RLB Rider Levett Bucknall

RIDERS DIGEST 2020

UNITED KINGDOM EDITION

BATTERSEA POWER STATION (BPS)
LONDON, UK

CLIENT: BATTERSEA POWER STATION DEVELOPMENT COMPANY (BPSDC)

BPS is one of London's largest and most eagerly anticipated developments, which will see the creation of a new, vibrant riverside neighbourhood offering homes, shops, restaurants, offices, leisure venues and 19 acres of public space, all serviced by an extension to the London Underground Northern Line. RLB worked with BPSDC on Phase 2 of the project, the Power Station itself, providing cost planning and estimate services

RLB Rider Levett Bucknall

RIDERS DIGEST

2020 EDITION

Riders Digest is a compendium of cost data and related information on the construction industry.

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Cost information in this publication is indicative and for general guidance only. All prices and rates are as at Quarter 1 2020 and expressed in British Pounds unless otherwise stated. References to legislative provisions and regulations are as at Quarter 1 2020. Changes after this period will not be reflected.

Please note that all prices exclude prevailing Value Added Tax (VAT).
Please note that all costed items are at rates priced prior to any COVID-19 effects on the market.

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FOREWORD

Welcome to the 2020 Riders Digest, our annual guide focused on the trends affecting the construction industry. This edition is published at a different time this year as we continue to navigate through the unprecedented COVID situation.

This year has been unlike any other – the UK left the EU, Australia was hit by devastating bushfires, before the coronavirus outbreak changed all our lives around the world.

The outbreak has transformed our world and triggered a transformation within our industry. It is an industry that is the cornerstone of economies and affects all of us on a daily basis. During this extraordinary time, construction has been challenged, strained and tested, but it is a resilient industry and one that has been heralded to stimulate growth and support our recovery.

At RLB we have proudly played our part in supporting the industry as it restarts, resets and recovers. When the Construction Leadership Council (CLC) announced its 'Roadmap to Recovery' setting the industry on a sustainable path forward, RLB's Global Board Director, Ann Bentley and RLB Partner, Paul Beeston were actively involved in two workstreams to support and steer the industry as it re-emerged from the crisis. We also contributed to the CLC's COVID-19 Cost Assessment Toolkit to help assess cost implications of the pandemic.

Throughout the pandemic, we've all experienced an emerging sense of togetherness. During this time we have collaborated with UK industry partners and with our RLB colleagues globally. Through our series of RLB Global Surveys, we have researched and provided insights on the impact of COVID-19 on construction around the world.

The bonds linking us as a practice have been felt across all 120 offices, and particularly across our UK offices. We have reinvigorated our Wellbeing programme to ensure all our people feel supported and connected.

We launched RLB Active, to provide a network to encourage our people and our clients to engage with each other in a new socially distanced world. Looking after our people is always part of the RLB way, and we have built on our inclusive culture, realigning our Diversity & Inclusion agenda to help make our industry more accessible and more equal for everyone.

We support the reshaping of our industry and believe that opening up opportunities to new talent is so important to this. We also firmly believe that placing more focus on value is key to the advancement of our industry. RLB proudly stands at the forefront of the development of the Construction Innovation Hub (CIH) Value Toolkit. As well as chairing the Value Definition group as part of the governance structure of the value toolkit, we are part of the Market Response group within the project. We continue to support the development of this work bringing our experience of helping clients to understand value and working with them to measure and embed it into their projects.

We continue to evolve our consultancy bringing innovation and technology to drive efficiencies and improvement and weaving the sustainability agenda through our service offering. Sustainability is high on our agenda and permeates through everything we do. It is integral to our consultancy as we link built assets, operational impacts and corporate responsibility providing sustainability strategies and services which span the whole estate lifecycle, and is intrinsic to our operations too – as we deliver on our commitment to be net carbon zero by 2025.

As we look ahead at an uncertain future, we are committed to working together to both rebuild our industry and support the UK's economic recovery.

We hope you enjoy this edition of the Riders Digest and as always, please get in touch with any feedback.

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MARKET OUTLOOK - A NEW PHASE

Whatever else happens this year, 2020 will be remembered in connection with two key happenings: the United Kingdom left the European Union and also the COVID-19 pandemic occurred.

Looking firstly at the UK leaving the European Union, the general election at year-end returned a Conservative government with a strong majority and the opportunity to drive-through its plans.

On 31 January, the UK officially left the EU, with attention then turning to the transition phase in the relationship between the two now separate economic and trading entities. The 47-years-long process of alignment and integration remains to be unpicked, against the background of pursuit of acceptable political, legal and economic outcomes for both parties, and for their peoples.

The process to and agreements on the future UK/EU relationship have especially significant bearing on the construction industry. While workload levels at the turn of the year were high, extremely high in places, the adverse effects of the last three and a half years of uncertainty have been growing. Post the election, it was noted that at least some of the deferred workload held-up due to Brexit uncertainty had been released to market, but the matter of Brexit is not yet over.

However, all of this has now been overtaken by the advent of COVID-19, and the devastating effects that it has had on people, businesses and countries around the world. Just a few short months ago, the notion that Brexit could be supplanted in the public consciousness would have been unthinkable, but that is what has happened.

The effects of the outbreak have had dramatic consequences. Self-isolation and social-distancing have meant that normal life has not been possible, and nor is normal industry. In construction, over 60% of sites closed by early April and everyone, without exception, is exposed to the economic downsides as well as the health concerns. Government schemes have unleashed unprecedented amounts of money into the economy, but for now the effects are palliative rather than stimulatory. While every tunnel has light at its end, the extent to which entities on all sides of the industry can continue toward that light, depends heavily on government intervention in markets and even in individuals' employment contracts. None of this is akin to anything that has gone before, so the outcomes are, as yet, shrouded in yet more uncertainty.

Government spending commitments at the December General Election have been dwarfed by events, so industry participants' new world outlook consists of not only Brexit, but the contemplation of the aftermath of what we hope will be a pandemic that is resolved sooner rather than later, but for which the timeline is unknown.

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VERY LIGHT RAILWAY NATIONAL INNOVATION CENTRE
DUDLEY, UK

The centre aims for lower-cost Very Light Rail technologies to become part of future integrated, multi-modal 'hub-to-home' transport systems

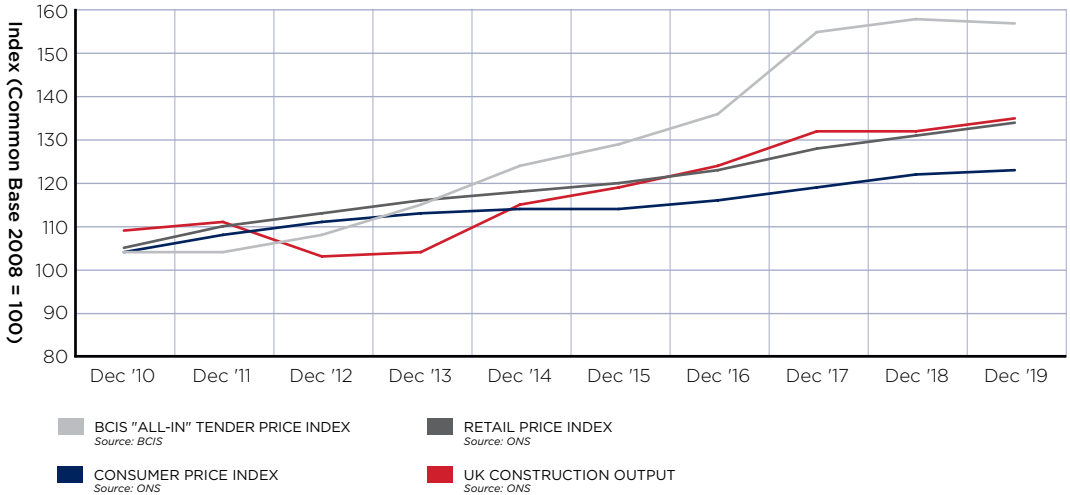
UK CONSTRUCTION TRENDS

2 Indices and UK Construction Output Comparison

4 UK Construction Output by Sector

6 UK Construction Materials Monthly Average Price Index

INDICES AND UK CONSTRUCTION OUTPUT COMPARISON



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
BCIS "All-in" Tender Price Index	104	104	108	115	124	129	136	155	158	157
Retail Price Index (RPI)	105	110	113	116	118	120	123	128	131	134
Consumer Price Index (CPI)	104	108	111	113	114	114	116	119	122	123
UK Chain Volume Construction Output	109	111	103	104	115	119	124	132	132	135
Note: UK Chain Volume Construction Output is shown as a 12-month moving average index and depicts changing work volume, net of price change										
BCIS "All-in" Tender Price Index % Change	+ 4.1%	+ 0.3%	+ 3.2%	+ 6.3%	+ 8.7%	+ 3.7%	+ 5.7%	+ 13.8%	+ 1.9%	- 1.1%
Retail Price Index (RPI) % Change	+ 4.8%	+ 4.8%	+ 3.1%	+ 2.7%	+ 1.6%	+ 1.2%	+ 2.5%	+ 4.1%	+ 2.7%	+ 2.2%
Consumer Price Index (CPI) % Change	+ 3.6%	+ 4.3%	+ 2.6%	+ 2.0%	+ 0.5%	+ 0.2%	+ 1.6%	+ 2.9%	+ 2.1%	+ 1.3%
UK Chain Volume Construction Output % Change	+ 9.3%	+ 1.4%	- 7.3%	+ 1.7%	+ 10.0%	+ 4.0%	+ 3.9%	+ 5.9%	+ 0.0%	+ 2.5%

UK CONSTRUCTION TRENDS

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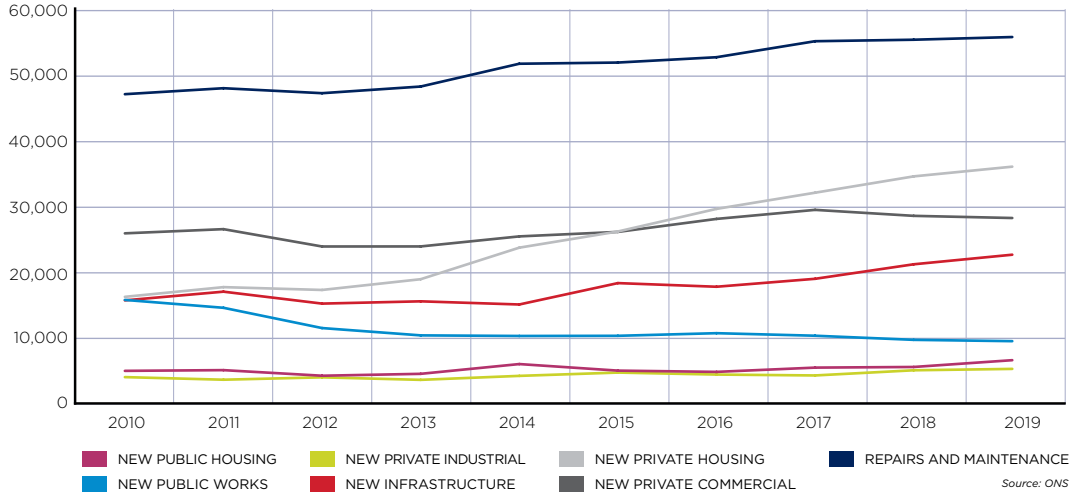
UK CONSTRUCTION OUTPUT BY SECTOR



Source: ONS

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
NEW PUBLIC HOUSING	5,013	5,122	4,287	4,570	6,027	5,049	4,861	5,498	5,593	6,606
NEW PRIVATE HOUSING	16,330	17,807	17,377	19,012	23,816	26,277	29,717	32,182	34,668	36,147
NEW PRIVATE COMMERCIAL	26,003	26,637	24,015	24,023	25,541	26,219	28,183	29,552	28,648	28,321
NEW PRIVATE INDUSTRIAL	4,062	3,678	4,029	3,658	4,244	4,733	4,439	4,308	5,072	5,276
NEW PUBLIC WORKS	15,808	14,614	11,546	10,439	10,350	10,374	10,770	10,387	9,763	9,563
NEW INFRASTRUCTURE	15,786	17,105	15,296	15,641	15,162	18,403	17,851	19,055	21,255	22,708
REPAIRS AND MAINTENANCE	47,265	48,170	47,415	48,425	51,884	52,064	52,871	55,300	55,527	55,934

NOTE: Figures are Construction Output Volume (£ million)

UK CONSTRUCTION TRENDS

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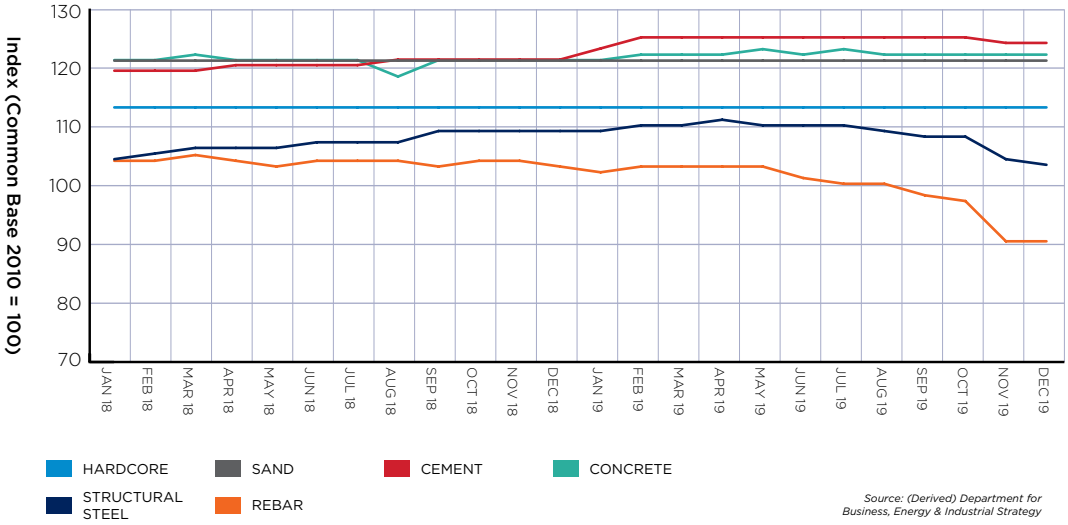
UK CONSTRUCTION MATERIALS MONTHLY AVERAGE PRICE INDEX



Source: (Derived) Department for Business, Energy & Industrial Strategy

	2018												2019											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Hardcore	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
Sand	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121
Cement	119	119	119	120	120	120	120	121	121	121	121	121	123	125	125	125	125	125	125	125	125	125	124	124
Concrete	121	121	122	121	121	121	121	118	121	121	121	121	121	122	122	122	123	122	123	122	122	122	122	122
Structural Steel	104	105	106	106	106	107	107	107	109	109	109	109	109	110	110	111	110	110	110	109	108	108	104	103
Rebar	104	104	105	104	103	104	104	104	103	104	104	103	102	103	103	103	103	101	100	100	98	97	90	90

NP = Not Published

UK CONSTRUCTION TRENDS

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IPORT
DONCASTER, UK

CLIENT: VERDION

A major new logistics centre near Doncaster including 6 million ft² of new warehouse facilities and £53 million of new earthworks and infrastructure

UK CONSTRUCTION COST DATA

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BUILDING COSTS

CAUTION: All prices are prior to COVID-19 effects on the market. Please refer to our quarterly Tender Price Forecasts.

Work Type	Description	Unit	Belfast		Birmingham		Bristol		Cardiff		Edinburgh	
			Low	High	Low	High	Low	High	Low	High	Low	High
Offices; prestige CBD	10-25 storeys	GBP/m²	1,460	2,100	2,100	2,950	2,200	3,100	1,820	2,600	1,920	2,700
Offices; investment CBD	Up to 10 storeys	GBP/m²	1,280	1,700	1,680	2,450	1,760	2,550	1,580	2,150	1,680	2,250
Offices; investment CBD	10-25 storeys	GBP/m²	1,380	2,100	2,050	3,100	1,980	3,100	1,720	2,600	1,800	2,700
Offices; non CBD investment	1-3 storeys	GBP/m²	1,020	1,300	1,580	2,100	1,320	1,980	1,280	1,600	1,340	1,700
Hotels; multi-storey	Five star rating	GBP/m²	1,720	2,350	2,400	3,350	2,550	3,400	2,200	2,950	2,250	3,100
Hotels; multi-storey	Four star rating	GBP/m²	1,180	1,900	1,700	2,550	2,150	2,700	1,500	2,400	1,560	2,500
Hotels; multi-storey	Three star rating	GBP/m²	1,080	1,580	1,440	2,200	1,480	1,980	1,340	1,980	1,420	2,100
Hotels; multi-storey	Five star rating	GBP/bedroom	120,000	240,000	165,000	345,000	165,000	330,000	150,000	297,500	160,000	315,000
Hotels; multi-storey	Four star rating	GBP/bedroom	69,000	105,000	85,000	150,000	99,000	160,000	86,000	130,000	90,000	135,000
Hotels; multi-storey	Three star rating	GBP/bedroom	34,500	72,000	54,000	102,500	55,000	107,500	43,250	90,000	45,250	95,000
Car park	Open deck; multi-storey	GBP/m²	270	540	400	760	450	880	340	670	370	710
Car park	Basement; CBD	GBP/m²	680	1,160	900	1,540	1,060	1,660	850	1,460	890	1,520
Car park	Basement; other than CBD	GBP/m²	520	1,040	730	1,440	940	1,320	650	1,280	680	1,360
Car park	Undercroft; other than CBD	GBP/m²	360	860	480	1,240	560	1,220	440	1,080	460	1,120
Car park	Open Deck; multi-Storey	GBP/car	6,500	13,000	9,100	19,000	11,250	19,750	8,000	16,000	8,500	17,000
Car park	Basement; CBD	GBP/car	17,250	29,750	23,500	43,500	24,250	35,000	21,500	37,250	22,500	39,000
Car park	Basement; other than CBD	GBP/car	13,000	26,000	20,250	36,500	22,000	33,000	16,000	32,250	17,000	33,750
Car park	Undercroft; other than CBD	GBP/car	8,700	14,500	12,000	20,500	12,750	24,250	11,000	18,250	11,500	19,000

Work Type	Description	Unit	Leeds		London		Manchester & Liverpool		Sheffield		Thames Valley	
			Low	High	Low	High	Low	High	Low	High	Low	High
Offices; prestige CBD	10-25 storeys	GBP/m²	2,100	3,550	3,050	4,000	2,250	2,900	2,100	3,550	2,750	2,950
Offices; investment CBD	up to 10 storeys	GBP/m²	1,500	2,200	2,750	3,600	1,920	2,900	1,480	2,150	2,100	2,750
Offices; investment CBD	10-25 storeys	GBP/m²	1,960	2,600	2,900	3,800	2,200	2,900	1,960	2,550	2,450	2,850
Offices; non CBD investment	1-3 storeys	GBP/m²	1,020	1,700	1,800	2,500	1,300	1,900	1,020	1,700	1,720	2,350
Hotels; multi-storey	Five star rating	GBP/m²	2,100	3,300	2,900	3,900	2,400	3,250	2,100	3,300	2,750	3,550
Hotels; multi-storey	Four star rating	GBP/m²	1,560	2,450	2,200	3,500	1,900	2,800	1,540	2,450	2,100	3,200
Hotels; multi-storey	Three star rating	GBP/m²	1,300	1,740	1,960	2,500	1,600	2,000	1,300	1,740	1,840	2,400
Hotels; multi-storey	Five star rating	GBP/bedroom	187,500	327,500	217,500	430,000	177,500	352,500	185,000	327,500	210,000	400,000
Hotels; multi-storey	Four star rating	GBP/bedroom	105,000	207,500	125,000	187,500	100,000	152,500	105,000	207,500	92,000	175,000
Hotels; multi-storey	Three star rating	GBP/bedroom	43,500	91,000	65,000	140,000	61,000	107,500	43,500	91,000	64,000	140,000
Car park	Open deck; multi-storey	GBP/m²	340	1,020	470	940	590	750	340	1,020	460	920
Car park	Basement; CBD	GBP/m²	640	1,040	1,240	2,050	1,120	1,620	640	1,040	1,120	1,940
Car park	Basement; other than CBD	GBP/m²	660	1,320	1,220	1,920	1,060	1,520	660	1,320	1,100	1,880
Car park	Undercroft; other than CBD	GBP/m²	440	1,100	610	1,540	720	1,260	440	1,100	590	1,480
Car park	Open deck; multi-storey	GBP/car	8,200	16,250	11,500	23,000	9,600	18,750	8,200	16,250	10,500	19,250
Car park	Basement; CBD	GBP/car	22,000	44,750	30,500	55,000	25,250	44,000	21,750	44,750	28,250	52,000
Car park	Basement; other than CBD	GBP/car	16,500	32,750	23,000	45,500	19,000	37,750	16,500	32,750	21,750	42,750
Car park	Undercroft; other than CBD	GBP/car	11,000	18,750	15,250	26,750	12,750	21,750	11,000	18,500	12,500	22,500

UK CONSTRUCTION COST DATA

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BUILDING COSTS

UK CONSTRUCTION COST DATA

CAUTION: All prices are prior to COVID-19 effects on the market. Please refer to our quarterly Tender Price Forecasts.

