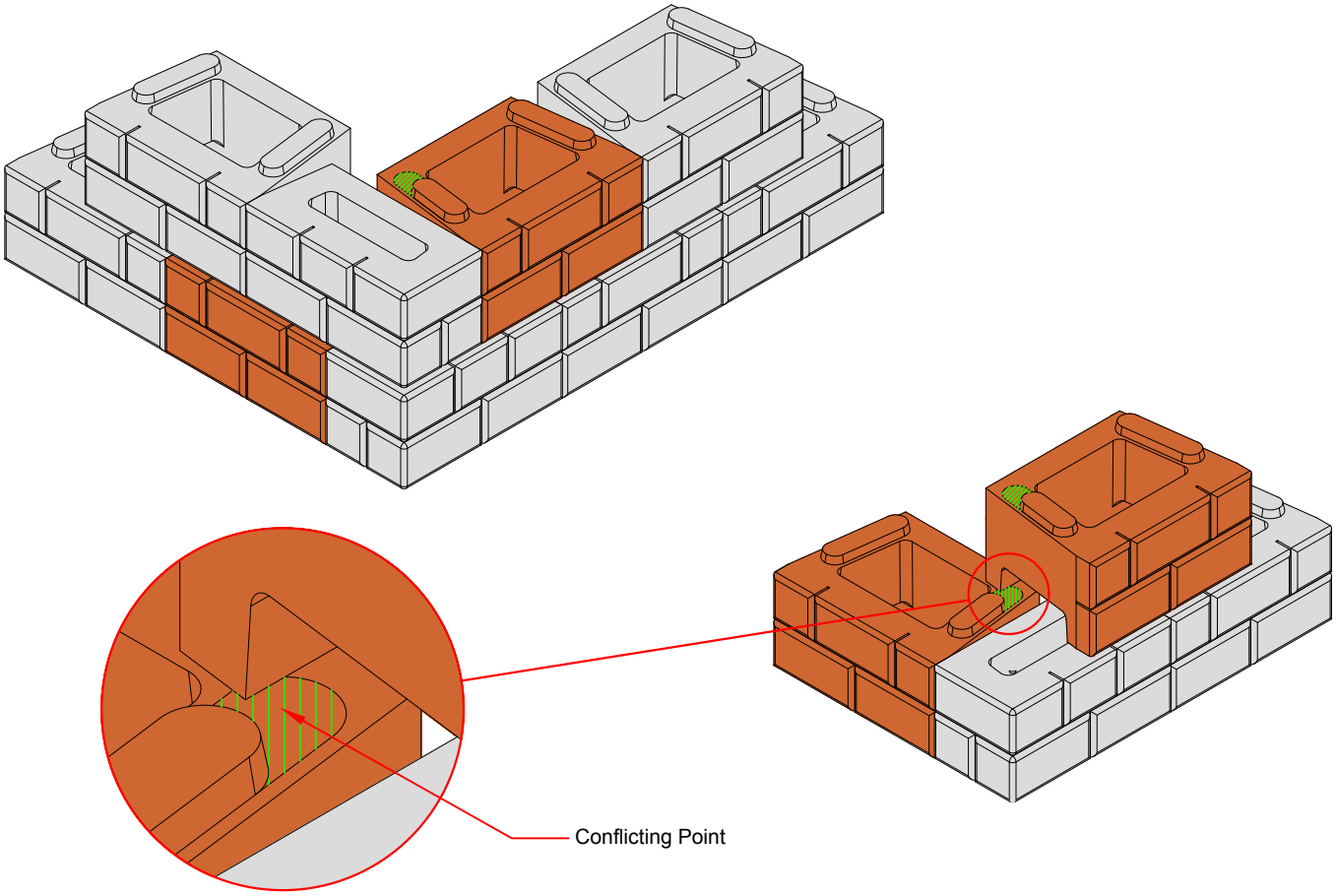
Standard Construction Details

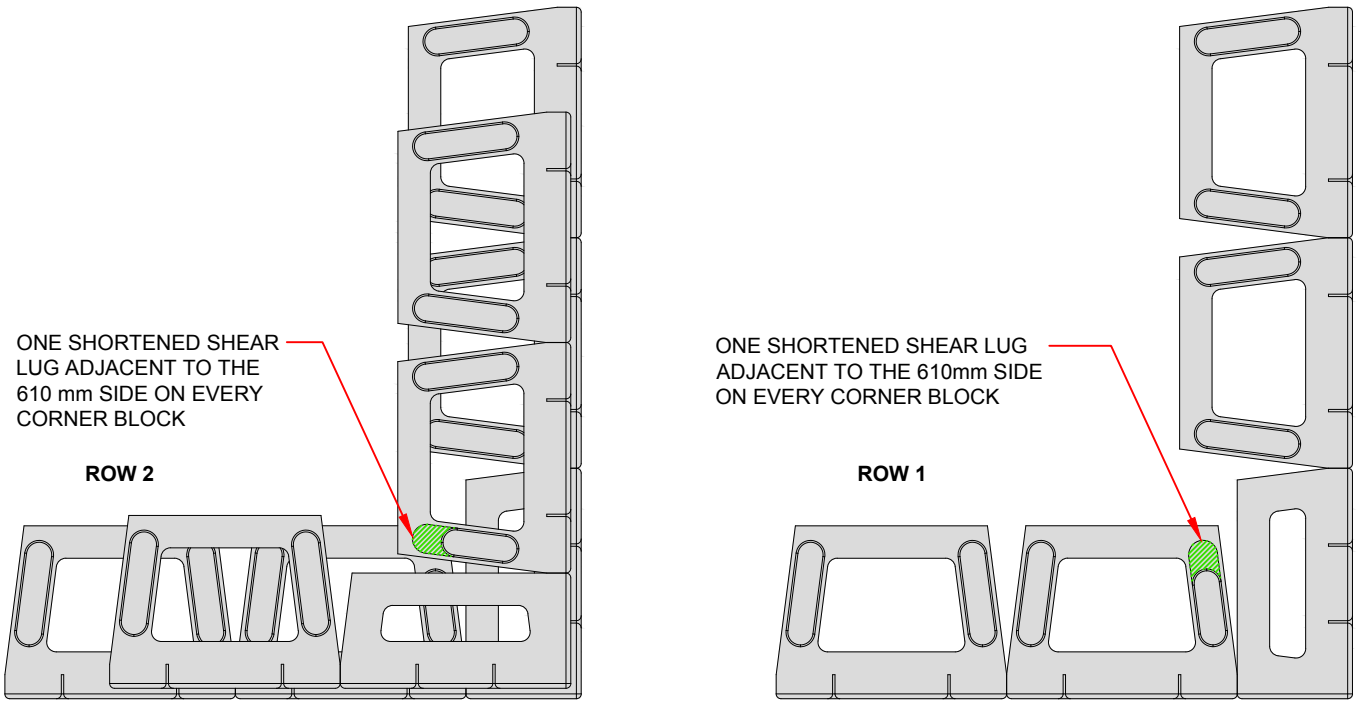
Section 3



STANDARD CONSTRUCTION DETAILS

OUTSIDE CORNER DETAIL (STANDARD BLOCKS)





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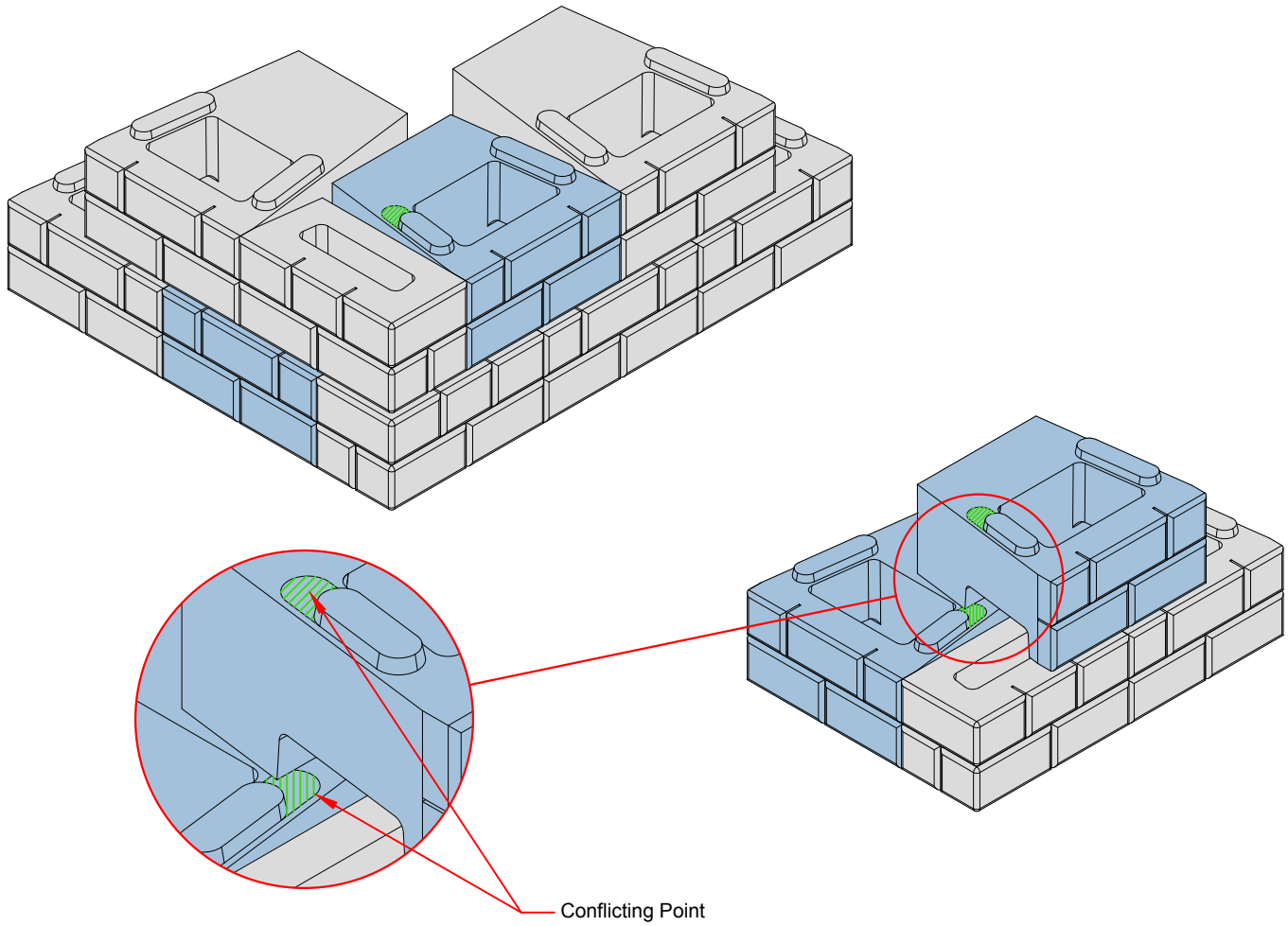
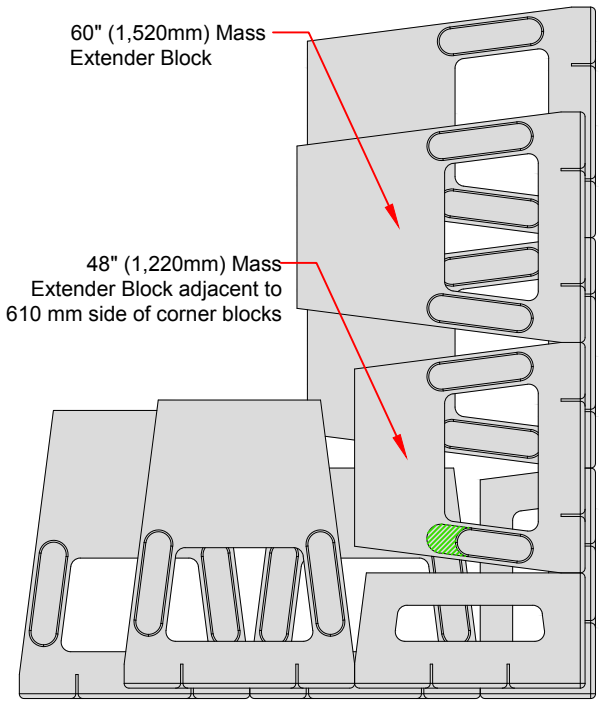
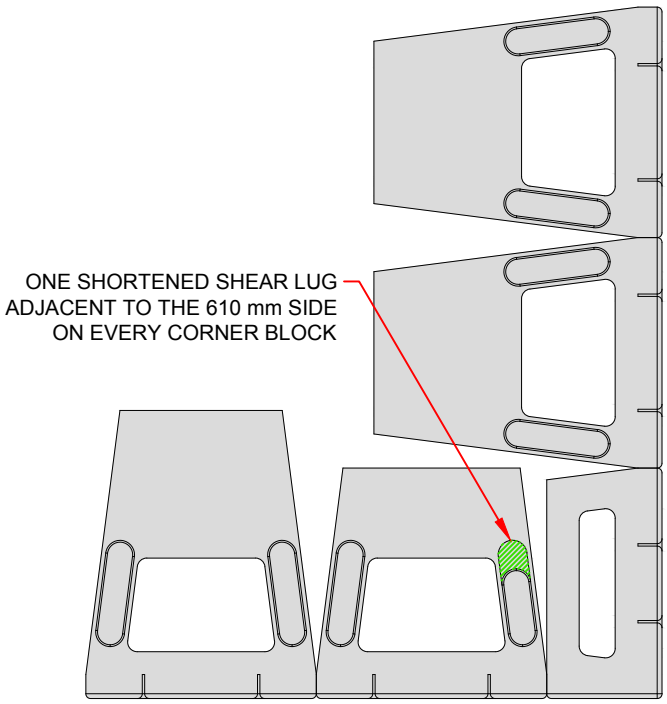
Drawn by:	D. Balling
Date:	2013-12-12
Scale:	NTS
Title:	OUTSIDE CORNER DETAIL WITH STANDARD BLCOKS
DETAIL REF:	WD-03
PAGE INFO:	A4 | 1 OF 1





