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31 July 2024

ESR Australia Pty Ltd
Level 12, 135 King Street
Sydney, NSW 2000

Attention: Olivia Ridgewell
Email: Olivia.Ridgewell@esr.com

Dear Olivia.

3 JOHNSTON CRESCENT, HORSLEY LOGISTIC PARK – STATE SIGNIFICANT DEVELOPMENT APPLICATION

EMBODIED EMISSIONS MATERIAL FORM

We have completed the *NABERS Embodied Emissions Material Form* which details our assessment of embodied carbon to accompany the State Significant Development Application submission for the proposed project at 3 Johnston Crescent, Horsley Logistic Park, NSW. The quantities included within this assessment are extracted from our report as previously issued titled ESR Horsley Park - EDC Report dated 31 July 2024.

Our review is based on items as clearly identified in the form only and does not include any other additional items such as groundworks, fitout, finishes and soft landscaping. Where details are not available on the documentation, we have made assumptions based on our experience and expertise, in accordance with the level of detail in the design documentation used to compose our aforementioned report.

Rider Levett Bucknall accepts no responsibility, or liability, to any other party who might use or rely upon this report without our prior knowledge and written consent. Further, no portion of this report (included without limitation any conclusions which may affect value, the identity of Rider Levett Bucknall or its Sub-Contractors, or any individuals signing or associated with this report, or the Professional Associations or Organisations with which they are affiliated) shall be copied or disseminated to third parties, by any means, without the prior written consent and approval of Rider Levett Bucknall.

Should you have any queries, please do not hesitate to contact us.

Yours faithfully

Richard Rigby
Director
Rider Levett Bucknall
MRICS (77082)

Richard.Rigby@au.rlb.com

Step 1: About the building

Building location and site data	Value	Unit
Building address	3 Johnston Crescent , Horsley Park	
Postcode	2175	
Town/city	Horsley Park	
Distance to nearest major city/town		km
Project stage	Development Application	
New build or major renovation?	New build	
Brownfield or greenfield site?	Greenfield	

Floor area by NCC building classification	Gross (GFA)	Net (NLA/NSA/UFA)	Unit
Please enter all floor areas relevant to your building. Leave areas blank if not applicable. Please enter Gross Floor Area (GFA) for all building classifications. Please also enter the corresponding net area (Net Lettable Area, Net Sellable Area or Usable Floor Area) where it is commonly used for that building classification.			
Class 1a: Detached residential buildings			m²
Class 1b: Boarding houses and hostels			m²
Class 2: Multi-unit residential buildings			m²
Class 3: Other residential buildings			m²
Class 4: Residential inside non-residential			m²
Class 5: Office buildings			m²
Class 6: Retail buildings			m²
Class 7a: Carparks			m²
Class 7b: Warehouse-type buildings	64,647		m²
Class 8: Industrial buildings			m²
Class 9a: Healthcare buildings			m²
Class 9b: Civic buildings			m²
Class 9c: Aged care and personal care buildings			m²
Class 10a: Non-habitable buildings			m²
Class 10b: Miscellaneous structures			m²
Class 10c: Bushfire shelters			m²
Total	64,647	0	m²

Project information	Value	Unit
Total cost of project	92,337,009	AUD excl. GST
Building design life	50	years
Estimated envelope life		years
Estimated replacement cycle for mechanical services		years
Estimated replacement cycle for vertical transportation		years

Step 1: About the building

Dimensions of the building and the site	Value	Unit
Site area	86,644	m²
Shared services or infrastructure	No	
Building footprint area	58,272	m²
Typical floor area (if different to building footprint area)		m²
Typical floor perimeter	1,477	m
Area of external carpark (not included in GFA)	3,847	m^2
Area of external hardstand (not included in GFA)	17,842	m^2
Area of other hard landscaping (not included in GFA)	1,662	m^2
Number of floors/storeys above ground, including ground floor	2	no.
Number of floors/storeys below ground	1	no.
Number of floors/storeys of car parking	0	no.
Total height above ground	15	m

Structural material choices	Value	Unit
Foundation type	Spot/pad footing	
Frame type (dominant)	Steel	
Suspended floor type (typical)	Reinforced concrete	
Describe low carbon materials specified in your building (e.g. green concrete, low carbon bricks)		
Describe recycled content specified in your building (e.g. recycled steel)		

Step 2: Quantity of materials

Complete all blue cells that are applicable to the building. Leave items that aren't applicable blank.