			Belfast		Birmingham		Bristol		Cardiff		Edinburgh	
Work Type	Description	Unit	Low	High	Low	High	Low	High	Low	High	Low	High
Industrial 6.0m to U/S Truss	4,500 m² floor area; metal cladding	GBP/m²	295	530	460	650	450	710	370	670	400	710
Industrial; att. a/c offices 200m²	200m²	GBP/m²	690	1,220	1,020	1,620	990	1,720	860	1,500	900	1,560
Industrial; att. a/c offices 400m²	400m²	GBP/m²	610	1,120	940	1,580	880	1,660	750	1,380	780	1,460
Aged care	Single storey facility	GBP/m²	1,040	1,540	1,420	2,150	1,660	2,450	1,280	1,920	1,360	2,050
Aged care	Multi storey facility	GBP/m²	1,160	1,720	1,600	2,450	1,560	1,920	1,440	2,200	1,520	2,300
Private hospitals; low rise	45-60m² floor area per bed	GBP/m²	1,540	1,900	2,300	2,700	2,250	2,950	1,920	2,500	2,050	2,600
Private hospitals; low rise	55-80m² floor area per bed; major operating theatre	GBP/m²	1,720	2,600	2,950	4,050	2,800	3,850	2,200	3,250	2,300	3,400
Retail; regional shopping centres	Department store	GBP/m²	1,460	2,600	2,000	3,500	2,050	3,750	1,820	3,250	1,920	3,400
Retail; regional shopping centres	Supermarket / variety store	GBP/m²	1,040	1,540	1,420	2,150	1,480	2,250	1,280	1,920	1,360	2,050
Retail; regional shopping centres	Discount department store	GBP/m²	1,220	1,800	1,640	2,450	1,740	2,600	1,500	2,300	1,560	2,400
Retail; regional shopping centres	Malls	GBP/m²	2,300	3,150	3,100	4,350	3,050	4,300	2,800	3,900	2,950	4,150
Retail; regional shopping centres	Speciality shops	GBP/m²	1,300	1,900	1,780	2,650	1,840	2,700	1,600	2,400	1,700	2,500
Retail; general	Small shops and showrooms	GBP/m²	710	1,340	980	1,860	960	1,820	890	1,680	940	1,760
Residential; general	Single and double storey	GBP/m²	650	850	900	1,340	1,060	1,420	800	1,080	850	1,120
Residential; general	1 to 3 storey units; 85 -120m² per unit	GBP/m²	770	1,020	1,040	1,440	1,620	1,980	960	1,280	1,020	1,360
Residential; general	Townhouses; 90 -120m² per unit	GBP/m²	860	1,100	1,060	1,500	1,620	1,980	1,080	1,400	1,120	1,460

			Leeds		London		Manchester & Liverpool		Sheffield		Thames Valley	
Work Type	Description	Unit	Low	High	Low	High	Low	High	Low	High	Low	High
Industrial 6.0m to U/S truss	4,500 m² floor area; metal cladding	GBP/m²	390	700	520	930	520	750	390	700	510	920
Industrial; att. a/c offices 200m²	200m²	GBP/m²	900	1,580	1,240	2,200	1,020	1,800	900	1,580	1,220	2,150
Industrial; att. a/c offices 400m²	400m²	GBP/m²	800	1,480	1,080	2,050	900	1,660	800	1,460	1,080	2,050
Aged care	Single storey facility	GBP/m²	1,360	2,050	1,800	2,700	1,520	2,300	1,360	2,050	1,780	2,700
Aged care	Multi storey facility	GBP/m²	1,560	2,300	2,050	2,950	1,740	2,550	1,520	2,300	2,000	2,950
Private hospitals; low rise	45-60m² floor area per bed	GBP/m²	2,500	3,600	2,700	3,450	2,300	2,900	2,500	3,600	2,550	3,250
Private hospitals; low rise	55-80m² floor area per bed; major operating theatre	GBP/m²	3,500	4,650	2,950	4,500	2,550	3,800	3,500	4,650	2,850	4,400
Retail; regional shopping centres	Department store	GBP/m²	1,880	3,300	2,550	4,500	2,150	3,800	1,880	3,300	2,350	4,200
Retail; regional shopping centres	Supermarket / variety store	GBP/m²	1,320	2,850	1,800	2,700	1,520	2,300	1,320	2,850	1,700	2,550
Retail; regional shopping centres	Discount department store	GBP/m²	1,560	2,350	2,100	3,100	1,800	2,650	1,540	2,350	1,980	2,900
Retail; regional shopping centres	Malls	GBP/m²	2,750	3,900	3,700	5,200	3,100	4,400	2,750	3,850	3,050	4,850
Retail; regional shopping centres	Speciality shops	GBP/m²	1,660	2,450	2,250	3,250	1,900	2,800	1,660	2,450	2,100	3,050
Retail; general	Small shops and showrooms	GBP/m²	890	1,660	1,180	2,200	1,000	1,880	880	1,660	1,120	2,050
Residential; general	Single and double storey	GBP/m²	830	1,100	1,440	1,720	960	1,280	830	1,100	1,380	1,700
Residential; general	1 to 3 storey units; 85 -120m² per unit	GBP/m²	900	1,480	1,420	2,100	1,140	1,520	900	1,460	1,320	2,050

BUILDING COSTS

CAUTION: All prices are prior to COVID-19 effects on the market. Please refer to our quarterly Tender Price Forecasts.

Work Type	Description	Unit	Belfast		Birmingham		Bristol		Cardiff		Edinburgh	
			Low	High	Low	High	Low	High	Low	High	Low	High
Residential; general	Single and double storey	GBP/house	38,250	56,000	54,000	81,000	140,000	240,000	47,750	70,000	50,000	73,000
Residential; general	1 to 3 storey units; 85 -120m² per unit	GBP/unit	65,000	120,000	87,000	177,500	140,000	240,000	80,000	150,000	85,000	160,000
Residential; general	Townhouses; 90 -120m² per unit	GBP/unit	73,000	127,500	95,000	182,500	147,500	240,000	91,000	160,000	96,000	170,000
Residential; multi storey units	Up to 10 storeys with lift: 60 -70m² per unit	GBP/m²	1,340	1,460	1,740	2,200	1,280	1,820	1,700	1,820	1,760	1,920
Residential; multi storey units	Up to 10 storeys with lift: 90 -120m² per unit	GBP/m²	1,460	1,900	1,780	2,450	1,280	1,820	1,820	2,400	1,920	2,500
Residential; multi storey units	Up to 10 Storeys with lift: 60 -70m² per unit	GBP/unit	77,000	102,500	122,500	170,000	76,000	127,500	96,000	130,000	102,500	135,000
Residential; multi storey units	Up to 10 storeys with lift: 90 -120m² per unit	GBP/unit	130,000	212,500	192,500	347,500	117,500	217,500	160,000	267,500	170,000	280,000
Office fit-out	Insurance offices; government departments; open planned	GBP/m²	295	440	380	700	440	610	370	540	400	570
Office fit-out	Major companies headquarters; open planned	GBP/m²	470	840	620	1,340	610	990	590	1,060	620	1,120
Office fit-out	Solicitors, financiers; open planned	GBP/m²	550	1,100	740	1,520	610	880	690	1,380	720	1,440
Office fit-out	Executive and front of house; open planned	GBP/m²	590	1,260	810	2,250	770	1,220	740	1,580	770	1,680
Workstations	Secretarial	GBP/each	3,050	4,250	4,050	5,900	4,300	6,100	3,750	5,400	3,900	5,600
Workstations	Technical staff	GBP/each	4,750	6,100	6,400	8,200	6,700	8,600	5,900	7,500	6,300	7,800
Workstations	Executive	GBP/each	5,200	10,250	6,800	14,000	6,800	14,500	6,400	13,000	6,800	13,500
Hotel FF&E	Five star rating	GBP/bedroom	17,250	68,000	22,750	95,000	24,750	99,000	21,500	86,000	22,500	90,000
Hotel FF&E	Four star rating	GBP/bedroom	10,500	17,000	13,750	23,250	14,750	24,250	13,000	21,500	13,500	22,500
Hotel FF&E	Three star rating	GBP/bedroom	6,900	10,250	9,100	14,000	9,800	14,750	8,600	13,000	9,000	13,750

Work Type	Description	Unit	Leeds		London		Manchester & Liverpool		Sheffield		Thames Valley	
			Low	High	Low	High	Low	High	Low	High	Low	High
Residential; general	Townhouses; 90 -120m² per unit	GBP/m²	1,100	1,500	1,440	1,960	1,260	1,660	1,100	1,480	1,380	1,900
Residential; general	Single and double storey	GBP/house	49,250	125,000	127,500	147,500	57,000	83,000	49,000	125,000	122,500	152,500
Residential; general	1 to 3 storey units; 85 -120m² per unit	GBP/unit	83,000	155,000	160,000	202,500	107,500	177,500	83,000	155,000	152,500	192,500
Residential; general	Townhouses; 90 -120m² per unit	GBP/unit	94,000	165,000	155,000	225,000	112,500	187,500	94,000	165,000	152,500	215,000
Residential; multi storey units	Up to 10 Storeys with lift: 60 -70m² per unit	GBP/m²	1,660	1,880	2,600	4,550	1,860	2,200	1,660	1,880	1,940	3,050
Residential; multi storey units	Up to 10 Storeys with lift: 90 -120m² per unit	GBP/m²	1,920	2,400	2,600	4,350	2,150	2,700	1,920	2,400	1,940	2,950
Residential; multi storey units	Up to 10 Storeys with lift: 60 -70m² per unit	GBP/unit	99,000	132,500	217,500	377,500	125,000	152,500	99,000	132,500	182,500	320,000
Residential; multi storey units	Up to 10 Storeys with lift: 90 -120m² per unit	GBP/unit	167,500	277,500	340,000	562,500	190,000	317,500	167,500	277,500	202,500	355,000
Office Fit-out	Insurance offices; government departments; open planned	GBP/m²	390	560	580	770	550	640	390	560	560	710
Office Fit-out	Major companies headquarters; open planned	GBP/m²	510	790	710	1,100	680	1,120	510	790	660	1,020
Office Fit-out	Solicitors, financiers; open planned	GBP/m²	510	790	710	1,160	680	1,000	510	790	660	1,080
Office Fit-out	Executive and front of house; open planned	GBP/m²	680	1,140	960	1,540	980	1,380	680	1,140	870	1,320
Workstations	Secretarial	GBP/each	3,950	5,600	5,200	7,500	4,400	6,300	3,950	5,600	4,600	6,600
Workstations	Technical staff	GBP/each	6,100	7,900	8,200	10,500	6,900	8,900	6,100	7,700	7,600	9,800
Workstations	Executive	GBP/each	6,700	23,000	8,900	18,000	7,500	15,250	6,700	23,000	8,700	16,750
Hotel FF&E	Five star rating	GBP/bedroom	22,250	89,000	31,750	127,500	25,250	102,500	22,000	88,000	25,500	92,000

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BUILDING COSTS

CAUTION: All prices are prior to COVID-19 effects on the market. Please refer to our quarterly Tender Price Forecasts.

Work Type	Description	Unit	Belfast		Birmingham		Bristol		Cardiff		Edinburgh	
			Low	High	Low	High	Low	High	Low	High	Low	High
Office Refurbishment	CBD offices; typical floor	GBP/m²	260	860	350	1,320	370	1,220	330	1,080	350	1,120
Recreational facilities	Regional stadium	GBP/seat	1,760	2,850	1,800	3,050	1,760	2,900	1,760	2,900	1,760	2,850
Recreational facilities	Regional feature stadium	GBP/seat	2,550	5,300	2,600	5,600	2,550	5,300	2,550	5,300	2,550	5,300
Recreational facilities	National iconic stadium	GBP/seat	4,700	8,500	4,550	9,100	4,650	8,500	4,650	8,500	4,650	8,500
Recreational facilities	Indoor arena	GBP/seat	7,100	9,000	7,100	9,400	7,000	9,200	7,000	9,200	7,000	9,200
Recreational facilities	Indoor swimming pools - 50m (including dry sports facilities)	GBP/m²	3,550	4,950	3,550	5,100	3,500	4,950	3,500	4,950	3,500	4,950
Site works	Landscaping; light, large areas, minimal planting	GBP/hectare	25,500	105,000	34,750	152,500	57,000	167,500	32,250	130,000	33,750	135,000
Site works	Landscaping; dense shrubs, topsoil, grass	GBP/m²	30	45	30	55	40	60	30	50	35	55
Site works	Landscaping; grassing, large areas, topsoil sowing, treating	GBP/m²	15	20	15	20	20	30	15	20	20	25
Site works	Car parks on ground; light duty paving	GBP/car	770	1,280	1,080	1,940	1,380	2,050	960	1,600	1,020	1,700
Site works	Car Parks on ground; heavy duty paving	GBP/car	1,300	2,150	1,640	3,100	2,300	3,350	1,600	2,700	1,700	2,800
Site works	Car Parks on ground; light duty paving to shopping centre complex	GBP/car	770	1,280	1,080	1,940	1,380	2,050	960	1,600	1,020	1,700
Site works	Roads; asphalt incl. drainage and kerbs, residential estate 6.8m wide	GBP/m	610	1,280	810	1,900	1,140	1,980	750	1,600	780	1,700
Site works	Roads; asphalt incl. drainage and kerbs, industrial estate 10.4m wide	GBP/m	860	1,700	1,200	2,600	1,500	2,700	1,080	2,200	1,120	2,300

Work Type	Description	Unit	Leeds		London		Manchester & Liverpool		Sheffield		Thames Valley	
			Low	High	Low	High	Low	High	Low	High	Low	High
Hotel FF&E	Four star rating	GBP/bedroom	13,000	21,750	19,250	31,750	15,000	25,250	13,000	21,750	16,250	28,500
Hotel FF&E	Three star rating	GBP/bedroom	8,700	13,250	12,750	19,250	10,250	15,500	8,700	13,000	12,250	18,250
Office refurbishment	CBD offices; typical floor	GBP/m²	350	1,120	480	1,540	390	1,280	350	1,120	460	1,320
Recreational facilities	Regional stadium	GBP/seat	1,660	2,700	1,780	2,900	1,800	2,950	1,660	2,700	1,760	2,850
Recreational facilities	Regional feature stadium	GBP/seat	2,400	4,950	2,550	5,300	2,600	5,400	2,400	4,950	2,550	5,300
Recreational facilities	National iconic stadium	GBP/seat	4,350	8,000	4,650	8,600	4,750	8,700	4,350	8,000	4,400	8,100
Recreational facilities	Indoor arena	GBP/seat	6,600	8,600	7,200	9,200	7,200	9,400	6,600	8,600	6,500	8,600
Recreational facilities	Indoor swimming pools - 50m (including dry sports facilities)	GBP/m²	3,300	4,650	3,600	5,000	3,600	5,100	3,300	4,650	3,250	4,600
Site works	Landscaping; light, large areas, minimal planting	GBP/hectare	32,750	132,500	44,250	187,500	37,750	150,000	32,750	130,000	40,250	172,500
Site works	Landscaping; dense shrubs, topsoil, grass	GBP/m²	30	50	45	80	40	65	30	50	40	75
Site works	Landscaping; grassing, large areas, topsoil sowing, treating	GBP/m²	10	20	20	30	20	30	10	20	15	30
Site works	Car Parks on ground; light duty paving	GBP/car	990	1,760	1,420	2,300	1,140	1,920	980	1,760	1,300	2,200
Site works	Car parks on ground; heavy duty paving	GBP/car	1,640	2,750	2,300	3,850	1,920	3,150	1,640	2,750	2,150	3,550
Site works	Car parks on ground; light duty paving to shopping centre complex	GBP/car	990	1,640	1,420	2,400	1,140	1,920	980	1,640	1,300	2,200
Site works	Roads; asphalt incl. drainage and kerbs, residential estate 6.8m wide	GBP/m	770	1,640	1,100	2,400	890	1,920	760	1,640	1,000	2,250
Site works	Roads; asphalt incl. drainage and kerbs, industrial estate 10.4m wide	GBP/m	1,100	2,200	1,540	3,050	1,260	2,550	1,100	2,200	1,460	2,900

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AVERAGE CONSTRUCTION PAYMENT DRAWDOWN

The tabulation below is derived from the statistical average of a series of case histories, which will give an indication of the anticipated rate of expenditure when used for specific project types for preliminary budgetary purposes.

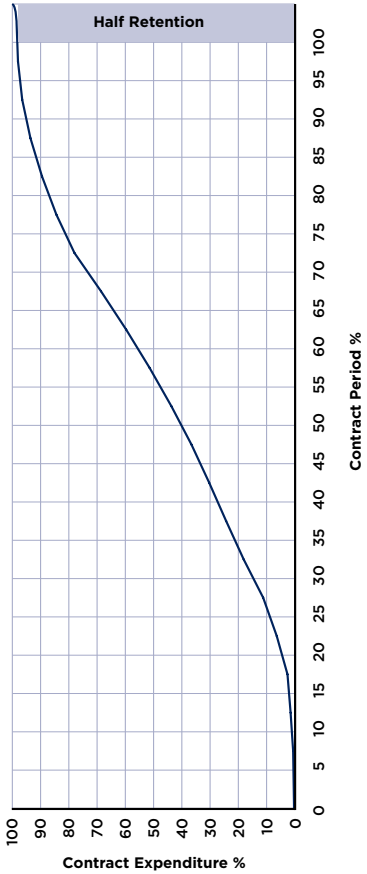
Construction periods exclude various extensions, including wet weather, industrial disputes, etc.

All data is related to the date of submission of contractors' application to the client and not actual payment, which is generally one month later.

Half retention is assumed released at Practical Completion, the other half being released at end of Defects Liability Period.

Contract Period %	Contract Expenditure %
0	0
5	0.6
10	1.5
15	2.6
20	6.4
25	11.2
30	18.1
35	24.3
40	30.3
45	36.6
50	43.7
55	51.4
60	59.7
65	68.6
70	78
75	84.4
80	89.5
85	93.6
90	96.5
95	98
100	98.5
Half retention (1.5%) released at end of defects period	100

UK CONSTRUCTION COST DATA



CONSTRUCTION ELEMENTS

The following rates are indicative only and include an allowance for profit and overheads but exclude preliminaries. The rates are not valid for tendering or pricing of variations.

