Planning Proposal

To facilitate a Winter Sporting Facility at 2-4 Tench Avenue, Jamisontown

December 2018

PENRITH CITY COUNCIL
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Introduction

1.1 Purpose of the Planning Proposal

This Planning Proposal recommends an amendment to Penrith Local Environmental Plan 2010 (LEP 2010) to facilitate the development of a Winter Sporting Facility at 2-4 Tench Avenue, Jamisontown (Lot 1 DP 38950). Specifically, the development requires an amendment to Part 7 (Additional local provisions) of LEP 2010 to allow for the unique development sought.

The Winter Sporting Facility would include the following elements:

- A 300 metre indoor ski slope
- Ice skating rink
- Ice climbing facilities
- Rock climbing facilities
- Altitude training
- Gymnasium and training facilities
- Hotel accommodation (Approximately 170 hotel rooms plus a function centre)
- Food and drink premises (bars, cafes and restaurants)

The key attractor or anchor which underpins the concept and viability of the Winter Sporting Facility is an indoor ski centre with a 300-metre-long ski slope that has been designed to be one of the top 10 High Performance Training Centre's in the world.

To achieve the required length and gradient for the ski slope a building height of 54 metres is required. The proponent of the development has indicated that a minimum Floor Space Ratio (FSR) control of 1.2:1 would be required to facilitate the development proposal not including a hotel component. Should a hotel component be included the proponent would require a minimum FSR control of 1.45:1 for the site.

The land is currently zoned SP3 Tourist pursuant to LEP 2010. The proposed development is permitted with consent in the SP3 Tourist zone and is consistent with the objectives of the zone. A height limit of 8.5 metres applies to the site. The height limit prevents an indoor ski centre to be constructed on the site, despite the permissibility of the facility in the zone.

There is currently no appropriately zoned land in the Penrith local government area that has a height limit capable of accommodating an indoor ski centre, despite the permissibility of the use in the SP3 zone and the consistency of the proposal with the strategic direction for tourism and recreation in Penrith. As such an amendment to LEP 2010 is necessary to facilitate the development of the Winter Sporting Facility.

The amendment to LEP 2010 is required to enable the significant economic benefits of the Winter Sporting Facility to be realised and to strengthen Penrith's claim for the title of 'The Adventure Capital of NSW'. It is estimated that the Winter Sporting Facility would generate approximately 896 direct and indirect jobs during construction and 759 direct and indirect jobs once complete. It would contribute approximately $74.9 million to the NSW economy each year. By 2025 the centre is forecast to achieve annual visitation of 231,000 persons.

This document sets out the justification for the Planning Proposal and explains the intended effect of the recommended amendment. The preparation of a Planning Proposal is the first step in the NSW Department of Planning and Environment's (DPE) Gateway Process, which is the current procedure for making changes to LEP 2010.

1.2 Structure of this Report

This Planning Proposal has been prepared in accordance with the Department of Planning and Environment's *Planning Proposals - A guide to preparing planning proposals*. The structure of this Planning Proposal and the matters which will be addressed in accordance with the Act and guidelines is summarised in the table below.

Part Summary and Description	
Part 1 Objectives or Intended Outcomes	A statement of the objectives and intended outcomes of the proposed instrument.
Part 2 Explanation of Provisions	An explanation of the provisions that are to be included in the proposed instrument
Part 3 Justification	The justification for those objectives, outcomes and the process for their implementation
Part 4 Mapping	Maps, where relevant, to identify the intent of the planning proposal and the area to which it applies.
Part 5 Community Consultation	Details of the community consultation that is to be undertaken on the planning proposal.
Part 6 Project Timeline	Predicted timeline

1.3 Land to which the Proposal Applies

The Planning Proposal relates to land legally described as Lot 1 in DP 38950 and known as 2-4 Tench Avenue, Jamisontown. The site is located on the south-east corner of the intersection of Jamison Road and Tench Avenue.

The site is of an irregular shape and has an area of 2.342 hectares. The site has a 50.925 metre frontage to Tench Avenue to the west and a 333.91 metre frontage to Jamison Road to the north. The boundary forms a 19.925 metre arc at the north-west corner which reflects the road alignment where Tench Avenue and Jamison Road meet. The site has a 93.575 metre frontage to Wilson Lane (an unformed road) along the eastern boundary. The southern boundary has a length of 30.645 metres.

Figure 1: Aerial Image of the Subject Site (Source: Six Maps 2018)

The site is improved by a dwelling and a swimming pool that is located on the western side of the property. The remainder of the property is an open, grass field which is currently used for the keeping of horses.

The site generally falls in an easterly direction and has a localised depression at RL24.5 draining to Jamison Road. The site does not support any significant vegetation however mature trees are have been planted along the southern boundary of the site on the adjoining property. There are also several trees located in the road reserve of Jamison Road.

The site is within the SP3 Tourism zone pursuant to LEP 2010 as shown in Figure 2. The SP3 zone extends along the eastern side of Tench Avenue, from the M4 to Jamison Road. The SP3 zone includes 'Madang Park' and a portion of the Cables Wake Park. The SP3 zone permits a range of tourism related land uses such as amusement centres, recreation facilities (indoor and outdoor), water recreation structures and tourist and visitor accommodation. LEP 2010 limits the height of buildings within the SP3 zone (and the adjoining RU4 land) to 8.5 metres as shown in Figure 3. The Floor Space Ratio (FSR) development standard does not apply to the site or the surrounding land.

The site is located within the Riverlink Precinct which is bounded by the Nepean River to the north-west, the M4 motorway to the south-west, Mulgoa Road to the south-east and the railway line to the north. The area along Tench Avenue is identified as an entertainment, tourism, leisure and lifestyle precinct in the Riverlink Precinct Plan 2008.

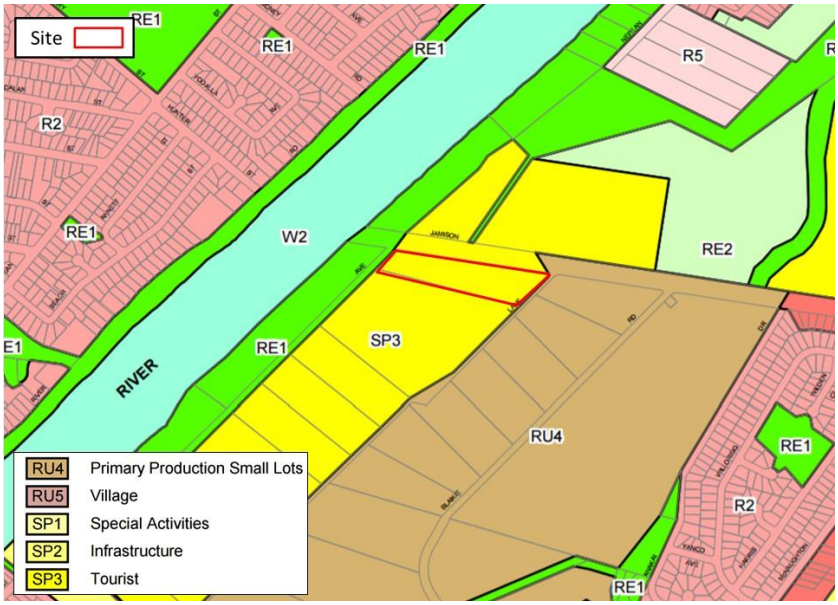


Figure 2: Extract from the LEP 2010 Land Zoning Map

Figure 3: Extract from the LEP 2010 Height of Buildings Map

Photograph 1:

Site viewed from Tench Avenue

Photograph 2:

Intersection of Tench Avenue and Jamison Road showing the existing dwelling on the site (left)

Photograph 3:

View of the site from the north-west side of Jamison Road

Photograph 4:

Wilson Lane (unmade) adjoining the eastern boundary of the site viewed from the north

Photograph 5:

View of the site from the eastern boundary (looking west)

Photograph 6:

View of the northern boundary of the site from midway along the southern boundary

1.3.1 Surrounding Development

To the west of the site, on the western side of Tench Avenue is Tench Reserve and the Nepean River.

The site adjoins 6-22 Tench Avenue to the south. The development on this property is known as 'Nepean Shores' and is operated by Gateway Lifestyle. The property is improved by a number of single storey cabins which are used for a mix of short stay rentals and long-term tenants. The development includes communal outdoor spaces, a tennis court, swimming pool, community library and community centre.

Wilson Lane adjoins the eastern boundary. Wilson Lane is an unmade road that extends from Jamison Road, along the rear boundary of the allotments with frontage to the eastern side of Tench Avenue, almost to the M4 Motorway. To the east of Wilson Lane are large allotments which appear to be used for rural-residential purposes.

North of the eastern side of the site is Cables Wake Park which is part of the Panthers World of Entertainment Complex. Panthers offers a range of recreational activities including: Aqua Golf, IFLY Indoor Skydiving and Playtime Arcade.

The property to the north of the western side of the site at 475-487 Jamison Road, Penrith is known as "Madang Park" and is identified as a heritage item with local significance pursuant to Schedule 5 of the Penrith Local Environmental Plan 2010. The significance of the item is described in the heritage inventory as follows:

> *Significant as the type of houses built by the prosperous farmers of the district during the various phases of rural development and is an important feature of the remaining rural landscape along this section of the river.*

The Madang Park homestead is located approximately 200 metres north of the subject site.

Photograph 7:

View to the south along Tench Avenue from the western side of Tench Avenue, opposite the site

Photograph 8:

Entrance of the 'Nepean Shores' Gateway Lifestyle complex

Photograph 9:

View of the development along the southern boundary of the site (looking south-east)

Photograph 10:

View of the development along the southern boundary of the site (looking south-west)

Photograph 11:

Cables Wake Park north of the site

Photograph 12:

Madang Park opposite the north-west side of the site

Part 1 – Objectives or Intended Outcomes

The objective of this Planning Proposal is to amend Penrith Local Environmental Plan 2010 (LEP 2010) to facilitate the development of a Winter Sporting Facility at 2-4 Tench Avenue, Jamisontown.

The Winter Sporting Facility would include the following facilities:

- Indoor ski slope
- Ice skating rink
- Ice climbing facilities
- Rock climbing facilities
- Altitude training
- Gymnasium and training facilities
- Hotel accommodation (approximately 170 hotel rooms and a function centre)
- Food and drink premises (bars, cafes and restaurants)

The key attractor or anchor which underpins the concept and viability of the Winter Sporting Facility is an indoor ski centre which has been designed to be one of the top 10 High Performance Training Centres in the world. To achieve the required length and gradient for an intermediate and advanced slope the building increases in height from 8.5 metres to 54 metres over a length of approximately 300 metres. The proponent of the development has indicated that a minimum Floor Space Ratio (FSR) control of 1.2:1 would be required to facilitate the development proposal not including a hotel component. Should a hotel component be included the proponent would require a minimum FSR control of 1.45:1 for the site. The proposal is illustrated in the concept plans for potential development on the site prepared by Environa Studio. These plans are included as Appendix 1.

The intended outcome of the Planning Proposal is to facilitate a development that will provide a significant contribution towards the attainment of Penrith's Economic Development Strategy's goal of creating 2,000 new jobs in the tourism sector by 2031 and doubling the number of visitors to Penrith by 2025. The Planning Proposal will also facilitate a development that will strengthen Penrith's claim for the title of the 'Adventure Capital of NSW'. The proposal would also contribute to meeting demand for hotel accommodation in the locality as identified in Councils short stay accommodation strategy.

The development will support and stimulate development in the SP3 Tourist zone in which the site is located and provide a significant contribution to the local economy. It is estimated that 896 direct and indirect jobs will be created during the development of the facility and that $145 million will be added to the local economy. During the operating life of the facility, the centre will directly and indirectly support 759 jobs and will add $74.9 million to the economy per annum. The Economic Assessment included as Appendix 5 forecasts 200,600 visitors to the facility under a Base Case scenario. By 2025 the centre is forecast to achieve annual visitation of 231,000 persons. The proposed amendment to LEP 2010 will allow for these economic benefits to be realised.

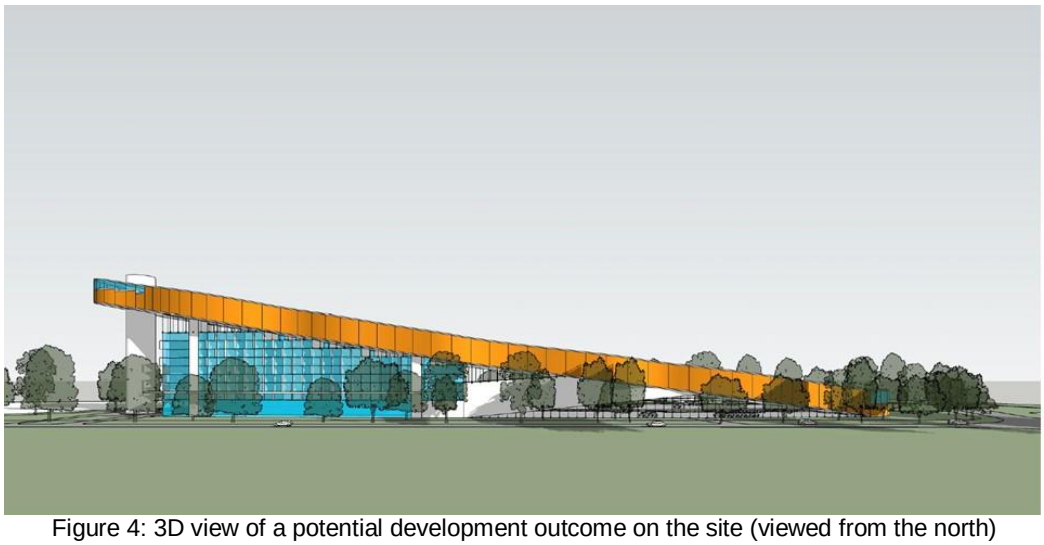


Figure 4: 3D view of a potential development outcome on the site (viewed from the north)

Figure 5: 3D view of a potential development outcome on the site

Figure 6: 3D view of a potential development outcome on the site (viewed from the Tench Reserve)

Part 2 – Explanation of Provisions

The objectives and intended outcomes of the Planning Proposal will be achieved by inserting a local provision in Part 7 (Additional local provisions) of LEP 2010. Site-specific development controls will apply to the subject land to facilitate only the unique development sought and to provide greater certainty to development outcomes.

The primary purpose of the Planning Proposal is to facilitate development of a 300-metre indoor ski slope. This is a unique tourist facility which is dependent on a specific gradient and height. It is noted that for other land uses the height as proposed would be not be acceptable if such uses were stand-alone development proposals and did not offer a unique proposition. Any development of the site under the proposed controls would need to substantially feature an indoor ski slope facility.

The local provision would allow for a 54m high development on the site on the condition that:

- A substantial component of the development is an indoor ski slope facility, and an FSR control of 1.2:1 is not to be exceeded.
- An FSR control above 1.2:1 (up to a maximum of 1.45:1) would be considered if justified and if the development features a hotel component.
- The development is in accordance with a site-specific Development Control Plan (DCP) prepared for the site which provides additional planning and design guidance for development.
- The design of the structure is prepared by way of a design competition.
- A “sunset clause” applies, where the local LEP provision will cease to exist three years after the date the LEP amendment is made. This is to enable controls specific to this proposal and ensure delivery.

No other changes are sought to LEP 2010.

Council officers will work with the proponent to further consider the most appropriate FSR control for the site, which would be guided by additional urban design and architectural analysis and preparation of the site specific planning controls.

Part 3 – Justification

This part of the Planning Proposal outlines the need for the proposed amendment to LEP 2010, the relationship with the strategic planning framework, the impacts of the proposed changes, and State and Commonwealth interests.

Section A – Need for the Planning Proposal

1. Is the Planning Proposal the result of any strategic study of report?

The subject site is located within the Riverlink Precinct which is bounded by the eastern bank of the Nepean River to the west, Mulgoa Road to the east, the M4 Motorway to the south and the Western Railway line to the north.

The Riverlink Precinct Plan was adopted in 2008 to create a living, entertainment and working hub to link the Penrith City Centre to the Nepean River. The Precinct comprises a mix of uses including: residential, bulky goods retail/warehousing, leisure/entertainment, hotels/motels and open space. The Precinct Plan identified the land between Tench Avenue and Wilson Road as an entertainment, tourism, leisure and lifestyle precinct.

The strategic direction identified for the Riverlink Precinct in the Riverlink Precinct Plan is reflected in the SP3 Tourist zone of the site which applies pursuant to the Penrith Local Environmental Plan 2010 (LEP 2010). The provisions for the Riverlink Precinct in Part E13 of the Penrith Development Control Plan 2014 support the zoning of the site and implement the direction of the Riverlink Precinct Plan 2008.

The Winter Sporting Facility falls under the definition of a 'recreation facility (indoor)' and includes 'tourist and visitor accommodation', 'food and drink premises' and a 'function centre'. These uses are permitted with consent in the SP3 zone.

There is currently no appropriately zoned land in the Penrith local government area that has a height limit capable of accommodating an indoor ski centre, despite the permissibility of the use in the SP3 zone and the consistency of the proposal with the strategic direction for the Precinct. As such an amendment to the LEP 2010 is necessary to facilitate the development of the Winter Sporting Facility.

The zoning of the site and provisions of Penrith Development Controls Plan 2014 (DCP 2014) are consistent with and support the Economic Development Strategy (EDS) for Penrith. The EDS sets a goal for Penrith of an increase in total local jobs of up to 55,000 by 2031. At least 2,000 of these jobs are expected to come from the tourism sector. The Economic Development Strategy notes that there is significant potential to grow the visitor economy in Penrith. At the time of writing the Strategy Penrith had 1.3 million annual visitors who inject $231 million into the local economy annually. The target is to double this figure by 2025.

The amendment to LEP 2010 is required to enable significant economic benefits of the Winter Sporting Facility to be realised. The Economic Assessment prepared by Urbis which accompanies this Planning Proposal, demonstrates the Winter Sporting Facility development will generate approximately 896 direct and indirect jobs during construction and 759 direct and indirect jobs once complete. The Winter Sporting Facility would contribute approximately $74.9 million to the NSW economy each year.

If the LEP 2010 provisions are not amended, the facility will not be able to proceed. This will compromise the attainment of the objectives of the zone and be inconsistent with the strategic direction for the Riverlink Precinct and the EDS objectives for the growth of tourism in Penrith.

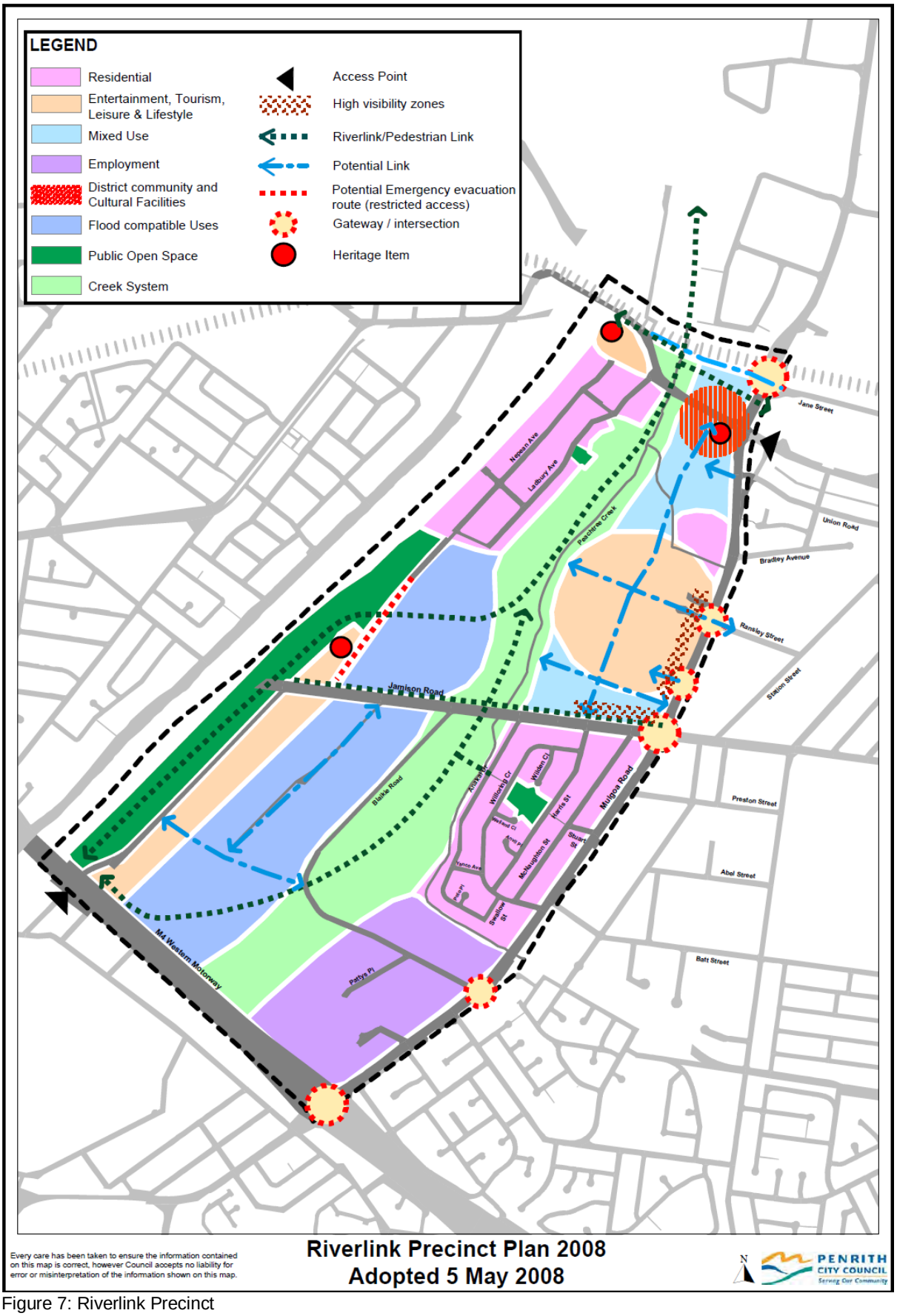


Figure 7: Riverlink Precinct

2. Is the Planning Proposal the best means of achieving the objectives of intended outcomes, or is there a better way?

The Planning Proposal seeks to amend LEP 2010 for the land at 2-4 Tench Avenue, Jamisontown in order to facilitate the development of a Winter Sporting Facility on the site which includes an indoor ski slope. The indoor ski centre is the anchor facility for the development. As the indoor ski slope requires a certain height and gradient the LEP amendment is the best means to achieving the intended outcome of the Planning Proposal.

Section B – Relationship to Strategic Planning Framework

3. Is the Planning Proposal consistent with the objectives and actions of the applicable regional, sub regional or district plan or strategy (including any exhibited draft plans or strategies)?

Greater Sydney Region Plan – A Metropolis of Three Cities

In March 2018 the *Greater Sydney Region Plan - A Metropolis of Three Cities* was released. The Plan sets a 40-year vision to 2056 and establishes a 20-year plan to manage growth and change for Greater Sydney. The Plan informs district and local plans and the assessment of planning proposals. The Plan applies to the Greater Sydney Region and sets the planning framework for the five districts which make up the region. Penrith is within the Western City District of the Greater Sydney Region.

The Plan sets out 10 Directions which set out the aspirations for the region and objectives to support the Directions. The 10 Directions are:

- A City supported by infrastructure
- A collaborative city
- A city for people
- Housing the city
- A city of great places
- A well-connected city
- Jobs and skills for the city
- A city in its landscape
- An efficient city
- A resilient city

The relevant Directions to the Planning Proposal are 'Jobs and skills for the city' and 'A resilient city'.

Objective 24 under the Direction for 'Jobs and skills for the city' is that economic sectors are targeted for success. Tourism is identified in the Plan as a key economic sector which is to be supported and developed.

The Plan notes that Destination NSW has developed the Western Sydney Visitor Economy Strategy and will continue to secure and grow events in Western Sydney. The Plan also recognises that the Western Sydney Airport creates opportunities for the Western Parkland City to become an alternative to the Eastern Harbour City for international tourists. Alliances between councils and key industry stakeholders are encouraged to create opportunities to cross-promote events, develop and support a wider range of activities and importantly, realise the opportunities as the Western Sydney Airport and Badgerys Creek Aerotropolis develops. (p140)

Strategy 24.2 of the Plan relates to Tourism. Strategy 24.2 is to consider the following issues when preparing plans for tourism and visitation:

- Encouraging the development of a range of well-designed and located facilities
- Enhancing the amenity, vibrancy and safety of centres and township precincts,
- Supporting the development of places for artistic and cultural activities
- Improving public facilities and access
- Protection heritage and biodiversity to enhance cultural and eco-tourism,

- Supporting appropriate growth of the night-time economy/
- Developing industry skills critical to growing visitor economy
- Incorporating transport planning to service the transport access needs of tourists.

The Planning Proposal will facilitate the development of a use that supports the Greater Sydney Region Plan's strategy for Tourism as follows:

- The proposed Winter Sporting Facility is located on land that is already zoned for tourist-oriented development and related uses. The proposed use is therefore in an appropriate location.
- The Winter Sporting Facility will stimulate and support tourism related development in the Riverlink Precinct .
- The Western Sydney Airport is located approximately 20 kilometres driving distance from the site. The recreation facility is therefore ideally located to take advantage of improved access to domestic and international visitor markets and the population growth in Western Sydney that will be driven by the new airport.

Objective 37 under the Direction 'A Resilient City' is for exposure to natural and urban hazards to be reduced. Of relevance to the Planning Proposal is that the Plan notes that the Hawkesbury-Nepean Valley has a high flood risk and climate change may increase the severity and frequency of floods in the future.

The Resilient Valley, Resilient Communities – Hawkesbury-Nepean Valley Flood Risk Management Strategy aims to reduce the potential risk to life, the economy and communities. This strategy highlights the importance of strategic and integrated land use and road planning and adequate roads for evacuation. Given the severity and regional scale of the flood risk, the strategy looks at areas affected by the probably maximum floor a well as the 1 in 100 chance per year flood.

Strategy 37.2 is to respond to the direction for managing flood risk in the Hawkesbury-Nepean Valley as set out in Resilient Valley, Resilient Communities – Hawkesbury-Nepean Valley Flood Risk Management Strategy.

The proposed amendment to the maximum height of buildings permitted on the site does not increase the flood risk for future development on the site. The additional height in fact provides greater flexibility in designing a building that minimises the risk. Notwithstanding this a Concept Flood Risk Management and Stormwater Management Report prepared by ACOR Consultants is included as Appendix 7 to demonstrate that the proposed development can satisfy current flood management requirements and that an adequate flood evacuation route and appropriate evacuation procedures can be implemented.

Western City District Plan

In March 2018 the Greater Sydney Commission published the Western City District Plan. The Western City District includes the Blue Mountains, Camden, Campbelltown, Fairfield, Hawkesbury, Liverpool, Penrith and Wollondilly local government areas.

The Western City District Plan is a 20-year plan to manage growth in the context of economic, social and environmental matters to achieve the 40-year vision for Greater Sydney. The District Plan is a guide for implementing the Greater Sydney Region Plan at a district level and is a bridge between regional and local planning. The District Plan is to inform the assessment of planning proposals and assists councils to plan for and support growth and change. The focus of the District Plan is on identifying the Planning Priorities to achieve a liveable, productive and sustainable future for the District.

The relevant Planning Priorities to this Planning Proposal are:

- W8 – Leveraging industry opportunities from the Western Sydney Airport and Badgerys Creek Aerotropolis
- W20 – Adapting to the impacts of urban and natural hazards and climate change.

The Western City District Plan recognises that the District's visitor economy has grown from 7.5 million visitors in 2006 to 12.4 million visitors each year. The Plan acknowledges that sporting venues and recreational assets (including adventure tourism) contribute to the diversity of tourist attractions in the District. Planning Priority W8 seeks to further grow the visitor economy by capitalising on the significant opportunities created by the Western Sydney Airport.

The proposed development will provide a new and unique addition to the adventure tourism market that will attract around 231,000 visitors per year. There are no similar facilities in Australia. The facility is expected to attract a range of visitors including residents, daytrip visitors, domestic visitors and international visitors.

The facility will be located approximately 20 kilometres drive from the new Western Sydney Airport. The facility is therefore ideally located to take advantage of improved access to domestic and international visitor markets and the population growth in Western Sydney that will be driven by the new airport.

Planning Priority W20 includes specific guidance to manage the impacts of flooding in the Hawkesbury-Nepean Valley. The Plan notes that given the scale of the severity and regional scale of the risk, more stringent consideration is warranted for areas affected y the probable maximum flood (PMF) as well as the 100 year flood. While the NSW Department and Environment develops a planning framework to address flood risk in the Hawkesbury-Nepean Valley, the following planning principles are to be applied to local strategic planning and development decisions:

- Avoiding intensification and new development on land below the current 1 in 100 chance per year flood event (1 % annual exceedance probability flood event).
- Applying flood related development controls on land between the 1 in 100 chance per year flood level and the PMF level.
- Providing for less intensive development of avoiding certain urban uses in areas of higher risk and allowing more intensive development in areas of lower flood risk, subject to an assessment of the cumulative impact of urban growth on regional evacuation road capacity and operational complexity of emergency management.
- Balancing desired development outcomes in strategic centres with appropriate flood risk management outcomes.
- Avoiding alterations to flood storage capacity of the floodplain and flood behaviour through filling and evacuation or other earthworks
- Applying more flood compatible building techniques and subdivision design for greater resilience to flooding.

The Planning Proposal does not seek to change the permitted uses on the site. The Planning Proposal seeks to amend LEP 2010 to permit a specific non-residential use of the site. Given the proposed development is for day visitors to the site and short stay accommodation, the evacuation of the facility can be managed.

The Concept Flood Risk Management Report prepared by ACOR indicates that 1% AEP overland floodwaters impact the site at elevation RL26 AHD. The 1% AEP overland floodwaters cause patrial inundation over the eastern half of the subject site to depths within the 0-1.5m. The western portion of the site is not inundated by 1% AEP floodwaters. The Concept Flood Risk Report assesses the impact of the proposed development and sets out the flood risk management measures that would be required for the development.

4. Is the Planning Proposal consistent with a Council's local strategy or other local strategic plan?

Penrith Community Plan

The Penrith Community Plan was adopted by Council on 26 June 2017 and represents the community's vision for the Penrith LGA over the next 20 years.

The Plan outlines the priorities for the community and includes the following outcomes:

1. We can work close to home.
2. We plan for our future growth.
3. We can get around the city
4. We have safe, vibrant places.
5. We care for our environment.
6. We are healthy and share strong community spirit.
7. We have confidence in our Council.

The relevant outcomes to the Planning Proposal are addressed below.

Outcome 1 – We can work close to home

Strategy 1.1 is to attract investment to grow the economy and increase the range of businesses operating in the region. The Community plan notes that over half the workforce travels outside the LGA to work. More travel time means less time for leisure, family and community activities and a greater environmental impact. The Community Plan notes that increasing the number of local jobs will significantly improve community wellbeing, by reducing travel time and traffic congestion. Increasing the range of jobs available locally will give Penrith's workforce more choice and more opportunity. While many factors will influence job creation, Council will actively work to support economic growth, encourage investment and target jobs in areas that are currently underrepresented.

The Planning Proposal supports Outcome 1 in that it will facilitate the development of a facility which is estimated to create 765 direct and indirect jobs during the development phase and 822 direct and indirect ongoing jobs.

Outcome 2 – We plan for our future growth

The Planning Proposal is consistent with outcome 2 as it will facilitate the development of a recreation facility in an appropriate location. As the site has previously been cleared, a comprehensive landscape strategy will be developed for the site and the site is adequately separated from the nearby heritage item at 'Madang Park', the proposal will not result in any unreasonable impacts on the natural environment, history or character of Penrith.

Economic Development Strategy

The Economic Development Strategy (EDS) was endorsed by Penrith Council in 2016. The EDS provides a strategic framework to assist Council in supporting economic development, fostering greater investment and growing jobs in Penrith. It provides Council with target sectors for jobs growth and areas of focus to stimulate economic development across the Local Government Area (LGA).

The EDS sets a goal for Penrith of an increase in total local jobs of up to 55,000 by 2031. At least 2,000 of these jobs are expected to come from the tourism sector.

The EDS notes that there is significant potential to grow the visitor economy in Penrith. At the time of writing the Strategy Penrith had 1.3 million annual visitors who inject $231 million into the local economy annually. The target is to double this figure by 2025.

Penrith tourism industry's unique point of difference was identified in 2015 and as a result is now being marketed as the Adventure Capital of NSW due to the wide range of adventure activities and adrenaline-based attractions.

The Planning Proposal will facilitate the development of a Winter Sporting Facility on the subject site. The uses within the Winter Sporting Facility include an indoor ski centre, ice climbing facilities, rock climbing facilities and altitude training. These uses are entirely consistent with the strategic direction for tourism in Penrith and will strengthen Penrith's claim for the title of 'The Adventure Capital of NSW'.

The Economic Assessment included as Appendix 5 forecasts 200,600 visitors under a Base Case scenario. By 2025 the centre is forecast to achieve annual visitation of 231,000 persons.

	Development Phase	Ongoing
Employment Benefits		
- Direct Jobs	230	499
- Indirect Jobs	666	260
- Total Jobs	896	759
Value-Added Benefits		
- Direct Value-Added	$45.9 million	$36.9 million per annum
- Indirect Value Added	$99.1 million	$38 million per annum
- Total Value-Added	$145 million	$74.9 million per annum

An additional 896 direct and indirect jobs are estimated to be supported during the development period. This will contribute a total of $145 million in value to the NSW economy. Once complete the development is estimated to support a total of 759 direct and indirect jobs across the local region and state and contribute $74.9 million to the NSW economy each year.

The proposed development will therefore provide a significant contribution towards the attainment of the EDS' goal of creating 2,000 new jobs in the tourism sector by 2031 and doubling the number of visitors to Penrith by 2025.

Penrith Local Environment Plan 2010

The Penrith Local Environmental Plan 2010 prescribes the written provisions and mapped planning controls that are proposed to be amended by this Planning Proposal.

Penrith Development Control Plan 2014

DCP 2014 applies to the area proposed to be amended by this Planning Proposal. The consistency of the concept proposal with the provisions of the DCP is addressed in some detail under 'Bulk and scale of development and overshadowing' in Section C of this report.

5. Is the Planning Proposal consistent with applicable State Environmental Planning Policies?

State Environmental Planning Policies

The NSW Government has published a number of State Environmental Planning Policies (SEPPs) and Sydney Regional Environmental Plans (deemed SEPPs). These documents deal with matters of State or regional planning significance.

The Planning Proposal is consistent with applicable State Environmental Planning Policies (SEPPs), as demonstrated below as the proposal only involves a change to the height of buildings standard. No change is proposed to the uses that are permitted with consent on the site.

The proposal's consistency with each applicable SEPP is summarised in the table below. Whilst some SEPPs are noted as being applicable in the following table as they apply to the site, they may not be relevant to the Planning Proposal or the type of development facilitated by the Planning Proposal.

SEPP Title	Applicable	Consistent
SEPP No 1—Development standards	Yes	Yes The Planning Proposal does not seek to amend the provisions of SEPP 1. Clause 4.6 of the LEP 2010 contains the relevant provisions that would be relied

SEPP Title	Applicable	Consistent
		on for any proposed variation of the modified height standard.
SEPP No 19—Bushland in Urban Areas	Yes	Yes The Planning Proposal relates to SP3 zoned land and the Planning Proposal does not require the removal of bushland.
SEPP No 21—Caravan Parks	Yes	Yes The Planning Proposal does not relate to the development of a caravan park.
SEPP No 30—Intensive Agriculture	Yes	Yes The Planning Proposal does not facilitate the type of development to which the SEPP relates.
SEPP No 33—Hazardous and Offensive Development	Yes	Yes The Planning Proposal does not facilitate the type of development to which the SEPP relates.
SEPP No 36—Manufactured Home Estates	No	N/A
SEPP No 44—Koala Habitat Protection	No	N/A
SEPP No 47—Moore Park Showground	No	N/A
SEPP No 50—Canal Estate Development	Yes	Yes The Planning Proposal does not seek to make canal estate development permissible on the site.
SEPP No 52—Farm Dams and Other Works in Land and Water Management Plan Areas	No	N/A
SEPP No 55—Remediation of Land	Yes	Yes The site is currently used for a rural/residential purpose and is unlikely to be contaminated. The future Winter Sporting Facility use is a less sensitive use which is permitted with consent in the SP3 zone. The provisions of SEPP 55 will be addressed in any future development application.
SEPP No 62—Sustainable Aquaculture	Yes	Yes

SEPP Title	Applicable	Consistent
		The Planning Proposal does not relate to sustainable aquaculture.
SEPP No 64—Advertising and Signage	Yes	Yes The Planning Proposal does not recommend the amendment of existing provisions relating to advertising and signage.
SEPP No 65—Design Quality of Residential Apartment Development	Yes	Yes The Planning Proposal does not relate to Residential Apartment Development.
SEPP No 70—Affordable Housing (Revised Schemes)	Yes	Yes The Planning Proposal does not seek to alter the provisions of SEPP 70.
SEPP (Affordable Rental Housing) 2009	Yes	Yes The Planning Proposal does not seek to alter the provisions of this SEPP. The Planning Proposal does not relate to the provision of Affordable Housing.
SEPP (Building Sustainability Index: BASIX) 2004	Yes	Yes The Planning Proposal does not recommend the amendment of provisions relating to the building sustainability index. BASIX does not currently apply to the type of development proposed.
SEPP (Coastal Management) 2018	No	N/A
SEPP (Educational Establishments and Child Care Facilities) 2017	Yes	Yes The Planning Proposal does not seek to amend the provisions of the SEPP.
SEPP (Exempt and Complying Development Codes) 2008	Yes	Yes The Planning Proposal does not seek to amend the provisions of the SEPP.
SEPP (Housing for Seniors or People with a Disability) 2004	Yes	Yes The Planning Proposal does not seek to amend the provisions of the SEPP.
SEPP (Infrastructure) 2007	Yes	Yes The Planning Proposal does not seek to amend the provisions of the SEPP.

SEPP Title	Applicable	Consistent
SEPP (Integration and Repeals) 2016	Yes	Yes The Planning Proposal does not seek to amend the provisions of the SEPP.
SEPP (Kosciuszko National Park—Alpine Resorts) 2007	No	N/A
SEPP (Kurnell Peninsula) 1989	No	N/A
SEPP (Mining, Petroleum Production and Extractive Industries) 2007	Yes	Yes The Planning Proposal does not recommend the amendment of existing provisions relating to mining, petroleum production and extractive industries.
State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007	Yes	Yes
State Environmental Planning Policy (Penrith Lakes Scheme) 1989	No	N/A
SEPP (Rural Lands) 2008	No	N/A
State Environmental Planning Policy (State and Regional Development) 2011	Yes	Yes The purpose of the Planning Proposal is to facilitate the development of a Winter Sporting Facility on the site. The CIV of the Winter Sporting Facility currently meets the threshold for 'Cultural, recreation and tourist facilities' under clause 13 of Schedule 1 of the SEPP. As such the future development is likely to be State Significant development.
SEPP (State Significant Precincts) 2005	Yes	Yes The Planning Proposal does not relate to a State Significant precinct.
State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011	No	N/A
SEPP (Sydney Region Growth Centres) 2006	No	N/A
State Environmental Planning Policy (Three Ports) 2013	No	N/A
State Environmental Planning Policy (Urban Renewal) 2010	No	N/A

SEPP Title	Applicable	Consistent
SEPP (Vegetation in Non-Rural Areas) 2017	Yes	Yes The Planning Proposal does not relate to the removal of vegetation. Any proposed removal of trees on the site or within the road reserve will be addressed in a future Development Application. The provisions of the SEPP will be addressed in the DA documentation.
SEPP (Western Sydney Employment Area) 2009	No	N/A
SEPP (Western Sydney Parklands) 2009	No	N/A

Deemed SEPP Title	Applicable	Consistent
SREP No 8 (Central Coast Plateau Areas)	No	N/A
SREP No 9 – Extractive Industry (No 2 – 1995)	No	N/A
SREP No 16 – Walsh Bay	No	N/A
SREP No 20 – Hawkesbury- Nepean River (No 2 – 1997)	Yes	Yes
SREP No 24 – Homebush Bay Area	No	N/A
SREP No 26 – City West	No	N/A
SREP No 30 - St Marys	No	N/A
SREP No 33 – Cooks Cove	No	N/A
SREP (Sydney Harbour Catchment) 2005	No	N/A

6. Is the Planning Proposal consistent with applicable Ministerial Directions?

Section 9.1 Local Planning Directions (Previously Section 117)

The Minister for Planning and Environment issues Local Planning Directions that councils must follow when preparing a planning proposal. The directions cover the following broad categories:

- employment and resources,
- environment and heritage,
- housing, infrastructure, and urban development,
- hazard and risk,
- regional planning,
- local plan making.

This planning proposal is considered to be consistent with all applicable Section 9.1 Directions, as demonstrated below, primarily because the proposed changes are of minor significance.

Directions issued under Section 117 (Now Section 9.1)	Comment
1. Employment and Resources	
1.1 Business and Industrial Zones This direction applies when a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed business or industrial zone (including the alteration of any existing business or industrial zone boundary).	This direction is not applicable to the Planning Proposal as the site is not located within a Business or Industrial zone. No change is proposed to the zoning of the site.
1.2 Rural Zones This direction applies when a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed rural zone (including the alteration of any existing rural zone boundary).	This Direction is not applicable to the Planning Proposal. This site is not located within a rural zone.
1.3 Mining, Petroleum Production and Extractive Industries This direction applies when a relevant planning authority prepares a planning proposal that would have the effect of: (a) prohibiting the mining of coal or other minerals, production of petroleum, or winning or obtaining of extractive materials, or (b) restricting the potential development of resources of coal, other minerals, petroleum or extractive materials which are of State or regional significance by permitting a land use that is likely to be incompatible with such development.	This Direction is not applicable to the Planning Proposal.
1.4 Oyster Aquaculture This direction applies when a relevant planning authority prepares any planning proposal that proposes a change in land use which could result in: (a) adverse impacts on a Priority Oyster Aquaculture Area or a "current oyster aquaculture lease in the national parks estate"; or (b) incompatible use of land between oyster aquaculture in a Priority Oyster Aquaculture Area or a "current oyster aquaculture lease in the national parks estate" and other land uses.	This Direction is not applicable to the Planning Proposal.
1.5 Rural Lands This direction applies when: (a) a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed rural or environment protection zone (including the alteration of any existing rural or environment protection zone boundary) or (b) a relevant planning authority prepares a planning proposal that changes the existing minimum lot size on land within a rural or environment protection zone.	This Direction is not applicable to the Planning Proposal.
2. Environment and Heritage	
2.1 Environment Protection Zones This direction applies when a relevant planning authority prepares a planning proposal.	This Direction is not applicable to the Planning Proposal.
2.2 Coastal Management	This Direction is not applicable to the Planning Proposal

Directions issued under Section 117 (Now Section 9.1)	Comment
This direction applies when a relevant planning authority prepares a planning proposal that applies to land in the coastal zone.	
2.3 Heritage Conservation This direction applies when a relevant planning authority prepares a planning proposal. The objective of this direction is to conserve items, areas, objects and places of environmental heritage significance and indigenous heritage significance.	The Planning Proposal does not seek to alter the provisions of the PLEP that facilitate the conservation of items, areas, objects and places of environmental heritage significance and indigenous heritage significance. The Planning Proposal will not result in an adverse impact on the heritage item at 475-487 Jamison Road (Madang Park) due to the considerable distance from the farmhouse to the site, the generous setbacks proposed, the gradual increase in building height to the east and the voids within the building to reduce the bulk of the building.
2.4 Recreation Vehicle Areas This direction applies when a relevant planning authority prepares a planning proposal.	This Direction is not applicable to the Planning Proposal
2.5 Application of E2 and E3 Zones and Environmental Overlays in Far North Coast LEPs This direction applies to the local government areas of Ballina, Byron, Kyogle, Lismore and Tweed.	This Direction is not applicable to the Planning Proposal
3 Housing, Infrastructure and Urban Development	
3.1 Residential Zones This direction applies when a relevant planning authority prepares a planning proposal that will affect land within: (a) an existing or proposed residential zone (including the alteration of any existing residential zone boundary), (b) any other zone in which significant residential development is permitted or proposed to be permitted.	This Direction is not applicable to the Planning Proposal
3.2 Caravan Parks and Manufactured Home Estates This direction applies when a relevant planning authority prepares a planning proposal.	This Direction is not applicable to the Planning Proposal.
3.3 Home Occupations This direction applies when a relevant planning authority prepares a planning proposal.	This Direction is not applicable to the Planning Proposal.
3.4 Integrating Land Use and Transport This direction applies when a relevant planning authority prepares a planning proposal that will create, alter or remove a zone or a provision relating to urban land, including land zoned for residential, business, industrial, village or tourist purposes.	This Direction applies to the Planning Proposal as the Planning Proposal seeks to alter a provision related to land zoned for tourist purposes. The Direction requires the relevant planning authority to locate zones for urban purposes and includes provisions that give effect to and are consistent with the aims, objectives and principles of: (a) Improving Transport Choice – Guidelines for planning and development (DUAP 2001), and (b) The Right Place of Business and Services – Planning Policy (DUAP 2001)

Directions issued under Section 117 (Now Section 9.1)	Comment
	The Planning Proposal does not seek to alter the zoning of the site. The Planning Proposal facilitates the development of an indoor recreation facility in an appropriately zoned location. The co-location of recreation facilities in the Riverlink Precinct and the provision of hotel and motel accommodation on the site to cater for tourists will assist in minimising the number and length of private car journeys. The use is also likely to attract groups that will travel to the site by bus. In this regard the proposal is consistent with the DUAP guidelines that seek to reduce the number and length of private car journeys. The location of the facility in this location also frees up land near public transport nodes to be used for commercial and residential uses. Commercial and residential uses are ideally concentrated around transport nodes in order to maximise the use of public transport and sustainable modes of transport.
3.5 Development Near Licensed Aerodromes This direction applies when a relevant planning authority prepares a planning proposal that will create, alter or remove a zone or a provision relating to land in the vicinity of a licensed aerodrome.	This Direction is not applicable to the Planning Proposal.
3.6 Shooting Ranges This direction applies when a relevant planning authority prepares a planning proposal that will affect, create, alter or remove a zone or a provision relating to land adjacent to and/ or adjoining an existing shooting range.	This Direction is not applicable to the Planning Proposal.
4.Hazard and Rise	
4.1 Acid Sulfate Soils This direction applies when a relevant planning authority prepares a planning proposal that will apply to land having a probability of containing acid sulfate soils as shown on the Acid Sulfate Soils Planning Maps.	This Direction is not applicable to the Planning Proposal as the site is not shown on an Acid Sulfate Soils Planning Map as a site that has a probability of containing Acid Sulfate Soils.
4.2 Mine Subsidence and Unstable Land This direction applies when a relevant planning authority prepares a planning proposal that permits development on land that: (a) is within a mine subsidence district, or (b) has been identified as unstable in a study, strategy or other assessment undertaken: (i) by or on behalf of the relevant planning authority, or (ii) by or on behalf of a public authority and provided to the relevant planning authority.	This Direction is not applicable to the Planning Proposal.
4.3 Flood Prone Land This direction applies when a relevant planning authority prepares a planning proposal that creates, removes or alters a zone or a provision that affects flood prone land.	This direction is addressed in detail below this table.

Directions issued under Section 117 (Now Section 9.1)	Comment
4.4 Planning for Bushfire Protection This direction applies when a relevant planning authority prepares a planning proposal that will affect, or is in proximity to land mapped as bushfire prone land.	Part of the eastern side of the site is identified as Bushfire Prone Land on the Penrith City Council Bushfire Prone Land Map. The Planning Proposal does not seek to alter the permitted uses on the site. Future development on the site will be design in accordance with Planning for Bushfire Protection 2006.
5. Housing, Infrastructure and Urban Development	
5.1 Implementation of Regional Strategies This direction applies when a relevant planning authority prepares a planning proposal.	Revoked 17 October 2017
5.2 Sydney Drinking Water Catchments This Direction applies when a relevant planning authority prepares a planning proposal that applies to land within the Sydney drinking water catchment.	This Direction is not applicable.
5.3 Farmland of State and Regional Significance on the NSW Far North Coast	This Direction is not applicable to the Planning Proposal.
5.4 Commercial and Retail Development along the Pacific Highway, North Coast	This Direction is not applicable to the Planning Proposal.
5.5 Development in the vicinity of Ellalong, Paxton and Millfield (Cessnock LGA)	Revoked 18 June 2010
5.6 Sydney to Canberra Corridor	Revoked 10 July 2008
5.7 Central Coast	Revoked 10 July 2008
5.8 Second Sydney Airport: Badgerys Creek Planning proposals must not contain provisions that enable the carrying out of development, either with or without development consent, which at the date of this direction, could hinder the potential for development of a Second Sydney Airport.	The Planning Proposal does not hinder the potential for development of the Second Sydney Airport.
5.9 North West Rail Link Corridor Strategy	This Direction is not applicable to the Planning Proposal.
5.10 Implementation of Regional Plans This direction applies when a relevant planning authority prepares a planning proposal.	This Direction is not applicable to the Planning Proposal.
6. Local Plan Making	
6.1 Approval and Referral Requirements	The objective of this direction is to ensure that LEP provisions encourage the efficient and appropriate assessment of development. In accordance with the direction the Proposal does not include provisions that require the concurrence, consultation or referral of development applications to a Minister or public authority. Further the Proposal does not identify future development on the site as designated development.
6.2 Reserving Land for Public Purposes	The Planning Proposal does not create, alter or reduce existing zonings or reservations of land for public purposes.
6.3 Site Specific Provisions	The Planning Proposal only seeks to amend the Height of Buildings Map to

Directions issued under Section 117 (Now Section 9.1)	Comment
The objective of this direction is to discourage unnecessarily restrictive site-specific planning controls. The direction applies when a relevant planning authority prepares a Planning Proposal that will allow a particular development to be carried out.	allow for a maximum height of 54 metres. An additional provision may be necessary to ensure that the additional height is only permitted to allow for an indoor ski facility and associated Winter Sporting Facility activities.
7. Metropolitan Planning	
7.1 Implementation of the Metropolitan Strategy	In March 2018 the *Greater Sydney Region Plan - A Metropolis of Three Cities*. The Plan sets a 40-year vision to 2056 and establishes a 20-year plan to manage growth and change for Greater Sydney. The Plan informs district and local plans and the assessment of planning proposals. The Plan applies to the Greater Sydney Region and sets the planning framework for the five districts which make up the region. Penrith is within the Western City District of the Greater Sydney Region. The Planning Proposal is consistent with the Metropolitan Strategy as detailed in Section B of this report.
7.2 Implementation of Greater Macarthur Land Release Investigation	This Direction is not applicable to the Planning Proposal.
7.3 Parramatta Road Corridor Urban Transformation Strategy	This Direction is not applicable to the Planning Proposal.
7.4 Implementation of North West Priority Growth Area Land Use and Infrastructure Implementation Plan	This Direction is not applicable to the Planning Proposal.
7.5 Implementation of Greater Parramatta Priority Growth Area Interim Land Use and Infrastructure Plan	This Direction is not applicable to the Planning Proposal.
7.6 Implementation of Wilton Priority Growth Area Interim Land Use and Infrastructure Implementation Plan	This Direction is not applicable to the Planning Proposal.
7.7 Implementation of Glenfield to Macarthur Urban Renewal Corridor	This Direction is not applicable to the Planning Proposal.

Consistency with Direction 4.3 Flood Prone Land

Direction 4.3 Flood Prone Lane	Consistency of Planning Proposal
Objectives The objectives of this direction are: (a) to ensure that development of flood prone land is consistent with the NSW Government's Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005, and (b) to ensure that the provisions of an LEP on flood prone land is commensurate with flood hazard and includes consideration of the potential flood impacts both on and off the subject land.	The Planning Proposal is consistent with the objectives of the Direction. A Concept Flood Risk Assessment forms part of the technical studies included in this Planning Proposal. The report considers the NSW Government's Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005.

Where this direction applies This direction applies to all relevant planning authorities that are responsible for flood prone land within their LGA.	This Direction is applicable to the relevant planning authority.
When this direction applies This direction applies when a relevant planning authority prepares a planning proposal that creates, removes or alters a zone or a provision that affects flood prone land.	The Direction is application as the Planning Proposal alters a provision that affects flood prone land.
What a relevant planning authority must do if this direction applies (4) A planning proposal must include provisions that give effect to and are consistent with the NSW Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005 (including the Guideline on Development Controls on Low Flood Risk Areas).	The Planning Proposal will facilitate a development that is consistent with the NSW Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005 as detailed in the Concept Flood Risk Report included as Appendix 7.
(5) A planning proposal must not rezone land within the flood planning areas from Special Use, Special Purpose, Recreation, Rural or Environmental Protection Zones to a Residential, Business, Industrial, Special Use or Special Purpose Zone.	The Planning Proposal does not seek to rezone land within the Flood Planning Area.
(6) A planning proposal must not contain provisions that apply to the flood planning areas which: (a) permit development in floodway areas, (b) permit development that will result in significant flood impacts to other properties, (c) permit a significant increase in the development of that land, (d) are likely to result in a substantially increased requirement for government spending on flood mitigation measures, infrastructure or services, or (e) permit development to be carried out without development consent except for the purposes of agriculture (not including dams, drainage canals, levees, buildings or structures in floodways or high hazard areas), roads or exempt development.	The Planning Proposal does not permit development in a floodway. The Planning Proposal allows for the redistribution of the floor space on the site to allow for a unique and specific use. The Planning Proposal allows for a higher building than currently permitted but the building footprint is smaller than is permitted by the current DCP controls. In this regard the Planning Proposal does not permit a significant increase in the development of the land. The Planning Proposal will not result in an increased requirement for government spending on flood mitigation measures, infrastructure or services.
(7) A planning proposal must not impose flood related development controls above the residential flood planning level for residential development on land, unless a relevant planning authority provides adequate justification for those controls to the satisfaction of the	The Planning Proposal does not relate to residential development.

Director-General (or an officer of the Department nominated by the Director-General).	
(8) For the purposes of a planning proposal, a relevant planning authority must not determine a flood planning level that is inconsistent with the Floodplain Development Manual 2005 (including the Guideline on Development Controls on Low Flood Risk Areas) unless a relevant planning authority provides adequate justification for the proposed departure from that Manual to the satisfaction of the Director-General (or an officer of the Department nominated by the Director-General).	The Planning Proposal does not determine a flood planning level that is inconsistent with the Floodplain Development Manual 2005.

Section C – Environmental, Social and Economic Impacts

7. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the Proposal?

No threatened species, populations or ecological communities have been observed on the site. It is unlikely due to the urban context, history of the site and the surrounding area that there are any threatened species populations or communities that are at the limit of their known distribution with regard to this site. It is not anticipated that the future redevelopment of the site will have any adverse ecological impacts.

8. Are there any other likely environmental effects as a result of the Planning Proposal and how are they proposed to be managed?

Bulk and scale of development and overshadowing

The accompanying plans prepared by Environa Studio included as Appendix 1 show a potential development outcome resulting from the Planning Proposal.

The concept plans depict a visually striking built form which marks the Gateway location, at the corner of Jamison Road and Tench Avenue, identified in Figure E13.8 of DCP 2014. The DCP encourages a special architectural treatment to be provided at this corner.

Whilst the Planning Proposal permits a building envelope that reaches a maximum height of 54 metres, only a small part of the building reaches this height and the structure can be designed such that the building does not appear excessively bulky at its highest point. The concept plans show a building that gradually increases in height from 8.5 metres on the western side of the site to 54 metres on the eastern side of the site. The concept design incorporates a significant void below the highest level of the building (Level 12) such that this level appears to be a lightweight element rather than an imposing and obtrusive landmark.

The concept plans show a building envelope that exceeds the required 8-10 metre setback to Tench Avenue and provides a varied setback to Jamison Road that is generally consistent with the required 10 metre setback. The varied setback to Jamison Road created by the curved alignment of the building provides a visually interesting façade to Jamison Road that is appropriate to the gateway location of the site.

Whilst no side and rear setback controls are specified for the site in the DCP the concept plans allow for a minimum setback of 10 metres from the eastern boundary and 6 metres from the southern boundary to ensure the protection of the existing mature trees along the boundary and provide sufficient area for landscaping that is proportional to the scale and type of facility proposed.

A detailed shadow assessment is provided within the Urban Design Study which shows the impact of the concept proposal on the solar access available to the surrounding properties. Two sets of diagrams are presented in the study, one shows the shadow cast by the indicative building envelope and the second includes the shadows cast by the existing trees along the northern boundary of 6-22 Tench Avenue.

The shadow cast by a future development on the site predominately affects the adjoining site to the south at 6-22 Tench Avenue. The adjoining property to the south appears to be used for a mix of short stay tourist accommodation and permanent residences. The DCP does not specify minimum solar access requirements for tourist accommodation. Whilst there are some cabins for long term tenants it is not clear exactly where all these cabins are located. An inspection of the site indicates that some cabins adjacent to the eastern side of the southern boundary of the site appear to be occupied by long term tenants. Approximately four cabins appear to have north facing living rooms and decks in close proximity of the boundary.

The impact on the solar access to the adjoining cabins used as permanent residents is reasonable in that:

- Part E13.4 of the DCP 2014 indicates that the large parts of the Riverlink precinct are in transition and will have a different character in time to what currently exists. This is particularly relevant to the 'Tourism and Recreation' sub-precinct in which the site is located. In order to achieve consistency with the zone objectives and provisions for development in the zone future development of the site can be reasonably be expected. Any future development is likely to impact on the highly vulnerable north facing decks and living rooms of the cabins that overlook the site.
- The north facing living rooms and decks would be overshadowed by a development that complies with the current LEP 2010 height control and DCP2014 setback provisions.
- Between 12noon and 3pm the shadow of the building depicted in the concept plans largely falls over an area which is already affected by the shadow cast by the existing trees along the boundary.
- The cabins have access to communal gardens and open spaces and recreation facilities within the 'Nepean Shores' development.

Traffic and Parking

The Planning Proposal is accompanied by a Traffic and Parking Assessment. The Traffic and Parking assessment estimates the traffic generated by the proposed facility during peak and typical periods. Traffic modelling is currently being undertaken that will assess the traffic impacts of the development on the external road network and identify what upgrades (if any) would be required to facilitate the expected increase in traffic volumes.

Flood Management

A Concept Flood Risk Report prepared by ACOR Consultants accompanies the application. The Report demonstrates how flood risk will be managed in accordance with the requirements of the Penrith Development Control Plan 2014, LEP 2010 and the Floodplain Development Manual. The report makes the following observations and comments in relation to the future development of a Winter Sporting Facility on the site (as presented in the indicative plans prepared by Environa Studio included as Appendix 1):

- The proposed floor level meets the minimum floor level requirements of the Penrith DCP 2014.
- The proposed building structure will be constructed of flood compatible building materials below the PMF floodwaters.
- The proposed building structure will be constructed to withstand the loads imposed by the PMF mainstream floodwaters.
- Car and coach parking areas are proposed to have finished surface levels at or above the FPL.
- Goods and materials associated with the operation of the facility will be stored at or above the PMF.

- In the event that the 1% AEP flood event is expected to be exceeded, strategies should be adopted in accordance with NSW Government operational guidelines and SES the timing for evacuation is to be established in consultation if the State Emergency Service of NSW.

Bushfire

Part of the eastern side of the site is identified as Bushfire Prone Land on the Penrith City Council Bushfire Prone Land Map. The Planning Proposal does not seek to alter the permitted uses on the site. Future development on the site will be design in accordance with Planning for Bushfire Protection 2006.

Contamination

The site has not recently been the subject of environmental site assessment regarding potential contamination, however, due to the historical use of the site for a rural/residential use it is considered unlikely that there are any contamination issues with the site. This issue can be addressed in detail in a future development application.

9. Has the Planning Proposal adequately addressed any social and economic effects?

An Economic Assessment of the proposed development is included as Appendix 5. The Assessment is based on detailed case studies of six snow centres which are considered to be the most comparable to the proposed Winter Sporting Facility. The Economic Assessment notes that the indoor ski slope is a key attractor or anchor which underpins the concept and viability of the Winter Sporting Facility.

The economic assessment observes that one of the key drivers for tourist attractions is the local resident population. Strong population growth will drive increased demand for tourist attractions in the surrounding region. The Assessment notes that Western Sydney is forecast to growth at 2.1% per annum between 2016 and 2026, well above Greater Sydney's overall rate of 1.7%. The increasing population growth in Western Sydney will drive increased demand for tourist attractions in the region.

The substantial number of visitors coming to Sydney for a holiday or to visit friends and relatives will also drive strong demand for tourist attractions such as the Winter Sporting Facility.

The Economic Assessment conservatively forecasts the Winter Sporting Facility will attract 200,600 visitors in its first year of operation. By 2025 the centre is forecast to achieve annual visitation of 231,000 persons.

The Winter Sporting Facility will create approximately 896 direct and indirect jobs during the development period, contributing a total of $145 million in value to the NSW economy. One complete the development is estimated to support a total of 759 direct and indirect jobs and contribute $74.9 million in value-added to the NSW economy each year.

Section D – State and Commonwealth Interests

10. Is there adequate public infrastructure for the Planning Proposal?

Details of the availability of electricity, telecommunication, gas, water and sewer services are available to the site are detailed in Appendix 9.

11. What are the views of State and Commonwealth public authorities consulted in accordance with the Gateway determination?

Relevant public authorities will be consulted following the Gateway determination.

Part 4 – Mapping

No map tiles are proposed to be amended as part of the Planning Proposal.

Part 5 – Community Consultation

The Gateway Determination will outline the community consultation to be undertaken.

The planning proposal will be publicly exhibited at the Penrith Council Civic Centre, Penrith Library, Council's St Marys Office and St Marys Library. All exhibition material will be available on Council's website.

Notice of the public exhibition will be given in the local newspaper and on Council's website. Notice of the public exhibition will also be provided by a letter to the land owners and occupiers of adjoining and affected properties.

Consultation with public authorities will be undertaken in accordance with the requirements of the Gateway Determination.

Part 6 - Project Timeline

The Project timeline will largely be determined by Penrith City Council and the Department of Planning and Environment. The relevant milestones are summarised in the following table.

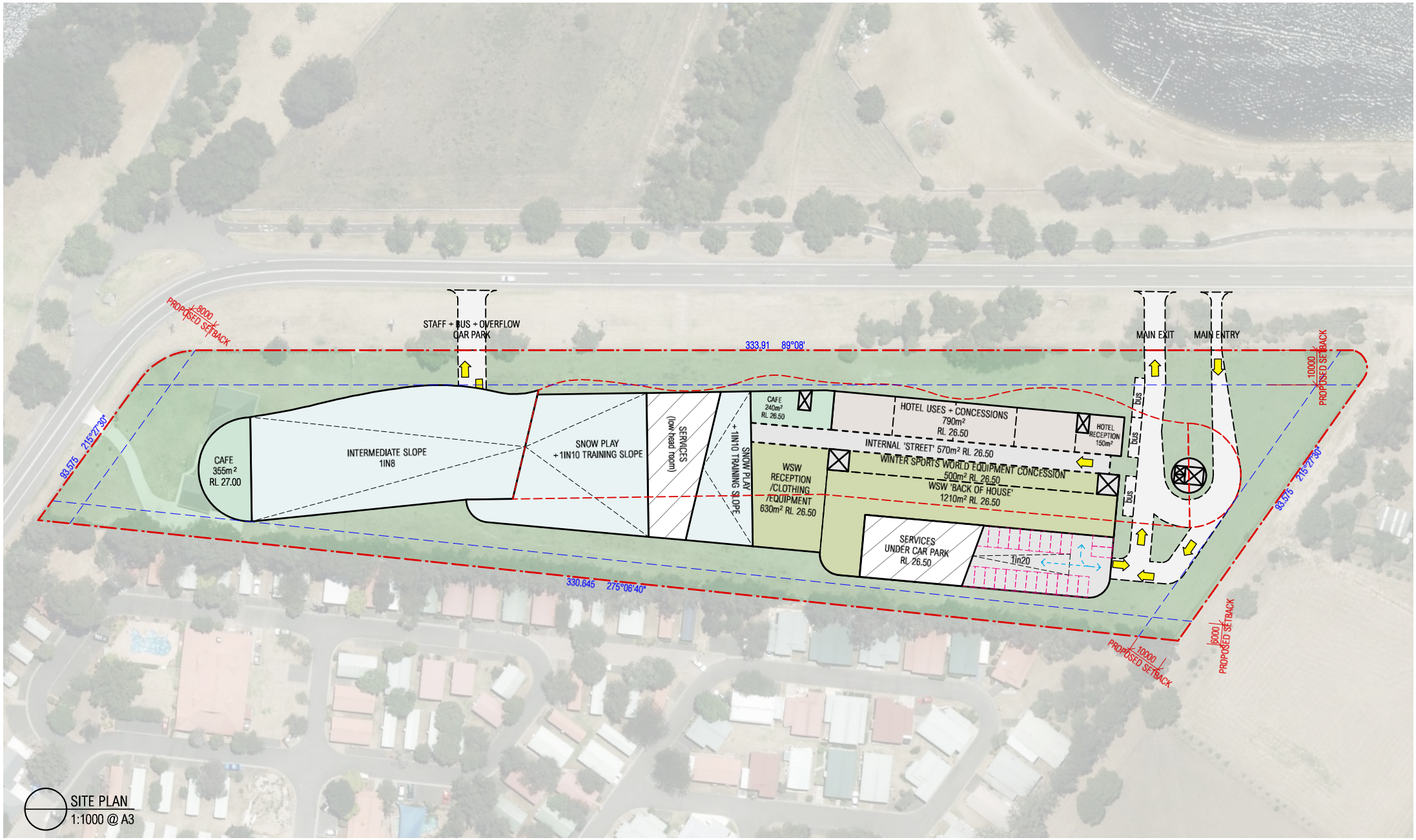
Milestone	Timeframe
Council's sponsor of the Planning Proposal	November 2018
Submission to NSW Planning and Environment	December 2018
Gateway Determination issued	February 2019
Public exhibition and public authority consultation	March 2019
Consideration of submissions	April 2019
Reporting of the Planning Proposal to Council	June 2019
Submission to NSW Planning and Environment	June 2019
Publication of LEP amendment	August 2019

Appendices

APPENDIX 1
Concept Plans and Area Schedule

appendix

CONCEPT DESIGN
+ AREA SCHEDULE



SITE PLAN
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notes

all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment
A	28.06.18	issue to council

rev	date	amendment

environa studio
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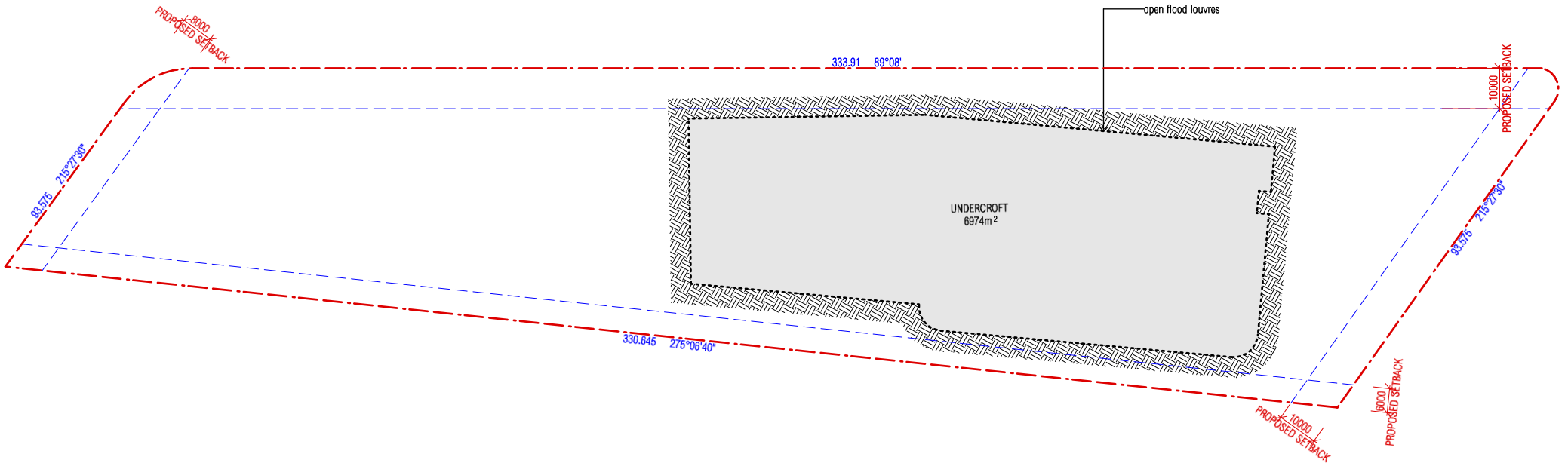
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location:	drawing: SITE PLAN	stage: D.A.	project no.: 781	dwg no.: 030
for/client: wsw winter sports world	at: JAMISONTOWN	drawing: SHEET 1	chkd: TW drwn: OZ	date: 28/06/18	revision: A



UNDERCROFT
1:1000 @ A3

0 10.0 20.0 30.0m

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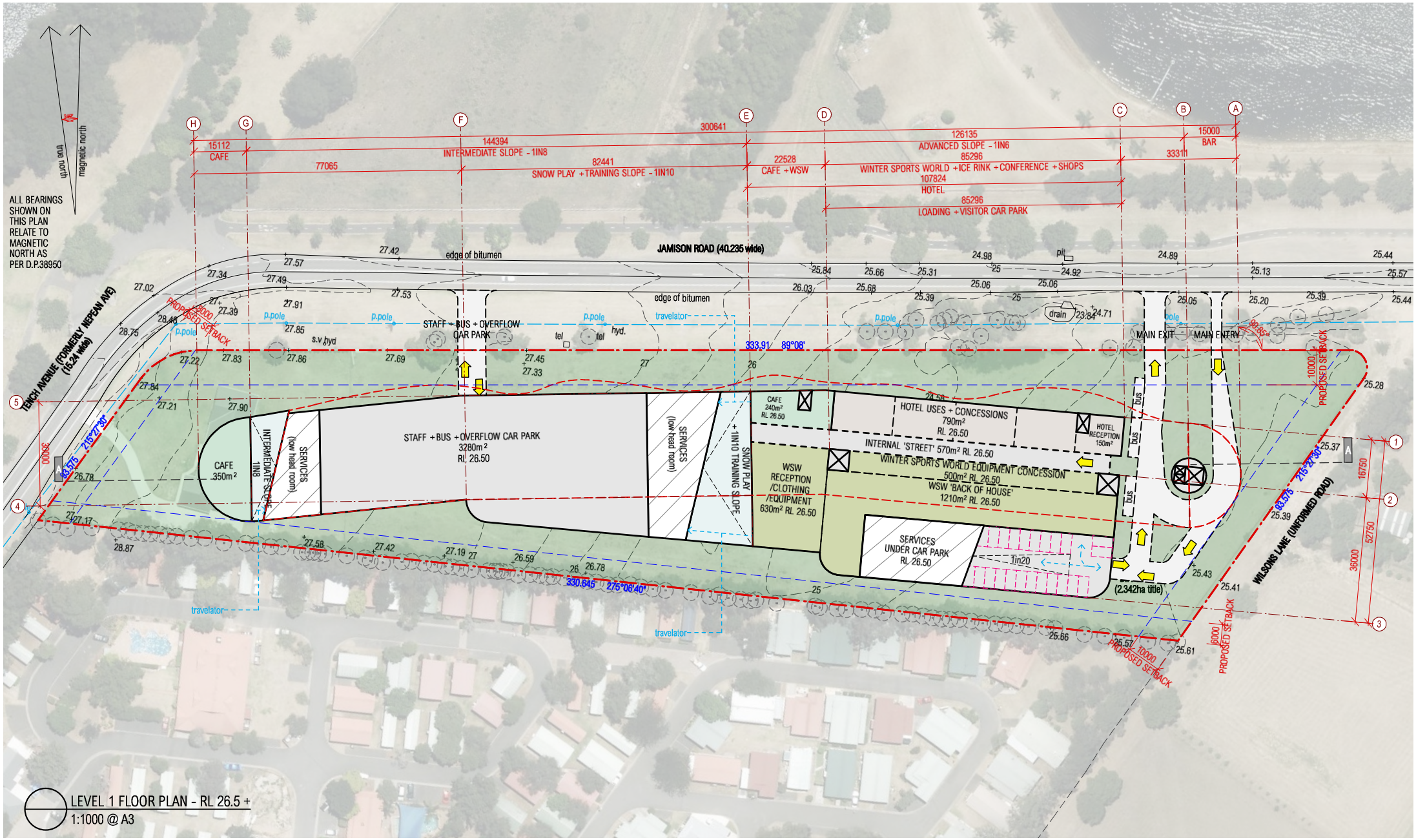
project: WINTER SPORTS WORLD	location:	drawing: UNDERCROFT	stage: D.A.	project no.: 781	dwg no.: 101
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



notes	rev	date	amendment	rev	date	amendment
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.	A	28.06.18	issue to council			

0 10.0 20.0 30.0m

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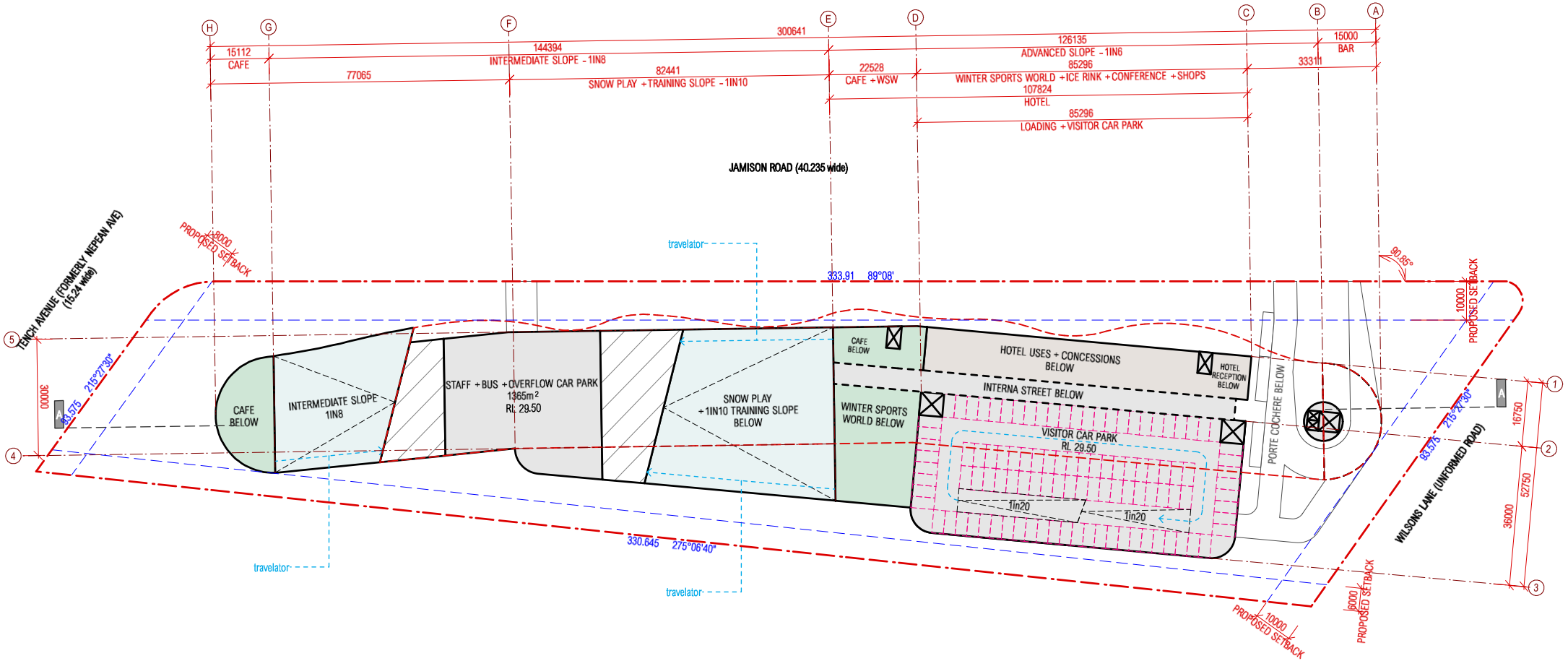
w: www.environastudio.com.au
architects registration number 6239

project	location	drawing	stage	project no.	dwg no.
WINTER SPORTS WORLD		LEVEL 1 + RL 26.5 +	D.A.	781	102
for/client: wsw winter sports world	at: JAMISONTOWN	drawing	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 2 FLOOR PLAN - RL 29.50
1:1000 @ A3

notes	rev	date	amendment	rev	date	amendment
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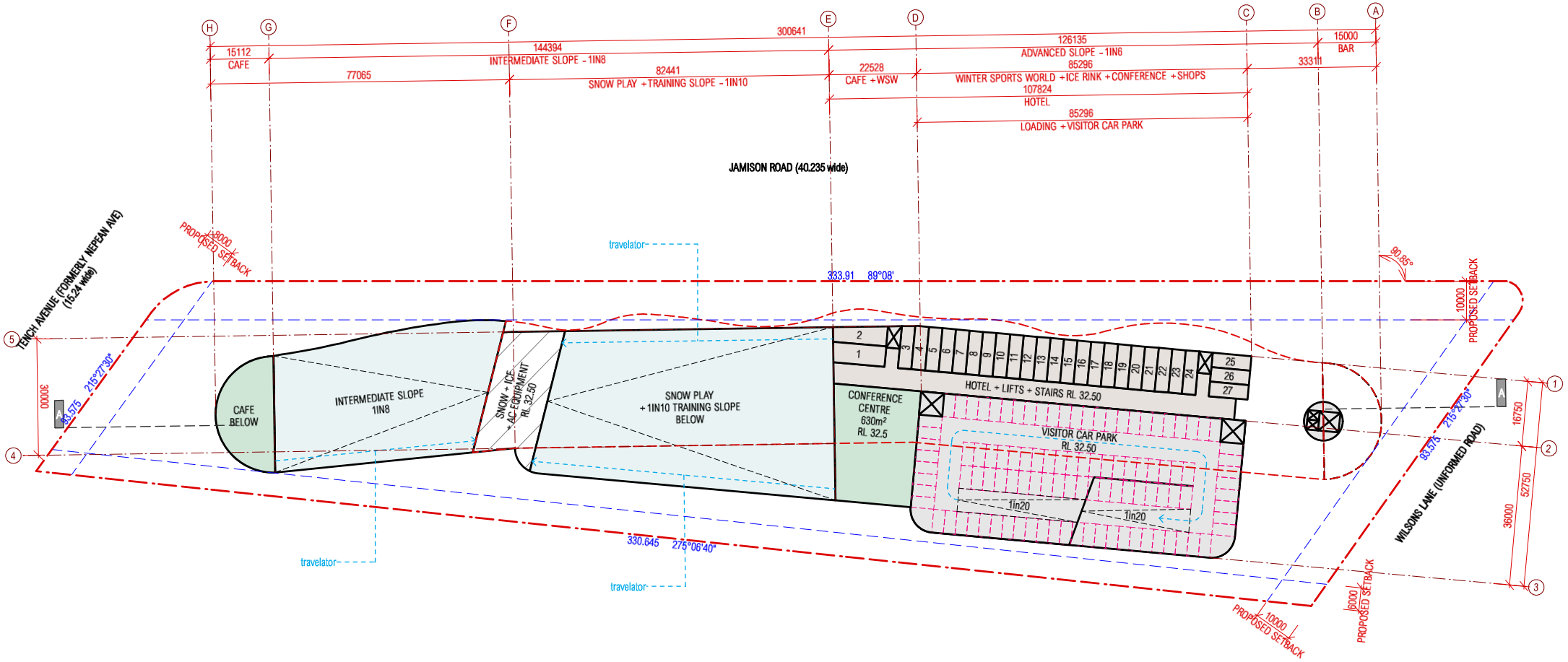
project	location	drawing	stage	project no.	dwg no.
WINTER SPORTS WORLD		LEVEL 2 RL 29.50	D.A.	781	103
for/client: wsw winter sports world	at: JAMISONTOWN	drawing	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 3 FLOOR PLAN - RL 32.50
1:1000 @ A3

0 10.0 20.0 30.0m

notes

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rev	date	amendment
A	28.06.18	issue to council

rev	date	amendment

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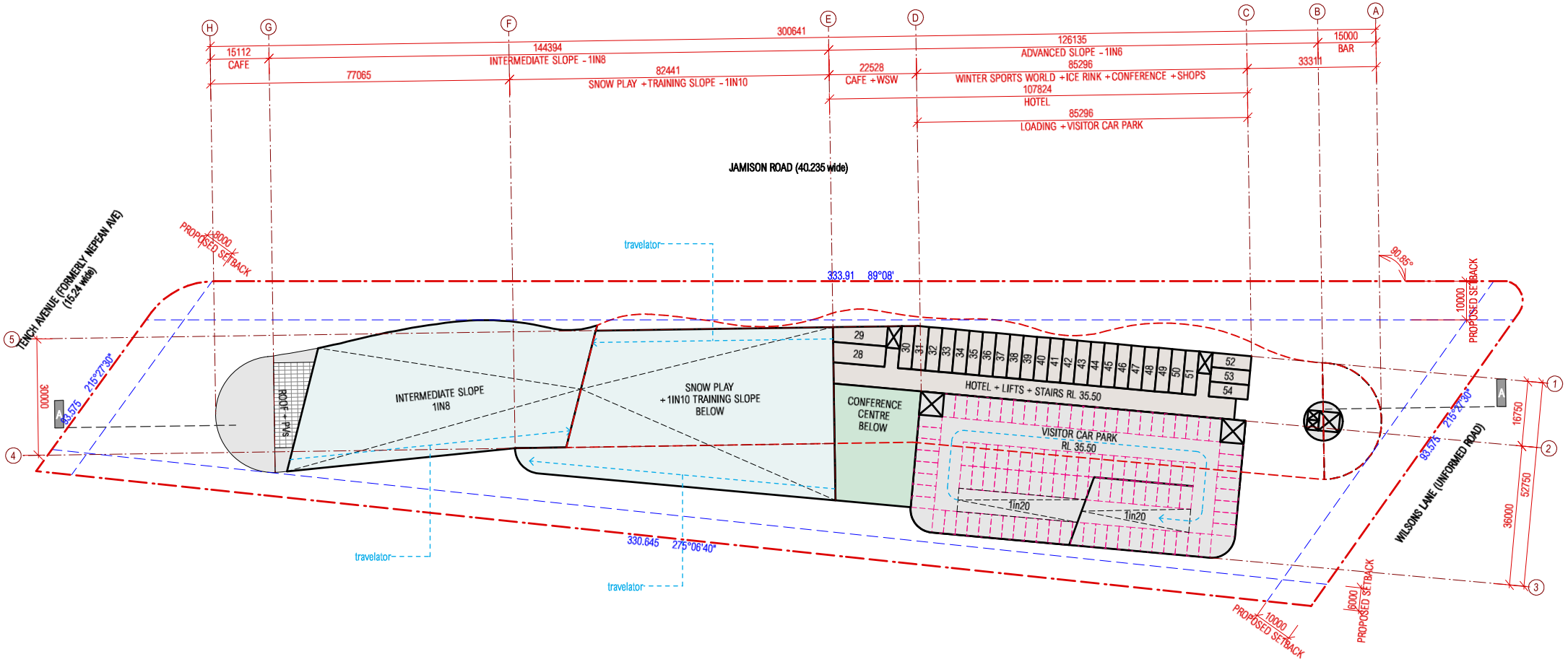
project: WINTER SPORTS WORLD	location:	drawing: LEVEL 3	stage: D.A.		project no.: 781	dwg no.: 104
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW	drwn: OZ	date: 28/06/18	revision: A



LEVEL 4 FLOOR PLAN - RL 35.50
1:1000 @ A3

0 10.0 20.0 30.0m

notes

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A	28.06.18	issue to council

rev	date	amendment

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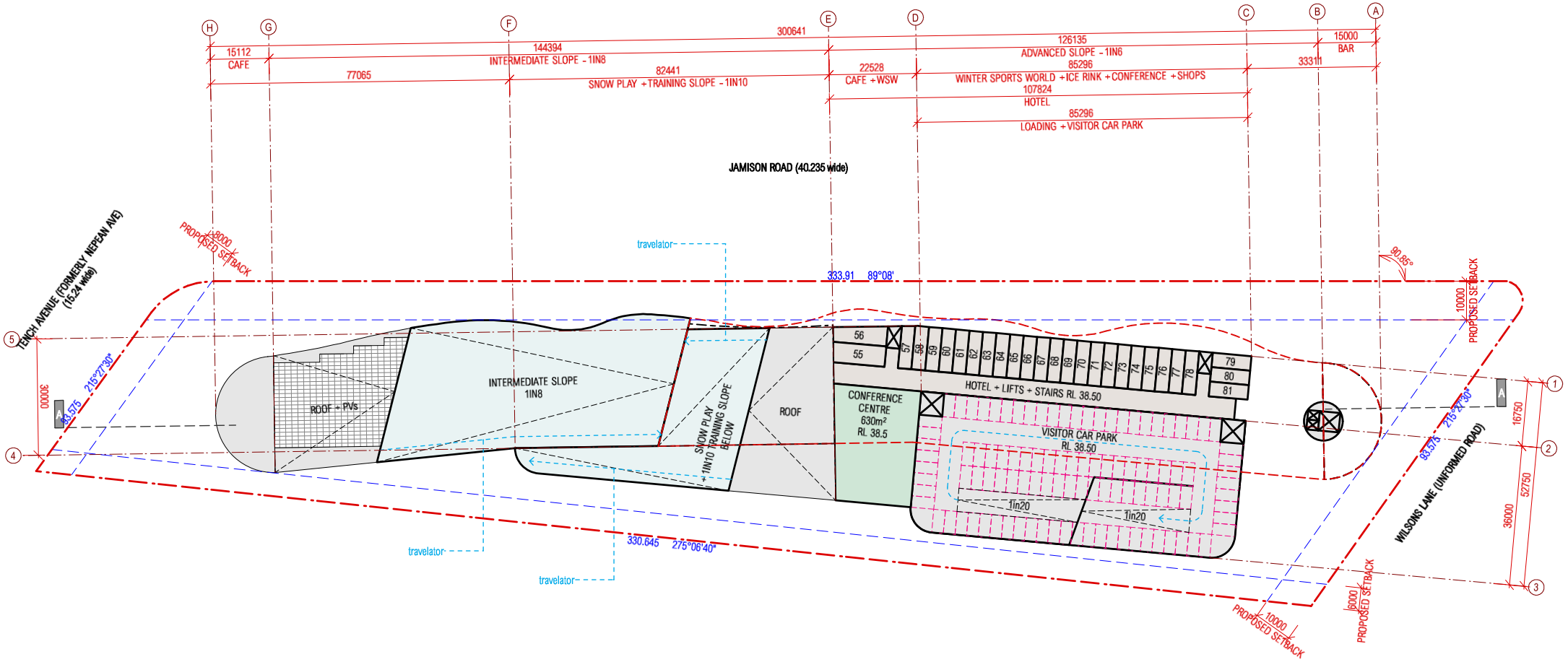
project: WINTER SPORTS WORLD	location:	drawing: LEVEL 4 RL 35.50	stage: D.A.	project no.: 781	dwg no.: 105
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 5 FLOOR PLAN - RL 38.50
1:1000 @ A3

0 10.0 20.0 30.0m

notes

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A	28.06.18	issue to council

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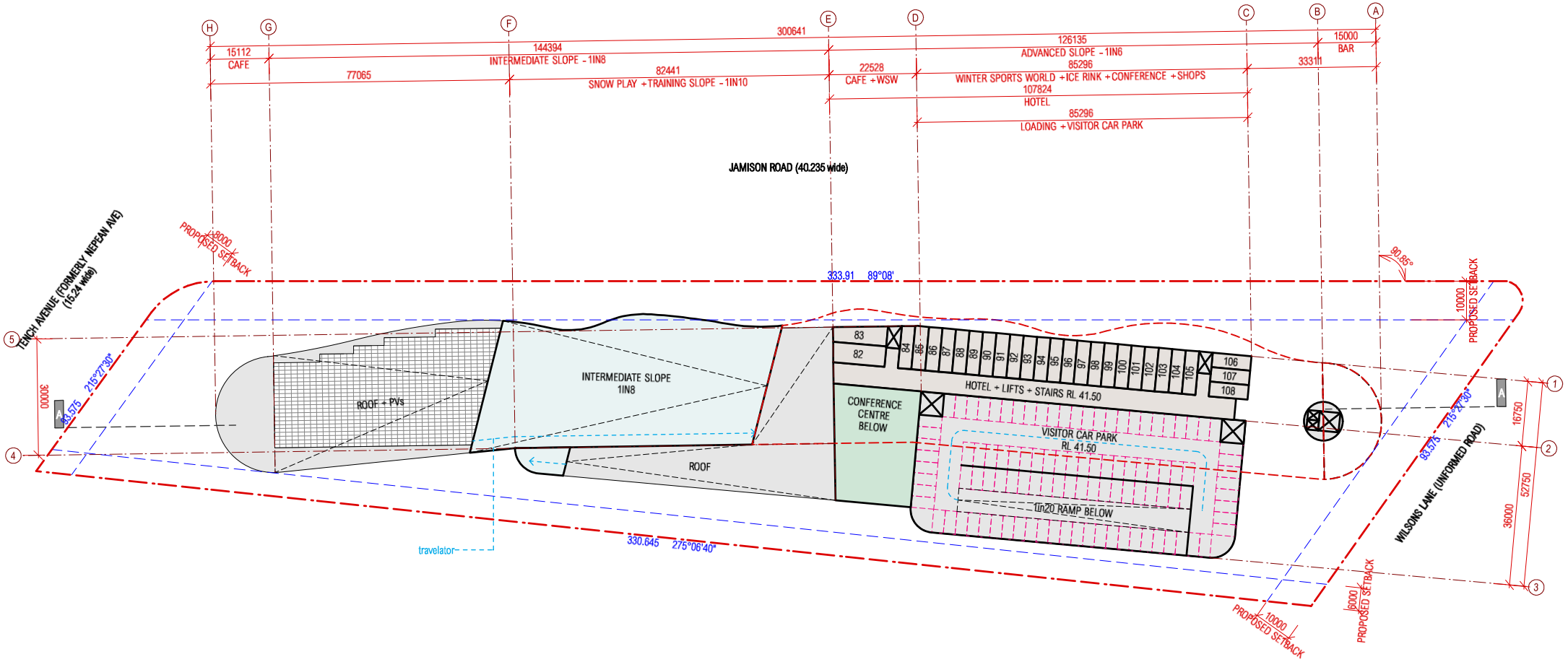
project: WINTER SPORTS WORLD	location:	drawing: LEVEL 5 RL 38.50	stage: D.A.	project no.: 781	dwg no.: 106
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 6 FLOOR PLAN - RL 41.50
1:1000 @ A3

0 10.0 20.0 30.0m

notes

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A	28.06.18	issue to council

rev	date	amendment

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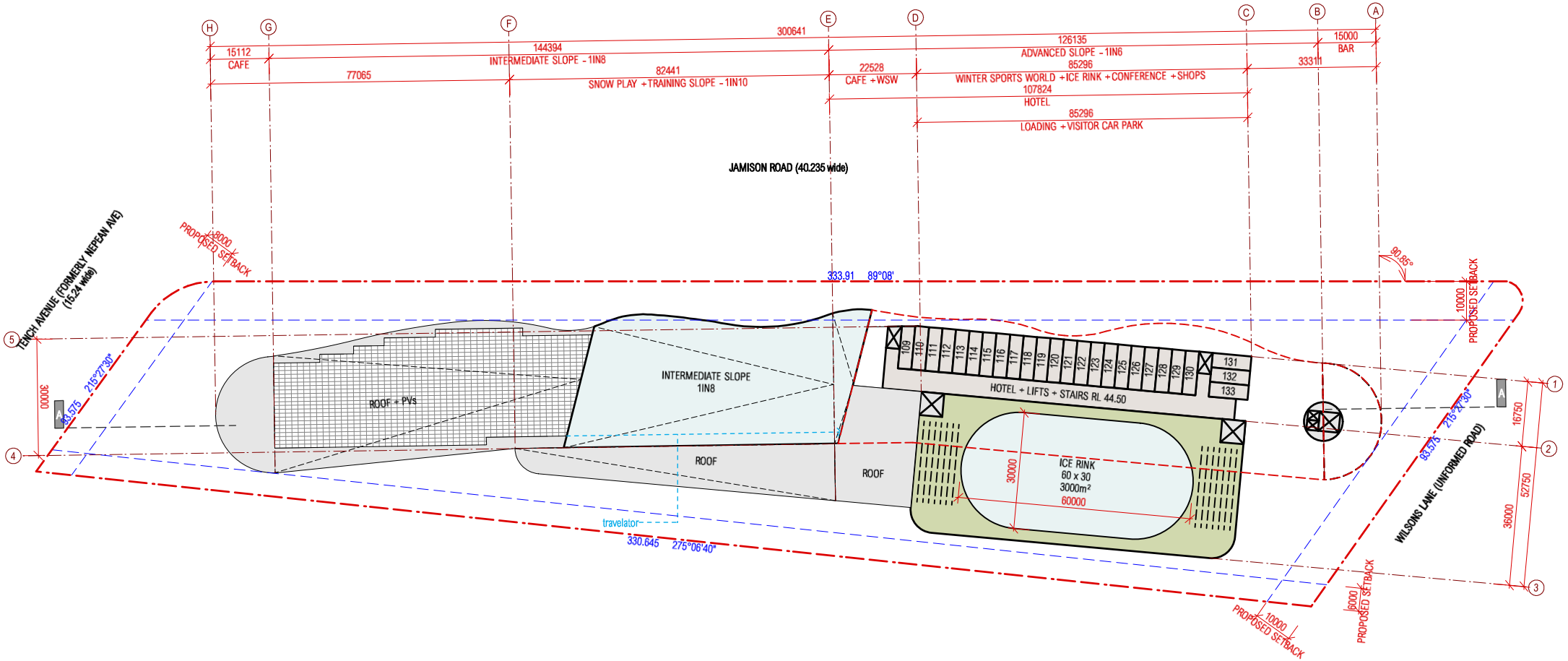
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location:	drawing: LEVEL 6 RL 41.50	stage: D.A.	project no.: 781	dwg no.: 107
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 7 FLOOR PLAN - RL 44.50
1:1000 @ A3

0 10.0 20.0 30.0m

notes

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rev	date	amendment
A	28.06.18	issue to council

rev	date	amendment

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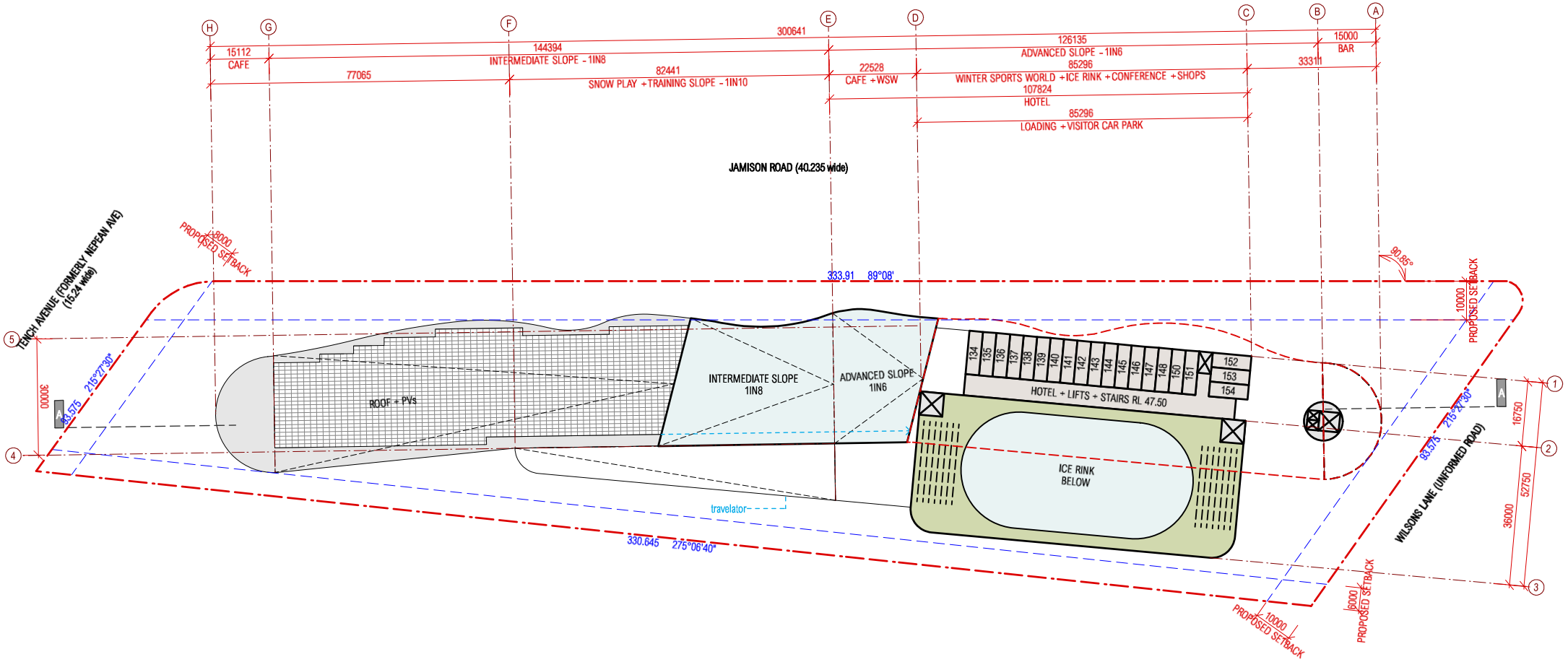
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location:	drawing: LEVEL 7 RL 44.50	stage: D.A.	project no.: 781	dwg no.: 108
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 8 FLOOR PLAN - RL 47.50
1:1000 @ A3