Material category	Sub-category 1	Sub-category 2	Sub-category 3	Value	Unit of measure
Structure	**2175**				
The structural parts of the building that are below ground (substructure) and above ground (superstructure). This includes fill below the substructure, foundations, basement levels, suspended floors, wall structure, roof structure, stairs, lift shafts and balconies. It excludes external areas such as hardstands, carparks, patios, etc.					
Coverage of structural material spend	-	-	-	100	%
Concrete in-situ	≤10 MPa	-	-		m³
Concrete in-situ	>10 MPa to ≤20 MPa	-	-		m³
Concrete in-situ	Construction Project Management	-	-		m³
Concrete in-situ	>32 MPa to ≤40 MPa	-	-	13,321.54	m³
Concrete in-situ	>40 MPa to ≤50 MPa	-	-		m³
Concrete in-situ	>50 MPa to ≤60 MPa	-	-		m³
Concrete in-situ	>60 MPa to ≤80 MPa	-	-		m³
Concrete in-situ	>80 MPa to ≤100 MPa	-	-		m³
Concrete in-situ	>100 MPa	-	-		m³
Concrete pre-cast panel	-	-	-	802.62	m³
Concrete block	Hollow core	-	-		m³
Concrete block/brick	Solid	-	-		m³
Concrete block/brick	Solid AAC	-	-		m³
Mortar	-	-	-		kg
Reinforcing steel	Bar & mesh	-	-	560,821	kg
Reinforcing steel	Fibre & strand	-	-	316,641	kg
Structural steel	Hot rolled structural	-	-	1,310	t
Structural steel	Cold formed structural	-	-		t
Structural steel	Other welded structural	-	-		t
Structural steel	Plate	-	-		t
Structural steel	Sheet	-	-		t
Stainless steel	-	-	-		t
Reinforced concrete piles	Concrete	-	-		m³
Reinforced concrete piles	Steel reinforcing				kg
Steel piles	-	-	-		t
Timber poles/piles		-	-		m³
Timber (solid)	Sawn softwood	-	-		m³
Timber (solid)	Sawn hardwood	-	-		m³
Timber (engineered)	CLT	-	-		m³
Timber (engineered)	Glulam	-	-		m³
Timber (engineered)	LVL	-	-		m³
Timber (engineered)	OSB	-	-		m³
Brick	Heat cured	-	-		m³
Structural Insulated Panel (SIP)	Steel outer	-	-		m²
Structural Insulated Panel (SIP)	Aluminium outer	-	-		m²
Structural Insulated Panel (SIP)	Engineered timber outer	-	-		m²
Fill		-	-		t
Sand & gravel		-	-		t
Waterproofing membrane	Bituminous	-	-		m²
Waterproofing membrane	Polyethylene	-	-	55,081	m²
Other structural (Describe and add unit >>)		-	-		
Other structural (Describe and add unit >>)		-	-		
Other structural (Describe and add unit >>)		-	-		

Step 2: Quantity of materials

Complete all blue cells that are applicable to the building. Leave items that aren't applicable blank.

