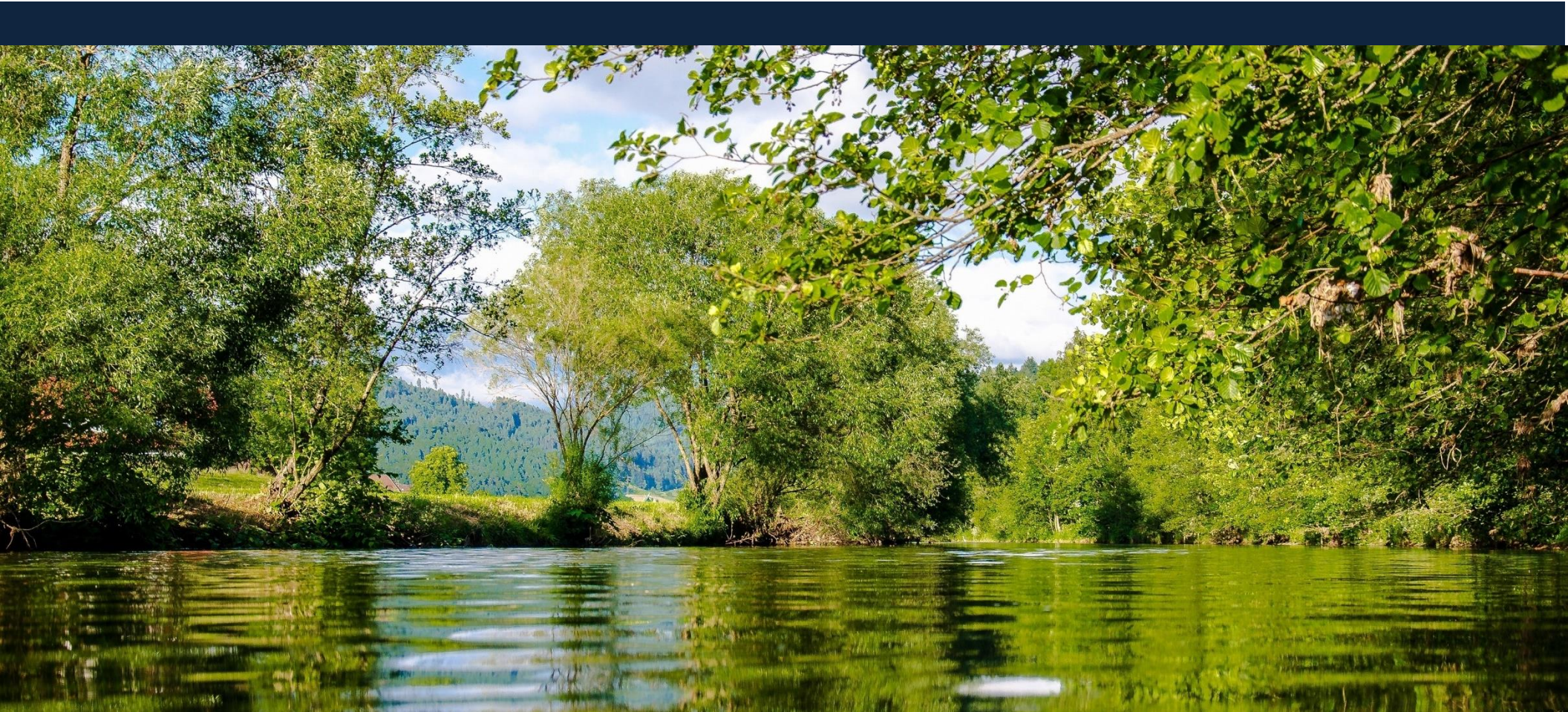# EARTHCHECK'S RISK ASSESSMENT

OUTLINED WITHIN THIS DOCUMENT ARE POTENTIAL RISKS IN THE WORKPLACE AND MITIGATION STRATEGIES

Document Control			
Version Number	**Name**	**Date**	**Changes**
1.0	Emily, Vivian, Megan. F, Bonnie	4 September 2013	Document Creation
2.0	Bonnie, Megan. F	24 January 2014	Review
2.1	Megan. F	20 March 2014	Add in *Food & Health Safety*
2.2	Megan. F	21 August 2015	Review
2.3	Bonnie	November 2016	Review
2.4	Jasmin	August 2018	Review
2.5	Jasmin	May 2019	Review

Purpose:

EarthCheck *(the Company)* assesses all actual and/or potential risks *(environmental, social and cultural) in relation to the organisation's scope identified in this* documented Risk Assessment. The *Company will* implement and maintain a procedure to identify all aspects of its activities, products and services that have an actual and/or potential impact (environmental, social and cultural*) against the following 10 Key Performance Areas.*