ROW 2



ROW 1

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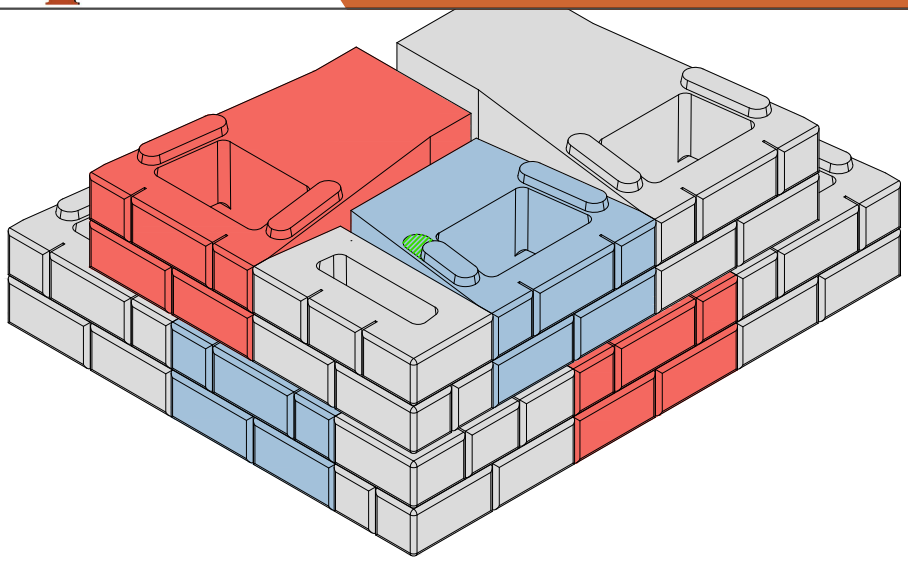
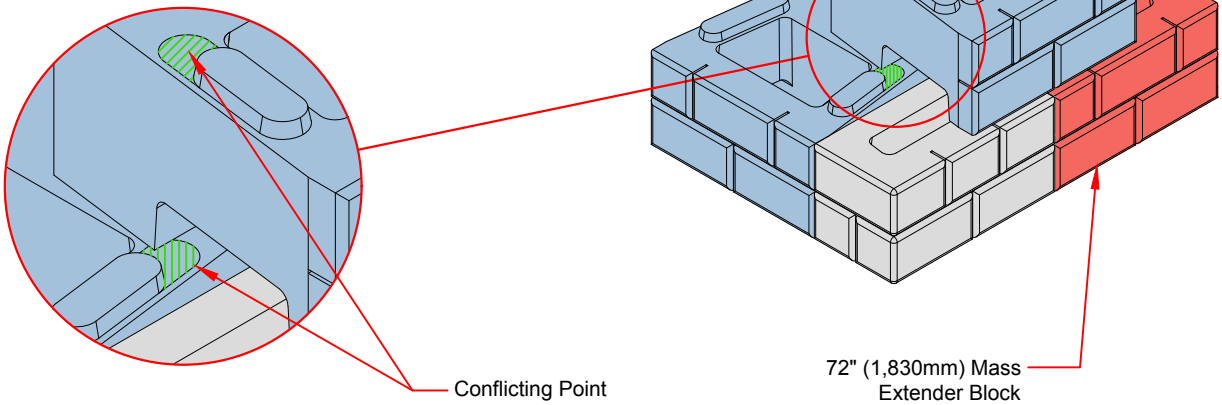
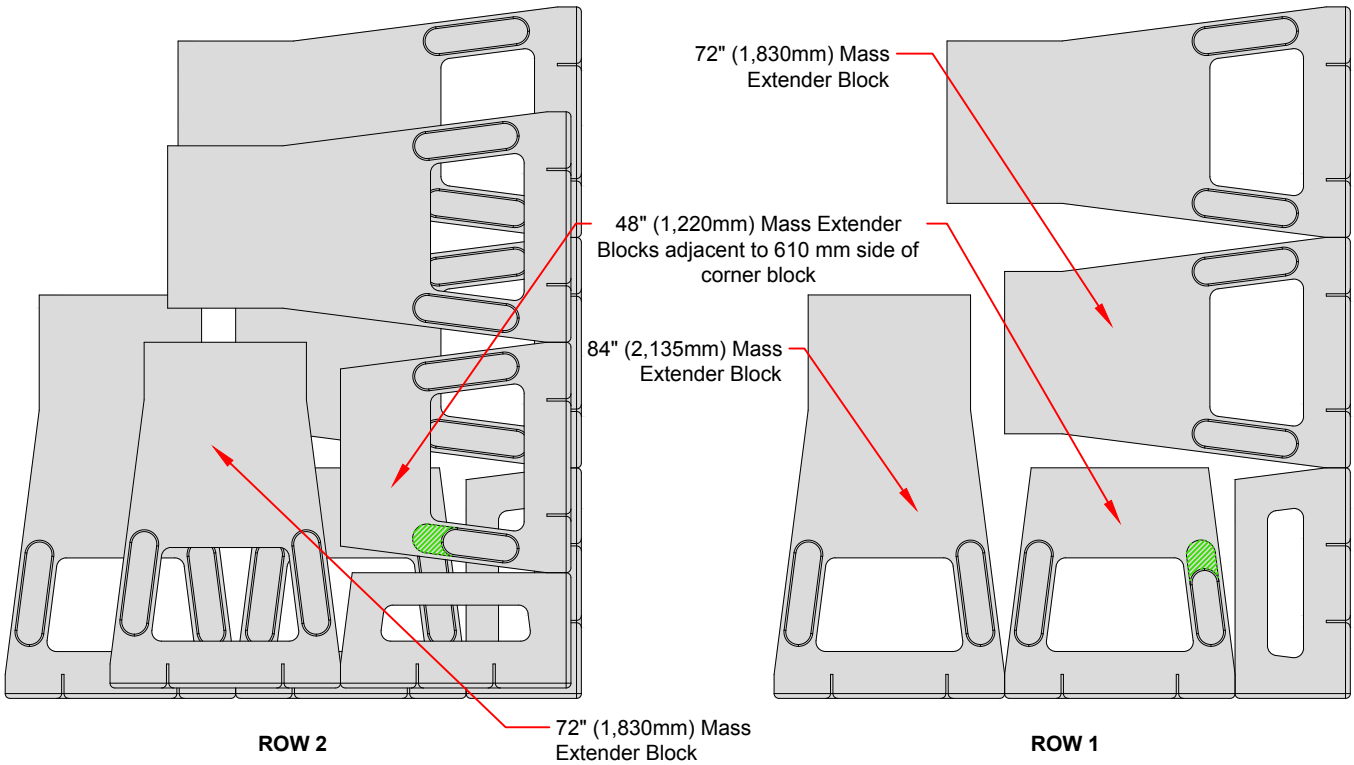
Drawn by:	D. Balling
Date:	2013-12-12
Scale:	NTS
Title:	OUTSIDE CORNER DETAIL WITH 1520 MASS EXTENDER
DETAIL REF:	WD-05
PAGE INFO:	A4 | 1 OF 1

STANDARD CONSTRUCTION DETAILS

OUTSIDE CORNER DETAIL (ME-84 Mass Extenders)