0 10.0 20.0 30.0m

notes

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rev	date	amendment

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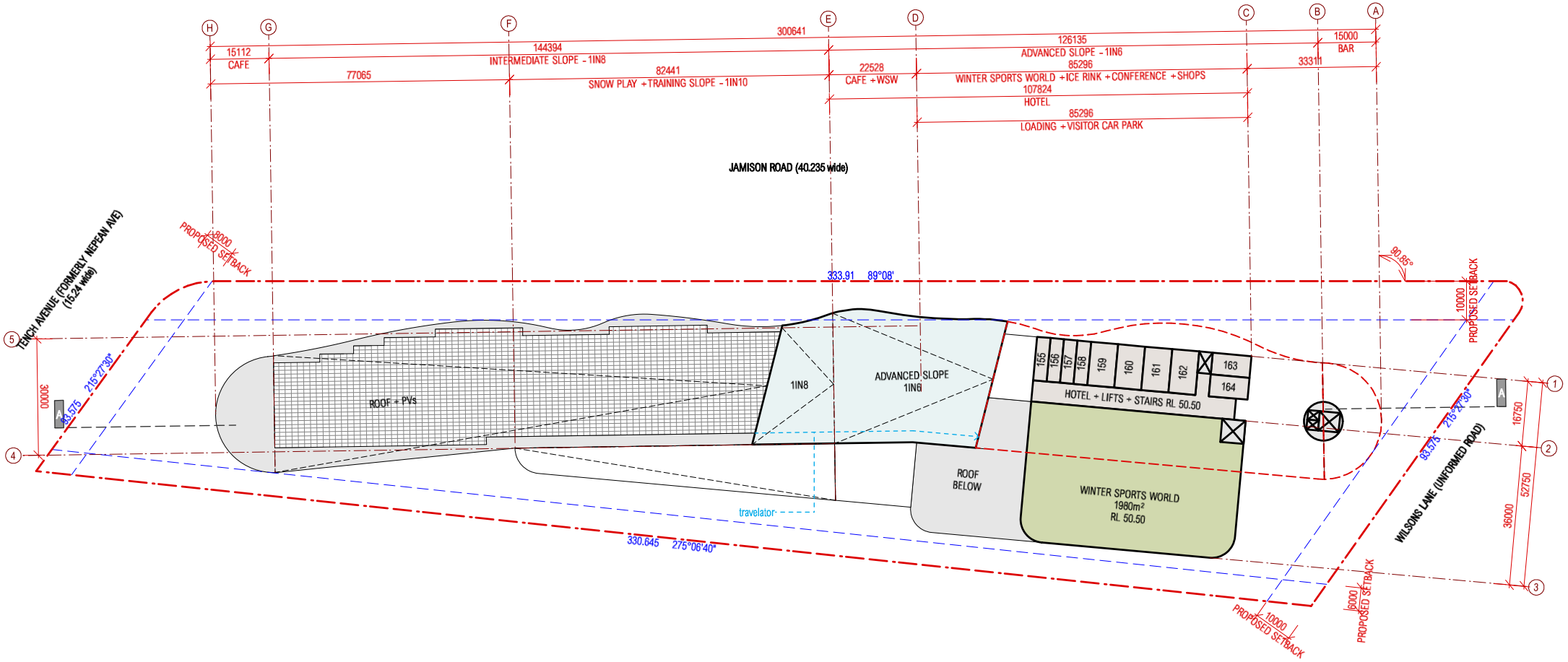
project: WINTER SPORTS WORLD	location:	drawing: LEVEL 8 RL 47.50	stage: D.A.	project no.: 781	dwg no.: 109
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 9 FLOOR PLAN - RL 50.50

1:1000 @ A3

0 10.0 20.0 30.0m

notes

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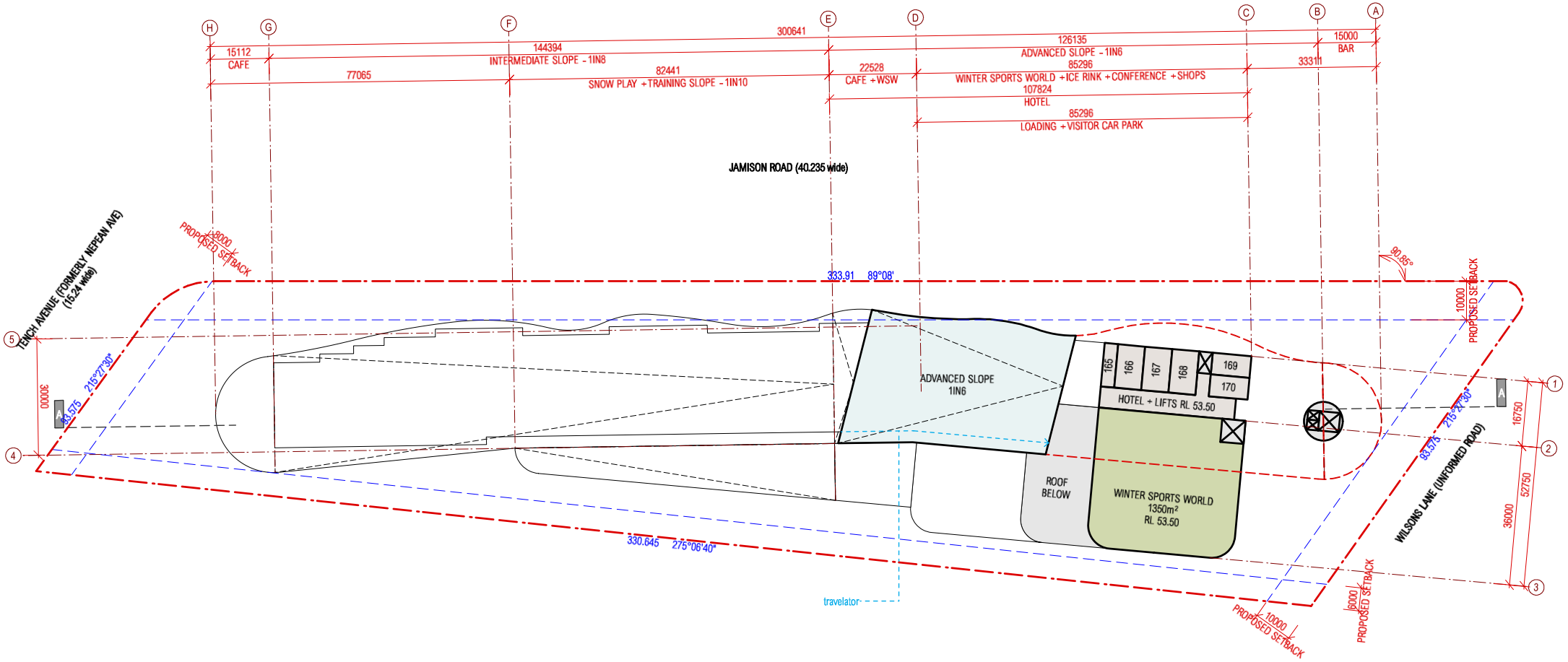
architects registration number 6239

project: WINTER SPORTS WORLD	location:	drawing: LEVEL 9 RL 50.50	stage: D.A.	project no.: 781	dwg no.: 110
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 10 FLOOR PLAN - RL 53.50
1:1000 @ A3

0 10.0 20.0 30.0m

notes

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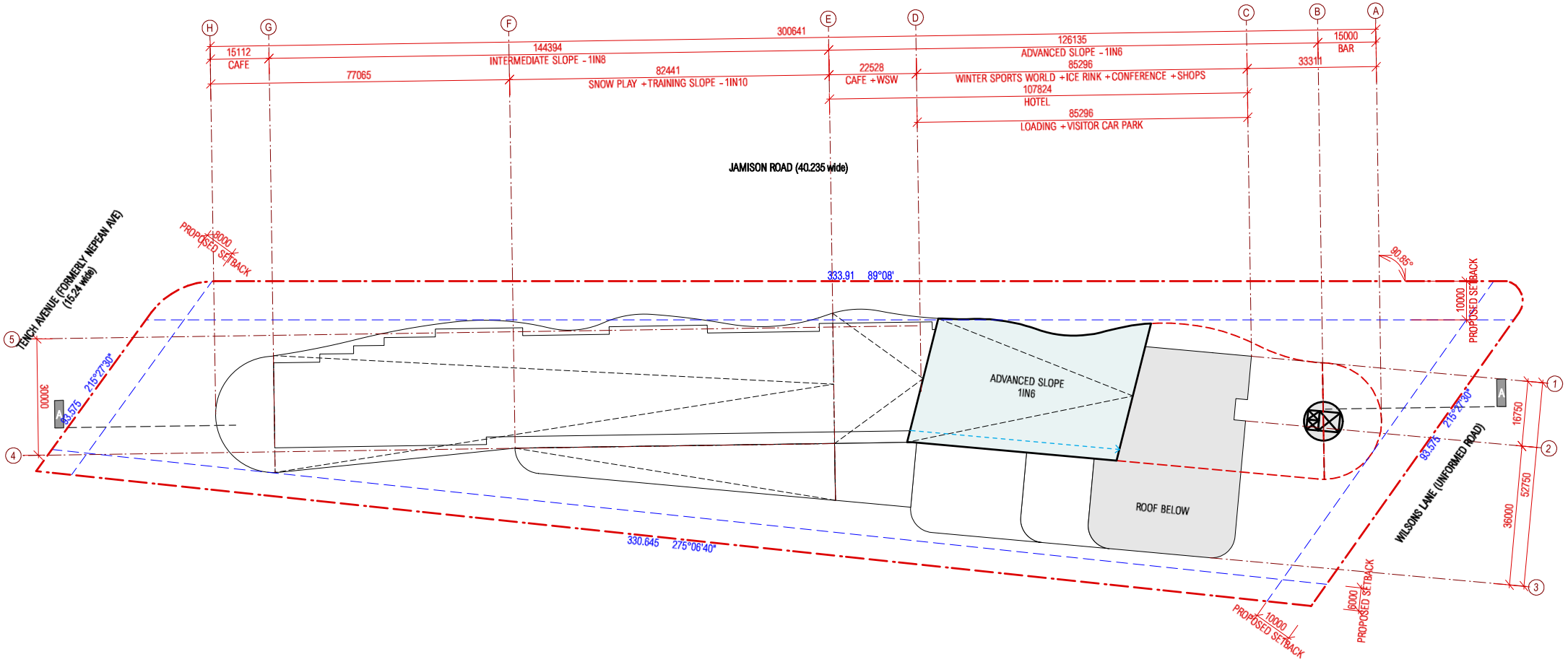
project: WINTER SPORTS WORLD	location:	drawing: LEVEL 10 RL 53.50	stage: D.A.	project no.: 781	dwg no.: 111
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 11 FLOOR PLAN
1:1000 @ A3

0 10.0 20.0 30.0m

notes

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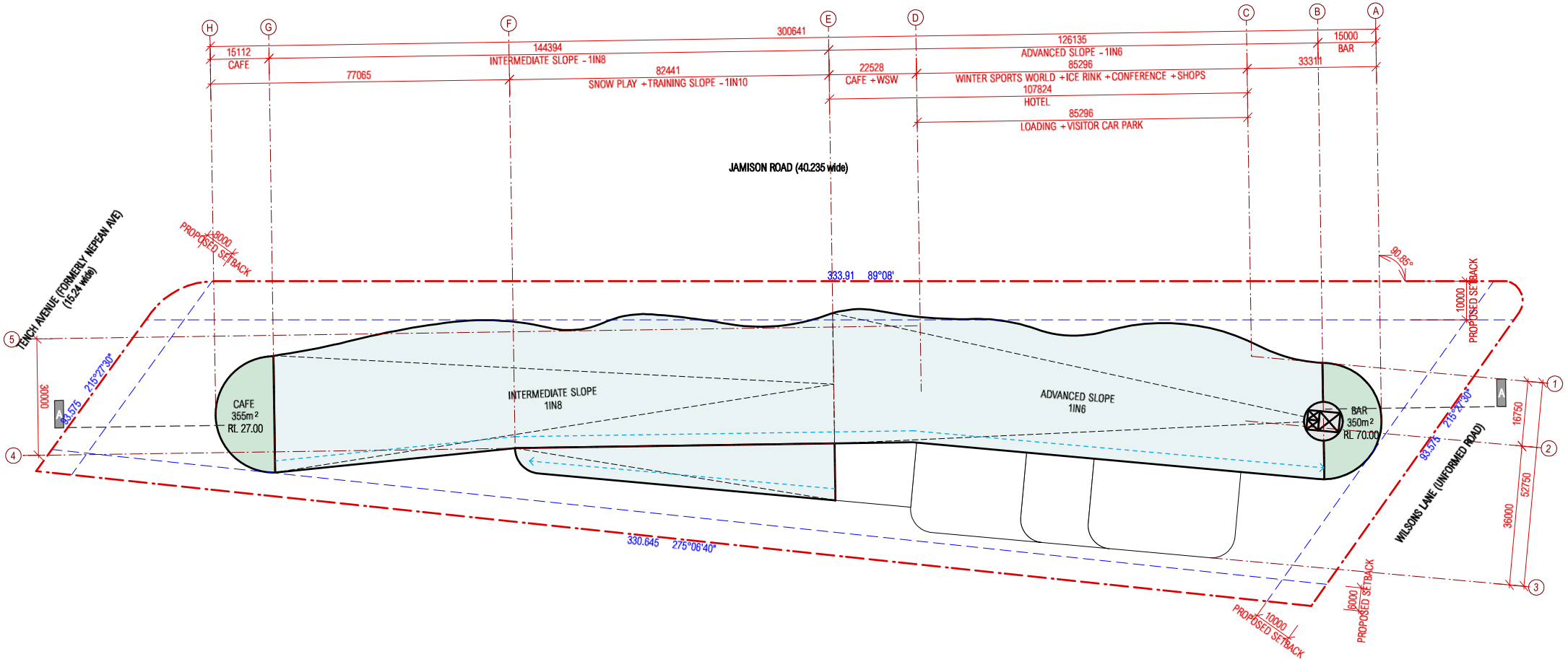
project: WINTER SPORTS WORLD	location:	drawing: LEVEL 11 RL 56.50	stage: D.A.	project no.: 781	dwg no.: 112
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 12 FLOOR PLAN - RL 71.00
1:1000 @ A3

0 10.0 20.0 30.0m

notes

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rev	date	amendment

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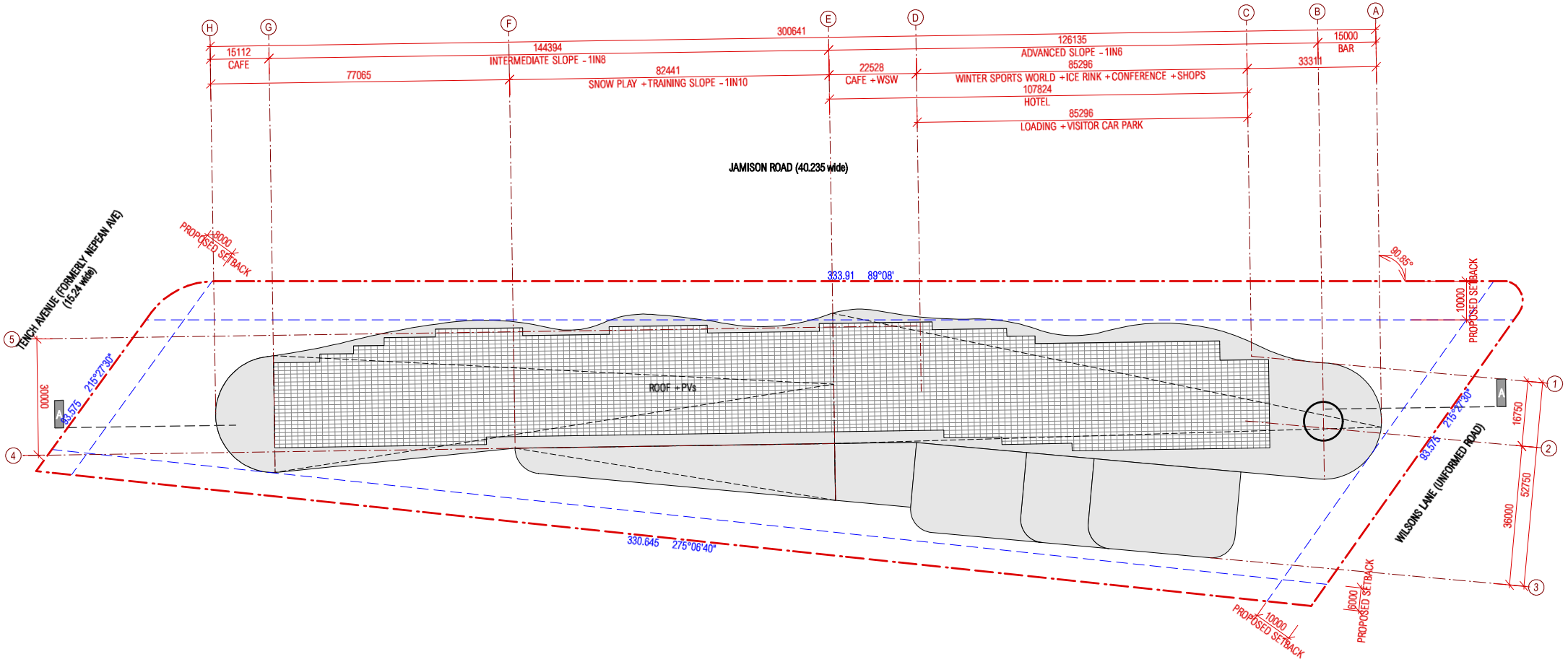
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location:	drawing: LEVEL 12 RL 71.00	stage: D.A.	project no.: 781	dwg no.: 113
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



ROOF PLAN
1:1000 @ A3

0 10.0 20.0 30.0m

notes

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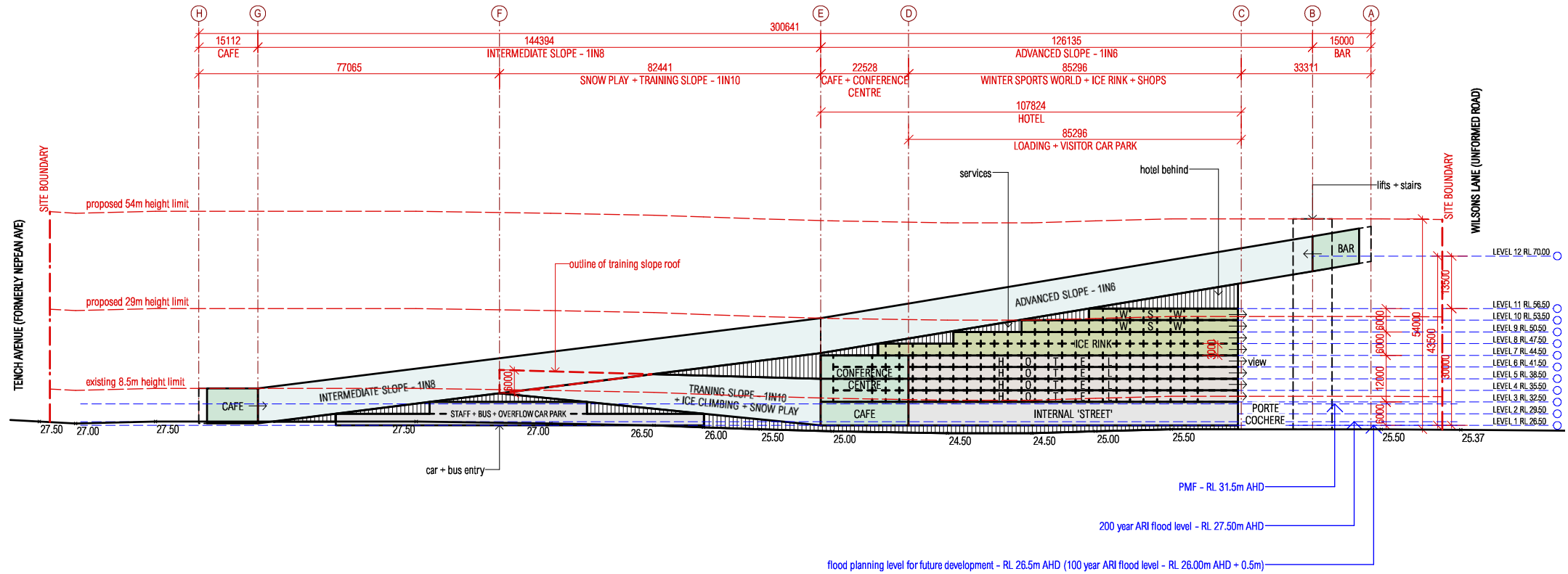
architects registration number 6239

project: WINTER SPORTS WORLD	location:	drawing: ROOF PLAN	stage: D.A.	project no.: 781	dwg no.: 114
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



SECTION A
1:1000 @ A3

0 10.0 20.0 30.0m

notes

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project: WINTER SPORTS WORLD	location:	drawing: SECTION A	stage: D.A.	project no.: 781	dwg no.: 120
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A

224 riley street, surry hills nsw australia
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environa studio
environmental architecture

WINTER SPORTS WORLD

AREA AND COST ANALYSIS

v4

Corner Jamison Rd and Tench Ave 28-Jun-18

SITE

Land Area 23,420 sqm 2.34 Ha

RL's to AHD

Activity	Description	Height m	Area sqm	Cost/ sqm	Sub-total
WINTER SPORTS WORLD					
SKI SLOPES					
Ski slopes	Main Slope				
	310m long indoor ski field, slope to north	51m fall	8882	$4,500	$39,969,000
	Advanced Slope - 185m (1 in 6 slope, 35m fall)				
	Intermediate Slope - 115m (1 in 10 slope, 16m fall)				
	Width varies, average 30m				
	Slope varies, average 6 to 10 degrees				
	Iinternal space, thermal + acoustic control				
	Learner Slope + Snow Play Area				
	80m long training ski field, slope to east	20m fall	2802	$4,500	$12,609,000
	Gently sloping for snow play + beginners	10m			$0
SUB TOTALS			11684		**$52,578,000**
WSW GROUND FLOOR ENTRY					
Reception	Public access ground level	6m	1717	$3,000	$5,151,000
Equipment	Skis, clothing etc at ground level	6m	300	$3,000	$900,000
Facilities	Change room area Male & Female	std	300	$4,000	$1,200,000
	Toilets M+F for Snow Centre	std	300	$4,000	$1,200,000
	Lockers Male & Female	std	100	$3,000	$300,000
	Equipment + gear store and maintenance	std	1000	$3,000	$3,000,000
SUB TOTALS			3717		**$11,751,000**
ICE SKATING RINK					
	rink, hockey / short track skate, min 60m x 30m	4-6m H	1800	$4,500	$8,100,000
	Indoor ice rink, viewin areas around	4-6m H		$3,500	$0
Reception	Reception + waiting area	std	50	$3,000	$150,000
Facilities	Change room area Male & Female	std	50	$4,000	$200,000
	Toilets M+F + Lockers Male & Female	std	50	$4,000	$200,000
SUB TOTALS			1950		**$8,650,000**

ICE CLIMBING					
	Climbing Walls (80m2 floor area)	30m high	80	$4,000	$320,000
Reception	Reception + waiting area	std	50	$3,000	$150,000
Facilities	Change room area Male & Female	std	30	$4,000	$120,000
	Toilets M+F	std	30	$4,000	$120,000
	Lockers Male & Female	std	20	$3,000	$60,000
	Training Room (10 people)	std	40	$3,000	$120,000
SUB TOTALS	ice climbing		250		**$890,000**
ROCK CLIMBING					
	Climbing Walls (80m2 floor area)	30m high	80	$4,000	$320,000
Reception	Reception + waiting area	std	50	$3,000	$150,000
Facilities	Change room area Male & Female	std	30	$4,000	$120,000
	Toilets M+F	std	30	$4,000	$120,000
	Lockers Male & Female	std	20	$3,000	$60,000
	Training Room (10 people)	std	40	$3,000	$120,000
SUB TOTALS	rock climbing		250		**$890,000**
ALTITUDE TRAINING					
Traing room	for altitude adaptation	5m	100	$5,000	$500,000
Reception	Reception + waiting area	std	30	$3,000	$90,000
Facilities	Change room area Male & Female	std	30	$4,000	$120,000
	Toilets M+F	std	30	$4,000	$120,000
	Lockers Male & Female	std	20	$3,000	$60,000
	Training Room (10 people)	std	40	$3,000	$120,000
SUB TOTALS	rock climbing		250		**$1,010,000**
GYMNASIUM + TRAINING					
Gym	training	5m	100	$5,000	$500,000
Reception	Reception + waiting area	std	30	$3,000	$90,000
Facilities	Change room area Male & Female	std	30	$4,000	$120,000
	Toilets M+F	std	30	$4,000	$120,000
	Lockers Male & Female	std	20	$3,000	$60,000
SUB TOTALS			210		**$890,000**
CENTRE ADMIN					
Reception	incl waiting area	std	30	$3,000	$90,000
	Offices + Training	std	264	$3,000	$792,000
	Meeting / Multi Purpose room (40 people)	std	80	$3,000	$240,000
	Toilets M+F	std	30	$4,000	$120,000
SUB TOTALS	for centre admin		374		**$1,242,000**

HOTEL + FOOD + BEVERAGE

HOTEL GROUND FLOOR ENTRY

	Reception + Public access ground level	6m	400	$3,000	$1,200,000
	Ancilliary retail souvenirs / hotel requirements	6m	300	$3,000	$900,000
	Change room area Male & Female	std	52	$4,000	$208,000
	Back of house offices etc	std	400	$3,000	$1,200,000
SUB TOTALS	for centre admin		1152		**$3,508,000**

FOOD + BEVERAGE

	Cafés + Restaurants / Bars	4m	600	$3,500	$2,100,000
	Bars		550	$3,500	$1,925,000
	Commercial kitchen (all F+B except hotel)	exhausts	500	$6,000	$3,000,000
SUB TOTALS			1150		**$4,025,000**

HOTEL

Rooms	Level 3	3m	1760	$3,500	$6,160,000
Rooms	Level 4	3m	1760	$3,500	$6,160,000
Rooms	Level 5	3m	1760	$3,500	$6,160,000
Rooms	Level 6	3m	1760	$3,500	$6,160,000
Rooms	Level 7	3m	1555	$3,500	$5,442,500
Rooms	Level 8	3m	1296	$3,500	$4,536,000
Rooms	Level 9	3m	913	$3,500	$3,195,500
Rooms	Level 10	3m	620	$3,500	$2,170,000
Conference Centre	Level 3	6m	632	$3,500	$2,212,000
Conference Centre	Level 5	6m	632	$3,500	$2,212,000
SUB TOTALS			12688		**$44,408,000**

SERVICES + MECAHNICAL

SERVICES + MECAHNICAL

	PV panels on the roof: 8000 sqm	not FSR	8000		$2,000,000
	@ 1kW / 8sqm = 1000 kW = 1 MW power				
	PV controls + Electrical + battery storage	not FSR	400		$2,000,000
	Snow making equipment area	not FSR	200	$3,000	$2,000,000
	Air conditioning areas	not FSR	200	$3,000	$2,000,000
	Electrical areas	not FSR	100	$3,000	$1,000,000
	All AC + Mech Vent + Services equipment		item		$35,000,000
SUB TOTALS		not FSR	900		**$44,000,000**

CAR PARKING

CAR PARKING

Car Park 1 (east)	Car parking for 400 + cars	400	11308	$1,800	$20,354,400
Car Park 2 (west)	Car parking for 200 + cars + 10 buses	400	5704	$1,800	$10,267,200
	valet parking and admin		100	$3,000	$300,000
SUB TOTALS			17112		**$30,921,600**

TOTAL

	Floor area in GFA (equivalent to FSR)		33675		$129,842,000
	Floor area not in GFA		18012		$74,921,600
TOTALS			**51687**		**$204,763,600**

APPENDIX 2
Urban Design Report

wsw
winter sports world

urban design report

2-4 tench avenue, jamisontown

environa studio
environmental architecture

winter sports world

table of contents

urban design report v2.1

by environa studio

for Winter Sports World Pty Ltd

September 2018

winter sports world

1.0 introduction + methodology

introduction

This Urban Design Report reviews a proposal for a "Winter Sports World" (WSW) in Tench Avenue and Jamison Road, Jamisontown in Penrith LGA, which is a complex that provides a year-round experience for a variety of winter sports activities, for both locals and tourists, particularly those planning a trip west to the Blue Mountains, together with associated facilities including a 4-5 star Hotel with Conference, food and beverage facilities.

The subject site comprises a 2.34 ha allotment located at 2 Tench Avenue, Jamisontown in the Penrith local government area (LGA). It is currently zoned SP3 – Tourist and falls within the broader Riverlink Precinct under the Penrith Development Control Plan 2014.

The vision for the Riverlink Precinct is an area comprising a mix of activity nodes, with a diverse range of land uses and services, and a strong focus on entertainment and leisure.

The Precinct already contains various tourism, entertainment and leisure uses including Panthers World of Entertainment, Cables Wake Park and Aqua Park and iFLY Indoor Skydiving. The Penrith Whitewater Stadium, offering whitewater rafting and kayaking, and Sydney International Regatta Centre are also both situated nearby. As such, the proposed Winter Sports World is likely to benefit substantially from its location within this Precinct.

The centre is intended to be an Australian-first, world-class facility that would establish Penrith as the tourism capital of Sydney. It would target the corporate retreat market, with a focus on providing integrated package inclusions and employee bonding on the slopes, as well as also catering to local residents, and domestic and international tourists.

This complex would contain a range of uses including:

Advanced ski slope (185 m run)
Beginner and Intermediate ski slopes for training and lessons (115 m run and 80 m run respectively)
2,800 sq.m Winter wonderland snow play area
Ice and rock climbing
Ice skating rink
170 room hotel, conference facilities, restaurant and cafes (all with direct viewing of the slopes and snow play area)

The conceptual plans for the Winter Sports World concept are shown in the section 4. Section 4 details the proposed uses which will be accommodated within the complex, including their scale.

methodology

This Urban Design Report has been prepared by Environa Studio to explore the consistency of the proposed building use and envelope with the existing and desired future development context.

The Report does this by analysing the existing development context of the site and the strategic direction for the precinct developed by Council. The Report then examines the impact of the likely built form of future development on the local area.

The Urban Design Report includes the following components:

- An analysis of the existing built form of the precinct.
- A review of the current built form controls for the site and surrounds.
- A review of the vision and objectives for the area expressed through key studies and strategies developed by Penrith Council.
- Identification of opportunities and constraints for future development of the site.
- A detailed study of the proposed building envelope and the compatibility of the envelope with the existing and future development context.

winter sports world

2.0 site analysis

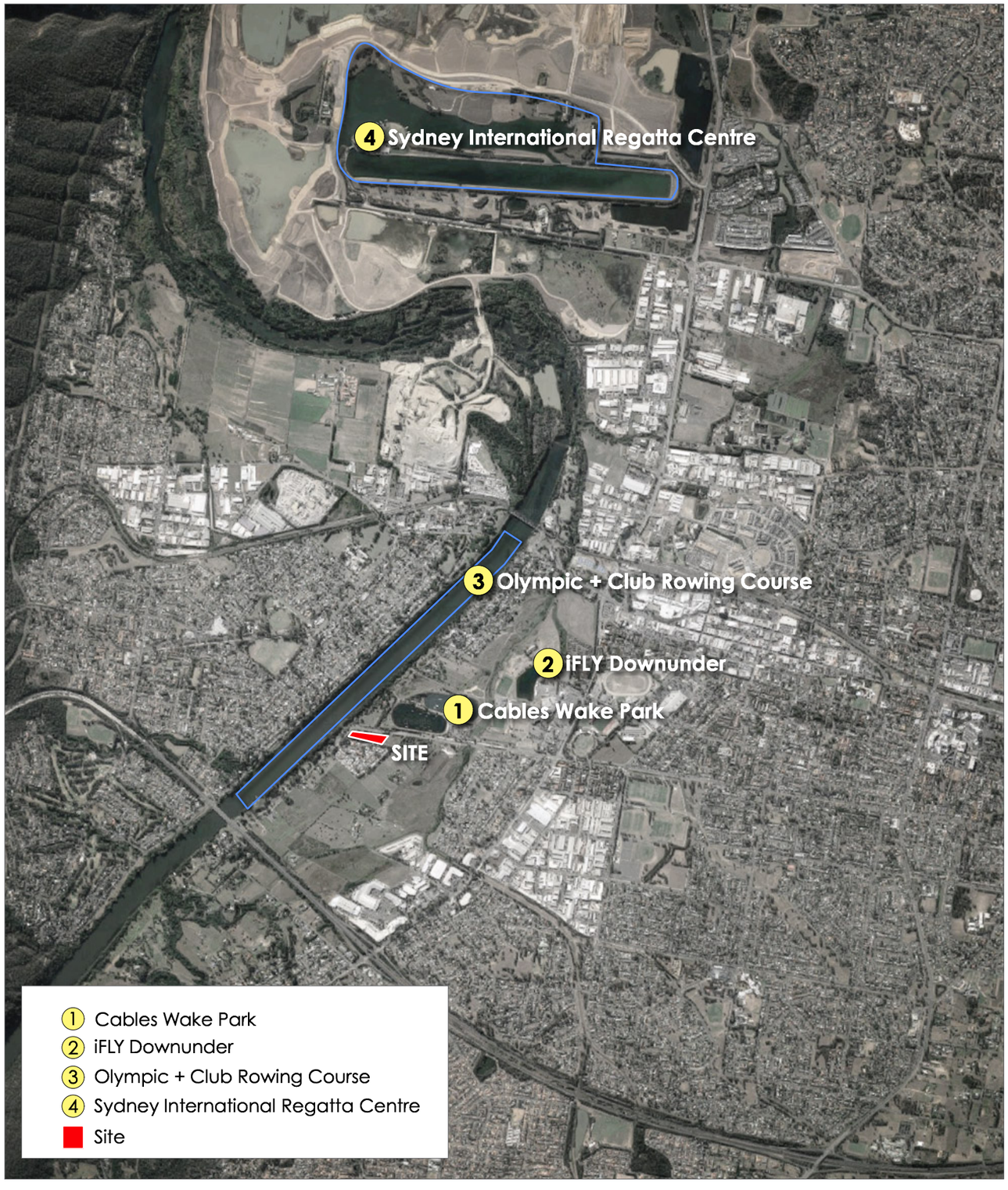
2.1 location / configuration

six maps

The site is at 2-4 Tench Avenue Jamisontown, on the corner of Jamison Rd. The site is 2.35 Ha (5.9 acres). The site has 2 frontages: a short, angled boundary that fronts Tench Avenue (parallel to the river), and the longer boundary of approximately 334 m facing north, along Jamison Rd. Jamison Rd is an E-W connector between Mulgoa Rd and the Nepean River. Mulgoa Rd is the N-S distributor street in Penrith, leading to the town centre and Penrith Panthers Club, which is within easy walking distance.

The site is relatively flat and is currently bounded by timber railing fences and is grassed but has no significant trees and has a single house and some areas set aside for grazing of horses and for domestic uses associated with the house. The current traffic on Jamison Rd presents minor acoustic considerations, which will increase considerably, particularly if Jamison Rd is widened, with is likely to significantly increase with further developments in the area. The site is zoned for "Tourism" activities.

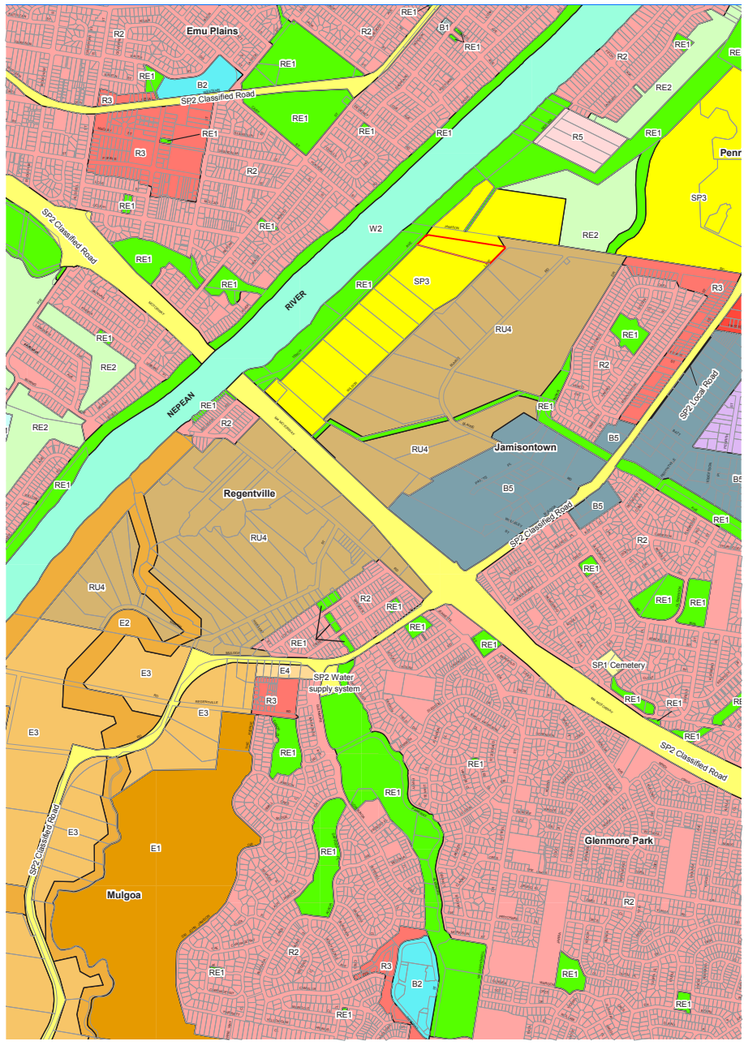
2.1 location / configuration



es diagram 1

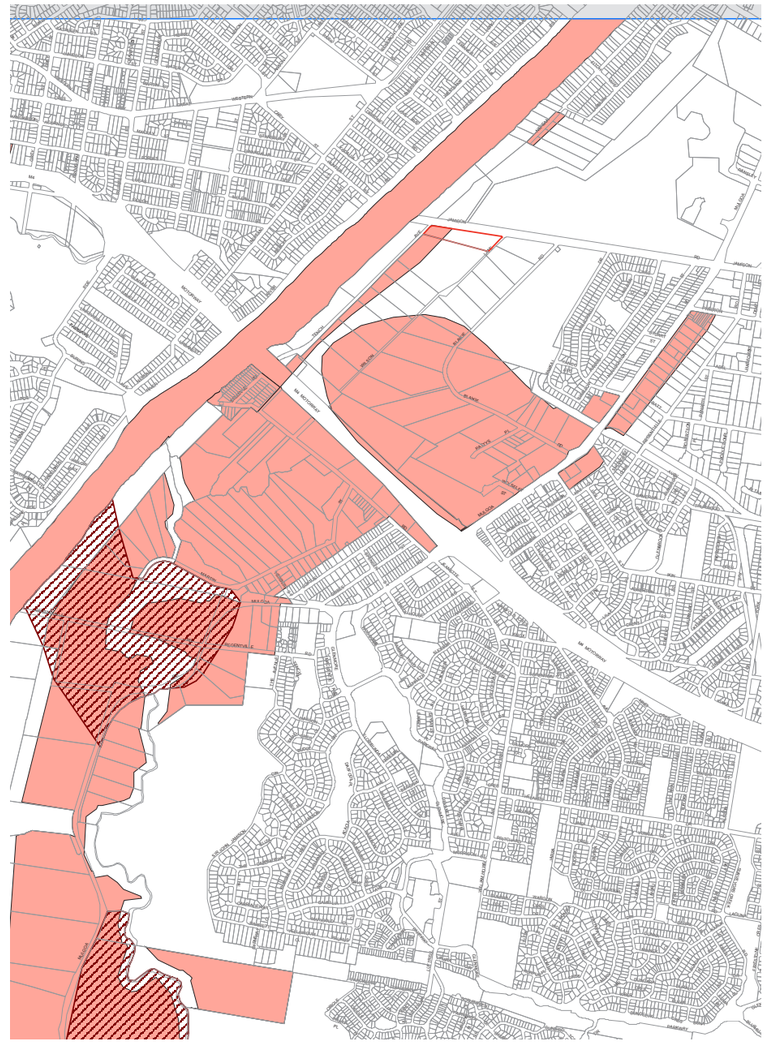
es diagram 2

2.2 lep 2010 - current zoning / height / scenic + landscape values



extract from the lep 2010 land zoning map

extract from the lep 2010 height of buildings map



extract from the lep 2010 scenic and landscape values map

The site is within the SP3 Tourist zone pursuant to LEP 2010 as shown in Figure 2. The SP3 zone extends along the eastern side of Tench Avenue, from the M4 to Jamison Road. The SP3 zone includes 'Madang Park' and a portion of the Cables Wake Park. The SP3 zone permits a range of tourism related land uses such as amusement centres, recreation facilities (indoor and outdoor), water recreation structures and tourist and visitor accommodation. LEP 2010 limits the height of buildings within the SP3 zone (and the adjoining RU4 land) to 8.5 metres as shown in the LEP height of buildings map above.

The site is zoned "Tourist" and has a height limit of 8.5m. The site is identified as being subject to flooding. The land opposite the site, on the northern side of Jamison Road is zoned for tourism activities, as are the sites along Tench Avenue. The sites immediately to the east on the other side of the unmade road, Wilson Lane, are zoned rural. Wilson Lane has been graded and grassed and provides informal access in the case of emergencies.

NB: The Floor Space Ratio (FSR) development standard does not apply to the site or the surrounding land.

Objectives of zone:

1. To provide for a variety of tourist-oriented development and related uses.
2. To provide for diverse tourist and visitor accommodation and activities that are compatible with the promotion of tourism in Penrith.
3. To create an appropriate scale that maintains important views to and from the Nepean River as well as to the Blue Mountains escarpment, while also improving important connections to the Penrith City Centre and the Nepean River.

Response:

The Planning Proposal is consistent with these objectives in that the Proposal facilitates the development of a 'Winter Sports World' which includes an indoor ski centre with a 300 metre long ski slope. The facility is a specific and unique type of tourist-oriented development which will strengthen Penrith's claim for the title of 'The Adventure Capital of NSW'.

The Visual Analysis prepared by Environa Studio demonstrates that important views to and from the Nepean River as well as to the Blue Mountains escarpment will be maintained from key locations surrounding the site. Existing connections to the Penrith City Centre and the Nepean River will be maintained.

2.3 existing + future character

view to the north-west from the rear boundary of the site

view to the east along Jamison Road from the northern side of Jamison Road, opposite the site

view to the Nepean River from the intersection of Jamison Road and Tench Avenue

view to the existing house from Tench Avenue

view to the east along Jamison Road

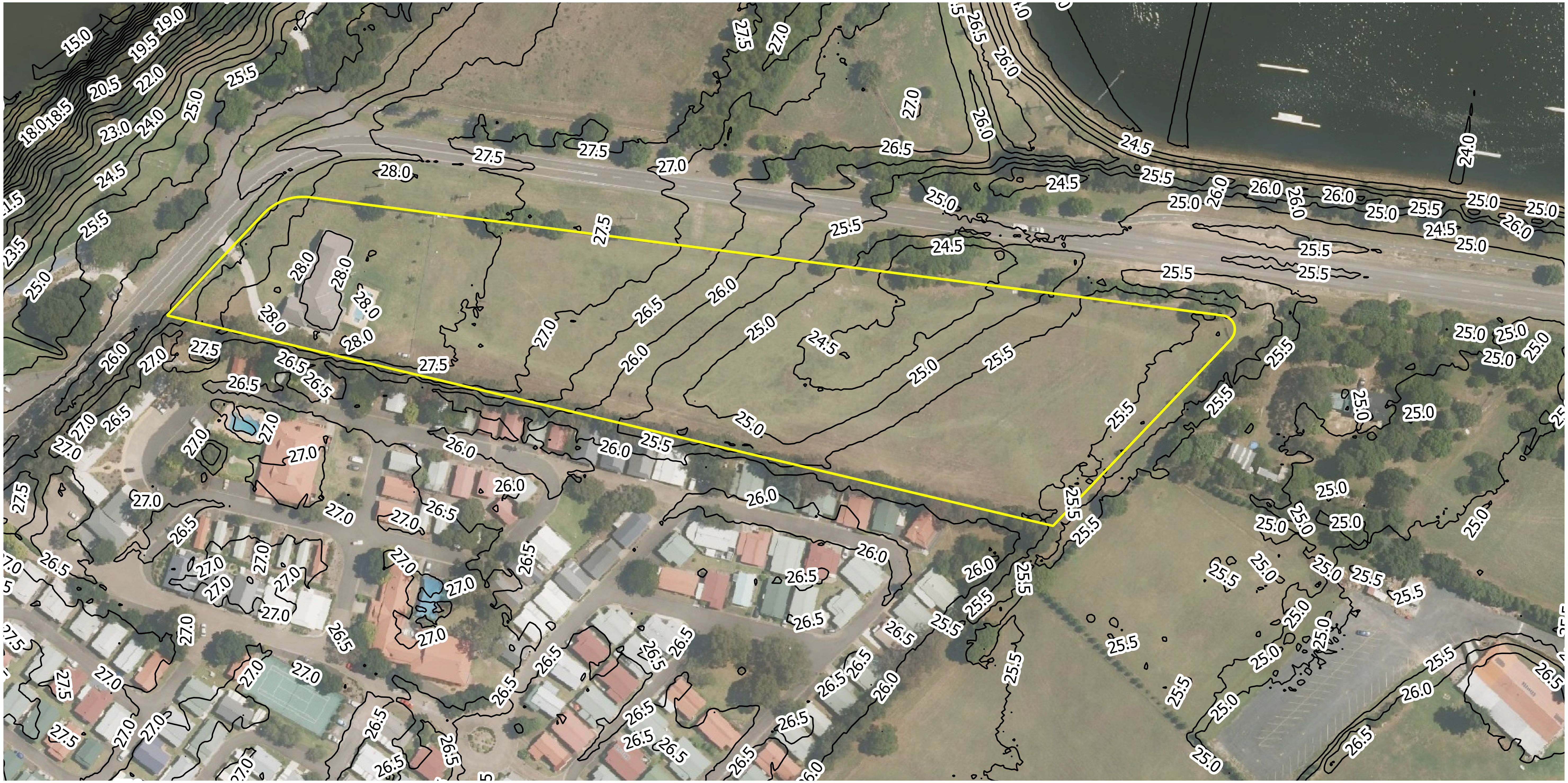
intersection of Jamison Road and Tench Ave

view to the south along Tench Avenue from the western side of Tench Avenue, opposite the site

view to the north-west from the southern side of Jamison Raad (east of the site)

The existing character of the site is as a continuation of the ‘rural uses’ of open paddocks fringed with trees. The future character of the area is intended as a tourism precinct, with tourism facilities on both sides at the end of Jamison Road, creating a “gateway” to the Tench Avenue area which would include a number of tourism facilities which are not currently in existence or even proposed. It is envisaged that the Tench Avenue area will eventually become a series of tourism-related activities which may include food and beverage, accommodation and tourist activities along the length of Jamison Road arrival point and to the north there will be a new pedestrian path over the river near the Victoria Bridge.

2.4 topography + flooding

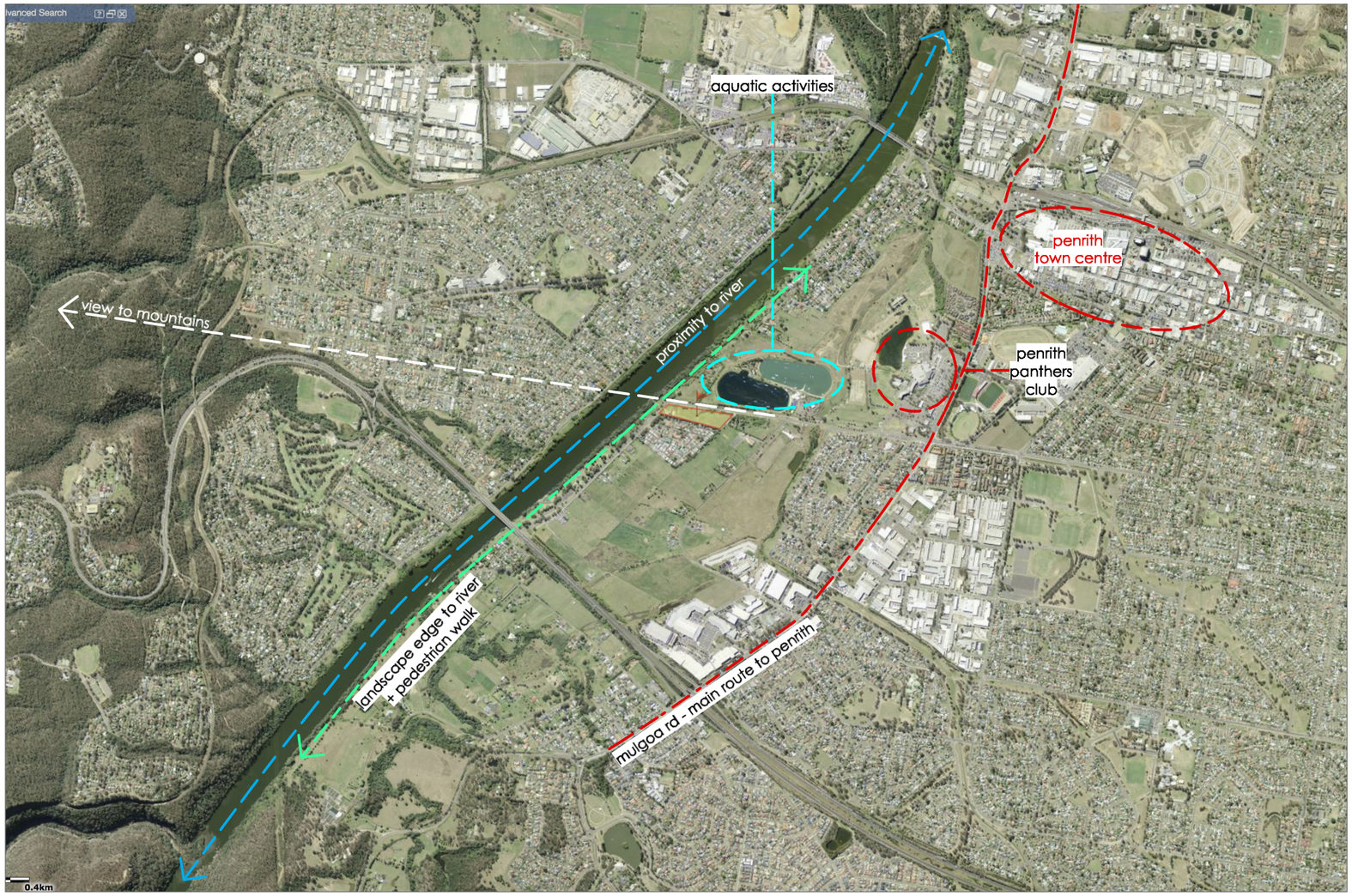


lidar study

The site is relatively flat, with a depression in the centre that allows Peach Tree Creek to drain across the site and along down into the Nepean River during extreme flood events. This may cause flooding at 1:100 year flood levels, which is covered in a flood report included with the Planning Proposal. The East and West ends of the site are both above the 1:100-year flood level.

The site will flood in a 1:100 year and above event. A full flood study of the site has been prepared and submitted with the planning proposal. This site and adjacent Jamison Rd have a depression in the centre which allows water that may collect upstream in the Peach Tree creek to pass under the site on its way to the Nepean River in a flood event.

2.5 views / vistas



landscape + visual location

The approach to the site along Jamison Rd has a line of sight across the river to the Blue Mountains, giving the first indication of hilly terrain in an otherwise flat river plain precinct.

The site is ringed with trees which limits the views from the current ground level. At an elevated level on the western end (near Tench Ave) there are vistas down over the Riverwalk and glimpses into the water of the Nepean River. From the northern boundary looking out over towards Madang Park, there are no views of Madang Park itself except for the heritage-listed trees that fringe that heritage site. In between the site and Madang Park is a large open grass area which is zoned for tourism.

Further to the east there are views over the "Wake Park" which is located to the northeast of the site. From an elevated position, one would be able to see the water and the water skiing on the artificial lake. The views to the south are framed by a line of densely planted gum trees that currently attain a height of approximately 20 metres along the length of the mobile home park. The understorey of these trees is relatively open giving a view at ground level of the one storey villas within the mobile home park, however the upper level of any building would have an obscured view, as the density of those trees, and the trees beyond on Tench Ave, prevent any distant views towards the river and the bridge on the M4. Likewise, the views back to the site from the upper areas of the Nepean River and the Victoria Bridge are obscured by those trees (see visual analysis report).

The views to the site are covered in a visual analysis showing 39 different locations around the site and the views to the site and the possible vista views of the proposed building.

view to the mountains from the site

view along the nepean river towards the site

view of site from emu plains

2.6 context

six maps

The context for the site is mixed and varied, being a vacant site zoned for tourism, an adjacent site which is currently used for tourism activities (water skiing), a rural site that is currently an underdeveloped mix of tourist accommodation (permissable) and permanent dwellings (nonconforming).

The adjoining site to the South is a mix of tourist accommodation (cabins) and permanent dwellings (seniors living dwellings). Residential accommodation such as the existing seniors living developments are a prohibited development in the zone so this component of the existing development is a non-conforming use under the current LEP. The tourist accommodation is permissible.

The site is bounded by Tench Avenue on one side (the other being a park along the Nepean River) and Jamison Road (which has a pedestrian / cycleway on the opposite side. Jamison Rd has a relatively level gradient having a small dip in the centre of the site but is otherwise relatively level all the way back to Mulgoa Road.

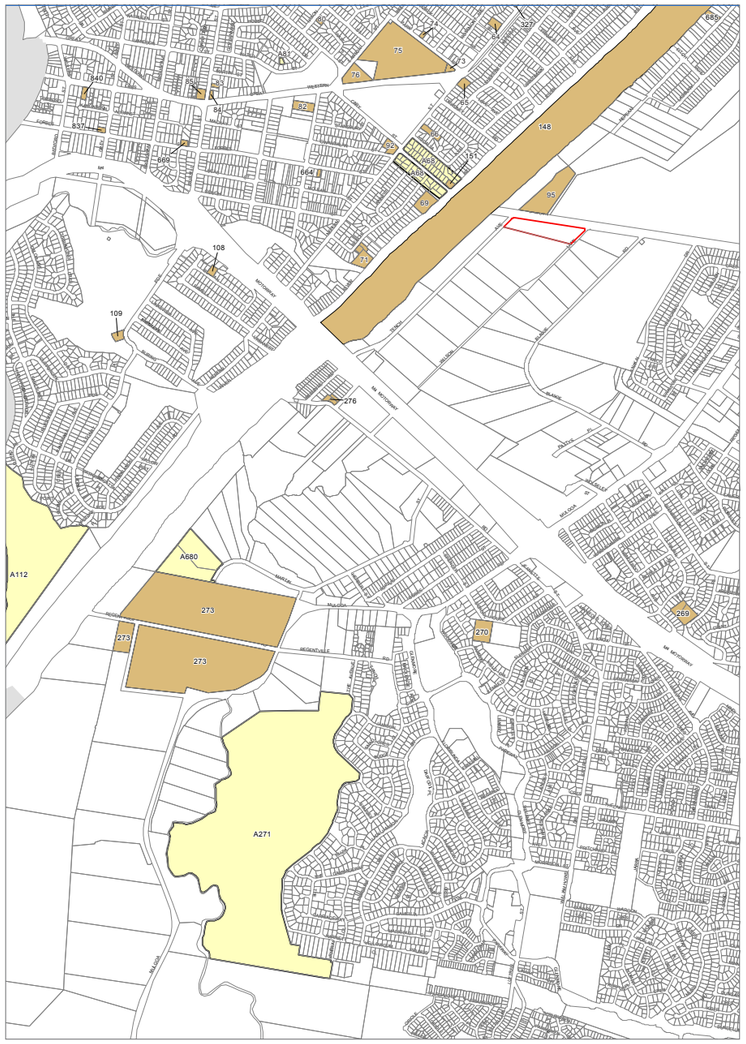
The site has street trees along the length of Jamison Road in a rather ragged state and informal arrangement. This is in contrast to an avenue of trees on the other side of Jamison Road that have been specifically planted to celebrate to 50 years of Penrith Council activity.

Further east on Jamison Road is the most southwestern end of the lands owned by the Penrith Leagues Club (Panthers) and is currently used as a "Wake Park", an artificial water-skiing facility where the entrance is further East on Jamison Road.

The site at its western extremity faces down over the Nepean River and is adjacent to the Riverwalk on the far side of Tench Avenue, together with the landscape treatment of trees and various barbecue and other shelters along the length of the walk.

Jamison Road currently has one vehicle lane in each direction with very wide verges, and there is a pedestrian/cycleway on the northern side (opposite the site) which runs the length of Jamison Road from Mulgoa Road down to the Riverwalk and provides pedestrian and cycle access to the pedestrian/ cycleway along the length of the Nepean River. Tench Avenue currently has one vehicle lane in each direction with parking bays on the river side.

2.7 heritage



extract from the lep 2010 heritage map

Opposite the site is an open field area with a heritage house, Madang Park, which is a homestead fringed with trees. It is identified as a heritage item with local significance under the PLEP 2010 (Item No.95). Currently the area is also surrounded by cars and other detritus which detracts from its visual appearance from Jamison Road. This open area of the site is zoned for tourism, provided that the heritage values of Madang Park and its proximity to the Nepean River are considered in the design.

From the northern boundary looking out over towards Madang Park, there are no views of Madang Park itself except for the heritage-listed trees that fringe that heritage site. In between the site and Madang Park is a large open grass area which is zoned for tourism.

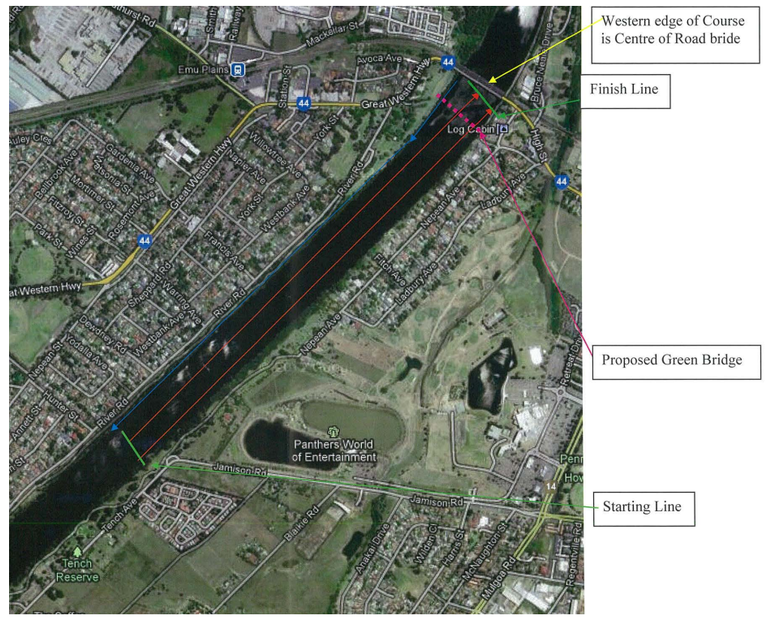
The site is also in the vicinity of the rowing course on the Nepean River which is listed as a heritage item (Item No. 148).

nepean river green bridge, page 142

nepean river green bridge, page 16

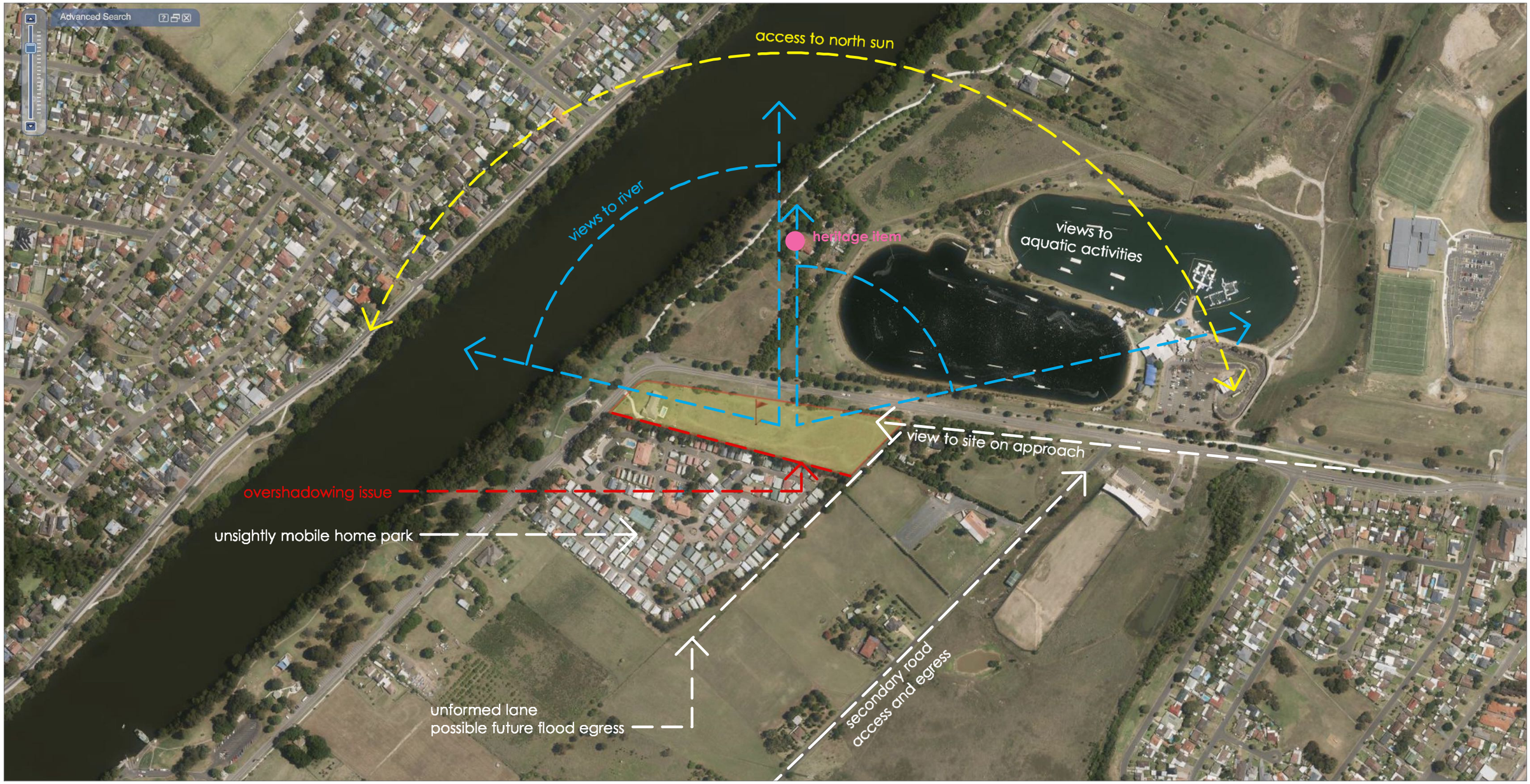
view to madang park

View towards the heritage home, Madang Park, which is totally obscured from view from the site and Jamison Road by the heritage listed trees. Likewise there is no view from the house to the proposed building.



international 2km course - nepean river green bridge, page 182

2.8 site analysis issues



site analysis plan

The linear nature of the site has advantages and disadvantages. The advantage is in providing a large north facing area, for access to views to the river and the aquatic activities. That is the long boundary has both good aspect and good prospect. However, the narrow nature of the site presents an issue for overshadowing of the adjacent site to the south, which is currently used as a mobile home village (now a non-conforming use).

The long axis facing north provides opportunities for both passive and active solar uses for a future building (such as a large area for roof-top solar PV cells to assist in making a building low energy or carbon neutral). The river is close in proximity but cannot be seen from ground level on the site given the lines of trees along the southern bank. The site also has restricted views to the district at ground level but views over the river and beyond are possible at height.

The west end of the site has a low scale of trees and walking / running / cycling paths along the river, and this low scale should be maintained. The east end of the site is wider and faces Wilsons Lane (an unmade road) and a change of zoning that is open and flat (rural uses). This end of the site is well viewed on approach on Jamison Rd and could potentially be developed a far greater height.

winter sports world

3.0 urban design issues

3.1 urban design issues introduction

This report examines the urban design issues that arise from examining a number of relevant reports, including but not limited to;

- **Greater Sydney Region Plan – A Metropolis of Three Cities - March 2018**
- Western City District Plan - March 2018
- Penrith Community Plan - June 2017
- Economic Development Strategy (EDS) Penrith Council - 2016
- **Penrith Local Environment Plan 2010**
- **Penrith Development Control Plan 2014**
- State Environmental Planning Policies
- Nepean River Green Bridge Review Of Environmental Factors 2014 (NGH)
- Nepean River Green Bridge Design Evaluation Report 2013 (RMS)
- **Riverlink Precinct Plan 2008 (PCC)**
- Riverlink Precinct Urban Design Study 2009 (PCC)
- **'Our River' Nepean River Master Plan 2013 (PCC + Clouston Associates)**

The reports highlighted in **bold** are addressed in detail in this section.

3.2 greater sydney region plan 2018

Extracts from report;
Greater Penrith to Eastern Creek Growth Area (page 66)
A growth area connecting the Penrith CBD and St Marys through to the M7 Motorway/Eastern Creek with new mass transit lines has been identified. This provides the opportunity to integrate land use and transport planning at a suitable scale. Growth in appropriate locations can contribute to a connected, vibrant Western Parkland City with more homes, jobs, services and open space...

...The growth area includes activity nodes such as the Penrith CBD, the Penrith health and education precinct as well as the centres of St Marys, Mount Druitt and Rooty Hill. Work on this area will build on that undertaken for the Greater Penrith Collaboration Area and will include strategies to promote tourism. It will consider opportunities to capitalise on the benefits of the potential development and expansion of health, education or other social infrastructure in these centres.

Objective 25 - The coast and waterways are protected and healthier (page 148)
In the Western Parkland City, the Hawkesbury-Nepean River is a highly valued natural asset that links protected bushland, rural and urban areas and Penrith Lakes as a world-class sporting and recreational facility.

Response
The project is a tourism related development which will contribute to the expansion of greater Penrith as per the 2018 Greater Western Sydney Region Plan.

Linking business and leisure visits provides better experiences and has widespread benefits.

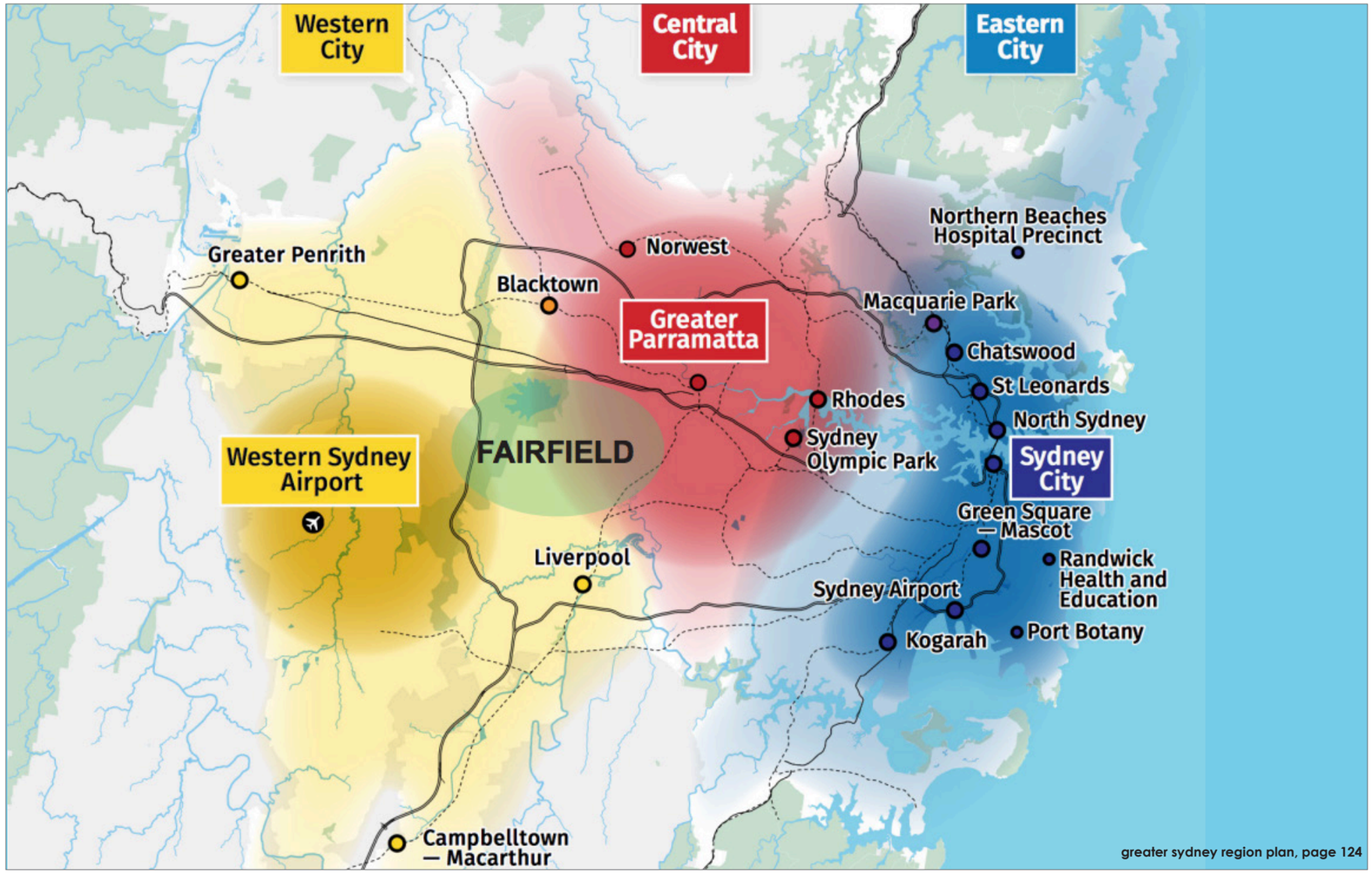
WSW can join Sydney Olympic Park, Western Sydney Stadium and the like as world-class sporting and recreational facility and a major attractor for sporting and cultural events. Contributing to the future sustainability and liveability of the Western Parkland City.

Objective 37 - Flooding risk from Hawkesbury-Nepean River
under the Direction 'A Resilient City' is for exposure to natural and urban hazards to be reduced. Of relevance to the Planning Proposal is that the Plan notes that the Hawkesbury-Nepean Valley has a high flood risk and climate change may increase the severity and frequency of floods in the future.

The Resilient Valley, Resilient Communities – Hawkesbury-Nepean Valley Flood Risk Management Strategy aims to reduce the potential risk to life, the economy and communities. This strategy highlights the importance of strategic and integrated land use and road planning and adequate roads for evacuation. Given the severity and regional scale of the flood risk, the strategy looks at areas affected by the probably maximum floor a well as the 1 in 100 chance per year flood.

Strategy 37.2 is to respond to the direction for managing flood risk in the Hawkesbury-Nepean Valley as set out in Resilient Valley, Resilient Communities – Hawkesbury-Nepean Valley Flood Risk Management Strategy.

Response
The proposed amendment to the maximum height of buildings permitted on the site does not increase the flood risk for future development on the site. The additional height in fact provides greater flexibility in designing a building that minimises the risk. Notwithstanding this a Concept Flood Risk Management and Stormwater Management Report prepared by ACOR Consultants is included as Appendix 7 to demonstrate that the proposed development can satisfy current flood management requirements and that an adequate flood evacuation route and appropriate evacuation procedures can be implemented.



greater sydney region plan, page 124

Objective 24 - Economic sectors are targeted for success
Tourism, Strategy 24.2 (page 140)
Under the Direction for 'Jobs and skills for the city' is that economic sectors are targeted for success. Tourism is identified in the Plan as a key economic sector which is to be supported and developed.

The Plan notes that Destination NSW has developed the Western Sydney Visitor Economy Strategy and will continue to secure and grow events in Western Sydney. The Plan also recognises that the Western Sydney Airport creates opportunities for the Western Parkland City to become an alternative to the Eastern Harbour City for international tourists. Alliances between councils and key industry stakeholders are encouraged to create opportunities to cross-promote events, develop and support a wider range of activities and importantly, realise the opportunities as the Western Sydney Airport and Badgerys Creek Aerotropolis develops. (p140)

Strategy 24.2 of the Plan relates to Tourism. Strategy 24.2 is to consider the following issues when preparing plans for tourism and visitation:

Encouraging the development of a range of well-designed and located facilities;
- Enhancing the amenity, vibrancy and safety of centres and township precincts,
- Supporting the development of places for artistic and cultural activities
- Improving public facilities and access
- Protection heritage and biodiversity to enhance cultural and eco-tourism,
- Supporting appropriate growth of the night-time economy/
- Developing industry skills critical to growing visitor economy
- Incorporating transport planning to service the transport access needs of tourists.

Response
WSW will facilitate the development of a use that supports the Greater Sydney Region Plan's strategy for Tourism as follows:

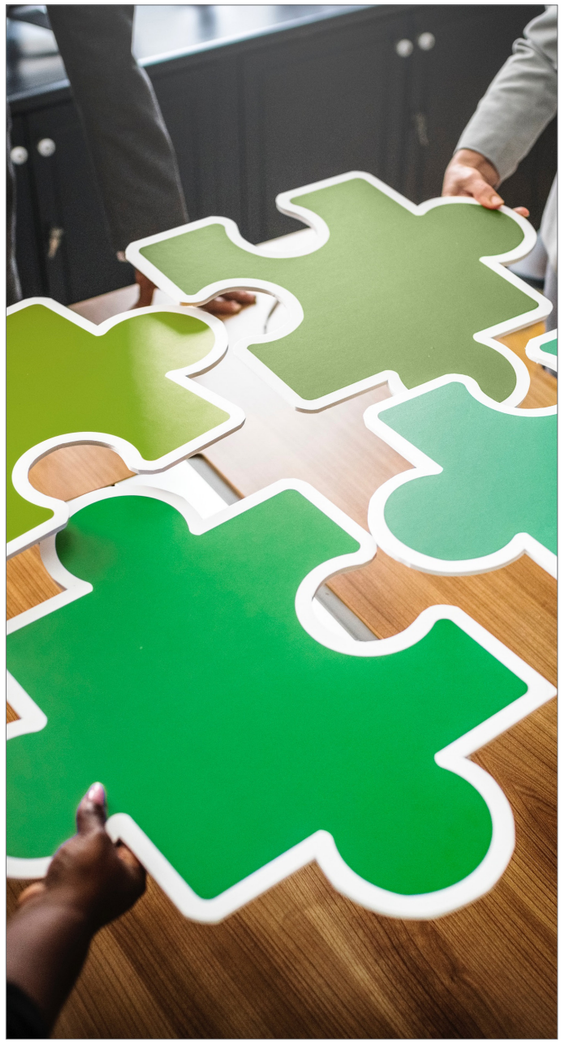
- The proposed 'Winter Sports World' facility is located on land that is already zoned for tourist-oriented development and related uses. The proposed use is therefore in an appropriate location.
- The 'Winter Sports World' will stimulate and support tourism related development in the Riverlink Precinct .
- The Western Sydney Airport is located approximately 20 kilometres driving distance from the site. The recreation facility is therefore ideally located to take advantage of improved access to domestic and international visitor markets and the population growth in Western Sydney that will be driven by the new airport.

3.3 penrith DCP 2014 - E13 riverlink precinct objectives

1. connectivity and links

Objectives:
a) To create strong synergies with the Penrith City Centre by optimising the proximity to the centre and complementing its land uses and character areas.
b) To create the Riverlink by strengthening the relationship to and connection with the Nepean River.
c) To reinforce transport links and pedestrian connections to the Penrith City Centre and public transport hubs.
d) To improve links and connectivity across the Precinct and between the various landholdings.

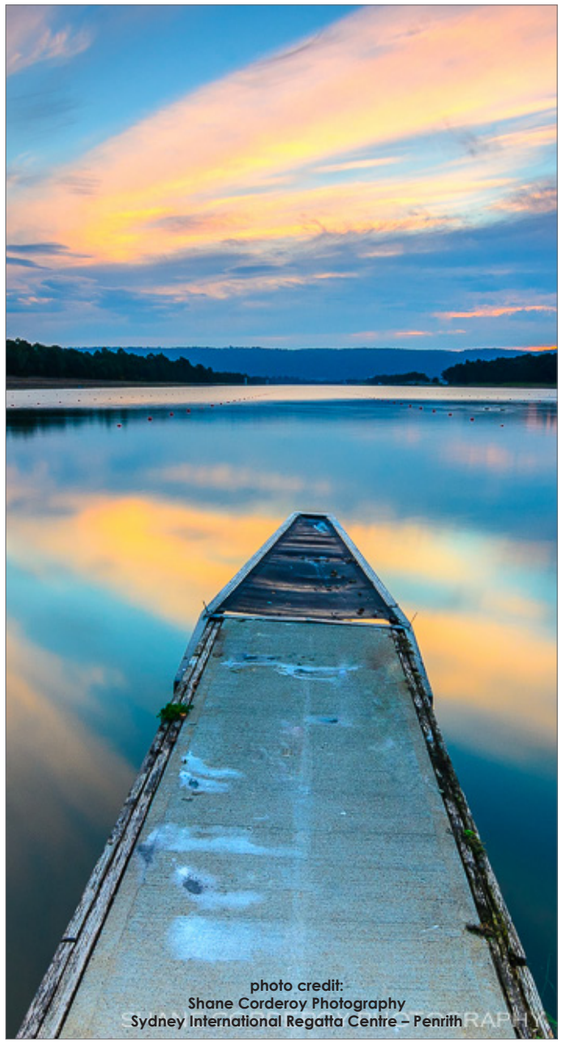
Response:
The proposal sits on Jamison Road which is identified as a key linking road making a connection between the town centre and the Nepean river.



2. co-operation

Objectives:
a) To address precinct issues such as flooding and access through collaboration with key stakeholders within the Riverlink Precinct.

Response:
The flooding issues are noted and a full flood study has been undertaken to identify ground levels, flow paths and water catchment in conjunction with Penrith City Council. An evacuation plan has been developed in consultation with the State Emergency Services (SES).



3. local character + regional appeal

Objectives:
a) To reinforce and enhance local identity and sense of place through public domain and building design.
b) To create a highly desirable visitor destination.
c) To create an exciting new entertainment, leisure and lifestyle hub.

Response:
The proposal is for an active leisure facility, contributing to Penrith's identiy as an 'adventure capital. This will enhance the local identiy, create a highly desirable visitor destination and create an exciting new entertainment, leisure and lifestyle hub.

4. design excellence

Objectives:
a) To meet and exceed sustainability benchmarks, including water quality.
b) To achieve public domain and architectural design excellence

Response:
The building will reflect the natural setting through colours and materials; the building will be a carbon neutral building using a biophilic design for the exterior façades and will sit a significanly enhance landscape of avenues of trees to both connect the building to the surrounding landscape and mask its scale.

3.3 penrith DCP 2014 - E13 riverlink precinct objectives

built form future character (13.3)

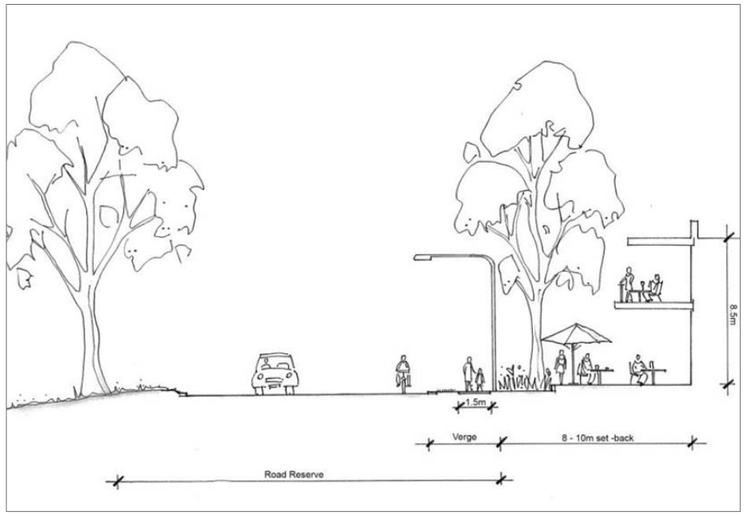


figure E13.4: cross section of preferred development with 8-10m setback along tench ave DCP - page 11

The strategic plans for the Riverlink Precinct strongly promote the development of a tourism and recreation precinct that is focused around the river. The concept has been implemented through the SP3 Tourist zoning of land along the River (particularly along Tench Avenue).

The strategic plans do not set out a clear vision for the desired built form within the tourism and recreation precinct. A detailed study of the built form controls needed to stimulate and facilitate the development of such a precinct has not been undertaken. This could be due to the difficulty in predicting the exact future entertainment and leisure based uses that would be developed in the precinct and the specific and unique built form of such uses. Even if a detailed urban design study for the precinct had been undertaken, such a study could not have anticipated or allowed for the height needed for Winter Sports World facility.

The future character of the area is intended as a tourism precinct, with tourism facilities on both sides at the end of Jamison Road, creating a "gateway" to the Tench Avenue area which would include a number of tourism facilities which are not currently in existence or proposed. It is envisaged that the Tench Avenue area will eventually become a series of tourism-related activities which may include food and beverage, accommodation and tourist activities along the length of Jamison Road arrival point.

This Urban Design Report therefore demonstrates that the built form of the Winter Sports World is compatible with the future character of the precinct.

tourism and recreation precinct (13.4.2)

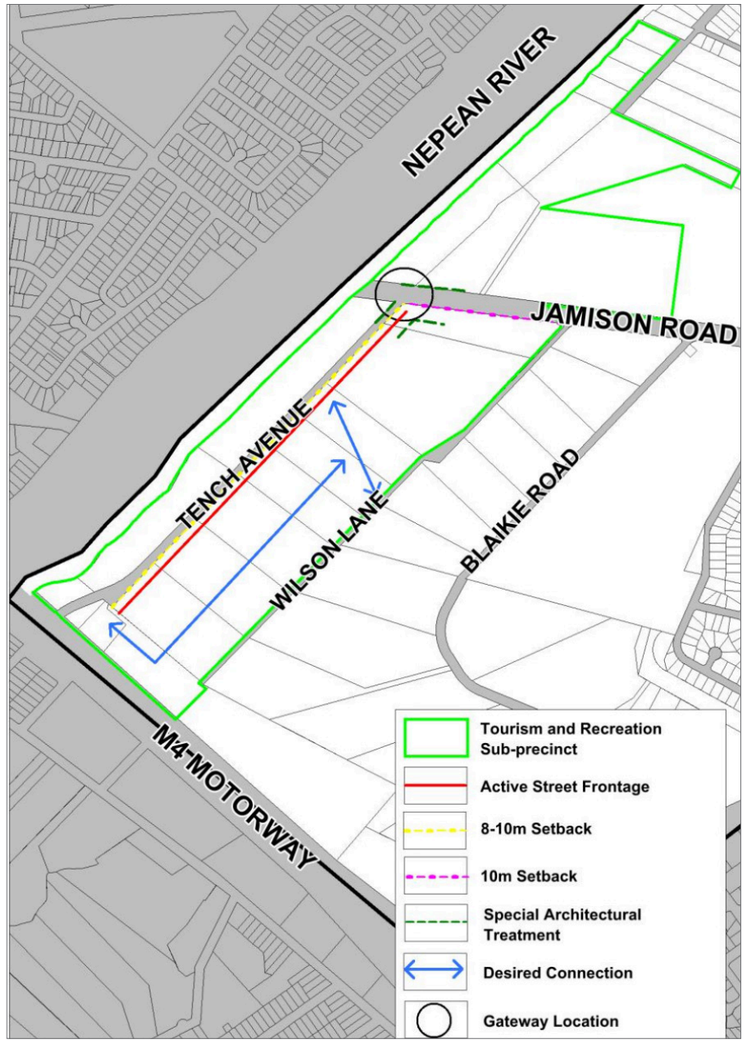


figure E13.8: tourism and recreation precinct

Objectives:

a) Be a destination – provide a river park for the people

b) Provide a strong sense of arrival along Jamison Road

c) Create a connected, active and vibrant river with a wide range of recreational opportunities at hubs both on and off the water

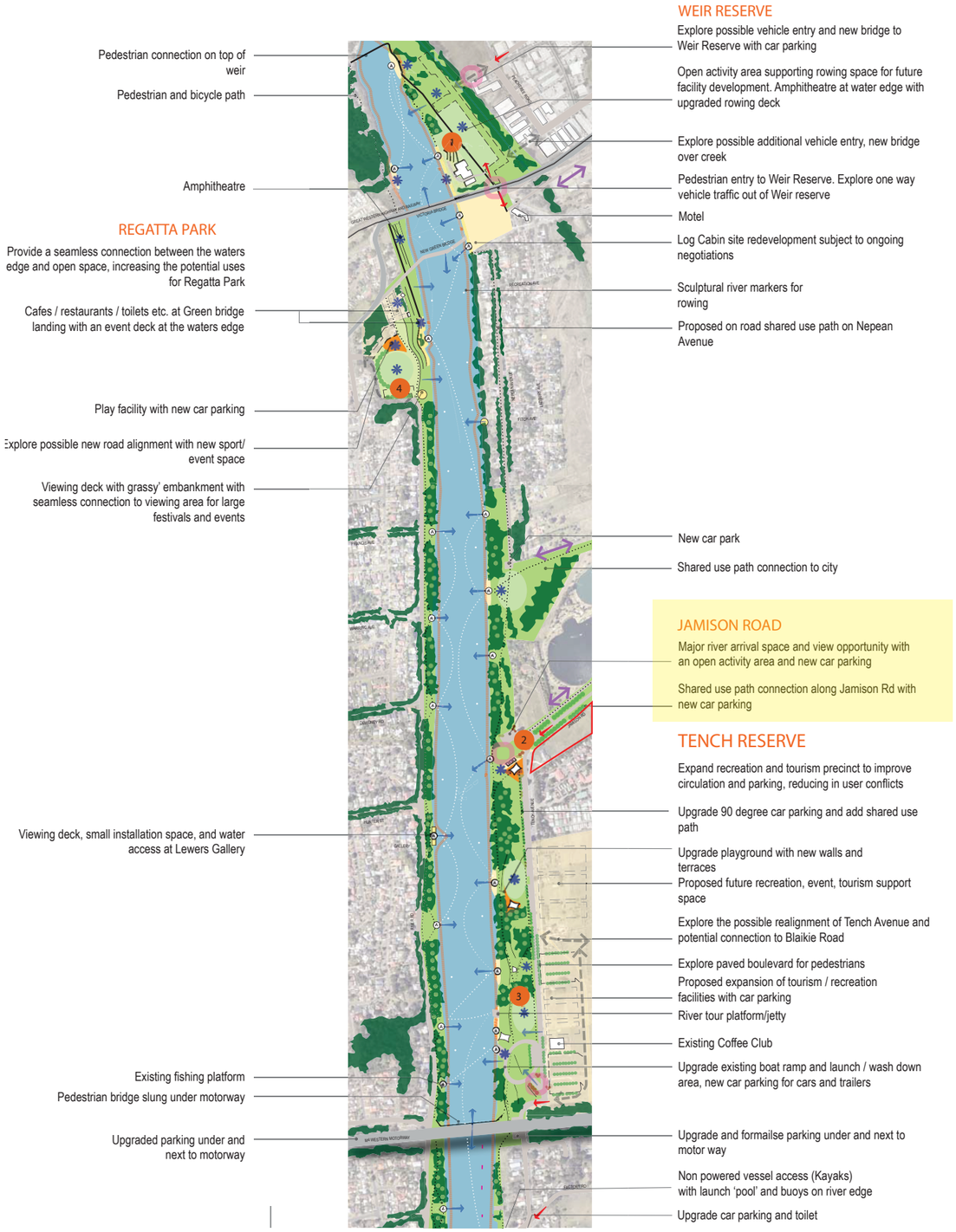
d) Create spaces and places for people to celebrate the community's culture and diversity

similar indoor ski centre

Response:

The proposal can meet and exceed each of the four defined objectives

3.4 our river masterplan report 2013

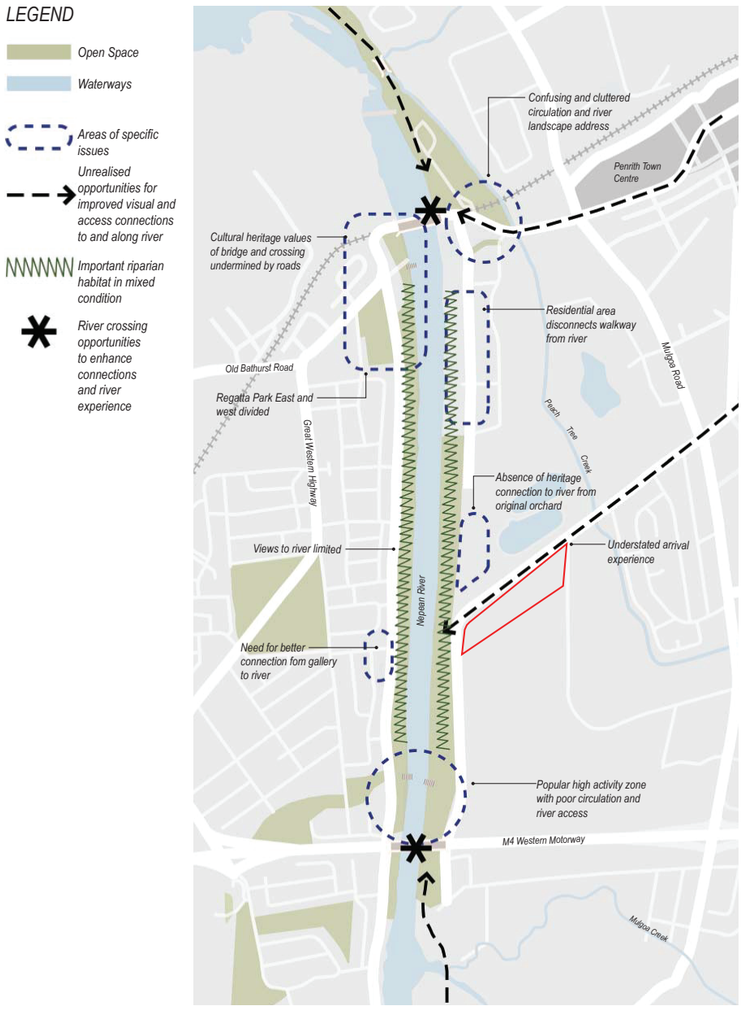


page 12 'our river' master plan report

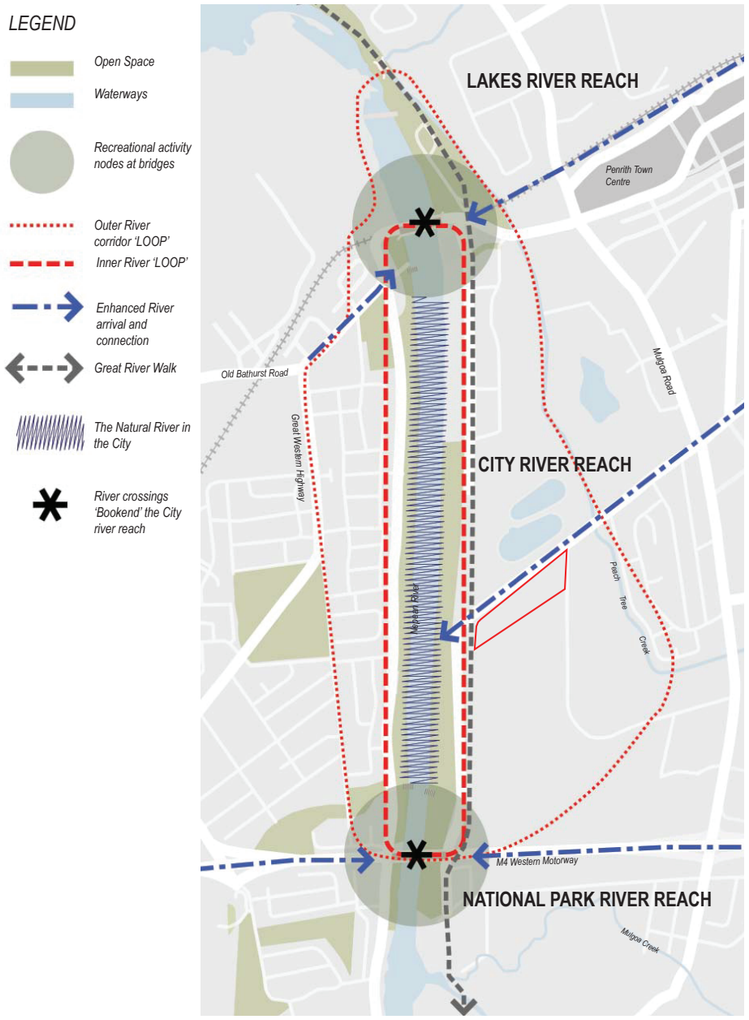
Response

"Our River" masterplan report identifies the critical importance of the Jamison Road entry to the central river district of the Nepean River, and the desirability of opening current vegetation and planting to enable a vista along Jamison Road across the river.

3.4 our river masterplan report 2013



summary of constraints - page 8 'our river' master plan report



summary of opportunities - page 9 'our river' master plan report

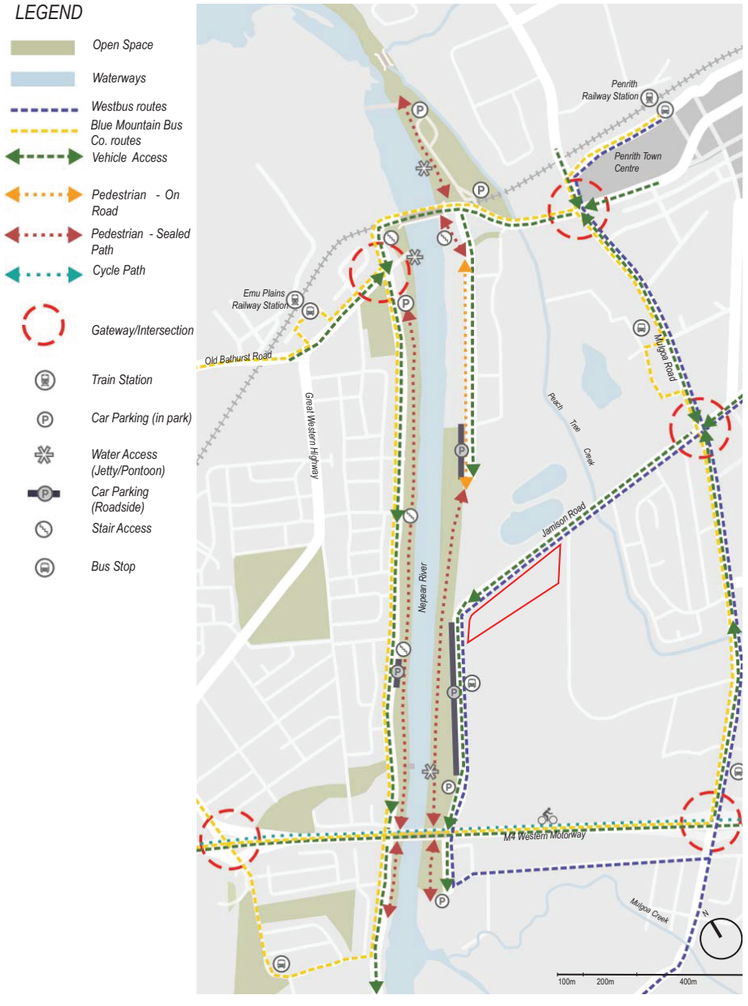
land use and activities - page 34 'our river' master plan report

Response
Jamison Road is currently an understated arrival experience. Any proposal on this site would need to address the north-facing possibilities from the site looking over Jamison Road to emphasise the linear arrangement and possibilities for vistas and views, not only to the river but beyond to the Blue Mountains. A companion building would be desirable on the opposite side of Jamison Road, to create a pair of buildings at the arrival point. The companion would be thin so as to minimize the way it impinges on the heritage item to the north.

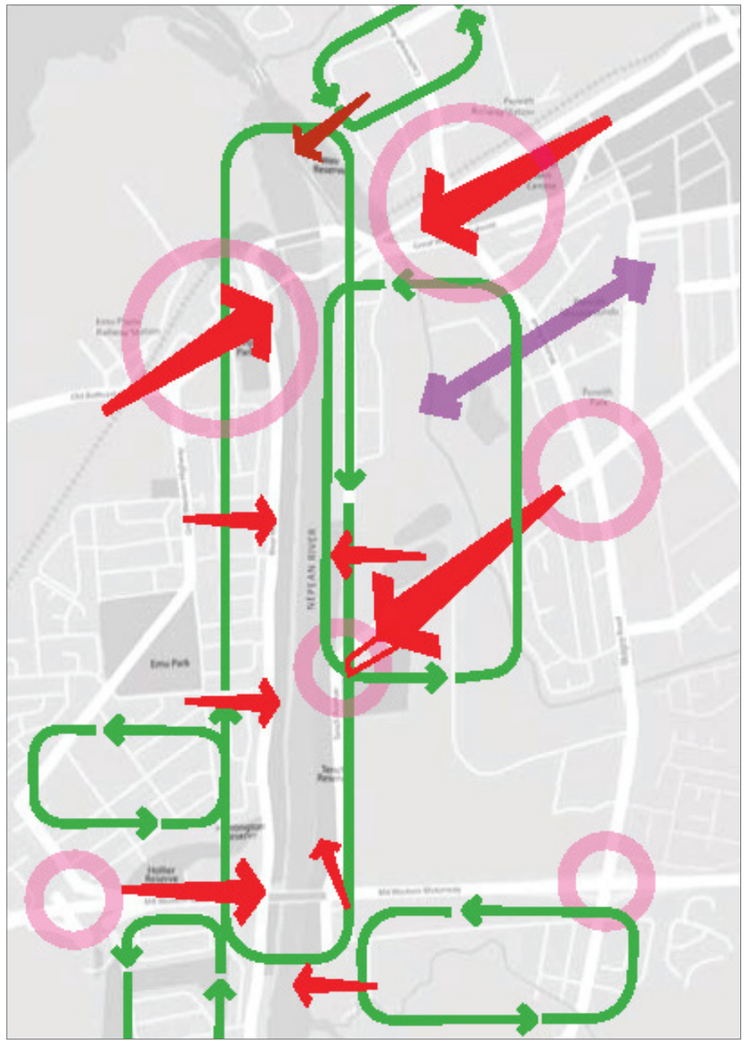
Response
The intention to create a consistent landscape and pedestrian experience between the two bridges will require a continuity of trees along the riverbanks with notable openings for viewing down to the river. The key position at the end of Jamison Road is the most important visual connection between these two bridges. Current proposals include an increase of the tree-lined avenues along Jamison Road in order to enhance an opening at the river arrival point. Therefore, it will be necessary to remove some of the trees at that point and regrade the road so that the intersection is no longer a steep embankment but a flatter intersection. Both these actions will allow for increased vistas from the river up to Jamison Road, but with careful control of the axiality of planting.

Response
The space between the western end of the proposed building and the river is a key public space that needs to be considered very carefully. The desired vista along Jamison Road will ensure that a view to the water is possible through a small opening in the continuous tree line, provided that the slope of the land is regraded in a continuous slope down towards the river. This would have major impacts on the shaping of the road and the intersection of Jamison Road to Tench Avenue. This will likely mean regrading the road at that point into some form of roundabout or more highly structured intersection.

3.4 our river masterplan report 2013



access, circulation and wayfinding - page 35 'our river' master plan report



principles - our accessible river - page 48 'our river' master plan report

principles - our cultural river - page 50 'our river' master plan report

Response

It is important that pedestrian activity be kept away from the Jamison / Tench intersection, preferably on the northern side of Jamison Road where the current pedestrian and cycleway is located. Any activity at the western end of the building on that site would have to be carefully managed in its relationship to the walkway on the eastern side of the footpath along Tench Avenue. Consideration will also have to be given to a pedestrian crossing further up Tench Avenue, unless a set of traffic lights are eventually installed at the intersection, depending upon traffic flows in the future.