1. *Greenhouse Gas Emissions*
2. *Energy Efficiency, Conservation and Management*
3. *Management of Freshwater Resources*
4. *Ecosystem Conservation and Management*
5. *Social and Cultural Management*
6. *Land Use Planning and Management*
7. *Air Quality Protection*
8. *Wastewater Management*
9. *Solid Waste Management*
10. *Environmentally Harmful Substances*

This document is to be utilised as a tool to assist in identifying the risk and help to prioritise any control measures. Consider the **likelihood** and **consequences** for each of the identified risks and use the table to obtain the risk level.

Risk Assessment Matrix -
Determining the Level of Risk

		Consequences				
		1 - Insignificant (Minor problem easily handled by normal day to day process)	**2 - Minor** (Some disruption possible)	**3 - Moderate** (Significant time/resources required)	**4 - Major** (Operations severely damaged)	**5 - Catastrophic** (Business survival is at risk)
Likelihood	**Almost certain** (>90% chance)	*High (H)*	*High (H)*	*Extreme (X)*	*Extreme (X)*	*Extreme (X)*
	Likely (50%-90%)	*Moderate (M)*	*High (H)*	*High (H)*	*Extreme (X)*	*Extreme (X)*
	Moderate (10%-50% chance)	*Low (L)*	*Moderate (M)*	*High (H)*	*Extreme (X)*	*Extreme (X)*
	Unlikely (3%-10% chance)	*Low (L)*	*Low (L)*	*Moderate (M)*	*High (H)*	*Extreme (X)*
	Rare (<3% chance)	*Low (L)*	*Low (L)*	*Moderate (M)*	*High (H)*	*High (H)*

How to Prioritise the Risk Rating

Once the level of risk has been determined the following table may be of use in determining when to act to institute the control measures.

Extreme (X)	Act immediately to mitigate the risk. Either eliminate, substitute or implement engineering control measures.	Remove the hazard at the source. An identified extreme risk does not allow scope for the use of administrative controls or PPE , even in the short term.
High (H)	Act immediately to mitigate the risk. Either eliminate, substitute or implement engineering control measures. If these controls are not immediately accessible, set a timeframe for their implementation and establish interim risk reduction strategies for the period of the set timeframe.	An achievable timeframe must be established to ensure that elimination, substitution or engineering controls are implemented. **NOTE:** Risk (and not cost) must be the primary consideration in determining the timeframe. A timeframe of greater than 6 months would generally not be acceptable for any hazard identified as high risk.
Medium (M)	Take reasonable steps to mitigate the risk. Until elimination, substitution or engineering controls can be implemented, institute administrative or personal protective equipment controls. These "lower level" controls must not be considered permanent solutions. The time for which they are established must be based on risk. At the end of the time, if the risk has not been addressed by elimination, substitution or engineering controls a further risk assessment must be undertaken.	Interim measures until permanent solutions can be implemented: • Develop administrative controls to limit the use or access. • Provide supervision and specific training related to the issue of concern. (See Administrative Controls below)
Low (L)	Take reasonable steps to mitigate and monitor the risk. Institute permanent controls in the long term. Permanent controls may be administrative in nature if the hazard has low frequency, rare likelihood and insignificant consequence.	

Hierarchy of Control   Controls identified may be a mixture of the hierarchy in order to provide minimum operator exposure.

Elimination	Eliminate the Risk.
Substitution	Provide an alternative that is capable of performing the same task and is safer to use.
Engineering Controls	Provide or construct a physical barrier or guard.
Administrative Controls	Develop policies, procedures practices and guidelines, in consultation with employees, to mitigate the risk. Provide training, instruction and supervision about the risks.
Personal Protective Equipment	Personal equipment designed to protect the individual from the risks.

Aspect	Potential Impact(s)	Likelihood	Severity & Reversibility of Impact	Risk Evaluation	Risk Minimisation / Mitigation Strategy
Operational Activities	Any changes to the environment as a result of our activities	1. **Rare** (<3% chance) 2. **Unlikely** (3%-10% chance) 3. **Moderate** (10%-50% chance) 4. **Likely** (50%-90% chance) 5. **Almost Certain** (>90% chance)	1. **Insignificant** 2. **Minor** 3. **Moderate** 4. **Major** 5. **Catastrophic**	1. **Low** 2. **Moderate** 3. **High** 4. **Extreme**	**Strategies**

