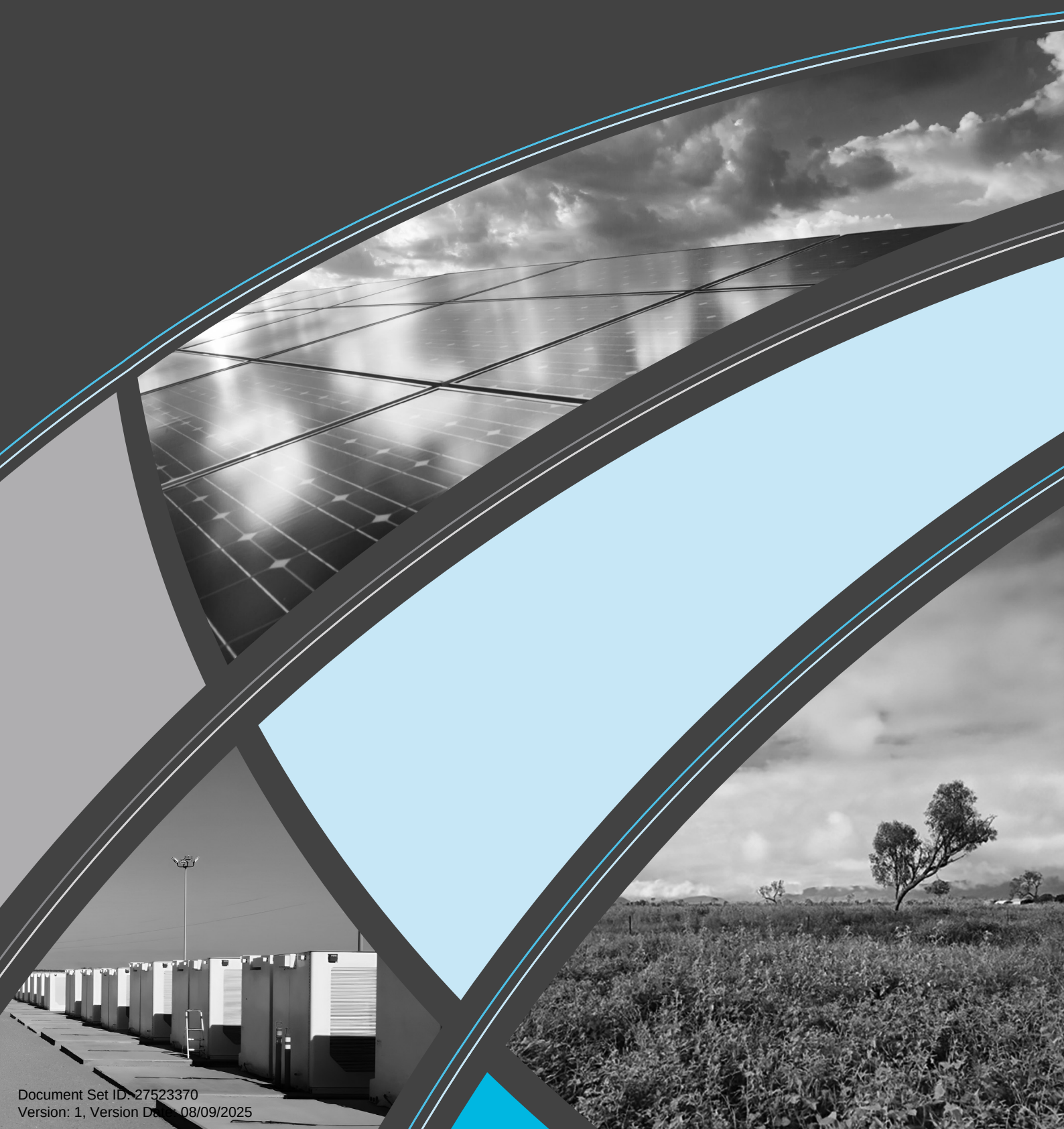
Appendix

G

TCC code responses



1 High impact industry zone

Table 1 **Solquartz and PEP response to high impact industry zone code**

Performance outcomes	Acceptable outcomes	Applicant response
Built form		
PO1 Development is consistent with the scale of surrounding buildings.	**AO1.1** Site cover does not exceed 80%.	**Complies.** The Project's development will not cover more than 80% of the subject site. The Project is consistent with the intent of the Lansdown Eco-Industrial Precinct.
	AO1.2 Buildings are set back from street frontages: • within 20% of the average front setback of adjoining buildings; or • where there are no adjoining buildings, 6m.	**Complies.** The Project's buildings are consistent with the intent of the Lansdown Eco-Industrial Precinct. There will be a minimum 6 m set back from established road reserves.
PO2 Building entrances are legible and safe.	**AO2.1** Pedestrian entries are visible from the primary street frontage and visitor parking areas, and are separate to vehicle access points.	**Complies.** The site layout provides for adequate parking in the administrative area. There is no requirement for pedestrian entries to be visible from the primary street frontage.
	AO2.2 Doorway recesses in building facades are not of a size or configuration that would conceal a person, unless lighting, mirrors, transparent materials or angled approaches are included to offset the potential for impacts on safety.	**Complies.** Any doorway and access will be of a suitable and safe size, configuration and designed in accordance with relevant building codes and standards.
	AO2.3 Each building or tenancy is provided with a highly visible street and unit number respectively.	**Complies.** Buildings entrances will be clearly legible and with safe access.
	AO2.4 Premises are provided with external lighting sufficient to provide safe ingress and egress for site users.	**Complies.** The Project will provide suitable and safe lighting for all relevant users. Outdoor lighting will be in accordance with Australian Standard AS4282.

Performance outcomes	Acceptable outcomes	Applicant response
Amenity		
PO3 Utility elements (including refuse areas, outdoor storage, plant and equipment, loading and unloading areas) are screened from view from major roads.	**AO3** Utility elements are: a) located within or behind the building; or b) screened by a 1.8m high solid wall or fence; or c) behind landscaping having the same screening effect as a 1.8m screen fence. **Editor's note**—Screening can be provided by any combination of the above treatments to meet the acceptable outcome.	**Complies.** The subject site is bounded by the Flinders Highway to the east (600m away), which is considered a major road and will be surrounded by local roads internal to the Lansdown Precinct. Separation distances are afforded between the highway to the project infrastructure (refer Appendix A). Visual screening to roads internal to the Lansdown Precinct will be facilitated through landscaping. It is requested that landscaping matters are subject to reasonable and relevant conditions, reflecting the nature of the development and surrounding land uses and viewpoints.
PO4 Landscaping is provided to create streetscapes which contribute positively to the city image, particularly along major roads and streets.	**AO4** Landscaping is provided along all road frontages of the site for a minimum depth of: d) 4m along an arterial or sub-arterial road; or e) 2m along any other road or street frontage.	
General		
PO5 Development minimises impacts on sensitive land uses having regard to noise, vibration, odour, dust, light or other emissions. Adverse impacts on the health, safety or amenity of nearby residential zoned land or other sensitive land uses are minimised.	**AO5.1** Development achieves the noise generation levels set out in the Environmental Protection (Noise) Policy 2008.	**Alternative solution proposed** Noise emission objectives have been established in line with the acoustic quality objectives outlined in the EPP (Noise) with consideration of subsequent development packages of PGP, and development of the LEIP in general. Noise models were run to quantify the potential impacts of construction and operation and identified the will be minor exceedances and some of the receptors. The impacts were predicted under noise-enhancing conditions and represent a worst-case scenario. It is anticipated that noise levels at sensitive receptors will be lower, however noise mitigation measures have been recommended. Refer to Appendix H for Noise and Vibration Impact Assessment.

Performance outcomes	Acceptable outcomes	Applicant response
	AO5.2 Development achieves the air quality objectives set out in the Environmental Protection (Air) Policy 2008.	**Complies.** The Project will not cause any air quality issues during the operation of the BESS, substation and transmission lines. General construction dust management will be adhered to.
	AO5.3 Materials that are capable of generating air contaminants are wholly enclosed in storage bins.	**Complies.** There are no materials capable of generating air contaminated during operation of the Project. General construction dust management will be adhered to.
	AO5.4 All external areas are sealed, turfed or landscaped.	**Complies.** All external areas will be sealed or landscaped.
	AO5.5 Light emanating from any source complies with *Australian Standard AS 4282 Control of the Obtrusive Effects of Outdoor Lighting*.	**Complies.** Light sources will comply with AS 4282.
	AO5.6 Outdoor lighting is provided in accordance with Australian Standard *AS 1158.1.1 — Road Lighting — Vehicular Traffic (Category V) Lighting — Performance and Installation Design Requirements*.	**Complies.** Outdoor lighting is being designed in accordance with Australian Standard AS 1158.1.1.
	AO5.7 Development achieves the human comfort vibration limits set out in Table 1 at all nearby sensitive land uses.	**Complies** A noise impact assessment has been completed in which vibration criteria are met for all sensitive receptors. Refer to Appendix H for Noise and Vibration Impact Assessment.
PO6 Development provides for the collection, treatment and disposal of liquid wastes or sources of contamination such that off-site releases of contaminants do not occur.	**AO6.1** Areas where potentially contaminating substances are stored or used, are roofed and sealed with concrete, asphalt or similar impervious substance and bunded.	**Complies.** Areas with potentially contaminated substances will be roofed and bunded appropriately.
	AO6.2 Roof water is piped away from areas of potential contamination.	**Complies.** Roof water will be piped away from areas of potential contamination.

Performance outcomes	Acceptable outcomes	Applicant response
PO7 The site layout and design: minimises earthworks; maximises retention of natural drainage patterns; and ensures existing drainage capacity is not reduced.	**AO7** Development does not involve earthworks involving more than 100m^3.	**Alternative solution proposed.** Wherever practicable, earthworks have been minimised. However, more than 100m ^{3} of earthworks will be undertaken for the construction of the Project. This level of earthworks is commensurate to that expected of development within the LEIP.
Defence land		
PO8 Development does not adversely affect the safe and efficient operation of Department of Defence land.	**AO8** All buildings and operational components of a use are setback not less than 100m from the closest boundary of land in the control of or used by the Department of Defence.	**Not applicable**. The Project is not located within proximity of Defence land.
Caretaker's accommodation		
PO9 Development does not compromise the viability of the primary use of the site.	**AO9.1** No more than one caretaker's accommodation dwelling is established on the site. **AO9.2** The caretaker's accommodation dwelling has a gross floor area of no more than 70m^2.	**Not applicable.** The Project does not involve caretaker's accommodation.
Uses		
PO10 The zone predominantly accommodates industrial uses with potential for higher impacts.	No acceptable outcome is nominated.	**Complies.** The Project is proposing a use compatible with the high impact industry zoning and will enable further development of the land for future industrial uses.

Performance outcomes	Acceptable outcomes	Applicant response
PO11 Other uses are accommodated where they: 1. are uses which: a) require larger sites in locations that are separated from sensitive land uses; b) are not more appropriately accommodated in other zones; and c) are compatible with the impacts and risks associated with the zone; or 2. are small in scale and ancillary to or directly support the industrial functions of the area.	No acceptable outcome is nominated.	**Complies.** The Project is proposing a use compatible with the high impact industry zoning and will enable further development of the land for future industrial uses.
PO12 The zone does not accommodate uses that attract members of the public who are not employed in the zone.	No acceptable outcome is nominated.	**Complies.** Appropriate security and fencing will be in place to ensure no members of the public are not attracted to the site.
PO13 Development does not significantly detract from the availability or utility of land for industrial purposes.	No acceptable outcome is nominated.	**Complies.** The Project is proposing a use compatible with the high impact industry zoning and will enable further development of the land for future industrial uses. The Project is consistent with the intent of the Lansdown Eco-Industrial Precinct which is for high impact industry.

Performance outcomes	Acceptable outcomes	Applicant response
Crime prevention through environmental design		
PO14 Site layout facilitates the security of people and property having regard to: 1. opportunities for casual surveillance and sight lines; 2. exterior building designs which promote safety and deter graffiti; 3. adequate definition of uses and ownership; 4. adequate lighting; 5. appropriate wayfinding mechanisms; 6. minimisation of entrapment locations; and 7. building entrances, loading and storage areas being well lit and lockable after hours.	No acceptable outcome is nominated.	**Complies.** The site layout has been designed to facilitate safety and security of people and property. The design for building, security, lighting, storage and access has been undertaken in line with industry standard. The Project will incorporate perimeter security fencing.

Performance outcomes	Acceptable outcomes	Applicant response
Community and environmental risk		
PO15 Development is designed and managed so that it provides appropriate protection for community health and safety, and avoids unacceptable risk to life and property.	No acceptable outcome is nominated.	**Complies.** The Project is being designed and will be managed to ensure the safety and protection of the community and property. The Project will have comprehensive safety control systems to keep its neighbours, the community and assets safe. These will include: • systems for the early detection of faults and to contain and suppress fire in each container • appropriate setbacks and firebreaks to create a buffer between the site boundaries • emergency response plans and communication protocols to respond in the unlikely event of an incident. The Project equipment will be regularly inspected, tested and serviced according to the manufacturer's requirements and industry best practice. A sophisticated Battery Monitoring System (BMS) will monitor the system for electrical shorts, faults, equipment failures and temperature increases above defined operating parameters. If issues are detected, the BMS can disconnect, isolate a battery, and notify the operator and emergency services.

