

EXTENT OF SME LTD INVOLVEMENT IS TO PROVIDE TEMPORARY WORKS TO THE REAR WALL. MC TO DESIGN AND DETAIL ALL OTHER TEMPORARY WORKS AND BRACINGS. CONTACT ENGINEER IF IN DOUBT.

THE WORKS TO BE CARRIED OUT BY A COMPETENT BUILDER WHO IS FAMILIAR WITH THIS TYPE OF TEMPORARY WORKS SEQUENCE .

TEMPORARY WORKS SEQUENCE OF WORK:

- × CHECK FOR EXISTING SERVICES.
- × CHECK THAT THE WALL MASONRY AND ANY FLOOR/ROOF TIMBERS ARE IN GOOD CONDITION PRIOR TO ANY WORK BEING CARRIED OUT AS REMEDIAL WORK MAY BE NEEDED PRIOR TO THE OPENING BEING ALTERED OR CREATED.
- × ERECT SCAFFOLD TOWER (OR ADJUSTABLE PROPS AND BACKPROPPING – WHICH MAY NEED SOME ADDITIONAL BRACING FOR STABILITY) WITH AN ACCESS PLATFORM FOR WORKERS. IF THE NEW LINTEL IS LARGE, THEN REMEMBER TO POSITION IT ON THE FLOOR INSIDE THE LINE OF THE PROPS OR SCAFFOLDING PRIOR TO THEIR INSTALLATION.
- × ACROWS TO BE PROP SIZE 4
- × FORM HOLES THROUGH THE EXISTING WALL (AT MAXIMUM 500mm CENTRES) ABOVE WHERE THE NEW LINTEL IS TO BE PLACED – THIS CAN BE DONE WITH A HAMMER AND BOLSTER OR CORING MACHINE.
- × THREAD NEEDLES THROUGH THE HOLES AND SUPPORT THEM ON THE PROPS OR SCAFFOLDING. THE PROPS OR SCAFFOLDING SHOULD HAVE SCREW JACKS FOR ADJUSTMENT.
- × DRY PACK BETWEEN THE TOPS OF THE NEEDLES AND THE BRICKWORK ABOVE, AND ALLOW CURING TIME.
- × USE THE SCREW JACKS TO REMOVE ANY SLACK FROM THE SUPPORT SYSTEM AND FORM A SLOT FOR THE NEW LINTEL.
- × ATTACH BLOCKS AND TACKLES TO THE NEEDLES TO LIFT THE NEW LINTEL INTO POSITION.
- × POSITION THE NEW LINTEL AND DRY PACK BETWEEN THE TOP OF THE LINTEL AND THE BRICKWORK ABOVE, AND ALLOW CURING TIME.
- × FORM THE NEW OPENING BELOW THE NEW LINTEL.
- × REMOVE THE NEEDLES AND THEN THE SUPPORTS.

