

Appendix B

Environmental Risk Analysis



Environmental planning constraints identified in Section 5 of this report have been further considered in relation to the proposed development of the MLS Building at UOW. The Environmental Issues have been assessed against the risk matrix in Table B.3.

B.1 Determining likelihood

Use Table B.1 to determine the sensitivity in terms of harm should an event occur.

Table B.1: Sensitivity

Descriptor	Sensitivity examples
High	Is expected to occur in most circumstances and has a history of occurrence
High-Moderate	Will probably occur in most circumstances
Moderate	Could occur at some time
Moderate-Low	Not likely to occur in normal circumstances
Low	May occur only in unique circumstances
Negligible	May occur only in exceptional circumstances

B.2 Determining Consequence

Use Table B.2 to determine the magnitude of consequence in terms of harm should an event occur.

Table B.2: Consequence

Descriptor	Consequence examples
High	More than likely to result in environmental or amenity impacts on the locality. Significant redesign or relocation may be required.
High-Moderate	Likely to result in significant environmental or amenity impacts on the locality. Significant changes to the design to accommodate the occurrence are likely to be required.
Moderate	Somewhat likely to result in environmental or amenity impacts on the locality. Minor changes to the design to accommodate the occurrence are likely to be required.
Moderate-Low	Unlikely to result in environmental or amenity impacts on the locality. Minor changes to the design to accommodate the occurrence may be required.
Low	Matter may be resolved through minor mitigations measures. Minor changes to the design to accommodate the occurrence may be required.
Negligible	The consequence of an action of design is unlikely to have any adverse impact.

B.3 Determining Risk Level

Use Table B.3 to determine the risk level for each identified hazard.

Table B.3: Environmental Risk Rating Matrix

		CONSEQUENCE					
		High	High-Moderate	Moderate	Moderate-Low	Low	Negligible
LIKELIHOOD	High	High Risk	High Risk	Moderate-High Risk	Moderate-High Risk	Moderate Risk	Negligible
	High-Moderate	High Risk	Moderate-High Risk	Moderate-High Risk	Moderate Risk	Moderate Risk	Negligible
	Moderate	Moderate-High Risk	Moderate-High Risk	Moderate Risk	Moderate Risk	Moderate-Low Risk	Negligible
	Moderate-Low	Moderate-High Risk	Moderate Risk	Moderate Risk	Moderate-Low Risk	Moderate-Low Risk	Negligible
	Low	Moderate Risk	Moderate Risk	Moderate-Low Risk	Moderate-Low Risk	Low Risk	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

B.4 Risk Rating Assessment

The Risk Rating Assessment has been undertaken for all items detailed in Part 7.1 of this EIS utilising Table B.1 to Table B.3. The Risk Rating Assessment identifies matters that will be required to be addressed with greater rigour early in the process. Table B.4 also identifies matters that are unlikely to require further assessment.

Table B.4: Preliminary Environmental Risk Rating

Environmental Constraint	Risk	Comment
Built form and Design excellence	Moderate Risk	Likelihood – Moderate Consequence – Moderate The built form is proposed to be higher than the other buildings in the immediate vicinity however will appear as a modern and highly sophisticated structure that reflects the world leading technology that exists inside the building. The bulk and scale of the building, while taller than the adjoining structures, will be broken with significant façade articulation and the use of large areas of glass.
Transport, traffic and parking	Moderate-High Risk	Sensitivity – High-Moderate Consequence – High-Moderate Parking in and around the UOW campus is at capacity. However, proposed works to car parking in other areas of the Campus would contribute to improving the supply of car parking on Campus and for the proposed MLS Building
Accessibility	Moderate-High Risk	Likelihood – Moderate Consequence – High The site is key transport access link for the eastern precinct of the UOW. Pedestrian and bicycle access north-south through the site must be maintained. Accessibility to the MLS Building for students and staff is essential and therefore appropriate access arrangements will be designed into the structure and adjoining open spaces. Emergency