GREENHOUSE GAS EMISSIONS

Aspect	Potential Impact(s)	Likelihood	Severity & Reversibility of Impact	Risk Evaluation	Risk Minimisation / Mitigation Strategy
Long and short haul business travels (i.e. Travel by air)	Increased GHG emissions which increase the impacts of climate change	Almost certain	Insignificant	High	The only energy source used by EarthCheck is purchased electricity. Regular review of possibility and practicality of purchasing additional green power to suggest to building management to source electricity from renewable sources. Travel of staff is limited and clustered where possible. Programs such as GoTo Meeting and Skype are employed to conduct client meetings and where available, partners in region are used for face to face meetings. Likewise, for training using GoTo Training.
Electrical appliances (i.e. microwaves, sandwich press, coffee machine)	Increased energy consumption thereby increasing GHG emissions	Almost certain	Insignificant	High	Reducing daily operation consumption through purchasing energy efficient equipment where possible. Ensuring that equipment (such as TV's, coffee machine, microwave and computers) is not left on unnecessarily.

ENERGY EFFICIENCY, CONSERVATION AND MANAGEMENT

Aspect	Potential Impact(s)	Likelihood	Severity & Reversibility of Impact	Risk Evaluation	Risk Minimisation / Mitigation Strategy

					Staff encouraged to turn off monitors and computers when not in use.
Electrical appliances (i.e. microwaves, sandwich press, coffee machine)	Increased energy consumption thereby increasing GHG emissions	Almost certain	Insignificant	High	Turn-off lights policy in place for meeting rooms and for individual offices when not in use. Office lights and bathroom lights are on timers which ensures lights are switched off over night and on Sundays.
Power outages	Loss of business revenue. Could be caused by electrical fault, weather events or other factors.	Moderate	Minor	Moderate	Ensure electrical equipment is not overloading the system.

MANAGEMENT OF FRESHWATER RESOURCES

Aspect	Potential Impact(s)	Likelihood	Severity & Reversibility of Impact	Risk Evaluation	Risk Minimisation / Mitigation Strategy
Excessive water consumption	Further stresses on water security given that Australia is a dry and drought prone continent *NOTE: Water is sourced from Brisbane City water grid. It is difficult to determine the exact quantity of water consumed as only the total building consumption is available. Data submitted for benchmarking has been apportioned based on Area Under Roof.*	Likely	Minor	High	Dishwasher in the staff kitchen is energy and water efficient (Currently, Energy rating = 3.5 stars, Water rating = 2 stars) – Advise staff to use the shortest/more efficient cycle only. Educate staff on efficient dishwashing practices when using the sink (so taps aren't left running).
Catchment integrity	The office is located within the Lower Brisbane Catchment of the Moreton Bay Region, and is only approximately 400m away from the Brisbane River. Excessive use of water, litter/waste being washed down the stormwater drains, food waste going down the sewage system and climate change will impact on waterway health, in turn can cause damages to the integrity of our catchment.	Rare	Insignificant	Low	Educate staff on what we can do to maintain the health of our waterways and catchment. 1. Education on local waterway environment 2. Do not litter 3. Keep excess nutrients and other unwanted substances out of our waterways 4. Minimise materials going into the sewage system 5. Conserve water

ECOSYSTEM CONSERVATION AND MANAGEMENT

Aspect	Potential Impact(s)	Likelihood	Severity & Reversibility of Impact	Risk Evaluation	Risk Minimisation / Mitigation Strategy
Green space	The office is located in South Bank Parklands, approximately 400m from the Brisbane River. The South Bank Parklands are green spaces nearby where flora and fauna species may be found to be living in the area.	Rare	Insignificant	Low	Educate staff on what we can do to maintain the health of local ecosystems Encouraging staff to participate in Clean Up Australia Days to protect and conserve surrounding environments. Look at utilising the balcony as a green space with suitable climate-adapted plants.

MANAGEMENT OF SOCIAL AND CULTURAL ISSUES

Aspect	Potential Impact(s)	Likelihood	Severity & Reversibility of Impact	Risk Evaluation	Risk Minimisation / Mitigation Strategy
Multiculturalism	As our clients and members come from all over the world with many different cultural backgrounds, there is the potential for unintentional misunderstandings in cultural customs.	Almost certain	Moderate	Extreme	Staff training to ensure extra care and understanding be taken into consideration when dealing with clients or members from different cultural backgrounds. A complaint management system (internal and external) is in place to monitor any incidents caused by lack of understanding in cultural differences.
Local employment and contractor services	Social aspect is a critical element to ensure the long-term sustainability of the company. Employment opportunities offered to the local community increases the socio-economic vulnerability of the region.	Likely	Insignificant	Moderate	Employment and contract service opportunities should be offered to people from the local community wherever possible and practical. Ensure all products are purchased by the company according to the company's purchasing policy.

