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April 10, 2025

Caitlin Port, MES, MCIP, RPP
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Re: Response to Peer Review Comments provided by RJ Burnside & Associates Limited
Lafarge Goodwood Pit Extension
RWDI Reference No. 2305564

Dear Ms. Port,

I have reviewed the air quality questions provided by Kristina Zeromskiene from RJ Burnside & Associates Limited, in their letter dated July 9, 2024.

Table 1, attached, provides the detailed responses to these questions.

Please do not hesitate to contact me if you have any questions.

Yours truly,

Brian G. Sulley, B.A.Sc., P.Eng.
Technical Director, Principal
RWDI

April 10, 2025
Attach.

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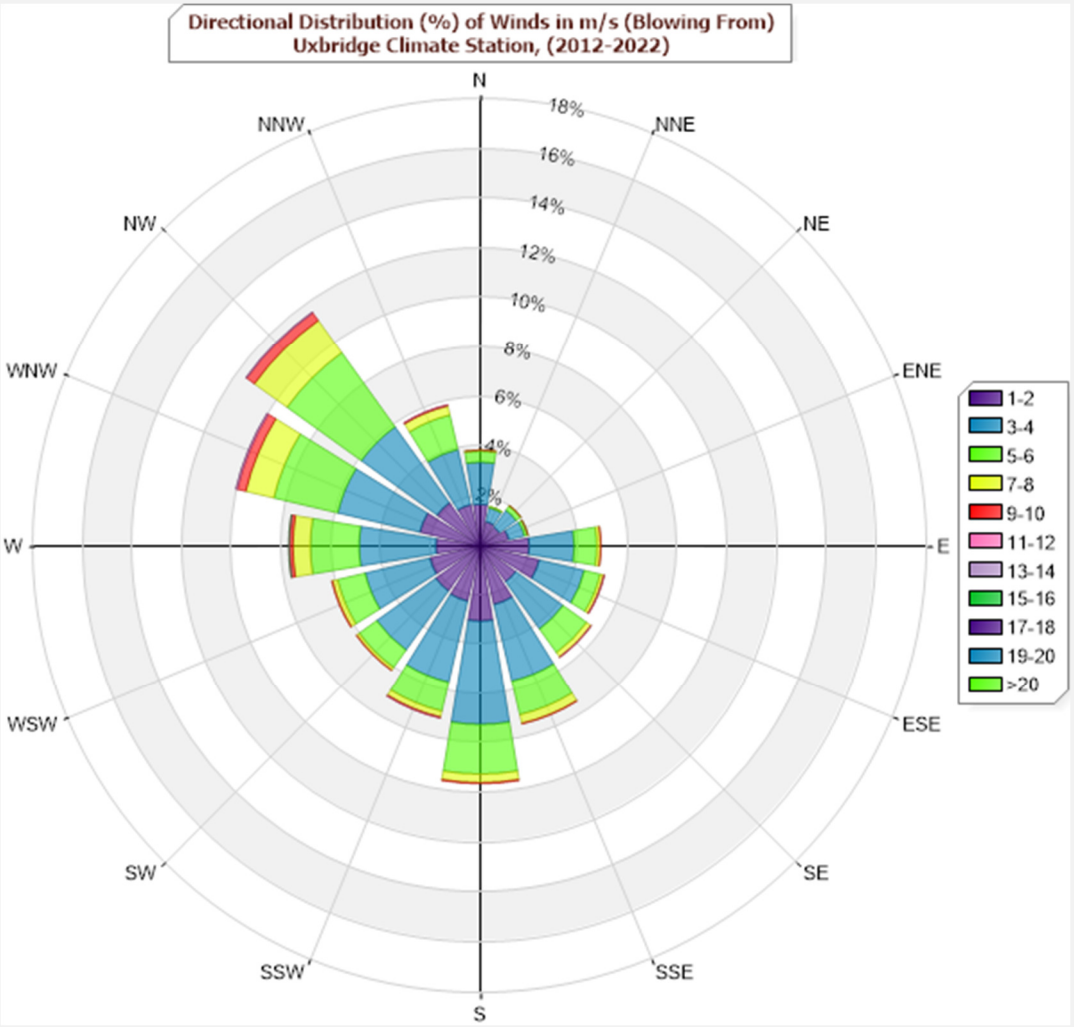
Table 1: RWDI Responses to Comment Letter from RJ Burnside & Associates Limited – Air Quality Comments