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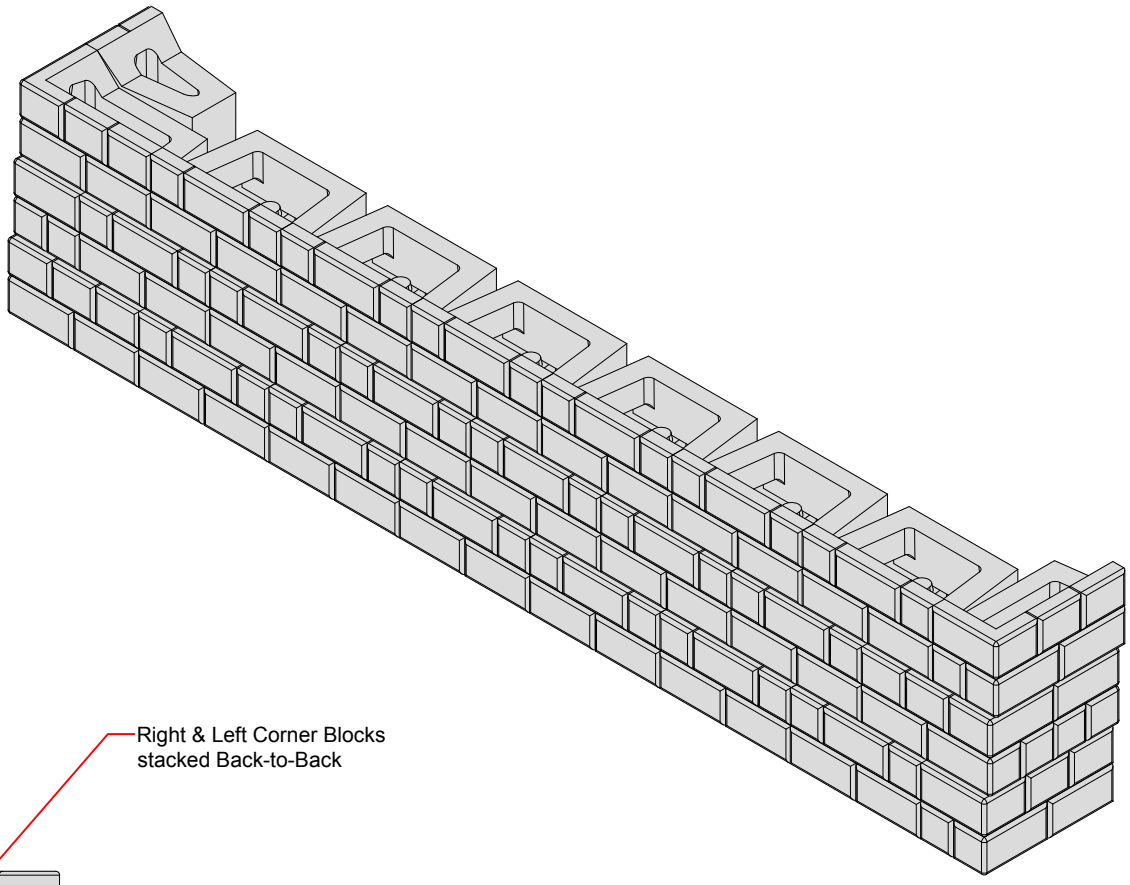
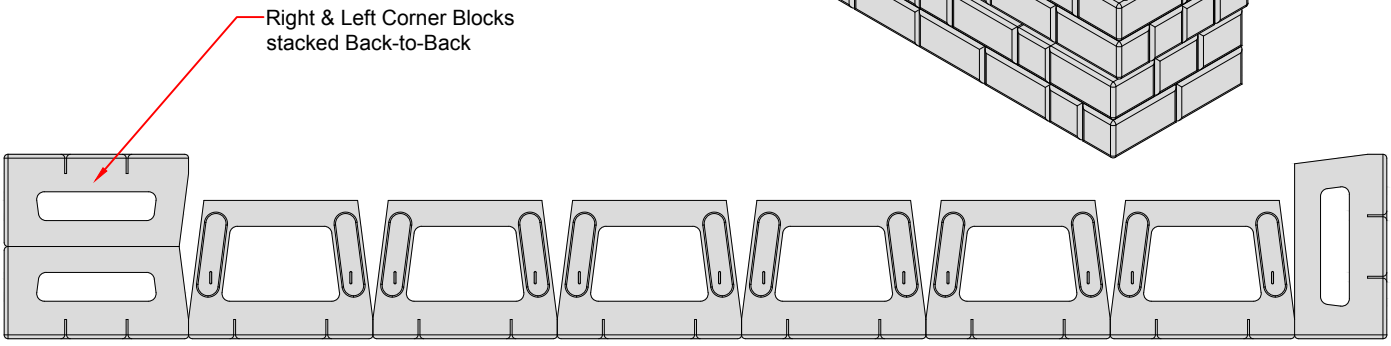
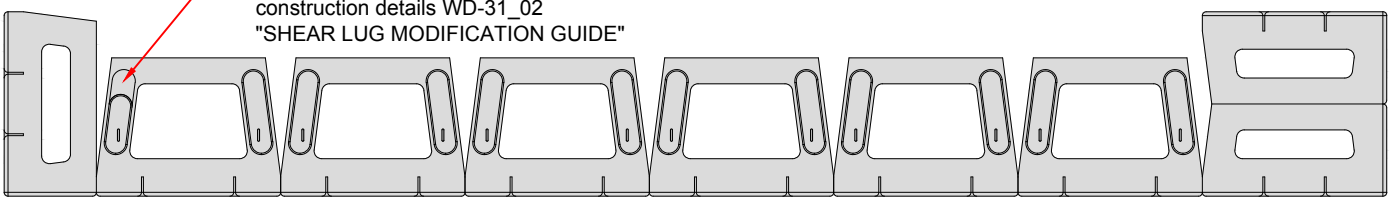
Drawn by:	R. Fontanesi
Date:	2015-06-05
Scale:	NTS
Title:	OUTSIDE CORNER DETAIL WITH 84" MASS EXTENDER
DETAIL REF:	WD-22
PAGE INFO:	A4 | 1 OF 1

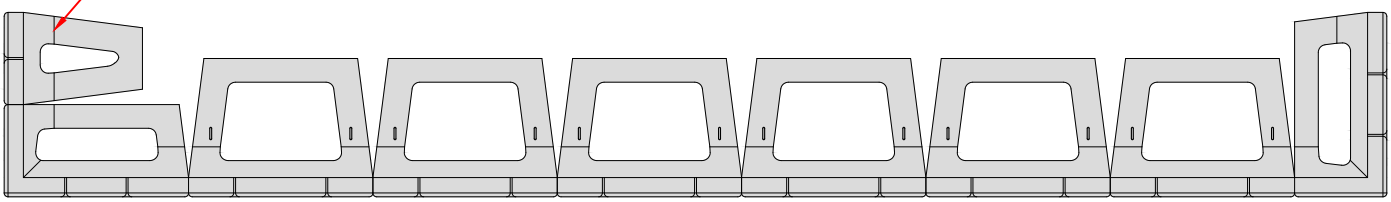




LEVEL 1
(Base Course)



LEVEL 2
(Middle Course)



LEVEL 3
(Top Block Course)

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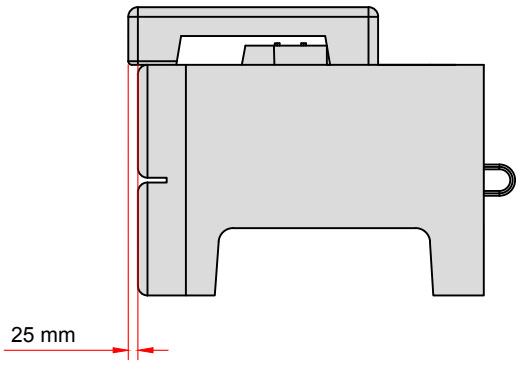
Drawn by:	D. Balling
Date:	2013-12-12
Scale:	NTS

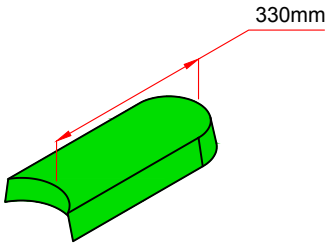
Title: 1.2 METER END OF WALL RETURNS

DETAIL REF:	WD-07
PAGE INFO:	A4 | 1 OF 1

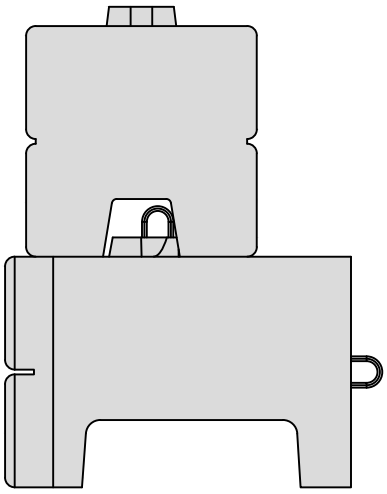
FOR TOP CAPS:



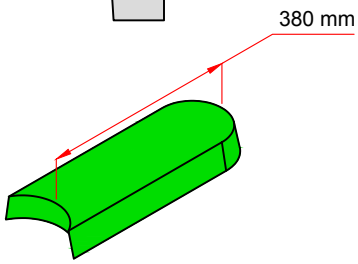
Use 2 No. 330 mm Shear Lug Blockout in the Mold



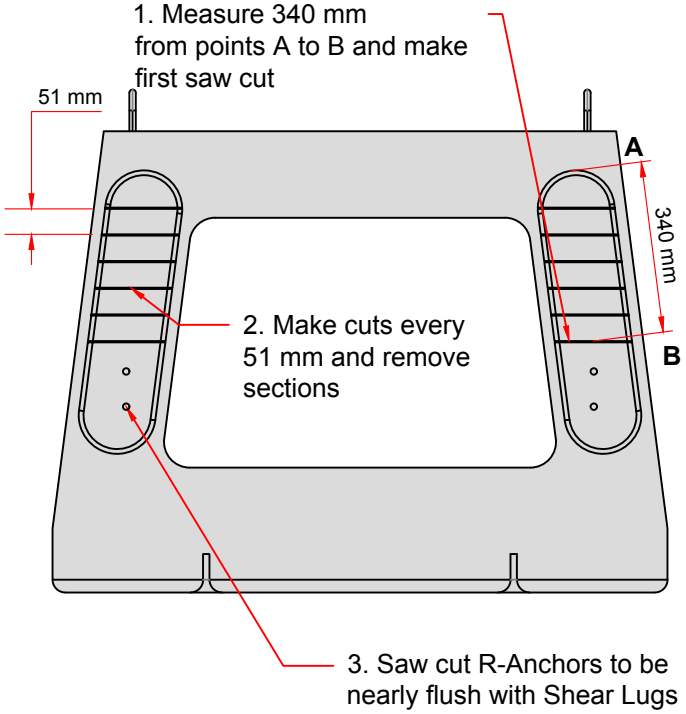
FOR 2 & 3 SIDED BLOCKS:



