

HOLCIM EMP CONSULTANT RECOMMENDATIONS

Document	Consultant	Item #	Nonconformance (NC) /Opportunity for improvement (OFI)/Business as Usual (BAU)	Recommendation description	Comments by Holcim	Status
2024 EMP Audit	Envirorisk Management	1	OFI	Update the EMP review procedure to include a mechanism to allow for updates of procedures/processes identified as a result of new legislation or identified risks within the annual LRMP review and the 5 year EMP review period. These could be presented to the ERC as there is regulatory representation at those meetings and then attached as appendices to the current EMP and LRMP, and to be included in future update of the EMP and LRMP.	Agreed - to be actioned	
2024 EMP Audit	Envirorisk Management	2	OFI	Update the compliance planner to change the EPA licence number and include conditions OL_G5 and OL_G7 of current EPA operating licence referring to the need for a RMMP and Decommissioning Plan respectively.	Compliance planner updated with EPA licence number	Complete
2024 EMP Audit	Envirorisk Management	3	OFI	Include a summary of PM10 monitoring results in the quarterly update provided to the ERC.	Under consideration	
2024 EMP Audit	Envirorisk Management	4	OFI	PM10 monitoring targets and equipment need to be updated to meet the standard in the Environment Reference Standard 2021 of 50 ug/m3 1 day average. Suggest engaging an air specialist to assist in determining a real time action threshold to assist with compliance on this limit.	Under consideration	
2024 EMP Audit	Envirorisk Management	5	OFI	Set up of instantaneous PM10 data notification in the plant operators office to allow for immediate response to any dust exceedance at the boundary.	Agreed - to be actioned	
2024 EMP Audit	Envirorisk Management	6	OFI	Advise Blue Atmosphere to update monitoring location identifiers in the figure in their reports to align with those in Figure 1, Appendix 11 of the EMP.	Agreed - to be actioned	
2024 EMP Audit	Envirorisk Management	7	OFI	Update the Noise Section of the EMP to reflect the Noise Management Plan in Appendix 11 or reference the Noise Management Plan to avoid double up of processes.	Agreed - to be actioned	
2024 EMP Audit	Envirorisk Management	8	OFI	Consider adding process for the activation of pumps to manage water discharge from dams in a severe weather event to the site specific work procedure 'Management of severe weather event PAKSWP87 Rev2 Reviewed 06/10/22'.	Under consideration	
2024 EMP Audit	Envirorisk Management	9	OFI	Implement the two (2) recommendations of the AECOM Groundwater and Spring Review letter report of 23/02/24.	Both are actions are already in place or inline with current practices	Complete
2024 EMP Audit	Envirorisk Management	10	OFI	Progress the additional recommendations in the Hydrogeological Review of collecting continuous flow data for the springs. This data could be very valuable should the quarry extension proceed that is being investigated in the north east corner quarry	Agreed. Actions to be monitored via EMP consultant action sheet (this sheet)	
2024 EMP Audit	Envirorisk Management	11	OFI	The recommendations from the AECOM, Mt. Shamrock Quarry - Toomuc Valley Slope Inspection, letter report dated January 2024 should be implemented through the ICARE system.	Agreed. Actions to be monitored via EMP consultant action sheet (this sheet)	
2024 EMP Audit	Envirorisk Management	12	OFI	Consider including the checking and completion of records for overburden, crushed stockpiles in the slope stability inspection as a form already exists for recording this data.	Under consideration	
2024 EMP Audit	Envirorisk Management	13	OFI	Progress recommendations in 2023 Naturelinks report.	Agreed. Actions to be monitored via EMP consultant action sheet (this sheet)	
2024 EMP Audit	Envirorisk Management	14	OFI	Update field measurement location at Donnazan's dam in the checklist/procedures to reflect at location at the bottom of the spillway rather than exit point of the dam.	Form updated	Complete
2024 EMP Audit	Envirorisk Management	15	OFI	Include appropriate waste management target(s) in the EMP after submission to ERC for comment, and Council for approval, as provided for in s.8.3 EMP Variation and Appendix 3 of the EMP, 2021.	Agreed - to be actioned	
2024 EMP Audit	Envirorisk Management	16	OFI	Include reporting against quantifiable waste management targets in the ERC Quarterly Report to demonstrate improvement in waste reduction.	Under consideration	
2024 EMP Audit	Envirorisk Management	17	OFI	Update the EMP to include a form of words that best reflects a credible and effective waste minimisation and disposal strategy that aligns with the waste hierarchy and the circular economy principles of sustainable resource management.	Agreed - to be actioned	
2024 EMP Audit	Envirorisk Management	18	OFI	Consider consolidating housekeeping, environmental and hazard inspections sheets into one document	These are standard company wide forms so we are not able to change them	No further action
