



MagnumStone®

RETAINING WALLS

DAYLIGHT BEAR END OF WALL IS CONNECTED TO DRAINAGE SYSTEM

MAGNUMSTONE® STANDARD BLOCK WITH EXTENDER UNIT, AND CRUSHED GRAVEL IN HOLLOW CORES AND BETWEEN EXTENDER UNITS

DESIGN LOAD (KIPS)	fc(28 days) (psi)			
29.7	4,000	1.2		
25.0	4,000	1.058		
20.0	4,000	0.847		
15.0	4,000	0.635	2.38 X 2.38	3" SCH 40
10.0	4,000	0.423	2.25 X 2.25 X 0.188	2.5" SCH 40
5.0	4,000	0.212	2.0 X 2.0 X 0.188	2.0" SCH 40

03

WATER APPLICATION OF GRAVITY WALL

SCALE 1:40

TECHNICAL REFERENCE MANUAL



3D Drawings
Unit Specifications
Cross Sections
Design Charts
Details

STEEL GRID

EXCAVATION
CUT LINE

PERFORATED DRAIN PIPE

PLAN VIEW

ABOUT MAGNUMSTONE



MagnumStone is an innovative, large precast modular retaining wall system (wet-cast concrete) that delivers exceptional strength and durability. With multiple design options, MagnumStone efficiently maximizes land use, minimizes excavation areas, and builds closer to property lines, structures and underground utilities.

These proven hollow core blocks enhance drainage efficiency and make installations quicker simpler, as each large MagnumStone block covers 8 sq. ft. (0.74 sq. m.). Expedite project timelines, save big on labor and build fortified wall solutions for critical slope stabilization, soil reinforcement and more.

MagnumStone's everlasting solutions and supreme versatility fit any size retaining wall design for residential, commercial and coastal developments, and major infrastructure projects. The interlocking blocks' design flexibility excels in any application, simple or sophisticated. Achieve taller gravity walls, eco-friendly plantable wall designs, secure bridge wing walls, and protect communities with stormwater management protection; all with natural stone textured blocks.

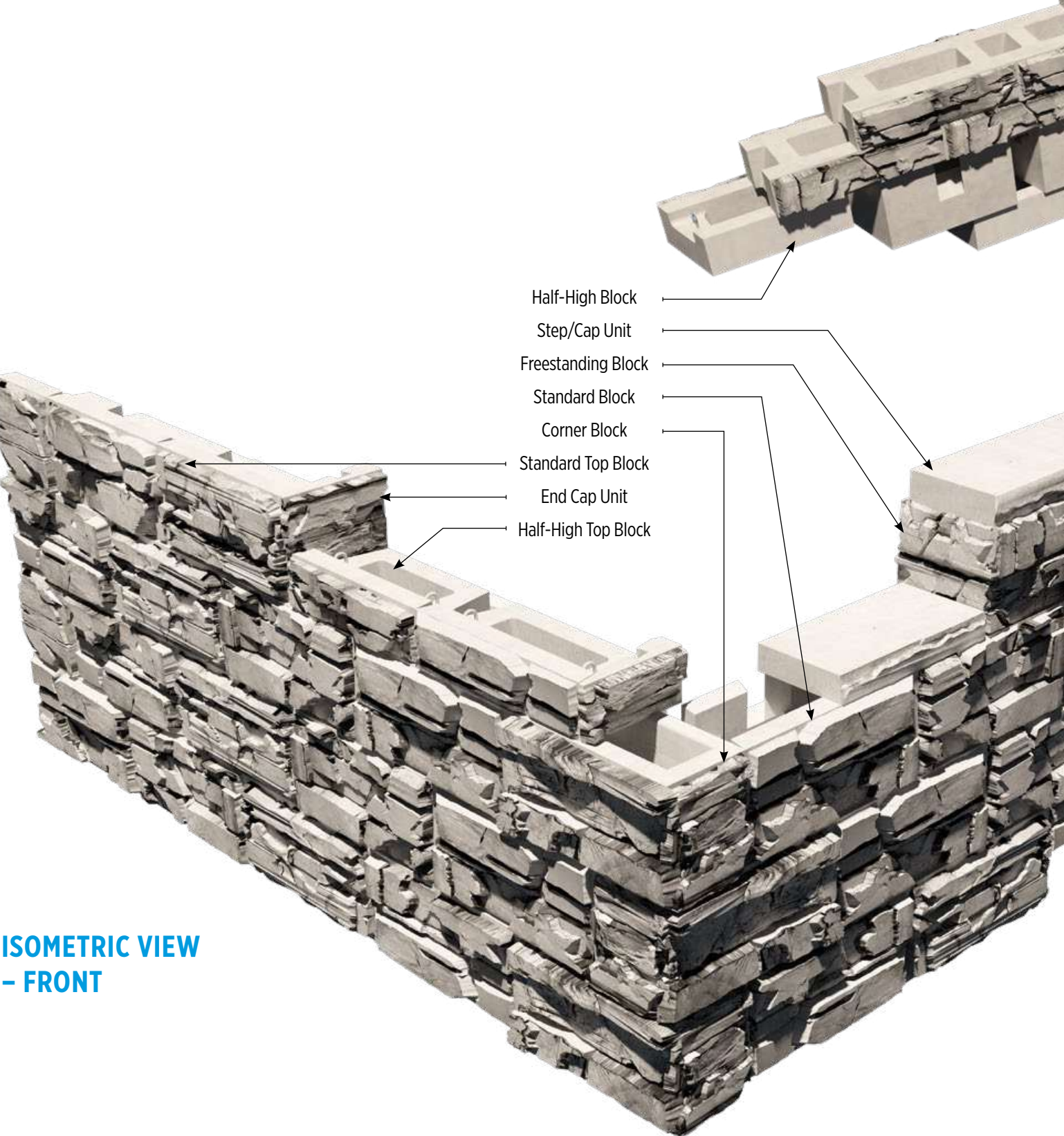
Learn more about MagnumStone's retaining wall solutions at magnumstone.com.

TECHNICAL REFERENCE INDEX



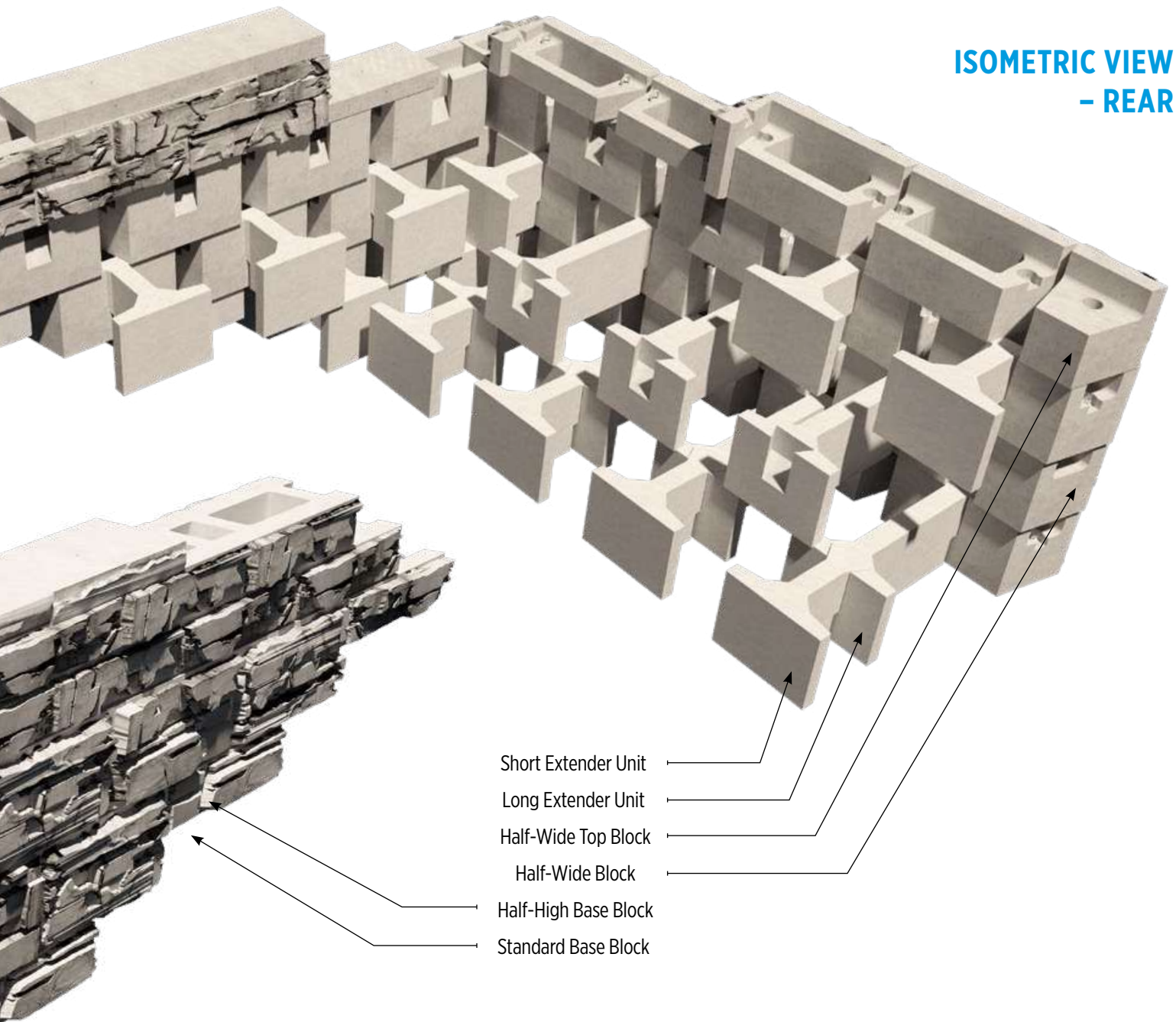
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THE MAGNUMSTONE SYSTEM



ISOMETRIC VIEW
- FRONT

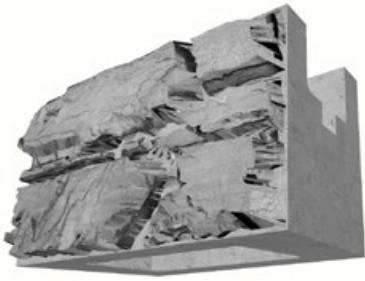
**ISOMETRIC VIEW
- REAR**



MAGNUMSTONE BLOCKS



STANDARD
1370 lbs (621 kgs)



STANDARD BASE
1345 lbs (610 kgs)



STANDARD TOP
1220 lbs (553 kgs)



HALF-HIGH
750 lbs (340 kgs)



HALF-HIGH BASE
725 lbs (328 kgs)



HALF-HIGH TOP
680 lbs (308 kgs)



HALF-WIDE
835 lbs (378 kgs)



HALF-WIDE BASE
823 lbs (373 kgs)



HALF-WIDE TOP
760 lbs (345 kgs)

Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.



***CORNER STANDARD**

1700 lbs (771 kgs)
Available in left/right



***CORNER BASE**

1675 lbs (760 kgs)
Available in left/right



***CORNER TOP**

1500 lbs (680 kgs)
Available in left/right



2-SIDED FREESTANDING

900 lbs (408 kgs)



3-SIDED FREESTANDING

900 lbs (408 kgs)



2-SIDED QUARTER

300 lb (136 kgs)



3-SIDED QUARTER

300 lb (136 kgs)



SHORT EXTENDER

520 lbs (236 kgs)



LONG EXTENDER

820 lbs (372 kgs)



STANDARD END CAP

340 lbs (154 kgs)



HALFHIGH END CAP

170 lbs (77 kgs)

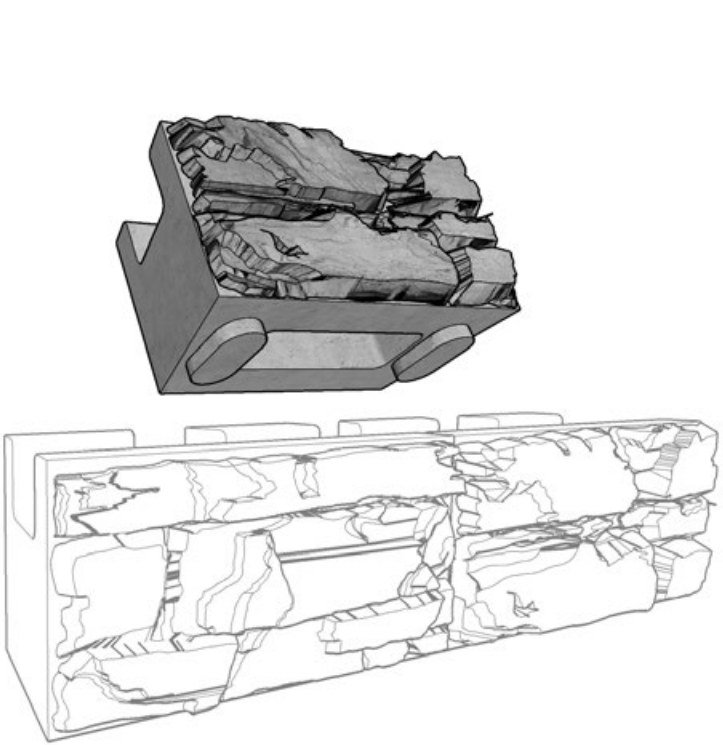


CAP/STEP

580 lbs (263 kgs)

Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

MAGNUMSTONE STANDARD BLOCK



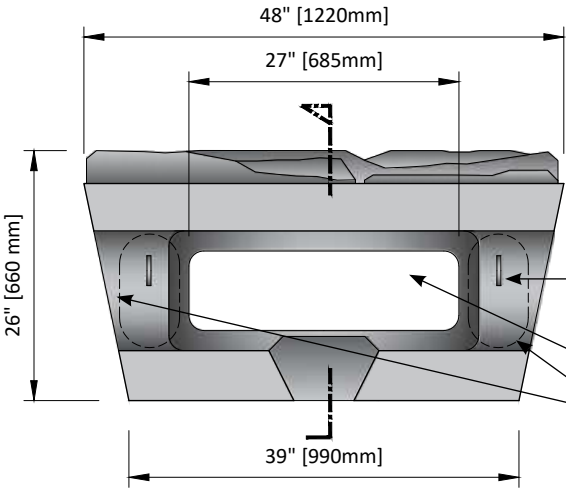
PERSPECTIVE



STANDARD

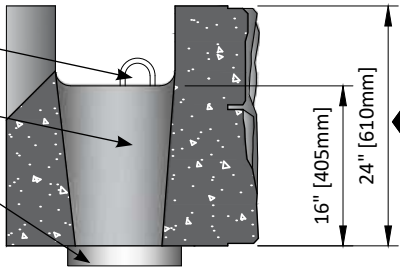
1370 lbs (621 kgs)

Height	24"	610mm
Depth	26"	660mm
Face Width	48"	1220mm
Back Width	39"	990mm
Face Area	8 sq ft	0.745 m2
Setback	2.4°	



TOP VIEW

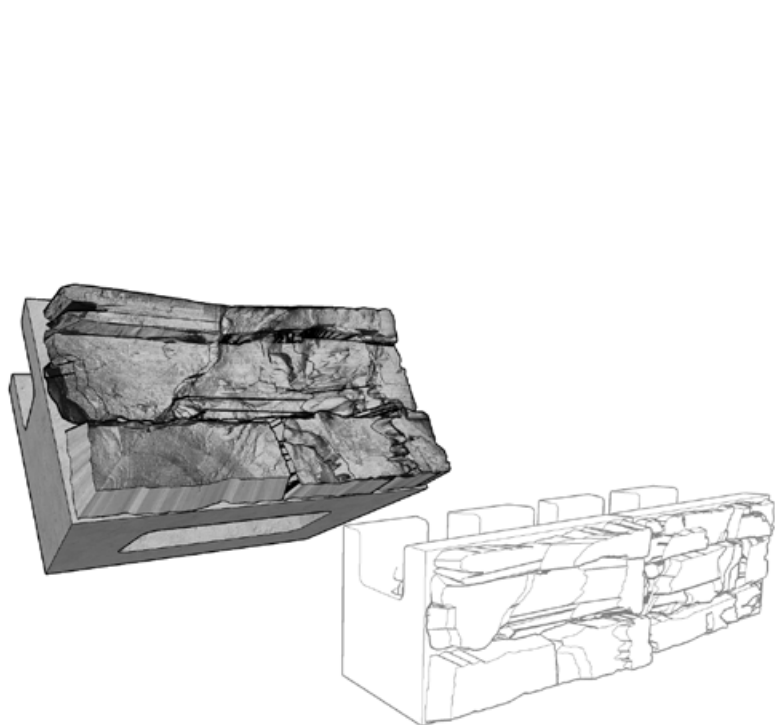
Lifting Hook
Hollow Core
SecureLug



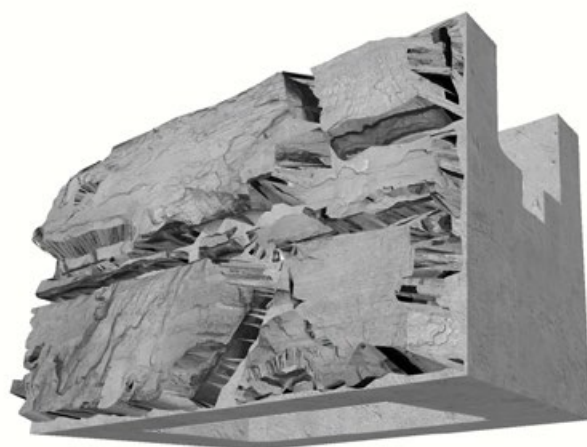
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MAGNUMSTONE STANDARD BASE BLOCK



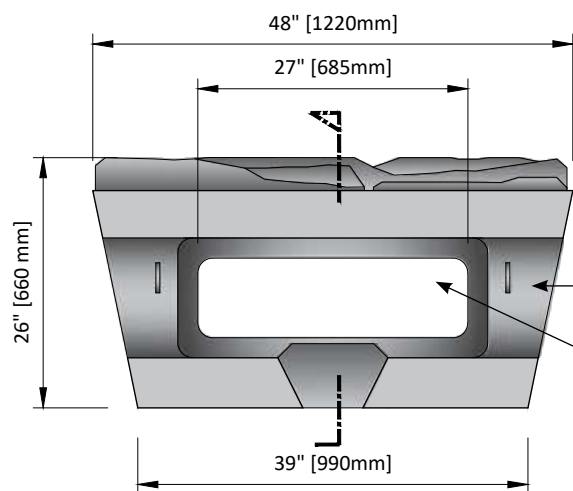
PERSPECTIVE



STANDARD BASE

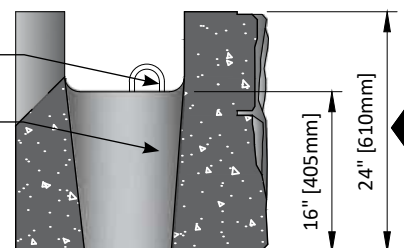
1345 lbs (610 kgs)

Height	24"	610mm
Depth	26"	660mm
Face Width	48"	1220mm
Back Width	39"	990mm
Face Area	8 sq ft	0.745 m2
Setback	2.4°	