Improve the ability to get to the river
- Improve access and parking at the top of the river
- Improve accessibility from the top of the riverbank to water edge
- Provide a path network, linking where possible, from the river into the city
- Extend the range and number of access points along the river.

Provide a range of continuous pathway loops
- Provide continuous pathway links around the river and link loops to other destinations
- Allow for a diverse range of users such as cyclists, pedestrians and people with varying abilities
- Minimise pedestrian / vehicle conflict
- Encourage cycle access to and along the river bank.

Create a strong sense of arrival
- Improve gateway destinations to the river and enhance view corridors on approach to the Nepean River
- Improve arrival roads with avenue planting.

Connect to the city
- Provide a continuous safe pathway for all user between the city and Tench Reserve
- Ensure sound orientation through a restrained and coordinated suite of directional signage.

Create a series of memorable places
Build upon existing character and create a series of key riverfront spaces.

Festivals And Events
- Consolidate effective festival and event spaces, taking into consideration landform, proximity to users and surrounding demographic, facilities and access (transport and parking).

Cultural And Arts
- Build on existing cultural sites and integrate into the wider context.

Recreational
- Provide a range of activities on and around the river.

Historical
- Protect and conserve historic, architecturally significant sites.

Active
- Maintain a range of sporting opportunities.

Educational
- Locate education opportunities in safe and easily accessible areas.

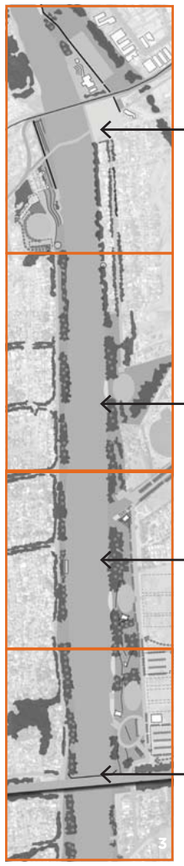
Enhance views and vistas
- Provide views to open water;
- Enhance existing views and promote effective use of spaces
- Facilitate access and areas for casual spectator vantage points for river based events
- Reinstate views, ensuring a visual definition along the river bank.

Engaging Aboriginal people
- Identify opportunities for training, mentorship and employment
- Identify opportunities to reflect Aboriginal culture and contemporary priorities.

Build upon the cultural european heritage of the river
- Protect historic and architecturally significant sites.

Identify opportunities for story telling
- Develop a series of interpretive loop walks that tell the story of the river
- Expand upon existing interpretation of the river through various multi media

3.4 our river concept masterplan - jamison road entry



Index Plan

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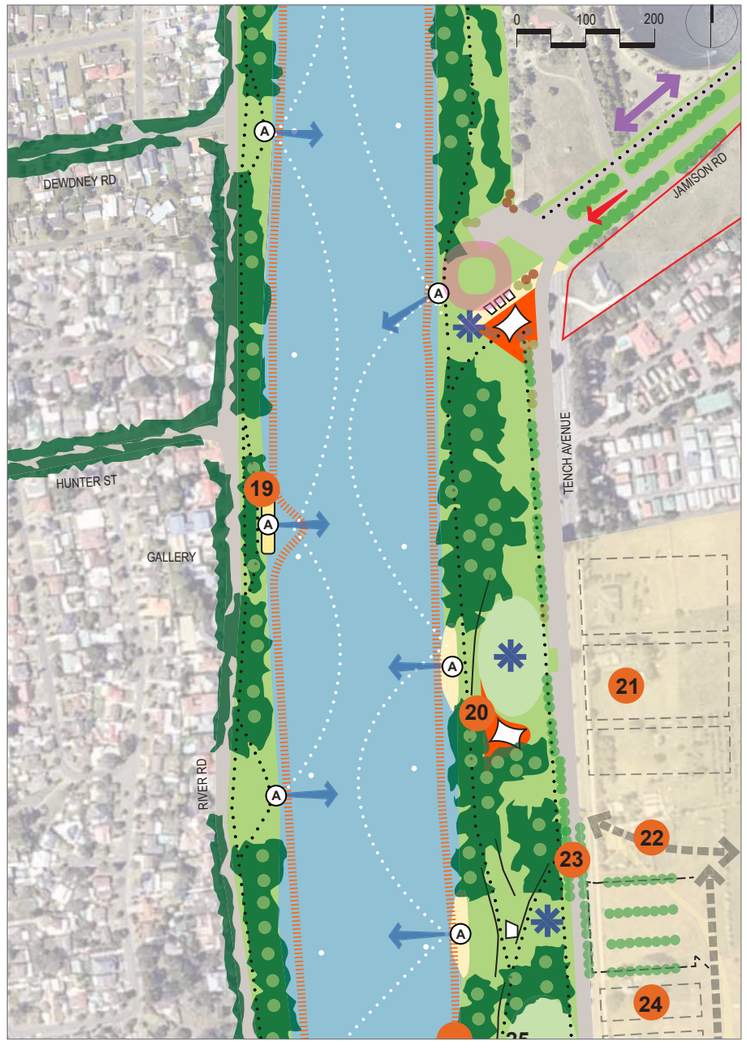
The concept master plan for the Jamison Road Entry to the Nepean River and the Southern Curtilage and Tench Reserve.

Response
The impact of the building on the corner can be minimized in its relationship to the river. The proposal is for no change in the building height at that point. It will maintain an 8.5 metre height, equivalent to a larger scale two-storey building with high internal ceiling heights.



19 Viewing deck, small installation space, and water access at Lewers Gallery

20 Upgrade playground with new walls and terraces

21 Proposed future recreation,event, tourism support space

22 Explore the possible realignment of Tench Avenue and potential connection to Blaikie Road

23 Explore paved boulevard for pedestrians

24 Proposed expansion of tourism / recreation facilities with car parking

25 River tour platform/jetty

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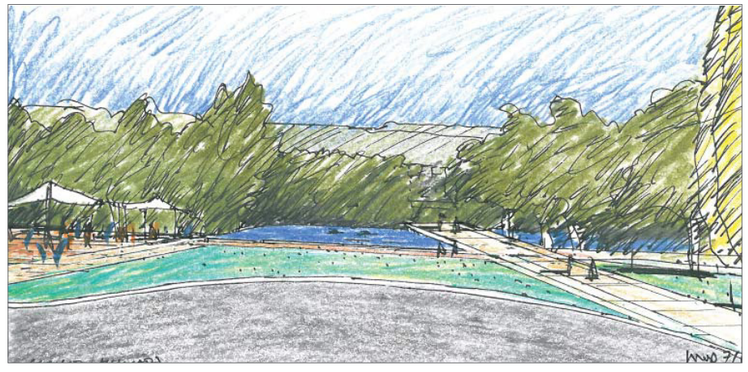
central river and jamison road entry
The Central River section of the project site also has steep banks and limited water's edge access. Access to the water will happen at a range of scales and provides opportunities to get down to and onto the water by platforms, jetties and ramps. Views to the river along the Jamison Road are currently blocked by dense tree canopies. The concept master plan proposes a plaza space at the western end of Jamison Road as an arrival and introduction to the river for visitors.

Response:
"Our River" masterplan identifies the need to provide access down to the river, but this diagram also illustrates the possibilities for a visual link between the end of Jamison Road (proposed building site) and the Penrith District art gallery on the opposite bank in Emu Plains. The gallery is a low formed building which has a single visual access over the river and is approximately the same height as the current proposal for building on the corner of Tench and Jamison.



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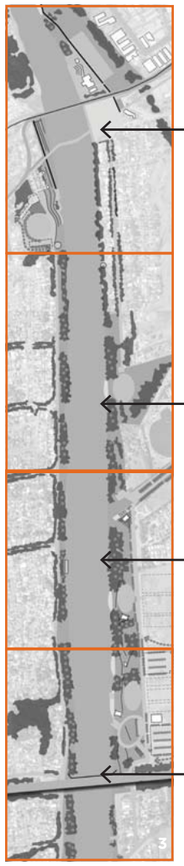
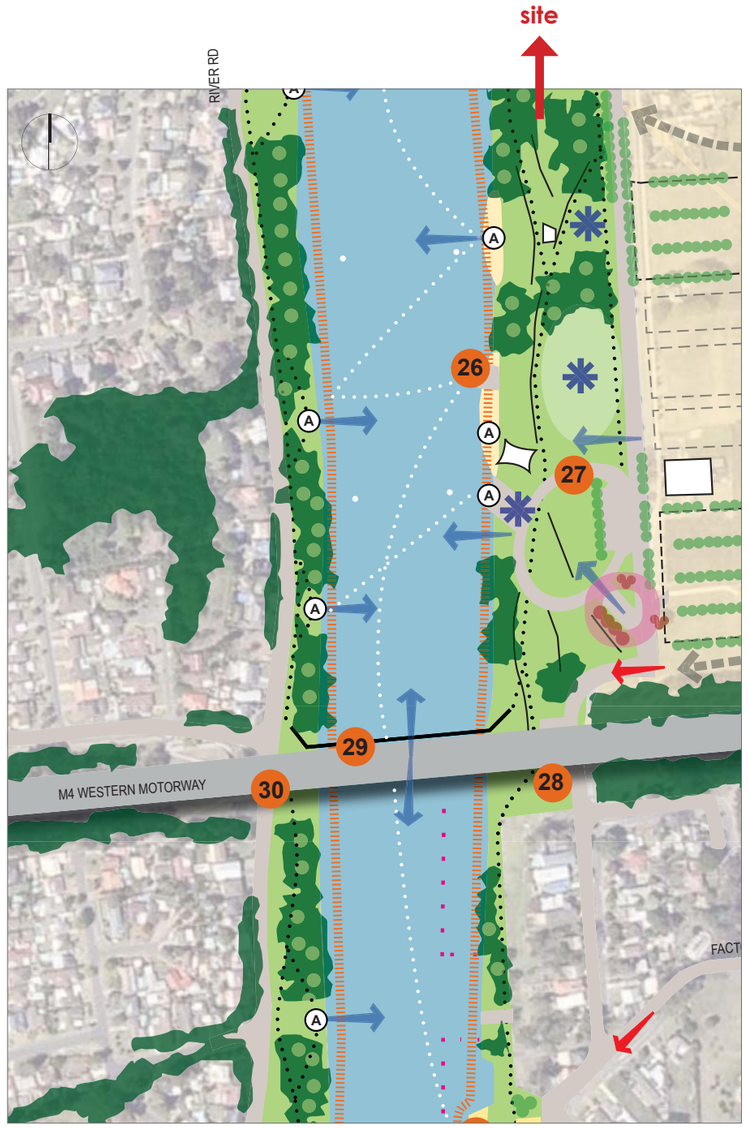
key destinations - jamison road entry
With a clear view to the Nepean River, the end of Jamison Road becomes an entry into Tench Reserve creating a strong sense of arrival with a plaza space and lookout.

Key Proposals:
- Provide a strong sense of arrival along Jamison Road
- Extend parking opportunities along Jamison Road
- Create a water vista at the location where Jamison Road turns in to Tench Avenue with cantilevered lookout
- Provide a key activity area with a range of uses, such as playspaces, decks, shade, adjoining kick around spaces, along with a paved area for temporary uses (stalls, art installations, pop up activities etc).

3.4 our river concept masterplan - tench reserve



Index Plan



LEGEND

Our Accessible River
Improve the ability to get to the river
Provide a range of continuous pathway loops
Create a strong sense of arrival
Connect to the city

Our Active River
Provide a range of facilities and attractions

Our Cultural River
Enhance views and vistas to and from the river

Our Healthy River
Reinforce native vegetation link from river through creeks and streets
Provide filtered views through to the river and open views at street ends

Our Managed River
Manage and maintain the bank's water edge infrastructure
Manage and maintain water course for water levels and quality

Pedestrian and bicycle pathways
Water edge access point

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The concept master plan for the Jamison Road Entry to the Nepean River and the Southern Curtilage and Tench Reserve.

Response
It can be noted from the existing arrangement how the height of the existing trees, let alone future growth, provides a good screen to buildings at 8.5 to 10 metres in height. This could be clearly seen in the vista across the Nepean River to the Penrith art gallery.

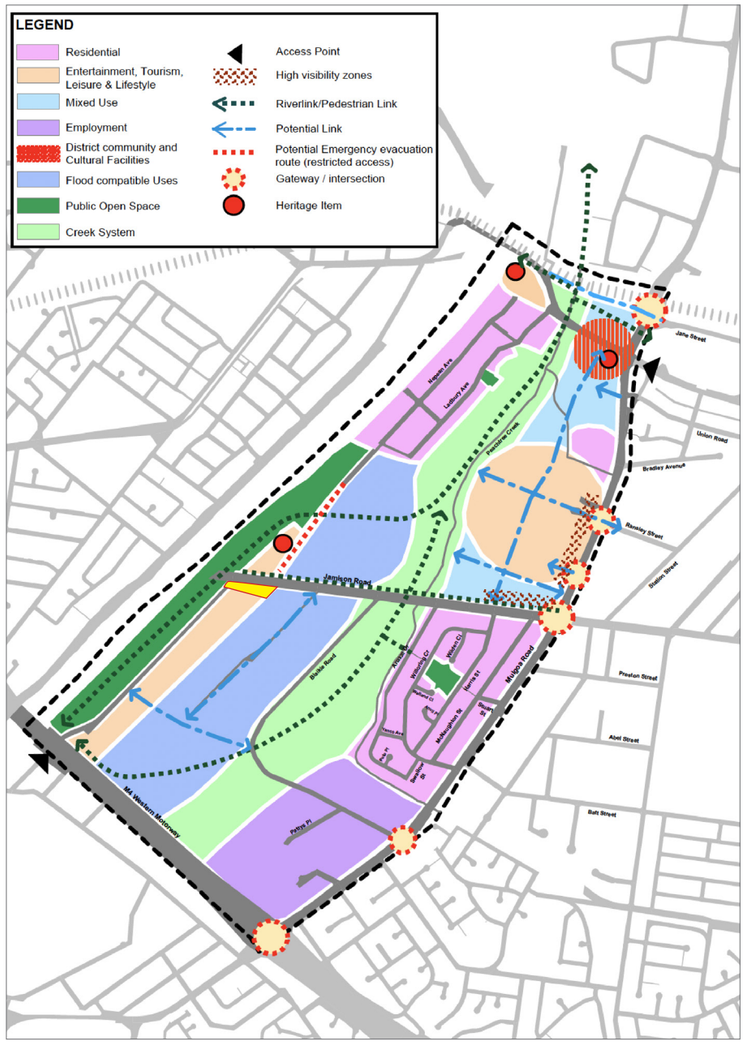
southern curtilage and tench reserve
The Southern curtilage main activity hub is focused on Tench Reserve. The concept master plan looks to expand Tench reserve into a recreation and tourism precinct, improving circulation and parking and reducing user conflicts. Proposals include the possible realignment of Tench Avenue to improve the pedestrian environment and connection to the river, with an upgrade to the existing boat ramp and launch/wash down and associated parking area to improve launching efficiency and safety as well as visitor amenity

Response
The diagrams and sketch drawings of the landscape show the possibilities for shelter under shaded structures on the opposite side of Tench Avenue. The proposed building will be low in scale and may also have outdoor areas associated with a café/food and beverage outlet providing indoor dining and takeaway food, which may be consumed at that point where the opening to the river is greatest.

tench reserve
Tench Reserve will provide for a range of non-programmed events, BBQ's, boats, picnics, play, fitness, walking and cycling paths, building on its already popular framework.

Key Proposals:
- Improve vehicle circulation and parking
- Reduce user conflicts especially between powered and non-powered craft
- Enhance boat launching and associated trailer parking
- Expand recreation and tourism precinct including for upgraded play, cycling, walking, picnic and BBQ and eateries
- Improve universal access to the water's edge and pontoons
- Open views to the river.

3.6 riverlink precinct plan



Riverlink Precinct Plan 2008 - Penrith City Council

The strategic direction identified for the Riverlink Precinct in the Riverlink Precinct Plan is reflected in the SP3 Tourist zone of the site which applies pursuant to the Penrith Local Environmental Plan 2010 (LEP 2010). The provisions for the Riverlink Precinct in Part E13 of the Penrith Development Control Plan 2014 support the zoning of the site and implement the direction of the Riverlink Precinct Plan 2008.

The planning of the Riverlink Precinct presents an excellent opportunity to employ precinct wide design principles.

The key principles are:

- Creating a cohesive and well-connected precinct.
- Enhancing and activating Mulgoa Road as a significant approach to Penrith City Centre.
- Reinforcing key intersections as gateways to the Precinct and the Penrith City Centre.
- Creating a clear and legible public domain framework of streets and open space.
- Creating a new local north-south access link between Jamison Road and the Great Western Highway.
- Extending Ransley Street west through the Panthers site, connecting to the open space corridor.
- Creating an exciting core of entertainment, leisure and lifestyle uses around the existing club.
- Incorporating sustainability best practice.
- Connecting Riverlink pathways with the Great River Walk.
- Encouraging views of the Blue Mountains from the public domain.
- Encouraging design excellence.
- Improving connectivity through the Precinct.
- Enhancing Peach Tree Creek.

Response:
The proposal is consistent with the objectives and key principles.

The 'Winter Sports World' falls under the definition of an 'recreation facility (indoor)' and includes 'tourist and visitor accommodation', 'food and drink premises' and a 'function centre'. These uses are permitted with consent in the SP3 zone.

3.7 nepean river green bridge reports (RMS + NGH) - future river walk

NGH Environmental - Nepean River Green Bridge Review of Environmental Factors page 2 - Figure 1-1 Location of the proposed Nepean River Green Bridge (indicated in red) and surrounding locality and facilities, including existing and future paths of the Great River Walk (Ki Studios 2014)

PLACES OF INTEREST

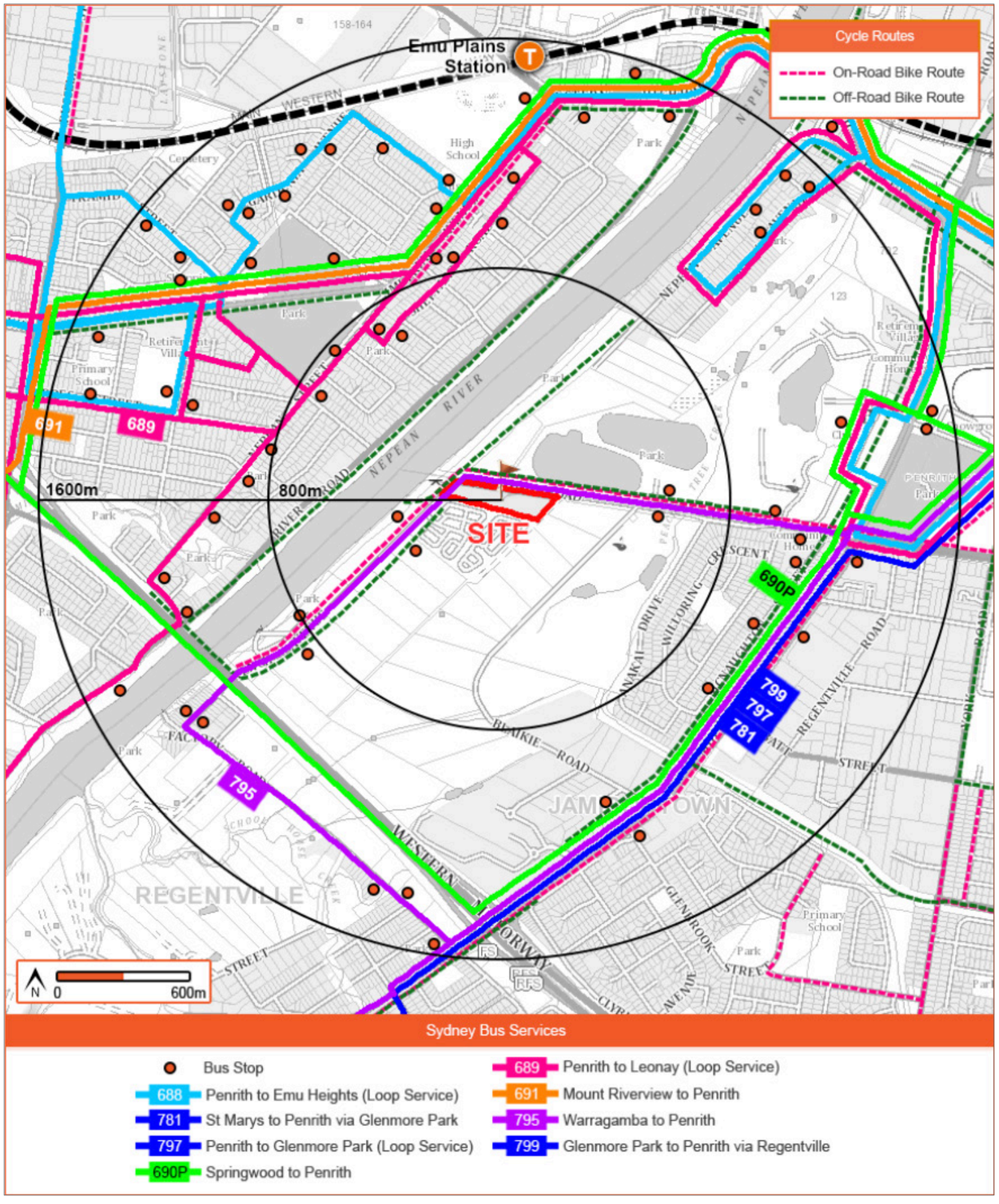
- 01 Penrith Weir
- 02 Museum of Fire
- 03 Nepean Rowing Club
- 04 Victoria Bridge
- 05 Explorers Memorial
- 06 The Arms of Australia Inn Museum
- 07 Memory Walk
- 08 Waterski Park
- 09 Penrith Regional Gallery & The Lewers Bequest
- 10 Nepean Belle Paddlewheeler

LEGEND

- Accommodation
- Boat Ramp
- Bus
- Train
- Parking
- Cafe
- Restaurant
- Picnic & BBQ
- Lookout
- Playground
- Stairs
- Accessible Toilets
- Toilets
- Main Entry Point
- Existing Sealed Path
- Existing Unsealed Path
- Proposed Sealed Path
- Path may be closed in high water events

Response:
We note that the intended path along the riverbank is on the opposite side of Tench Avenue from the site. Futher, not shown on this diagram is the walkway / cycleway on the north side of Jamison Road which connects path shown in this diagram.

3.8 connectivity + infrastructure



pdc traffic report - figure 3 active transport services

Response:
The site is well served by public transport and there are already pedestrian / cycleways that connect from Mulgoa Road to the Nepean River.

winter sports world

4.0 concept design response

4.1 building program (brief)

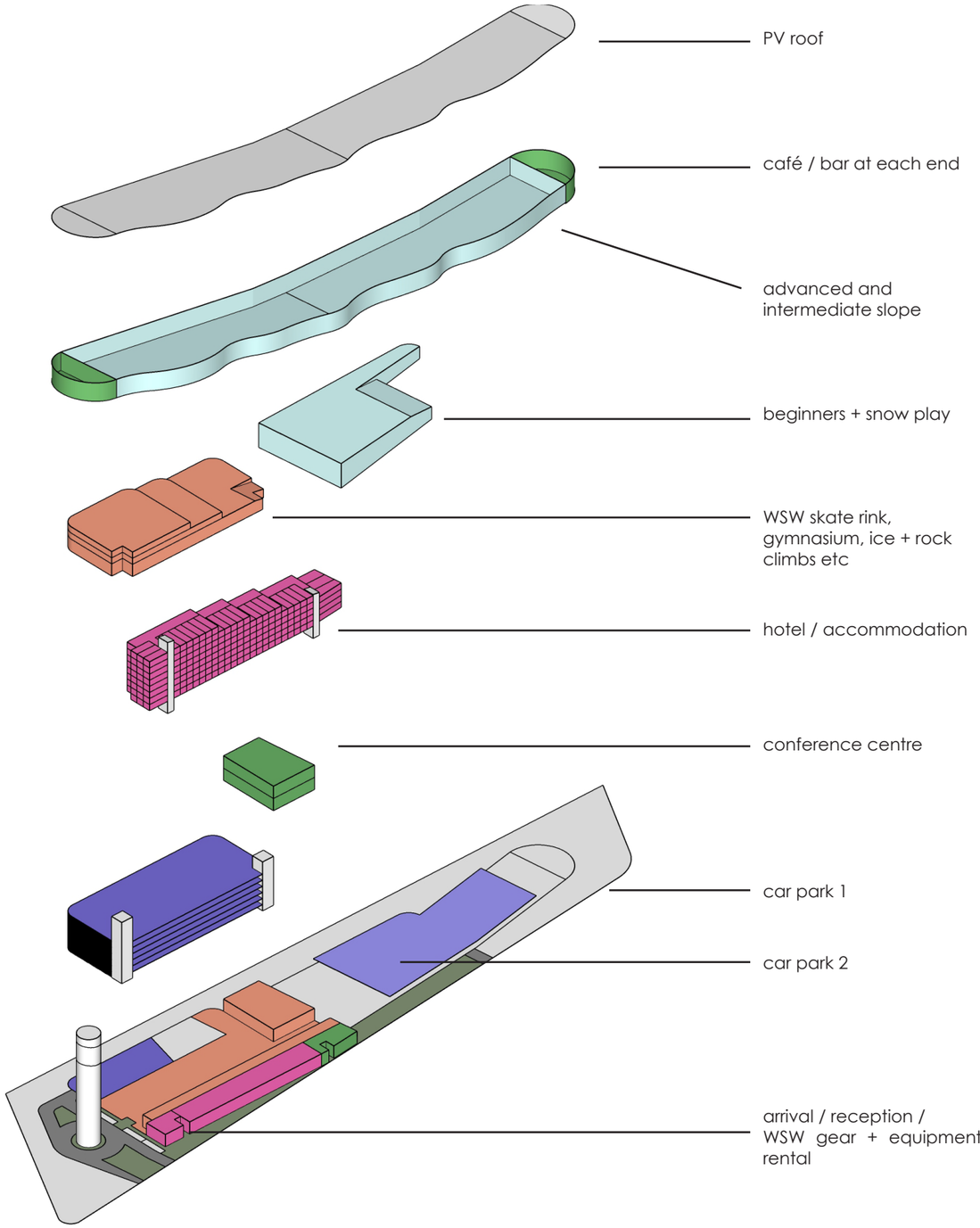
The proposal is for a "Winter Sports World" which is a complex that provides a year-round experience for a variety of winter sports activities, for both locals and tourists, particularly those planning a trip west to the Blue Mountains, together with associated facilities including a 4-5 star Hotel with Conference, food and beverage facilities.

The WSW centre hosts a number of winter-related activities:

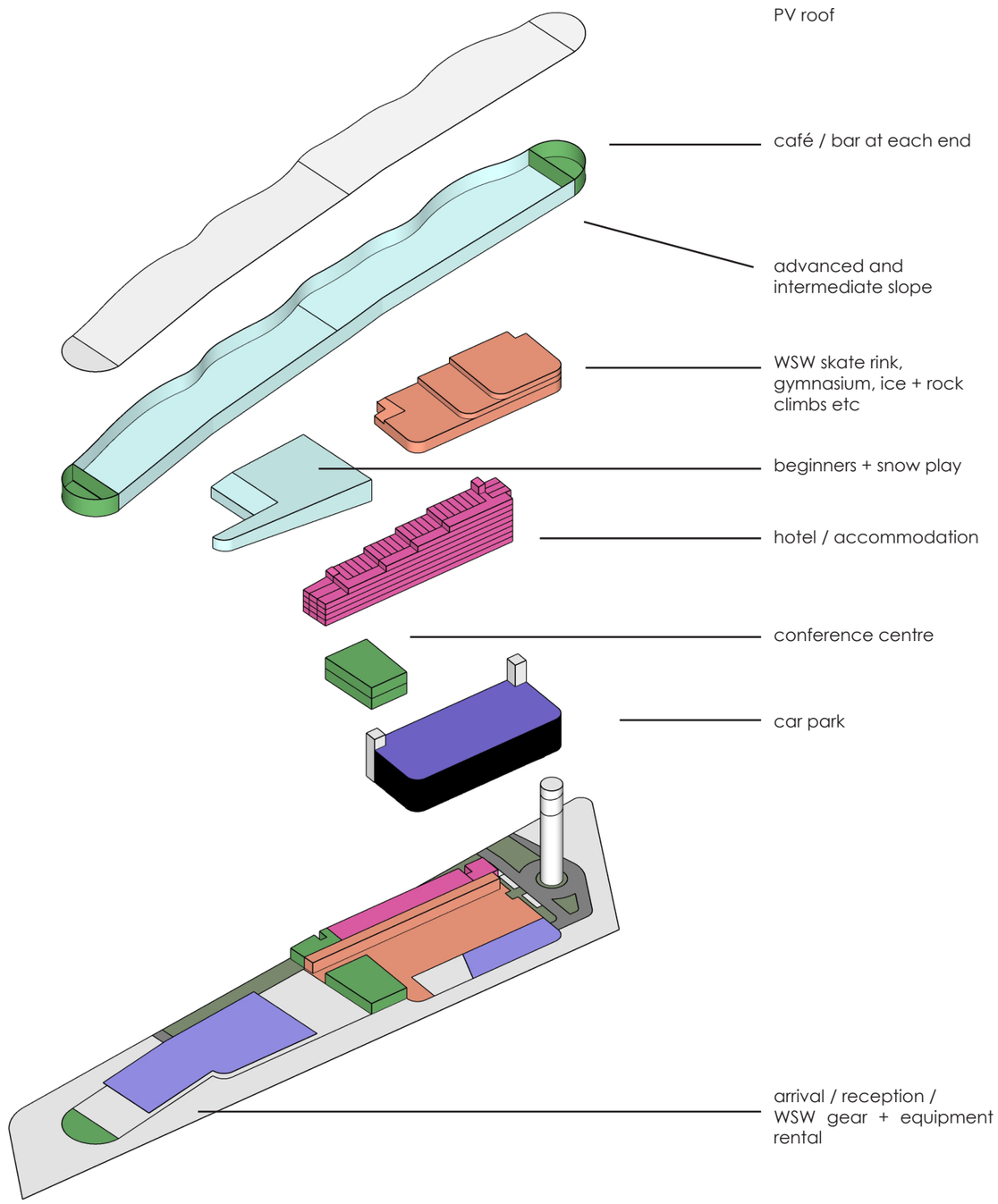
- indoor down-hill skiing on a 300-meter-long slope (intermediate to advanced)
- ski training for beginners of an 80-meter-long slope
- snow play for children and novices (slides on toboggans and tubes, snow sculpture etc)
- ice skating rink: general, racing and dancing
- ice and rock climbing
- winter fitness / gymnasium and altitude training

These are served by a reception area, gear rental and sales area, gear repairs and maintenance and general admin.

4.2 concept design

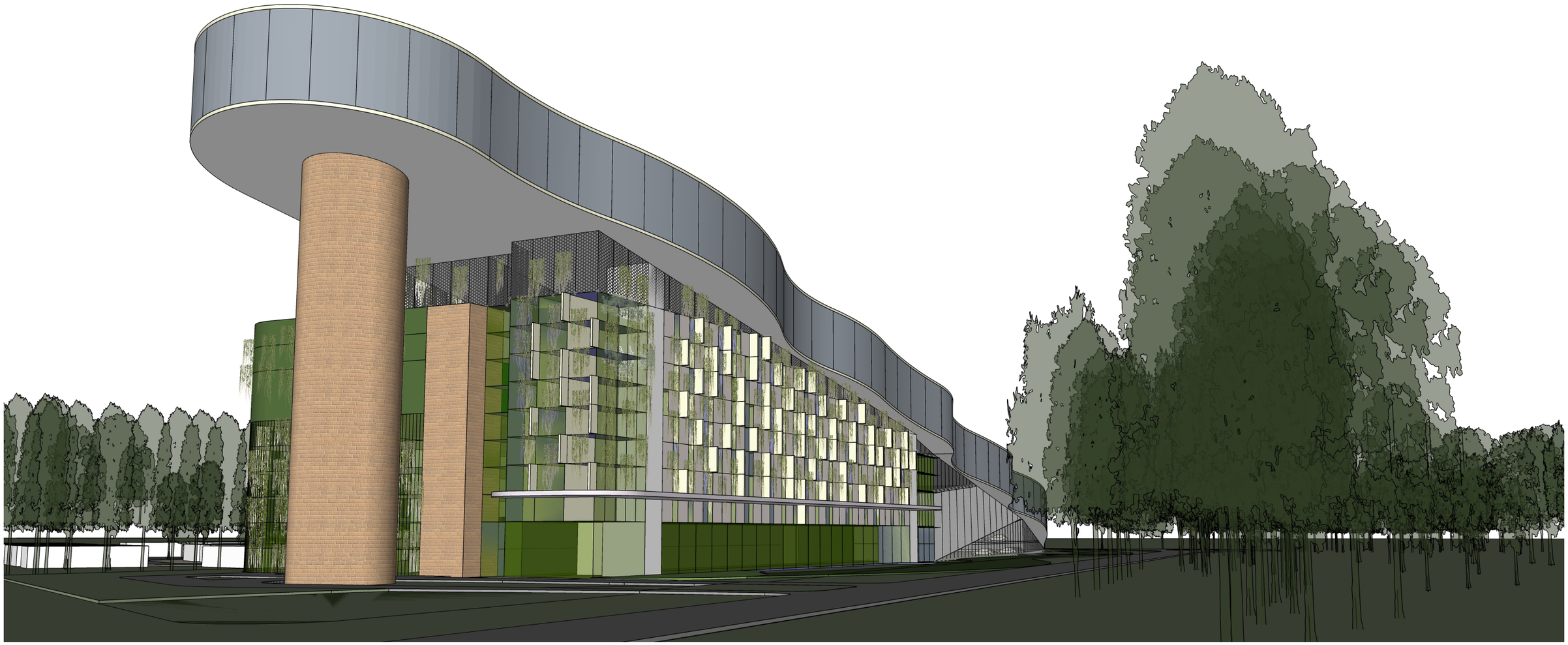


The building takes the form of an elongated wedge. The main long ski run is placed as a 'roof' of the complex, highest in the east and sloping west down towards the river. All the WSW activities and hotel are grouped under the taller end of the building. The main entry is in an open area around a 'round tower' that supports the highest end of the ski slope. The entry foyer leads to an open 'internal street' between the hotel on the north and the WSW on the south.



The east end has the hotel facing north (above the reception area on one side of the 'internal street'. The co-located conference area is at the west end of the hotel with a view into the snow play area. The south side has the main guest carpark, with the wide span WSW activities of skating rink and ice climbing above. The WSW reception and equipment area leads directly to the WSW area above.

4.3 building envelope + built form



view from the north east at ground level showing the possible built forms

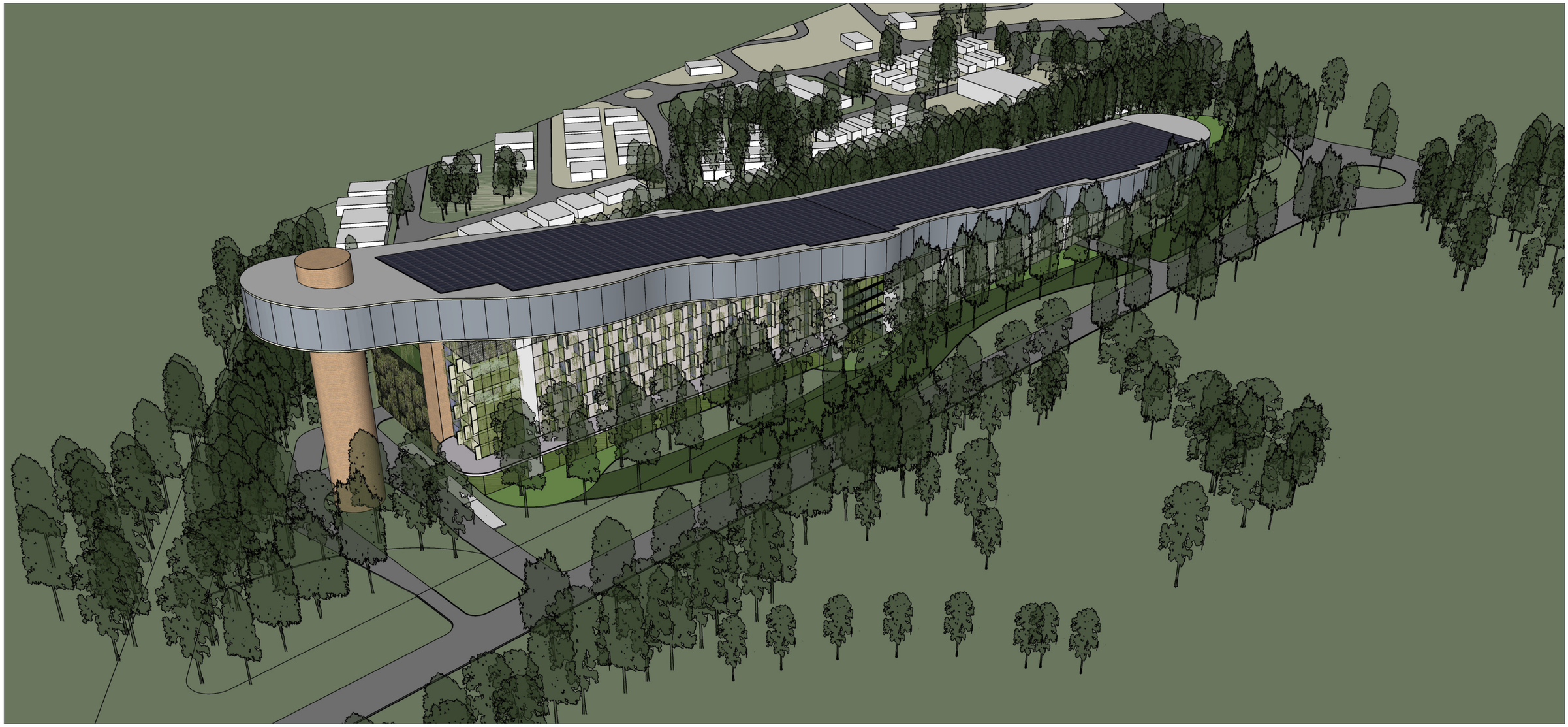
The proposed building for Winter Sports World is comprised of three visual components – the first is a ski slope that rises from 8.5 metres at the river end to 54 metres at the eastern end on the corner of Jamison Rd and the unmade road of Wilson Lane. The second component is a building underneath that triangle that faces north and looks out over Jamison Rd. This building is comprised of a 172 room hotel and a number of conference and food and beverage facilities associated to the hotel. The third component is a service area behind the hotel, facing south, comprising a carpark area, above which is the internal components for Winter Sports World, principally ice-climbing, ice hockey on a skating rink and other associated changing facilities etc.

The form of each of these three parts is made distinct by its shape and by its materials and finishes.

The eastern end of the building is the porte-cochere, entry and foyer spaces leading into both the Winter Sports World and the hotel. This is the "apex" of the building and rises to a maximum height of 54 metres above the common ground level. The bulk of this part of the building, equivalent to a 15-16 storey building, is deconstructed in its massing and reduced in its overall form by placing a round cylinder containing a lift, fire stairs and some services that holds up the end of the ski slope, which is cantilevered out over that space. The hotel and Winter Sports World is thus pushed back towards the west and the form is disguised. The formal massing is reduced in visual volume by having a space between this tower to the apex and the building itself. This formal reduction in size and form at the eastern end is important to provide a signal that the building is firstly an unusual usage, similar to sporting facilities, and not at all a singular box-like structure as may be found in a central business district (CBD).

This third part of the building (the car park and Winter Sports World) is lower than the remaining portions of the building, located at the "rear" of the building facing south and hidden from view from all the public areas around the building. The overall height of these areas is restricted to 38 metres above the current ground level. Given the nature of the internal qualities of the spaces, there is little need for windows or natural light. This reduces the possible loss of privacy to the adjacent site, which is a mobile home village. Further, directing natural light to this part of the building would be principally through sky lights, which would simulate an open sky. Allowing natural light where required in changerooms etc. would, of course, be treated with highly translucent filmed windows.

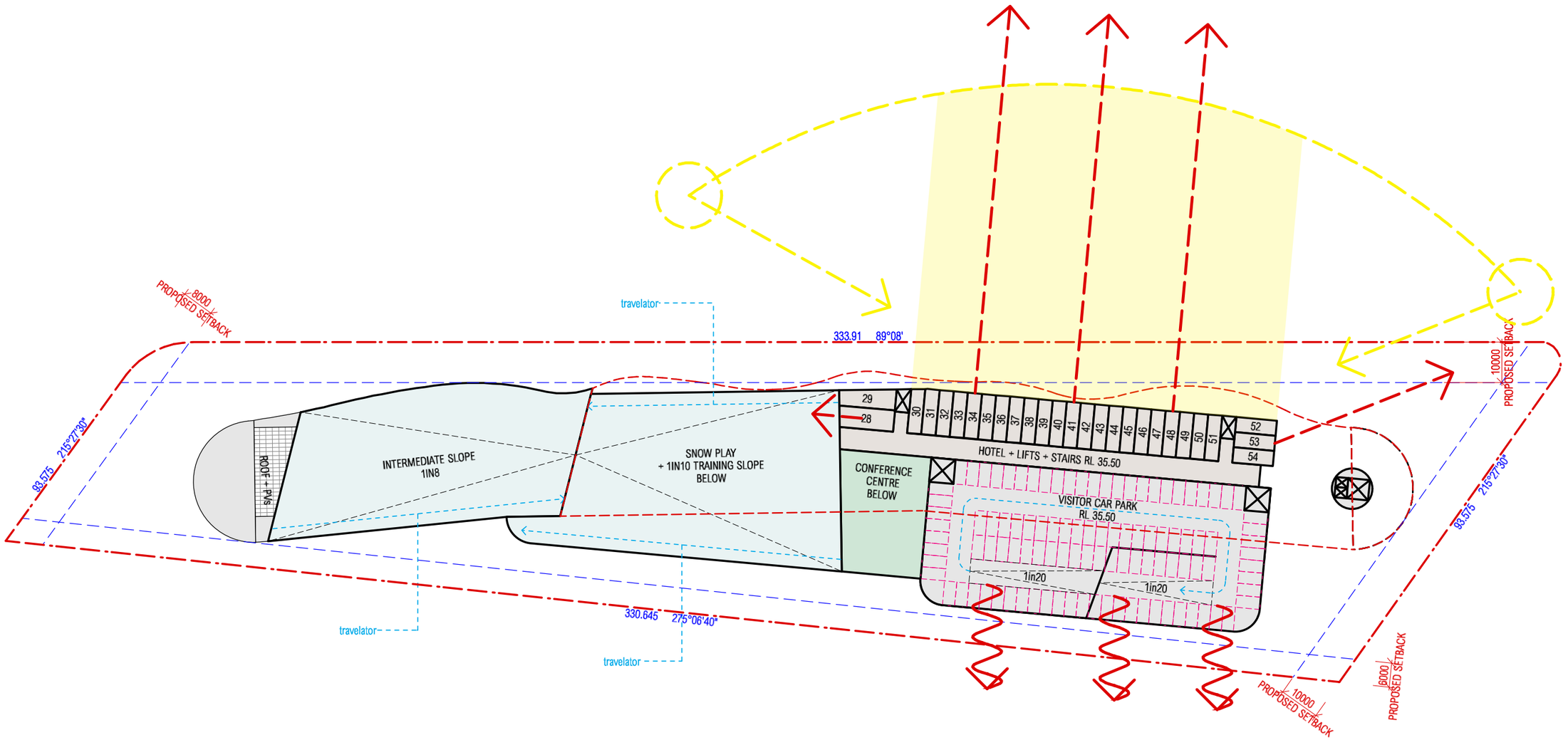
4.4 bulk and scale



birdseye view

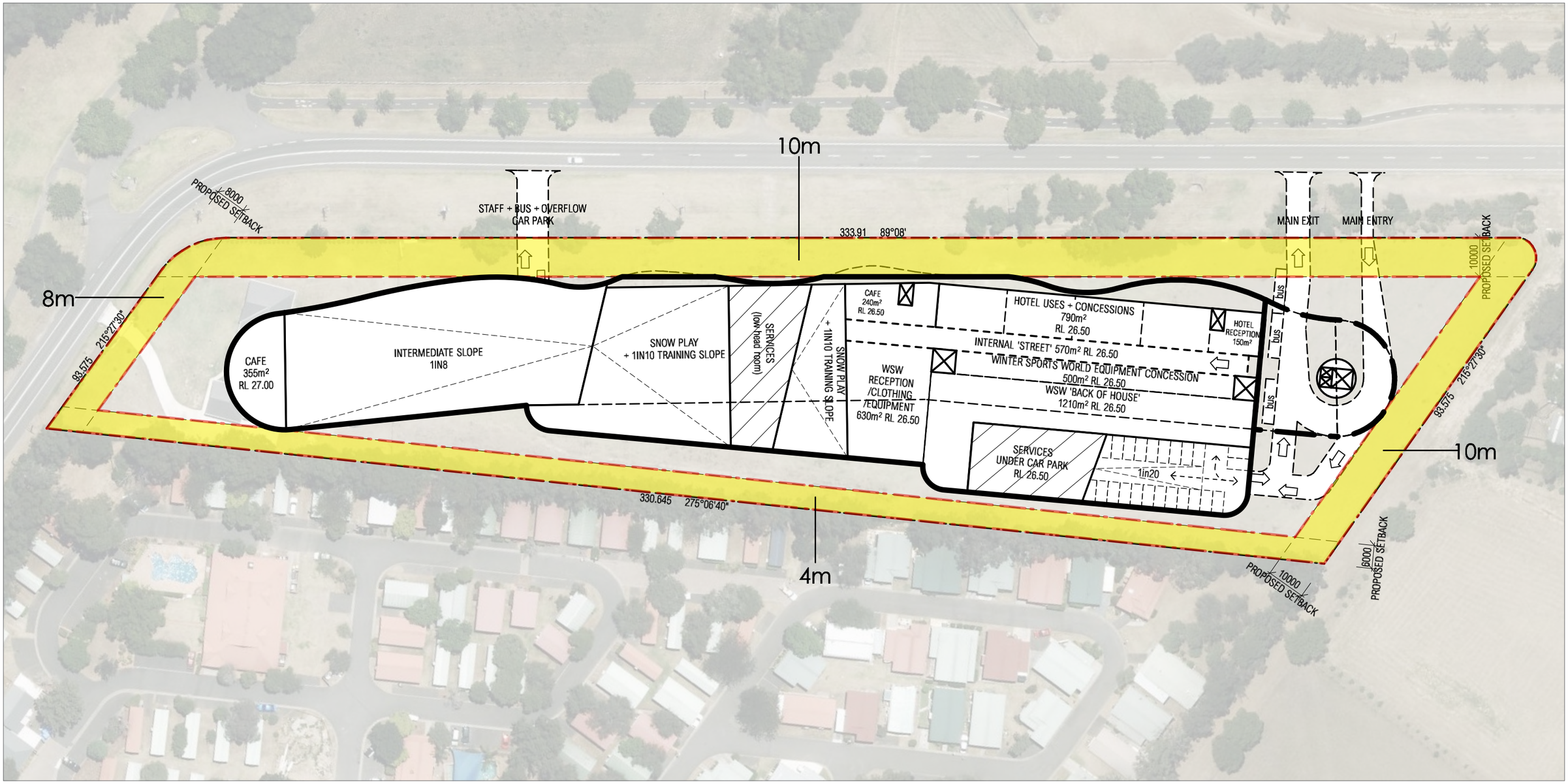
The building is scaled in response to the site: the lower end is located close to the river, and is below the 8.5 m height limit, surrounded by trees. The building slopes upwards to the east with the highest end above the entry 'porte-cochere' and foyer. The largest bulk of the hotel is located on the north side (facing out to the view), with the carpark and WSW behind and lower to reduce overshadowing to the site to the south. The entry area is open around a 'tower' that supports the highest point of the main ski slope.

4.5 orientation + solar access



The site has its long axis running East to West. This has the advantage of providing a large area for all 172 rooms of the hotel to face north, but the narrow site presents an issue for overshadowing of the adjacent site to the south. This is alleviated by reducing the scale of southern side of the building and locating the highest part to the far east so as to shade Wilsons Lane. The long axis also provides a roof area facing north with solar PV cells to assist in making the building carbon neutral.

4.6 setbacks and alignments

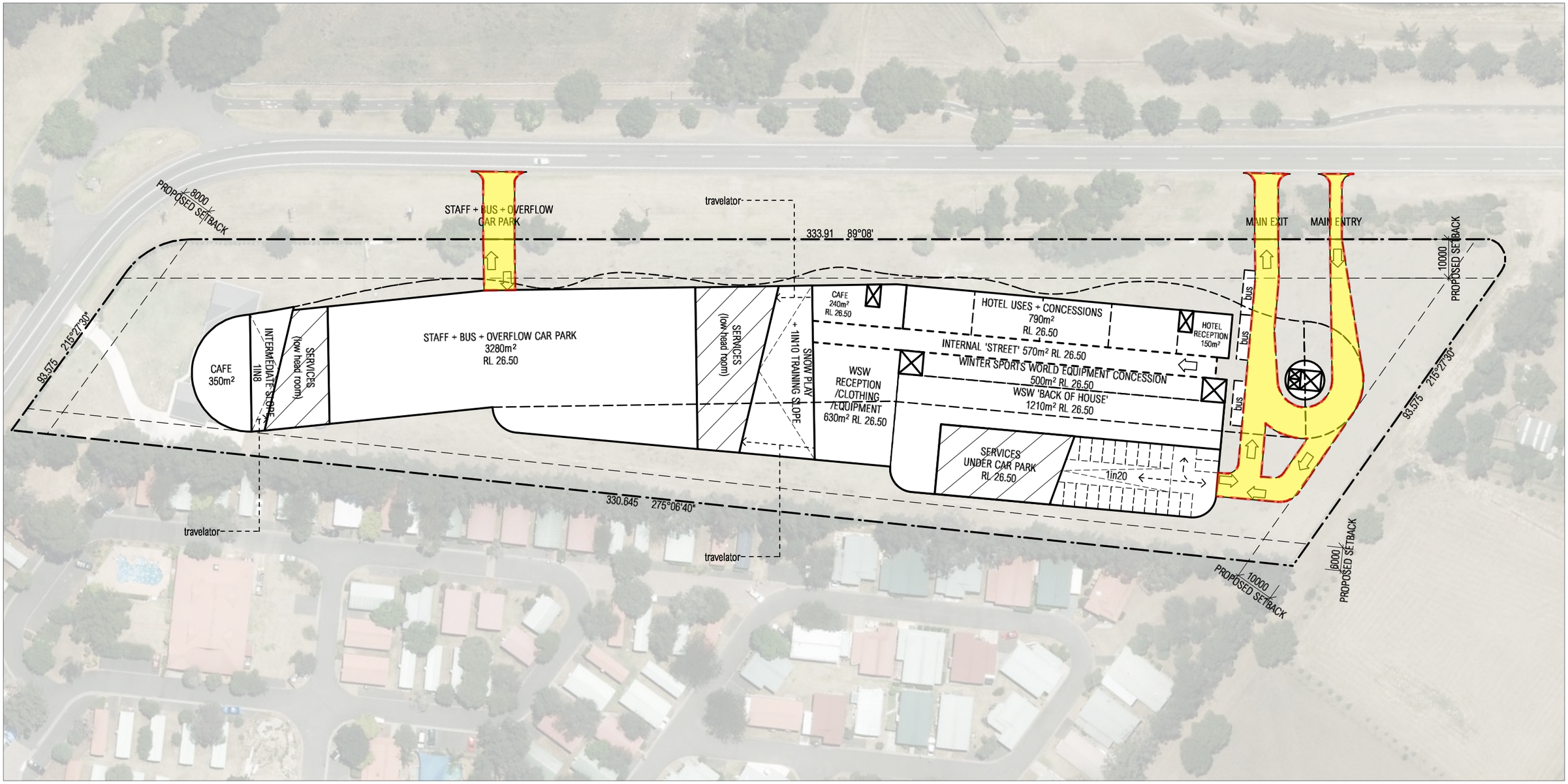


plan - setbacks

The setbacks for the building follow those set out in the DCP: 8 m to Tench Avenue and 10 m to Jamison Road. The setback to the unmade Wilsons Lane is 8 m (as for Tench Avenue) and the rear boundary is set a minimum of 6 m off the boundary, which is lined with trees (approx 20 metres hight) in front of the mobile home village.

This allows for a wide curtilage along Jamison road, with a double row of trees (see landscape report) and allows for Jamison Road to be widened to 4 lanes whilst retaining the landscape. The tallest part of the building, particular the round tower, is setback from all boundaries, providing an open area at the point of entry.

4.7 access, circulation, safety, and security



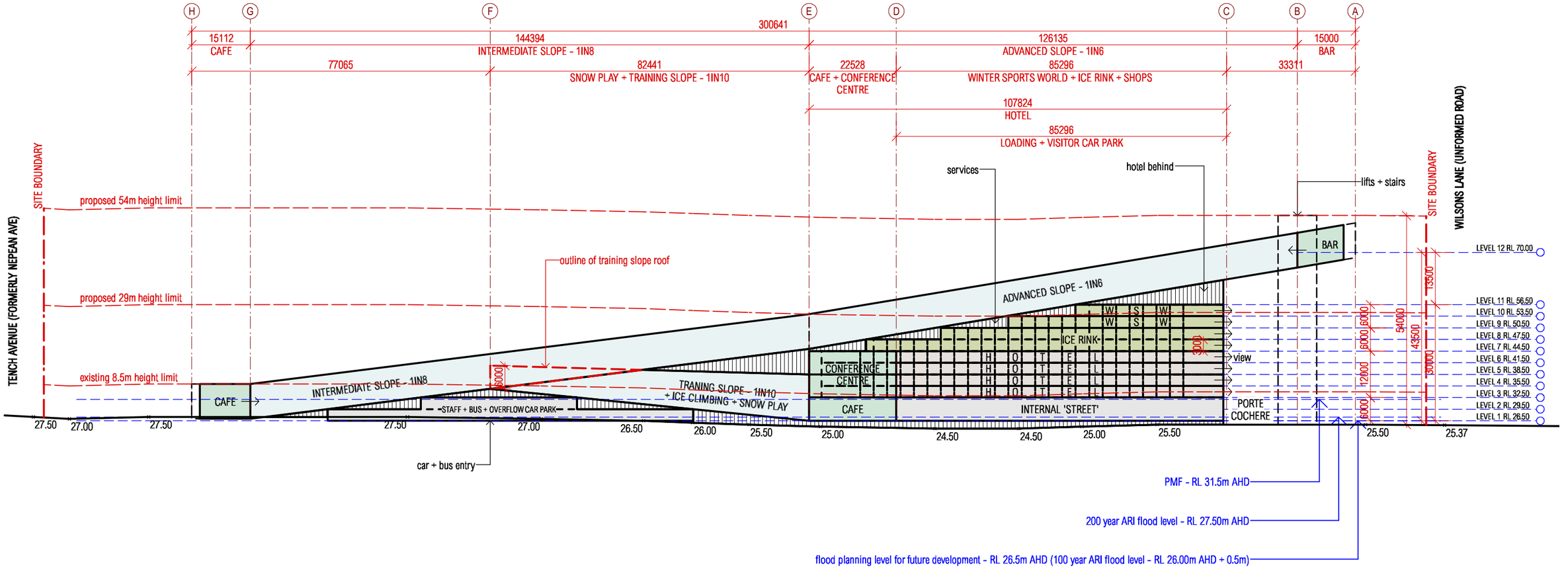
pedestrian and vehicular access

Access to the site has been designed to be at the intersection of Jamison Road and the unmade Wilson Lane. Vehicle access to the site and to the porte-cochere and the car parking would be achieved from Jamison Road near this point, or preferably, directly from Wilson Lane if the lane is upgraded to a made road. Cars and buses have access directly to the front entry of the building at this eastern end with a drop-off point and the ability to rotate into an above-ground car park, the ground level of which is above the flood level on the site. There is a four-level car parking behind the building for visitors' cars. The pedestrian access will also follow the porte-cochere arrangement. There is a separate access further along to the west along Jamison Road for staff car parking and similar uses and loading. This would be a smaller access point further screened from the street and only used by workers and staff connected to the building who would know of a secondary entrance.

Along the length of the site on Jamison Road, there is a proposal for street trees and trees on the subject site, to be planted to continue the avenue of trees as indicated in the current DCP. For the length of this building it is proposed that the trees have a sinuous planting arrangement in plan, further reinforcing the sinuous nature of the upper level of the building and reflecting the idea of ski trails where the curvilinear nature of descending over snow creates a series of sinuous paths.

There are two entrances: the main area is at the east, under the 'round tower' leading to a 'porte-cochere' and the carpark entry behind. The drop-off area leads directly to the foyer end on an 'internal street' that serves both the hotel and the WSW. The carpark at the east is intended for hotel and WSW guests, with easy access for patrons into the 'internal street', and access for valet parking. This also leads to the loading docks for the WSW and hotel. The second entry leads to the staff carpark, a guest overflow carpark and bus carparking. This has an internal pedestrian connection to the 'internal street'.

4.8 flooding

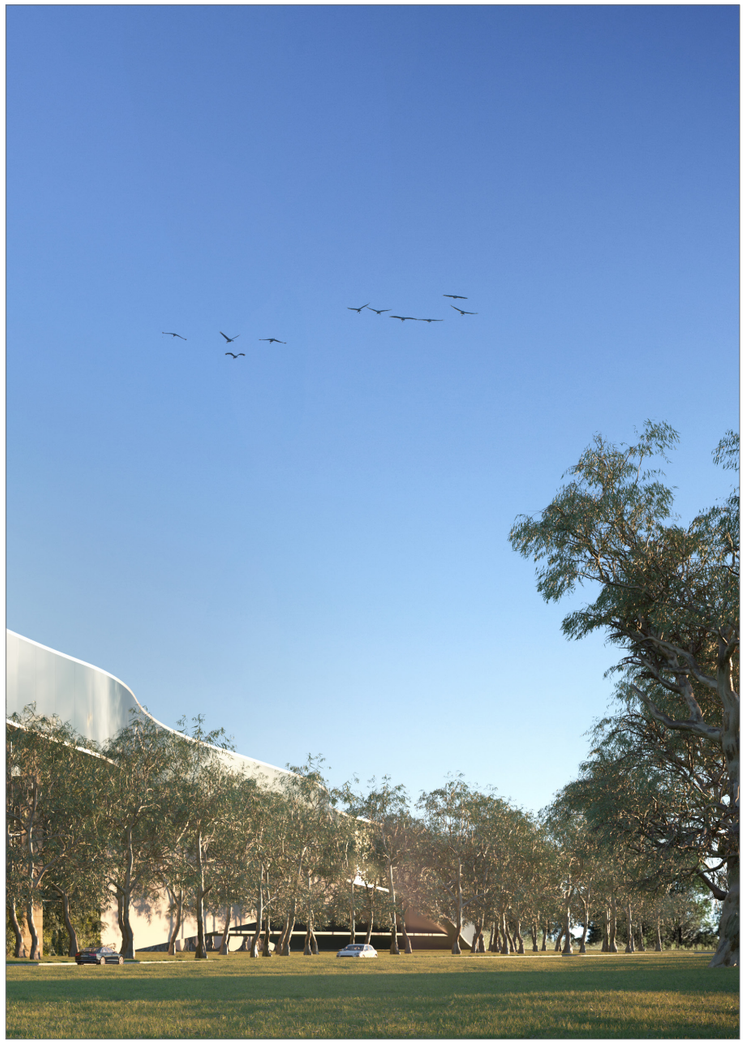


long section showing levels

The site is relatively flat, with a depression in the centre that allows Peach Tree Creek to drain across the site and along down into the Nepean River during extreme flood events. This may cause flooding at 1:100-year flood levels, which is covered in a flood report included with the Planning Proposal.

The built-form response is to lift the entire building to a level at 0.5m above the 1:100-year flood level and to retain the existing topography as existing in order to minimise any resistance to future flood flows across the site. There is no basement areas, and there is a clear path for flood waters across the centre part of the building (with no access in or out of the building at that point). The entry area at the east and the café/restaurant area at the west are both on levels above the 1:100 year flood with assists on at gradient access to the building.

4.9 character and colour

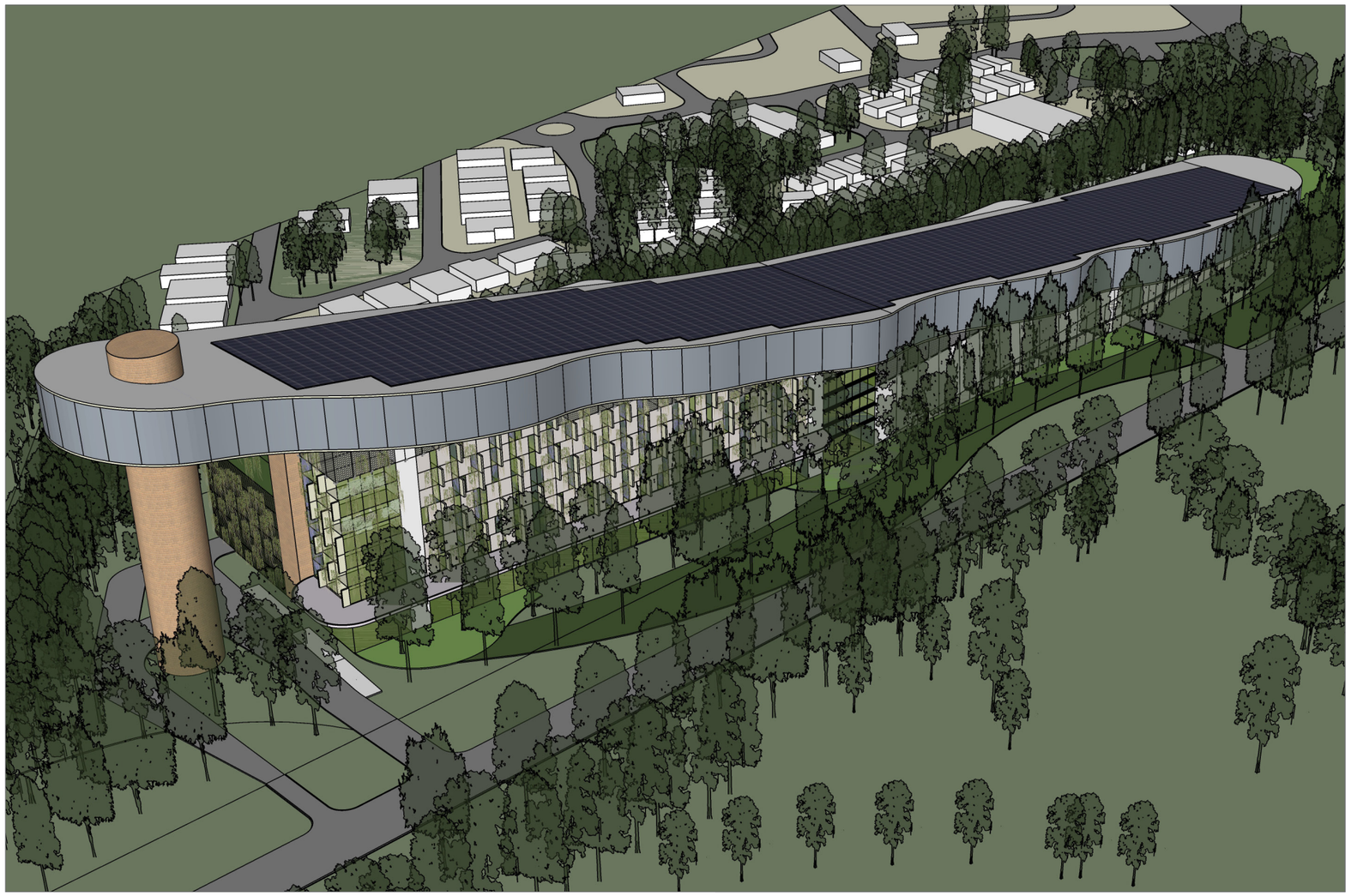


The character of the building makes a reference to snow / ice in two ways: the form of the main ski slope has a wavy form mirroring the slalom patterns carved by skiers, and the colours of the main slope is taken from the reflections in deep ice: pale blue on the upper parts that grade into a softer and darker green on the lower parts, including the hotel. The roof area, being PV solar panels for almost the entire area, reads as dark blue and is deeply recessive when see from Emu Plains on the other side of the river and the distant Blue Mountains.

This also allows the use of materials to provide a connection to its location by cladding the tower to the apex in sandstone with few openings to provide a rough, rugged surface over that material and providing a strong visual form as a symbol of the building, obviating the need for any crass signage at that point. The building is the symbol of the slope and the only intrusive signage would be at the ground level indicating access for pedestrians, cars, buses etc.

The eastern face, together with the northern façade of the hotel, are treated as previously described climbing plants on vertical trellises that allow for windows looking out the north and east but providing a softening both in a visual and haptic sense to the built form and reducing its impact visually underneath the ski slope.

4.10 sustainability



view from the north east showing PV cells on the roof and solar pannels on the walls of the ski slope and biophilic design for the walls of the hotel

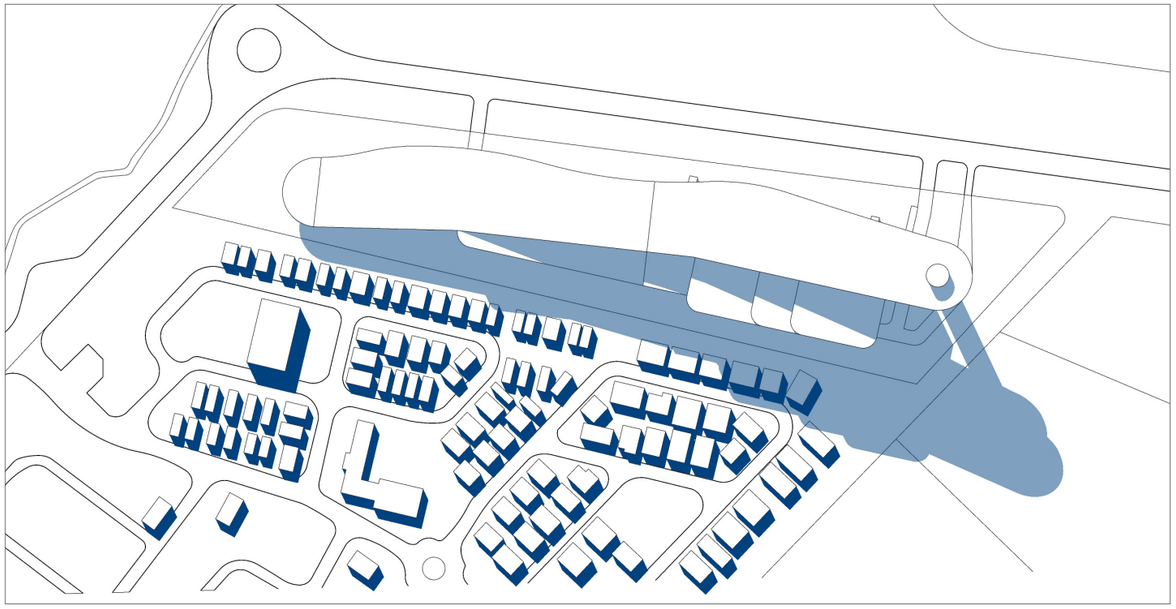
The building will be carbon-neutral in operation: the winter sports areas are essentially a giant "esky", with multi-layered massive levels of insulation (and few if any windows), with a high efficiency mechanical plant making both chilled air and snow or ice). The entire operation, including the hotel, is run from a 1 MW power supply of photo-voltaic solar cells on the roof (the equivalent of 200 houses with PV panels), run through an on-site battery storage facility.

The roof of the ski slope, which descends towards the west, is covered in photovoltaic cells and traditional panels that generate at least 1.2 MW of power towards the running of all facilities within the building. The remaining section of the roof outside the panels would be painted a dark colour to assist in suppressing the form when viewed from across the river and from other vantage points where the western sloped roof can be viewed.

4.11 shadow analysis - building only

june 21, 9am

june 21, 12:00 noon



june 21, 1:30 pm

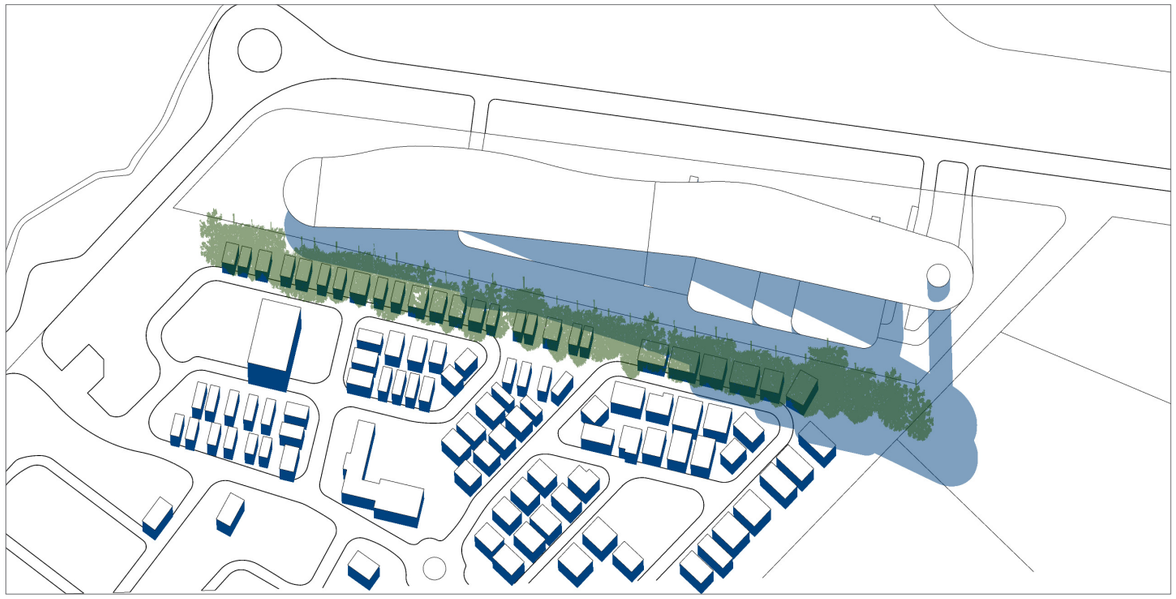
june 21, 3:00 pm

These solar shading studies show the impact of the building only, (no vegetation or trees) at the mid-winter solstice (22 June) during the day – at 3 pm. By mid-afternoons the shadow from the tallest part is cast only over Wilsons Lane, and the private open space of the last few homes.

These solar shading studies show the impact of the building (only, no vegetation or trees) at the mid-winter solstice (22 June) during the day – at 12 noon and 1.30 pm. The shadow from the building is cast only on the last 6 permanent mobile homes.

4.11 shadow analysis - building + landscape

june 21, 9:00 am



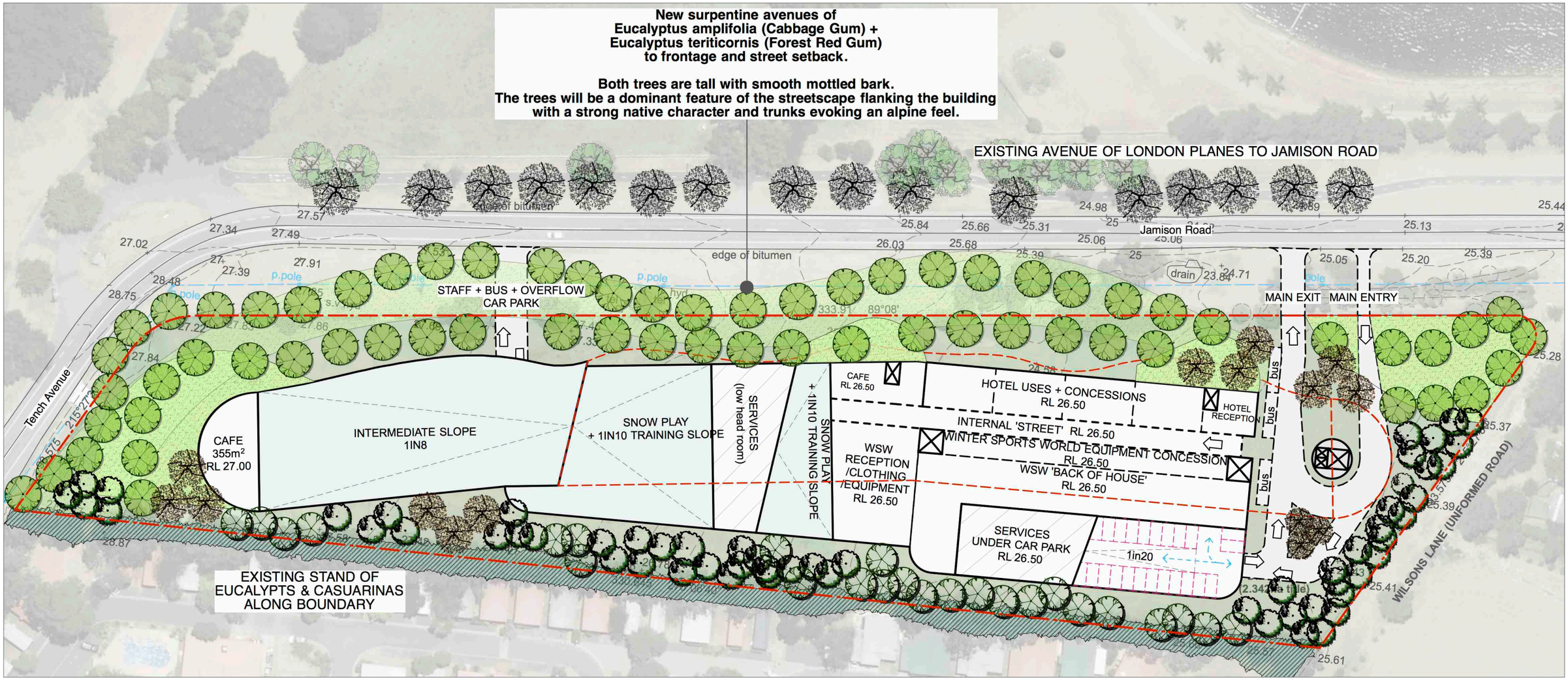
june 21, 12:00 noon

june 21, 1:30 pm

june 21, 3:00 pm

These solar shading studies show the impact of the building plus the existing trees on the neighbouring site at the mid-winter solstice (21 June) during the day. The early time shows the shadow cast by the trees is more extensive at the western end, whilst the building shades the northern side of the mobile home park.

4.12 landscape

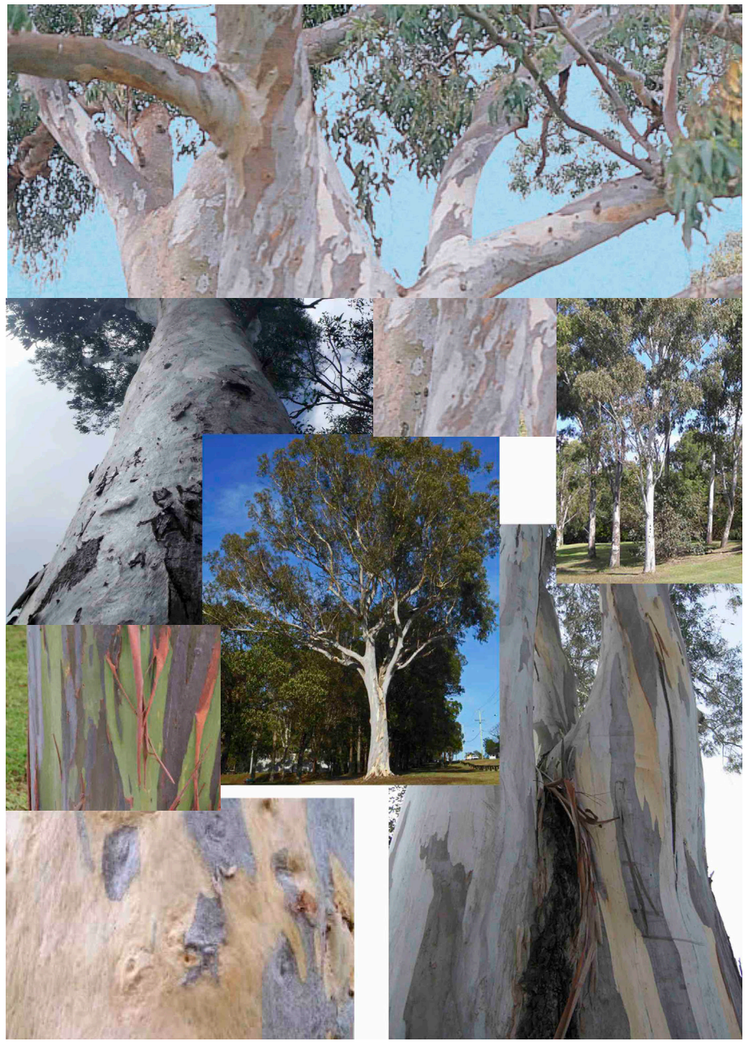


JLA sketch landscape plan

The current plantings along Jamison Rd are mixed, many non-endemic species, which present poorly, particularly in comparison to the denser linear plantings along the river. The southern boundary of the site has an existing row of trees, 18-22 m in height, with trunks on the neighbouring property, but crowning over on to the site. The site itself is essentially open grassland without significant plantings.

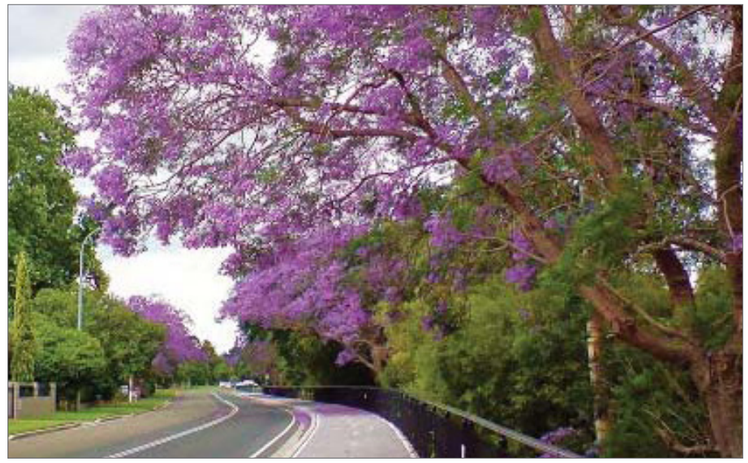
There are 3 main landscape concepts, all incorporating indigenous riparian vegetation scaled to building.

4.12 landscape



1. The Avenue
Create a new avenue of trees on Jamison Rd. The proposal is for two parallel rows of trees, endemic Eucalypt species such as Manna Gum of Flooded Gum. Rather than the traditional linear arrangement parallel to the road, these trees would be planted in a wave formation that mirrors the slalom curves of skiers in the slopes above and adjacent. The path to the river would wind between these trees.

2. Arrival Welcome Area
Create a low landscape / sculpture feature at the west entry end to the building. The proposal would be for a sculptural form at the entry that could translate to the morphology of snowflake at landscape scale or alternatively give a watery effect like melted snow with a mirror finish. (Shown in the Topotek images)

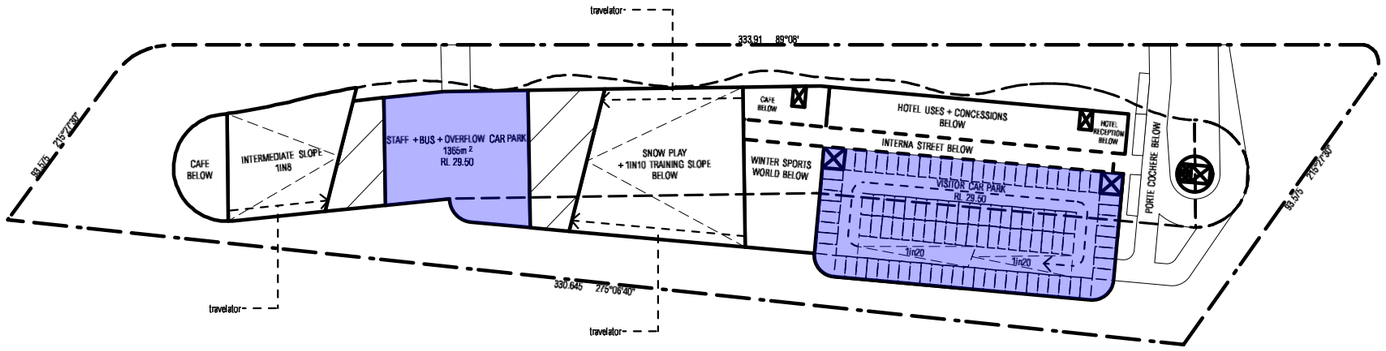


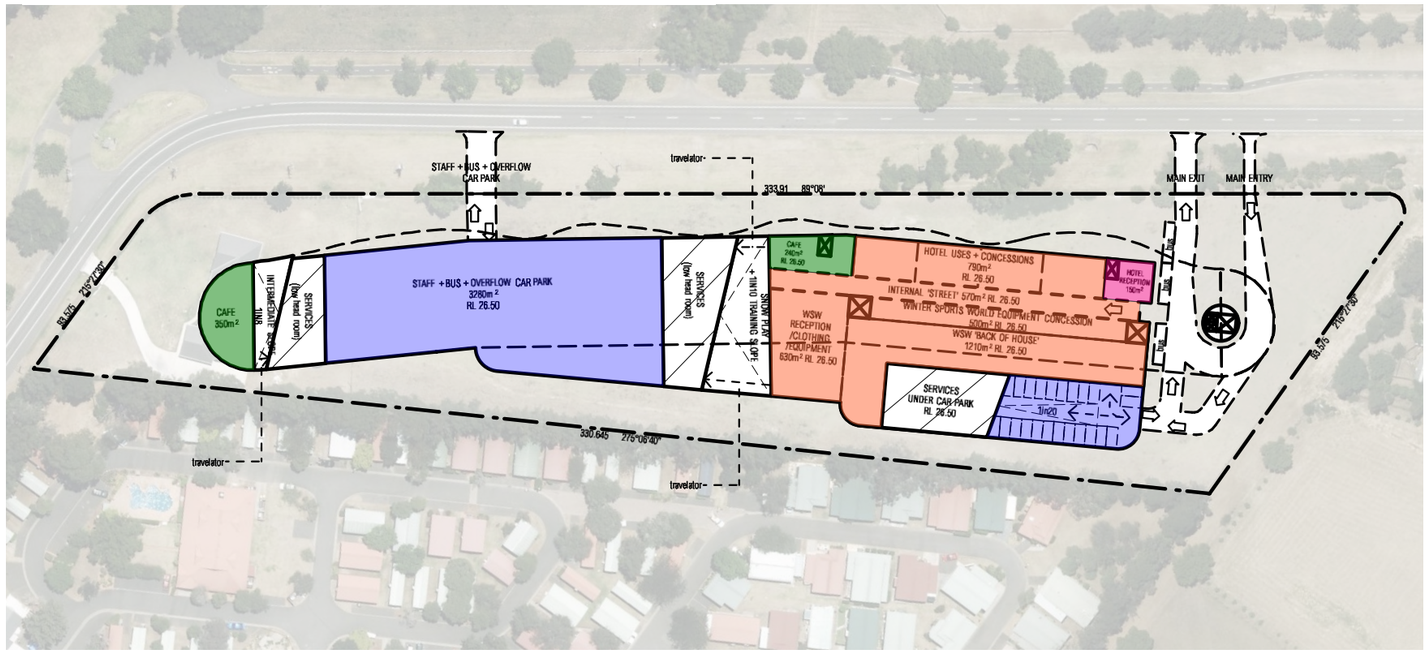
3. River / Corner Landscape
Create a play area / more intimate space around the café at the west end of the site. The proposal would be for the form of scribbly paths that is suggestive of a skiers' slalom run. The for i[would be low and present as a series of climbable / explorable elements for children. (Image from TCL)

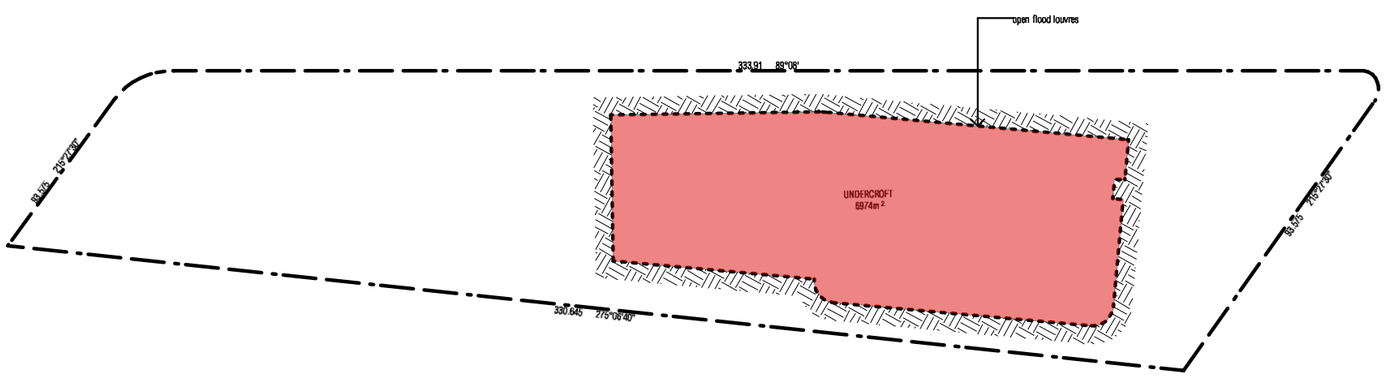
4.13 internal uses + amenity related to urban design

Ski Facilities

There are some 25 indoor ski facilities around the world, predominantly in the US, UK and the Netherlands. Most slopes are around 200 + metres. The proposal here, for a main run at 300 m places it in the 'top ten' but is by no means the longest, which is the Alpincentre in Germany at 640 m. However, a 1.2 km indoor run is now planned for Dubai, which already has the 4th longest at 420 m. Whilst that is the main attraction, some centres also have smaller slopes (for beginners) or play areas, but few have other winter attractions. The point of difference here is to emphasise 2 additional considerations: a wide and gentle learner's slope, and a diversity of additional activities including skating, rock and ice climbing and an altitude training centre.







BASEMENT | CAR PARKING | CAFE + BAR | WINTER SPORTS WORLD | HOTEL

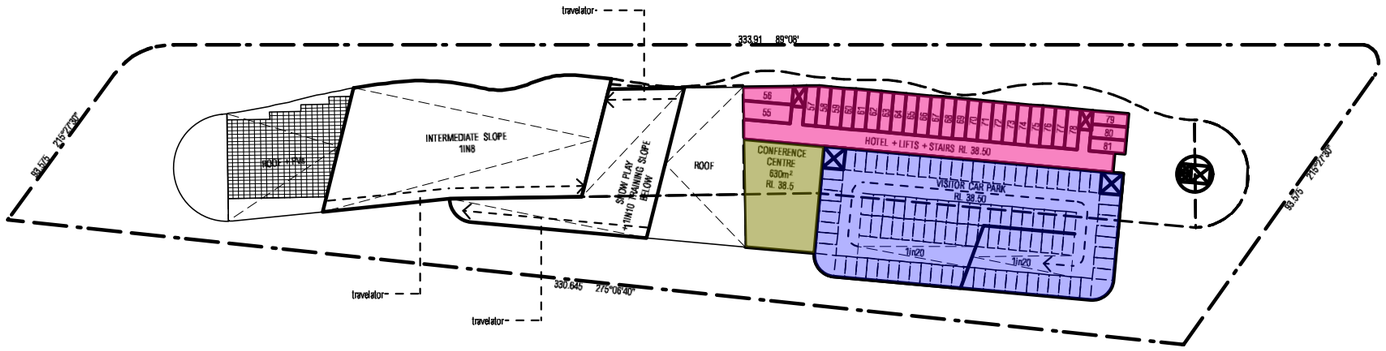
SKI RAMPS + ICE RINK | CONFERENCE CENTRE | LANDSCAPE AREA | DEEP SOIL

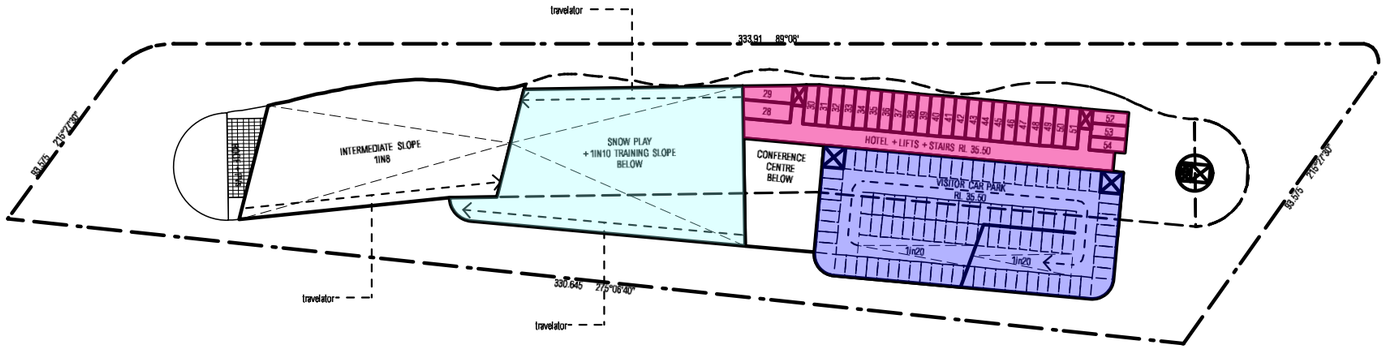
4.13 internal uses + amenity related to urban design

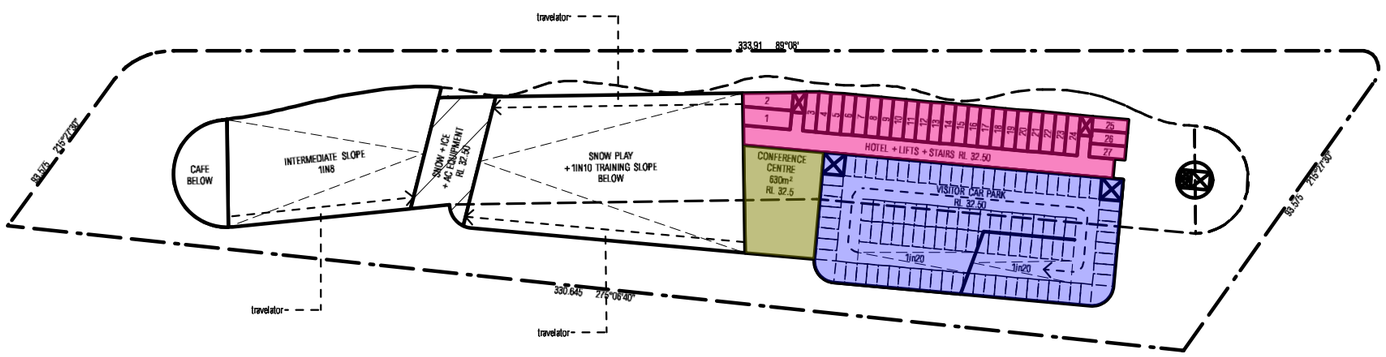
Hotel, Food And Beverage
As the centre is located in an area that provides few, and limited, hotel accommodation, the WSW has a 172 + room hotel, with ancillary concession areas for the hotel patrons (souvenirs, travel supplies etc). The hotel also manages the food and beverage offerings, primarily in 4 locations:

- a café at the base of the main run
- a café facing the learner's slope / play area at the end of the 'internal street'
- a restaurant within the hotel primarily for patrons (breakfast / lunch dinner)
- a bar at the top of the main slope, accessed through a dedicated externally located lift

The hotel has the usual 'servant' areas of a reception area, back of house, commercial kitchen and general admin.



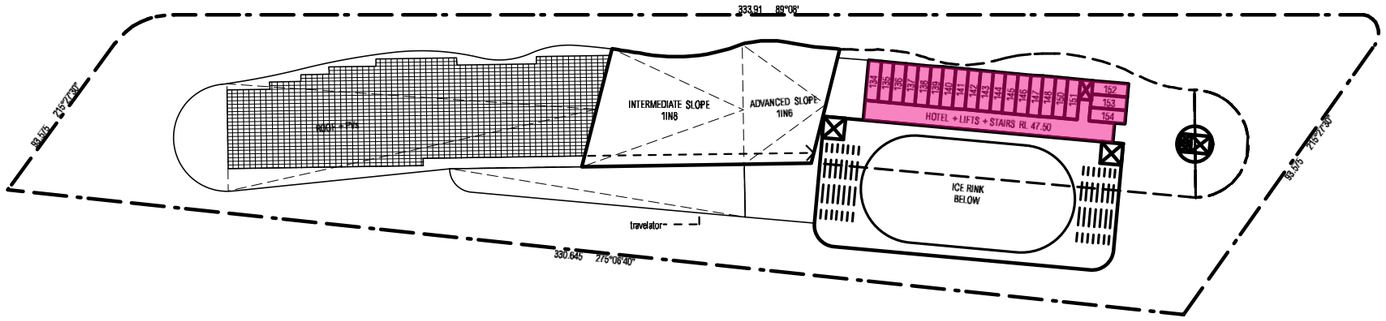


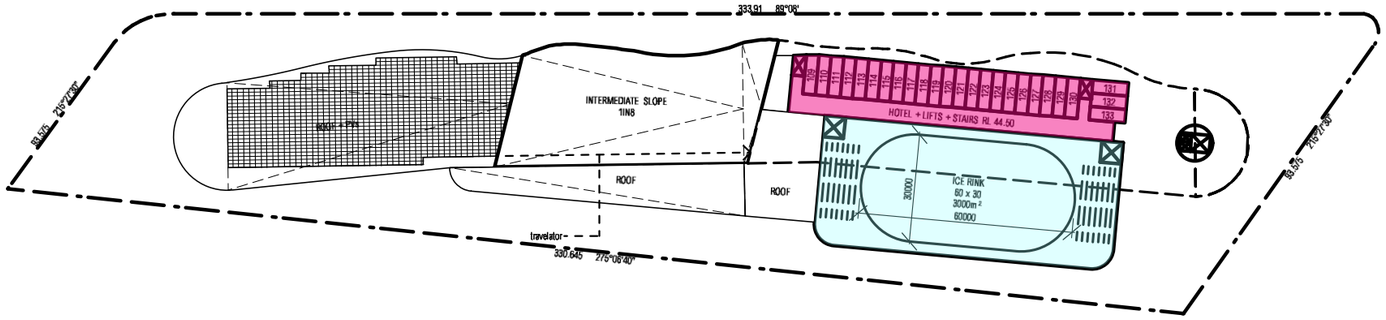


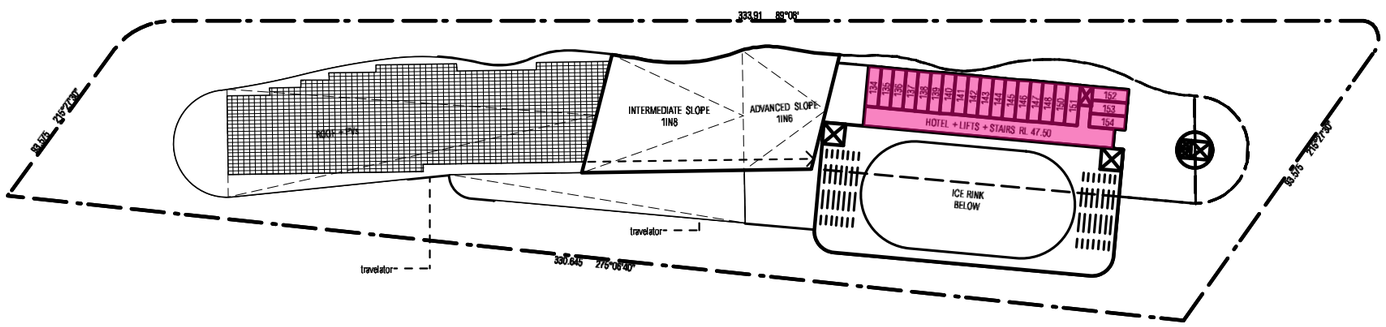
BASEMENT | CAR PARKING | CAFE + BAR | WINTER SPORTS WORLD | HOTEL
SKI RAMPS + ICE RINK | CONFERENCE CENTRE | LANDSCAPE AREA | DEEP SOIL

4.13 internal uses + amenity related to urban design

Hotel / Conference / Food + Beverage
The hotel and associated conference/food and beverage activities, are located within a triangular shaped space facing north. This gives prime opportunity for natural passive solar gain to the rooms of the hotel, which is controlled through a series of shading devices and balconies in order to limit the amount of summer sun entering the rooms. The north-facing façade has a series of vertical plantings between rooms that are arranged on a steel trellis that provides an overall green finish. Combined with the dark green paint finish to the paneling behind, this disguises and camouflages the eight to ten storeys of the hotel viewed through the tree-lined avenue from any area to the north.



