### Section 7 - Page 28/30

$\left[ \right]$		col	VSTF	RUC	ΓΙΟ	N		P-	piect:	S	-2930			BC
U	UL	COI	NSU	LTAI	VTS			Pr	лест:		161 L	ARLINGTON	N ROAD, 1 7ET	
								Da	te:	1	Nov 24	Rev:	R	lev 01
	Title:	Structur	al Calcul	ations f	or Prop	osed	Refurbi	shment	of 16	1 Arli	ngton Ro	ad		
Sect	tion 7	Superstr	ructure e	element	s									
Fro	m wind	loading	(see aho	nve)			Wk =	- 0	3685	k Pa				
		loauing	(366 ab)	5005			Υf =	- 0	1.4	, кга				
anal														
		L =	3700	h	/L =	0.	77							
		h =	2850											
		ten -	. 135	u	α		αf	rom Th	9/L					
		Bric	k 0.	3636	0.06									
		Bloc	k 0	.625	0.043									
	Ckinans	al (cl 36 3	3)											
		li (ci 50 	-, 1 < 135	0 teff2										
	10	545000	<	24603	750		ОК							
Jesign	Momen		ancvor	tically										
	Assume	: wall sp		lically	Md	- 1	$W_{h,c}h^2$	/8 =	0.5	5237	kNm			
							κγι							
Nomer	nt of res	istance I	Иr											
	Mr -	fkx a												
	1411 -	$\gamma_m^2$												
	Υm =	special	/ norma	al =	3.1		Z =	bd2/6	;					
	0													
	ткх para	allei enn anced f	anced b kx = fkx	y seit v ' = fkx +	veight · Ym (g	over πd Υ	fg)	Ϋ́	for =	0	9			
	Cill	lancean	NA - 1NA	- 164 1	1111 (8	,u . 1	187	- ·	5	0	.5			
Use	e mason	ry stress	at mid	height	of pan	els								
	Ht		Density	/ tk	Lo	bad	gd	۲m.gd.	ſfg	fkx	fkx'	Z	Mr	
Grd	m /1 Q 1	brick	kN/m3	mm	kN 5 9 9	I/m	N/mm2	N/mm	2 N/	mm2	N/mm2	mm3	kNm	
uru	4.81	block	18	102.	8.0	658	0.0866	0.200	.6 0	.25	0.4916	16666666.7	0.38	
													0.64	
		Mr	ground	ł	0.64	kNn	n >D	esign I	vlome	ent N	1d 0.5	237 kNm		
						Ma	in pane	ls oka	/					
		Troot of	fract	anding	wall (r	antil	over							
`arape	t	Treat a	s freesta	anding	wall (c	antil	ever) M	= Y w	<sup>2</sup> / 2		Ύ =			
'arape	t	Treat as	s freesta	anding 750	wall (c mm	antil 1	ever) M <sub>d</sub>	= Y <sub>f</sub> w	l² /2		$\Upsilon_{f} = 1.4$			

(		COC		RA TR	N 1 10	E CTIO	N			Pr
	UUL	cor	VS	UL	ΤA	NTS				Pr Da
	Title:	Structur	al Ca	lcula	tion	s for Pro	nosed	Ref	urbishr	ment
	Section 7	Superstr		ro ol		nte		nen		inem
	Wind loadin	a from a	hou							
	winu ioauin	gnoma		e sta	art	end	len	σth	Md	
			n	0.0	000	0.225	0.2	25	0.300	)3
	Zone A	0.7	763	0.2	25	1.500	1.2	.75	0.185	55
	Zone B	0.4	171	1.5	500	3.000	1.5	00	0.150	)1
	Zone C	0.3	381	3 000		3.700	0.7	00	0.10	6
	Zone D	0.2	269	m		m	n	n	kNm	1
		kPa								
						Υm	=	3.1		
Мo	oment of Resi	istance	Mr							
		Tk		Ζ		fkx		Mr		
	brick	102.5	175	5104	1.7	0.4	C	).22	6	
	block	100	166	6666	6.7	0.25	C	).13	4	
							0	).36	0	Ρ
								kNr	n	U
f	ixed to steels Design loadi	ing	iperi		.ycm	nuture	oj iou	ung	onieu	uniy
				10.0			14			_
	Wind Lo	ading		(0.2	25)	rzone A	+ (1-	0.22	25)*zo	ne E
		V	= Vk =	0.5	366 585	кра			1.6	
	M = wl2	/2 =	0.2	683		Zread =	= M/c	5		σ
										-
	Zred	= bp	975	5.62	052	mm3			δ=wk	(14/
									1	reqo
	60x	60x5 SH	s		7	1810	20	mm	13	
	007	00,5 511	5		1	5440	00	mm	13	δ
					-	5110				0
De	flection of be	am will	give	e def	lect	ion on v	vind	post		
	152x89UB	(Ini	tial F	34 se	ctio	n)				
	W	1.55	kN/	m		.,				
		838	cm4	1	83	380000	mm	4		
	e	205000		ľ.						
	L	4100								
	Slop	e wl^	3/2	24 EI	=	0.0025	9104	rad	ians	=