TOP VIEW

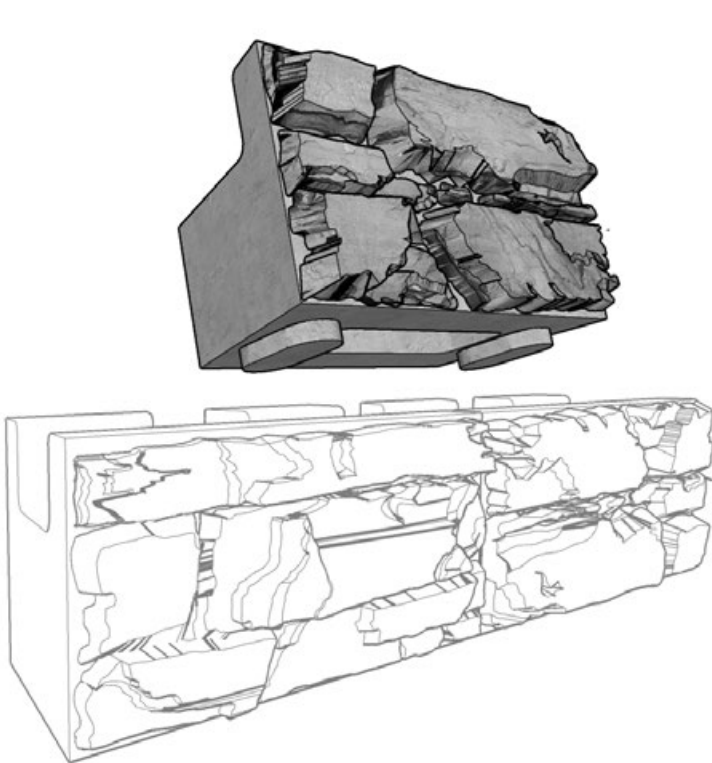
Lifting Hook
Hollow Core



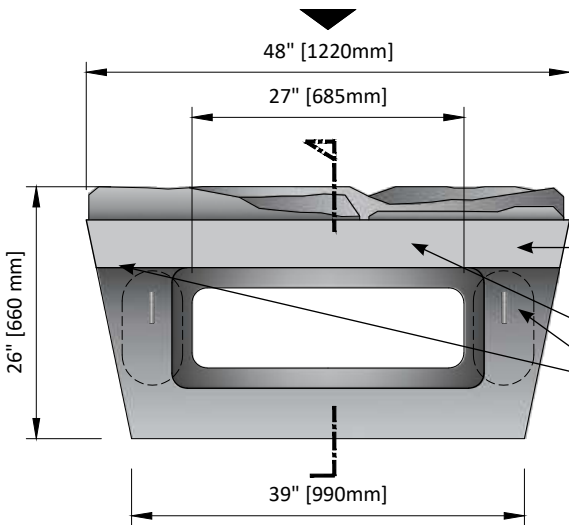
SECTION

Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

MAGNUMSTONE STANDARD TOP BLOCK



PERSPECTIVE



TOP VIEW

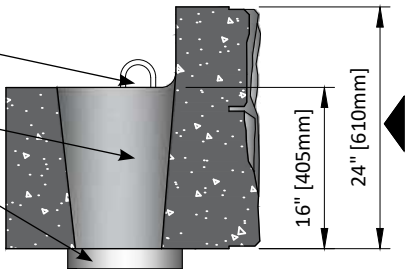


STANDARD TOP

1220 lbs (553 kgs)

Height	24"	610mm
Depth	26"	660mm
Face Width	48"	1220mm
Back Width	39"	990mm
Face Area	8 sq ft	0.745 m2
Setback	2.4°	

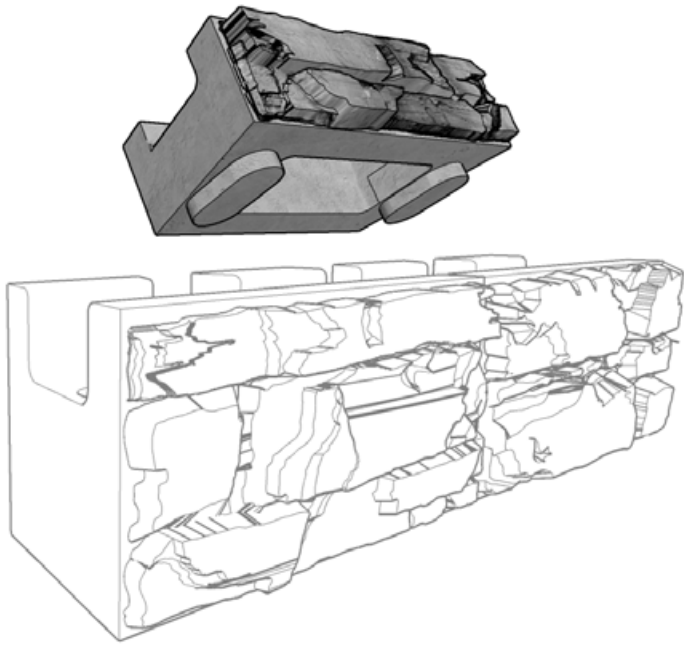
Lifting Hook
Hollow Core
SecureLug



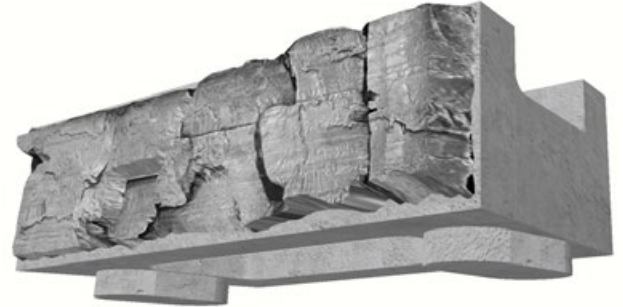
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Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

MAGNUMSTONE HALF-HIGH BLOCK



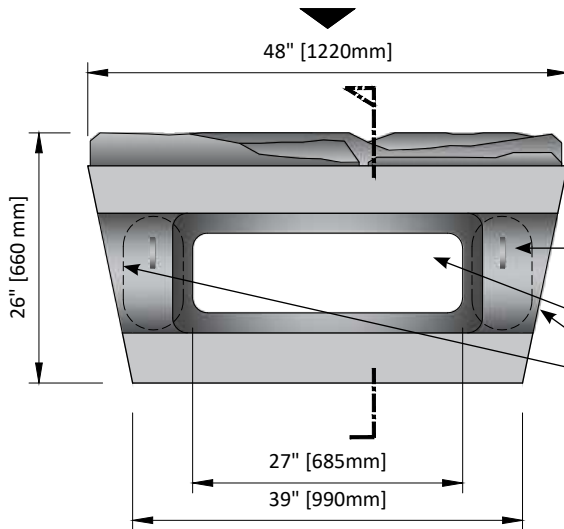
PERSPECTIVE



HALF-HIGH

750 lbs (340 kgs)

Height	12"	305mm
Depth	26"	660mm
Face Width	48"	1220mm
Back Width	39"	990mm
Face Area	4 sq ft	0.37 m2
Setback	2.4°	

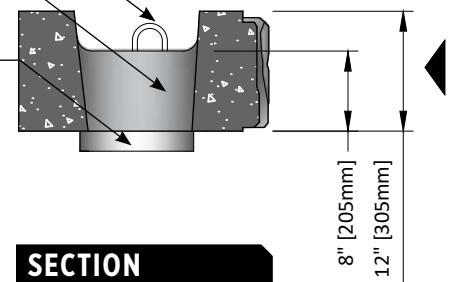


TOP VIEW

Lifting Hook

Hollow Core

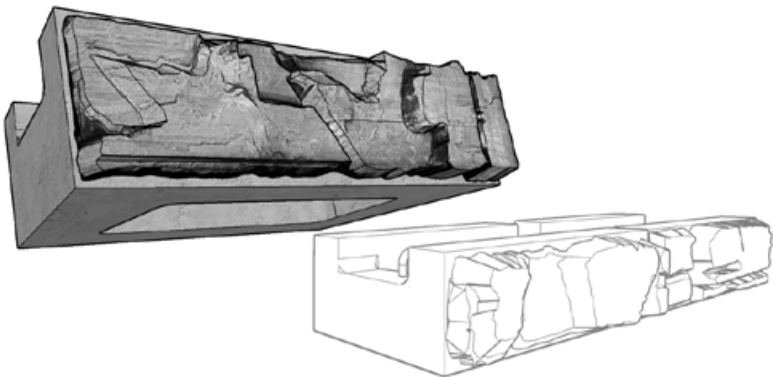
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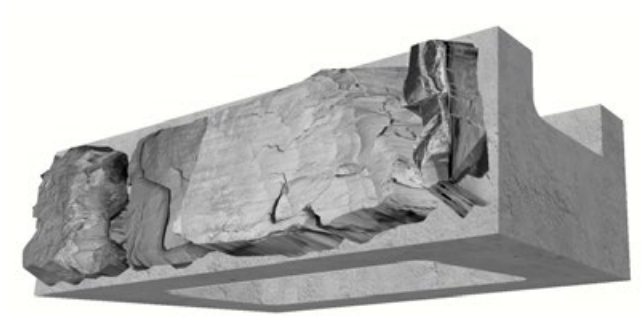
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MAGNUMSTONE HALF-HIGH BASE BLOCK



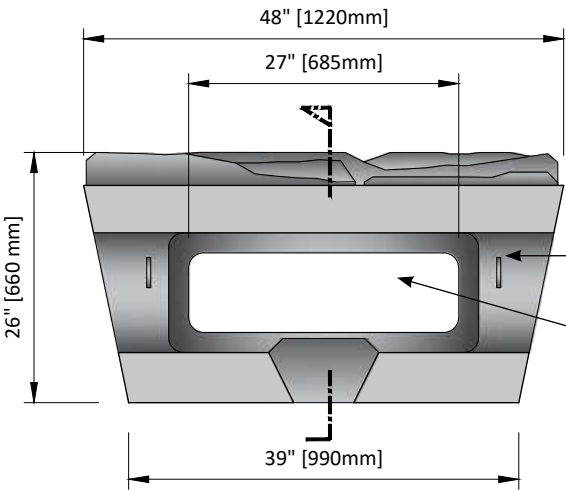
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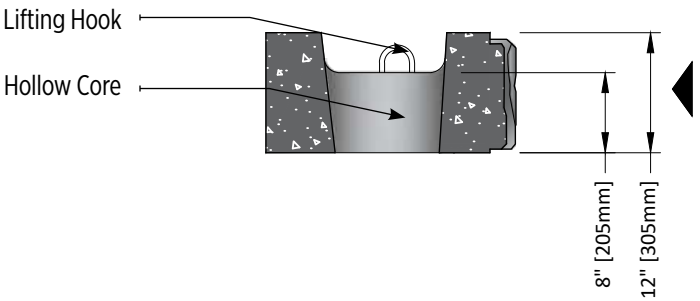
HALF-HIGH BASE

725 lbs (328 kgs)

Height	12"	305mm
Depth	26"	660mm
Face Width	48"	1220mm
Back Width	39"	990mm
Face Area	4 sq ft	0.37 m2
Setback	2.4°	



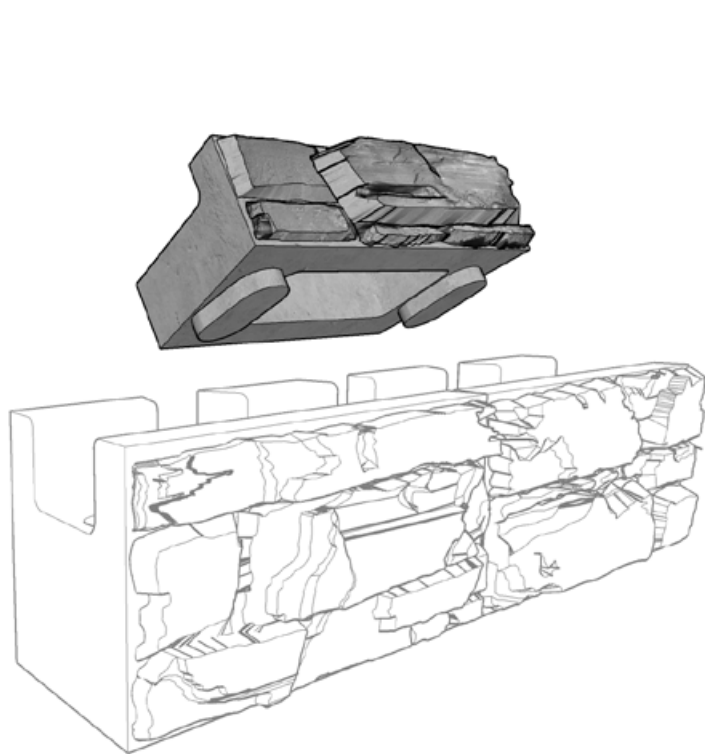
TOP VIEW



SECTION

Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

MAGNUMSTONE HALF-HIGH TOP BLOCK



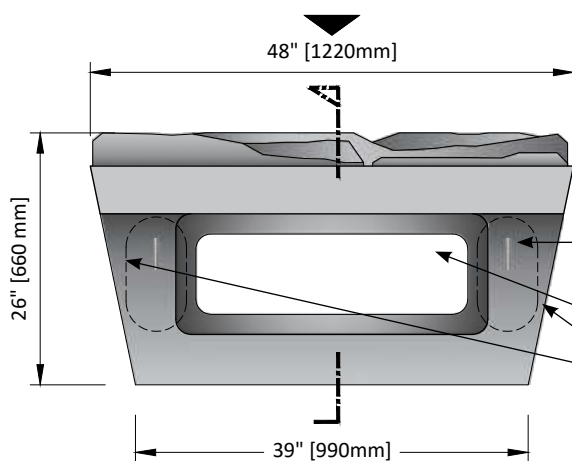
PERSPECTIVE



HALF-HIGH TOP

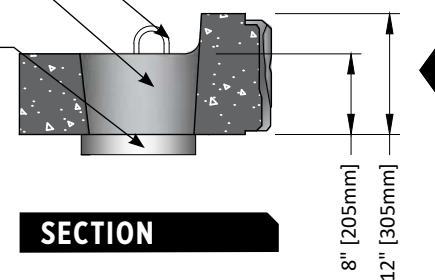
680 lbs (308 kgs)

Height	12"	305mm
Depth	26"	660mm
Face Width	48"	1220mm
Back Width	39"	990mm
Face Area	4 sq ft	0.37 m2
Setback	2.4°	



TOP VIEW

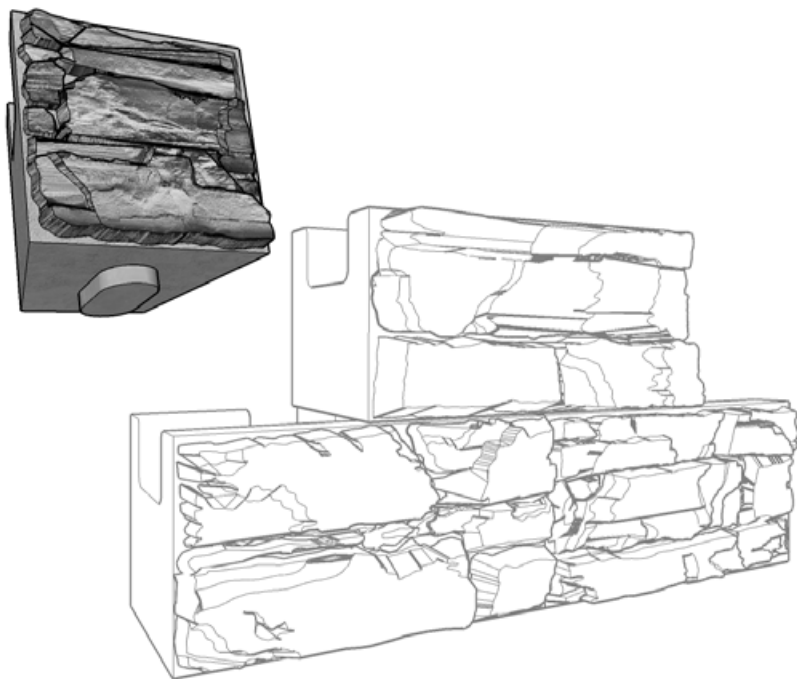
Lifting Hook
Hollow Core
SecureLug



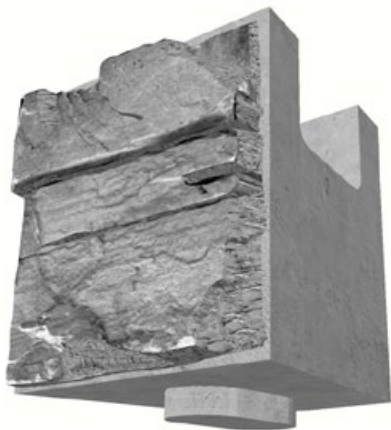
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MAGNUMSTONE HALF-WIDE BLOCK



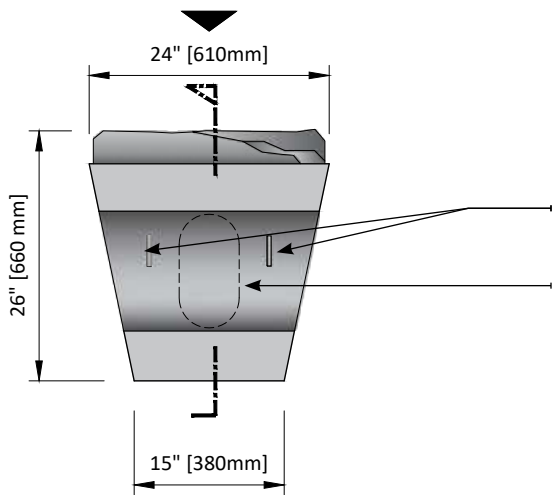
PERSPECTIVE



HALF-WIDE

835 lbs (378 kgs)

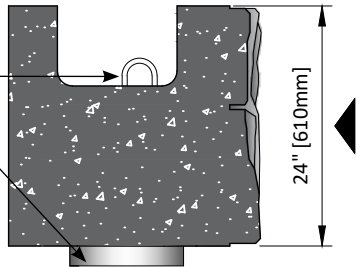
Height	24"	610mm
Depth	26"	660mm
Face Width	24"	610mm
Back Width	15"	380mm
Face Area	4 sq ft	0.37 m2
Setback	2.4°	



TOP VIEW

Lifting Hook

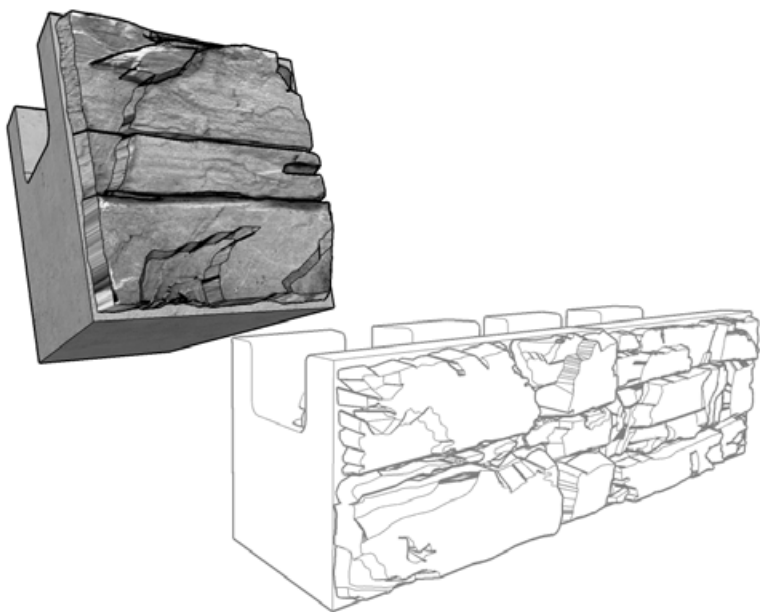
SecureLug



SECTION

Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

MAGNUMSTONE HALF-WIDE BASE BLOCK



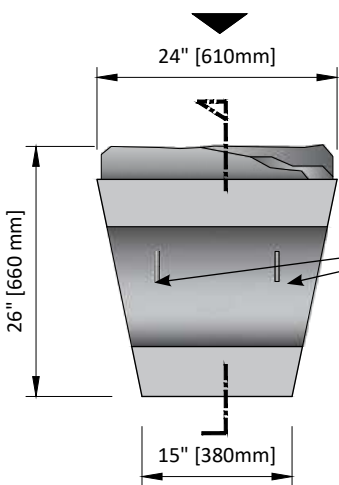
PERSPECTIVE



HALF-WIDE BASE

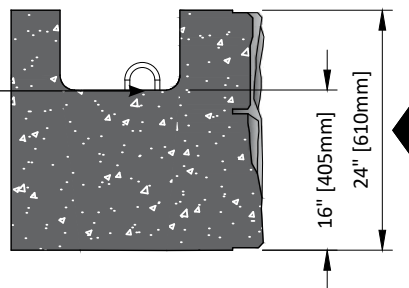
823 lbs (373 kgs)

Height	24"	610mm
Depth	26"	660mm
Face Width	24"	610mm
Back Width	15"	380mm
Face Area	4 sq ft	0.37 m2
Setback	2.4°	



