



TYPICAL MASS CONCRETE UNDERPINNING PLAN DETAIL

UNDERPINNING SPECIFICATION

- The contractor shall be responsible for ensuring that his operations do not in any way impair the safety or condition of the existing structure or the adjacent properties. He shall provide any temporary supports required for this purpose, and shall carefully inspect the condition of the structure or the adjacent properties. He shall provide any temporary supports required for this purpose, and shall carefully inspect the condition of the structure both before and during the execution of the work and immediately inform the engineer if he considers that any more stringent procedure than that specified is necessary.
- Underpinning is to be carried out in short sections not exceeding 1200mm lengths as specified above, in the sequence as indicated on the relevant plans.
- The underside of the existing footings are to be cleaned and hacked free of any dirt, soil or loose material before underpinning.
- The body of the underpinning is to be constructed in concrete grade FND2 (ready mix) mechanically vibrated during concreting. Sulphate resisting using 20mm max aggregate, and is to be cast to the widths and depths shown on the drawings. As far as practicable excavation and concreting of any section of underpinning shall be carried out on the same day. Unconcreted sections shall be kept covered to prevent the ingress of water - For details where Claymaster is to be provided to the inside face of underpinning concrete refer to sections
- The concrete is to be stopped off approximately 75mm below the underside of the existing footing, and the final pinning up is to be carried out with a semi-dry sand cement packing, well rammed into position as soon as possible after the concrete underpin has set hard. The pinning-up dry packing is to consist of 1 part by volume of sulphate resistant cement to 3 parts of sharp sand (well graded from 10mm maximum size down to fine sand) with a water/cement ratio by weight of 0.35. Expanding admixture such as Cebex 100 by Fosroc is to be used strictly in accordance with the manufacturers specification.
- Excavation to any section of underpinning shall not be commenced until at least 48 hours after completion of any adjacent section of the work.
- The joint between adjacent sections of underpinning is to be formed by creating a rough surface against which the first section is cast incorporating shear keys ("joggle joints"). Then having thoroughly cleaned the exposed concrete face, the adjacent section may be cast. Alternatively use 6H16 x 500mm long dowel bars in 3 rows equally spaced with 150mm edge distance with 250mm embedment into each underpin section.
- Refer to General notes drawings and specifications for further important notes, all concrete works to be in accordance with the latest National Structural Concrete Specification.

STEEL BEAMS SCHEDULE S355 GRADE:

GB1 - 203x203x71 UC - Box frame  
SB1# - 203x203x71 UC - Box frame

- Steel fabricator is responsible for detailing of all steel to steel connections in accordance with the details indicated on Axiom-Structures drawings
- # Denotes 15mm thk. plate welded to top flange of beam (width to suit width of masonry to be supported)
- Plates welded with 6mm x 150mm long hit / miss fillet welds
- Use minimum 4No. M16 (8.8) bolts with 10mm thk. welded end plates with 6mm full profile fillet welds to any steelwork connection subject to design. UNO  
Refer to notes drawing GN-001 for further specification

COLUMN SCHEDULE S355 GRADE:

C1 - 203x203x60 UC - Box frame

All steelwork to be S355. Tubes are to be hot formed.  
See DE for details.  
Refer to GN-001 for further specification notes.

LINTELS SCHEDULE:

L1 1No. 100x215mm dp. Naylor Concrete  
R6 PC lintel per 100mm width of wall

All lintels to be installed in accordance with manufacturers recommendations min. 150mm end bearing onto sound masonry  
Facing arch lintels to builders details  
Refer to GN-001 for further details

IMPORTANT CDM/H&S NOTE

THE DESIGNERS HIGHLIGHT THE SIGNIFICANT RESIDUAL HEALTH AND SAFETY RISKS THAT HAVE NOT BEEN ELIMINATED FROM THE DESIGNS. THESE SIGNIFICANT RESIDUAL RISKS ARE IDENTIFIED BELOW.



TEMPORARY PROPPING OF WALL DURING CONSTRUCTION OF NEW STAGGERED CONCRETE UNDERPINNING / SECTIONS

TEMPORARY PROPPING OF EXISTING STRUCTURE DURING DEMOLITION OF EXISTING LOAD BEARING ELEMENTS & INSTALLATION OF NEW SUPPORTING STEELWORK

THIS NOTE REFERS TO SIGNIFICANT RESIDUAL RISKS AS DEFINED IN CDM LEGISLATION. OTHER HEALTH AND SAFETY RISKS ASSOCIATED WITH CONSTRUCTION ACTIVITIES MAY BE PRESENT.

TENDER DRAWING

This drawing is for tender purposes only and must not be read as construction issue. It indicates design intent and is subject to amendment during final coordination

NOTE: EXISTING STRUCTURE & LAYOUT  
SUBJECT TO EXPOSURE ON SITE

TEMPORARY WORKS TO CONTRACTORS  
DESIGN AND DETAILS

NOTES:

1. If in doubt please ask.

2. Do not scale this drawing.

3. This drawing is to be read in conjunction with all Engineer's, Architect's or other relevant drawings and specifications. Any discrepancy is to be reported to the engineer immediately.

4. The contractor must ensure and will be held responsible for the overall stability of the building/structure/ /excavation at all stages of the work.

5. To be Read with General Notes GN-001

Please Note:

Electronic Design Information can be intentionally or unintentionally modified. It is a misconception that Electronic Design Information is by default accurate. Any modification or reuse of the Electronic Design Information issued herewith that results in erroneous setting-out and/or any other design, costing, measuring or construction inaccuracy are the responsibility of the recipient of this Electronic Design Information.

GENERAL KEY :

	Existing walls
	New blockwork
	New brickwork
	Demolition
	Mass concrete foundations cast using FND2 concrete
	Load-bearing Ashlar / Dormer studwork wall
	Non load bearing partitions to Architects specification
	Span of existing timber roof joists / rafters / joists
	Span of new timber roof joists / rafters / joists
	New steel beam & reference - See schedule for sizes
	Full moment steelwork connection
	New multiple timber trimmer bolted together with M12 bolts at 600mm crs.
	New flitch beam & reference as noted in schedule
	Lateral restraint straps as per spec & details
	Furfix wall starter system with s/steel wall ties at 225 vertical crs
	Mass concrete padstone & reference - Refer to schedule for sizes
	Steel column with reference - Refer to schedule for sizes
	Timber post over
	Steel column over

P1	10.04.25	Preliminary Issued	HG	AB
Rev	Date	Amendments	By	Chk'd

PRELIMINARY

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Drawing title:  
**STRUCTURAL PLANS**

Date: 4/2025	Scale at A1: 1:50	Scale at A3: -
Drawn by: HG	Designed by: AB	Chk'd by: AB
Drawing No:	Revision:	

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