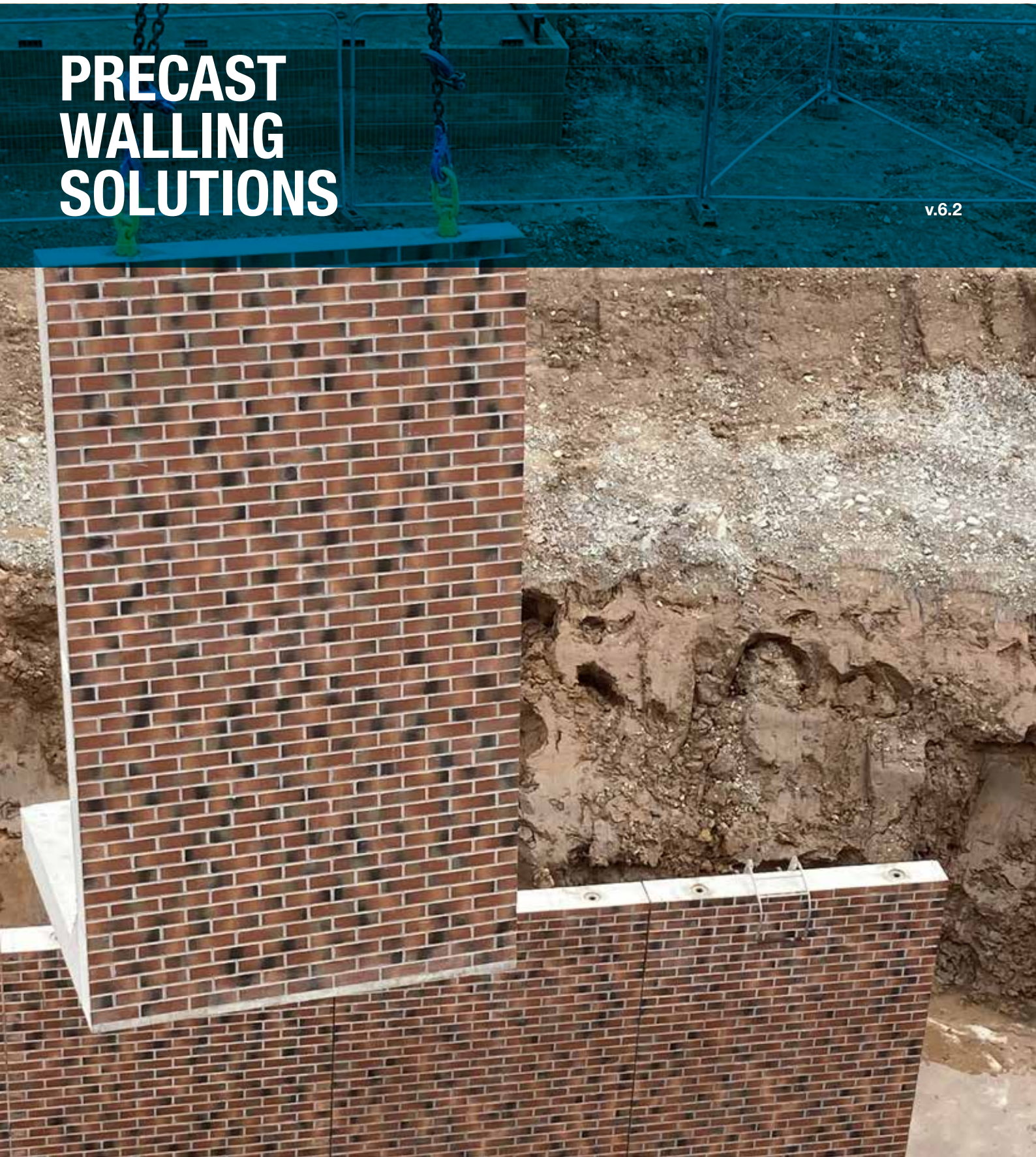
fpmccann

THINKING PRECAST?
THINK FP MCCANN

mpa
a member of the
Mineral Products Association

PRECAST WALLING SOLUTIONS

v.6.2



PRECAST WALLING SOLUTIONS

FP McCann offers an industry leading range of standard and bespoke, retaining and containing walling solutions. From supply only to fully designed and fitted schemes, FP McCann can offer a full service. With over 90 years' of combined experience at our Lydney, Grantham and Uddingston plants, we are able to deliver high quality precast concrete products at competitive market rates.

THE CONCRETE FORCE

The Concrete Force defines our relentless drive to continually improve on our own expectations while exceeding yours, ensuring we add value to your project.

CONCRETE COMMITMENT

FP McCann is committed to delivering more efficient, cost-effective and safety-focused sustainable concrete solutions. Our vision is to continue to exceed our customers' expectations whilst making an impact on new customers.

CONCRETE RELATIONSHIPS

We believe in working with you as a partner from the start, which means offering our expertise in designing and manufacturing precast concrete to suit your individual project requirements.

CONCRETE QUALITY

Through our factories based in Grantham (Lincolnshire), Lydney (Gloucestershire), Glasgow (Lanarkshire) and Magherafelt (Northern Ireland) FP McCann has got your project covered across the entire UK.

CONTENTS

bsi. ISO 9001 Quality Management

bsi. OHSAS 18001 Occupational Health and Safety Management

bsi. ISO 14001 Environmental Management

OUR COMPANY

FP McCann is the UK's largest manufacturer and supplier of precast concrete solutions. We are committed to high quality, cost-effective and sustainable solutions tailored to meet clients' requirements.

From our thirteen UK manufacturing facilities, FP McCann offers solutions that include architectural and structural solutions, rooms, flooring, fencing, walling, shafts, tunnels, drainage, rail, power and agricultural products. FP McCann has worked on a large range of Design for Manufacture and Assembly (DfMA) projects across the UK. Our in-house Digital Engineering capability has grown in line with government and client expectations.

OUR COMPREHENSIVE PRECAST CONCRETE BUSINESS EXTENDS TO INCLUDE:

AGRICULTURE | BOX CULVERTS | BUILDING PRODUCTS | CONCRETE ROOF TILES
DOCK LEVELLER PITS | DRAINAGE | FENCING | FILTER BED SYSTEMS
FLOORING | POWER & INFRASTRUCTURE | PRECAST OFF-SITE BUILDING SOLUTIONS
RAIL | SPECIALIST PRECAST | TANKS & CHAMBERS | TUNNELS & SHAFTS | WALLING

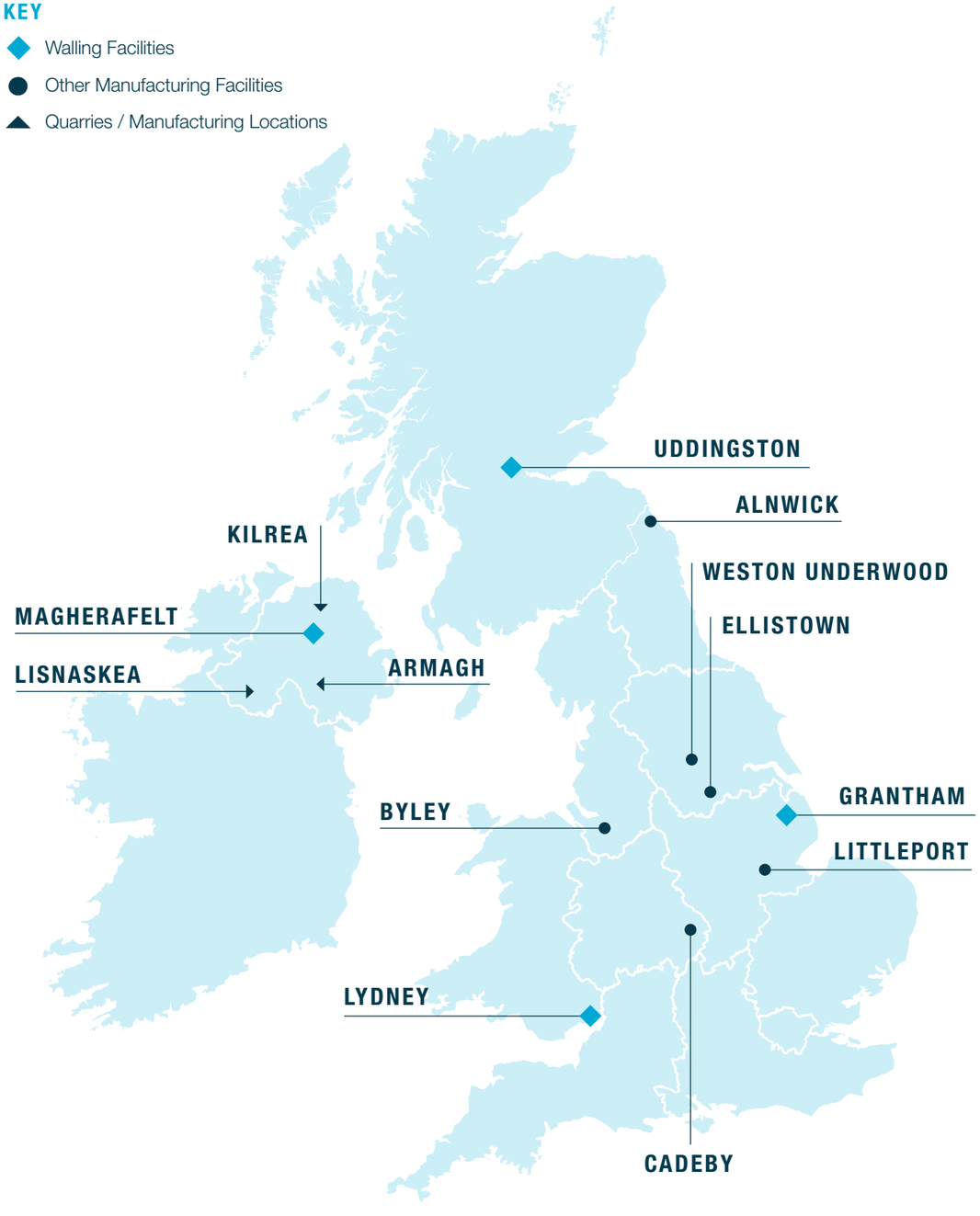
Modern manufacturing plants at Alnwick (Northumberland), Armagh (Northern Ireland), Byley (Cheshire), Cadeby (Leicestershire), Ellistown (Leicestershire), Grantham (Lincolnshire), Lisnaskea (Northern Ireland), Littleport (Cambridgeshire), Lydney (Gloucestershire), Magherafelt (Northern Ireland), Uddingston (Lanarkshire) and Weston Underwood (Derbyshire) incorporate the latest computerised batching, distribution, casting, curing and handling systems and are operated by skilled and experienced workforces to ensure consistency of quality. Their geographical spread gives us an unrivalled ability to serve the construction industry throughout the UK and Ireland.

By applying the DFMA principles, FP McCann's design engineers are able to evaluate individual precast concrete products part by part, in addition to documenting the assembly process step by step. This allows them to generate the cost, part count and assembly time to provide a benchmark to measure its success and identify the parts and process improvement opportunities. In turn, this has allowed FP McCann to design and manufacture more cost-effective and efficient high-quality precast concrete products with less wastage and greater on-site recycling. As a result, increased productivity, combined with a reduction in production time and costs, allows FP McCann to be more competitive within the marketplace.

OUR COMPANY

KEY

- Walling Facilities
- Other Manufacturing Facilities
- Quarries / Manufacturing Locations



L WALLS

FP McCann's precast L Wall units are ideal for forming both retaining and containing structures in residential, commercial, industrial and waste developments.

PRODUCT FEATURES

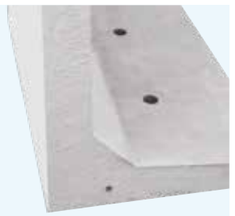
- L Wall units are an ideal product where speed of installation is necessary
- They offer a fast, cost-effective solution to constructing retaining and containing developments
- Standard sizes range from 1m high up to 3.75m high, with a width of 1m for all units.