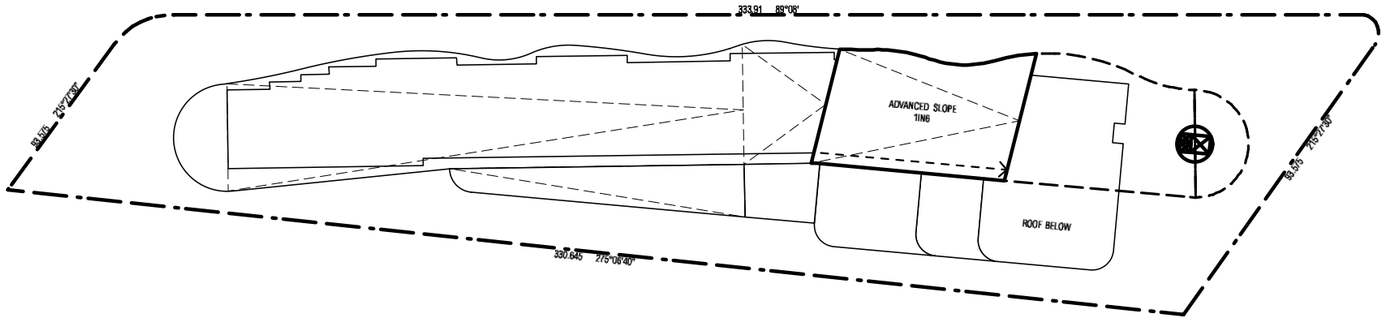


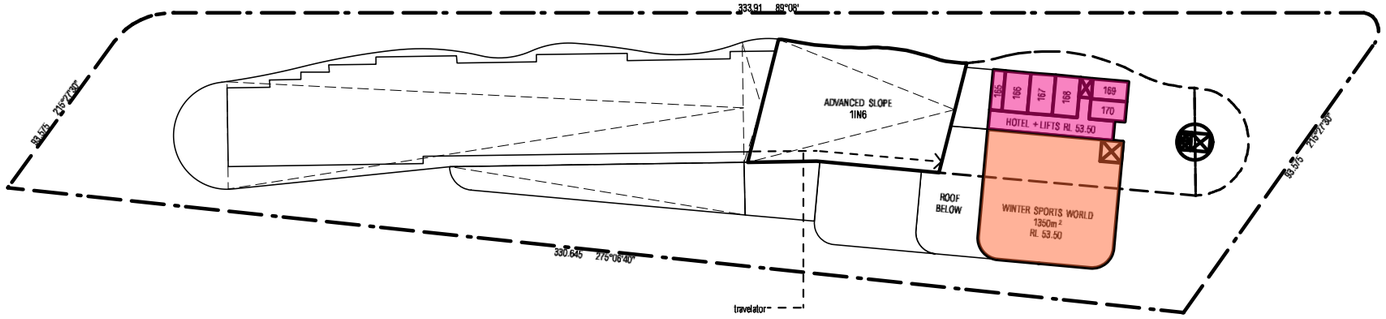


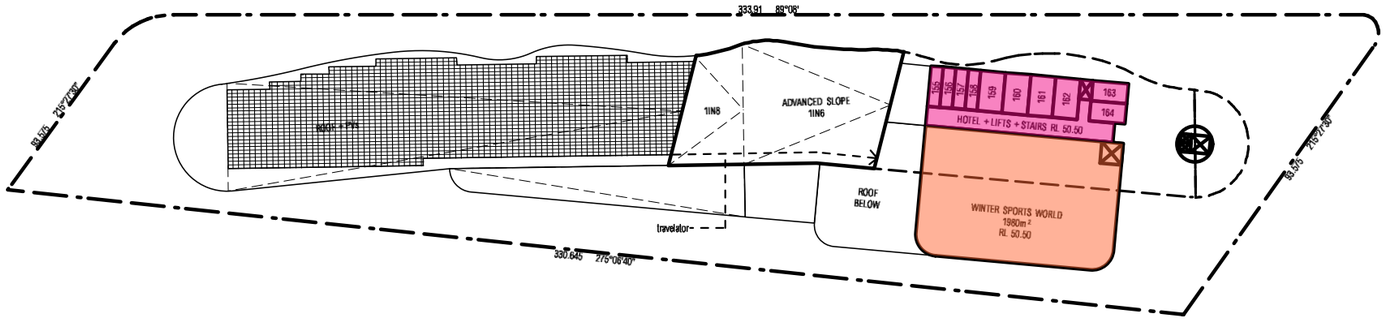
BASEMENT | CAR PARKING | CAFE + BAR | WINTER SPORTS WORLD | HOTEL
SKI RAMPS + ICE RINK | CONFERENCE CENTRE | LANDSCAPE AREA | DEEP SOIL

4.13 internal uses + amenity related to urban design

Winter Sports World
The third part of the building is a car park which is entered from behind the foyer space and rises through four storeys of car parking on a series of sloped floors. Above this is the Olympic-sized hockey rink (for uses figure skating and ice hockey) and associated facilities for the Winter Sports World, including an ice-climbing wall, a gymnasium, an altitude training area and the changerooms, toilets facilities.





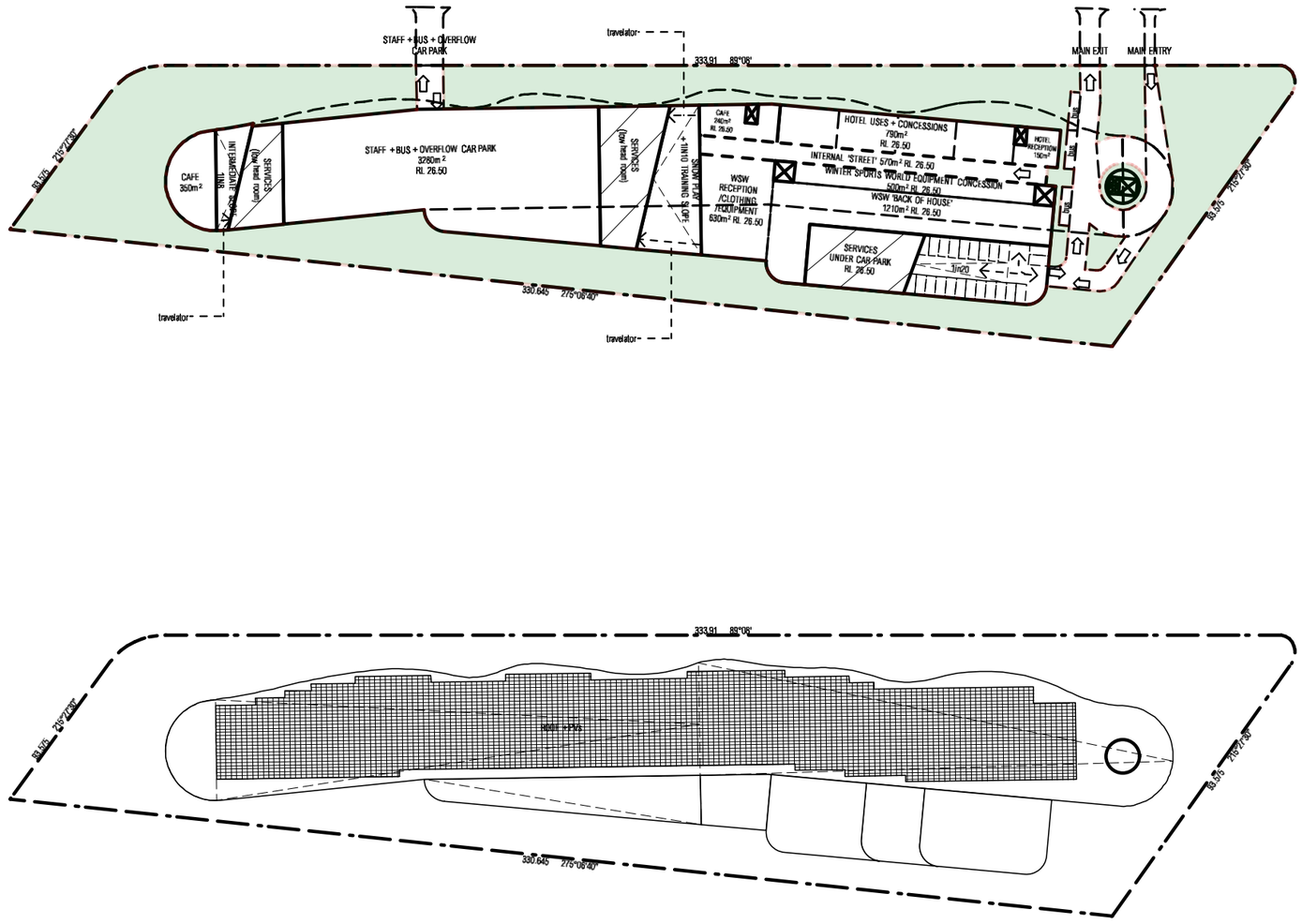


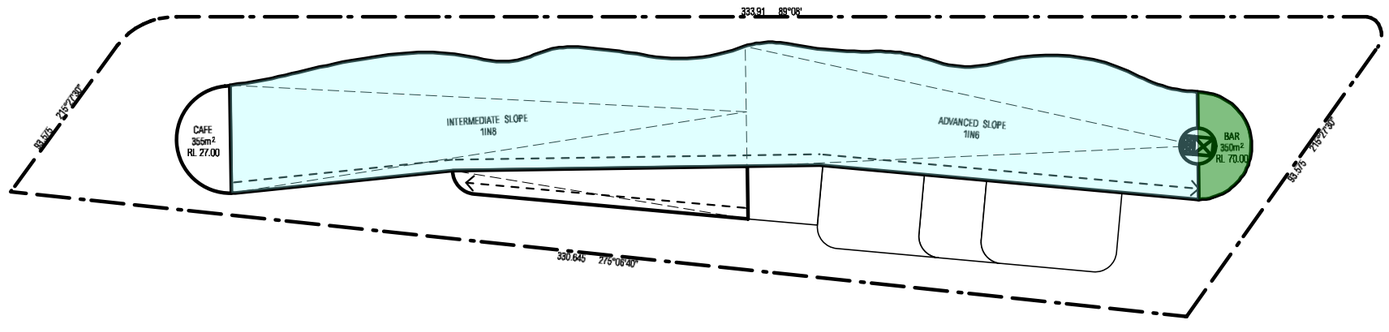
BASEMENT | CAR PARKING | CAFE + BAR | WINTER SPORTS WORLD | HOTEL
SKI RAMPS + ICE RINK | CONFERENCE CENTRE | LANDSCAPE AREA | DEEP SOIL

4.13 internal uses + amenity related to urban design

The Ski Slopes
The ski slope is 300 metres long and is 7.5 m tall internally and 10 m externally. It is treated on the outside with a light blue glazed panel behind which are photovoltaic cells which contribute to the carbon neutral status of the building. These panels are lightly reflective, creating an illusion of a continuity with the sky and providing a continuous seamless surface across the face of the building. The face towards Jamison Road is lightly curved, giving it a changing reflectivity and reflecting the shape of the skiing, the curve of skiers as they move down the slope. The entire area of the ski slope is highly insulated in order to maintain the coolth of the interior. Hence the solidly walls are solid and without any windows, which also prevents overlooking any loss of privacy, particularly to the south.

The western end of the ski slope, which reaches down to ground level, features a food and beverage outlet, principally a café, which would be open to the west to the end and providing a source of both indoor and outdoor activity at the key gateway end of the building.



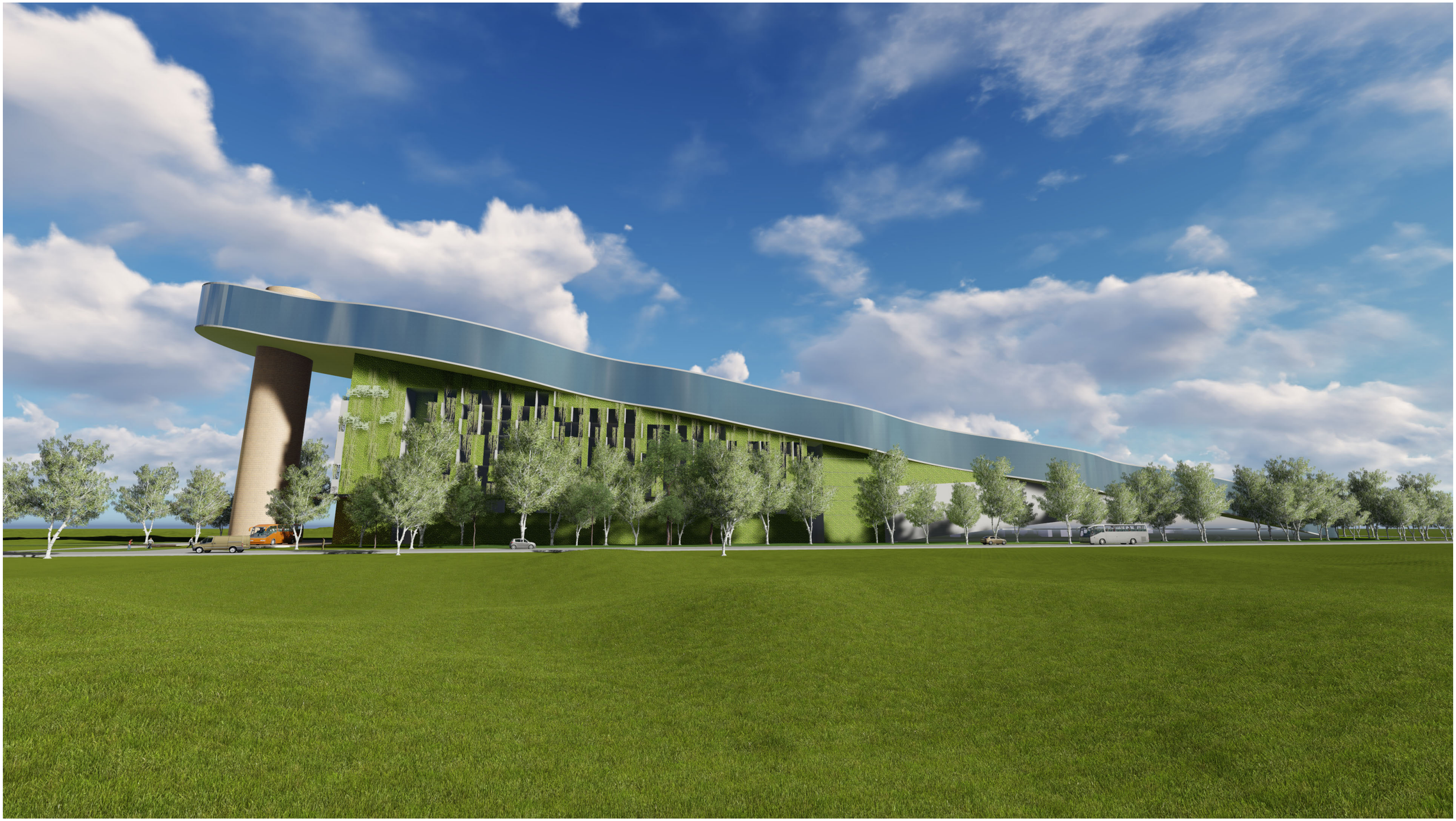


BASEMENT | CAR PARKING | CAFE + BAR | WINTER SPORTS WORLD | HOTEL
SKI RAMPS + ICE RINK | CONFERENCE CENTRE | LANDSCAPE AREA | DEEP SOIL

4.13 internal uses + amenity related to urban design

Internal Street
An 'internal street' leads from the foyer / drop off point (and the access from the carpark) to a large viewing window onto the beginners' slope / snow play area. The 'street' has the hotel reception and ancillary concessions (such as souvenirs and hotel needs) on the right, and the reception and ticket sales for the WSW, together with clothing, gear and equipment rental and sales. There is no independent retail area or shops, as all outlets are related as ancillary activities to the hotel or WSW. The street ends with a café on the right and a training / viewing room for the WSW on the left, both of which face on to the ski slopes.

wsw
winter sports world



224 riley street, surry hills nsw 2010
+61 2 9211 0000 info@environastudio.com.au

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APPENDIX 3
Southern elevation and sections

ALL BEARINGS SHOWN ON THIS PLAN RELATE TO MAGNETIC NORTH AS PER D.P.38950

true north

magnetic north

H G F E D C B A

15112 CAFE

77065

144394 INTERMEDIATE SLOPE - 1IN8

82441 SNOW PLAY + TRAINING SLOPE - 1IN10

300641

22528 CAFE + WSW

126135 ADVANCED SLOPE - 1IN6

85296 WINTER SPORTS WORLD + ICE RINK + CONFERENCE + SHOPS

107824 HOTEL

85296 LOADING + VISITOR CAR PARK

15000 BAR

33311

JAMISON ROAD (40.235 wide)

edge of bitumen

edge of bitumen

pit

drain

TENCH AVENUE (FORMERLY NEPEAN AVE) (15.24 wide)

PROPOSED SETBACK 8000

STAFF + BUS + OVERFLOW CAR PARK

travelator

333.91 89°08'

MAIN EXIT

MAIN ENTRY

PROPOSED SETBACK 10000

CAFE 350m²

INTERMEDIATE SLOPE 1IN8

SERVICES (low head room)

STAFF + BUS + OVERFLOW CAR PARK 3280m² RL 26.50

SERVICES (low head room)

+ 1IN10 TRAINING SLOPE

SNOW PLAY

CAFE 240m² RL 26.50

HOTEL USES + CONCESSIONS 790m² RL 26.50

HOTEL RECEPTION 150m²

INTERNAL 'STREET' 570m² RL 26.50

WINTER SPORTS WORLD EQUIPMENT CONCESSION 500m² RL 26.50

WSW 'BACK OF HOUSE' 1210m² RL 26.50

WSW RECEPTION /CLOTHING /EQUIPMENT 630m² RL 26.50

SERVICES UNDER CAR PARK RL 26.50

1in20

bus

bus

bus

330.645 275°06'40"

travelator

travelator

(2.342ha title)

WILSONS LANE (UNFORMED ROAD)

86.375 215°21'30"

PROPOSED SETBACK 6000

PROPOSED SETBACK 10000

16750

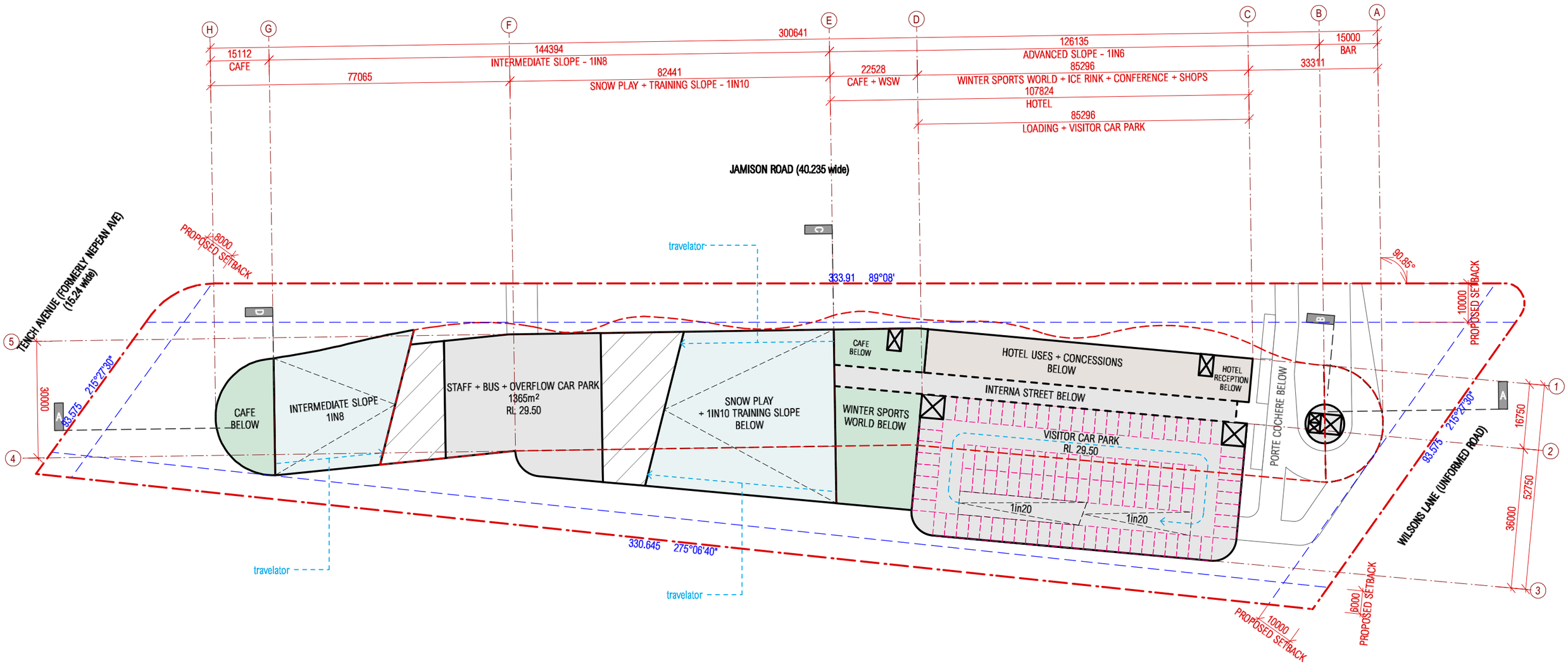
52750

36000

LEVEL 1 FLOOR PLAN - RL 26.5 +
1:1000 @ A3

environa studio
environmental architecture

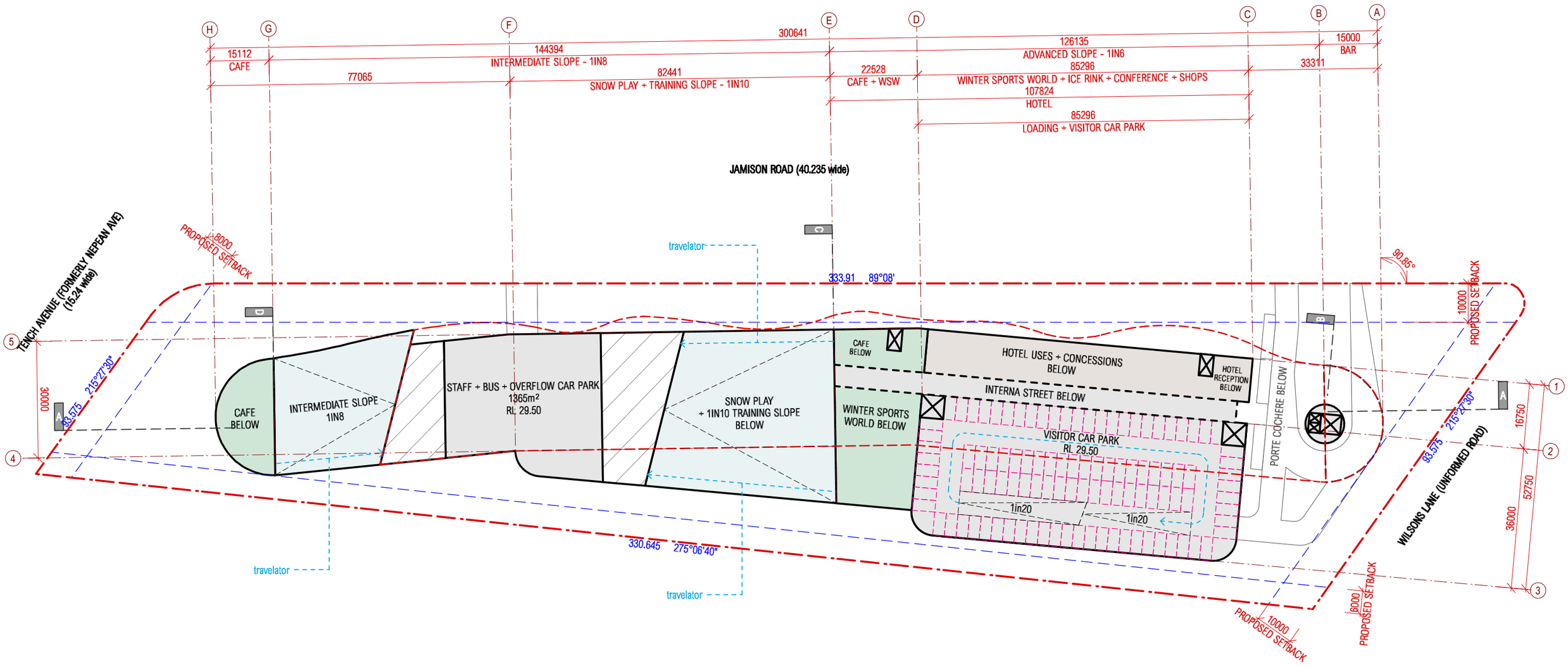
wsw
winter sports world



LEVEL 2 FLOOR PLAN - RL 29.50
1:1000 @ A3

environa studio
environmental architecture

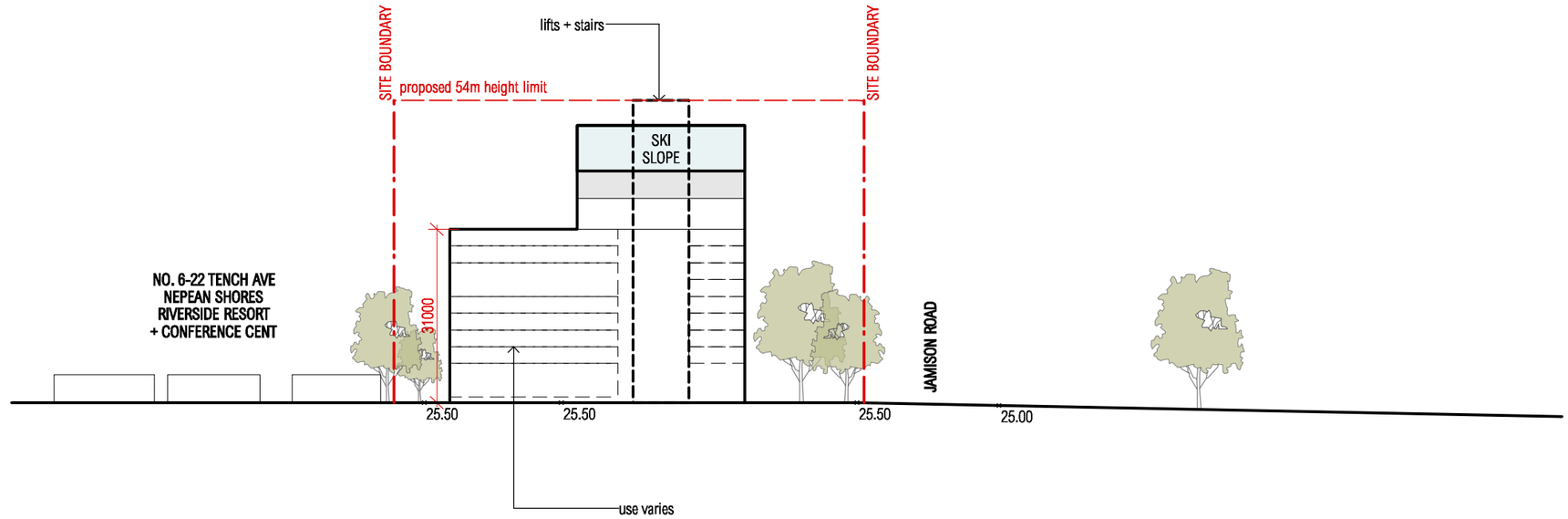
wsw
winter sports world



LEVEL 2 FLOOR PLAN - RL 29.50
1:1000 @ A3

environa studio
environmental architecture

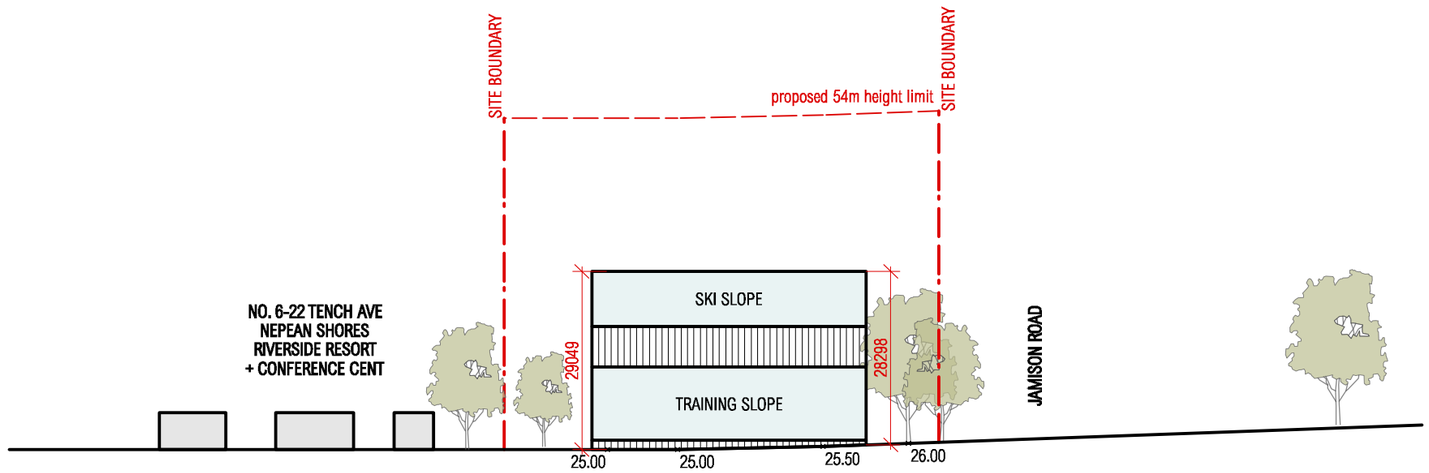
wsw
winter sports world



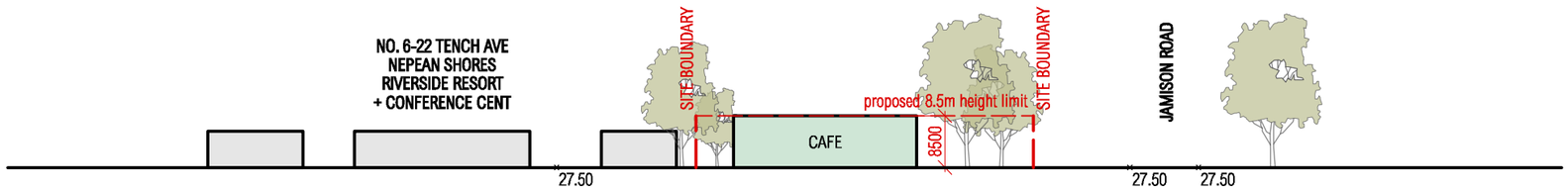
SECTION B
1:1000 @ A3

environa studio
environmental architecture

wsw
winter sports world



SECTION C
1:1000 @ A3



SECTION D
1:1000 @ A3

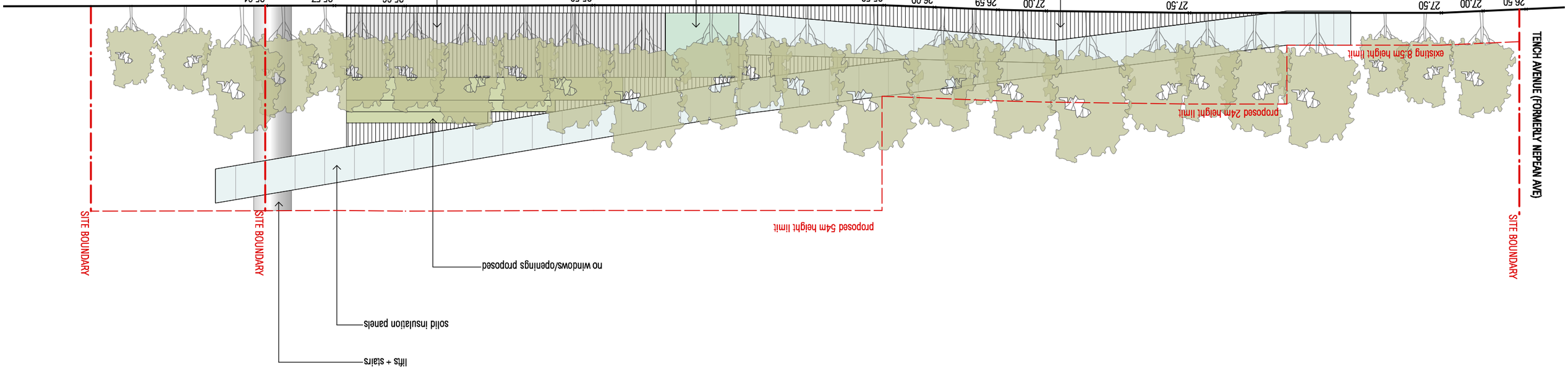
environa studio
environmental architecture

wsw
winter sports world

environa studio
environmental architecture

msm
winter sports world

SOUTH ELEVATION
1:1000 @ A3



APPENDIX 4
Visual Analysis

winter sports world

visual analysis

2-4 tench avenue, jamisontown

environa studio

environmental architecture

winter sports world

table of contents

visual analysis v2.2

by environa studio

for Winter Sports World Pty Ltd

November 2018

overview

The proposed development scheme for the site is consistent with Council's vision for the locality, which is to provide for tourist-oriented development and related uses that are compatible with the promotion of tourism in Penrith and reinforcing Penrith's goal of being the "adventure capital".

This visual analysis of the proposal considers the way in which view corridors from major roads and other public places will be affected by the proposal, in particular views from the east of the site to the Nepean River, views to the Blue Mountains Escarpment, views from Emu Plains across the Nepean River, and north-south views in the locality.

site analysis plan

introduction

This report aims to review and define the view points along the road corridor and assess the visual impacts of the proposal on the community and landscape of the area.

The Environmental Impact Assessment Practice Note: Guidelines for Landscape Character and Visual Impact Assessment ("EIA No. 4 Guidelines", March 2013, RMS) sets out two main purposes of landscape character and visual impact assessment:

1. "To inform the development of the preferred route and concept design so that the proposal can avoid and minimise impacts up front.

2. To inform Council, other agencies and the community about the character and visual impact of the proposal and what avoidance, management and mitigation strategies would be implemented."

The EIA No.4 Guidelines describe the landscape character assessment and visual impact assessment as follows:

> *"Landscape character and visual assessment are equally important. Landscape character assessment helps determine the overall impact of a project on an area's character and sense of place. Visual impact assessment helps define the day to day visual effects of a project on people's views.*
>
> *This dual assessment helps differentiate options, improve route alignment decisions and improve design outcomes.*
>
> *Landscape character assessment sums up an area's sense of place including all built, natural and cultural aspects, covering towns, countryside and all shades between. Visual assessment addresses people's views of an area from their homes or other places of value in the community."*

methodology

The methodology used for the visual impact assessment is described below.

The Visual Impact Assessment of the proposal involves the assessment of the visibility of the proposal, the identification of key existing view points and their sensitivity followed by the assessment of their visual impact.

In terms of this project the visual impact is based on the following:

Visibility and the type of receptor – Visibility of a road corridor is based on static (generally long term) and mobile (generally short term) receptors. The impact varies based on the type of receptor.

Static receptors are generally people with views of the proposal from their dwellings and places of work. Mobile receptors include commuters, shoppers, pedestrians and those using the lake or the park for recreation.

The methodology employed produce this series of images that show the maximum height of the proposed structure from various viewpoints was as follows;

- The maximum height was represented by the outer end of the jib of a crane extended to 54m.
- The height was confirmed by the crane's operator and independently by sighting from a drone positioned at 54m above ground level.
- Banners were hung from the crane to ensure visibility from a distance.
- Each image was captured with a Nikon D810 camera body and a Nikon AF-S Nikkor 24-70mm f2.8G ED lens. The lens was set to a focal length of 50mm.
- Viewpoints were deliberately chosen that ensured the top of the crane was visible.
- The GPS co-ordinates of each image were transferred to the camera file from a track recorded with the smartphone app , Pocket Earth Pro.
- A compass bearing and distance can be calculated from image co-ordinates overlayed on a digital satellite image.

These photos and data sets were then matched to produce provide accurate view point locations for the photomontages. The highest point of Winter Sports World, the round lift column, was then paired with the outer end of the jib of the crane, using the sketch up model.

▼ Where the crane is just visible it has been indicated with a small magenta triangle arrow at the tip of the crane.

determination of impacts

The determination of the impacts is based on two criteria – the sensitivity and the magnitude.

Sensitivity is defined as "The sensitivity of a landscape character zone or view and its capacity to absorb change. In the case of visual impact this also relates to the type of viewer and number of viewers.

Magnitude is defined as "The measurement of the scale, form and character of a development proposal when compared to the existing condition. In the case of visual assessment this also relates to how far the proposal is from the viewer.

EIA No4 Guidelines, 2013, RMS

scenic + landscape values map

winter sports world

viewpoints

viewpoint 01 - facing south, jamison road
viewpoint 02 - facing west, jamison road
viewpoint 03 - facing west, jamison road
viewpoint 04 - facing west, corner jamison road + blaikie
viewpoint 05 - facing west, corner jamison road + blaikie
viewpoint 06 - facing west, corner jamison road + harris street
viewpoint 07 - facing west, corner jamison road + mulgoa road
viewpoint 08 - facing west, corner jamison road + york road
viewpoint 09 - facing west, corner jamison road + rawson avenue
viewpoint 10 - facing south-west mercure penrith carpark
viewpoint 11 - facing south, green bridge
viewpoint 12 - facing south, nepean avenue + captains road
viewpoint 13 - facing south, nepean avenue
viewpoint 14 - facing south-west, penrith westfield carpark rooftop
viewpoint 15 - facing south, river road
viewpoint 16 - facing south, corner river road + waring avenue
viewpoint 17 - facing east, river road
viewpoint 18 - facing east, corner river road + hunter street
viewpoint 19 - facing north-east, western motorway
viewpoint 20 - facing north-east, western motorway
viewpoint 21 - facing east, knapsack viaduct
viewpoint 22 - facing north-east, tench avenue
viewpoint 23 - facing north-east, tench avenue
viewpoint 24 - facing north-east, tench avenue
viewpoint 25 - facing east, corner tench avenue + jamison road
viewpoint 26 - facing south, jamison road/ tench reserve
viewpoint 27 - facing south, jamison road/ tench reserve
viewpoint 28 - facing norh east, jamison road opposite entry to gateway lifestyle development

nb: the mount portal viewpoint in the blue mountains national park was unable to be accessed due to road closures.

viewpoint 01 - facing south, jamison road

Description of existing view: Viewpoint 01 is from the northern side of Jamison Road and looks over a vacant portion of the existing allotment. The view is of an open field surrounded by trees and is unobstructed by any buildings. The view does not contain any iconic built or natural features.

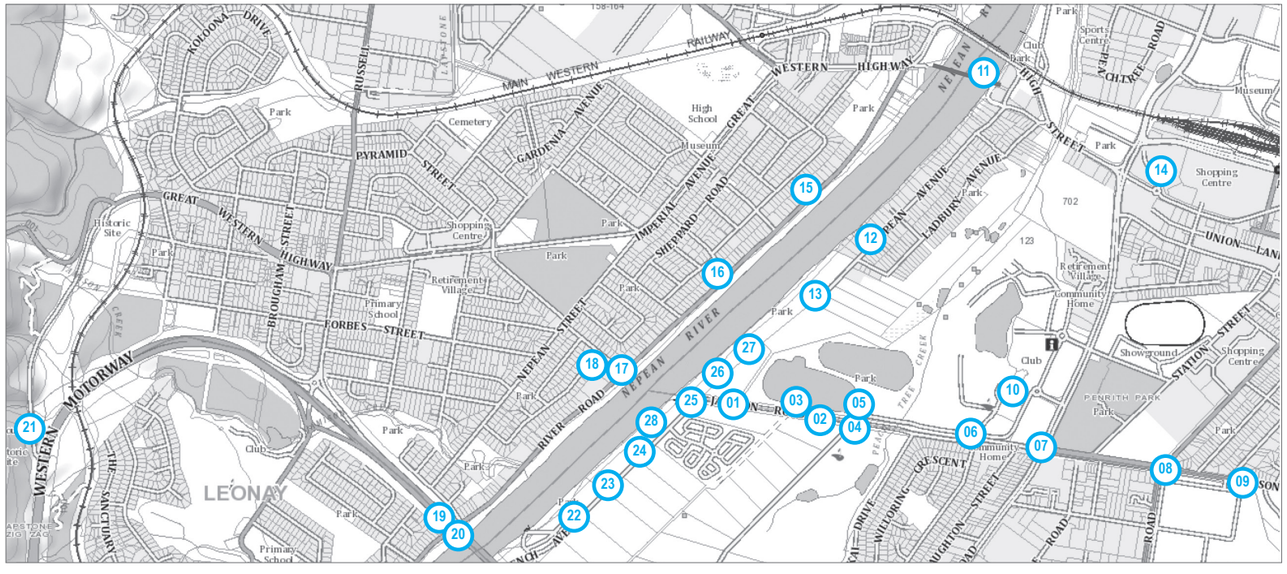
Extent of obstruction: The proposed building will obstruct near and distant views of vegetation and will introduce a new structure that interrupts views of the sky.

The view is a side view for pedestrians and bike riders moving along the footpath and bike path in an easterly direction. Views directly to the east will not be impacted by the proposal.
As pedestrians move further east along the path side views of vegetation and an unobstructed skyline will return.

viewpoint 02 - facing west, jamison road

Description of existing view: Viewpoint 02 is from the northern side of Jamison Road and looks to the west over Jamison Road. The view includes vegetation along the southern side of Jamison Road and a distant view of the Blue Mountains is in the background.

Extent of obstruction: The proposed structure will obstruct part of the distant view of the Blue Mountains from this location. The setback to the structure from the northern boundary provides sufficient area to provide a continuous strip of vegetation to be provided in the setback of the building to maintain a green corridor along the southern side of Jamison Road.



viewpoint 03 - facing west, jamison road

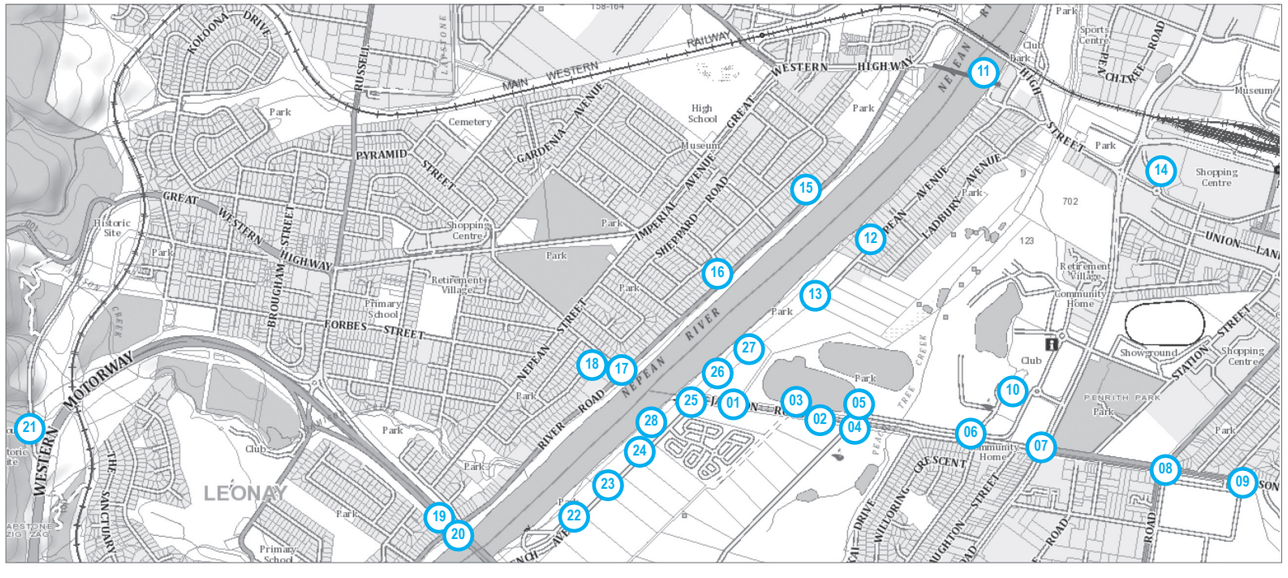
Description of existing view: Viewpoint 03 is from the bike/pedestrian path on the northern side of Jamison Road. A distant view of the Blue Mountains is available to the west.

Extent of obstruction: The majority of the building will be screened by existing vegetation along Jamison Road. A small part of the highest point of the building will be visible from this point and will obstruct a small portion of the existing views to the sky. The narrow view of the Blue Mountains to the west will not be impacted by the building.

viewpoint 04 - facing west, corner jamison road + blaikie

Description of existing view: Viewpoint 04 is from the northern side of Jamison Road. The view is not taken from the pathway. The view contains vegetation along Jamison Road and includes a distant view to the Blue Mountains in the background.

Extent of obstruction: The building will be clearly visible from this point with the lower levels screened by existing and new vegetation. Part of the distant view to the Blue Mountains and the sky will be impacted by the building. A narrow view to the Blue Mountains will remain visible.



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viewpoint 05 - facing west, corner jamison road + blaikie

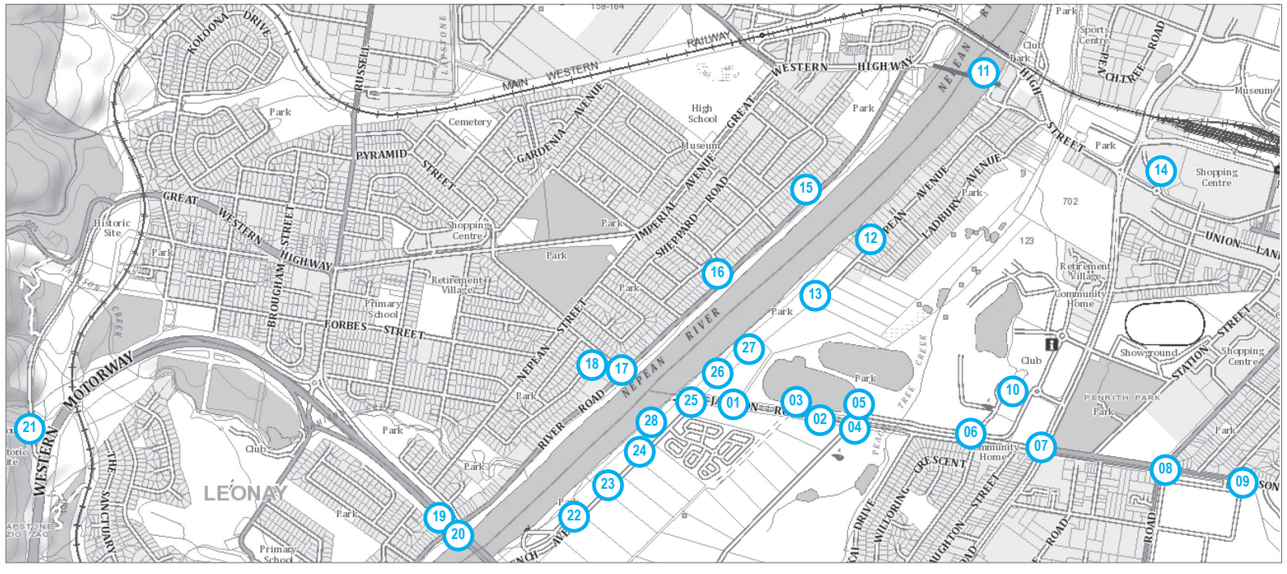
Description of existing view: Viewpoint 05 is from the northern side of Jamison Road. The view is taken from the northern side of pathway and is adjacent to the Cables Wake Park. The view includes trees and vegetation, a narrow view to the Blue Mountains to the west and a more extensive view to the Blue Mountains to the north-west over the Cables Wake Park site.

Extent of obstruction: The structure will have no impact on the views to the Blue Mountains at this point. The structure will generally be screened by views of the existing vegetation along Jamison Road.

viewpoint 06 - facing west, corner jamison road + harris street

Description of existing view: Viewpoint 06 is taken from the roadway at the corner of Jamison road and Harris street. The view is primarily available to vehicles travelling west at this point. The view is a wide view containing the roadway, bike path and vegetation in the foreground and the Blue Mountains in the background.

Extent of obstruction: The structure will be visible from this point however the building will only be a small part of this view with extensive views to the Blue Mountains remaining.



viewpoint 07 - facing west, corner jamison road + mulgoa road

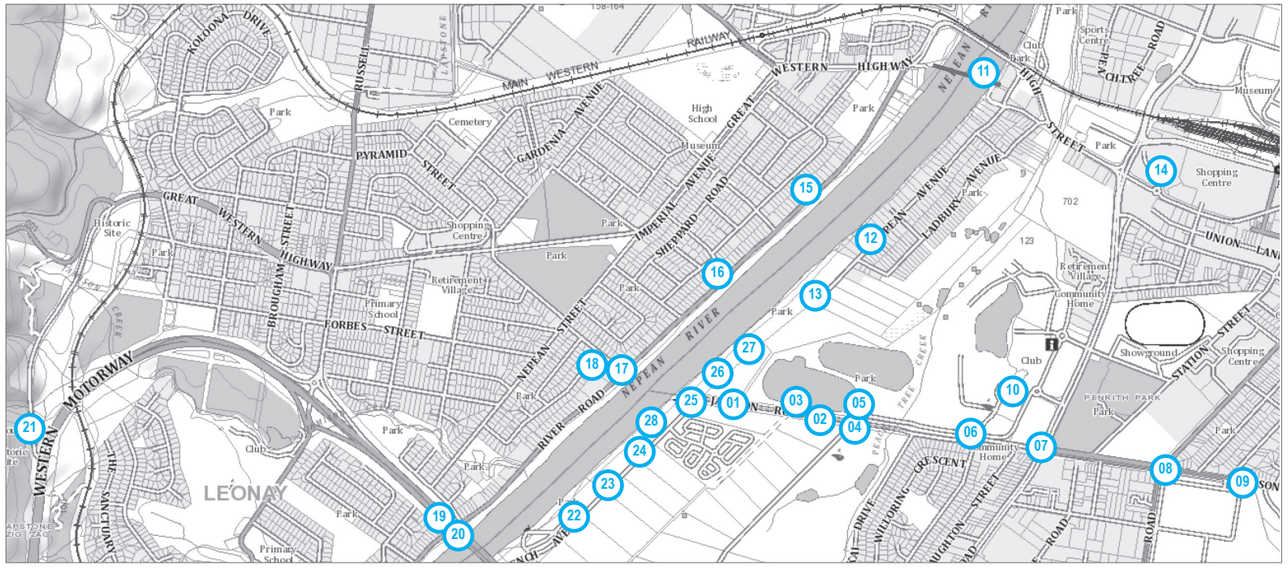
Description of existing view: Viewpoint 07 is a west facing view from the intersection of Jamison Road and Mulgoa Road. The view includes structures on the northern side of Jamison Road. A view to the Blue Mountains is available from this point.

Extent of obstruction: The existing structures on the northern side of Jamison Road obstruct views to the north-west from the intersection. The building will be clearly visible and interrupt a view towards to Blue Mountains. The Blue Mountains will however be still visible on either side of the building.

viewpoint 08 - facing west, corner jamison road + york road

Description of existing view: Viewpoint 08 is a view from the roadway taken at the intersection of Jamison Road and York Road. Existing vegetation screens much of the view of the Blue Mountains at this point.

Extent of obstruction: The building is visible at this point however the building forms such a small and distant part of the view that it will not result in any significant change to the view.



viewpoint 09 - facing west, corner jamison road + rawson avenue

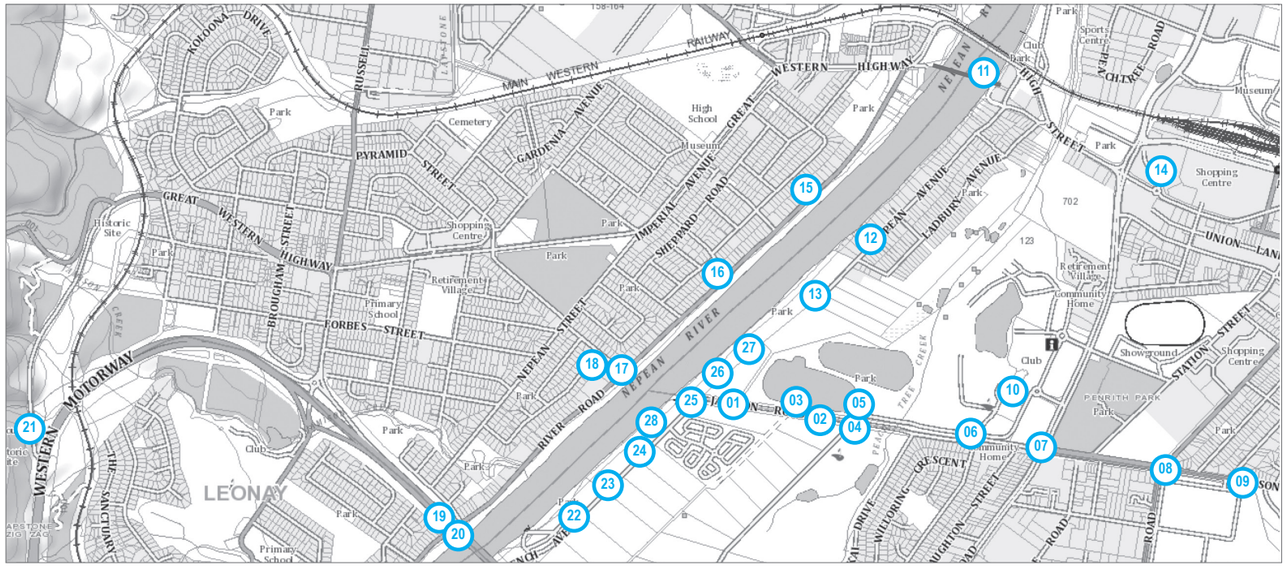
Description of existing view: Viewpoint 09 is a west facing view from Jamison Road. This view includes the four-lane roadway with and the landscaped road reserve. Open fields are visible on the southern side of the road and small-scale development is visible on the northern side of the view. The Blue Mountains sits in the background of this view.

Extent of obstruction: The building will be visible from this point but will have a minimal impact on the view available to the Blue Mountains.

viewpoint 10 - facing south-west mercure penrith carpark

Description of existing view: Viewpoint 10 is from the Mecure Penrith Carpark. The view is of open grass fields and vegetation in the foreground and the Blue Mountains in the background. The view is to the south-west but extensive views of the Blue Mountains to the west and north-west are available from this location.

Extent of obstruction: The building will be visible from this point. The existing vegetation screens much of the view with only the very top of the building able to be seen. The building will not result in any significant impact on the extensive views of the Blue Mountains available at this point.



viewpoint 11 - facing south, nepean green bridge

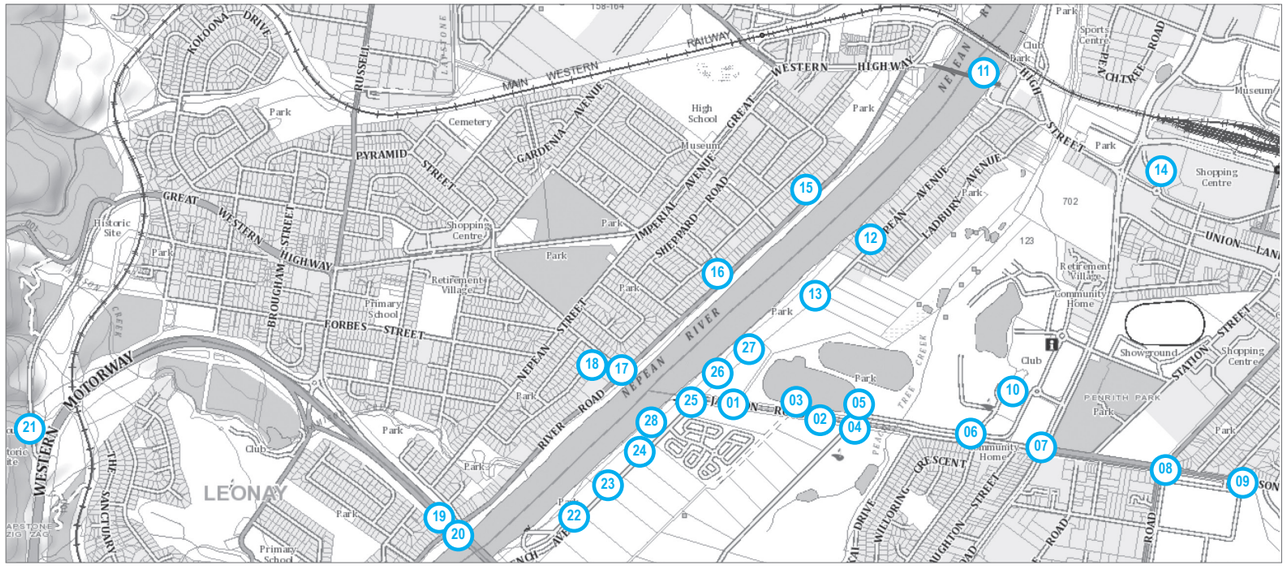
Description of existing view: This view is a scenic view to the south from the Nepean Green Bridge. The view is along the Nepean River to the Blue Mountains. Limited development is visible in the view with only small scale residential development visible in the foreground.

Extent of obstruction: The building will be visible from this location however it will only be a small part of the eastern side of the view and blends in with the existing vegetation along the eastern side of the river.

viewpoint 12 - facing south, nepean avenue + captains road

Description of existing view: Viewpoint 12 is from a residential subdivision over 700 metres north of the site.

Extent of obstruction: Views to the west towards the Blue Mountains will not be affected. Whilst the building may be visible in the skyline from some locations within this subdivision the extent of the impact is minor.



viewpoint 13 - facing south, from adjacent to heritage site

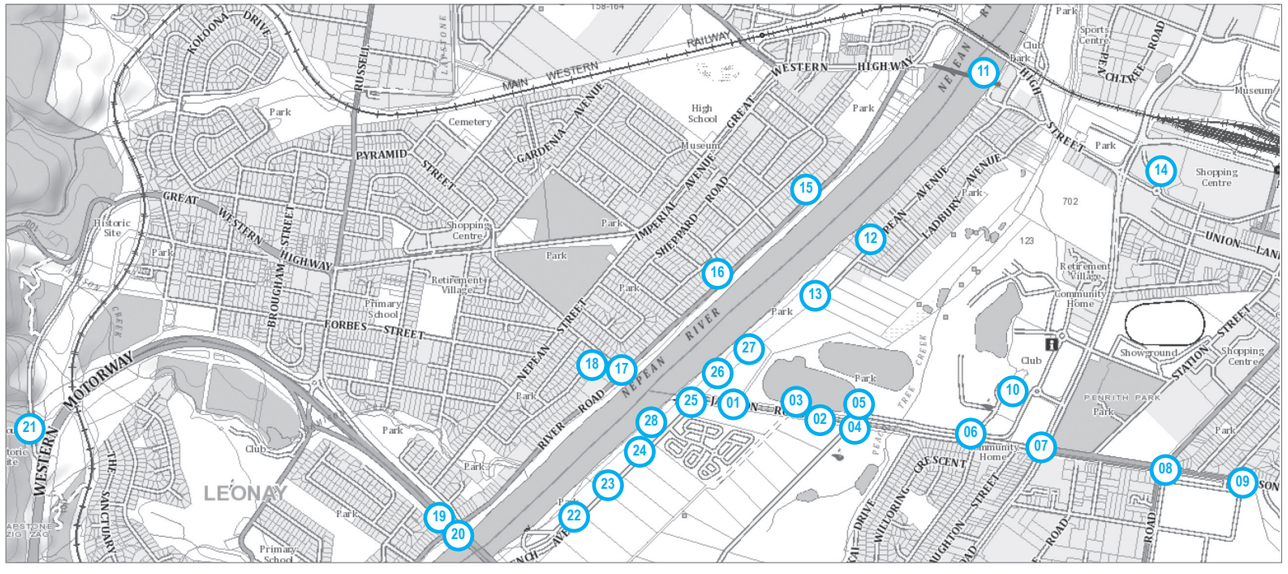
Description of existing view: Viewpoint 13 is within the public domain on the western side of Madang Park. The views from this location are of existing vegetation and the sky.

Extent of obstruction: The building will be visible from the Madang Park site when looking south as shown above. The building does not obstruct views of any iconic built or natural features. Views to the west towards the Blue Mountains will be unaffected.

viewpoint 14 - facing south-west, penrith westfield carpark rooftop

Description of existing view: Viewpoint 14 is from the roof level of the Westfield Penrith car park. The view includes development in the Penrith Centre with the Blue Mountains in the background.

Extent of obstruction: The building will not be visible from this location.



viewpoint 15 - facing south, river road

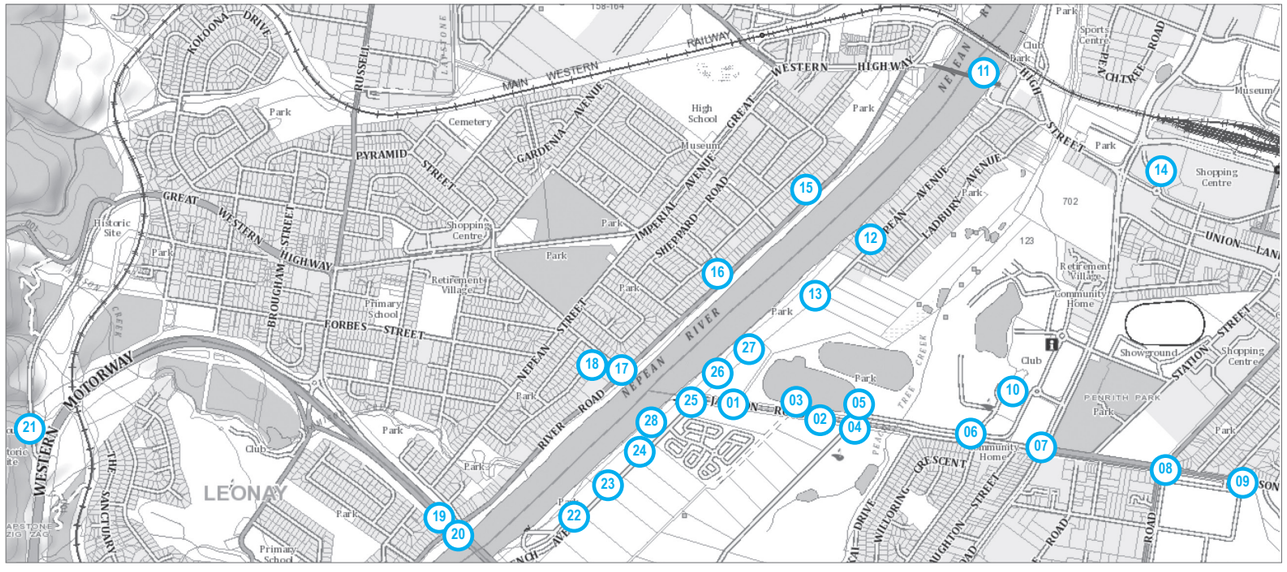
Description of existing view: Viewpoint 15 is from the River Road on the western side of the Nepean River. Viewpoint 15 is to the north of the site.

Extent of obstruction: The top of the building will be evident in the skyline from River Road. The existing vegetation will screen the majority of the building from River Road.

viewpoint 16 - facing south, corner river road + waring avenue

Description of existing view: View point 16 is from the River Road on the western side of the Nepean River. Viewpoint 16 is to the north of the site.

Extent of obstruction: The top of the building will be evident in the skyline from River Road. The existing vegetation will screen the majority of the building from River Road.



viewpoint 17 - facing east, river road

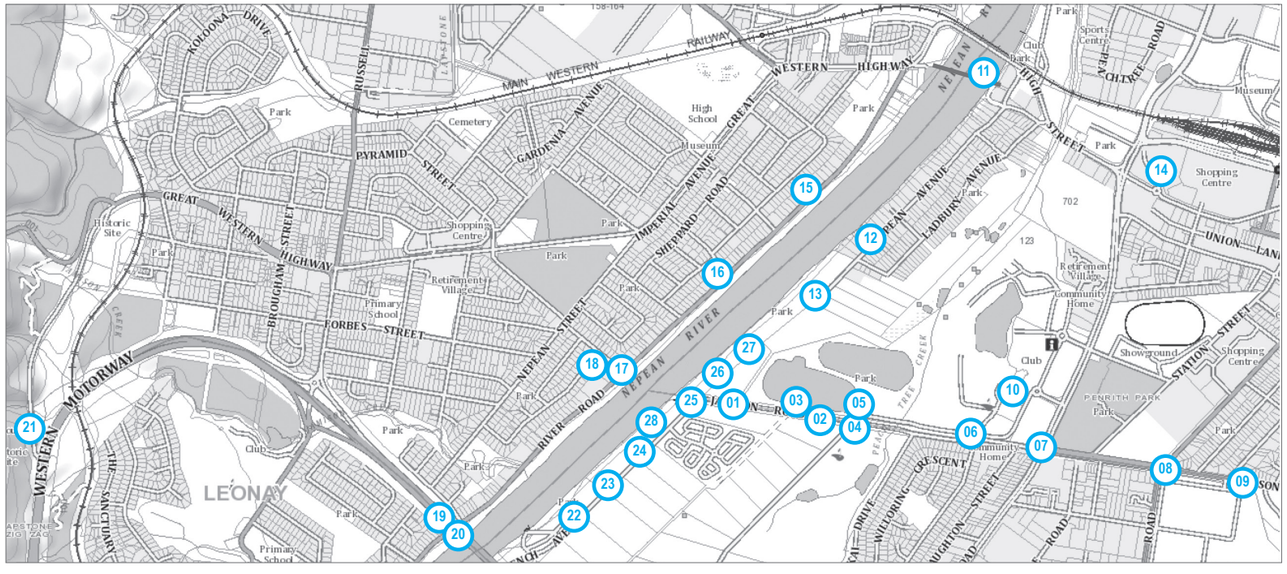
Description of existing view: This view includes the Nepean River and the vegetation along the River. No buildings are currently visible from this location.

Extent of obstruction: The building will form a small part of this view as the highest point of the building sits over the vegetation. The primary view of the river and vegetation along the river will be retained.

viewpoint 18 - facing east, corner river road + hunter street

Description of existing view: Viewpoint 18 is a view to the east from the corner of Rover Road and Hunter Street.

Extent of obstruction: The building will not be visible from this location.



viewpoint 19 - facing north-east, western motorway

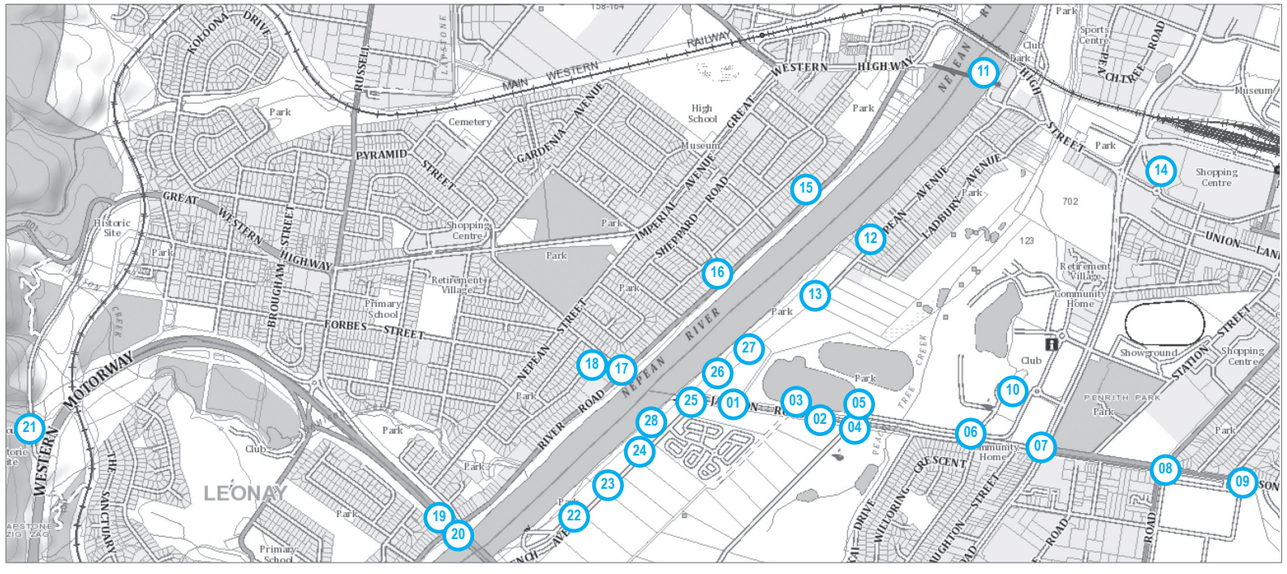
Description of existing view: Existing vegetation screens views to the Penrith Centre from the western motorway.

Extent of obstruction: The top of the building will be evident from this location, sitting just above the top of the tree canopy. The building will have a negligible impact on the view available from this location.

viewpoint 20 - facing north-east, western motorway

Description of existing view: This view is a scenic view of the Nepean River and the vegetation along the river. No buildings are able to be viewed to the north-east.

Extent of obstruction: The top of the building will be visible, sitting just above the top of the tree canopy. The top of the building forms only a small part of the view and will not significantly impact on the full extent of the view.



viewpoint 21 - facing east, knapsack viaduct

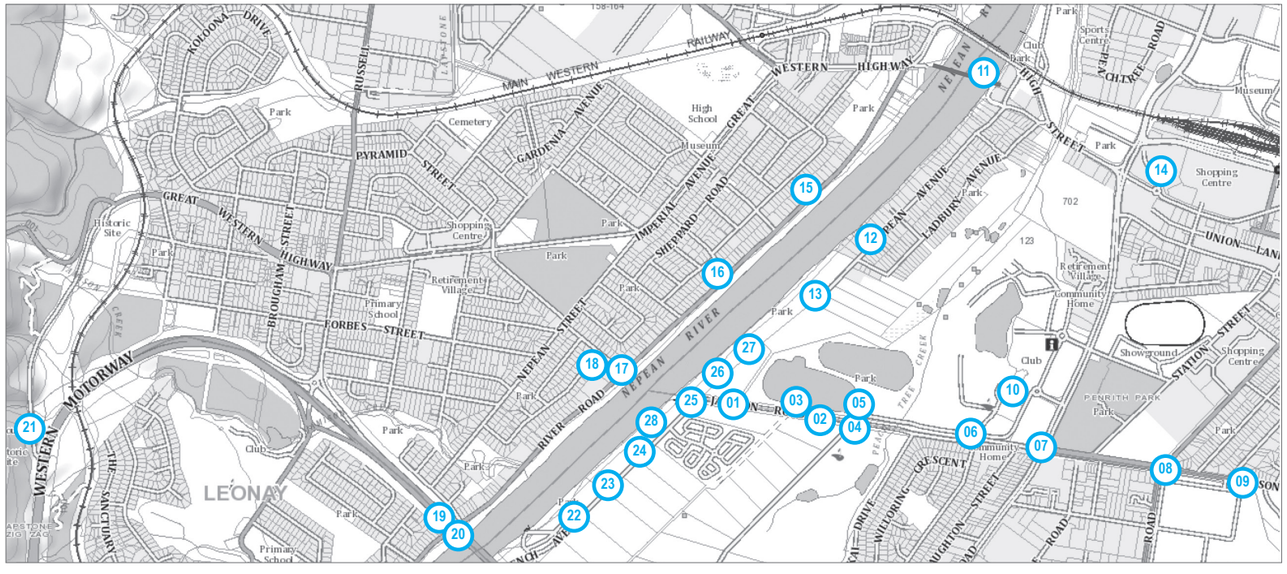
Description of existing view: Views over existing vegetation and district views are available from the Knapsack Viaduct.

Extent of obstruction: The building is not able to be viewed from this location.

viewpoint 22 - facing north-east, tench avenue

Description of existing view: This view is of the existing low scale development on the eastern side of Tench Avenue and the angled car parking on the western side of Tench Avenue. A key element of this view is the vegetation on both sides of Tench Avenue.

Extent of obstruction: The building will be visible from Tench Avenue when looking to the north-east. The highest point of the building will be visible above the existing vegetation. The building forms only a small part of the entire view and outlook at this location. Future development in the SP3 zone on the eastern side of Tench Avenue will provide a more compatible development context and may obscure views of the building from this location.



viewpoint 23 - facing north-east, tench avenue

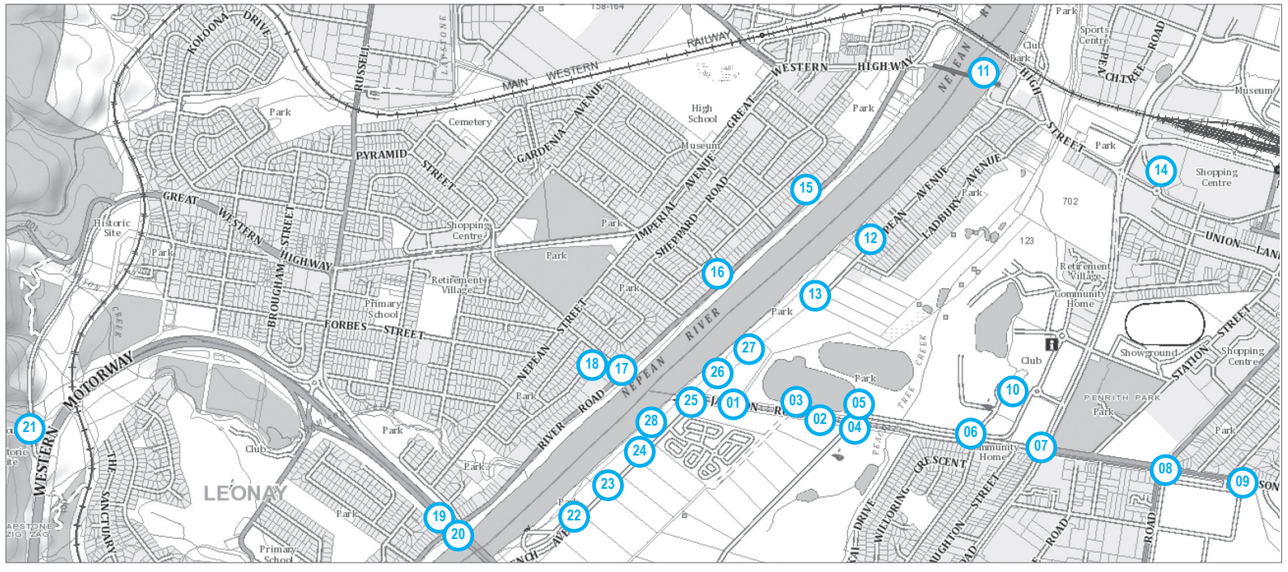
Description of existing view: This view is of the existing low scale development on the eastern side of Tench Avenue.

Extent of obstruction: The building will be visible from Tench Avenue when looking to the north-east. The highest point of the building will be visible above the existing vegetation and the roof tops of the existing buildings. The building forms only a small part of the entire view and outlook at this location and will have a negligible impact on the view available from this location. Future development in the SP3 zone on the eastern side of Tench Avenue will provide a more compatible development context and may obscure views of the building from this location.

viewpoint 24 - facing north-east, tench avenue

Description of existing view: The existing view to the north-east is of the low scale development on the eastern side of Tench Avenue and the vegetation on the sites in the foreground.

Extent of obstruction: The building will be visible from Tench Avenue when looking to the north-east however the impact on the view from this location does not impact on any important built or natural features. The building will be a visually interesting addition to the streetscape at this point. Future development in the SP3 zone on the eastern side of Tench Avenue will provide a more compatible development context and may partially obscure views of the building from this location.



viewpoint 25 - facing east, corner tench avenue + jamison road

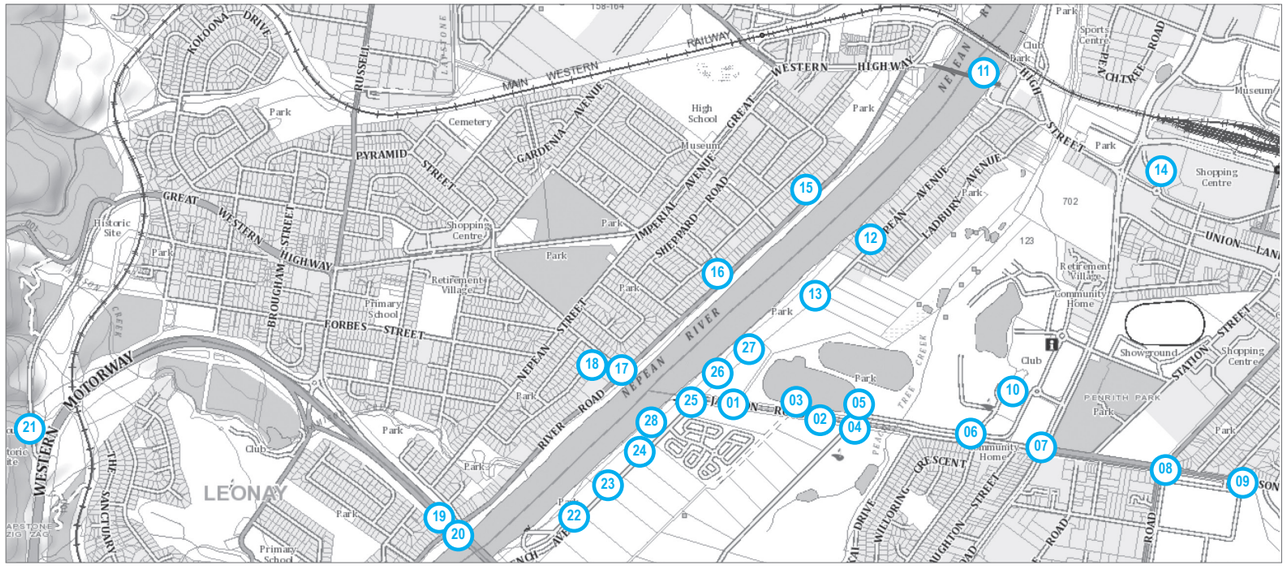
Description of existing view: This view is to the east from the gateway location at the intersection of Tench Avenue and Jamison Road.

Extent of obstruction: The building will be a prominent feature in the streetscape when looking east from this view point. The building will not obstruct views to any iconic natural or scenic features. Views to the River and the Blue Mountains to the west will be unaffected by the building at this point. The lower height of the building on the western side of the site is evident from this viewpoint and demonstrates a human scale is proposed adjacent to the River and within area identified as having 'scenic and landscape values'.

viewpoint 26 - facing south, jamison road / tench reserve

Description of existing view: View over the open fields and vegetation of Madang Park and the subject site.

Extent of obstruction: The building will be a prominent feature of the skyline when viewed from this location. The building does not however obstruct any significant natural or scenic features.



viewpoint 27 - facing south, jamison road / tench reserve

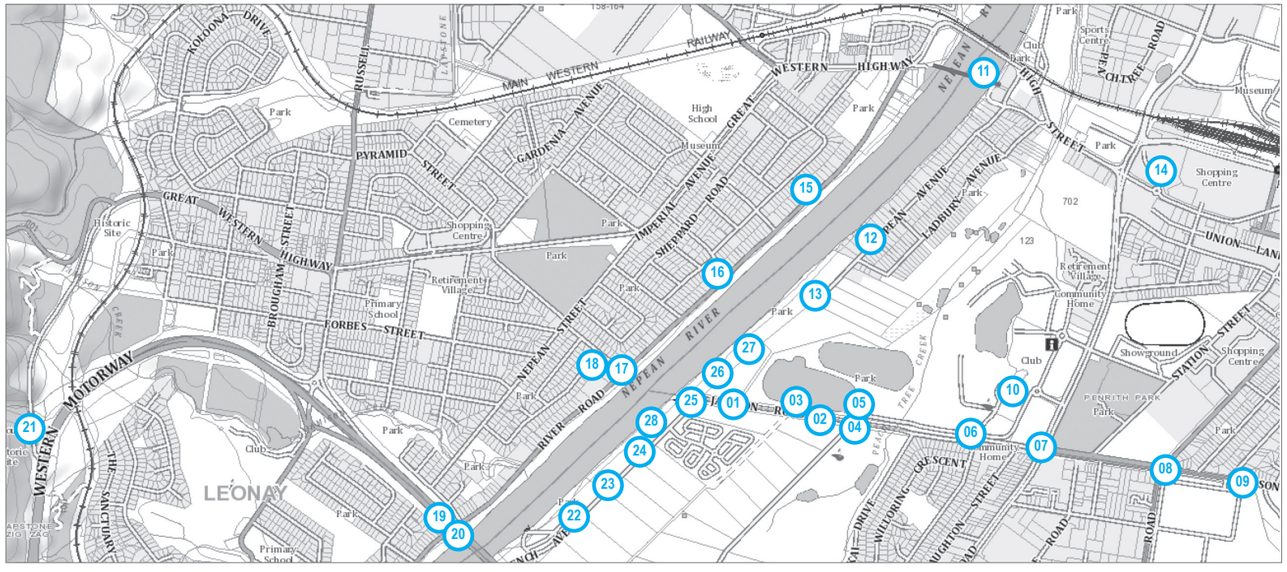
Description of existing view: The view is over the open fields and vegetation of Madang Park.

Extent of obstruction: The highest point of the building will be able to be seen above the tree canopy. The building does not obstruct any views if significant natural or scenic features at this point. The overall impact on the view from this location is minor.

viewpoint 28 - facing norh east, jamison road opposite entry to gateway

Description of existing view: The existing view to the north-east over from the entry to the Gateway Lifestyle development. The view shows the low scale development on the adjoining property to the south.

Extent of obstruction: The building will be a prominent feature when looking east from this view point. The building will not obstruct views to any iconic natural or scenic features.



winter sports world

view analysis commentary

View Analysis Commentary

Tenacity Consulting v Warringah [2004] NSWLEC 140 established a planning principle for view sharing based on a clause of the Warringah Local Environmental Plan 2000 which requires development to allow for the reasonable sharing of views.

At paragraph 39 of the judgement for *Rose Bay Marina Pty Ltd v Woollahra Municipal Council and anor* [2013] NSWLEC 1046 the planning principle for Tenacity is described as a principle for considering the acceptability of the impact of a proposed development on the views enjoyed from private property in the vicinity of the development.

The proceedings for *Rose Bay Marina Pty Ltd v Woollahra Municipal Council and anor* [2013] NSWLEC 1046 were used to develop a planning principle for assessment the acceptability of the impact of private developments on views from the public domain. The framework for the planning principle established by *Rose Bay Marina Pty Ltd v Woollahra Municipal Council and anor* is broadly consistent with (but not identical to) the matters raised in *Tenacity*.

As this visual impact analysis is generally based on views available from the public domain and having regard to the similarities between the two planning principles, this view analysis follows the process outlined in *Rose Bay Marina Pty Ltd v Woollahra Municipal Council and anor* [2013] NSWLEC 1046.

The planning principle for public domain views in *Rose Bay Marina Pty Ltd v Woollahra Municipal Council and anor* consists of two stages. The first stage is factually based and involves identifying the nature and scope of existing views from the public domain. The second stage is an analytical stage where the impacts are analysed. The impact of the proposed building height on the views available from the public domain is considered using the framework of the relevant planning principle in the following table.

Steps outlined in the planning principle	**Comment**
Identification Stage	
1. Identify the nature and scope of the existing views from the public domain. • The nature and extent of any existing obstruction of the view; • Relevant compositional elements of the views (such as is it static or dynamic and, if dynamic, the nature and frequency of changes to the view); • What might not be in the view – such as the absence of human structures in the outlook across a natural area; • Is the change permanent or temporary; or • What might be the curtilages of important elements within the view.	Each view, and the nature and extent of any existing obstruction of the view, is shown in the series of viewpoint images included in this report. The impact is static and the change to each view will be permanent.
2. Identify the locations in the public domain for which the potentially interrupted view is enjoyed.	This report selects views from a number of locations in the surrounding area to show how the proposed building height impacts on existing views. Whilst this report identifies locations where the building may be able to be viewed from the public domain, and particularly where the building may impact on views to the Blue Mountains, it should be noted that views to west of the Blue Mountains are available from many public areas and private properties throughout the local government area and these views will not be impacted by the proposal.
3. Extent of the obstruction at each relevant location. Unlike Tenacity the impact on appreciation of a public domain view should not be subject to any eye height constraint.	Images are presented in this view analysis to show the extent of the obstruction from specific viewpoints. The extent of the obstruction is described below each image.
4. Identify the intensity of public use of those locations where that enjoyment will be obscured, in whole or in part by the proposed private development.	Generally, the locations where the proposed height will impact on views to the Blue Mountains are not locations in the public domain where people will congregate to enjoy local scenic views. The images included in the view analysis show that the greatest impact will be on views to the west from the road and bike path and pedestrian pathway along the northern side of Jamison Road. Where the building will impact on views to the west from the bike/pedestrian path along the northern side of Jamison Road, the building will only interrupt a portion of the view of the Blue Mountains as views to the west and north-west will be maintained. The impact on the view is also limited as generally pedestrians and vehicles will be moving and not congregating at specific places along Jamison Road. The building will not impact on views from the congregation area at the Nepean Green Bridge. Viewpoint 11 included in the visual analysis was deliberately taken at a point on the Nepean Green Bridge where the building will be visible. Where the building is within views from the public domain to the east, such as the M4 Western Motorway, local roads and along the Nepean River, the building will not impact on any iconic views. Whilst the building may be within views from the west to the east from certain locations in the public domain the building will provide a visually striking and interesting addition to the local skyline that is appropriate to the zoning of the site and the scale of nearby developments in the Panthers Precinct.
5. Whether or not there is any document that identifies the importance of the view to be assessed.	There are no planning documents which identify any specific views that are to be retained or protected. Instead, the planning documents make general statements about maintaining views to the Blue Mountains and the Nepean River, as discussed below under 'Objectives to be satisfied'.

Steps outlined in the planning principle	Comment
Analysis of Impacts	
Objectives to be satisfied	There are several strategic plans that express the importance of maintaining views and scenic landscapes. Including the following: **A Metropolis of Three Cities** Objective 28 of the Greater Sydney Region Plan – A Metropolis of Three Cities is that scenic and cultural landscapes are protected. The Plan specifically notes that views to the escarpment of the Blue Mountains to the west can be highlighted by retaining or creating vistas along east/west road links. **Western City District Plan** Planning Priority W16 of the Western City District Plan is 'Protecting and enhancing scenic and cultural landscapes'. **Penrith Local Environmental Plan 2010** The site is zoned SP3 Tourist pursuant to the Penrith Local Environmental Plan 2010 (PLEP). The third objective of the zone is: To create an appropriate scale that maintains important views to and from the Nepean River as well as to the Blue Mountains escarpment, while also improving important connections to the Penrith City Centre and the Nepean River. Clause 7.5 of the PLEP applies to land identified as "Land with scenic and landscape values" on the Scenic and Landscape Values Map. A portion of the western side of the site falls within this area. The lowest part of the building is within the area identified as "Land with scenic and landscape values". **Penrith Development Control Plan 2014** The provisions for the Tourism and Recreation Precinct within Riverlink Precinct. An objective for the precinct is to encourage views of the Blue Mountains from the public domain. **Commentary** Maintaining and encouraging views to the Blue Mountains from the public domain is the key objective of the relevant strategic planning documents. Maintaining views to and from the Nepean River is also an important planning objective. The east-west alignment of Jamison Road provides a vista to the Blue Mountains. As the site is located on the southern side of western end of Jamison Road the proposed building will form part of westerly views from Jamison Road. The images in this view analysis demonstrate that important views to the Blue Mountains will be retained. The view of the Blue Mountains along Jamison Road will be retained with the structure generally only interrupting a small part of the views to the Blue Mountains available from the public domain. It is important to note that views to the west of the Blue Mountains are available from many locations with the local area and the images included in this report only represent a small number of view points showing potential locations from which the view will be affected. The views of the Blue Mountains that will remain will be extensive and sufficient to allow for the appreciation of the Blue Mountains. The significant views of the Blue Mountains from the parkland along Nepean River will be retained.

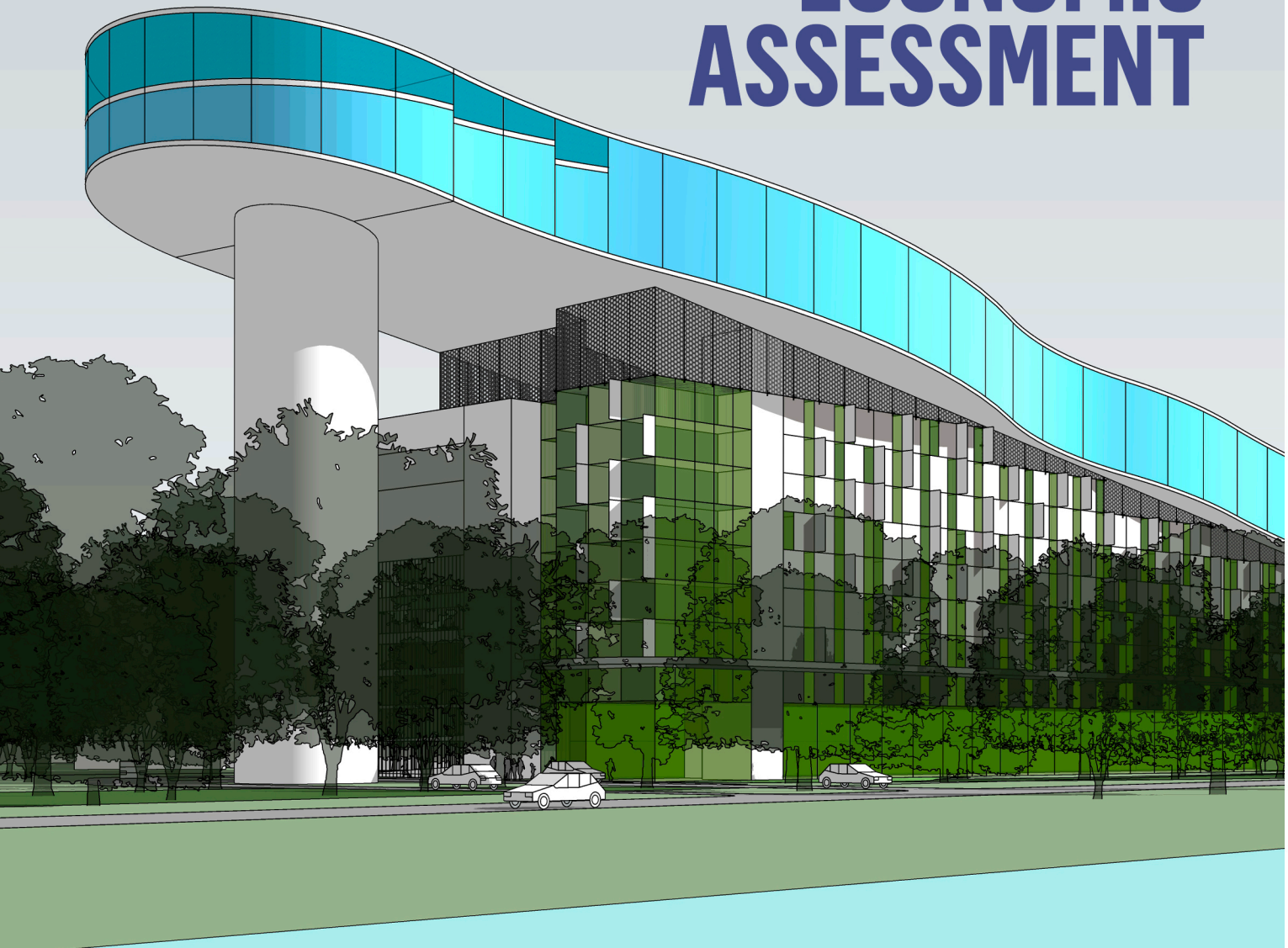
Steps outlined in the planning principle	Comment
Weight of document containing objective and terms in which the objective is expressed.	The objectives of the Metropolitan Plan, District Plan, LEP and DCP relating to the maintenance of views to the Blue Mountains and the Nepean river are relevant considerations however these objectives are not to be considered in isolation. All other relevant objectives should also be given due consideration, including those objectives which seek to encourage diverse tourist activities in the SP3 zone that are compatible with the promotion of tourism in Penrith. Other relevant objectives of the Greater Sydney Region Plan – A Metropolis of Three Cities include Objective 24 which is that economic sectors are targeted for success. Tourism is identified in the Plan as a key economic sector which is to be supported and developed. The Plan notes that Destination NSW has developed the Western Sydney Visitor Economy Strategy and will continue to secure and grow events in Western Sydney. The Plan also recognises that the Western Sydney Airport creates opportunities for the Western Parkland City to become an alternative to the Eastern Harbour City for international tourists. Alliances between councils and key industry stakeholders are encouraged to create opportunities to cross-promote events, develop and support a wider range of activities and importantly, realise the opportunities as the Western Sydney Airport and Badgerys Creek Aerotropolis develops. (p140) Strategy 24.2 of the Plan relates to Tourism. Strategy 24.2 is to consider the following issues when preparing plans for tourism and visitation: • Encouraging the development of a range of well-designed and located facilities • Enhancing the amenity, vibrancy and safety of centres and township precincts, • Supporting the development of places for artistic and cultural activities • Improving public facilities and access • Protection heritage and biodiversity to enhance cultural and eco-tourism, • Supporting appropriate growth of the night-time economy/ • Developing industry skills critical to growing visitor economy • Incorporating transport planning to service the transport access needs of tourists. The Planning Proposal will facilitate the development of a use that supports the Greater Sydney Region Plan's strategy for Tourism as follows: • The proposed 'Winter Sports World' facility is located on land that is already zoned for tourist-oriented development and related uses. The proposed use is therefore in an appropriate location. • The 'Winter Sports World' will stimulate and support tourism related development in the Riverlink Precinct. • The Western Sydney Airport is located approximately 20 kilometres driving distance from the site. The recreation facility is therefore ideally located to take advantage of improved access to domestic and international visitor markets and the population growth in Western Sydney that will be driven by the new airport. The zoning of the site and provisions of DCP 2014 are consistent with and support the Economic Development Strategy (EDS) for Penrith. The EDS sets a goal for Penrith of an increase in total local jobs of up to 55,000 by 2031. At least 2,000 of these jobs are expected to come from the tourism sector. The Economic Development Strategy notes that there is significant potential to grow the visitor economy in Penrith. At the time of writing the Strategy Penrith had 1.3 million annual visitors who inject $231 million into the local economy annually. The target is to double this figure by 2025. There is currently no appropriately zoned land in the Penrith local government area that has a height limit capable of accommodating an indoor ski centre, despite the permissibility of the use in the SP3 zone and the consistency of the proposal with the strategic direction for the Precinct.
	Relevant Planning Priorities or objectives of the Western City District Plan include W8 Leveraging industry opportunities rom the Western Sydney Airport and Badgery's Creek Aerotropolis The Western City District Plan recognises that the District's visitor economy has grown from 7.5 million visitors in 2006 to 12.4 million visitors each year. The Plan acknowledges that sporting venues and recreational assets (including adventure tourism) contribute to the diversity of tourist attractions in the District. Planning Priority W8 seeks to further grow the visitor economy by capitalising on the significant opportunities created by the Western Sydney Airport.

Steps outlined in the planning principle	Comment
Weight of document containing objective and terms in which the objective is expressed. (cont...)	The proposed development will provide a new and unique addition to the adventure tourism market that will attract around 231,000 visitors per year. There are no similar facilities in Australia. The facility is expected to attract a range of visitors including residents, daytrip visitors, domestic visitors and international visitors. The facility will be located approximately 20 kilometres drive from the new Western Sydney Airport. The facility is therefore ideally located to take advantage of improved access to domestic and international visitor markets and the population growth in Western Sydney that will be driven by the new airport. In summary, the minor impact on the views available of the Blue Mountains should be balanced against the valuable contribution the proposed Winter Sports World facility will make to the local economy and the stimulus it will provide to the SP3 Tourism zone that is currently failing to attract developments that are compatible with the objectives and vision for the Precinct expressed through planning documents ranging from the Greater Sydney Metropolitan Plan to the DCP and the plans and strategies for the Riverlink Precinct.
Qualitative Assessment	
• Assessment of the aesthetic and other elements of the view. A high value is to be placed on iconic views (major landmarks or major physical features)	The proposed development does not impact on any iconic views when viewed from west (looking east). Views to the Blue Mountains are valued and are encouraged to be retained by the relevant planning documents. The images in this visual analysis clearly show the impact the building will have on views available to the Blue Mountains. Whilst the proposal will partially obstruct some views towards the Blue Mountains from Jamison Road the impacts are limited. The proposal does not impact on any public places that offer an important vantage point or viewing location of the Blue Mountains. All views to the west from the public domain along the Nepean River will be maintained. It should be noted that other developments in Penrith have resulted in similar interruptions to views of the Blue Mountains (KFC, McDonalds and Panthers). The new ESQ development will obstruct views to the Blue Mountains from Mulgoa Road (having heights of up to 50 metres). It is unreasonable and unrealistic to expect all existing views of the Blue Mountains be protected in an expanding and developing major centre.
• Is any significance attached to the view likely to be altered?	The significance attached to views of the Blue Mountains is unlikely to be altered by the building. The building only forms a small part of the total views available to the Blue Mountains.
• Is the present view regarded as desirable and would the change make it less so (and why)	The Blue Mountains forms a visual interesting backdrop to the Penrith Local Government Area. The proposed building provides a striking addition to the local skyline that does not interrupt all views to the Blue Mountains from the area nor does it completely obstruct views from a particular important vantage point. In this regard the proposed impact on the existing views is not considered to be particularly undesirable.
• Should any change to whether the view is a static or dynamic one be regarded as positive or negative and why?	Not applicable.
• If the present view attracts the public to specific locations, why and how will that attraction be impacted?	The proposed building height will not impact on any views to the Blue Mountains from any important locations. The building will be visible from vantage points to the east however the structure will not result in an adverse visual impact but rather will add a visually striking, iconic building to the skyline that with attract people to the tourism and recreation zone along the Nepean River.

Steps outlined in the planning principle	Comment
• Is any present obstruction of the view so extensive as to render preservation or the existing view merely tokenistic? If the present obstruction of the view is extensive, does that which remains nonetheless warrant preservation?	The impact on the views to the Blue Mountains is extremely limited with extensive views maintained from various locations in the public domain throughout Penrith.
• If the change to the view is this alteration by the insertion of some new element(s), how does that alter the nature of the present view?	The proposed building will be an iconic building that contributes visual interest to the skyline without overwhelming significant scenic views to the Blue Mountains. The scale of the building is appropriate to the site's location at the gateway to Tourism and Recreation Precinct (as identified in Part 13.4.2 of the PDCP). The scale of the building provides a physical landmark that will identify and attract people to the tourism precinct.
Conclusion and Summary	
	Views to the Blue Mountains are valued and are encouraged to be retained by the relevant planning documents. The images in this visual analysis clearly show the impact the building will have on views available to the Blue Mountains. Whilst the proposal will partially obstruct some views towards the Blue Mountains from Jamison Road, the impacts are limited. The proposal does not impact on views available from any public places that offer an important vantage point or viewing location of the Blue Mountains. All views to the west from the public domain along the Nepean River will be maintained. The proposed development does not impact on any iconic views when viewed from west (looking east). Whilst the planning documents do include objectives related to the maintenance of views to the Blue Mountains, the minor impact on the views available of the Blue Mountains should be balanced against the valuable contribution the proposed Winter Sports World facility will make to the local economy and the stimulus the development will provide to the SP3 Tourism zone. This is particularly important given the SP3 zone along the Nepean River is currently failing to attract developments that are compatible with the objectives and vision for the Precinct. In conclusion, the impact of the proposed building height is reasonable given the limited impact of the building on existing views, the extensive views of the Blue Mountains available from the public domain that will not be affected by the proposal, the similar impacts of other developments in the area and the significant contribution the proposal will make to the success of the zone and the local economy.

APPENDIX 5
Economic Assessment

WINTER SPORTS WORLD ECONOMIC ASSESSMENT



URBIS

Prepared for:
Peter Magnisalis, Land Owner of 2-4 Tench Avenue, Jamisontown NSW 2750

JUNE 2018

WINTER SPORTS WORLD
TRAINING AND ATTRACTIONS FOR EVERYONE

This report is dated **27th June 2018** and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd's (Urbis) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of Peter Magnisalis (Instructing Party) for the purpose of a Winter Sports World Economic Assessment (Purpose) and not for any other purpose or use. Urbis expressly disclaims any liability to the Instructing Party who relies or purports to rely on this report for any purpose other than the Purpose and to any party other than the Instructing Party who relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events including wars, civil unrest, economic disruption, financial market disruption, business cycles, industrial disputes, labour difficulties, political action and changes of government or law, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or made in relation to or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

Urbis has made all reasonable inquiries that it believes is necessary in preparing this report but it cannot be certain that all information material to the preparation of this report has been provided to it as there may be information that is not publicly available at the time of its inquiry.

In preparing this report, Urbis may rely on or refer to documents in a language other than English which Urbis will procure the translation of into English. Urbis is not responsible for the accuracy or completeness of such translations and to the extent that the inaccurate or incomplete translation of any document results in any statement or opinion made in this report being inaccurate or incomplete, Urbis expressly disclaims any liability for that inaccuracy or incompleteness.