Material category	Sub-category 1	Sub-category 2	Sub-category 3	Value	Unit of measure
Envelope					
The skin of the building that separates the internal building from the external environment. This includes the roof cladding, wall cladding, windows, doors and internal/external shading. It also includes insulation and the internal wall lining of envelope walls.					
Coverage of envelope material spend	-	-	-	98	%
Roof cladding	Profiled steel	-	-	58,424	m²
Roof cladding	Profiled aluminium	-	-		m²
Roof cladding	Profiled zinc	-	-		m²
Roof cladding	Membrane	-	-		m²
Roof cladding	Tiles (traditional clay)	-	-		m²
Roof cladding	Tiles (concrete)	-	-		m²
Roof cladding	Other (Please describe >>)		-		m²
Wall cladding	Bricks (heat cured)	-	-		m²
Wall cladding	Bricks (air dried)	-	-		m²
Wall cladding	Bricks (under fired)	-	-		m²
Wall cladding	Bricks (concrete)	-	-		m²
Wall cladding	Mortar and render	-	-		kg
Wall cladding	Profiled steel	-	-	14,000	m²
Wall cladding	Profiled aluminium	-	-	658	m²
Wall cladding	Profiled zinc	-	-		m²
Wall cladding	GRC cladding	-	-		m²
Wall cladding	Timber weatherboards	-	-		m²
Wall cladding	Fibre cement board	-	-		m²
Wall cladding	Terracotta	-	-		m²
Wall cladding	Brick tiles / veneers	-	-		m²
Wall cladding	Plasterboard	-	-		m²
Wall cladding	Plywood	-	-		m²
Wall cladding	Other (Please describe >>)		-		m²
Windows & doors	Aluminium frame	Single glazed	-		m²
Windows & doors	Aluminium frame	Double glazed	-	263	m²
Windows & doors	Aluminium frame	Triple glazed	-		m²
Windows & doors	Timber frame	Single glazed	-		m²
Windows & doors	Timber frame	Double glazed	-		m²
Windows & doors	Timber frame	Triple glazed	-		m²
Windows & doors	uPVC frame	Single glazed	-		m²
Windows & doors	uPVC frame	Double glazed	-		m²
Windows & doors	uPVC frame	Triple glazed	-		m²
Windows & doors	Frameless	Single glazed			m²
Windows & doors	Frameless	Double glazed			m²
Windows & doors	Frameless	Triple glazed			m²
Windows & doors	Other (Please describe >>)		-		m²
Curtain wall	Single skin façade	Glazed panel	Single glazed		m²
Curtain wall	Single skin façade	Glazed panel	Double glazed		m²
Curtain wall	Single skin façade	Glazed panel	Triple glazed		m²
Curtain wall	Single skin façade	Opaque panel	Aluminium cladding		m²

Step 2: Quantity of materials

Complete all blue cells that are applicable to the building. Leave items that aren't applicable blank.