TOP VIEW

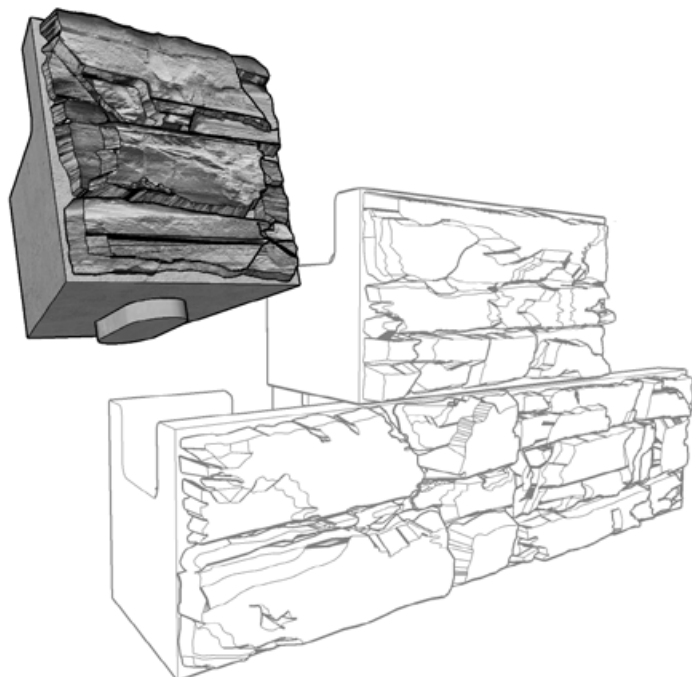
Lifting Hook



SECTION

Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

MAGNUMSTONE HALF-WIDE TOP BLOCK



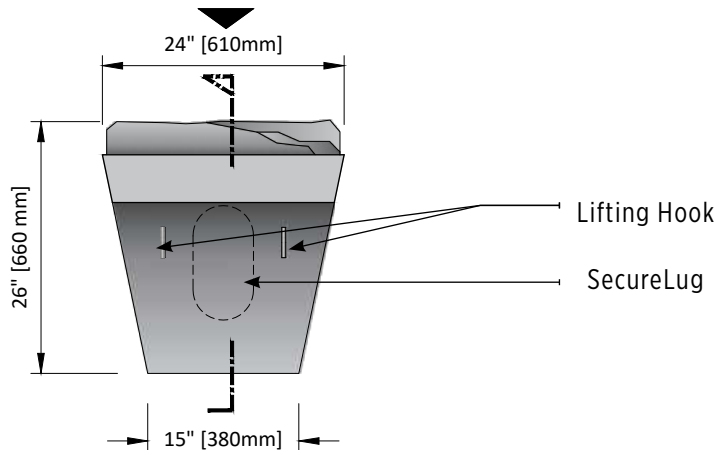
PERSPECTIVE



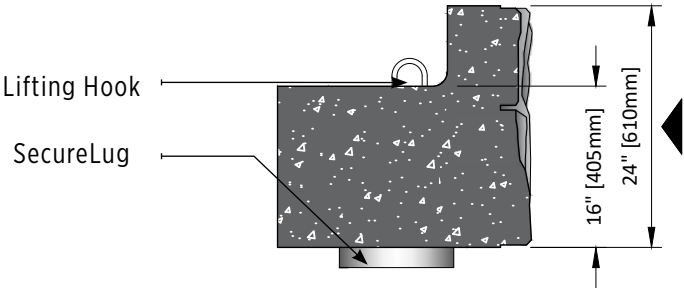
HALF-WIDE TOP

760 lbs (345 kgs)

Height	24"	610mm
Depth	26"	660mm
Face Width	24"	610mm
Back Width	15"	380mm
Face Area	4 sq ft	0.37 m2
Setback	2.4°	



TOP VIEW



SECTION

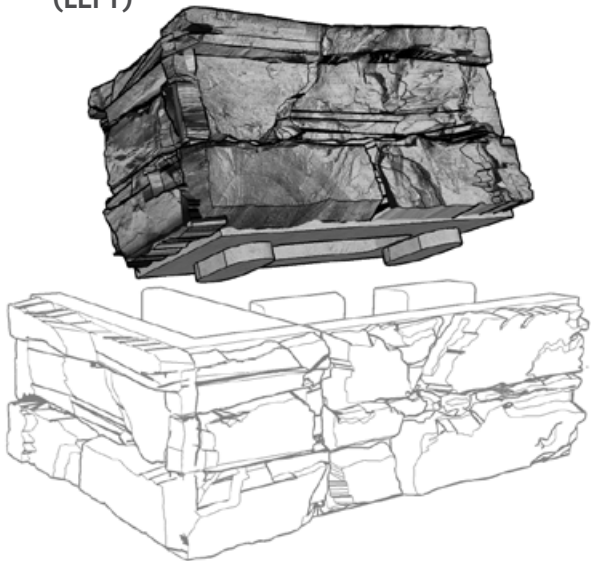
Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

MAGNUMSTONE CORNER BLOCK

(RIGHT)



(LEFT)



CORNER BLOCK

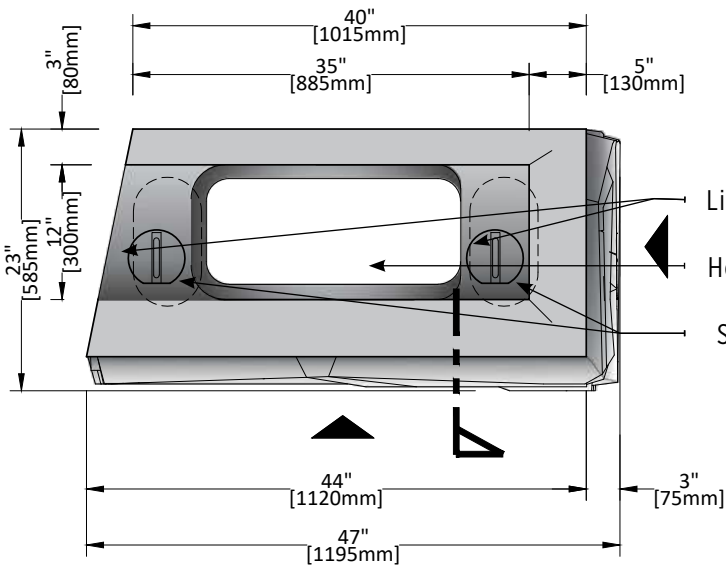
1700 lbs (771 kgs)

Height	24"	610mm
Depth	23"	585mm
Face Width	47"	1195mm
Back Width	40"	1015mm
Face Area	12 sq ft	1.10 m ²
Setback	2.4°	

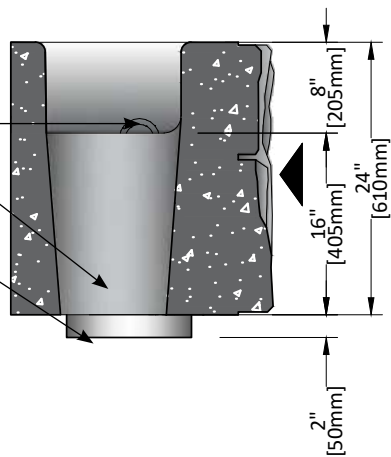
NOTE:

(*) Image reference in Right Side Block
(**) Block also available in Left Side

PERSPECTIVE



TOP VIEW



SECTION

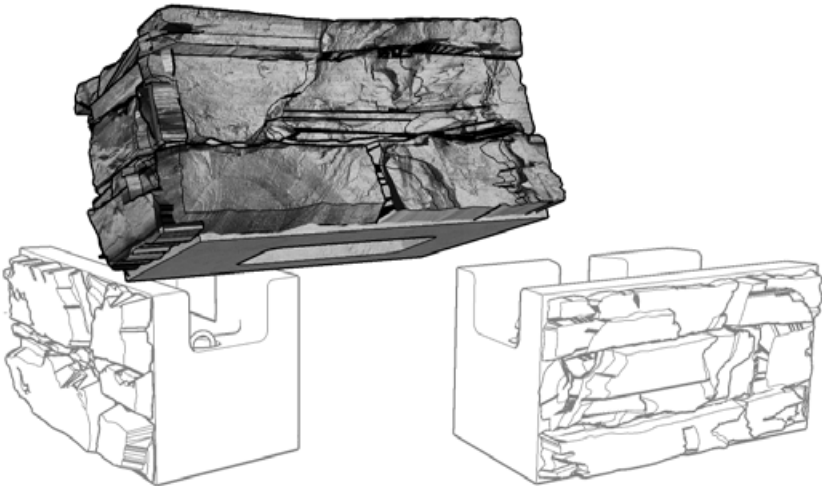
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MAGNUMSTONE CORNER BASE BLOCK

(RIGHT)



(LEFT)



CORNER BASE BLOCK

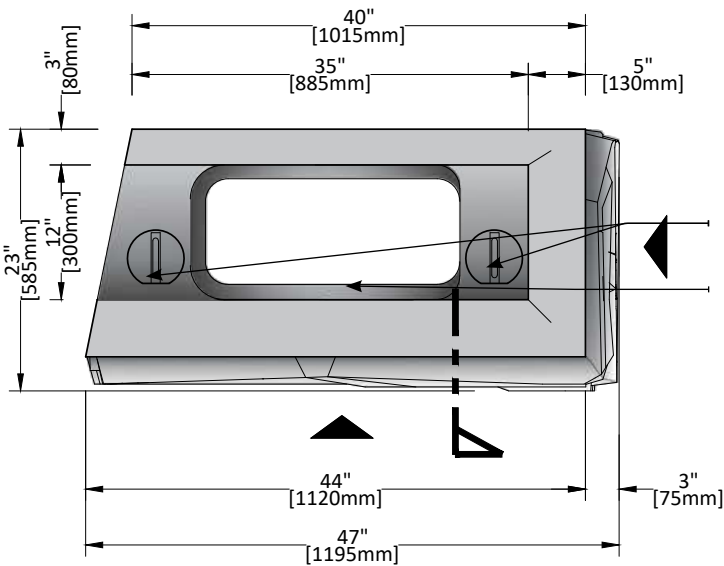
1675 lbs (760 kgs)

Height	24"	610mm
Depth	23"	585mm
Face Width	47"	1195mm
Back Width	40"	1015mm
Face Area	12 sq ft	1.10 m ²
Setback	2.4°	

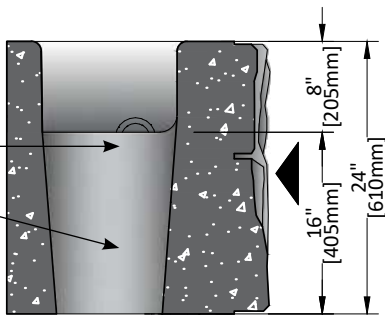
NOTE:

- (*) Image reference in Right Side Block
(**) Block also available in Left Side

PERSPECTIVE



TOP VIEW

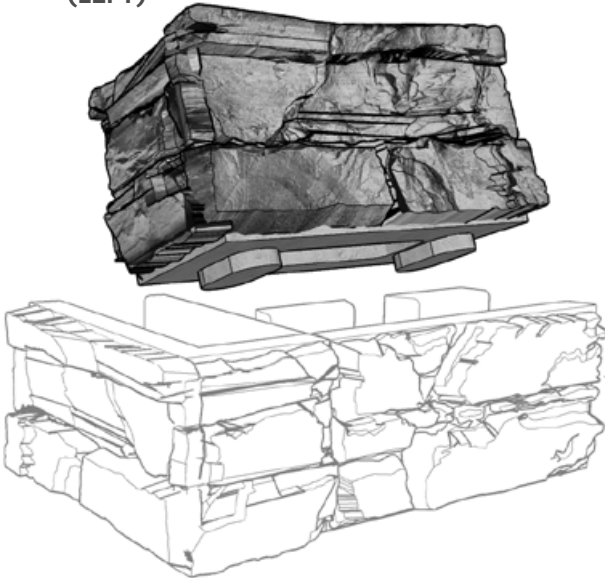


SECTION

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MAGNUMSTONE CORNER TOP BLOCK

(LEFT)



PERSPECTIVE

(RIGHT)



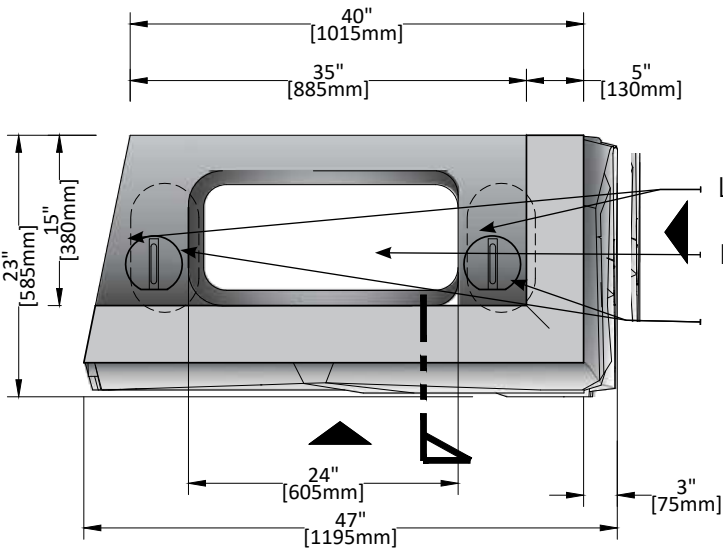
CORNER TOP BLOCK

1500 lbs (680 kgs)

Height	24"	610mm
Depth	23"	585mm
Face Width	47"	1195mm
Back Width	40"	1015mm
Face Area	12 sq ft	1.10 m ²
Setback	2.4°	

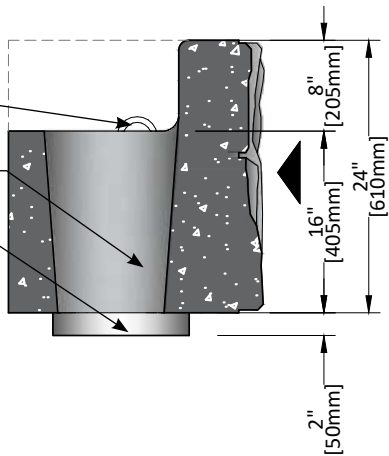
NOTE:

(*) Image reference in Right Side Block
(**) Block also available in Left Side



TOP VIEW

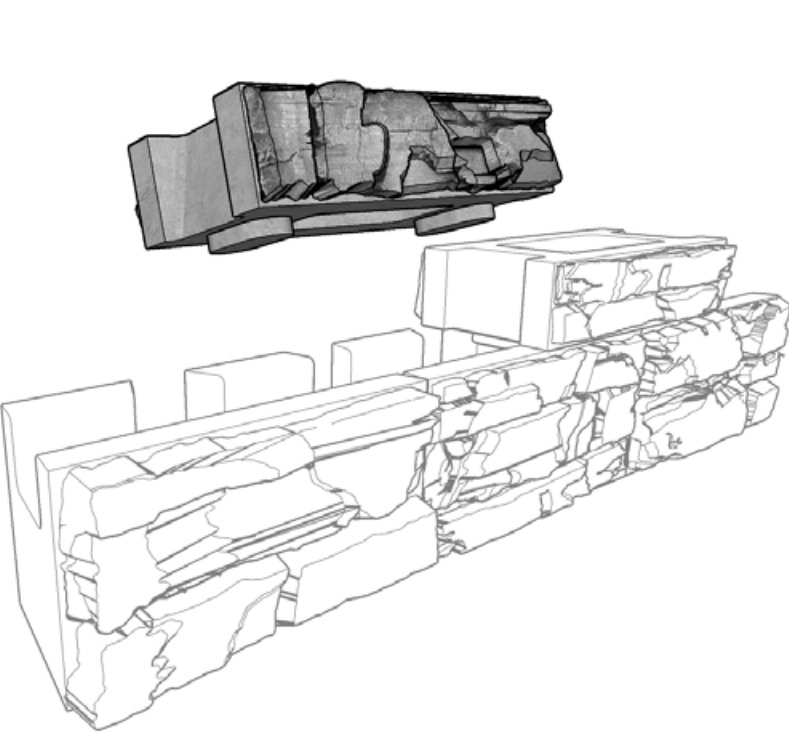
Lifting Hook
Hollow Core
SecureLug



SECTION

Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

MAGNUMSTONE FREESTANDING BLOCKS



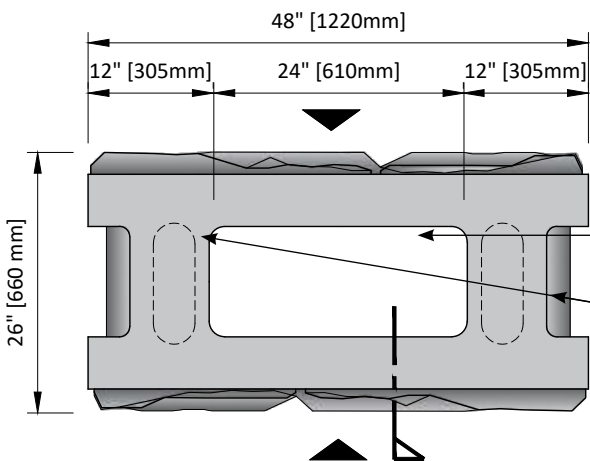
PERSPECTIVE



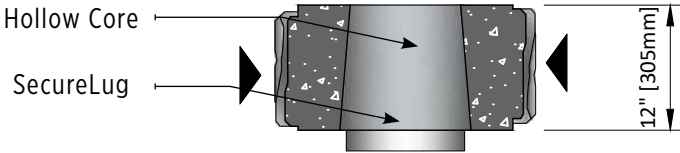
2-SIDED

900 lbs (408 kgs)

Height	12"	305mm
Depth	26"	660mm
Face Width	48"	1220mm
Back Width	48"	1220mm
Face Area	4 sq ft	0.37 m2
Setback	0°	



TOP VIEW



SECTION

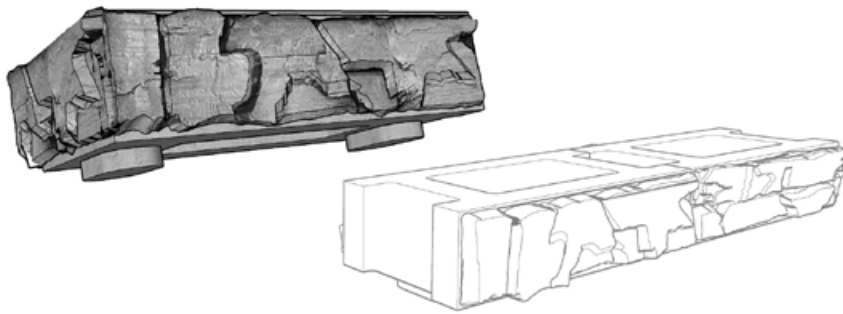
Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.