PRODUCT BENEFITS

- Large range of sizes available
- Quick and easy installation, 25 1lm per day <2.0m
- Create storage bays without imposing a load to the building frame
- No specialist trades required
- Can be loaded either side or both sides of the stem
- Retain material up to 19kN/m³ and AoR 20° or an additional 10kN/m²
- Stability
- 90° corner and 22.5° mitred units available
- No heel – sheer reverse face (GB only)
- Available with heel feature to reverse (NI only)

PRODUCT APPLICATIONS

- Storage facilities
- Division walls
- General soil retention
- Waste recycling bunkers
- Making up levels within buildings
- Bunker walls
- Retaining walls



L Wall no heel sheer reverse face (GB only)

L Wall with heel feature (NI only)

BRICK CLAD FINISH

TIMBER CLAD FINISH

The addition of timber cladding to the concrete L Wall units provides a more aesthetically pleasing finish and the simple method of attaching timber battens and feather lap boards means that coverage is a quick and easy process. The timber cladding is easy to maintain and the precast reinforced L Walls are a long-lasting no maintenance backing wall.

The precast concrete L Wall units are available in heights from 1.0 metre to 6.0 metres.

TIMBER CLAD L WALL SYSTEM FOR BARRATT HOMES

L WALLS - STRAIGHT UNITS

STANDARD SIZES

Designed for retained material with a density of 18 kN/m³ (approximate bulk density of 1835 kg/m³)

Height (mm)	Width (mm) straight unit	Weight (kg) straight unit	Width (mm) corner unit	Weight corner unit (kg)
1000	1000	440	1000 X 1000	790
1500	1000	710	1000 X 1000	1170
1750	1000	870	1000 X 1000	1390
2000	1000	1010	1000 X 1000	1580
2500	1000	1500	1250 X 1250	2950
3000	1000	1960	1500 x 1500 (2 Piece)	2350
3750	1000	2950	2310 x 2310 (4 Piece)	2780

(Include 5% lifting allowance)

LH & RH 22.5° Mitred Toe Units available in 1.0 – 3.75m heights

ANCHORS FOR STANDARD CONDITIONS

Unit		Minimum Embedment		Anchor	
Height (mm)	Width (mm)	Foundation (mm)	Unit (mm)	No. & Type	Length (mm)
1000	1000	150	80	2 no. B.16	250
1500	1000	150	80	2 no. B.16	250
1750	1000	150	105	2 no. B.16	275
2000	1000	150	105	2 no. B.16	275
2500	1000	150	105	4 no. B.16	275
3000	1000	150	130	4 no. B.16	300
3750	1000	150	155	6 no. B.16	325

HANDLING AND INSTALLATION

Units are delivered laid down on their edge and are fitted with 2 no. recessed lifting anchors. Quick release loops (1) and erection shackles (2, 3 & 4) are available for purchase and can be used in conjunction with customer's plant to offload and erect.
Conformity with current lifting legislation and vehicle off-loading is the customer's responsibility.

L WALLS - OFFLOADING INSTRUCTIONS

Off-loading must be carried out using appropriate certified lifting equipment, chains of the correct length for the angle of lift and the correct lifting devices for the cast in lifters.

Retaining Walls are supplied with 2 lifting anchors cast in the side of the unit Deha Clutches are attached to these anchors and standard 2 legged chains (or an approved lifting beam) must be used to lift and transport the units on site. The minimum angle between each chain and the horizontal surface of the Retaining Wall is 60°.

CORRECT ANGLE

INCORRECT ANGLE

INCORRECT ANGLE

L WALLS - INSTALLATION STEPS

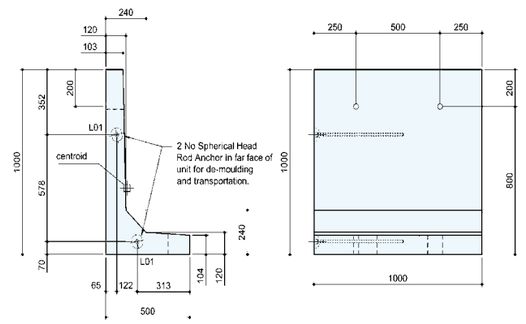
INSTALLATION STEPS:

1. Position the units on the shimmed concrete foundation.
2. Dry pack mortar to the edge of the base of the units to create a seal to the perimeter.
3. Through the 30mm preformed holes, drill a 150mm, 20mm diameter hole into the foundation.
4. Fill the holes with the resin to a level so that when the dowels are inserted the resin becomes level with the top of the foundation (as a minimum).
5. Insert the B16 dowel bar into the resin. Ensure that the bar is pushed to the base of the drilled hole.
6. Ensure the units are uniformly supported by using the grouting hole to completely flood the shimmed void (and grouting hole) with grout.
7. Grout around the dowel so that the dowel is completely encapsulated.
8. Do not disturb dowel bar or unit until grout has achieved full strength in accordance with resin and grout manufacture guidelines.

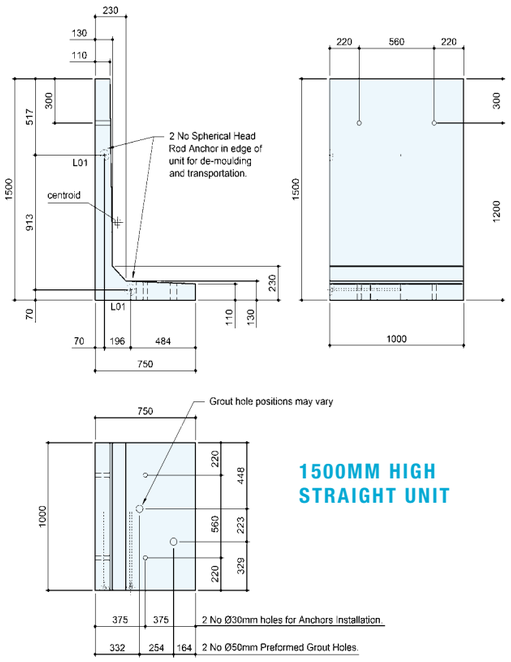
FOUNDATIONS

The foundation requirements should be determined by a qualified engineer. Units placed on a concrete foundation should be bedded on mortar and wedged to attain correct alignment, FP McCann recommends that L wall units are suitably anchored to the foundation.