Performance outcomes	Acceptable outcomes	Applicant response
PO16 The site layout and design minimises impacts of on-site and surrounding drainage patterns and ecological values by: 1. maximising retention of natural drainage patterns; 3. ensuring existing drainage capacity is not reduced; 4. maximising the retention or enhancement of existing vegetation and ecological corridors; and 5. providing buffers to protect the ecological functions of waterways.	No acceptable outcome is nominated.	**Complies.** The site layout has been designed to avoid areas of higher ecological value. The premises mostly consist of cleared areas, with a very high percentage of exotic groundcover. EMM conducted field surveys of the project area in 2023, 2024 and 2025 including assessing for vegetation communities, fauna, habitat assessment, bird surveys, spotlighting, and deployment of Anabat detectors. Of relevance to the premises, no ground-truthed regional ecosystems were mapped and no threatened flora or fauna observed. The area contains very few fauna habitat features with the site having been historically cleared and cropped for intensive agriculture. The vegetation surrounding Four Mile Creek (south of the premises) is mapped as RE11.3.30 (eucalyptus woodland) as Least Concern Regrowth vegetation. This area is not included in the disturbance area and will not be cleared.
Lansdown high impact industry precinct		
PO17 Development areas are to be created generally in accordance with Figure - 6.164 Lansdown concept plan.	No acceptable outcome is nominated.	**Complies.** The Project is generally in accordance with the Lansdown concept plan. The site layout is sympathetic to the future intent of the Lansdown Eco-Industrial Precinct Masterplan. The layout is proposed wholly within the area zoned as high impact industry. No development is proposed within the rural zone or water resource catchment overlay. The Project has been designed from the outset to avoid environmental impacts. The layout of the Project presented in this development application is the product of an extensive mitigation by design exercise to avoid mapped and ground-truthed environmental values on and around the subject site. Note that the current Figure 6.164 in the Planning Scheme illustrates a water pipeline easement running along Bidwilli Road. It is understood that this is now out of date.

Performance outcomes	Acceptable outcomes	Applicant response
PO18 To maintain the natural environmental values ecological processes and the quality of waterways development does not establish within the areas identified as 'environmental corridors' and 'water resource catchment area' as shown on Figure - 6.164 Lansdown concept plan.	No acceptable outcome is nominated.	**Complies.** The Project does not propose any development in mapped environmental corridors of water resource catchment areas.
PO19 Development does not discharge waste water into the Ross River Dam catchment.	No acceptable outcome is nominated.	**Complies.** The Project will not discharge wastewater into the Ross River Dam catchment.
P020 Development is supported by adequate infrastructure, including: 1. connection to reticulated water and sewerage networks; 2. provision of stormwater quality and quantity management systems; 3. constructed roads; and 4. on-site water quality treatment infrastructure or water detention basins located outside environmental corridors.	No acceptable outcome is nominated.	**Complies.** An adequate stormwater management system is proposed.
PO21 Development does not: 1. affect the long-term operation of a high-pressure gas pipeline; and 2. adversely impact the safety of people and property.	**AO21.1** Development does not occur within 100m of a high- pressure gas pipeline. **AO21.2** Development involving the use, manufacturing or storage of hazardous chemicals does not occur within 300m of a high-pressure gas pipeline.	**Complies.** There is a high pressure gas pipeline located to the east of the premises. Higher intensity land uses are located more than 100m from the pipeline due to the no-go zones established. At its closest distance, the Project is over 500 m from the pipeline. The Project is being designed commensurate with the level of risk inherent to the refinery and reflects design criteria developed from relevant Australian Standards.

Performance outcomes	Acceptable outcomes	Applicant response
PO22 Development protects the water quality, ecological values, hydrological processes and other environmental values of any surface water or groundwater.	No acceptable outcome is nominated.	**Complies**. The development has been designed to protect the water quality, ecological values. This has been achieved through consideration of flood inundation extents, surface water runoff, capture and treatment prior to release. The water management strategy includes a catch all water basin which acts as a sedimentation basin prior to release into Four Mile Creek. Refer Appendix L for detail.
PO23 Landscaping is provided to mitigate the visual impact of development and screen unsightly components and creates streetscapes which contribute positively to the city image, particularly along roads and land in another zone.	**AO23** Landscaping is provided for a minimum depth of: 1. 4m along any arterial or sub-arterial road or any other road; or 2. 4m along any land in another zone.	**Complies.** The premises is bounded by the Flinders Highway to the east, which is considered a major road. Adequate separation distance is afforded between the highway to the BESS (refer Appendix A). It is requested that landscaping matters are subject to reasonable and relevant conditions, reflecting the nature of the development, the existing vegetation and surrounding land uses and viewpoints.
PO24 In addition to meeting PO5, development in the Lansdown high impact industry precinct maintains a high level of noise amenity for nearby rural zoned land and sensitive land uses.	**AO24** Development achieves the noise levels set out in the *Department of Environment and Heritage Protection Planning for Noise Control Guideline.*	**Alternative solution proposed** Noise emission objectives have been established in line with the acoustic quality objectives outlined in the EPP (Noise) with consideration of subsequent development packages of PGP, and development of the LEIP in general. Noise models were run to quantify the potential impacts of construction and operation and identified the will be minor exceedances and some of the receptors. The impacts were predicted under noise-enhancing conditions and represent a worst-case scenario. It is anticipated that noise levels at sensitive receptors will be lower, however noise mitigation measures have been recommended. Refer to Appendix H for Noise and Vibration Impact Assessment.

2 Bushfire hazard overlay code

Table 2 Solquartz response to bushfire hazard overlay code

Performance outcomes	Acceptable outcomes	Applicant response
PO1 Development maintains the safety of people and property.	No acceptable outcome is nominated.	**Complies.** The proposed development does not involve the accommodation or congregation of vulnerable sectors of the community.
PO2 Highly vulnerable development does not occur in high hazard areas unless there is an overriding need for the development in the public interest and no other site is suitable and reasonably available for the proposal.	**AO2** The following uses are not located in a high bushfire hazard area: 1. child care centre; or 2. detention facility; or 3. educational establishment; or 4. emergency services; or 5. hospital; or 6. industry activities involving manufacture or storage of hazardous materials in bulk; or 7. multiple dwelling; or 8. residential care facility; or 9. retirement facility; or 10. relocatable home park; or 11. rooming accommodation; or 12. shopping centre; or 13. short-term accommodation; or 14. telecommunications facility; or 15. tourist park; or 16. tourist attraction; or 17. transport depot; or 18. utility installation.	**Complies.** The project is not located in a high bushfire hazard area, and the development is classed as industrial use.

Performance outcomes	Acceptable outcomes	Applicant response
PO3 Development mitigates the risk of bushfire hazard through the siting and design of the development.	No acceptable outcome is nominated.	**Complies.** The development design and siting of buildings is away from any mapped bushfire hazard areas or areas of ecological significance. Section 3.2 outlines the approach to achieve an 'acceptable risk'.
PO4 Development provides for an adequate and accessible water supply for firefighting purposes.	**AO4.1.1** The development is connected to a reticulated water supply where within a water supply area. OR **AO4.1.2** Where outside a water supply area a tank water supply is provided, at least one tank is within 100m of a class 1, 2, 3 or 4 building which has fire brigade fittings.	**Complies.** The development design will incorporate a minimum of 60,000 litres of onsite water storage through large water tanks, exceeding the specifications outlined in Section 4. This approach ensures compliance with recommendations from QFD as well as the relevant requirements of the Townsville City Plan 2014 Development Manual PSP (section SC 6.4.11.7(11)) relating to onsite water supply.
PO5 Public safety and the environment are not adversely affected by the detrimental impacts of bushfire on hazardous materials manufactured or stored in bulk.	**AO5** Development does not involve the manufacture or storage of hazardous materials within a high or medium bushfire hazard area as identified on overlay map OM-02.	**Complies.** Any manufacturing of storage of hazardous material associate with the Green Poly BESS is located outside of medium bushfire hazards mapped within or near the project.
PO6 Facilities with a role in emergency management and vulnerable community services are able to function effectively during and immediately after bushfire events.	No acceptable outcome is nominated.	**Complies.** The design of the site incorporates safe access and egress points via Bidwilli Road and Manson Quarry Road, as well as sufficient resources for emergency management.
PO7 Additional lots are not created in bushfire hazard areas.	**AO7** Development does not involve the creation of additional lots in areas mapped as high or medium hazard on overlay map OM-02.	**Complies.** Additional lots will not be created within mapped bushfire hazard areas.
PO8 Development is designed to allow for efficient emergency access to buildings for firefighting appliances, including by avoiding long, narrow access arrangements.	No acceptable outcome is nominated.	**Complies.** The design of the site including access roads, water supply and siting of buildings provide safe access for emergency services in accordance with Australian Standards and regulations for bushfire management.

Performance outcomes	Acceptable outcomes	Applicant response
PO9 Development provides a fire break which also facilitates adequate access for firefighting and emergency vehicles, and safe evacuation.	**AO9.1** Lot boundaries and development sites are separated from hazardous vegetation by a distance of 20m where adjacent to high hazard areas and 10m where adjacent to medium hazard. **AO9.2** The separation area mentioned in AO9.1 contains a fire access trail that: 1. has a minimum cleared and formed width of 6m; 2. has vehicular access at each end; 3. provides passing bays and turning areas for fire- fighting appliances; and 4. are either located on public land, or within an access easement that is granted in favour of council and QFRS. **AO9.3** 1. Roads and trails: 2. have a maximum gradient of 12.5%; and 3. do not involve a cul-de-sac.	**Complies.** The design is located more than 20m away from hazardous vegetation and contains roads that are already 6m in width. The location of the site is flat and contains a road that passes through the entire site from the eastern to the western boundary which allows for multiple safe access and egress points for emergency services and personnel in the event of an emergency.

3 Flood hazard overlay code

Table 3 **Solquartz response to flood hazard overlay code**

Performance outcomes	Acceptable outcomes	Applicant response
PO1 Development in medium and high hazard areas is designed and located to minimise susceptibility to and potential impacts of flooding.	**AO1.1** Where the development is located within an area shown on overlay map OM-06.1 or 06.2 as medium hazard — further investigation area, new buildings containing habitable rooms: 1. are sited on a part of the site which is outside the medium hazard — further investigation area; or 2. are sited on the highest part of the site. OR **AO1.2** Where development is located within another hazard area shown on overlay map OM-06.1 or 06.2: 1. floor levels of all habitable rooms are a minimum of 300mm above the defined flood level; 2. floor levels of all non-habitable rooms (other than class 10 buildings) are above the defined flood event; 3. parking spaces associated with non-residential development are located outside the high hazard areas identified on overlay map OM-06.1 or 06.2; and 4. underground parking is designed to prevent the intrusion of flood waters by the incorporation of a bund or similar barrier with a minimum height of 300mm above the defined flood level.	**Complies**. Infrastructure has been designed to comply with the flood immunity requirements of the TCC planning scheme. Outcomes of which are presented within Appendix L Water resources assessment.
PO2 Development in high hazard areas does not significantly impede the flow of flood waters through the site or worsen flood flows external to the site.	**AO2.1** Development in high hazard areas do not involve: 1. filling with a height greater than 150mm; or 2. block or solid walls or solid fences; or 3. garden beds or other structures with a height more than 150mm; or 4. the planting of dense shrub hedges.	**Not applicable** No part of the premises are within the high hazard mapping.

Performance outcomes	Acceptable outcomes	Applicant response
PO3 Development does not intensify use in high hazard areas, in order to avoid risks to people and property.	**AO3.1** New buildings are located outside high hazard areas identified on overlay map OM-06.1 or 06.2.	**Not applicable** No part of the premises are within the high hazard mapping.
	AO3.2 New lots or roads are not created within high hazard areas identified on overlay map OM-06.1 or 06.2.	**Not applicable** No part of the premises are within the high hazard mapping.
	AO3.3 Sites for non-permanent accommodation such as tents, cabins or caravans (whether intended for short or long- term accommodation) are located outside the high hazard areas identified on overlay map OM-06.1 or 06.2.	**Not applicable.** The Project does not propose any non-permanent accommodation.
PO4 Siting and layout of development maintains the safety of people and property in medium hazard areas.	**On existing lots** **AO4.1** Floor levels for residential buildings are 300mm above the defined flood level.	**Not applicable.** No residential buildings are proposed.
	AO4.2 Floor levels of non-residential buildings (other than class 10 buildings) are above the defined flood level.	**Complies.** All buildings are sited above the defined flood level.
	AO4.3 Underground parking is designed to prevent the intrusion of flood waters by the incorporation of a bund or similar barrier with a minimum height of 300mm above the defined flood level.	**Not applicable.** No underground parking is proposed.
	AO4.4 Development for non-permanent accommodation such as tents, cabins or caravans (whether intended for short or long-term accommodation) are located outside the medium hazard areas identified on overlay map OM-06.1 or 06.2.	**Not applicable.** The Project does not involve non-permanent accommodation.

Performance outcomes	Acceptable outcomes	Applicant response
	Where reconfiguring a lot **AO4.5** Where reconfiguring a lot, new lots contain designated building envelopes (whether or not for residential purposes) outside the medium hazard areas identified on overlay map OM-06.1 or 06.2 and those building envelopes are of a sufficient size to accommodate buildings associated with the development.	**Not applicable.** The Project does not involve a reconfiguration of a lot.
	AO4.6 In new subdivisions, arterial, sub-arterial or major collector roads are located above the 2% AEP flood level.	**Not applicable.** The Project does not involve a reconfiguration of a lot.
	AO4.7 Reconfiguration of lots does not involve cul-de-sacs or dead end streets within medium hazard areas identified on overlay map OM-06.1 or 06.2.	**Not applicable.** The Project does not involve a reconfiguration of a lot.
PO5 Signage is provided within high and medium hazard areas to alert residents and visitors to the flood hazard.	**AO5** Signage is provided on-site (regardless of whether land will be public or private ownership) to indicate depth at key hazard points, such as at floodway crossings, entrances to low-lying reserves or parking areas.	**Complies.** Signage will be provided to alert visitors to the areas of medium flood hazard.
PO6 Development within high and medium hazard areas ensures any changes to the depth, duration, velocity of flood waters are contained within the site.	No acceptable outcome is nominated.	**Complies**. The development within a medium hazard area will interact with flood waters, but is not expected to worsen flood characteristics.

