

3.0 ISSUES AND OPPORTUNITIES

3.1 URBAN CONTEXT

The proposed Wolli Creek Regional Park lies in the highly urbanised southern districts of Sydney not far from Sydney Airport. This bushland corridor currently acts as a distinct linear transition between the more elevated suburbs of Earlwood, Turrella and Undercliffe and the creek side suburbs of Bardwell Park and Arncliffe (refer Fig. 1).



3.1.1 Existing Status

- The Park lies in a long established suburban part of Sydney, an area of medium to low density housing mixed with industrial and commercial landholding within the Canterbury Local Government Area.
- On the northern side the Park is almost totally bordered by established housing, with some consequent impacts of stormwater run off, domestic animals, garden waste and weed invasion.
- Sydney Airport is located approximately 1km to the south-east of the Park. Aircraft are visible from the ridgelines and aircraft noise is often audible within the Park.
- Turrella industrial area is to the south of the Park, bordering Wolli Creek.
- Principal urban centres adjoining the Park are Earlwood and Bexley North.
- The site is readily accessed by public and private transport. Influence of the various transport modes is evident with the close proximity of the East Hills Railway line and major arterial roads.

The rail corridor runs parallel with the Park on the south side of Wolli Creek. Stations adjacent to the Park running east to west include Turrella, Bardwell Park and Bexley North. The future Wolli Creek station will increase this number of stations adjacent to the Park.

The proposed amplification of the rail corridor includes two additional tracks and new bridges at Hartill-Law Avenue and the confluence of Wolli and Bardwell Creeks.

The major arterial roads to the west and east are Bexley Road and Princes Highway.

- The construction of the M5 East freeway, a four lane linking the M5 at Beverly Hills to General Holmes Drive at Sydney Airport, is currently underway. It comprises a tunnel from Bexley Road to Marsh Street, south of the Park and associated infrastructure including several air intakes and a ventilation outlet to be located in the Turrella industrial area adjacent to the Park. As part of the M5 East development the RTA has made a commitment to provide a regional cycleway linking to existing bicycle networks.
- Road and vehicle movements are mostly suburban in the immediate locality of the Park.
- Cross connecting roads, Hartill-Law Avenue and Bexley Road are the two significant roads from which the Park can be viewed. Views of the western end of the Park can also be had from Slade Road (refer Fig.6).
- The Park has a strong east west orientation with few cross links or substantial downstream access links to the Cooks River or the adjoining Bardwell Valley.
- Views to and from the Park are extensive within the district from ridgelines, key lookout points and train line (refer Fig.6).
- Approximately 46% of the regional population are overseas-born of non-english speaking backgrounds. Of the sample area covered by the telephone survey the majority of respondents:
 - had no children
 - were in paid employment
 - were long term residents
- A number of prominent buildings in the locality are also visible from the Park including those of the Turella Industrial Estate and the local Catholic School at Our Lady of Lourdes.

3.1.2 Community Perceptions and Issues

- The telephone survey indicates that 82% of those living within 15 minutes drive to the Park see it as a district / regional destination.
- There was much community support in the workshops for the Park to be seen as a tranquil location within its busy urban location.
- Whilst the M5 East has been re-aligned to avoid the valley much concern still exists that the associated ventilation outlet (the stack) to be located outside the Park, will have major bearing on the enjoyment and use of the Park, particularly in visual and air quality terms.

- Some community members have also expressed concern at the impact of the proposed rail amplification on Wolli Creek itself.

3.1.3 Discussion

It is evident from visiting the site and from frequently expressed community attitudes that the proposed Park, now saved from the future M5 East construction, will play a critical local and regional role in the recreational, educational and environmental values and resources of south west Sydney.

With respect of the Park's urban context the critical principles for future planning and management will include:

- Improved visibility of the Park to the passer by from rail and road.
- Improved environmental and recreational links to adjoining urban areas.
- Expectation that the Park will be safe and enjoyable to use without polluting impacts from the ventilation outlet.
- Potential for wider regional access and use of the Park via public transport, particularly by rail.
- Reduced impacts on the Park of activities on neighbouring properties.