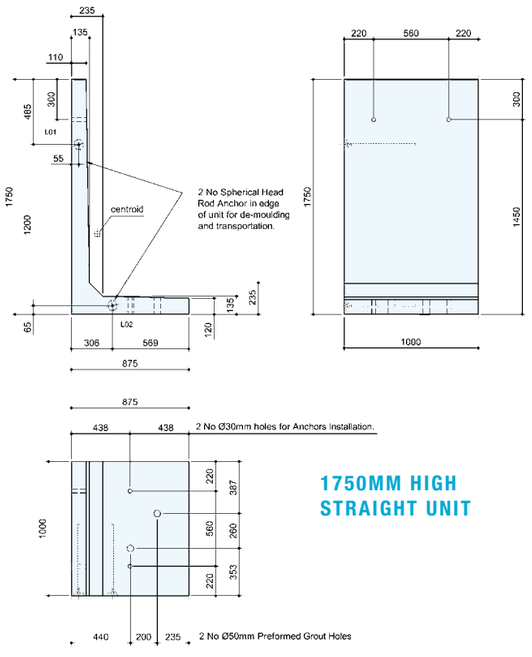
L WALLS - STRAIGHT UNITS



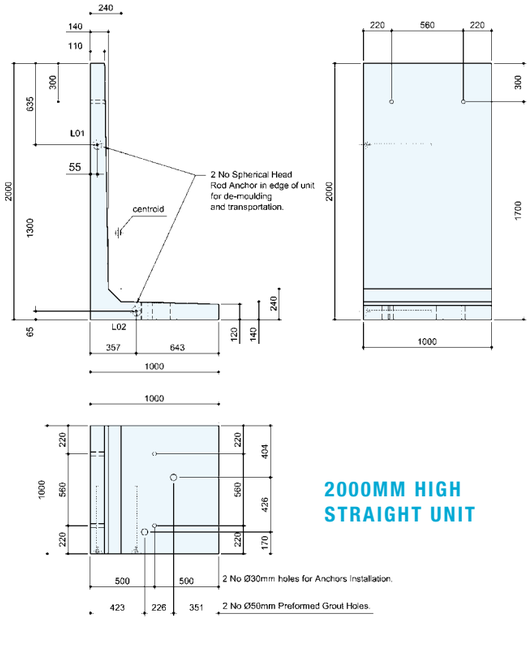
1000MM HIGH STRAIGHT UNIT



1500MM HIGH STRAIGHT UNIT

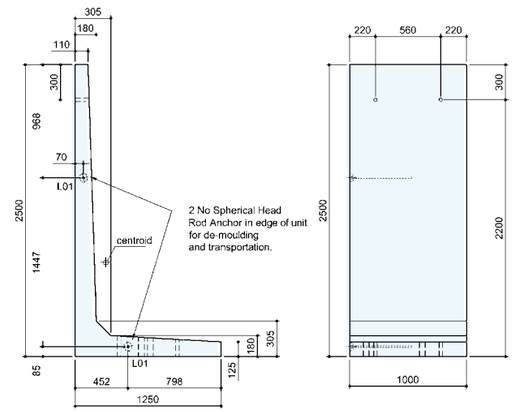


1750MM HIGH STRAIGHT UNIT

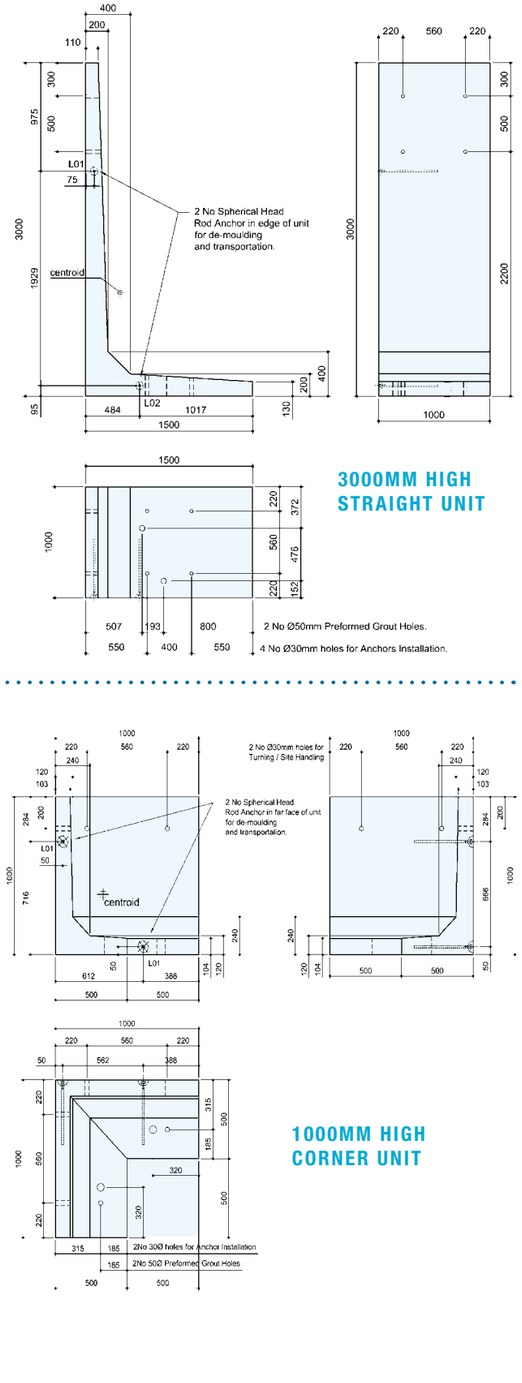


2000MM HIGH STRAIGHT UNIT

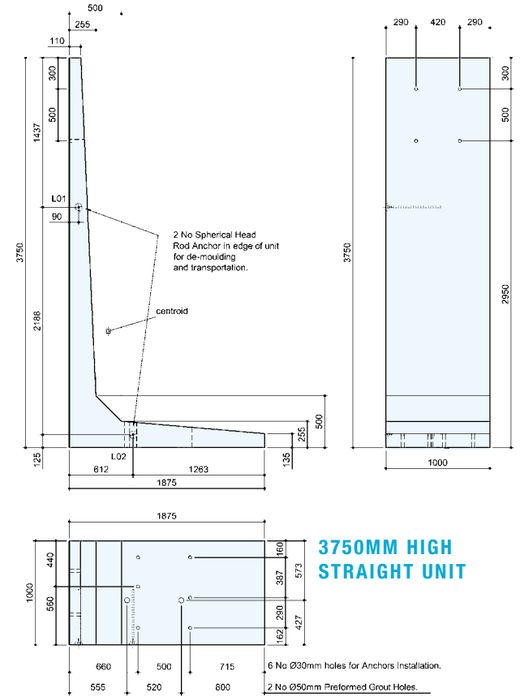
L WALLS - STRAIGHT/CORNER UNITS



2500MM HIGH STRAIGHT UNIT



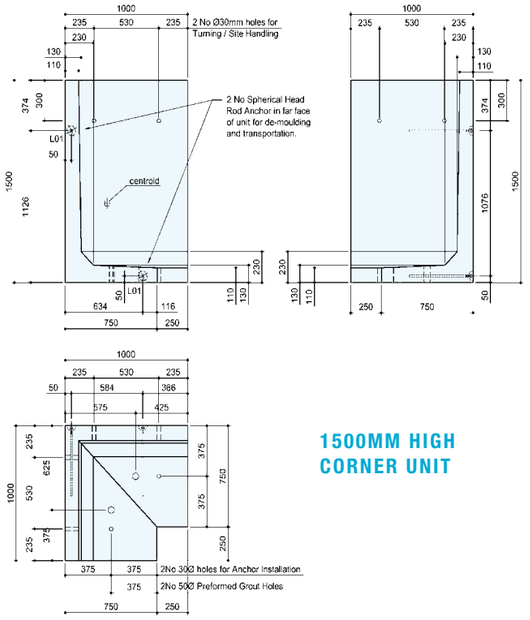
3000MM HIGH STRAIGHT UNIT



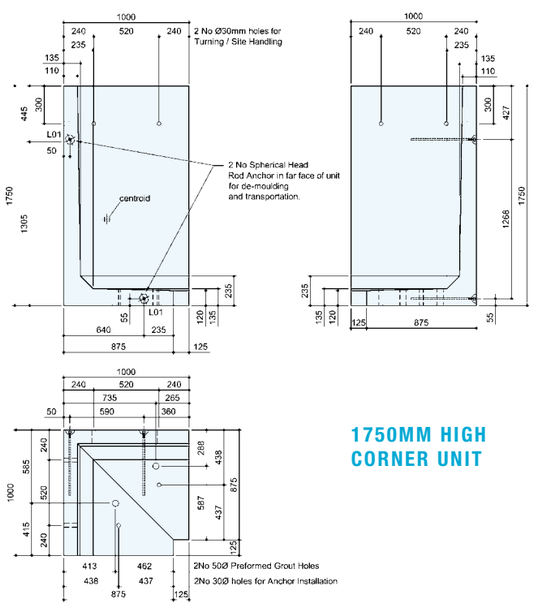
3750MM HIGH STRAIGHT UNIT

1000MM HIGH CORNER UNIT

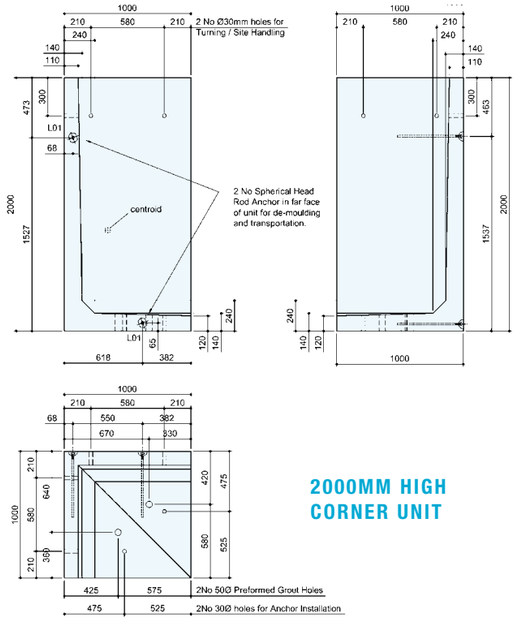
L WALLS - CORNER UNITS



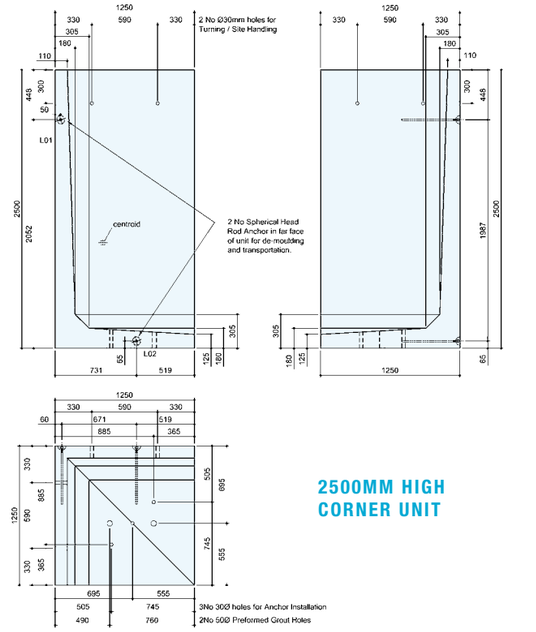
1500MM HIGH CORNER UNIT



1750MM HIGH CORNER UNIT

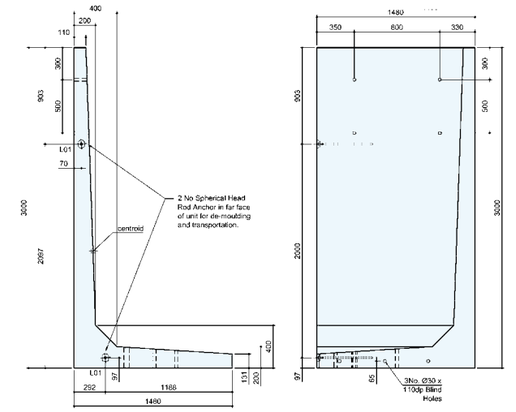


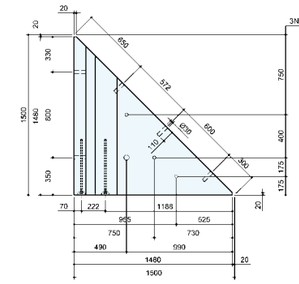
2000MM HIGH CORNER UNIT



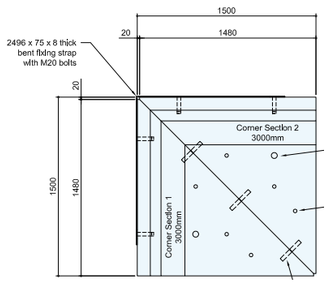
2500MM HIGH CORNER UNIT

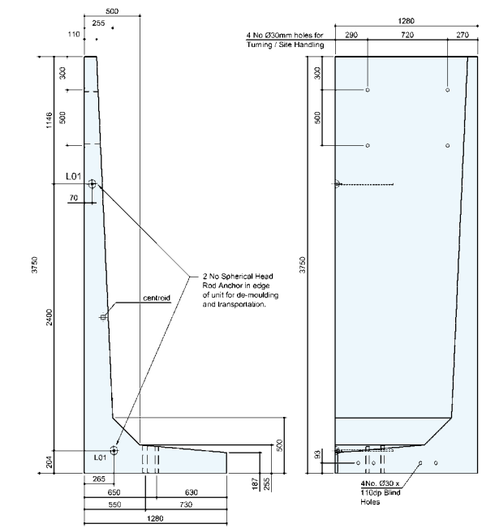
L WALLS - CORNER UNITS

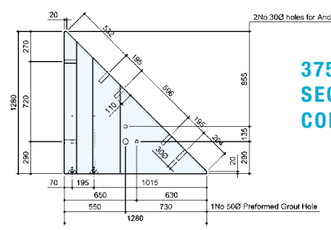




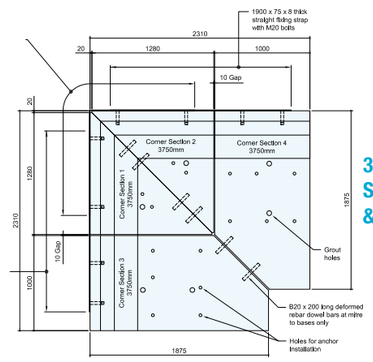
3000MM HIGH SECTIONS 1 & 2 CORNER UNIT



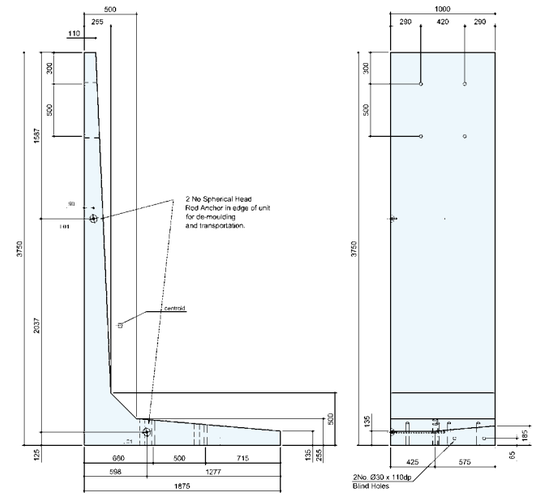


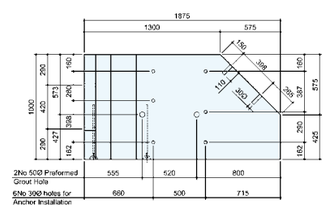


3750MM HIGH SECTIONS 1 & 2 CORNER UNIT



3750MM HIGH SECTIONS 1, 2, 3 & 4 CORNER UNIT





3750MM HIGH SECTIONS 3 & 4 CORNER UNIT

BED WALL DESIGN

BRICK SLIP AND RECKLI FINISH AVAILABLE

FP McCann's precast Bed Wall units are ideal for forming both retaining and containing structures in residential, commercial, industrial and waste developments.

PRODUCT FEATURES

- Bed Wall units are an ideal product where speed of installation is necessary
- They offer a fast, cost-effective solution to constructing retaining and containing developments
- Standard sizes range from 1m high up to 3.5m high
- Available in up to 4m widths (height dependant) for even quicker installation
- 90° corner and 15° mitred units available

PRODUCT BENEFITS

- Large range of heights and widths available
- Quick and easy installation, up to 4m lengthsl
- Create storage bays without imposing a load to the building frame
- No specialist trades required
- Retain material up to 19kN/m^3 and AoR 20° or an additional 50kNm^2
- Stability
- Loaded over the base of the unit only
- Handrail loading of 1.5kN
- No heel – sheer reverse face (GB only)

PRODUCT APPLICATIONS

- Retaining walls
- General soil retention
- Waste recycling walls
- Storage facilities
- Division walls
- Making up levels within buildings
- Bunker walls

INSTALLATION GUIDE

1. Position unit(s) on shims (min 5mm - max 20mm).
2. Dry pack rammed under perimeter to create grout barrier.
3. Fix excalliburs to ALL anchor pockets.
   A) Drill pilot hole embedment depth +40mm (to allow dust collection into foundation through 23mm through hole).
   B) Remove collected dust from drilled hole by easing the drill bit up and down within the hole.
   C) Using an impact wrench set to slow - Start install M20x300 Excallibur(s) with washer(s).
4. Use grout holes to completely flood to the underside of the unit.
5. Wait min 24 hours before backfilling and loading the unit

L Wall no heel sheer reverse face (GB only)

BED WALL DESIGN

BRICK SLIP AND RECKLI FINISH AVAILABLE

RECKLI BED WALL FINISH

BRICK SLIP L WALL FINISH

BED WALL UNITS

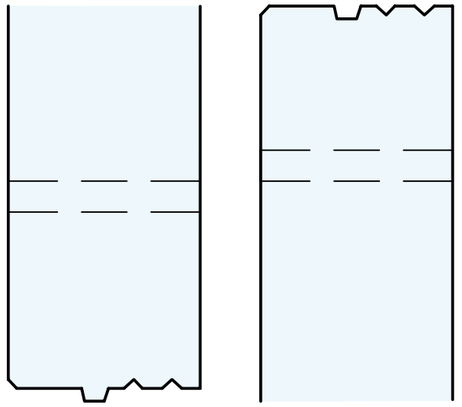
BED WALLS

STANDARD SIZES

Designed for retained material with a density of 18 kN/m³ (approximate bulk density of 1835 kg/m³)

Height (mm)	Width (mm)
1000	1.0m-4.0m
1500	1.0m-4.0m
1750	1.0m-4.0m
2000	1.0m-4.0m
2500	1.0m-3.0m
3000	1.0m-2.0m
3500	1.0m-2.0m

(Include 5% lifting allowance)



*optional joint detail, design may vary slightly

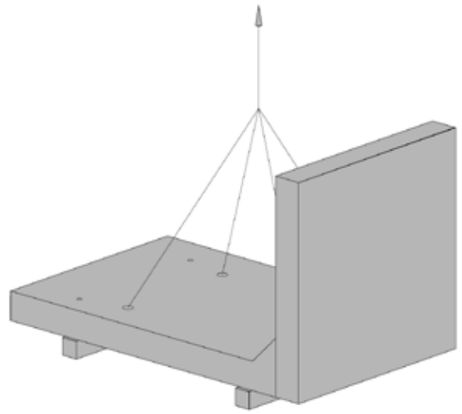
ANCHORS FOR STANDARD CONDITIONS

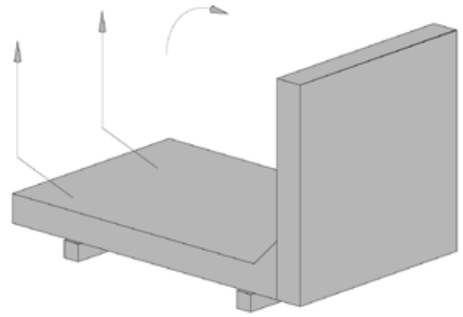
For anchor requirements please refer to unit drawings.