Environmental Constraint	Risk	Comment
		vehicle access is maintained throughout the site.
Geology	Moderate-Low Risk	Likelihood – Low Consequence – Moderate The sensitivity of the equipment requires a stable geological environment. An unstable environment will require engineering solutions or the identification of an alternative site suitable for the microscopes.
Contamination	Moderate-Low Risk	Likelihood – Low Consequence – Moderate Site contamination risk is considered to be low given the long term use of the site for educational purposes. Contamination discovered during the assessment process will require remediation to maintain a safe environment.
Waste Management	Moderate	Likelihood – Moderate Consequence – High The waste from the facility can be categorised into two component; general waste and biological waste. General waste may be managed in accordance with the existing UOW waste management arrangements. Biological waste from the research facility will need to be separately identified and appropriate procedures for management installed. As the facility may be dealing with disease or other biological components, strict procedures will need to be installed to ensure the protection of the environment.
Biodiversity	Negligible	Likelihood – Negligible Consequence – Negligible There are a number of trees that are located in and around the car park area that will be removed. The trees will be replaced with significant landscaping proposed around the site.
Stormwater	Negligible	Likelihood – Low Consequence – Low The removal of the car park and replacement with the MLS Building as well as landscaping will increase the pervious treatment of the locality and therefore decrease the hard surfaces impeding infiltration by natural means. Stormwater systems will be connected to existing stormwater services on the site.
Servicing	Moderate	Likelihood – Moderate Consequence – Moderate It is understood d that the site contains a number of services including high and low voltage electricity, telecommunications, gas, water and waste water. Most of the services are not within easements and have been installed on an as needed basis as the gradual evolution of the university campus has evolved. Servicing conduits will require relocation or removal depending on where or what they are servicing.
ESD	Moderate	Likelihood – Moderate Consequence – Moderate The MLS Building will require assessment against both university ESD strategies as well as national green star rating. The implementation of ESD measures may be required to achieve appropriate rating levels.
Noise and Vibration	Low	Likelihood – Low Consequence – Low Construction noise and operational noise will be considered, however the proposal is unlikely to increase noise in the locality during operation. Construction noise is unlikely to impact on land external to the Campus due to the proximity of the site ,

Environmental Constraint	Risk	Comment
Environmental Amenity - Visual Amenity	Moderate	Likelihood – High Consequence – Low The MLS building is located in the Campus and is intended to be the cornerstone for the Science, Medicine and Health precinct. The building will be located within an existing education precinct with buildings ranging to 4 stories in the immediate vicinity. The MLS Building will impact on the visual amenity of the development site as viewed both externally from the east and south of the site as well as from the users of the adjoining buildings. The building will only be seen from within the Campus and therefore will not be prominent when viewed from the surrounding community.
Environmental Amenity - Wind	Moderate-High Risk	Likelihood – Moderate Consequence – Moderate Open spaces are defined in the Campus Master Plan to provide both access and passive uses around the MLS building. Wind impacts from the prominent north easterly's and southerly winds may impact on the usability of the spaces for either passive uses or high traffic pedestrian zones.
Environmental Amenity - Shadowing	Moderate-High Risk	Likelihood – High Consequence – Moderate Solar access to open space and access ways has a high impact on levels of amenity. Overshadowing of open space areas and access links impacts on the level of passive use of the spaces.
Heritage	Negligible	Likelihood – Negligible Consequence – Low The site has been heavily disturbed through the construction of the adjoining building as well as the construction of the car park, therefore the likelihood of heritage existing on the site is negligible. No European heritage items are identified on the site and the AHIMS search does not result in any sites of places being identified in the UOW landholdings. As a result the consequence of heritage being
Flooding	Moderate	Likelihood – Moderate Consequence – Moderate The building is located within an area that has flood impacts in the immediate vicinity. Flooding impact during construction as well as operation will required design consideration.