2024 EMP Audit	Envirorisk Management	19	OFI	Update the LRMP to include the amended complying plans to reflect changed thinking in relation to EVCs applicable to the quarry site and in particular the southern faces currently being rehabilitated.	Under consideration	
2024 EMP Audit	Envirorisk Management	20	OFI	Update EMP to reflect correct reporting timing to align with LRMP or vice versa – 3 monthly to ERC, annually for rehab report and monthly for inspection checks.	Agreed - to be actioned	
2024 EMP Audit	Envirorisk Management	21	OFI	Continue to implement recommendations in the Mt Shamrock Rehabilitation Report 2023	All actions from last years Rehab report all now complete	Complete
2024 EMP Audit	Envirorisk Management	22	OFI	Include in the next EMP and LRMP update undertaking a preliminary site investigation at completion of works and in accordance with the Holcim Pakenham Quarry EMP Audit – February 2024 National Environment Protection Measure (Assessment of Site Contamination 1999 (as amended).	Under consideration	

Recommendations are removed from sheet once shown as complete

Document	Consultant	Item #	Nonconformance (NC) /Opportunity for improvement (OFI)/Business as Usual (BAU)	Recommendation description	Comments by Holcim	Status
2023 Rehab Report	Naturelinks	1	BAU	South-East Extraction Area - Continued hand-weeding and disposal of seeding Chilean Needle Grass followed up by herbicide spraying of younger plants.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	2	BAU	South-East Extraction Area - Continued slashing and herbicide application of perennial exotic grasses.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	3	BAU	South-East Extraction Area - Maintain broadleaf-selective herbicide application.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	4	OFI	South-East Extraction Area - Add additional dry-tolerant species used for in-fill plantings to expand diversity and reduce weed coverage (Table 2).	Agreed - planned for 2024 planting	
2023 Rehab Report	Naturelinks	5	OFI	South-East Extraction Area - Continue to monitor rabbit activity and report any suspected rabbit burrows to quarry management.	Monitoring	In-progress
2023 Rehab Report	Naturelinks	6	BAU	Southern Extraction Area - Continued hand-weeding and disposal of seeding Chilean needle grass followed up by herbicide spraying of younger plants	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	7	BAU	Southern Extraction Area - Continue control of perennial weedy grass by brush-cutting and follow up herbicide treatment.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	8	BAU	Southern Extraction Area - Continual management of broad-leaf exotic species with selective herbicide application	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	9	BAU	Southern Extraction Area - Spot spray with knapsack weedy species growing amongst and near Weeping Grass (Microlena stipoides) to reduce competition to encourage Weeping Grass recruitment and spread.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	10	OFI	Southern Extraction Area - Plant additional drought-tolerant shrub species (Table 4).	Agreed - planned for 2024 planting	
2023 Rehab Report	Naturelinks	11	BAU	Extraction Site - Targeting broad leaf exotic species with herbicide application by knapsack	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	12	BAU	Extraction Site - Targeting blackberry with herbicide application by knapsack and cut and paint with glyphosate where there is a risk of damage to native vegetation.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	13	BAU	Extraction Site - Removal of Coastal wattle (Acacia longifolia) along with any germinates and hybrids	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	14	OFI	Extraction Site - Planting of a small number of tree and shrub species to expand biodiversity (Table 6).	Onhold pending technical assessments of North East project	Parked
2023 Rehab Report	Naturelinks	15	BAU	Phase A & B Site - Continue herbicide application of Chilean Needle Grass with the aim of eventual elimination.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	16	BAU	Phase A & B Site - Continue herbicide application by both knapsack and tanker spray unit targeting blackberry	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	17	BAU	Phase A & B Site - Continue herbicide application by both knapsack and tanker spray unit targeting thistle species	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	18	OFI	Phase A & B Site - Planting of additional trees to bolster screening for nearby stakeholders (Table 8).	Agreed - planned planting for 2024	
2023 Rehab Report	Naturelinks	19	BAU	Phase A & B Site - Recommend further action be taken to address the impact of deer and the repair of external fencing to be considered	Deer management program in place 2024	Complete