3.2 ENVIRONMENT AND CONSERVATION

The greatest proportion of the Wollie Creek Regional Park is comprised of bushland, which although affected by previous activity within the site and surrounding landuse, remains broadly intact. The combination of bushland, creek, mangroves and wetlands provides a valuable natural environment in an urban context.

3.2.1 Existing Status

Native Vegetation (Refer to Fig. 2)

- The regional park site supports several remnant plant communities including:
 - *Sydney Sandstone Gully Complex community 10ag*: (Benson, 1994) characterised by Smooth-barked Apple (*Angophora costata*), Blackbutt (*Eucalyptus pilularis*), Sydney Peppermint (*Eucalyptus piperita*), Red Bloodwood (*Eucalyptus gummifera*) and Turpentine (*Syncarpia glomulifera*).

On shallow rock outcrops and ridgelines, thickets of Tick Bush (*Kunzea ambigua*) are also dominant.
 - *Closed-forest community*: a small remnant of this community (a sub category of the Sydney Sandstone Gully Complex 10ag) occurs adjacent to Wollie Creek in the western end of the park. This remnant is characterised by Coachwood (*Ceratopetalum apetalum*) and Water Gum (*Tristaniaopsis laurina*).
 - *Mangroves and associated saltmarsh communities*: (Estuarine Complex 4a (Benson, 1994) occur on the banks of Wollie Creek downstream of Turella, Henderson Weir.
 - *Freshwater wetland*: one remnant wetland (offstream) survives upstream of Hartill Law Avenue although is threatened by active weed invasion. The remaining creekline vegetation within the freshwater sections of Wollie Creek is dominated by exotic species.
- There are limited direct corridor connections to Bardwell Valley, Stotts Reserve and Cooks River as these points are obstructed by existing infrastructure (eg. roads and rail links).
- Numerous ecological and archaeological studies have been carried out throughout the site particularly covering flora and fauna, waterways, Aboriginal and European history of the valley and bush management.



- Regeneration of bushland has been carried out in the site since 1984 by various groups such as National Trust and community groups.

The most active regeneration work undertaken by the National Trust has focussed on the terrestrial plant communities between (and including) Girrahween Park and Nanny Goat Hill.

Some community based regeneration work has been recently undertaken in the vicinity of Illoura Reserve. Revegetation and bird habitat reconstruction work is being undertaken within the NSW State Rail easement leased to the Friends of Wolli Creek.

- Bushland regeneration works (particularly those undertaken by the National Trust between Girrahween Park and Nanny Goat Hill) have improved the condition of the core bushland remnants relative to their assessed condition in 1984 (National Trust Bushland Survey). In other areas of the park, the condition of bushland has generally declined below that assessed by the National Trust in 1984. This is primarily due to an absence of any active bushland regeneration works and the presence of unmitigated degrading influences.
- Council weed control practices (spray control) are active along most street frontages to the park and the boundary recreation areas. Slashing practices on some bushland boundaries are encroaching into remnant bushland.
- No active vegetation management (apart from some joint plantings in selected locations) is being undertaken along the southern boundary of the park (Rail Easement) although opportunities for developing longterm co-operative vegetation management exists.

Introduced Vegetation

- Introduced species or cultural plantings are evident in areas adjacent to the Creek around Turrella Reserve. Species include Willows (*Salix* sp), Poplars (*Populus* sp.) and Coral Tree (*Erythrina* sp.).
- Introduced native species, non-endemic to the region, occur in areas of recent bush regeneration in the eastern section of the Park and around the recreation facilities in Girrahween Park.
- Weeds are a large problem in the bushland, creekline, railway corridor and ridges. Dominant invading species include Privet, Lantana, Blackberry, Crofton Weed, Wandering Jew, Morning Glory.



- Introduced species also impact from surrounding residential areas due to garden escapes and the disposal of garden cuttings occur where residential properties adjoin the open space.

Some noxious weed species occur with the park such as *Ludwigia peruviana*.