CAUTION: All prices are prior to COVID-19 effects on the market. Please refer to our quarterly Tender Price Forecasts.

Item	£			Unit
SUBSTRUCTURE				
Reinforced concrete pad footing (Grade 35)	520	-	650	m^2
Reinforced concrete slab on ground (Grade 35)	350	-	500	m^2
COLUMNS				
Reinforced concrete (600 x 600mm Grade 35)	225	-	300	m
Reinforced concrete (900 x 900mm Grade 35)	435	-	550	m
UPPER FLOORS (EXCLUDING BEAMS)				
150mm reinforced concrete suspended floor slab (Grade 35) on Holorib permanent formwork	65	-	90	m^2
150mm precast concrete suspended floor slab or beam and block floor with reinforced in situ concrete screed structural topping	90	-	110	m^2
200mm reinforced concrete suspended slab with high quality formwork for exposed finish	120	-	150	m^2
STAIRCASES				
1050mm wide reinforced concrete stair with painted steel tube balustrade (average rise 3.70m) including two flights and one half space landing	3,200	-	4,500	Rise

CAUTION: All prices are prior to COVID-19 effects on the market. Please refer to our quarterly Tender Price Forecasts.

Item	£			Unit
1200mm wide reinforced concrete stair with painted steel tube balustrade (average rise 3.70m) including two flights and one half space landing	4,220	-	5,280	Rise
2000mm wide grand public stair with glass and metal balustrade (4.00m rise) including three flights and two quarter space landings	12,740	-	19,120	Rise
ROOF				
RC slab (Grade 35) graded to fall and built-up roofing membrane	150	-	220	m^2
Structural steel, purlins and insulated metal deck roof 40 - 50 kg/m^2	100	-	145	m^2
EXTERNAL WALLS				
Cavity wall construction, 102mm stock facing brick outer skin; insulated cavity; 140mm blockwork inner skin	350	-	500	m^2
Double glazed window unit (casement type)	400	-	650	m^2
Glass curtain wall system, capped stick-built system	600	-	850	m^2
EXTERNAL DOORS (INCLUDING IRONMONGERY)				
Single leaf solid core door	1,000	-	1,285	no.
Double leaf glazed door	1,425	-	1,710	no.
Double leaf automatic operating door	6,000	-	10,000	no.

CONSTRUCTION ELEMENTS

CAUTION: All prices are prior to COVID-19 effects on the market. Please refer to our quarterly Tender Price Forecasts.

Item	£			Unit
INTERIOR WALLS				
250mm reinforced concrete wall (Grade 35)	200	-	250	m²
100mm block wall	25	-	32	m²
140mm block wall	30	-	45	m²
Plasterboard metal stud wall, single layer each side	40	-	60	m²
INTERNAL DOOR SET (INCLUDING IRONMONGERY)				
Single leaf solid core flush door	500	-	800	no.
Single leaf half hour fire door	550	-	900	no.
Single leaf one hour fire door	650	-	1,300	no.
INTERIOR SCREENS				
Laminated toilet partition	890	-	1,330	Each
Fully glazed office partition full (2.8m) height, frameless joints				
Single glazed	330	-	540	m
Double glazed	970	-	1,190	m
WALL FINISHES				
Plaster and emulsion paint	16	-	24	m²
Plaster and vinyl fabric wallpaper	30	-	50	m²
Cement render and ceramic tile	65	-	100	m²
Granite tiles	105	-	165	m²

UK CONSTRUCTION COST DATA

CAUTION: All prices are prior to COVID-19 effects on the market. Please refer to our quarterly Tender Price Forecasts.

Item	£			Unit
CEILING FINISHES				
Metal framed plasterboard ceiling, painted	40	-	50	m²
Exposed grid suspended ceiling with mineral fibre board acoustic ceiling	26	-	37	m²
Hygienic suspended ceiling system	30	-	40	m²
FLOOR FINISHES				
Carpet tile	25	-	50	m²
Ceramic tile	55	-	95	m²
Raised access floors, standard duty	33	-	48	m²
SERVICES - SANITARY AND PLUMBING				
Average cost per plumbing point including fixture, soil waste and vent; excluding DOC M pack	420	-	540	no.
Average cost for storm water drains (site area)	15	-	20	m²
SERVICES - VERTICAL TRANSPORTATION				
Glass sided escalator (4m rise)	96,750	-	137,500	no.
13 passenger lift serving 4 floors	81,460	-	112,000	no.
Hydraulic lift, 2-stop, car-size 8-13 persons	40,750	-	45,825	no.

21 MOORFIELDS
LONDON, UK

CLIENT: DEUTSCHE BANK

560,000ft² fit-out of Deutsche Bank's new headquarters building

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DEFINITION OF OFFICE FIT-OUT CATEGORIES

Building Element	Shell and Core	Cat A Fit-out	Cat B Fit-out
Building envelope	✓	✗	✗
Emergency staircases	✓	✗	✗
Balustrades and handrails to emergency stairs	✓	✗	✗
Accommodation stairs	✓	✗	✗
Balustrades and handrails to accommodation stairs	✓	✗	✗
Feature stairs	✗	✓	✗
Balustrades and handrails to feature stairs	✗	✓	✗
Lifts	✓	✗	✗
Base services, plant and equipment to edge of floor plates	✓	✗	✗
Life safety infrastructure, sprinkler pumps, tanks, risers, main fire alarm panels	✓	✗	✗
Finishes to main entrances	✓	✗	✗
Finishes to common areas	✓	✗	✗
Finishes to staircases fitted as part of shell and core	✓	✗	✗
Finishes to lifts	✓	✗	✗
Finishes to common toilets	✓	✗	✗
Sanitary fit-out of common toilets	✓	✗	✗
Suspended ceilings	✗	✓	✗
Raised access floors	✗	✓	✗
Extension of basic mechanical and electrical services, lighting, heating, cooling and ventilation systems including controls, from the riser across the lettable floor space	✗	✓	✗
Sprinklers, fire alarms and basic safety signage	✗	✓	✗
Office carpets	✗	✓	✗
Distributed power to each floor but not to each terminal point	✗	✓	✗
Installation of cellular offices	✗	✗	✓
Enhanced finishes	✗	✗	✓
Conference / meeting room facilities	✗	✗	✓
IT and AV installations	✗	✗	✓
Tea point and kitchen fit-out	✗	✗	✓
Furniture	✗	✗	✓

REINFORCEMENT RATIOS

The following ratios give an indication of the average weight of high tensile rod reinforcement per cubic metre of concrete (Grade 35) for the listed elements. Differing structural systems, ground conditions, height of buildings, load calculations and sizes of individual elements and grid sizes will result in considerable variation to the stated ratios. For project specific ratios, a civil & structural engineer should be consulted.

Element	kg/m³
Substructure	
Pile caps	115 - 200
Bored piles (compression)	30 - 60
Bored piles (tension)	150 - 250
Raft foundation	100 - 150
RC pad footings	70 - 150
Ground beams	200 - 300
Basement	
Retaining wall	150 - 250
RC wall	75 - 150
Ground bearing slab	80 - 150
Edge beams	220 - 300
Lift pits	100 - 200
Above Ground	
Columns	150 - 450
Beams	180 - 300
Slab	90 - 200
Walls (core)	75 - 200
Lift core	125 - 200
Stairs	130 - 160

METHOD OF MEASUREMENT OF BUILDING AREAS

ESTIMATING DATA

CONTENTS

The two tables below are designed for comparative purposes

The information provided is a summary from the RICS Code of Measurement Practice, effective globally from 18 May 2015.

These rules are intended as a brief guide only and the full RICS Code of Measuring Practice should be consulted if required. Advice regarding net lettable areas used for calculating revenues should be given by the client's commercial property agent.

Note from the 1st January 2016 a RICS Professional Statement (PS)[1] came into effect. The purpose of the statement was to change the rules for measurement for offices only from the standard RICS Code of Measuring Practice (6th edition) to IPMS (International Property Measurement Standards).

NOTE the RICS Code of Measuring Practice (6th edition) still applies to all other building types. The PS affects GEA, GIA and NIA in respect of offices.

Gross External Area (GEA)
The area of a building measured externally (i.e. to the external face of the perimeter walls) at each floor level. The rules of measurement of gross external floor area are defined in the RICS Code of Measuring Practice (6th edition).

RICS Code of Measuring Practice (6th edition) applicable to all buildings except offices.

IPMS 1: Gross External Area (GEA)
The area of a building measured externally (i.e. to the external face of the perimeter walls) at each floor level. The rules of measurement of gross external floor area are defined in the RICS Code of Measuring Practice (6th edition) – adjusted below to reflect the implications of the RICS Professional Statement (PS) as applicable to offices only. Please refer to the RICS Professional Statement for a full definition.

RICS Professional Statement (PS) 2nd Edition effective from 1st May 2018, which affects the measurement of offices.

ALL BUILDINGS EXCLUDING OFFICES	
INCLUDING	**EXCLUDING**
Perimeter wall thickness and external projections	External open-sided balconies, covered ways and fire escapes
Areas occupied by internal walls and partitions	Canopies
Columns, piers, chimney breasts, stairwells, lift-wells, and the like	Open vehicle parking areas, roof terraces, and the like

OFFICES ONLY	
INCLUDING	**EXCLUDING**
Definition provided: the external area of basements is calculated by extending the exterior plane of the perimeter walls at ground floor level downwards, or by estimation of the wall thickness if the extent of the basement differs from the ground floor level	
Perimeter wall thickness and external projections	Fire escapes and open external stairways not being part of the structure
External open-sided balconies, covered ways. Now included but must be stated separately	
Areas occupied by internal walls and partitions	Canopies
Columns, piers, chimney breasts, stairwells, lift-wells, and the like	Open vehicle parking areas, non-accessible roof terraces, and the like

METHOD OF MEASUREMENT OF BUILDING AREAS

GROSS EXTERNAL AREA (GEA)	
ALL BUILDINGS EXCLUDING OFFICES	
INCLUDING	EXCLUDING
Atria and entrance halls, with clear height above, measured at base level only	Voids over or under structural, raked or stepped floors
	Open light wells upper level voids of an atrium - definition added in PS
Internal balconies	Greenhouses, garden stores, fuel stores, and the like in residential property
Structural, raked or stepped floors are to be treated as a level floor measured horizontally	Patios, decks at ground level - definition added in PS
Horizontal floors, whether accessible or not, below structural, raked or stepped floors	External car parking, equipment yards, cooling equipment and refuse areas - definition added in PS
Mezzanine areas intended for use with permanent access	Other ground level areas that are not fully enclosed - definition added in PS
Lift rooms, plant rooms, fuel stores, tank rooms which are housed in a covered structure of a permanent nature, whether or not above the main roof level	
Outbuildings which share at least one wall with the main building	
Loading bays	
Areas with a headroom of less than 1.5m	
Pavement vaults	
Garages	
Conservatories	

IPMS 1: Gross External Area (GEA)	
OFFICES ONLY	
INCLUDING	EXCLUDING
Accessible rooftop terraces – now included but must be stated separately	
Atria and entrance halls, with clear height above, measured at base level only	Voids over or under structural, raked or stepped floors
	Open light wells upper level voids of an atrium - definition added in PS
Internal balconies also called covered galleries are included but must be stated separately as different interpretations may have been applied regarding their inclusion	Greenhouses, garden stores, fuel stores, and the like in residential property
Structural, raked or stepped floors are to be treated as a level floor measured horizontally	Patios, decks at ground level - definition added in PS
Horizontal floors, whether accessible or not, below structural, raked or stepped floors	External car parking, equipment yards, cooling equipment and refuse areas - definition added in PS
Mezzanine areas intended for use with permanent access	Other ground level areas that are not fully enclosed - definition added in PS
Lift rooms, plant rooms, fuel stores, tank rooms which are housed in a covered structure of a permanent nature, whether or not above the main roof level	
Outbuildings which share at least one wall with the main building	
Loading bays	
Areas with a headroom of less than 1.5m	
Pavement vaults	
Garages	
Conservatories	

METHOD OF MEASUREMENT OF BUILDING AREAS

Gross Internal Floor Area (GIFA) (or Gross Internal Area (GIA))
The area of a building measured to the internal face of the perimeter walls at each floor level. The rules of measurement of gross internal floor area are defined in the RICS Code of Measuring Practice (6th edition).

RICS Code of Measuring Practice (6th edition) applicable to all buildings except offices

IPMS 2 - Office: Gross Internal Floor Area (GIFA) (or Gross Internal Area (GIA))
The area of a building measured to the internal face of the perimeter walls at each floor level. The rules of measurement of gross internal floor area are defined in the RICS Code of Measuring Practice (6th edition). – adjusted below to reflect the implications of the RICS Professional Statement (PS) as applicable to offices only. Please refer to the RICS Professional Statement for a full definition.

RICS Professional Statement (PS) 2nd Edition effective from 1st May 2018, which affects the measurement of offices.

Using IPMS 2 offices are separated for measurement into eight component areas:
Component A – Vertical penetration e.g. lift / elevator shaft and ducts
Component B – Structural elements all structural walls to inside of internal dominant face
Component C – Technical services e.g. plant rooms, lift / elevator motor rooms and maintenance rooms
Component D – Hygiene areas e.g. toilet facilities, cleaners, shower room and changing room
Component E – Circulation areas – all horizontal circulation areas
Component F – Amenities e.g. cafeteria, day care facilities, fitness areas and prayer rooms
Component G – Workspace, e.g. the area available for use by personnel, furniture and equipment for office purposes
Component H – Other areas including balconies, covered galleries, internal car parking and storage rooms
If an area is for multifunctional use, it is to be stated as its Principal use.
Limited use areas must be identified, measured and stated separately within IPMS reported areas.

OFFICES ONLY

Definition added – the sum of the areas of each floor of an office building measured to the internal dominant face reported on a component–by-component basis for each floor of a building

The internal dominant face is the inside finished surface comprising 50% or more of the surface area for each vertical section forming an internal perimeter. Where the internal dominant face is a window the internal dominant face is taken to the glazing

METHOD OF MEASUREMENT OF BUILDING AREAS

Gross Internal Floor Area (GIFA) (or Gross Internal Area (GIA))	
ALL BUILDINGS EXCLUDING OFFICES	
Areas occupied by internal walls and partitions projections	Perimeter wall thicknesses and external projections
Columns, piers, chimney breasts, stairwells, lift-wells, other internal projections, vertical ducts, and the like	External open-sided balconies, covered ways and fire escapes
Enclosed walkways or passages between separate buildings – definition added in PS	
Atria and entrance halls, with clear height above, measured at base level only	Canopies
Internal open-sided balconies, walkways, and the like	Voids over or under structural, raked or stepped floors
	Accessible rooftop terraces – normally excluded
Structural, raked or stepped floors are to be treated as a level floor measured horizontally	Greenhouses, garden stores, fuel stores, and the like in residential property
Horizontal floors, with permanent access, below structural, raked or stepped floors	Patios, decks at ground level not forming part of the structure – definition added in PS

IPMS 2 - Office: Gross Internal Floor Area (GIFA) (or Gross Internal Area (GIA))	
OFFICES ONLY	
Areas occupied by internal walls and partitions projections	Perimeter wall thicknesses and external projections
Columns, piers, chimney breasts, stairwells, lift-wells, other internal projections, vertical ducts, and the like	Open external stairways not being part of the structure e.g. fire escapes
External balconies often referred to as external open sided balconies – included but stated separately	
Enclosed walkways or passages between separate buildings – definition added in PS	
Atria and entrance halls, with clear height above, measured at base level only	Canopies
Areas occupied by the reveals of windows when measured and assessed as the internal dominant face - definition added in PS	
Internal open-sided balconies, walkways, and the like - included but stated separately	Voids over or under structural, raked or stepped floors
External balconies often referred to as external open sided balconies – included but stated separately	
Accessible rooftop terraces included but stated separately	
Structural, raked or stepped floors are to be treated as a level floor measured horizontally	Greenhouses, garden stores, fuel stores, and the like in residential property
Horizontal floors, with permanent access, below structural, raked or stepped floors	Patios, decks at ground level not forming part of the structure - definition added in PS

METHOD OF MEASUREMENT OF BUILDING AREAS

Gross Internal Floor Area (GIFA) (or Gross Internal Area (GIA))	
ALL BUILDINGS EXCLUDING OFFICES	
Corridors of a permanent essential nature (e.g. fire corridors, smoke lobbies)	External car parking, equipment yards, cooling equipment and refuse areas - definition added in PS
Mezzanine floor areas with permanent access	Other ground level areas that are not fully enclosed - definition added in PS
Lift rooms, plant rooms, fuel stores, tank rooms which are housed in a covered structure of a permanent nature, whether or not above the main roof level	
Service accommodation such as toilets, toilet lobbies, bathrooms, showers, changing rooms, cleaners' rooms, and the like	
Projection rooms	
Voids over stairwells and lift shafts on upper floors	
Loading bays	
Areas with a headroom of less than 1.5m	
Pavement vaults	
Garages	
Conservatories	

IPMS 2 - Office: Gross Internal Floor Area (GIFA) (or Gross Internal Area (GIA))	
OFFICES ONLY	
Corridors of a permanent essential nature (e.g. fire corridors, smoke lobbies)	External car parking, equipment yards, cooling equipment and refuse areas - definition added in PS
Mezzanine floor areas with permanent access	Other ground level areas that are not fully enclosed - definition added in PS
Lift rooms, plant rooms, fuel stores, tank rooms which are housed in a covered structure of a permanent nature, whether or not above the main roof level	
Service accommodation such as toilets, toilet lobbies, bathrooms, showers, changing rooms, cleaners' rooms, and the like	
Projection rooms	
Voids over stairwells and lift shafts on upper floors	
Loading bays	
Areas with headroom of less than 1.5m - refer to PS rules. The internal dominant face is the inside finished surface comprising 50% or more of the surface area for each vertical section forming an internal perimeter	
Pavement vaults	
Garages	
Conservatories	

METHOD OF MEASUREMENT OF BUILDING AREAS

Net Internal Area (NIA)
The usable area within a building measured to the internal face of the perimeter walls at each floor level. The rules of measurement of net internal area are defined in the RICS Code of Measuring Practice (6th edition).

RICS Code of Measuring Practice (6th edition) applicable to all buildings except offices

ALL BUILDINGS EXCLUDING OFFICES	
INCLUDING	**EXCLUDING**
Atria with clear height above, measured at base level only excluding common areas	Those parts of entrance halls, atria, landings and balconies used in common
Entrance halls excluding common areas	Toilets, toilet lobbies, bathrooms, cleaners' rooms, and the like
Notional lift lobbies and notional fire corridors	Lift rooms, plant rooms, tank rooms (other than those of a trade process nature), fuel stores, and the like
Kitchens	Stairwells, lift-wells and permanent lift lobbies
Built-in units, cupboards, and the like occupying usable areas	Corridors and other circulation areas where used in common with other occupiers
Ramps, sloping areas and steps within usable areas	Permanent circulation areas, corridors and thresholds/ recesses associated with access, but not those parts that are usable areas

IPMS 3 - Office: Net Internal Area (NIA)
The usable area within a building measured to the internal face of the perimeter walls at each floor level. The rules of measurement of net internal area are defined in the RICS Code of Measuring Practice (6th edition) – adjusted below to reflect the implications of the RICS Professional Statement (PS) as applicable to offices only. Please refer to the RICS Professional Statement for a full definition.

RICS Professional Statement (PS) 2nd Edition effective from 1st May 2018, which affects the measurement of offices.