Material category	Sub-category 1	Sub-category 2	Sub-category 3	Value	Unit of measure
Curtain wall	Single skin façade	Opaque panel	GRC cladding		m²
Curtain wall	Single skin façade	Opaque panel	Insulated shadow box		m²
Curtain wall	Single skin façade	Opaque panel	Brick cladding		m²
Curtain wall	Single skin façade	Opaque panel	Stone cladding		m²
Curtain wall	Double skin façade	Glazed panel	Single glazed		m²
Curtain wall	Double skin façade	Glazed panel	Double glazed		m²
Curtain wall	Double skin façade	Glazed panel	Triple glazed		m²
Curtain wall	Double skin façade	Opaque panel	Aluminium cladding		m²
Curtain wall	Double skin façade	Opaque panel	GRC cladding		m²
Curtain wall	Double skin façade	Opaque panel	Insulated shadow box		m²
Curtain wall	Double skin façade	Opaque panel	Brick cladding		m²
Curtain wall	Double skin façade	Opaque panel	Stone cladding		m²
Curtain wall	Other (Please describe >>)		-		m²
Stick-framed wall system	Aluminium frame	Glazed section	Single glazed		m²
Stick-framed wall system	Aluminium frame	Glazed section	Double glazed		m²
Stick-framed wall system	Aluminium frame	Glazed section	Triple glazed		m²
Stick-framed wall system	Aluminium frame	Opaque section	Aluminium cladding		m²
Stick-framed wall system	Aluminium frame	Opaque section	GRC cladding		m²
Stick-framed wall system	Aluminium frame	Opaque section	Insulated shadow box		m²
Stick-framed wall system	Aluminium frame	Opaque section	Brick cladding		m²
Stick-framed wall system	Aluminium frame	Opaque section	Stone cladding		m²
Stick-framed wall system	Steel frame	Glazed section	Single glazed		m²
Stick-framed wall system	Steel frame	Glazed section	Double glazed		m²
Stick-framed wall system	Steel frame	Glazed section	Triple glazed		m²
Stick-framed wall system	Steel frame	Opaque section	Aluminium cladding		m²
Stick-framed wall system	Steel frame	Opaque section	GRC cladding		m²
Stick-framed wall system	Steel frame	Opaque section	Insulated shadow box		m²
Stick-framed wall system	Steel frame	Opaque section	Brick cladding		m²
Stick-framed wall system	Steel frame	Opaque section	Stone cladding		m²
Stick-framed wall system	Other (Please describe >>)		-		m²
Wall louvre system	Aluminium	-	-		m²
External shading system	Aluminium frame	Aluminium cladding	-	263	m²
External shading system	Aluminium frame	GRC cladding	-		m²
External shading system	Aluminium frame	Terracotta cladding	-		m²
External shading system	Aluminium frame	Stone cladding	-		m²
External shading system	Aluminium frame	Pre-cast concrete	-		m²
External shading system	Aluminium frame	Timber	-		m²
External shading system	Aluminium frame	Glass (opague)	-		m²
External shading system	Aluminium frame	Steel	-		m²
External shading system	Other (Please describe >>)		-		m²
Roller doors	Steel profile	-	-	1,366	m²
Roller doors	Hardwood over steel	-	-		m²
Roller doors	Softwood over steel	-	-		m²
Revolving doors	Glass/aluminium/steel	-	-		no.
Fire-rated doors	Engineered timber	-	-		no.
Fire-rated doors	Steel	-	-	25	no.
Fire-rated doors	Aluminium/glass	-	-		no.
Insulation	Glass wool / fibreglass	-	-	65,808.0	m²
Insulation	Stone wool	-	-		m²
Insulation	Polyester	-	-		m²
Insulation	Expanded polystyrene	-	-		m²
Insulation	Other (Please describe >>)		-		m²
Other (Please describe and add unit >>)		-	-		
Other (Please describe and add unit >>)		-	-		
Other (Please describe and add unit >>)		-	-		

Step 2: Quantity of materials

Complete all blue cells that are applicable to the building. Leave items that aren't applicable blank.