- The most problematic areas for weed management include:
 - the immediate banks of Wolli Creek due to nutrient enrichment, sediment loadings and the uncontrollable nature of material transported by the creekline
 - stormwater discharges due to nutrient enrichment and elevated soil moisture levels
 - residential and park boundaries due to diffuse source nutrient enrichment and poor vegetation management practices ie. broadscale spraying
- Within the wetland, mangrove and saltmarsh communities, the main threat from exotic species is from the vine species (threat to canopy), grasses such as Kikuyu (*Pennisetum clandestinum*) which can smother saltmarshes, and invasion of saline areas and reedbeds by spiny rush (*Juncus acutus*).



Fauna

- The bushland supports a wide variety of native bird species, and some migratory species which are protected by the Japan-Australia Migratory Birds Agreement (JAMBA).
- Records for native birds are the most comprehensive fauna records available for the park and the Wolli Valley.
- The bushland within the park provides food, shelter, nesting sites and migration routes for more than 25% of the bird species recorded in NSW (Neil Rankin, 1989).
- The most common mammals recorded in the region (catchment of Cooks River) includes Common Brushtail Possums and Grey Headed Flying Foxes. Microbats are occasionally recorded and Bush Rats may still occur in site adjoining the park.
- Domestic and feral animals can be found within the Park. Local residents currently use the bushland and reserves for dog walking.

Air Quality

- There are no major arterial roads adjacent to the Park and few residential roads border the Park boundaries, therefore the levels of road pollution do not appear to be high.
- There is minimal impact from Sydney Airport.
- There have not been recent bushfires in the Valley.
- The proposed future M5 Motorway ventilation outlet is located in the Turrella industrial area adjacent to the Park and the impact on air quality is subject to its development.

**Water Quality**

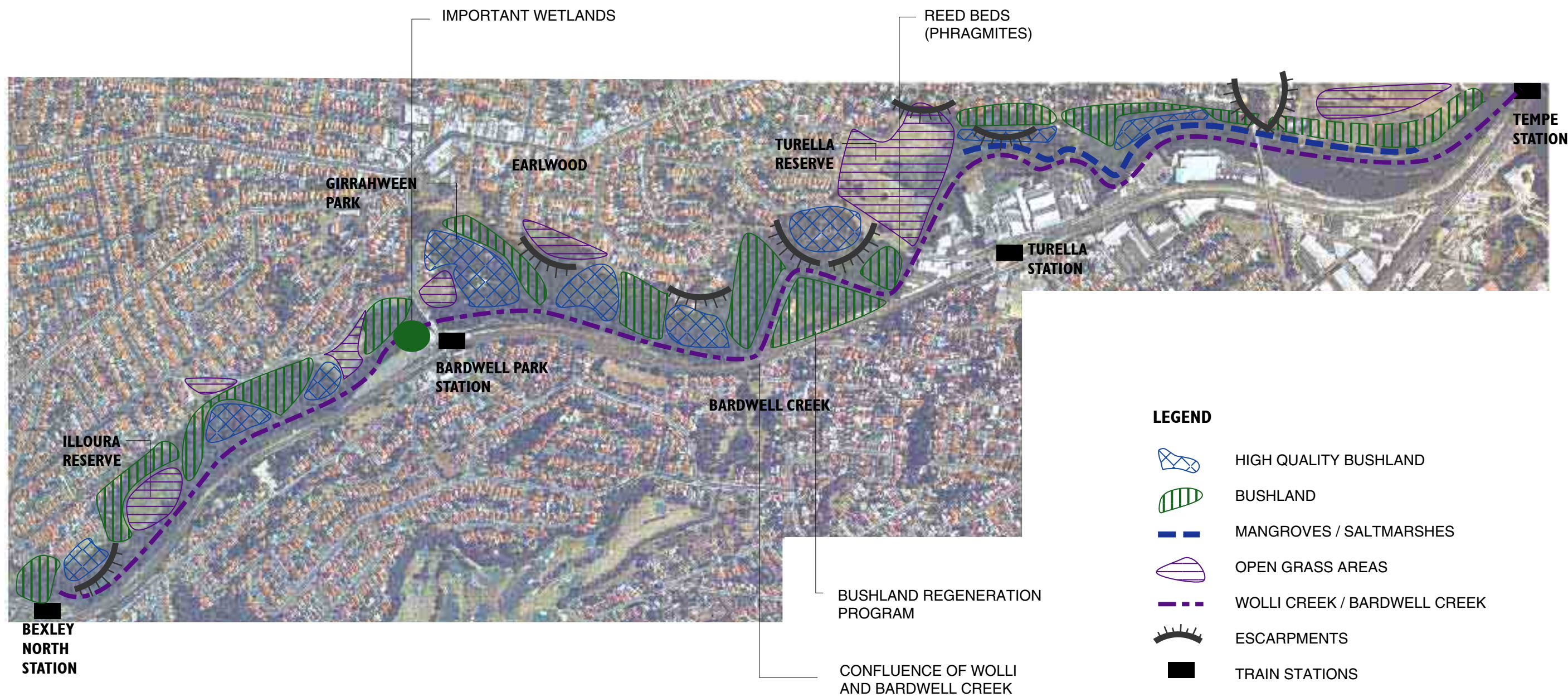
- The Henderson Street weir separates the salt water regime from the fresh water. This possibly promotes the establishment of mangroves on the banks of the Creek downstream from the weir.
- The surrounding residential and industrial areas are major diffuse sources of stormwater which affect the creek.
- Diffuse sources and point sources upstream bring an influx of rubbish and weed invasion.