Performance outcomes	Acceptable outcomes	Applicant response
PO7 Development within high and medium hazard areas does not directly, indirectly or cumulatively worsen flood characteristics outside the development site, having regard to: 1. increased scour and erosion; or 2. loss of flood storage; or 3. loss of or changes to flow paths; or 4. flow acceleration or retardation; or 5. reduction in flood warning times.	No acceptable outcome is nominated.	**Complies**. The development within a medium hazard area will interact with flood waters, but is not expected to worsen flood characteristics. Shallow overland flow will be redirected around the development. a) The altered flow paths will be of relatively low flow rate, such that scour and erosion will not be increased b) At rare AEPs, Four Mile Creek flood extent may impinge on the development footprint. Exclusion of flooding will resulting in minor loss of flood storage. Afflux mapping indicates that effects will be local, with negligible effects on adjacent or downstream infrastructure. c) Defined flow paths will be retained d) Flow will not be accelerated e) The development will not alter flood warning times Flood information is provided in Appendix L
PO8 Facilities with a role in emergency management and vulnerable community services are able to function effectively during and immediately after flood events.	**AO8** The development is provided with the level of flood immunity set out in Table 8.2.6.3(b).	**Complies**. The development will be designed with flood immunity as per Table 8.2.6.3(b). Additional flood information is provided in Appendix L
PO9 Public safety and the environment are not adversely affected by the detrimental impacts of flooding on hazardous materials manufactured or stored in bulk.	**AO9.1** Development does not involve the manufacture or storage of hazardous materials within a high flood hazard area identified on overlay map OM-06.1 or 06.2.	**Not applicable**. No storage of hazardous materials on site
	AO9.2 Within the low or medium flood hazard area identified on overlay map OM-06.1 or 06.2, structures used for the manufacture or storage of hazardous materials in bulk are designed to prevent the intrusion of flood waters up to at least a 0.2% AEP flood event.	

Performance outcomes	Acceptable outcomes	Applicant response
Development	**Level of flood immunity annual exceedance probability (AEP)**	
Development involving: 1. emergency services; 2. hospitals and associated facilities; 3. major electricity infrastructure.	0.2% AEP flood event	**Complies**. Design of the BESS infrastructure has been placed on an elevated earthen bad to achieve this level of flood immunity. This is confirmed in Appendix L, with elevations shown in Appendix C.
Development involving: 1. emergency/evacuation shelters; 2. the storage of valuable records or items of historic/cultural significance (e.g. libraries, galleries); 3. aeronautical facilities; 4. telecommunication facilities; 5. substations; 6. water treatment plants; 7. regional fuel storage; 8. food storage warehouse; 9. retirement facility and residential care facility.	0.5% AEP flood event	**Complies**. Design out put of the Substation infrastructure has been placed on an elevated earthen bad to achieve this level of flood immunity. This is confirmed in Appendix L, with elevations shown in Appendix C.
Sewerage treatment plants (requiring licensing as an environmentally relevant activity).	1% AEP flood event	**Not applicable** No sewage treatments plants are proposed.

4 Natural assets overlay code

Table 4 Solquartz response to natural assets overlay code

Performance outcomes	Acceptable outcomes	Applicant response
Protection of biodiversity values and ecological processes		
PO1 In areas identified as having high or very high environmental importance, significant values are protected and associated ecological functions and biophysical processes are maintained to ensure long term viability.	No acceptable outcome is nominated.	**Complies.** Solquartz and PEP has consciously avoided placement of the BESS, substation and transmission lines within mapped areas of environmental importance.
PO2 In areas identified as having medium environmental importance, development is located, designed and operated to: • retain and protect significant values; and • maintain the underlying ecological functions and biophysical processes.	No acceptable outcome is nominated.	**Not applicable.** No areas of mapped medium environmental importance are located in or within the vicinity of the premises.
PO3 Degraded areas with significant ecological and environmental values or important to the maintenance of underlying ecological functions and biophysical processes required to maintain biodiversity and ecosystem services are rehabilitated as near as is practical to the naturally occurring suite of native plant species and ecological communities.	No acceptable outcome is nominated.	**Complies.** Solquartz and PEP has consciously avoided placement of the BESS, substation and transmission lines within significant areas of ecological and environmental value. The following measures will be implemented to facilitate rehabilitation within the premises: • Those areas which are not required for the ongoing operation and maintenance of the Project will be rehabilitated to as soon as practicable following construction. • Woody debris, logs and rocks will be retained for use in rehabilitation. • Where seeding and/or revegetation is required select plant species that are found in similar adjacent habitat on site. This may include use of an inert initial colonisation species to assist in groundcover and stabilisation.

Performance outcomes	Acceptable outcomes	Applicant response
Significant species and ecological communities		
PO4 Development avoids direct and indirect impacts on significant ecological communities and significant species and their habitats, including disturbance from the presence of vehicles, pedestrian use, increased exposure to domestic animals and noise and lighting impacts.	No acceptable outcome is nominated.	**Complies.** Solquartz and PEP has consciously avoided placement of the BESS, substation and transmission lines within significant areas of ecological and environmental value.
PO5 Areas of habitat that support a critical life cycle stage such as feeding, breeding or roosting or ecological function for threatened species, ecological communities or migratory species are not impacted by development.	No acceptable outcome is nominated.	**Complies.** The Project does not propose development within areas mapped as critical habitat.
Buffering and edge impacts		
PO6 Development provides a vegetated buffer to an area of significant ecological or environmental value, in order to: 1. protect core habitat areas from threatening processes; 2. maintain connectivity or support linkages; 3. reduce threats to the environmental values from non-native or pest fauna or flora; and 4. avoid undesirable microclimate effects. Any setbacks or other areas required for bushfire management, safety, recreation, maintenance or any other purpose, are provided in addition to a vegetated buffer provided for ecological and environmental protection purposes.	**AO6** A buffer extending from the outside edge of a declared fish habitat area (measured from highest astronomical tide (HAT)) has a minimum width of 100m. For other areas, no acceptable outcome is nominated.	**Complies.** There are no areas of significant ecological value or declared fish habitat areas within the premises.

Performance outcomes	Acceptable outcomes	Applicant response
PO7 Buffering, rehabilitation or restoration: 1. uses site appropriate or endemic native vegetation; 2. replicates as far as practicable, the species composition and structural components of healthy remnant native vegetation and associated habitats, including understorey vegetation; and 3. excludes declared plants, environmental weeds and other non-native plants likely to displace native flora species or degrade habitat.	No acceptable outcome is nominated.	**Complies.** The following measures will be implemented to facilitate rehabilitation within the premises: • Those areas which are not required for the ongoing operation and maintenance of the Project will be rehabilitated to as soon as practicable following construction. • Woody debris, logs and rocks will be retained for use in rehabilitation. • Where seeding and/or revegetation is required select plant species that are found in similar adjacent habitat on site. This may include use of an inert initial colonisation species to assist in groundcover and stabilisation.
PO8 Pest species are prevented from encroaching into ecologically significant areas.	No acceptable outcome is nominated.	**Complies.** A Weed and Pest Management Plan will be developed for the Project with specific advice for key identified species. The plan will include management of weed spread, management of pest infestations, and monitoring effectiveness of control measures. The site is currently subject to high-levels of weed infestation.
PO9 During construction and operation of development, measures are implemented to prevent light, noise, visual and other disturbances.	No acceptable outcome is nominated.	**Complies.** During detailed design, a Construction Environment Management Plan will be prepared and submitted to TCC for endorsement which provides management measures to address light, noise, visual and other disturbances.

Performance outcomes	Acceptable outcomes	Applicant response
Ecological corridors and habitat connectivity		
PO10 Significant ecological corridors and habitat linkages are protected and have dimensions and characteristics to support: 1. ecological processes and functions that enable the natural change in distributions of species and provide connectivity between populations 2. of species over long periods of time; 3. ecological responses to climate change; 4. connectivity between large tracts and patches of remnant vegetation and habitat areas; and 5. effective and unhindered day-to-day and seasonal movement of avian, terrestrial and aquatic fauna.	No acceptable outcome is nominated where in an urban residential zone or centre zone. In all other zones (including the Emerging community zone, Rural residential zone or industry zones): **AO10** Major ecological corridors identified on Figure SC6.9.3 in the Natural assets planning scheme policy no. SC6.9 are maintained and restored to achieve a minimum width of 350m, consisting of: 1. a 250m wide core corridor to support avian species and most arboreal mammals; and 2. a 50m wide vegetated buffer extending from the outside edges on both sides of the core corridor. No acceptable outcome is nominated for the great eastern ranges conservation corridor identified on Figure SC6.9.3 in the Natural assets planning scheme policy no SC6.9.	**Complies** The premises is located over 2 km from the nearest ecological corridor as mapped by the Natural assets planning scheme policy.
PO11 Corridors and linkages are provided to supplement and create additional ecological corridors and habitat linkages along waterways, drainage lines, ridgelines, coastlines and other areas where possible.	No acceptable outcome is nominated.	**Complies.** Solquartz and PEP has consciously avoided placement of the BESS, substation and transmission lines within significant areas of ecological and environmental value. This has included avoiding areas of mapped habitat corridors.

Performance outcomes	Acceptable outcomes	Applicant response
PO12 Development facilitates unimpeded use and movement of terrestrial and aquatic fauna that are associated with or are likely to use an ecological corridor as part of their normal life cycle by: 1. ensuring development, including roads, pedestrian access and in-stream structures, does not create barriers to the movement of fauna along or within ecological corridors; 2. providing effective wildlife management infrastructure to direct fauna to locations where wildlife movement infrastructure has been provided to enable fauna to safely negotiate a development area; and 3. separating fauna from potential hazards through the use of appropriate barriers and buffers.	No acceptable outcome is nominated.	
Riparian and buffer area management for wetlands and waterways		
PO13 Development locates outside of, and does not impact on wetlands, to ensure long-term ecological function.	**AO13** Development, including any associated filling or excavation (other than restorative works) is located outside of any mapped, defined or identified boundary of a wetland and its associated buffer.	**Not applicable.** The Project is not located within or in the vicinity of any wetlands.

Performance outcomes	Acceptable outcomes	Applicant response
PO14 Development provides a buffer to a wetland area to: 1. protect or enhance habitat values, connectivity and other ecological functions and values; 2. protect water quality and aquatic conditions; 3. maintain natural micro-climatic conditions; 4. maintain natural hydrological processes; 5. prevent mass movement, gully erosion, rill erosion, sheet erosion, tunnel erosion, stream bank erosion, wind erosion, or scalding; and 6. avoid loss or modification of chemical, physical or biological properties or functions of soil. Any setbacks or other areas required for bushfire management, safety, recreation, maintenance or any other purpose, are provided in addition to a vegetated buffer provided for ecological purposes.	**AO14** A development-free buffer is provided and maintained with a minimum width of: 1. for wetlands designated as high ecological significance (HES) by the Queensland Government: a) 50m from the outermost part of the wetland where located in an urban area; or b) 200m from the outermost part of the wetland where located in a non- urban area; or 2. for other wetlands: 50m from the outermost part of the wetland in either urban or non-urban areas.	**Not applicable.** The Project is not located within or in the vicinity of any wetlands.
PO15 Development (including operation) and construction maintains or enhances the natural hydrological regime of wetlands, including surface and ground waters.	**AO15.1** Development does not change the existing surface hydrological regime of a wetland including through channelisation, redirection or interruption of flows. **AO15.2** There is no change to the reference duration high-flow and low-flow duration frequency curves, low-flow spells frequency curve and mean annual flow to and from the wetland. **AO15.3** Any relevant stream flows into the wetland comply with relevant environmental flow objectives. **AO15.4** The water table and hydrostatic pressure in the wetland is either: • returned to its natural state; or • not lowered or raised outside the bounds of variability under existing pre-development conditions.	**Not applicable.** The Project is not located within or in the vicinity of any wetlands.

Performance outcomes	Acceptable outcomes	Applicant response
	AO15.5 Development does not result in the ingress of saline water into freshwater aquifers.	
PO16 Development provides a buffer to a waterway, in order to: 1. protect or enhance habitat values, connectivity and other ecological processes and values; 2. protect water quality and aquatic conditions; 3. maintain natural micro-climatic conditions; 4. maintain natural hydrological processes; 5. prevent mass movement, gully erosion, rill erosion, sheet erosion, tunnel erosion, stream bank erosion, wind erosion, or scalding; and 6. prevent loss or modification of chemical, physical or biological properties or functions of soil. Any setbacks or other areas required for bushfire management, safety, recreation, maintenance or any other purpose, are provided in addition to a vegetated buffer provided for ecological purposes.	No acceptable outcome is nominated where in an urban residential zone or centre zone. Elsewhere (including the Emerging community zone, Rural residential zone or industry zones): **AO16** Other than where cropping for forestry for wood production, a development-free buffer is provided and maintained, extending from top of the bank of a waterway and with a minimum width of: • where in the Wet Tropics bioregion: • stream order 1 to 4: 25m; or • stream order 5 and above: 50m; OR in all other regions (Brigalow Belt North Bioregion or the Einasleigh Uplands Bioregion): • stream order 1 or 2: 25m; or • stream order 3 or 4: 50m; or • stream order 5 and above: 100m;	**Complies.** The premises provide a buffer from waterways. At its closest point, the premises are approximately 200m from Four Mile Creek.
Ongoing management, construction and operation		
PO17 During construction and operation of development, ongoing management, monitoring and maintenance is undertaken to ensure impacts on significant ecological areas, underlying ecological functions and biophysical processes and environmental values are avoided or minimised.	No acceptable outcome is nominated.	**Complies.** During detailed design, a Construction Environment Management Plan will be prepared and submitted to TCC for endorsement which provides management measures to impacts to ecological values.