OFFICES ONLY	
INCLUDING	**EXCLUDING**
Definition added: The floor area available on an exclusive basis to an occupier, but excluding standard facilities and shared circulation areas, and calculated on an occupier-by-occupier floor-by-floor basis for each building. All internal walls and columns with an occupant; exclusive area included within IPMS 3 - office. The floor area is taken to the internal dominant face and, where there is a common wall with an adjacent tenant, to the centre line of the common wall.	
Atria with clear height above, measured at base level only excluding common areas	Those parts of entrance halls, atria, landings and balconies used in common
Entrance halls excluding common areas	Toilets, toilet lobbies, bathrooms, cleaners' rooms, and the like
Notional lift lobbies and notional fire corridors	Lift rooms, plant rooms, tank rooms (other than those of a trade process nature), fuel stores, and the like
Kitchens	Stairwells, lift-wells and permanent lift lobbies
Built-in units, cupboards, and the like occupying usable areas	Corridors and other circulation areas where used in common with other occupiers
Ramps, sloping areas and steps within usable areas	Permanent circulation areas, corridors and thresholds/ recesses associated with access, but not those parts that are usable areas

CONTENTS

METHOD OF MEASUREMENT OF BUILDING AREAS

Net Internal Area (NIA)	
ALL BUILDINGS EXCLUDING OFFICES	
INCLUDING	EXCLUDING
Areas occupied by ventilation/heating grilles	Areas under the control of service or other external authorities including meter cupboards and statutory service supply point
Areas occupied by skirting and perimeter trunking	Internal structural walls, walls enclosing excluded areas, columns, piers, chimney breasts, other projections, vertical ducts, walls separating tenancies and the like
Areas occupied by non-structural walls subdividing accommodation in sole occupancy	The space occupied by permanent and continuous air-conditioning, heating or cooling apparatus, and ducting in so far as the space it occupies is rendered substantially unusable
Pavement vaults	The space occupied by permanent, intermittent air-conditioning, heating or cooling apparatus protruding 0.25m or more into the usable area
	Areas with a headroom of less than 1.5m
	Areas rendered substantially unusable by virtue of having a dimension between opposite faces of less than 0.25m
	Vehicle parking areas (the number and type of spaces noted)

CONTENTS

IPMS 3 - Office: Net Internal Area (NIA)	
OFFICES ONLY	
INCLUDING	EXCLUDING
Areas occupied by ventilation/heating grilles	Areas under the control of service or other external authorities including meter cupboards and statutory service supply point
Areas occupied by skirting and perimeter trunking	
All internal walls and columns	
Areas occupied by non-structural walls subdividing accommodation in sole occupancy	The space occupied by permanent and continuous air-conditioning, heating or cooling apparatus, and ducting in so far as the space it occupies is rendered substantially unusable
Pavement vaults	The space occupied by permanent, intermittent air-conditioning, heating or cooling apparatus protruding 0.25m or more into the usable area
Areas with a headroom of less than 1.5m – now included but may be stated separately as a limited use area	
Areas rendered substantially unusable by virtue of having a dimension between opposite faces of less than 0.25m	Measured but identified separately
	Vehicle parking areas (the number and type of spaces noted)

METHOD OF MEASUREMENT OF BUILDING AREAS

Net Internal Area (NIA)	
ALL BUILDINGS EXCLUDING OFFICES	
INCLUDING	EXCLUDING
	Enclosed walkways or passages between separate buildings – definition added in PS
	Accessible rooftop terraces – normally excluded
	Open external stairways not being part of the structure e.g. open framework fire escapes
	Patios, decks at ground level not forming part of the structure – definition added in PS
	External car parking, equipment yards, cooling equipment and refuse areas - definition added in PS
	Other ground level areas that are not fully enclosed - definition added in PS
	Open light wells upper level voids of an atrium

Source: RICS[2]

IPMS 3 - Office: Net Internal Area (NIA)	
OFFICES ONLY	
INCLUDING	EXCLUDING
The common wall with adjacent occupier - the floor areas is taken to the centre line of the common wall, so the area includes half the width of the common wall - definition added in PS	
Enclosed walkways or passages between separate buildings – definition added in PS	
Areas occupied by the reveals of windows when measured and assessed as the internal dominant face	
External open sided balconies used exclusively – included but stated separately	
Accessible rooftop terraces included but stated separately	
	Open external stairways not being part of the structure e.g. open framework fire escapes
	Patios, decks at ground level not forming part of the structure – definition added in PS
	External car parking, equipment yards, cooling equipment and refuse areas - definition added in PS
	Other ground level areas that are not fully enclosed - definition added in PS
	Open light wells upper level voids of an atrium

INTERNATIONAL COST MEASUREMENT STANDARDS (ICMS)

INTRODUCTION

The aim of ICMS is to, "... provide a structure and format for classifying, defining, measuring, analysing and presenting construction costs that will provide consistency and transparency across international boundaries." (ICMS Coalition)[3].

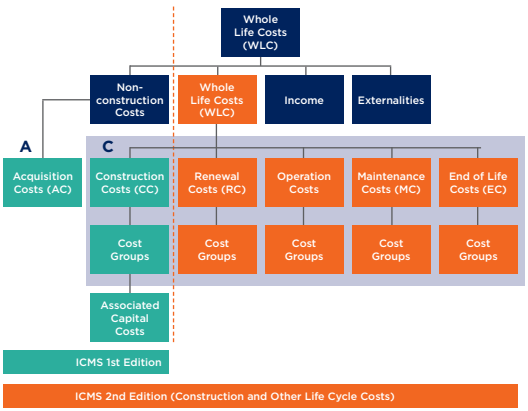
WHAT IS IT AND WHY?

The ICMS project is backed by more than 40 building and surveying national groups and professional bodies globally, working as the ICMS Coalition.

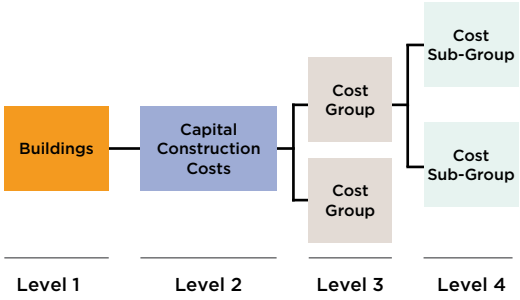
ICMS has been designed to be back-to-back with International Property Measurement Standards (IPMS), but addresses the cost aspects of projects. First issued in July 2017 as ICMS, ICMS2 was issued in September 2019. Whereas the original edition featured only Construction Costs, ICMS2 now addresses Whole Life Costs in the ACROME format:

- **A** Acquisition Costs (formerly within Construction Costs)
- **C** Construction Costs
- **R** Renewal Costs
- **O** Operation Costs
- **M** Maintenance Costs
- **E** End of Life Costs

This arrangement is depicted as below:



The original ICMS costs structure was arranged in a hierarchy of Levels 1 to 4:



Level 1: Project or Sub-Project – mandatory, classification by essence and principal purpose

Level 2: Cost Category – mandatory, to permit high level comparison between projects

Level 3: Cost Group – mandatory, equivalent of NRM's Group Elemental

Level 4: Cost Sub-Group – non-mandatory, but subject to Level 3 constraints

This first edition orientation can be shown for a set of categories as follows:

Table 1: Example – ICMS Layout

Cost Code	Description
	Cost Category (Level 2)
	Cost Group (Level 3)
	Cost Sub-Group (Level 4)
1	Capital Construction Costs
1.02	Substructure
1.02.020	Foundations up to top of lowest floor slabs: 010 - excavation and disposal 020 - lateral supports 030 - raft footings, pile caps, column bases, wall footings, strap beams, tie beams 040 - substructure walls and columns 050 - lowest floor slabs and beams (excluding basement bottom slabs) 060 - lift pits

In ICMS 2, the above general format is retained. However, with the separation of Acquisition Costs now as Cost Code 1, Construction Costs become Cost Code 2. Other changes to Cost Groups and Sub-Groups are limited, but include the addition of a Cost Group for "Composite or prefabricated work".

In both the original version of ICMS and Edition 2, the user has not been exposed to anything that is fundamentally different from a standard approach to costing projects. However, Level 3 changes that.

Level 3 (shown here in the numbering convention of the original ICMS version) of ICMS introduces the concept of Structure work separated from Architectural works / non-structural works:

Table 2

1.03	Structure
1.04	Architectural works | non-structural works

The user must accord with the Level 3 ICMS headings, and so must break out some parts of NRM's Structural elements and measure these parts as non-structural. For example, what has been formerly understood as the Roof Element under NRM, will under ICMS have a structural component (roof structure) and a non-structural component (roof covering and drainage).

Whilst there is no definition of the suggested ICMS Cost Sub-Groups provided, they are stated within the ICMS document as being broadly compatible with ISO 12006.

Readers of the ICMS document should also note that there exists in the suggested Level 4 structure, an additional level that is effectively Level 5 (refer e.g. 1.02.020.010 in the table above). This is something of a mix between what we currently know as NRM Element and NRM sub-element level.

Another key feature of ICMS is the requirement for cost reporting to be provided using both IPMS 1 and IPMS 2 areas measurement formats. The IPMS 1 method measures to the external face of the external walls of buildings, whereas IPMS 2 measures to the internal face. While IPMS 2 is broadly equivalent to Gross Internal Floor Area (GIFA), ICMS also introduces the concept of Internal Dominant Face (IDF). IDF is defined as the inside finished face of that part of a wall that composes greater than 50% of the wall face. The use of IDF could, in extreme circumstances, result in the measured area exceeding the physical floor area of the space in question.

The use of IPMS 1 and 2 raises other issues in regards to measurement of areas of such as balconies and roof-top terraces. ICMS requires these areas to be measured, included and stated separately, whereas currently GIFA under NRM excludes both balconies and terraces.

As a consequence of the above, care needs to be taken in considering benchmarked costs under NRM as against under ICMS.

These few notes form merely an introduction to ICMS. RLB offices can provide more detailed consideration on request.

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CONSTRUCTION INSIGHTS

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THE IMPACT OF COVID-19

ADAPT | ALIGN | ADVANCE

COVID-19 is causing unprecedented disruption, impacting the global economy and creating unique challenges for all sectors, including the built environment.

We believe the speed of the construction market rebound will depend on a proactive three-phased plan:

- How we **ADAPT** to address the immediate challenges including the lockdown, health & safety, the impact on the workforce, the supply chain, project delivery and productivity.
- How we **ALIGN** to the new normal, ensuring business continuity whilst evolving and supporting our clients as they respond to these temporary constraints and demands.
- How we **ADVANCE** and evolve new ways of working within the built environment, taking a long-term view of the implications post COVID-19, including how businesses operate, workforce expectations, space utilisation, transportation plans, digital solutions and how we understand and remodel the new norms.

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COVID-19 PRODUCTIVITY MEASURES

As lockdowns have eased, the cost impacts on current and future projects is being considered. Somewhat uniquely, the current market is facing both inflationary and deflationary pressures. Inflationary pressures result from Site Operating Procedures (SOP) and social distancing related compliance, making sites less productive. Deflationary pressures result from falling market demand; collectively they result in Tender Price adjustment.

Here we briefly look at the impacts of Productivity Measures on Construction Costs. By equipping project teams with the understanding of the impact of COVID-19 on costs, RLB can assist in unlocking projects in a challenging market.

COVID-19 RELATED PRODUCTIVITY IMPACTS

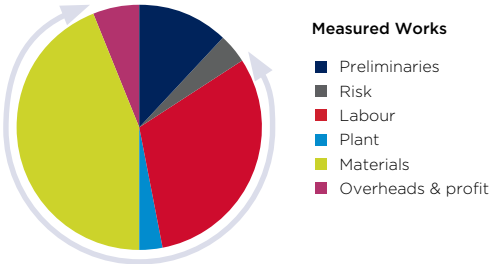
Up to **6%** inflationary impact on cost

Up to **30%** programme prolongation

Increased risk of **Quality** issues

PRODUCTIVITY IMPACT ON COST ESTIMATES

Typical cost estimate splits



COVID-19 PRODUCTIVITY MEASURES

Productivity cost impact

Preliminaries

Prolongation: Increased duration due to reduced labour on site to comply with SOP

Additional Costs: Additional resources (e.g. welfare and accommodation, PPE, staffing, cleaning)

Risk

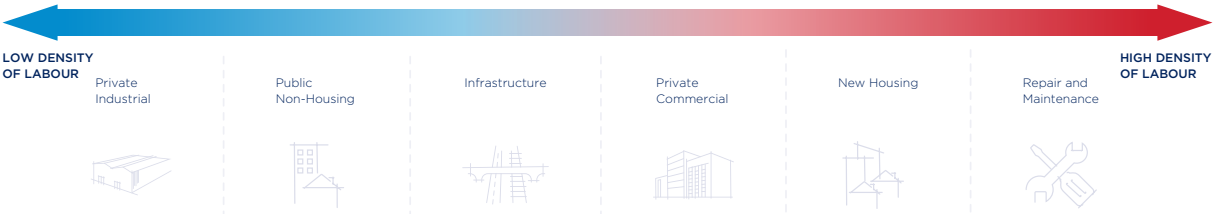
Increased **risk allocation** due to compliance with contract conditions / risk allocation for COVID-19 related delays

Labour

Reduction in **labour output** due to compliance with SOP (e.g. reduction in multi person activities, restrictions around sites, material availability disruption)

LABOUR DENSITY

Labour density refers to the labour (worker) per pound of construction spend. Those types of project with higher labour density are likely to be affected more adversely, needing to reduce labour to allow SOP compliance and thus prolonging the construction programme.



SUMMARY

Productivity has been an industry conundrum even prior to the current pandemic. The inflationary impacts of COVID-19 are not the sole driver of tender prices in the current market; pipeline concerns are having a deflationary drag as well. Both sector and construction typology will impact how severe the project is impacted.

By understanding the Productivity impacts of the pandemic, teams can actually minimise the cost pressures that result and gain competitive advantage. At design stages teams may consider MMC and DFMA, as well as the labour density of material selections. During the procurement stages of projects, clients will need to seriously consider the impacts of where they place COVID risks. The current focus on industry productivity may actually see it advance and be a positive legacy of the pandemic.

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THE IMPACT OF COVID-19 ACROSS THE WORLD AND THE UK

THE IMPACT OF COVID-19 ACROSS THE WORLD

Our Global Survey reports explore the developing impact of COVID-19 on the built environment across the world.

They include analysis from RLB experts across our global practice on how their markets are evolving and coping with the unfolding pandemic in its different stages.

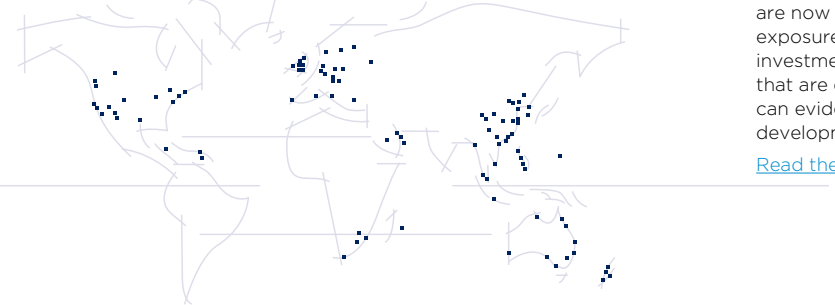
As it is a snapshot in time each survey captures different locations in different stages of their national response to the outbreak and continuing development of the virus, reflecting on local events at the point of data collection.

The regionalised sectoral analysis attempts to break through the comparability problem and offers localised comparison that can be interpreted in, and for, each region.

In each issue, RLB experts from across Europe, Middle East, Africa, America and Oceania share their responses to a series of structured questions designed to produce answers which can be analysed individually and collectively, to provide local insights as well as national and regional overviews.

These reports explore the effects, responses and expectations of participants in local markets, and places them in wider context to compare with each other so we can identify change effects – to feature the impacts of change over the period of this series of surveys, enabling us to track and understand what has happened, why, and what may happen in the future.

All of our survey reports are available on RLB.com



CONSTRUCTION INSIGHTS

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THE IMPACT OF COVID-19 IN THE UK

COVID-19: Impact on funders and investors

Since its emergence in January 2020, COVID-19 has had a significant and far-reaching impact on all aspects of the construction and property industry.

These impacts range from temporary suspension of works, reduced productivity and in the worst cases, the permanent shut-down of sites. Reduced cash flow and financial instability of firms through to closure of material suppliers and the delayed receipt of approvals have always been risks within the development and construction process but, as a result of COVID-19, their rate of occurrence and effect could be far more onerous and wider reaching.

Whilst the medium to long term impact on the construction and property industry has not yet been fully understood, the more immediate economic impact of the pandemic on commercial occupiers, developers and investors is fuelled by a general feeling of economic uncertainty across the UK.

The sectors more likely to see a reduction in overall demand are office, hotels & leisure, sport and retail. In contrast however, other sectors and sub-sectors including datacentres, online retail, industrial & logistics and budget food retail are expected to benefit from increased demand. This shift in demand is expected to be paralleled by a re-focussing of development and investment targets by developers and development financiers to non-traditional sectors and asset types.

The majority of investors, banks, bridging companies, pension funds, statutory bodies and local authorities are now understandably seeking to minimise their exposure to financial risk. They may be limiting their investment and funding portfolios to developments that are deemed to be low risk and to developers that can evidence the diligent management of inherent development and project risks.

Read the full guide here.

THE IMPACT OF COVID-19

COVID-19: Impact on landlords & tenants

The ongoing lockdown imposed by the UK government as a response to the COVID-19 outbreak has had a radical effect on all of our working lives and brought with it difficult trading conditions for many.

For certain sectors, such as retail, hospitality & leisure, the lack of trading has impacted their business dramatically.

For those with premises, there are a number of knock on effects as a consequence of the lock down including rental levels coming under pressure and some tenants being forced to downsize their current working premises. One area that shouldn't be overlooked is the impact on potential dilapidation claims and tenants' ability to settle these.

Read the full guide here.

COVID-19: Impact on party wall agreements

The COVID-19 pandemic has had a seismic impact on the health, economy, freedom of movement and working practices globally and many of us are still adapting to these changes with challenges to overcome that we have never experienced before in our working lives.

The Job Retention Scheme (JRS) was introduced by the UK government in March, and has been extended until October 2020. Although the scheme has brought many benefits to the construction industry, it has also caused a challenge for some of our clients who wish to continue specialised work, but unable to do so as some highly specialised consultants may be on the scheme.

As an independent consultant working across the built environment we can provide guidance and support around the Party Wall, Etc Act 1996 and related services. This includes initial advice, preparation and service of notices and statutory appointment roles in connection with dispute resolution for both building owners and adjoining owners.

Read the full guide here.

CONSTRUCTION INSIGHTS

COVID-19: Building re-occupation planning

The impact of the COVID-19 pandemic has transformed the way we work.

As organisations now refocus on their safe return to work, we summarise the key considerations for re-occupying a building.

Looking ahead to reopening our workplaces and reintroducing our teams into these spaces, it is essential that we implement changes to create a welcoming and COVID-19 secure space.

Understanding that occupiers and landlords have unique and differing needs, it is important to assess your building, access routes, work patterns, workstations and shared spaces.

This guidance note sets out how to enable the safe re-occupation of your workplace in accordance with the latest Government guidance and advice.

This includes implementing appropriate social distancing measures and new protocols and procedures to protect employees and minimise the threat of infection.

Read the full guide here.

RIBA OUTLINE PLAN OF WORK

Following the update of the RIBA Plan of Work in 2013, much has changed in the construction industry. In particular, the 2019 government commitment to zero carbon by 2050 has focused attention on current and upcoming buildings' design.

