

STRUCTURAL CALCULATIONS

Project Number:	18065
Project Title:	Leigh Community Centre
Section Titles:	
Client:	Leigh-on-Sea Town Council
Date of Issue:	05/12/2018
Approved for Issue:	<i>Alice Ward</i>
Revision:	-

For Queries Please Contact: aliceward@crucisdesigns.com

N.B.

Calculations are for demonstration of compliance with Building Regulations Part A only.

See Crucis Designs Drawings and Sketches for construction purposes.

CRUCIS DESIGNS LIMITED

8 Madeira Avenue, Leigh-On-Sea, Essex, SS9 3EB
tel: 01702 416114 email: info@crucisdesigns.com

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Title: LEIGH COMMUNITY CENTRE

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PURPOSE

Design of new lintel to facilitate new door opening.

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42 Victoria Drive, Leigh-On-Sea, Essex, SS9 1SF
tel: 01702 416114 email: info@crucisdesigns.com

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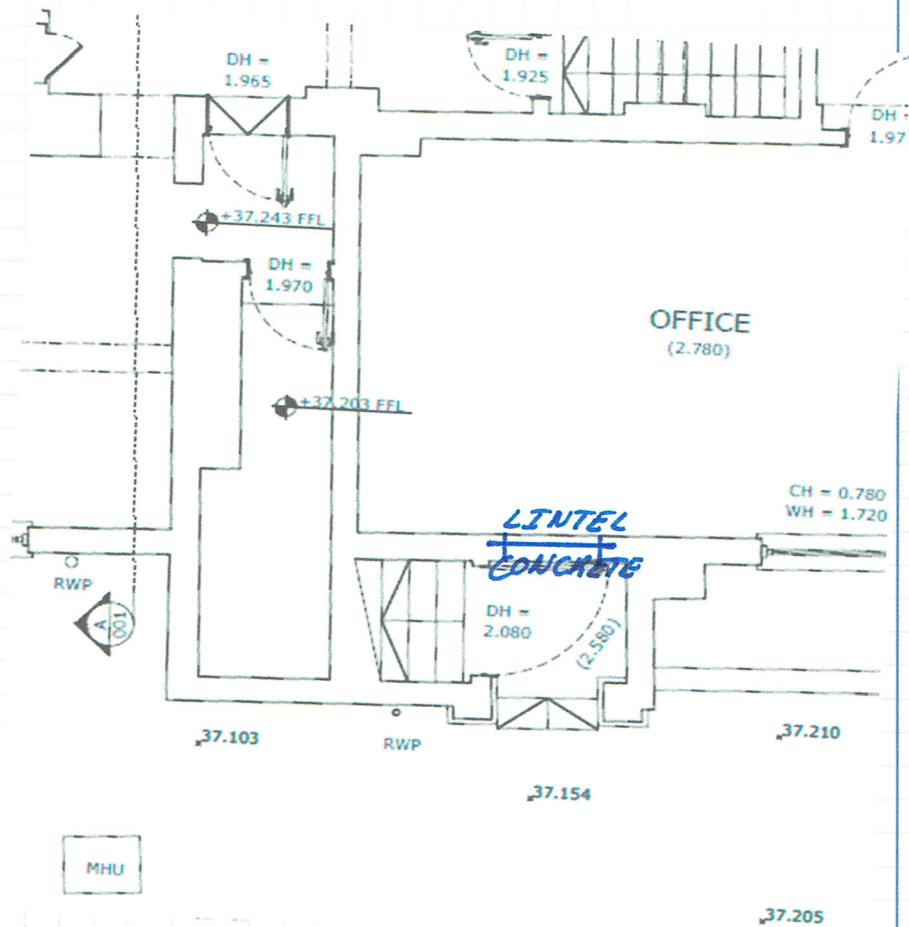
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LAYOUT GROUND FLOOR STRUCTURE

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DEAD LOADS**FLOOR (OFFICE)**