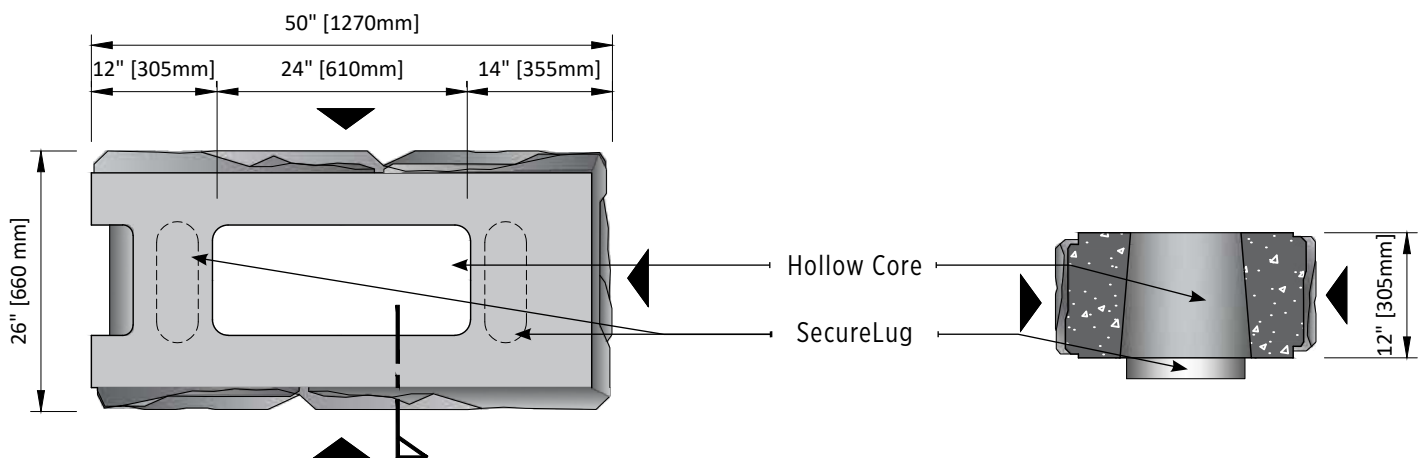
3-SIDED

900 lbs (408 kgs)

Height	12"	305mm
Depth	26"	660mm
Face Width	50"	1270mm
Back Width	50"	1270mm
Face Area	4 sq ft	0.37 m ²
Setback	0°	



PERSPECTIVE

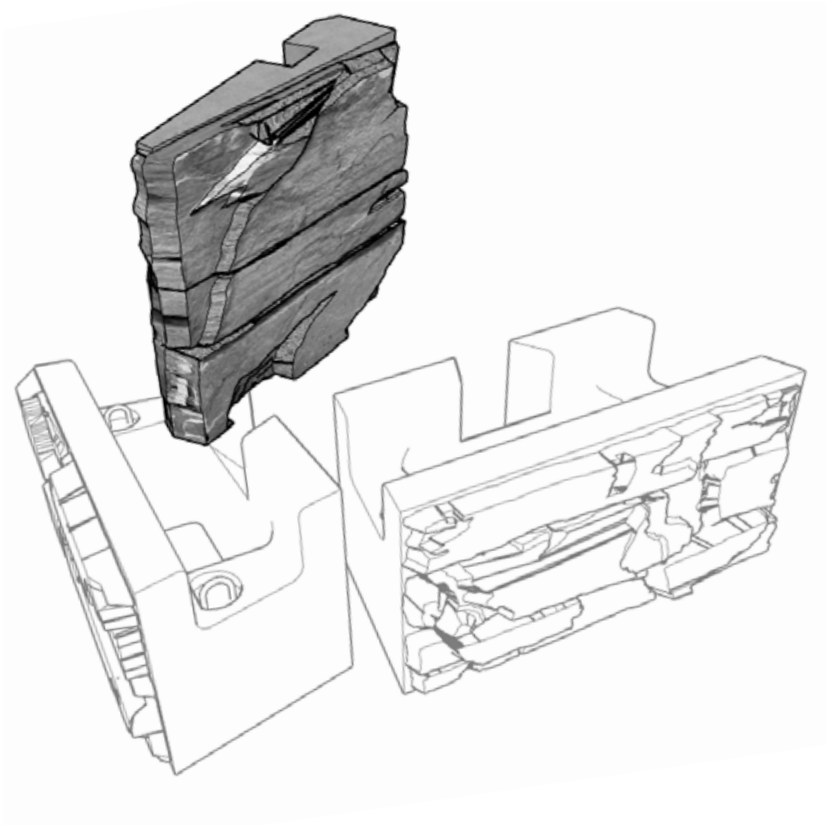


TOP VIEW

SECTION

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MAGNUMSTONE END CAP UNITS



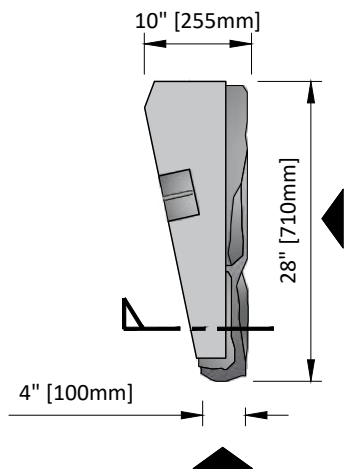
PERSPECTIVE



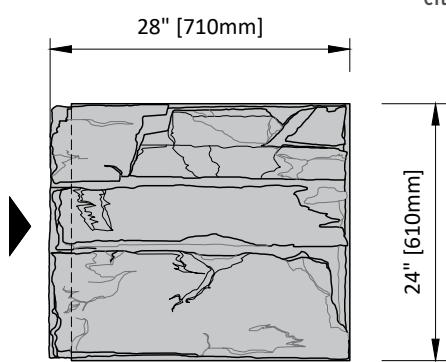
END CAP
340 lbs (154 kgs)

Height	24"	610mm
Depth	24"	610mm
Face Width	28"	710mm
Narrow Width	4"	100mm
Face Area	4.6 sq ft	0.44 m2
Setback	2.4°	

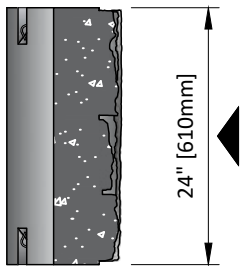
NOTE:
Corner End Units are Universal; Can be used on either Left or Right Side



TOP VIEW



FRONT VIEW



SECTION

Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

MAGNUMSTONE HALF-HIGH END CAP UNITS

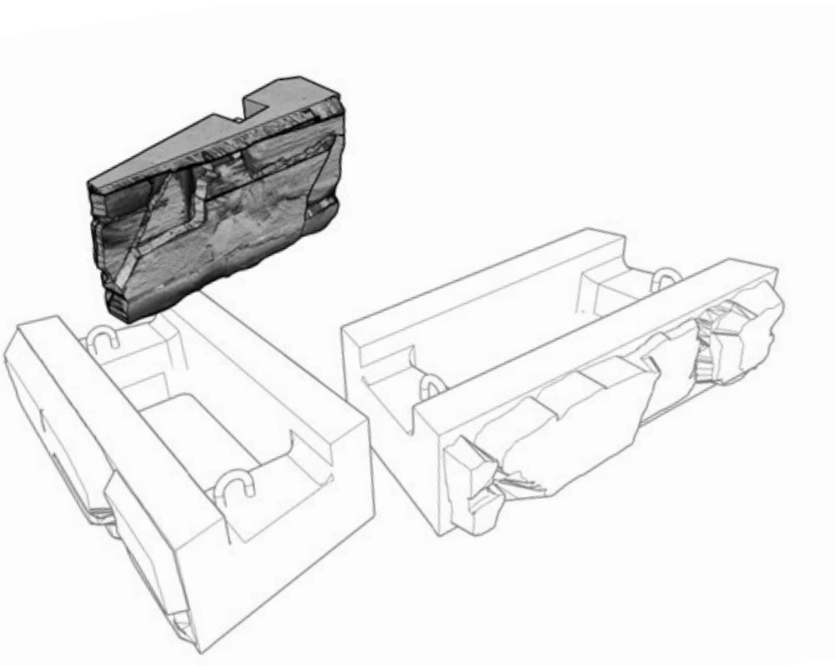


HALF-HIGH END CAP

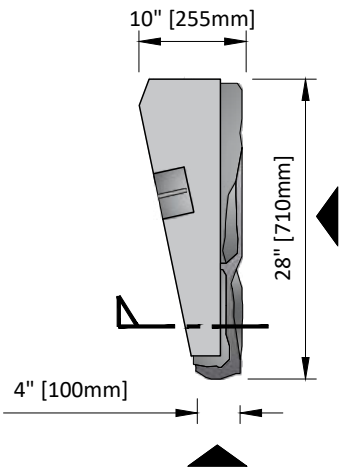
170 lbs (77 kgs)

Height	12"	305mm
Depth	24"	610mm
Face Width	28"	710mm
Narrow Width	4"	100mm
Face Area	2.3 sq ft	0.44 m2
Setback	2.4°	

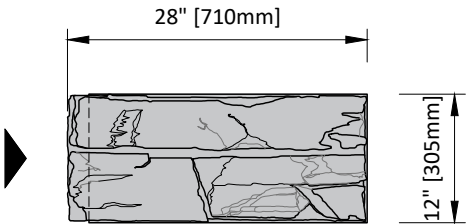
NOTE:
Refer Lifting Hook position for orientation; Lifting
Hook should face upwards



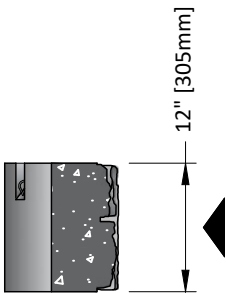
PERSPECTIVE



TOP VIEW



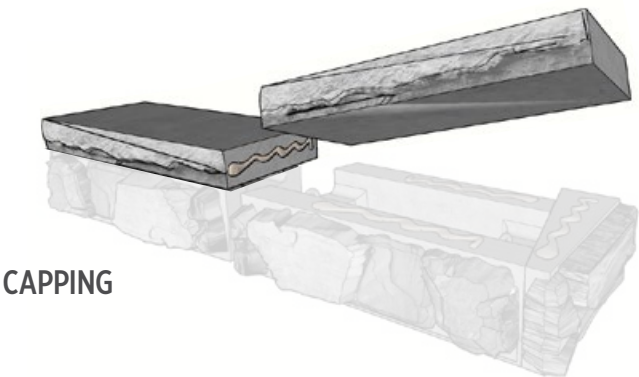
FRONT VIEW



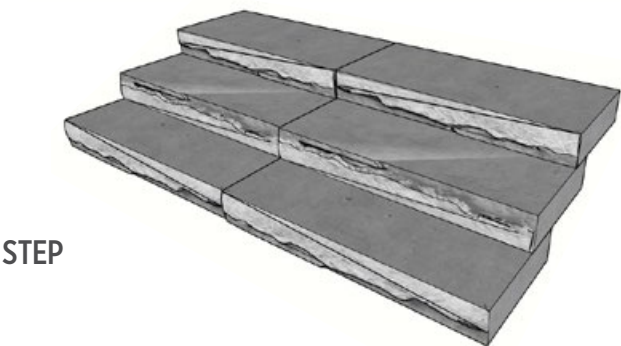
SECTION

Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

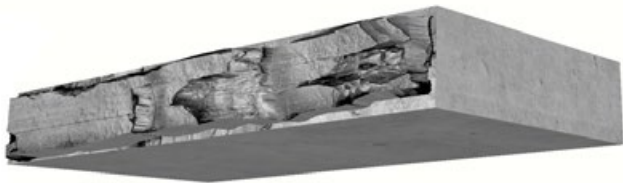
MAGNUMSTONE STEP/CAP UNITS



CAPPING



STEP



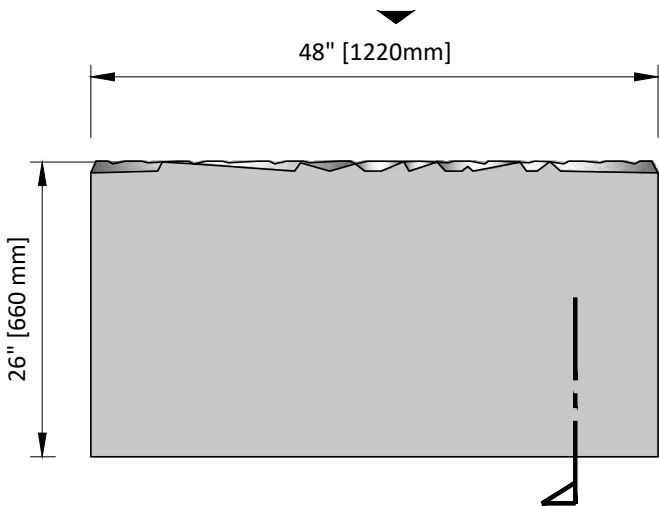
STEP/CAP

580 lbs / 263 kgs

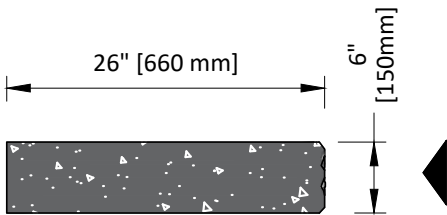
Height	6"	150mm
Depth	26"	660mm
Width	48"	1220mm

NOTE:
Cap Style may vary by Manufacturer

PERSPECTIVE



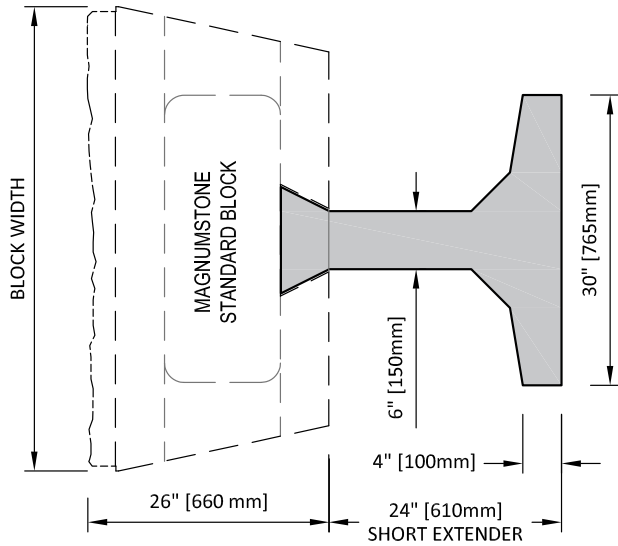
TOP VIEW



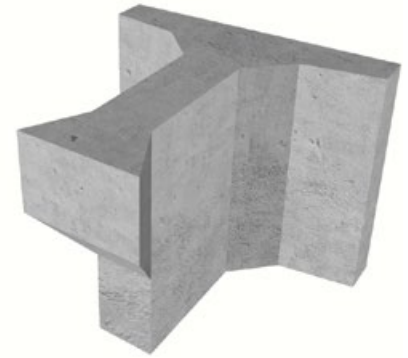
SECTION

Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

MAGNUMSTONE EXTENDER UNITS



TOP VIEW

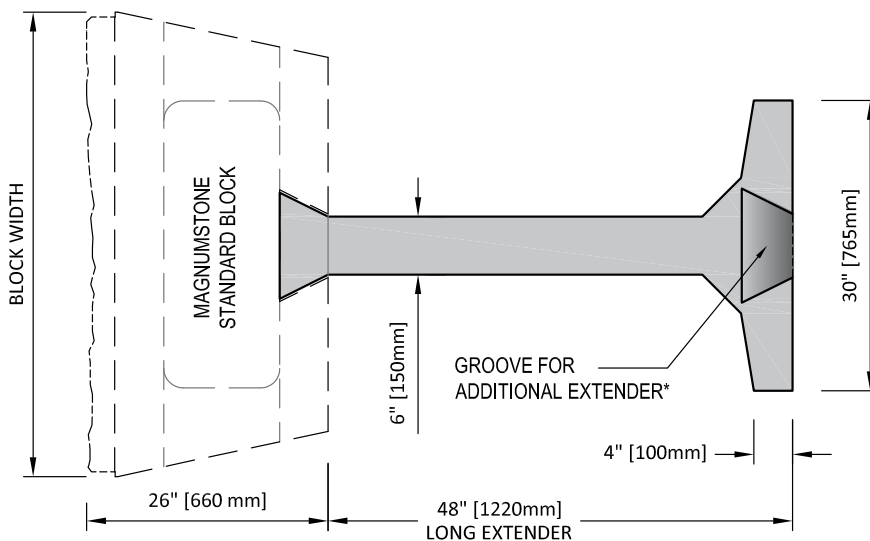


SHORT EXTENDER UNIT

520 lbs (236 kgs)

Height	24"	610mm
Depth	24"	610mm
Width	30"	765mm

NOTE:
For Gravity and Hybrid Retaining walls



TOP VIEW



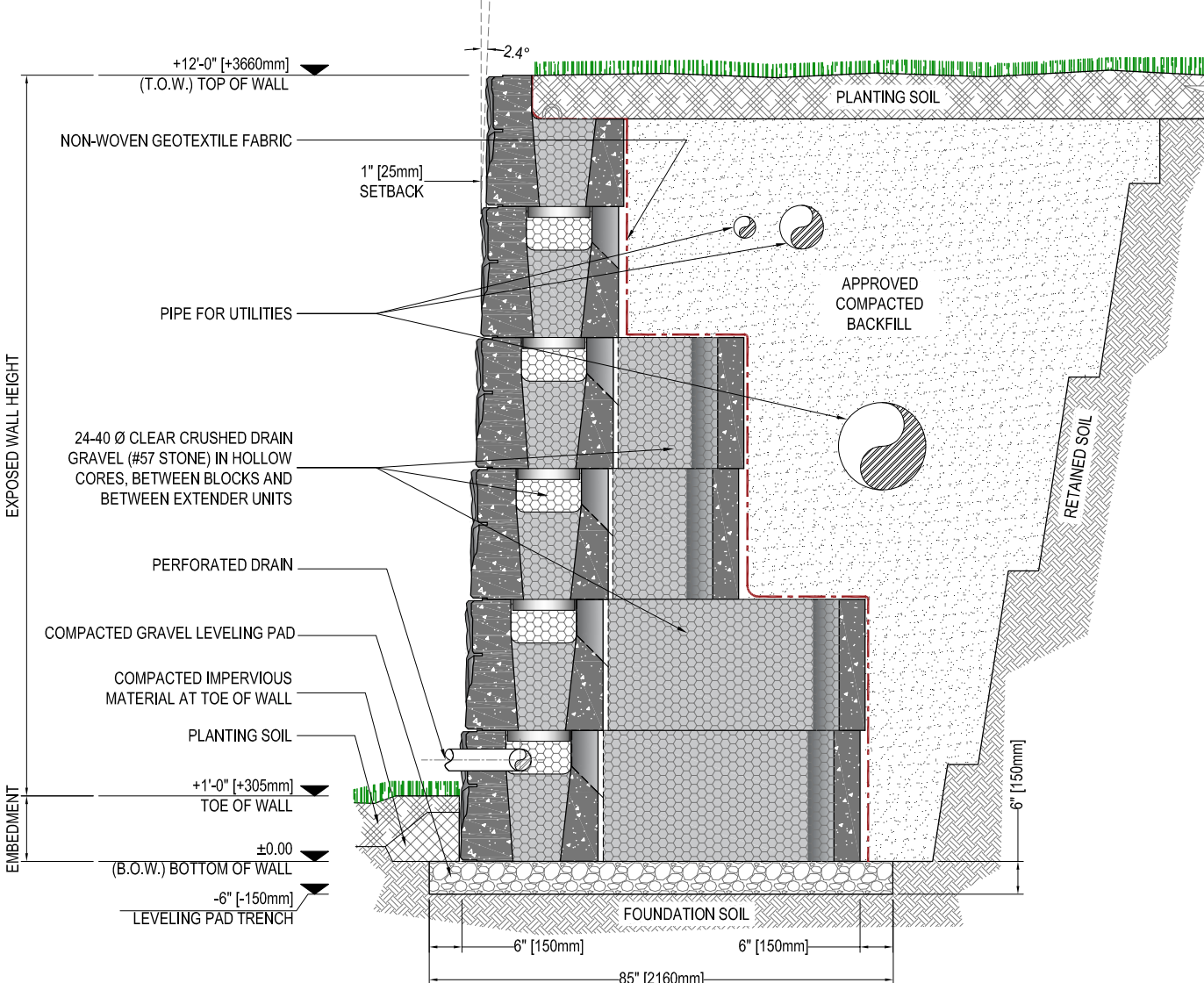
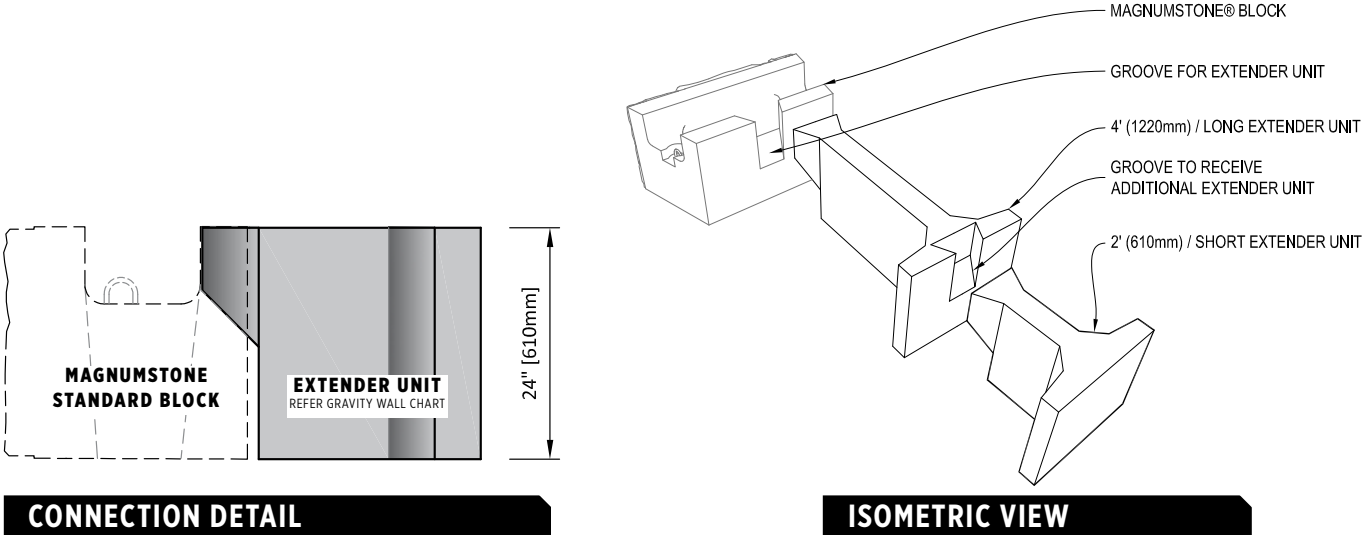
LONG EXTENDER UNIT