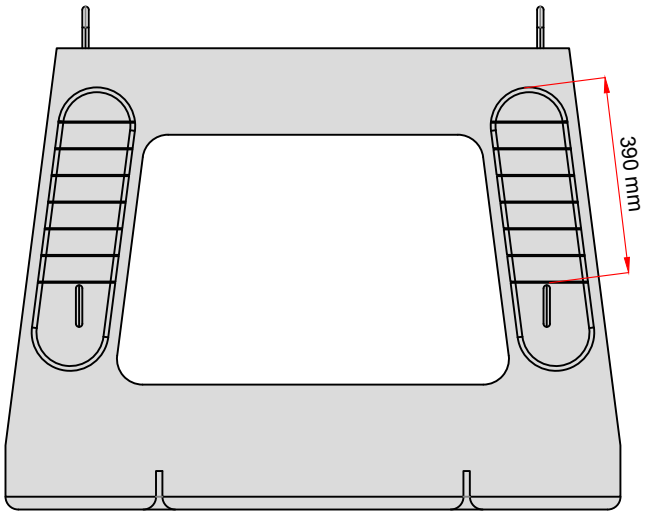
Use 2 No. 380 mm Shear Lug Blockout in the Mold



FOR CUTTING ON-SITE



FOR CUTTING ON-SITE



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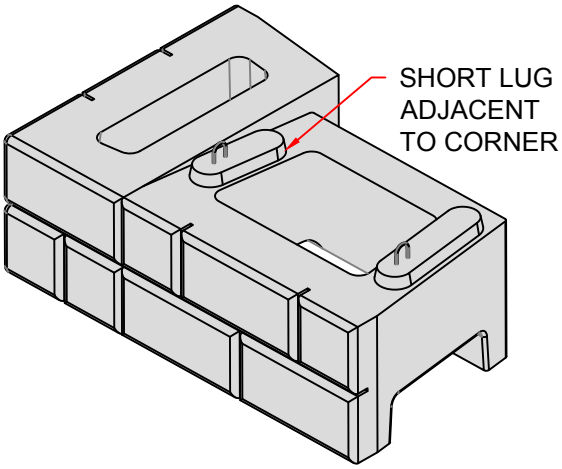
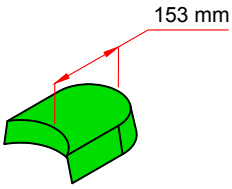
Drawn by:	R. Stucki
Date:	2020-01-14
Scale:	NTS
Title:	SHEAR LUG MODIFICATION
DETAIL REF:	WD-31
PAGE INFO:	A4 | 1 OF 2

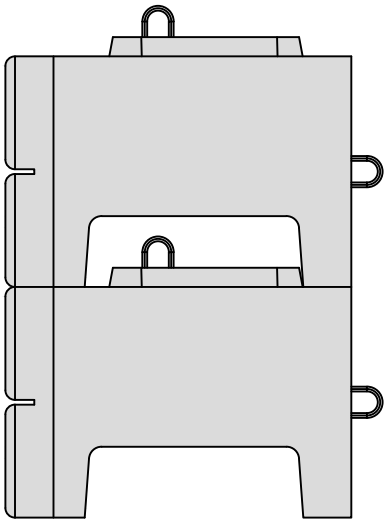
SHORT LUG FOR CORNERS:



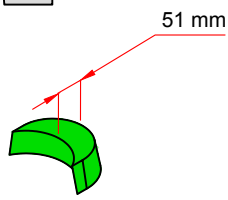
Use 1 No. 153 mm Shear Lug Blockout in the Mold



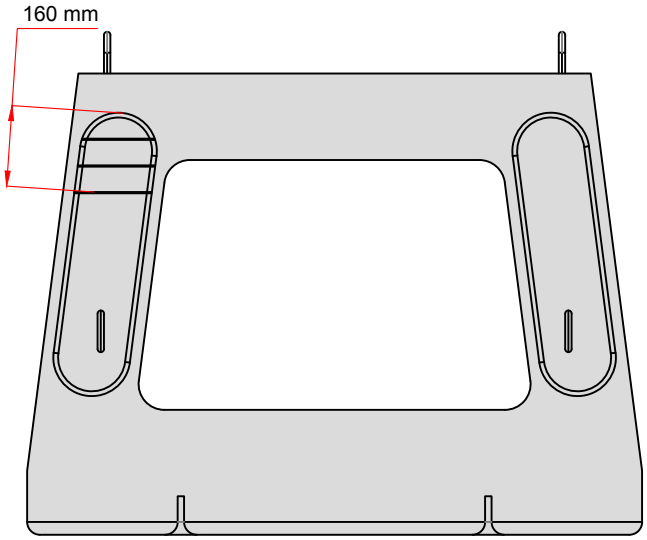
FOR ZERO BATTER:



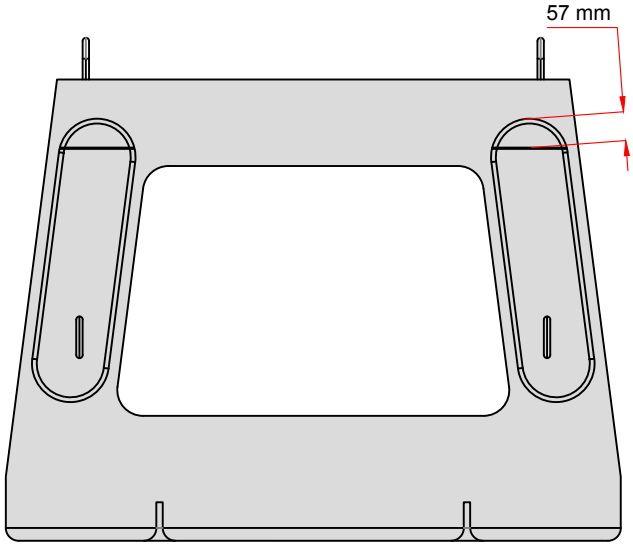
Use 2 No. 51 mm Shear Lug Blockout in the Mold



FOR CUTTING ON-SITE



FOR CUTTING ON-SITE



NOTE: ONLY ONE SHEAR LUG IS SHORTENED

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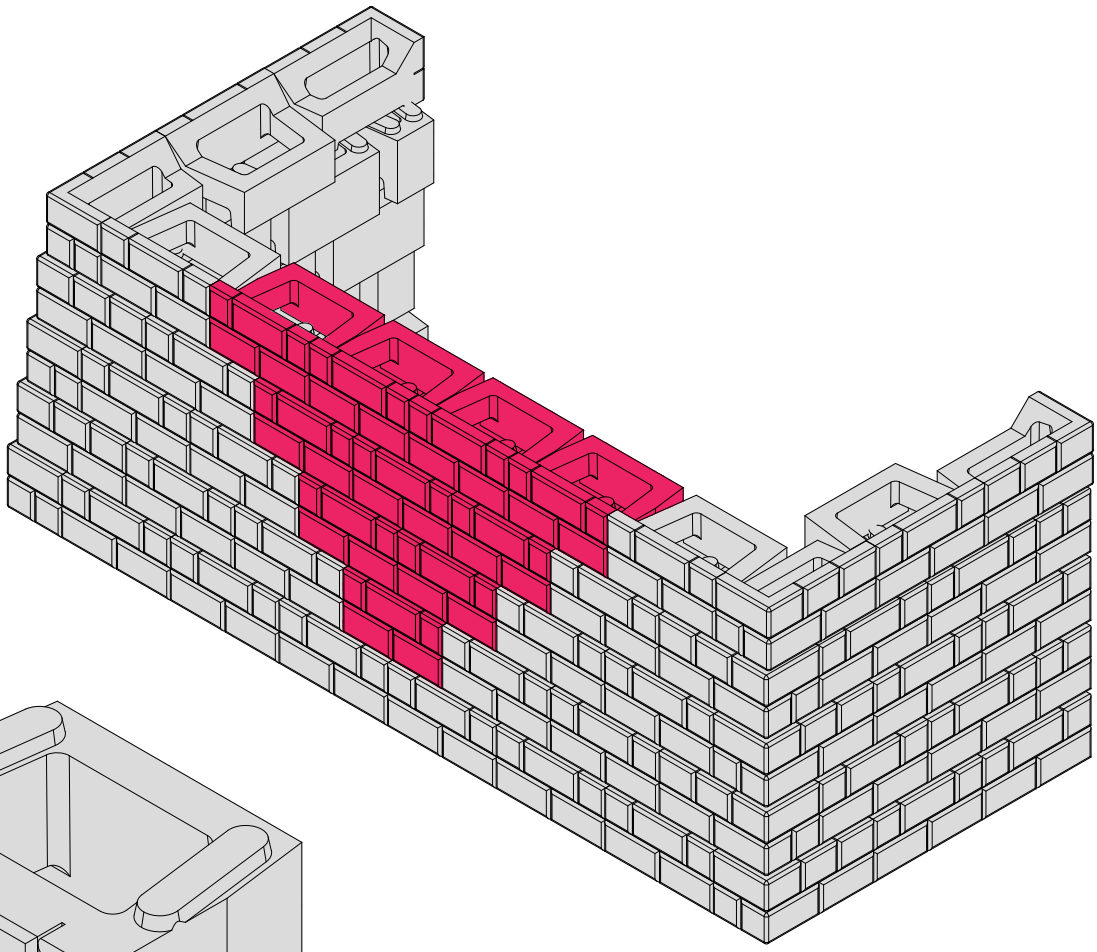
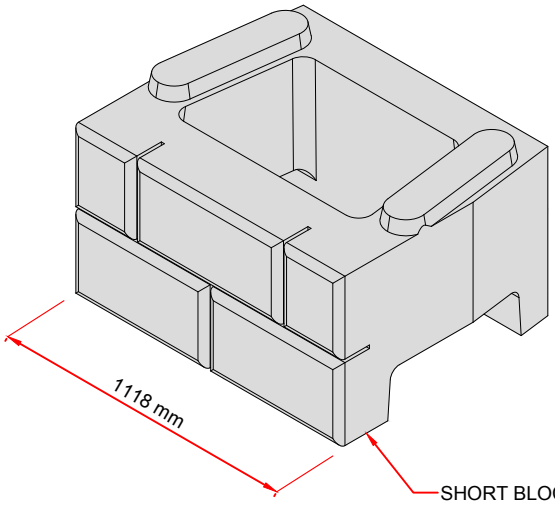
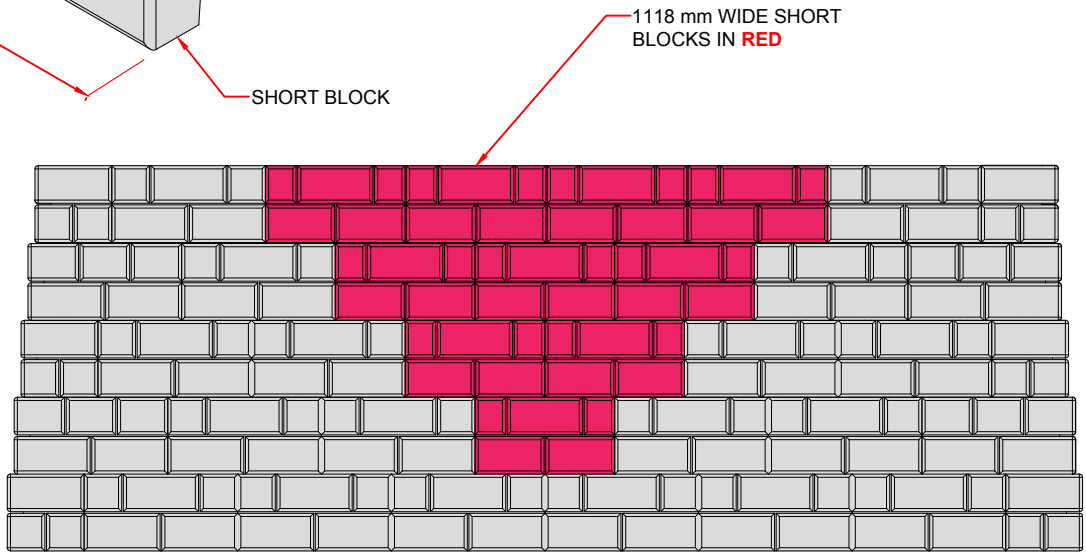
Drawn by:	R. Stucki
Date:	2020-01-14
Scale:	NTS
Title:	SHEAR LUG MODIFICATION
DETAIL REF:	WD-31
PAGE INFO:	A4 | 2 OF 2