LAND USE PLANNING AND MANAGEMENT

Aspect	Potential Impact(s)	Likelihood	Severity & Reversibility of Impact	Risk Evaluation	Risk Minimisation / Mitigation Strategy

N/A	NOTE: The company has no ownership over the building its office is situated within. However, considerations have been taken into account in relation to the long-term impact of this building and what we can do as a tenant to minimise any risks which may occur.	N/A	N/A	N/A	N/A

AIR QUALITY PROTECTION

Aspect	Potential Impact(s)	Likelihood	Severity & Reversibility of Impact	Risk Evaluation	Risk Minimisation / Mitigation Strategy
N/A	NOTE: Please refer to Greenhouse Gas Emissions for air quality. Due to the daily operations of EarthCheck, there are no risks of noise pollution present.	N/A	N/A	N/A	N/A

WASTEWATER MANAGEMENT

Aspect	Potential Impact(s)	Likelihood	Severity & Reversibility of Impact	Risk Evaluation	Risk Minimisation / Mitigation Strategy
Municipal Treatment integrity	Use of cleaning products such as dishwashing liquid could impact the health of local waterways through drainage. NOTE: The treatment of wastewater is done through the municipal system. This system is shared with other tenancies; however, consideration has been taken to ensure staff are not misusing this system.	Unlikely	Insignificant	Low	Educate staff on impacts of cleaning products disposed in our drains on our waterways. Eco products are purchased where possible and applicable.
Stormwater	Rubbish or debris could enter the stormwater system from the balcony area which could impact local waterways.	Moderate	Minor	Moderate	Staff limit the possibility of rubbish reaching the stormwater system by keeping tidy and ensuring that food taken outside is on a plate or rubbish is secured. A stormwater system is in place on the balcony that drains water through the tiles and pipes carry this away from the building. The tiles act as a filtration system, limiting medium-large items from entering the system.

SOLID WASTE MANAGEMENT

Aspect	Potential Impact(s)	Likelihood	Severity & Reversibility of Impact	Risk Evaluation	Risk Minimisation / Mitigation Strategy
Poor waste separation and recycling practices	Increased solid waste sent to landfill which may result in increased GHG emissions and increased burden on landfill capacity as well as extraction of raw materials. Improper disposal of e-waste can result in soil contamination of the landfill. Organic waste disposed of in the general waste bins increasing methane production in landfill sites which exacerbates the impacts of climate change.	Rare	Moderate	Moderate	Please refer to Waste Management Plan here. Design posters to place on bins with images to educate staff on what to put in which bin. Review possibility to compose organic waste.

ENVIRONMENTALLY HARMFUL SUBSTANCES

Aspect	Potential Impact(s)	Likelihood	Severity & Reversibility of Impact	Risk Evaluation	Risk Minimisation / Mitigation Strategy
Cleaning products	Contamination and pollution of waterways as a result of toxic and hazardous chemicals.	Rare	Insignificant	Low	Purchase of ecolabelled or biodegradable cleaning products. Proper and secure storage of cleaning products. Correct Disposal of cleaning products options. Staff education on disposal and drainage of domestic cleaning products. *NOTE: This is the responsibility of the cleaners hired by building management. EarthCheck only purchases non-hazardous chemicals such as dishwashing liquid and handwash.*

EMERGENCY

Aspect	Potential Impact(s)	Likelihood	Severity & Reversibility of Impact	Risk Evaluation	Risk Minimisation / Mitigation Strategy

Fire	Fire produces air pollutants lowering the air quality and can potentially impact on the overall health of the surrounding environment.	Rare	Major	High	Any electrical appliances and equipment need to be regularly monitored and observed by staff, and faults or damage are to be reported to Reception immediately. The office is within a smoke-free building. Smoke detectors have been installed throughout the offices and are regularly tested and checked by a trained or qualified person.
Floods	Climate change increases the frequency and intensity of weather events (i.e. heavy storms, rainfalls and cyclones etc.) leading to potentially devastating floods. Flooding can cause a range of environmental and health impacts to the surrounding environment and communities such as contamination of waterways, contaminated drinking water, hazardous material spills, and community disruption and displacement. By utilising the interactive flood awareness maps tool developed by the Brisbane City Council, EarthCheck's office location has a High likelihood (5.0% Annual Chance) of flooding from the nearby waterways (see appendix for Flood Awareness Map)	Likely	Moderate	High	As EarthCheck is elevated on the 5th floor of the building, the chance of experiencing direct physical flooding to the 5th floor is highly unlikely. Impacts to business operations may be experienced.
Food Health and Safety	Events and meetings where catering is supplied by either in-house or external party means that any staff who consumes the food is at risk of contracting a food-borne illness or food poisoning.	Moderate	Moderate	High	Ensuring that all food supplied is cleaned/washed properly before consumption if it is supplied in-house. Using reputable catering supply companies. Storing leftover food in an appropriate manner and keeping leftover food for no longer than a week (or less depending on the type of food). Advise all staff to drink plenty of water and rest if they feel ill due to food consumption. Two food options are supplied by the vendor to ensure redundancy – policy for functions. Office fridges are cleaned once a month to prevent contamination, food spoilage and health risks.

