

Canham Consulting

**Structural
Engineers**



**Civil
Engineers**



**Building
Surveyors**



Structural Calculations

Project Reference	209663
Sheet number	CC1
Site	40 Isaacs Road, Cobholm, Great Yarmouth
Client	Miss Walker
Project Overview	Extension
Prepared By	John Hutchinson
Checked By	
Revision History	August 2017 – First Issue

Consultants to the Construction Industry

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Design Information



Project Reference **209663** Date **August 17**

Sheet number **CC2**

Client	Miss Walker
Project Address	40 Isaacs Road, Cobholm, Great Yarmouth
Project Description	Extension

Intended Building Usage	Domestic
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Subsoil Conditions	Assumed Sands & Gravels 20kPa Bearing Capacity	S.I. Report by	None
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Specialist Design by Others	Lintels
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Relevant British Standards, Codes of Practice and Design Standards Used In This Project			
BS 648:1964 - Weights of Materials	<input checked="" type="checkbox"/>	BS 5268 Pt 2:1996 - Timber	<input checked="" type="checkbox"/>
BS 6399 Pt 1:1996 - Building Loads	<input checked="" type="checkbox"/>	BS 5628 Pt 1: 1992 - Masonry	<input checked="" type="checkbox"/>
BS 6399 Pt 2:1997 - Wind Loading	<input checked="" type="checkbox"/>	Building Regs Approved Doc. A: 2004	<input checked="" type="checkbox"/>
BS 6399 Pt 3:1996 - Snow Loading	<input checked="" type="checkbox"/>	NHBC Standards	<input checked="" type="checkbox"/>
BS 5950 Pt 1:1990 - Steelwork	<input checked="" type="checkbox"/>		<input type="checkbox"/>
BS 8110 Pt 1:1997 - Concrete	<input type="checkbox"/>		<input type="checkbox"/>

CDM 2015 Design Considerations	Principal Designer:	Others
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This design has been considered under CDM 2015 - to eliminate, reduce or control foreseeable risks that may arise during construction, and the maintenance and use of a building once it is built.

Risks - Consider those difficult to manage, unusual, or not likely to be obvious to a contractor or designer

Area of Hazard	Assessed (Yes No N/A)	Method of Hazard Elimination/Reduction	Residual Risk			
			Risk	Significant		
Access to work area	Yes	To be arranged by Client	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Demolition	Yes	Removal of existing wall(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Services	Yes	Contractor to identify services prior to construction	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Installation	Yes	Design elements as light as possible. Deliver elements as close as possible to installation point. Use mechanical plant for lifting	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Excavation	Yes	Contractor to provide all req'd shoring and propping	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Sequencing	Yes	Contractor's choice	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Falls from height	Yes	Contractor to provide scaffold, fall arrest and edge protection where required	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Post-tensioning/ pre-tensioning	N/A		<input type="checkbox"/>	<input type="checkbox"/>		
Materials	Yes	Contractor to adopt safe working practices. Wear PPE to prevent contact with hazardous materials.	<input type="checkbox"/>	<input type="checkbox"/>		
Hotworks	No	Prefabricate offsite where possible	<input type="checkbox"/>	<input type="checkbox"/>		
Future Maintenance	No	To be arranged by Client	<input type="checkbox"/>	<input type="checkbox"/>		
Final Demolition	No	Contractor designed	<input type="checkbox"/>	<input type="checkbox"/>		
Does this project require a separate Designers Risk Assessment?			Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>

Project Reference 209663
Sheet number CC3
Site 40 Isaacs Road,
Cobholm, Great
Yarmouth
Client Miss Walker



Design Statement

Please refer to the accompanying design calculations and sketches.

Please refer to Architectural Drawings.

The property is....

Contents

	Start	End	Rev
Conceptual			
Gravity loading			
Wind loading			
Superstructure			
Substructure	01	02	
Stability			
Temporary Works			
Sketches			



project

project ref

209663

section no.

sheet no.

revision

client

by
JA

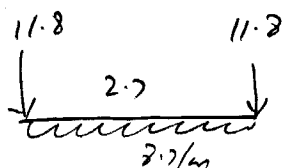
checked

date
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Wall load = Roof + wall