Previous Land Uses

- Past uses of the site such as Chinese market gardens, piggeries may have resulted in changes to soils, vegetation and grades.

3.2.2 Community Perceptions and Issues

- The community believes it is a priority for the protection and restoration of the natural qualities of the site.
- Important for existing wetlands and saltmarshes to be protected.
- Management of regeneration works to provide correct regeneration practices.
- Bushland focus such as walks are recognised as a need for the Park.
- Concern that domestic and feral animals such as dogs and cats could be a problem for the native fauna and flora. There appears to be mixed views in the community on unleashed dog areas, both from the survey and amongst local residents.
- There is concern within the community that the future M5 East ventilation outlet will have an adverse impact on air quality within the Park.



wollibardi creek regional park
ENVIRONMENT AND CONSERVATION
 FIG.2

3.2.3 Discussion

Unquestionably the most evident values of the Park are its natural attributes. Whilst many of the flora and fauna habitats and communities remain largely intact, the focus of the future management of the Park must necessarily place a strong emphasis on regeneration and enhancement of the Park's natural systems.

With respect to the Park's environment and conservation the critical principles for future planning and management will include:

- Need to consolidate and conserve existing quality habitats and communities particularly bushland.
- Opportunity to work progressively from best quality to worst.
- Importance of connections to wider web of natural environments, especially canopy connections.
- Provide refuges for fauna in undisturbed areas of Park.
- Ensure longterm maintenance and enhancement (where appropriate) of the Park's biodiversity.
- Ensure that bushland and park management activities minimise impact on fauna habitat.
- Co-operative vegetation management is critical with adjoining property managers (Council, Private, Rail, Sydney Water).
- Air quality, need for assurances not affecting park uses.
- Opportunities for non-government agencies to continue work in the area.



3.3. NATURAL AND CULTURAL HERITAGE

The site now occupied by the proposed Wollie Creek Regional Park has had a long and intriguing history dating back to Aboriginal occupation, through early European settlement of the area to more recent events.

Whilst the site has seen many significant threats during the 20th Century, paradoxically, the Park may have been saved from residential development by the very nature of the long standing road easement. As the area is now to be conserved its rich natural and cultural heritage can be acknowledged.



3.3.1 Existing Status

Refer to Figure 3.