Consequently, the new 2020 RIBA Plan of Work introduces the new sustainable project strategy, which guides design teams toward sustainable outcomes, right from the outset of their work.

Throughout the briefing, design and development processes, defined and agreed target outcomes can be checked and verified.

Definitions of sustainable outcomes are available in the RIBA Sustainable Outcomes Guide. (RIBA)[4]

Other changes in the 2020 edition of the Plan of Work relate to improved guidance on planning, procurement and information, along with detailed Stage descriptions and guidelines on core project strategies.

RIBA
Plan of Work
2020

The RIBA Plan of Work organises the process of briefing, designing, delivering, maintaining, operating and using a building into eight stages. It is a framework for all disciplines on construction projects and should be used solely as guidance for the preparation of detailed professional services and building contracts.

RIBA Plan of Work - Core Tasks	
0 Strategic Definition	Prepare Client Requirements; develop Business Case for feasible options including review of Project Risks and Project Budget; ratify option that best delivers Client Requirements; review Feedback from previous projects; undertake Site Appraisals.
1 Preparation and Briefing	Prepare Project Brief including Project Outcomes and Sustainability Outcomes, Quality Aspirations and Spatial Requirements; undertake Feasibility Studies; agree Project Budget; source Site Information including Site Surveys; prepare Project Programme; prepare Project Execution Plan.
2 Concept Design	Prepare Architectural Concept incorporating Strategic Engineering requirements and aligned to Cost Plan, Project Strategies and Outline Specification; agree Project Brief Derogations; undertake Design Reviews with client and Project Stakeholders; prepare stage Design Programme.
3 Spatial Coordination	Undertake Design Studies, Engineering Analysis and Cost Exercises to test Architectural Concept resulting in Spatially Coordinated design aligned to updated Cost Plan, Project Strategies and Outline Specification; initiate Change Control Procedures; prepare stage Design Programme.
4 Technical Design	Develop architectural and engineering technical design; prepare and coordinate design team Building Systems information; prepare and integrate specialist subcontractor Building Systems information; prepare stage Design Programme. (Specialist subcontractor designs are prepared and reviewed during Stage 4)
5 Manufacturing & Construction	Finalise Site Logistics; manufacture Building Systems and construct building; monitor progress against Construction Programme; inspect Construction Quality; resolve Site Queries as required; undertake Commissioning of building; Prepare Building Manual.
6 Handover	Hand over building in line with Plan for Use Strategy; undertake review of Project Performance; undertake seasonal Commissioning; rectify defects; complete initial Aftercare tasks including light touch Post Occupancy Evaluation.
7 Use	Implement Facilities Management and Asset Management; undertake Post Occupancy Evaluation of building performance in use; verify Project Outcomes including Sustainability Outcomes.

OJEU PROCESS

The OJEU is the Official Journal of the European Union.

All contracts from the public sector which are valued above a certain financial threshold according to EU legislation must be published in the OJEU. The legislation covers organisations and projects that receive project money, and includes organisation such as Local Authorities, NHS Trust, MOD, Central Government Departments and Educational Establishments.

THRESHOLDS

European directives and UK regulations set out detailed procedures for contracts where the value equals or exceeds various financial thresholds. These thresholds are set in Euros, and every two years the European Commission publishes the equivalent values in pound sterling.

The current financial thresholds are shown below – these apply from 1 January 2020.

	Supply, Services and Design Contracts	Works Contracts	Social and Other Specific Services
Central Government*	£122,976 €139,000	£4,733,252 €5,350,000	£663,540 €750,000
Other Contracting authorities	£189,330 €214,000	£4,733,252 €5,350,000	£663,540 €750,000
Small lots	£70,778 €80,000	£884,720 €1,000,000	n/a
Different thresholds / exempt	▪ Social and other specific services (subject to the light touch regime) Article 74. ▪ Subsidised services contracts specified under Article 13. ▪ Research and development services under Article 14 (specified CPV codes are exempt).	▪ With the exception of subsidised works contracts specified under Article 13.	▪ As per Article 74. Services are listed in Annex XIV.

** Schedule 1 of the Public Contracts Regulations lists the Central Government bodies subject to the WTO GPA (World Trade Organisation - Government Procurement Agreement).*[5]

Note: The calculation of the estimate value of a procurement shall be based on the total amount payable, before VAT is added (net of VAT), as estimated by the contracting authority, including any form of option and any renewals of the contract.

THE EUROPEAN UTILITY CONTRACTS DIRECTIVE (2014/25/EU) AND DEFENCE & SECURITY DIRECTIVE (2009/81/EC)

	Supply, Services and Design Contracts	Works Contracts	Social and Other Specific Services
Utility authorities	£378,660 €428,000	£4,733,252 €5,350,000	£884,720 €1,000,000
Defence and security authorities	£378,660 €428,000	£4,733,252 €5,350,000	N/A

Source: Tracker Intelligence[6]

POINTS OF CLARIFICATION

Concession Contracts – Concession Contracts are covered in EU Law under a separate directive and therefore separate regulations in the UK. The threshold for concession contracts is £4,733,252 from 1 January 2020. (Tracker Intelligence)[6]

GUIDE TO THE REGULATIONS

The Public Contract Regulations 2015 came into effect on 26 February 2015.

There are five types of contract award procedure:

- Open (Regulation 27)
- Restricted (Regulation 28)
- Competitive with Negotiation (Regulation 29)
- Competitive Dialogue (Regulation 30)
- Innovation Partnership (Regulation 31)

There are no restrictions on the use of the open and

OJEU PROCESS

restricted procedures. However, the competitive dialogue, competitive with negotiation and innovation partnership procedures can only be used in certain circumstances.

CHOOSING A PROCEDURE

Open

- This is suitable for straightforward procurements where requirements are clearly defined
- There is no pre-qualification of bidders so anyone can submit a tender

Restricted

- This is a two stage procedure used to pre-qualify bidders based on financial standing and technical/ professional capability
- This will narrow the number of bidders who can submit a tender

Competitive Dialogue and Competitive with Negotiation

Used for more complex procurements, where:

- Needs cannot be met without adaptation of readily available solutions;
- Requirements include design or innovative solutions;
- The contract cannot be awarded without prior negotiation;
- The technical specifications cannot be established with sufficient precision;
- Open/restricted procedure procurement has been run but only irregular or unacceptable tenders were submitted

Innovation Partnership

- Allows for the R&D and purchase within the same procurement process

MINIMUM TIMESCALES

The table below sets out the minimum permitted timescales. Consideration must also be given to the general rules around setting of time limits that are set out at Regulation 47 of the Public Contracts Regulations 2015.

Choice of Procedure and Stage	Standard Timescales
OPEN	
Despatch of contract notice to receipt of responses	35 days
Standstill	10 days
RESTRICTED	
Despatch of contract notice to receipt of responses	30 days
ITT to receipt of bids	30 days
Standstill	10 days
COMPETITIVE WITH NEGOTIATION	
Despatch of contract notice to expressions of interest	30 days
ITN to receipt of initial tenders	30 days
Standstill	10 days
COMPETITIVE DIALOGUE	
Despatch of contract notice to expressions of interest	30 days
Standstill	10 days
INNOVATION PARTNERSHIP	
Despatch of contract notice to expressions of interest	30 days
Standstill	10 days

FRAMEWORKS

Over the coming years, many of the challenges and opportunities facing government departments and local authorities will be set in the context of devolution, industrial strategy, sustainable solutions, social enterprise and business productivity. All of these benefit from procurement partnerships which outlast a project – suppliers can build an understanding of client needs and deliver them against medium and long-term aspirations.

The much-needed regeneration of our town and city centres, as well as the resolution of an affordable housing shortage, are just two fundamental areas which will be delivered through partnerships between the public and private sectors. This means a clear understanding of the benefits of these frameworks, and a long-term view as to how to achieve those benefits, will differentiate RLB and those clients who seek to achieve sustainable value.

RLB is appointed to a comprehensive suite of frameworks offering bespoke solutions for the public and private sectors. From briefing and feasibility through to soft landings and operation, we offer services across the full property cycle.

We recognise that access to the market is only part of the answer to providing best value, so in the public sector, we use these National Frameworks to develop best practice and innovation as well as consistent delivery of our service:

For public sector customers, the key benefits of using these frameworks are:

- Access to specialist services or integrated solutions tailored to customer needs
- Fully compliant with procurement regulations providing certainty and control for customers
- Speed to market and ease of appointment, removing the need for customers to initiate lengthy procurement exercises
- Ability to make direct appointments for independent consultancy advice whilst achieving best value outcomes
- Capacity and capability to deliver consistently across the UK
- Maximising value including social benefits
- Maximum commercial value
- Fully compliant with procurement regulations, providing certainty and control for customers
- Maximise value and deliver cost, quality, time and community benefits.

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VALUE BASED DECISION-MAKING

Back in 2018 the Construction Leadership Council, published its Procuring for Value (PfV) report, which argued that clients and industry should use value (rather than cost) as a metric to ensure that the right **outcome** is delivered from the construction of a built asset. PfV challenged the view that the only way of discriminating between options is on the basis of lowest possible cost.

The Construction Innovation Hub (CIH) was formed soon after the publication of PfV, funded as part of the Transforming Construction Challenge Fund. With the overarching objective of "transforming performance and productivity in the construction industry", Value is one of CIH's four key themes. CIH is pushing forward the original concept of PfV and is developing a broader Value Toolkit. This is a suite of practical tools that will drive faster, better decision making to deliver measurable value improvement.

The toolkit takes policy makers, clients, advisors and the wider industry on a value-based decision-making journey.

VALUE DEFINITION

At the outset the toolkit will prompt clients and advisors to define what value means on their unique project – drawing on policy principles, benchmark data and expert feedback from other projects.

DELIVERY MODEL

Having defined the Value Drivers for the project, the toolkit will guide clients and the wider industry supply chain through different commercial, risk and delivery models and enable a considered decision to be made on the most appropriate delivery model for the project.

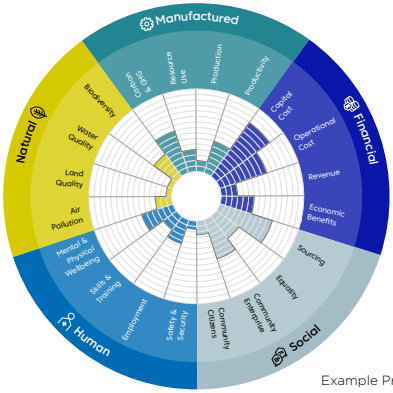
PROCURING FOR VALUE

With the required outcome value established and the commercial delivery model agreed, the procurement process for both designers and constructors will focus on those firms best able to deliver or increase this pre-defined value. It will provide clients with a procurement framework which is robust but encourages innovation and problem solving.

ONGOING MEASUREMENT

Continuous forecasting and review against the Value profile – during design, construction and use - will ensure that value is not destroyed as the design and construction processes progress, and that the final value delivered can be tested against the original value profile. Not only will this lead to better outcomes, but it will provide valuable benchmark data from which to improve future projects.

Rider Levett Bucknall is at the forefront of the development of the Value Toolkit – we are proud to be supporting the work of the CIH and we can deliver this value-based approach to all of our clients.



Example Project Value Profile

FIND OUT MORE

Procuring for Value: Produced by the Construction Leadership Council (CLC) in collaboration with RLB and available to download on RLB.com.

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PROCUREMENT OPTIONS

Selecting the correct procurement route for a project is fundamental to its success, and will affect its cost, programme, quality and team relationships for the lifespan of the project. Procurement strategy should be considered fully at the earliest opportunity and consideration should be given to the hierarchy of client and project requirements.

RLB can advise on an appropriate route to best meet these requirements, and we have highlighted some of the main features of the more common routes available on the following pages.

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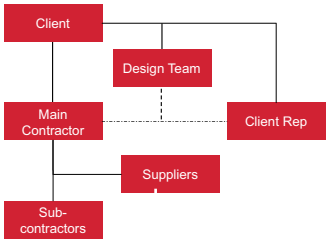
KEY

Contractual Line ——————

Communication Line – - – - –

TRADITIONAL LUMP SUM

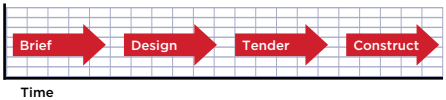


Key Features
- Design complete prior to tender
- Contractor takes price and time risk for works as tendered
- Client controls design
- Two stage / negotiation can be accommodated as an alternative

Advantages
- Competitive fairness – all tenders like for like
- Cost certainty at outset of contract
- Established / tried and tested
- Minor changes can be implemented
- Established method of valuation
- Capable of conversion to a Guaranteed Maximum Price (GMP)
- Contractor designed elements can be accommodated

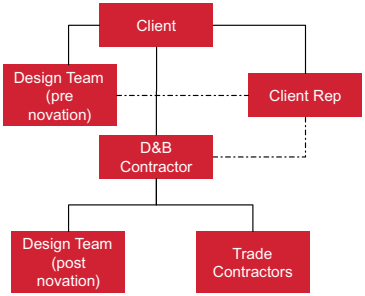
Concerns / Considerations
- Time required to complete full design prior to tender
- Full design not always achievable - e.g. specialist areas subject to contractor design
- Client takes time and cost risk for changes in design
- Client takes design risk
- Contractual / adversarial approach

Sequence



PROCUREMENT OPTIONS

DESIGN & BUILD

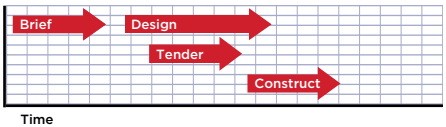


Key Features
- Tender (employer's requirements) normally based on outline design but can be at scheme design stage
- D&B contractor makes proposals and adopts (and completes) the design
- Tender price can be single action or negotiated (usually through two stage)

Advantages
- Single point responsibility
- Transfer of speculative risks to the contractor
- Earlier start on site – design can run in parallel (subject to level of design used for tendering)
- Cost certainty at outset
- Programme responsibility with D&B contractor (subject to post contract client driven change)
- Possible to achieve a Guaranteed Maximum Price (GMP)
- Tried and tested
- Original design team can be novated for continuity / security of design

Concerns / Considerations
- Longer procurement and overall development process (compared to CM/MC)
- Higher tendering costs for contractors – can influence and limit the extent of 'competitiveness' of bids
- D&B contractor prices design risk
- Client loses influence over design control – employer's requirements need to be precise, clear and detailed
- Quality of design and end product needs to be closely monitored
- Novation arrangements can create a conflict of interest
- Post contract changes can be more expensive than traditional contracts with bills of quantities
- More inflexible route to accommodate change

Sequence



CONSTRUCTION INSIGHTS

PROCUREMENT OPTIONS

TWO STAGE

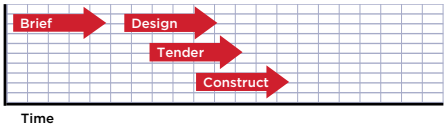
Used with Traditional or Design & Build Procurement

Key Features
- 1st Stage tender awarded prior to design completion (normally based on prelims, OH+P, approximate quants & provisional sums) and programme
- 2nd stage typically by negotiation and relies on the competitive tendering of work packages
- Pre-construction agreement required with main contractor

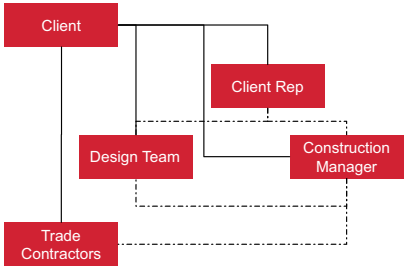
Advantages
- Enables quicker start
- Main contractor can be engaged earlier to advise on 'buildability', sequencing and sub-contractor selection
- Encourages a more collaborative approach
- Greater client involvement in the pre-selection and appointment of sub-contractors
- Ability to transfer greater degree of design risk to the contractor

Concerns / Considerations
- Potential 'abuse' of negotiating position during 2nd stage – question mark over obtaining the best price
- Potential for cost shock at end of 2nd stage – particularly on large and complex schemes
- Scope change and design creep must be avoided / minimised to secure a realistic and achievable lump sum contract
- Loss of client design control

Sequence



CONSTRUCTION MANAGEMENT



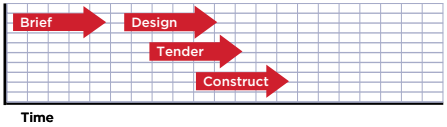
Key Features
- Construction manager engaged on a management fee and paid costs for site supervision / site preliminaries
- Trade contracts direct with client
- Pre-construction agreement required for pre-construction input

Advantages
- Quick method of procurement - allows early start with design and construction overlapping
- Construction manager is client facing – collaborative approach
- Early advice for design, programming and buildability
- Finishes / fit-out can be designed later in process with less scope for change
- Programme (including design) and cost plan agreed with client and design team before work starts
- Client retains control over design
- Direct client relationship with trade contractors – can improve performance

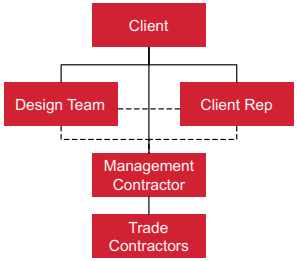
Concerns / Considerations
- Client takes programme and cost risk
- Lack of cost certainty for client
- Contract and payment administration of direct orders between client and trade contractors
- Potential 'post box' scenario
- Requires higher degree of client involvement
- No single point of responsibility

PROCUREMENT OPTIONS

Sequence



MANAGEMENT CONTRACTING

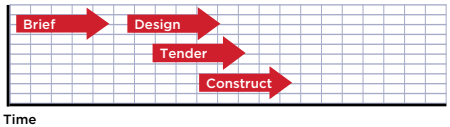


Key Features
- Management Contractor (MC) appointed on a fixed management fee (usually a percentage of prime cost) plus supervision / prelim costs (these can be fixed)
- Single contract between client and MC with trade contractors contracted to MC
- Project prime cost estimated and updated as design proceeds and works packages are let

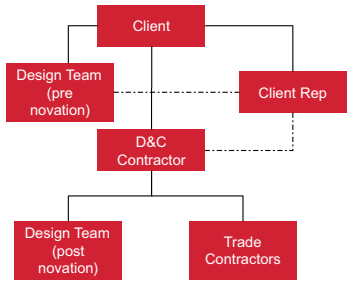
Advantages
- Quick method of procurement - allows early start with design and construction overlapping
- Early advice for design, programming and buildability
- Finishes / fit-out can be designed later in process with less scope for change
- Programme (including design) & cost plan agreed with client and design team before work starts
- Client retains control over design
- Contractual (and payment) line between client and MC creates more programme / performance ownership
- Simpler / fewer contractual lines

Concerns / Considerations
- Client takes programme and cost risk
- Lack of cost certainty for client
- Potential 'post box' scenario
- Requires higher degree of client involvement
- No single point of responsibility
- Not as much supply chain interface and transparency

Sequence



DEVELOP & CONSTRUCT



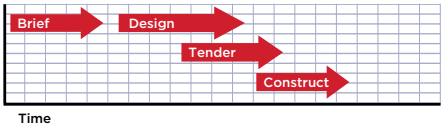
PROCUREMENT OPTIONS

Key Features
- Main Contractor (MC) appointed early (at RIBA Stages 2 - 3)
- Design team novated to MC before fixed price is agreed
- Target cost contract (e.g. NEC3) typically adopted
- Initial appointment made on quality based assessment plus OH+P / prelims – pre-construction agreement required

Advantages
- Integration of design and construction through collaborative approach
- Overlapping of design and procurement without the risk of un-priced design development
- Quicker overall process
- Progressive co-ordination of design with the early integration of specialist contractors

Concerns / Considerations
- Less cost certainty than traditional / D&B procurement routes
- Good option in rising market – potentially not offering best price in a falling market
- Target cost and programme subject to change if they are not 'robust'
- Setting the target cost at the right level
- Requires a collaborative approach from the whole team
- Target cost contracts (NEC3) require extensive administration
- Loss of design control – design needs to be developed to an appropriate level that is acceptable to the client
- Pre-selection of the 'right' contractor is key

Sequence



PROJECT BANK ACCOUNTS

Poor payment practices and contractor insolvency remain common problems in the UK construction industry. The collapse of major contracting and sub-contracting organisations continues to arise too regularly, with the accompanying adverse downstream and supply chain effects.