Index	Comment	RWDI Response
1	Confirmation should be provided that maximum predicted concentrations for receptors north of the Site were based on the worst-case scenario when equipment is operating close to these receptors.	RWDI used a worst-case scenario where predicted emissions haul route and processing operations lined up with the residences located east of the site, along Concession Road 4. Potential emissions from the excavator and extraction loader were placed in such a manner as to create a longer haul route for the extraction loader, thereby increasing potential emissions, while keeping the handling emission sources near the residences. There was also question regarding emissions from a generator powering the plant. Section 2 does indicate that the plant is powered by "a generator", which is not the case. The plant is in fact powered by engines included with the crushers and screens, as noted in Section 4. These are emissions are estimated in Appendix D. There are no other combustion sources.
2	Clarification on how the 95% dust reduction will be achieved should be provided.	A copy of the BMPP is appended to this letter, which provides clarity on how the emission reductions will be achieved. The key to achieving 95% control of fugitive dust on internal haul roads is the ability to apply water to the unpaved road surfaces at a rate of at least 1.5 L/m²/hour, using a predictive operational watering forecast approach rather than a reactive one. Reactive watering reduces the effectiveness of this control method, as the normal trigger is seeing visible dust behind a moving vehicle, which is already too late to achieve such a high level of control. The purpose of predictive operational watering forecasting is to prevent visible dust to the maximum extent possible.
3	Clarification should be provided as to what additional measures should be taken to minimize cumulative impact from two pit operations.	The BMPP includes the following: With respect to fugitive dust, the operation of the Facility shall not cause or allow; i. Any visible fugitive dust plume from exceeding 30 metres in any direction from any material dropping activity, as determined by Method 22 excluding no more than 6 minutes in any hour; and ii. Any visible fugitive dust plume from any material dropping activity beyond the facility property lines as determined by Method 22, at the shortest practical observation distance as described in Method 22. With the inclusion of this strict monitoring requirement, potential cumulative impacts are not expected to be adequately mitigated.

Index	Comment	RWDI Response
4	A wind rose should be included in the report to indicate the prevailing winds in the area.	A wind rose for the area is provide below. 

Index	Comment	RWDI Response
5	A source input summary table or equivalent should be included in the report to show the assumptions used in the air dispersion model.	Table 2 provides a summary of the model parameters. RWDI notes that the source parameters for the excavator tailpipe could also be modelled as a point source, however the approach used reflects a conservative simplification as it eliminates any potential buoyancy or momentum effects that would otherwise enhance dispersion. RWDI also notes that the excavator handling source should reflect depositing material from the working face to a temporary stockpile, not into a truck, however the source parameters would not be materially different from those used and would not have an impact on the overall assessment.

Caitlin Port
MHBC Planning, Urban Design & Landscape Architecture
RWDI#2305564
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Table 2: Suggested Volume Source Model Parameters

ID	Description	Modelled As	Base Elevation (m)	Structure Width (m)	Elevated or Surface Based (m)	On or Adjacent to Building? (m)	Building Height or Drop Distance (m)	Volume Source Parameters			Comments
								Release Height (m)	Initial Lateral Dimension (m)	Initial Vertical Dimension (m)	
EXCVATOR	Excavator Loading Trucks (or to ground)	Excavator transfer	322	3	elevated	yes	4	3	0.7	1.86	Drop distance to ground or truck = 4m, width of bucket = 3m, midpoint of drop = 3m
EXC_TP	Excavator	See Comment	322	3	elevated	yes	4	3	0.7	1.86	Parameters for EXCAVATOR used as a conservative simplification (no buoyancy or momentum).
GR	Truck / Loader Drop to Grizzly	Loader Transfer to Hopper	322	3	elevated	yes	4	3	0.7	1.86	Drop distance into grizzly = 4m, width of bucket = 3m, midpoint of drop = 3m
CR1	Primary Crusher	Structure	322	3	elevated	yes	6	3	0.7	2.79	Centre of volume = 3m, physical width = 3m, physical height = 6m
C01	Conveyor	Elevated Volume Source	322	2	elevated	no	2	2	0.47	0.47	Centre of volume = 2m, physical width = 2m, drop height = 2m
SCR	Triple Deck Screen	Structure	322	3	elevated	yes	6	3	0.7	2.79	Centre of volume = 3m, physical width = 3m, physical height = 6m
CR2	Secondary Crusher	Structure	322	3	elevated	yes	6	3	0.7	2.79	Centre of volume = 3m, physical width = 3m, physical height = 6m
C02	Conveyor from SCR to ST01	Elevated Volume Source	322	2	elevated	no	2	2	0.47	0.47	Centre of volume = 2m, physical width = 2m, drop height = 2m
ST1	Stacker 1	Elevated Volume Source	322	2	elevated	no	2	8	0.47	0.47	Centre of volume = 8m above grade (above top of pile), physical width = 2m, drop height = 2m
C03	Conveyor from SCR to ST02	Elevated Volume Source	322	2	elevated	no	2	2	0.47	0.47	Centre of volume = 2m, physical width = 2m, drop height = 2m
ST2	Stacker 2	Elevated Volume Source	322	2	elevated	no	2	8	0.47	0.47	Centre of volume = 8m above grade (above top of pile), physical width = 2m, drop height = 2m
C04	Conveyor from SCR to ST03	Elevated Volume Source	322	2	elevated	no	2	2	0.47	0.47	Centre of volume = 2m, physical width = 2m, drop height = 2m
ST3	Stacker 3	Elevated Volume Source	322	2	elevated	no	2	8	0.47	0.47	Centre of volume = 8m above grade (above top of pile), physical width = 2m, drop height = 2m