Performance outcomes	Acceptable outcomes	Applicant response
PO18 Management arrangements facilitate the effective conservation and protection of significant ecological areas and underlying ecological functions and biophysical processes.	**AO18** Significant ecological areas are: 1. transferred into public ownership where the land is required for public access or for some other public purpose consistent with its values; or 2. incorporated within private open space and included within a voluntary statutory covenant by registration under the *Land Title Act 1994.*	**Complies.** There are no significant ecological areas on site.

5 Telecommunications facilities and utilities code

Table 5 Solquartz response to telecommunications facilities and utilities code

Performance outcomes	Acceptable outcomes	Applicant response
For accepted development subject to requirements development		
PO1 Aerial cabling and associated works for broadband telecommunications purposes is located and constructed in a manner that minimises visual impacts on the locality.	**AO1.1** The cables are co-located with operating works for a transmission entity or a distribution entity under the *Electricity Act 1994* wherever practicable.	**Not applicable** The development does not include cabling for telecommunications purposes
	AO1.2 Any new cable has substantially the same appearance as existing cables.	
	AO1.3 The average width of cabling for the facility is 25mm or less (excluding overmoulds).	
	AO1.4 Any new cable is located: • above any existing street lighting cable; or • if there is no existing street cable lighting — no further than 600mm below any existing cable.	
	AO1.5 In all other respects, the development complies with ACIF C524:2013 — External telecommunication cable networks.	
PO2 Development does not unduly detract from the continued use and enjoyment of land included in a residential zone or of any other existing sensitive land use.	**AO2** The development is separated by a minimum of 50m to any land in a residential zone.	**Complies.** The proposed development is over 50m from any land in a residential zone.

Performance outcomes	Acceptable outcomes	Applicant response
Visual integration, character and amenity		
PO3 The building height and the height of structures do not significantly detract from the scenic amenity and character of the locality.	No acceptable outcome is nominated.	**Complies** While the development includes for overhead powerlines, these are commensurate to the overall landscape and will not detract from the existing scenic amenity.
PO4 Development is: 1. of high quality design and construction; 2. integrated with the surrounding area so as not to be visually dominant or intrusive, having regard to: a) scale; b) height; c) bulk; d) materials and colour; and e) aesthetic appearance; and 3. treated to eliminate glare and reflectivity.	No acceptable outcome is nominated.	**Complies** The Project is generally in accordance with the Lansdown concept plan. The site layout is sympathetic to the future intent of the Lansdown Eco-Industrial Precinct Masterplan and is of a scale, bulk, height and appearance consistent with its industrial zoning.
PO5 Development in the Rural zone is not visually obtrusive when viewed from highways or significant public vantage points.	**AO5** Development in the Rural zone is setback from highway frontages by a minimum of 50m.	**Not applicable** The development is not proposed in the Rural Zone.
PO6 Where development is attached to an existing structure, it does not: 1. increase the visual prominence of the structure; or 2. detract from the design and architectural qualities of the structure.	No acceptable outcome is nominated.	**Not applicable** The development is not attached to an existing structure
PO7 Development does not unduly detract from the continued use and enjoyment of land included in a residential zone or of any other existing sensitive land use.	No acceptable outcome is nominated.	**Not applicable** The development is not in a residential zone or a sensitive land use.

Performance outcomes	Acceptable outcomes	Applicant response
PO8 Development is setback from the site boundaries, to minimise impacts on adjoining land as a result of noise, glare, overshadowing, loss of privacy or visual obtrusiveness.	**AO8.1** The following minimum setbacks to all site boundaries are achieved: 1. 10m, where the height of the structure is less than 20m; 2. 15m, where the height of the structure is between 20m and 30m; 3. 20m, where the height of the structure is greater than 30m; and 4. 50m where adjoining a residential zone. OR **AO8.2** Where development reuses, extends or is attached to an existing structure, existing setbacks are not reduced.	**Complies** The Project is generally in accordance with the Lansdown concept plan. The site layout is sympathetic to the future intent of the Lansdown Eco-Industrial Precinct Masterplan. The layout is proposed wholly within the area zoned as high impact industry. No development is proposed within the rural zone or water resource catchment overlay.
PO9 Screening is provided to reduce the visual impacts of the facility and to enhance the character of the local area.	**AO9** A minimum 3m deep landscaped strip of dense planting is provided along all site boundaries.	**Complies** The project is proposed within the LEIP high impact industry area. The proponent is open to landscaping conditions that are reasonable and reflective of its industrial setting.
PO10 Development prevents or minimises the generation of any noise such that: 1. nuisance is not caused; and 2. ambient noise levels are maintained.	**AO10** Development provides that: 1. noise levels measured as the adjusted maximum sound pressure level LAmax, adj. T at a noise sensitive place do not exceed: f) background noise level plus 5dB(A) between the hours of 7am and 10pm; and g) background noise level plus 3dB(A) between the hours of 10pm and 7am; and 2. noise levels measured as the adjusted maximum sound pressure level LAmax, adj. T at a business place do not exceed: h) background noise level plus 10dB(A) between the hours of 7am and 10pm; and i) background noise level plus 8dB(A) between the hours of 10pm and 7am.	**Alternative solution proposed** Noise emission objectives have been established in line with the acoustic quality objectives outlined in the EPP (Noise) with consideration of subsequent development packages of PGP, and development of the LEIP in general. Noise models were run to quantify the potential impacts of construction and operation and identified the will be minor exceedances and some of the receptors. The impacts were predicted under noise-enhancing conditions and represent a worst-case scenario. It is anticipated that noise levels at sensitive receptors will be lower, however noise mitigation measures have been recommended. Refer to Appendix H for Noise and Vibration Impact Assessment.

Performance outcomes	Acceptable outcomes	Applicant response
Public health and safety		
PO11 Facilities are established, operated and maintained in a way to minimise the risk to public health and safety from electromagnetic emissions.	**AO11** For telecommunications facilities, development is designed and operated to restrict electromagnetic emissions in accordance with: 1. Radiocommunications (Electromagnetic Radiation — Human Exposure) Standard 2014; and 2. Radio Protection Standard for Maximum Exposure Levels to Radiofrequency Fields — 3KHz to 300GHz; or 3. other standards as specified by the Commonwealth Government Minister responsible for communications. For other development, no acceptable outcome is nominated.	**Not applicable** The development does not include telecommunications facilities.
PO12 Security fencing encloses the outermost boundaries of the land on which the facility is built in order to: 1. prevent unauthorised access; and 2. protect ease of maintenance access to the property.	**AO12** The site is securely fenced along all boundaries, including areas used for vehicle parking and storage.	**Complies.** The site will be fenced appropriately.
PO13 Development incorporating access control arrangements includes: 1. providing warning information signs on all boundaries to prevent unauthorised entry; 2. the minimisation of the number and width of entry points; and 3. safe vehicular access to the site.	No acceptable outcome is nominated.	**Complies.** The site layout has been designed to facilitate safety and security of people and property. The design for building, security, lighting, storage and access has been undertaken in line with industry standard. The Project will incorporate perimeter security fencing and will be accessible to authorised persons only.
Environmental impact		
PO14 Development does not adversely impact on the natural environment.	**AO14** Development does not involve vegetation clearing or earthworks.	**Complies** The project has been designed and sited to avoid any mapped areas of ecological significance. Vegetation clearing and earthworks for the purpose of the transmission towers is limited to the footprint foundations. Where practicable, works will be undertaken on pre-disturbed land.

Performance outcomes	Acceptable outcomes	Applicant response
For upgrading an existing substation or bulk supply substation only		
PO15 When the proposal involves the upgrade of an existing substation to a bulk supply substation, the existing substation is: 1. in a location where viable corridors are accessible to connect powerline infrastructure to the site; and 2. in proximity to existing powerline infrastructure, to ensure that the need for additional powerline infrastructure is minimised.	No acceptable outcome is nominated.	**Not applicable** The development does not include upgrading the existing substation.
For major electricity infrastructure		
PO16 The proposed major electricity infrastructure: maximise co-location with other existing powerlines and easements; and 1. avoid, where possible, location near residential uses.	No acceptable outcome is nominated.	**Complies** The Project is generally in accordance with the Lansdown concept plan. The site layout is sympathetic to the future intent of the Lansdown Eco-Industrial Precinct Masterplan. Major electricity infrastructure has been located within future easement corridors as proposed within the MasterPlan.
For major electricity infrastructure (underground powerline infrastructure) only		
PO18 Powerline infrastructure minimises any potential impact on transport, access and utilities infrastructure in an area.	No acceptable outcome is nominated.	**Not applicable** The development is not for underground powerline infrastructure.

6 Healthy waters code

Table 6 **Solquartz response to healthy waters code**

Performance outcomes	Acceptable outcomes	Applicant response
Stormwater management - protecting water quality		
PO1 Development contributes to the protection of environmental values and water quality objectives of receiving waters to the extent practicable.	No acceptable outcome is nominated.	**Complies**. WSUD is proposed, incorporating swale and pond elements suitable at 'street scale' and 'precinct scale' (Table SC6.4.10.1) Oily water separators are proposed at the sub-station site. The proposed pond will detain stormwater to treat and reduce peak flows during typical operating conditions, and will retain (capture) runoff in the event of emergency when atypical runoff conditions may occur
PO2 High environmental value waters and slightly disturbed waters (shown on Figure 9.1 — High environmental value waters and slightly disturbed waters) are protected from the impacts of development within their catchments. Existing water quality, habitat and biota values, flow regimes and riparian areas are maintained or enhanced.	No acceptable outcome is nominated.	**Not applicable** The premises is not mapped within high environmental value waters and slightly disturbed waters.
PO3 The entry of contaminants into, and transport of contaminants in, stormwater is avoided or minimised.	No acceptable outcome is nominated.	**Complies**. WSUD is proposed, incorporating swale and pond elements suitable at 'street scale' and 'precinct scale' (Table SC6.4.10.1) Oily water separators are proposed at the sub-station site. The proposed pond will detain stormwater to treat and reduce peak flows during typical operating conditions, and will retain (capture) runoff in the event of emergency when atypical runoff conditions may occur

Performance outcomes	Acceptable outcomes	Applicant response
PO4 Within the areas identified as potential acid sulfate soils on Figure 9.2 — Acid sulfate soils, the generation or release of acid and metal contaminants into the environment from acid sulfate soils is avoided by: 1. not disturbing acid sulfate soils when excavating or otherwise removing soil or sediment, draining or extracting groundwater, excluding tidal water or filling land; or 2. where disturbance of acid sulfate soils cannot be avoided, development: j) neutralises existing acidity and prevents the generation of acid and metal contaminants; and prevents the release of surface k) or groundwater flows containing acid and metal contaminants into the environment.	**AO4.1** Development does not: 1. involve excavating or removing 100m³ or more of soil and sediment at or below 5m AHD; or 2. permanently or temporarily drain or extract groundwater or exclude tidal water resulting in the aeration of previously saturated acid sulfate soils; or 3. involve filling with 500m³ or more with an average depth of 0.5m or greater that results in: l) actual acid sulfate soils being moved below the water table; or m) previously saturated acid sulfate soils being aerated. OR **AO4.2** Development manages waters so that: 1. all disturbed acid sulfate soils are adequately treated and/or managed so that they can no longer release acid or heavy metals; 2. the pH of all site any water including discharges and seepage to groundwater, is maintained between 6.5 and 8.5 (or an agreed pH in line with natural background); 3. waters on the site, including discharges and seepage to groundwater, do not contain elevated levels of soluble metals; 4. there are no visible iron stains, flocs or sums in discharge water; 5. all reasonable preparations and actions are undertaken to ensure that aquatic health is safeguarded; and 6. infrastructure such as buried services, pipes, culverts and bridges are protected from acid attack.	**Not applicable** The premises are not mapped within potential acid sulfate soil.
PO5 Construction activities for the development avoid or minimise adverse impacts on stormwater quality or hydrological processes.	No acceptable outcome is nominated.	**Complies**. A construction phase sediment and erosion management plan will be prepared and applied by the construction contractor, minimising the risk of sediment entering waterways