This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the belief on reasonable grounds that such statements and opinions are correct and not misleading bearing in mind the necessary limitations noted in the previous paragraphs. Further, no responsibility is accepted by Urbis or any of its officers or employees for any errors, including errors in data which is either supplied by the Instructing Party, supplied by a third party to Urbis, or which Urbis is required to estimate, or omissions howsoever arising in the preparation of this report, provided that this will not absolve Urbis from liability arising from an opinion expressed recklessly or in bad faith.

Urbis staff responsible for this report were:

Director	Princess Ventura
Consultants	Sean Brosnan; Liam Demaine

Project code	PER0690
Report number	4

CONTENTS

CONCEPT OVERVIEW

THE CONCEPT

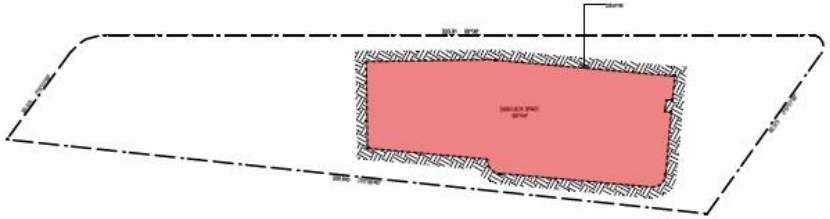
- The objective of this report is to investigate the viability of the development of a Winter Sports World, first of its kind in Australia, to be strategically located in Penrith, NSW.
- The subject site comprises a 2.34 ha allotment located at 2 Tench Avenue, Jamisontown in the Penrith local government area (LGA). It is currently zoned SP3 – Tourist and falls within the broader Riverlink Precinct under the Penrith Development Control Plan 2014.
- The vision for the Riverlink Precinct is an area comprising a mix of activity nodes, with a diverse range of land uses and services, and a strong focus on entertainment and leisure.
- The Precinct already contains various tourism, entertainment and leisure uses including Panthers World of Entertainment, Cables Wake Park and Aqua Park and iFLY Indoor Skydiving. The Penrith Whitewater Stadium, offering whitewater rafting and kayaking, and Sydney International Regatta Centre are also both situated nearby. As such, the proposed Winter Sports World is likely to benefit substantially from its location within this Precinct.
- The centre is intended to be an Australian-first, world-class facility that would establish Penrith as the tourism capital of Sydney. It would target the corporate retreat market, with a focus on providing integrated package inclusions and employee bonding on the slopes, as well as also catering to local residents, and domestic and international tourists.
- This complex would contain a range of uses including:
  - Advanced ski slope (185 m run)
  - Beginner and Intermediate ski slopes for training and lessons (115 m run and 80 m run respectively)
  - 2,800 sq.m Winter wonderland snow play area
  - Ice and rock climbing
  - Ice skating rink
  - 170 room hotel, conference facilities, restaurant and cafes (all with direct viewing of the slopes and snow play area)
- The conceptual plans for the Winter Sports World concept are shown in the following pages. Table 1.1 details the proposed uses which will be accommodated within the complex, including their scale.

SUBJECT SITE — MAP 1

PROPOSED USES — TABLE 1.1

Use	Scale
Indoor Ski Field	185 m long advanced slope 115 m long intermediate slope 80 m long training ski field
Snow Play Area	2,800 sq.m gently sloping snow play / beginner area
Ice Skating Rink	1,800 sq.m ice rink
Ice Climbing Walls	30 m high ice climbing walls
Rock Climbing Walls	30 m high indoor rock climbing walls
Altitude Training Rooms	140 sq.m training room to accommodate 10 persons
Gymnasium	210 sq.m gymnasium
Hotel	170-room hotel
Conference Facilities	1,260 sq.m function / restaurant space
Food and Beverage Tenancies	600 sq.m café / restaurant 350 sq.m bar

PROPOSED PLANS



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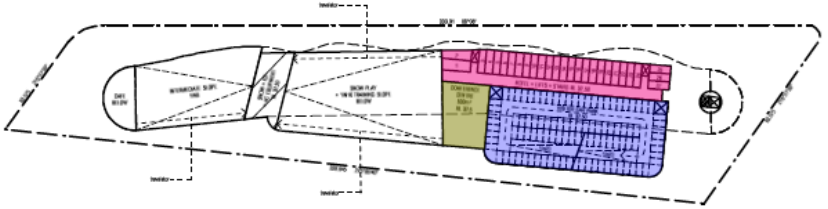

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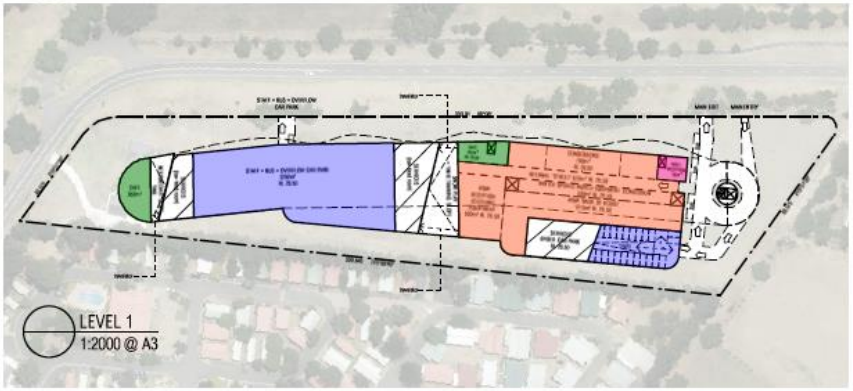

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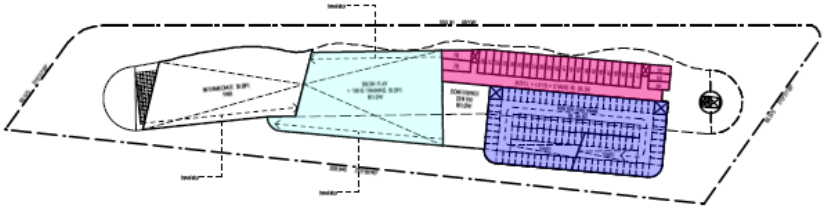

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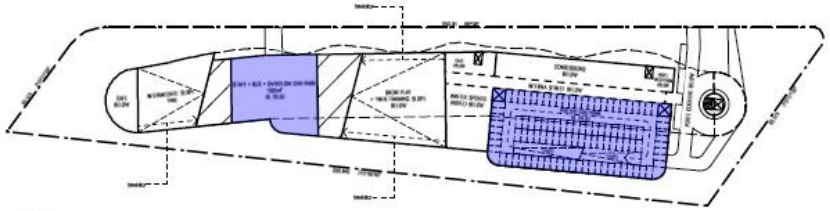

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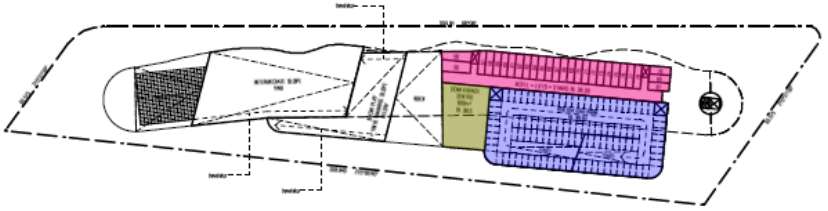

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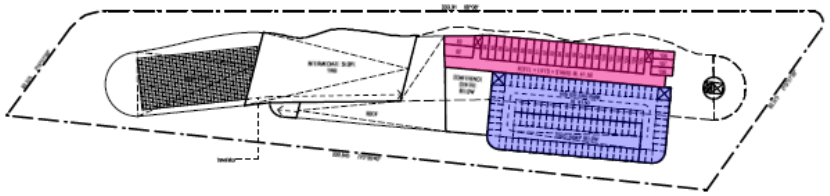
BASEMENT | CAR PARKING | CAFE + BAR | WINTER SPORTS WORLD | HOTEL
SKI RAMPS + ICE RINK | CONFERENCE CENTRE | LANDSCAPE AREA | DEEP SOIL

PROPOSED PLANS



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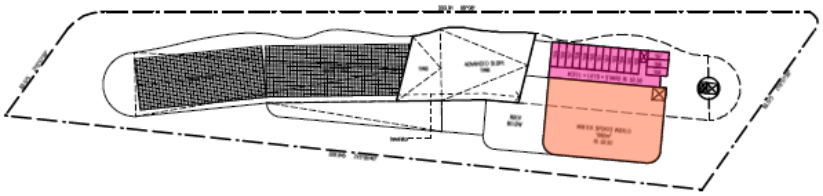

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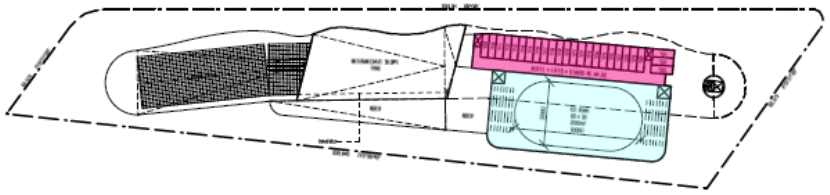

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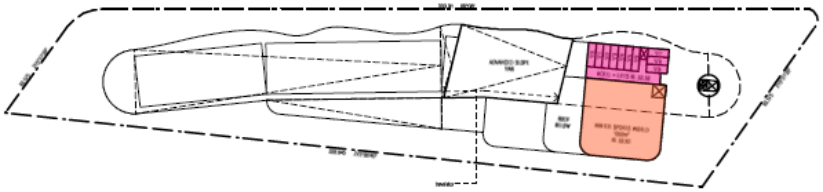

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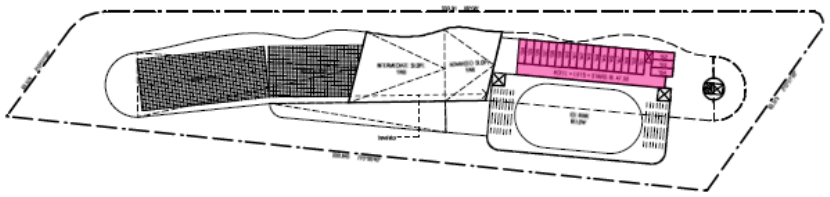

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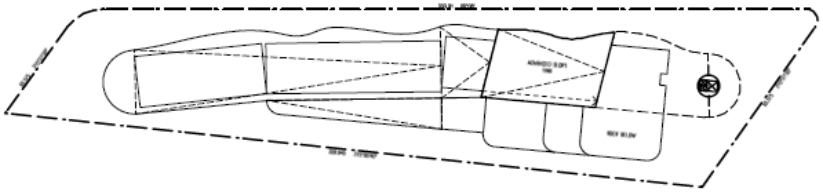

LEVEL 11
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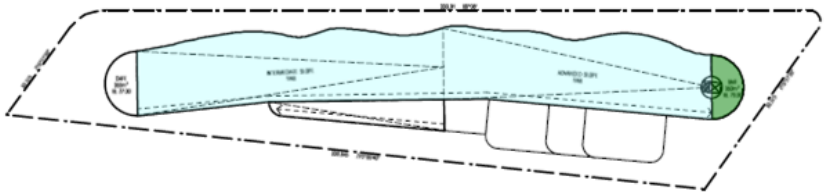
BASEMENT | CAR PARKING | CAFE + BAR | WINTER SPORTS WORLD | HOTEL
SKI RAMPS + ICE RINK | CONFERENCE CENTRE | LANDSCAPE AREA | DEEP SOIL

PROPOSED PLANS



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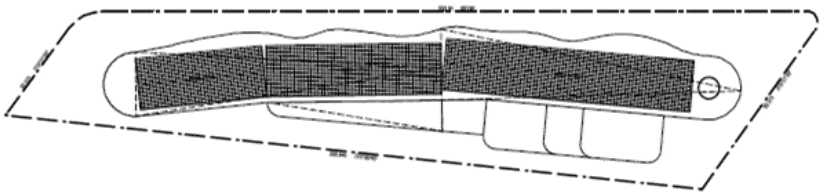

ROOF PLAN
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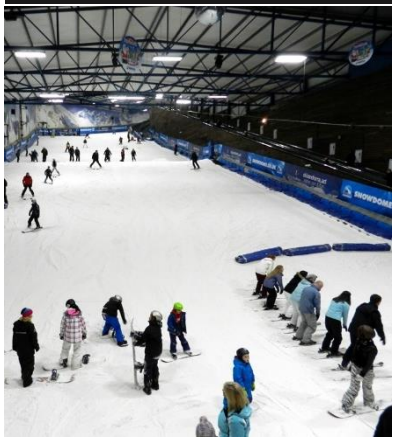
BASEMENT | CAR PARKING | CAFE + BAR | WINTER SPORTS WORLD | HOTEL
SKI RAMPS + ICE RINK | CONFERENCE CENTRE | LANDSCAPE AREA | DEEP SOIL

CASE STUDIES

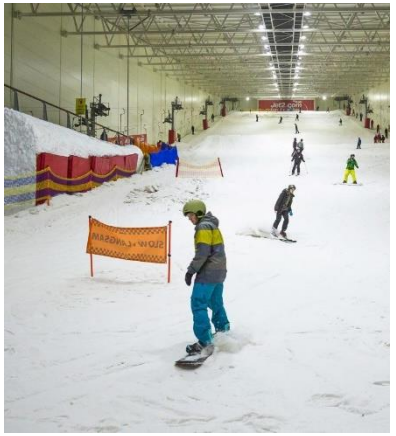
OVERVIEW

- For the purposes of forecasting the visitation and revenue that could be achieved by the proposed development, we have undertaken case studies of similar snow centres from around the world. These provide valuable insights into visitation, facilities, target markets and pricing.
- First we have provided a table of ten example snow centres from around the world. This provides an overview of their location, facilities, size and annual visitation.
- We have then provided more detailed case studies of six of the snow centres which are considered most comparable to the proposed Winter Sports World. As these six centres bear the greatest similarities with the proposed centre, they provide the most relevant insights into the potential of the Winter Sports World.
- These six key case studies include:

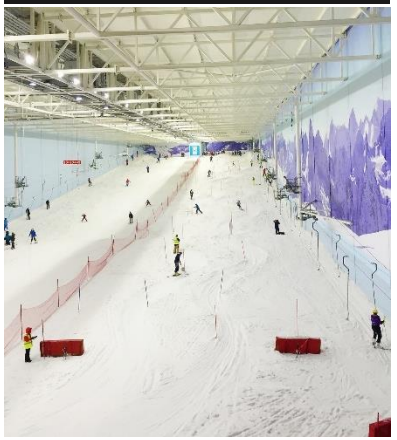
TAMWORTH SNOWDOME, UK



SNOW FACTOR, UK



CHILL FACTORE, UK



SNOWPLANET, NEW ZEALAND

SNOWWORLD, THE NETHERLANDS

SKI DUBAI, UNITED ARAB EMIRATES

EXAMPLE SNOW CENTRES

Centre	Location	Facilities	Ski Run Size	Annual Visitation
Tamworth SnowDome	Tamworth, United Kingdom	• Ski slope • Ice rink • Ice track • Climbing walls • Gymnasium • Swimming pools • Spa • Bar and restaurant • Conference facilities	Length: 210 m Area: 11,500 sq.m	250,000 persons
Ski Dubai	Dubai, United Arab Emirates	• Ski Slope • Café • Indoor sub-zero zip line	Length: 400 m Area: 22,500 sq.m	760,000 persons
Alpincenter	Wittenburg, Germany	• Ski Slope • Bowling Alley • Children's Playground • Go Karting • Restaurants and Bars • 124 room hotel	Length: 330 m Area: 30,000 sq.m	Not available
Madrid Snowzone	Madrid, Spain	• Ski Slope • Snow park • Mini golf • Zip line	Length: 250 m Area: 17,000 sq.m	Not available
Snowhall	Metz, France	• Ski Slope • Restaurants and Bars • Play zone	Length: 620 m Area: 20,500 sq.m	Not available
Snow Valley Belgium	Peer, Belgium	• Ski Slope • Restaurant	Length: 200 m Area: 12,000 sq.m	Not available

Centre	Location	Facilities	Ski Run Size	Annual Visitation
SnowWorld	Landgraaf, The Netherlands	• Five indoor ski slopes • Slalom training slope • Funpark • Gymnasium • Outdoor high ropes course • 100 room hotel • Restaurants and bars • Meeting rooms	Lengths: 520 m, 500 m, 100 m and a fun park slope Area: 35,000 sq.m	Not available
Chill Factore	Manchester, United Kingdom	• Real snow indoor ski slope • 600 sq.m snow play area • 12 m rock climbing walls • Beginner indoor ski slope • Tubing slope • 60 m long luge track • Conference facilities • Seven cafés, restaurants and bars • Travel agency, four snow sports gear retailers, bicycle retailer, gym equipment retailer	Length: 260 m Area: 15,000 sq.m	1,200,000 persons
Snow Factor	Glasgow, United Kingdom	• Indoor ski slope • Ice climbing • Ice bar • Bavarian restaurant and beer hall • Conference facilities (for up to 800 persons) • Snow sports gear retailer	Length: 230 m Area: 25,000 sq.m	Not available
Snowplanet	Auckland, New Zealand	• Indoor ski slope • Terrain park (on the main slope) • Beginners slope • Restaurant and bar • Conference facilities	Length: 200 m Area: 11,000 sq.m	100,000 persons

CASE STUDY 1 – TAMWORTH SNOWDOME, TAMWORTH, UNITED KINGDOM

Tamworth SnowDome	
 	
Description	The Tamworth SnowDome was the first full-sized recreational indoor ski slope in the UK. The slope is approximately 170 m long by 30 m wide with an incline of 1:7. The SnowDome also has a learner slope situated underneath the main slope. The complex has one ice rink that circles the artificial Snow Play Centre. It also contains a 25 m swimming pool, gym, bar, Starbucks and a snow sports gear retailer (Elllis Brigham).
Location	Leisure Island, River Drive, Tamworth, Staffordshire, UK
Distance to nearest city	22 km (Birmingham)
Population of nearest city	1,124,600 persons (Birmingham City)
Average Temperature Range	3°C - 17°C
Opening Year	1994
Annual Visitation	250,000 visitors per annum

CASE STUDY 1 – TAMWORTH SNOWDOME, TAMWORTH, UNITED KINGDOM

Tamworth SnowDome, Tamworth			
Facilities	• 210 m indoor ski slope • Ice rink • Ice track • Climbing walls • Gymnasium	• Swimming pools • Spa • Bar and restaurant • Conference facilities	
Surrounding Land Uses	The centre is located in the town of Tamworth, approximately 20 km north-east of the city of Birmingham. The surrounding land uses include: • Holiday Inn Express Tamworth • Tamworth Football Club • Strykers Bowl (ten pin bowling and kids playcentre) • Odeon Cinema Tamworth • Ankerside Shopping Centre		
Target Markets	Families, Corporate events, Novice skiers and snowboarders		
Ticket Prices*	Annual Membership:	Adult: $161 Junior: $105	
		Non-Member	**Member**
	1 hour lift pass	$69 (Adult) $58 (Junior)	$48 (Adult) $40 (Junior)
	2 hour lift pass	$90 (Adult) $79 (Junior)	$69 (Adult) $62 (Junior)
	3 hour lift pass	$105 (Adult) $84 (Junior)	$84 (Adult) $66 (Junior)
	Friday – Sunday	$148 (Adult) $126 (Junior)	$118 (Adult) $96 (Junior)

**All prices are in $2017 Australian dollars and adjusted for purchasing power. Conversion from GBP based on Purchasing Power Parity of 2.14AUD/1GBP*

CASE STUDY 2 – SNOW FACTOR, GLASGOW, UNITED KINGDOM

Snow Factor, Glasgow	
 	
Description	Snow Factor is the only snow centre in Scotland that operates year-round. It is located only 11 km driving distance from the Glasgow city centre. The centre provides an instruction slope, main ski slope, four ski lifts, ice climbing wall and an ice slide. It is therefore popular among novices, families and experienced athletes. The facility also includes a family friendly Bavarian themed restaurant and beer hall “Bar Varia” which has panoramic windows that overlook the slope, and an ice bar “Baltic Ice Bar”.
Location	Kings Inch Road, Braehead, Glasgow, United Kingdom
Distance to nearest city	7 km
Population of nearest city	615,070 persons (Glasgow City)
Average Temperature Range	3°C - 15°C
Opening Year	2011
Annual Visitation	Not available

CASE STUDY 2 – SNOW FACTOR, GLASGOW, UNITED KINGDOM

Snow Factor, Glasgow			
Facilities	• 230 m indoor ski slope • Ice climbing • Ice bar	• Bavarian restaurant and beer hall • Conference facilities (for up to 800 persons) • Snow sports gear retailer	
Surrounding Land Uses	The centre is located west of Glasgow city centre and is situated alongside the River Clyde. The surrounding land uses include: • Braehead Shopping Centre • Residential		
Target Markets	Families, Corporate events, Novice skiers and snowboarders, Experienced skiers and snowboarders, Athletes		
Ticket Prices*	Annual Membership:	Adult: $212 Family: $426 Junior: $148	Senior: $148 Student: $148
		Non-Member	**Member**
	Monthly Pass – Adult	$332	$234
	Monthly Pass - Junior	$276	$191
	Monday – Thursday	$45 (2 Hour) $64 (All day)	$32 (2 Hour) $41 (All day)
	Friday – Sunday	$73 (2 Hour) $75 (All day)	$45 (2 Hour) $51 (All day)

**All prices are in $2017 Australian dollars and adjusted for purchasing power. Conversion from GBP based on Purchasing Power Parity of 2.14AUD/1GBP*

CASE STUDY 3 – CHILL FACTORE, MANCHESTER, UNITED KINGDOM

Chill Factore, Manchester	
 	
Description	Chill Factore boasts the UK's longest real snow indoor ski slope. It measures 180 m in length and is 100 m wide at its widest point. This main slope is serviced by two drag lifts suspended from the ceiling. In addition, the centre features a beginner slope, a luge track and dedicated snow play and tubing areas. The centre also includes a number of shops and restaurants in a themed 'Alpine Village' area as well as a sports bar and Mont Blanc restaurant on the upper level with slope-side viewing.
Location	Trafford Way, Trafford Quays Leisure Village, Manchester, UK
Distance to nearest city	8.3 km
Population of nearest city	541,300 persons (Manchester City)
Average Temperature Range	4°C - 16°C
Opening Year	2007
Annual Visitation	1,200,000 visitors per annum

CASE STUDY 3 – CHILL FACTORE, MANCHESTER, UNITED KINGDOM

Chill Factore, Manchester				
Facilities	• 180 m real snow indoor ski slope • 600 sq.m snow play area • 12 m rock climbing walls • 40 m beginner indoor ski slope • 40 m tubing slope	• 60 m luge track • Conference facilities • Seven cafés, restaurants and bars • Travel agency, four snow sports gear retailers, bicycle retailer, gym equipment retailer		
Surrounding Land Uses	The centre is located on the western fringe of Manchester, near the Trafford Park industrial estate. The surrounding land uses include: • Premier Inn Manchester Trafford Centre West (hotel) • The Trafford Centre (shopping centre) • Trafford Golf Centre • Powerleague Trafford Sportsdome • David Lloyd Manchester Trafford City (gym) • Trafford Retail Park			
Target Markets	Families, Corporate events, Novice skiers and snowboarders			
Ticket Prices*	Annual Membership: (30% discount)	Adult: $214 Family: $600 Junior: $150	Senior: $150 Student: $171	
		Adult	**Junior**	
	1 hour	$45	$32	
	2 hour	$56	$43	
	3 hour	$62	$49	
	4 hour	$66	$56	

**All prices are in $2017 Australian dollars and adjusted for purchasing power. Conversion from GBP based on Purchasing Power Parity of 2.14AUD/1GBP*

CASE STUDY 4 – SNOWPLANET, SILVERDALE, NEW ZEALAND

SnowPlanet, Auckland

Description	Snowplanet is New Zealand's first and only indoor snow centre. The main slope offers a variety of rails, jumps and jib features for more experienced snow skiers. There is also a beginners slope to accommodate for children and novice skiers. The centre also includes the 7 Summits restaurant and bar which is situated at the bottom of the slope with a large glass window that allows visitors to spectate.
Location	91 Small Road, Silverdale, New Zealand
Distance to nearest city	25 km (Auckland)
Population of nearest city	1,534,700 persons (Auckland)
Average Temperature Range	11°C - 20°C
Opening Year	2005
Annual Visitation	100,000 visitors per annum

CASE STUDY 4 – SNOWPLANET, SILVERDALE, NEW ZEALAND

Snowplanet, Auckland				
Facilities	• 200 m indoor ski slope • Terrain park (on the main slope) • Beginners slope	• Restaurant and bar • Conference facilities		
Surrounding Land Uses	The centre is located 25 km north of Auckland on the outskirts of the town of Silverdale. The surrounding land uses include: • Silverdale Adventure Park • Farmland			
Target Markets	Families, Corporate events, Novice skiers and snowboarders, Experienced skiers and snowboarders, Athletes			
Ticket Prices*	Membership includes unlimited access to the snow during advertised opening hours for one year. Membership rates are: Adult: $799 Student/Child: $599			
		Non Member		
		Child	**Student**	**Adult**
	2 hour pass	$35	$38	$46
	4 hour pass	$39	$41	$49
	Full Day	$49	$56	$69

**All prices are in $2017 Australian dollars and adjusted for purchasing power. Conversion from NZD based on Purchasing Power Parity of 1AUD/1NZD*

CASE STUDY 5 – SNOWWORLD, LANDGRAAF, THE NETHERLANDS

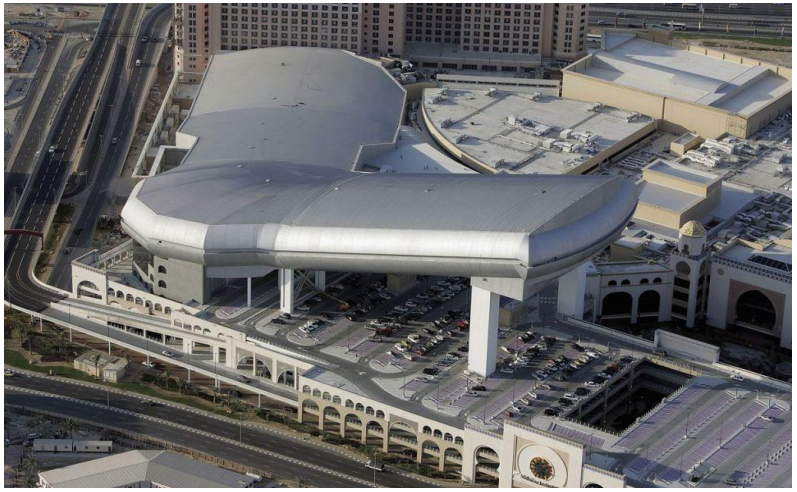
SnowWorld, Landgraaf	
	
	
Description	SnowWorld Landgraaf is the largest indoor snow centre in Europe and is one of two snow centres operated by SnowWorld. The other centre is located at Zoetermeer. SnowWorld Landgraaf features five indoor ski slopes ranging in length from 100 m to 387 m, in addition to a funpark (featuring rails, jumps, etc.). SnowWorld has also opened an outdoor high ropes course next to the centre. Additionally, the centre contains an on-site four-star hotel with 100 rooms and approximately 420 beds that opened in 2008.
Location	Witte Wereld 1, 6372 VG Landgraaf, The Netherlands
Distance to nearest city	4 km (Heerlen)
Population of nearest city	220,000 persons (Heerlen)
Average Temperature Range	3°C -17°C
Opening Year	2001
Annual Visitation	Not available

CASE STUDY 5 – SNOWWORLD, LANDGRAAF, THE NETHERLANDS

SnowWorld, Landgraaf				
Facilities	• Five indoor ski slopes • Slalom training slope • Funpark • Gymnasium		• Outdoor high ropes course • 100 room hotel • Restaurants and bars • Meeting rooms	
Surrounding Land Uses	The centre is located 4.6 km driving distance south-east of the Herleen city centre. The surrounding land uses include: • Landgoed Overste Hof (hotel) • Hotel Winselerhof (hotel) • Megaland (outdoor entertainment venue) • Residential			
Target Markets	Families, Corporate events, Social events, Novice skiers and experienced skiers, Athletes			
Ticket Prices*	Membership includes unlimited access to the snow during advertised opening hours. Membership rates are: Adult (3 months): $114 Adult (12 months): $79 Child (3 months): $100 Child (12 months): $68			
		Non Member		
		Child	**Adult**	
	1 hour pass	$25	$29	
	2 hour pass	$39	$50	
	4 hour pass	$50	$61	
	Full Day	$54	$64	

**All prices are in $2017 Australian dollars and adjusted for purchasing power. Conversion from EUR based on Purchasing Power Parity of 1.43AUD/1EUR*

CASE STUDY 6 – DUBAI SKI, DUBAI, UNITED ARAB EMIRATES

Dubai Ski, Dubai	
	**Description** Dubai Ski is located at the Mall of the Emirates in Dubai. Dubai Ski features five indoor ski slopes with the main ski slope approximately 400 m. The facility also has a 5,000 sq.m snow play area. Additionally, the centre contains a meeting area, penguin encounter area, cafe and conference facilities.
	Location Mall of the Emirates, Dubai, United Arab Emirates
	Distance to nearest city 12 km (Dubai City Centre)
	**Population of nearest city** 3,030,000 persons (Dubai)
	Average Temperature Range 18°C -36°C
	Opening Year November 2005
	Annual Visitation 760,000 (2017)

CASE STUDY 6 – DUBAI SKI, DUBAI, UNITED ARAB EMIRATES

Dubai Ski, Dubai		
Facilities	• Five indoor ski slopes • Avalanche Cafe • Snow play area • Penguin encounter area	• Meeting area • Incubator room • Conference facilities
Surrounding Land Uses	The centre is located 12 km driving distance south-west of the Dubai city centre. The surrounding land uses include: • Mall of the Emirates	
Target Markets	Families, Corporate events, Social events, Novice skiers and experienced skiers	
Ticket Prices*	Membership includes unlimited access to the snow during advertised opening hours. Membership rates are $875 for one month. Other attractions include: Snow Park: $67 Polar: $93 Polar Express: $114 Ski Dubai Experience (Includes access to snow park and slopes): $175	
		Non Member
	Child	**Adult**
	2 hour pass	$67	$88
	Full Day	$106	$110

**All prices are in $2017 Australian dollars and adjusted for purchasing power. Conversion from AED based on Purchasing Power Parity of 0.35AUD/1AED*

SUMMARY OF KEY CASE STUDY FINDINGS

KEY FINDINGS

- As shown in Table 2.1, the six case studies offer a variety of different facilities. However, fundamentally each centre is anchored by at least one indoor ski slope. These slopes range in length from 100 m (SnowWorld) up to 400 m (Dubai Ski) but generally average approximately 200 m.
- In addition to the ski slopes, all six centres each also provide food and beverage outlets and conferencing facilities.
- The majority of the conferencing facilities are aimed at the corporate events market, while some are also available for social events (i.e. Weddings). This is reflected in the target markets of the centres which reveal that all five centres target families, corporate events, novice skiers and snowboarders.
- The conferencing facilities are often supported by on-site (SnowWorld) or nearby hotels (Tamworth SnowDome, Chill Factore and SnowWorld). These increase the attractiveness of the conferencing facilities by allowing delegates to stay close to the venue.
- In addition to the causal and corporate markets, Snow Factor, Snowplanet and SnowWorld also target amateur and professional athletes. They cater to this athlete market by providing more advanced facilities such as slalom slopes and terrain parks. Importantly, these centres allow athletes to train in controlled environments which can be altered to suit their training needs.
- Three of the six centres also provide ice / rock climbing, while one (Chill Factore) offers an indoor luge track and another provides an ice skating rink (Tamworth SnowDome).
- The annual visitation rates achieved by the centres varies substantially. Of the four centres which disclose their visitation, Snowplanet achieves the lowest number of visitors each year at approximately 100,000 persons. In comparison, Tamworth SnowDome achieves 250,000 visitors per annum, while Dubai Ski attracts 760,000 visitors and Chill Factore welcomes an estimated 1.2 million visitors each year. These differing rates generally reflect the scale of the populations of the cities in which the centres are based.

SUMMARY OF CASE STUDIES — TABLE 2.1

Centre	Facilities		Target Markets	Annual Visitation
Tamworth SnowDome	• 210 m indoor ski slope • Ice rink • Ice track • Climbing walls • Gymnasium	• Swimming pools • Spa • Bar and restaurant • Conference facilities	Families, Corporate events, Novice skiers and snowboarders	250,000 visitors
Snow Factor	• 230 m indoor ski slope • Ice climbing • Ice bar	• Bavarian restaurant and beer hall • Conference facilities (for up to 800 persons) • Snow sports gear retailer	Families, Corporate events, Novice skiers and snowboarders, Experienced skiers and snowboarders, Athletes	Not available
Chill Factore	• 180 m real snow indoor ski slope • 600 sq.m snow play area • 12 m rock climbing walls • 40 m beginner indoor ski slope	• 40 m tubing slope • 60 m luge track • Conference facilities • Seven cafés, restaurants and bars • Travel agency, four snow sports gear retailers, bicycle retailer, gym equipment retailer	Families, Corporate events, Novice skiers and snowboarders	1,200,000 visitors
Snowplanet	• 200 m indoor ski slope • Terrain park (on the main slope) • Beginners slope	• Restaurant and bar • Conference facilities	Families, Corporate events, Novice skiers and snowboarders, Experienced skiers and snowboarders, Athletes	100,000 visitors
SnowWorld	• Five indoor ski slopes • Slalom training slope • Funpark • Gymnasium	• Outdoor high ropes course • 100 room hotel • Restaurants and bars • Meeting rooms	Families, Corporate events, Social events, Novice skiers and experienced skiers, Athletes	Not available
Dubai Ski	• Five indoor ski slopes • Snow play area	• Penguin encounter area • Incubator room • Conference facilities	Families, Corporate events, Social events, Novice skiers and experienced skiers	760,000 visitors

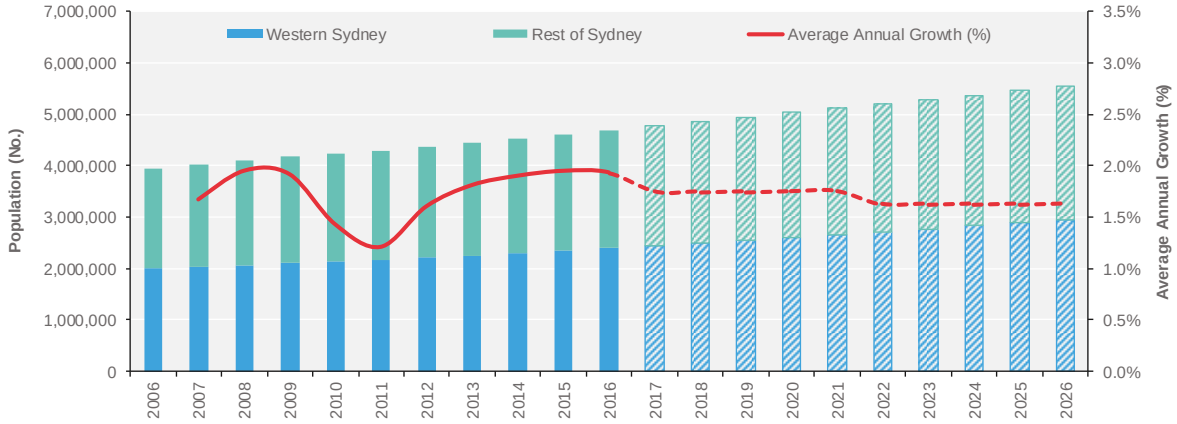
GREATER SYDNEY POPULATION PROJECTIONS

KEY FINDINGS

- One of the key drivers for tourist attractions is the local resident population. Strong population growth will drive increased demand for tourist attractions in the surrounding region.
- The following population forecasts are based on projections published by the New South Wales Department of Planning and the Environment in 2017. They have been rebased to reflect the Estimated Resident Population recorded by the Australian Bureau of Statistics (ABS) in 2016.
- Greater Sydney experienced high levels of population growth over the last ten years and this is expected to continue going forward. Between 2006 and 2016, the population of Greater Sydney increased from 3,953,031 persons to 4,694,402 persons. This represents a total increase of 741,371 persons and reflects an average annual growth rate of 1.7% per annum.
- The strong rate of population growth is forecast to continue over the next five years, with Sydney projected to grow by an additional 425,858 residents to reach 5,119,400 persons by 2021.
- Population growth is then expected to begin slowing between 2021 and 2026. With a forecast average annual growth rate of 1.6% over this period, Greater Sydney is projected to reach 5,550,700 residents in 2026.
- Western Sydney[1] currently accounts for 51% of Greater Sydney's resident population. The share of residents living in Western Sydney will continue to increase over the next 10 years as the priority growth areas in the west continue to develop.
- Western Sydney is forecast to growth at 2.1% per annum between 2016 and 2026, well above Greater Sydney's overall rate of 1.7%.
- As a result, Western Sydney is forecast to account for 69% of Greater Sydney's population growth between 2021 and 2026, reaching a population of 2,953,900 persons by 2026.
- This increasing population growth in Western Sydney will drive increased demand for tourist attractions in the region.

HISTORICAL AND FORECAST POPULATION — CHART 3.1

Greater Sydney, 2006-26



Source: NSW Department of Planning; ABS; Urbis

HISTORICAL AND FORECAST POPULATION — TABLE 3.1

Greater Sydney, 2006-26

	Population (No.)					Average Annual Growth
	2006	2011	2016	2021	2026	2016-26
Western Sydney	1,994,321	2,168,732	2,389,236	2,654,600	2,953,900	*2.1%*
Rest of Sydney	1,958,710	2,117,485	2,305,166	2,464,800	2,596,800	*1.2%*
Total Greater Sydney	**3,953,031**	**4,286,217**	**4,694,402**	**5,119,400**	**5,550,700**	***1.7%***

Source: NSW Department of Planning; ABS; Urbis

1. *Defined as the Hawkesbury, Penrith, Blacktown, The Hills, Parramatta, Holroyd, Fairfield, Liverpool, Wollondilly, Camden, Auburn, Bankstown, Blue Mountains, and Campbelltown Local Government Areas.*

SYDNEY TOURISM MARKET – OVERVIEW

KEY FINDINGS

- In addition to a large base of local residents, substantial tourist visitation to a region is another key driver of demand for tourist attractions such as the proposed Winter Sports World.
- Since 2005, Tourism Research Australia (TRA) has conducted quarterly international and domestic visitor surveys collating data that profiles the origin of visitors, the main purpose of journey, activities undertaken as well as general demographic information. This data is collected for both large tourism regions and smaller areas and provides valuable insights into the visitor profiles and consumer trends of specific regions.
- The main purpose of journey for visitors to Sydney over the last five years is outlined in Table 4.1. The main purpose of journey categories include holiday, business, visiting friends and relatives (VFR), and other (which includes employment such as a working holiday and education categories).
- Between 2013 and 2017, the most common purpose of visit to the region was for a holiday. On average, 12,726,000 visitors per annum or 40.7% of total visitors travelled to Sydney for a holiday. Almost 70% of these holiday visitors were daytrippers.
- The second-most common reason for visiting Sydney was to visit friends and relatives. This accounted for an average of 32.0% of total visits to the region over the past five years.
- Business visitors represented an average of 16.7% of total visitors to Sydney between 2013 and 2017. In contrast to the holiday and VFR visitors, the largest share of business visitors were overnight visitors from within Australia.
- The substantial number of visitors coming to Sydney for a holiday or to visit friends and relatives will drive strong demand for tourist attractions such as Winter Sports World. Additionally, the sizeable business-visitor market presents another key opportunity for the subject development which can be leveraged through its provision of hotel and conferencing facilities.

HISTORICAL TOURIST VISITATION BY REASON — TABLE 4.1

Sydney Tourism Region, 2013-17

	Holiday		Business		VFR*		Other		TOTAL
DAYTRIPPERS	**000's**	**%**	**000's**	**%**	**000's**	**%**	**000's**	**%**	**000's**
2013	8,457	*45.2%*	2,187	*11.7%*	5,791	*31.0%*	2,271	*12.1%*	18,706
2014	9,635	*46.4%*	2,319	*11.2%*	6,209	*29.9%*	2,599	*12.5%*	20,761
2015	7,220	*41.5%*	2,076	*11.9%*	5,628	*32.4%*	2,458	*14.1%*	17,382
2016	9,365	*45.8%*	2,625	*12.8%*	6,084	*29.7%*	2,394	*11.7%*	20,467
2017	8,442	*42.9%*	2,356	*12.0%*	6,262	*31.8%*	2,625	*13.3%*	19,685
Avg (2013-17)	***8,624***	***44.5%***	***2,313***	***11.9%***	***5,995***	***30.9%***	***2,469***	***12.7%***	***19,400***
DOMESTIC OVERNIGHT VISITORS	**Holiday**		**Business**		**VFR***		**Other**		**TOTAL**
	000's	**%**	**000's**	**%**	**000's**	**%**	**000's**	**%**	**000's**
2013	2,268	*29.3%*	2,169	*28.0%*	2,849	*36.8%*	461	*5.9%*	7,746
2014	2,405	*28.5%*	2,202	*26.1%*	3,256	*38.6%*	583	*6.9%*	8,446
2015	2,213	*25.6%*	2,595	*30.0%*	3,163	*36.6%*	683	*7.9%*	8,654
2016	2,322	*26.1%*	2,713	*30.5%*	3,341	*37.5%*	526	*5.9%*	8,901
2017	2,321	*24.5%*	2,929	*31.0%*	3,480	*36.8%*	730	*7.7%*	9,460
Avg (2013-17)	***2,306***	***26.7%***	***2,521***	***29.2%***	***3,218***	***37.2%***	***596***	***6.9%***	***8,641***
INTERNATIONAL OVERNIGHT VISITORS	**Holiday**		**Business**		**VFR***		**Other**		**TOTAL**
	000's	**%**	**000's**	**%**	**000's**	**%**	**000's**	**%**	**000's**
2013	1,485	*54.4%*	363	*13.3%*	669	*24.5%*	211	*7.7%*	2,728
2014	1,606	*54.8%*	372	*12.7%*	746	*25.4%*	208	*7.1%*	2,933
2015	1,750	*56.3%*	362	*11.7%*	759	*24.4%*	236	*7.6%*	3,108
2016	1,971	*57.6%*	362	*10.6%*	825	*24.1%*	265	*7.8%*	3,423
2017	2,173	*57.8%*	396	*10.5%*	873	*23.2%*	316	*8.4%*	3,759
Avg (2013-17)	***1,797***	***56.3%***	***371***	***11.6%***	***775***	***24.3%***	***247***	***7.8%***	***3,190***
TOTAL VISITORS	**Holiday**		**Business**		**VFR***		**Other**		**TOTAL**
	000's	**%**	**000's**	**%**	**000's**	**%**	**000's**	**%**	**000's**
2013	12,209	*41.8%*	4,719	*16.2%*	9,309	*31.9%*	2,943	*10.1%*	29,180
2014	13,646	*42.5%*	4,893	*15.2%*	10,211	*31.8%*	3,390	*10.5%*	32,140
2015	11,183	*38.4%*	5,034	*17.3%*	9,551	*32.8%*	3,376	*11.6%*	29,144
2016	13,657	*41.6%*	5,700	*17.4%*	10,250	*31.3%*	3,185	*9.7%*	32,792
2017	12,936	*39.3%*	5,681	*17.3%*	10,616	*32.3%*	3,670	*11.2%*	32,904
Avg (2013-17)	***12,726***	***40.7%***	***5,205***	***16.7%***	***9,987***	***32.0%***	***3,313***	***10.6%***	***31,232***

**Visiting friends and relatives*

Source: Tourism Research Australia; Urbis

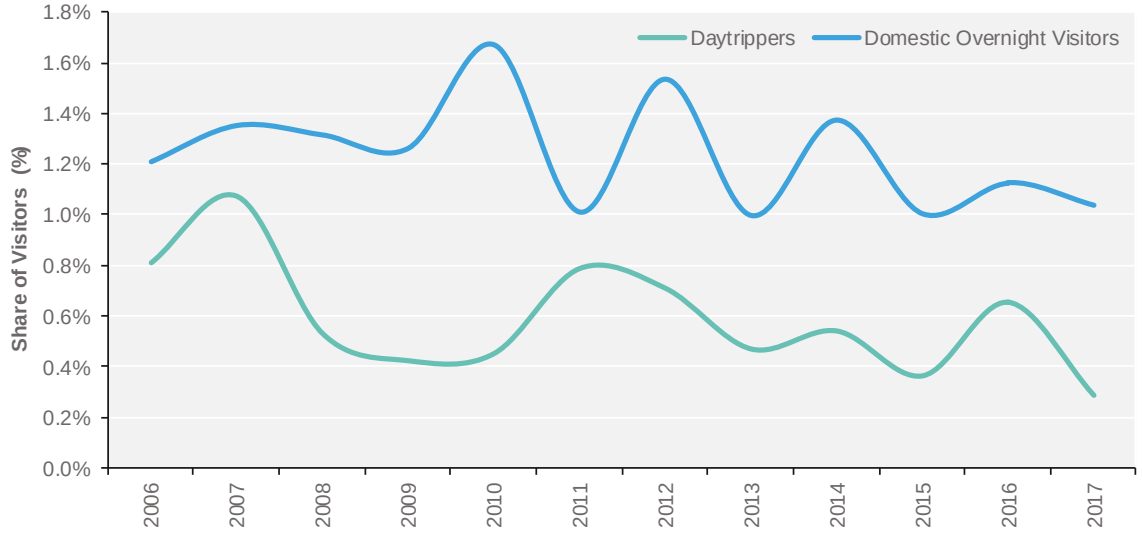
SYDNEY TOURISM MARKET – OVERVIEW

KEY FINDINGS

- In addition to the main purpose of journey for visitors, TRA also records the activities undertaken by visitors during the trip.
- For the purposes of this assessment, there are several relevant activities which bear some degree of similarity with what is being offered by Winter Sports World. They therefore provide an indication of the potential likelihood of visitors to Sydney visiting the proposed centre. The relevant activities include:
  - Visit amusements / theme parks
  - Water activities / sports
  - Surfing
  - Cycling
  - Playing other sports.
- Table 4.2 outlines the average number of visitors per annum who participated in these relevant activities during their stay in the Sydney Tourism Region between 2013 and 2017. However, the figures for the international overnight visitors reflect the activities they participated in during their entire time in Australia rather than just their time in Sydney.
- As shown in the table, approximately 4.5% of daytrippers and 6.0% of domestic overnight visitors have historically participated in the relevant activities during their time in Sydney. However, the establishment of the proposed centre is likely to induce further demand and result in an increase in these rates.
- We consider the most relevant activity to be visiting amusements or theme parks. Over the past five years, 0.5% of daytrippers and 1.1% of domestic overnight visitors attended amusements or theme parks during their stay. The participation of visitors in this activity has fluctuated over time but broadly trended downwards (refer Chart 4.2). This trend has the potential to be reversed with the opening of Winter Sports World which will present a new and unique opportunity for visitors to Sydney.

PROPORTION OF VISITORS WHO ATTEND AMUSEMENT/THEME PARKS — CHART 4.1

Sydney Tourism Region, 2006-17



Source: Tourism Research Australia; Urbis

HISTORICAL NO. OF VISITORS PARTAKING IN RELEVANT ACTIVITIES — TABLE 4.2

Sydney Tourism Region, 5-Year Average (2013-17)

	Daytrippers		Domestic Overnight Visitors		International Overnight Visitors*	
	000's	%	000's	%	000's	%
Visit amusements / theme parks	91	*0.5%*	95	*1.1%*	438	*13.8%*
Water activities / sports	159	*0.8%*	117	*1.4%*	219	*6.9%*
Surfing	80	*0.4%*	57	*0.7%*	212	*6.7%*
Cycling	87	*0.4%*	44	*0.5%*	162	*5.1%*
Play other sports	452	*2.3%*	201	*2.3%*	180	*5.6%*
Total Relevant Activities	**868**	**4.5%**	**515**	**6.0%**	**1,212**	**38.1%**

**Data is for activities they participated in during their entire trip rather than only while in the Sydney Tourism Region*

Source: Tourism Research Australia; Urbis

SYDNEY TOURISM MARKET – FORECASTS

KEY FINDINGS

- The Tourism Research Committee, within TRA, prepares visitor nights forecasts for tourism regions throughout Australia. These forecasts have been converted to number of visitors per annum through applying the average length of stay for each market segment over the last five years.
- The historical and projected total visitation to the Sydney Tourism Region, broken down by market segment, is shown in Table 4.3 and overleaf in Chart 4.2.
- There were an estimated 32.9 million visitors to Sydney in 2017, representing a slight increase from 2016's 32.8 million visitors. Approximately 19.7 million or 59.8% of these were daytrippers, 9.5 million or 28.8% were overnight visitors from within Australia, and the remaining 3.8 million or 11.4% were overnight visitors from other countries.
- The total number of visitors to Sydney is projected to increase by 10.6 million persons over the next nine years to reach 43.5 million persons by 2026. This reflects an average annual growth rate of 3.1% per annum.
- An estimated 53% of this growth in visitation will be accounted for by an increase in daytrippers, while almost 26% will be attributable to additional overnight visitors from within Australia. International overnight visitors will therefore account for the remaining 21% of growth.
- As a result, by 2026, approximately 25.3 million or 58.2% of visitors to Sydney will be daytrippers, 12.2 million or 28.0% will be overnight visitors from within Australia, and the remaining 6.0 million or 13.8% will overnight visitors from other countries.

FORECAST VISITATION BY REASON (000'S OF VISITORS) TABLE 4.3

Sydney Tourism Region, 2016-26

			Forecast								
DAYTRIPPERS	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Holiday	9,365	8,442	9,547	9,764	9,949	10,133	10,304	10,462	10,617	10,770	10,921
Business	2,625	2,356	2,557	2,657	2,743	2,831	2,921	3,013	3,106	3,201	3,298
VFR*	6,084	6,262	6,271	6,397	6,522	6,636	6,748	6,860	6,971	7,082	7,191
Other	2,394	2,625	2,712	2,869	3,002	3,138	3,277	3,419	3,566	3,715	3,868
Total	**20,467**	**19,685**	**21,087**	**21,687**	**22,216**	**22,737**	**23,250**	**23,754**	**24,260**	**24,768**	**25,278**

			Forecast								
DOMESTIC OVERNIGHT VISITORS	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Holiday	2,322	2,321	2,625	2,685	2,736	2,786	2,833	2,877	2,920	2,962	3,003
Business	2,713	2,929	3,178	3,302	3,409	3,519	3,630	3,744	3,860	3,978	4,098
VFR*	3,341	3,480	3,485	3,554	3,624	3,687	3,750	3,812	3,874	3,935	3,996
Other	526	730	754	798	835	873	911	951	992	1,033	1,076
Total	**8,901**	**9,460**	**10,042**	**10,340**	**10,604**	**10,865**	**11,125**	**11,384**	**11,645**	**11,908**	**12,173**

			Forecast								
INTERNATIONAL OVERNIGHT VISITORS	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Holiday	1,971	2,173	2,183	2,328	2,469	2,601	2,757	2,920	3,088	3,268	3,457
Business	362	396	342	396	421	431	443	458	474	489	505
VFR*	825	873	905	977	1,055	1,136	1,215	1,299	1,387	1,480	1,581
Other	265	316	317	337	355	373	392	410	430	450	471
Total	**3,423**	**3,759**	**3,748**	**4,038**	**4,299**	**4,541**	**4,807**	**5,087**	**5,379**	**5,687**	**6,013**

			Forecast								
TOTAL VISITORS	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Holiday	13,657	12,936	14,356	14,777	15,154	15,520	15,894	16,258	16,625	17,000	17,381
Business	5,700	5,681	6,077	6,356	6,573	6,781	6,994	7,214	7,440	7,668	7,901
VFR*	10,250	10,616	10,661	10,928	11,202	11,459	11,713	11,971	12,232	12,497	12,768
Other	3,185	3,670	3,783	4,004	4,191	4,383	4,580	4,780	4,987	5,198	5,415
Total	**32,792**	**32,904**	**34,877**	**36,065**	**37,120**	**38,143**	**39,181**	**40,225**	**41,284**	**42,363**	**43,464**

**Visiting friends and relatives*
Source: Tourism Research Australia; Urbis

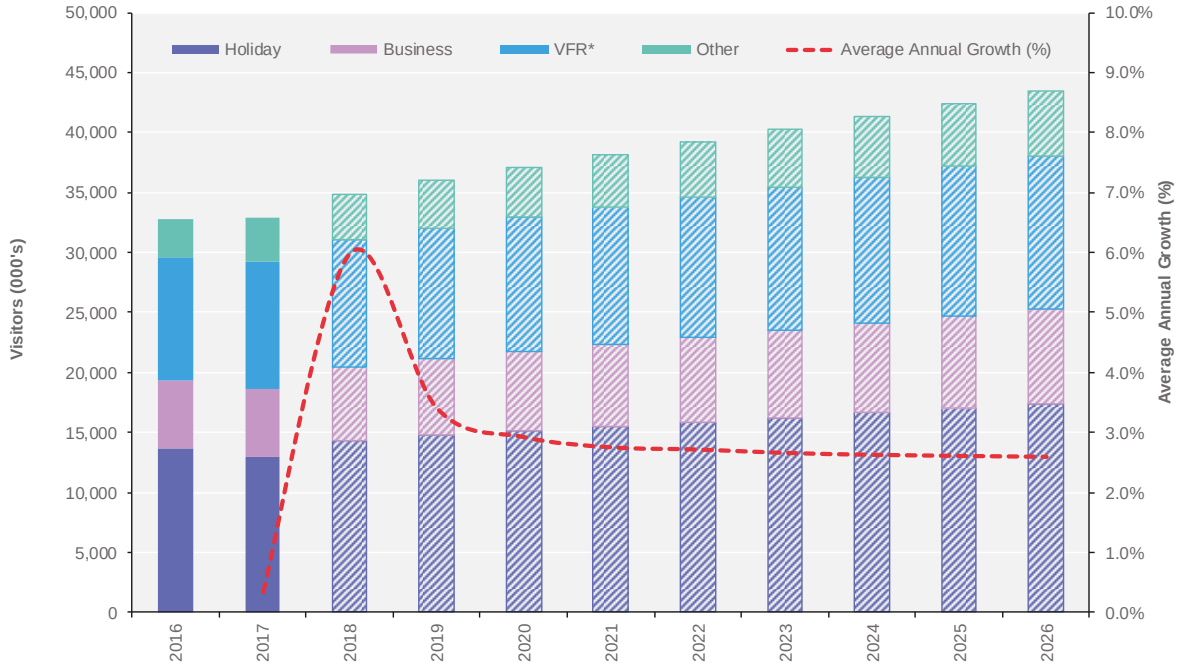
SYDNEY TOURISM MARKET – FORECASTS

KEY FINDINGS

- As shown in Chart 4.2, other than a spike in 2018, per annum growth in visitation to Sydney is forecast to remain fairly constant at 2.6%-2.9%.
- The largest amount of visitor growth is forecast in the holiday-visitor market segment. By 2026, Sydney is forecast to attract an additional 4.4 million holiday-visitors, reflecting average annual growth of 3.3% per annum.
- Strong growth is also forecast in the business-visitor segment, with an additional 2.2 million business visitors coming to Sydney each year by 2026. This represents an average annual growth rate of 3.7% per annum.
- While the Other market segment is forecast to grow at the fastest rate over the next nine years (4.4% per annum), it is forecast to increase by the lowest number (an additional 1.7 million visitors each year by 2026).
- The high level of holiday visitor growth forecast for Sydney will drive strong demand for tourist attractions in the region. While the significant growth projected in the business-visitor segment will also generate strong demand for hotel and conferencing facilities.

FORECAST VISITATION BY REASON (000'S OF VISITORS) CHART 4.2

Sydney Tourism Region, 2016-26



**Visiting friends and relatives*

Source: Tourism Research Australia; Urbis

SYDNEY TOURISM MARKET – WESTERN SYDNEY FORECASTS

KEY FINDINGS

- Given the location of the proposed development in Penrith, it is important to specifically consider the forecast visitation to Western Sydney.
- Visitation forecasts for Western Sydney have been estimated by growing Western Sydney's historical share of the Sydney Tourism Region's visitation in each market segment in line with expected growth in Western Sydney going forward.
- The historical and projected total visitation to Western Sydney, broken down by market segment, is shown in Table 4.4 and overleaf in Chart 4.3.
- In 2017, there were an estimated 12.6 million visitors to Western Sydney. This represents a decrease from 2016 when Western Sydney attracted 12.7 million visitors.
- Approximately 9.2 million or 73.4% of these visitors were daytrippers, 2.8 million or 22.3% were overnight visitors from within Australia, and the remaining 543,000 or 4.3% were overnight visitors from other countries. This indicates that, compared to the overall Sydney Tourism Region, Western Sydney is substantially more popular amongst daytrippers and less popular amongst overnight visitors.
- By 2026, the total number of visitors to Western Sydney is projected to increase by 4.2 million persons to reach 16.8 million persons. This reflects an average annual growth rate of 3.3% per annum – higher than the growth rate for the Sydney Tourism Region overall (3.1% per annum) reflecting the broader westward expansion of Sydney.
- An estimated 62% of this growth in visitation will be accounted for by an increase in daytrippers, while over 23% will be attributable to additional overnight visitors from within Australia. International overnight visitors will therefore only account for 15% of growth.
- By 2026, daytrippers will continue to be the largest market segment, accounting for approximately 11.8 million or 70.5% of visitors to Western Sydney. Approximately 3.8 million or 22.5% will be overnight visitors from within Australia, and only 1.2 million or 7.0% will be overnight visitors from other countries.

FORECAST VISITATION BY REASON (000'S OF VISITORS) TABLE 4.4

Western Sydney, 2016-26

			Forecast								
DAYTRIPPERS	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Holiday	4,618	4,188	4,383	4,544	4,696	4,850	5,003	5,153	5,307	5,463	5,623
Business	1,037	956	1,020	1,061	1,096	1,131	1,168	1,205	1,243	1,281	1,320
VFR*	2,862	3,148	3,106	3,168	3,231	3,288	3,344	3,400	3,455	3,510	3,565
Other	817	926	937	992	1,037	1,083	1,130	1,178	1,228	1,278	1,330
Total	**9,334**	**9,217**	**9,446**	**9,765**	**10,059**	**10,351**	**10,644**	**10,936**	**11,232**	**11,533**	**11,839**
DOMESTIC OVERNIGHT			Forecast								
VISITORS	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Holiday	813	820	855	879	900	921	941	960	979	998	1,018
Business	577	480	610	646	680	715	751	790	829	871	914
VFR*	1,329	1,295	1,300	1,331	1,363	1,393	1,423	1,452	1,482	1,512	1,542
Other	172	199	220	233	243	254	265	276	288	300	312
Total	**2,891**	**2,794**	**2,985**	**3,089**	**3,186**	**3,282**	**3,380**	**3,478**	**3,579**	**3,681**	**3,786**
INTERNATIONAL OVERNIGHT			Forecast								
VISITORS	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Holiday	203	207	208	227	247	268	292	319	348	380	415
Business	35	47	36	44	48	51	55	59	64	69	74
VFR*	217	244	245	275	308	345	384	426	473	525	583
Other	34	45	43	49	54	60	67	74	81	90	99
Total	**489**	**543**	**533**	**594**	**658**	**725**	**798**	**878**	**966**	**1,064**	**1,171**
TOTAL			Forecast								
VISITORS	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Holiday	5,635	5,215	5,446	5,650	5,842	6,038	6,236	6,432	6,634	6,841	7,056
Business	1,649	1,483	1,667	1,751	1,824	1,897	1,974	2,054	2,136	2,221	2,309
VFR*	4,407	4,687	4,650	4,774	4,903	5,026	5,150	5,279	5,411	5,548	5,690
Other	1,023	1,170	1,201	1,273	1,334	1,397	1,461	1,528	1,597	1,668	1,741
Total	**12,715**	**12,555**	**12,964**	**13,448**	**13,903**	**14,358**	**14,821**	**15,292**	**15,777**	**16,278**	**16,796**

**Visiting friends and relatives*
Source: Tourism Research Australia; Urbis

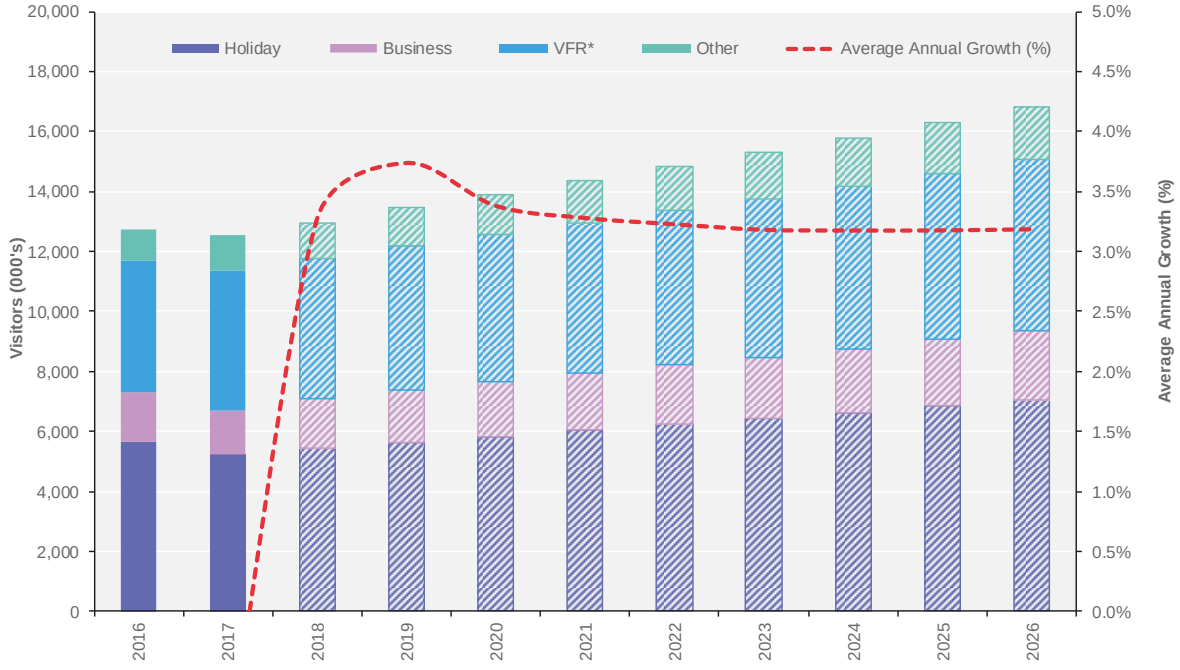
SYDNEY TOURISM MARKET – WESTERN SYDNEY FORECASTS

KEY FINDINGS

- As shown in Chart 4.3, per annum growth in visitation to Western Sydney is forecast to be below that of the Sydney Tourism Region overall, remaining fairly constant at 3.2-3.4%.
- As with the overall Sydney Tourism Region, the largest number of additional visitors is forecast in the holiday-visitor market segment. By 2026, Western Sydney is forecast to attract an additional 1.8 million holiday-visitors, reflecting average annual growth of 3.4% per annum.
- The business-visitor segment is also forecast to experience strong growth, with Western Sydney attracting an additional 826,000 business visitors each year by 2026. This represents an average annual growth rate of 5.0% per annum which is substantially higher than that of the Sydney Tourism Region's business-visitor segment (3.7% per annum). This is likely to be driven by the continuing development of the commercial, industrial and health districts in the west (i.e. Parramatta, Penrith, Liverpool, Blacktown, etc.).
- As with the overall Sydney Tourism Region, Western Sydney's Other market segment is forecast to grow at one of the fastest rates over the next nine years (4.5% per annum). However, it is forecast to increase by the lowest amount (an additional 571,000 visitors each year by 2026).
- It is also important to note that the development of facilities such as the Winter Sports Complex is likely to result in a degree of induced visitation which is not accounted for by these forecasts (i.e. developing tourist attractions, hotels and business conference facilities can attract visitors who would not otherwise visit Western Sydney).
- Overall, the significant holiday visitor growth forecast in Western Sydney will drive strong demand for tourist attractions in areas such as Penrith. While the growth projected in the business-visitor segment will also generate demand for hotel and conferencing facilities such as those proposed at the subject site.

FORECAST VISITATION BY REASON (000'S OF VISITORS) CHART 4.3

Western Sydney, 2016-26



Visiting friends and relatives

Source: Tourism Research Australia; Urbis

WINTER SPORTS WORLD VISITATION FORECASTS – MARKET SEGMENTS

KEY FINDINGS

- For the purposes of forecasting visitation to the proposed Winter Sports World, seven distinct market segments have been identified. These market segments represent the major markets from which the centre will derive visitation.
- The seven market segments are:
  - **Residents** – persons living in Greater/Western Sydney
  - **Business Daytrippers** – persons who will travel to Great/Western Sydney for the day for business reasons (i.e. conferences)
  - **Other Daytrippers** – persons who will travel to Great/Western Sydney for the day for leisure or other non-business reasons
  - **Domestic Business Overnight Visitors** – persons from other regions of Australia who will travel to Great/Western Sydney and stay overnight for business reasons (i.e. conferences)
  - **Other Domestic Overnight Visitors** – persons from other regions of Australia who will travel to Great/Western Sydney and stay overnight for leisure or other non-business reasons
  - **International Business Overnight Visitors** – persons from overseas who will travel to Great/Western Sydney and stay overnight for business reasons (i.e. conferences)
  - **Other International Overnight Visitors** – persons from overseas who will travel to Great/Western Sydney and stay overnight for leisure or other non-business reasons
- The current and future size of each of these market segments in Greater Sydney has been summarised in Table 5.1. It shows that Other Daytrippers currently represent the largest market segment and will remain the dominant segment over the next 10 years. Overall, the Greater Sydney market is estimated at 37 million persons in 2016 and forecast to grow to 43 million persons by 2021 and 48 million persons by 2025.
- Given the location of the subject site, the key market of relevance is that of Western Sydney as outlined in Table 5.2. The Western Sydney market is estimated at 15 million persons in 2016, growing to 17 million persons in 2021 and 19 million persons by 2025. This reflects an average annual growth rate of 2.7% per annum.
- Other Daytrippers represent the current and forecast largest market segment, followed by Residents and the Other Domestic Overnight Visitors.

WINTER SPORTS WORLD – POTENTIAL MARKET SEGMENTS TABLE 5.1

Greater Sydney, 2016-25

Segment	2016	2021	2025
Residents	4,694,400	5,119,400	5,461,290
Business Daytrippers	2,625,110	2,831,190	3,200,990
Other Daytrippers	17,842,130	19,906,040	21,567,070
Domestic Business Overnight Visitors	2,712,570	3,518,520	3,978,100
Other Domestic Overnight Visitors	6,134,230	7,346,220	7,929,980
International Business Overnight Visitors	362,310	431,030	489,280
Other International Overnight Visitors	2,966,360	4,110,300	5,197,790
TOTAL	**37,337,110**	**43,262,700**	**47,824,500**

WINTER SPORTS WORLD – POTENTIAL MARKET SEGMENTS TABLE 5.2

Western Sydney, 2016-25

Segment	2016	2021	2025
Residents	2,389,240	2,654,610	2,891,460
Business Daytrippers	1,037,070	1,131,270	1,281,110
Other Daytrippers	8,296,710	9,220,200	10,252,040
Domestic Business Overnight Visitors	576,770	714,690	871,040
Other Domestic Overnight Visitors	2,314,720	2,567,690	2,810,200
International Business Overnight Visitors	35,140	51,490	69,040
Other International Overnight Visitors	454,350	673,010	994,490
TOTAL	**15,104,000**	**17,012,960**	**19,169,390**

WINTER SPORTS WORLD VISITATION FORECASTS – BASE CASE

KEY FINDINGS

- Visitation forecasts for the proposed Winter Sports World under a Base Case scenario have been prepared by estimating and applying market shares to the seven market segments of Western Sydney outlined previously in Table 5.2.
- As this development represents the first of its kind in Australia, the estimated market shares shown in Table 5.3 should be considered indicative. They have been estimated based on the historical share of visitors to Sydney who attend theme / amusement parks during their stay, and assumptions regarding induced demand and the relative likelihood of persons in each market segment to attend the proposed centre. The resulting forecast visitation as a share of the overall market has then been checked against that of snow centres operating overseas.
- As shown in Table 5.3, the largest market shares are forecast in the other overnight visitor market segments (4%), followed by residents (2%) and business overnight visitors (1%). The lowest market shares are forecast in the daytripper markets (0.1%).
- The forecast visitation to the Winter Sports World is outlined in Table 5.4. In its first full year of operation (2021), the centre is forecast to achieve visitation of 200,600 persons. This is expected to increase to 231,000 visitors per annum by 2025, reflecting an increase of 15%. The forecast visitation is similar to that being achieved by Tamworth SnowDome in the UK.
- Other domestic overnight visitors are forecast to represent the largest visitor segment (49-51% of visitors), reflecting both the significant size of the market segment and the high estimated market share.
- Residents are forecast to account for 25-26% of total visitors and therefore represent the second-largest visitor segment.
- International business overnight visitors are expected to be the smallest visitor segment, accounting for only 500-700 visitors per annum. This primarily reflects the substantially smaller size of the market segment relative to the others.
- It should be noted that the Base Case forecasts are inherently conservative as they do not allow for visitation which would be induced by the creation of the centre.

INDICATIVE MARKET SHARES OF WESTERN SYDNEY – BASE CASE — TABLE 5.3

Winter Sports World

Segment	Market Share (%)
Residents	2.0%
Business Daytrippers	0.1%
Other Daytrippers	0.1%
Domestic Business Overnight Visitors	1.0%
Other Domestic Overnight Visitors	4.0%
International Business Overnight Visitors	1.0%
Other International Overnight Visitors	4.0%

FORECAST VISITATION – BASE CASE — TABLE 5.4

Winter Sports World, 2021-25

Market Segment	2021	2022	2023	2024	2025
Residents	53,100	54,200	55,400	56,600	57,800
Daytrip Visitors (Business)	1,100	1,200	1,200	1,200	1,300
Daytrip Visitors (Remainder)	9,200	9,500	9,700	10,000	10,300
Domestic Overnight Visitors (Business)	7,100	7,500	7,900	8,300	8,700
Domestic Overnight Visitors (Remainder)	102,700	105,100	107,500	110,000	112,400
International Overnight Visitors (Business)	500	600	600	600	700
International Overnight Visitors (Remainder)	26,900	29,700	32,700	36,100	39,800
TOTAL VISITORS	**200,600**	**207,800**	**215,000**	**222,800**	**231,000**

Source: ABS; Tourism Research Australia; NSW DPE; Urbis

WINTER SPORTS WORLD REVENUE FORECASTS – VISITOR SPENDING

KEY FINDINGS

- For the purposes of forecasting the potential revenue that could be generated by Winter Sports World, it has been necessary to estimate an average spend per visitor for each market segment. This has required assessing the average prices that could be charged at the centre.
- We have undertaken this assessment by reviewing the prices currently being charged at similar facilities and for similar services (i.e. hotel and conferencing).
- Table 6.1 outlines the admittance prices being charged at both other snow centres and at facilities located in Sydney which cater to a similar market. All prices are in 2017 Australian Dollars and adjusted for purchasing power where relevant (i.e. overseas facilities).
- As shown in Table 6.1, 1-2 hour lift passes at existing snow centres are priced from $25 up to $90 depending on the duration of the pass and the age of the purchaser. All days passes range in price from $49 up to $75. While this provides a valuable indication of the admittance prices that could potentially be achieved at Winter Sports World, it is important to also consider the competitive context of the proposed centre.
- Although Winter Sports World will provide a unique leisure experience for visitors, it is still likely to compete with other leisure facilities in Sydney such as Wet n Wild and the nearby Cables Wake Park. It is therefore necessary to consider the admittance prices charged at these facilities.
- All day passes at these facilities cost in the range of $22 to $99, while a 1-2 hour pass at Cables Wake Park is priced at $44-59. The client is planning on charging $69 for a 1 hour pass, $99 for a 2 hour pass, and $129 for a 4 hour pass to Winter Sports World. Therefore, we consider an appropriate average admittance price for the proposed centre to be $80 per person.
- Table 6.2 outlines the details of several existing hotel and conferencing establishments operating in Western Sydney. These range in size from 122 rooms up to 231 rooms, and charge hotel room prices of $130-380 per night. This pricing primarily reflects the quality of the hotel and its surrounding amenity. The Mercure Hotel at Penrith Panthers provides 222 rooms for $130-270 per night. Given the similar market pitch, we have assumed an average room rate of $250 per night, and an average occupancy rate of 70%, at the proposed centre.
- Conferencing packages at these establishments generally fall in the range of $65-69 per person, while the Penrith Panthers club offers packages from $55 per person. The client is planning on charging $99 per person for conferences at Winter Sport World which we consider this to be a reasonable average conferencing package price, though notably at the upper end.
- We have also assumed that each visitor will spend an average of $20 on food and beverages during their visit to the centre. This amount has been increased for hotel guests ($40) and reduced for conference attendees ($5) as they will receive catering as part of their conference package (refer to the appendix for further details).

ADMITTANCE PRICES ($2017 AUD) TABLE 6.1

Comparable Facilities, 2017

Snow Centres	1-2 Hour Pass	All Day Pass	Other
Tamworth SnowDome	$58-90	-	-
Snow Factor	$45-73	$64-75	-
Chill Factore	$32-56	-	-
Snowplanet	$35-46	$49-69	-
SnowWorld	$25-50	$54-64	-
Nearby Facilities			
Cables Wake Park	$44-59	$74-99	-
Wet n Wild Sydney	-	$59-69	-
Luna Park Sydney	-	$22-52	-
iFLY Downunder	-	-	$109-149

Source: Various websites; Urbis

ACCOMMODATION AND CONFERENCING PRICES ($2017) TABLE 6.2

Western Sydney, 2017

Establishment	Hotel Rooms	Hotel Quality	Price Range*	Conference Package Prices
Penrith Panthers	222	4 Star	$130-270	From $55 per person
Atura Blacktown	122	4 Star	$140-260	From $69 per person
Rydges Parramatta	151	4 Star	$180-380	From $67 per person
Mantra Parramatta	231	4 Star	$170-340	From $65 per person
Novotel Sydney Parramatta	194	4.5 Star	$170-350	From $68 per person
Parkroyal Parramatta	196	4.5 Star	$280-370	From $75 per person
Mercure Sydney Parramatta	164	4 Star	$180-290	From $65 per person
Holiday Inn Parramatta	181	4.5 Star	$140-340	From $69 per person
Novotel Sydney Olympic Park	177	4 Star	$180-380	From $79 per person

**Based on rates for two adults per night*

Source: Booking.com; www.sydneyhotelconferences.com/Venues-Parramatta-Homebush.htm; Urbis

WINTER SPORTS WORLD REVENUE FORECASTS – BASE CASE

KEY FINDINGS

- Table 6.3 outlines the estimated average spend per visitor for each of the seven market segments. These have been based on the pricing review detailed previously, in addition to assumptions regarding hotel occupancy, conference attendance and spending on food and beverages. An explanation of the methodology used to estimate these figures is provided in the Appendix.
- As shown in the table, overnight business visitors are forecast to spend the most on a per visitor basis at approximately $277 per visitor. This reflects the potential for visitors in this market segment to also attend conferences at the centre and stay at the on site hotel.
- As detailed in the appendix, we have assumed 20% of these overnight business visitors will attend the snow centre only, 10% will also attend a conference during their visit, 5% are assumed to also stay overnight at the on site hotel, and 65% are assumed to both attend a conference and stay at the on site hotel during their visit. On average, this results in a per visitor spend of $277.
- Other overnight visitors are forecast to spend the second-highest amount on a per visitor basis ($215 per visitor). While some of these visitors will also stay at the hotel, they are considered less likely to attend conferences at the centre and therefore will spend less, on average, than overnight business visitors.
- The other daytripper market segment is forecast to have the lowest average spend at $100 per visitor.
- The estimated average spend per visitor for each market segment has then been applied to the forecast visitation from each market segment to provide an indicative forecast of the gross revenue that could be achieved by Winter Sports World in its first five years of operation (in constant $2017 dollars).
- In its first full year of operation (2021), the centre is forecast to generate over $36 million in annual revenue. This is projected to increase to $42 million per annum by 2025.
- Between 517% and 61% of forecast revenue is attributable to other domestic overnight visitors, while 14-15% is accounted for by residents and 16-20% will be generated by other international overnight visitors. In total, these three visitor segments are estimated to account for 91% of annual revenue.
- Applying an indicative gross margin of 90% (based on the financial performance of SnowWorld in the Netherlands), yields an indicative gross profit of $32.7 million in 2021, growing to $38.1 million by 2025 in $2017 constant dollars.

ESTIMATED AVERAGE SPEND PER VISITOR ($2017) TABLE 6.3

Winter Sports World

Market Segment	Average Spend Per Visitor
Residents	$102
Daytrip Visitors (Business)	$142
Daytrip Visitors (Remainder)	$100
Domestic Overnight Visitors (Business)	$277
Domestic Overnight Visitors (Remainder)	$215
International Overnight Visitors (Business)	$277
International Overnight Visitors (Remainder)	$215
TOTAL	**$181**

Source: ABS; Tourism Research Australia; NSW DPE; Urbis

INDICATIVE REVENUE FORECAST – BASE CASE ($2017) TABLE 6.4

Winter Sports World, 2021-25

Market Segment	2021	2022	2023	2024	2025
Residents	$5,400,900	$5,512,800	$5,634,900	$5,756,900	$5,879,000
Daytrip Visitors (Business)	$155,700	$169,800	$169,800	$169,800	$184,000
Daytrip Visitors (Remainder)	$915,400	$945,300	$965,200	$995,000	$1,024,900
Domestic Overnight Visitors (Business)	$1,965,400	$2,076,100	$2,186,900	$2,297,600	$2,408,300
Domestic Overnight Visitors (Remainder)	$22,035,100	$22,550,000	$23,064,900	$23,601,300	$24,116,300
International Overnight Visitors (Business)	$138,400	$166,100	$166,100	$166,100	$193,800
International Overnight Visitors (Remainder)	$5,771,600	$6,372,400	$7,016,000	$7,745,500	$8,539,400
GROSS REVENUE	**$36,382,500**	**$37,792,500**	**$39,203,800**	**$40,732,200**	**$42,345,700**
Indicative Gross Margin	*90%*	*90%*	*90%*	*90%*	*90%*
Indicative Gross Profit	**$32,744,300**	**$34,013,300**	**$35,283,400**	**$36,659,000**	**$38,111,100**
Indicative Net Margin	*15%*	*15%*	*15%*	*15%*	*15%*
Indicative Net Profit	**$5,457,375**	**$5,668,875**	**$5,880,570**	**$6,109,830**	**$6,351,855**

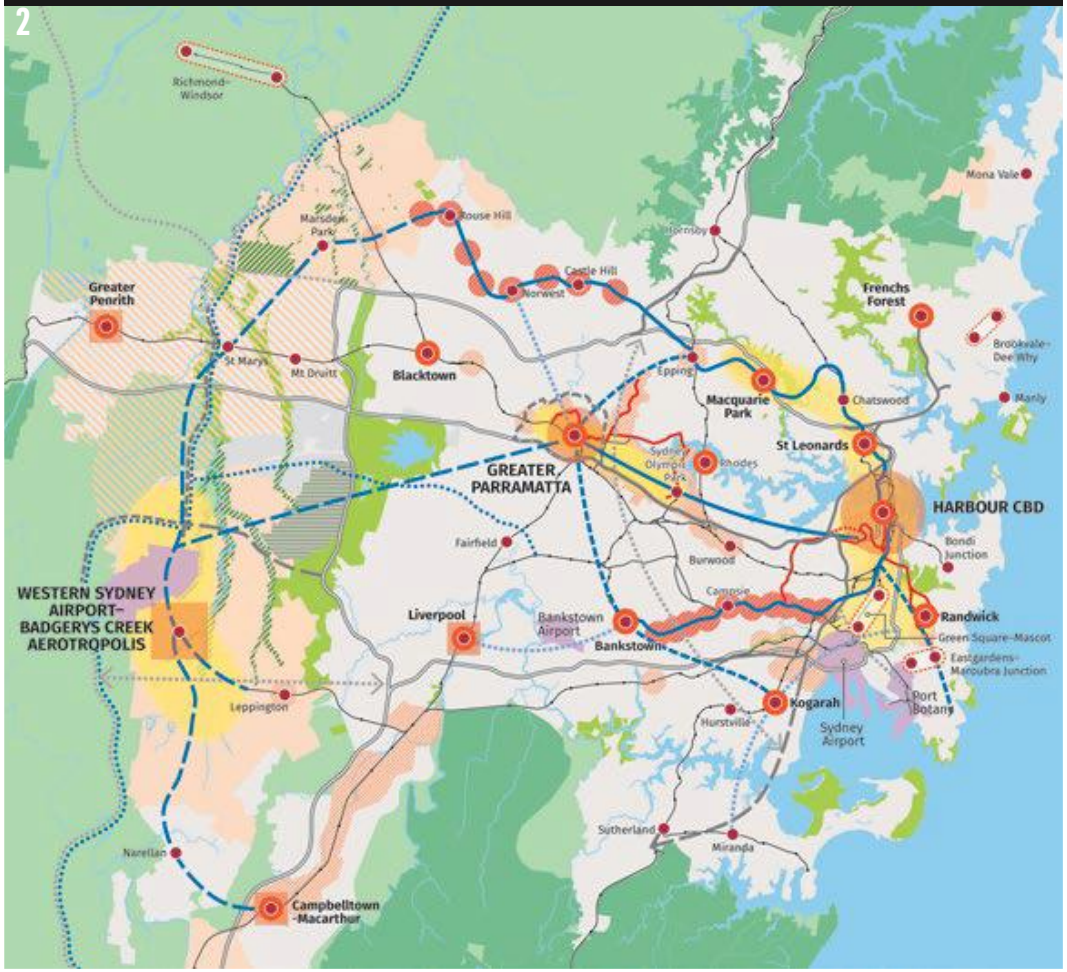
Source: ABS; Tourism Research Australia; NSW DPE; SnowWorld; Urbis

WINTER SPORTS WORLD VISITATION AND REVENUE – UPLIFT POTENTIAL

KEY FINDINGS

- There are several opportunities to increase the visitation and revenue that could be achieved by the Winter Sports World.
- The first opportunity is for the on site hotel and conferencing facilities to cater to visitors who will not also attend the snow centre. This would require effective marketing and would allow the hotel to achieve higher occupancy rates than if it were to only rely on visitors who were there to attend the centre.
- Another key opportunity for Winter Sports World is the proposed Western Sydney Airport at Badgerys Creek, only 20 km driving distance from the subject site (refer Map 2). Construction is due to commence in late 2018 with the airport expected to commence operations by 2026.
- The airport is expected to generate significant employment and economic activity in Western Sydney, and further drive population growth in the western priority growth area.
- In its first five years (2026-31), the airport is forecast to service approximately 5 million passengers per annum. This is anticipated to grow to 10 million passengers per year from 2031 onwards.
- Winter Sports World stands to benefit from both the increased population growth in Western Sydney driven by the airport, in addition to the improved access to domestic and international visitor markets. There is strong potential for Winter Sports World to experience an uplift in visitation and revenue post-2026 due to the opening of the airport.
- The third key opportunity for the Winter Sports World is the potential for the centre to host professional and amateur athletes who would use the centre as a training venue.
- Due to Australia's short and unpredictable snow season, Australia's professional snow sports athletes currently have to train overseas in Chile and Argentina during the winter before moving to Europe for the summer. Winter Sports World would present a year-round alternative where athletes can undertaken fundamentals training in a highly controlled environment.
- Hosting these professional athletes would raise the profile of the centre which has the potential to result in an uplift in visitation from the amateur athlete and general visitor markets.
- This is expected to be a growing market following the Australian Government's commitment of a $5.2 million boost to winter sports funding in June 2017. The increased funding of winter sports, and improving performance Australian winter sports athletes in recent years, is likely to lead to an increased interest in winter sports at a casual, amateur and professional level in Australia.

WESTERN SYDNEY AIRPORT – GEOGRAPHICAL CONTEXT MAP



WINTER SPORTS WORLD VISITATION FORECASTS – HIGH CASE

KEY FINDINGS

- In addition to the Base Case visitation and revenue forecasts, we have also prepared forecasts under a High Case scenario.
- This High Case reflects the uplift potential noted previously, and accounts for induced demand (i.e. increased visitation to Sydney due to the establishment of Winter Sports World), higher demand from the corporate market, increased hotel occupancy, and a stronger focus on the athlete market.
- The forecast visitation to Winter Sports World under the High Case is outlined in Table 7.1. In its first full year of operation (2021), the centre is forecast to achieve visitation of 235,300 persons, increasing to 270,200 visitors per annum by 2025. This reflects an uplift of 17-20% over the Base Case visitation forecast.
- Approximately 27% of this uplift over the Base Case is estimated to be attributable to the business-visitor market, while the remaining 73% will be a result of induced demand and greater visitation from the athlete market. The significant uplift attributable to induced demand reflects that Winter Sports World will provide a wholly unique offer that will be the first of its kind in Australia. As such, it has the potential to act as 'magnetic infrastructure', drawing new visitors to Western Sydney.
- As with the Base Case, other domestic overnight visitors are forecast to represent the largest visitor segment (43-45% of visitors). While residents are still forecast to account for the second-largest share, this share is slightly higher than the Base Case at 27-28% of total visitors.
- The higher visitation forecast under the High Case consequently yields a higher revenue forecast as shown in Table 7.2. The centre is forecast to generate around $42 million in annual revenue in its first year of operation, growing to $48 million per annum by 2025. This reflects a 14-15% uplift on the revenue forecast under the Base Case.
- Applying an indicative gross margin of 90% (based on the financial performance of SnowWorld in the Netherlands), yields an indicative gross profit of $37.5 million in 2021, increasing to $43.6 million by 2025 in $2017 constant dollars.

FORECAST VISITATION – HIGH CASE — TABLE 7.1

Winter Sports World, 2021-25

Market Segment	2021	2022	2023	2024	2025
Residents	66,400	67,800	69,300	70,800	72,300
Daytrip Visitors (Business)	2,300	2,300	2,400	2,500	2,600
Daytrip Visitors (Remainder)	18,400	19,000	19,500	20,000	20,500
Domestic Overnight Visitors (Business)	14,300	15,000	15,800	16,600	17,400
Domestic Overnight Visitors (Remainder)	105,300	107,800	110,200	112,700	115,200
International Overnight Visitors (Business)	1,000	1,100	1,200	1,300	1,400
International Overnight Visitors (Remainder)	27,600	30,400	33,600	37,000	40,800
TOTAL VISITORS	**235,300**	**243,400**	**252,000**	**260,900**	**270,200**

Source: ABS; Tourism Research Australia; NSW DPE; Urbis

INDICATIVE REVENUE FORECAST – HIGH CASE ($2017) — TABLE 7.2

Winter Sports World, 2021-25

Market Segment	2021	2022	2023	2024	2025
Residents	$6,753,700	$6,896,100	$7,048,700	$7,201,200	$7,353,800
Daytrip Visitors (Business)	$325,500	$325,500	$339,700	$353,800	$368,000
Daytrip Visitors (Remainder)	$1,830,800	$1,890,500	$1,940,300	$1,990,000	$2,039,800
Domestic Overnight Visitors (Business)	$3,958,500	$4,152,300	$4,373,700	$4,595,200	$4,816,600
Domestic Overnight Visitors (Remainder)	$22,592,900	$23,129,300	$23,644,200	$24,180,600	$24,717,000
International Overnight Visitors (Business)	$276,800	$304,500	$332,200	$359,900	$387,500
International Overnight Visitors (Remainder)	$5,921,800	$6,522,500	$7,209,100	$7,938,600	$8,753,900
GROSS REVENUE	**$41,660,000**	**$43,220,700**	**$44,887,900**	**$46,619,300**	**$48,436,600**
Indicative Gross Margin	*90%*	*90%*	*90%*	*90%*	*90%*
Indicative Gross Profit	**$37,494,000**	**$38,898,600**	**$40,399,100**	**$41,957,400**	**$43,592,900**
Indicative Net Margin	*15%*	*15%*	*15%*	*15%*	*15%*
Indicative Net Profit	**$6,249,000**	**$6,483,105**	**$6,733,185**	**$6,992,895**	**$7,265,490**

Source: ABS; Tourism Research Australia; NSW DPE; SnowWorld; Urbis

ECONOMIC BENEFIT ASSESSMENT – METHODOLOGY

METHODOLOGY

- Property development projects provide economic benefits to a local economy and wider region during both the construction and development phase, and during the ongoing operation or working life of the project. Direct economic benefits during the development phase are identified in the form of expenditure, economic growth and employment benefits. These direct benefits in turn generate flow-on (multiplier or indirect) benefits which also benefit the regional and state economies.
- The Economic Benefit Assessment (EBA) uses REMPLAN to model the potential economic benefits associated with the proposed development. REMPLAN is an Input-Output model that captures inter-industry relationships within an economy. It can assess the area-specific direct and flow-on implications across industry sectors in terms of employment, wages and salaries, output and value-added (Gross State Product).
- REMPLAN base data is drawn from the Australian Bureau of Statistics (ABS) and other government agencies. It provides highly reliable, up-to-date, and defensible economic modelling across any state or region in Australia.
- Previous modelling of economic impacts have used ABS Input-Output tables from 1996-97. These multipliers are close to 20 years old and are less accurate in estimating impacts on the economy, particularly due to:
  - Productivity changes throughout the economy over the past 20 years; and
  - The changing industry make-up of the Australian economy since 1997 – for example the decline in manufacturing and the rise in financial services.

- Input-Output multipliers are typically referred to as either Type 1 or Type 2.
  - **Type 1 multipliers** measure the industry response to a project, including initial impact from the primary industry and the relevant support from other industries. The initial impact consists of the employment and value added directly generated in the industry that associates specifically to the project. The industry support captures flow-on effects that occur as the industry that is finally impacted on changes its demand for inputs required from other industries. These industries will in turn respond by changing their input demands leading to additional activity and so on.
  - **Type 2 multipliers** measure the industrial response, plus the consumption-induced response. The consumption-induced effects represent changes in consumption by the household sector in response to income changes resulting from a project. For the purposes of this analysis, consumption-induced effects have been excluded. Consumption-induced effects are prone to overstate the benefits of a particular investment as they overestimate the impact of wage and salary increases in the local economy. This is accepted industry practice.

- The potential economic benefits of the proposed development have been quantified in terms of value added expenditure generation and employment generation:
  - **Expenditure Generation** – Estimation of the direct and indirect expenditure impacts resulting from the proposed development. This estimates value-added expenditure impacts to the regional and state economies during both the development and operating phases; and
  - **Employment Creation** – Estimation of the direct and indirect employment impacts resulting from the proposed developments. This estimates employment impacts using standard industry benchmarks and regional employment multipliers for New South Wales.

ECONOMIC BENEFIT ASSESSMENT – DEVELOPMENT PHASE

KEY FINDINGS

- Direct economic benefits during the development phase are identified in the form of employment and value-added benefits. These direct benefits, in turn, generate flow-on (multiplier or indirect) benefits which also benefit the regional and state economies.

Project Expenditure

- Total expenditure estimates for the proposed development have provided by the architects of the proposed centre – Environa Studio (refer Table 8.1).
- This development is estimated to generate approximately $204.8 million of direct expenditure (Output) to the local region and state over the development period.

Employment Benefits

- New jobs will be supported during the development phase by the direct expenditure on the proposed development. The direct and indirect employment benefits are shown below:
  - Direct Jobs = 230
  - Indirect Jobs = 666
  - Total Jobs = 896

Value-Added Benefits (constant $2017 dollars)

- Value-added benefits (Gross State Product) will be generated from the direct expenditure incurred on the proposed development. Value-added essentially represents economic growth for the region and state. The direct and indirect value-added benefits are shown below:
  - Direct Value-Added = $45.9 million
  - Indirect Value-Added = $99.1 million
  - Total Value-Added = $145.0 million

ESTIMATED PROJECT EXPENDITURE TABLE 8.1

Component	Estimated Cost ($M)
Recreation Facilities	$75.8
Gymnasium	$0.9
Hotel and Conferencing	$47.9
Food and Beverage Retail	$4.0
Other	$76.2
TOTAL	**$204.8**

Source: Environa Studio; Urbis

TOTAL ECONOMIC BENEFITS – DEVELOPMENT PHASE TABLE 8.2

	Direct	Indirect	Total
Employment (Jobs)	230	666	896
Value-added ($M)	$45.9	$99.1	$145.0

Source: Environa Studio; REMPLAN; Urbis

ECONOMIC BENEFIT ASSESSMENT – OPERATING LIFE

KEY FINDINGS

- In addition to economic benefits that are generated during the development of the proposed Winter Sports World, there will be ongoing economic benefits created through the operation of the facilities on the site. These benefits include growth in employment and value-added (Gross State Product).
- The potential direct and indirect value-added and employment estimated to be supported by the ongoing operation of the proposed development is outlined in Table 8.3 and 8.4.

Employment Benefits

- The ongoing operation of the proposed centre will directly and indirectly support new jobs in the local region and state. The direct and indirect employment benefits are shown below:
  - Direct Jobs = 499
  - Indirect Jobs = 260
  - Total Jobs = 759

Value-Added Benefits (constant $2017 dollars)

- Once operational, the proposed Winter Sports World will generate ongoing additional value-added via annual contributions to Gross State Product (GSP). This represents economic activity which would otherwise not have occurred.
- Value-Added Benefits (2021+):
  - Direct Value-Added = $36.9 million per annum
  - Indirect Value-Added = $38.0 million per annum
  - Total Value-Added = $74.9 million per annum

DIRECT EMPLOYMENT – OPERATING LIFE TABLE 8.3

Component	Size	Sq.m per Employee	Jobs
Recreation Facilities	18,475 sq.m	65	284
Gymnasium	210 sq.m	38	6
Hotel	170 rooms	1.66	102
Restaurant/Conference Facilities	1,264 sq.m	27	47
Other Food and Beverage Retail	953 sq.m	16	60
Total			**499**

Source: Environa Studio; Urbis

TOTAL ECONOMIC BENEFITS – OPERATING LIFE TABLE 8.4

	Direct	Indirect	Total
Employment (Jobs)	499	260	759
Value-added ($M)	$36.9	$38.0	$74.9

Source: Environa Studio; REMPLAN; Urbis

SUMMARY OF FORECASTS

KEY FINDINGS

- The potential visitation that could be achieved, and revenue that could be generated, by the proposed Winter Sports World has been forecast under a Base Case and a High Case scenario.
- The Base Case reflects a conservative forecast while the High Case provides an indication of the level of visitation and revenue that could potentially be achieved if the opportunities for uplift are realised.
- Under the Base Case, Winter Sports World is forecast to attract 200,600 visitors in its first year of operation (i.e. 2021), yielding gross revenue of $36.4 million and indicative gross profit of $32.7 million.
- By 2025, the centre is forecast to achieve annual visitation of 231,000 persons. This increased visitation is projected to drive up gross revenue to reach $42.3 million and indicative gross profit to reach $38.1 million per annum.
- Under the High Case, Winter Sports World is forecast to achieve visitation of 235,300 persons in 2021, growing to 270,200 persons by 2025. This reflects a 17-20% uplift on the Base Case.
- The higher visitation forecast also results in a higher revenue forecast with an estimated gross revenue of $41.7 million in 2021. This is projected to increase to $48.4 million by 2025. Similarly, indicative gross profit is forecast to grow from $37.5 million in 2021 to reach $43.6 million in 2025. This represents uplift of 14-15% over the Base Case revenue forecast.
- We have also estimated, in a quantified method, the future economic benefits that will be generated by the proposed Winter Sports World development in terms of employment and economic growth (value-added) both during the development phase and on an ongoing operating basis.
- An additional 896 direct and indirect jobs are estimated to be supported during the development period. This will contribute a total of $145.0 million in value-added to the NSW economy (constant $2017 dollars).
- Once complete, the development is estimated to support a total of 759 direct and indirect jobs across the local region and state, and contribute $74.9 million in value-added to the NSW economy each year (constant $2017 dollars).

VISITATION AND REVENUE – BASE CASE (CONSERVATIVE) TABLE 9.1

	Unit	2021	2022	2023	2024	2025
Visitation	*persons*	200,600	207,800	215,000	222,800	231,000
Gross Revenue	*$M*	$36.4	$37.8	$39.2	$40.7	$42.3
Indicative Gross Profit	*$M*	$32.7	$34.0	$35.3	$36.7	$38.1
Indicative Net Profit	*$M*	$5.5	$5.7	$5.9	$6.1	$6.4

Source: ABS; Tourism Research Australia; NSW DPE; SnowWorld; Environa Studio; REMPLAN; Urbis

VISITATION AND REVENUE – HIGH CASE (POTENTIAL) TABLE 9.2

	Unit	2021	2022	2023	2024	2025
Visitation	*persons*	235,300	243,400	252,000	260,900	270,200
Gross Revenue	*$M*	$41.7	$43.2	$44.9	$46.6	$48.4
Indicative Gross Profit	*$M*	$37.5	$38.9	$40.4	$42.0	$43.6
Indicative Net Profit	*$M*	$6.2	$6.5	$6.7	$7.0	$7.3

Source: ABS; Tourism Research Australia; NSW DPE; SnowWorld; Environa Studio; REMPLAN; Urbis

ECONOMIC BENEFITS TABLE 9.3

Development Phase

	Direct	Indirect	Total
Employment (Jobs)	230	666	896
Value-added ($M)	$45.9	$99.1	$145.0

Operating Life

	Direct	Indirect	Total
Employment (Jobs)	499	260	759
Value-added ($M)	$36.9	$38.0	$74.9

Source: Environa Studio; REMPLAN; Urbis

APPENDIX
REVENUE FORECASTING METHODOLOGY

APPENDIX – REVENUE FORECASTING METHODOLOGY

EXPLANATION

- To estimate the indicative revenue forecasts, we have assumed base prices for admission, food and beverage spending, hotel nights, and conferencing packages. These reflect how much an average visitor might spend on each item at the Winter Sports World.
- However, spending by visitors from the different market segments is likely to vary. This will primarily be driven by whether they are attending a conference or staying at the hotel while visiting the centre.
- We have therefore split the market segments based on whether they are likely to attend a conference and/or stay at the on site hotel when they visit Winter Sports World (refer Table A.2).
- For example, of all the domestic business overnight visitors to Winter Sports World, 10% are assumed to also attend a conference during their visit, 5% are assumed to also stay overnight at the on site hotel, and 65% are assumed to both attend a conference and stay at the on site hotel during their visit. Therefore, only 20% of domestic business overnight visitors are assumed to only attend the snow centre during their visit.