Gk = 1.00 kN/m²

EXTERNAL MASONRY WALL

PLASTERBOARD (13 mm) = 0.18 kN/m²

BRICKWORK (215 mm) = 4.09 kN/m²

PLASTERBOARD (13 mm) = 0.18 kN/m²

Gk = 4.45 kN/m²

LIVE LOADS

FLOOR (OFFICE) = 2.50 kN/m²

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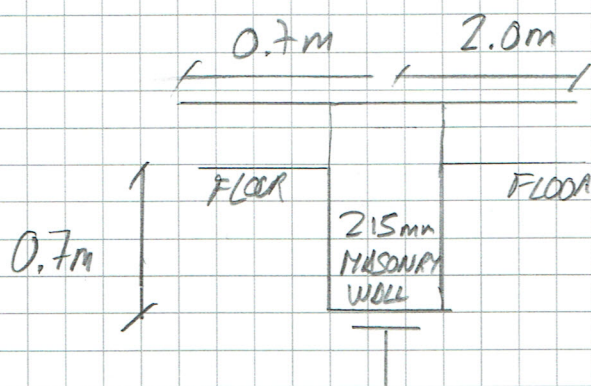
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LINTER LOADS- FLOOR

$$G_k = 1 \text{ kN/m}^2 \times 2.7 \text{ m} = 2.7 \text{ kN/m}$$

$$Q_k = 2.5 \text{ kN/m}^2 \times 2.7 \text{ m} = 6.7 \text{ kN/m}$$

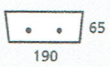
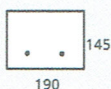
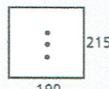
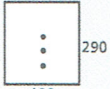
- 215mm SOLID MASONRY

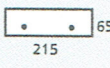
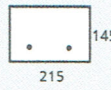
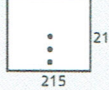
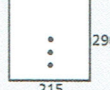
$$G_k = 4.5 \text{ kN/m}^2 \times 0.7 \text{ m} = 3.2 \text{ kN/m}$$

$$W_{SL} = 12.6 \text{ kN/m}$$

LD USE HI-SPEC RANGE R7
215 x 145 CONCRETE
LINTER

SPAN = 1.0m

Hi-Spec Range		P190	R2	R190	R13
Load Table Units suitable for 190mm wide walls					
Fire Resistance Available (mins)		30	30	30	30
Suitable for Foundation Use		yes	yes	yes	yes
Maximum Stock Length Available		2400mm	3000mm	3600mm Longer lengths available on request - up to 4800mm	3600mm
Available Range Finish			Faced	Faced	Faced
UNFACTORED LOADS IN kN/m					
Length	Clear Span	190x65	190x145	190x215	190x290
900mm	700mm	21.40	81.86	126.49	162.20
1100mm	900mm	15.56	60.78	101.00	129.49
1200mm	1000mm	12.65	50.12	91.72	117.60
1500mm	1200mm	8.80	35.69	70.66	97.99
1800mm	1500mm	5.59	23.34	46.87	79.77
2100mm	1800mm	3.83	16.36	33.22	56.74
2400mm	2100mm	2.75	12.03	24.68	42.28
2700mm	2400mm	n/a	9.17	18.98	32.63
3000mm	2700mm	n/a	7.17	14.99	25.85
3300mm	3000mm	n/a	5.73	12.08	20.92
3600mm	3200mm	n/a	4.98	10.56	17.77
Lintel Weight kg/m		29	66	98	132

* Hi-Spec Range		P215	R7	S8	R14
Load Table Units suitable for 215mm wide walls					
Fire Resistance Available (mins)		30	30	30	30
Suitable for Foundation Use		yes	yes	yes	yes
Maximum Stock Length Available		2400mm	3600mm	3600mm Longer lengths available on request - up to 4800mm	3600mm
Available Range Finish			Faced	Faced	Faced
UNFACTORED LOADS IN kN/m					
Length	Clear Span	215x65	215x145	215x215	215x290
900mm	700mm	26.78	90.15	136.58	178.60
1100mm	900mm	16.42	63.86	101.50	142.58
* 1200mm	1000mm	13.43	52.65	88.97	129.48
1500mm	1200mm	9.27	37.48	66.40	107.73
1800mm	1500mm	5.89	24.49	49.23	83.95
2100mm	1800mm	4.02	17.15	34.87	59.68
2400mm	2100mm	2.88	12.60	25.89	44.45
2700mm	2400mm	n/a	9.59	19.89	34.28
3000mm	2700mm	n/a	7.49	15.69	27.14
3300mm	3000mm	n/a	5.97	12.63	21.94
3600mm	3200mm	n/a	5.18	9.12	18.62
Lintel Weight kg/m		33	75	111	150