Material category	Sub-category 1	Sub-category 2	Sub-category 3	Value	Unit of measure
Permanent internal walls and doors					
Walls and doors within the building that are either structural or designed to be permanent.					
Coverage of material spend on permanent internal walls and doors					%
Interior wall (permanent)	Steel (light framing)	-	-		t
Interior wall (permanent)	Timber framing	-	-		m³
Interior wall (permanent)	AAC panel (reinforced)	-	-		m²
Interior wall (permanent)	Concrete-filled steel panel	-	-		m²
Interior wall (permanent)	Plasterboard	-	-		m²
Interior wall (permanent)	Plywood	-	-		m²
Interior wall (permanent)	Fibre cement sheet	-	-		m²
Interior wall (permanent)	Insulation	-	-		m²
Interior wall (permanent)	Glass	-	-		m²
Interior wall (permanent)	Other (Please describe >>)	0.42BMT Trimdek Colorbond	-	5,464	m²
Internal door (permanent)	Aluminium/glass	-	-		no.
Internal door (permanent)	Timber/glass	-	-		no.
Internal door (permanent)	Timber solid lightweight	-	-	10	no.
Internal door (permanent)	Fire resistant	-	-		no.
Internal door (permanent)	Steel	-	-		no.
Internal door (permanent)	Other (Please describe >>)		-		no.
Other (Please describe and add unit >>)		-	-		
Other (Please describe and add unit >>)		-	-		
Other (Please describe and add unit >>)		-	-		
Services					**Unit of measure**
Building services included within the main building contract. If the building components that are the subject of the development application or the construction certificate are base building only, then only enter these items. If you cannot split services by type, please enter them all in the "Other services" category at the bottom. Enter all values as material costs in dollars.					
Mechanical services	-	-	-	1,187,230	AUD excl. GST
Vertical transportation	-	-	-	580,000	AUD excl. GST
Electrical services	-	-	-	6,370,280	AUD excl. GST
Solar photovoltaic installations	-	-	-	600,000	AUD excl. GST
Plumbing/hydraulic services	-	-	-	3,016,695	AUD excl. GST
Fire services				4,594,090	AUD excl. GST
Other services (Please describe)	Dock Levellers	-	-	308,300	AUD excl. GST
External works					
The materials associated with hard landscaping and outbuildings on the site but outside the building envelope. This includes hardstands, carparks, driveways, covered walkways, decks, patios, awnings, fences, gates, etc. Soft landscaping should be excluded.					
Coverage of spend on external works	-	-	-	98	%
Asphalt	-	-	-	2,396	t
Concrete in-situ	≤10 MPa	-	-		m³
Concrete in-situ	>10 MPa to ≤20 MPa	-	-		m³
Concrete in-situ	>20 MPa to ≤32 MPa	-	-	3,693.9	m³
Concrete in-situ	>32 MPa to ≤40 MPa	-	-	0.0	m³
Concrete in-situ	>40 MPa to ≤50 MPa	-	-		m³
Concrete in-situ	>50 MPa	-	-		m³
Pavers, bricks and blocks	Concrete	-	-	2,273	m²
Pavers, bricks and blocks	Clay	-	-		m²
Reinforcing steel	Bar & mesh	-	-	77,542	kg

Step 2: Quantity of materials

Complete all blue cells that are applicable to the building. Leave items that aren't applicable blank.

Material category	Sub-category 1	Sub-category 2	Sub-category 3	Value	Unit of measure
Reinforcing steel	Fibre & strand	-	-		kg
Structural steel	-	-	-	171	t
Structural aluminium	-	-	-		t
External roof/wall cladding	Polycarbonate	-	-		m²
External roof/wall cladding	PVC	-	-		m²
External roof/wall cladding	Bitumen sheet	-	-		m²
External roof/wall cladding	Steel profile	-	-	7,041	m²
Fill	-	-	-		t
Sand & gravel	-	-	-	13,589	t
Timber (solid)	Sawn softwood	-	-		m³
Timber (solid)	Sawn hardwood	-	-		m³
Timber (engineered)	CLT	-	-		m³
Timber (engineered)	Glulam	-	-		m³
Timber (engineered)	LVL	-	-		m³
Timber (engineered)	OSB	-	-		m³
Fabric (awning/sunshade)					m²
Other (Please describe and add unit >>)	Palisade Fence	-	-	319.0	m
Other (Please describe and add unit >>)	Chainwire Fence	-	-	937.0	m
Other (Please describe and add unit >>)	Gates	-	-	12.0	no.

Step 3: Certifier details

The material quantities must be determined through an itemised list of building materials (such as a bill of quantities) and certified by a quantity surveyor, designer, engineer or NABERS Assessor.

Person that completed this form	Value
Name	Corné Henning
Company	Rider Levett Bucknall
ABN	94 003 234 026
Profession	Quantity Surveyor
Qualification or registration	Quantity Surveying (BSc. Hons)

Person that certified the details in this form	Value
Name	Richard Rigby
Company	Rider Levett Bucknall
ABN	94 003 234 026
Profession	Quantity Surveyor
Qualification or registration	MRICS Member No. 77082

Confirmation of certification	Value
Are 80% of material costs captured for the building's structure, envelope and external works?	Yes
If no - why not?	

Additional comments from data provider

Additional comments of certifier