820 lbs (372 kgs)

Height	24"	610mm
Depth	48"	1220mm
Width	30"	765mm

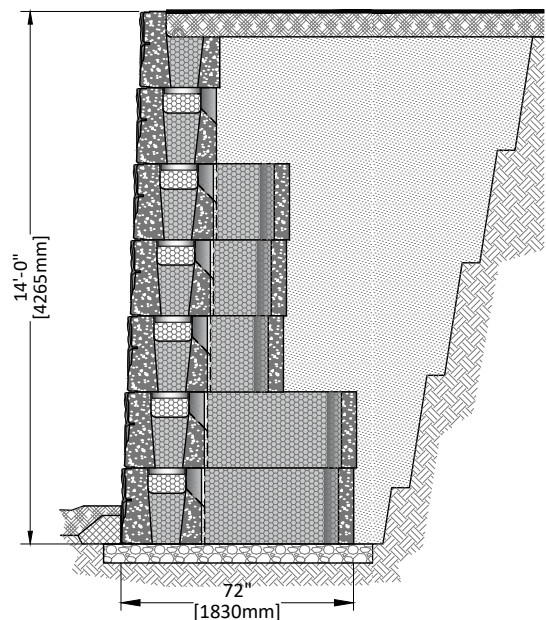
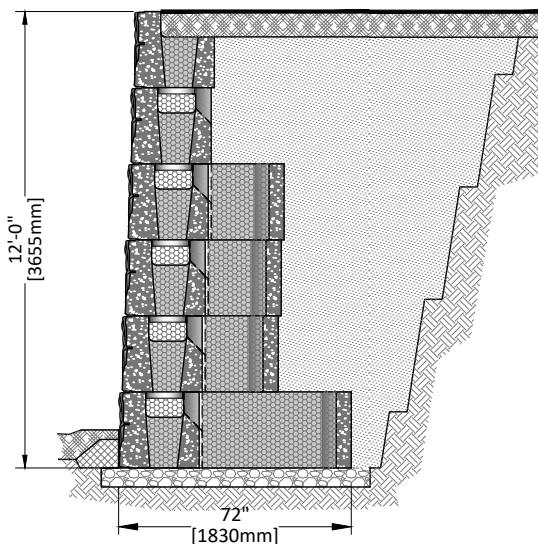
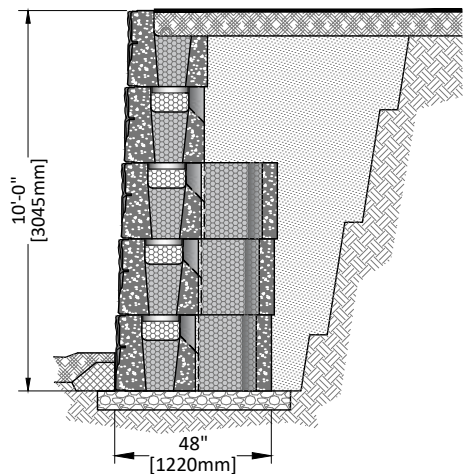
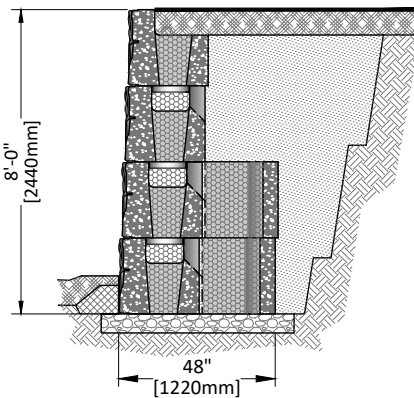
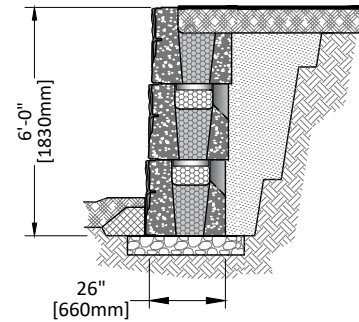
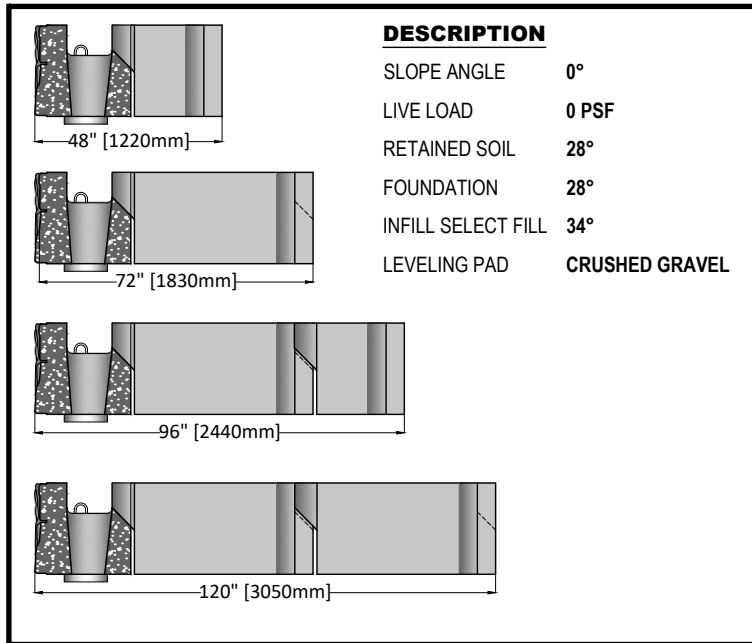
Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

MAGNUMSTONE GRAVITY WALL CROSS SECTION & DETAILS

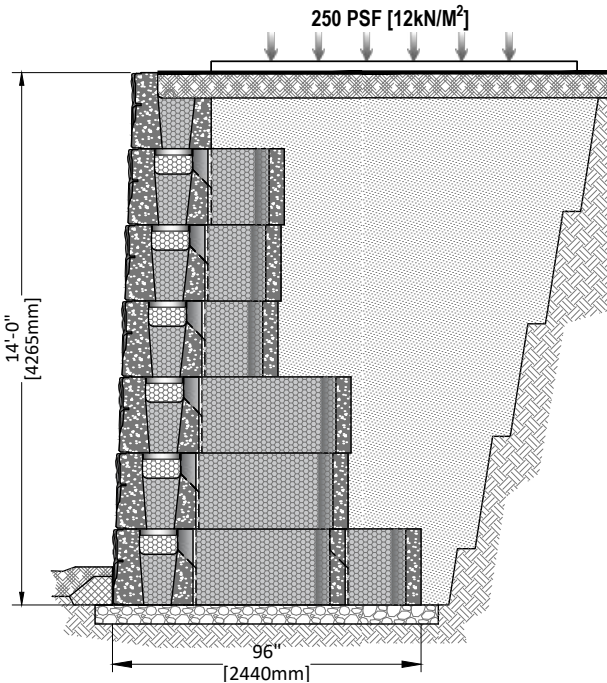
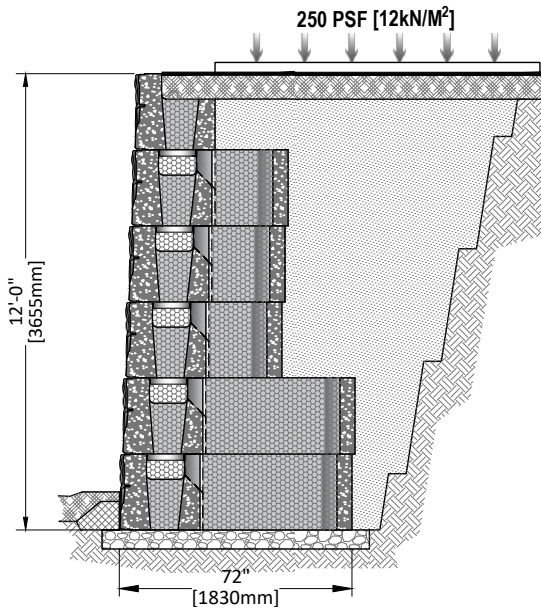
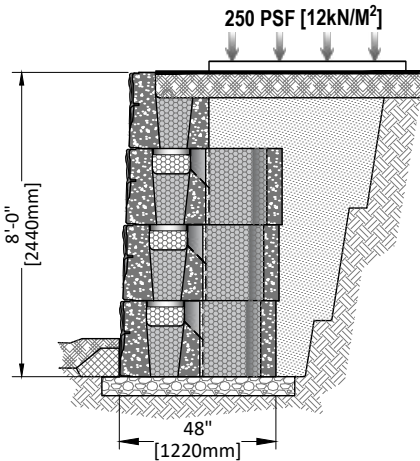
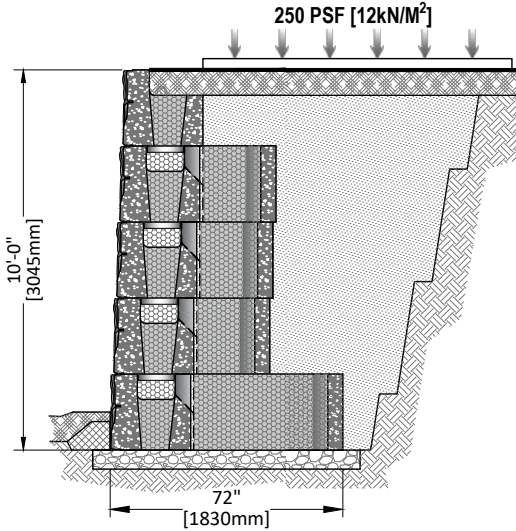
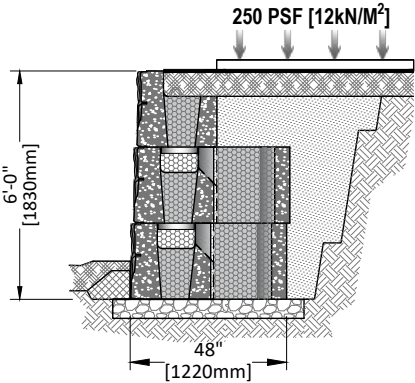
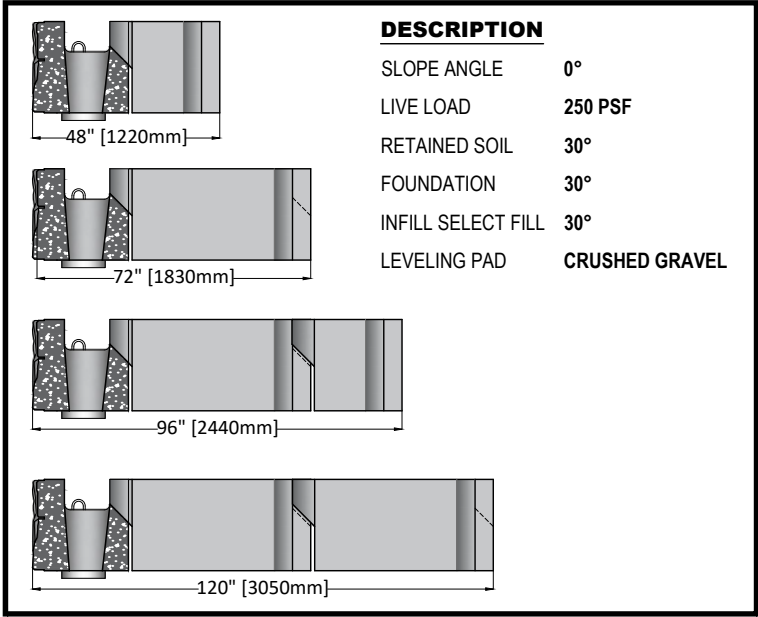


TYPICAL CROSS SECTION

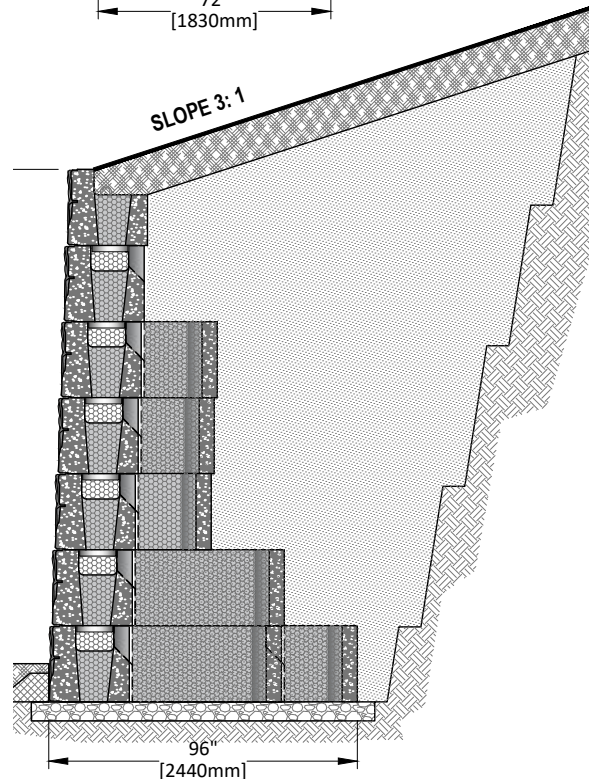
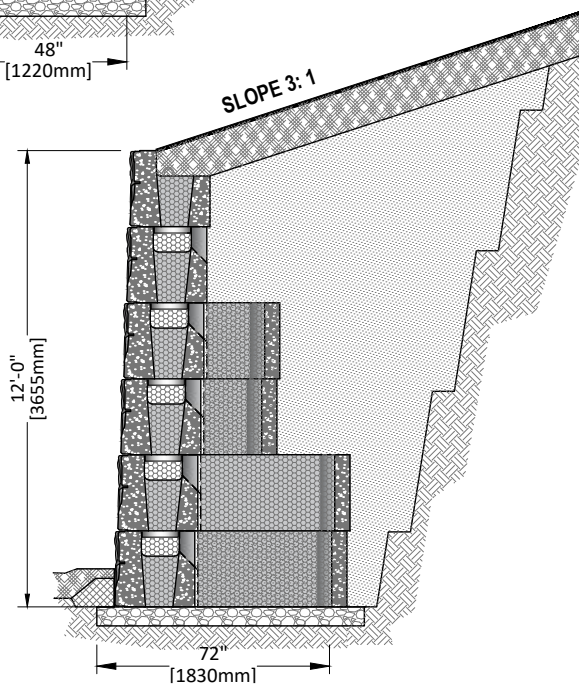
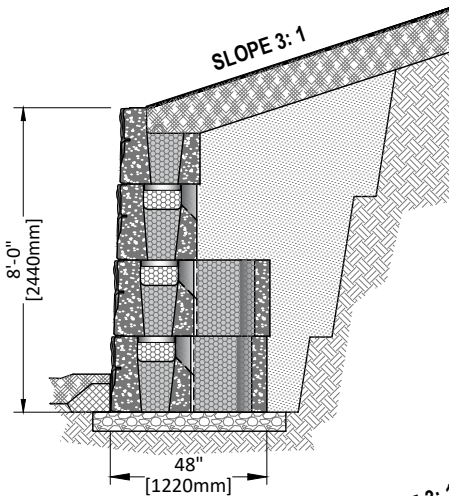
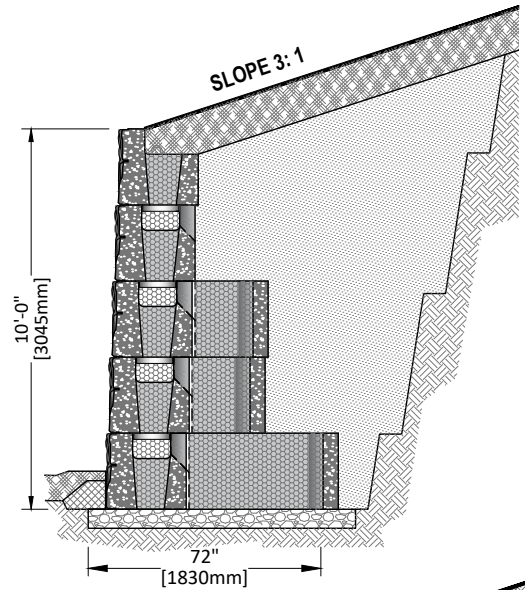
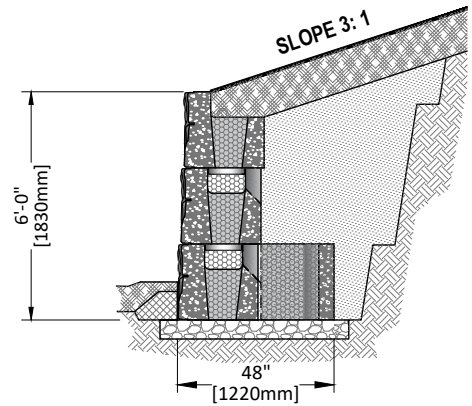
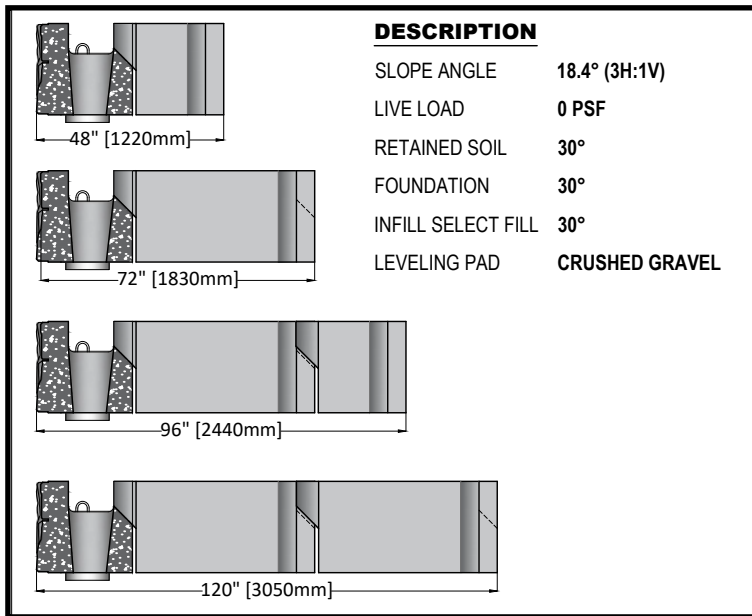
MAGNUMSTONE GRAVITY WALL CHARTS