2023 Rehab Report	Naturelinks	20	BAU	Phase C Site - Continue control of broadleaf weeds, blackberry, English ivy and small woody weeds with herbicide.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	21	BAU	Phase C Site - Herbicide spray or hand weed all Ragwort when encountered	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	22	BAU	Phase C Site - Tanker spray with herbicide Pampas Grass when inaccessible by knapsack; knapsack spray isolated and small plants	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	23	BAU	Phase C Site - Chainsaw remaining Willow and other large woody weeds and treat the cut stems or frilled trunks with glyphosate	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	24	BAU	Phase C Site - Cut, paint, and chainsaw recruiting Tasmanian blue gums, spraying cut stem with glyphosate.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	25	OFI	Phase C Site - Encourage natural regeneration of ferns species with particular care paid to any young Tree ferns	Agreed - Inline with current practices	Complete

Document	Consultant	Item #	Nonconformance (NC) /Opportunity for improvement (OFI)/Business as Usual (BAU)	Recommendation description	Comments by Holcim	Status
2023 Rehab Report	Naturelinks	26	OFI	Phase C Site - Increasing species diversity by planting a small number of Muttonwood (Myrsine howittiana)	Onhold pending technical assessments of North East project	Parked
2023 Rehab Report	Naturelinks	27	BAU	0.8 Hectare Revegetation Site - Continue targeting broadleaf exotic species with herbicide application with the addition of Associate at half standard rate.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	28	BAU	0.8 Hectare Revegetation Site - Control Toowoomba Canary-grass (Phalaris aquatic) and summer-growing annual grassy weeds with herbicide.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	29	OFI	0.8 Hectare Revegetation Site - Continue expanding species diversity in particular shrub species more adapted to stabilised conditions (Table 12).	Agreed - planned for 2024 planting	
2023 Rehab Report	Naturelinks	30	OFI	Landslip Sites - Replacement planting at such a time that deer can be excluded from site.	Agreed - planned for 2024 planting	
2023 Rehab Report	Naturelinks	31	BAU	Landslip Sites - Herbicide treatment of blackberry stands and Spear thistles Mass 4.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	32	BAU	Net Gain Site - Continue managing the problem of exotic species with herbicide application and hand-weeding including Bishop's Weed (Ammi visnaga), English ivy (Hedera helix), Japanese Honeysuckle (Lonicera japonica) and St. Augustine Grass (Stenotaphrum secundatum)	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	33	OFI	Net Gain Site - Increasing species diversity by planting a of trees and shrubs in northern and southern zones (table 15).	Agreed - planned for 2024 planting	
2023 Rehab Report	Naturelinks	34	BAU	Net Gain Site - Recommend further action be taken to address the impact of deer.	Deer maanagement program in place	Complete
2023 Rehab Report	Naturelinks	35	BAU	1.2 Hectare Revegetation Site - Keeping broadleaf weeds controlled via selective herbicide application by spray tanker.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	36	OFI	1.2 Hectare Revegetation Site - Continue planting with additional species to expand diversity.	Agreed - planned for 2024 planting	
2023 Rehab Report	Naturelinks	37	OFI	Paddock Replacement - Monitor plant survival and replace any dead plantings. Notify quarry management if any additional quadrants are in need of repair.	Monitoring	In-progress
2023 Rehab Report	Naturelinks	38	BAU	2023 Planting Area - Maintain control of broadleaf weeds with selective herbicide application by spray tanker for 2023 Planting Area and adjacent areas.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	39	OFI	2023 Planting Area - Undertake year 2 planting with species selection favouring trees and shrubs that are tolerant of both wet and dry conditions.	Agreed - planned for 2024 planting	
2023 Rehab Report	Naturelinks	40	BAU	South East Extraction Backslope - Frequent control of all broadleaf and grassy weeds throughout the site with herbicide application via tanker	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	41	BAU	South East Extraction Backslope - Herbicide spraying of blackberry by tanker spray across entire and site and control any significant blackberry stands in the immediate area	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	42	BAU	South East Extraction Backslope - Continue careful spray works from ridgeline and down the slope to protect recruiting native Wallaby grass.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	43	BAU	South East Extraction Backslope - Maintenance of guards around plantings as frequent tanker spaying poses a higher risk of off-target damage	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	44	OFI	South East Extraction Backslope - Undertake additional plantings prioritising species that are well suited to moist deep soils with high fertility	Agreed - planned for 2024 planting	