AVERAGE SEND PER VISITOR – BASE PRICES TABLE A.1

	Average Spend per Visitor (Base Prices)
Snow Centre Admission	$80
Food and Beverage	$20
Hotel	$250
Conference	$99

ASSUMED LIKELIHOOD OF ATTENDING CONFERENCES / STAYING AT HOTEL TABLE A.2

	Attend Conference	Stay at On Site Hotel	Attend Conference and Stay at On Site Hotel
Residents	5%	0%	0%
Daytrip Visitors (Business)	95%	0%	0%
Daytrip Visitors (Remainder)	0%	0%	0%
Domestic Overnight Visitors (Business)	10%	5%	65%
Domestic Overnight Visitors (Remainder)	0%	46%	0%
International Overnight Visitors (Business)	10%	5%	65%
International Overnight Visitors (Remainder)	0%	46%	0%

APPENDIX – REVENUE FORECASTING METHODOLOGY

EXPLANATION

- In addition to the different market segments spending differing amounts on the different items, there is also likely to be discounts offered when visitors stay at the hotel or attend a conference.
- Table A.3 therefore outlines the assumed variations from base prices which reflects different spending habits as well as potential discounting.
- It shows that visitors who are only attending the snow centre are assumed to pay 100% of the base price for admission (=$80) and 100% of the base price for food and beverages (=$20).
- In comparison, visitors who will also stay at the hotel during their visit to the snow centre are assumed to pay 100% of the base price for their hotel stay (=$250) but will receive a 25% discount on their admission to the snow centre (=$60 spend). However, given these visitors will spend at least two days at the centre, they are assumed to pay 200% of the base price for food and beverages (=$40).
- Similarly, visitors who are attending a conference during their visit to the snow centre are assumed to pay 100% of the base price for their conference (=$99) but will receive a 50% discount on their admission to the snow centre (=$40). Additionally, as these visitors are likely to receive catering as part of their conference package, they are assumed to only pay 25% of the base price for food and beverages (=$5).

ASSUMED VARIATIONS FROM BASE PRICES — TABLE A.3

	Admission	Food and Beverage	Hotel	Conference
Snow Centre Only	100%	100%	0%	0%
Snow Centre + Hotel Stay	75%	200%	100%	0%
Snow Centre + Conference	50%	25%	0%	100%
Snow Centre + Hotel Stay + Conference	50%	100%	75%	100%

APPENDIX – REVENUE FORECASTING METHODOLOGY

EXPLANATION

- Based on the assumptions regarding likelihood to attend conferences and stay at the hotel, and the assumed variations from base prices, Table A.4 provides the indicative weighted average spend for visitors from each market segment.
- A summarised version of this table (containing only the totals) appears in the body of this report as Table 6.3.
- These weighted average spend figures have been applied to the visitation forecast for each market segment to provide an indicative forecast of the revenue that could potentially be generated by the proposed centre.

AVERAGE SPEND BY MARKET SEGMENT — TABLE A.4

		Average Spend ($)				
Market Segment		**Admission**	**F&B**	**Hotel**	**Conferencing**	**TOTAL**
Residents		$78	$19	$0	$5	**$102**
Snow Centre Only	*95%*	$80	$20	$0	$0	$100
Conference	*5%*	$40	$5	$0	$99	$144
Daytrip Visitors (Business)		$42	$6	$0	$94	**$142**
Snow Centre Only	*5%*	$80	$20	$0	$0	$100
Conference	*95%*	$40	$5	$0	$99	$144
Daytrip Visitors (Remainder)	*100%*	$80	$20	$0	$0	**$100**
Domestic Overnight Visitors (Business)		$49	$20	$134	$74	**$277**
Snow Centre Only	*20%*	$80	$20	$0	$0	$100
Hotel Stay	*5%*	$60	$40	$250	$0	$350
Conference	*10%*	$40	$5	$0	$99	$144
Hotel Stay + Conference	*65%*	$40	$20	$188	$99	$346
Domestic Overnight Visitors (Remainder)		$70	$29	$115	$0	**$215**
Snow Centre Only	*54%*	$80	$20	$0	$0	$100
Hotel Stay	*46%*	$60	$40	$250	$0	$350
International Overnight Visitors (Business)		$49	$20	$134	$74	**$277**
Snow Centre Only	*20%*	$80	$20	$0	$0	$100
Hotel Stay	*5%*	$60	$40	$250	$0	$350
Conference	*10%*	$40	$5	$0	$99	$144
Hotel Stay + Conference	*65%*	$40	$20	$188	$99	$346
International Overnight Visitors (Remainder)		$70	$29	$115	$0	**$215**
Snow Centre Only	*54%*	$80	$20	$0	$0	$100
Hotel Stay	*46%*	$60	$40	$250	$0	$350

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APPENDIX 6
Traffic and Parking Assessment

TRAFFIC & PARKING ASSESSMENT

Planning Proposal for 2-4 Tench Avenue, Jamisontown

Winter Sports World

Prepared for: Winter Sports World Pty Ltd

Reference: 0051r01v04

Date: 2/07/2018

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1. Introduction

1.1. Overview

PDC Consultants has been commissioned by Winter Sports World Pty Ltd to undertake a Traffic & Parking Assessment of a Planning Proposal relating to the site at 2-4 Tench Avenue, Jamisontown. The Planning Proposal seeks to increase the building height permitted on-site to allow for a tourist / recreational development having the following characteristics:

- Winter Sports World comprising:
    - 300 metre long indoor ski slope and 80 metre long indoor training slope / snow play area;
    - Ice skating rink;
    - Ice and rock climbing walls;
    - Altitude and gymnasium training facilities;
    - Retail, and food and beverage premises;
    - Administration centre;
- 170 room hotel;
- 1,000 seat function centre / restaurant;
- 2 above-ground car parking areas having a total of 650 car spaces;
- 3 access driveways onto Jamison Road.

The site is located within the Penrith local government area and as such, the development contemplated under the Planning Proposal has been assessed in accordance with the Penrith Local Environmental Plan 2010 and Penrith Development Control Plan 2014.

1.2. Background

From the outset, PDC Consultants note that due to time constraints associated with the Planning Proposal submission date, traffic surveys and modelling of key intersections in the vicinity of the site was unable to be undertaken as part of this Traffic and Parking Assessment. Accordingly, these works will be undertaken as part of a subsequent Traffic Modelling report that shall be prepared by PDC Consultants and submitted to Penrith Council at a later date. The Traffic Modelling report shall assess the traffic impacts of the development on the external road network and identify what upgrades would be required to facilitate the expected increase in traffic volumes.

1.3. Structure of this Report

This report documents the findings of our investigations in relation to the anticipated traffic and parking impacts of the development contemplated following the amendment to the building height, and should be read in the context of the Planning Proposal report prepared separately by Sutherland and Associates Planning. The remainder of this report is structured as follows:

- Section 2: Describes the site and existing traffic and parking conditions in the locality;
- Section 3: Describes the proposed development;
- Section 4: Assesses the parking requirements of the development;
- Section 5: Assesses the traffic generation of the development and expected distribution onto the external road network;
- Section 6: Discusses the proposed access and internal design arrangements;
- Section 7: Presents the overall study conclusions.

1.4. References

In preparing this report, reference has been made to the following guidelines / standards:

- Penrith Local Environmental Plan 2010 (Penrith LEP 2010);
- Penrith Development Control Plan 2014 (Penrith DCP 2014);
- State Environmental Planning Policy (Infrastructure) 2007 (SEPP Infrastructure 2007);
- Disability (Access to Premises – Buildings) Standards 2010 (Disability Standard 2010);
- Australian Standard AS 2890.1-2004, Part 1: Off-Street Car Parking (AS 2890.1);
- Australian Standard AS 2890.2-2002, Part 2: Off-Street Commercial Vehicle Facilities (AS 2890.2);
- Australian Standard AS 2890.3-2015, Part 3: Bicycle Parking Facilities (AS 2890.3);
- RMS Guide to Traffic Generating Development 2002 (RMS Guide);
- RMS Technical Direction TDT 2013/04a - Guide to Traffic Generating Developments, Updated Traffic Surveys (RMS Guide Update).

2. Existing Conditions

2.1. Location and Site

The site is located at 2-4 Tench Avenue, Jamisontown being approximately 2.6 kilometres south-west of Penrith Railway Station and 51 kilometres west of the Sydney CBD. More specifically, it is located on the southern side of Jamison Road and on the eastern side of Tench Avenue. On the other side of Tench Avenue and Jamison Road lies the Nepean River and Cables Wake Park respectively.

The site is irregular in configuration with a total area of 2.34 hectares. It has two (2) street frontages being Jamison Road to the north and Tench Avenue to the west, having lengths of approximately 340 metres and 60 metres respectively. The eastern boundary borders an unformed road reserve, Wilson Lane, having a length of 100 metres. The southern boundary borders a neighbouring residential holiday park known as Nepean Shores by Gateway Lifestyle, having a length of 330 metres.

The site is generally vacant apart from a single residential dwelling being located at the western end of the site. Vehicle access is provided via a single 4.0 metre wide combined entry / exit driveway onto Tench Avenue serving the residential dwelling.

Figures 1 and 2 overleaf provide an appreciation of the site's location in both a broad and local context respectively.

2.2. Road Network

The road hierarchy in the vicinity of the site is shown by **Figure 1** overleaf, with the following roads considered noteworthy:

- M4 Western Motorway: an RMS Freeway that runs in an east-west direction from Concord Road, Strathfield in the east to Great Western Highway, Lapstone in the west. It forms a major east-west corridor between Inner Sydney and the western suburbs, carrying in the order of 5,000 vehicle per hour (two-way) during the morning and afternoon peak periods near the Northern Road. In the vicinity of the site, it is subject to 110km/h speed zoning restrictions and accommodates three (3) lanes of traffic in both directions.

- Mulgoa Road: forms part of an RMS Main Road, MR 155. Mulgoa Road runs in a north-south direction between Penrith in the north and Wallacia in the south. In the vicinity of the site, it is subject to 60km/h speed zoning restrictions and accommodates two (2) lanes of traffic in each direction.

- Jamison Road: an unclassified regional road that runs in an east-west direction between Bringelly Road in the east and Tench Avenue in the west. It is subject to 50km/h speed zoning restrictions and accommodates a single lane of traffic in each direction. Jamison Road accommodates a single lane of traffic in each direction within a 9m wide undivided carriageway, with unformed verges along both sides. A shared cyclist / pedestrian path is provided along the northern side of Jamison Road which connects to additional shared paths located along the eastern side of Nepean River.

- Tench Avenue: a local road that runs in a north-east to south-west direction connecting with Jamison Road in the north-east and Bellevue Road in the south-west. It is subject to 50km/h speed zoning restrictions and accommodates a single lane of traffic in each direction. It is generally subject to 'No Stopping' restrictions along its eastern side, with unrestricted angled (90 degree) parking permitted along its western side.

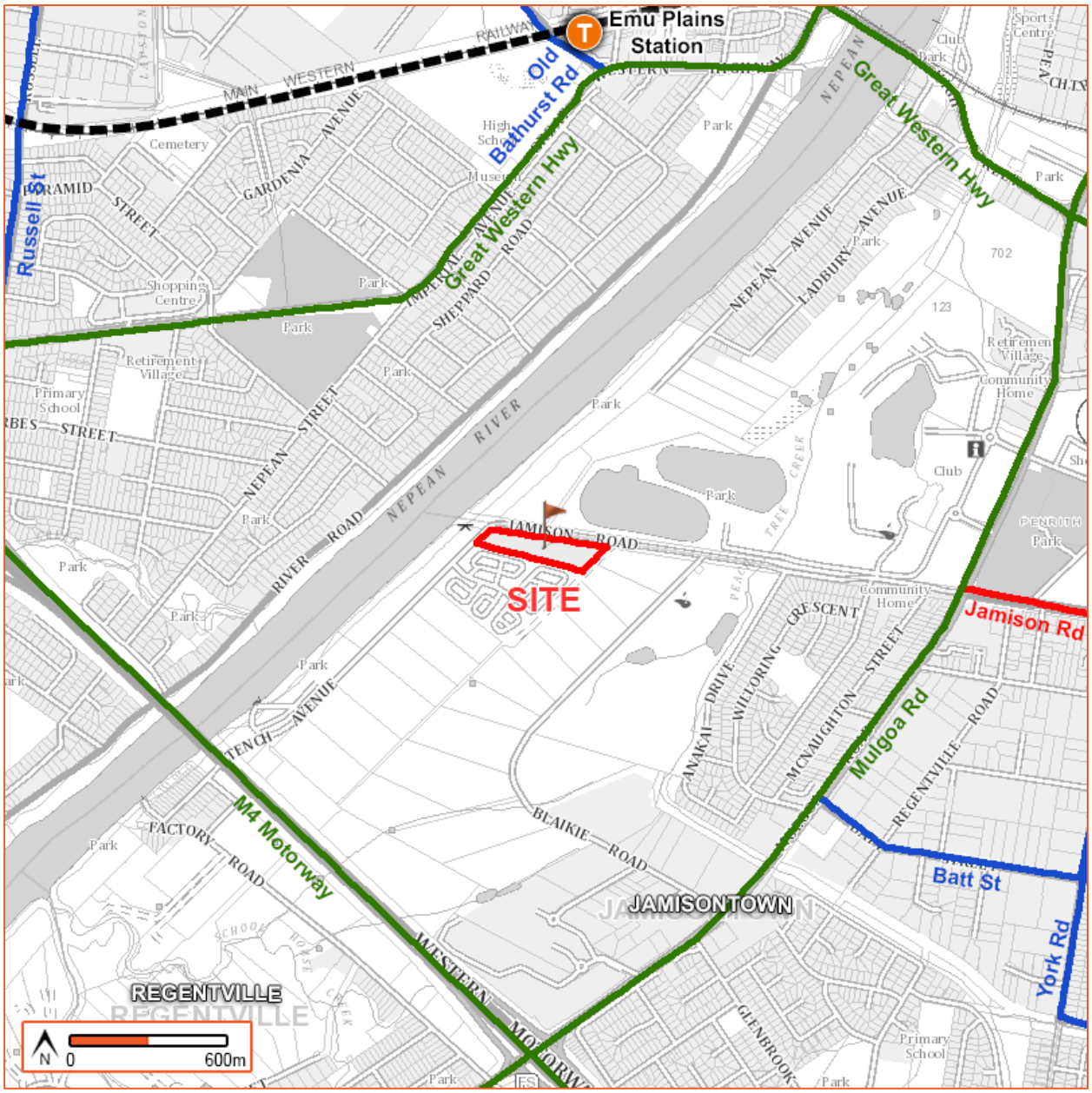


Figure 1: Location & Road Hierarchy Plan

Figure 2: Site Plan

2.3. Active Transport

2.3.1. Bus Services

The Integrated Public Transport Service Planning Guidelines, Sydney Metropolitan Area, states that the walking catchment for metropolitan bus services includes all areas within a 400 metre radius of a bus stop. As can be seen from **Figure 3**, the site is situated within 400 metres of a single bus service, being the 795 which operates along Tench Avenue and runs between Warragamba and Penrith. Accordingly, staff and visitors of the development would be able to readily access this bus stop and connect to the Penrith CBD, including Penrith Railway Station.

A number of additional bus services are accessible within 800 metres of the site as also shown by **Figure 3** including the 781, 797 and 799 services. **Table 1** below shows the notable town centres that are accessible via the abovementioned bus services and the average service headways during peak and off-peak periods.

Additionally, it is expected that Winter Sports World would provide a shuttle bus service for both staff and visitors, providing a direct connection between the development and Penrith Station. It is expected that this would operate on a timetable basis, with increased services provided on weekends and during school holidays.

Table 1: Bus Services

ROUTE NO.	ROUTE (TO / FROM)	ROUTE DECRIPTION	AVERAGE HEADWAY
781	St Mary's to Penrith	Via Glenmore Park	Weekdays: Limited Services Weekends: No Services
795	Warragamba to Penrith	Via Silverdale, Wallacia, Mulgoa, Regentville, Penrith & Kingswood	Weekdays: 40-60 minutes peak only Weekends: 4 services on Saturdays (2-4 hours apart) & 2 services on Sundays (8 hours apart)
797	Penrith to Glenmore Park	Loop Service	Weekdays: 30 minutes all day Weekends: 60 minutes on Saturday & 120 minutes on Sundays
799	Glenmore Park to Penrith	Via Regentville	Weekdays: 30-50 minutes peak / 60 minutes off peak Weekends: 60 minutes on Saturdays & Sundays

2.3.2. Rail Services

The Integrated Public Transport Service Planning Guidelines, Sydney Metropolitan Area, states that the walking catchment for metropolitan railway stations includes all areas within an 800 metre radius of a station. It can be seen from **Figure 3**, that Emu Plains Railway Station is located approximately 1.5 kilometres south of the site, whilst Penrith Railway Station is located approximately 2.6 kilometres north-west of the site. Accordingly, both Stations are located outside of the typical walking catchment area.

Notwithstanding, Penrith Railway Station could be accessed within a 15 minute public bus, 10 minute shuttle bus or 11 minute cycle commute and as such, it is expected that staff and visitors would be able to readily access the Sydney rail network, as shown by **Figure 4**, if necessary.

Penrith Railway Station is serviced by two (2) railway lines, being the T1 North Shore, Northern and Western Line and the Blue Mountains Line. The T1 North Shore, Northern and Western Line is comprised of three (3) separate routes including:

- T1 North Shore and Northern: Berowra to / from City via Gordon, Hornsby to / from City via Macquarie University
- T1 Northern: Epping to / from City via Strathfield
- T1 Western: Emu Plains or Richmond to / from City

The T1 Western Line operates from Penrith Railway Station and the Blue Mountains Line runs in an east-west direction between Bathurst and the Sydney CBD. **Table 2** below shows the notable town centres that are accessible along the abovementioned railway lines and the average service headways during peak and off-peak periods.

Table 2: Rail Services

RAILWAY LINE	NOTABLE TOWN CENTRES ALONG LINE	AVERAGE HEADWAY
T1 Western Line	Penrith, Richmond, Blacktown, Seven Hills, Parramatta, Clyde, Strathfield, Redfern & Sydney CBD	Weekdays: 15 minutes all day Weekends: 15 minutes all day
Blue Mountains Line	Bathurst, Lithgow, Mt Victoria, Katoomba, Springwood, Emu Plains, Penrith, Blacktown, Parramatta, Strathfield & Sydney CBD	Weekdays: 15-30 minutes peak / 60 minutes peak Weekends: 40-60 minutes all day

2.3.3. Cycle Network

Figure 3 also shows that the site has good access to the local cycle path network. It can be seen that both Tench Avenue and Jamison Road accommodate an on-road and off-road cycle path respectively, which connect to the wider cycle network, including an off-road cycle path running parallel to the Nepean River.

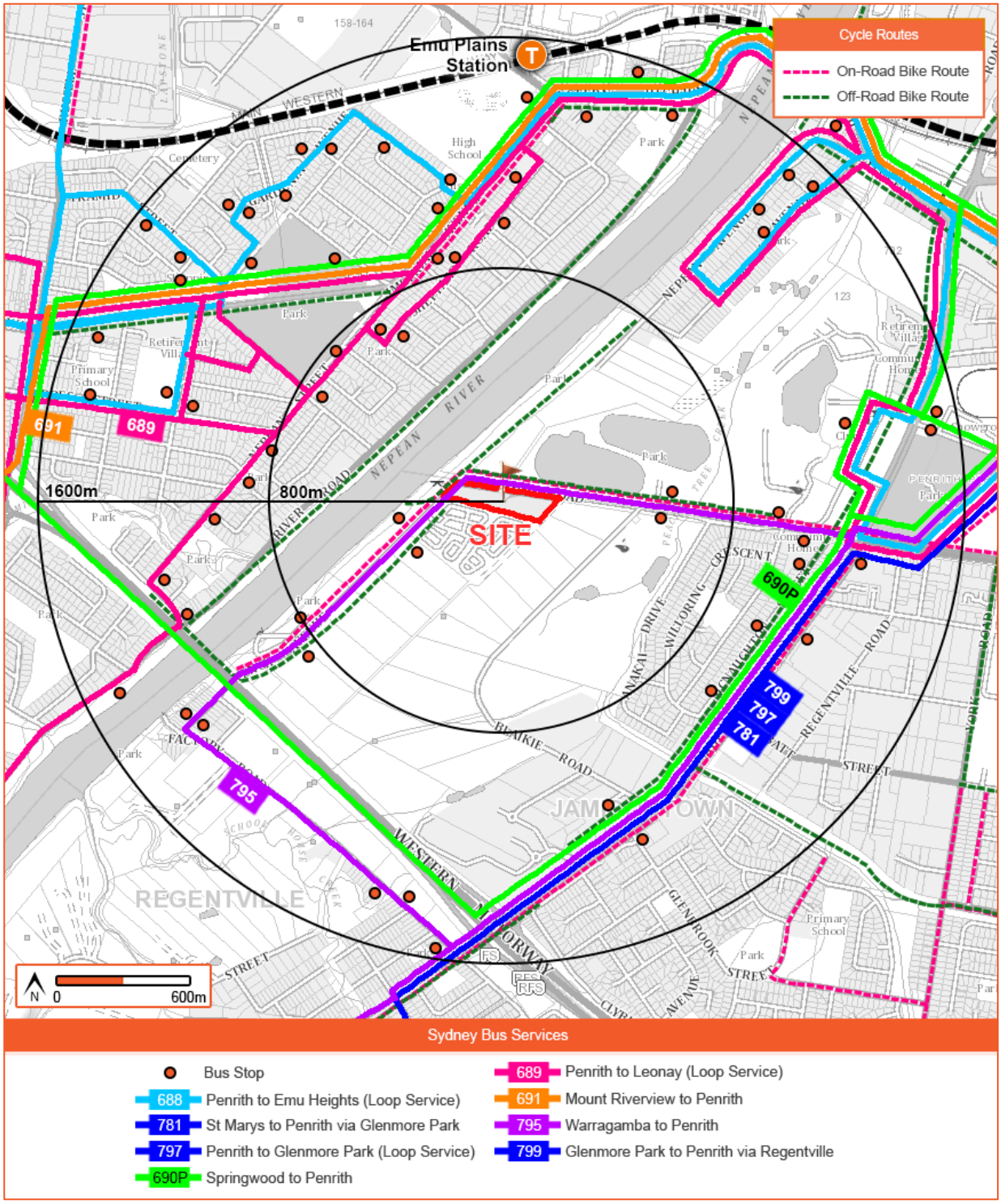


Figure 3: Active Transport Services

Figure 4: Sydney Trains Rail Network - Suburban

2.4. Existing Transport Mode Characteristics

To gain an understanding of the existing modes of transport within the suburbs of Jamisontown and South Penrith, reference was made to the Australian Bureau of Statistics 2016 Census Data. **Chart 1** overleaf shows the travel modes used by residents of Jamisontown and South Penrith, for all journeys to work. **Chart 2** overleaf shows the travel modes used by persons who work within Jamisontown and Southern Penrith, for all journeys to work.

Chart 1: Jamisontown & South Penrith Residents – Travel Mode for Journey to Work

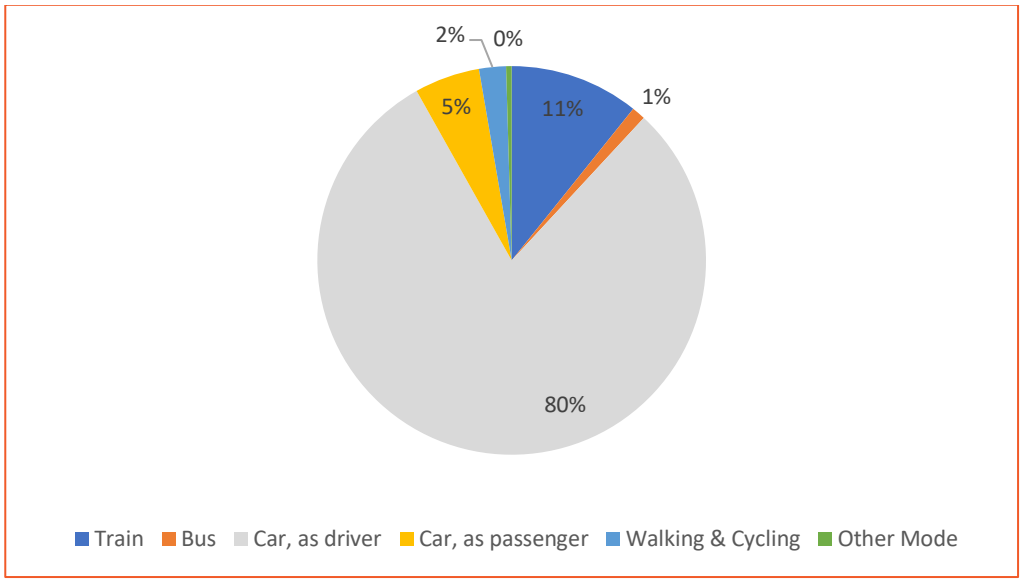
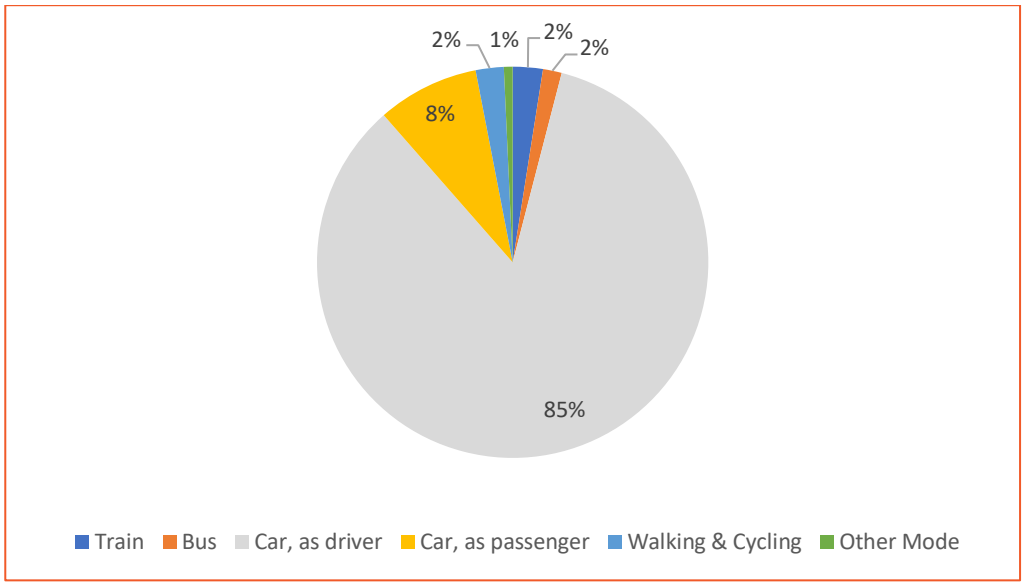


Chart 2: Jamisontown & South Penrith Workers – Travel Mode for Journey to Work



It can be seen from **Chart 1**, that there is a heavy reliance on private car transport for residents of Jamisontown and South Penrith with 85% of residents using private vehicles for journeys to/from work including 80% as 'car drivers' and 5% as 'car passengers'. The remaining 15% of residents use alternative transport modes for journeys to/from work including 11% by train, 5% by walking / cycling and 1% by bus.

Chart 2 shows similar transport modes for workers of Jamisontown and South Penrith with 93% of workers using private vehicles for journeys to/from work including 85% as 'car drivers' and 8% as 'car passengers'. The remaining 7% of workers use alternative transport modes including 2% by train, 2% by walking / cycling, 2% by bus and 1% by other means.

2.5. Existing Traffic Generation

As discussed in Section 2.1 of this report, the site currently accommodates a single residential dwelling with the RMS Guide Update stipulating a trip rate of 0.95 trips / dwelling / hour during the 7-9am (AM) peak period and 0.99 trips / dwelling / hour during the 4-6 (PM) peak period. Application of these rates to the existing single residential dwelling results in the following traffic generation:

- 1 vehicle trip / hour (0 in, 1 out), during the AM peak period
- 1 vehicle trip / hour (1 in, 0 out), during the PM peak period

The above assumes an inbound split of 20 / 80 during the AM peak period noting that most residents would leave for work in the weekday morning and vice versa for the weekday PM peak period. This level of traffic generation is negligible and accordingly, for the purposes of simplifying this report, it has been considered that the existing development does not generate any traffic. The traffic generation of the development contemplated under the Planning Proposal is discussed in Section 5.1 of this report.

3. Development Contemplated Under Planning Proposal

The subject Planning Proposal report prepared by Sutherland and Associates Planning, provides a detailed description of the proposed amendment in building height and development contemplated for the site. In summary, the Planning Proposal seeks to increase the building height permitted on-site to allow for a tourist / recreational development with the following characteristics:

- Winter Sports World comprising:
    - 300 metre long indoor ski slope and 80 metre long indoor training slope / snow play area;
    - Ice skating rink;
    - Ice and rock climbing walls;
    - Altitude and gymnasium training facilities;
    - Retail, and food and beverage premises;
    - Administration centre;
- 170 room hotel;
- 1,000 seat function centre / restaurant;
- 2 above-ground car parking areas having a total of 650 car spaces including:
    - 450 space visitor car park at the eastern end of the site. This shall also incorporate service vehicle parking shared between the various uses proposed;
    - 200 space staff and overflow visitor car park at the western end of the site. This shall also incorporate bus / coach parking facilities.
- Porte-cochere at the western end of the site having capacity for 7 cars/taxis or 2 coaches/buses;
- 3 access driveways onto Jamison Road including:
    - An entry-only driveway serving the porte-cochere and visitor car park;
    - An exit-only driveway serving the porte-cochere and visitor car park;
    - A combined entry / exit driveway serving the staff and overflow visitor car park;

The parking and traffic implications arising from the proposed development are discussed in Sections 4 and 5 respectively. A copy of the preliminary architectural drawings, prepared by Environa Studio, are also included in Appendix A.

4. Parking Requirements

4.1. Car Parking

4.1.1. Winter Sports World

Car Parking Rate

The Winter Sports World component of the development will be the first of its kind in Australia and as would be expected, the Penrith DCP 2014 does not include a relevant car parking rate. Additionally, there is no survey information available of comparable developments in Sydney or Australia, that would otherwise allow for a car parking rate to be determined.

Whilst the Economic Assessment Report prepared by Urbis dated 26th February 2017 references comparable developments, these are located in the United Kingdom, New Zealand, Netherlands and United Arab Emirates. The travel mode characteristics for each of these developments would vary significantly from country-to-country and accordingly, it was considered that these would not be appropriate to survey to allow for a car parking rate to be determined.

Consideration was therefore given to the state significant tourist / recreational development known as Wet 'n' Wild Sydney, which at the time this report was prepared, had been recently constructed in Sydney. Wet 'n' Wild Sydney is located in the suburb of Prospect, being approximately 30 kilometres west of the Sydney CBD and approximately 20 kilometres east of the subject site, and is considered to be comparable to the proposed Winter Sports World, for the following reasons:

- Location: Both sites are located in the Western Sydney region;
- Accessibility: Both sites have limited access to public transport services and have convenient access to the M4 Motorway;
- Targeted demographic: Both developments are family orientated and would generate comparable car occupancy rates;
- Peak Periods: Peak periods associated with both developments would occur on weekends and school holiday periods;

With regard for the above, it is evident that the travel mode characteristics for Winter Sports World would be comparable to that of Wet 'n' Wild Sydney. Reference was therefore made to the Transport and Accessibility Impacts (Construction and Operational) Report, prepared by Arup dated 19th January 2011 (Arup Report) to ascertain travel mode splits and an average car occupancy rate for Winter Sports World. **Table 3** below shows the travel mode splits and car occupancy rates that have been extracted from the Arup Report and adopted for visitors of Winter Sports World.

Table 3: Travel Mode Characteristics and Assumptions for Visitors of Winter Sports World

TRAVEL CHARACTERISTIC	ASSUMPTION
Travel Mode Split	Private Car: 90% Public Transport / Shuttle Bus: 10%
Average Car Occupancy Rate	3.0 persons / car

Whilst the Penrith DCP 2014 does not specify a staff (or visitor) parking rate for tourist / recreation developments, it is evident that a staff parking rate of 1.0 space / 2 employees is consistently adopted throughout the Penrith DCP 2014 for a number of different land uses. It was therefore considered appropriate to adopt this rate for the purposes of assessing the parking demands associated with staff of Winter Sports World.

Attendance Forecasts

Patronage attendance is expected to vary considerably throughout the year and would be influenced by a number of factors such as the day of the week, school holiday periods and seasons of the year. In this regard, the client has provided a schedule of the expected attendance forecasts for a typical weekday, weekend and weekend during school holidays. These forecasts are reproduced in **Table 4** below.

Table 4: Attendance Forecasts for Winter Sports World

SCENARIO	NO. STAFF ON-SITE AT ANY ONE TIME	NO. VISITORS ON-SITE AT ANY ONE TIME	TOTAL NO. PERSONS ON-SITE AT ANY ONE TIME
Weekday – Non-Holiday	65	293	358
Weekend – Non-Holiday	80	333	413
Weekend – School Holidays	106	395	501

As would be expected for a tourist / recreational development, **Table 4** shows that staff and visitor numbers would be their lowest during a typical weekday. These would increase on weekends, and increase further on weekends during school holidays. As discussed below, the attendance forecasts for weekends during the school holiday period have been used for the car parking assessment as this would provide a conservative (worst-case) estimate.

Parking Demand

Having regard for the above, it is evident that the parking demands associated with staff and visitors of Winter Sports World can be determined by applying the relevant parking rates to the attendance forecasts. **Table 5** overleaf the expected parking demand associated with staff and visitors of Winter Sports World.

Table 5: Expected Parking Demand of Winter Sports World

TYPE	NO. ON-SITE AT ANY ONE TIME	% BY CAR	PARKING RATE	EXPECTED PARKING DEMAND
Visitor	395	90%	1.0 space / 3 persons	119
Staff	106	-	1.0 space / 2 staff	53
			TOTAL	***172***

Table 5 shows that the Winter Sports World component of the development is expected to generate a parking demand for 172 car parking spaces. This includes 119 spaces by visitors and 53 spaces by staff.

4.1.2. Hotel & Function Centre

The Penrith DCP 2014 stipulates a minimum car parking rate for both hotel and function centre land uses. In this regard, **Table 6** below shows the applicable car parking rates and parking requirement for the hotel and function centre uses.

Table 6: Car Parking Requirement of Hotel and Function Centre

TYPE	NO.	PARKING RATE	MINIMUM REQUIREMENT
HOTEL			
Visitors	170 rooms	1.0 space / room	174
Manager	2*	1.0 space / manager	
Employee	10*	1.0 space / 6 employees	
FUNCTION CENTRE			
Staff / Visitors	1,000 seats	1.0 space / 3.5 seats or	286
	1,260m^2	1.0 space / 3.5m^2 gross floor area (GFA)	
		TOTAL	***460***

* Note: The number of on-site managers and employees have been assumed.

It is recognised that the Penrith DCP 2014 states that function centres are required to provide parking at a rate of 1.0 space / 3.5 seats or 1.0 space / 3.5m^2 GFA, whichever is greater. With 1,000 seats and 1,260m^2 GFA, the function centre would technically require the provision of 360 car parking spaces, being the greater of the 286 space and 360 space requirements respectively. However, consistent with **Table 6** above, it is considered that the parking requirement for the function centre should be assessed in accordance with the lower rate in this instance, given that a substantial number of persons attending large functions would also be expected to stay at the hotel and perhaps, would also attend Winter Sports World. Accordingly, adoption of the lower parking requirement would ensure that some level of 'parking discount' is taken into consideration rather than effectively double or triple count the parking requirements of persons attending the function centre, hotel and perhaps Winter Sports World.

With regard for the above, it is expected that the function centre and hotel uses would generate a requirement for 460 car parking spaces.

4.1.3. Total Parking Requirement and Proposed Provision

With regard for Sections 4.1.1 and 4.1.2 of this report, it is evident that the proposed development is expected to generate a peak parking demand for some 632 car parking spaces. In response, the development provides a total of 650 car parking spaces and will therefore ensure that all car parking demands are accommodated on-site, with no reliance on on-street parking.

Additionally, it is important to note that the peak demand for 632 car parking spaces would likely only occur on a limited number of occasions per year noting that it would require the Winter Sports World, hotel and function centres uses to simultaneously operate at capacity. Accordingly, it is expected that the typical parking demands associated with the development would be substantially less than 632 parking spaces with ample spare capacity available. Accordingly, the development would be able to accommodate all normal and peak demands on-site.

4.2. Coach & Tourist Bus Parking

Whilst not indicated on the architectural drawings included in Appendix A, the development will provide in the order of 5 coach / bus parking bays within the western car park which is considered an appropriate provision. It is expected that buses / coaches would park in this area when not in use, with all drop-off / pick-up of visitors to occur from the porte-cochere.

4.3. Bicycle Parking

The Penrith DCP 2014 does not stipulate a rate for the provision of bicycle parking for any of the proposed land uses and accordingly, no bicycle parking is required. Notwithstanding, it is recommended that the development provide in the order of 50-100 bicycle parking spaces for use by staff and visitors to promote active modes of transport and noting that the site benefits from good access to the local and broader cycle network.

4.4. Service Vehicle Parking & Waste Collection

Whilst not currently indicated on the preliminary architectural drawings, it is noted that a service vehicle parking area will be provided towards the eastern end of the site. It is considered that in the order of 4 loading bays would be provided to serve the various uses, and designed to accommodate vehicles up to and including a 12.5 metre heavy rigid vehicle (HRV). Waste collection of the development would also occur from these loading bays ensuring that all servicing is undertaken on-site.

The service vehicle parking layout would be designed in accordance with AS 2890.2-2002, with all service vehicles to enter and exit the site in a forward direction.

5. Traffic Impacts

5.1. Trip Generation

5.1.1. Winter Sports World

Period for Assessment

The RMS Guide states that two periods of traffic generation need to be considered when assessing the impacts of traffic generating developments, being:

- The peak activity time of the development itself; and
- The peak activity time of the adjacent road network.

The first of these is generally used as a basis for reviewing the access to the site and driveway design requirements. The second is used to assess the traffic impacts of the development on the external road network.

It is expected that the peak activity time of the external road network will occur during the weekday commuter periods of 7-9am (AM) and 4-6pm (PM) during non-holiday periods. As discussed in Section 4.1.1 of this report, the peak activity time of Winter Sports World will occur on weekends, during the school holiday period. Notwithstanding, background traffic volumes on the external road network are expected to be considerably lower during school holidays and accordingly, it is considered that the traffic assessment should be based on the following periods:

- Weekday AM peak (7-9am), during non-school holiday periods;
- Weekday PM peak (4-6pm), during non-school holiday periods;
- Weekend AM peak (11am-1pm), during non-school holiday periods;

Patron Profiles

The hours of operation of Winter Sports World are expected to be in the order of 6am-11pm, 7 days a week. Similar to the Arup Report, forecast arrival / departure profiles have been estimated for typical weekdays and weekends as shown by **Charts 3 and 4** respectively overleaf.

As shown by **Chart 3**, it is expected that weekdays would see an influx of patrons in the morning, with a higher influx in the afternoons associated with students attending after school and adults after work. **Chart 4** shows that arrival / departures would follow a different trend with most arrival occurring the morning and most departures occurring in the afternoon.

Chart 3: Patronage Profile – Weekdays

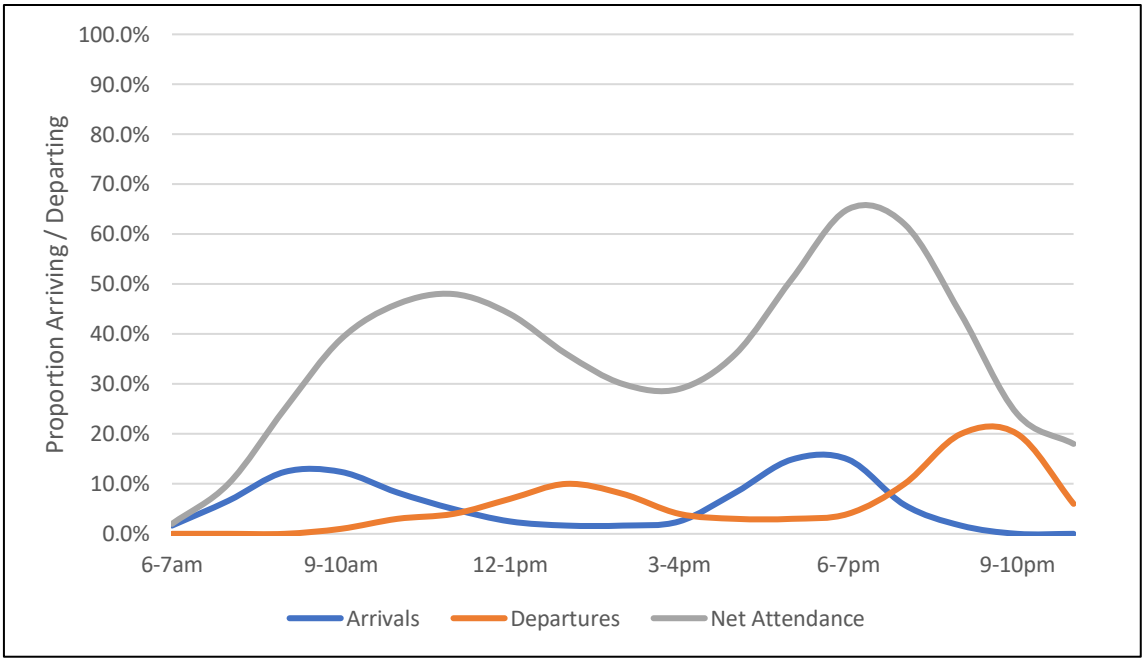


Chart 4: Patronage Profile – Weekends

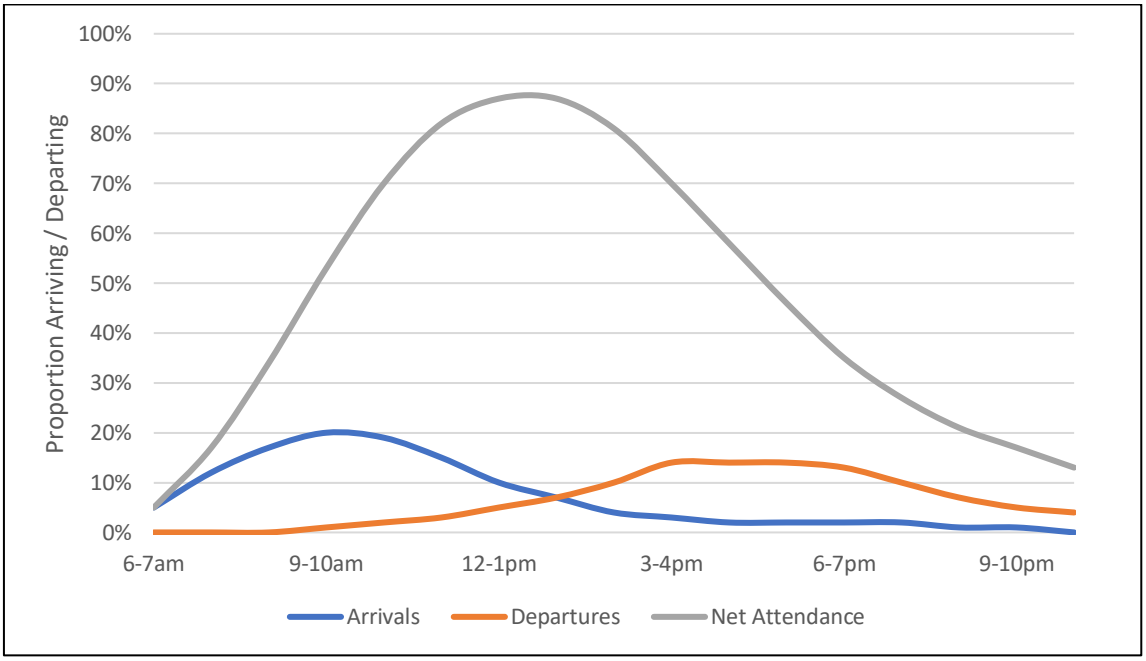


Table 7 below shows the estimated percentage of arrivals / departures during the Weekday AM, Weekday PM and Weekend AM peak periods based on **Charts 3 and 4**.

Table 7: Percentage of Daily Arrivals / Departures - Based on Charts 3 and 4

WEEKDAY AM PEAK		WEEKDAY PM PEAK		WEEKEND AM PEAK	
ARRIVAL	DEPARTURE	ARRIVAL	DEPARTURE	ARRIVAL	DEPARTURE
15%	0%	18%	3%	19%	2%

It is evident from **Table 9** above, that the number of departures during each of the peak periods is expected to be minimal. Notwithstanding, it is considered that the 'arrival' percentages used for the traffic assessment should be increased by approximately 25% for the purposes of a conservative estimate and to take into consideration additional trips associated with the arrival of staff, shuttle buses, taxis etc. Additionally, the 'departure' percentages have been increased to 25% of the corresponding 'arrival' percentages to provide a more conservative estimate. These revised percentages are shown by **Table 8** below.

Table 8: Percentage of Daily Arrivals / Departures - To Be Adopted for Traffic Assessment

WEEKDAY AM PEAK		WEEKDAY PM PEAK		WEEKEND AM PEAK	
ARRIVAL	DEPARTURE	ARRIVAL	DEPARTURE	ARRIVAL	DEPARTURE
20%	5%	25%	7%	25%	7%

Taking into consideration the above and applying this to the peak patron numbers and travel mode / car occupancy rates discussed in Section 4.1.1 of this report, the peak period traffic generation of Winter Sports World can be determined as follows:

- Weekday AM Peak: 27 vehicle trips / hour (22 in, 5 out);
- Weekday PM Peak 34 vehicle trips / hour (27 in, 7 out);
- Weekend AM Peak: 40 vehicle trips / hour (31 in, 9 out).

5.1.2. Hotel

The RMS Guide does not specify a trip generation rate for hotel developments and instead, recommends that this be based upon a survey of a comparable development. Notwithstanding, it is noted that the proposed hotel would be located within an area with limited access to public transport and accordingly, it is considered that this would operate similar to a 'motel', which attract a trip generation rate of 0.4 trips / room / hour during the Weekday AM and Weekday PM peak periods under the RMS Guide. Whilst no Weekend AM rate is stipulated in the RMS Guide, it is expected that the trip generation would be somewhat less and in the order of 0.2 trips / room / hour. Application of the above trip rates to the proposed hotel with 170 rooms, results in the following traffic generation:

- Weekday AM Peak: 68 vehicle trips / hour (27 in, 41 out);
- Weekday PM Peak 68 vehicle trips / hour (41 in, 27 out);
- Weekend AM Peak: 34 vehicle trips / hour (17 in, 17 out).

5.1.3. Function Centre

The RMS Guide does not stipulate a trip generation rate for function centre developments. Accordingly, the expected traffic generation of the development has been based on a 'first principles' approach, which takes into account the total number of on-site car parking spaces provided for the function centre, and the expected time periods at which staff and patrons would depart from and arrive at the site.

No details had been provided on the proposed function centre at the time this report was prepared, although it is expected tha this would operate as a premium event space with a capacity to seat 1,000 patrons and would cater for a range of different events such as:

- Breakfasts / Lunches / Dinners
- Conferences
- Cocktail Receptions

All events would vary in size, duration and occur at different times throughout the week and accordingly, it is difficult to assess the impacts associated with different types of events. Notwithstanding, it was considered that an all-day conference event would have the most impact from a traffic and parking perspective noting that staff and patrons would likely arrive at the function centre during the Weekday AM peak period and depart during the Weekday PM peak period. Most other types of events would likely result in staff and patrons arriving or departing outside of the typical peak periods.

As per Section 4.1.2 of this report, the function centre is expected to generate a peak demand for 286 parking spaces. Based on our experience, it is expected that all 286 car spaces would be occupied during a one hour period during the Weekday AM peak and vacated over a two hour period during the Weekday PM peak. Additionally, an all-day conference held on a weekday would not generate any traffic although for a conservative estimate a generation of 100 vehicle trips / hour has been adopted for the function centre during the Weekend AM peak. Once consideration is given to additional two-way (in / out) trips associated with taxis etc, the peak period traffic generation associated with a 1,000 person event occurring on a weekday is expected to be in the order of:

- Weekday AM Peak: 350 vehicle trips / hour (318 in, 32 out);
- Weekday PM Peak 175 vehicle trips / hour (16 in, 159 out);
- Weekend AM Peak: 100 vehicle trips / hour (50 in, 50 out);

5.1.4. Combined

The total traffic generation of the development during each of the key peak periods is therefore expected to be as follows:

- Weekday AM Peak: 445 vehicle trips / hour (367 in, 78 out);
- Weekday PM Peak 277 vehicle trips / hour (84 in, 193 out);
- Weekend AM Peak: 174 vehicle trips / hour (98 in, 76 out);

It is evident from the above that the proposed development, as a whole, would generate some 445 vehicle trips during the Weekday AM peak period, 277 vehicle trips during the Weekday PM peak and 174 vehicle trips during the Weekend AM peak. It is however emphasised that this level of traffic generation predominately relates to the function centre use and that 1,000 person events would typically only be held on a limited number of occasions per year. Accordingly, the typical traffic generation associated with the development would be substantially less and in the order of 100-150 vehicle trips during each of the above peak periods.

5.2. Traffic Distribution

The development will attract visitors from all over the Greater Sydney Metropolitan region. In this regard, the 2016 Census Data from the Australian Bureau of Statistics was analysed to determine what regions of Sydney visitors would likely travel to / from which could be subsequently used to determine the expected traffic distribution. In this regard, **Table 9** below shows the expected distribution of traffic to all regions of Sydney and the major arterial road that is expected to be utilised for journeys to / from the development.

Table 9: Expected Traffic Distribution

SUB - REGION	PROPORTION OF ALL TRAFFIC	PROPORTION OF ALL TRAFFIC BY APPROACH ROUTE			
		M4 EAST	M4 WEST	THE NORTHERN ROAD	GREAT WESTERN HIGHWAY
Sydney North	14%	0%	0%	4%	10%
Sydney South	20%	20%	0%	0%	0%
Sydney East	13%	13%	0%	0%	0%
Sydney West	26%	15%	5%	0%	6%
Sydney Central	27%	17%	0%	0%	10%
Total	100%	65%	5%	4%	26%

It can be seen from **Table 9** above that a large proportion of visitors would access the development via the M4 Motorway to / from the east of the site, given the site is located in the outer-west region of Sydney. Great Western Highway is expected to be utilised by visitors mainly travelling from Sydney Central and Sydney West, whilst a small proportion of visitors are expected to utilise the M4 Motorway to /from the west of the site and The Northern Road.

Figure 5 overleaf shows the expected increase in traffic volumes during the Weekday AM and Weekday PM peak periods at each of the key intersections near the site including the M4 Motorway On/Off-Ramps / Mulgoa Road, Jamison Road / Mulgoa Road and Great Western highway / Mulgoa Road / High Street, based on the above distributions. **Figure 6** overleaf shows the expected increase in traffic volumes at the same key intersections during the Weekend AM peak period.

5.3. Traffic Impacts and Modelling

As discussed in Section 1.2 of this report, traffic surveys and modelling of key intersections in the vicinity of the site was unable to be undertaken as part of this Traffic and Parking Assessment due to time constraints associated with the Planning Proposal submission date. Accordingly, these works will be undertaken as part of a subsequent Traffic Modelling report that shall be prepared by PDC Consultants and submitted to Penrith Council at a later date. The Traffic Modelling report shall assess the traffic impacts of the development on the external road network including the abovementioned key intersections and identify what upgrades (if any) would be required to facilitate the expected increase in traffic volumes.

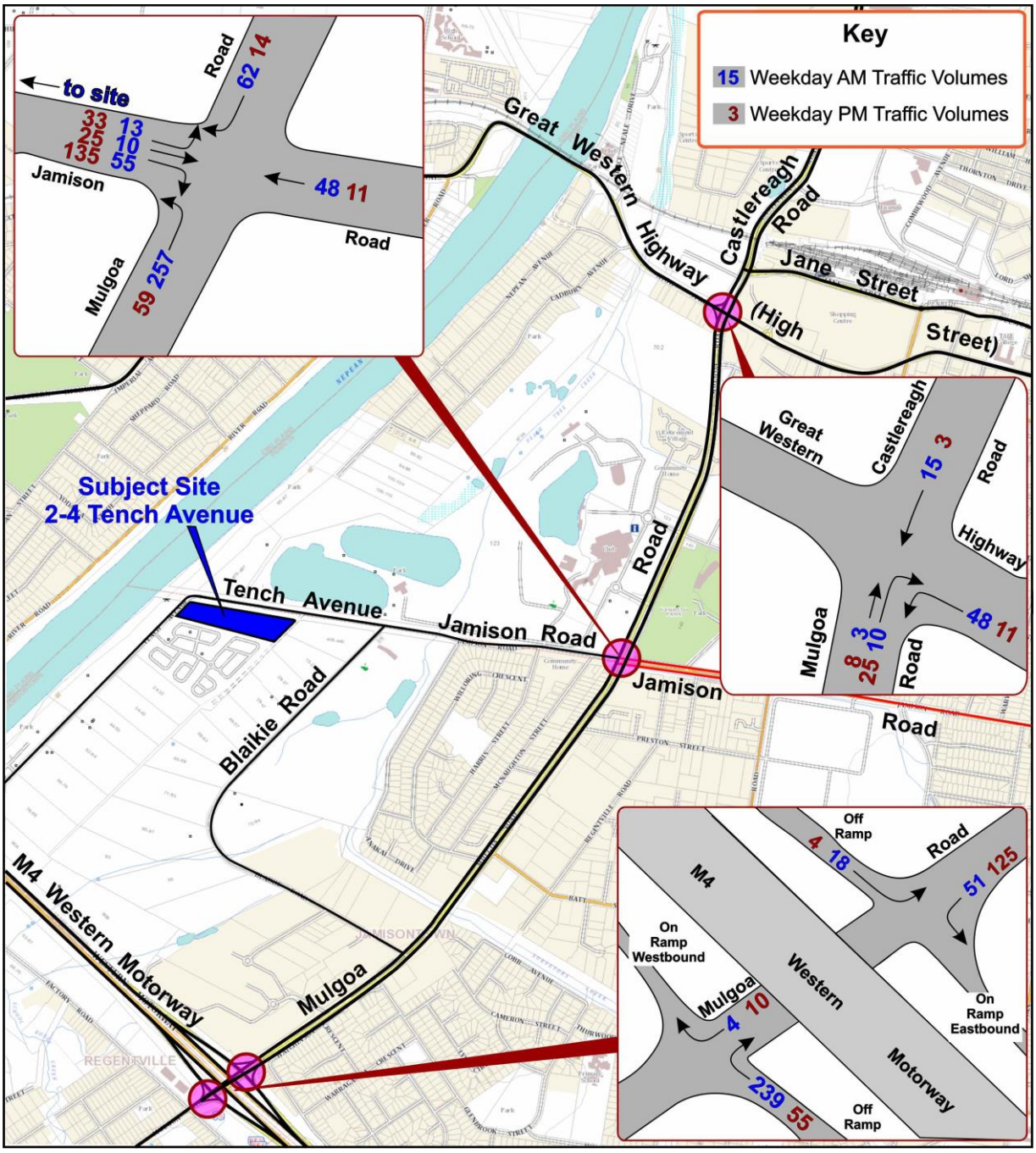


Figure 5: Increase in Traffic Volumes at Key Intersections - Weekdays

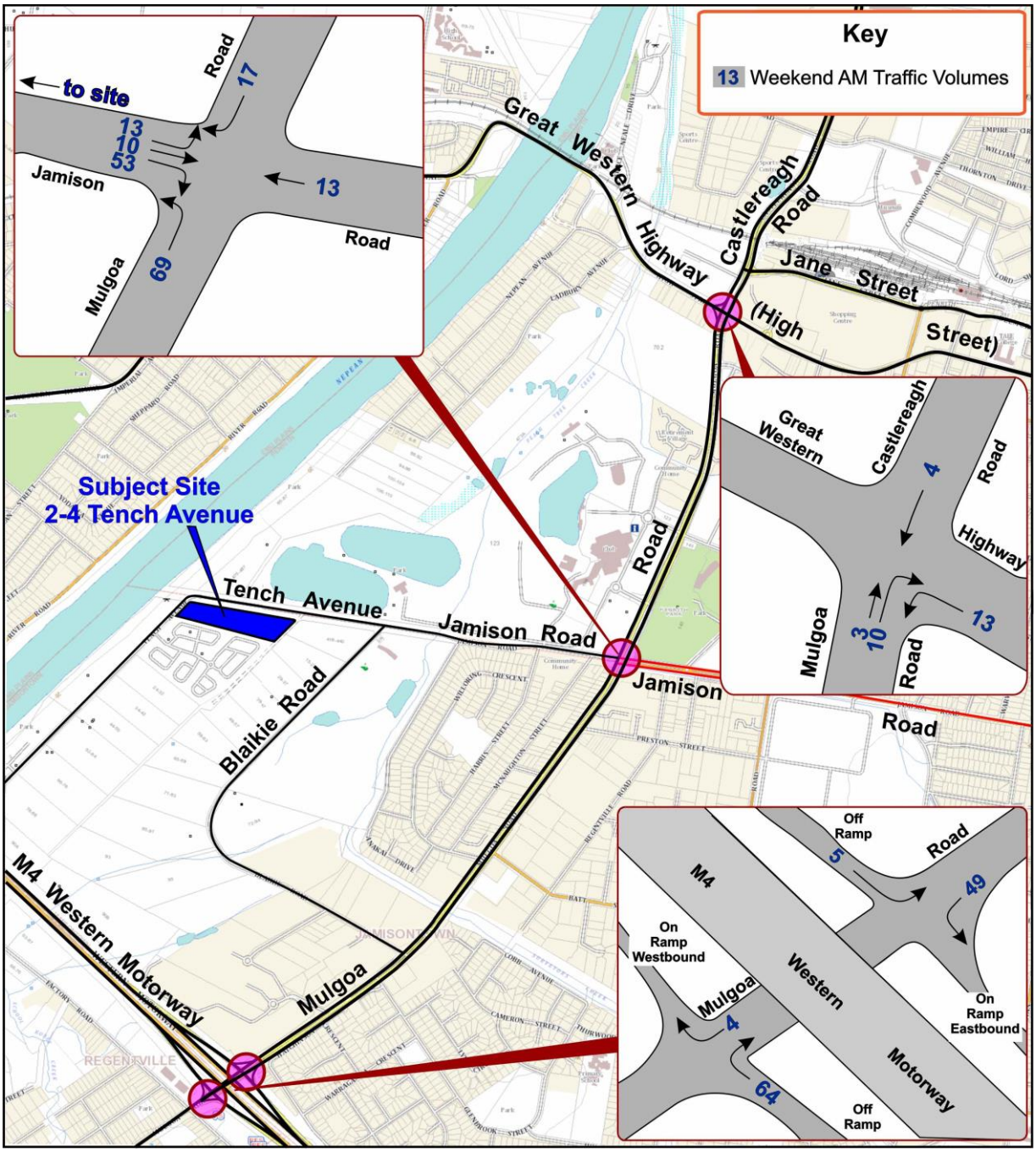


Figure 6: Increase in Traffic Volumes at Key Intersections - Weekends

6. Design Aspects

6.1. Access

All vehicle access to the development would be provided onto Jamison Road and provided in the form of three (3) separate access driveways including:

- An entry-only driveway serving the porte-cochere and visitor car park;
- An exit-only driveway serving the porte-cochere and visitor car park;
- A combined entry / exit driveway serving the staff and overflow visitor car park;

The entry-only and exit-only driveways would be located at the eastern end of the site, whilst the combined entry / exit driveway would be located towards the western end of the site. All driveways would be designed in accordance with AS 2890.1 and AS 2890.2 and accommodate all vehicles up to and including a 14.5 metre long bus / coach, with all entry and exit movements to occur in a forward direction.

Further assessment of the access provisions including swept path analysis, would be undertaken as part of any subsequent development application.

6.2. Internal Design

All internal car, service vehicle and bus / coach parking facilities would be designed in accordance with the relevant requirements of AS 2890.1, AS 2890.2, AS 2890.3 and AS 2890.6.

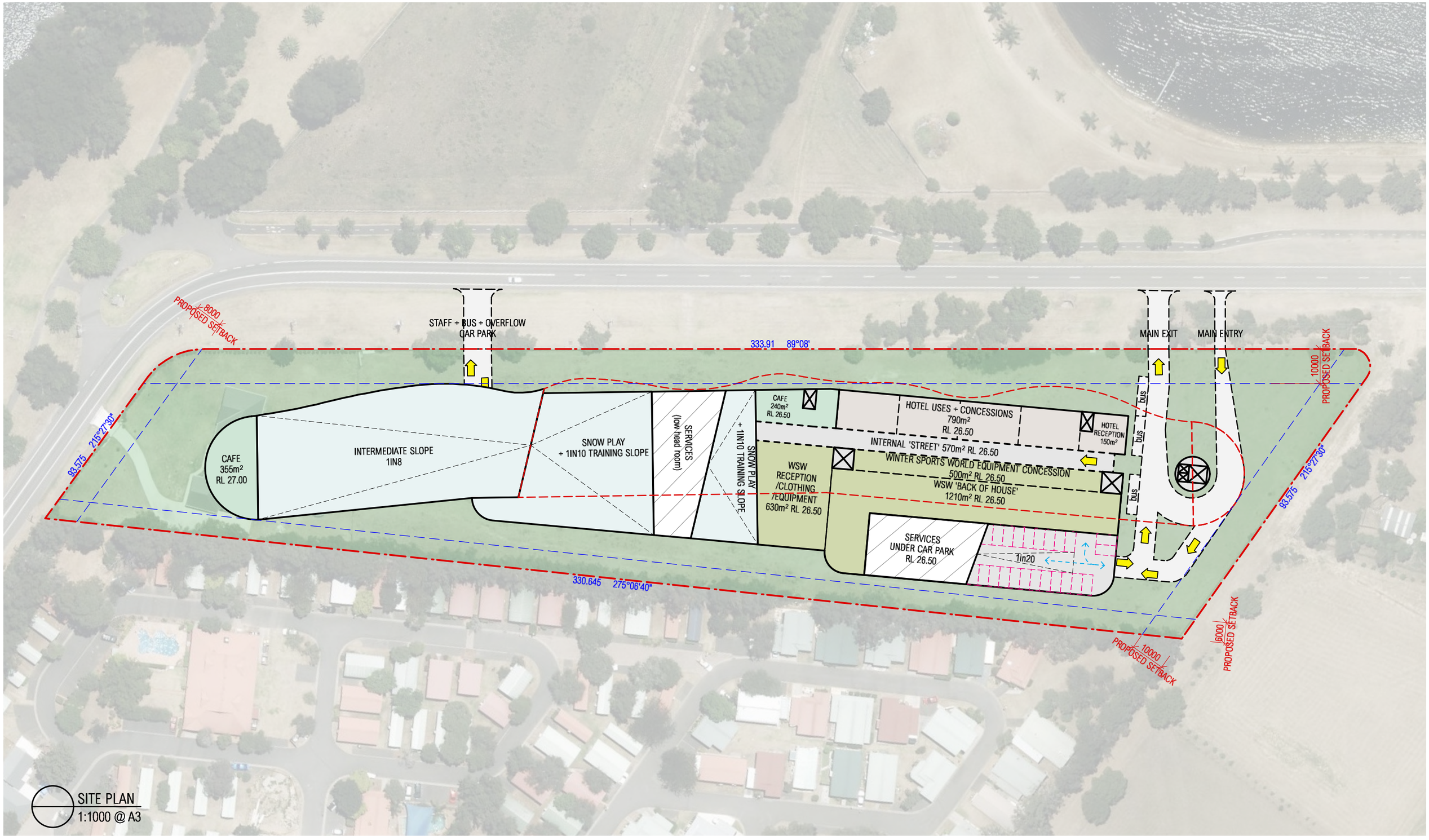
7. Conclusions

In summary:

- PDC Consultants has been commissioned by Winter Sports World Pty Ltd to undertake a Traffic & Parking Assessment of a Planning Proposal relating to the site at 2-4 Tench Avenue, Jamisontown. The Planning Proposal seeks to increase the building height permitted on-site to allow for a tourist / recreational development with the following characteristics:
    - Winter Sports World comprising an indoor ski slope, ice skating rink, ice and rock climbing walls, altitude and gymnasium training facilities, retail, and food and beverage premises and administration centre;
    - 170 room hotel;
    - 1,000 seat function centre / restaurant;
    - 2 above-ground car parking areas having a total of 650 car spaces;
    - 3 access driveways onto Jamison Road.
- The traffic generation assessment confirms that the development will generate some 445 vehicle trips during the Weekday AM peak period, 277 vehicle trips during the Weekday PM peak and 174 vehicle trips during the Weekend AM peak. This is however a conservative estimate and would only be experienced when large all-day conferences are held within the function centre. Accordingly, the typical traffic generation associated with the development would be substantially less and in the order of 100-150 vehicle trips during each of the above peak periods.
- Traffic surveys and modelling of key intersections in the vicinity of the site was unable to be undertaken as part of this Traffic and Parking Assessment due to time constraints associated with the Planning Proposal submission date. Accordingly, these works will be undertaken as part of a subsequent Traffic Modelling report that shall be prepared by PDC Consultants and submitted to Penrith Council at a later date. The Traffic Modelling report shall assess the traffic impacts of the development on the external road network and identify what upgrades (if any) would be required to facilitate the expected increase in traffic volumes.
- The development would generate a peak parking demand for some 632 car parking spaces however this would likely only occur on a limited number of occasions per year as it would require the Winter Sports World, hotel and function centres uses to simultaneously operate at capacity. Accordingly, it is expected that typical parking demands associated with the development would be substantially less than 632 parking spaces with ample spare capacity available. Nevertheless, the development provides a total of 650 car parking spaces ensuring that all normal and peak demands would be accommodated on-site.
- The proposed access and parking arrangements would operate satisfactorily and will be designed in accordance with AS 2890.1, AS 2890.2, AS 2890.3 and AS 2890.6. A detailed assessment of the design including swept path analysis would be undertaken as part of any future development application.

It is therefore concluded that the development is supportable on traffic planning grounds although an additional Traffic Modelling report is required to assess the impacts of the development and the requirement for any future intersection upgrades.

Appendix A



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notes

all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment
A	28.06.18	issue to council

rev	date	amendment

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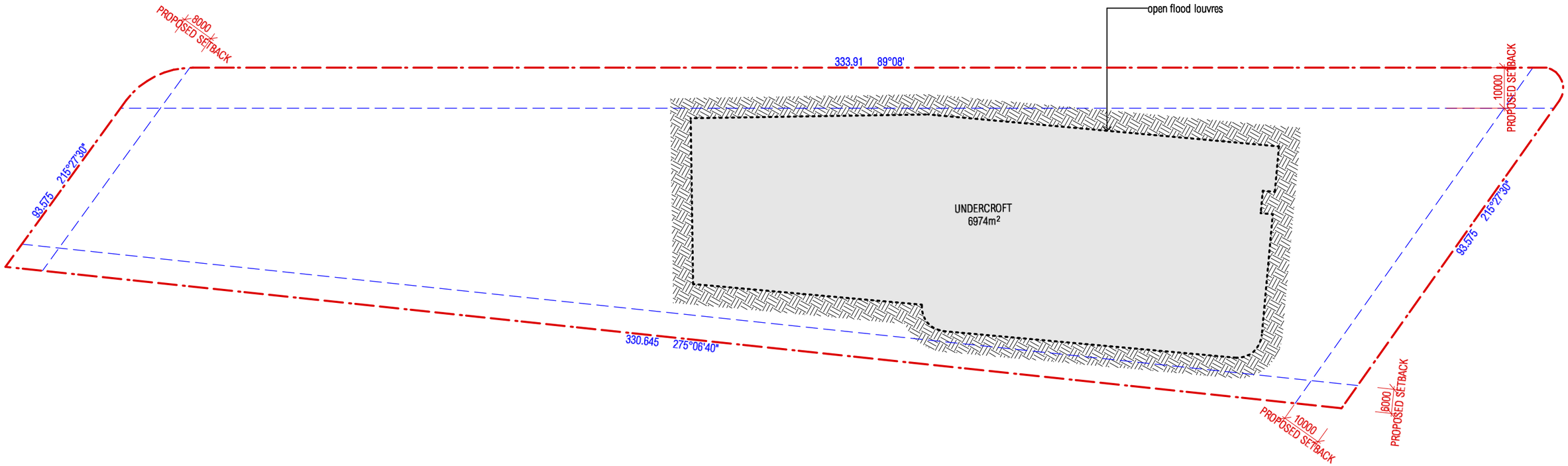
project: WINTER SPORTS WORLD	location:	drawing: SITE PLAN	stage: D.A.	project no.: 781	dwg no.: 030
for/client: WSW winter sports world	at: JAMISONTOWN	drawing: SHEET 1	chkd: TW drwn: OZ	date: 28/06/18	revision: A



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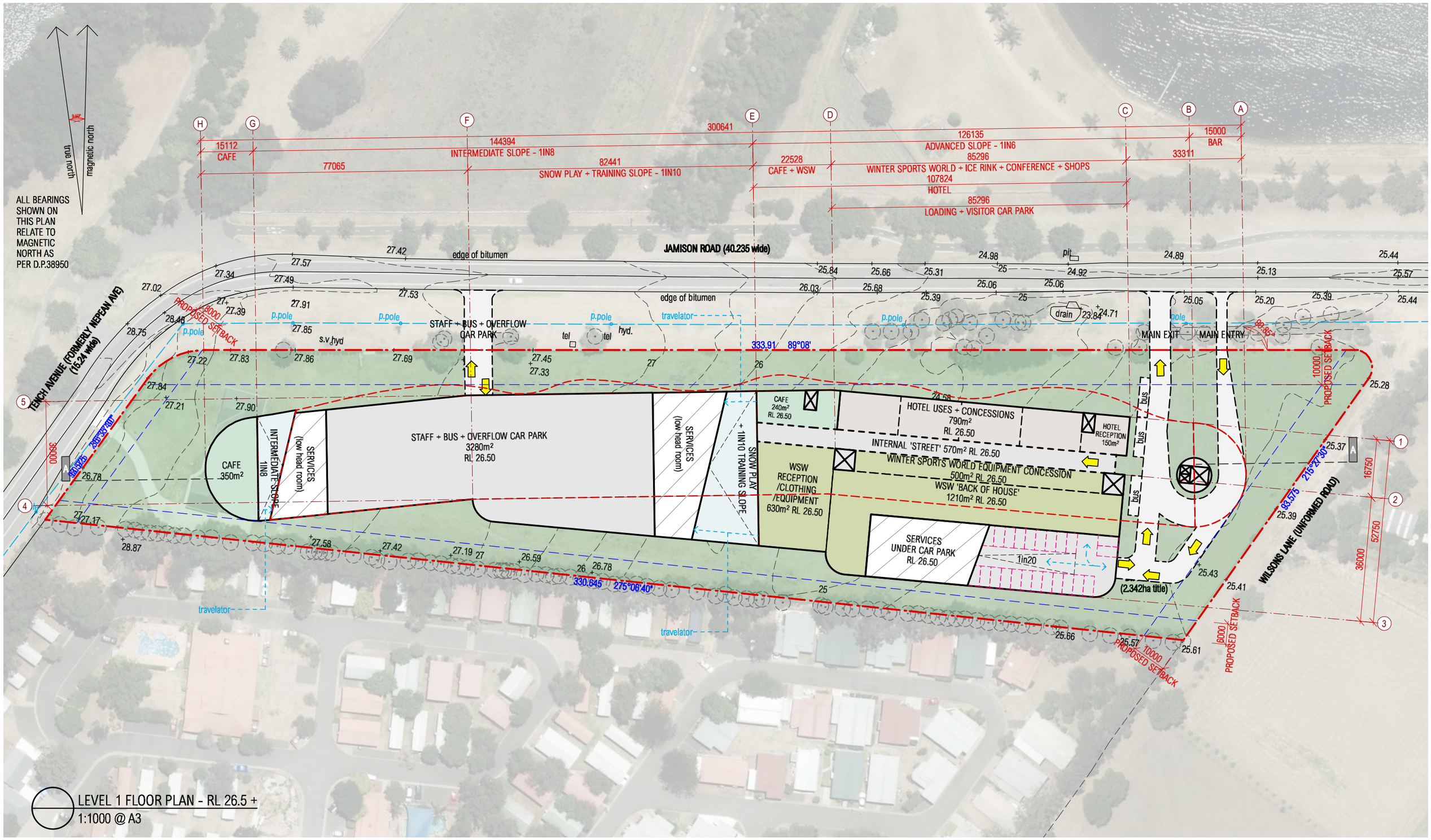
rev	date	amendment

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location:	drawing: UNDERCROFT	stage: D.A.	project no.: 781	dwg no.: 101
for/client: WSW winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



0 10.0 20.0 30.0m

notes

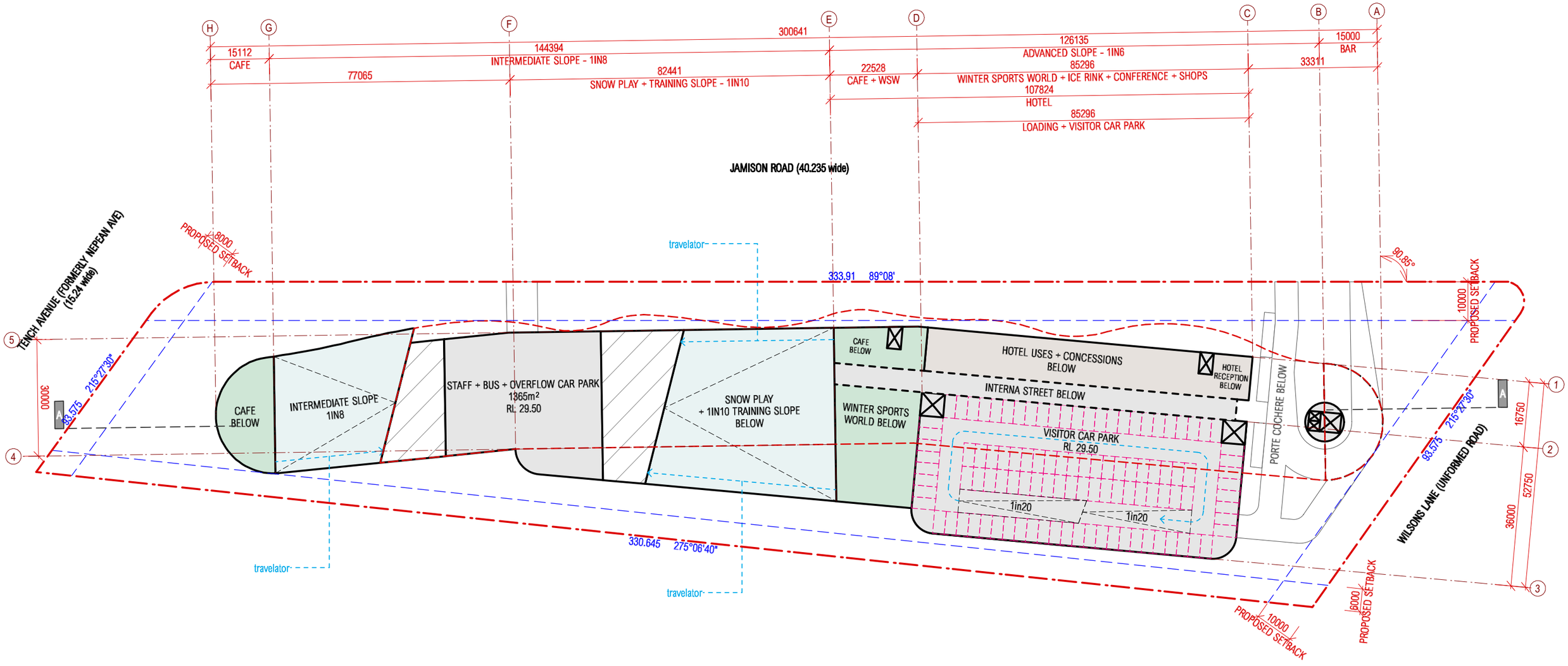
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment
A	28.06.18	issue to council

rev	date	amendment

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location:	drawing: LEVEL 1 + RL 26.5 +	stage: D.A.	project no.: 781	dwg no.: 102		
for/client: WSW winter sports world	at: JAMISONTOWN	drawing:	chkd: TW	drwn: OZ	date: 28/06/18	revision: A	



LEVEL 2 FLOOR PLAN - RL 29.50
1:1000 @ A3

0 10.0 20.0 30.0m

notes

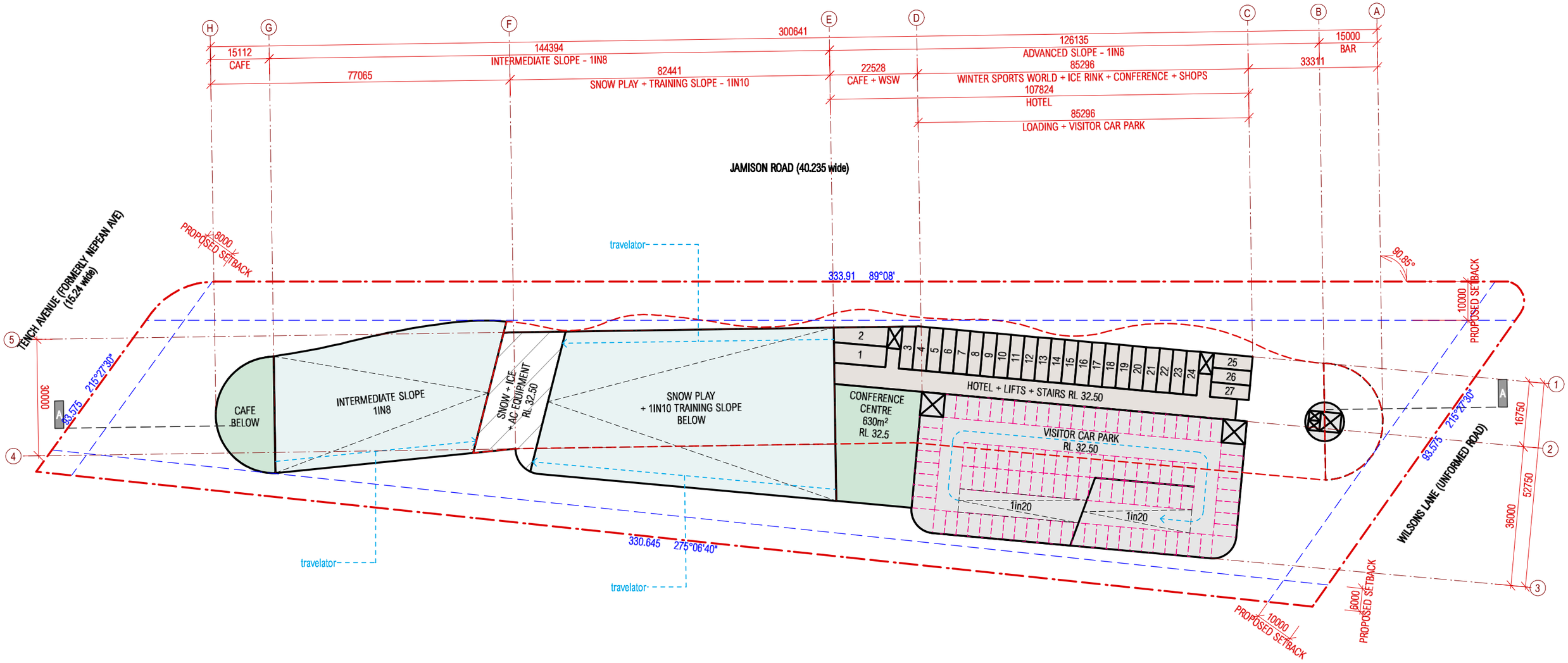
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment
A	28.06.18	issue to council

rev	date	amendment

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location:	drawing: LEVEL 2 RL 29.50	stage: D.A.	project no.: 781	dwg no.: 103
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 3 FLOOR PLAN - RL 32.50

1:1000 @ A3

0 10.0 20.0 30.0m

notes

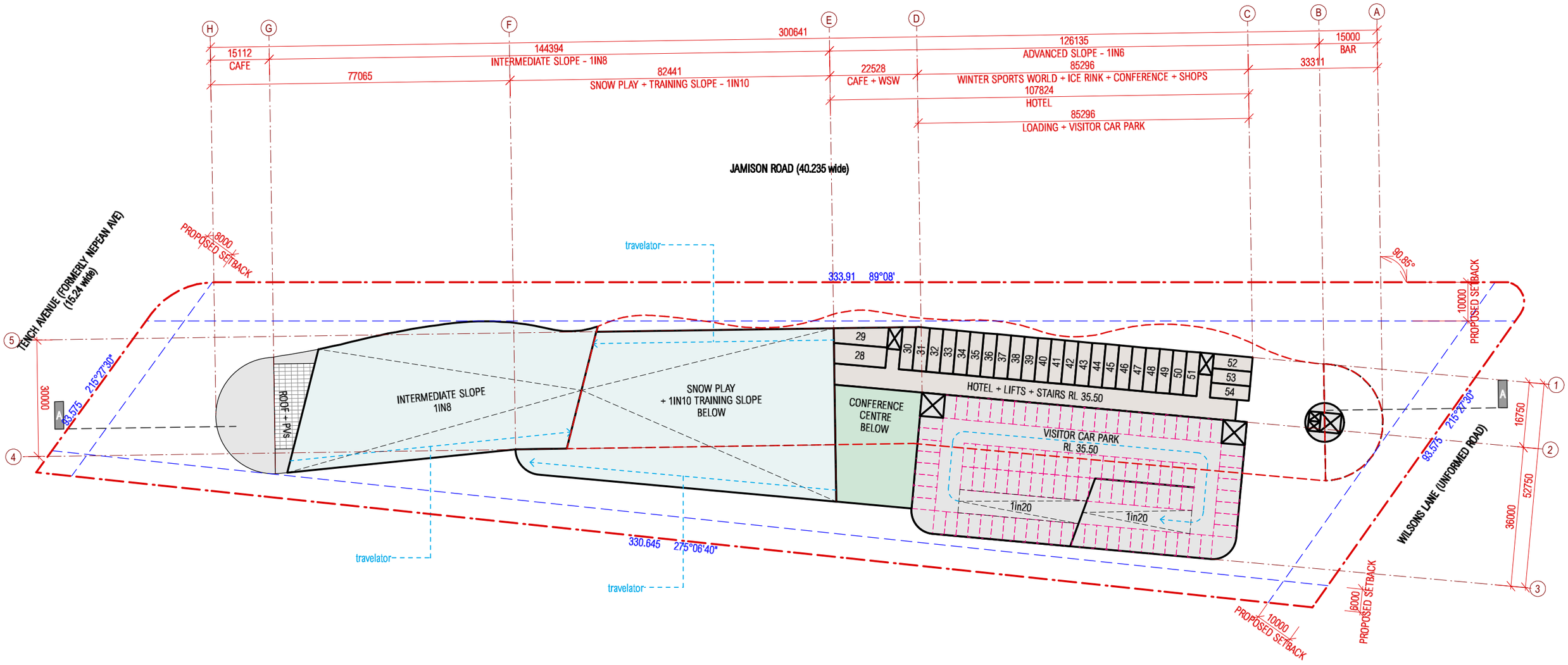
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment
A	28.06.18	issue to council

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project	location	drawing	stage	project no.	dwg no.
WINTER SPORTS WORLD		LEVEL 3	D.A.	781	104

for/client	at	drawing	chkd	drwn	date	revision
wsw winter sports world	JAMISONTOWN		TW	OZ	28/06/18	A



LEVEL 4 FLOOR PLAN - RL 35.50

1:1000 @ A3

0 10.0 20.0 30.0m

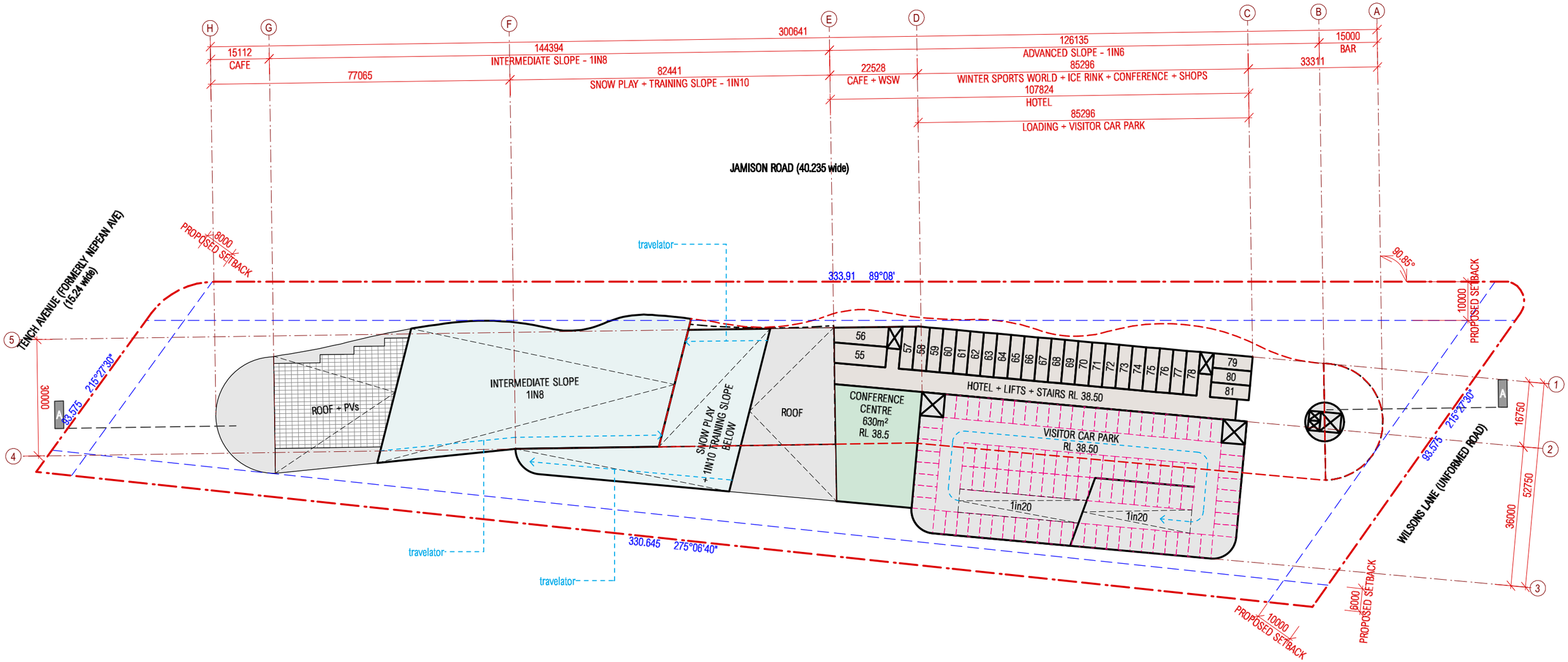
notes

all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment	rev	date	amendment
A	28.06.18	issue to council			

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location	drawing: LEVEL 4 RL 35.50	stage: D.A.	project no.: 781	dwg no.: 105
for/client: wsw winter sports world	at: JAMISONTOWN	drawing	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 5 FLOOR PLAN - RL 38.50

1:1000 @ A3

0 10.0 20.0 30.0m

notes

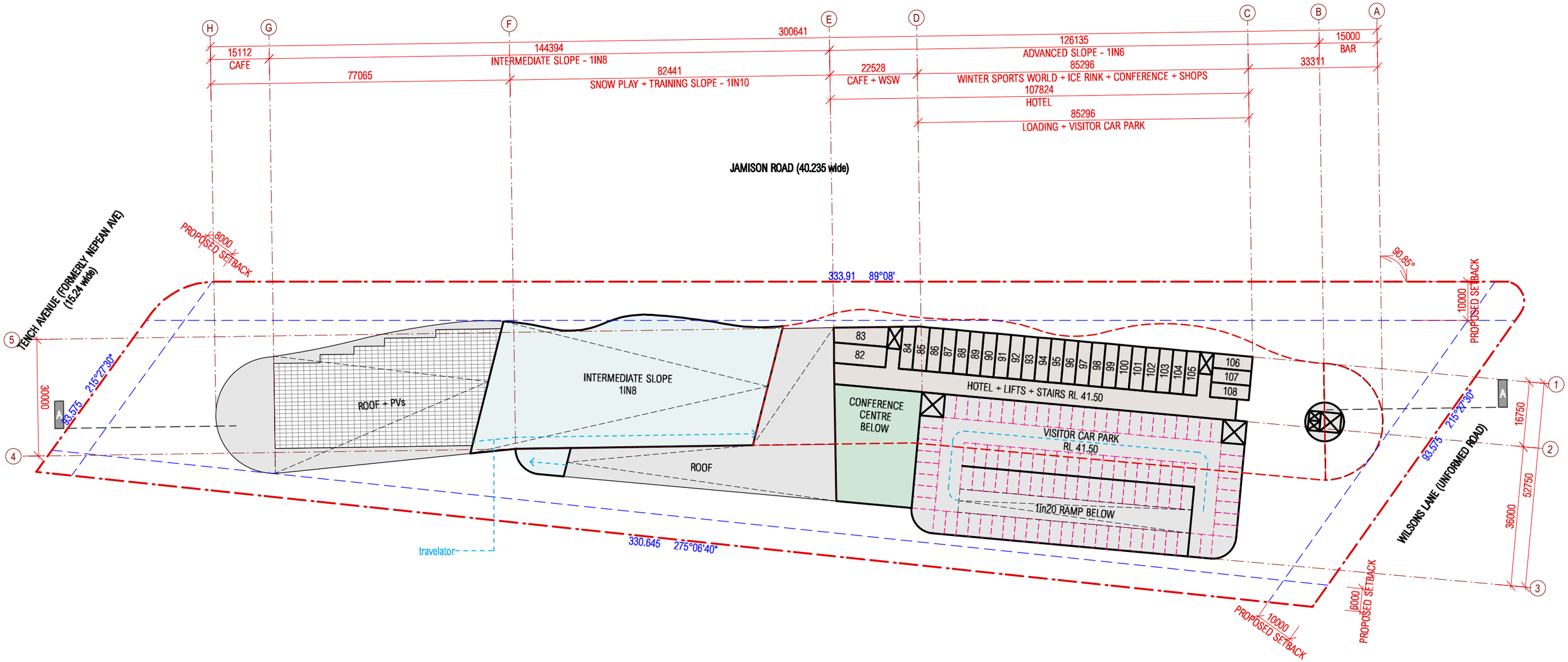
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment
A	28.06.18	issue to council

rev	date	amendment

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location:	drawing: LEVEL 5 RL 38.50	stage: D.A.	project no.: 781	dwg no.: 106
for/client: WSW winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 6 FLOOR PLAN - RL 41.50

1:1000 @ A3

0 10.0 20.0 30.0m

notes

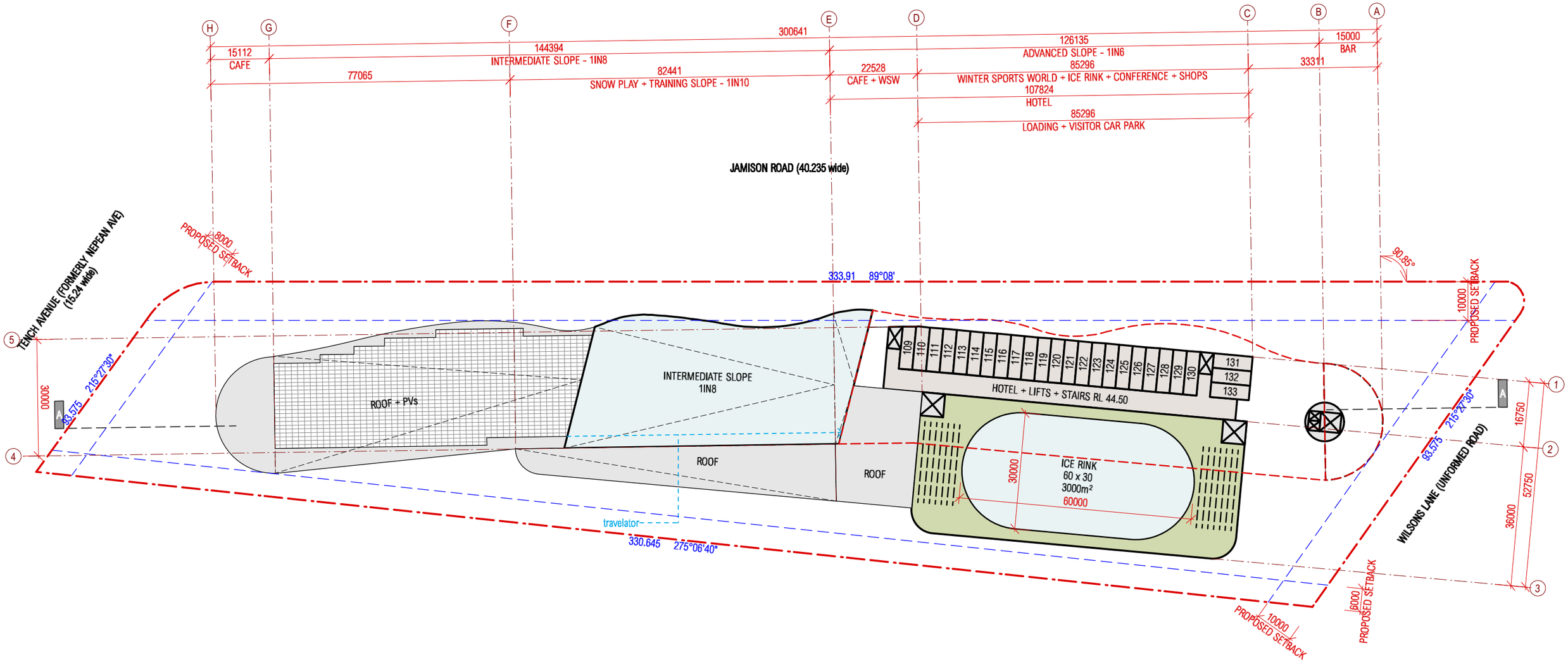
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment
A	28.06.18	issue to council

rev	date	amendment

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location:	drawing: LEVEL 6 RL 41.50	stage: D.A.	project no.: 781	dwg no.: 107
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 7 FLOOR PLAN - RL 44.50

1:1000 @ A3

0 10.0 20.0 30.0m

notes

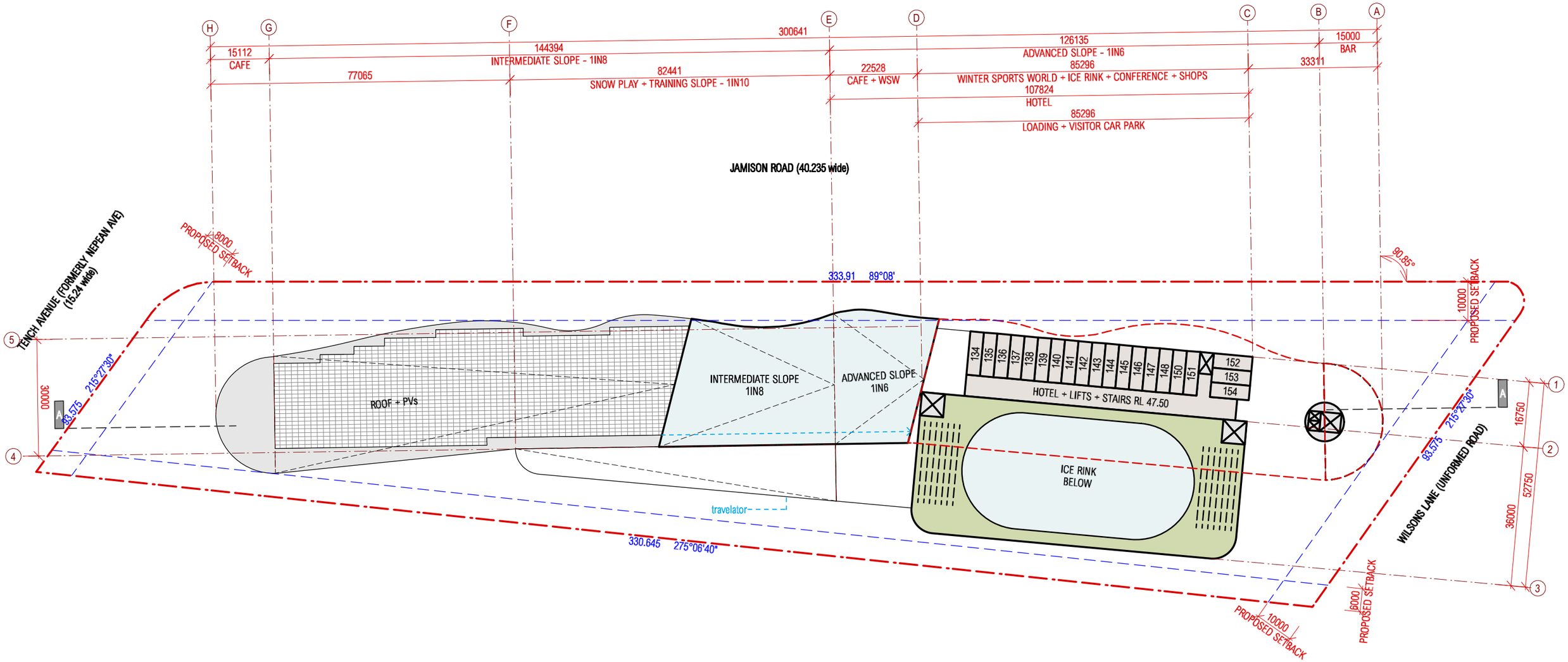
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment
A	28.06.18	issue to council

rev	date	amendment

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location:	drawing: LEVEL 7 RL 44.50	stage: D.A.	project no.: 781	dwg no.: 108
for/client: wsw winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 8 FLOOR PLAN - RL 47.50