Natural Heritage

- There are several examples of recumbent cross-bedding throughout the Park, one of the largest examples is located in the eastern end below Highcliff Road.
- Sites and features of natural heritage and interest include:
 - extent of urban bushland
 - fern gully east of Girrahween Park
 - spectacular sandstone outcrop and associated vegetation of Nanny Goat Hill located at Turrella Reserve
 - mangroves along the creek downstream of Henderson Street weir
 - remnant stands of Blackbutt forest (*Eucalyptus pilularis*) in Girrahween Park
 - remnant freshwater wetland upstream of Hartill-Law Avenue
 - Wave Rock



Aboriginal Heritage

- Aboriginal heritage items include numerous rock shelters and two middens. Many of these rock shelters have been identified in the sandstone cliffs.
- It is possible that a number of Aboriginal items or sites are yet undiscovered or masked due to past activities such as land filling which was undertaken in the Valley at irregular intervals between 1950 and the present.

European Heritage

- Numerous investigations have been conducted in the area by Wollie Creek Preservation Society to locate the physical remains of sites associated with the European occupation of the area.
- The region has a history of stone quarrying, market gardens, grazing, timber, light industry and farming. There are numerous items reflecting these past uses. Key items of local or regional significance include:
 - *Stone Quarry*: located east of Turrella Reserve and below Highcliff Road was operational in the early 1900s and has resulted in an excavated area of approximately 4000m².
 - *Jackson Place Stone Cottages*: The cottages, located adjacent to the Park were built in the early 1900s by William Jackson.
 - *Pool*: located between Girrahween Park and Turrella Reserve, the cement lined pool constructed in the 1920s is partly excavated into a sandstone outcrop overlooking the Creek and valley.
 - *Drainage pools*: located in Girrahween Park were constructed in the 1920s.
- Minor historic items of note within the Park include:
 - a dry stone wall in the eastern section of the Park which may have separated the Campbell and Jackson properties in the 1800s
 - remains of an earth jetty through the mangroves east of Turrella Reserve
 - Henderson Street Weir
 - various remnants from King and Parry Farms such as building foundations, iron plated, brick and cement tanks, and troughs cut into bedrock
 - the adit is a tunnel cut into the sandstone on the western side of the sewage pumping station near Unwin Street, Undercliffe and may have provided access to the sewer lines
- Past uses of Turrella Reserve include market gardens. Remnants of a market garden include a dipping well, coral tree plantings and evidence of field boundaries (Madden and Muir, 1996, *The Wollie Creek Valley, A History of Survival*, Wollie Creek Preservation Society, Earlwood).



National Significance

- *South Western Suburbs Sewer Aqueduct*: located at Unwin Road, Undercliffe at the far eastern end of the Park, it was constructed in the 1890s across Wolli Creek and is included in the Register of the National Estate for its significance in engineering.

**3.3.2 Community Perceptions and Issues**

Generally there is extensive knowledge of the history of the site within the local community but its wider recognition and understanding in the area is limited.

- Workshop and steering committee participants agreed that discretion needed to be applied to some heritage sites.