Performance outcomes	Acceptable outcomes	Applicant response
Hydrological processes		
PO6 The stormwater management system: 1. retains natural waterway corridors and drainage paths; and 2. maximises the use of natural channel design in constructed components.	**AO6.1** All existing waterways and overland flow paths are retained.	**Complies** All existing waterways and overland flow paths are retained.
	AO6.2 The stormwater management system is designed in accordance with the Development manual planning scheme policy no. SC6.4 — SC6.4.10.2 Water Sensitive Urban Design.	**Intent to Comply** The stormwater management system will be designed in accordance with WSUD principles
PO7 The development is designed to minimise run-off and peak flows by: 1. minimising large areas of impervious material; and 2. maximising opportunities for capture and reuse.	No acceptable outcome is nominated.	**Complies** Peak flows will be minimized due to detention in the proposed bio retention basin
PO8 Stormwater management is designed to: 1. protect in-stream ecosystems from the significant effects of increased run-off frequency by capturing the initial portion of run-off from impervious areas; and 2. create conditions such that the frequency of hydraulic disturbance to in-stream ecosystems in developed catchments is similar to pre- development conditions.	**AO8** The stormwater management system is designed in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity and SC6.4.10 Stormwater Quality.	**Intent to Comply** The stormwater management system will be designed in accordance with the Development manual The initial portion of runoff from impervious areas will be captured in the proposed bio retention basin
PO9 Stormwater management is designed to prevent exacerbated in-stream erosion downstream of a development site by controlling the magnitude and duration of sediment-transporting, erosion-causing flows.	**AO9** The stormwater management system is designed in accordance with the Development manual planning scheme policy no. SC6.4 — SC6.4.10.2 Water Sensitive Urban Design and SC6.4.8.10 Stormwater Management Plans.	**Intent to Comply** The stormwater management system will be designed in accordance with the Development manual

Performance outcomes	Acceptable outcomes	Applicant response
Stormwater drainage generally		
PO10 The proposed stormwater management system or site works does not adversely affect flooding or drainage characteristics of properties that are upstream, downstream or adjacent to the development site.	**AO10.1** The development does not result in an increase in flood level or flood duration on upstream, downstream or adjacent properties.	**Complies** The proposed stormwater management system will capture and detain flows to prevent increase in peak runoff
	AO10.2 The stormwater management system is designed and constructed in accordance with the Development manual planning scheme policy SC6.4 –SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	**Intent to Comply** The stormwater management system will be designed in accordance with the Development manual
PO11 Development does not cause ponding, or changes in flows and velocities such that the safety, use and enjoyment of nearby properties are adversely affected.	**AO11** The stormwater management system is designed and constructed in accordance with the Development manual planning scheme policy SC6.4 – SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	**Intent to comply** The stormwater management system will be designed in accordance with the Development manual
PO12 The drainage network has sufficient capacity to safely convey stormwater run-off from the site.	**AO12** Development is undertaken in accordance with the Development manual planning scheme policy SC6.4 – SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	**Intent to comply** The stormwater management system will be designed in accordance with the Development manual
PO13 The stormwater management system: 1. provides for safe access and maintenance; and 2. where relevant, provides for safe recreational use of stormwater management features.	No acceptable outcome is nominated.	**Intent to comply** The bio retention basin will be designed for safe access and maintenance

Performance outcomes	Acceptable outcomes	Applicant response
Point source waste water management (other than contaminated stormwater and sewage)		
PO14 Waste water is managed in accordance with a waste management hierarchy that: 1. avoids waste water discharge to waterways; or 2. if waste water discharge to waterways cannot practicably be avoided, minimises waste water discharge to waterways by re-use, recycling, recovery and treatment for disposal to sewer, surface water and groundwater.	No acceptable outcome is nominated.	**Not appliable.** No waste water generated on site, or discharged from the site.
PO15 Any treatment and disposal of waste water to a waterway: 1. protects the applicable water quality objectives for the receiving waters; and 2. avoids adverse impact on ecosystem health of receiving waters.	No acceptable outcome is nominated.	**Not appliable.** No waste water generated on site, or discharged from the site.
PO16 Development avoids or minimises and appropriately manages soil disturbance or altering natural hydrology in nutrient hazardous areas.	No acceptable outcome is nominated.	**Intent to comply.** Implementation of erosion and sediment control measures, including site rehabilitation and revegetation in accordance with industry guideline such as *Best Practice Erosion and Sediment Control* (IECA 2008).
PO17 Waste water discharge to waterways is managed to avoid or minimise the release of nutrients of concern so as to minimise the occurrence, frequency and intensity of coastal algal blooms.	No acceptable outcome is nominated.	**Not appliable.** No waste water generated on site, or discharged from the site.

Performance outcomes	Acceptable outcomes	Applicant response
Constructed lakes and artificial waterways		
PO18 Where established, a constructed lake or artificial waterway is designed to maintain a reasonable standard of water quality, having regard to factors affecting lake health, including: 1. nutrients and eutrophication; 2. gross pollutants, including organic material; 3. light and turbidity; 4. organic carbon loads; 5. lake stormwater detention time; 6. salinity; 7. temperature; 8. water depth and seasonal variations; 9. water column mixing temperature; and 10. pesticides and other chemicals.	No acceptable outcome is nominated.	**Not applicable** This application does not propose a constructed lake or artificial waterway.
PO19 Stormwater run-off entering and leaving a constructed lake or artificial waterway maintains receiving water quality.	No acceptable outcome is nominated.	**Not applicable** This application does not propose a constructed lake or artificial waterway.
PO20 The location, design and operation of a constructed lake or artificial waterway: 1. protects environmental values in downstream and upstream waterways; 2. protects any groundwater recharge areas; 3. incorporates low lying areas of a catchment connected to an existing waterway; 4. does not disrupt natural wetlands and any associated buffer areas; 5. avoids disturbing soils or sediments; and 6. avoids altering the natural hydrologic regime in acid sulfate soil and nutrient hazardous areas.	No acceptable outcome is nominated.	**Not applicable** This application does not propose a constructed lake or artificial waterway.

Performance outcomes	Acceptable outcomes	Applicant response
PO21 The constructed lake or artificial waterway is located in a way that is compatible with existing tidal waterways.	For constructed lakes — No acceptable solution is nominated. **AO21** For an artificial waterway: Where an artificial waterway is located adjacent to, or connected to, a tidal waterway by means of a weir, lock, pumping system or similar: 1. there is sufficient flushing or tidal flushing with water level variation >0.3m; 2. any tidal flow alteration does not adversely impact on the tidal waterway; and 3. there is no introduction of salt water into freshwater environments.	**Not applicable** This application does not propose a constructed lake or artificial waterway.
PO22 The construction phase for the constructed lake or artificial waterway is compatible with protecting aquatic environmental values in existing natural waterways and wetlands.	No acceptable outcome is nominated.	**Not applicable** This application does not propose a constructed lake or artificial waterway.
PO23 A constructed lake or artificial waterway is designed to avoid terrestrial and aquatic weeds, vectors and concentrations of populations.	No acceptable outcome is nominated.	**Not applicable** This application does not propose a constructed lake or artificial waterway.
PO24 The lake design provides for suitable machinery access to enable maintenance of the lake, including the removal of terrestrial and aquatic weeds.	No acceptable outcome is nominated.	**Not applicable** This application does not propose a constructed lake or artificial waterway.
PO25 A constructed lake or artificial waterway has no adverse impact on flood capacity, including the capacity of upstream catchments and floodplain areas.	No acceptable outcome is nominated.	**Not applicable** This application does not propose a constructed lake or artificial waterway.
PO26 A constructed lake or artificial waterway is designed to minimise hazards to ensure public safety is maintained.	No acceptable outcome is nominated.	**Not applicable** This application does not propose a constructed lake or artificial waterway.

Performance outcomes	Acceptable outcomes	Applicant response
PO27 A constructed lake or artificial waterway is designed to provide a high level of amenity for surrounding residents.	No acceptable outcome is nominated.	**Not applicable** This application does not propose a constructed lake or artificial waterway.
PO28 Opportunities for incorporation of accessible passive and active recreation facilities into the design of the constructed lake or artificial waterway are facilitated.	No acceptable outcome is nominated.	**Not applicable** This application does not propose a constructed lake or artificial waterway.
Efficiency and whole of life cycle cost		
PO29 Life cycle costs are minimised, taking into account acquisition, construction, establishment, operation, monitoring, maintenance, replacement and disposal costs.	No acceptable outcome is nominated.	**Complies**. The development will be managed to consider life cycle costs, with consideration for sustainable purchase, transport, operation maintenance of equipment. With intent to recycle where possible, replace only if necessary and consider disposal costs in project feasibility.
PO30 The design of the development allows for sufficient site area to accommodate an effective stormwater management system.	No acceptable outcome is nominated.	**Complies**. MUSIC modelling indicates that the proposed stormwater treatment measures will be effective at reducing sediment and nutrients from the site, both in comparison to the undeveloped grazing land use, and in comparison to the site developed without WSUD. Refer Appendix L.

Performance outcomes	Acceptable outcomes	Applicant response
PO31 The proposal provides for the orderly development of stormwater infrastructure within a catchment, having regard to: 1. existing capacity of stormwater infrastructure and ultimate catchment conditions; 2. discharge for existing and future upstream development; and 3. protecting the integrity of adjacent and downstream development.	No acceptable outcome is nominated.	**Complies**. To enable pond drainage, and to prevent the formation of stagnant water conditions (and the possibility of poor water quality developing), a pump will be installed to lift water from the pond to the elevation of the creek. The pump would be activated by the presence of water in the bio-retention pond, and would discharge to Four Mile Creek at a nominal rate of around 10 L/s (subject to detailed design). This arrangement will: • Allow isolation of the pond in the case of a spill by switching off the pump • Result in sufficient detention time that stormwater treatment is expected to be effective During operation of the site, the erosion potential of the soils from the site will not be increased from existing conditions due to the low velocities in the overland flow (max 0.3 m/s). This will be further reduced if the surface is re-vegetated as soon as practicable protecting the integrity of the adjacent and downstream environment.
PO32 Proposed stormwater infrastructure remains fit for purpose for the life of the development.	No acceptable outcome is nominated.	**Complies**. Refer Appendix L.
PO33 Proposed stormwater infrastructure can be easily accessed and can be maintained in a safe and cost effective way.	**AO33** The stormwater management system is designed in accordance with the Development manual planning SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	**Complies**. The proposed design allows for easy personnel access and vehicle access for maintenance and monitoring purposes.

Performance outcomes	Acceptable outcomes	Applicant response
Water management in reconfiguring a lot		
PO34 Reconfiguration of lots includes water management measures in the design of any road reserve, streetscape or drainage networks to: 1. minimise impacts on the water cycle; 2. protect waterway health by improving stormwater quality and reducing site run-off; and 3. avoid large areas of impervious surfaces.	No acceptable outcome is nominated.	**Not applicable** This application does not include for a reconfiguration of a lot.
Ship-sourced pollutants		
PO35 Common user facilities for the handling and disposal of ship-sourced pollutants including oil, garbage and sewage are provided at a suitable location in any development involving a marina or berthing facilities.	No acceptable outcome is nominated.	**Not applicable** This application does not propose any development involving a marina or berthing facility.
PO36 Marinas or berthing facilities are designed and operated to ensure the risk of spillage from operations is minimised.	No acceptable outcome is nominated.	**Not applicable** This application does not propose any development involving a marina or berthing facility.
PO37 Equipment to contain and remove spillages is stored in a convenient position near marina or berthing facilities and is available for immediate use.	No acceptable outcome is nominated.	**Not applicable** This application does not propose any development involving a marina or berthing facility.
PO38 Where practical, the marina pollutant reception facility is connected to a sewerage or other waste reception infrastructure.	No acceptable outcome is nominated.	**Not applicable** This application does not propose any development involving a marina or berthing facility.

7 Landscape code

Table 7 Solquartz response to landscape code

Performance outcomes	Acceptable outcomes	Applicant response
Landscape design and character		
PO1 The overall landscape design of both public and private spaces: 1. creates a sense of place that is consistent with the intended character of the streetscape, city or locality; and 2. is functional and designed to be visually appealing in the long-term as well as when first constructed.	**AO1** When the development is in an identified locality in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space, landscape design is in accordance with the requirements for that area.	**Complies.** The subject site is bounded by the Flinders Highway to the east (600m away), which is considered a major road and will be surrounded by local roads internal to the Lansdown Precinct. Separation distances are afforded between the highway to the refinery buildings (refer Appendix A). Visual screening to roads internal to the Lansdown Precinct will be facilitated through landscaping. It is requested that landscaping matters are subject to reasonable and relevant conditions, reflecting the nature of the development and surrounding land uses and viewpoints.
PO2 Tree and plant selection ensures: 1. climatically appropriate landscaping; 2. creation of a diverse palette: in form, texture and seasonal colour; 3. longevity of plants and the form and function of landscaped areas; and 4. cost effective and convenient maintenance over the long-term.	**AO2.1** Species are selected from those listed in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space. **AO2.2** Plant species do not include undesirable species as listed in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use within a high impact industry area. Any landscaping will be safe, sustainable and meet relevant requirements such as drainage, crime prevention and weed management. Tree and plant selection is yet to occur. Solquartz and PEP will commit to ensuring that any selection is appropriate to the Townsville climate, is in a form and function appropriate to high impact industry zoning, is cost-effective and convenient to maintain over the life of the Project. Native species will be preferred. A species palette for Solquartz and PEP use on the site is requested to be a condition of approval.