Projec	ct No:					Calc By	:			
		S	-293	30					BC	
Projec	ct:			161 /	ARLIN		N RO '1 7F	AD, T		
Date:						Rev:				
		1	Nov	24				Re	v 01	
nt o	f 161	L Arli	ngto	n Road	I					
			2 h	4.h	-					
			0.3 h					ž.		
		- 77	A B	r or free end	c	D				
			Come	of field bild						
Par	nel o	kav	for a	all zon	ies		_			
UF	-	0.8	332	(zone	A)					
ig e	dge -	add	wind	dpost o	on lead	ing e	dge			
							-			
В										
	=	10	000	mm						
σ=	2	75	N/n	nm2						
-	-		,				_			
/8E	1		δlin	nit = sj	pan /					
					-	50	00			
		4/05			2	mm				
a =	• W I	/8E	0							
					mr	n4				
							_			
δ =	0.	96	mm	1						
=	148	5.46	deg	rees						

### Section 7 - Page 30/30

COCHRANE								Project No: Calc By:						
	ONICT	DIIC		N				S-29	30	BC				
CONSTRUCTION								Project: 161 ARLINGTON ROAD, LONDON NW1 7ET						
									Rev 24	ev: Rev 01				
Stru	ctural Calc	ulations fo	or Prop	osed Re	furbish	ment of	161	Arlingto	on Road					
Sup	erstructure	elements	5											
			3.13	9		=	31.5	54 de	g from horz					
post	1000 n	nm long												
hoom	doflactio	a – 2 EC	)											
nost	deflection	1 - 2.55	;											
tota	al deflction	n = 3.55	, 5 mm		Defle	ction =	9	span /	###					
73														
1.5	5 kN/m	1												
125	0 cm4	1250	00000	mm4										
205	000													
410	0													
ope	wl^3 / 24	EI = 0	.00173	703 ra	dians	=	0.09	95 de	grees					
			3.14	0		=	179	.9 de	g from horz					
beam	deflection	n= 1.74	ŀ											
post	deflection	n = 0.96	0.96											
total	deflection	n = 2.70	) mm		Defle	ction =	5	span /	370.46					
Cha	nge B4 to	152UC2	3											
	Stru Sup post beam post tota 205 410 ope beam post total Cha	CONST CONST CONST Structural Calc Superstructure post 1000 m beam deflection total deflection total deflection total deflection 4100 ope wl^3 / 24 beam deflection post deflection total deflection const deflection	CONSTRUCT CONSULTAI	CONSTRUCTION CONSULTANTS   Structural Calculations for Prop   Superstructure elements 3.13   post 1000 mm long   beam deflection = 2.59   post deflection = 0.96   total deflction = 3.55 mm   223 3.55 mm   1.55 kN/m 12500000   4100 3.14   beam deflection = 1.74   post deflection = 0.96   total deflection = 1.74   post deflection = 0.96   total deflection = 1.74   post deflection = 2.70 mm   Change B4 to 152UC23 3.14	CONSTRUCTION CONSULTANTS   Structural Calculations for Proposed Results   Superstructure elements   3.139   post 1000 mm long   beam deflection = 2.59   post deflection = 0.96   total deflction = 3.55 mm   23 3.55 mm   1.55 kN/m 12500000 mm4   205000 3.140   4100 3.140   beam deflection = 1.74   post deflection = 0.96   total deflection = 1.74   post deflection = 2.70 mm   Change B4 to 152UC23 3.140	CONSTRUCTION CONSULTANTS   Structural Calculations for Proposed Refurbish Superstructure elements   Superstructure elements 3.139   post 1000 mm long 3.139   beam deflection = 2.59   post deflection = 0.96   total deflection = 3.55 mm   1250 cm4 12500000 mm4   4100 3.140   beam deflection = 1.74   post deflection = 2.70 mm   Deflection = 2.70 mm	CONSTRUCTION