Natural Heritage

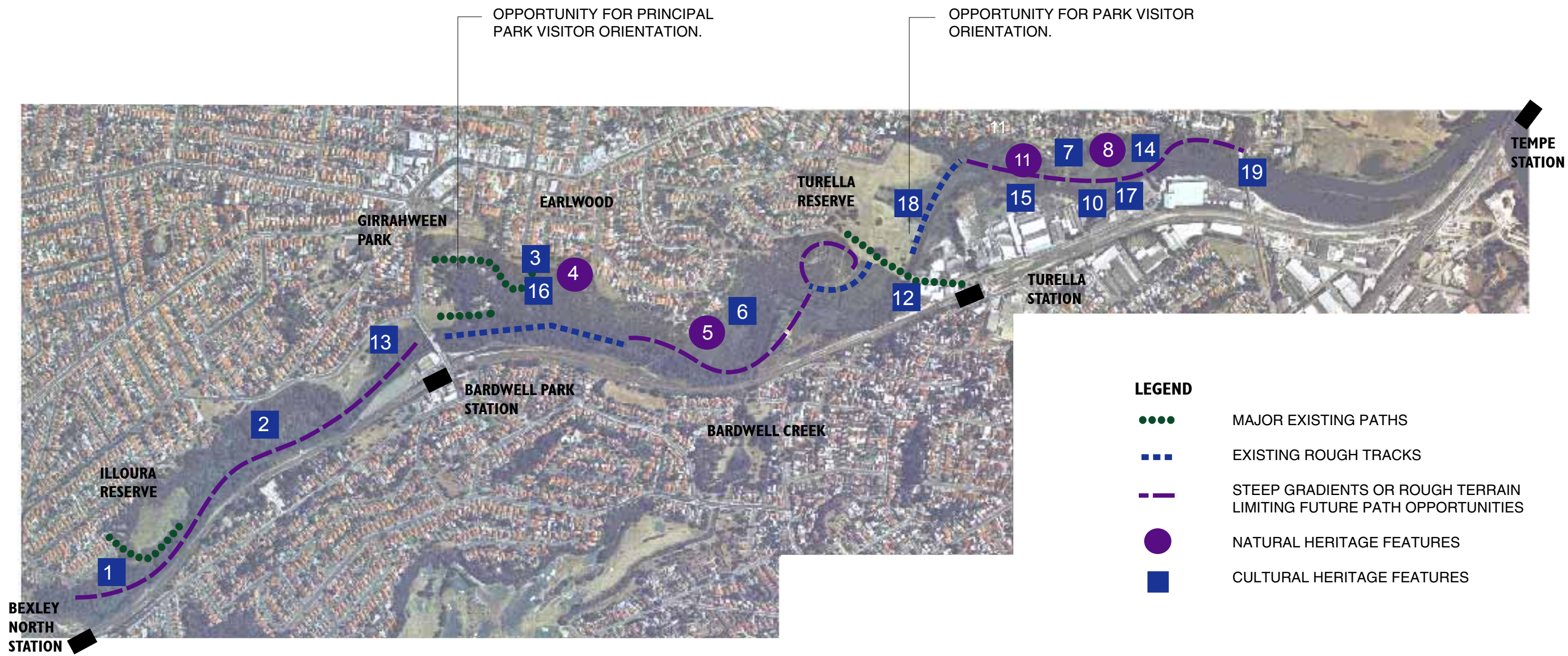
- Strong consensus in the community that all natural heritage items should be managed, protected, conserved and interpreted.

Aboriginal Heritage

- The Aboriginal heritage was acknowledged by the local and regional communities as extremely important to the area and an understanding of its origins; it should be protected and interpreted.
- There was strong emphasis from the community workshops that the interpretation of Aboriginal heritage should include input from the traditional owners of the land, the Darug people and the Metropolitan Lands Council.















European Heritage

- All agreed that heritage items are a significant and positive attribute of the site and need to be protected and interpreted.
- Many participants agreed heritage items adjacent to the Park should be acknowledged and included in the interpretation strategy.



LEGEND

- MAJOR EXISTING PATHS
- EXISTING ROUGH TRACKS
- - - STEEP GRADIENTS OR ROUGH TERRAIN LIMITING FUTURE PATH OPPORTUNITIES
- NATURAL HERITAGE FEATURES
- CULTURAL HERITAGE FEATURES

- | | | | | | | |
|---|---|---|--|---|---|---|
|  |  |  |  |  |  |  |
| 1 Bowen's Camp | 3 Entrance to Girraheen Park | 5 Sandstone Outcrop | 7 Jackson Place Stone Cottages | 9 Drystone Wall | 11 Jackson Quarry | 18 Turrella Market Gardens |
|  |  |  |  |  |  |  |
| 2 King's Farm | 4 Ferngully | 6 Swimming Pool | 8 Recumbent Cross-bedding Wave Rock | 10 Jetty | 12 Henderson Street We | 19 South Western Suburbs Sewer Acqueduct |
| | | | | | 13 Parry Farm | |
| | | | | | 14 Adit Tunnel | |
| | | | | | 15 Market Gardens | |
| | | | | | 16 Drainage Pools | |
| | | | | | 17 Shelter | |

3.3.3 Discussion

Major elements within and adjacent to the Park have the potential to create an important regional heritage and visual focus.