Performance outcomes	Acceptable outcomes	Applicant response
PO3 Where appropriate, provision is made for on-street planting that: 1. complements the local streetscape; 2. ensures visibility is maintained from entrances and exits to properties and at intersections; 3. establishes healthy vegetation of suitable species; 4. minimises the potential for vegetation to cause damage to persons, property or infrastructure; and 5. does not limit or hinder pedestrian or vehicular flow and movement.	**AO3** Street planting is provided that is consistent with the standards set out in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	**Not applicable.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area. As such, it is considered that on-street planting is not required.
PO4 Streetscape treatments and paving form a functional and attractive component of the overall landscape scheme.	**AO4.1** All general streetscape elements are provided in accordance with the standards set out in the Development manual planning scheme policy no. SC6.4- SC6.4.12 Landscaping and Open Space.	**Not applicable.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area. As such, it is considered that on-street planting is not required.
	AO4.2 Streetscape pavements are provided in accordance with the standards set out in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	
	AO4.3 Streetscape furniture is provided in accordance with the standards set out in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	

Performance outcomes	Acceptable outcomes	Applicant response
PO5 Landscaping within on-site open space areas is well- designed, having regard to its purpose and the provision of shading, climatic response, and the proportion of soft and hard elements.	**AO5.1** Selected tree species within communal recreation areas are to provide at least 30% shade coverage within 5 — 10 years of planting. **AO5.2** A minimum of 50% of landscaped areas are to be covered in soft landscaping (turf areas and planting beds), with at least 25% of that area being planting.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area. Any landscaping will be safe, sustainable and meet relevant requirements such as drainage, crime prevention and weed management. Tree and plant selection is yet to occur. Solquartz and PEP will commit to ensuring that any selection is appropriate to the Townsville climate, is in a form and function appropriate to high impact industry area, is cost-effective and convenient to maintain over the life of the Project. Native species will be preferred. A species palette for Solquartz and PEP use on the site is requested to be a condition of approval.
PO6 Landscaping and embellishments in local recreational parks is fit for purpose and well-designed, having regard to shading, climatic response, and the proportion of soft and hard elements. Landscaping softens edges and creates an attractive interface with adjoining land.	**AO6** Landscaping and embellishments are provided that are consistent with the standards set out in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	**Not applicable.** The development does not involve, and is not in close proximately to a recreational park.
PO7 The use of hard surface treatments within private and public spaces do not detract from a high standard of amenity, and large unbroken areas of hardstand material is avoided.	**AO7** Surface treatments are provided that are consistent with the standards set out in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area.. Any landscaping will be safe, sustainable and meet relevant requirements such as drainage, crime prevention and weed management.

Performance outcomes	Acceptable outcomes	Applicant response
Edge treatments		
PO8 Where provided, landscape design along site frontages is used to mitigate adverse aesthetic elements, provide privacy and reduce illumination impacts, while maintaining a safe environment for users.	**AO8** Landscaped areas along the frontage of a site consists of: 1. shade or rounded canopy trees that will provide a minimum of 50% shade to the frontage of the site within 5 years of planting; 2. shrubs that provide screening to blank walls and privacy as required; and 3. low shrubs and ground covers that reach a maximum height of 750mm at maturity.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area.
PO9 Where appropriate, acoustic barriers and long fences along road frontages and within the development are screened or softened by landscaping or architectural embellishment to improve visual amenity of the development.	No acceptable outcome is nominated.	**Not applicable** The proposed development does not include acoustic barriers or solid long fences along road frontages which are accessible to the public. Where practicable, the proponent will undertake landscaping that is consummate to its locality within a high impact industry zone.
PO10 Where provided, landscaping along a side or rear boundary assists in maintaining privacy, screening unsightly or service elements and enhancing the appearance of the development from nearby premises.	**AO10.1** Screen planting is provided along the side or rear boundary of a site, which consists of: 1. either trees with a maximum spacing of 3m (measured from centres) and capable of providing a dense screen within 3 years of planting or screening shrubs capable of growing to a height of 3m within 2 years of planting; and 2. low shrubs and ground covers, where appropriate, to allow for complete covering of planting area.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area.
	AO10.2 A minimum of 25% of all trees are to grow above the height of the eaves of the equivalent second storey of the building.	
PO11 Landscaped areas along or near retaining walls, long unbroken walls, service areas and parking areas consist of an appropriate combination and species of trees, shrubs and groundcovers to minimise the visual impact of these elements.	No acceptable outcome is nominated.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area.

Performance outcomes	Acceptable outcomes	Applicant response
PO12 Screening trees, shrubs, low shrubs, ground covers and vertical accent plants are appropriate for the space available, orientation and functional requirements of the area.	No acceptable outcome is nominated.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area.
Maintenance, drainage, utilities, services and construction		
PO13 Plant selection and location protects the integrity and function of overhead and underground services.	**AO13** Plant selection and location complies with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area. All planting will be undertaken in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.
PO14 Landscape elements do not adversely affect stormwater quantity or quality by ensuring: 1. the flow of water along overland flow paths is not restricted; 2. opportunities for water infiltration are maximised; and 3. areas of pavement, turf and mulched garden beds are appropriately located and adequately drained.	No acceptable outcome is nominated.	**Complies**. Stormwater design has been included as such to prioritise water quality and water management. Landscape areas will be undertaken to reflect the use and zoning of th area.
PO15 Landscaping works, design and materials used minimise maintenance costs and whole of life cycle costs.	No acceptable outcome is nominated.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area. All practicable steps will be undertaken to ensure materials used are low maintenance.
PO16 All turf areas on-site are accessible externally by standard lawn maintenance equipment and receive adequate sunlight for the turf species used.	No acceptable outcome is nominated.	**Not applicable** The project is proposed within a high impact industry area and thus turfed areas are not anticipated. Although, general maintenance of grassed areas and landscaping will be undertaken by a qualified third party contractor.
PO17 Drainage of podium planters allows for flush out in future and are adequately drained.	No acceptable outcome is nominated.	**NOT APPLICABLE** The proposed development does not propose the use of podium planters.

Performance outcomes	Acceptable outcomes	Applicant response
PO18 Irrigation is installed within private and public spaces to ensure the long-term viability and integrity of landscaped areas. Where provided, irrigation is designed to facilitate the efficient supply of water in accordance with micro-climatic conditions.	**AO18** Irrigation is provided accordance with the Development manual planning scheme policy no. SC6.4 including - SC6.4.12 Landscaping and Open Space.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area. All planting will be undertaken in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.
PO19 Limited on-site maintenance is achieved for private and public landscaping, by selecting plant species having regard to long life expectancy and minimal leaf litter drop, pruning, watering and fertilising requirements.	No acceptable outcome is nominated.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area.. All planting will be undertaken in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.
PO20 Container sizes and planting stock maturity is consistent with the intended role of the landscaping.	**AO20** Landscaping is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area. All planting will be undertaken in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.
PO21 Planting stocks are of a quality to ensure vigorous growth.	**AO21** Landscaping is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space and SC6.4.12.6 Landscaping Construction Standards.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area. All planting will be undertaken in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space and SC6.4.12.6 Landscaping Construction Standards.
PO22 Plants are protected and maintained to facilitate in-situ growth, vigour and quality form.	**AO22** Landscaping is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space and SC6.4.12.6 Landscaping Construction Standards.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area. All planting will be undertaken in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space and SC6.4.12.6 Landscaping Construction Standards.

Performance outcomes	Acceptable outcomes	Applicant response
PO23 Site preparation works ensure a stable and enhanced landscape form.	**AO23** Landscaping is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space and SC6.4.12.6 Landscaping Construction Standards.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area. All planting will be undertaken in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.
Sustainability		
PO24 Wherever possible, landscape design facilitates the retention of significant existing vegetation, both within and external to the site.	**AO24.1** Site design integrates and incorporates retained and significant trees and vegetation within and external to the site. **AO24.2** Removed or damaged significant vegetation is replaced with mature vegetation of a comparable quantity and species.	**Complies.** The area within the defined premises is rather degraded and unconstrained by significant trees/ vegetation. .
PO25 Appropriate site planning and construction management is undertaken to ensure the longevity and health of retained and significant trees and vegetation.	**AO25.1** Retained trees are protected by a tree protection zone (TPZ) and fenced along the canopy/drip line to comply with AS4970-2009 Protection of Trees on Development Sites. **AO25.2** Any required pruning or trimming work is undertaken in accordance with AS4373 — Pruning of Amenity Trees and is carried out by a qualified arborist. **AO25.3** Retained and significant vegetation damaged during development or construction is treated to repair any damage to the extent practicable by a qualified aborist. **AO25.4** Protective measures and practices are employed for work adjacent to trees in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.23.1 Construction management.	**Complies** A 50m buffer from the centre line of Four Mile Creek was applied when defining premises boundaries. Consequently, the defined premises avoids any areas mapped within the high environmentally importance area. Best practice standards and protocols for managing environmental nuisance and potential for impact will be upheld throughout both the construction and operational stages through the adoption of project-specific Environmental Management Plans.

Performance outcomes	Acceptable outcomes	Applicant response
PO26 Landscape design optimises water and energy efficiency and responds appropriately to local conditions, by: 1. maximising the exposure to the prevailing summer breezes and the north-east winter morning sun; 2. minimising exposure to the prevailing winter winds and western summer sun; and 3. optimising shade to create useable and comfortable areas; 4. hydro-zoning planting.	No acceptable outcome is nominated.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area. Noting the rural locality of the development, landscaping will be designed to minimise water and energy usage and where possible, captured water will be reused.
PO27 Planting bed profiles and edging encourage plant viability, reduce erosion, control weed invasion, provide adequate water infiltration and ease of maintenance to support long-term plant viability and vigorous growth.	**AO27** Planting beds are designed in accordance with the Development manual planning scheme policy no. 6.4 - SC6.4.12 Landscaping and Open Space.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area. All planting will be undertaken in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.
PO28 Landscape buffering and species selection is consistent and compatible with any ecological values on or adjoining the site.	No acceptable outcome is nominated.	
PO29 Landscaping elements are provided within parking areas, along driveways and internal roadways to provide adequate shading, and safe and legible parking areas.	**AO29** Landscaping is provided in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	
Safety		
PO30 Landscape design enhances community safety and reduces the potential for crime and antisocial behaviour.	**AO30.1** Access to a site, parking area, buildings or public open space is well lit, free from obstructions and clearly defined by landscape treatments.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area.

Performance outcomes	Acceptable outcomes	Applicant response
	AO30.2 Trees with a minimum 1.8m of clear trunk (at maturity) are located along pathways, at building entries, within parking areas, on street corners, adjacent to street lighting and along driveways. Garden beds within the aforementioned areas consist of low shrubs and groundcovers that do not exceed 750mm in height.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area.
	AO30.3 Any solid wall or semi permeable fence is protected from graffiti through means of vertical landscaping or vandal resistant paint or artwork.	**Not Applicable** The project does not include the provisions for solid or semi-permeable fencing. The site is to be secured around through the use of security fencing.
PO31 Where appropriate and practicable, all elements of the landscape design are safe and provide accessibility for all abilities.	**AO31.1** Paving material, tactile indicators and construction complies with AS1428 - Design for Access and Mobility.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use and a high impact industry area. Where practicable, elements of the landscape design will be safe and provide accessibility for all abilities. Though it should be noted that the development will not be accessible by the public with access restricted to authorised persons only.
	AO31.2 Pavement material or treatment clearly delineates between pedestrian and vehicular movement systems through contrasting materials, colours or level changes.	
	AO31.3 Hard landscaping materials are not highly reflective, or likely to create glare, slipperiness or other hazardous conditions.	

8 Transport impact, access and parking code

Table 8 Solquartz response to transport impact, access and parking code

Performance outcomes	Acceptable outcomes	Applicant response
PO1 The development is located on roads that are appropriate for the nature of traffic generated, having regard to the safety and efficiency of the transport network, and the functions and characteristics identified of the road hierarchy.	No acceptable outcome is nominated.	**Complies** The Applicant has collaborated closely with TCC LEIP team to coordinate use of the internal LEIP road network for the purposes of the proposed development. Consequently, both construction and operational traffic will exit Flinders Highway at Glenn Road and enter the site off Bidwilli Road via the new Jones Road intersection.
PO2 Development does not compromise the orderly provision or upgrading of the transport network.	No acceptable outcome is nominated.	**Complies** The Applicant has collaborated closely with TCC LEIP team to coordinate scheduling of the proposed development with TCC's road upgrades schedule.
PO3 On-site transport network infrastructure (including roads, parking, access and public transport, pedestrian and cyclist facilities) appropriately integrates and connects with surrounding networks.	No acceptable outcome is nominated.	**Complies** The Applicant has collaborated closely with TCC LEIP team to coordinate use of the internal LEIP road network for the purposes of the proposed development. Consequently, ingress and egress traffic from the site will be via Bidwilli Road.
PO4 As far as practicable, development is designed to encourage travel by public transport, walking and cycling.	No acceptable outcome is nominated.	**Not applicable.** The Project is a high impact industry compatible use in a industrial zone. The Project will not impede on any existing or future public transport, walking or cycling routes.