1:1000 @ A3

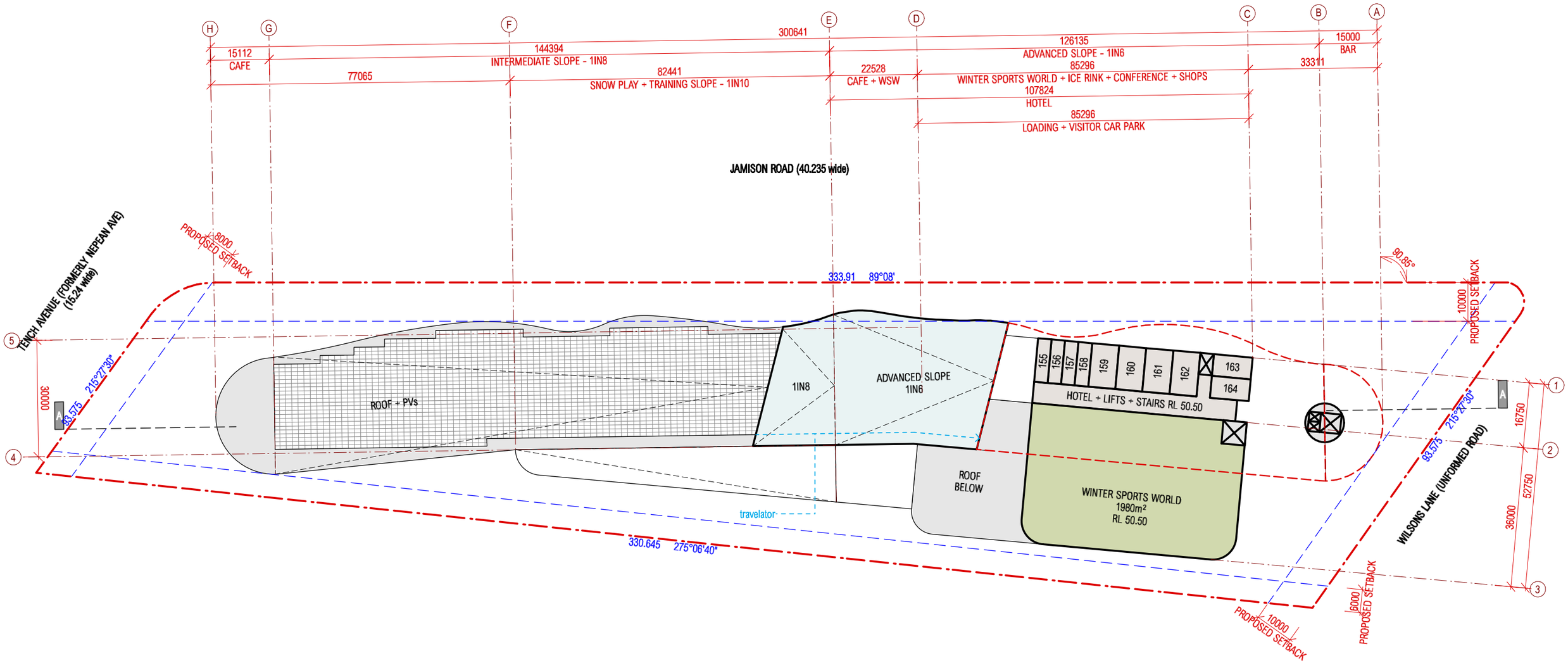
0 10.0 20.0 30.0m

notes	rev	date	amendment	rev	date	amendment
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.	A	28.06.18	issue to council			

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project	location	drawing	stage	project no.	dwg no.
WINTER SPORTS WORLD		LEVEL 8 RL 47.50	D.A.	781	109

for/client	at	drawing	chkd	drwn	date	revision
wsw winter sports world	JAMISONTOWN		TW	OZ	28/06/18	A



LEVEL 9 FLOOR PLAN - RL 50.50

1:1000 @ A3

0 10.0 20.0 30.0m

notes

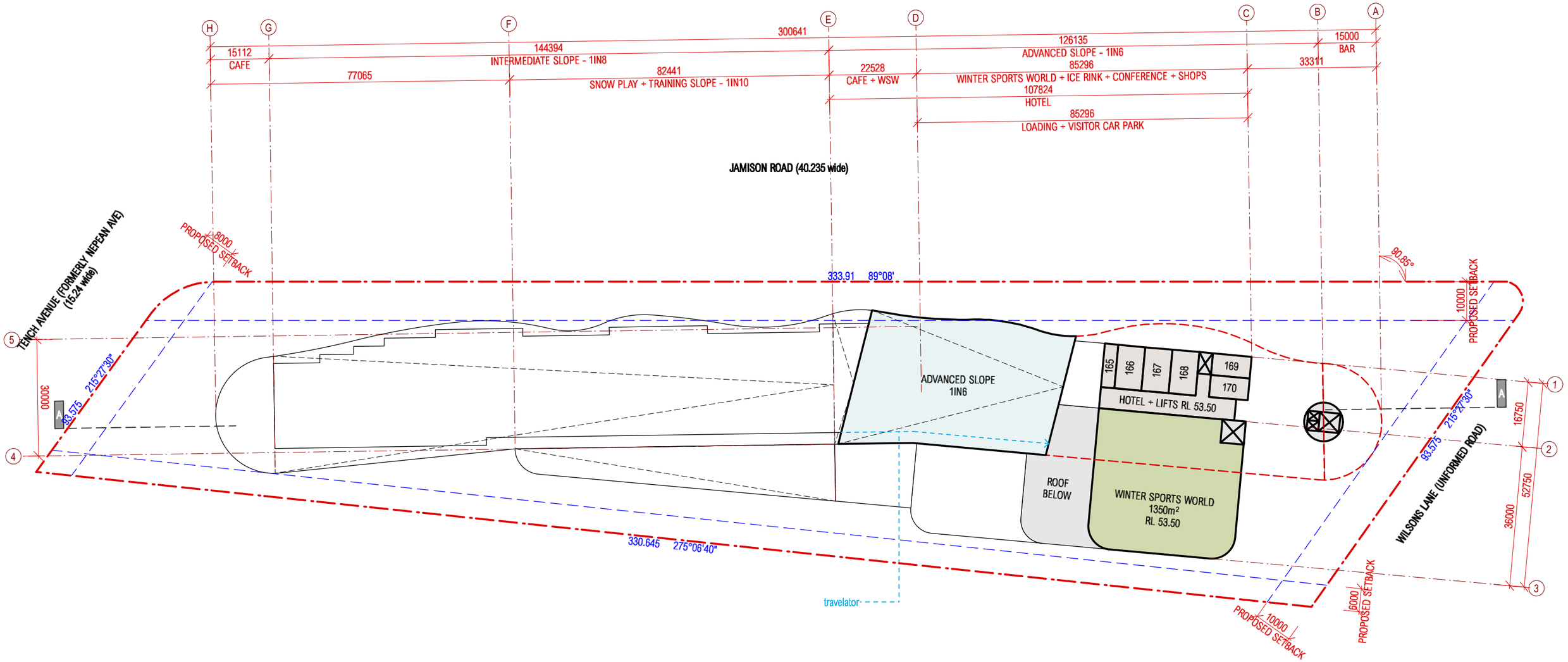
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment
A	28.06.18	issue to council

rev	date	amendment

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location:	drawing: LEVEL 9 RL 50.50	stage: D.A.	project no.: 781	dwg no.: 110
for/client: WSW winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 10 FLOOR PLAN - RL 53.50
1:1000 @ A3

0 10.0 20.0 30.0m

notes

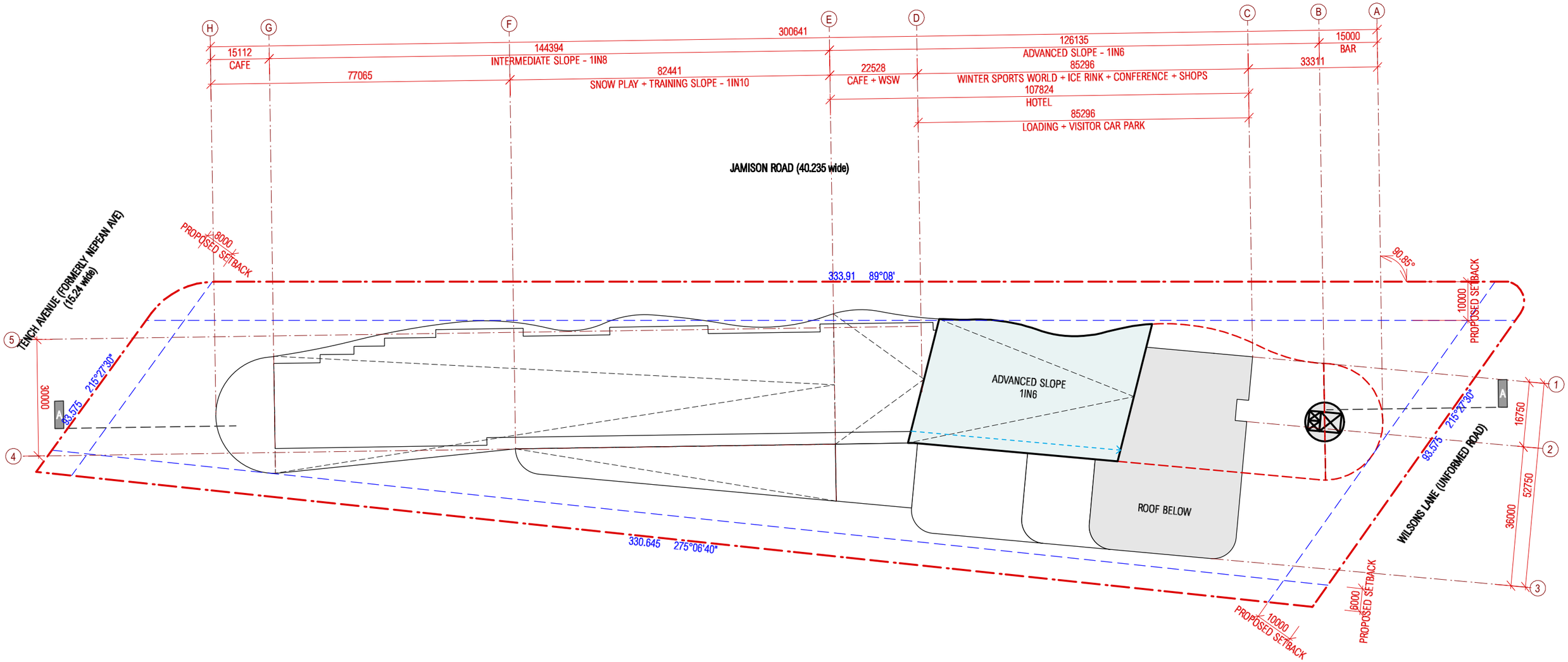
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment
A	28.06.18	issue to council

rev	date	amendment

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location	drawing: LEVEL 10 RL 53.50	stage: D.A.	project no.: 781	dwg no.: 111
for/client: WSW winter sports world	at: JAMISONTOWN	drawing	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 11 FLOOR PLAN
1:1000 @ A3

0 10.0 20.0 30.0m

notes

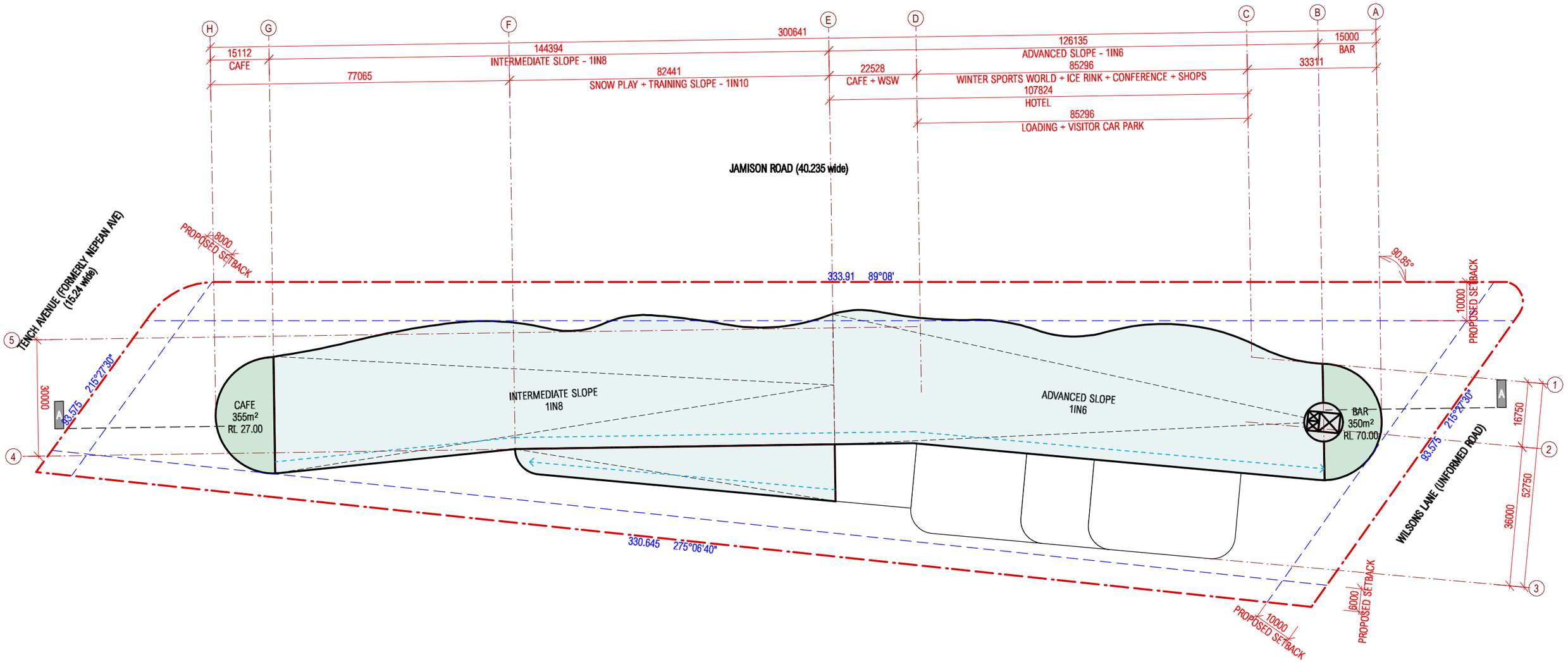
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment
A	28.06.18	issue to council

rev	date	amendment

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location	drawing: LEVEL 11 RL 56.50	stage: D.A.	project no.: 781	dwg no.: 112
for/client: wsw winter sports world	at: JAMISONTOWN	drawing	chkd: TW drwn: OZ	date: 28/06/18	revision: A



LEVEL 12 FLOOR PLAN - RL 71.00

1:1000 @ A3

0 10.0 20.0 30.0m

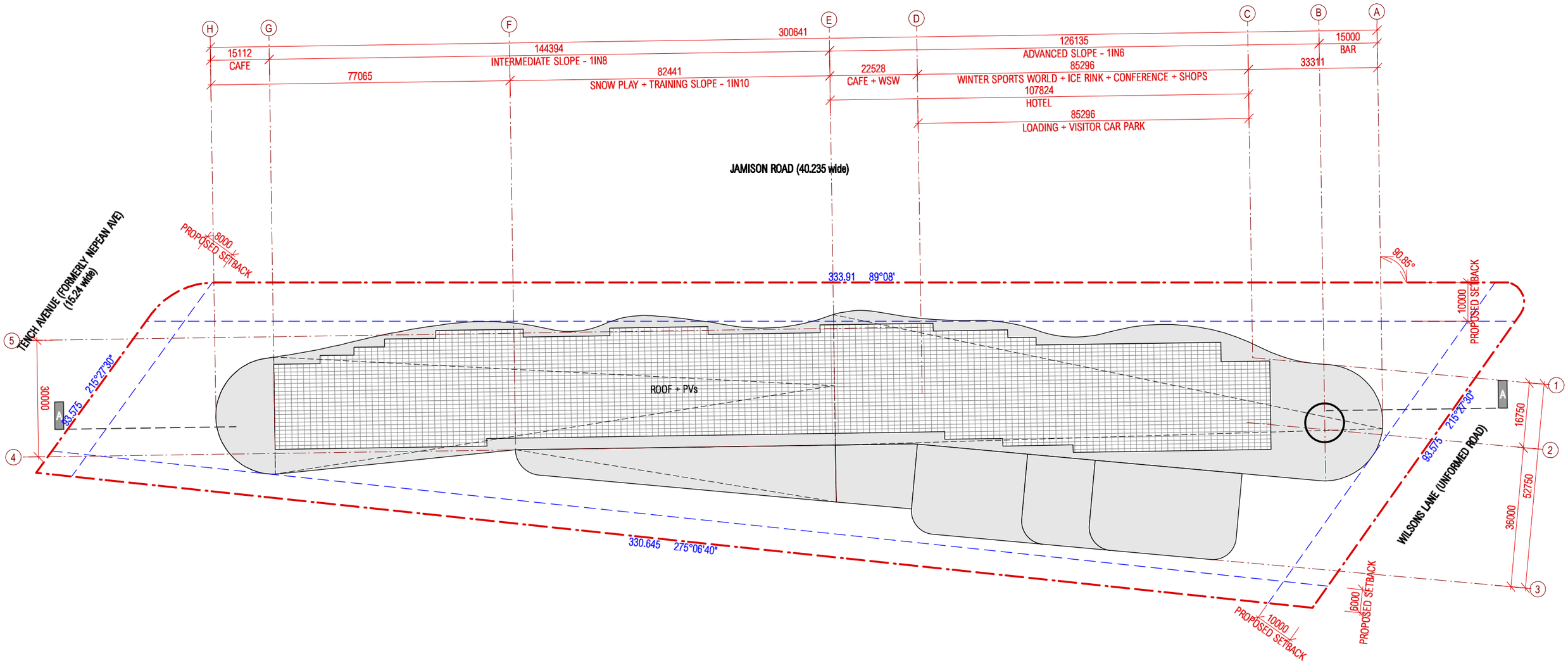
notes

all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment	rev	date	amendment
A	28.06.18	issue to council			

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location:	drawing: LEVEL 12 RL 71.00	stage: D.A.	project no.: 781	dwg no.: 113
for/client: WSW winter sports world	at: JAMISONTOWN	drawing:	chkd: TW drwn: OZ	date: 28/06/18	revision: A



ROOF PLAN
1:1000 @ A3

0 10.0 20.0 30.0m

notes

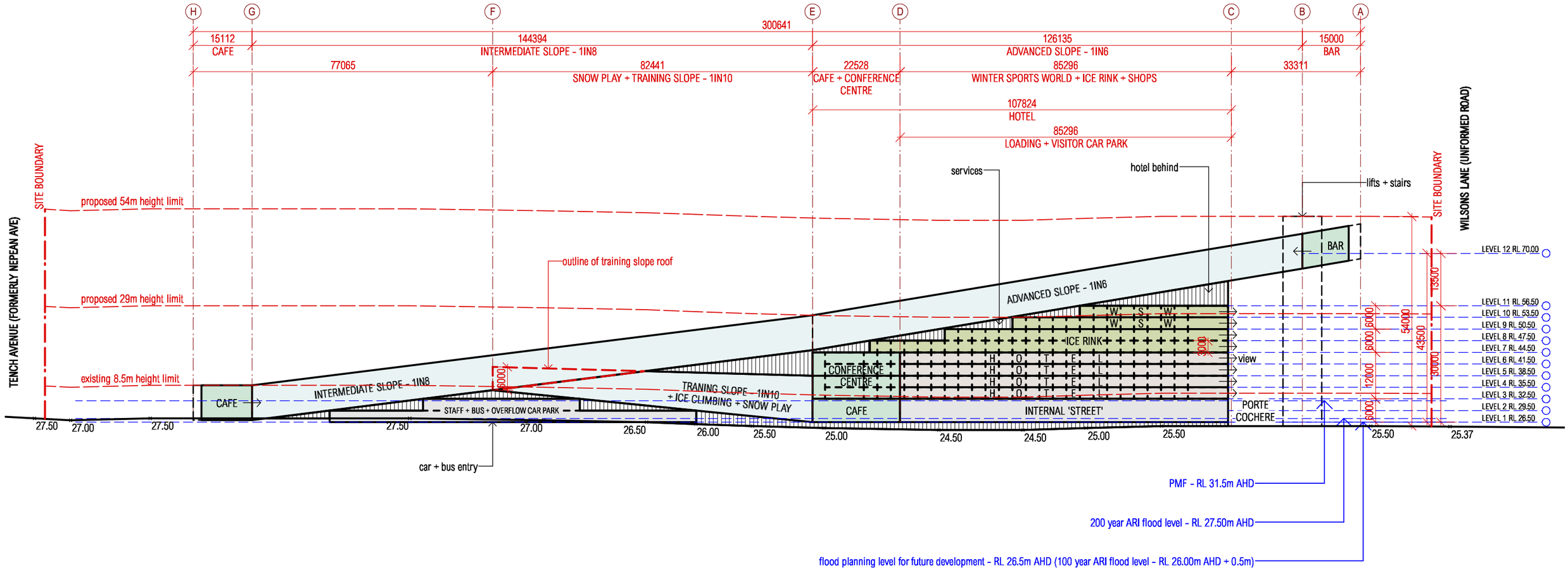
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment
A	28.06.18	issue to council

rev	date	amendment

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

project: WINTER SPORTS WORLD	location	drawing: ROOF PLAN	stage: D.A.	project no.: 781	dwg no.: 114
for/client: wsw winter sports world	at: JAMISONTOWN	drawing	chkd: TW drwn: OZ	date: 28/06/18	revision: A



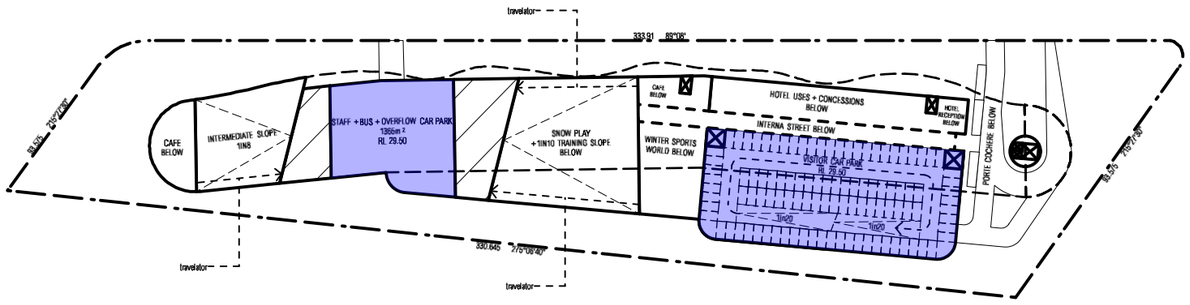
SECTION A
1:1000 @ A3

0 10.0 20.0 30.0m

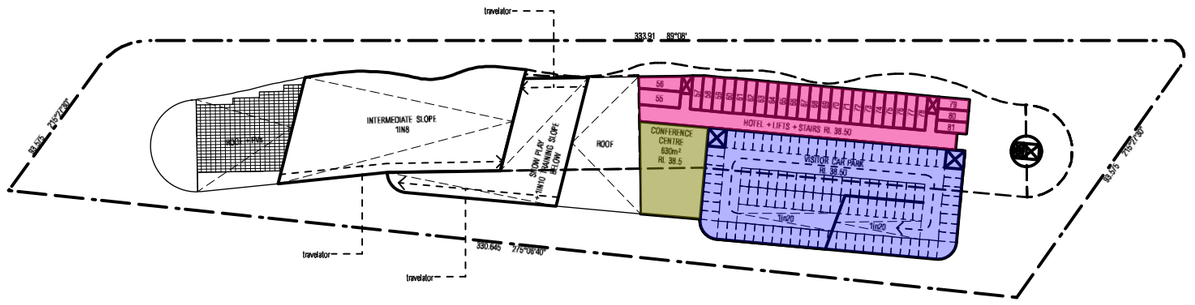
notes	rev	date	amendment	rev	date	amendment
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.	A	28.06.18	issue to council			

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

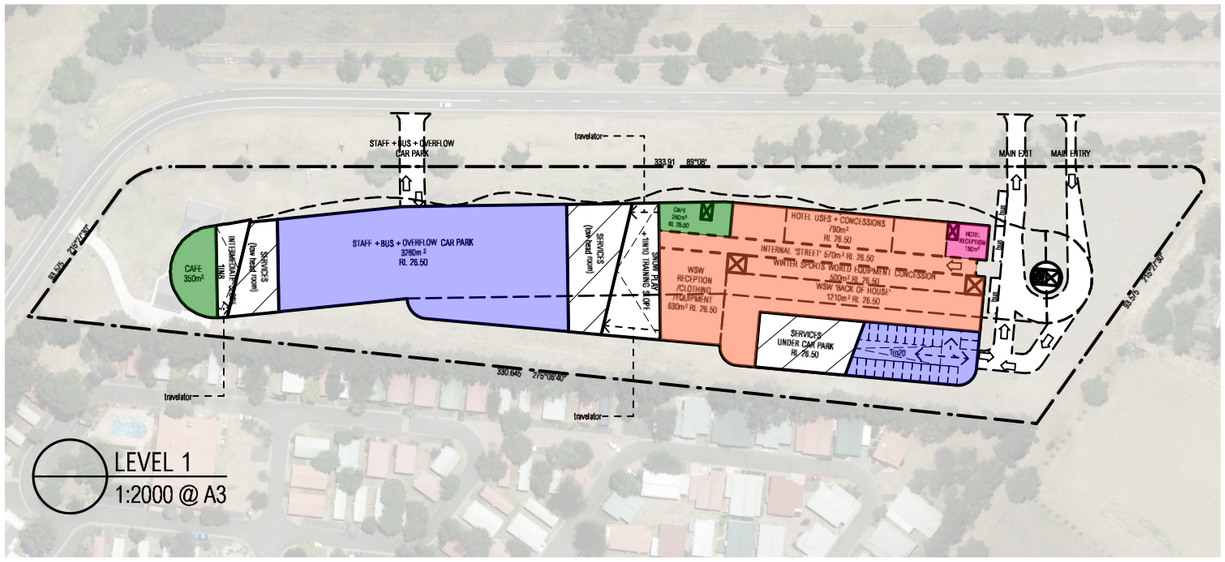
project	location	drawing	stage	project no.	dwg no.
WINTER SPORTS WORLD		SECTION A	D.A.	781	120
for/client: WSW winter sports world	at: JAMISONTOWN	drawing	chkd: TW drwn: OZ	date: 28/06/18	revision: A



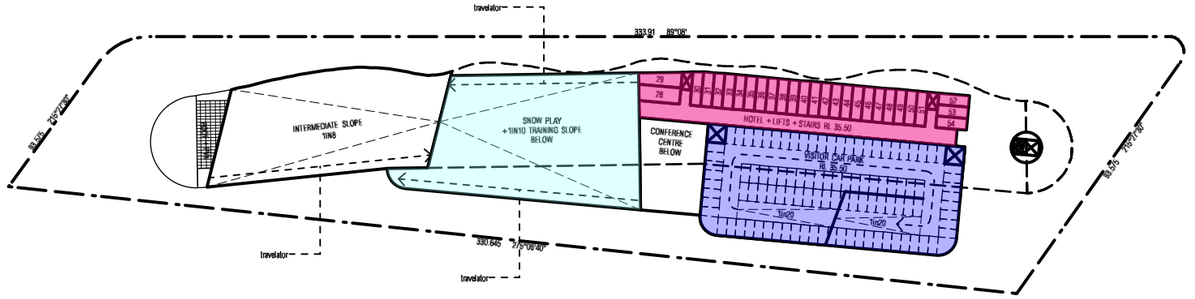
1:2000 @ A3
LEVEL 2



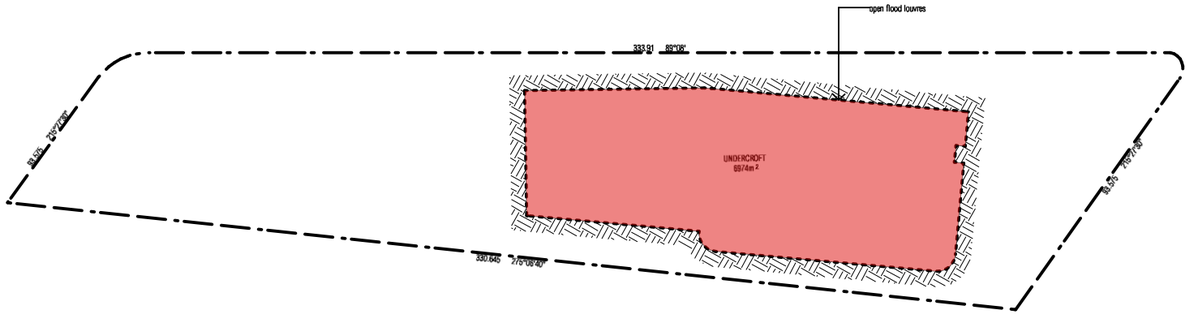
1:2000 @ A3
LEVEL 5



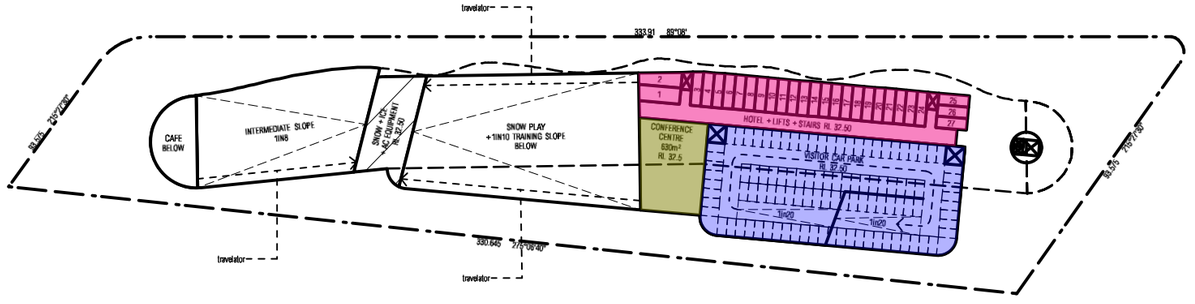
LEVEL 1
1:2000 @ A3



LEVEL 4
1:2000 @ A3



1:2000 @ A3
UNDERCROFT



1:2000 @ A3
LEVEL 3

BASEMENT | CAR PARKING | CAFE + BAR | WINTER SPORTS WORLD | HOTEL
SKI RAMPS + ICE RINK | CONFERENCE CENTRE | LANDSCAPE AREA | DEEP SOIL

0 10.0 20.0 30.0m

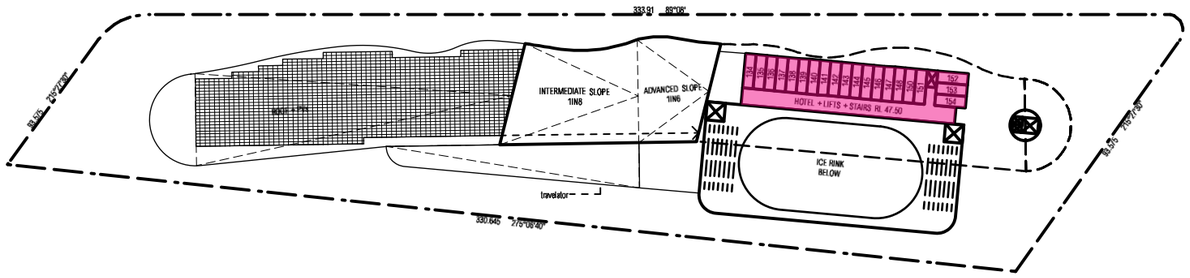
notes
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment
A	28.06.18	issue to council

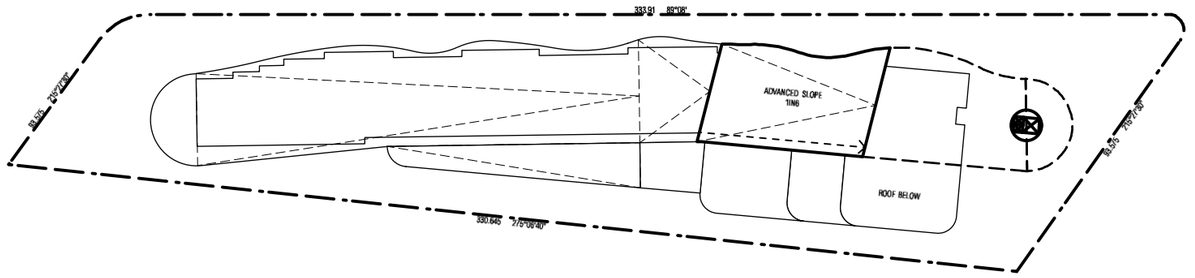
rev	date	amendment

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

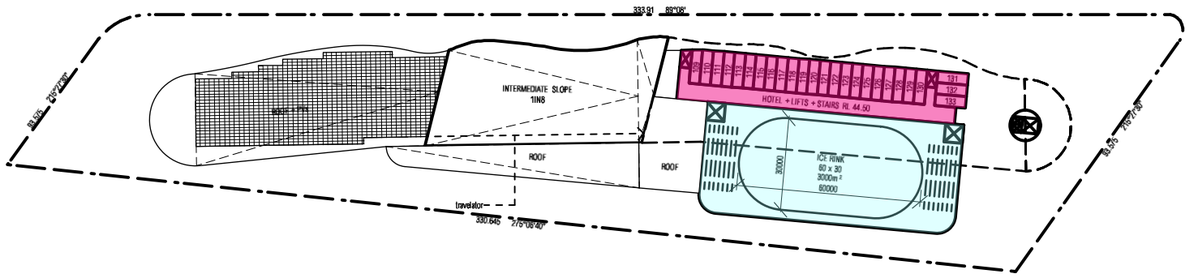
project: WINTER SPORTS WORLD	location	drawing: AREA CALCULATION SUMMARY	stage: D.A.	project no.: 781	dwg no.: 981
for/client: wsw winter sports world	at: JAMISONTOWN	drawing: SHEET 2	chkd: TW drwn: OZ	date: 28/06/18	revision: A



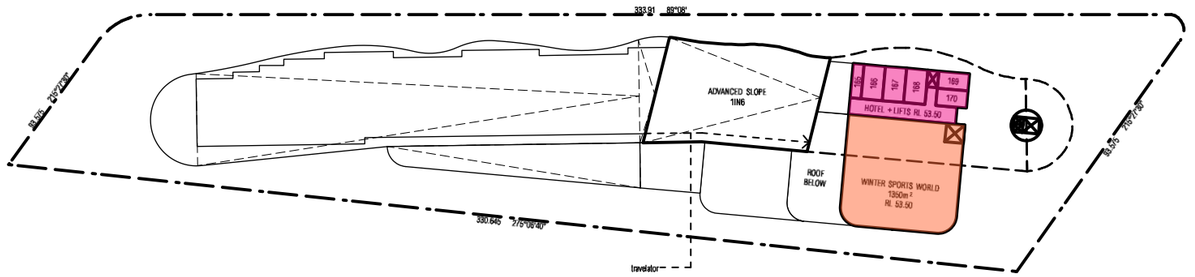
1:2000 @ A3
LEVEL 8



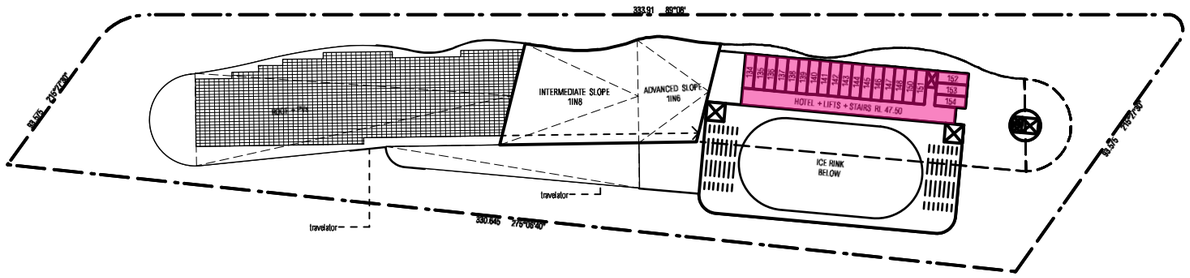
1:2000 @ A3
LEVEL 11



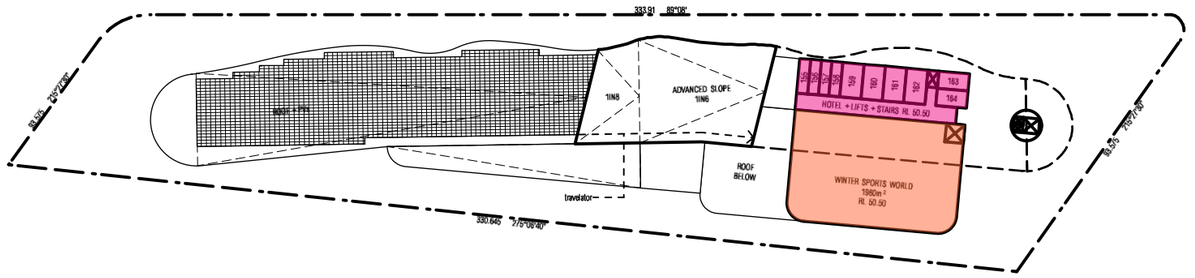
LEVEL 7
1:2000 @ A3



LEVEL 10
1:2000 @ A3



1:2000 @ A3
LEVEL 6



1:2000 @ A3
LEVEL 9

BASEMENT | CAR PARKING | CAFE + BAR | WINTER SPORTS WORLD | HOTEL
SKI RAMPS + ICE RINK | CONFERENCE CENTRE | LANDSCAPE AREA | DEEP SOIL

0 10.0 20.0 30.0m

notes

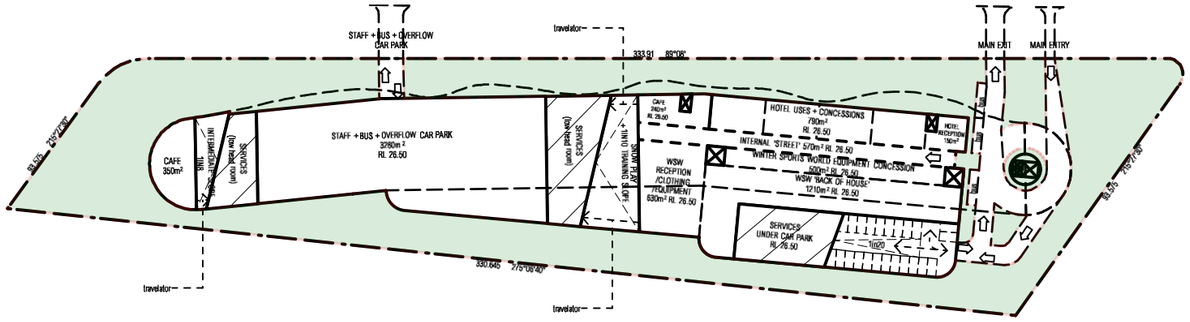
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment
A	28.06.18	issue to council

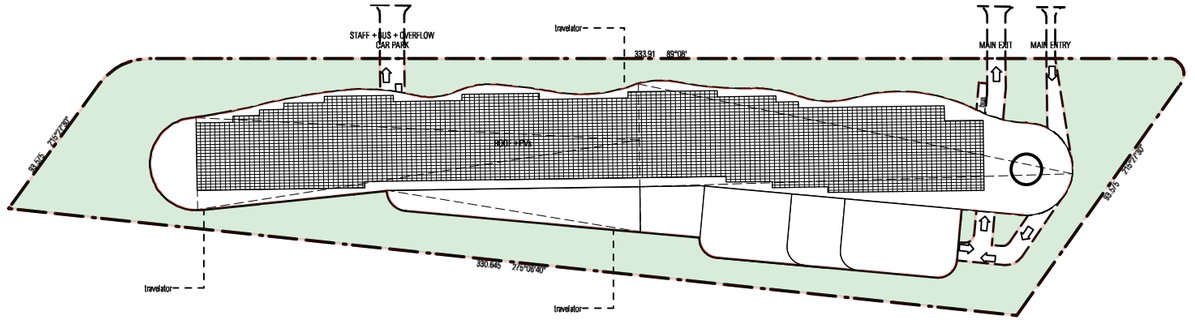
rev	date	amendment

environa studio
224 riley st surry hills 2010
t: 02 9211 0000
w: www.environastudio.com.au
architects registration number 6239

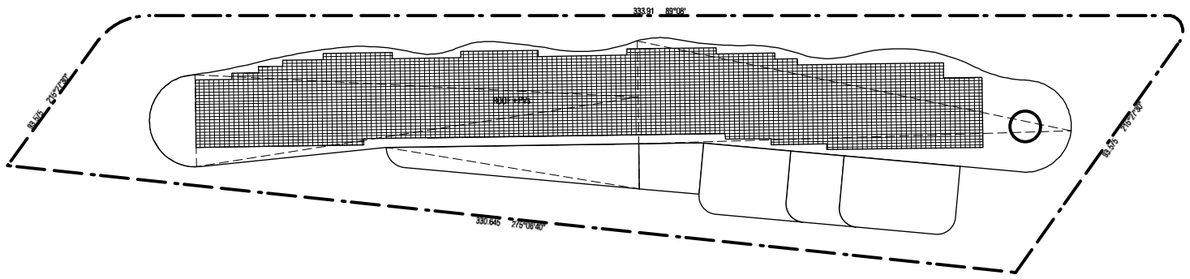
project: WINTER SPORTS WORLD	location:	drawing: AREA CALCULATION SUMMARY	stage: D.A.	project no.: 781	dwg no.: 982
for/client: WSW winter sports world	at: JAMISONTOWN	drawing: SHEET 3	chkd: TW drwn: OZ	date: 28/06/18	revision: A



1:2000 @ A3
LANDSCAPE AREA



DEEP SOIL
1:2000 @ A3



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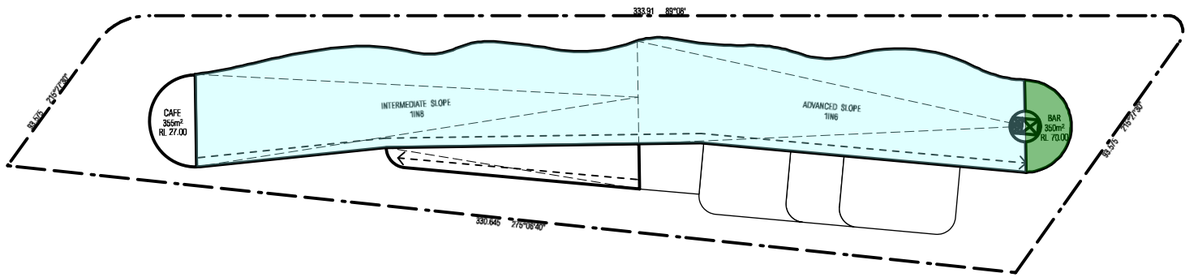

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LEVEL 12

BASEMENT | CAR PARKING | CAFE + BAR | WINTER SPORTS WORLD | HOTEL
SKI RAMPS + ICE RINK | CONFERENCE CENTRE | LANDSCAPE AREA | DEEP SOIL

PROJECT	WINTER SPORTS WORLD										
SITE AREA	24320										
FSR control	N/A										
FSR control area	N/A										
AREA CALCULATION		**WSW**	**HOTEL**	**CAFE**	**CONFERENCE CENTRE**	**SKI RAMPS**	**ICE RINK**	**CAR PARKING**	**BAR**	**TOTAL FLOOR SPACE**	**GFA**
SUBFLOOR SPACE	6975									6975	
LEVEL 1		3717	152	600				712		5181	4469
LEVEL 2								4376		4376	0
LEVEL 3			1760		632			3009		5400	2392
LEVEL 4			1760			2802		3009		7570	4561
LEVEL 5			1760		632			3009		5400	2392
LEVEL 6			1760					3009		4768	1760
LEVEL 7			1555				3009			4564	4564
LEVEL 8			1296							1296	1296
LEVEL 9		1983	913							2896	2896
LEVEL 10		1353	620							1973	1973
LEVEL 11											
LEVEL 12						8882			353	9235	9235
TFS (EXCL BASEMENT)		**7052**	**11575**	**600**	**1264**	**11684**	**3009**	**17122**	**353**	**52659**	
TOTAL FLOOR SPACE	**6975**	**7052**	**11575**	**600**	**1264**	**11684**	**3009**	**17122**	**353**	**59634**	
PROPOSED GFA		**7052**	**11575**	**600**	**1264**	**11684**	**3009**		**353**		**35537**
PROPOSED FSR	**1.461**										
OTHERS										**PROPOSED**	**%**
LANDSCAPE AREA										**11108**	**45.7%**
DEEP SOIL										**10132**	**41.7%**

AREA CALCULATION SUMMARY
NOT TO SCALE

0 10.0 20.0 30.0m

notes
all work to be carried out in accordance with bca, saa codes and conditions of council. measurements in mm's unless noted. use figured dimensions. do not scale drawings. site measure before starting work. refer all discrepancies to the architect.

rev	date	amendment
A	28.06.18	issue to council

rev	date	amendment

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project	location	drawing	stage	project no.	dwg no.
WINTER SPORTS WORLD		AREA CALCULATION SUMMARY	D.A.	781	983
for/client: WSW winter sports world	at: JAMISONTOWN	drawing: SHEET 4	chkd: TW drwn: OZ	date: 28/06/18	revision: A

APPENDIX 7
Concept Flood Risk Management and Stormwater Management Report

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MANAGERS

INFRASTRUCTURE PLANNERS

DEVELOPMENT CONSULTANTS

CONCEPT FLOOD RISK MANAGEMENT AND STORMWATER MANAGEMENT REPORT FOR THE WINTER SPORTS WORLD

Client: **WSW Winter Sports World**

Property: **Nos. 2 - 4 Tench Ave, Jamisontown**

Date: **27 June 2018**

Document Identification

Our Reference: **GO170662**

For and on behalf of ACOR Consultants (CC) Pty Ltd

Quality Information

Version	Description	Date	Author	Signature
1.0	Report for comment	27/06/2018	Amanda Newman & Bruce Kenny	

Distribution

No. of Copies	Format	Distributed to	Date
1 (v 1.0)	pdf	Environa Sudio	27/06/2018

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ANNEXURES

1.0 Introduction

ACOR Consultants (CC) Pty Ltd (ACOR) has been commissioned to prepare a concept Flood Risk Management and Stormwater Management Plan in response to the general requirements of Penrith Development Control Plan (DCP) 2014 Part C3 Water Management and Penrith Local Environmental Plan (LEP) 2010 Clause 7.2. In the preparation of this report, ACOR has relied upon certain data and information contained within the following documents:

- Architectural plans prepared by Environa Studio, Reference 781, Sheets 030,101 -114 and 120, Revision A, dated 27 June 2018
- Site survey not referenced nor dated.
- Penrith DCP 2014;
- Penrith LEP 2010;
- Nepean River Flood Study Exhibition Draft Report Reference 301077-14401 prepared by Worley Parsons Services Pty Ltd Dated 16 August 2017
- Hawkesbury Nepean Flood Emergency Sub Plan.
- Penrith City Council Local Flood Plan, Sub Plan of Penrith Local Disaster Plan (Displan);
- 'Technical flood risk management guideline: Flood hazard' published by the Attorney-General's Department, dated 2014;
- 'Reducing Vulnerability of Buildings to Flood Damage: Guidance on Building in Flood Prone Areas' published by the Hawkesbury-Nepean Floodplain Management Steering Committee (HNFMSC), dated 2006; and
- 'Floodplain Development Manual: the management of flood liable land' published by NSW Department of Infrastructure, Planning and Natural Resources (NSW DIPNR), dated April 2005.

The purpose of this report is to provide structured guidelines for the design and management of flooding and stormwater related issues. Additionally, the report will examine the impact of flooding at the subject site and recommend measures to ensure that future development of the site will meet flood compatibility standards, including evacuation and emergency response procedures. The purpose of this report is to provide Penrith City Council and other regulatory authorities with sufficient information to assess the recommendations and guidelines for future development of the subject site.

In addition, our Report responds to the requirements of the Penrith City Council Flooding and Evacuation Information Form which states:

Response to Flooding and Evacuation Information

Background: *This information form is for the purpose of assessing regional and local flood risk in the Hawkesbury-Nepean Valley – particularly regional and local evacuation capacity. No detailed studies are required to complete this form. The impact of the proposal on local flood evacuation capacity will be assessed by local council. Should local council support the proposal, its impact on regional flood*

evacuation capacity will be assessed after the planning proposal is submitted to the Department of Planning and Environment.

Location: *Provide location information for the site and adjacent areas such as existing topography and existing land use, site accessibility and land suitability.*

Context: *Provide preliminary information on proposed development including:*

- *Proposed type of land use after rezoning;*
- *any proposed earthworks (cut/fill);*
- *proposed buildings footprint within the site;*
- *numbers of dwellings;*
- *number of storeys if applicable;*
- *potential number of occupiers (residents and employees);*
- *car parking types;*
- *proposed habitable and non-habitable floor levels;*
- *proposed car park and street level;*
- *proposed building and development controls.*

Primary constraints *List the primary constraints in regard to flood risk in this area utilising existing available information including from councils' studies. This includes:*

- *Constraints due to regional and local flood characteristics and vulnerability of proposed land use to flood risk;*
- *Hazard and Hydraulic constraints;*
- *Emergency Management constraints as identified in the Hawkesbury-Nepean State Flood Plan i.e. isolation, evacuation, warning time.*

Management Measures *Outline any proposed management measures/strategy to manage identified constraints, including if applicable, flood barriers or other controls, evacuation plans, use of building Occupant Waring Systems for flood evacuation, etc.*

In relation to the Response to Flooding and Evacuation Information we refer to our correspondence dated 27 June 2018 (copy enclosed under Annexure B).

2.0 Site Description

The subject site is known as Lot 1 in DP 38950 (2-4) Tench Ave, Jamisontown. The site is located on the corner of Tench Ave and Jamison Road. we refer to Figure 1 following which depicts the location of the site and surrounding development.

The subject site is partially developed site of area 2.342 hectares. The site is Existing development of the site consists of a residential building. The site generally falls in an easterly direction with a localised depressed area at RL 24.5m AHD draining to Jamison Road Elevations on site are within the range RL 28.0 m AHD to 24.5 m AHD. We refer to the features depicted on the survey plan referenced under Section 1.0 of this report.

The applicant proposes the construction of a substantial building structure which will facilitate the operation of a specialised sports centre, carparking and hotel accommodation. The principal features of the development are depicted on the architectural plans prepared by Environa Studio, Reference 781, Sheets 030,101 -114 and 120, Revision A, dated 27 June 2018.

3.0 Flooding

This section of the report describes existing flood behaviour at the site, discusses the impact of the proposed development on flood behaviour, and recommends measures to ensure that future development of the site will meet flood compatibility standards. Existing flood behaviour is described in Section 3.1. Measures to mitigate the impact of flooding at the subject site are discussed in Section 3.3, while the impact of the proposed development is discussed in Section 3.2.

We note that the site is included in the Nepean River Exhibition Draft Report Reference 301077-14401 prepared by Worley Parsons Services Pty Ltd Dated 16 August 2017. We have adopted the findings presented in this Draft Report in the following sections of our report.

3.1 Flood Characteristics

The site is impacted by flooding from the Nepean River and a tributary known as Peach Tree Creek. The subject site adjoins the eastern levee bank of the Nepean River. The Peach Tree Creek depression is located east of the site and flows over Jamison Road during the 100 Year ARI event approximately 450 metres east of the site.

The 2% AEP overland floodwaters will not impact the site. We refer to the 50 Year ARI Flood level Maps (copies enclosed under Annexure A).

The 1% AEP overland floodwaters impact the site at elevation RL 26.00 m AHD. The 1% AEP overland floodwaters cause partial inundation over the eastern half of the subject site to depths within the range 0.0 m to 1.5 m. The western portion of the site is not inundated by 1% AEP floodwaters. We refer to the 100 Year ARI Flood level Maps (copies enclosed under Annexure A).

The 1% AEP overland floodwaters affecting the subject site pose Low to High Hazard conditions. We refer to the 100 Year ARI provisional Flood Hazard Category Map (copy enclosed under Annexure A).

The 1% AEP flood level occurring at RL 26.0 m AHD will be adopted for the purposes of this report.

The 0.5% AEP overland floodwaters impact the site at elevation RL 27.5 m AHD. The 0.5% AEP overland floodwaters cause partial inundation over the majority of the subject site to depths within the range 0.0 m to 3.0 m. An elevated western portion of the site is not inundated by 0.5% AEP floodwaters. We refer to the 200 Year ARI Flood level Maps (copies enclosed under Annexure A).

The 0.5% AEP overland floodwaters affecting the subject site pose Intermediate to High Hazard conditions. We refer to the 200 Year ARI provisional Flood Hazard Category Map (copy enclosed under Annexure A).

The PMF overland floodwaters impact the site at elevation RL 31.5 m AHD. The PMF overland floodwaters cause total inundation over the subject site to depths within the range 4 m to 7 m. We refer to the PMF Flood level Maps (copies enclosed under Annexure A).

The PMF overland floodwaters affecting the subject site pose High Hazard conditions. We refer to the PMF provisional Flood Hazard Category Map (copy enclosed under Annexure A).

3.2 Impact of the Proposed Development

The proposed structure will be partially located within the 1% AEP overland flood inundation limits. The section of the building structure encroaching within the 100 Year ARI flood waters will include an elevated open sub-floor supported on isolated columns. The opportunity to provide compensatory flood storage will be assessed during the detail design phase. The design of the structure will include measures that have no impact on the 1% AEP local overland flood behaviour elsewhere within the floodplain.

In this regard It is anticipated that regrading of the site will result in a beneficial increase in the post development 1% AEP mainstream flood storage. Accordingly, the proposed development will result in a beneficial impact on the existing 1% AEP mainstream flood regime.

3.3 Flood Risk Management

Based on the foregoing, we offer the following response, having due regard for the requirements of Penrith DCP 2014 Part C3 Section 3.5, Penrith LEP 2010 and 'Floodplain Development Manual' (NSW DIPNR 2005).

3.3.1 Floor Level

The Flood Planning Level (FPL) is RL 26.5 AHD, this level provides 500 mm freeboard above the 1% AEP floodwaters. Accordingly, the proposed floor level meets the minimum floor level requirements of Penrith DCP 2014 Part C3 Section 3.5 Clauses 6 a) and 7 a).

3.3.2 Building Components and Method

The proposed building structure will be constructed of flood compatible building materials below the PMF floodwaters. Extensive guidance on flood compatible building materials and methods is provided in 'Reducing Vulnerability of Buildings to Flood Damage: Guidance on Building in Flood Prone Areas' (HNFMSC 2006); a selection of the flood compatible materials and practices, applicable to the proposed development, described in this resource is summarised below.

Flood compatible floor and sub-floor materials include reinforced or mass concrete and masonry. Suitable wall structure materials include solid brickwork, blockwork, concrete and steel frames. Steel frames should be constructed of open sections where possible and have holes drilled into the bottom steel plates to allow water to drain from the frame in the event of immersion.

Flood compatible wall and ceiling linings include fibre-cement board, brick, concrete (including concrete blocks), stone with waterproof grout, clay tiles glazed with waterproof mortar, glass (including glass blocks), plastic sheeting with waterproof adhesive, steel with waterproof applications, exterior grade plywood, and fully sealed solid wood products. Plasterboard is not a flood compatible material as it requires replacement

after extended immersion, however for shallow and short duration floods there may be little damage to plasterboard wall linings. It is recommended that sheet wall linings be installed horizontally with a 20-30 mm gap provided between the bottom wall plate and the base of the wall lining to facilitate ventilation and cleaning of the wall cavity after a flood event. The gap may be covered with skirting board when access to the wall cavity is not required.

Insulation should be closed cell type foam. Nails, bolts, hinges and fittings should be made from nylon, brass, stainless steel or hot dipped galvanised steel. Hinges should be of a removable pin type.

Flood compatible doors include solid panel doors with waterproof adhesives, flush doors with marine ply and closed cell foam, metal doors, and aluminium or galvanised steel frame doors. Aluminium frame windows with stainless steel rollers or similar corrosion and water-resistant materials suffer least damage during flood events.

Connection to mains power supply, shall be installed such that they will be self-draining in the event of flooding.

Heating and air-conditioning systems, including fuel supply and ducting, should be installed in such a manner as to minimise damage from submersion. This may be achieved through measures such as access for cleaning and draining of water after flood events, manually operated cut off valves for fuel supply lines and ducts, securely fastening heating equipment and fuel storage tanks to prevent buoyancy and movement, and venting of fuel supply tanks at an elevation above the PMF

3.3.3 Structural Soundness

The proposed building structure will be constructed to withstand the loads imposed by the PMF mainstream floodwaters including hydrostatic, hydrodynamic, buoyancy and debris impact forces. The structural design will be prepared by a practicing Structural Engineer with relevant experience designing structures on flood affected lands.

3.3.4 Car Parking and Driveway Access

Car and coach parking areas are proposed to have finished surface levels at or above the FPL. At RL 26.5m AHD

3.3.5 Materials Storage

Goods and materials associated with the operation of the facility will be stored at or above the FPL.

Based on the foregoing, we are of the view that the proposed facility will provide sufficient area above the FPL to store goods and materials which may become hazardous, may be damaged by floodwaters or have the potential to pollute floodwaters. Accordingly, we are of the view that the proposed development complies with the requirements of Penrith City Council DCP 2014 Part C3 Section 3.5 Clause 12 a).

3.3.6 Fencing

The Application will not propose external perimeter fencing. There is a proposal to include flood compatible louvres (or similar) to the external edges of the elevated sub floor. This treatment will not impede the passage of stormwater flows or floodwaters.

3.3.7 Evacuation

The State Emergency Service of NSW (SES) is responsible for providing flood updates which can be received by local, radio and television news and SMS messaging. The timing for evacuation of persons i be established in consultation with the SES.

Future flood-readiness for the staff and operators of the facility and occupiers will be developed in consultation with the SES to develop an Emergency Business Continuity Plan. Future owners/occupiers of the site should prepare, regularly review and update an Emergency Business Continuity Plan.

A copy of the Emergency Business Continuity Plan should be accessible to staff, and staff should be made aware of its existence and regularly trained in the appropriate response(s) to emergency situations.

In this regard the site lies within the boundaries and prescriptive requirements of the Penrith City Council Local Flood Plan – a Sub Plan of the Penrith Local Disaster Plan (DISPLAN) and Hawkesbury Nepean Flood Emergency Response Plan – A Sub Plan of the State Emergency Management plan (EMPLAN).

The development of the Emergency Business Continuity Plan including the Flood Management Plan (FMP) will consider the operation of the facility. In this regard the facility has the ability to cease operations and subsequently restrict or deny access to the facility. The trigger to close the facility to the public will be determined in consultation with the SES and Penrith City Council and be a consequence of issued flood warnings.

The hotel accommodation proposes 179 rooms, the FMP will need to be prepared in consultation with the SES in order to provide an evacuation strategy for hotel guests. The FMP will outline instructions for additional vehicles, evacuation routes and refuge centres. Where additional buses, vans and cars are required arrangements will be made with local car rental providers. These vehicles will be controlled by nominated and authorised staff members and, will substantially reduce the time required for evacuation.

In the event that the 1% AEP flood event is expected to be exceeded, strategies should be adopted in accordance with NSW Government operational guidelines and SES Emergency Evacuation operational guidelines.

The FMP will be prepared having due regard to traffic consideration and evacuation routes. The anticipated evacuation route is detailed on the figure following.

Preliminary traffic volumes within this traffic precinct indicate that vehicles should clear in approximately one hour. We note that this will need to be validated during the detail design phase.

It is anticipated that hotel guests will be conveyed to alternate accommodation in accordance with the FMP.

4.0 Stormwater Quality

This section of the report identifies potential impacts imposed by future development on stormwater quality and includes strategies which could be implemented in assisting the ongoing maintenance of streamflow as well as meeting prescriptive targets for the reduction of gross pollutants, nutrients and chemical pollutants. Future assessment at detail design phase will include:

- Existing (pre-development) stormwater quality, including the identification of pollutant sources and treatment devices;
- Post-development stormwater quality, including the identification of pollutant sources and pollutant influx to the proposed treatment train; and
- Performance of the proposed treatment train.

Future Stormwater quality analysis will be undertaken using a MUSIC model of the pre-development and post-development site scenarios.

4.1 Stormwater Treatment Requirements

The proposed development is required to incorporate a stormwater treatment train capable of meeting the pollutant reduction targets outlined in Table 1.

Table 1: Stormwater Pollution Retention Targets

Pollutant	Retention target
Total suspended solids (TSS)	85%
Total phosphorus (TP)	60%
Total nitrogen (TN)	45%
Gross pollutants (GP)	90%
Free oils and grease	90% with no visible discharge

In accordance with guidance contained within Penrith City Council's WSUD Technical guidelines, the treatment train was designed to capture and treat the 3 month ARI site discharge. The 3 month ARI site discharge was taken to be half the 1 Year ARI peak discharge rate from the site (The et al. 2015).

4.2 Stormwater Treatment Train

The stormwater treatment measures for the proposed development consist will include a proprietary device which will be designed at detail design phase. In this regard we note the following device which can meet the prescriptive requirements.

- Ecosol Cartridge Filter (confirm model)

The pollutant removal parameters of the proposed Ecosol ECF Triple were provided by the manufacturer, Ecosol Pty Ltd. The Ecosol ECF Triple provides three stage treatment of stormwater to remove gross pollutants; oil, grease and other hydrocarbons; nitrogen; phosphorous; and heavy metals (Ecosol 2014). The pollutant removal efficiency of the proposed Ecosol ECF Triple is summarised in Table 2.

Table 2: Ecosol ECF Triple Pollutant Removal Efficiency (Ecosol 2014)

Pollutant	Removal efficiency (%)
TSS	92
TP	60
TN	60
GP	99
Total petroleum and hydrocarbons	95
Heavy metals	97

4.3 MUSIC Model Development

A pre-development and post-development MUSIC model will be developed for the subject site. This section describes the climate data, MUSIC parameters and catchment representation used to assess site stormwater quality in the pre-development and post-development conditions.

MUSIC requires climate data, in the form of rainfall and potential evapotranspiration (PET) data, and rainfall-runoff parameters to generate stormwater runoff from the site. This data was acquired through the use of a Penrith City Council MUSIC-link model.

Stormwater pollutant loads will be generated using the stochastic generation tool within MUSIC. This results in log-normally distributed, uncorrelated pollutant loads for each storm event. The pollutant load parameters vary by land use type. Pollutant load parameters will be acquired through MUSIC-link for each land use type.

The pre-development and post-development catchments will be defined based on topographic features indicated during site survey, and anticipated flow paths. The pre-development and post development catchments are anticipated to encompass the same area. The total site area being developed is 2.34 hectares

The post-development MUSIC model will consider the following and a detailed Water Quality Report will be undertaken at detail design phase.

- Source node: Carpark & driveway;
- Source node: Roof;
- Source node: Landscaping;
- Treatment node: Detention storage
- Treatment node: Ecosol Cartridge Filter Triple (Offline); and
- Outlet node: Post-Development node.

4.4 Water Quality Assessment

The proposed stormwater quality treatment device will be required to achieve the percentage reduction targets for gross pollutants, TSS, TP and TN than required under Penrith DCP 2014 Part C3 Section 3.2 Clause 5B.

4.5 Water Conservation Measures

Section 3.1 of Council's WSUD policy requires rainwater tanks to be installed to meet 80% of non-potable demand including outdoor use, toilets and laundries. The application will include measures (rainwater tanks) which will provide beneficial non-potable rainwater re-use to meet this requirement.

5.0 On-site Detention (OSD)

Based on the flood behaviour we understand that there will be no requirement for on-site stormwater detention. It is noted that the application may include additional compensatory flood storage. This will be assessed at detail design phase.

6.0 Conclusions

The impact of overland and mainstream 1%, 0.5% and PMF flooding of the site has been assessed and measures to manage the risk posed by flooding at the site are presented in the forgoing sections of this report. The site is impacted by flooding from the Nepean River and Peach Tree Creek. The 1% AEP floodwaters impact areas of the site where development is proposed at elevation RL 26.0 m AHD, resulting in partial inundation to depths within the range 0.0 m to 1.5m

The lowest floorspace is proposed at elevation 26.5 m AHD, which is at the Flood Planning Level (FPL) of RL 26.5 m AHD. The proposed structure will be designed to withstand the loads imposed by the PMF floodwaters. The proposed structure will be constructed of flood compatible building materials below the PMF. Guidance on appropriate flood compatible building materials is provided in Section 3.3.2.

The proposed carparking and coach parking is proposed at level at or above RL 26.5 m AHD. In this regard, the proposed parking facilities will not be impacted by the 1% AEP floodwaters.

All materials stored on site which may become hazardous, pollute floodwaters or be damaged by floodwaters will be stored either within the structure at or above of RL 26.5 m AHD. In this regard, the proposed development provides adequate area to store goods either above, or protected above, the FPL of RL 26.5 m AHD.

There is no proposal for filling of the site results and consequently no loss of flood storage.

During the 1% AEP mainstream and overland flood events, Jamison Road and Tench Ave are not expected to be trafficable for pedestrians and vehicles. The timing of evacuation strategy of the site is currently being established in consultation with the NSW SES. The framework for the evacuation strategy is provided in the Penrith City Council Local Flood Plan – a Sub Plan of the Penrith Local Disaster Plan (DISPLAN) and Hawkesbury Nepean Flood Emergency Response Plan – A Sub Plan of the State Emergency Management plan (EMPLAN).

The structure of the Evacuation Plan is discussed in Section 3.3.7 of the report.

Based on the foregoing, we are of the view that the proposed development can include measures which will provide compliance with the intent of Penrith DCP 2014 Part C3 Water Management.

7.0 References

Attorney-General's Department. (2014). *Technical flood risk management guideline: Flood hazard*. Barton, ACT: Author.

Hawkesbury-Nepean Floodplain Management Steering Committee (HNFMSC). (2006). *Reducing Vulnerability of Buildings to Flood Damage: Guidance on Building in Flood Prone Areas*. Available from http://www.ses.nsw.gov.au/content/documents/pdf/resources/Building_Guidelines.pdf

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Penrith City Council. (2016). *Penrith Development Control Plan 2014 Amendment No. 3*.

Penrith City Council. (2017). *Penrith Local Environmental Plan 2010 (Amendment No 14)*.

The C., Beesley C., Podger S., Green J., Jolly C., and Hutchinson M. (2015). 'Very Frequent Design Rainfalls – An Enhancement to the New IFDs'. In Engineers Australia (ed.) *36th Hydrology and Water Resources Symposium (HWRS 2015)*. Barton, ACT: Author.

ANNEXURE A

ACOR Consultants (CC) Pty Ltd
50 Year, 100 Year, 200 Year ARI Flood Plans
PMF Flood Level Plan
100 Year ARI, 200 Year ARI Flood Hazard Plans
PMF Flood Hazard Plan
Reference GO17662
Issue A
Dated 27 June 2018

This drawing has been assigned an electronic code that signifies the drawing has been checked and approved by: L.D APPLEYARD MIE Aust CPEng (CIVIL / STRUCTURAL)

Issue	Description	Date	Drawn	Approved
A	INITIAL ISSUE	27.06.18	SJ	BK

1cm at full size 10cm

North

Architect

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Project

WESTERN SYDNEY WINTER SPORTS COMPLEX
No. 2 - 4
TENCH AVENUE
JAMISONTOWN

Drawing Title

50 YEAR ARI FLOOD LEVEL PLAN

Drawn	Date	Scale A1	Q.A. Check	Date
SJ	27.06.18	NTS	-	-

Designed	Project No.	Dwg. No.	Issue
BK	GO170662	F1	A

This drawing has been assigned an electronic code that signifies the drawing has been checked and approved by: L.D APPLEYARD MIE Aust CPEng (CIVIL / STRUCTURAL)

Issue	Description	Date	Drawn	Approved
A	INITIAL ISSUE	27.06.18	SJ	BK

1 0 1cm at full size 10cm

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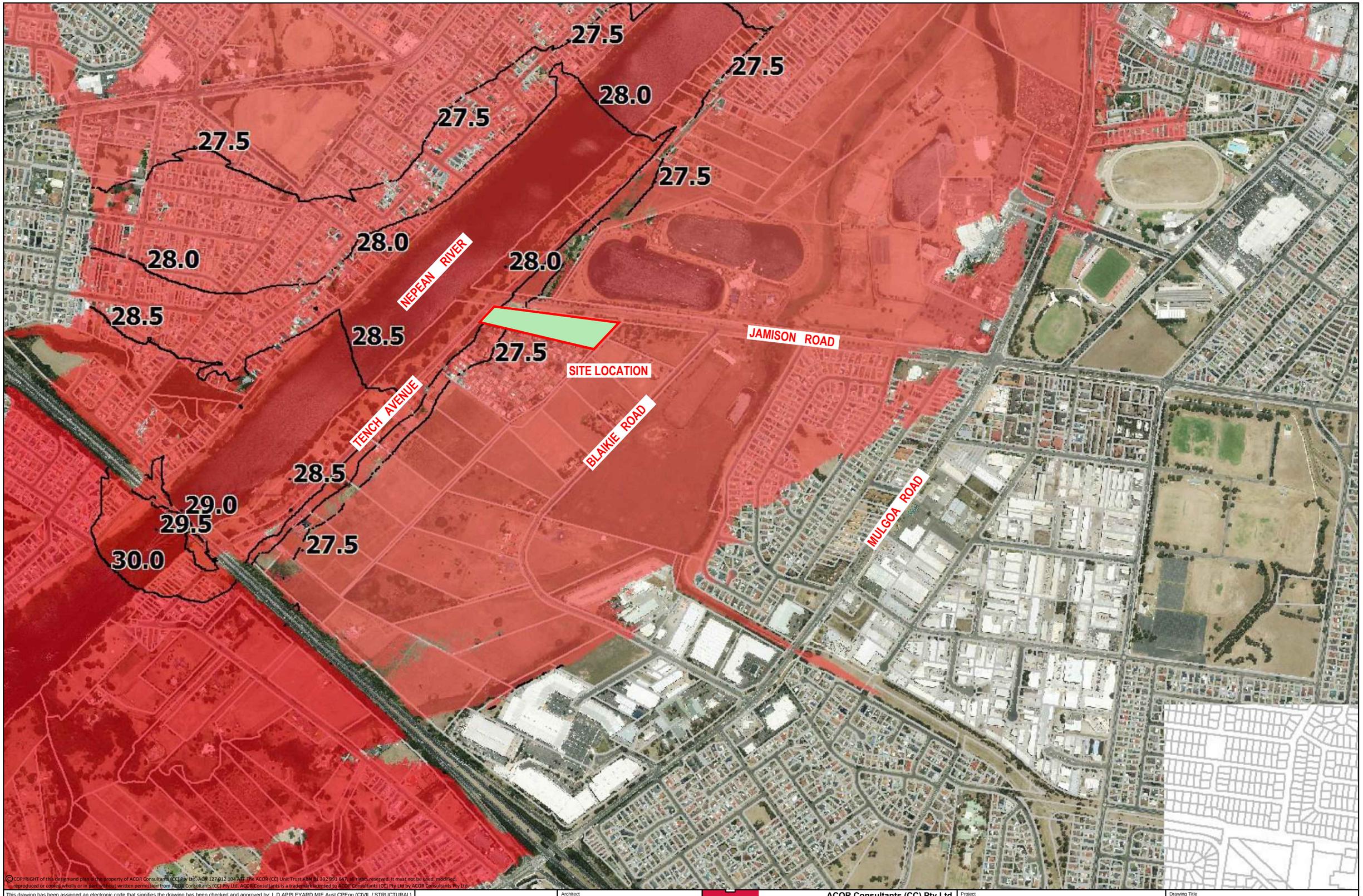
Project
WESTERN SYDNEY WINTER SPORTS COMPLEX
No. 2 - 4
TENCH AVENUE
JAMISONTOWN

Drawing Title
100 YEAR ARI FLOOD LEVEL PLAN

Drawn	Date	Scale A1	Q.A. Check	Date
SJ	NTS	AS NOTED	-	-
Designed	Project No.		Dwg. No.	Issue
BK	GO170662		F2	A



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A	INITIAL ISSUE	27.06.18	SJ	BK

1cm at full size

North

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Project

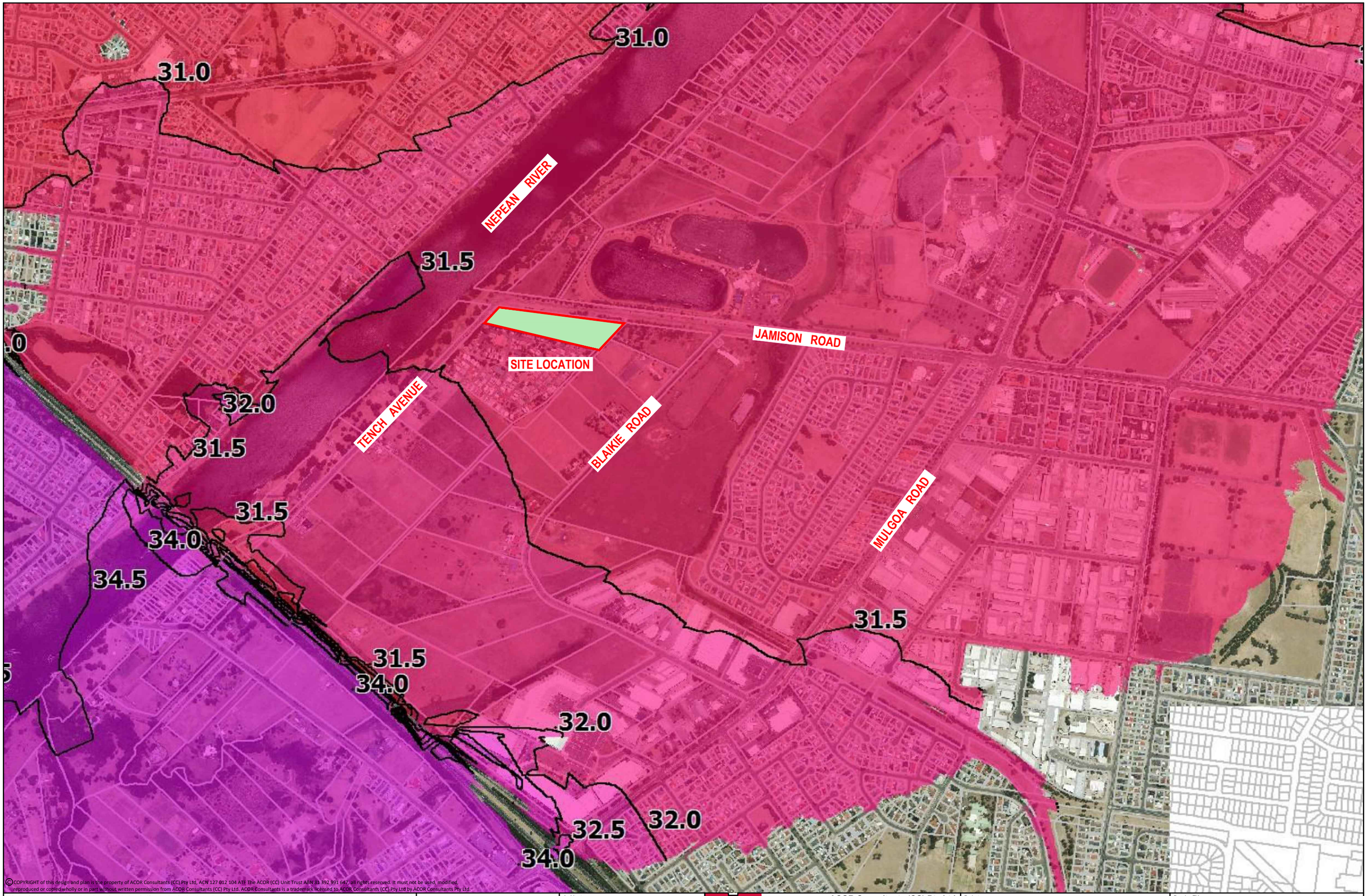
WESTERN SYDNEY WINTER SPORTS COMPLEX
No. 2 - 4
TENCH AVENUE
JAMISONTOWN

Drawing Title

200 YEAR ARI FLOOD LEVEL PLAN

Drawn	Date	Scale A1	Q.A. Check	Date
SJ	NTS	AS NOTED	-	-

Designed	Project No.	Dwg. No.	Issue
BK	GO170662	F3	A



This drawing has been assigned an electronic code that signifies the drawing has been checked and approved by: L.D APPLEYARD MIE Aust CPEng (CIVIL / STRUCTURAL)

Issue	Description	Date	Drawn	Approved
A	INITIAL ISSUE	27.06.18	SJ	BK

1 0 1cm at full size 10cm

North

Architect
ENVIRONA STUDIO

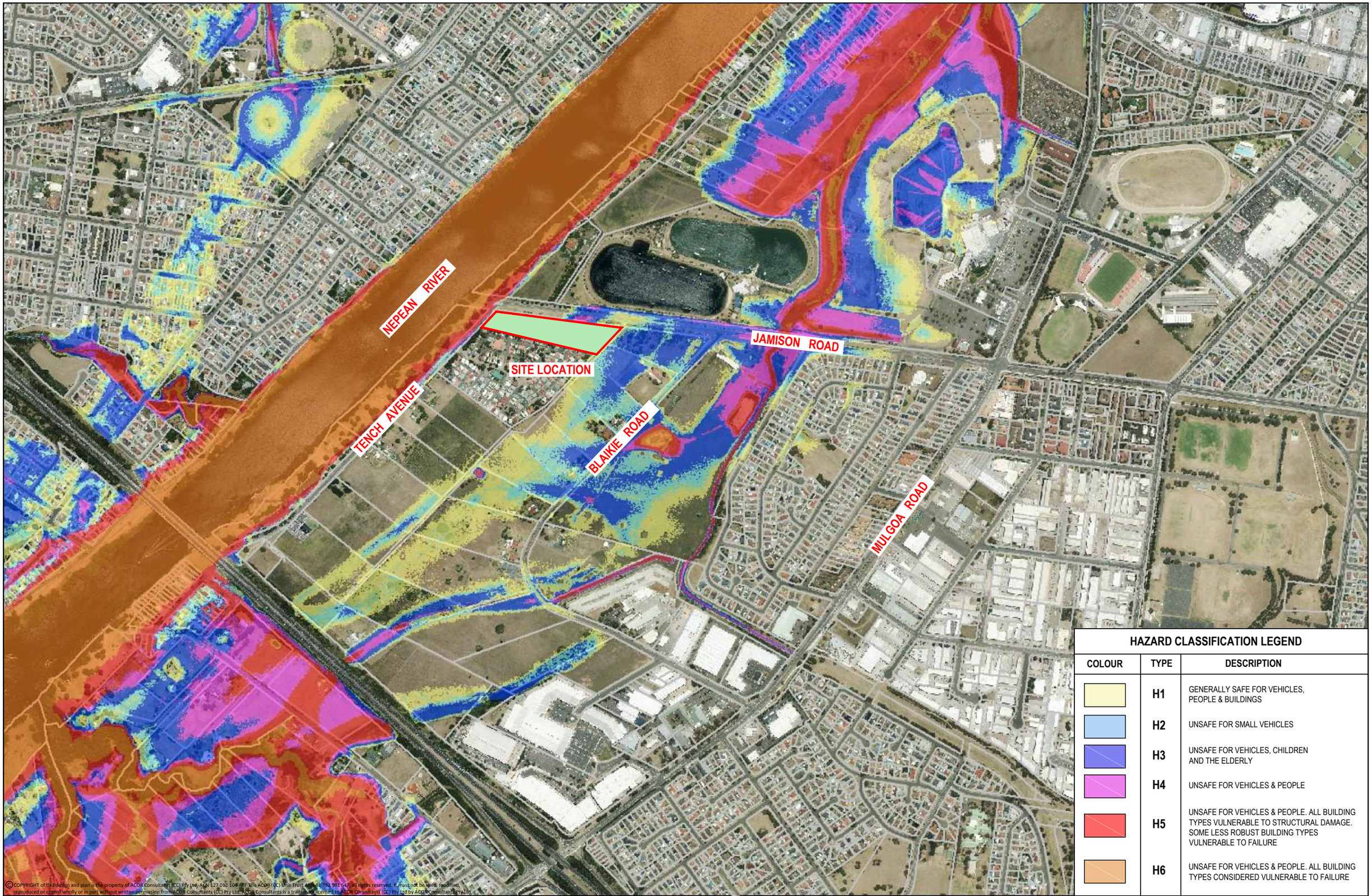
ACOR Consultants (CC) Pty Ltd
Platinum Building, Suite 2.01, 4 Ilya Avenue
ERINA NSW 2250, Australia
T +61 2 4324 3499
ENGINEERS | MANAGERS | INFRASTRUCTURE PLANNERS | DEVELOPMENT CONSULTANTS

Project
WESTERN SYDNEY WINTER SPORTS COMPLEX
No. 2 - 4
TENCH AVENUE
JAMISONTOWN

Drawing Title
PMF FLOOD LEVEL PLAN

Drawn	Date	Scale A1	Q.A. Check	Date
SJ	NTS	AS NOTED	-	-

Designed	Project No.	Dwg. No.	Issue
BK	GO170662	F4	A



HAZARD CLASSIFICATION LEGEND

COLOUR	TYPE	DESCRIPTION
	H1	GENERALLY SAFE FOR VEHICLES, PEOPLE & BUILDINGS
	H2	UNSAFE FOR SMALL VEHICLES
	H3	UNSAFE FOR VEHICLES, CHILDREN AND THE ELDERLY
	H4	UNSAFE FOR VEHICLES & PEOPLE
	H5	UNSAFE FOR VEHICLES & PEOPLE. ALL BUILDING TYPES VULNERABLE TO STRUCTURAL DAMAGE. SOME LESS ROBUST BUILDING TYPES VULNERABLE TO FAILURE
	H6	UNSAFE FOR VEHICLES & PEOPLE. ALL BUILDING TYPES CONSIDERED VULNERABLE TO FAILURE

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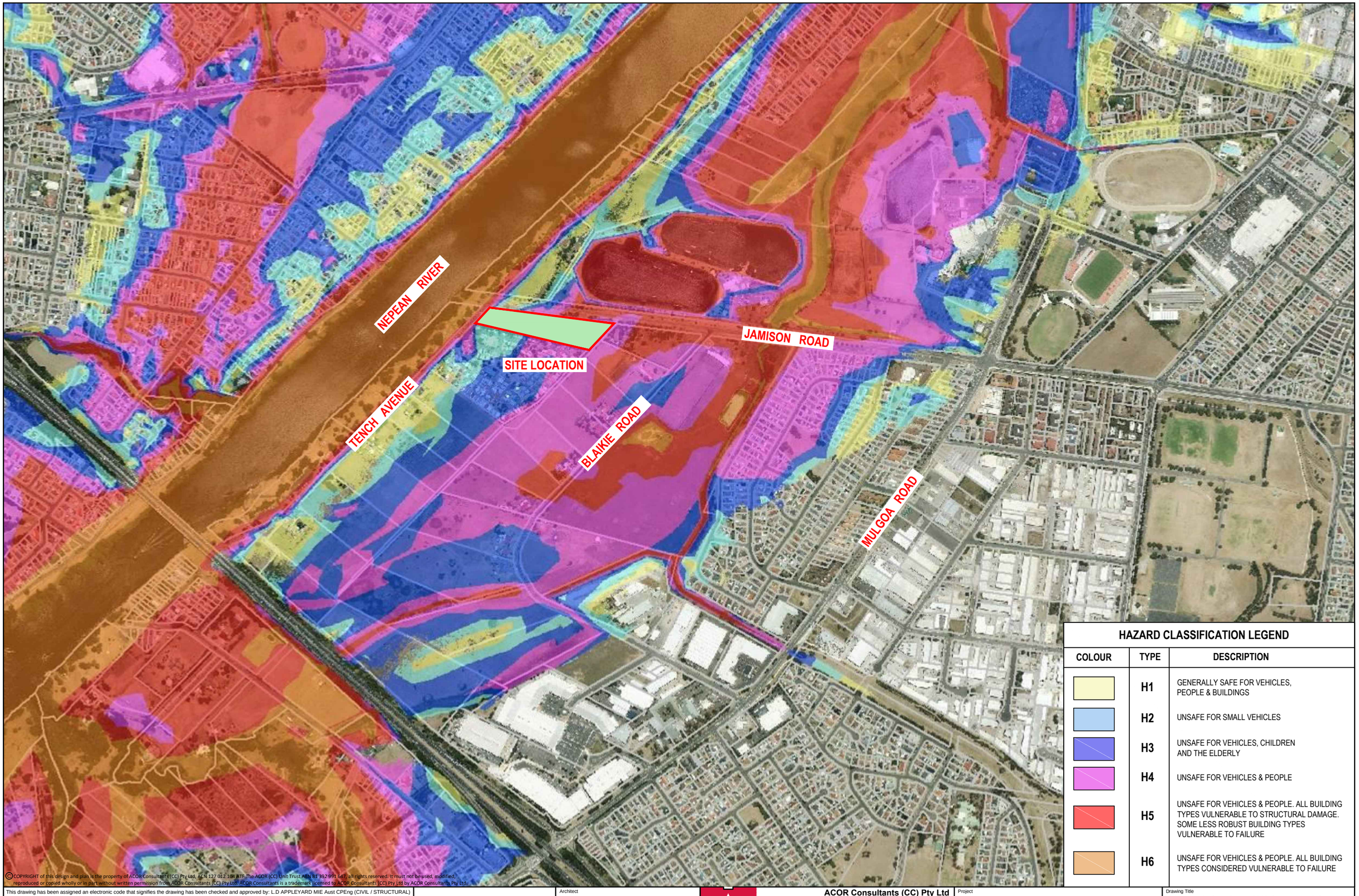
Project
WESTERN SYDNEY WINTER SPORTS COMPLEX
No. 2 - 4
TENCH AVENUE
JAMISONTOWN

Drawing Title
100 YEAR ARI FLOOD HAZARD PLAN

Drawn	Date	Scale A1	Q.A. Check	Date
SJ	NTS	AS NOTED	-	-

Designed	Project No.	Dwg. No.	Issue
BK	GO170662	F5	A



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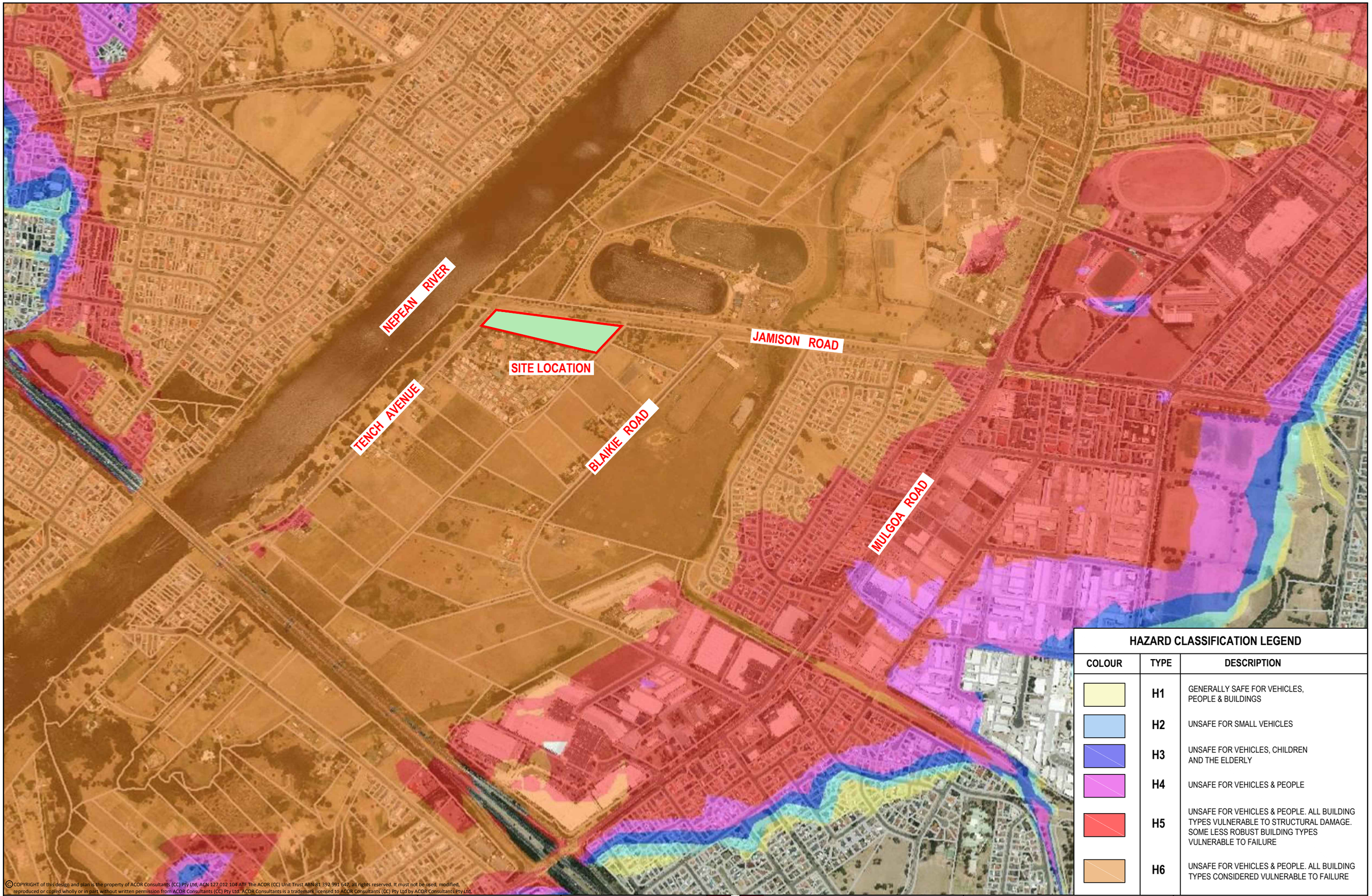
Project
WESTERN SYDNEY WINTER SPORTS COMPLEX
No. 2 - 4
TENCH AVENUE
JAMISONTOWN

Drawing Title
200 YEAR ARI FLOOD HAZARD PLAN

Drawn	Date	Scale A1	Q.A. Check	Date
SJ	NTS	AS NOTED	-	-

Designed	Project No.	Dwg. No.	Issue
BK	GO170662	F6	A



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Drawing Title
PMF FLOOD HAZARD PLAN

Drawn	Date	Scale A1	Q.A. Check	Date
SJ	NTS	AS NOTED	-	-
Designed	Project No.	Dwg. No.	Issue	
BK	GO170662	F7	A	

ANNEXURE B

ACOR Consultants (CC) Pty Ltd
Correspondence to Penrith City Council
dated 27 June 2018

Suite 2.01, Level 2
4 Ilya Avenue
ERINA NSW 2250

PO Box 3772
Fountain Plaza
ERINA NSW 2250

T 02 4324 3499

www.acor.com.au

ENGINEERS
MANAGERS
INFRASTRUCTURE PLANNERS
DEVELOPMENT CONSULTANTS

Our Reference: GO170662\BAK:kcb

Your Reference:

27 June 2018

The General Manager
Penrith City Council
601 High Street
PENRITH NW 2751

Dear Sir/Madam,

Re: Proposed Winter Sports World
Flooding and Evacuation Information
Property: Nos 2 – 4 Tench Avenue, Jamisontown

We refer to the requirements of the Penrith City Council Flooding and Evacuation Information Form which states:

Response to Flooding and Evacuation Information

Background: *This information form is for the purpose of assessing regional and local flood risk in the Hawkesbury-Nepean Valley – particularly regional and local evacuation capacity. No detailed studies are required to complete this form. The impact of the proposal on local flood evacuation capacity will be assessed by local council. Should local council support the proposal, its impact on regional flood evacuation capacity will be assessed after the planning proposal is submitted to the Department of Planning and Environment.*

Location: *Provide location information for the site and adjacent areas such as existing topography and existing land use, site accessibility and land suitability.*

Context: *Provide preliminary information on proposed development including:*

- *Proposed type of land use after rezoning;*
- *any proposed earthworks (cut/fill);*
- *proposed buildings footprint within the site;*
- *numbers of dwellings;*
- *number of storeys if applicable;*
- *potential number of occupiers (residents and employees);*
- *car parking types;*
- *proposed habitable and non-habitable floor levels;*
- *proposed car park and street level;*
- *proposed building and development controls.*

Primary constraints *List the primary constraints in regard to flood risk in this area utilising existing available information including from councils' studies. This includes:*

- *Constraints due to regional and local flood characteristics and vulnerability of proposed land use to flood risk;*
- *Hazard and Hydraulic constraints;*
- *Emergency Management constraints as identified in the Hawkesbury-Nepean State Flood Plan i.e. isolation, evacuation, warning time.*

Management Measures *Outline any proposed management measures/strategy to manage identified constraints, including if applicable, flood barriers or other controls, evacuation plans, use of building Occupant Waring Systems for flood evacuation, etc.*

In response to the matters raised by Council we offer the following comments adopting the same dot point sequence.

- There is no Application proposed for rezoning, the land is Zoned SP3.

- The Application does not include or propose significant earthworks. The Application has been prepared having due regard to the flood related issues. The site associated maintains the overland flow behaviour conveyance regime by retaining the existing surface profile.

- We refer to the Architectural plans prepared by Environa Studio Reference 781, Sheets 030, 101 – 114 and 120, dated 27 June 2018 (copies enclosed), which depict the features of the proposed building structure including the building footprint.

- The Application does not propose any residential dwellings. We refer Architectural plans prepared by Environa Studio Reference 781, Sheets 030, 101 – 114 and 120, dated 27 June 2018 which depict amongst other features, the internal uses of the building.

- We note the Application proposes 179 hotel rooms. Anticipated staff numbers at maximum capacity use would be 200 employees. This will be confirmed at detailed design stage.

- We refer to Architectural plans prepared by Environa Studio Reference 781, Sheets 030, 101 – 114 and 120, dated 27 June 2018 which depict the car parking facilities. In this regard the following will be provided - 450 visitor parking, 200 staff parking and 5 coach parking.

- The Flood Planning Level is RL 26.5m AHD. All floor levels are located at or above this level including vehicular parking.

- There is no parking at street level.

- We refer to the report prepared by Sutherland & Associates Planning for Building and Development Controls.

In response to the matters raised under Primary Constraints and Management Measures we refer to the Concept Flood Risk Management and Stormwater Management Report for the Winter Sports World prepared by ACOR Consultants (CC) Pty Ltd, Reference GO170662.

Should you have any further queries in relation to this matter, please do not hesitate to contact Bruce Kenny in our Central Coast office.

Yours faithfully,

ACOR Consultants (CC) Pty Ltd

Per: 

APPENDIX 8
Flood evacuation statement

Suite 2.01, Level 2
4 Ilya Avenue
ERINA NSW 2250

PO Box 3772
Fountain Plaza
ERINA NSW 2250

T 02 4324 3499

www.acor.com.au

ENGINEERS
MANAGERS
INFRASTRUCTURE PLANNERS
DEVELOPMENT CONSULTANTS

Our Reference: GO170662\BAK:kcb

Your Reference:

27 June 2018

The General Manager
Penrith City Council
601 High Street
PENRITH NW 2751

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Should you have any further queries in relation to this matter, please do not hesitate to contact Bruce Kenny in our Central Coast office.

Yours faithfully,

ACOR Consultants (CC) Pty Ltd

Per: 

APPENDIX 9
Infrastructure and Utilities Assessment

UTILITIES AND INFRASTRUCTURE REPORT
FOR THE
WINTER SPORTS WORLD

Client: **WSW Winter Sports World**

Property: **Nos. 2 - 4 Tench Ave, Jamisontown**

Date: **29 June 2018**

Suite 2.01, Level 2
4 Ilya Avenue
ERINA NSW 2250

PO Box 3772
Fountain Plaza
ERINA NSW 2250

T 02 4324 3499

www.acor.com.au

ENGINEERS

MANAGERS

INFRASTRUCTURE PLANNERS

DEVELOPMENT CONSULTANTS

Document Identification

Our Reference: **GO170662**

For and on behalf of ACOR Consultants (CC) Pty Ltd

Quality Information

Version	Description	Date	Author	Signature	Reviewer	Signature
1.0	Report for comment	29/06/2018	Stephone Johnstone		Bruce Kenny	

Distribution

No. of Copies	Format	Distributed to	Date
1 (v 1.0)	pdf	Environa Sudio	29/06/2018

TABLE OF CONTENTS

ANNEXURES

1.0 Introduction

ACOR Consultants (CC) Pty Ltd (ACOR) has been commissioned to prepare a Services Investigation Report on behalf of Environa Studio. In preparation of this report, ACOR has performed a desktop assessment to determine relevant data and information from the following service providers:

- Sydney Water (Water and Sewer)
- Jemena (Gas).
- Endeavour Energy (Electricity)
- NBN (Internet)
- Telstra (Telecommunication)

2.0 Site Location

The subject site is known as Lot 1 in DP 38950 (2-4) Tench Ave, Jamisontown. The site is located on the corner of Tench Ave and Jamison Road. we refer to Figure 1 following which depicts the location of the site and surrounding development.

3.0 Investigation Results

- Sydney Water

  A 200 Diameter Water Main is located along the site frontage to both Tench Avenue and Jamison Road.

  A 225 Diamter Sewer Main is located at the Eastern end of the site along Jamison Road.

  Refer to Appendix A for Acquired Data

- Jemena (Gas).

  A 75mm line is located along the site frontage to both Tench Avenue and Jamison Road.

  Refer to Appendix B for Acquired Data

- Endeavour Energy (Electricity)

  No underground power cables were located in both Tench Avenue and Jamison Road.

  Above ground power supply was viewed in both Tench Avenue and Jamison Road (refer Images 1 & 2 below)

  Refer to Appendix C for Acquired Data

Image 1 – Looking East along Jamison Road

Image 2 – Looking South along Tench Avenue

- NBN (Internet)

  In-Service Cables and Manholes are available along both Tench Avenue and Jamison Road.

  Refer to Appendix D for Acquired Data

- Telstra (Telecommunication)

  No underground data was provided by Telstra.

  Above ground aerial line was observed at the corner of Tench Avenue and Jamison Road (refer Image 3 below)

  Refer to Appendix E for response.

Image 3 – Corner of Tench Avenue & Jamison Road

4.0 Conclusions

The Winter Sports World building will be carbon-neutral in operation. The winter use areas are essentially a giant “esky”, with multilayered massive levels of insulation, with few, if any, windows and a high efficiency mechanical plant making both chilled air and snow or ice.

The entire operation, including the hotel, is run from a 1 MW power supply of photo-voltaic solar cells on the roof (the equivalent of 200 houses with PV panels). Run through an on-site battery storage facility.

The desktop analysis provided preliminary information indicating all services are currently available to the site. Further investigation prior to final design will be required to determine if existing available services have sufficient capacity for the proposed development.

ANNEXURE A

Sydney Water Data Response

Stephen Johnstone - ACOR

From: dbydgis@sydneywater.com.au
Sent: Wednesday, 27 June 2018 2:54 PM
To: Stephen Johnstone - ACOR
Subject: DBYD Job/Seq 72890913 : JobID 14472303 - Tench Ave Jamisontown
Attachments: Important_information_SW_DBYD_Plans.pdf; MAP_7289091314472303.pdf; Guide_to_Sydney_Water_DBYD_Plans.pdf

Asset Name: 80210

Date of enquiry: 27/06/2018 2:51:00 PM
Notification No: 14472303 (Job No)
Sequence No: 72890913

Customers Name: Mr Steve Johnstone
Customers Phone No: 02 4324 3499, 0414 627 510

Address supplied for dig site location
Tench Ave, Jamisontown, NSW

Notice: Please DO NOT REPLY TO THIS EMAIL as it has been automatically generated and replies are not monitored. Should you wish to advise Dial Before You Dig of any issues with this enquiry, please Call 13 20 92.