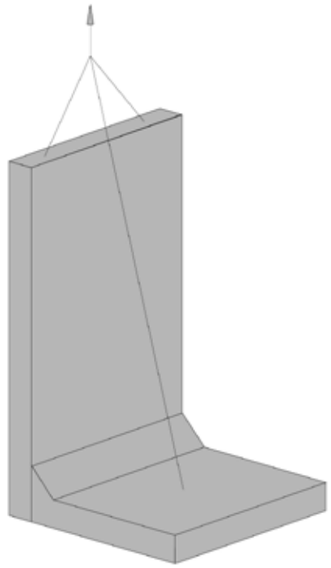
BED WALLS - OFFLOADING INSTRUCTIONS

Off-loading must be carried out using appropriate certified lifting equipment, chains of the correct length for the angle of lift and the correct lifting devices for the cast in lifters.

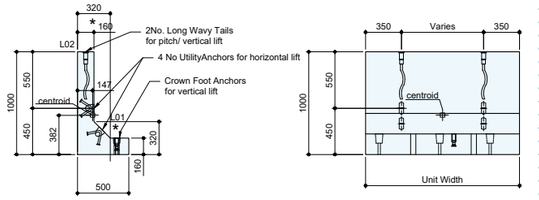
Bed walls are supplied with 4 lifters anchors in the face of each unit. Using certified lifting chains with FP McCann offloading accessories (as detailed on our product GA Drawing) to attach to these anchors and offload/move the units around site. The minimum angle between each chain and horizontal surface of the Bed Wall is 60°.