Suggested Line Volume Source Model Parameters

ID	Description	Modelled As	Base Elevation (m)	Vehicle Height VH (m)	Plume Height PH (m)	Vehicle Width / Road Width (m)	Plume Width (m)	Volume Source Parameters			Comments
								Release Height (m)	Initial Lateral Dimension (m)	Initial Vertical Dimension (m)	
ELOADER	Extraction Loader	1-lane roadway	Varies	4.00	6.800	3.50	9.5	3.4	4.42	1.86	PH=1.7xVH, RH=0.5xPH, Sz=PH/2.15. 1-Lane - PW=VW+6, Sy=PW/2.15
SLOADER	Shipping Loader	1-lane roadway	Varies	4.00	6.800	3.50	9.5	3.4	4.42	1.86	PH=1.7xVH, RH=0.5xPH, Sz=PH/2.15. 1-Lane - PW=VW+6, Sy=PW/2.15
PAVEDIN	Empty Trucks Entering Pit	1-lane roadway	Varies	4.00	6.800	3.50	9.5	3.4	4.42	1.86	PH=1.7xVH, RH=0.5xPH, Sz=PH/2.15. 1-Lane - PW=VW+6, Sy=PW/2.15
UNPAVEDI	Empty Trucks Entering Pit	1-lane roadway	Varies	4.00	6.800	3.50	9.5	3.4	4.42	1.86	PH=1.7xVH, RH=0.5xPH, Sz=PH/2.15. 1-Lane - PW=VW+6, Sy=PW/2.15
UNPAVEDA	Unpaved Haul Route	2-lane roadway	Varies	4.00	6.800	10.00	16	3.4	7.44	1.86	PH=1.7xVH, RH=0.5xPH, Sz=PH/2.15. 2-Lane - PW=RW+6, Sy=PW/2.15
UNPAVEDO	Loaded Trucks Leaving Pit	1-lane roadway	Varies	4.00	6.800	3.50	9.5	3.4	4.42	1.86	PH=1.7xVH, RH=0.5xPH, Sz=PH/2.15. 1-Lane - PW=VW+6, Sy=PW/2.15
PAVEDOUT	Loaded Trucks Leaving Pit	1-lane roadway	Varies	4.00	6.800	3.50	9.5	3.4	4.42	1.86	PH=1.7xVH, RH=0.5xPH, Sz=PH/2.15. 1-Lane - PW=VW+6, Sy=PW/2.15

Model Parameters for Point Sources

ID	Description	Modelled As	Base Elevation (masl)	Release Height (m)	Stack Exit Temp. (K)	Stack Exit Flow Rate (m^3/s)	Stack Exit Diameter (m)	Stack Exit Velocity (m/s)	Comments
SCREEN	Drum Mixer and Baghouse Stack	Point Source	322	4	1089.15	--	0.1	45	Typical diesel engine specifications for 100 kW Tier 3 diesel engine
CRUSHER1	Asphalt Cement Tank Vent Filling Loss	Point Source	322	4	1089.15	--	0.1	45	Typical diesel engine specifications for 100 kW Tier 3 diesel engine
CRUSHER2	Asphalt Cement Tank Vent Filling Loss	Point Source	322	4	1089.15	--	0.1	45	Typical diesel engine specifications for 100 kW Tier 3 diesel engine