STANDARD CONSTRUCTION DETAILS

DOUBLE 90° OUTSIDE CORNER WITH SHORT BLOCK DETAIL







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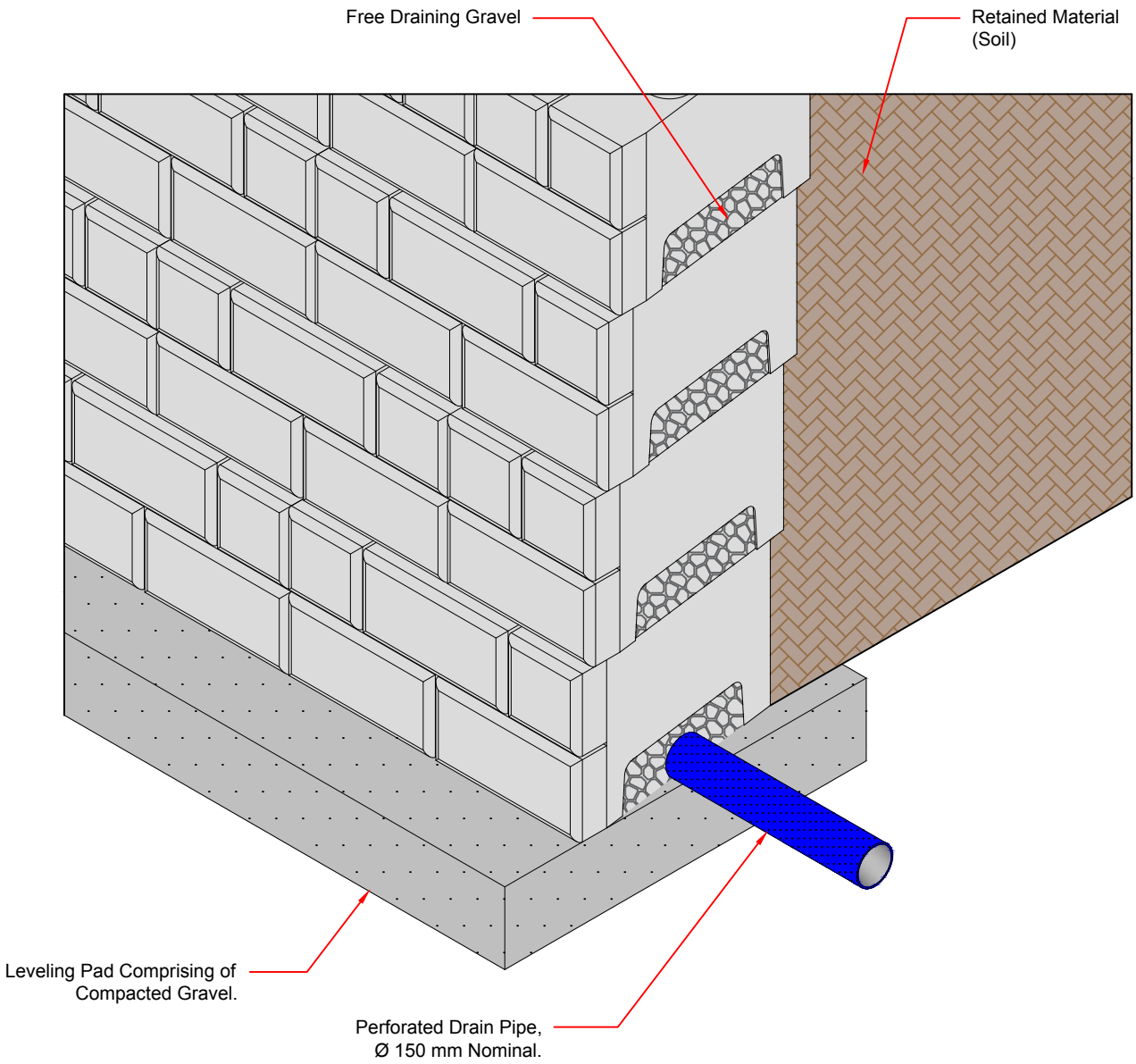
Drawn by:	R. Fontanesi
Date:	2016-03-08
Scale:	NTS

Title: DOUBLE 90° OUTSIDE CORNER

DETAIL REF:	WD-03
PAGE INFO:	A4 | 1 OF 1



DRAIN PIPE IS PLACED INSIDE GAP AT THE BOTTOM OF THE BLOCK AND ON TOP OF THE LEVELING PAD THEN COVERED WITH GRAVEL.

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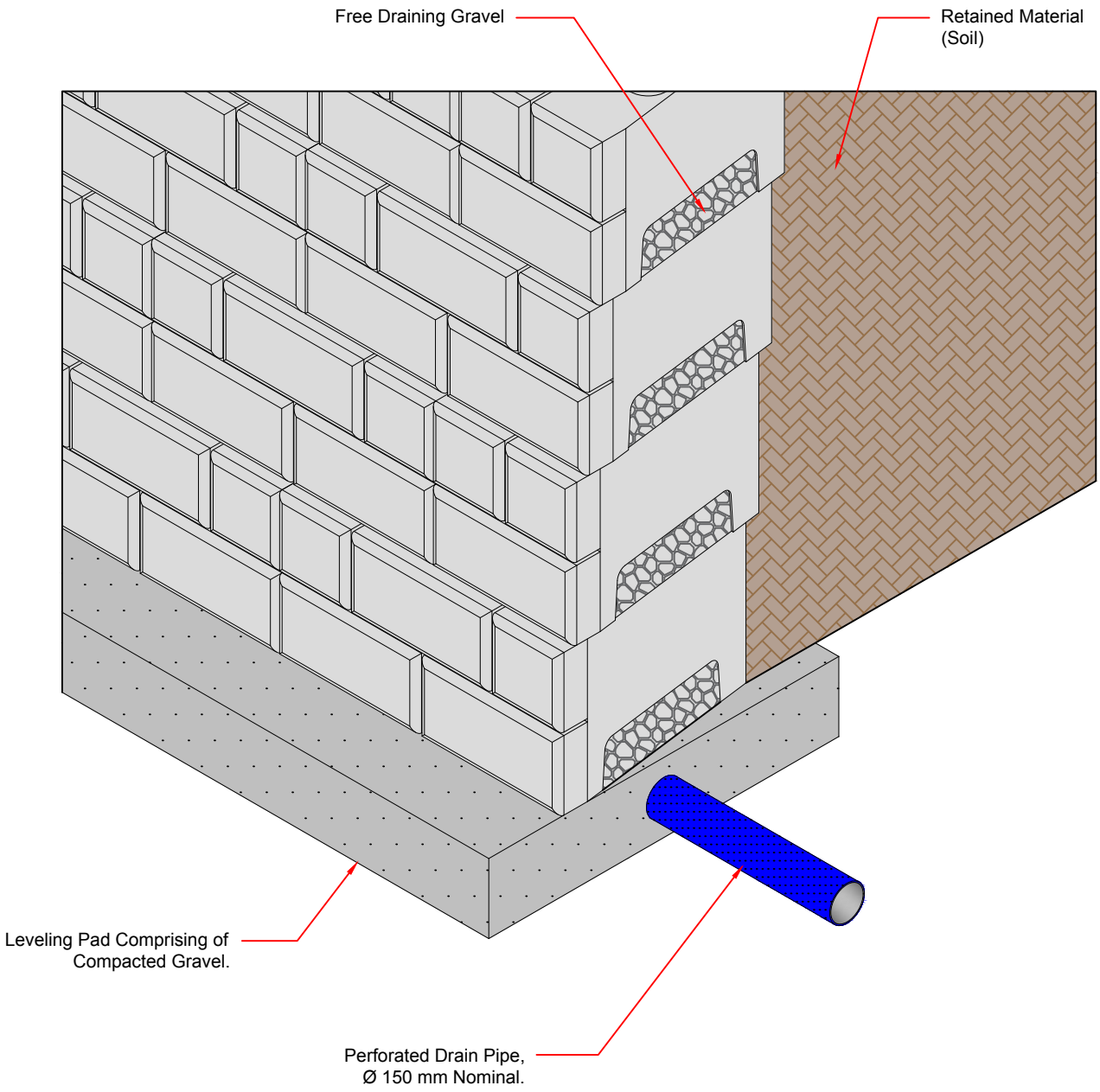
Drawn by:	D. Balling
Date:	2013-12-18
Scale:	NTS
Title:	DRAIN PLACEMENT OPTION #1
DETAIL REF:	WD-16
PAGE INFO:	A4 | 1 OF 3