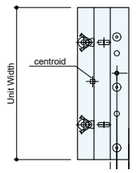


BED WALLS - STRAIGHT UNITS

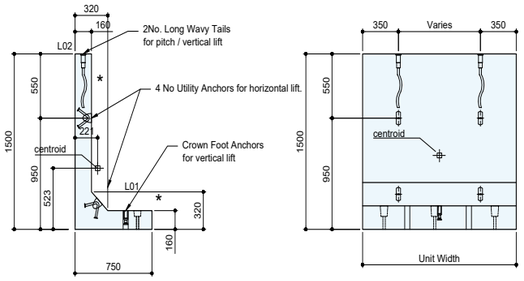


Elevation A-A

Elevation B-B

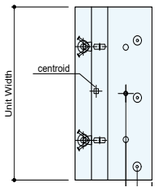


1000MM HIGH STRAIGHT UNIT

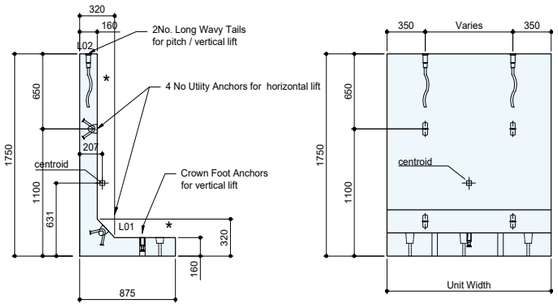


Elevation A-A

Elevation B-B

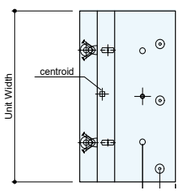


1500MM HIGH STRAIGHT UNIT

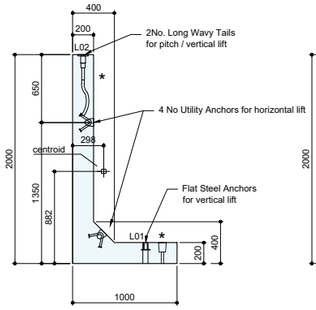


Elevation A-A

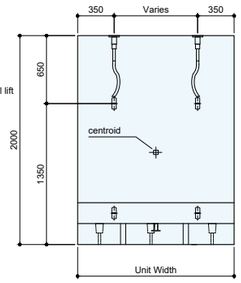
Elevation B-B



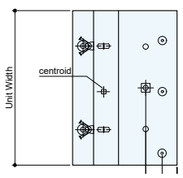
1750MM HIGH STRAIGHT UNIT



Elevation A-A

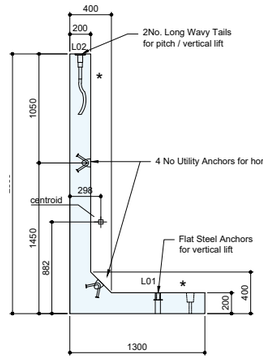


Elevation B-B

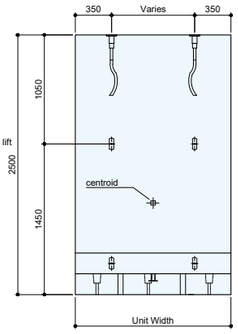


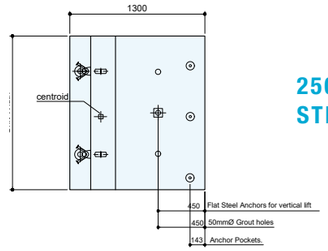
2000MM HIGH STRAIGHT UNIT

BED WALLS - STRAIGHT UNITS

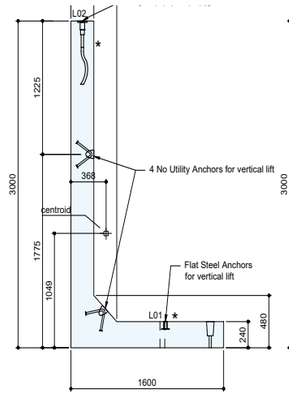


Elevation A-A

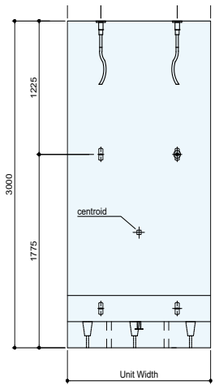




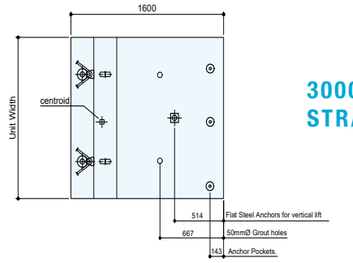
2500MM HIGH STRAIGHT UNI



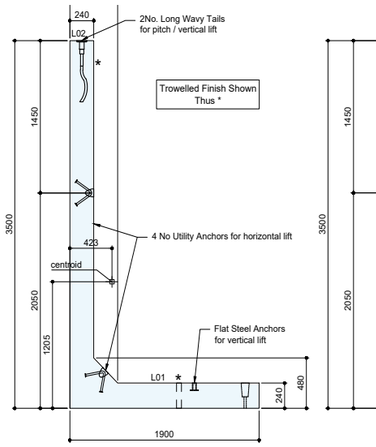
Elevation A-A



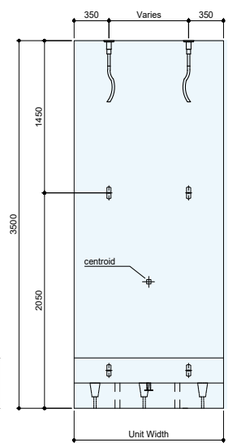
Elevation B-B



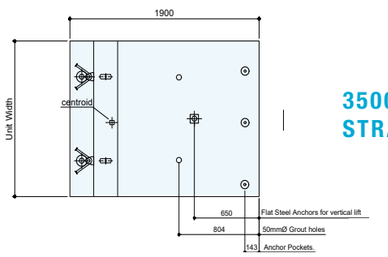
3000MM HIGH STRAIGHT UNIT



Elevation A-A

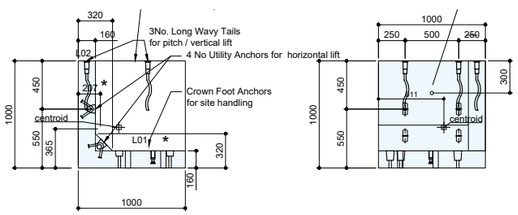


Elevation B-B



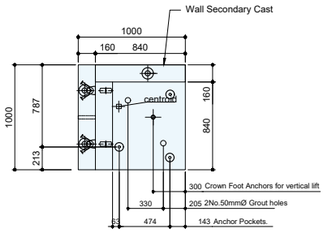
3500MM HIGH STRAIGHT UNIT

BED WALLS - CORNER UNITS

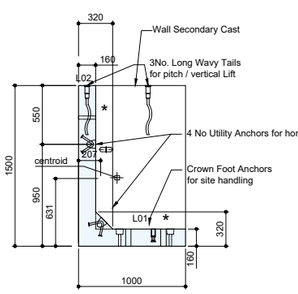


Elevation A-A

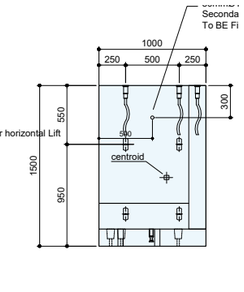
Elevation B-B



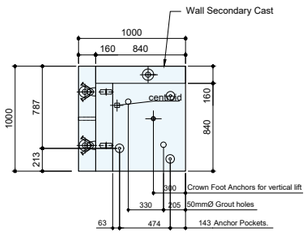
1000MM HIGH CORNER UNIT



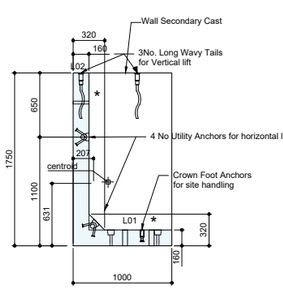
Elevation A-A



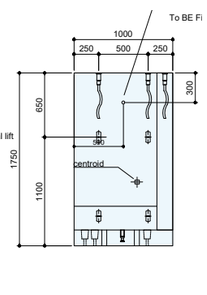
Elevation B-B



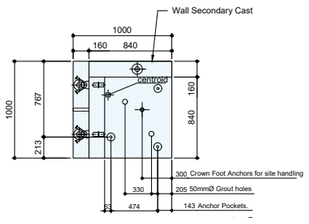
1500MM HIGH CORNER UNIT



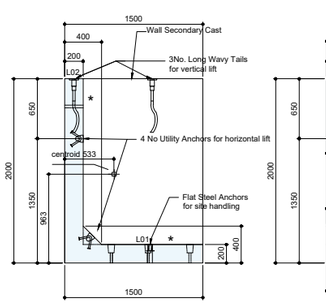
Elevation A-A



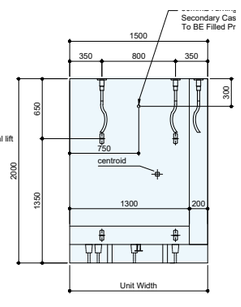
Elevation B-B



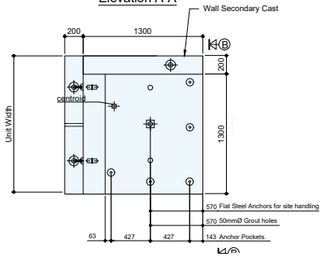
1750MM HIGH CORNER UNIT



Elevation A-A

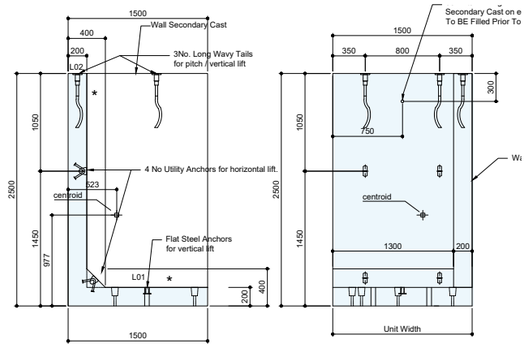


Elevation B-B



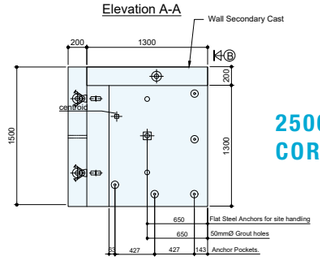
2000MM HIGH CORNER UNIT

BED WALLS - CORNER UNITS

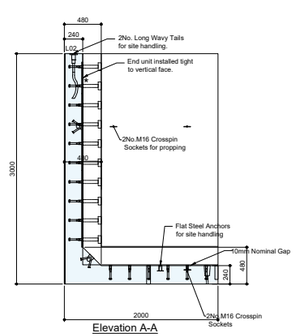


Elevation A-A

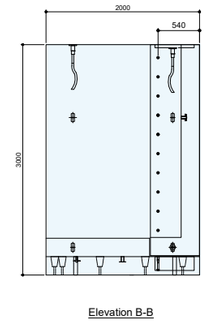
Elevation B-B



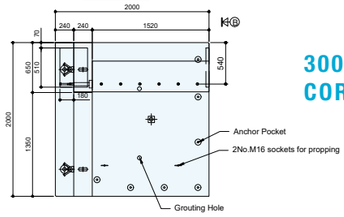
2500MM HIGH CORNER UNIT



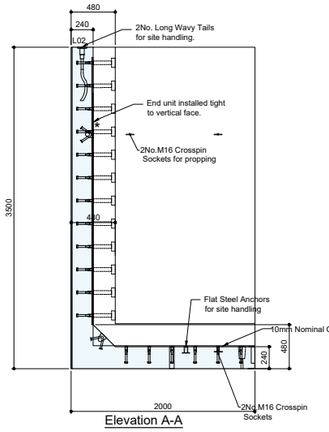
Elevation A-A



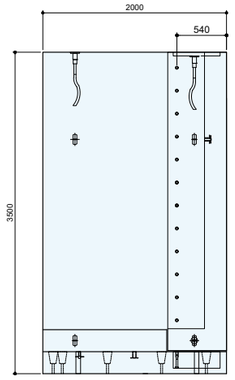
Elevation B-B



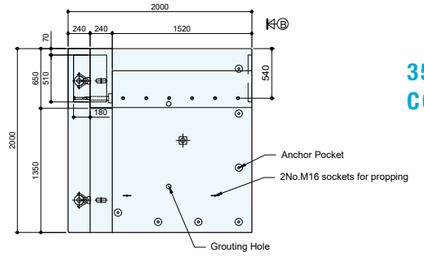
3000MM HIGH CORNER UNIT



Elevation A-A



Elevation B-B



3500MM HIGH CORNER UNIT

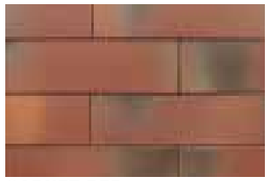
BED WALLS WITH BRICK SLIPS

ARMIS RANGE - 4-6 WEEK LEAD TIME

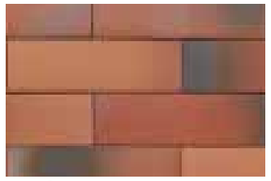

BLUSH RED


CARDINAL RED


COTTON WHITE


GARNET RED


GUN GREY


HANSA RED


MANDARIN RED


MELON YELLOW


MORNING GREY

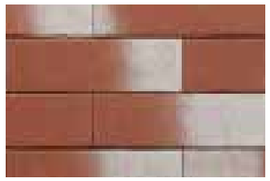

NIGHT BLACK


SMOKEY GREY

PELARIS RANGE - 4-6 WEEK LEAD TIME


COPPER BROWN


DIM GREY

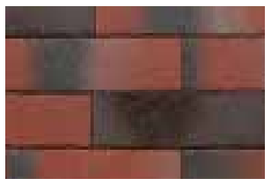

MACA RED


MANTIS WHITE


MAROON BROWN


PERU RED


ROOT BLACK


VIVID RED

FEATURES AND BENEFITS

- Reduced embodied CO_2 and reduction in CO_2 from transport.
- Prolonging raw material (less material per m^2).
- Lighter product and easier to handle than traditional bricks.
- Conforms to EN ISO 10545-12
- Fully frost resistant.
- Low water absorption (less than 3% absorption).
- High standard of fire safety (A1 fire rating).
- More cost effective than traditional cut brick slips.
- Slips can be assembled off-site, reducing on-site labour.
- Brick slip finish for finished wall
- Larger lengths for quicker install
- Retain material up to 19kN/m^3 with an AoR 20°
- Loads up to 50kN/m^2 surcharge when loaded over the toe/base of the unit
- Tight size tolerances (+/-2mm) - precise corners available.

BED WALLS WITH BRICK SLIPS

ARMIS RANGE - 12 WEEK LEAD TIME


COSMIC GREY


DESERT GREY

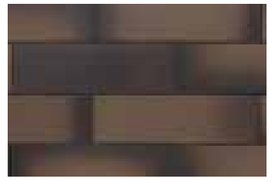

HONEY YELLOW


MANGO YELLOW


MING WHITE


PERSIAN RED


ROOT GREY


RUM BROWN


SUNSET RED


VENITIAN RED

PELARIS RANGE - 12 WEEK LEAD TIME


ERIE BLACK


PECAN BROWN

FASANIS RANGE - 12 WEEK LEAD TIME


PAYAYA YELLOW


SPICY RED


ZEBRA WHITE

L WALL HEIGHTS AVAILABLE:

Please refer to the bed wall drawings for dimensions

Heights (A)	Widths (B)
1.0m	1.0m-4.0m
1.5m	1.0m-4.0m
1.75m	1.0m-4.0m
2.0m	1.0m-4.0m
2.5m	1.0m-3.0m
3.0m	1.0m-2.0m
3.5m	1.0m-2.0m

DIMENSION DIAGRAM

L WALLS - 4M - 6M UNITS

PRODUCT BENEFITS

- Available in heights 4.0 – 6.0m
- 1.0m & 2.0m lengths
- Quick & easy to install
- No specialist trades required
- Design assumes handrail is fixed to the top* see technical details below
- 20 kN/m² surcharge loading

DIMENSIONS

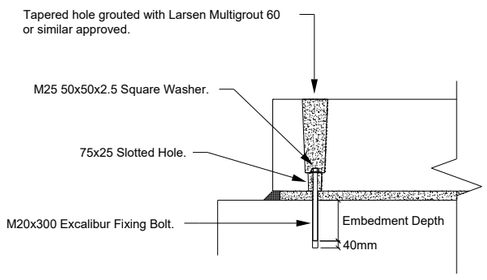
Product Code	Size	Unit Weight
PRE WUBPS4000 X 1M	L Wall 4000mm x 1000mm 20kN/m²	5.00
PRE WUBPS4500 X 1M	L Wall 4500mm x 1000mm 20kN/m²	5.30
PRE WUBPS5000 X 1M	L Wall 5000mm x 1000mm 20kN/m²	5.70
PRE WUBPS5500 X 1M	L Wall 5500mm x 1000mm 20kN/m²	5.86
PRE WUBPS6000 X 1M	L Wall 6000mm x 1000mm 20kN/m²	6.20
PRE WUBPS4000 X 2M	L Wall 4000mm x 2000mm 20kN/m²	9.93
PRE WUBPS4500 X 2M	L Wall 4500mm x 2000mm 20kN/m²	10.53
PRE WUBPS5000 X 2M	L Wall 5000mm x 2000mm 20kN/m²	11.13
PRE WUBPS5500 X 2M	L Wall 5500mm x 2000mm 20kN/m²	11.72
PRE WUBPS6000 X 2M	L Wall 6000mm x 2000mm 20kN/m²	12.40

FOUNDATIONS

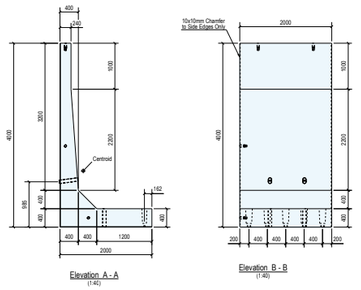
The foundation requirements should be determined by a qualified engineer. Units placed on a concrete foundation should be bedded on mortar and wedged to attain correct alignment. FP McCann recommends that L wall units are suitably anchored to the foundation.

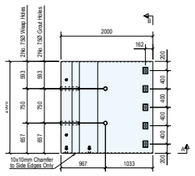
EXCALIBUR INSTALLATION PROCEDURE

- Drill pilot hole embeddment depth + additional 40mm (to allow for dust collection) into foundation through slotted hole.
- Remove collected dust from drilled hole by easing the drill bit up and down within the hole.
- Using an impact wrench set to slow-start install M20x300 Excalibur with washer plate.
- Void in precast toe to be fully filled with Larsen Multigrout 60 or similar.

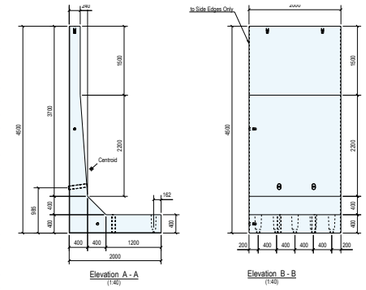


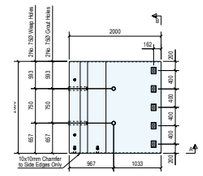
L WALLS - 4M-6M UNITS



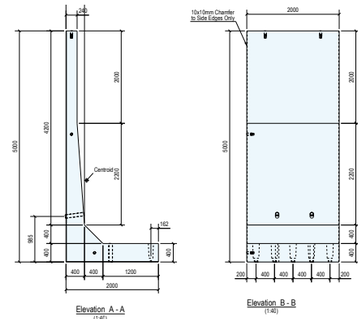


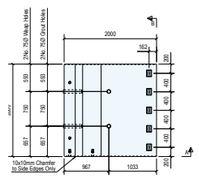
4000MM HIGH STRAIGHT UNIT



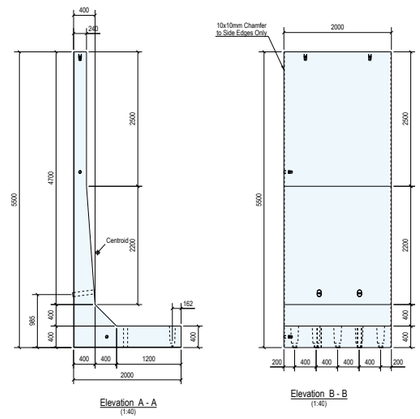


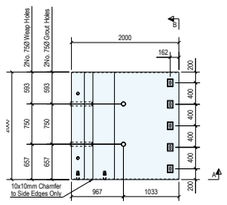
4500MM HIGH STRAIGHT UNIT



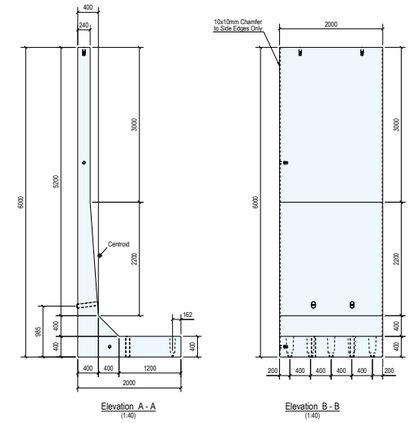


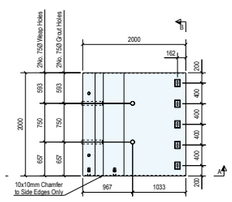
5000MM HIGH STRAIGHT UNIT





5500MM HIGH STRAIGHT UNIT





6000MM HIGH STRAIGHT UNIT

WALLCAST

DECORATIVE PRECAST WALLING & FENCING

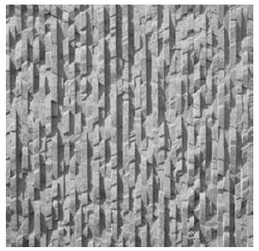
FEATURES & BENEFITS

- Integrated panel and column wall sections allow for quick and easy installation
- Easier boundary wall installation saves time and reduces labour costs
- Unique rigid footing system allows for safer boundary wall installations
- Textures can be applied to both sides of boundary walls for optimal beauty and appeal
- Reflective sound barrier properties

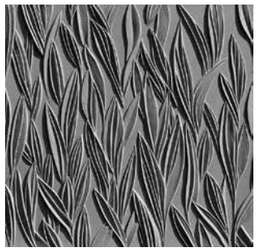
PRODUCT APPLICATIONS

- Boundary Walls
- Perimeter Walls
- Residential Projects
- Security Walls
- Architectural Walls
- Stand Alone Columns
- Sound Barrier Walls

AVAILABLE FINISHES



RHEIN



VOLTA

MAYENNE

POMMERN

YUKON

INSTALLATION PROCESS

SCAN ME!