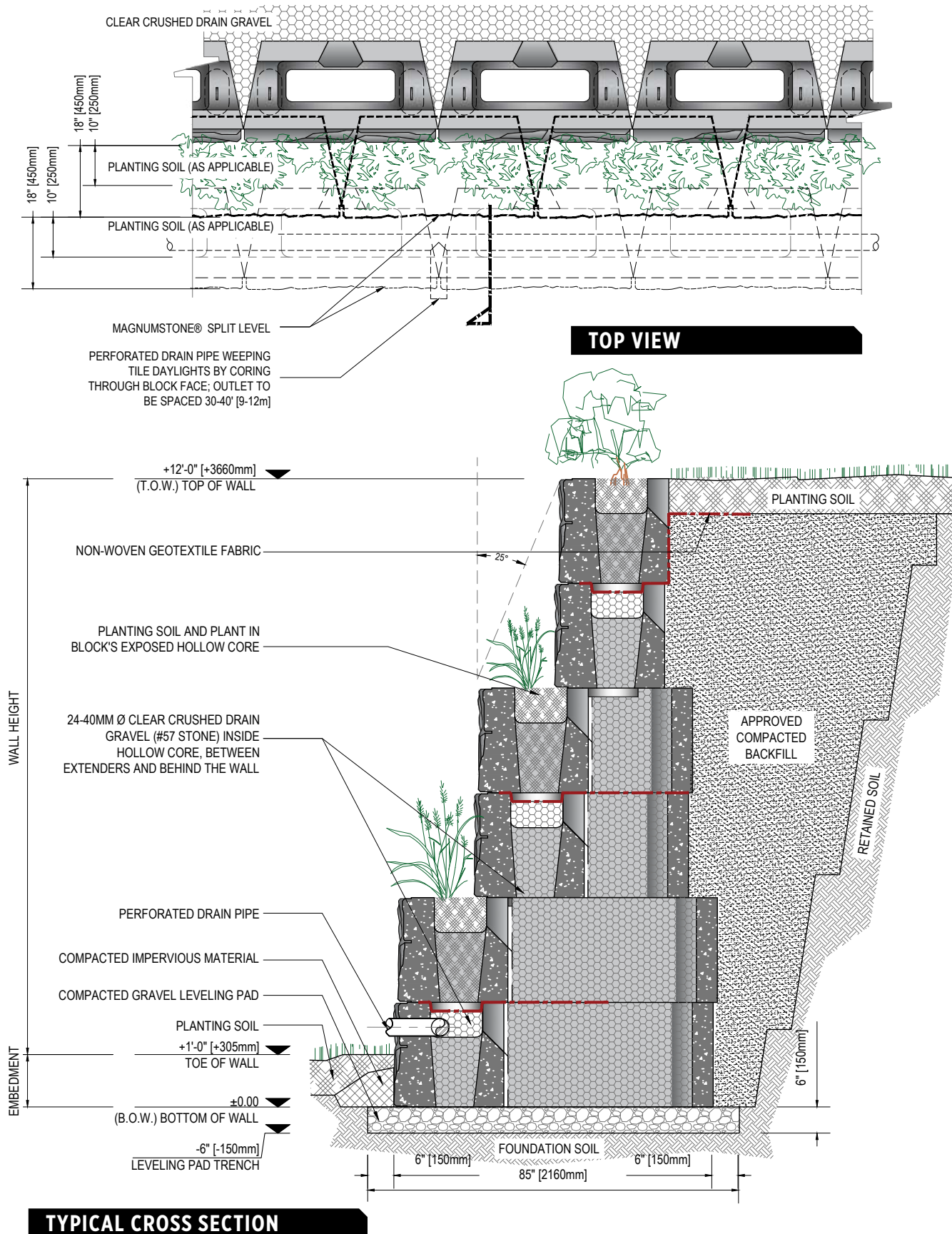
MAGNUMSTONE GRAVITY WALL CHARTS



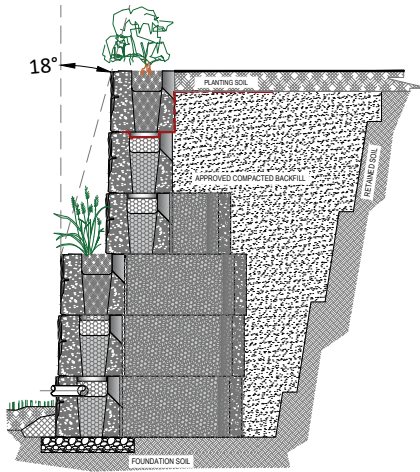
MAGNUMSTONE GRAVITY WALL CHARTS



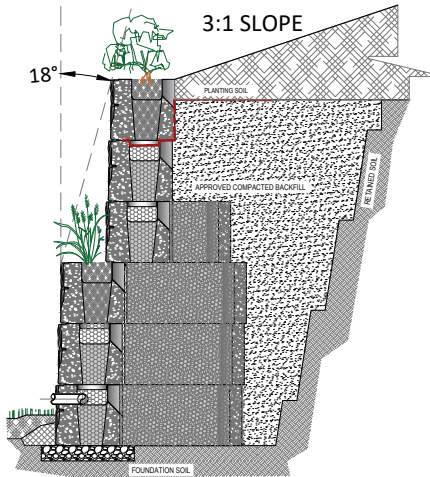
MAGNUMSTONE PLANTABLE WALL



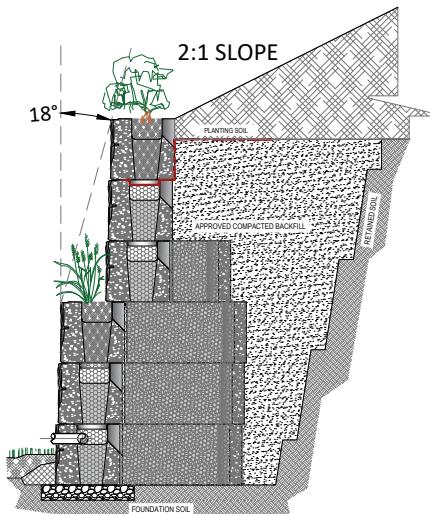
MAGNUMSTONE 18° SETBACK PLANTABLE WALL



SOIL TYPE	HEIGHT EXPOSED	HEIGHT EMBEDDED	TOTAL
34° SOIL	10.4' [3170 mm]	0.6' [183 mm]	11' [3353 mm]
30° SOIL	8.5' [2591 mm]	0.5' [152 mm]	9' [2743 mm]
26° SOIL	6.5' [1981 mm]	0.5' [152 mm]	7' [2134 mm]



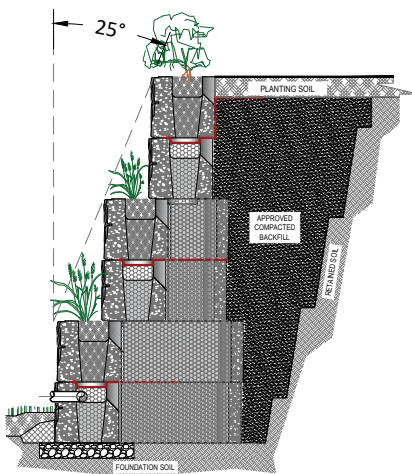
SOIL TYPE	HEIGHT EXPOSED	HEIGHT EMBEDDED	TOTAL
34° SOIL	8.5' [2591 mm]	0.5' [152 mm]	9' [2743 mm]
30° SOIL	N/A	N/A	N/A
26° SOIL	N/A	N/A	N/A



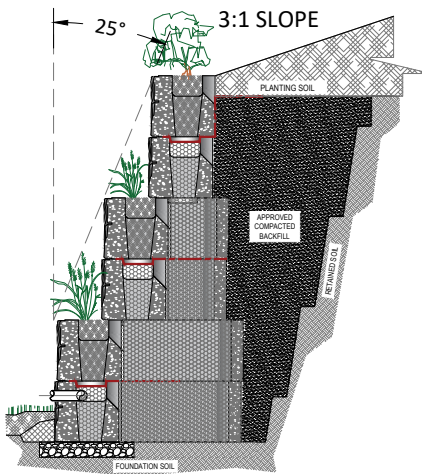
SOIL TYPE	HEIGHT EXPOSED	HEIGHT EMBEDDED	TOTAL
34° SOIL	6.5' [1981 mm]	0.5' [152 mm]	7' [2134 mm]
30° SOIL	N/A	N/A	N/A
26° SOIL	N/A	N/A	N/A

DISCLAIMER: This chart is for initial estimation purposes only. Do not use for final design or construction. Retain a licensed professional engineer to design every wall on a case-by-case basis using site specific criteria. The accuracy and use of this document are the sole responsibility of the user. All calculations were performed based on NCMA methodology using factors of safety of 1.5 for sliding and overturning. The bearing capacity of base soils will be no less than 3,000 pounds per square foot (psf). All soils have been assumed to be less than 125 pounds per cubic foot (pcf). Global Stability Analysis has not been performed.

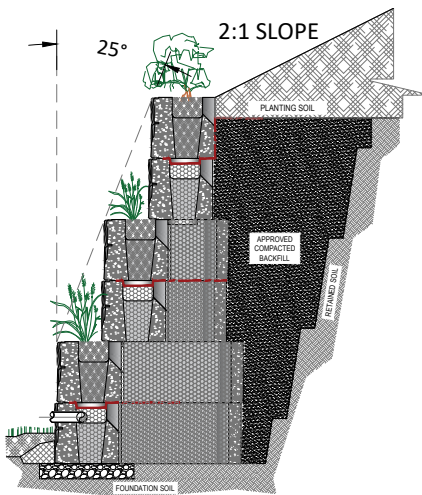
MAGNUMSTONE 25° SETBACK PLANTABLE WALL



SOIL TYPE	HEIGHT EXPOSED	HEIGHT EMBEDDED	TOTAL
34° SOIL	14.2' [4329 mm]	0.8' [244 mm]	15' [4572 mm]
30° SOIL	10.4' [3170 mm]	0.6' [183 mm]	11' [3353 mm]
26° SOIL	7.5' [2286 mm]	0.5' [152 mm]	8' [2438 mm]



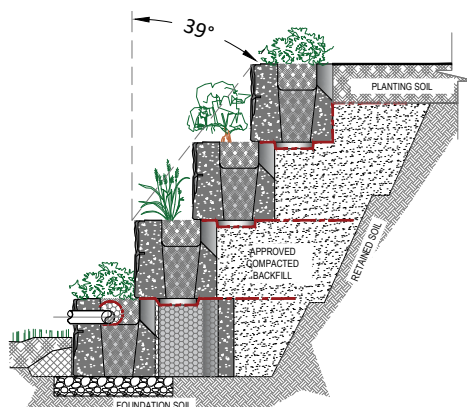
SOIL TYPE	HEIGHT EXPOSED	HEIGHT EMBEDDED	TOTAL
34° SOIL	11.3' [3444 mm]	0.7' [213 mm]	12' [3658 mm]
30° SOIL	7.5' [2286 mm]	0.5' [152 mm]	8' [2438 mm]
26° SOIL	5.5' [1676mm]	0.5' [152 mm]	6' [1829 mm]



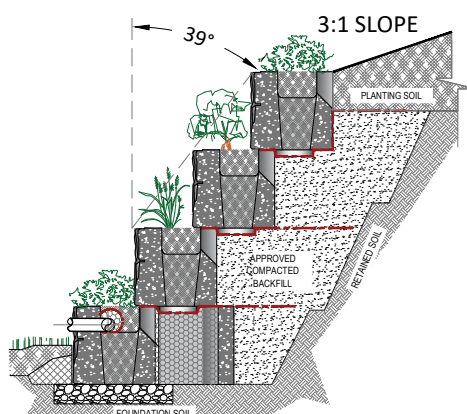
SOIL TYPE	HEIGHT EXPOSED	HEIGHT EMBEDDED	TOTAL
34° SOIL	9.4' [2865 mm]	0.6' [183 mm]	10' [3048 mm]
30° SOIL	5.5' [1676 mm]	0.5' [152 mm]	6' [1829 mm]
26° SOIL	N/A	N/A	N/A

DISCLAIMER: This chart is for initial estimation purposes only. Do not use for final design or construction. Retain a licensed professional engineer to design every wall on a case-by-case basis using site specific criteria. The accuracy and use of this document are the sole responsibility of the user. All calculations were performed based on NCMA methodology using factors of safety of 1.5 for sliding and overturning. The bearing capacity of base soils will be no less than 3,000 pounds per square foot (psf). All soils have been assumed to be less than 125 pounds per cubic foot (pcf). Global Stability Analysis has not been performed.

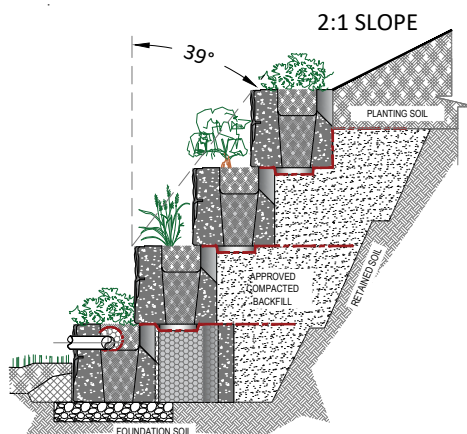
MAGNUMSTONE 39° SETBACK PLANTABLE WALL



SOIL TYPE	HEIGHT EXPOSED	HEIGHT EMBEDDED	TOTAL
34° SOIL	20.9' [6367 mm]	1.1' [335 mm]	22.0' [6706 mm]
30° SOIL	20.9' [6367 mm]	1.1' [335 mm]	22.0' [6706 mm]
26° SOIL	14.2' [4330 mm]	0.8' [244 mm]	15.0' [4572 mm]



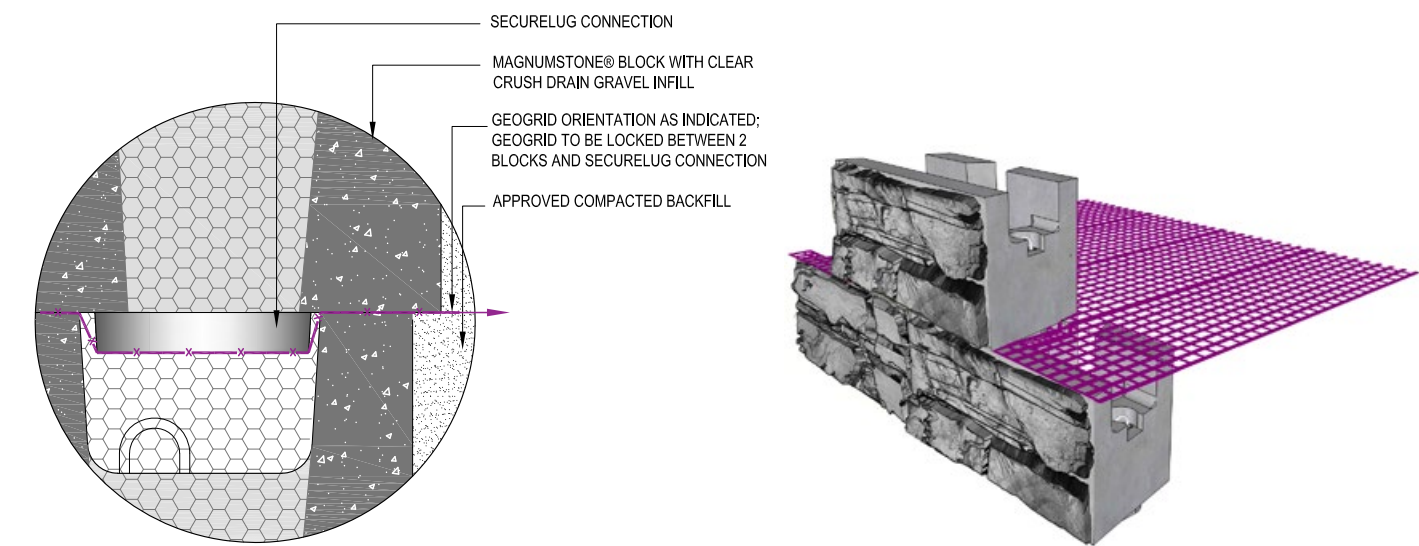
SOIL TYPE	HEIGHT EXPOSED	HEIGHT EMBEDDED	TOTAL
34° SOIL	20.9' [6367 mm]	1.1' [335 mm]	22.0' [6706 mm]
30° SOIL	17.0' [5182 mm]	1.0' [305 mm]	18.0' [5486 mm]
26° SOIL	10.4' [3170 mm]	0.6' [183mm]	11.0' [3353 mm]



SOIL TYPE	HEIGHT EXPOSED	HEIGHT EMBEDDED	TOTAL
34° SOIL	20.9' [6367 mm]	1.1' [335 mm]	22.0' [6706 mm]
30° SOIL	13.2' [4026 mm]	0.8' [244 mm]	14.0' [4267 mm]
26° SOIL	N/A	N/A	N/A

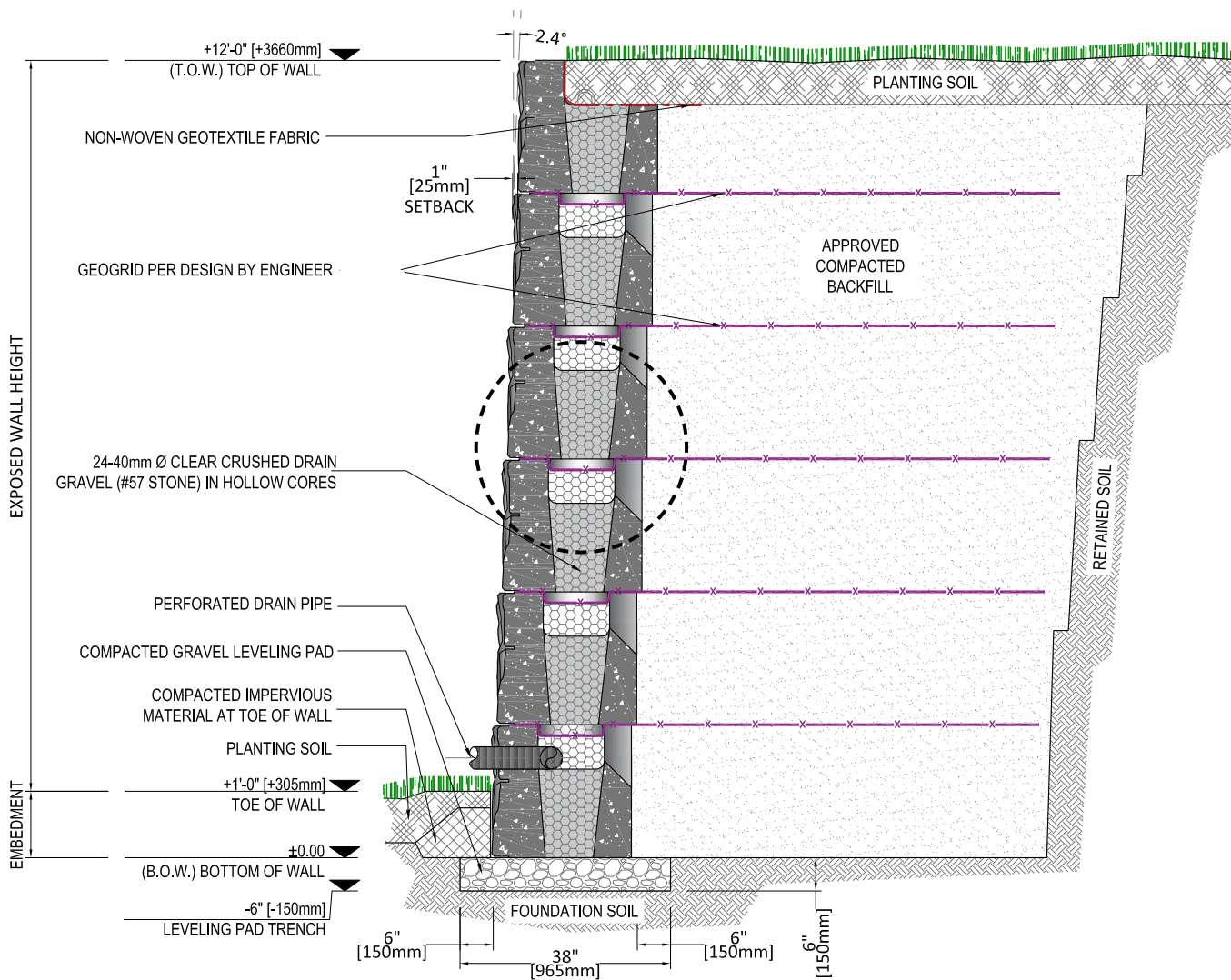
DISCLAIMER: This chart is for initial estimation purposes only. Do not use for final design or construction. Retain a licensed professional engineer to design every wall on a case-by-case basis using site specific criteria. The accuracy and use of this document are the sole responsibility of the user. All calculations were performed based on NCMA methodology using factors of safety of 1.5 for sliding and overturning. The bearing capacity of base soils will be no less than 3,000 pounds per square foot (psf). All soils have been assumed to be less than 125 pounds per cubic foot (pcf). Global Stability Analysis has not been performed.