Power Outages	Power outages may impact business operations and could pose a risk to employees as heat builds quickly when air conditioning systems are out.	Moderate	Moderate	High	Ensure the floor is evacuated as the area will heat quickly leading to health issues and loss of comfort.
Computer Server	When the computer server is not working properly, or an error has occurred, this has the potential to impact all business operations and work could be lost, ultimately costing the business.	Likely	Major	Extreme	Migrate all files to SharePoint as quickly as possible. Also back up F drive more regularly.

All Risk Minimisation and Mitigation strategies are subject to ongoing review within the practicality and financial feasibility of EarthCheck. Some of them may depend on external parties as the lease of the premises, building managers, City Council regulations and other regional regulations. If the case occurs and the strategies may not be possible partly or completely due to the external parties constrains, EarthCheck will develop an alternative strategy which will include contacting with the external party and suggest the required modifications.

GLOSSARY

Aspect: Include activities, events and potential impacts; ensure accidental and emergency situations are considered. The table includes some potential aspects which should be considered, however some aspects may not be relevant and in almost all cases more aspects not included in the example list will need to be included.

Potential Impact: Describe the potential ecological, social, cultural and economic impacts, only where impacts are adverse. Where ecological impact may occur, note this as POTENTIAL ECOLOGICAL IMPACT.

Risk Minimisation/Mitigation Strategies: Describe what can be done to minimise the risk and if it occurs to mitigate the potential impacts. Note, it is vital to consider the ability to know that the event/impact has occurred, for example, if of there is no monitoring of a sewage treatment plant, an impact may be occurring long before it can be mitigated. Put simply, risk minimisation is preventing the event, risk mitigation is preventing harm/fixing the harm if the event occurs.

Likelihood: The likelihood of the risk occurring and the potential impacts occurring after risk minimisation and mitigation should be identified, this should be UNLIKELY, POSSIBLE, LIKELY. To avoid any doubt, this should be considered as likely over a long term (say at least ten years) and must consider accidental and emergency events for which the organisation cannot control the probability of the event.

Severity and Reversibility of Impact: The impact severity should be considered as to the level of effect on the ecology, social, cultural or economic environment. For example:

MINOR IMPACT: An impact which causes local short term discomfort but no long term impact e.g. an infrequent or one-off noise event such as a carnival or party.

MODERATE IMPACT: An impact which causes temporary environmental or social impacts. E.g. a minor release of contaminates that does not affect water quality e.g. untreated sewage to a river during a flood event that is likely to be assimilated within the aquatic ecology.

SEVERE IMPACT: An impact which causes health impacts on local people, or the long term release of contaminants e.g. partially treated sewage which changes a coral reef structure to algae dominated communities.

REVERSIBLE: An impact that is temporary or can be mitigated e.g. a release of contaminated storm water to the municipal sewage treatment system is not severe and can be treated further downstream.

IRREVERSIBLE: An impact that causes permanent changes e.g. an oil spill in an alpine lake.

To avoid any doubt, an impact on any natural ecosystem, protected area or wildlife species of conservation concern should be considered severe. Severity should be described as MINOR IMPACT, MODERATE IMPACT, SEVERE IMPACT and also as REVERSIBLE OR NOT REVERSIBLE

Risk Evaluation: The overall risk evaluation shall be set out as MINOR RISK, MODERATE RISK AND HIGH RISK. Obviously many factors must be taken into account to determine the overall risk. As a guide, any risk which is possible or likely and has a severe and/or irreversible impact should be considered SIGNIFICANT.

Risk Assessment Considers Strategies to Minimise Risk: To avoid any doubt, the Risk Assessment is undertaken on the basis of risk minimisation/mitigation strategies which are implemented by the organisation.

This Environmental Risk Assessment was completed in accordance with the guidelines provided by the EarthCheck Program. It requires the monitoring and implementation of some measures which are to be revised in an annual basis.

Stewart Moore
CEO

June 2019