STANDARD CONSTRUCTION DETAILS

DRAINAGE PLACEMENT OPTIONS - OPTION #2 DRAIN THROUGH LEVELING PAD



DRAIN PIPE IS PLACED INSIDE THE COMPACTED GRAVEL OF THE LEVELING PAD

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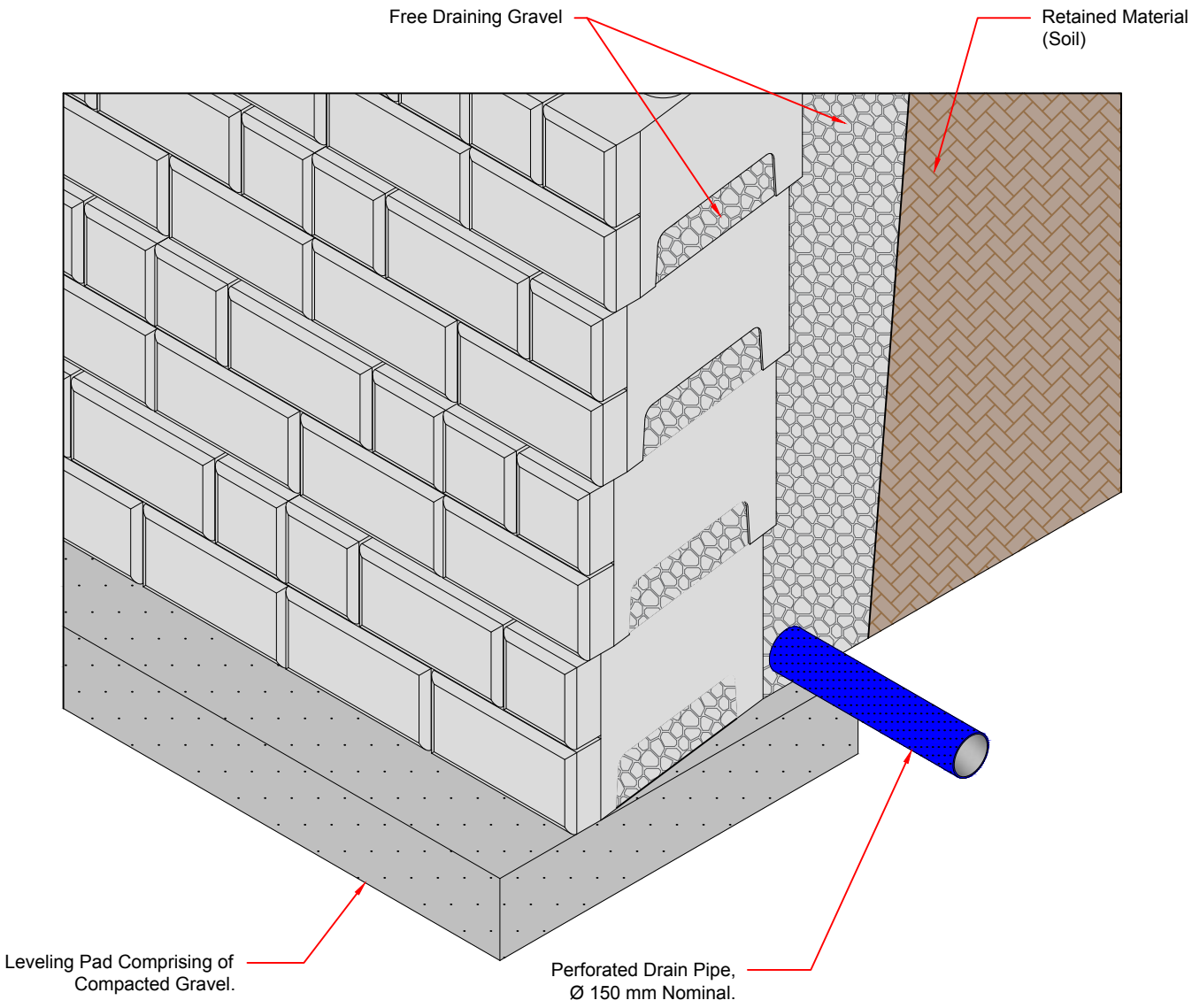
Drawn by:	D. Balling
Date:	2013-12-18
Scale:	NTS
Title:	DRAIN PLACEMENT OPTION #2
DETAIL REF:	WD-17
PAGE INFO:	A4 | 2 OF 3



DRAIN PIPE IS PLACED BEHIND THE BLOCK AND ON TOP OF THE LEVELING PAD.
THIS OPTIONS REQUIRES 300 mm OF LOOSE GRAVEL BEHIND THE BLOCK UNITS.
THE DRAINAGE GRAVEL SHOULD BE SEPARATED FROM THE RETAINED MATERIAL WITH A NON-WOVEN GEOTEXTILE IS FINES ARE PRESENT.
IF DRAINAGE IS A MAJOR CONCERN FOR AN APPLICATION, THIS OPTION MAY BE COMBINED WITH OPTIONS 1 & 2

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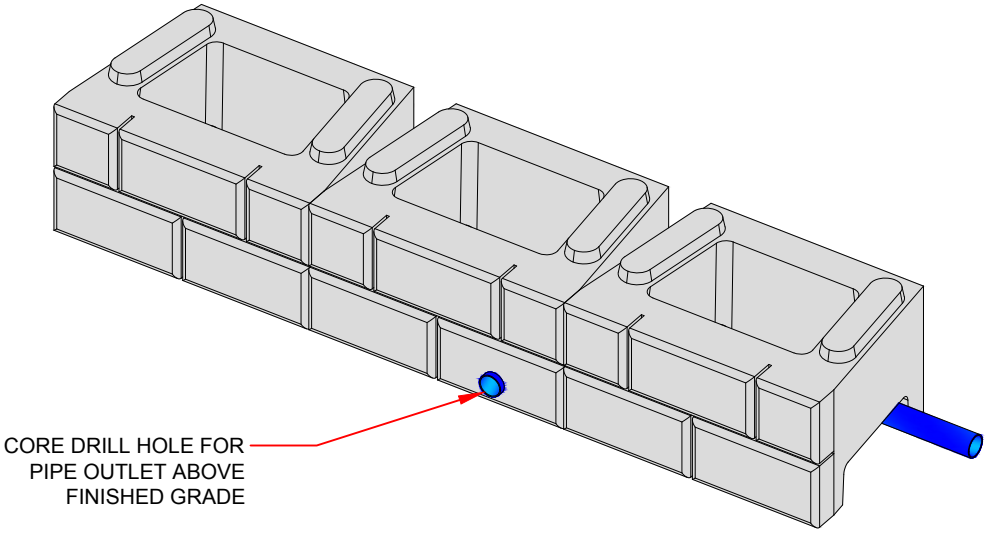
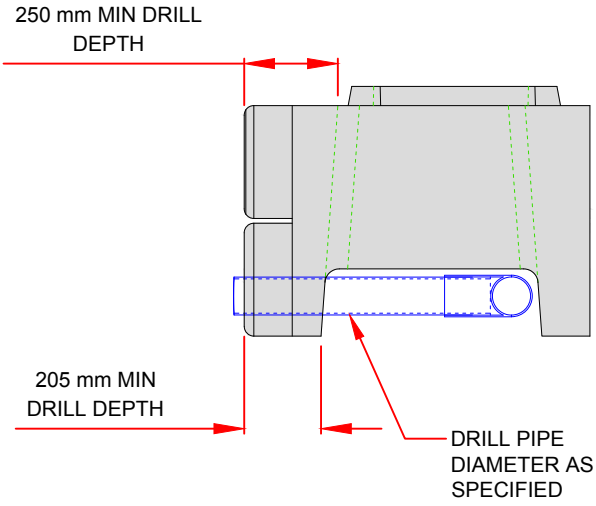
Drawn by:	D. Balling
Date:	2013-12-18
Scale:	NTS
Title:	DRAIN PLACEMENT OPTION #3
DETAIL REF:	WD-18
PAGE INFO:	A4 | 3 OF 3

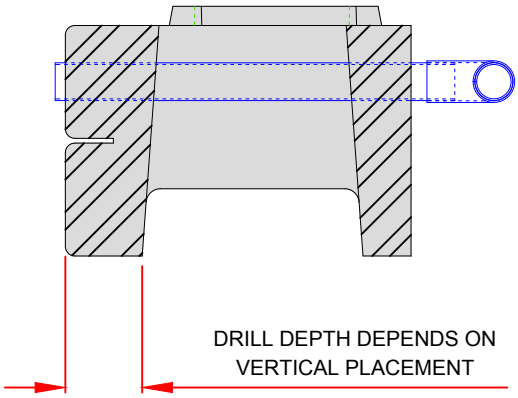
DRAIN PIPE OUTLET (WEEP HOLE) THROUGH BLOCK FACE

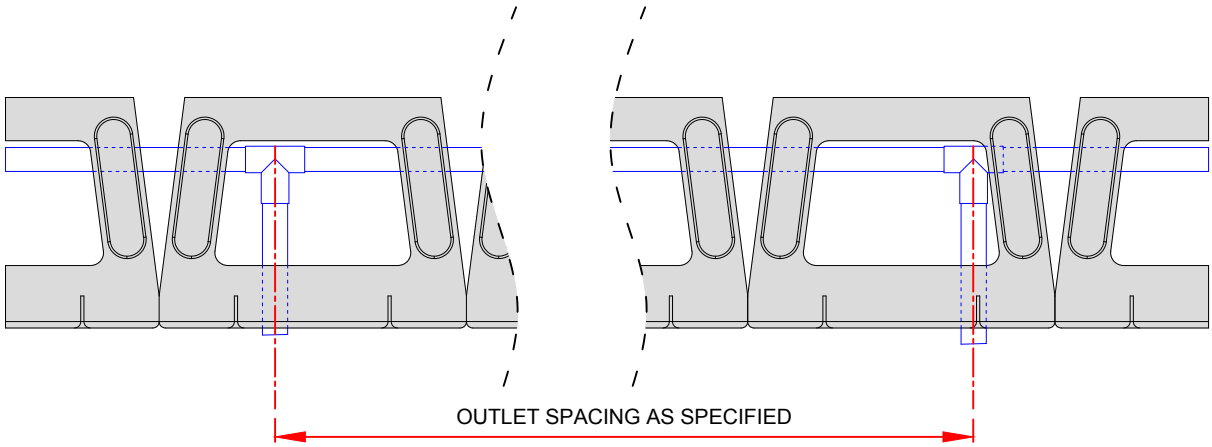


DRAIN PIPE INSIDE BLOCK



DRAIN PIPE BEHIND BLOCK





NOTE: Drawings provided by Verti-Crete LLC are for reference only. Consult a licensed Engineer for Final/Formal Design.