MAGNUMSTONE GEOGRID WALL



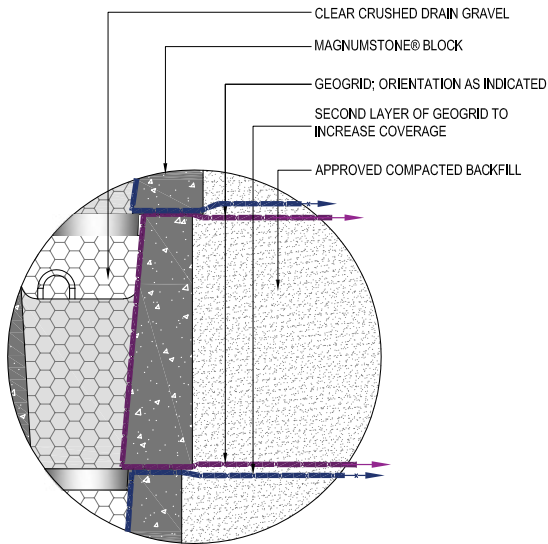
CONNECTION DETAIL

ISOMETRIC VIEW

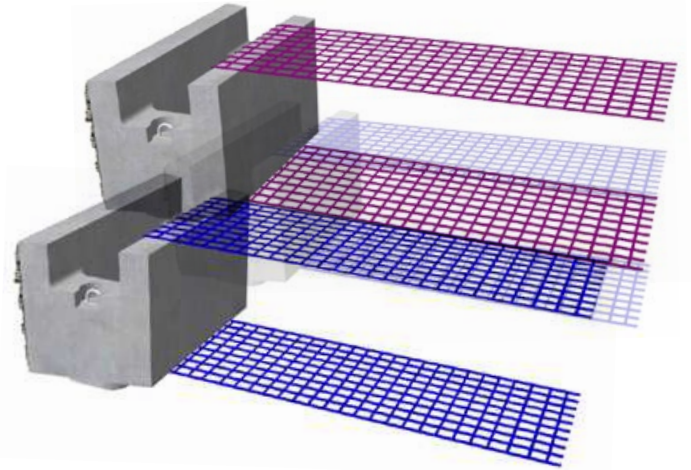


TYPICAL CROSS SECTION

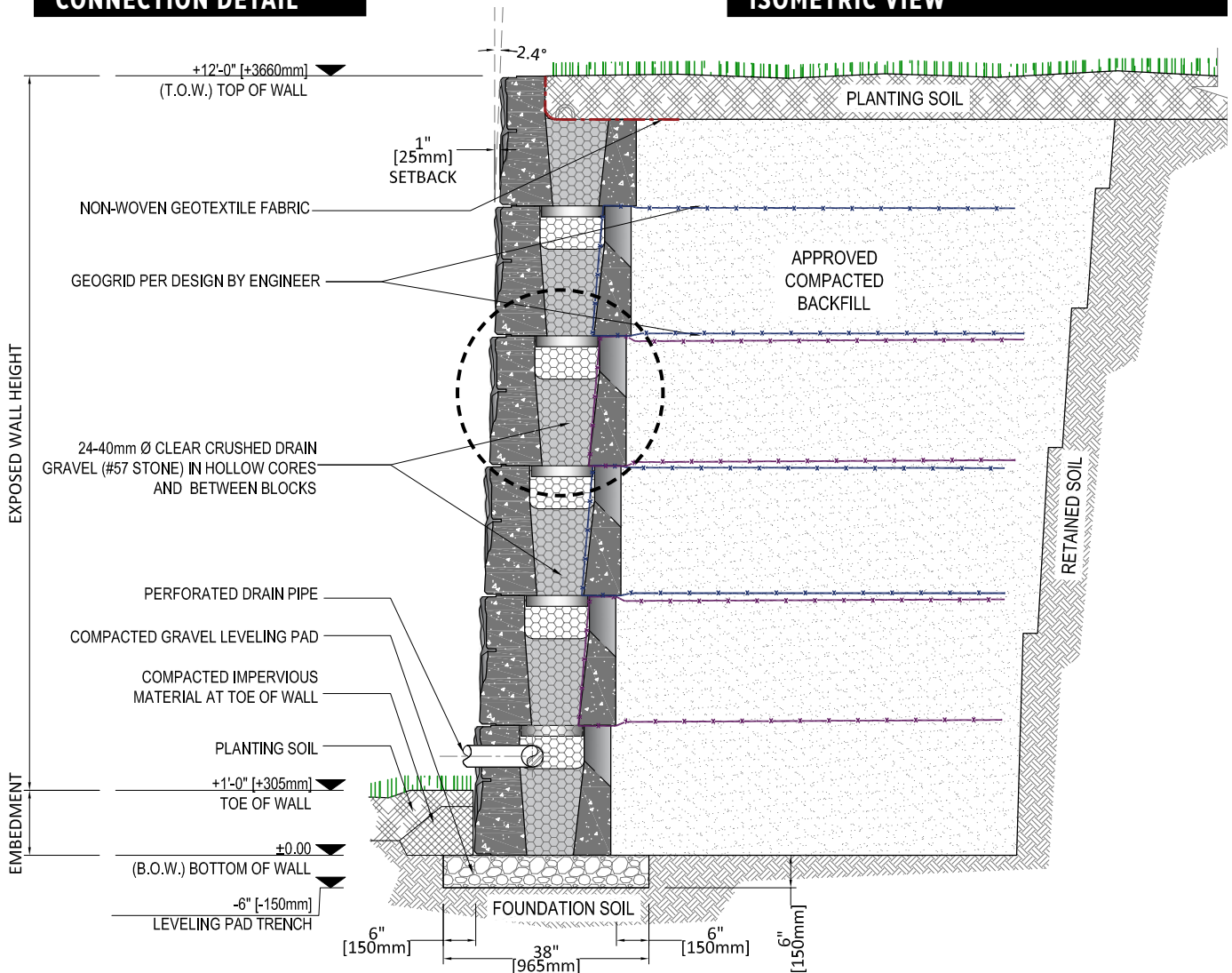
MAGNUMSTONE POSITIVE CONNECTION WALL



CONNECTION DETAIL

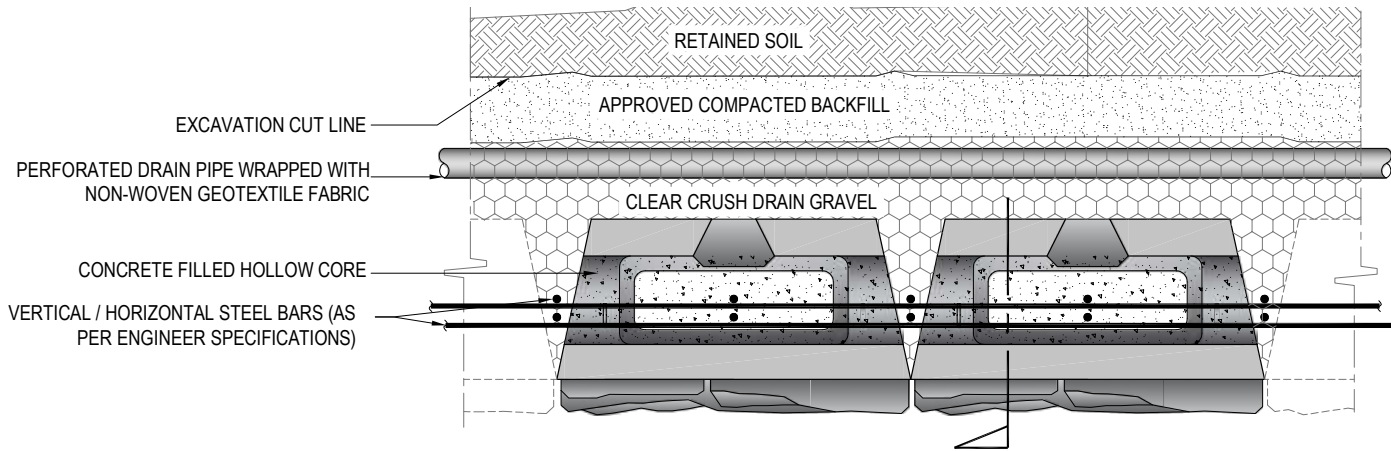


ISOMETRIC VIEW

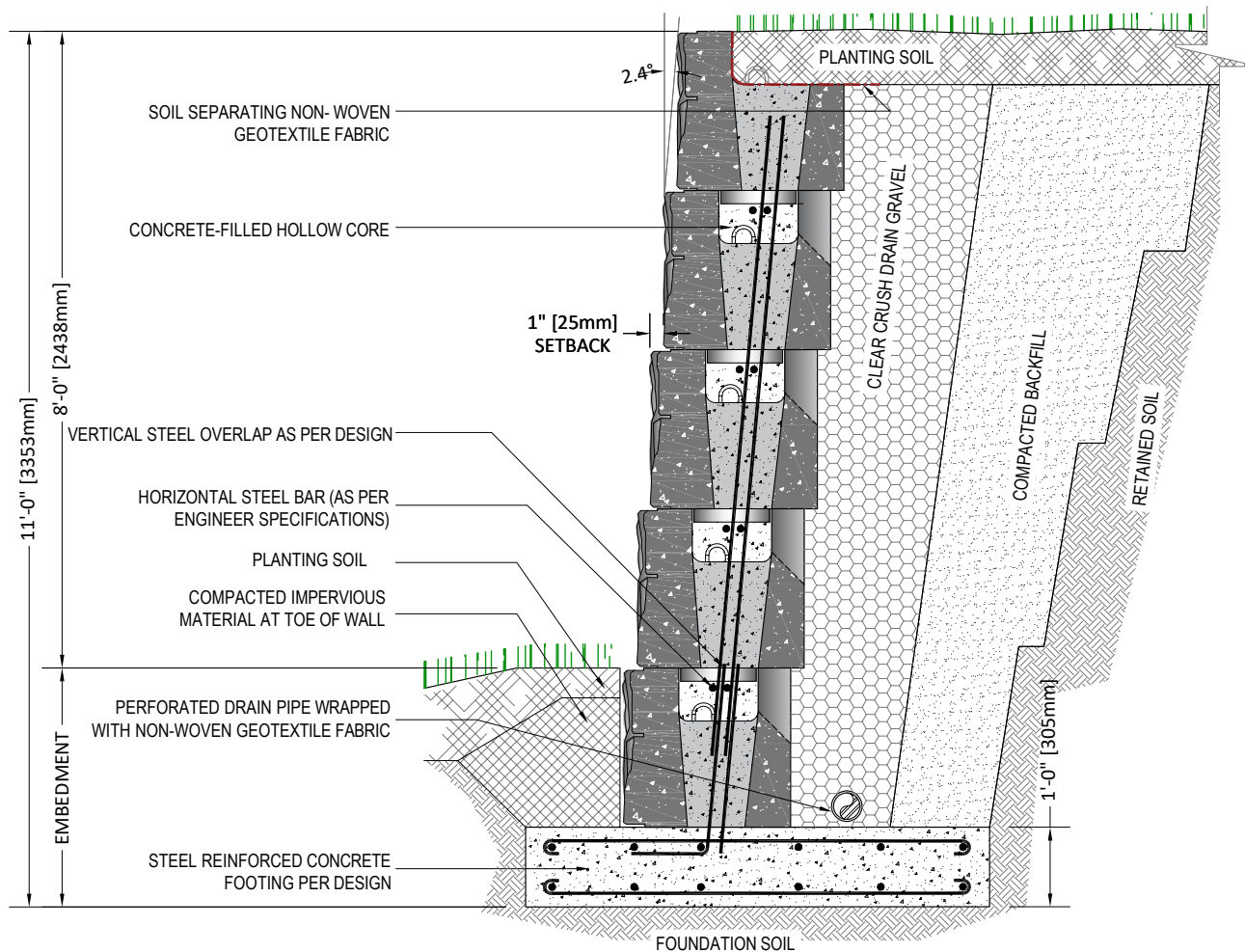


TYPICAL CROSS SECTION

MAGNUMSTONE CANTILEVER WALL

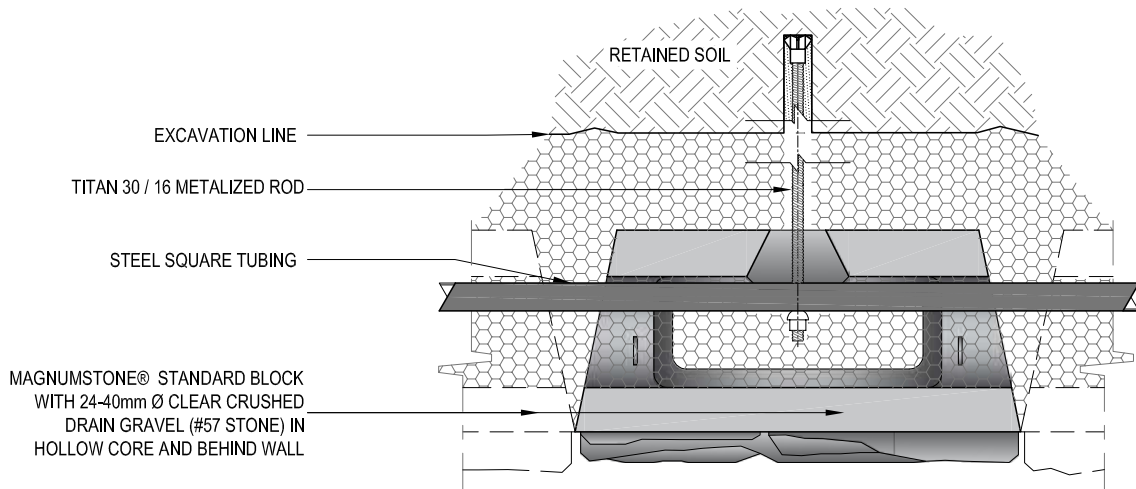


TOP VIEW

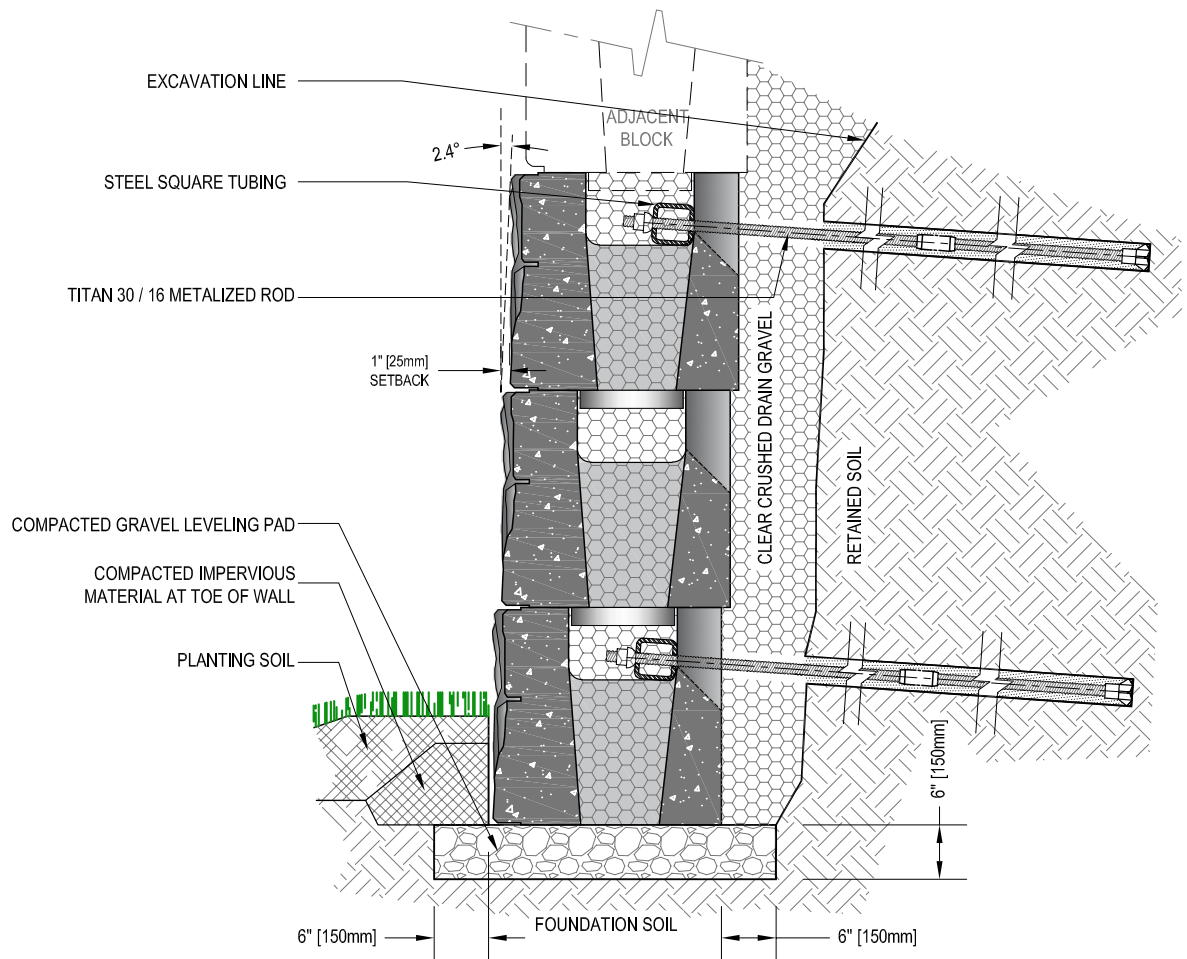


TYPICAL CROSS SECTION

MAGNUMSTONE SOIL NAILING

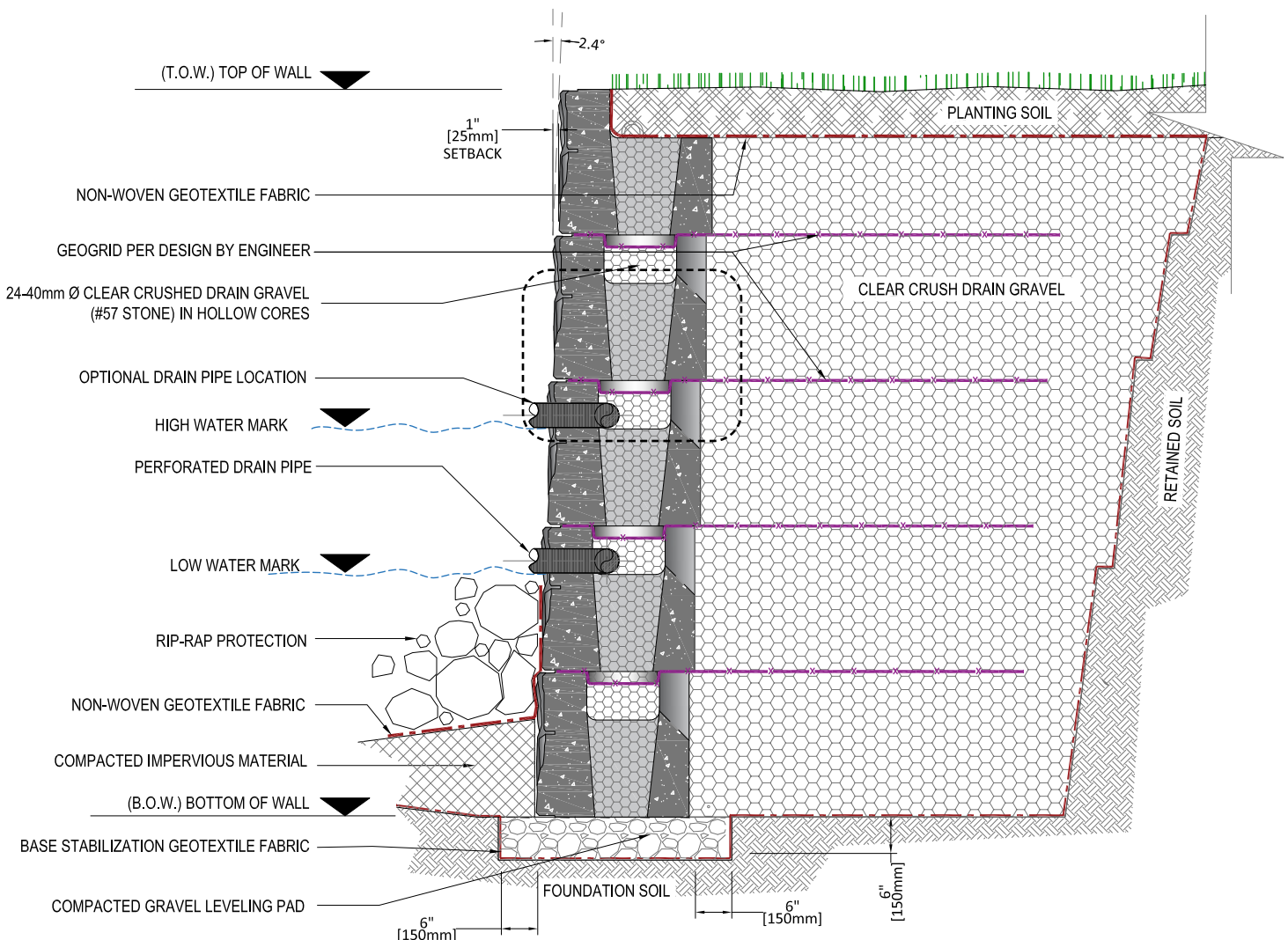
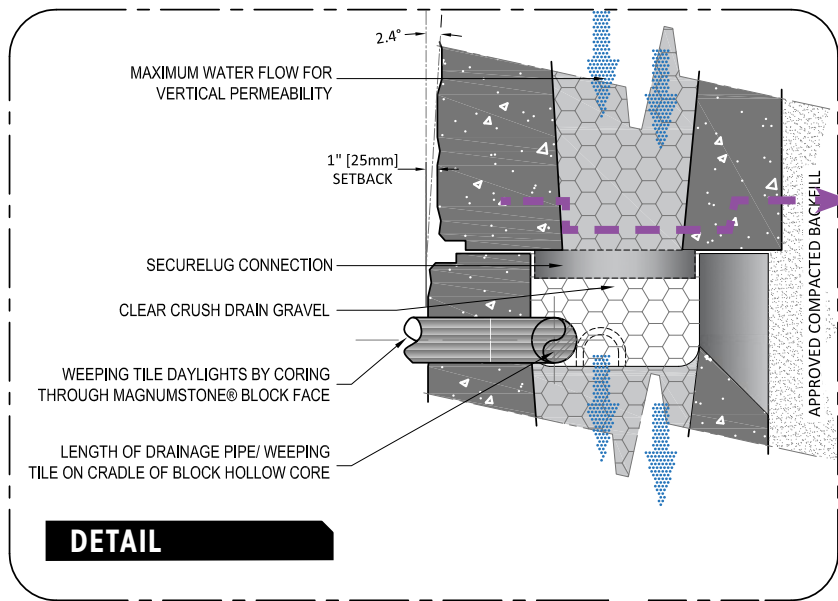


TOP VIEW

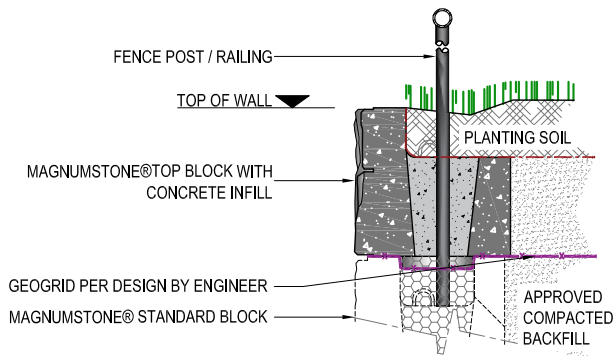


TYPICAL CROSS SECTION

MAGNUMSTONE WATER APPLICATION/DRAINAGE

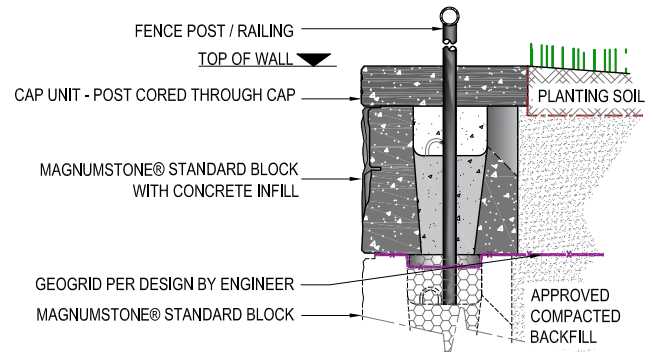


MAGNUMSTONE FENCE/POST OPTIONS



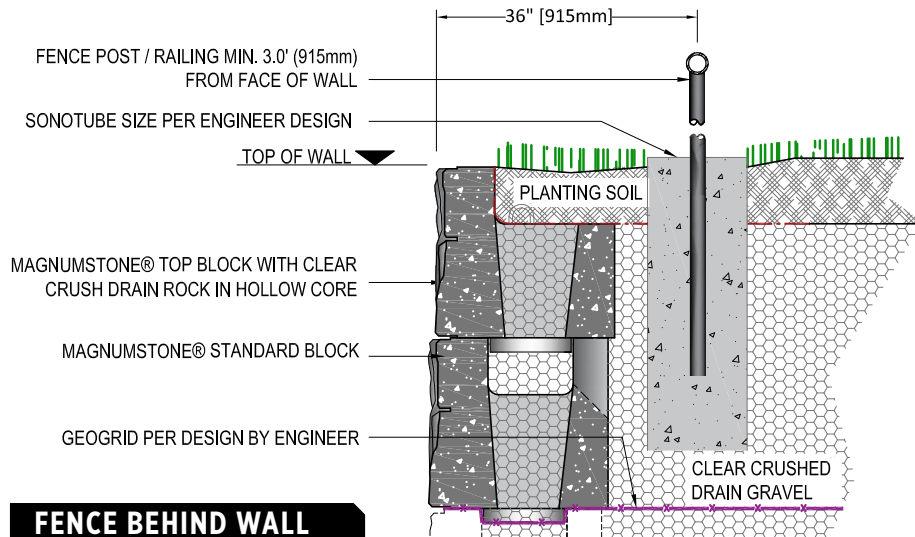
GENERAL NOTE:

1. Fence post / railing design by others
2. Design to be performed by engineer