TO VIEW OUR INSTALLATION VIDEO OF A WALLCAST PANEL SCAN THE QR CODE

PRESTRESSED HORIZONTAL PANELS

FP McCann's prestressed horizontal panels allow you to construct walls quickly and efficiently with the future-proof option of re-siting, if required; providing the ideal solution where the adaptability of buildings is important. Our wall panels are manufactured using prestressing wires and a C45/55 concrete, which gives them in-built strength and resilience.

PRODUCT BENEFITS

- Tongue and grooved joints for easy alignment and positive sealing
- Smooth impervious surface which is easily washed down
- Prestressed panels absorb minor accidental damage
- More cost-effective – more versatile than blockwork
- Tailor-made lengths and a variety of widths
- Simplistic and quick installation
- No foundation required

STABILITY AND DURABILITY

FP McCann's prestressed panels are highly resistant to accidental damage, as they can flex on impact when normal block walls could crack. Panels are easily removed and re-sited within the existing farm plant, providing flexibility to change a configuration of the structure as the client's future needs evolve.

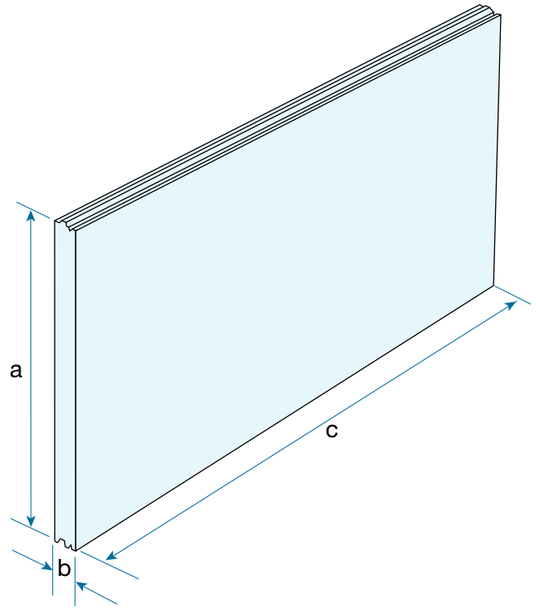
Considerable wall heights can be achieved through stacking horizontal panels (spanning between columns or fixed within the walls). Various panel heights are available including 1000mm, 1200mm and 1500mm; these can be mixed and matched according to the client's requirements.

This system is particularly useful for raising internal and external ground levels in or around a building frame, or for kingpost applications to retain an earth bank.

FOUNDATIONS

Connected to the building frame by transmitting the load against stanchions, these panels are held in place with bolts and cleats and do not require foundations.

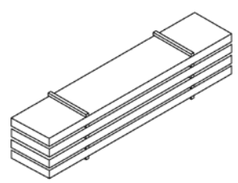
PRESTRESSED HORIZONTAL PANELS



Dimensions - Horizontal Panel					
(a) Panel Height	1.0m	1.2m	1.5m		
(b) Panel Thickness	80mm	120mm	160mm	200mm	240mm
(c) Panel Length	To suit the project, limited by load/span and handling considerations				

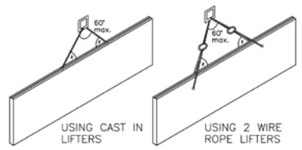
HANDLING AND INSTALLATION

1



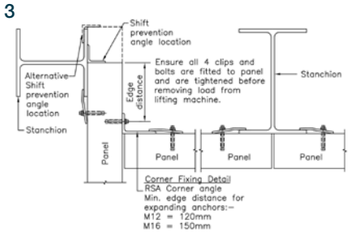
Panels to be offloaded from delivery vehicles and stacked on flat hard standing. Stacking timbers to be placed between panels directly above the one below, as shown. Do not stack panels more than 6 high. The panel weights are marked on each panel.

2



Using suitable lifting machine, fix wire rope slings (or D shackles) to pre-formed holes in panels or proprietary lifting devices to cast-in lifters. All units to be lifted under the direction of a banksman.

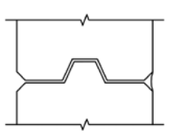
3



Ensure all 4 clips and bolts are fitted to panel and are tightened before removing load from lifting machine.

NOTE:
Bolts must be regularly checked for tightness.

4



Seal and tool joints using gunned mastic.

Refer to FP McCann manual for instructions.

PRESTRESSED VERTICAL CANTILEVER PANELS

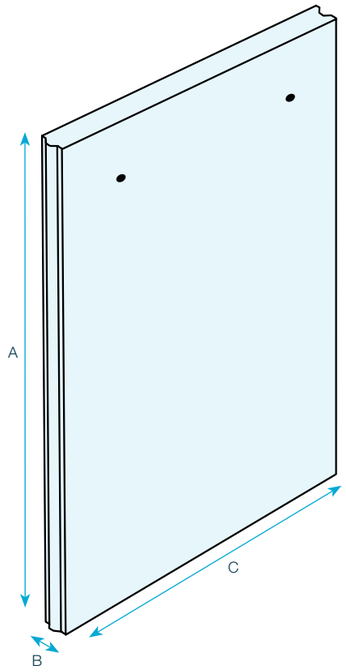
The FP McCann Prestressed Vertical Cantilever Panel system provides the user with a more cost-effective and time-efficient system when comparing against a traditional on-site, in-situ wet-cast system.

PRODUCT FEATURES

- The vertical cantilever panels are prestressed, allowing greater strength in a more slender panel
- Prestressing reduces the incidence of tensile cracking in the panels
- The concrete used for the prestressed panels is designated as a C45/55 grade
- The foundation can be individually designed to suit site and loading requirements
- The prestressed panels are tongue and grooved together, allowing effective sealing between units without stressing the sealant
- The units are lighter so require smaller site lifting vehicles
- The prestressed unit can be lifted and handled more easily on site
- Manufactured on 70m long prestressing beds, retained heights of up to 4m can be achieved for many material types
- Manufactured to ISO 9001 and ISO 14001

Depending on the prestressed panel thickness, security or fire walls can achieve a fire exposure rating of up to 4 hours and effective heights of up to 7.5m maximum. The units are cast as standard with a Class A steel mould finish to one side and all edges, complete with hand trowelled finish to the other face.

During the casting process, Wavy Tail Lifters can be cast-in to the top edge of the panel to assist with on-site installation.

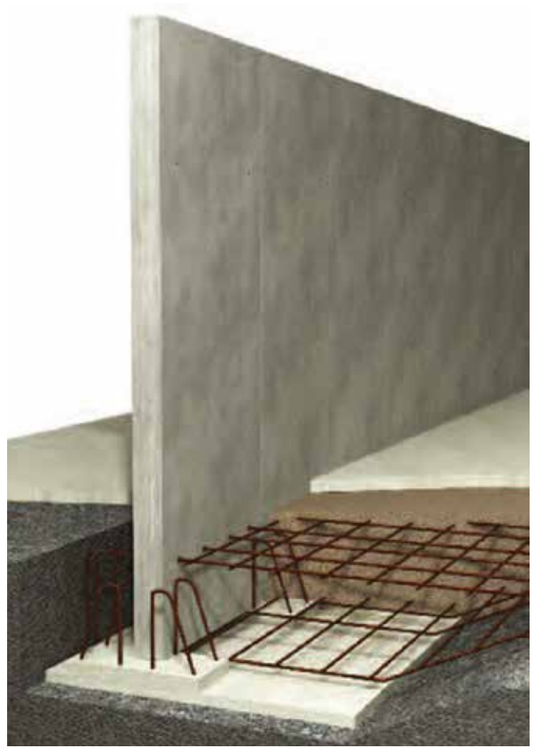


Dimensions - Vertical Panel				
(a) Panel Lengths	To suit the project, limited by load/span and handling considerations			
(b) Panel Thickness	120mm	160mm	200mm	240mm
(c) Panel Widths	1.5m standard, 1m and 1.2m special order			

PANEL APPLICATIONS

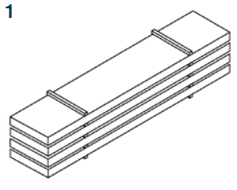
- Soil retention
- Retention of materials / aggregates
- Silage clamps
- Underground slurry stores
- Basements of structures
- Waste recycling bunkers
- Prison security walls
- Substation fire walls
- Flood alleviation schemes

PRESTRESSED VERTICAL CANTILEVER PANELS



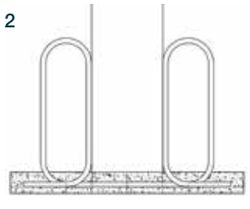
HANDLING AND INSTALLATION

1



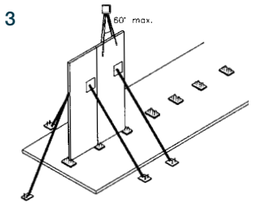
Panels to be off-loaded from delivery vehicles and stacked on flat hard standing. Stacking timbers to be placed between panels directly above the one below, as shown. Do not stack panels more than 6 high. The panel weights are marked on each panel.

2



Foundation trench is excavated and a strip footing formed in the base. Cradles are set out on the footing, and the panels lowered into them, shimmed and levelled as necessary. Temporary propping must be used - the frequency depending on height and exposure.

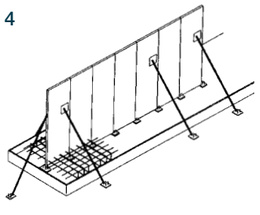
3



Second Panel to be propped as detailed in stage 3.

Load maintained by lifting machine until panel is adequately propped.

4



Set up rebar and framework.

Do not remove props until adjacent units are secure.

Seal joints as required. Pour and compact concrete.

Props to remain in position until foundation concrete is in excess of 25N.

ROCKET WALLS™

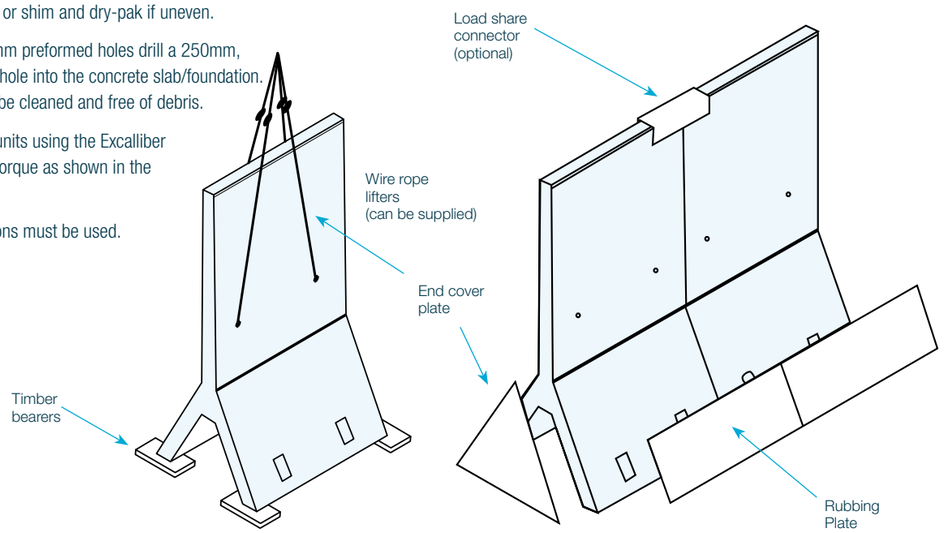
Our Rocket Walls are high quality, freestanding, precast concrete units. They are designed to be sited on an existing concrete floor slab or foundation and, for improved site safety and maximum efficiency, are bolted down using fixing bolts to prevent movement. It is this uniqueness that makes them suitable for a variety of uses.