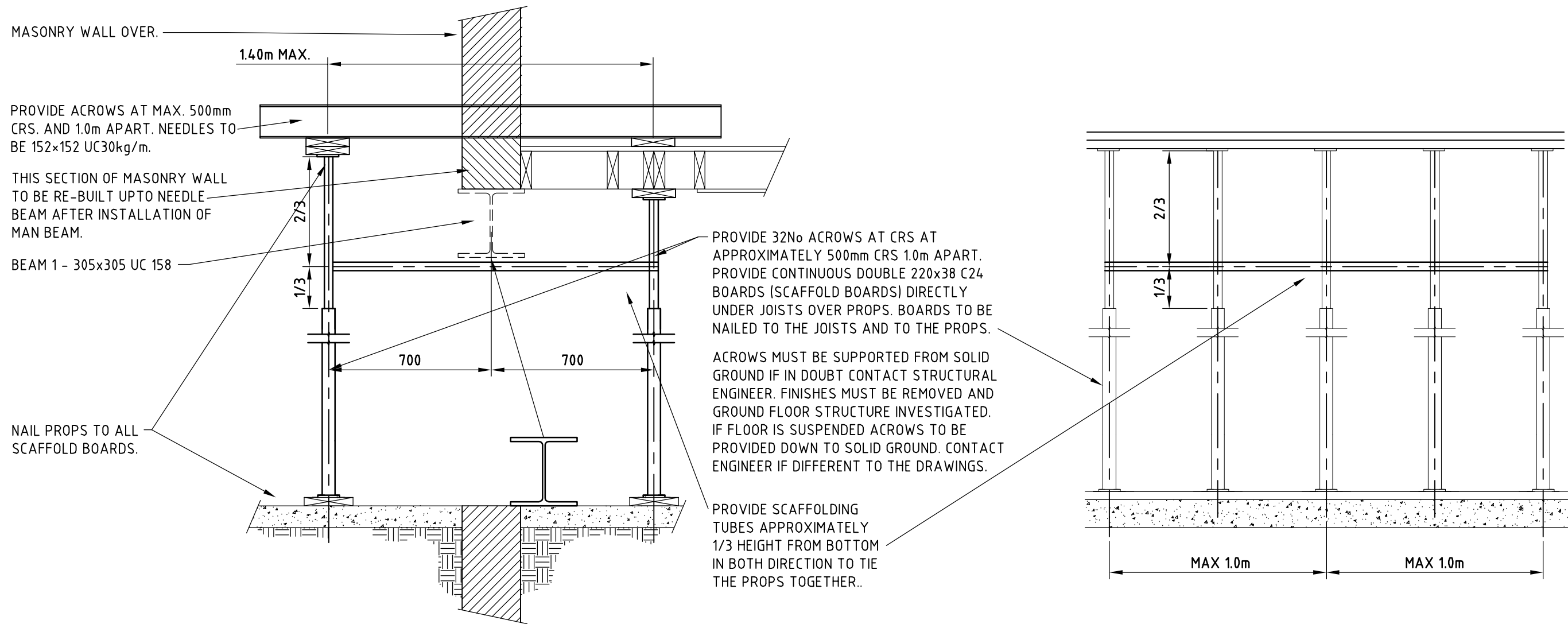
- PROPPING NOTES**
CONTRACTOR TO TAKE ALL NECESSARY PRECAUTIONS TO PROP AND BRACE DURING CONSTRUCTION
1. HEALTH & SAFETY CONSULTANT SHOULD BE EMPLOYED. CONTRACTOR TO ISSUE METHOD STATEMENT (PRIOR TO COMMENCEMENT OF ALL WORK) FOR APPROVAL.
 2. IF FINDINGS ON SITE DIFFER FROM WHAT IS SHOWN ON THIS DRAWING, CONTRACTOR TO CONSULT ENGINEER IMMEDIATELY.

↔ ASSUMED EXISTING FLOOR JOISTS SPAN



Contact:-
• Support@structures-made-easy.co.uk
• www.structures-made-easy.co.uk

No.	Amendment	Date	Int'l	PROJECT	Drawing Title						
				Sample	Temporary Works, Plan layout.						
Do not scale from drawings. The contractor is responsible for checking all dimensions on site prior to commencement of work or manufacture. Any errors being reported as soon as possible Contractor responsible for security, stability and safety of the building during works.				Inspect adjoining properties prior to commencement of work & record any defects to owner All work carried out to satisfaction of local authority and in accordance with current Building Regulations, as such additional building works may be required	We advise that it is your responsibility to ensure that a 'Party Wall Agreement' is in place, if it is required.	Designed: SH	Drawn: SH	A3	Date	Scale : 1:75	Drawing No: SME-300
						Checked: SD	Approved: SD		Note : Drawing should not be reproduced without permission from SME Ltd.		



**TYPICAL SECTION (X-X)
THROUGH TEMPORARY WORKS**

(1:20)

THE WORKS TO BE CARRIED OUT BY A COMPETENT BUILDER WHO IS FAMILIAR WITH THIS TYPE OF TEMPORARY WORKS SEQUENCE .



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No.	Amendment	Date	Int'l	PROJECT	Drawing Title								
				Sample	Temporary Works, Details.								
Do not scale from drawings. The contractor is responsible for checking all dimensions on site prior to commencement of work or manufacture. Any errors being reported as soon as possible Contractor responsible for security, stability and safety of the building during works.				Inspect adjoining properties prior to commencement of work & record any defects to owner All work carried out to satisfaction of local authority and in accordance with current Building Regulations, as such additional building works may be required		We advise that it is your responsibility to ensure that a 'Party Wall Agreement' is in place, if it is required.		Designed: SH	Drawn: SH	A3	Date	Scale : 1:20	Drawing No: SME-301
						Checked: SD		Approved: SD	Note : Drawing should not be reproduced without permission from SME Ltd.				

Job Name:

Structures Made Easy Ltd.