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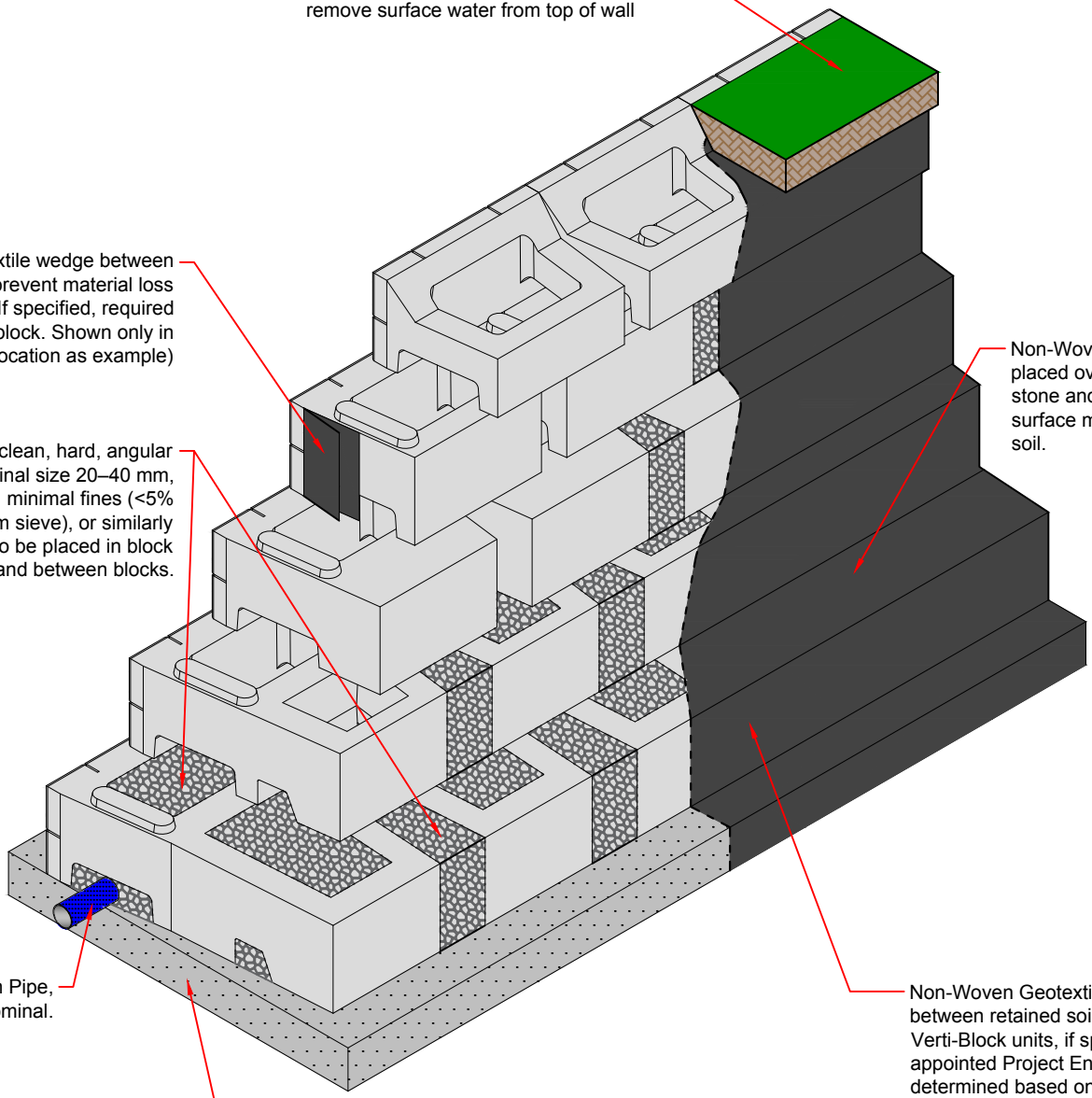
Drawn by:	R. Stucki
Date:	2023-10-25
Scale:	NTS

Title: WEEP HOLE DETAIL

DETAIL REF:	WD-62
PAGE INFO:	A4 | 1 OF 1



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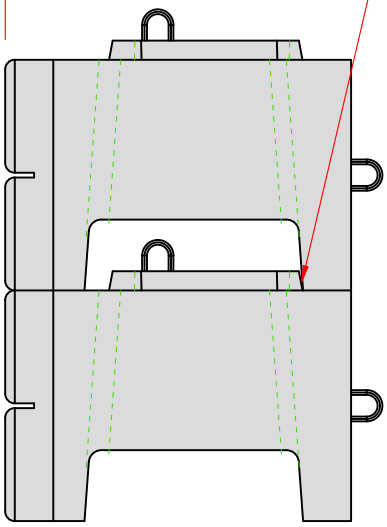
Drawn by:	L. Donohoe
Date:	2024-11-14
Scale:	NTS
Title:	TYPICAL DRAINAGE DETAIL (ISO View)
DETAIL REF:	WD-05
PAGE INFO:	A4 | 1 OF 1

STANDARD CONSTRUCTION DETAILS

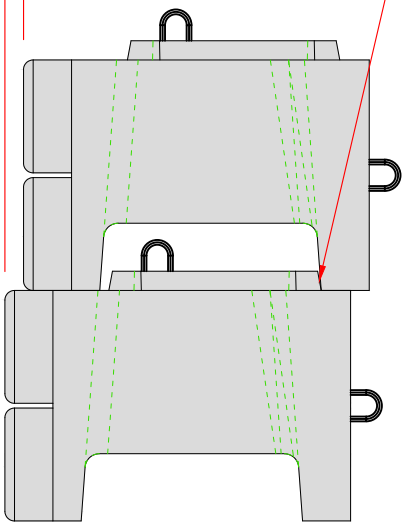
TYPICAL SETBACK OPTIONS

Modified or cut shear lugs
for vertical face batter.
(0° Face Batter)



Move blocks forward during installation to fully engage shear lugs.

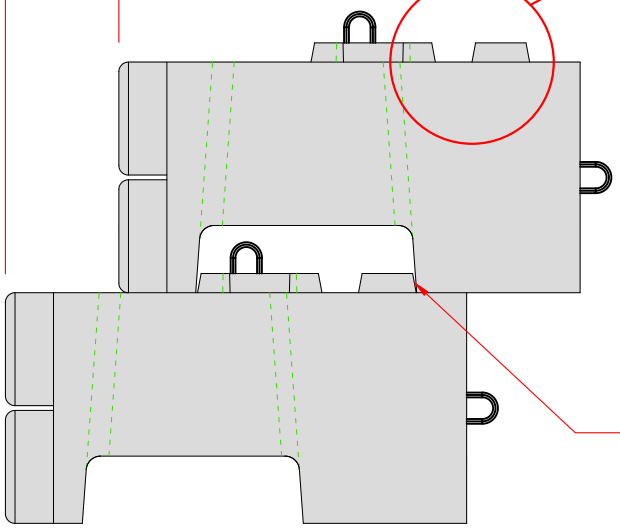
55 mm Setback
(5° Face Batter)

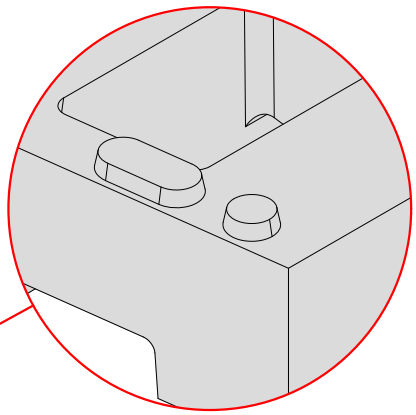


Move blocks forward during installation to fully engage shear lugs.

300 mm Setback only available from ME-48 Blocks and larger.

300 mm Setback
(26° Face Batter)





NOTE: Modified Mass Extender Top Panel required to produce 300 mm setback

Move blocks forward during installation to fully engage shear lugs.

This detail is for reference purposes only. Verti-Crete LLC makes no representations about the suitability or accuracy of the details contained herein. The determination of suitability and manner of use of any details in this document is the sole responsibility of the design engineer of record.

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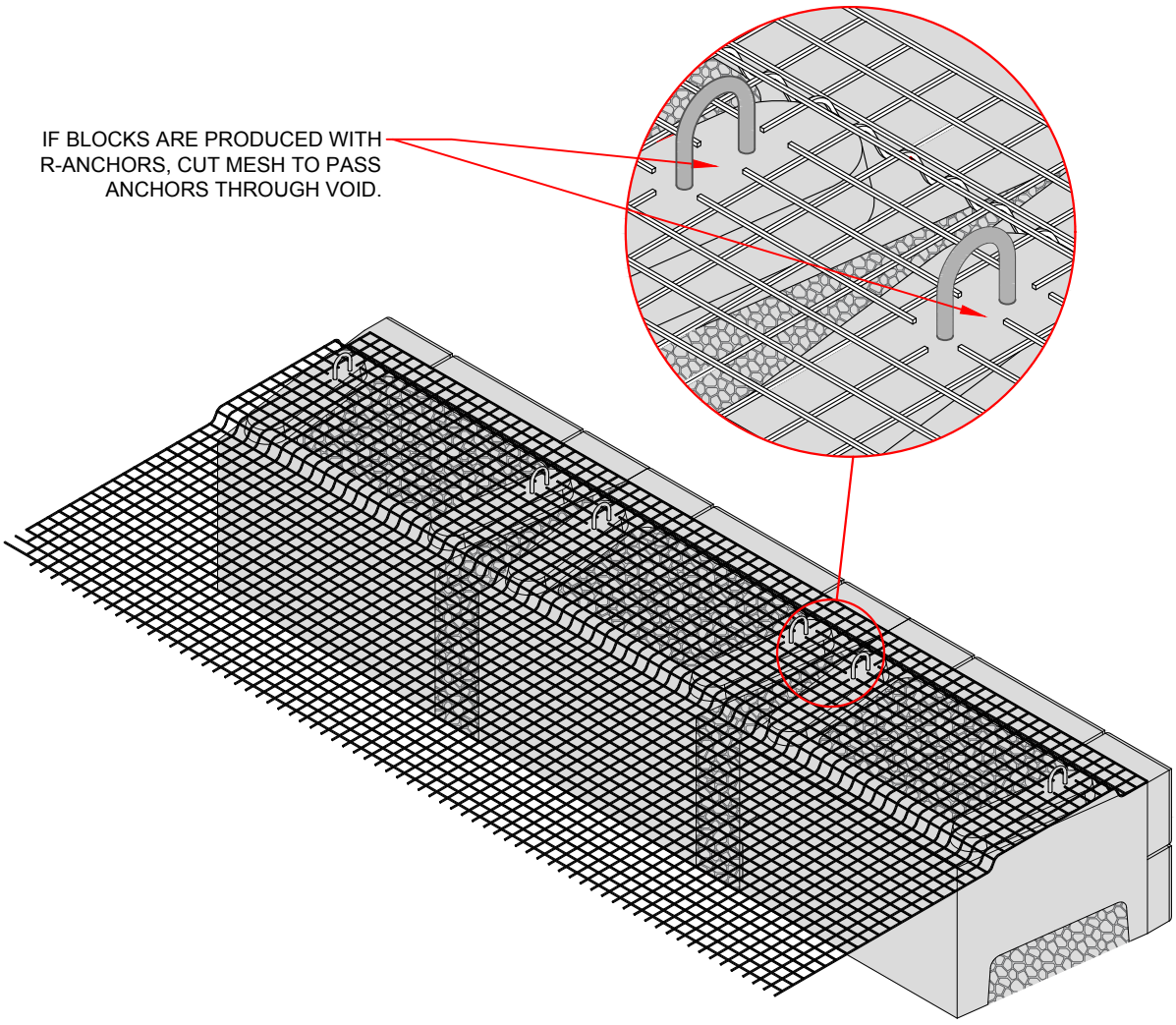
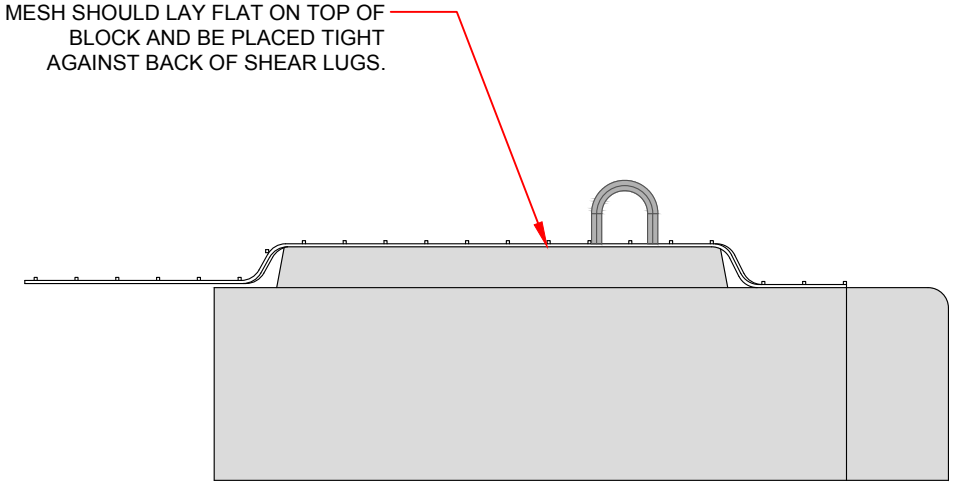
Drawn by:	L. Donohoe
Date:	2024-12-12
Scale:	NTS