Performance outcomes	Acceptable outcomes	Applicant response
Site access		
PO5 Access arrangements are appropriate for: • the capacity of the parking area; • the volume, frequency and type of vehicle usage; • the function and characteristics of the access road and adjoining road network; and • the safety and efficiency of the road network.	**AO5** Access is provided in accordance with the standards identified in the Development manual planning scheme policy SC6.4 - SC6.4.5.5 Driveways, SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.	**Complies** Access to the defined premises will be via formalised crossover off Bidiwilli Road. The proposed driveway on Bidwilli Road will be constructed as per Townville City Council's standard driveway specifications for industrial development
PO6 Where practical, access for cyclists and pedestrians is clearly distinguished from vehicle access.	No acceptable outcome is nominated.	**Not applicable.** No access for cyclists is required. There will be clear and safe pathways for pedestrians (ie workers) to move between the car park and relevant buildings.
PO7 Access is located and designed to provide safe and easy access to the site, having regard to its position, width and gradient.	**AO7** Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways and SC6.4.3 Standard Drawings	**Complies** Access to the defined premises will be via formalised crossover off Bidwilli Road. The proposed driveway on Bidwilli Road will be constructed as per Townville City Council's standard driveway specifications for industrial development
PO8 All vehicles reasonably expected to use the site are able to travel the length of the driveway or driveway access without damage to vehicle or the driveway surface.	**AO8** Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways, SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.	**Complies** Access to the defined premises will be via formalised crossover off Bidwilli Road. The proposed driveway on Bidwilli Road will be constructed as per Townville City Council's standard driveway specifications for industrial development
PO9 A driveway does not cause change in the level of a footpath that is unsafe or inaccessible for people with mobility difficulties.	**AO9** Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways and SC6.4.3 Standard Drawings.	**NOT APPLICABLE** The locality and nature of the proposed development does not require the provision (existing or future) for a footpath.
PO10 Driveways are designed to withstand loadings from all vehicles reasonably expected to use the site.	**AO10** Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways.	**Complies** Access to the defined premises will be via formalised crossover off Bidwilli Road. The proposed driveway on Bidwilli Road will be constructed as per Townville City Council's standard driveway specifications for industrial development

Performance outcomes	Acceptable outcomes	Applicant response
PO11 A driveway does not allow water to pond on adjacent properties or adjacent buildings and does not allow water to enter a building or property.	**AO11** Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways.	**Complies** Access to the defined premises will be via formalised crossover off Bidwilli Road. The proposed driveway on Bidwilli Road will be constructed as per Townville City Council's standard driveway specifications for industrial development
PO12 Construction of a driveway does not damage or interfere with the location, function of or access to any services and infrastructure.	**AO12** Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways, SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking and SC6.4.3 Standard Drawings.	**Complies** Access to the defined premises will be via formalised crossover off Bidwilli Road. The proposed driveway on Bidwilli Road will be constructed as per Townville City Council's standard driveway specifications for industrial development
PO13 All vehicles reasonably expected to access the site can safely manoeuvre to allow vehicles to exit and enter in a forward motion.	**AO13** Access is provided in accordance with the standards identified in Development manual planning scheme policy no. SC6.4 - SC6.4.5.5 Driveways, SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking and SC6.4.3 Standard Drawings such that all vehicles reasonably expected to access the site, can exit and enter in a forward motion with no more than a three-point turn.	**Complies** The swept path assessments have determined the geometry of the internal road layout and the site access on Bidwilli Road. The proposed site access on Bidwilli Road will act as a right-in/left-out driveway as all vehicles will arrive and depart from/to the west in a forward motion.
Pedestrian and cyclist facilities.		
PO14 Provision is made for the safe and convenient movement of pedestrians on-site and connecting to the external network, having regard to desire lines, legibility, safety, topographical constraints, shading and other weather protection and equitable access arrangements.	No acceptable outcome is nominated.	**Complies** The development is a use compatible with high-impact industrial zoning within the LEIP precinct. Internal pedestrian (employees only) will be managed in accordance with appropriate signage and project-specific management plans.
PO15 Provision is made for safe and convenient cycle movement to the site and within the site and connecting to the external network having regard to desire lines, users' needs, safety, topographical constraints and legibility.	No acceptable outcome is nominated.	**Not applicable** The development is a use compatible with high-impact industrial zoning within the LEIP precinct and thus is it not of a nature that requires provisions for cyclists.

Performance outcomes	Acceptable outcomes	Applicant response
PO16 Parking areas, pathways and other elements of transport network infrastructure are designed to enhance public safety by discouraging crime and antisocial behaviour, having regard to: 1. provision of opportunities for casual surveillance; 2. provision of lighting; 3. the use of fencing to define public and private spaces, whilst allowing for appropriate sight lines; 4. minimising potential concealment points and assault locations; 5. minimising opportunities for graffiti and other vandalism; and 6. restricting unlawful access to buildings and between buildings.	No acceptable outcome is nominated.	**Complies** The development is a use compatible with high-impact industrial zoning within the LEIP precinct which is located some 40kms form the nearest large population centre (Townsville). Access to the site (including car parking areas) will be limited to authorised personnel only.
Parking		
PO17 Provision is made for on-site vehicle parking to: 1. meet the demand likely to be generated by the development; and 2. avoid on street parking that would adversely impact on the safety or capacity of the road network or unduly impact on local amenity.	**AO17** Parking is provided in accordance with the standards identified in Parking rates planning scheme policy no. SC6.10.	**Complies** A car parking area will be accommodated within a formalised car park serving 9 car parking spaces for the operational work force and site visitors. Car parking will be designed in accordance with the requirements of the transport impact, access and parking code of Townsville City Plan 2014 and Australian Standards 2890: parts 1, 2 and 6.
PO18 Parking ensures access is provided for people with disabilities.	**AO18** Parking areas are designed in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.4 Car Parking.	**Complies** A car parking area will be accommodated within a formalised car park serving 9 car parking spaces for the operational work force and site visitors. Car parking will be designed in accordance with the requirements of the transport impact, access and parking code of Townsville City Plan 2014 and Australian Standards 2890: parts 1, 2 and 6.

Performance outcomes	Acceptable outcomes	Applicant response
PO19 Where the nature of the proposed development creates a demand, provision is made for set-down and pick-up facilities by bus, taxis or private vehicle, which: 1. are safe for pedestrians and vehicles; 2. are conveniently connected to the main component of the development by pedestrian pathway; and 3. provide for pedestrian priority and clear sight lines.	No acceptable outcome is nominated.	**Not applicable** The development is a use compatible with high-impact industrial zoning within the LEIP precinct which is located some 40kms form the nearest large population centre (Townsville). Access to the site will be limited to authorised personnel only and predominantly via private vehicle.
PO20 Parking and servicing areas are designed to: 1. be clearly defined, marked and signed; 2. be convenient and accessible; 3. minimise large unbroken areas of hardstand to the extent practicable; 4. be safe for vehicles, pedestrians and cyclists; 5. provide shading; 6. be located to encourage multi-purpose trip ends and minimise vehicle movements within the site; and 7. minimise any adverse impacts on the amenity of surrounding land.	No acceptable outcome is nominated.	**Complies** A car parking area will be accommodated within a formalised car park serving 9 car parking spaces for the operational work force and site visitors. Car parking will be designed in accordance with the requirements of the transport impact, access and parking code of Townsville City Plan 2014 and Australian Standards 2890: parts 1, 2 and 6.
PO21 Vehicle spaces have adequate dimensions to meet user requirements.	**AO21** Parking areas are designed in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.	**Complies** A car parking area will be accommodated within a formalised car park serving 9 car parking spaces for the operational work force and site visitors. Car parking will be designed in accordance with the requirements of the transport impact, access and parking code of Townsville City Plan 2014 and Australian Standards 2890: parts 1, 2 and 6.
PO22 Pavement is constructed to an appropriate standard.	No acceptable outcome is nominated.	**Not applicable** The project does not propose any sealed car parking areas.

Performance outcomes	Acceptable outcomes	Applicant response
PO23 Parking and servicing areas are kept accessible and available for use as a parking area at all times during the normal business hours of the activity.	No acceptable outcome is nominated.	**Complies** A car parking area will be accommodated within a formalised car park serving 9 car parking spaces for the operational work force and site visitors. Car parking will be designed in accordance with the requirements of the transport impact, access and parking code of Townsville City Plan 2014 and Australian Standards 2890: parts 1, 2 and 6.
PO24 Visitor parking for accommodation activities remains accessible and useable to visitors at all times.	No acceptable outcome is nominated.	**Not applicable** The proposed development does not include accommodation activities.
PO25 Multi-level parking areas are designed, articulated and finished to make a positive contribution to the local external streetscape character, as well as the internal user experience of the facility ensuring way finding technologies and aesthetic treatments are provided.	No acceptable outcome is nominated.	**Not applicable** The Project does not propose multi-level parking areas.
Servicing		
PO26 Provision is made for the on-site loading, unloading, manoeuvring and access by service vehicles that: 1. are adequate to meet the demands generated by the development; 2. are able to accommodate the design service vehicle requirements; and 3. does not unduly impede vehicular, cyclist and pedestrian safety and convenience both within the site and external to the site.	**AO26** Servicing areas are provided and designed in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 – SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.	**Complies** The swept path assessments have determined the geometry of the internal road layout and the site access on Bidwilli Road and will be designed during the detailed design phase in accordance with Development manual planning scheme policy no. SC6.4 – SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.

Performance outcomes	Acceptable outcomes	Applicant response
PO27 Refuse collection vehicles are able to safely access on- site refuse collection facilities.	**AO27** Refuse collection areas are provided and designed in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 – SC6.4.22 Waste Management, SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.	**Not applicable** The project is located within the LEIP precinct which is not serviced by TCC waste services. Consequently, project waste will be managed in accordance with a Waste Management Plan. Third-party contractors will be able to use the same provisions as detailed in PO26 response.
PO28 Servicing arrangements minimise any adverse impact on the amenity of premises in the vicinity, having regard to operating hours, noise generation, proximity to sensitive uses, odour generation and dust.	No acceptable outcome is nominated.	**Not applicable** The project is located within the LEIP precinct which is not serviced by TCC waste services. Consequently, project waste will be managed in accordance with a Waste Management Plan. Third-party contractors will be able to use the same provisions as detailed in PO26 response.

9 Works Code

Table 9 Solquartz response to works code

Performance outcomes	Acceptable outcomes	Applicant response
Access and parking		
PO1 Access arrangements are appropriate for: • the capacity of the parking area; • the volume, frequency and type of vehicle usage; and • the function and characteristics of the access road and adjoining road network.	**AO1** Access is provided in accordance with Australian Standard AS2890.1.	**Complies.** Access is being designed in accordance with AS2890.1.
PO2 Provision is made for on-site vehicle parking to meet the demand likely to be generated by the development and to avoid on street parking where that would adversely impact on the safety or capacity of the road network or unduly impact on local amenity.	**AO2.1** Parking is provided at the rates set out in Parking rates planning scheme policy no. SC6.10. OR **AO2.2** Where an existing lawful premises and involves not more than 5% or 50m^2 (whichever is the greater) of additional gross floor area, the existing number of on-site parking is retained or increased.	**Complies.** The provision for site vehicle parking is sufficient for the demand of anticipated traffic generation. No street parking will be required.
PO3 Parking areas are designed to: a) be clearly defined, marked and signed; b) be convenient and accessible; c) be safe for vehicles, pedestrians and cyclists; and d) provide spaces which meet the needs of people with disabilities.	**AO3.1** Parking areas are designed in accordance with Australian Standard AS2890.1. OR **AO3.2** Where an existing lawful premises and involves not more than 5% or 50m^2 (whichever is the greater) of additional gross floor area, the existing standard of on-site parking is maintained or improved.	**Complies.** The provision for site vehicle parking is sufficient for the demand of anticipated traffic generation. No street parking will be required. Parking areas will be clearly defined and signed, safe for vehicles and workers and meet relevant accessibility requirements. Parking areas are being designed in accordance with AS2890.1.

Performance outcomes	Acceptable outcomes	Applicant response
PO4 Landscaping is provided to soften the visual impact of parking areas and to provide shading.	**AO4.1** Shade trees within parking areas are provided at the following rate: (a) in single sided, angle or parallel bays - 1 tree per 3 parking spaces; and (b) in double sided, angle or parallel bays - 1 tree per 6 parking spaces. OR **AO4.2** Where an existing lawful premises and involves not more than 5% or 50m² (whichever is the greater) of additional gross floor area, the existing standard of landscaping is maintained or improved.	**Complies.** Landscaping will be undertaken to a scale that is sufficient for the proposed use, in a high impact industry area. Any landscaping will be safe, sustainable and meet relevant requirements such as drainage, crime prevention and weed management. Tree and plant selection is yet to occur. PEP will commit to ensuring that any selection is appropriate to the Townsville climate, is in a form and function appropriate to high impact industry, is cost-effective and convenient to maintain over the life of the Project. Native species will be preferred. A species palette for PEP use on the site is requested to be a condition of approval.
PO5 Provision is made for the onsite loading, unloading, manoeuvring and access by service vehicles that: (a) is adequate to meet the demands generated by the development; (b) is able to accommodate the design service vehicle requirements; (c) is wholly contained within the site; and (d) does not unduly impede vehicular, cyclist and pedestrian safety and convenience within the site.	**AO5.1** Servicing areas are provided and designed in accordance with Australian Standard AS2890.2. OR **AO5.2** Where an existing lawful premises and involves not more than 5% or 50m² (whichever is the greater) of additional gross floor area, the existing provision for service vehicles is maintained or improved.	**Complies.** The provision for on-site loading, unloading and manoeuvring is being designed in accordance with AS2890.2. It will be adequate to meet the demands of the projected traffic, will be wholly contained within the premises and won't impede on other vehicular or worker movements.
Service and utilities		
PO6 A potable water supply is provided that is adequate for the needs of the intended use.	**AO6.1** The development is connected to council's reticulated water supply system in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines and SC6.4.3 Standard Drawings.	**Not Applicable** The project is not located in an area that is serviced by potable water.