_____

[Facebook]<http://www.facebook.com/SydneyWater> [Twitter] <http://twitter.com/sydneywaternews> [YouTube] <http://www.youtube.com/user/sydneywatertv> [Instagram] <http://www.instagram.com/explore/tags/sydneywater/>

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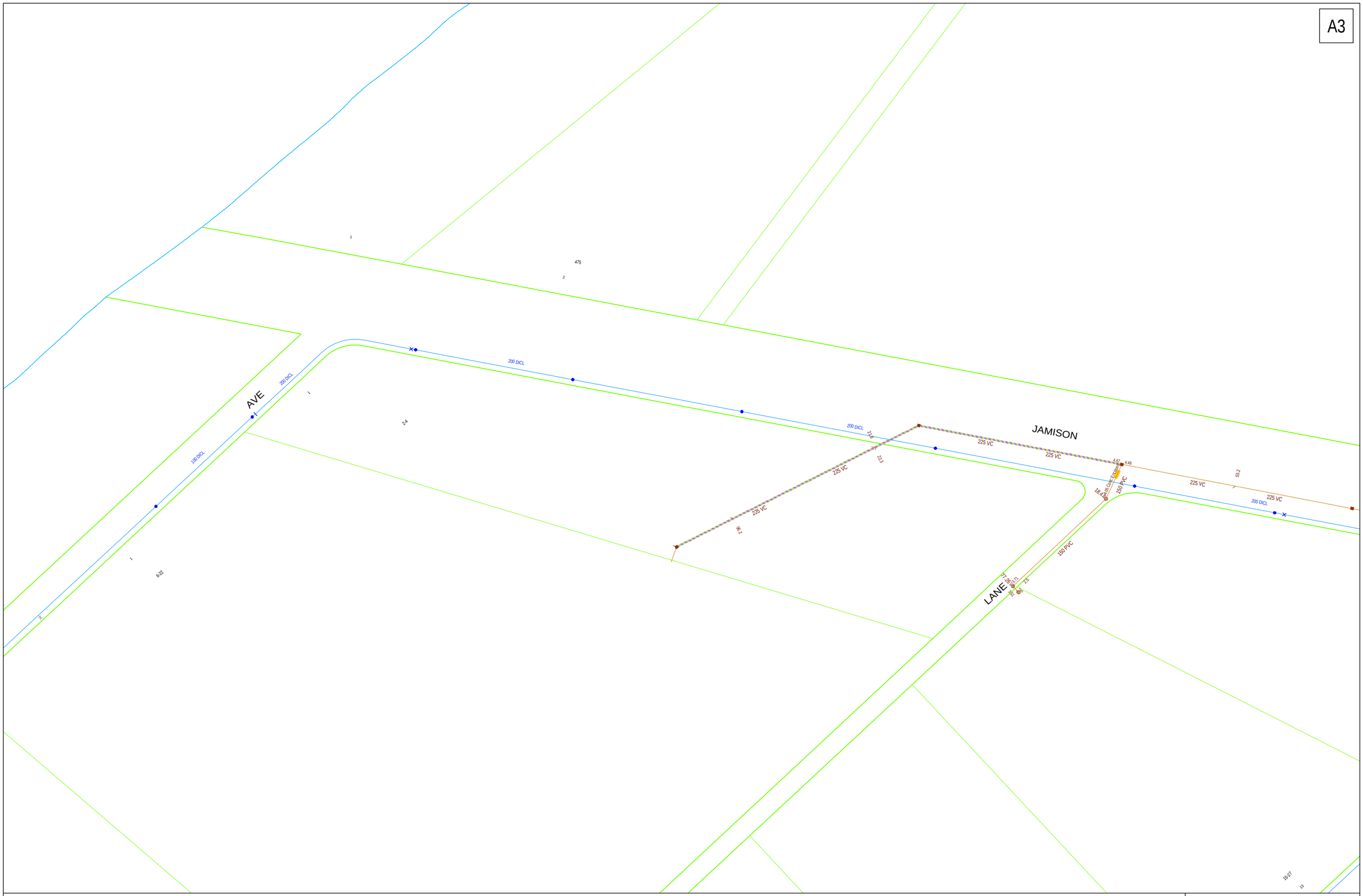
A3



DBYD Address:
n/a Tench Ave
Jamisontown NSW 2750

DBYD Job No: 14472303

DBYD Sequence No: 72890913

Scale: 1:1500

Date of Production: 27/06/2018

Plan 1 of 1

N

0m 9m 18m 27m 36m

Guide to reading Sydney Water DBYD Plans

February 2015

Asset Information

Legend

Sewer

Sewer Main (with flow arrow & size type text) — 225 PVC
Disused Main
Rising Main
Maintenance Hole (with upstream depth to invert) — 1.7
Sub-surface chamber
Maintenance Hole with Overflow chamber
Ventshalft EDUCT — VSE
Ventshaft INDUCT — VS
Property Connection Point (with chainage to downstream MH) — 10.5
Concrete Encased Section — Concrete Encased
Terminal Maintenance Shaft — TMS
Maintenance Shaft — MS
Rodding Point — RP
Lamphole
Vertical — VERT
Pumping Station — SP0882
Sewer Rehabilitation

Pressure Sewer

Pressure Sewer Main
Pump Unit (Alarm, Electrical Cable, Pump Unit) — A
Property Valve Boundary Assembly
Stop Valve
Reducer / Taper
Flushing Point — FP

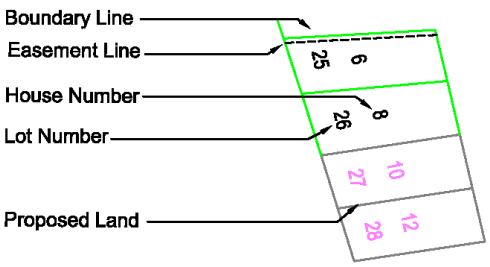
Vacuum Sewer

Pressure Sewer Main
Division Valve
Vacuum Chamber
Clean Out Point

Stormwater

Stormwater Pipe
Stormwater Channel
Stormwater Gully
Stormwater Maintenance Hole

Property Details



Sydney Water Heritage Site (please call **132 092** and ask for the **Heritage Unit**)

Water

WaterMain - Potable (with size type text) — 200 PVC
Disconnected Main - Potable
Proposed Main - Potable
Water Main - Recycled
Special Supply Conditions - Potable
Special Supply Conditions - Recycled
Restrained Joints - Potable
Restrained Joints - Recycled
Hydrant
Maintenance Hole
Stop Valve
Stop Vale with By-pass
Stop Valve with Tapers
Closed Stop Valve
Air Valve
Valve
Scour
Reducer / Taper
Vertical Bends
Reservoir
Recycled Water is shown as per Potable above. Colour as indicated

Private Mains

Potable Water Main
Recycled Water Main
Sewer Main
Symbols for Private Mains shown grey

Asset Information

Pipe Types

ABS	Acrylonitrile Butadiene Styrene	**AC**	Asbestos Cement
BRICK	Brick	**CI**	Cast Iron
CICL	Cast Iron Cement Lined	**CONC**	Concrete
COPPER	Copper	**DI**	Ductile Iron
DICL	Ductile Iron Cement (mortar) Lined	**DIPL**	Ductile Iron Polymeric Lined
EW	Earthenware	**FIBG**	Fibreglass
FL BAR	Forged Locking Bar	**GI**	Galvanised Iron
GRP	Glass Reinforced Plastics	**HDPE**	High Density Polyethylene
MS	Mild Steel	**MSCL**	Mild Steel Cement Lined
PE	Polyethylene	**PC**	Polymer Concrete
PP	Polypropylene	**PVC**	Polyvinylchloride
PVC - M	Polyvinylchloride, Modified	**PVC - O**	Polyvinylchloride, Oriented
PVC - U	Polyvinylchloride, Unplasticised	**RC**	Reinforced Concrete
RC-PL	Reinforced Concrete Plastics Lined	**S**	Steel
SCL	Steel Cement (mortar) Lined	**SCL IBL**	Steel Cement Lined Internal Bitumen Lined
SGW	Salt Glazed Ware	**SPL**	Steel Polymeric Lined
SS	Stainless Steel	**STONE**	Stone
VC	Vitrified Clay	**WI**	Wrought Iron
WS	Woodstave		

Further Information

Please consult the Dial Before You Dig enquiries page on the Sydney Water website

For general enquiries please call the Customer Contact Centre on **132 092**

In an emergency, or to notify Sydney Water of damage or threats to its structures, call 13 20 90 (24 hours, 7 days)

IMPORTANT INFORMATION - DIAL BEFORE YOU DIG

Attention: You must read the information below

The material provided or made available to you by Sydney Water (including on the Sydney Water website) in relation to your Dial Before You Dig enquiry (**Information**) is provided on each of the following conditions, which you are taken to have accepted by using the Information:

1 The Information has been generated by an automated system based on the area highlighted in the "Locality Indication Only" window on your Caller Confirmation. It is your responsibility to ensure that the dig site is properly defined when submitting your Dial Before You Dig enquiry and, if the Information does not match the dig site, to resubmit your enquiry for the correct dig site.

2 Neither Sydney Water nor Dial Before You Dig make any representation or give any guarantee, warranty or undertaking (express or implied) as to the currency, accuracy, completeness, effectiveness or reliability of the Information. The Information, including Sydney Water plans and work-as-executed diagrams, amongst other things:

(a) may not show all existing structures, including Sydney Water's pipelines, particularly in relation to newer developments and in relation to structures owned by parties who do not participate in the Dial Before You Dig service;

(b) may be out of date and not show changes to surface levels, road alignments, fences, buildings and the like;

(c) is approximate only and is therefore not suitable for scaling purposes; and

(d) does not show locations of property services (often called house service lines) belonging to or servicing individual customers, which are usually connected to Sydney Water's structures.

3 You are responsible for, amongst other things:

(a) exposing underground structures, including Sydney Water's pipelines, by pot-holing using hand-held tools or vacuum techniques so as to determine the precise location and extent of structures before any mechanical means of excavation are used;

(b) the safe and proper excavation of and for underground works and structures, including having regard to the fact that asbestos cement pipelines, which can pose a risk to health, may form part of Sydney Water's water and sewerage reticulation systems;

(c) protecting underground structures, including Sydney Water's pipelines, from damage and interference;

(d) maintaining minimum clearances between Sydney Water's structures and structures belonging to others;

(e) ensuring that backfilling of excavation work in the vicinity of Sydney Water's structures complies with Sydney Water's standards contained on its website or otherwise communicated to you;

(f) notifying Sydney Water immediately of any damage caused or threat of damage to Sydney Water's structures;

(g) ensuring that plans are approved by Sydney Water (usually signified by stamping) prior to landscaping or building over or in the vicinity of any Sydney Water structure; and

(h) ensuring that the Information is used only for the purposes for which Sydney Water and Dial Before You Dig intended.

4 You acknowledge that you use the Information at your own risk. In consideration for the provision of the Dial Before You Dig service and the Information by Sydney Water and Dial Before You Dig, to the fullest extent permitted by law:

(a) all conditions and guarantees concerning the Information (whether as to quality, outcome, fitness, care, skill or otherwise) expressed or implied by statute, common law, equity, trade, custom or usage or otherwise are expressly excluded and to the extent that those statutory guarantees cannot be excluded, the liability of Sydney Water and Dial Before You Dig to you is limited to either of the following as nominated by Sydney Water in its discretion, which you agree is your only remedy:

(i) the supplying of the Information again; or

(ii) payment of the cost of having the Information supplied again;

(b) in no event will Sydney Water or Dial Before You Dig be liable for, and you release Sydney Water and Dial Before You Dig from, any Loss arising from or in connection with the Information, including the use of or inability to use the Information and delay in the provision of the Information:

(i) whether arising under statute or in contract, tort or any other legal doctrine, including any negligent act, omission or default (including wilful default) by Sydney Water or Dial Before You Dig; and

(ii) regardless of whether Sydney Water or Dial Before You Dig are or ought to have been aware of, or advised of, the possibility of such loss, costs or damages;

(c) you will indemnify Sydney Water and Dial Before You Dig against any Loss arising from or in connection with Sydney Water providing incorrect or incomplete information to you in connection with the Dial Before You Dig service; and

(d) you assume all risks associated with the use of the Dial Before You Dig and Sydney Water websites, including risk to your computer, software or data being damaged by any virus, and you release and discharge Sydney Water and Dial Before You Dig from all Loss which might arise in respect of your use of the websites.

5 "**Sydney Water**" means Sydney Water Corporation and its employees, agents, representatives and contractors. "**Dial Before You Dig**" means Dial Before You Dig Incorporated and its employees, agents, representatives and contractors. References to "**you**" include references to your employees, agents, representatives, contractors and anyone else using the Information. References to "**Loss**" include any loss, cost, expense, claim, liability or damage (including arising in connection with personal injury, death or any damage to or loss of property and economic or consequential loss, lost profits, loss of revenue, loss of management time, opportunity costs or special damages). To the extent of any inconsistency, the conditions in this document will prevail over any other information provided to you by Sydney Water and Dial Before You Dig.

In an emergency, or to notify Sydney Water of damage or threats to its structures, call 13 20 90 (24 hours, 7 days)

Further information and guidance is available in the Building Development and Plumbing section of Sydney Water's website at www.sydneywater.com.au, where you will find the following documents under 'Dial Before You Dig':

- Avoid Damaging Water and Sewer Pipelines
- Water Main Symbols
- Depths of Mains
- Guidelines for Building Over/Adjacent to Sydney Water Assets
- Clearances Between Underground Services

Or call **13 20 92** for Customer Enquires.

Note: The lodging of enquiries via **www.1100.com.au** will enable you to receive colour plans in PDF format 24 hours a day, 7 days a week via email.

ANNEXURE B

Jemena Data Response

Stephen Johnstone - ACOR

From: dbyd.gasreply@jemena.com.au
Sent: Wednesday, 27 June 2018 3:01 PM
To: Stephen Johnstone - ACOR
Subject: Jemena DBYD Response DBYD JOB:14472303 SEQ:72890912 - Tench Ave Jamisontown NSW 2750
Attachments: ATT00001.png; PE5D.pdf; Standard_Gas_Coversheet_Jemena.pdf

Dear Mr Steve Johnstone

REF: DBYD JOB:14472303 SEQ:72890912 - Tench Ave Jamisontown NSW 2750

With regards to your DBYD inquiry, please refer to the attached document(s).

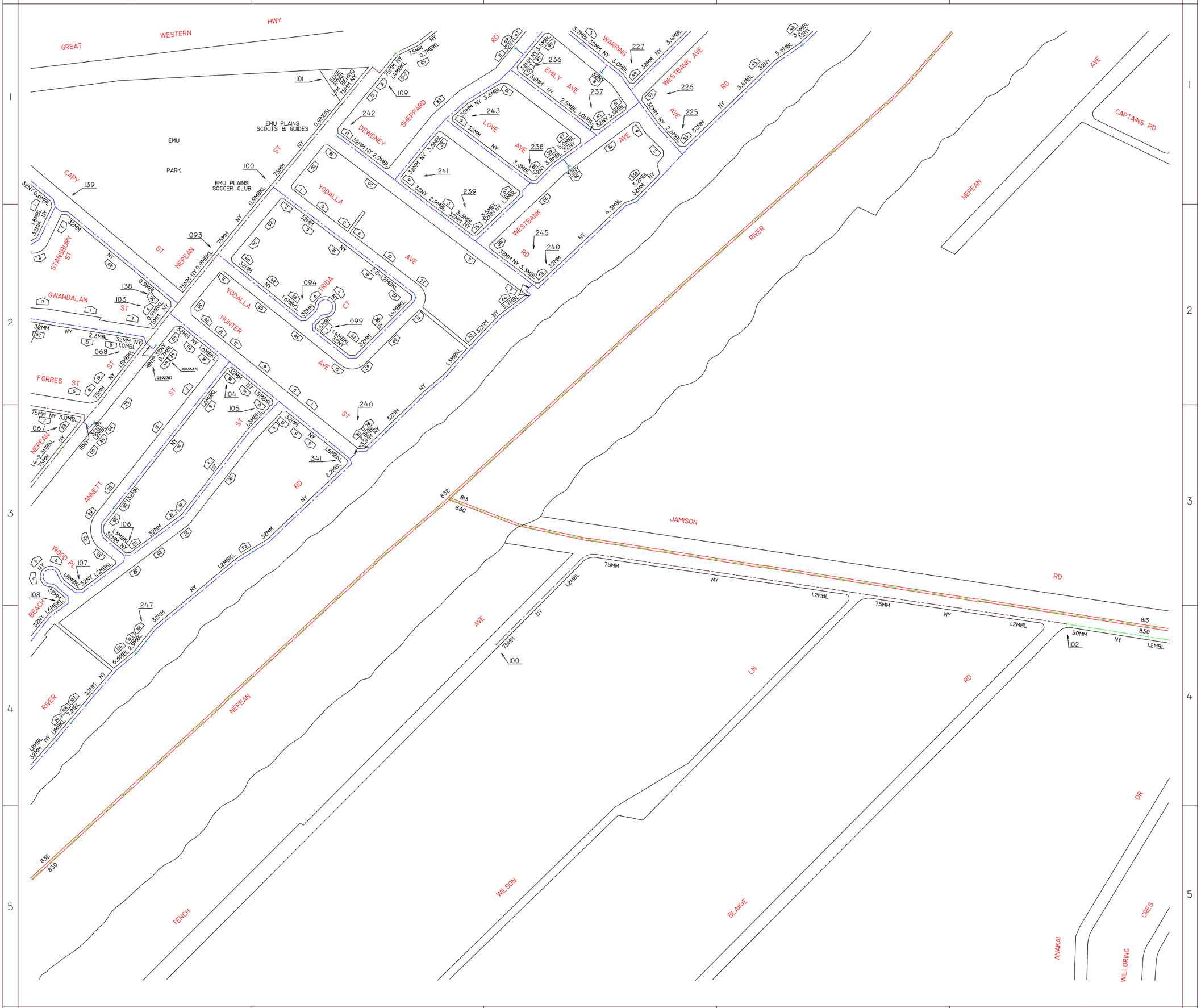
Please follow the excavation guidelines attached.

This information is valid for 28 days from the date of enquiry.

Regards

DBYD Admin
Jemena
Level 14, 99 Walker Street North Sydney, NSW 2060
PO Box 1220, North Sydney, NSW 2059
1300 880 906
www.jemena.com.au | www.gonaturalgas.com.au

Please **DO NOT SEND A REPLY** to this email as it has been automatically generated and replies are not monitored.



PENRITH 5D

SCALE 1:2000

50 0 50 100 150 200

THIS MAP UPDATED ON 10/05/2017
THIS PLAN IS DIAGRAMATIC ONLY. DISTANCES SCALED FROM THIS PLAN MAY NOT BE ACCURATE.

PE5A	PE5B	PE6A
PE5C	PE5D	PE6C
PE8A	PE8B	PE9A

ADJOINING MAPS

NETWORK AREA

MUNICIPALITY AREA

Jemena

KEY

	MAX ALLOWABLE OPERATING PRESSURE	
T	TRUNK PIPELINE	7000 kPa
P	PRIMARY MAIN	3500 kPa
S	SECONDARY MAIN	1050 kPa
400	NETWORK MAIN	400 kPa
	NETWORK MAIN	300 kPa
	NETWORK MAIN	210 kPa
100	NETWORK MAIN	100 kPa
30	NETWORK MAIN	30 kPa
	NETWORK MAIN	7 kPa
	NETWORK MAIN	2 kPa
	NETWORK MAIN WITH MAIN STUBS	
	PROPOSED MAINS	
PR II-2 3	STEEL MAIN PROJECT NUMBER	
P	PRESSURE MONITORING STATION	
	VALVE	
	SYSTEM PRESSURE REGULATOR	
S	SIPHON	
123	NETWORK NODE	
123S	NETWORK VALVE NODE	
298	VALVE NUMBER	
6NB	6 INCH CAST IRON MAIN	
150MM	150MM STEEL MAIN	
110MM PE/NY	110MM POLYETHYLENE/NYLON MAIN	
6NB 50MM NY	50MM NYLON INSERTED INTO 6NB MAIN CAST IRON MAIN	
1.2MBL	DISTANCE IN METRES OF MAIN FROM BOUNDARY LINE	
1957	YEAR LAID	
	MUNICIPALITY BOUNDARY	
	NETWORK BOUNDARY	
123	HOUSE NUMBER	

PENRITH 5D

Network Protection

Assets Affected

In reply to your enquiry, there are gas mains at the location of your intended work as per the attached map. For an explanation of the map, please see the key below. The following excavation guidelines apply.

Excavation Guidelines:

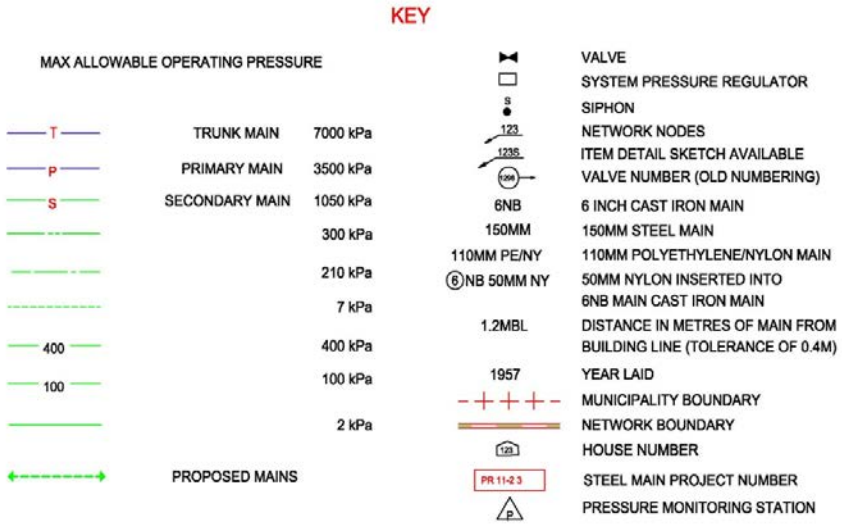
It is essential the location of gas pipe/s are confirmed by carefully pot-holing by hand excavation prior to proceeding with mechanical excavation in the vicinity of gas pipes. If you cannot locate the gas main, contact the local depot.

In accordance with clause 34(5) of the Gas Supply (Safety and Network Management) Regulation 2013 (NSW), you should be informed that all excavation, (including pot-holing by hand to confirm the location of pipes) should be performed in accordance with "***Work Near Underground Assets Guideline"*** *published in 2007 by the Work Cover Authority.*

A copy of this Guideline is available at: www.workcover.nsw.gov.au

DBYD Administration 1300 880 906

KEY



Warning: The enclosed plans show the position of Jemena Gas Networks (NSW) Ltd's underground gas mains and installations in public gazetted roads only. **Individual customers' services and services belonging to other third parties are not included** on these plans. These plans have been prepared solely for the use of Jemena Gas Networks (NSW) Ltd and Jemena Asset Management Pty Ltd (together "**Jemena**") and any reliance placed on these plans by you is entirely at your own risk. The plans may show the position of underground mains and installations relative to fences, buildings etc., as they existed at the time the mains etc were installed. The plans may not have been updated to take account of any subsequent change in the location or style of those features since the time at which the plans were initially prepared. Jemena makes no warranty as to the accuracy or completeness of the enclosed plans and does not assume any duty of care to you nor any responsibility for the accuracy, adequacy, suitability or completeness of the plans or for any error, omission, lack of detail, transmission failure or corruption in the information provided. Jemena does not accept any responsibility for any loss that you or anyone else may suffer in connection with the provision of these plans, however that loss may arise (including whether or not arising from the negligence of Jemena, its employees, agents, officers or contractors). The recipient of these plans must use their own care and diligence in carrying out their works and must carry out further surveys to locate services at their work site. Persons excavating or carrying out other earthworks will be held responsible for any damage caused to Jemena's underground mains and equipment. In accordance with the Work Near Underground Assets Guideline published in 2007 by Work Cover Authority, Jemena recommends that you carry out potholing by hand to accurately confirm the location of gas mains and installation prior to commencing excavations.

In case of Emergency Phone 131 909 (24 hours)

Admin
1300 880 906

ANNEXURE C

Endeavour Energy Data Response

Stephen Johnstone - ACOR

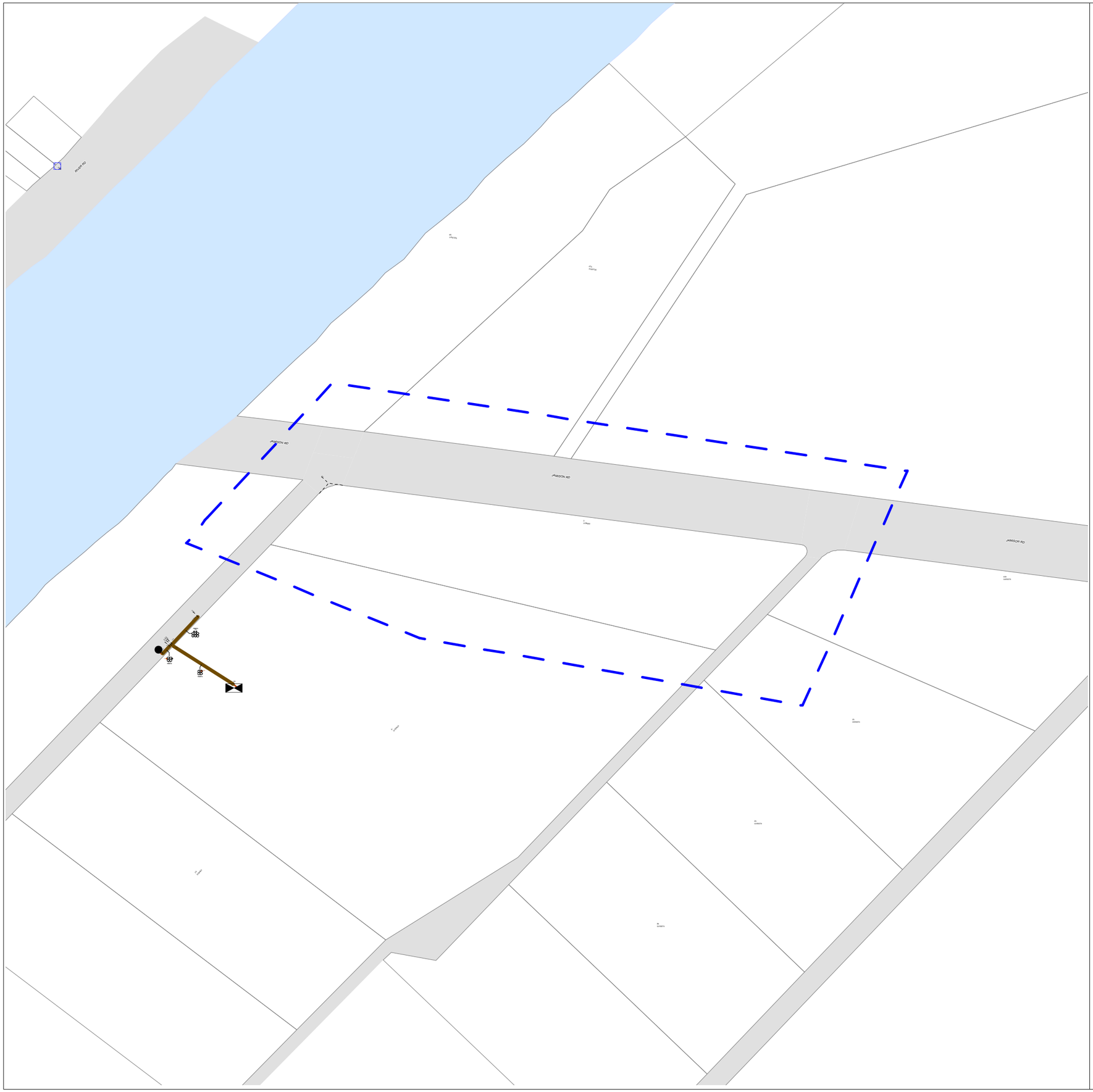
From: dbyd@endeavourenergy.com.au
Sent: Wednesday, 27 June 2018 2:56 PM
To: Stephen Johnstone - ACOR
Subject: DBYD Referral - Job No: 14472303 Seq NO: 72890910
Attachments: 72890910_NOASSETAFFECTED.pdf; 72890910_CoverLetter - Not Affected.pdf; DBYD Excavation Disclaimer.pdf

DIGSAFE PRO Dial Before You Dig - REFERRAL NOTIFICATION

This referral has been successfully processed and the results are contained in the attached files.

If you have any queries please contact.

Ph: 02 9853 4161
Fax: 02 9853 4026
Email: mocs@endeavourenergy.com.au



Endeavour Energy

WARNING

- **All electrical apparatus shall be regarded as live until proved de-energised.** Contact with live electrical apparatus will cause severe injury or death.
- In accordance with the *Electricity Supply Act 1995*, you are obliged to report any damage to Endeavour Energy Assets immediately by calling **131 003**.
- The customer must obtain a new set of plans from Endeavour Energy if work has not been started or completed within twenty **(20)** working days of the original plan issue date.
- The customer must contact Endeavour Energy if any of the plans provided have blank pages, as some underground asset information may be incomplete.
- Endeavour Energy underground earth grids may exist and their location **may not** be shown on plans. Persons excavating are expected to exercise all due care, especially in the vicinity of padmount substations, pole mounted substations, pole mounted switches, transmission poles and towers.
- Endeavour Energy plans **do not** show any underground customer service mains or information relating to service mains within private property.
- Asbestos or asbestos-containing material may be present on or near Endeavour Energy's underground assets.
- Organo-Chloride Pesticides (OCP) may be present in some sub-transmission trenches.
- All plans must be printed and made available at the worksite where excavation is to be undertaken. Plans must be reviewed and understood by the crew on site prior to commencing excavation.

INFORMATION PROVIDED BY ENDEAVOUR ENERGY

- Any plans provided pursuant to this service are intended to show the approximate location of underground assets relative to road boundaries, property fences and other structures at the time of installation.
- Depth of underground assets may vary significantly from information provided on plans as a result of changes to road, footpath or surface levels subsequent to installation.
- Such plans have been prepared solely for use by Endeavour Energy staff for design, construction and maintenance purposes.
- All enquiry details and results are kept in a register.

DISCLAIMER

Whilst Endeavour Energy has taken all reasonable steps to ensure that the information contained in the plans is as accurate as possible it will accept no liability for inaccuracies in the information shown on such plans.

LEGEND

- Street light column (or)
- Padmount substation
- Overground pillar (O.G.Box) (or)
- Underground pit
- Duct run
- Cable run
- Typical duct section
- Asbestos warning

N

NOT TO SCALE

DBYD Sequence No.:	72890910
Issued Date:	27/06/2018

If further clarification is required, please contact:
Endeavour Energy
Phone: (02) 9853 4161 (8:00am-4:30pm Mon-Fri)
Emergency Phone Number: 131 003

BEFORE COMMENCING EXCAVATION YOU MUST READ AND UNDERSTAND ALL INFORMATION PROVIDED IN THE DBYD RESPONSE AND LISTED BELOW

BACKGROUND

Endeavour Energy is able to make available plans of its underground assets to persons who intend to undertake excavation works in Endeavour Energy's distribution area. Any plans provided to you are made available subject to the provisions set out below, in the provided plans, and in the Endeavour Energy DBYD response Cover Letter.

We have set out below important information regarding the recommended procedures that should be followed when using this service and also the extent of our responsibility in respect of any plans provided. It is very important that you read and understand all the information and disclaimers provided below before excavating.

Information Provided by Endeavour Energy:

- Any plans provided pursuant to this service are intended to show the approximate location of underground assets relative to road boundaries, property fences and other structures at the time of installation.
- Depth of underground assets may vary significantly from information provided on plans as a result of changes to road, footpath or surface levels subsequent to installation.
- Such plans have been prepared solely for use by Endeavour Energy staff for design, construction and maintenance purposes.
- All enquiry details and results are kept in a register.

DISCLAIMER

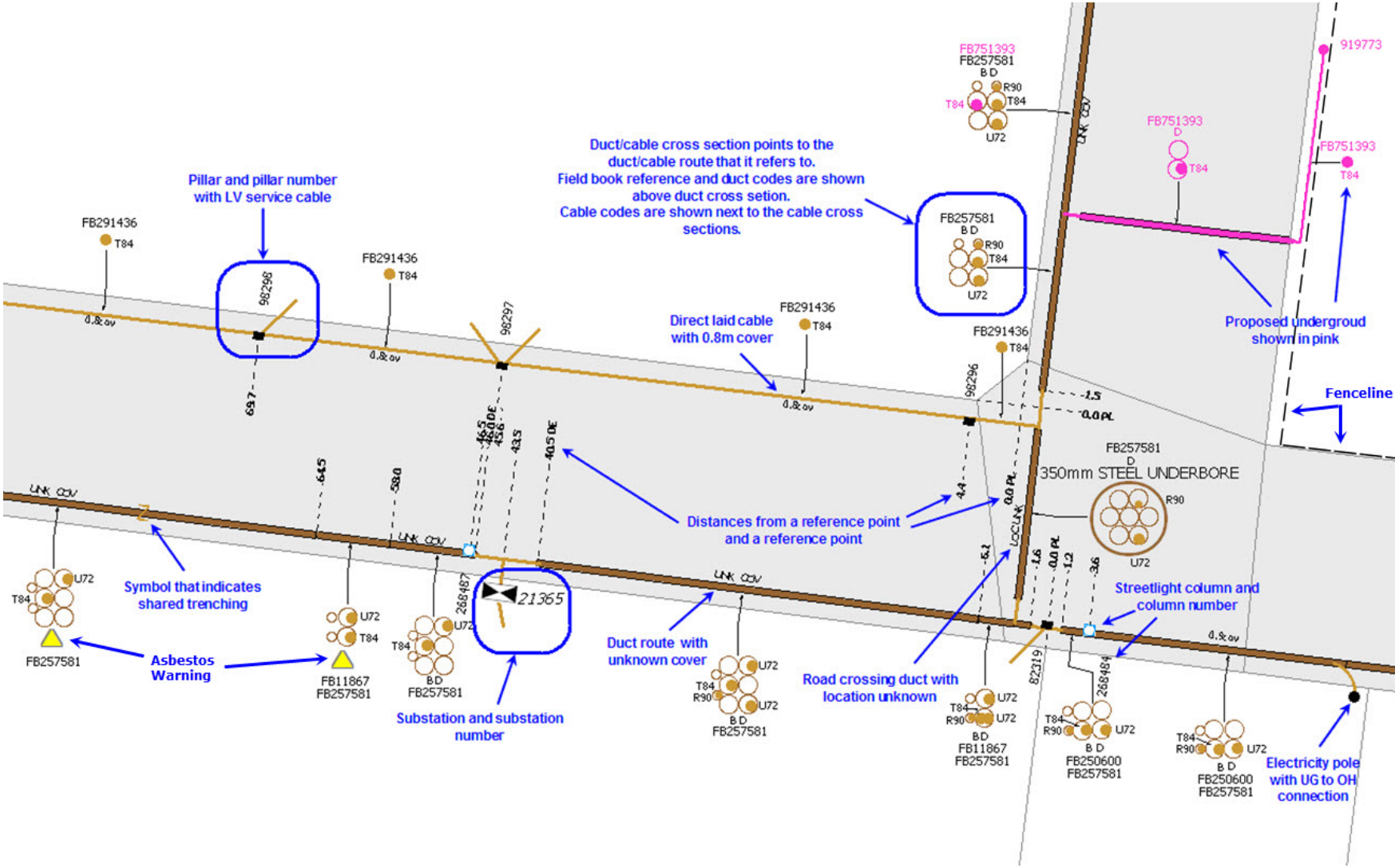
Whilst Endeavour Energy has taken all reasonable steps to ensure that the information contained in the plans is as accurate as possible it will accept no liability for inaccuracies in the information shown on such plans.

CUSTOMER REQUESTS AND RESPONSIBILITIES

- Endeavour Energy expects to be able to provide relevant plans within 48 hours after a request is made.
- If the enquiry falls within the Transmission Mains area, additional notification requirements shall be complied with as per the instructions in the response Cover Letter.
- Endeavour Energy retains copyright over all plans and details provided in response to a customer's request.
- Persons excavating are expected to exercise all due care in the vicinity where underground assets are indicated and will be held responsible for any damage to any underground assets (including any Endeavour Energy property) or any other loss caused (including consequential losses) as a result of such excavations.
- All underground assets should be visually located by soft digging (pot holing) or hand digging.
- A person who undertakes excavation work is subject to duties and responsibilities under the *Work Health and Safety Act 2011* and *Work Health and Safety Regulation 2011*. Please refer to the Work Cover NSW "*Work near underground assets: Guide*" and "*Excavation work: Code of practice*" which contain practical advice for working near underground utility services.
- Any damage to Endeavour Energy's assets must be immediately reported on **131 003**.
- In all cases of electric shock or suspected electric shock the victim shall immediately be transported to hospital or medical centre for treatment.
- If conduit material cannot be identified, it should be assumed to contain asbestos material.
- Endeavour Energy plans are frequently updated to record changes to underground assets. All plans are valid for **20** working days from the date of issue.

If further clarification is required, please contact:
Endeavour Energy
Phone: (02) 9853 4161 (8:00am-4:30pm Mon-Fri)
Emergency Phone Number: 131 003

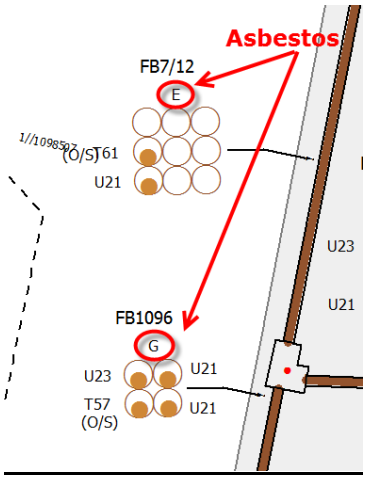
EXAMPLE OF HOW TO READ ENDEAVOUR ENERGY PLANS



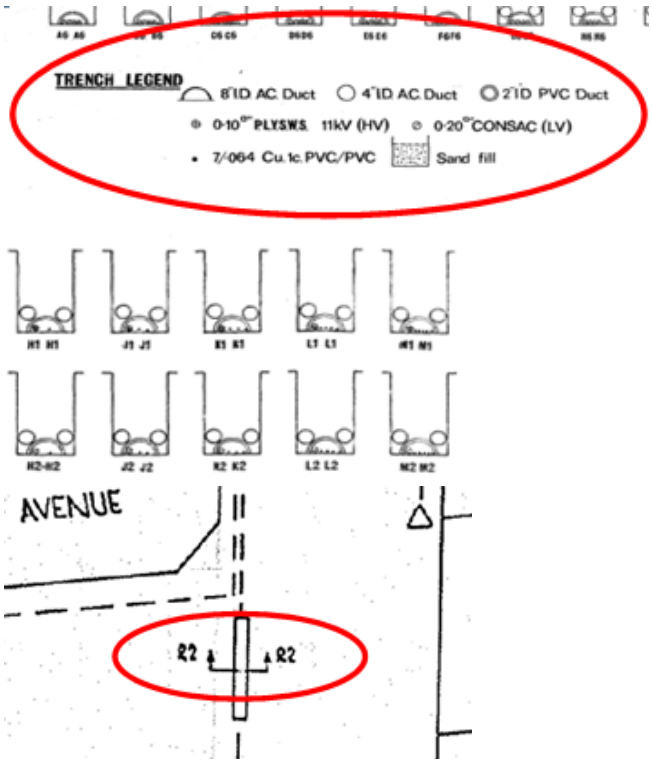
If further clarification is required, please contact:
Endeavour Energy
Phone: (02) 9853 4161 (8:00am-4:30pm Mon-Fri)
Emergency Phone Number: 131 003

IDENTIFYING ASBESTOS DUCTS

1. Duct codes **E, F** and **G** identify Fibro Conduits

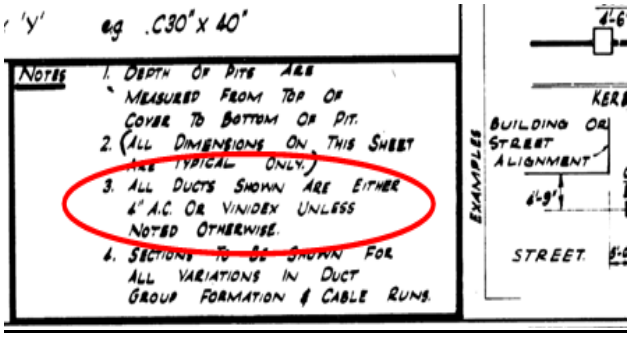


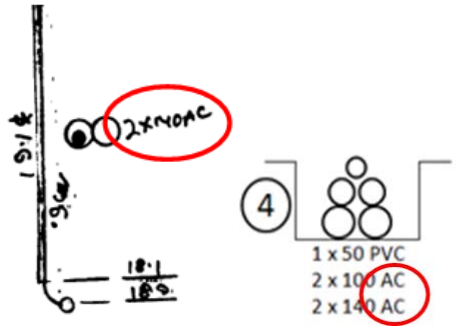
2. The duct codes **G,H,J,K,L,M Q,R,S,T,U,V,W & X** under each configuration are used on old Blue Mountains drawings to identify Asbestos



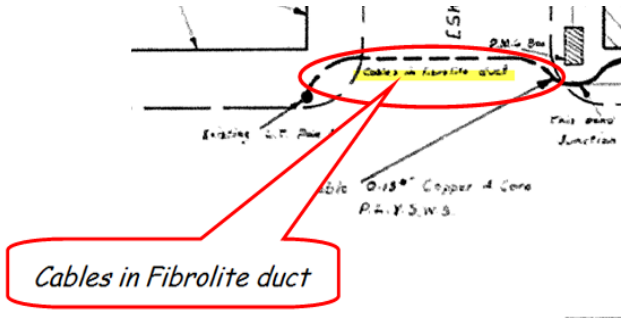
If underground details have not been captured and drawings are used, the method for identifying asbestos ducts and standards are different for the different utilities that amalgamated with Endeavour Energy. Using Reticulation Drawings, there are numerous ways to determine if a duct route has asbestos ducts, refer to following examples:

3. **AC** (Asbestos Cement) acronym

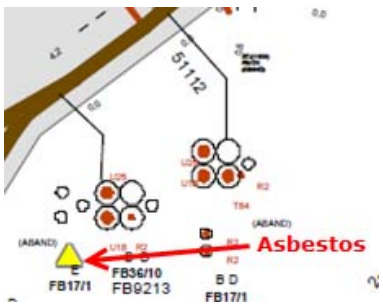




4. **Fibrolite** (asbestos) ducts



5. Yellow **triangle** identifies Fibro Conduits



If further clarification is required, please contact:
Endeavour Energy
Phone: (02) 9853 4161 (8:00am-4:30pm Mon-Fri)
Emergency Phone Number: 131 003

STANDARD UNDERGROUND SYMBOLS / LABELS

NOTE: *If symbology has not been provided on the plan use symbols as shown below.*

SYMBOLS & ACRONYMS

- or — Street light column
- Padmount substation
- or — Overground pillar (O.G.Box)
- Underground pit
- Duct run
- Cable run
- Typical duct section
- Typical underbore section
- Blocked duct
- Cable section
- Asbestos warning
- STJ, PBJ, TTJ
- **STJ** Straight through joint
- **PBJ** Parallel branch joint
- **TTJ** Transition through joint
- Underground to overhead pole
- **SL** Streetlight conductor
- **SC** Service cable
- **SE** Cable sealed end
- **SF** Service Feeder
- **OS** Out of Service
- **O.A.M.** Over awning main
- **U.A.M.** Under awning main
- **N.I.S.** Not in service
- Fence/dimensioning
- Shared trenching
- Service point of attachment

DUCT CODE LABLES

B = 50 mm PVC

D = 125mm PVC

E = 100mm Fibro Conduit (Asbestos)

F = 140mm Fibro Conduit (Asbestos)

G = 150mm Fibro Conduit (Asbestos)

DEPTH & LOCATION LABELS

0.5- 0.7 COV = 0.5m – 0.7m

0.9 COV = 0.9m Depth

UNK COV = Depth Unknown

LOC UNK = Location Unknown

0.9 PL = Located 0.9m from Property Line

If further clarification is required, please contact:
Endeavour Energy
Phone: (02) 9853 4161 (8:00am-4:30pm Mon-Fri)
Emergency Phone Number: 131 003

DBYD Underground Search Report

Date: 27/06/2018

DBYD Sequence No: 72890910 **DBYD Job No:** 14472303

ENDEAVOUR ENERGY ASSETS NOT AFFECTED

To:	Mr Steve Johnstone		Company:	Acor Consultants	
Address:	No.58-62 Hills Street, North Gosford, NSW 2250				
Cust. ID:	1440308	Email:	sjohnstone@acor.com.au		
Phone:	02 4324 3499	Mobile:	0414 627 510	Fax:	02 4324 2951
Enquiry Location:	Tench Ave, Jamisontown, NSW 2750				

Our Search has shown that **NO UNDERGROUND ASSETS ARE PRESENT** on our plans within the nominated enquiry location. However all persons planning excavation shall read and understand the warnings below. This search is based on the graphical position of the excavation site as denoted in the DBYD customer confirmation sheet.

WARNING

- **All electrical apparatus shall be regarded as live until proved de-energised.** Contact with live electrical apparatus will cause severe injury or death.
- In accordance with the *Electricity Supply Act 1995*, you are obliged to report any damage to Endeavour Energy Assets immediately by calling **131 003**.
- The customer must obtain a new set of plans from Endeavour Energy if work has not been started or completed within twenty **(20)** working days of the original plan issue date.
- The customer must contact Endeavour Energy if any of the plans provided have blank pages, as some underground asset information may be incomplete.
- Endeavour Energy underground earth grids may exist and their location **may not** be shown on plans. Persons excavating are expected to exercise all due care, especially in the vicinity of padmount substations, pole mounted substations, pole mounted switches, transmission poles and towers.
- Endeavour Energy plans **do not** show any underground customer service mains or information relating to service mains within private property.
- Asbestos or asbestos-containing material may be present on or near Endeavour Energy's underground assets.
- Organo-Chloride Pesticides (OCP) may be present in some sub-transmission trenches.
- All plans must be printed and made available at the worksite where excavation is to be undertaken. Plans must be reviewed and understood by the crew on site prior to commencing excavation.

SUPPLEMENTARY MATERIAL

Material	Purpose	Location
DBYD Cover Letter	Endeavour Energy DBYD response Cover Letter	Attached
DBYD Important Information & Disclaimer	Endeavour Energy disclaimer, responsibilities and information on understanding plans	Attached
DBYD Response Plans	Endeavour Energy DBYD plans	Attached
Work Cover NSW *"Work near underground assets: Guide"*	Guideline for anyone involved in construction work near underground assets	Contact Work Cover NSW for a copy
Work Cover NSW *"Excavation work: Code of practice"*	Practical guidance on managing health and safety risks associated with excavation	URL [Click Here]
Safe Work Australia *"Working in the vicinity of overhead and underground electric lines guidance material"*	Provides information on how to manage risks when working in the vicinity of overhead and underground electric lines at a workplace	URL [Click Here]
Endeavour Energy Safety Brochures & Guides	To raise awareness of dangers of working on or near Endeavour Energy's assets	URL [Click Here]

ANNEXURE D

NBN Data Response

Stephen Johnstone - ACOR

From: DONOTREPLY@nbnco.com.au
Sent: Wednesday, 27 June 2018 3:28 PM
To: Stephen Johnstone - ACOR
Cc: noreplydbyd@nbnco.com.au
Subject: DBYD JOB:14472303 SEQ:72890914 - Tench Ave,Jamisontown,NSW-2750 email(1/1)
Attachments: Disclaimer_20180627_15275509.pdf; 4678_NBN_Dial_Before_You_Dig_Poster_20170517.pdf; 20180627_15275509_1.pdf

Hi Mr Steve Johnstone,

Please find attached the response to your DBYD referral for the address mentioned in the subject line.
The location shown in our DBYD response is assumed based off the information you have provided. If the location shown is different to the location of the excavation then this response will consequently be rendered invalid.
Take the time to read the response carefully and note that this information is only valid for 28 days after the date of issue.
If you have any further enquiries, please do not hesitate to contact us.

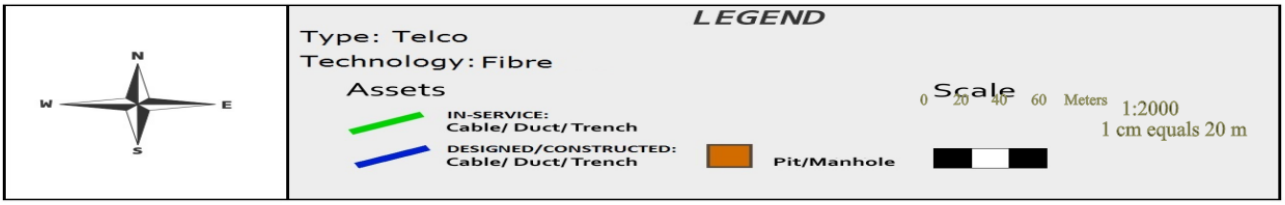
Regards,
Network Services and Operations
NBN Co Limited
P: 1800626329
E: dbyd@nbnco.com.au
www.nbnco.com.au

Indicative Plans

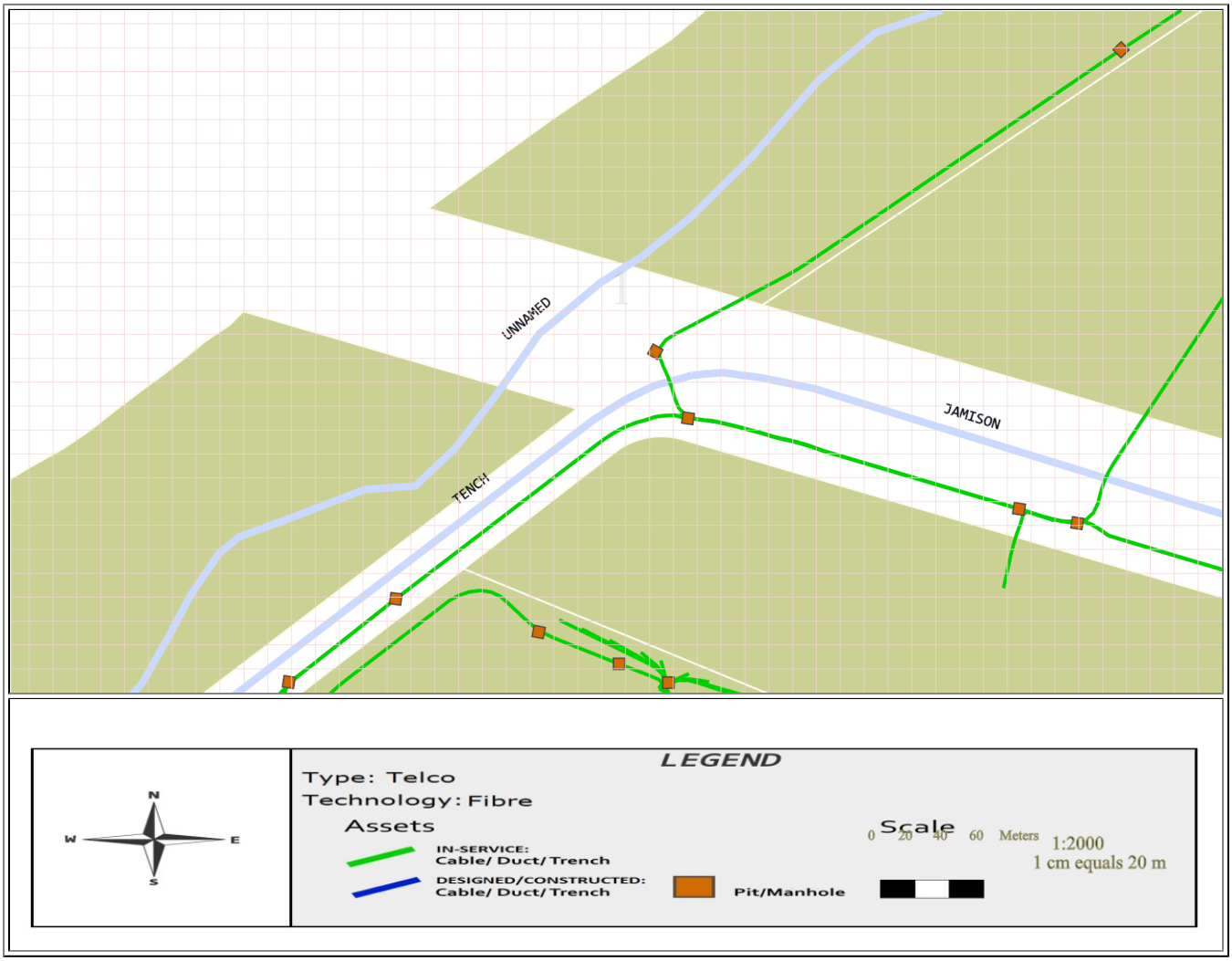
Issue Date:	27/06/2018
Location:	Tench Ave,Jamisontown,NSW-2750

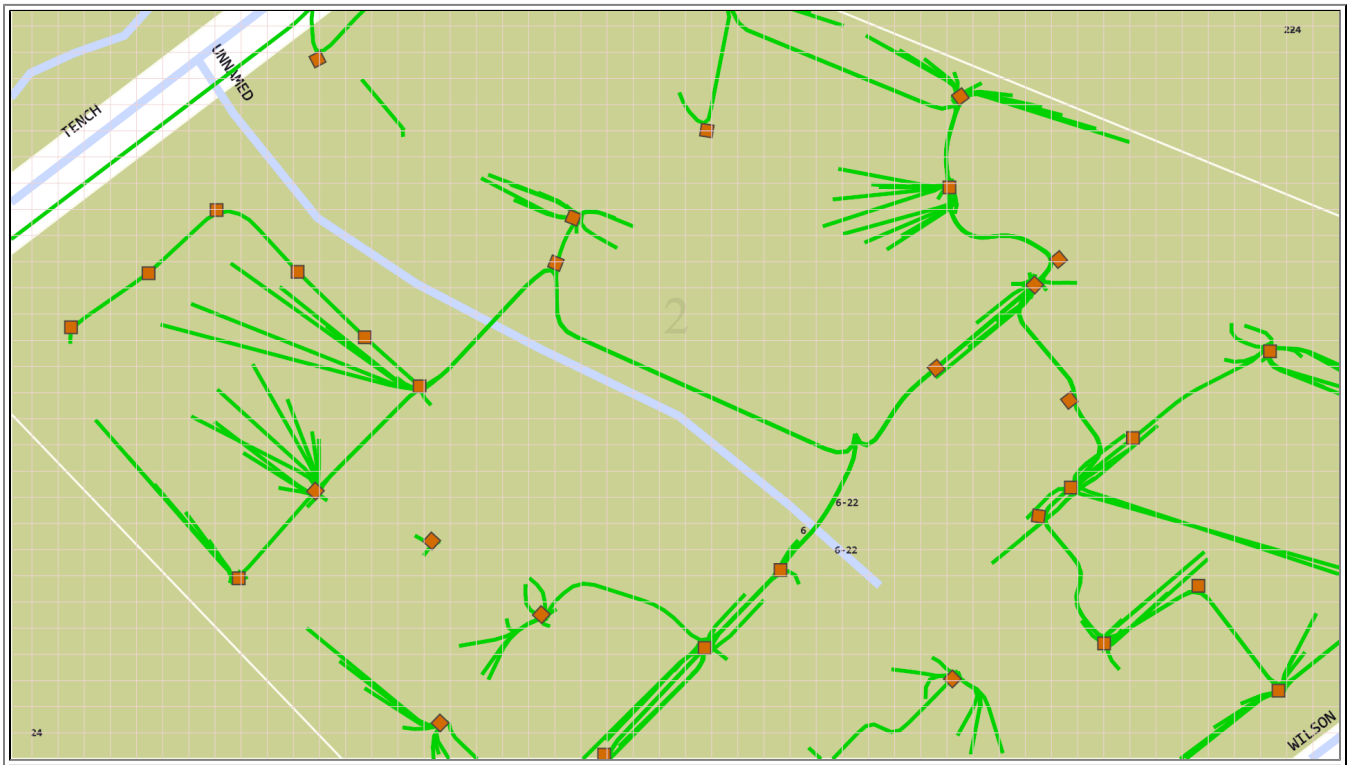
DIAL BEFORE YOU DIG www.1100.com.au

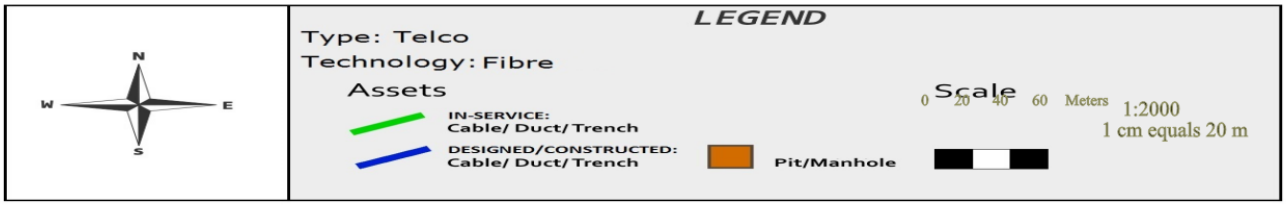
1	3
2	4

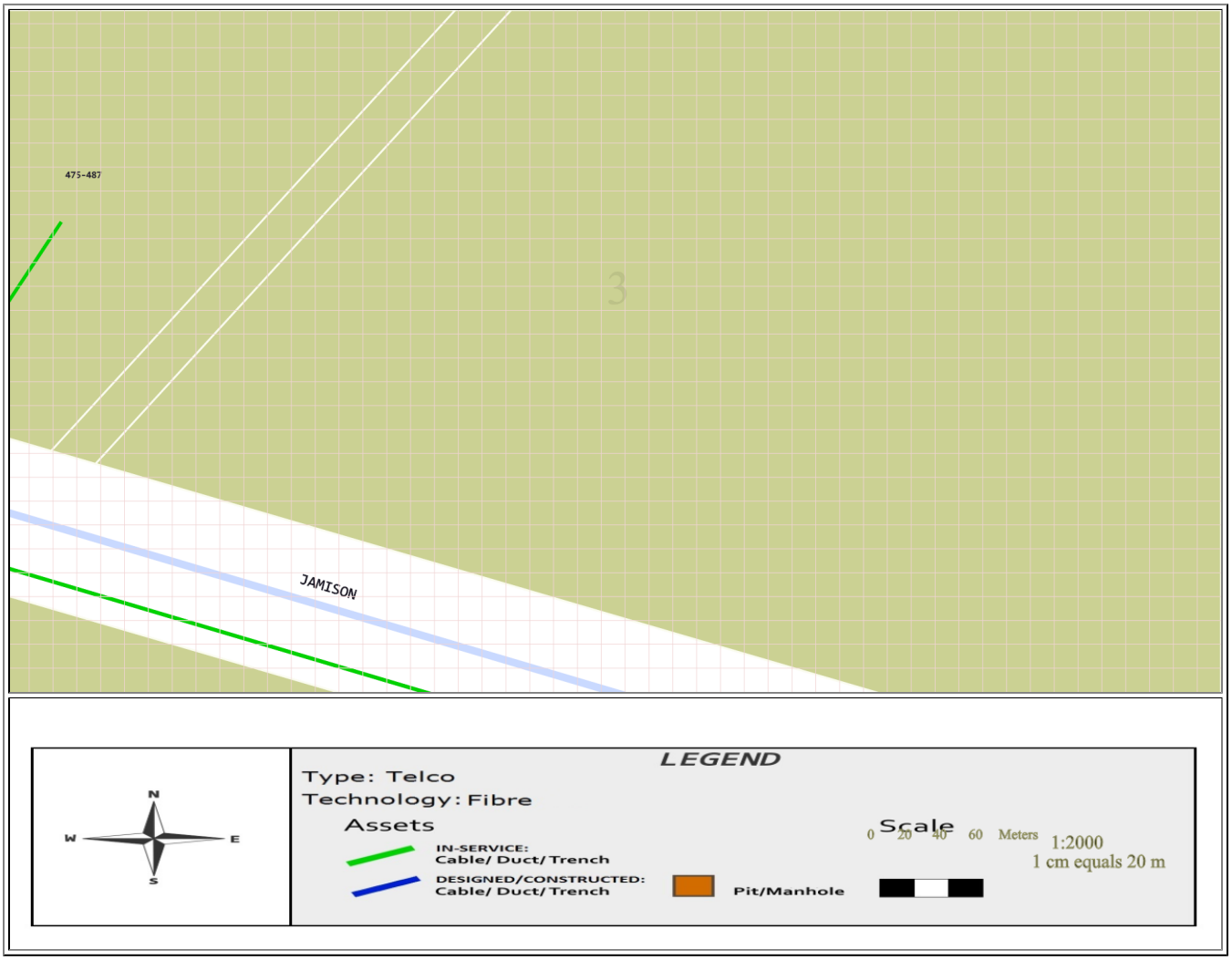


Email info@nbn.com.au Web nbn.com.au

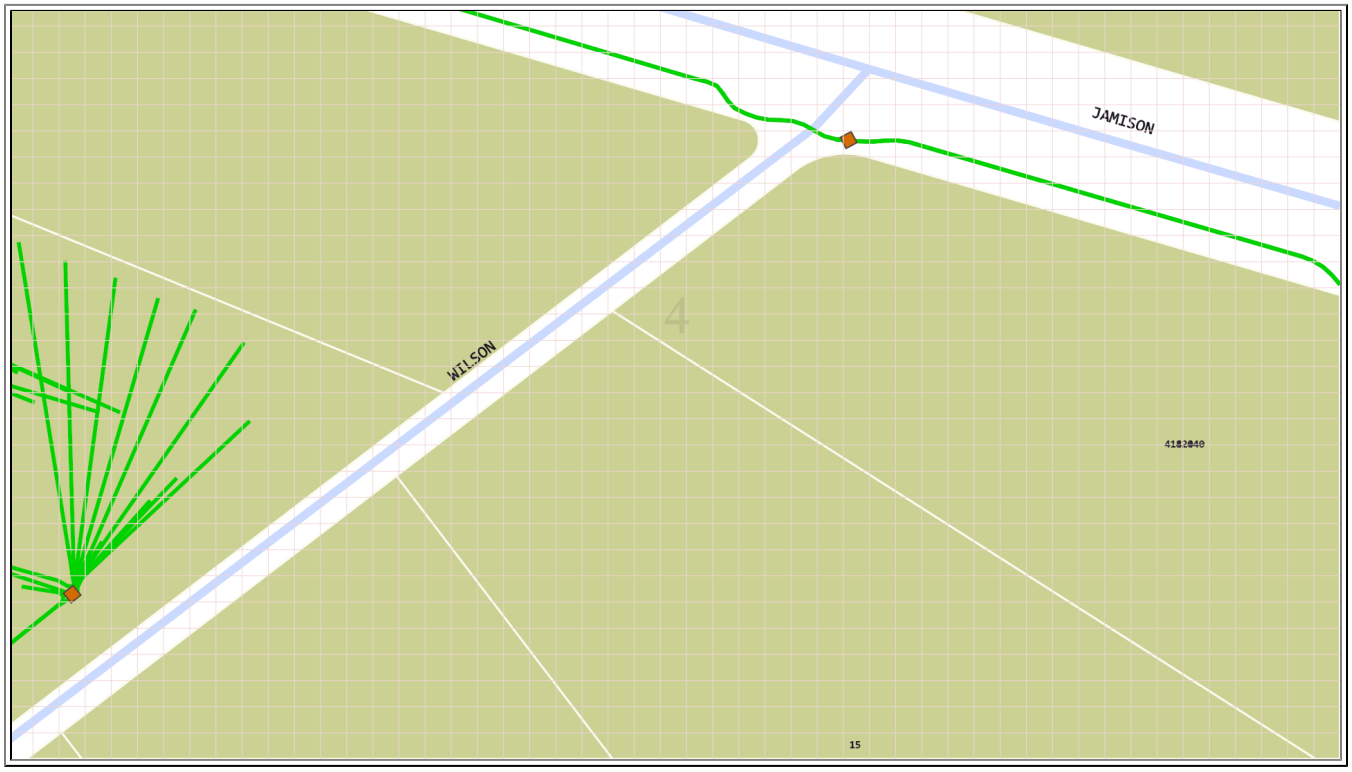








Email info@nbn.com.au Web nbn.com.au



Emergency Contacts

You must immediately report any damage to **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.

To:	Mr Steve Johnstone
Phone:	02 4324 3499
Fax:	02 4324 2951
Email:	sjohnstone@acor.com.au

Dial before you dig Job #:	14472303	
Sequence #	72890914	
Issue Date:	27/06/2018	
Location:	Tench Ave,Jamisontown,NSW-2750	

Information

The area of interest requested by you contains one or more assets.

nbn Assets	Search Results
Communications	Asset identified
Electricity	No assets

In this notice **NBN Facilities** means *underground fibre optic, telecommunications and/or power facilities, including but not limited to cables, owned and controlled by* ***nbn***

Location of Underground Power Facilities

We thank you for your enquiry. In relation to your enquiry at the above address:

- **nbn's** records indicate that there **ARE nbn** Facilities in the vicinity of the location identified above ("Location").
- **nbn** indicative plan/s are attached with this notice ("Indicative Plans").

- The Indicative Plan/s show general depth and alignment information only and are not an exact, scale or accurate depiction of the location, depth and alignment of **nbn** Facilities shown on the Plan/s.
- In particular, the fact that the Indicative Plans show that a facility is installed in a straight line, or at uniform depth along its length cannot be relied upon as evidence that the facility is, in fact, installed in a straight line or at uniform depth.
- You should read the Indicative Plans in conjunction with this notice and in particular, the notes below.
- You should note that, at the present time, the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables. As such, consistent with the notes below, particular care must be taken by you to make your own enquiries and investigations to precisely locate any power cables and manage the risk arising from such cables accordingly.
- The information contained in the Indicative Plan/s is valid for 28 days from the date of issue set out above.You are expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified plant locators at your cost to locate **nbn** Facilities during any activities you carry out on site).

We thank you for your enquiry and appreciate your continued use of the Dial Before You Dig Service. If you are planning to excavate and require further information, please contact **nbn** on 1800 626 329. For any enquiries related to moving assets or Planning and Design activities, please visit the **nbn** Commercial Works website to complete the online application form.

Notes:

1. You are now aware that there are **nbn** Facilities in the vicinity of the above property that could be damaged as a result activities carried out (or proposed to be carried out) by you in the vicinity of the Location.
2. You should have regard to section 474.6 and 474.7 of the *Criminal Code Act 1995* (CoA) which deals with the consequences of interfering or tampering with a telecommunications facility. Only persons authorised by **nbn** can interact with **nbn's** network facilities.
3. Any information provided is valid only for **28 days** from the date of issue set out above.

Referral Conditions

The following are conditions on which **nbn** provides you with the Indicative Plans. By accepting the plans,you are agreeing to these conditions. These conditions are in addition, and not in replacement of, any duties and obligations you have under applicable law.

1. **nbn** does not accept any responsibility for any inaccuracies of its plans including the Indicative Plans. You are expected to make your own inquiries and perform your own

investigations (including engaging appropriately qualified plant locators at your expense to locate **nbn** Facilities during any activities you carry out on site).

2. You acknowledge that **nbn** has specifically notified you above that the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables.
3. You should not assume that **nbn** Facilities follow straight lines or are installed at uniformed depths along their lengths, even if they are indicated on plans provided to you. Careful onsite investigations are essential to locate the exact position of cables.
4. In carrying out any works in the vicinity of **nbn** Facilities, you must maintain the following minimum clearances:
    - 300mm when laying assets inline, horizontally or vertically.
    - 500mm when operating vibrating equipment, for example: jackhammers or vibrating plates.
    - 1000mm when operating mechanical excavators.
    - Adherence to clearances as directed by other asset owner's instructions and take into account any uncertainty for power cables.
5. You are aware that there are inherent risks and dangers associated with carrying out work in the vicinity of underground facilities (such as **nbn** fibre optic,copper and coaxial cables,and power cable feed to **nbn** assets).Damage to underground electric cables may result in:
    - Injury from electric shock or severe burns, with the possibility of death.
    - Interruption of the electricity supply to wide areas of the city.
    - Damage to your excavating plant.
    - Responsibility for the cost of repairs.
6. You must take all reasonable precautions to avoid damaging **nbn** Facilities. These precautions may include but not limited to the following:
    - All excavation sites should be examined for underground cables by careful hand excavation. Cable cover slabs if present must not be disturbed. Hand excavation needs to be undertaken with extreme care to minimise the likelihood of damage to the cable, for example: the blades of hand equipment should be aligned parallel to the line of the cable rather than digging across the cable.
    - If any undisclosed underground cables are located, notify **nbn** immediately.
    - All personnel must be properly briefed, particularly those associated with the use of earth-moving equipment, trenching, boring and pneumatic equipment.
    - The safety of the public and other workers must be ensured.
    - All excavations must be undertaken in accordance with all relevant legislation and regulations.
7. You will be responsible for all damage to **nbn** Facilities that are connected whether directly, or indirectly with work you carry out (or work that is carried out for you or on your behalf) at the Location. This will include, without limitation, all losses expenses incurred by **nbn** as a result of any such damage.
8. You must immediately report any damage to **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.

9. Except to the extent that liability may not be capable of lawful exclusion, **nbn** and its servants and agents and the related bodies corporate of **nbn** and their servants and agents shall be under no liability whatsoever to any person for any loss or damage (including indirect or consequential loss or damage) however caused (including, without limitation, breach of contract negligence and/or breach of statute) which may be suffered or incurred from or in connection with this information sheet or any plans(including Indicative Plans) attached hereto. Except as expressly provided to the contrary in this information sheet or the attached plans(including Indicative Plans), all terms, conditions, warranties, undertakings or representations (whether expressed or implied) are excluded to the fullest extent permitted by law.

All works undertaken shall be in accordance with all relevant legislations, acts and regulations applicable to the particular state or territory of the Location. The following table lists all relevant documents that shall be considered and adhered to.

State/Territory	Documents
National	Work Health and Safety Act 2011
	Work Health and Safety Regulations 2011
	Safe Work Australia - Working in the Vicinity of Overhead and Underground Electric Lines (Draft)
	Occupational Health and Safety Act 1991
NSW	Electricity Supply Act 1995
	Work Cover NSW - Work Near Underground Assets Guide
	Work Cover NSW - Excavation Work: Code of Practice
VIC	Electricity Safety Act 1998
	Electricity Safety (Network Asset) Regulations 1999
QLD	Electrical Safety Act 2002
	Code of Practice for Working Near Exposed Live Parts
SA	Electricity Act 1996
TAS	Tasmanian Electricity Supply Industry Act 1995
WA	Electricity Act 1945
	Electricity Regulations 1947
NT	Electricity Reform Act 2005
	Electricity Reform (Safety and Technical) Regulations 2005
ACT	Electricity Act 1971

Thank You,

Network Operations Centre - Assurance

Date: 27/06/2018

Working near nbn™ cables

nbn has partnered with Dial Before You Dig to give you a single point of contact to get information about **nbn** underground services owned by **nbn** and other utility/service provider in your area including communications, electricity, gas and other services. Contact with underground power cables and gas services can result in serious injury to the worker, and damage and costly repairs. You must familiarise yourself with all of the Referral Conditions (meaning the referral conditions referred to in the DBYD Notice provided by **nbn**).

Practice safe work habits

Once the DBYD plans are reviewed, the Four P's of Excavation should be adopted in conjunction with your safe work practices (which must be compliant with the relevant state Electrical Safety Act and Safe Work Australia "Excavation Work Code of Practice", as a minimum) to ensure the risk of any contact with underground **nbn** assets are minimised.

Plan: Plan your job ensuring the plans received are current and apply to the work to be performed. Also check for any visual cues that may indicate the presence of services not covered in the DBYD plans.

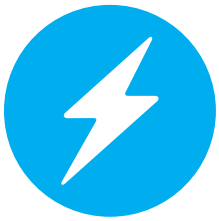
Pothole: Non-destructive potholing (i.e. hand digging or hydro excavation) should be used to positively locate **nbn** underground assets with minimal risk of contact and service damage.

Protect: Protecting and supporting the exposed **nbn** underground asset is the responsibility of the worker. Exclusion zones for **nbn** assets are clearly stated in the plan and appropriate controls must be implemented to ensure that encroachment into the exclusion zone by machinery or activities with the potential to damage the asset is prevented.

Proceed: Proceed only when the appropriate planning, potholing and protective measures are in place.

Working near **nbn**™ cables

Australia's broadband network



Identify all electrical hazards, assess the risks and establish control measures.

When using excavators and other machinery, also check the location of overhead power lines.

Workers and equipment must maintain safety exclusion zones around power lines.

Once all work is completed, the excavation should be re-instated with the same type of excavated material unless specified by **nbn**. Please note:

- Construction Partners of **nbn** may require additional controls to be in place when performing excavation activities.
- The information contained within this pamphlet must be used in conjunction with other material supplied as part of this request for information to adequately control the risk of potential asset damage.

Contact

In the event of the **nbn**™ network facility damage please call 1800 626 329

DIAL BEFORE YOU DIG® www.1100.com.au

ANNEXURE E

Telstra Data Response

Stephen Johnstone - ACOR

From: TAMS@dominoapp.in.telstra.com.au
Sent: Wednesday, 27 June 2018 5:34 PM
To: Stephen Johnstone - ACOR
Subject: DBYD JOB: 14472303 SEQ: 72890911 - Tench Ave, Jamisontown NSW 2750

Attention: Steve Johnstone

Site Location: Tench Ave, Jamisontown, NSW 2750

Your Job Reference: GO170662

Activity Type: Planning & Design

You have requested Telstra network information via Dial-Before-You-Dig (as detailed in the email subject line) in relation to a *non*-ground-breaking activity, for which data extraction fees apply. DBYD activity descriptions that incur a Telstra fee currently include *Planning & Design, Conveyancing, Tendering* and *Subdivision*.

If you wish to receive the information, please contact Telstra to have an account set up (if you do not already have one) and an invoice issued. The network information will be despatched to you upon receipt of payment.

For enquiries or to seek clarification please contact –

(please quote the DBYD job number or the DBYD Telstra sequence number)

Email – **NI.Planservice@team.telstra.com**

Phone - **Plant Locations** on **1800 653 935**

Postal – **Telstra Plan Services**
Locked Bag 3820
Brisbane Qld 4001

APPENDIX 10
Council report and unconfirmed minutes 26 November 2018

Planning Proposal for Winter Sporting Facility at 2-4 Tench Avenue, Jamisontown

Compiled by: **Joel Carson, Senior Planner**

Authorised by: **Natasha Baker, City Planning Manager**

Outcome	*We plan for our future growth*
Strategy	*Facilitate quality development in the City that considers the current and future needs of our community*
Service Activity	*Plan for and facilitate development in the City*

Procedural note: Section 375A of the Local Government Act 1993 requires that a division be called in relation to this matter.

Executive Summary

Council is in receipt of a Planning Proposal to amend the Height of Buildings Map under Penrith Local Environmental Plan 2010 (LEP 2010) as it relates to the land known as 2-4 Tench Avenue, Jamisontown. The purpose of the proposed changes is to facilitate development of the site for a Winter Sporting Facility which would include a 300 metre indoor ski slope and hotel.

This report seeks Council's endorsement to sponsor the Planning Proposal and forward it to the Department of Planning and Environment (DPE) with a request to issue a Gateway Determination to allow the proposal to proceed to agency and public consultation.

Background

On 29 June 2018, Council received a Planning Proposal lodged by Winter Sports World Pty Ltd that seeks to amend the building height control prescribed by LEP 2010 for the property known as 2-4 Tench Avenue, Jamisontown (Lot 1 DP 38950). A site location map is provided at Attachment 1.

The purpose of the proposed change is to facilitate development of the site for a Winter Sporting Facility which would include a 300m indoor ski slope, ice skating rink, ice climbing facilities, rock climbing facilities, altitude training, gymnasium and training facilities, hotel accommodation (Approximately 170 hotel rooms plus a function centre), and food and drink premises (bars, cafes and restaurants).

The key attractor or anchor which underpins the concept and viability of the 'Winter Sports World' is an indoor ski centre with a 300-metre-long ski slope. The proponent states that the proposal has been designed to be one of the top 10 High Performance Training Centre's in the world. To achieve the required length and gradient for the ski slope a range of building heights up to 54 metres at the eastern end of the site is required. An image of the proposed development may be found at Attachment 2.

The site

The site currently contains a dwelling at its western end and is 2.342 hectares in size. It is zoned SP3 Tourist and is prescribed with a maximum building height control of 8.5 metres under LEP 2010. The western portion of the site is identified as land with scenic landscape

values on the LEP 2010 Scenic Landscape Values Map. No Floor Space Ratio (FSR) control currently applies to the site.

To the south of the site is the Nepean Shores development which contains short and long term accommodation. To the north across Jamison Road is the "Madang Park" heritage cottage and trees, and the Cables Water Park. To the east are rural-residential properties including a place of worship. To the west across Tench Avenue is Tench Reserve and the Nepean River.

Attachment 3 provides extracts from the LEP 2010 Zoning, Height of Buildings, Scenic Landscape Values, and Heritage Maps in relation to the subject site.

The Planning Proposal

The Planning Proposal application seeks to amend the LEP 2010 Height of Buildings Map by changing the building height control on the site from the current 8.5m to part 8.5m, part 24m, and part 54m. No other changes are sought to planning controls. Attachment 4 provides a map of the proposed height controls for the subject site. A copy of the Planning Proposal has been provided to Councillors under separate cover, is publicly-available on Council's website, and has been tabled tonight.

Local Planning Panel advice

Section 2.19 of the Environmental Planning and Assessment Act 1979 (EPA Act) requires Councils to refer Planning Proposals to the Local Planning Panel for advice, prior to a decision being taken by Council to submit the proposal to DPE for Gateway assessment.

On 22 August 2018, the Planning Proposal was considered by the Penrith Local Planning Panel. The Panel's advice notes that the proposal is consistent with Council's vision for the locality that is identified in Council policies, being to provide for tourist-oriented development and related uses in the locality. The advice raised concerns with the potential bulk and scale of the proposed development and recommended that site-specific planning controls are prepared to facilitate appropriate development outcomes. The Panel advice was sympathetic to the envisaged building form as the proposed development is a unique facility which is dependent on a specific gradient and height. The advice recommended that additional information was sought from the proponent to address information gaps identified in Council's preliminary assessment. A copy of the Local Planning Panel advice is provided at Attachment 5.

Key considerations

Envisaged development

The proposed development scheme for the site is consistent with one of the key aspects of Council's vision for the locality, which is to provide for tourist-oriented development and related uses that are compatible with the promotion of tourism in Penrith reinforcing Penrith being the "adventure capital". Council's vision is identified in several plans and policies including LEP 2010 through the SP3 Tourist zone objectives, the Penrith Economic Development Strategy (2017), the Riverlink Precinct Plan (2008) and Penrith Development Control Plan 2014 (DCP 2014).

The primary purpose of the Planning Proposal is to facilitate development of a 300-metre indoor ski slope by increasing the maximum permitted building height control on the site. This is a unique tourist facility which is dependent on a specific gradient and height. It is noted that for other land uses the height as proposed would be not be acceptable if such

uses were stand-alone development proposals and did not offer a unique proposition. Any development of the site under the proposed height controls would need to substantially feature an indoor ski slope facility.

Economic impact

The proponent's submitted documentation indicates that during the operating life of the development it would generate 759 direct and indirect jobs and would add $74.9m per annum to the local economy. Annual visitation of 200,600 people is anticipated in the base scenario.

The facility would potentially become an iconic landmark and attractor in the Penrith region with the potential to service the resident population, adventure-seeking day trippers and tourists at large. Council's Economic Development Strategy identifies Tourism as one of six identified target sectors, with a goal of creating 2,000+ jobs. The proposal would contribute towards the achievement of this goal and reinforce Penrith's goal of being the adventure capital. The proposal would also contribute to meeting demand for hotel accommodation in the locality as identified in Councils short stay accommodation strategy.

Visual analysis

Council officers have completed a visual assessment of the Planning Proposal. This included the undertaking of an urban design peer review by an external consultancy as well as an analysis of the proponent's electronic Sketchup file using Council's Urban Circus 3D city model.

There are several Council planning documents which identify the importance of maintaining or enhancing certain views in the area, including LEP 2010, DCP 2014, the 'Our River' Nepean River Masterplan (2013), Riverlink Precinct Urban Design Study (2009) and Riverlink Precinct Plan (2008). The important views identified to be maintained or enhanced are views to the Blue Mountains escarpment from roads and public areas, and views to and from the Nepean River.

DCP 2014 and the 'Our River' masterplan identify the area at the intersection of Jamison Road and Tench Avenue as an important gateway location, where a strong sense of arrival along Jamison Road is envisaged, and where vistas and view corridors to and from the river and to the Blue Mountains escarpment are to be enhanced. Tench Reserve in this location is planned to be developed as a significant embellished congregation area. The subject site is envisaged to contain a highly visible landmark building displaying design excellence with street activation.

There are several locations where the potential impacts on important views warrant consideration. These include locations distant and close to the proposed structure. A comprehensive visual analysis of the proposal has been provided by the proponent, which considers the way in which view corridors from major roads and other public places will be affected by the development. The proponent's visual analysis is provided as a separate enclosure to this report and will be made available on Council's website. The visual analysis indicates that the structure will be visible from several locations. The extent of the impact on views to the Blue Mountains is presented in the analysis. Council's Urban Circus 3D city model has been used to verify the proponent's visual analysis.

The additional information submitted by the proponent allows the community and Council officers to be adequately informed of the potential visual impacts of the proposal. It is recommended that the merits of the proposal in respect to visual impact be further considered throughout the future community and agency engagement, should Council wish

to proceed further with the Planning Proposal. It is recommended that the Planning Proposal be submitted to DPE with a request to issue a Gateway Determination to commence community and agency engagement through an LEP amendment process.

Urban design and context

The potential impacts on neighbouring properties, such as overshadowing, amenity, privacy, bulk and scale, plus the desire to deliver design excellence, will be responded to through preparation of detailed site-specific development controls to facilitate the unique development sought on this site and to provide greater certainty to development outcomes. This matter is discussed in more detail later in this report.

Flooding and evacuation analysis

The subject site is located within the Penrith Low Flood Island. A flood evacuation assessment and flood impact assessment will be prepared by the proponent to enable Council's consideration of these matters.

Traffic analysis

A revised traffic analysis will be prepared by the proponent which will enable Council's consideration of the traffic impacts of the development on the external road network, including the key intersections, and identify any upgrades that would be required to facilitate the expected increase in traffic volumes.

Proposed LEP amendment

As an alternative to the proponent's proposal to amend the LEP 2010 Height of Buildings Map for the subject site, Council officers instead propose to prepare site-specific development controls for the site to facilitate only the unique development sought and to provide greater certainty to development outcomes.

It is noted that the development proposal requires a building height control of at least 54m. The proponent has also identified that a minimum FSR control of 1.2:1 would be required to facilitate the development proposal not including a hotel component. Should a hotel component be included the proponent would require a minimum FSR control of 1.45:1. It is noted that the nearby Penrith Panthers site currently has an FSR control of 1:1.

In consideration of the above, it is recommended that Part 7 (Additional local provisions) of LEP 2010 is utilised, where a local LEP provision would be prepared relating to the subject site. The local provision would allow for a 54m high development on the site on the condition that:

- a substantial component of the development is an indoor ski slope facility, and an FSR control of 1.2:1 is not to be exceeded.
- an FSR control above 1.2:1 (up to a maximum of 1.45:1) would be considered if justified and if the development features a hotel component.
- the development is in accordance with a site-specific DCP prepared for the site which provides additional planning and design guidance for development.
- The design of the structure is prepared by way of a design competition.
- A "sunset clause" applies, where the local LEP provision will cease to exist three years after the date the LEP amendment is made. This is to enable controls specific to this proposal and ensure delivery.

Given the above, the proponent's proposed changes to the LEP 2010 Height of Buildings Map will not be required as the local provision will deliver a comparable development outcome.

DPE has provided preliminary advice in support of Council's proposal to prepare site specific planning controls for the site to ensure appropriate land use outcomes are delivered.

Council officers will work with the proponent to further consider the most appropriate FSR control for the site, which would be guided by additional urban design and architectural analysis and preparation of the site specific planning controls.

Next steps

Should Council sponsor the Planning Proposal, the Planning Proposal will be amended in accordance with the changes outlined in this report and then submitted to DPE with a request to issue a Gateway Determination to allow the proposal to proceed to public exhibition and agency consultation. As part of Council's Gateway Determination request, delegation will be sought for the General Manager to update and finalise the Planning Proposal for the making of the LEP amendment.

Following receipt of the Gateway Determination, flooding and traffic technical studies will be finalised by the proponent. A site-specific DCP will also be prepared by the proponent in consultation with Council officers. Upon completion of the supporting information and DCP controls, the Planning Proposal would be publicly exhibited in accordance with the requirements of the Gateway Determination and other relevant legislation.

Conclusion

Council is in receipt of a Planning Proposal to amend LEP 2010. The Planning Proposal relates to the land known as 2-4 Tench Avenue, Jamisontown. The purpose of the proposed changes is to facilitate development of the site for a Winter Sporting Facility which would include a 300 metre indoor ski slope and hotel.

The proposal is consistent with one of the key aspects of Council's development vision for the area. An analysis of visual impacts has been provided for consideration. Site-specific planning controls will be prepared to respond to various planning issues including urban design and overshadowing impacts.

It is recommended that Council endorses that the Planning Proposal be forwarded to DPE with a request to issue a Gateway Determination to allow the proposal to proceed to agency and public consultation.

RECOMMENDATION

That:

1. The information contained in the report on Planning Proposal for Winter Sporting Facility at 2-4 Tench Avenue, Jamisontown be received
2. Council endorse the Planning Proposal (provided separately and tabled tonight), subject to any further changes resulting from Item 4 below.
3. Council officers forward the Planning Proposal to the Minister for Planning with a request to issue a Gateway Determination. (The submission will

include a request to issue Council with Delegation for plan making authority).

4. The General Manager be granted delegation to make any necessary changes to the Planning Proposal referred to in Item 2 above:

    a. prior to Council's submission of the Planning Proposal to the Minster for Planning to request a Gateway Determination.
    b. as a result of negotiated changes sought by DPE in the lead up to the issuing of the Gateway Determination.
    c. prior to public exhibition in response to the conditions of the Gateway Determination or negotiations with public authorities and other stakeholders.

5. A Development Control Plan be prepared for the subject site, to be publicly exhibited concurrently with the Planning Proposal.

6. Council publicly exhibit the Planning Proposal for a period to be specified in the Gateway Determination, and in accordance with the community consultation requirements of the Environmental Planning and Assessment Act 1979 and the Environmental Planning and Assessment Regulation 2000.

7. A further report be presented to Council following the public exhibition.

ATTACHMENTS/APPENDICES

1.	Site Location Map	1 Page	Attachments Included
2.	Image of proposed development	1 Page	Attachments Included
3.	Extracts from LEP 2010 maps	1 Page	Attachments Included
4.	Proposed height controls	1 Page	Attachments Included
5.	Local Planning Panel advice	2 Pages	Attachments Included

Site Location Map

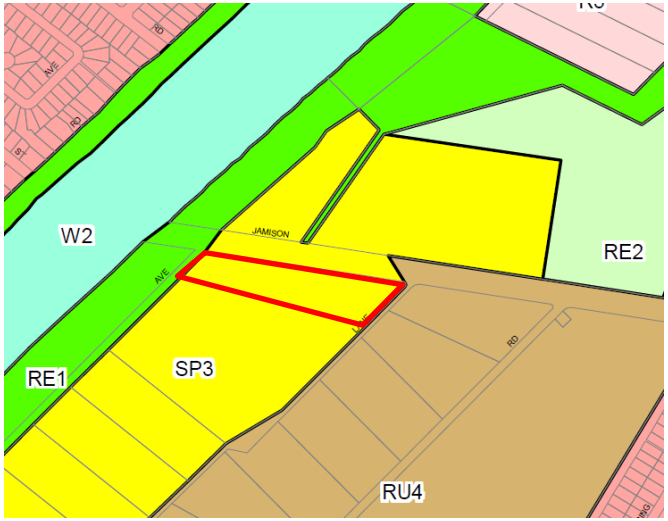
Winter Sporting Facility

Image of proposed development

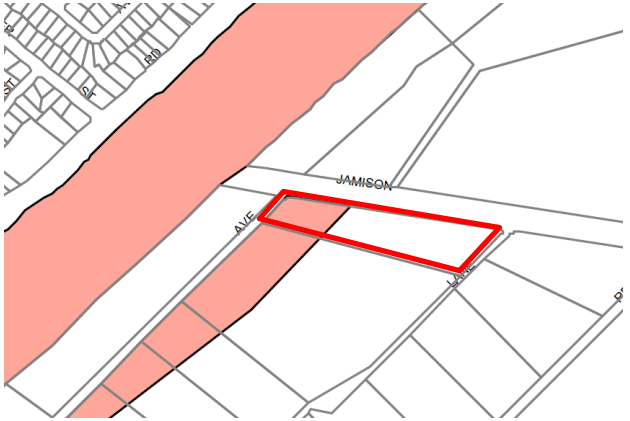
Winter Sporting Facility

Extracts from Penrith Local Environmental Plan 2010 Maps

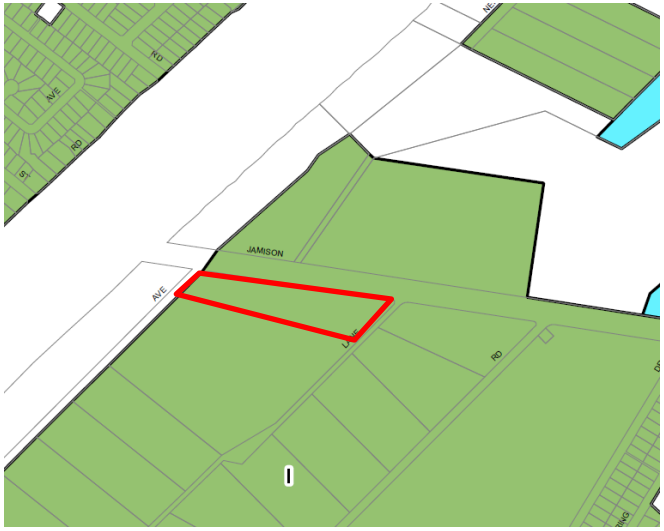
Zoning Map



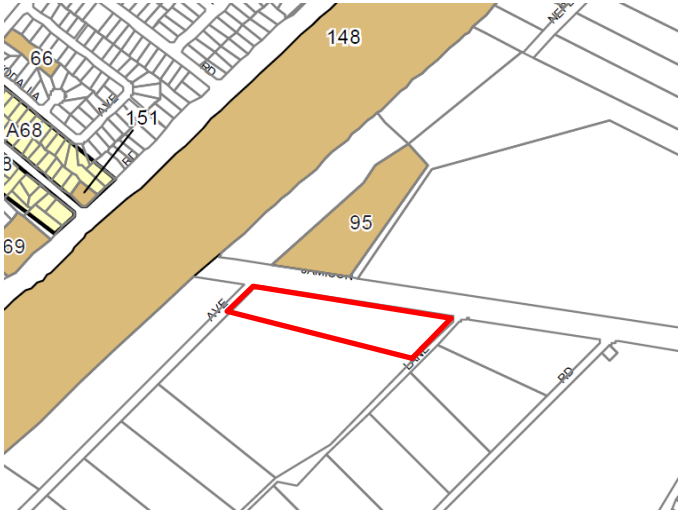
Scenic Landscape Values Map



Height of Buildings Map

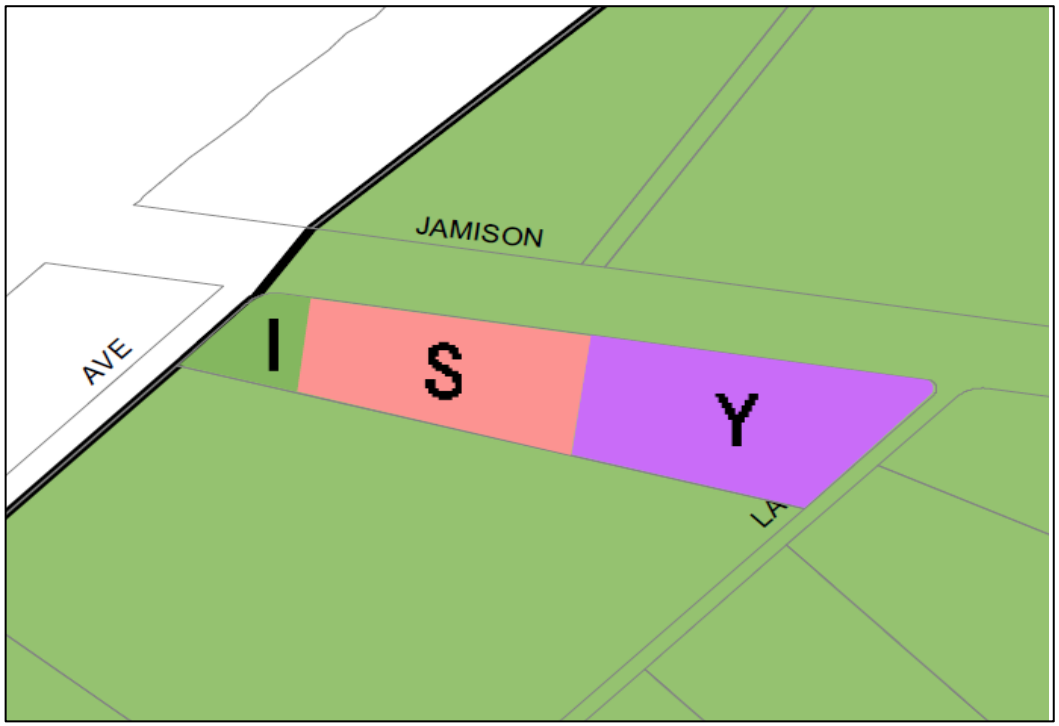


Heritage Map



Proposed Height Controls

Winter Sporting Facility



Height Zone Location	Height (metres)	Annotation on LEP 2010 Height of Buildings Map
West	8.5	I
Central	24	S
East	54	Y

Penrith Local Planning Panel

Advice

PLANNING PROPOSAL REF	RZ18/0009
PLANNING PROPOSAL DESCRIPTION	Planning Proposal RZ18/0009 to facilitate a Winter Sporting Facility at 2-4 Tench Avenue, Jamisontown
DATE OF LPP MEETING	Wednesday 22 August 2018
PANEL MEMBERS	Deborah Dearing (Chair) John Brunton (Expert) Virginia Barrios Christopher Hallam (Alternate Expert)
APOLOGY	Mary-Lynne Taylor (Expert)
DECLARATIONS OF INTEREST	

Local Planning Panel Briefing / Meeting held at Penrith City Council on Wednesday 22 August 2018.

Advise provided pursuant to Section 2.19 of the Environmental Planning and Assessment Act 1979

Planning Proposal RZ18/0009 – Proposed amendment to the building height controls prescribed by Penrith Local Environmental Plan 2010 (LEP 2010) for the property known as 2-4 Tench Avenue, Jamisontown (Lot 1 DP 38950). No other planning controls are proposed to be amended.

Panel Advice

The Panel has considered the planning proposal and the preliminary assessment prepared by Council Officers and provides the following advice:

The Planning Proposal is consistent with Council's vision for the locality, which is to provide for tourist-oriented development and related uses that are compatible with the promotion of tourism in Penrith and reinforcing Penrith's goal of being the "adventure capital". This vision is identified in various strategic policies, studies and planning controls prepared for the locality, including the Riverlink Precinct Plan (2008) and the Penrith Development Control Plan 2014 Part E13 (Riverlink Precinct).

The subject land is located in the SP3 Tourist zone, which permits the land uses sought in the proposed development scheme.

The Planning Proposal is consistent with Council's Economic Development Strategy (2017) which identifies tourism as being an important part of the economy. Tourism is a target sector of the Strategy, with a goal of creating over 2,000 jobs.

The proposed development scheme is consistent with Council's vision for the Nepean River and Tench Reserve, as it would generate large numbers of people in the locality and thereby facilitate use of Tench Reserve.

However, the Planning Proposal requires submission of additional information to allow Council officers to undertake a complete assessment of the impacts of the proposed changes.

The panel has raised concerns with the bulk and scale on this relatively small site with a large continuous building effectively 250m long with a maximum height of 54m. In considering this, the panel seeks to be consistent with the approach taken by Council for the Penrith Panthers site which has an FSR of 1:1, and site specific control. The panel recommends that a floor space ratio for the site be included in the LEP amendment and site specific controls be added in the Riverlink chapter of the Development Control Plan.

The reason why a building of this form is being considered sympathetically is because it is a unique tourist facility which is dependent on a specific gradient and height. Otherwise the height as proposed would be unacceptable for other tourist uses.

The panel agrees with the additional information as sought by the council officers:

- Urban design and contextual analysis
- Visual analysis
- Flooding and evacuation analysis
- Traffic analysis

Deborah Dearing – Chair Person	John Brunton - Expert
Virginia Barrios – Community Member	Christopher Hallam - Expert

1 Planning Proposal for Winter Sporting Facility at 2-4 Tench Avenue, Jamisontown

281 RESOLVED on the MOTION of Councillor Kevin Crameri OAM seconded Councillor Kath Presdee

That:

1. The information contained in the report on Planning Proposal for Winter Sporting Facility at 2-4 Tench Avenue, Jamisontown be received
2. Council endorse the Planning Proposal (provided separately and tabled tonight), subject to any further changes resulting from Item 4 below.
3. Council officers forward the Planning Proposal to the Minister for Planning with a request to issue a Gateway Determination. (The submission will include a request to issue Council with Delegation for plan making authority).
4. The General Manager be granted delegation to make any necessary changes to the Planning Proposal referred to in Item 2 above:
    a. prior to Council's submission of the Planning Proposal to the Minster for Planning to request a Gateway Determination.
    b. as a result of negotiated changes sought by DPE in the lead up to the issuing of the Gateway Determination.
    c. prior to public exhibition in response to the conditions of the Gateway Determination or negotiations with public authorities and other stakeholders.
5. A Development Control Plan be prepared for the subject site, to be publicly exhibited concurrently with the Planning Proposal.
6. Council publicly exhibit the Planning Proposal for a period to be specified in the Gateway Determination, and in accordance with the community consultation requirements of the Environmental Planning and Assessment Act 1979 and the Environmental Planning and Assessment Regulation 2000.
7. A further report be presented to Council following the public exhibition.

In accordance with Section 375A of the Local Government Act 1993, a DIVISION was then called with the following result:

For	**Against**
Councillor Kath Presdee	
Councillor Robin Cook	
Councillor Greg Davies	
Councillor Todd Carney	
Councillor Aaron Duke	
Councillor Karen McKeown OAM	
Councillor John Thain	
Councillor Kevin Crameri OAM	
Councillor Jim Aitken OAM	
Councillor Mark Davies	
Councillor Brian Cartwright	
Councillor Tricia Hitchen	

Councillor Bernard Bratusa
Councillor Marcus Cornish
Councillor Ross Fowler OAM

For Action: Natasha Baker - City Planning Manager

Completion Date: 10 December 2018

ADOPTED AT ORDINARY MEETING

Monday 26 November 2018

**THE TIMELY ACTIONING OF COUNCIL DECISIONS IS PARAMOUNT.
SIGN OFF COMPLETED ACTIONS AND RETURN TO RECORDS**