Title: SETBACK OPTIONS

DETAIL REF:	WD-81
PAGE INFO:	A4 | 1 OF 1

GEOGRID FRICTION CONNECTION DETAIL





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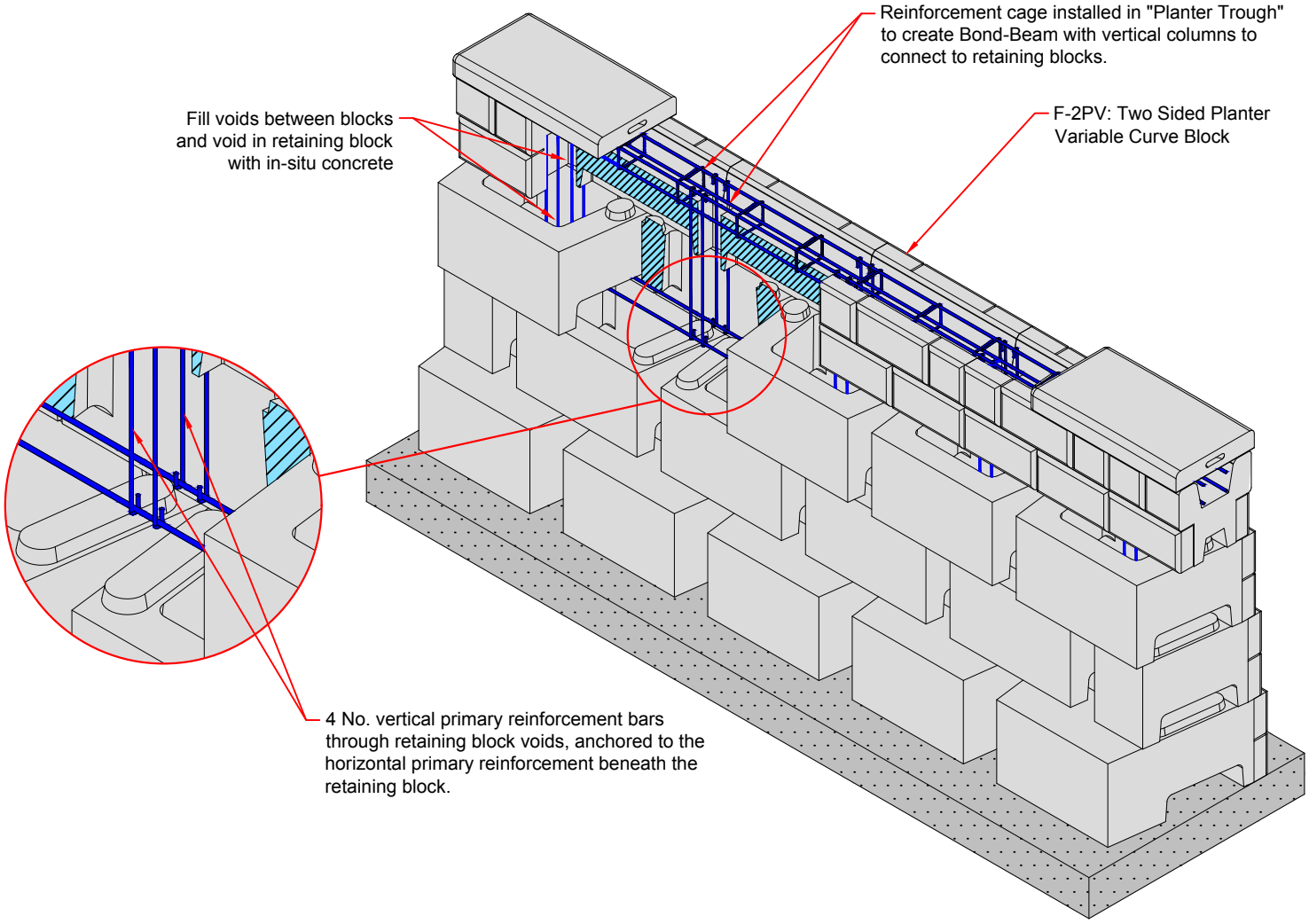
Drawn by:	D. Balling
Date:	2013-12-12
Scale:	NTS

Title: GEOGRID REINFORCEMENT FRICTION CONNECTION

DETAIL REF:	WD-05
PAGE INFO:	A4 | 1 OF 1

Primary and secondary reinforcement, including bar sizes and spacing, to be confirmed during the formal design stage. Carrier bar rings to be provided at specified intervals to support 4 No. horizontal primary reinforcement bars for Bond Beam.



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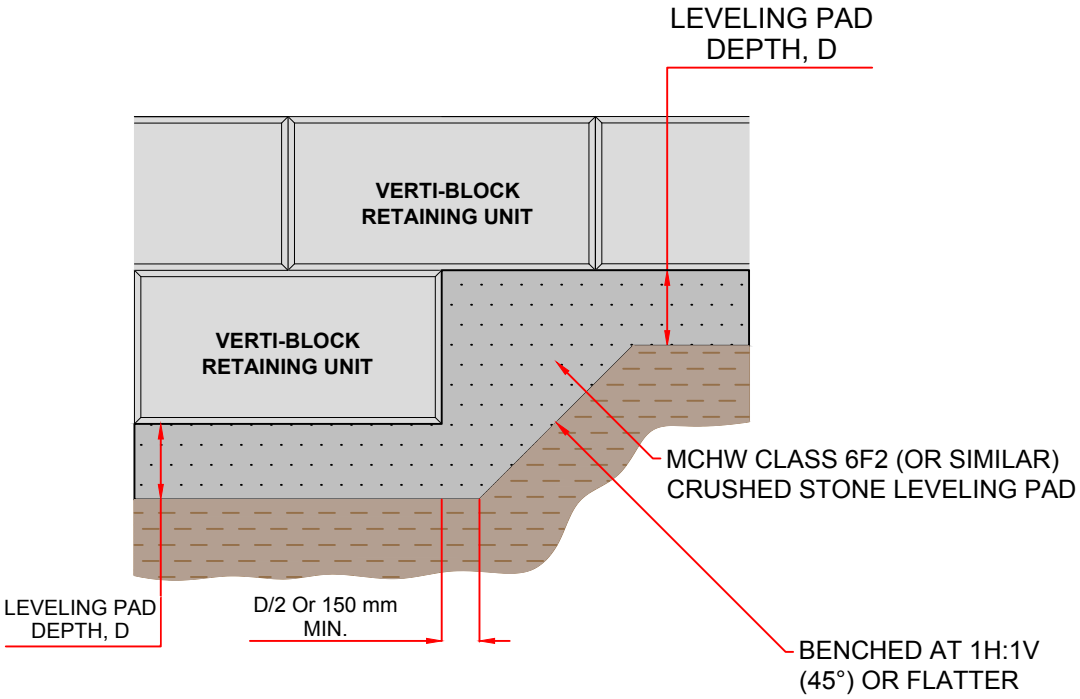
Drawn by:	L. Donohoe
Date:	2025-04-15
Scale:	NTS
Title:	BOND-BEAM BARRIER (ISO View)
DETAIL REF:	WD-03
PAGE INFO:	A4 | 1 OF 1

PROFILE VIEW - CRUSHED STONE LEVELING PAD WITH STEP



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Drawn by:	L. Donohoe
Date:	2024-11-14
Scale:	NTS
Title:	LEVELING PAD WITH STEP
DETAIL REF:	WD-83
PAGE INFO:	A4 | 1 OF 1

NOTES:

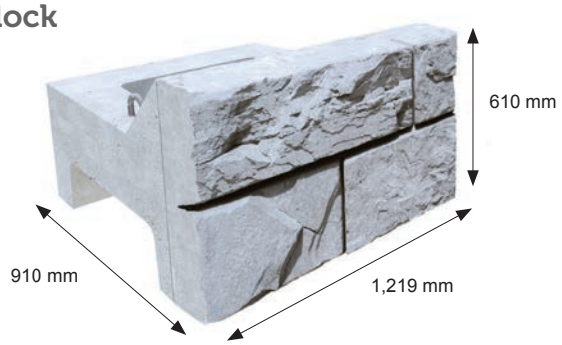
NOTES:

Verti-Block Units

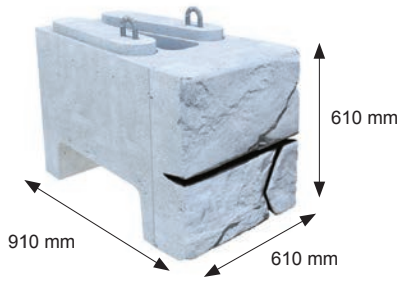
Verti-Block is available in a range of shapes to accommodate all your landscape design needs

Standard Block
790 kg

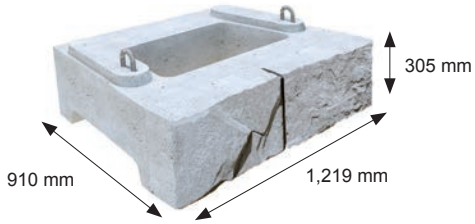
Top Block
590 kg



Half Block
480 kg

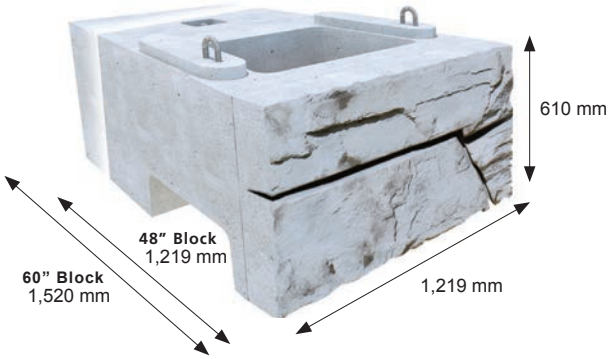


Half Step Block
440 kg



Corner Block
720 kg

Mass Extender
48" Block - 1,210 kg
60" Block - 1,590 kg



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Verti-Block Units

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