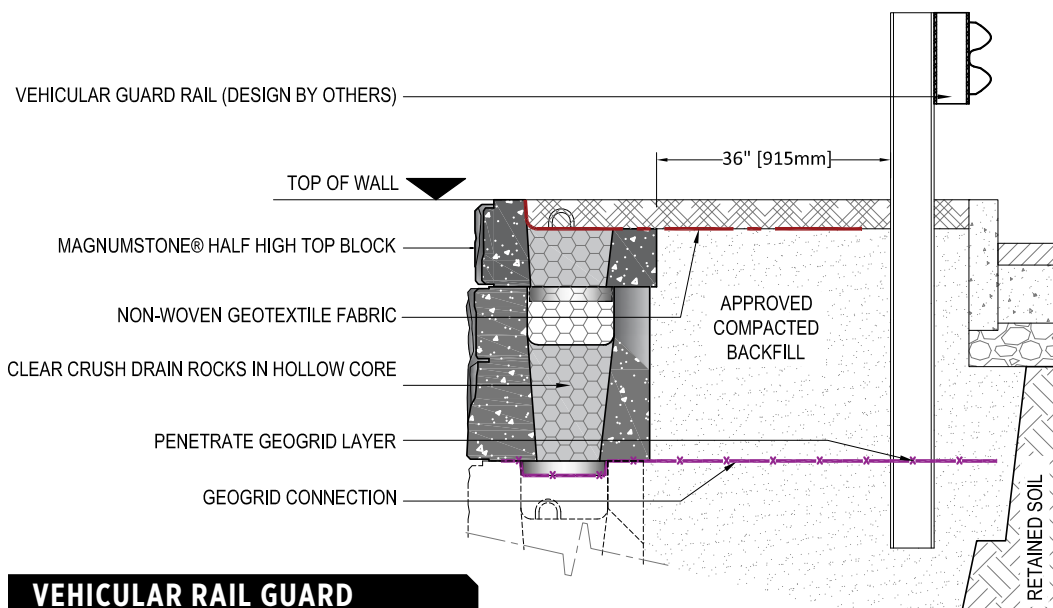


THROUGH HOLLOW CORE

THROUGH HOLLOW CORE WITH CAPPING

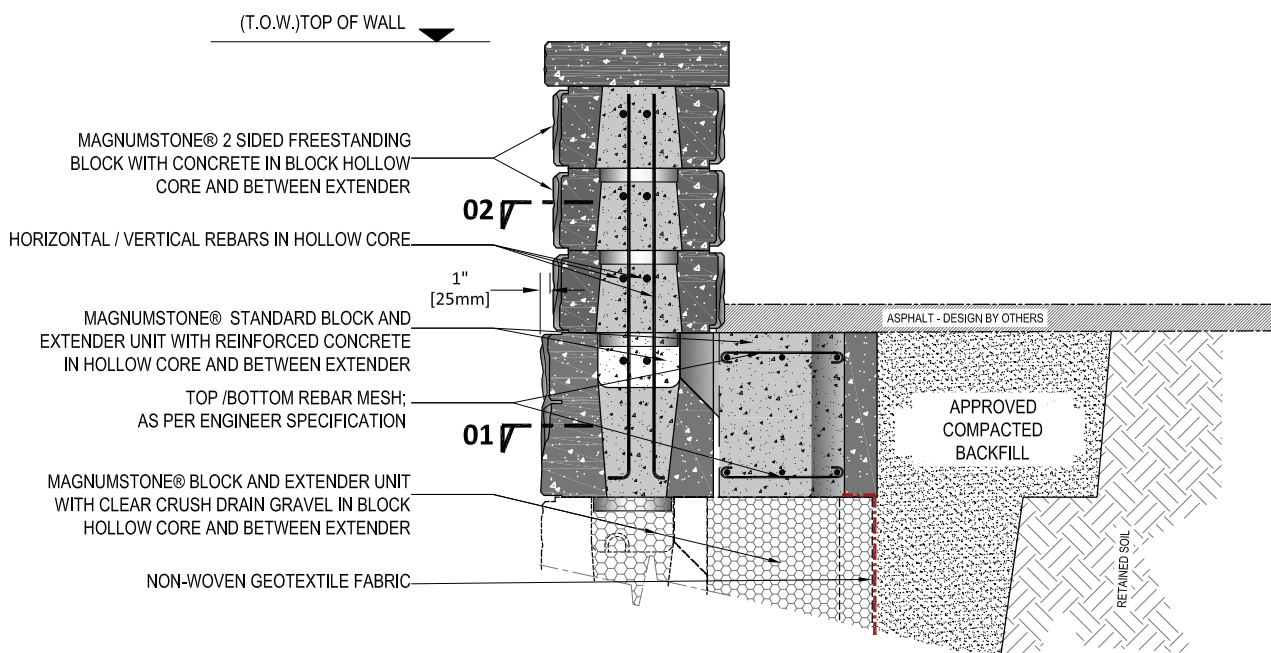
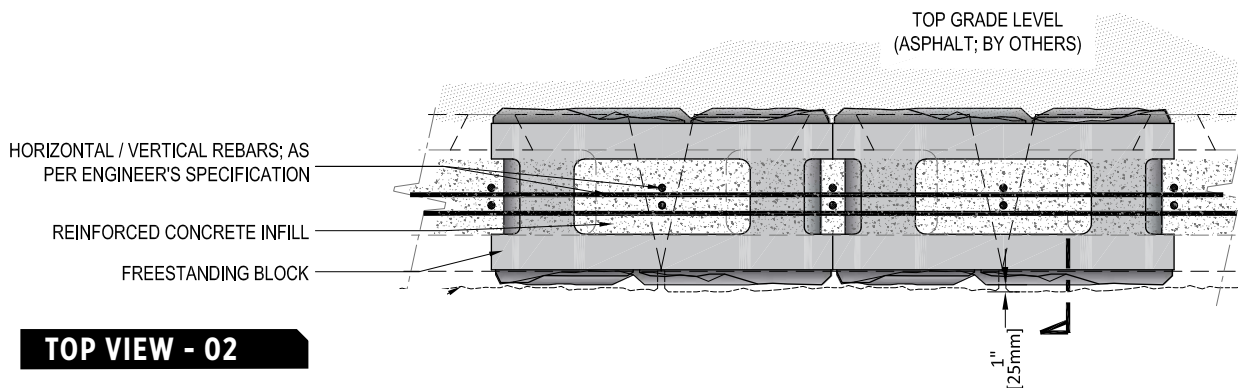
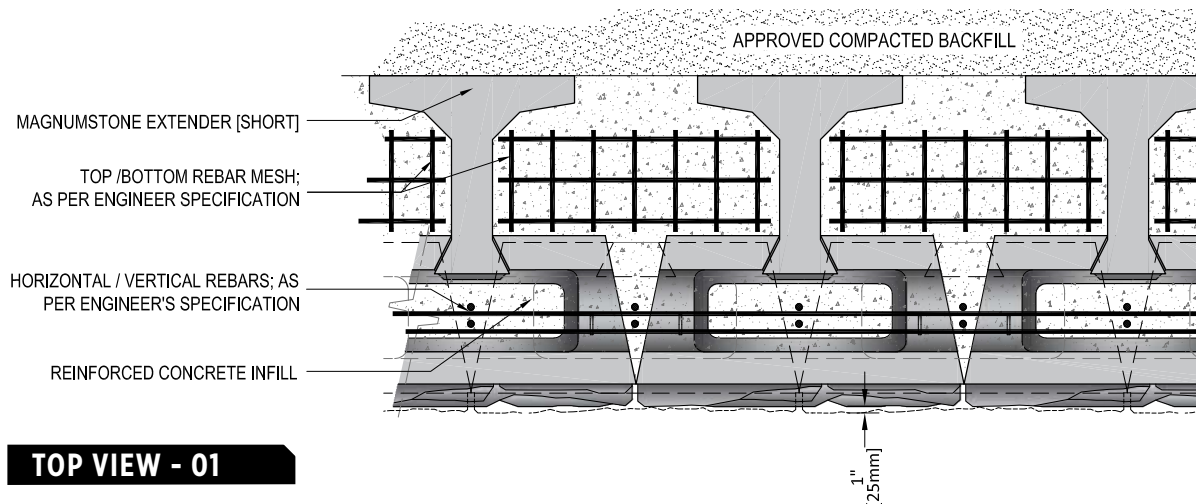


FENCE BEHIND WALL

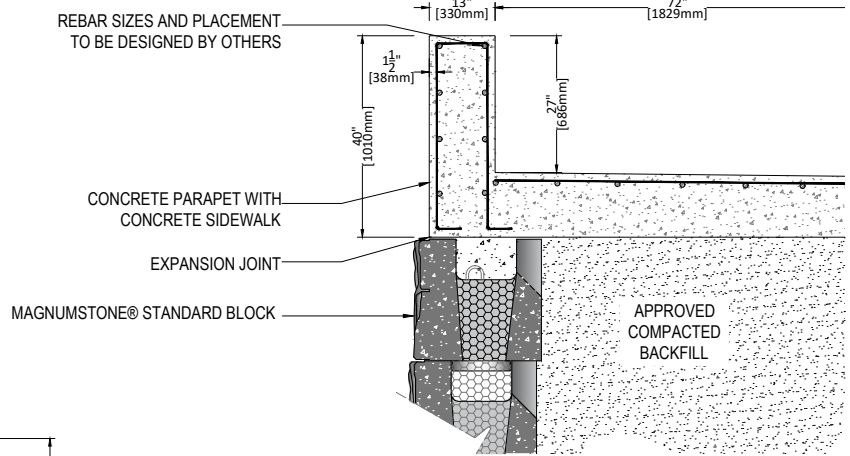


VEHICULAR RAIL GUARD

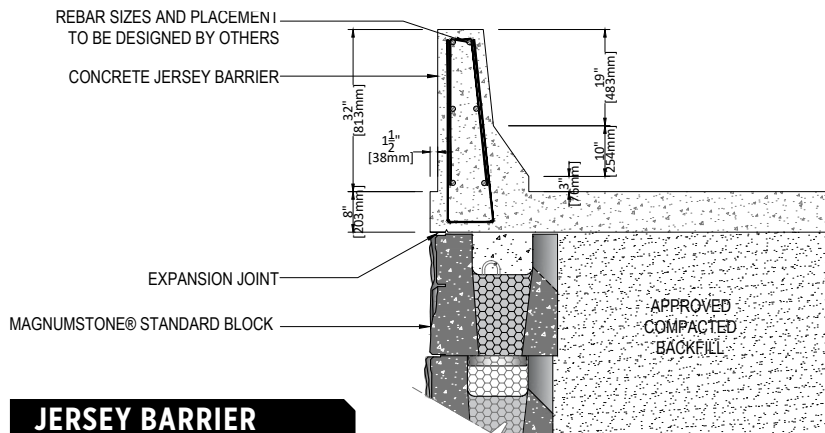
MAGNUMSTONE FREESTANDING PARAPET WALL



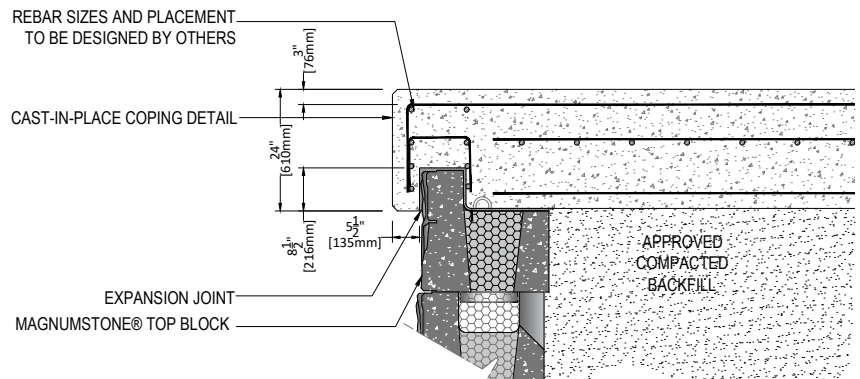
MAGNUMSTONE TOP OF WALL BARRIER OPTIONS



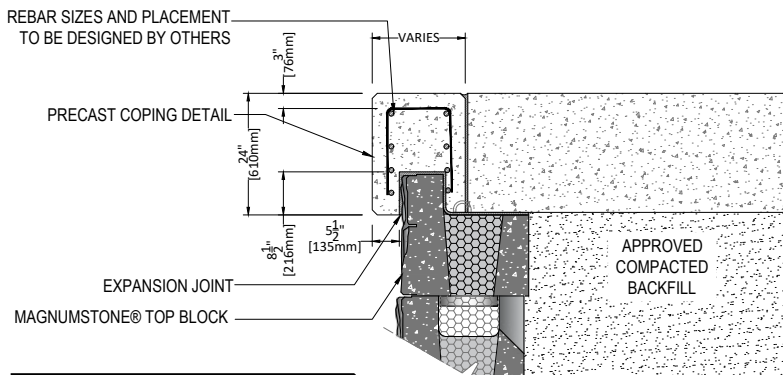
CONCRETE PARAPET



JERSEY BARRIER



CAST-IN-PLACE COPING



PRECAST COPING



MagnumStone®
RETAINING WALLS

Toll Free: 1-800-939-9193

Email: info@magnumstone.com

magnumstone.com



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DESIGN LOAD (KIPS)	fc(28 days) (psi)	min.SECTION MODULUS(in³)*	STEEL SQUARE TUBING SIZE (in)	STEEL PIPE (in)
29.7	4,000	1.258	3 X 3 X 0.25	3.5" SCH 40
25.0	4,000	1.058	2.75 X 2.75 X 0.25	3.5" SCH 40