PRODUCT BENEFITS

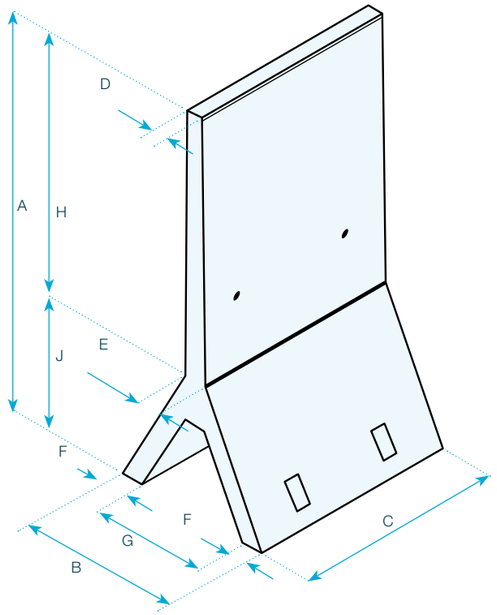
- Simply installed and easily moved
- Designed for materials up to 16kN/m3
- Manufactured to ISO quality and environmental standards
- Inverted Y shape design provides high capacity
- Value engineering means less concrete than typical alternatives
- Engineered to allow for up to 4m high units and 1.25m wide
- No protruding foot
- Ideal for bunkers and division walls
- Self-shedding units – prevents the lodging of stored material
- Corner units available
- Load one side or both

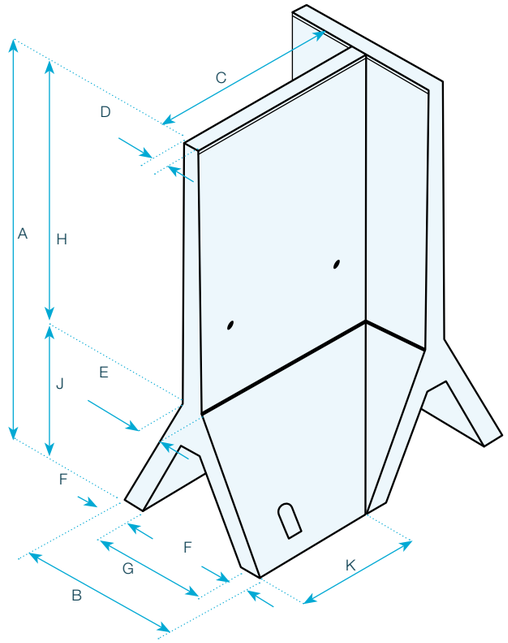
GUIDELINES FOR INSTALLATION

1. Position the units directly on to the concrete slab/foundation or on a mortar bed, or shim and dry-pak if uneven.
2. Through the 30mm preformed holes drill a 250mm, 20mm diameter hole into the concrete slab/foundation. The hole should be cleaned and free of debris.
3. Secure the wall units using the Excalliber Screwbolts and torque as shown in the fixing detail.
4. All anchor positions must be used.



ROCKET WALLS™ STRAIGHT AND CORNER UNITS





Dimensions - Rocket Wall™ (Straight)										
Height (m)	Weight (kg)	a	b	c	d	e	f	g	h	j
2.4	1100	2400	970	1250	100	131	131	710	1600	800
3.0	1860	3000	1200	1250	110	150	165	870	2000	1000
4.0	2820	4000	1650	1250	110	170	185	1280	2600	1400

Please note: A-J measurements are in mm.

Dimensions - Rocket Wall™ (Corner)											
Height (m)	Weight (kg)	a	b	c	d	e	f	g	h	j	k
2.4	1091	2400	970	1200	100	131	131	710	1600	800	759
3.0	1842	3000	1200	1200	110	150	165	870	2000	1000	680
4.0	GA Drawing available upon request										

Please note: A-K measurements are in mm.

UNIT SCREW BOLT REQUIREMENTS

Height (m)	2.4 unit	2.4 corner	3.0 unit	3.0 corner
Screw bolts required (no.)	4	2	6	2
Diameter (mm)	20	20	20	20
Length (mm)	300	300	300	300
Length in foundation (mm)	190	190	190	190

Height (m)	4.0 unit	Corner
Screw bolts required (no.)	6	12
Diameter (mm)	20	20
Length (mm)	300	300
Length in foundation (mm)	170	170

FIRE WALLS

FP McCann manufactures two types of prestressed panels that are ideal for fire walling. With the choice of vertical cantilever panels or horizontal panels and columns, fire walling is designed to contain fire from 30 minutes up to 4 hours, depending on the thickness of the panel.

Rapid installation is possible due to the tongue and grooved joints. Standard column sections vary dependant on overall wall height and are made to order to suit customer requirements. Fire walls and columns can be manufactured to the clients' own design or to FP McCann's design specification.

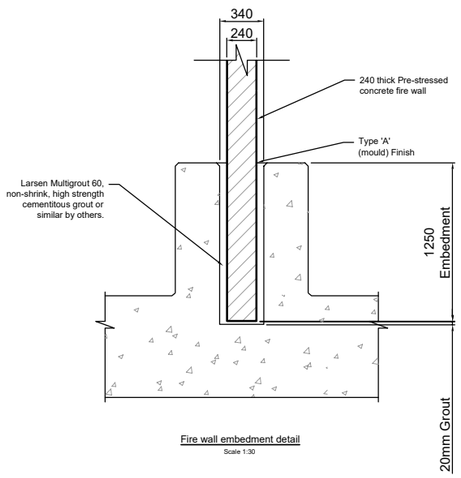
Panel Thickness (mm)	Fire Rating (hrs)
80	0.5
120	1.5
160	3.0
200	4.0
240	4.0

KEY FEATURES AND BENEFITS

Vertical Cantilever Panels

- Overall wall heights of up to 7.5 metres effective height can be achieved
- The panels are slotted and grouted into a preformed pocket in the bund/ foundation

EXAMPLE OF VERTICAL POCKET DETAIL

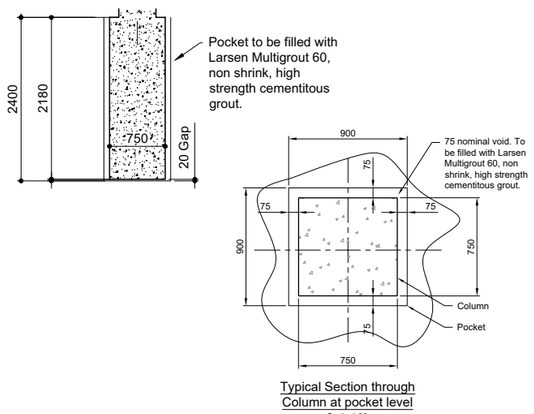


Fire wall embedment detail
Scale 1:30

Horizontal Panels

- Overall wall heights of up to 10 metres effective height can be achieved
- Panels slot between precast columns and are embedded into the ground via preformed pockets, which are then grouted into position using high-strength grout
- It negates the need for a full length trench to be excavated and poured with concrete, instead favouring easily formable localised pockets at specific centres

EXAMPLE OF HORIZONTAL POCKET DETAIL



Typical Section through Column at pocket level
Scale 1:20

ANDACRIB CONCRETE CRIB RETAINING WALLS

Andacrib is a modular precast concrete crib retaining wall system, which has been designed to cater for the most onerous loading conditions demanded of structures in highway, industrial and commercial sectors.

Andacrib's unique design, incorporating generous header to header bearing surfaces, ensures that all primary loads are remote from the exposed face. The design also allows for the various header lengths to be mixed within the same structure for maximum economy, whilst maintaining a consistent visual appearance.

Andacrib header units can be linked into double or triple skin walls, whilst internal and external curves can be formed.

PRODUCT APPLICATIONS

Andacrib's flexibility enables it to be utilised in a variety of situations:

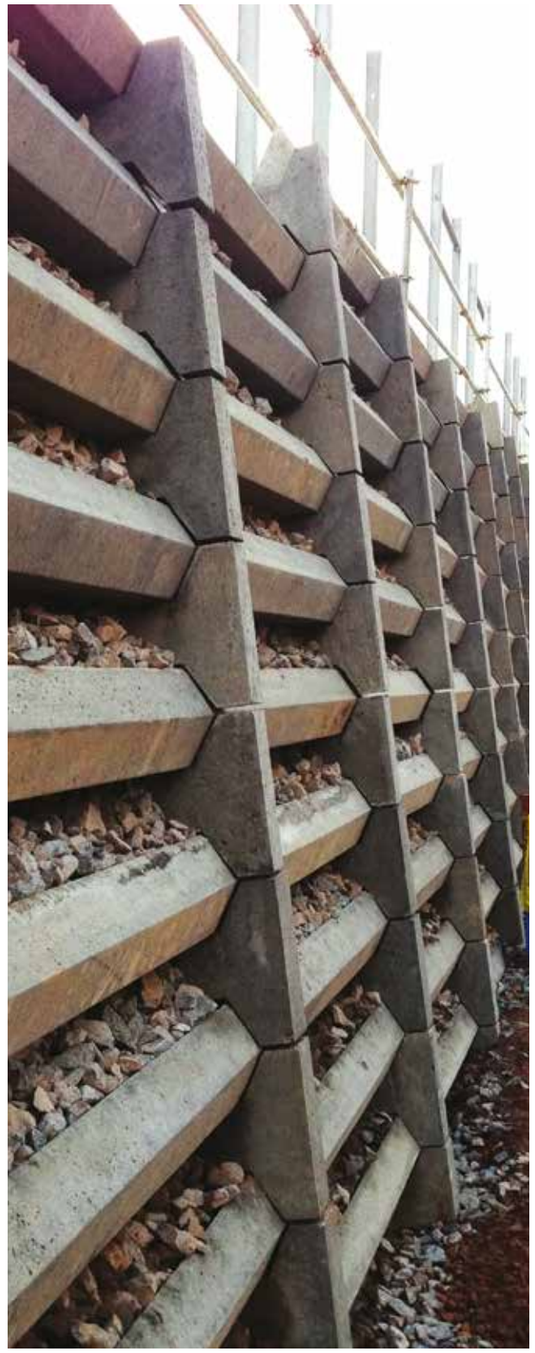
- Road and railway embankments and cuttings
- Bridge and underpass wing walls and approach ramps
- Sewerage / water treatment plant developments
- Local authority developments, schools, public service buildings, etc
- Airport development and improvements
- Retail parks
- Service stations
- Car parks
- Leisure developments

COMPOSITION AND MANUFACTURE

Andacrib concrete components conform with Class 2 Sulphate Resistance and 'very severe' salt attack conditions, as required by both BS EN 1992 and BS EN 1990. The concrete has a design strength of 50 N/mm^2. Andacrib headers and stretchers are steel reinforced and fully comply with the requirements of BS EN 1992.

DURABILITY

A completed Andacrib wall provides a substantial, maintenance-free structure with a design life in excess of 120 years and its design meets Highway Agency requirements.



EASI-BLOC™ & EASI-BLOC BARRIER

Easi-Bloc™ is a precast concrete block offering solutions where limited space is available for containment.

Blocs are simplistic in design, allowing for effortless handling and speed of installation. Easi-Bloc comes in two sizes, making them ideal for a variety of applications.