2023 Rehab Report	Naturelinks	45	BAU	Southern Hillside - Control of blackberry by application of herbicide	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	46	BAU	Southern Hillside - Control of grassy weeds through herbicide application with an effort to protect and promote recruitment of native grass species	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	47	BAU	Southern Hillside - Control of broadleaf weeds across the site with care taken to limit off target damage to Austral bracken	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	48	BAU	Southern Hillside - Maintain seasonal brush cutting regime along quarry entrance road, collection and removal of woody debris to reduce fire risk and for aesthetic purposes.	Agreed - Inline with current practices	Complete
2023 Rehab Report	Naturelinks	49	OFI	Southern Hillside - Undertake additional plantings prioritising species suited fertile deep soils	Agreed - planned for 2024 planting	

Document	Consultant	Item #	Nonconformance (NC) /Opportunity for improvement (OFI)/Business as Usual (BAU)	Recommendation description	Comments by Holcim	Status
2023 Rehab Report	Naturelinks	50	OFI	Chilean Needle Grass monitoring and control - Naturelinks recommends the use of the herbicide Tussock (active ingredient Flupropanate), this chemical will kill plants and prevent germination from existing seed for a number of years. This chemical has been engineered to specifically target the genus of grasses which Chilean Needle Grass belong (Nassella)	Under consideration	
2023 Groundwater and Spring Review	AECOM	1	BAU	Continue monitoring the new spring SP11 in June 2024 and on an annual basis going forward.	Will monitor on an annual basis inline with the rest of the Springs	Complete
2023 Groundwater and Spring Review	AECOM	2	BAU	Continue to monitor water levels in the northern and southern pits and update cross section as required.	Agreed - Inline with current practices	Complete
2023 Toomuc Valley Slope Inspection	AECOM	1	BAU	7.1 Land surface stability - The observed signs of ground movement within Masses 1, 3 and 10 are considered as being likely associated with the natural occurrence of minor landslip activity within the slopes adjacent to the Mt. Shamrock Quarry, which has been described in previous studies of the site (refer Section 2.0). As such, our present recommendation is to continue to maintain regular documented inspections of all slope masses in accordance with the requirements of Sub-section 2.5.4 of the EMP.	Agreed - Inline with current practices	Complete
2023 Toomuc Valley Slope Inspection	AECOM	2	OFI	7.1 Land surface stability - Relating to the observed backscarps within Mass 8 and south of Mass 5, it is recommended to revegetate the backscarps to provide increased surface resistance to erosion by water, as follows: <ul style="list-style-type: none"> • Revegetate behind the observed backscarps with deep root (but small canopy) shrubs/bushes and grasses. • Revegetate the backscarps surface with grasses. • Continue to monitor the vegetation to ensure that possible washouts by surface water do not inhibit re-vegetation progress. 	Agreed - to be actioned	
2023 Toomuc Valley Slope Inspection	AECOM	3	OFI	7.2 Springs – management of water at the surface Of the four springs that have been visually inspected during the January 2024 inspection, standing water was observed at three of those springs, Springs 02 – 04 (refer Section 6.2). In the case of Springs 02 – 04, these occur directly within the slope masses (refer attachment 3). The URS Australia (2005) report indicates that surface drainage is to be established if any ponding water is evident. Water infiltrating into known landslide masses increases the risk of landslide remobilisation. If sufficient water enters a remobilised landslide mass, it is possible that the landslide may transition from a slow translational slip to a rapid moving debris slide or flow. On this basis, it is recommended that Holcim investigates alternative ways to manage surface water from the springs at the locations where standing water is considered to present a risk to the slope. A primary consideration of this will be to establish good surface drainage to avoid standing water.	Holcim has considered the risk presented by these Springs and does not propose to modify the standing water at Springs 02 - 04.	No further action
2023 Toomuc Valley Slope Inspection	AECOM	4	BAU	7.2 Springs – We recommend that Spring 11 is included as part of future visual site inspections in accordance with the requirements of Section 2.5.4 of the EMP. If standing or flowing water is observed at the location of Spring 11, it should be managed according to the comments above.	Agreed - Inline with current practices	Complete