However, it remains RLB's position that both the occurrences and the effects can be mitigated by the use of Project Bank Accounts and that their wider use would assist in alleviating the problem.

WHAT IS A PROJECT BANK ACCOUNT

A Project Bank Account (PBA) is a 'Fair Payment' mechanism which ensures the contractor and supply chain receives prompt payment of monies rightfully due through certified interim payments. The PBA is the medium through which payments are made. It is not a contractor's account; it is set up jointly by the client and contractor and is linked to a Trust Deed, which provides insolvency protection for the whole supply chain.

In the event of contractor insolvency, the client has the financial security of knowing that the money they paid out on their project has gone directly to the companies working on the project, and the subcontractors know that their payments are protected.

Current government best practice demands that PBAs should be used on public sector construction contracts, unless there are "compelling reasons" not to.

RLB is an expert in the field of project banking and:

- Was instrumental in developing the PBA model and has now operated them for more than 15 years
- A PBA was first used by RLB in 2001 on the Andover North Site project for Defence Estates
- Was appointed by OGC to support the development of the "Guide to Best 'Fair Payment' Practices"
- Acted as advisors to Barclays and Bank of Scotland in the development of their PBA products
- Has worked with the authors of NEC3, PPC2000 and JCT to develop PBA supplements
- Now advises clients in all sectors on the adoption and use of PBAs for their projects or work programmes.

CONTRACTS: UNDERSTANDING THE DIFFERENCES BETWEEN NEC3 AND NEC4

In June 2017, NEC launched the NEC4 suite of contracts as a direct result of feedback from the industry. The NEC4 User Guide states "it was to be evolution, not revolution"[7].

The NEC stated that in drafting NEC4, they were aiming to provide greater stimulus to good management, support new approaches to procurement to improve contract management and inspire increased use of NEC in new markets and sectors.

Apart from some terminology changes from the Employer to "Client", Works Information to "Scope" and Risk Register to "Early Warning Register", key changes include:

- Contractors to submit payment applications rather than for the project manager to assess if they don't
- New compensation event added for cost of preparing a proposed quotation that does not go ahead
- Provision of incorporation of additional compensation events being included within the contract data without the need for Z clauses
- Now a "deemed acceptance" of the programme if the project manager fails to respond
- Requirement to show "implemented compensation events" removed from revised programmes
- Option C/D/E/F cost based contracts allow Contractor to instigate a review of Defined Cost in an attempt to encourage agreement of Defined Cost and importantly Disallowed Costs as works proceed rather than at end of contract
- Introduction of "Contractor's Proposals" for the Contractor to propose change to scope or to achieve acceleration, which the Client can accept or not and share benefits accordingly.

CONSTRUCTION INSIGHTS

CONTENTS

The NEC has also introduced two new contracts into its suite of contracts:

- Design Build and Operate (DBO) Contract – The DBO combines the functions of design, construction, operation and/or maintenance to enable it to be procured from a single supplier and allows for a range of different services to be provided before, during and after engineering and construction works are completed (including facilities management services)
- Alliance Contract (ALC) – This contract is for Clients who wish to enter into a single contract with a number of participants in order to deliver a project or programme of work. The focus of the contract is on collaborative working, encouraging all parties to work together in achieving Client objectives and share in the risks and benefits of doing so. The ALC is different from other contracts in the NEC suite as it is a multi-party contract.

The purpose of the NEC4 continues the theme of stimulus to good management and further reinforces the need for the parties to take a pro-active approach to project delivery. Project managers must be well versed with the contract, as to administer without full knowledge will put project delivery, the client and themselves at risk.

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THE HACKITT REVIEW - WHAT HAS HAPPENED?

BUILDING SAFETY

Six weeks after the tragic Grenfell Tower fire, the Government commissioned a review - led by Dame Judith Hackitt and published in May 2018. This review set out more than 50 recommendations. In the 18 months that followed there was acceptance by Government of the recommendations and a ban on combustible cladding on Higher Risk Residential Buildings (HRRB), but little clarity on how the detailed recommendations would be implemented.

In January 2020 the Government announced the establishment of a Building Safety Regulator, which will bring oversight and enforcement to the design, construction, management and occupation of HRRBs. The Government also confirmed that it is minded to extend the current ban on combustible materials to buildings below 18 metres.

BUILDING SAFETY BILL

In July 2020 the draft Building Safety Bill was published. It will contain changes to legislation such as HSAWA and the Building Act, and will align with the Fire Safety Bill, currently going through parliament. The intention of the Bill is to legislate a number of reforms including the introduction of the Building Safety Regulator, new competency requirements, product selection, project gateways and will promote a golden thread of information throughout the building's lifecycle giving residents new rights to receive information about the safety of their building. From the outset, the Bill will apply to all HRRBs, but it is anticipated that it will expand and impact the wider industry.

BUILDING SAFETY REGULATOR

The Health and Safety Executive (HSE) will establish the new regulator in shadow form ahead of legislation. This will implement a new, stringent, regime for higher-risk buildings.

COMPETENCE

The Hackitt review highlighted the lack of consistency and rigour in assessing and assuring skills, knowledge and behaviours in the industry. In response, the Competence Steering Group has produced tough recommendations in their report "Raising the Bar".

In the short term the Competence Steering Group will make recommendations on sector specific and overall frameworks, while in the longer term the Building Safety Regulator will establish a new industry-led committee and hold a central register of those eligible to work on HRRBs; and Mandatory registration/ certification for individuals working on HRRBs.

NEW ROLES AND REGISTRATIONS

Two new roles will be established for occupation: the Accountable Person and the Building Safety Manager, with a Building Registration Certificate required for occupation. To retain the certification, a Building Safety Case must be kept and managed for all buildings and will be similar to the principles currently required under the Fire Safety Order.

Refurbishment works that are subject to Building Regulations Approval will come under a similar process involving sign off from the Building Safety Regulator.

Existing buildings in scope will be required, after a transition period, to obtain a Building Registration Certificate and have the same system of Accountable Person and Building Safety Manager.

COMBUSTIBLE CLADDING BAN

The government has launched a consultation into the current combustible cladding ban, including proposals to lower the 18-metre height threshold, with decisions awaited on combustible cladding below 18m (and above 11m).

SPRINKLERS

Following consultation on sprinklers and other measures for new build flats, the government has proposed lowering the height threshold for sprinkler requirements in new buildings to 11 metres.

CONSTRUCTION INSIGHTS

PROJECT GATEWAYS

Projects will be subject to three gateways defined by the Bill: before planning permission is granted, before construction begins and before occupation. Duty holders such as the client, designers and contractors will be expected to demonstrate compliance at each of these gateways.

ADVICE ON BUILDING SAFETY

Advice to building owners has been brought together into consolidated advice, with simplified language and easy access. This advice makes it clear that building owners need to do more to address safety issues in residential buildings.

FIRE SAFETY BILL

The Fire Safety Bill requires residential building owners to fully consider and mitigate the risks of any external wall systems and front doors to individual flats and will make enforcement much easier.

There have already been no less than 8 changes to the Building Regulations - Approved document B volumes 1 & 2 since the Grenfell Tower Fire. The pace of change is gathering and everyone in the industry should be aware of the wide-ranging implications of this new legislation and recommendations.

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EDGE HILL UNIVERSITY, THE CATALYST BUILDING LANCASHIRE, UK

CLIENT: EDGE HILL UNIVERSITY

A new £26m building providing a space for both student services and study facilities under one roof, creating a central hub of information, learning and advice on campus

BUILDING INFORMATION MODELLING (BIM)

BIM is a collaborative process based around a digital model of a building. BIM is not software, nor is it simply a 3D model of a building - the fundamental difference being that the BIM file contains "information" which provides a co-ordinated single source of truth for use by all stakeholders. The "I" in BIM, therefore, is the key element.

The BIM process is used to create, manage and share information on a project throughout its life-cycle. It can be used to design, construct and operate buildings in a common environment, with the same information being used by all parties. Designing in a BIM environment involves assembling objects to form the digital model. Each object has information embedded/attributed to it e.g. a door (the object) has its weight, colour, size etc. (the attributes) embedded within the object.

The information attributed to the objects can be accessed and re-used by other parties, which provides a coordinated single source of truth for use by all stakeholders. This facilitates collaboration, greater efficiency, data consistency and co-ordination of the model in a virtual environment. Examples of information attributed to objects include:

- Visual data
- Dimensional and geometric data
- Functional data
- Performance data
- Specification data
- Cost data
- Construction programme data

The information contained within a BIM file is described in a number of ways; typically by the type of data and level of detail. Commonly used terms to describe this information include BIM Maturity Levels, Level of Detail or Development and BIM Dimensions.

BIM MATURITY LEVELS

In the UK BIM Maturity Levels are a measure of the ability of the construction supply chain to operate and exchange information. There is some debate over the exact meaning of each level; however, levels are generally defined as:

- Level 0 – 2D CAD with paper or electronic distribution, no collaboration
- Level 1 – Typically a mixture of 3D CAD for concept work, and 2D for drafting of statutory approval documentation and Production Information. Common models are not shared between project team members.
- Level 2 – This is distinguished by collaborative working – all parties produce their own BIM files independently. Information is exchanged between different parties through a common file format, which enables any organisation to be able to combine that data with their own in order to make a federated (combined) BIM file. The federated BIM file is then interrogated and any changes required are undertaken independently. This process is repeated at several pre-defined stages of the project until the model is complete.
- Level 3 - This represents full collaboration between all disciplines by means of using a single, shared project model which is held in a centralised repository. All parties can access and modify the same model, and the benefit is that it removes the final layer of risk for conflicting information. This is known as 'Open BIM'.

Please refer to A Report for the Government Construction Client Group, Building Information Modelling (BIM) Working Party Strategy Paper, March 2011[8]

LEVEL OF DEVELOPMENT

The Level of Development (LOD) Specification released by the BIM Forum (bimforum.org) is a useful reference that enables users to specify and describe both the content and the reliability of the objects in the BIM file. An important and useful aspect of the specification is the distinction between the content and the reliability of the information, or what it can be relied on for.

Please see 2015 Level of Development Specification to find out more[9]

LOD 200 LOD 300 LOD 350 LOD 400

BUILDING INFORMATION MODELLING (BIM)

BIM DIMENSIONS

There is some debate as to the exact content of each dimension, but the definitions below are generally accepted with each additional dimension adding more information to the BIM file.

3D – Design
Three-dimensional representation of the building, with basic attributes included

4D – Programme & Scheduling
3D BIM with the addition of iime and programme/ scheduling information

5D – Cost Estimating
4D BIM with the addition of cost information

6D – Operation / Maintenance
5D BIM with the addition of sustainability, operational and energy information

RLB AND BIM

RLB has been working successfully in the BIM environment since 2010 on hundreds of projects ranging from small new buildings to large complex buildings around the globe, with some of the world's leading designers. We are confident that we are at the forefront of our respective fields when engaged on projects in a BIM environment.

RLB has invested in BIM development including:

- Forming a Global BIM Committee committed to developing and disseminating best practice from our offices around the world
- Developing our own in-house software to measure and/or extract data directly from a BIM file
- Using design software to further interrogate and understand the basis and composition of the model, allowing us to re-use data and query data
- Developing our own BIM Protocols, ensuring consistency of approach, training and best practice

Download now from RLB.com our **Building Information Modelling & Digital Technologies** offering

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GOVERNMENT SOFT LANDINGS

RLB is delivering numerous projects utilising Government Soft Landings (GSL).

GSL's aim is "to champion better outcomes for our built assets during the design and construction stages through GSL powered by BIM to ensure that value is achieved in the operational life-cycle of an asset".[10]

A GSL approach saves time and money, delivers higher quality building operations and ensures that whole life costs have been considered from the onset of the design process. By understanding the customer's needs at the commencement of a project, better outcomes are achieved for the eventual user and operator of the building.

RLB's experience in GSL includes:

- Guidance on GSL processes and systems
- Strategic consultancy advice on operational outcomes
- Project management and delivery
- Collaborative approach to stakeholder management
- Strong low carbon and sustainability capability

DIGITAL TRANSFORMATION

Digital engineering and technological advancements are fundamentally impacting the built environment and transforming the way our industry operates.

We all think that we know how much our world has changed over the last 20 years, but it is currently forecast that hardware will be affordable and available within the next 10 years to achieve a form of AI called Artificial General Intelligence (AGI) - which refers to computing systems that are as intellectually able as a human across the board, with the ability to reason and learn.

True digital transformation incorporates and enhances collaboration across and throughout organisations to drive generation of innovative and outcome-focused applications that exceed clients' already rapidly increasing expectations. As such, the transformation never ends – itself being transformed as the future shows itself.

Translated into the context of RLB's business model and development, that means having the organisational structures and the data to enable computing capability to travel further down the data management and information production road – to have the machines do more of the higher level "thinking" and production of information, and promoting movement of professionals even further into the environment of information interpretation and advice provision.

However, the foundation of this information and knowledge edifice is data – its identification, gathering, structuring and ordering.

DIGITAL AND DATA

Data, in its raw state, is unorganised facts that need to be processed.

Data can be apparently simple and seemingly random and useless until it is organised. Only when that data is processed, organised, structured, interpreted and presented in a given context and/or framework so as to make it useful, is it then called information – it informs.

CONSTRUCTION INSIGHTS

Every built environment project generates huge quantities of data. From initial concept through build to handover, every stage of the construction lifecycle is a flow of critical information.

Through analysing and interrogating data to generate information, we can offer market-leading, accurate insight by being able to compare projects against our data and we are able to find patterns and trends.

Our digital team leads the development of in-house software packages used by RLB offices throughout the world.

ROSS5D is our cloud based global estimating software, which integrates data from numerous sources including BIM models. RLB Focus is a cloud-based analytics tool that connects to a range of data, processes the data and produces dynamic and interactive reporting through easy-to-understand visualisations. RLB Focus is a highly accessible tool to enable our customers to gain unparallelled insight into their data, helping to inform and support project and business decisions. The almost unlimited flexibility of RLB Focus enables users' own particular needs to be quickly and easily programmed and made available, largely avoiding the scoping, construction and delays inherent in the development of former business computing systems. It integrates with ROSS5D datasets at all stages of cost planning and can also be tailored to suit client requirements at post contract stage.

Aligned with RLB's Pulse, a benchmarking system, which captures detailed project costings from around the world, the RLB data warehouse, ROSS5D and

RLB Focus come together to showcase existing data-management, analysis and information-creation capability, together with an eye to the rapidly approaching future.

Our in-house systems continue to be developed to respond to the rapid generation of data that will undoubtedly take place in the next 10 years, and the matching growth in system analytical capability.

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MODERN METHODS OF CONSTRUCTION (MMC)

WHAT IS IT?

MMC are techniques that utilise manufacturing production methods. Frequently it includes the use of off site manufacturing techniques. Design for Manufacture and Assembly (DFMA) is the explicit adoption of design principles to facilitate MMC. MMC is more than off site construction or volumetric buildings, it encompasses a wide range of types of construction.

CLASSIFICATION

The UK Government has adopted the following seven classifications of MMC[1] in consultation with industry partners including RICS and NHBC:

		Level	Examples
1	Off site	Pre-manufacturing - 3D primary structural systems	Podded rooms
2		Pre-manufacturing - 2D primary structural systems	Cross wall construction SIPS Panels
3		Pre-manufacturing - Non systemised structural components	Pre-cast ground beams
4		Pre-manufacturing - additive manufacturing	3D printing
5		Pre-Manufacturing - Non-structural assemblies and sub-assemblies	Bathroom pods Unitised façades Pre-made risers
6	On site	Traditional building product led site labour productivity improvements	Large format materials Pre-cut formats Brick slips
7		Site process led labour productivity improvements	Site encapsulation Workforce robotics Lean construction

The UK Government's Industrial Strategy identifies a number of commitments on MMC. These include tackling a perceived skills gap by developing

programmes to retrain the workforce with the skills to support the future industry needs to embed and maximise the use of digital technologies and modern methods of construction. MMC is also seen as a key component of Government policy around accelerating housing delivery. The Autumn 2017 Budget identified a presumption in favour of MMC for five government departments.

BENEFITS

Programme

- Quicker on-site construction
- Potentially more certainty in programme, less weather and site dependencies

Cost

- Reduced preliminaries:
  - Shorter build period
  - Less supervision required
  - Less wastage
- Less snagging and defects

Quality

- Factory level quality
- Reduced defects
- Easier to sequence interface intensive areas, ensuring quality
- Easier quality control regimes in offsite production.

CHALLENGES TO RESOLVE

MMC is not without its challenges, both in terms of delivery and process. It is potentially disruptive to established and traditional ways of working.

- Disruptive to typical procurement processes
- Disruptive to typical design flow
- Cost savings are often hidden.

RLB has been engaged in a number of projects encompassing the wide range of MMC categories.

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STRUCTURAL TIMBER

The structural timber industry is responding positively to the government announcement of the presumption in favour for off-site manufacture from 2019 for all publicly funded projects. The drive for offsite manufacture is forever increasing as the benefits are increasingly becoming known to all.

The timber industry is in a prime position to support and ultimately benefit from this announcement, with Structural Timber Association (STA) members at the forefront of research and development in the field. The industry continues to evolve and has adapted to the changing market demands. It has intelligent design for manufacture and assembly principles and provides excellent integrated offsite construction solutions with a single point responsibility for structural integrity to the market place.

With the increasing demands on sustainable construction, the timber industry is the only structural solution that can provide a truly balanced approach to commercial and environmental considerations.

Structural timber is already a favoured solution in many sectors such as medium rise hotels, student accommodation, education, self-builders, residential and others; all indications suggest that it will extend further in the future once the benefits are apparent to all.

RLB produced the first **Structural Timber Estimating Guide** in 2016, with the support of members from the STA. An updated version was produced for 2019 which helped to bring brief technical information and costs for structural timber to a greater audience and ensure that the "estimated costs" are readily available to people in the construction industry who are designing and calculating and preparing budgets.

Find out more and read the full report at RLB.com.

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SUSTAINABILITY

INTRODUCTION

Building for the future is now being recognised as a vital step to ensure that we are conscious of our environmental footprint.

The global focus on sustainability has increased in intensity with demand for action from the general public starting to translate into legislation. The UK became the first major economy in the world to pass laws to end its contribution to global warming, requiring all greenhouse gas emissions reduced to net zero by 2050, compared with the previous target of at least 80% reduction from 1990 levels.

We are seeing changes in behaviours in even the most financially driven in our industry, as investors and lenders are including sustainability as a key element in their valuation of global real estate assets. At RLB UK we have recognised the Environmental and Climate Change Emergency and we have publicly pledged our support to do everything we can to stop and reverse this trend. To make this tangible within our business, at the beginning of this year we set ourselves the target to reach a net zero carbon position by 2025.

Key sustainable building benefits include:

- Asset value: increased marketability, ability to command greater rental premiums and higher sale prices
- Operating costs: reduced costs (up to 30% lower) through reduced energy and water consumption, lower long-term operation and maintenance costs
- Wellbeing: sustainable buildings improve productivity and occupant health and wellbeing
- Risk mitigation: increasing legislation against inefficient buildings.