Performance outcomes	Acceptable outcomes	Applicant response
	AO6.2 Water supply systems and connections are designed and constructed in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines and SC6.4.3 Standard Drawings.	Potable water to meet the needs of the operation and maintenance facility will be trucked in by a third-party contractor and held in tanks on site.
PO7 Wastewater treatment and disposal is provided that is appropriate for the level of demand generated, protects public health and avoids environmental harm.	**AO7.1** The development is connected to council's reticulated sewerage system via an existing sewer connection to the site.	**Not Applicable** The project is not located in an area that is serviced by the reticulated sewer network.
	AO7.2 Waste water systems and connections are designed and constructed in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines, SC6.4.11.4 Sewerage Planning and Design Guidelines and SC6.4.3 Standard Drawings.	**Complies.** Waste water generated from the staff ablution facilities will be held in tanks and trucked in by a third-party contractor.
PO8 Provision is made for waste management that is appropriate to the use, protects the health and safety of people and the environment.	**AO8.1** The development provides a bin container storage area that has an imperviously sealed pad and is screened to the height of the bins.	**Complies.** Waste for the Project will be managed in accordance with the Waste Management Plan.
	AO8.2 On sites in an industrial zone that are greater than 2,000m^2 in area, provision is made for refuse collection vehicles to access the collection area, undertake the collection activity and to enter and leave the site in a forward direction without having to make more than a 3 point turn.	**Complies.** The design of access and manoeuvrability of the premises ensures provision of refuse collection vehicles can easily enter the site.
PO9 The proposed stormwater management system or site works does not adversely affect flooding or drainage characteristics of properties that are upstream, downstream or adjacent to the development site.	**AO9.1** The development does not result in an increase in flood level or flood duration on upstream, downstream or adjacent properties.	**Complies**. The development lies within the TCC 'medium flood hazard' area. The sub-station and BESS will be elevated above the 0.2% AEP flood level. The bio-retention basin will occupy a section of the Four Mile Creek flood storage area, but will not worsen flood characteristics (see afflux mapping in Appendix L). Shallow overland flow will be redirected around the development. The altered flow paths will be of relatively low flow rate, such that scour and erosion will not be increased.

Performance outcomes	Acceptable outcomes	Applicant response
	AO9.2 Roof and surface water is conveyed to the kerb and channel or an inter-allotment drainage system in accordance with Australian Standard AS/NZS3500.3:2003.	**Complies**. The design of the internal site water management includes a combination of pit and pipe network, road side drains and grades appropriately to discharge into water management basin.
PO10 The drainage network has sufficient capacity to safely convey stormwater run-off from the site and development does not cause a drainage nuisance to a downstream or adjoining property.	**AO10** Post development discharge of stormwater from the subject land does not exceed predevelopment peak flows and no change to flows across a downstream or adjoining property is created.	**Complies**. The design of the internal site water management includes a combination of pit and pipe network, road side drains and grades appropriately to discharge into water management basin. Hydraulic conveyance of flows is provided in Appendix L.
Services and utilities		
PO11 A potable water supply is provided that is adequate for the needs of the intended use.	**AO11.1** Where within an area designated for urban or rural residential development, the development is connected to council's reticulated water supply system in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines. OR **AO11.2** Otherwise, the development is provided with an on-site water supply in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.7 On-Site Water Supply. **AO11.3** Water supply systems and connections are designed and constructed in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines, SC6.4.11.3 Water Supply Construction and SC6.4.3 Standard Drawings.	**Not Applicable** The project is not located in an area that is serviced by potable water. Potable water to meet the needs of the operation and maintenance facility will be trucked in by a third-party contractor and held in tanks on site.

Performance outcomes	Acceptable outcomes	Applicant response
PO12 Wastewater treatment and disposal is provided that is appropriate for the level of demand generated, protects public health and avoids adverse impacts on environmental values.	**AO12.1** Where within an area designated for urban development, the development is connected to the council's reticulated sewerage system in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines. OR **AO12.2** Otherwise, on-site waste water treatment and disposal is provided which complies with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.8 On-Site Sewerage Facilities. **AO12.3** Waste water systems and connections are designed and constructed in accordance with the Development manual planning scheme policy no. SC6.4-SC6.4.11.2 Water Supply Planning and Design Guidelines, SC6.4.11.3 Water and Sewerage Infrastructure, SC6.4.11.5 Sewerage System Constructions and SC6.4.3 Standard Drawings.	**Not Applicable** The project is not located in an area that is serviced by the reticulated sewer network. Waste water generated from the staff ablution facilities will be held in tanks and trucked in by a third-party contractor.
PO13 The design and management of the development integrates water cycle elements having regard to: 1. reducing potable water demand; 2. minimising wastewater production; 3. minimising stormwater peak discharges and run- off volumes; 4. maintaining natural drainage lines 5. and hydrological regimes as far as possible; 6. reusing stormwater and greywater is encouraged where public safety and amenity will not be compromised; and 7. efficient use of water.	**AO13** Integrated water management practices and infrastructure are implemented in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.10 Stormwater Quality and SC6.4.10.2 Water Sensitive Urban Design.	**Complies**. Development management measures consider inclusion of all components in design. Will be incorporated into operational and maintenance procedures.

Performance outcomes	Acceptable outcomes	Applicant response
PO14 The development is provided with an adequate energy supply which maintains acceptable standards of public health, safety, environmental quality and amenity.	**AO14** For other than the Rural zone, premises are serviced by: • an underground electricity supply approved by the relevant energy authority; or • an overhead supply approved by the relevant energy authority where in the Rural residential zone, Special purpose zone or High impact industry zone or where on a lot of less than 2,500m^2 within an area where the existing supply is overhead.	**Not applicable**. The project proposes development that will provide extended coverage of existing energy supply to the region in accordance with the LEIP masterplan
PO15 Premises are connected to a telecommunications service approved by the relevant authority.	**AO15** The development is connected to telecommunications infrastructure in accordance with the standards of the relevant regulatory authority.	**Complies.** It is anticipated that the Project will utilise nearby fibre optic cables for telecommunications.
PO16 Provision is made for future telecommunications services (for example fibre optic cable).	No acceptable outcome is nominated.	**Complies** The Project does not preclude the future provision of telecommunications services within the vicinity of the site.
PO17 Where available, provision is made for reticulated gas.	**AO17** Design and provision of reticulated gas is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.14.2 Public Lighting (Urban, Urban Residential and Rural).	**Not applicable.** Reticulated gas is not required.
PO18 Adequate access is provided to public services and utilities for future maintenance.	No acceptable outcome is nominated.	**Complies.** The access that is being designed will not impede on any future maintenance requirements for public services or utilities.
PO19 Filling and excavation does not result in contamination of land or pose a health and safety risk.	**AO19** Filling and excavation does not: 1. use contaminated materials as fill; 2. excavate contaminated material; and 3. use waste material as fill.	**Complies.** Any fill or excavating activities will not use or excavate contaminated materials. Preliminary investigation have not identified any contaminated land within the premises.

Performance outcomes	Acceptable outcomes	Applicant response
PO20 Earthworks result in stable landforms and structures.	**AO20** Earthworks and the construction of retaining walls and batters are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.	**Complies.** Earthworks will be undertaken to ensure stable landforms and structures and will reflect relevant engineering specifications.
PO21 Earthworks are undertaken in a manner that: • maintains natural landforms as far as possible; and • minimises height of retaining walls and batter faces.	**AO21.1** Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction. **AO21.2** Retaining walls are designed and constructed: • certified as stable by a Registered Professional Engineer of Queensland; and • have a combined height of retaining wall and fence of not more than 2 metres.	**Complies.** Earthworks will be undertaken to maintain natural landforms as far as practicable and will reflect relevant engineering specifications.
PO22 Earthworks do not unduly impact on amenity or privacy for occupants of the site or on adjoining land.	No acceptable outcome is nominated.	**Complies.** Any earthworks for the Project are not anticipated to have a significant impact on the amenity or privacy of nearby landholders. Amenity impacts will be managed and mitigated through the CEMP.
PO23 Earthworks do not cause environmental harm.	No acceptable outcome is nominated.	**Complies.** Earthworks are not anticipated to cause any environmental harm. Environmental impacts will be managed and mitigated through the CEMP.
PO24 Filling or excavation does not worsen any flooding or drainage problems on the site or on neighbouring properties.	**AO24** Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.	**Complies** Filling or excavation is not anticipated to worsen any flooding or drainage impacts.

Performance outcomes	Acceptable outcomes	Applicant response
PO25 Any structure used to restrain fill or excavation does not worsen drainage problems or cause surface water to be a nuisance to neighbouring properties.	**AO25** Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.	
PO26 Filling or excavation does not adversely affect sewer, stormwater or water utility infrastructure or access to them for maintenance purposes.	**AO26** Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.	**Complies.** Filling or excavation is not anticipated to affect existing utility infrastructure or the ability to access them for maintenance purposes.
PO27 Filling or excavation does not prevent or create difficult access to any property.	**AO27** Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.	**Complies.** Filling or excavation is not anticipated to cause any access impacts.
PO28 Earthworks do not cause significant impacts through truck movements, dust or noise on the amenity of the locality in which the works are undertaken or along routes taken to transport the material and the transportation of materials minimises adverse impacts on the road network.	**AO28** Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.4 Earthworks Construction and SC6.4.23.1 Construction Management.	**Complies.** Earthworks are not anticipated to cause any significant impacts to amenity. Amenity impacts will be managed and mitigated through the CEMP.

Performance outcomes	Acceptable outcomes	Applicant response
Movement networks		
PO29 The following are provided along the full extent of the road frontage and to a standard that is appropriate to the function of the road or street and the character of the locality: 1. paved roadway; 2. appropriate pavement edging (including kerb and channel); 3. pedestrian paths and cycleways; 4. streetscaping and street tree planting; 5. stormwater drainage; 6. street lighting systems; and 7. conduits to facilitate the provision of and other utility services.	**AO29** Design and construction of external road works are undertaken in accordance with the Development manual planning scheme policy no. SC6.4.	**Complies.** The internal road network will be designed and constructed to ensure ground stability, appropriate landscaping to the use, appropriate drainage, lighting and that utilities are not impacted. No external roadworks are required.
PO30 Provision is made in the road reserve for streetscaping, pedestrians and cyclists in a manner consistent with: • the current and projected level of usage; • the desired streetscape character; and • activities which are anticipated to occur within the verge.	**AO30** Streetscaping works, footpaths and cycle paths are provided in accordance with Development manual planning scheme policy no. SC6.4.	**Not applicable.** The Project is part of the Lansdown Eco-Industrial Precinct, and is a high impact industry compatible use. Landscaping will be undertaken to a level that is suitable and appropriate for this use.
PO31 Parking areas are designed and constructed in a manner that is sufficiently durable for the intended function, maintains all weather access and ensures the safe passage of vehicles, pedestrians and cyclists.	**AO31** Parking area design and construction is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 — SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.	**Complies.** The designated parking aera is being designed and will be constructed to ensure the safe passage of vehicles, durability and appropriate to the nature of the high impact industry compatible use.
PO32 Movement networks can be easily and efficiently maintained.	**AO32** Infrastructure is provided in accordance with the Development manual planning scheme policy no. SC6.4 — SC6.4.6.1 Geometric Road Design, SC6.4.5.1 Townsville Road Hierarchy and SC6.4.5.2 Traffic Impact Assessment (TIA).	**Complies.** The internal road network has been designed such that maintenance can be easily and effectively undertaken.

Performance outcomes	Acceptable outcomes	Applicant response
Waste management		
PO33 Development provides adequate waste management facilities on site for the storage of waste and recyclable material in a manner which: 1. is of adequate size to accommodate the expected amount of refuse to be generated by the use; 2. is in a position that is conveniently accessible for collection at all times; 3. is able to be kept in a clean, safe and hygienic state at all times; and 4. minimises the potential for environmental harm, environmental nuisance and adverse amenity impacts.	**AO33** Waste management facilities are provided in accordance with the Development manual planning scheme policy no. SC6.4 – SC6.4.22 Waste Management.	**Complies.** Adequate waste management facilities will be included in the detailed design.
Construction management		
PO34 Work is undertaken in a manner which does not cause unacceptable impacts on surrounding areas as a result of dust, odour, noise or lighting.	No acceptable outcome is nominated.	**Complies.** PEP acknowledges that like all developments, construction activities will have some impacts including dust, noise and lighting. The air quality and acoustics assessments have concluded that these impacts are not considered to be unacceptable. Construction lighting will be designed such that it is situated away from sensitive receptors where practicable.
PO35 While undertaking development works, the site and adjoining road are maintained in a tidy, safe and hygienic manner.	No acceptable outcome is nominated.	**Complies.** The premises and adjoining roads will be maintained to a tidy, safe and hygienic manner
PO36 Traffic and parking generated during construction are managed to minimise impact on the amenity of the surrounding area.	No acceptable outcome is nominated.	**Complies.** Traffic will be managed during
PO37 Council's infrastructure is not damaged by construction activities.	No acceptable outcome is nominated.	**Complies.** Council infrastructure will not be impacted by construction activities.

Performance outcomes	Acceptable outcomes	Applicant response
PO38 The integrity of new infrastructure is maintained.	No acceptable outcome in nominated.	**Complies.** The integrity of any new infrastructure will be maintained.
PO39 Construction activities and works are carried out in a manner which avoids damage to the environment, retained vegetation and impacts on fauna.	**AO39** Construction activities and works are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.23.1 Construction Management.	**Complies.** The majority of the site is historically cleared, with clear avoidance of ecological areas (creeks and mapped vegetation). The approved disturbance area will be clearly demarcated prior to clearing to avoid unnecessary clearing of vegetation and to ensure personnel and vehicles stay within the approved footprint. Measures to ensure clearing limits are adhered to will be documented in the CEMP and addressed in site inductions. Sequential clearing will occur to minimise impacts on native fauna, particularly arboreal fauna which may be using tree hollows. A Vegetation Management Plan will be prepared prior to works commencing. The management of vegetation waste is still being explored, however preference will be given to reuse and recycling.
PO40 Vegetation cleared from a site is disposed of in a manner that maximises reuse and recycling and minimises impacts on public health and safety.	**AO40** Construction activities and works are carried out in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.7.1 Clearing and Grubbing.	