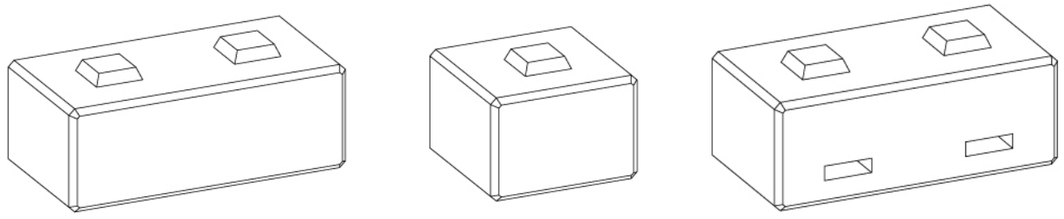
PRODUCT APPLICATIONS

- Segregation
- Temporary road blocks
- Security barricades
- Storage bays
- Agricultural bays suitable for grain, silage, etc.
- Earth retention
- Aggregate bays
- Partition walling
- Landscaping
- Waterways / Shoreline defences
- Highways
- Retaining wall

Easi-Bloc contains a central cast-in lifting loop for ease of handling and installation. Products are manufactured to comply with the requirements of BS EN 1992-1-1:2004.

Length (mm)	Width (mm)	Height (mm)	Weight (kg)
1200	600	450	800
600	600	450	400
*1400	700	700	1700
*700	700	700	850

*Available in N.I only



Length (mm)	Width (mm)	Height (mm)	Weight (kg)
1200	600	450	777

*Available in GB only

CONCRETE SAFETY BARRIERS

Our precast concrete, modular jersey barriers are ideal to use where public safety and security is a priority. They are excellent for separating lanes of traffic and for protecting construction workers and pedestrians from oncoming vehicles. They are also designed to minimise vehicle damage in the event of a collision, by allowing vehicle tyres to ride up on the lower sloped face.

Head-on collisions are also minimised by gradually lifting the vehicle and pivoting it away from oncoming vehicles and back into traffic heading in its original direction.

PRODUCT APPLICATIONS

- Segregation
- Temporary road blocks
- Security barricades
- Traffic management
- Flood defence
- Rockfall

PRODUCT BENEFITS

- Cost-effective
- Easy to handle and install
- Durable
- Interlocking design for easy alignment and added security
- Free-standing unit
- Provides a high level of containment
- Absorbs the impact of a moving vehicle
- Slows down the impacting vehicle quickly
- Product can be painted on request
- Reusable product

PRODUCT DIMENSIONS

Length (mm)	Width (mm)	Height (mm)	Weight (kg)
1500	500	800	900
2500	500	800	1500

TIMBER CLAD L WALL SYSTEM FOR BARRATT HOMES

Site: Deer's Rise, South Staffordshire

Client: Barratt Homes

Main Contractor: Friel Construction

Products Supplied: FP McCann Precast L Walls

Midlands based Friel Construction continues to utilise FP McCann's popular precast concrete L Walls on housing developments recognising the benefits the walling system can offer particularly in earth retention works. A more recent addition to the units is the contractor led application of timber cladding, adding an aesthetic look to an otherwise plain concrete face.

On the edge of the popular Cannock Chase, a designated area of outstanding natural beauty in South Staffordshire, Barratt Homes are building a new development of 2,3,4 and 5 bedroom properties. With many changes in land elevation on the 'Deer's Rise' site, there is a large requirement for earth retaining walls.

Friel Construction the main civil engineer and ground worker on site has once again adopted the FP McCann L Wall earth retention system. To date some 130 linear metres of walling has been installed comprising 1.0m, 1.5m and 2.0m high units. Laid and dowelled into a concrete foundation pad, each run of walling acts as a soil retention barrier and once fixed into position earth is backed up against the L Walls as part of the raised ground levelling work for each individual building plot and garden.

The addition of timber cladding to the concrete L Wall units provides a more aesthetically pleasing finish and the simple method of attaching timber battens and feather lap boards, means that coverage is a quick and easy process. The timber cladding is easy to maintain and the precast reinforced L Walls are a long-lasting no maintenance backing wall.

THATCHERS CIDER L WALLS

Site: Myrtle Farm, Cheddar Somerset

Client: Thatchers Cider

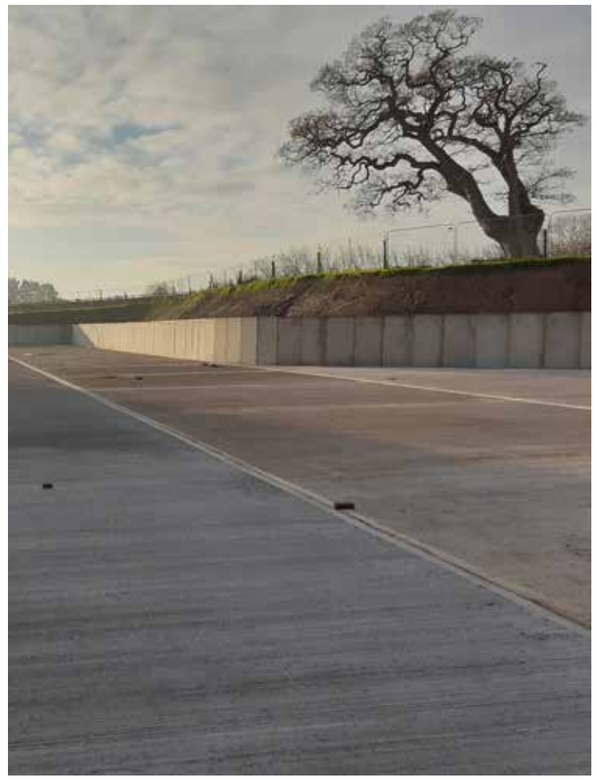
Supplier: CRS Building Supplies Ltd

Products Supplied: Precast Concrete 2.5m L Walls

Thatchers, one of the UK's most famous cider manufacturers, has recently completed a 63,292 sq ft expansion at its site at Myrtle Farm, Cheddar Somerset. The new primary process plant and bonded warehouse will enable the company to uplift its apple cider production by a further 9 million litres to keep apace with growing demand.

The project has involved substantial earthworks on and around the site and the installation of an extensive site boundary structure. Following a review of retaining wall options, the in-house design and construction team at Thatchers opted for a precast concrete L Wall system. This method of walling using an off-site manufactured precast unit, is a simple and fast process, eliminating the need for shuttering, steel foundation formwork and the pouring of wet concrete.

FP McCann were approached by Somerset based CRS Building Supplies Ltd to provide a quotation for their 2.5 metres high wall unit, following which an order was placed for 151 individual sections, comprising 147 L Wall straight, two L Wall corner and two units with mitred edges.



MACCLESFIELD BRICK SLIP FACED L WALLS

Site: New Housing Development, Kings Park, Macclesfield, Cheshire

Client: David Wilson Homes (North West)

Installation Contractor: FP McCann

Products Supplied: 3.5m/3.0m High Precast Concrete ‘L’ Walls with ‘Garnet Red’ Brick Slip finish to outer face.

FP McCann has supplied and installed its first brick slip faced ‘L’ Wall earth retention system on a new housing scheme in Macclesfield, Cheshire. The 3.0 metres and 3.5 metres high precast concrete units are providing an important earth retaining barrier, whilst the attractive brick finish to the outer faces has been designed to complement a Grade II English Heritage listed building being converted into apartments as part of the housing project. Housing developer David Wilson Homes North West (DWH), is building 300 new homes on the former King’s School campus in Fence Avenue.

With changes in elevation across the site, the project involves substantial earthworks. Following a review of their in-situ wall options and mindful of the impact on the historic “Fence House” building, the DWH in-house design and construction team in consultation with the FP McCann design and engineering team, opted for an off-site manufactured precast concrete ‘L’ Wall system with the brick slip face. This method of walling is a simple, fast process and eliminates the need for shuttering, steel foundation formwork and the pouring of wet concrete. An additional benefit of the ‘L’ Wall system is that no propping is required during construction.

FP McCann were approached by David Wilson Homes at a very early stage of the development to consider the aesthetic requirement of the wall itself. With the earth retaining wall facing the heritage listed “Fence House”, it was important that a finish complemented the historic building. A Wienerberger ‘Garnet Red’ brick slip was the design choice for the outer faces of the ‘L’ Walls. On securing the order, the 10 no. 3.5 metres high and 2 no. 3.0 metres high wall units each 2.0 metres wide, were manufactured and delivered from the Company’s Byley factory in Cheshire.

TWYCROSS ZOO CHIMPANZEE HABITAT PRECAST HORIZONTAL PANELS

Site: East Midland Zoological Society

Client: Twycross Zoo

Main Contractor: B&K Building Services

Products Supplied: Precast Concrete Walling Products

Work on a brand new chimpanzee habitat has begun at Twycross Zoo in Leicestershire. The Zoo's iconic species will move into a large immersive environment that encourages natural behaviours, at the same time as offering visitors a more engaging way of watching and learning about the chimpanzees.

Construction of the £2.6million facility commenced in March and FP McCann is playing a key role in both the supply of precast concrete walling products and has also secured a supply and installation contract, working on behalf of main contractor B&K Building Services.

The first phase of the contract involves the construction of a new three-storey steel-framed building which is being erected by Robinson Structures. The complex steel frame structure is being fitted with 133 different sized horizontal precast panels all 160mm thick and covering approximately 820m². FP McCann's Lydney depot supplied the precast concrete horizontal wall panel system in June.

VERTICAL CANTILEVER PANELS AT PORT OF LIVERPOOL

Site: Port of Liverpool

Client: Peel Ports Group

Main Contractor: McLaughlin & Harvey

Products Supplied: Precast Concrete Vertical Cantilever Panels

A new £15 million storage facility in the Port of Liverpool capable of handling millions of tonnes of bulk product a year has been completed, with FP McCann's precast concrete vertical cantilever panels forming an integral part of the building's structure.

The huge 282,000 sq. ft. warehouse commissioned by the Peel Ports Group, the main owner/operator at the docks, is part of a larger on-going development at the Port of Liverpool. UK and Ireland civil engineering and building contractor McLaughlin & Harvey secured the design and build of the warehouse. At approximately 375 metres long and 70 metres wide, the building is divided into three separate storage units.

Integral to the building design is the ability of the internal walls to transfer the mass loading from the stored material through to the floor. A number of design options were considered, however, the engineering team at McLaughlin & Harvey, in partnership with design consultants Corstorphine & Wright Architects and FP McCann engineers specified a 160mm thick vertical precast concrete cantilever panel system with an effective height of 3 metres.

The 27 week contract was completed in September with some 850 precast walling units supplied from FP McCann's Lydney factory weighing a total of 1,536 tonnes. These form over a kilometre of internal structural walling. The majority of the vertical cantilever panels are 1500mm wide, with an additional number of narrower 1000mm units and sections with flat and notched edges for other specific design requirements, such as door openings and 90 degree corners.

GRANTHAM OFFICE:
Summit House
Alma Park Road
Grantham Lincolnshire
NG31 9SP
T 01476 562277
sales@fpmccann.co.uk

LYDNEY OFFICE:
Lydney Industrial Estate
Harbour Road Lydney
Gloucestershire
GL15 4EJ
T 01594 847500
sales@fpmccann.co.uk

MAGHERAFELT OFFICE:
16-18 Quarry Road
Knockloughrim
Magherafelt
BT45 8NR
T 028 7954 9026
sales@fpmccann.co.uk

UDDINGSTON OFFICE:
New Edinburgh Road
Uddingston Glasgow
Lanarkshire
G71 6NE
T 01698 803300
sales@fpmccann.co.uk

WALLING

Grantham 01476 562277 Lydney 01594 847500 Uddingston 01698 803 300 (Scotland)

AGRICULTURE
Lydney 01594 847500 Grantham 01476 562277

ARCHITECTURAL PRECAST
Byley 01606 843500 Grantham 01476 562277 Littleport 01353 861416

BOX CULVERTS
Weston Underwood 01335 361269

BUILDING PRODUCTS
Cadeby 01455 290780

DOCK LEVELLER PITS
Weston Underwood 01335 361269

DRAINAGE
Ellistown 01530 240000 (England/Wales) Magherafelt 028 7954 9026 (Scotland)

FENCING
Cadeby 01455 290780

FILTER BED SYSTEMS
Littleport 01353 861416

FLOORING
Weston Underwood 01335 361269 Uddingston 01698 803300

POWER & INFRASTRUCTURE
Littleport 01353 861416

RAIL
Littleport 01353 861416

SPECIALIST PRECAST
Littleport 01353 861416

STRUCTURAL PRECAST
Byley 01606 843500 Grantham 01476 562277 Littleport 01353 861416

TANKS & CHAMBERS
Littleport 01353 861416

TUNNELS & SHAFTS
Cadeby 01455 290780

FPMCCANN.CO.UK