$$= (1.8/m^2 \times 2.7/2) + (3.6/m^2 \times 2.6)$$

$$= 11.8/m$$




$$M = 11.8 \times 2 \times \frac{2.7}{3} = 8.16 kNm$$

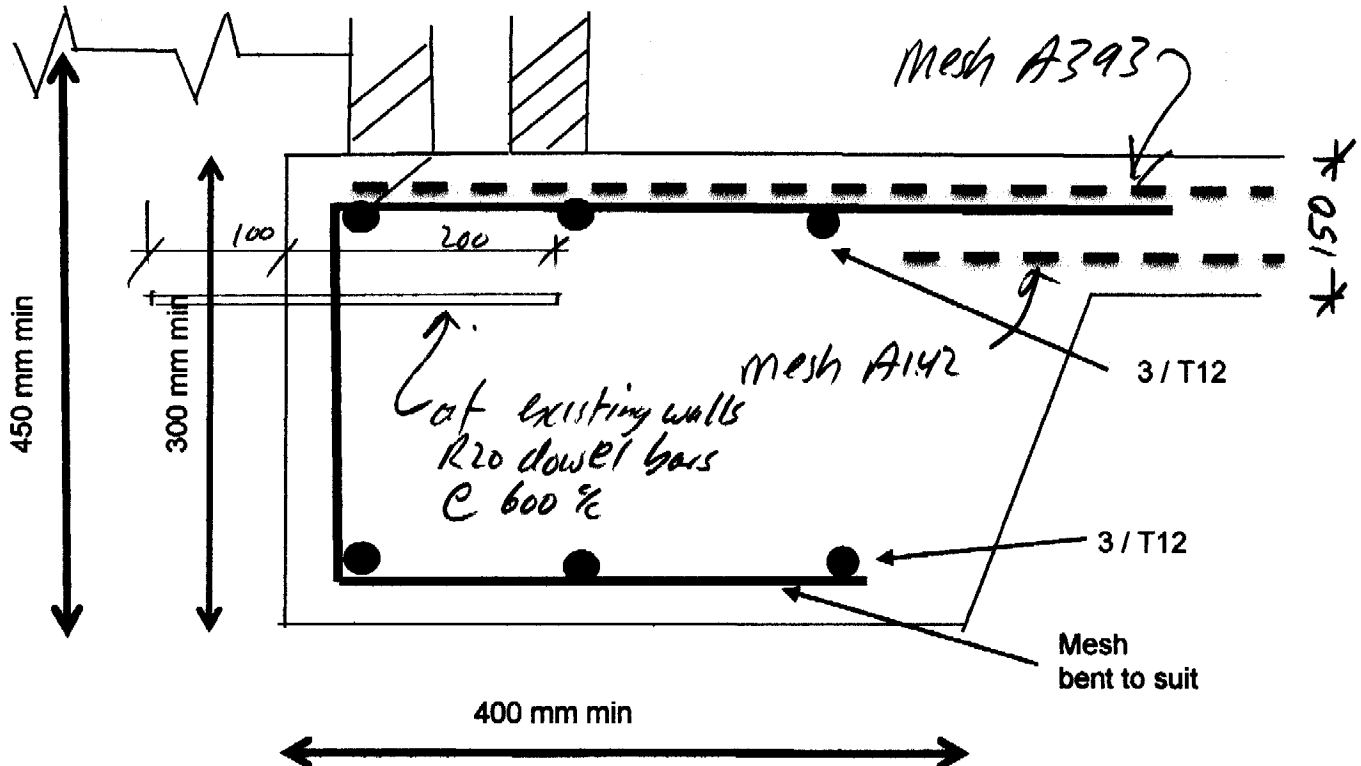
$$e 150dp \quad d_r = 120 \quad A_{st} = 305 mm^2/m \quad A393$$

Raft to
extension

(P40)

project	project ref	209663	 Canham Consulting <small>As a registered company, Canham Consulting is a member of the Canham Group of companies. The Canham Group of companies is a leading provider of structural, civil and building surveying services.</small>
	section no.	Sheet no.	
		02	
client	by	checked	date
	jh		8/17
		Structural Engineers	Civil Engineers
			Building Surveyors

typical section through edge



Notes

Concrete grade RC35

Cover to reinforcement = 25 mm to top of slab and 50 mm elsewhere

Laps to reinforcement = 450 mm

Job Number: 209663
Sheet Number: CC4
Job Title: 40 Isaacs Road, Cobholm, Great Yarmouth



The Building Regulations

Building Regulations apply to most new buildings and many alterations of existing buildings in England and Wales, whether for domestic, commercial and industrial use. Compliance is a legal requirement.

Unless specifically requested, we assume that the Lead Consultant, Contractor or Client will communicate and coordinate with Building Control or an Approved Inspector throughout the project. This will include the timely issue of information.

Planning Permission

Most projects will require Planning Permission.

Unless specifically requested, we assume that the Lead Consultant, Contractor or Client will communicate and coordinate with the Planning Authority.

There will be instances when we communicate with the Planning Officers, for example on projects which may be sensitive in terms of conservation. However, unless specifically stated the lead will be taken by others.

The Party Wall etc Act

The Party Wall etc Act 1996 provides a framework for preventing and resolving disputes in relation to party walls, boundary walls and excavations near neighbouring buildings.

A building owner proposing to start work covered by the Act must give adjoining owners notice of their intentions in the way set down in the Act. Adjoining owners can agree or disagree with what is proposed. Where they disagree, the Act provides a mechanism for resolving disputes. The Act is separate from obtaining planning permission or building regulations approval.