2023 Toomuc Valley Slope Inspection	AECOM	5		8.0 Supplementary Comments – Presence of Farm Dams As part of the January 2024 inspection, the AECOM inspecting personnel was escorted by Holcim to three farm dams for inspection – the dam at the base of Mass 6, the dam southwest of Mass 5 and the dam immediately west of Mass 13. Attachment 3 shows the location of the three dams. It is noted that the presence of dams within landslide-prone slopes presents risks, including: <ul style="list-style-type: none"> • Water infiltration from standing water in dams increases the risk of landslide re-mobilisation. • Movement of the slope may have adverse effects on the performance of the dam to effectively retain water. • Deposition of re-mobilised landslide debris into the dam. These risks and related considerations are best informed by a site-specific assessment of the dam. When considering the risks associated with dam failure, the downslope consequences need to be assessed. This is particularly the case when there is a possibility of dam failure impacting people and property beyond the Holcim site. Aerial photos indicate that there is at least one location where a house is located downslope of a landslide mass and accompanying dam. It is our understanding that the monitoring requirements of Sub-section 2.5.4 of the EMP, which this report is intended to address, do not include inspection of the farm dams. The risks associated with the impacts of dam failure should be investigated by Holcim. We draw your attention to the DELWP publication “Your dam: Your responsibility. A guide to managing the safety of small dams” for further details (https://www.water.vic.gov.au/__data/assets/pdf_file/0027/668610/yourdam-your-responsibility.pdf).	Under consideration	

Document	Consultant	Item #	Nonconformance (NC) /Opportunity for improvement (OFI)/Business as Usual (BAU)	Recommendation description	Comments by Holcim	Status
Pakenham Quarry Hydrogeological Review	GHD	1a	Opportunity for improvement	Improve the monitoring technique for the springs to allow a more quantitative and consistent measurements: • Establishment of v-notches and/or gauge boards / stilling wells at all sites (subject to ground truthing) is recommended, or at a minimum, two priority springs of flow and /or levels	Basic mechanical metering devices to be fitted to piped Springs SP01, SP02 and SP03. Survey pegs installed in standing water levels associated with SP04 and SP06 to measure level. SP08 and SP09 are large systems that will require capital works to install metering devices which are not being pursued at this point in time. SP05 and SP11 (new spring) have no free standing water. SP07 and SP10 are reclassified as a seeps.	In-progress
Pakenham Quarry Hydrogeological Review	GHD	3	Opportunity for improvement	Update the understanding of the estimated radius of influence of the quarry. This should be supported with site specific hydraulic conductivity data (slug testing), an update of the quarry water balance, and bore network recommendations noted above.	Slug testing completed Dec 2023. This is an ongoing action that should be captured as a part of the annual report.	In-progress
2023 EMP Audit	Envirorisk Management	3	Opportunity for improvement	Prepare an EMP variation to pick up on items not corrected in the most recent 5 year review (e.g. some of the changes to EPA's legislation).	Agreed	In-progress
2023 EMP Audit	Envirorisk Management	13	Opportunity for improvement	As part of the EMP variation referenced in iii above, Holcim should draft appropriate waste management target(s) and submit to ERC for comment, and Council for approval, as provided for in s.8.3 EMP Variation and Appendix 3 of the EMP, 2021.	Agreed	In-progress
2023 EMP Audit	Envirorisk Management	15	Opportunity for improvement	As part of the EMP variation referenced in iii above, Holcim should revise the annual waste survey requirements of the EMP to a form of words that – a. best reflects a credible and effective waste minimisation and disposal strategy that aligns with the waste hierarchy and the circular economy principles of sustainable resource management, and b. provides a means of achieving the waste management targets.	Agreed	In-progress
2023 EMP Audit	Envirorisk Management	16	Opportunity for improvement	Progress all outstanding recommendations from the 5 yearly Dam integrity report that were contingent on completion of the consequence category assessment.	Agreed. Bathymetric survey of Donazzans Dam has been conducted. AECOM to review Donazzan's Dam CC report in 2024.	In-progress
2022 Slope stability review	AECOM	4	Opportunity for improvement	Remedial treatment of Mass13 and Mass06 Dam with reinstatement of the dam crest	Agreed will complete when ground conditions permit	In-progress
2022 Rehab Report	Naturelinks	24	Opportunity for improvement	Landslip Sites - Due to extremely late planting monitor plant survival and possible plant replacement in 2023	Requires further planting due to deer impact. Carried forward to 2023 actions and planned for planting 2024	Complete
2020 Die Back Report	Naturelinks	5	Opportunity for improvement	Access track provided through site to ensure access for future management vehicles, to ensure effective and efficient watering and weed control.	Agreed will complete when ground conditions permit	In-progress