Recognising the increasing awareness of the construction industry, our suite of Sustainability Services assists our customers in achieving sustainability and wellbeing improvements. Our service offering encompasses the whole estate life-cycle;

- Sustainability assessments; SKA Ratings, LEED, BREEAM New Construction & Accredited Professional
- Wellbeing assessments; Well Certified, FitWel
- Carbon accounting
- Bespoke sustainability and wellbeing consultancy

Our approach to sustainability recognises the link between our clients' built assets, carbon emissions and corporate responsibility.

SUSTAINABILITY ACCREDITATIONS

There is a range of sustainability accreditations available across building types and sectors. Comparing accreditations can be complex for clients and project teams; in order to assist we have produced a guide to the most popular sustainability certifications, which you can access on RLB.com.

From the more widely recognised awards such as BREEAM and LEED, to bespoke ratings such as SKA, Well and Wired, the guide compares a wide range of certifications covering sustainability targets from all areas of construction.

In the 2020 guide edition, Passivhaus, FitWel and Design for Performance are included. The shift in focus towards zero carbon and healthy buildings has been noted by the industry, and these certifications are increasing in popularity. The following pages contain a comparative overview of these accreditations.

For a full overview of sustainability accreditations, in the UK and internationally, download RLB's **Accreditation guide**, available now on RLB.com.

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ACCREDITATIONS COMPARISON TABLE

	BREEAM	LEED	SKA RATING
OVERVIEW	Green rating system from design to operation for buildings, communities and infrastructure projects	Green rating system from design to operation for buildings and communities	Green rating system from design to operation for refurbishment and fit-out projects
TYPE OF BUILDING	All building types, including new construction, refurbishment and occupied buildings	All building types, including new construction, fit-out and occupied buildings	Refurbishment and fit-out projects including commercial, retail, higher education. Excludes residential
KEY BENEFITS	Secures planning approval by UK local authorities Enhances market value and reduces operating costs Reduces energy and water consumption, reduces waste production	Benchmarks sustainability of buildings for US clients Enhances market value and reduces operating costs Reduces energy and water consumption, reduces waste production	SKA Rating shows a commitment to sustainability Simple online tool that can be used informally or by an assessor Flexibility of assessment; avoids penalising for base build
LOCATIONS	Global Founded by BRE	Global Founded by USGBC	Global Founded by RICS
COST	Registration: £250 - £1,850 Certification: £505 - £3,000	Registration: £1,166* Fee: £3,886* *Members of USGBC receive discounts	Registration: Free Certification: £495
DISTINCTIVE POINT	In the public sector having a BREEAM certificate can be a requirement for procurement strategies	Great focus on materials and consideration on energy demands	Organisations have the flexibility to select which measures to prioritise and be scored against

CONSTRUCTION INSIGHTS

ACCREDITATIONS COMPARISON TABLE

	WELL BUILDING STANDARDS	LIVING BUILDING	WIRED
OVERVIEW	Framework to improve health and wellbeing for building occupants	Green building certification programme based on performance over 12 month occupancy	Digital connectivity and technology infrastructure certification system of commercial properties
TYPE OF BUILDING	New and existing buildings, interiors, shell and core projects	New and existing buildings, landscape and infrastructure projects	Commercial projects from refurbishment to buildings under construction
KEY BENEFITS	Prioritises health Achieves increased end-user satisfaction and improves productivity Attracts and retains employees and clients	Allows net positive energy Strong connections to nature for occupants Reduced operational costs	Identifies marketable connectivity features Attracts tenants faster by ensuring access to the most cutting-edge technology
LOCATIONS	Across 27 countries Operated by the Well Building Institute	Global Operated by the international Living Future	UK, France, Ireland, Germany and Canada Founded by WiredScore
COST	Registration: £1,175 - £7,833 Certification: Base of £3,113. £0.063-0.18 per ft^2	Registration: £704.74* Certification: £1,957 - £15,661* *Fees to be paid in USD	Registration: £500 Certification Occupied buildings £6,300-21,000 Certification Developments £9,900-£27,500
DISTINCTIVE POINT	Supported by several years of scientific research and medical evidence	The potential to sell energy or resources back to community	Future proof of the property for tomorrow's technology, avoiding future retrofit costs

CONSTRUCTION INSIGHTS

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ACCREDITATIONS COMPARISON TABLE

	FITWEL	PASSIVHAUS	DESIGN FOR PERFORMANCE
OVERVIEW	Certification system to improve the health and wellbeing of occupants	Standard for highly energy efficient buildings	An operational performance target & rating system
TYPE OF BUILDING	New and existing offices (base and whole building), commercial tenant fit-outs, Multifamily residential, Retail and Community (Pilot)	New build, refurbishment and mixed buildings	New build
KEY BENEFITS	▪ Occupant health, wellbeing and productivity ▪ No mandatory requirements ▪ Cost-effective	▪ Quality Assurance ▪ Improved comfort and health ▪ Energy saving ▪ Reduced maintenance and life cycle costs	▪ Disclosure and transparency of the actual operational performance ▪ Robust outcome-based metric ▪ Support UK's 2050 zero carbon target
LOCATIONS	Across 35+ countries Operated by the Center for Active Design (CfAD).	Across 60+ countries Operated by Passivhaus Institute.	UK
COST	Registration: $500 Certification: $5500 - $8000 Re-certification: $500 annual + 80% of current certification fee.	Quality assurance and certification: up to £80 per m^2	TBC

CONSTRUCTION INSIGHTS

ENVIRONMENTAL LEGISLATION

RLB is able to advise our customers on current and relevant environmental and sustainability legislation.

THE CLIMATE CHANGE ACT 2008 (2050 TARGET AMENDMENT) ORDER 2019 - 27 JUNE 2019

This order places a duty on the Secretary of State to achieve net zero greenhouse gas emissions by 2050. The amendment increases the UK target from 80% to 100% and makes the UK the first country to put a net zero target into law.

This follows the recommendation of the Committee on Climate Change (an independent, statutory body established under the Climate Change Act 2008), which set out in May 2019, a paper entitled, Net Zero: the UK's contribution to stopping global warming. The revised target is aligned with the UK's commitment to the Paris Agreement on Climate Change aimed at limiting the increase in global temperature to 1.5 degrees Celsius.

Achieving this target will require action in both the public and private sector including improved energy efficiency, renewable energy generation (both in the energy sector and through self-generation), and a more widespread uptake of carbon offsetting. The construction industry is one of the key sectors that will need to significantly reduce its carbon intensity if the UK is to achieve the targets.

It is anticipated that there will be a host of further policy and legislative changes to meet this target, and that many of these will drive change in the construction sector in particular the uptake of low carbon/energy efficient practices and technologies.

THE ENVIRONMENT BILL: BIODIVERSITY NET GAIN

The Government's proposed Environment Bill* continues to make its way through the Parliament, and will have a further reading at the Bills Committee in September 2020. One of the proposed policies in the Bill, which is expected to proceed in 2021, relates to proposals for new developments to enhance biodiversity.

It is anticipated that the 'biodiversity net gain' principle will be implemented via conditions on planning permission, and developments will only be allowed to commence once a biodiversity net gain plan has been accepted by the local planning authority.

The Environment Bill in its proposed form set out that plans should document actions to be taken to enhance biodiversity either onsite or at registered off-site locations attached to the proposed new development, and achieving at least a 10% net gain in biodiversity.

Expertise will be required to measure both losses and gains in biodiversity, deliver plans and track the environmental, social and financial costs and values.

*Summary of the Environment Bill 2019-21: A Bill to make provision about targets, plans and policies for improving the natural environment; for statements and reports about environmental protection; for the Office for Environmental Protection; about waste and resource efficiency; about air quality; for the recall of products that fail to meet environmental standards; about water; about nature and biodiversity; for conservation covenants; about the regulation of chemicals; and for connected purposes.

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RENEWABLE TECHNOLOGIES: APPLICATION AND COST DATA

Renewable Technology	Candidate Buildings	Pre-requisites	Potential Barriers	Approximate Capital Cost	Payback Period
Tower-mounted wind generators	A	F	Environmental impact Site space for large turbines Planning Approval	2-50kW output £2500 - £6000 per kW for schemes between 2 and 50 kW	For larger turbines the payback can be within 10 years (taking into account feed-in tariffs)
Building-mounted 'micro wind'	B	G	Feed-in tariffs do not always qualify for these units Planning approval	£3500 - £5500 per kW of generator capacity may be achieved from small building-mounted turbines	Approximately 20 -25 years
Standard photovoltaic panels (poly and mono crystalline panels)	B	H	Available roof space	£1300 to £2750 per kWp	Between 8 and 12 years depending on size, location and usage profile
Building integrated photovoltaic panels (glass/ glass laminated)	C	H	None	For varying ranges of materials £2000 - £3500 per kW Curved glass glazing unit range from £4000 - £6000 per kW	
Passive solar water heating	D	H	None	A typical residential 'evacuated tube collectors' system has a cost ranging from £750 to £1100/m^2	Over 25 years

CONSTRUCTION INSIGHTS

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RENEWABLE TECHNOLOGIES: APPLICATION AND COST DATA

Renewable Technology	Candidate Buildings	Pre-requisites	Potential Barriers	Approximate Capital Cost	Payback Period
Ground source heat pump	B	I	Ground condition survey required. Depends on open loop or closed loop system, and horizontal or vertical collectors Site space for horizontal connectors	Install costs range from £650 to £1800/kW depending on system type (horizontal/ vertical), its size and complexity	Over 20 years
Biomass CHP	E	J, K	Environmental impact Maintenance costs Grant funding for gas CHP	£2600 to £3700/kWe	4- 8 years

KEY

A Industrial distribution centres

B Most types of building

C Prestige offices and retail

D Residential and commercial, hotels and leisure

E Industrial, hotel, leisure, hospital

F Average site wind speed minimum 7m/s

G Average site wind speed minimum 3.5m/s

H Roughly south-facing, un-shaded

I Feasible ground conditions

J Small uplift between input and output temperature – most efficient in autumn and spring

K Suitable use of heat during summer








ABOUT RLB

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INTRODUCTION

CONFIDENCE TODAY INSPIRES TOMORROW

With a network that covers the globe and a heritage spanning over two centuries, RLB is a leading independent organisation in cost management and quantity surveying, project management, programme management, building surveying, health & safety, and advisory services.

Our achievements are renowned: from the early days of pioneering quantity surveying, to landmark projects such as the Sydney Opera House, HSBC Headquarters Building in Hong Kong, the 2012 London Olympic Games and CityCenter in Las Vegas.

We continue this successful legacy with our dedication to the value, quality and sustainability of the built environment. Our innovative thinking, global reach, and flawless execution push the boundaries, taking ambitious projects from an idea to reality.

OUR VISION

Creating a better tomorrow

The Rider Levett Bucknall vision is to be the global leader in the market, through flawless execution, a fresh perspective and independent advice.

Our focus is to create value for our customers, through the skills and passion of our people, and to nurture strong long-term partnerships.

By fostering confidence in our customers, we empower them to bring their imagination to life, to shape the future of the built environment, and to create a better tomorrow.

AT A GLANCE

- Global turnover in excess of £300m
- More than 4,600 people worldwide
- Offices in 123 locations across the world

These figures include RLB Euro Alliance

Our Values

At the heart of everything we do

At Rider Levett Bucknall doing the right thing matters.

We believe we all have a responsibility to support the communities in which we live and work. Our global values are based on these seven insights:

People Invest in our people and value their contribution

Industry Lead by example and shape the future of our industry in everything we do

Community Be aware of our social responsibilities and make our contribution to the community

Environment Be conscious of the difference we can make in creating a better tomorrow

Customers Challenge the norm, give fresh perspectives and deliver flawlessly

Suppliers Act with integrity, honesty and fairness in all our relationships

Shareholders Be a self-owned organisation, be financially robust, and deliver agreed financial plans

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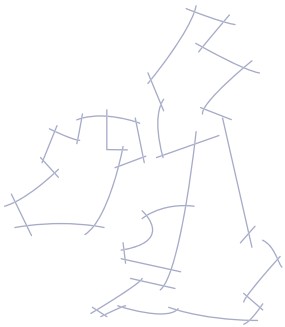

ABOUT RLB

OUR SECTORS

A core strength of RLB is our sector expertise. Our experts bring their technical expertise to deliver solutions for customers across a number of sectors, sharing our insight, knowledge and independent and objective advice. We work across all sectors of the built environment with a particular focus on the following:

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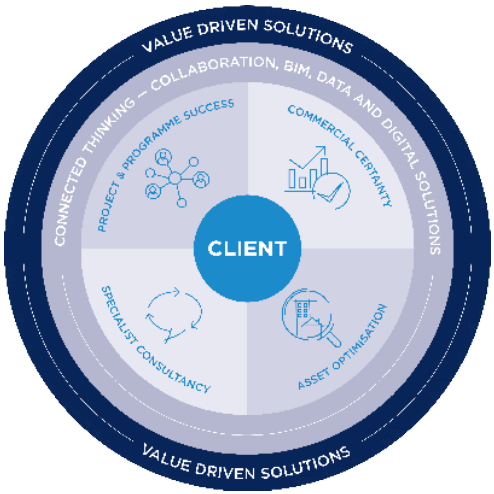
Our London team

OUR SERVICES

RLB's Connected Thinking approach combines collaborative best practice and flawless execution with local knowledge and expertise. We take learnings from our global business and overlay them with an in-depth understanding of our clients' businesses, regardless of their sector or service, to create tailored solutions that deliver successful outcomes. Providing independent advice through the skills and passion of our people, we deliver value and sustainable solutions that are relevant for today and into tomorrow.

BRINGING A FRESH PERSPECTIVE

Our approach is about accelerating the delivery of benefits while providing a sustainable solution for our clients. It involves an absolute focus on sharing knowledge, learning and experience across our global business, and with our clients to achieve real and tangible results.



Through collaborating both internally and externally, we can influence the development of industry-quality standards, share knowledge and work together to drive industry-wide improvements. BIM is a key tool for driving collaboration and efficiency within the design and construction of the built environment. We are committed to integrating BIM and are working with some of the world's leading designers, delivering highly complex, high value projects worldwide.

Understanding the value of data within our solutions is a key enabler for successful outcomes. We are adopting new technology and techniques to work faster and smarter to deliver projects with greater data certainty and transparency, providing the insights needed to help our clients make more informed decisions, more quickly.

We are focused on creating and delivering value and marry together expertise in capital and whole-life cost modelling, the creation of human and social value and the assessment environmental impact of projects. This enables our clients to test their business cases and identify and deliver optimum value solutions.

Please get in touch:

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COMMERCIAL CERTAINTY

Head of Service: Russell Lloyd
e. russell.lloyd@uk.rlb.com

Commercial & Technical Director: Mark Weaver
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A KEY MEASURE OF SUCCESS

Our approach to cost management focuses on the business needs of the client. We deliver a cost management service which supports the project business plan and enables clients to make informed decisions in relation to their property assets.

Supported by our sector expertise and bespoke digital solutions we aim to deliver commercial certainty at all stages of the project life cycle from early feasibility through to financial close. Our independence and commercial approach allow us to deliver the right project outcomes and add value.

Feasibility Studies

A reliable feasibility study enables us to provide a speedy response at the early stages of a project, to assess the viability of the project requirements, and to offer alternative solutions if appropriate. This includes the assessment of environmental and social impact of investment through a monetised mechanism.

Our cost benchmarking data, together with cost modelling, can be used as a dynamic tool to review alternative design options and explore 'what if' scenarios to identify the most cost-effective options within the parameters of the brief.

Benchmarking

We can benchmark a particular project against similar projects to quickly assess if the project requirements can be achieved. We have a global cost benchmarking tool that also includes DQA metrics. This enables us to benchmark building efficiencies as well as cost, help identify alternative solutions and add value.

ABOUT RLB

Cost Planning

Establishing a robust elemental cost plan will form the key cost management control document for any project. This will be prepared in conjunction with the whole project team to ensure ownership of the budget. All future changes will be managed against the signed-off cost plan. The cost plan will enable proactive cost-checking of design development, alternative cost studies, and support value engineering and risk management.

RLB is at the forefront of Building Information Model (BIM) utilisation. Our bespoke cost planning ROSS5D software interfaces with BIM files created by the various software packages used by designers and consultants. Our specialist MEP cost managers add value by providing detailed cost advice in relation to MEP Services, and where appropriate, challenge designs.

Whole Life Costs and Life Cycle Costs

Environmental and sustainability drivers and legislation are now key considerations throughout the project lifecycle from business case, through design, build and ultimately disposal of a built asset.

RLB's Total Cost Model (TCM) is our response to this need. TCM has been developed to integrate with our capital cost planning system ROSS5D, our wider sustainability services and considers capital, operational, occupancy, energy, carbon, maintenance and replacement costs of a facility over a predetermined period.

The model encapsulates capital cost and life cycle characteristics of whole buildings, elements and individual components. TCM is fully dynamic model where all variables can impact on one another. This allows the facilitation of rapid "what if" analyses on different assets and design options at a building, element or component level to enable informed decision making from a whole life perspective.

Outputs utilise business information technology that allows RLB's specialist life cycle team to make iterative adjustments of variables and cashflows to support the

COMMERCIAL CERTAINTY

optimisation of the design and asset management to meet the clients project objectives, needs and whole life value goals.

Value Engineering

Delivering value against the project business plan is a key measure of success. We work with the project team, and where required, facilitate workshops in order to undertake a structured review at key project stages, to ascertain that the project is meeting the functional requirements of the brief. To achieve the maximum benefit from value engineering it is best undertaken during the early planning and design stages.

Risk Management

Quantifying and managing risk is fundamental to delivering a project on time and on budget. We will advise the project team on strategies for identifying and minimising specific risks, together with appropriate levels of cost, and a methodology for managing risks within the identified levels. We apply probabilistic risk assessment techniques to support risk management.

Procurement

Selecting the correct procurement strategy for a project is key to commercial success. Based on the client's principal objectives in relation to cost certainty, quality of design, workmanship and programme, we can undertake a review of these objectives and provide recommendations in relation to the optimum procurement strategy to best achieve these objectives.

Selecting the most appropriate contractor or supplier is equally important. We can evaluate the most suitable contractor/supplier for a project based upon scope, content, complexity, procurement and the need for specialist knowledge and innovative thinking. This includes consideration of Modern Methods of Construction to maximise time, cost and quality benefits. We can introduce Social Value metrics into the tender process to achieve the client's Procure for Value objectives.

We undertake preparation of tender and contract documents, which provide full details of the project requirements and clearly identify responsibility for risks. Undertaking a detailed tender analysis ensures both compliance with the tender requirements and parity between the bids.

Contract Administration

Cost certainty during the construction phase relies on robust methodology and experienced staff. We can fulfil the traditional quantity surveyor role or undertake Contract Administrator or Employer's Agent roles to suit client requirements. The key element of our role is to manage the costs within the signed-off budget through:

- Post contract cost control via a robust change order process
- Proactive cost checking of design development
- Alternative cost studies
- Agree the cost of contract variations in a timely manner
- Regular financial reports of estimated final cost

Soft Landing

Soft Landings aims 'to champion better outcomes for our built assets during the design and construction stages' powered by BIM model to ensure that value is achieved in the operational lifecycle of an asset.

By understanding client needs at the commencement of a project, better outcomes are achieved for the eventual user of the building. This approach saves time and money, delivering higher quality building operations, which ensures that whole life costs have been considered from the onset of the design process.