CONSULTANTS Project Date:   Structural Calculations for Proposed Refurbishment of Superstructure elements   3.139 =   post 1000 mm long 1000 mm long   beam deflection = 2.59 1000 mm long   beam deflection = 0.96 1000 mm long   total deflection = 3.55 mm Deflection =   1.55 kN/m 12500000 mm4 1000 mm long   ope wl^3 / 24 El 0.00173703 radians =   3.140 = 1000 mm long 1000 mm4   0.96 1000 mm4 1000 mm4 1000 mm4   0.96 100 mm4 100 mm4 100 mm4   0.96 100 mm4	CONSTRUCTION CONSULTANTS Project: Date:   Structural Calculations for Proposed Refurbishment of 161.   Superstructure elements   3.139 =   post 1000 mm long   beam deflection = 2.59   post deflection = 0.96   total deflection = 3.55 mm   1.55 kN/m Deflection =   1250 cm4 12500000 mm4   4100 -   0pe wl^3 / 24 El =   0.00173703 radians =   0.09 3.140   1250 cm4 12500000 mm4   100 - -   100 - -   100 - -   1250 cm4 12500000 mm4 -   100 - - -   1250 cm4 12500000 mm4 - -   100 - - </td <td>CONSTRUCTION Project:   Date: 1 Nov   Structural Calculations for Proposed Refurbishment of 161 Arlingto   Superstructure elements 3.139   post 1000 mm long   beam deflection = 2.59   post deflection = 0.96   total deflection = 3.55 mm   1.55 kN/m   1250 cm4   1250 cm4   205000 3.140   4100 100   ope wl^3 / 24 El =   0.00173703 radians =   0.0995 deg   beam deflection = 1.74   post deflection = 0.96   total deflection = 1.74   post deflection = 0.96   total deflection = 1.74   post deflection = 1.74   post deflection = 2.70 mm   Deflection = span /   Change B4 to 152UC23 i</td> <td>CONSTRUCTION Project: 161 ARLINGTO   Nov 24 Structural Calculations for Proposed Refurbishment of 161 Arlington Road   Superstructure elements 3.139 = 31.54 deg from horz   post 1000 mm long - - -   beam deflection = 2.59 - - - -   post 1000 mm long -</td>	CONSTRUCTION Project:   Date: 1 Nov   Structural Calculations for Proposed Refurbishment of 161 Arlingto   Superstructure elements 3.139   post 1000 mm long   beam deflection = 2.59   post deflection = 0.96   total deflection = 3.55 mm   1.55 kN/m   1250 cm4   1250 cm4   205000 3.140   4100 100   ope wl^3 / 24 El =   0.00173703 radians =   0.0995 deg   beam deflection = 1.74   post deflection = 0.96   total deflection = 1.74   post deflection = 0.96   total deflection = 1.74   post deflection = 1.74   post deflection = 2.70 mm   Deflection = span /   Change B4 to 152UC23 i	CONSTRUCTION Project: 161 ARLINGTO   Nov 24 Structural Calculations for Proposed Refurbishment of 161 Arlington Road   Superstructure elements 3.139 = 31.54 deg from horz   post 1000 mm long - - -   beam deflection = 2.59 - - - -   post 1000 mm long -				

## **APPENDIX D: CONSTRUCTION SEQUENCE**







## **APPENDIX E: SITE INVESTIGATION REPORT**



FSI Ref: Issue Date:

Risk Address:

Managing Director: Finance Director:	

Laboratory Manager:

Senior Geologist: Assistant Geologist: Geotechnical Assistant:

# Geotechnical Survey Report

27798 January 2024

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Jade McLellan

Thomas Lee BSc (Hons) Sarah Brand Bradley Webb