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W5 4RL
United Kingdom

Job No: -----

Sheet No: 1

By: SSH

T: +44(0)75 250 47778

Date:

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REV:

Consider Temporary Works

Max Span 1.40 m

Max Ru = 141.00 kN

Length of the beam = 8.50 m

Total Load = 141.00 × 2 / 8.50 = 33.18 kN/m

Point Load = 33.18 × 0.50 = 16.59 kN

Bending Moment = $\frac{16.59 \times 1.40}{4}$ = 5.81 kNm

For Calculation see Page 02 - 02

Use 152×152 UC30
As Needles

Structures Made Easy Ltd
216 South Ealing Road, London, W5 4RL, United Kingdom

Site:
Job: Temporary works
Job number:

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Beam: Needle

Span: 1.4 m.

	Load name	Loading w1	Start x1	Loading w2	End x2	R1comp	R2comp
U	D o.w.	0.3	0		L	0.21	0.21
P	D Beam	16.59	0.50			10.66	5.93
Unfactored reactions (kN) Total:						10.88	6.14
<i>Dead:</i>						10.88	6.14
<i>Live:</i>						0.00	0.00
Factored reactions:						15.22	8.59

Total load: 17.01/23.81 kN Unfactored/Factored

Factored reactions:

Load types: U: UDL P: PL D: Dead; L: Live (positions in m. from R1)

Maximum B.M. (factored) = 7.56 kNm at 0.50 m. from R1

Maximum S.F. (factored) = 15.22 kN at 0.00 m. from R1

Live load deflection = $0.00 \times 10^9/EI$ at R2 (*E in N/mm², I in cm⁴*)

Total deflection = $0.865 \times 10^9/EI$ at 0.64 m. from R1

Beam calculation to BS5950-1:2000 using S275 steel

SECTION SIZE : 152 x 152 x 30 UKC S275 (compact)

D=157.6 mm B=152.9 mm t=6.5 mm T=9.4 mm $I_x=1,750 \text{ cm}^4$ $r_y=3.83 \text{ cm}$ $S_x=248 \text{ cm}^3$ $x=16.0$

Shear

Shear capacity = $0.6 p_y \cdot t \cdot D = 0.6 \times 275 \times 6.5 \times 157.6/1000 = 169 \text{ kN}$ (≥ 15.2) OK

Bending

Maximum moment = 7.560 kNm at 0.50 m. from R1

Moment capacity, $M_c = p_y \cdot S_x = 275 \times 248/1000 = 68.20 \text{ kNm}$ OK

Lateral-torsional buckling

Beam is laterally restrained at supports only

Restraint condition at R1 and R2: Compression flange laterally restrained. Nominal torsional restraint. Both flanges free to rotate on plan (1.0L) [BS5950 Table 13]

Effective length = 1.0L

Bending strength, $p_b = 275.0 \text{ N/mm}^2$

Maximum moment within segment, $M_x = 7.560 \text{ kNm}$

Equivalent uniform moment factor, $m_{LT} = 0.755$ ($M_2=5.30, M_3=5.91, M_4=2.98$)

Equivalent uniform moment = $0.755 \times 7.560 = 5.709 \text{ kNm}$

Buckling resistance moment, $M_b = p_b \cdot S_x = 275.0 \times 248/1000 = 68.20 \text{ kNm}$ OK

Web capacity

Check unstiffened web capacities with loads of 15.22 kN and 8.589 kN

$C1 = 60.8 \text{ kN}; C2 = 1.79 \text{ kN/mm}; C4 = 382; K = \min\{0.5+(a_e/1.4d), 1.0\}; p_{vw} = 275 \text{ N/mm}^2$
(for derivation of C factors see Steelwork Design Guide to BS5950-1:2000 6th ed.)

R1: Minimum required stiff bearing length, $b_1 = 0 \text{ mm}; a_e = 0 \text{ mm}; K = 0.500$

Bearing capacity, $P_w = C1 + b_1 \cdot C2 = 60.8 \text{ kN} \lll$

Buckling capacity, $P_x = K \cdot \sqrt{C4 \cdot P_w} = 0.500 \cdot \sqrt{382 \times 60.8} = 76.2 \text{ kN}$

R2: Minimum required stiff bearing length, $b_1 = 0 \text{ mm}; a_e = 0 \text{ mm}; K = 0.500$

Bearing capacity, $P_w = C1 + b_1 \cdot C2 = 60.8 \text{ kN} \lll$

Buckling capacity, $P_x = K \cdot \sqrt{C4 \cdot P_w} = 0.500 \cdot \sqrt{382 \times 60.8} = 76.2 \text{ kN}$

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Deflection

LL deflection = $0.000 \times 1e8 / 205,000 \times 1,750 = 0.0$ mm OK

TL deflection = $0.865 \times 1e8 / 205,000 \times 1,750 = 0.2$ mm (L/5808)