Commercial Assurance

We can assist our clients with third-party contracts or relationships by providing independent advice including:

- Identifying, understanding and managing risks
- Instigating cost reductions
- Testing contingency plans
- Ensuring regularity compliance
- Protecting company reputation

PROJECT & PROGRAMME SUCCESS

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Partner: Julian King
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REIMAGINING THE LIMITS

We have reimagined the way in which we deliver projects and programmes as an outcome-based activity built within a framework that delivers benefits at pace, whilst maintaining the predictability and rigour needed to achieve successful outcomes.

Strategic Programme Management

To ensure the success of a programme, it's imperative that delivery is not just controlled but optimised. This starts at the beginning. We design, build and mobilise the programme with the outcome in sight. Using our Assured Start methodology, we assess the readiness of the programme, and only when we have achieved a 'green light' across the board do we recommend launch.

Our 'Pathway to Programme Success' allows us to deliver complex and strategic programmes quickly, ensuring that all proposed outcomes are understood, accepted and successfully delivered. We work in close collaboration with client teams to create manageable, controlled and transparent programmes that manage risk, deliver effective procurement, safeguard outcomes and provide added value.

Our expert team are specialists in assessing and overhauling failing programmes, designing and delivering new end-to-end programmes and conducting programme assurance reviews. Using our ProSure methodology, we can measure the impact, maturity and performance across all programme functions that influence efficiency and long-term sustainability, by detailing actionable recommendations we can ensure success in the long term.

Project Management

Having a robust project management strategy in place is more essential than ever before. We work with both public and private clients across a variety of sectors.

Our project management service guides our clients with expertise and skill through all project phases including feasibility, design, procurement, construction and handover. RLB recognises that different sectors and clients have varying needs and we offer project management services that can be tailored to provide the right service level for our clients, achieving the best project outcomes.

RLB creates collaborative team environments working closely with all stakeholders to establish the key projects drivers and success criteria. We aim to meet our client's requirements to produce a functionally and financially viable project that will be completed on time, within authorised cost and to the required quality standards.

Our project managers use certified and exemplar systems and processes aided by advanced technologies and digital reporting procedures.

Development Management

Development management requires assessing the optimum solution, team leadership and risk management to meet the strategic objectives of the owner and occupier. With a thorough understanding of our client's requirements, we have the means to successfully add value and deliver positive outcomes.

At RLB, we are able to support clients in developing effective and deliverable solutions that meet all the requirements of developers, funding institutions and investors, therefore driving premium value and returns.

Our development management team is made up of experienced professionals from various disciplines, reflecting the diverse and complex nature of many of today's development schemes. Our strength lies in our ability to draw on the best resources from a range of specialist fields.

PROJECT & PROGRAMME SUCCESS

Project & Fund Monitoring

We recognise that development financiers are exposed to increased financial risk and, in specific cases, have incurred financial loss due to an absence of comprehensive technical due diligence and progress reporting throughout a development lifecycle.

We critically appraise each project at the outset to highlight development and funding risks and then continue to monitor development progress, advise on residual risks and provide drawdown recommendations for the duration of the project.

Our proactive, rather than reactive, approach provides an early warning system for our clients; helping to ensure better informed decision making by acting as the client's 'eyes and ears' during the development process.

Pre-Construction Management & Project Planning

Our pre-construction management and project planning services place us at the forefront of the market, with the capability to plan and manage projects professionally, efficiently and safely. With strong capabilities across all building sectors, utilising the latest project planning techniques, our pre-construction and project planning services will manage your project related time risks from feasibility through to completion.

Our team has an in-depth knowledge of a wide range of construction techniques and delivery methodologies, and experience working for owners, developers and contractors.

ASPEN | CONSORT PLACE
LONDON, UK

CLIENT: FAR EAST CONSORTIUM

A development by Far East Consortium, the 65 storey residential tower, Aspen, will help create an elegant, vibrant and cosmopolitan community

ASSET OPTIMISATION

Partner - Head of Building Surveying:
Chris Hartley
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CREATING SMART, SUSTAINABLE SPACES

We have extensive experience in asset optimisation which can lead to benefits in the efficient use of space, asset data capture to facilitate knowledge and focus on planned maintenance programmes, statutory compliance, and control and optimisation of expenditure.

Strategic Asset Management

To have certainty of budget expenditure, the future maintenance liabilities of the properties should be considered. This assessment will consider such matters as the condition of the construction elements, age and maintenance, location and the use of the property.

Estate Rationalisation

This is a specialist service offered to owners and occupiers on strategic, macro and micro scales to maximise the use of their accommodation. Our processes ensure optimal space utilisation, and assist in preparing space/workplace strategies that can identify where efficiencies, income generators or capital receipts can be realised across the public and private sector, while improving the maintainability and quality of spaces.

ABOUT RLB

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Building Surveying

We have embraced digitisation and are at the forefront of innovative procedures and technology to provide real value to our clients. Our technology and tools facilitate accurate data collection, and provide a fully addressable database enabling specific and detailed reporting on elements of an asset. This benefits trend analysis, driving economies in innovative approaches to estate asset management.

Our building surveyors naturally bring commercial awareness and ability, ensuring we are adding maximum value to built assets. Our team offers professional/regulatory services, project services and survey services, often in a combined and seamless service delivery offering, including:

- Technical due diligence
- Pre-acquisition durveys
- Clerk of Works / quality monitoring
- Defect analysis and remedy
- Dilapidations
- Party walls and boundary issues
- Accessibility and inclusive environments
- Planning application, listed building and building regulations
- Development/project monitoring
- Move/churn management
- Workplace strategies, space utilisation and planning
- Design services
- Works management
- Six facet surveys
- Condition surveys (including six facet) and asset management
- Measured surveys

ASSET OPTIMISATION

Strategic Facilities Management

The drive to create smart sustainable spaces and structures in the built environment will only increase. As technology in the industry develops at pace, the challenge is not only to maximise and measure the performance of built assets and deliver best value, but also to provide the optimum efficiency of the space for building owners and occupiers in the long term.

Our strategic facilities management (FM) service plays a crucial role in supporting clients throughout the entire life cycle of each project. Providing a holistic view of built asset requirements, we enable clients to develop, improve and track their spaces and help enhance their current estate portfolios.

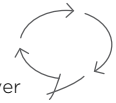
With an in-depth knowledge and expertise in digital construction and smart asset management, our strategic facilities management team provides advisory services from facilities management and estates strategy review and development, through to BIM and soft landings, and whole life cost advice. Our insight and technical knowledge, gained from working on complex facilities management programmes worldwide, combined with collaborating with industry bodies on FM best practice, ensure we provide the best solutions for our clients in this fast-moving field.

UNIVERSITY OF BRISTOL,
NEW HUMANITIES BUILDING
BRISTOL, UK

CLIENT: UNIVERSITY OF BRISTOL

Helping to create new world class facilities for research and teaching

SPECIALIST CONSULTANCY



Commercial & Technical Director: Mark Weaver

e. mark.weaver@uk.rlb.com

THE DIFFERENCE BETWEEN SUCCESS AND FAILURE

Our commitment to clients is based on our core strengths and passion for delivering quality projects and providing services that protect and enhance the outcome.

Specification Consultancy

Contact: Meena Sankar - Partner
e. meena.sankar@uk.rlb.com

Understanding the scope, quality, activity and responsibility of what is to be procured in a project is one of the most underplayed services in today's construction industry. Having a well prepared and coordinated specification, that is clear for all parties in a design and build, can save time, resources and budget. This can be the difference between a successful project and one that fails.

We recognise that every project is different, with variables that can affect the outcome. Understanding this is key. With years of practical project experience, our team's expertise includes Common Arrangement (CAWS), CSI Masterformat, NATSPEC and Qatar Construction Specification (QCS) to find the optimum solution.

We focus on improving the standard of design documentation, protecting all aspects of those involved in the design and build of a project. Providing robust specification tailored specifically for projects, we can advise an appropriate procurement route. Clients can then feel confident that risk has been mitigated, and every element of the specification has been analysed and assessed to support the best outcome.

Health & Safety

Contact: Chris Hartley, Partner - Head of Health & Safety
e. chris.hartley@uk.rlb.com

We provide a comprehensive range of H&S consultancy services. Our team of H&S professionals give clients advice and assistance to help achieve compliance with their statutory duties under existing H&S legislation for construction projects, maintenance and repair works, occupation and operations.

Our service is designed to ensure 100% legislative compliance, and provides added value through our specialist expertise in design development, construction safety and occupational and operational safety. Our service is quality assured, with corporate recognition from the Association of Project Safety, CHAS, Safety Systems in Procurement (SSIP) and Safe Contractor approved.

Design Management

Contact: Meena Sankar - Partner
e. meena.sankar@uk.rlb.com

Understanding the design process through our experience of working closely with and as part of design teams, our design management service helps designers deliver more with less. Our aim is to co-locate with the Lead Designer to be at the heart of the design team - Design Teams can concentrate on their core service while our Design Managers focus on the programme of deliverables and contractual commitments.

Our specialist team ensures that the strategy of any build is kept in line with the larger business strategy and that the outcomes of the design activities are within the business and financial remit. To ensure the user experience is a priority, our team supports clients to bring practicality, functionality and a real understanding of the construction industry to the design management process without compromising on aesthetics or innovation.

Having long-term relationships with designers,

SPECIALIST CONSULTANCY

architects, sustainability experts and other professionals involved in the design-built environment, we have global experience of working on some of the most iconic buildings in the world as well as local knowledge of geographical attributes and the challenges working in varying locations bring. Our Design Management consultancy marries our knowledge of the construction industry with the corporate and financial objectives and help clients futureproof both their design and build.

Rider Levett Bucknall is a market leader in the field of Design Management. Through years of practical project experience, we have learnt and understood the complexities and intricacies of what is required on projects. Our approach is based on integrating management techniques within design teams, aligned to a clear brief, ensuring that agreed communication and client decision making processes are clearly understood in order to deliver successful projects. Through our global reach expertise and local knowledge we deliver tailor made solutions to suit our clients' project specific requirements. Our Design Managers allow clients to do what they do best – focus on their Design.

Sustainability

Contact: Heather Evans, Head of Sustainability Consultancy
e. heather.evans@uk.rlb.com

One of the biggest challenges facing our industry is how we build for the future, integrating wellbeing, economic and environmental impact into the built environment. Wider sustainability considerations, driven by regulation and stakeholder expectations, are transforming what we build, where we build and how we build it.

Our sustainability consultancy service is based on fostering a culture of continuous improvement. Our approach covers all aspects of the sustainability agenda - from carbon reduction, energy management, wellbeing and estate rationalisation, through to ethical, legislative and economic pressures. Our service is tailored around sustainable project delivery, with expert knowledge provided at every stage of the project lifecycle.

Our sustainability credentials are supported by our market leading position as an environmental assessor (BREEAM and SKA), and our work promoting sustainable practices in the industry. We were a founding partner of the Royal Institute of Chartered Surveyors on the development of SKA - an environmental assessment tool for fit-out and refurbishment projects, introduced as an additional industry benchmark for sustainability. We continue to upskill those in the construction industry to consider sustainable measures when building, and to design for a longerlife.

Dispute Resolution & Expert Witness

Contact: Aziz Mehtajee, Partner
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Setting up and managing construction contracts can be a challenging and complex process, subject to numerous and changing regulatory requirements. It's important to understand the obligations a contract imposes and the associated risks. We support clients in the successful delivery of their projects during every stage, from drafting and developing bespoke contracts, to providing expert advice during the delivery phase and assisting if problems arise.

Our dedicated procurement and contractual advisory team guides clients throughout the project process, providing technical support in specialist areas such as expert witness and dispute avoidance and resolution.

Our team includes claims preparation and defence experts who, working alongside each represented parties' lawyers, can provide strategic advice, management, negotiation and resolution of claims through adjudication or alternative dispute resolution.

With our global expertise across public and private sectors, and our knowledge of varying forms of contracts, we can provide considered advice - from individual projects to large-scale programmes of work.

SPECIALIST CONSULTANCY

Social Value

Contact: Jiten Chauhan, Partner
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As a global construction consultancy, we never underestimate the responsibility of supporting the economic, social and environmental wellbeing of the areas in which we work. The specific challenges and opportunities vary hugely from region to region, but also from community to community. Implementing and measuring the impact of Social Value is fast becoming a fundamental part of procuring and delivering a sustainable project.

Our Social Value service integrates sound principles within project development, from business case to completion. This ensures the economic, social and wellbeing benefits outlive the contract and can be felt in communities - and measured - over the longterm. Our model, developed with the Social Profit Calculator (SPC), identifies the cost and value of each element of a project. It's an approach we advocate for clients, and one we use to measure the impact of our own business.

Working collaboratively with the SPC, we provide robust analysis and meticulous planning that supports all levels - from corporate to framework to single projects. This helps our clients understand the social, economic and environmental impact of each project, and illustrates to stakeholders the value for people, communities, businesses and economies.

PD / CDM Services

Contact: Chris Hartley, Partner - Head of Building Surveying and H&S
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The areas of Principal Design (PD) and Construction Design and Management (CDM) Services are included in our work. We were heavily involved in the drafting of the 2007 and 2015 CDM Regulations, so whether the role is principal designer, principal design advisor or independent client advisor, we provide professional advice, detailed recommendations and encourage co-ordinated solutions for successful implementation.

Whole Life Carbon

Contact: Mark Weaver, Commercial & Technical Director
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RLB undertake a holistic long team approach to carbon management with a view to reducing carbon and associated Green House gases taking into account the commercial realities of balancing capital expenditure, whole life cost and carbon.

Our carbon calculations take into account the embodied carbon with a building (during construction), the operational carbon and the carbon during life cycle replacement of components/assets.

Our carbon calculator assesses the embodied carbon at element or component level allowing design optioneering to consider the difference aspects of carbon, allowing trade-off to be made with other competing aspects of the projects and can aid our clients to work towards Net Zero Carbon targets.

Our carbon calculations can be used to support achieving the required credits towards assessments such as BREEAM.

CONTENTS

OPPORTUNITIES AT RLB

We invest in our people and value their contribution. Our people are united through our shared values, and these principles are integral to our identity, to our culture and they underpin our long history and our heritage.

Whatever stage of your career, we will provide a stimulating environment to help you fulfil your potential.

RLB's Experienced Professionals Programme:

- Qualified professionals
- Experienced professionals
- Associates
- Partners

RLB's Future Professionals Programme:

- **Protégé:** RLB's graduate recruitment and training programme, offering first-class structured professional training programmes to support achievement of your professional qualification
- **Year Out:** Opportunities to work with our teams throughout the UK across a range of sectors
- **Apprenticeships:** While learning on-the-job, you'll also gain an academic and professional qualification
- **Internships and work placements:** We offer flexible placements for undergraduates and graduates across all disciplines.

RLB's Business Services Professionals:

- Our business services teams work at the heart of our business, playing a key role in delivering for our clients
- Opportunities in business services include: Facilities Management, Finance, Front-of-house, Human Resources, IT, Legal, Marketing and Client Development, Secretarial and Administration.

If you are interested in joining our team, please visit RLB.com or email careersinbox@uk.rlb.com.

Our Sheffield team

Sarah Draper
Partner - Head of People & Culture

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RLB EURO ALLIANCE

The RLB Euro Alliance is a formally established network of partner organisations across Europe each committed to delivering high quality services at a local level, utilising extensive knowledge and experience regionally as part of the RLB global network.

AT A GLANCE:

- 18 partner organisations
- Over 1450 staff across Europe
- Operating across 23 countries

Please contact:

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bau-control ZT GmbH

Belgium
Bopro

Bulgaria / Croatia / Serbia / Montenegro / Romania
Bates

Czech Republic
H1K Consulting

Denmark
Emcon A/S

Germany
MTM Project Solutions

Greece
LDK Consultants

Hungary
Tomlin Kft

Ireland
Kerrigan Sheanon Newman

Italy
Bear Project Management

Netherlands
SkaaL

Norway
AS Bygganalyse

Poland
APP Projekt

Portugal
FICOPE

Russia
DBC Consultants

Spain
APM Management

Sweden
AFRY

Turkey
Pro^GE

UK
Rider Levett Bucknall

RLB Euro Alliance office location

SASOL HEAD OFFICE
JOHANNESBURG, SOUTH AFRICA

CLIENT: SASOL

The new global headquarters of Sasol, an international integrated chemical and energy company. Environmentally sustainable practices such as water recycling and LED lighting gave rise to the 5-Star Green Star rating by the Green Building Council of South Africa

INTERNATIONAL OFFICES

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145 Americas
146 Asia
149 Middle East
150 Oceania

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CONVERSION FACTORS

To convert	Multiply by
Area	
Square inches into square millimetres	645.16
Square inches into square centimetres	6.4516
Square feet into square centimetre	929.0304
Square feet into square metres	0.092903
Square yards into square feet	9.00
Square yards into square metres	0.836127
Square metres into square feet	10.7639
Square metres into square yards	1.19599
Square yards into acres	0.000206612
Acres into square metres	4046.8564
Acres into square yards	4840
Acres into hectares	0.4046856
Hectares into acres	2.47105
Hectares into square metres	10000
Square kilometres into hectares	100
Square miles into square kilometres	2.589988
Square miles into acres	640
Square kilometres into square miles	0.386102
Volume and Capacity	
Cubic inches into cubic centimetres	16.387064
Cubic inches into litres	0.0163871
Cubic feet into cubic metres	0.0283168
Cubic feet into litres	28.316847

CONVERSION FACTORS

To convert	Multiply by
UK pints into litres	0.5682613
US pints into litres	0.473176
UK litres into pints	1.75975
UK litres into gallons	0.219969
US litres into gallons	0.26417
US litres into pints	2.1134
Cubic yards into cubic metres	0.7645549
UK gallons into litres	4.54609
US gallons into litres	3.78541
UK gallons into cubic metres	0.00454609
UK fluid ounces into cubic centimetres	28.413063
Mass	
Grains into metric carats	0.323995
Grams into ounces	0.035274
Ounces into grams	28.349523
Ounces into kilograms	0.0283495
Pounds into kilograms	0.4535924
Kilograms into pounds	2.20462
UK Tonnes into kilograms	1016.0469
UK Tonnes into metric tonnes	1.01605
Tonnes into pounds	2,240
UK Tonnes into US tons	1.01605
US Tons into UK tonnes	0.907185

To convert	Multiply by
Length	
Milli-inches into micrometres	25.4
Inches into millimetres	25.4
Inches into centimetres	2.54
Inches into metres	0.0254
Centimetres into inches	0.393401
Feet into millimetres	304.8
Feet into centimetres	30.48
Feet into metres	0.3048
Yards into metres	0.9144
Fathoms into metres	1.8288
Chains into metres	20.1168
Furlongs into metres	201.168
Miles, statute into kilometres	1.609344
Miles, nautical into kilometres	1.852
Temperature	
Degree Celsius to Degree Fahrenheit	°F = (°C x 9/5) + 32
Degree Fahrenheit to Degree Celsius	°C = (°F-32) x 5/9

CALCULATION FORMULAE

To convert	Multiply
Area of Triangle	Base by 1/2 height
Area of circle	(radius)^2 by 3.1416
Area of sector of circle	Length of arc by 1/2 radius
Area of square, rhombus	Base x height
Area of equilateral triangle	(Side)^2 x 0.433
Area of trapezium	Height x 1/2 x (sum of parallel sides)
Area of ellipse	Major axis by minor axis x 0.7854
Area of parabola	2/3 x base x height
Circumference of circle	Diameter x 3.1416
Surface area of sphere	4 x (radius)^2 x 3.1416
Surface area of cone	(radius by slant side by 3.1416) + area of base
Volume of cylinder	Area of base by height
Volume of cube or prism	Length by breadth by depth
Volume of cone	Height by 1/3 area of base
Volume of hexagonal prism	(side)^2 by height by 2.598
Volume of Sphere	4/3 x (radius)^3 x 3.1416

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