With respect to the Parks natural and cultural heritage the critical principles for future planning and management will include:

- Conservation, management and protection of significant geological features, natural systems and cultural heritage relics.
- Improved visibility to many heritage items from adjacent areas.
- Potential for the Park to have a strong educational and interpretation role.



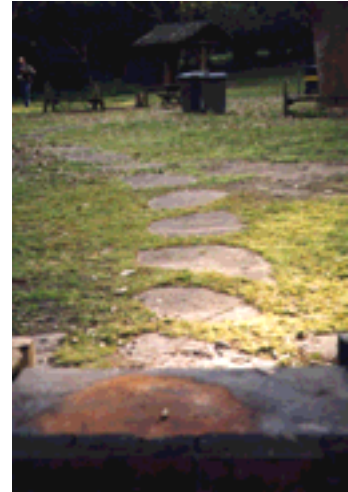
3.4 RECREATION AND LEISURE

Although not formally designated as a park Wollie Creek has enjoyed high levels of recreational use from local and regional users.

Currently the site has little formal open space or recreation development. However there is a diversity of recreational areas and uses within the linear park including enclosed and open bushland, open reserves and council managed and maintained play areas (refer Fig.4).

3.4.1 Existing Status

- As a large part of the Park is urban bushland a recreation focus in bushland experience exists such as bush walking and birdwatching.
- There are two existing recreational focuses in the Park, at Girrahween Park and Turrella Reserve.
 - *Girrahween Park* incorporates an access road, an amenities building, picnic and BBQ facilities in a bushland setting.
 - *Turrella Reserve*, located at Turrella Station is currently used for unstructured recreation and some local community events. It includes play equipment and BBQ and picnic facilities.
- Few formal footpaths exist throughout the site and therefore the area is generally underutilised or rarely visited by the regional community.
- There are several areas of council managed play equipment located at Turrella Reserve, SJ Harrison Reserve and north of Girrahween Park.
- Sandstone escarpments between Girrahween Park and Turrella Reserve are presently being used for rock climbing.



3.4.2 Community Perceptions and Issues

- Respondents of the telephone survey indicated the main activities in the Park consisted of:

- walking	73%
- passing through on foot	31%
- bird watching	23%
- picnicking	19%
- children's play	19%

- Workshop participants indicated the major issues and opportunities related to recreation and leisure consisted of:
 - high support on a natural focus for recreation
 - hierarchy of paths and accessibility through the site
 - retain unstructured nature for Turrella
 - need to provide information and orientation signage as there is presently a lack of signage at entrances and through the Park
- Workshop participants suggested that future play equipment should be new and creative rather than the standard plastic equipment used throughout council parks.
- A few participants considered there was a potential for structured recreation facilities such as tennis courts at Turrella Reserve. Other participants considered there were adequate facilities within the area. 63% of the telephone survey respondents supported the use of the park by organised sport and 31% disagreed. This was generally one of the lowest priorities for the Park.
- 81% of the regional community, represented through the telephone survey, supported a cycle path. The community believes cycle facilities within the Park must consider the potential clash between pedestrians and cyclists and the impact on bushland and sensitive landscape areas.
- Many participants supported an area and a regular program for community arts/ social and cultural events.
- There was support within the community for possible recreational water opportunities such as boating and swimming.
- A recreation management plan should be a focus for the planning process.
- As indicated by the respondents of the telephone survey main priorities for recreation to be considered in future planning were:

- children's play areas	87%
- walking trails	85%
- cycle paths	81%
- bird watching facilities	78%
- picnic areas	78%
- Study Centre	83%
- adequate car parking	79%



- The qualities or characteristics which were strongly supported by participants of the telephone survey included a place to appreciate the beauty of nature, relax, get some physical exercise, a place with historic value, for community gatherings and for scientific education or study.
- Workshop participants indicated that the infrastructure for rock climbing was damaging the sandstone escarpments.

3.4.3 Discussion

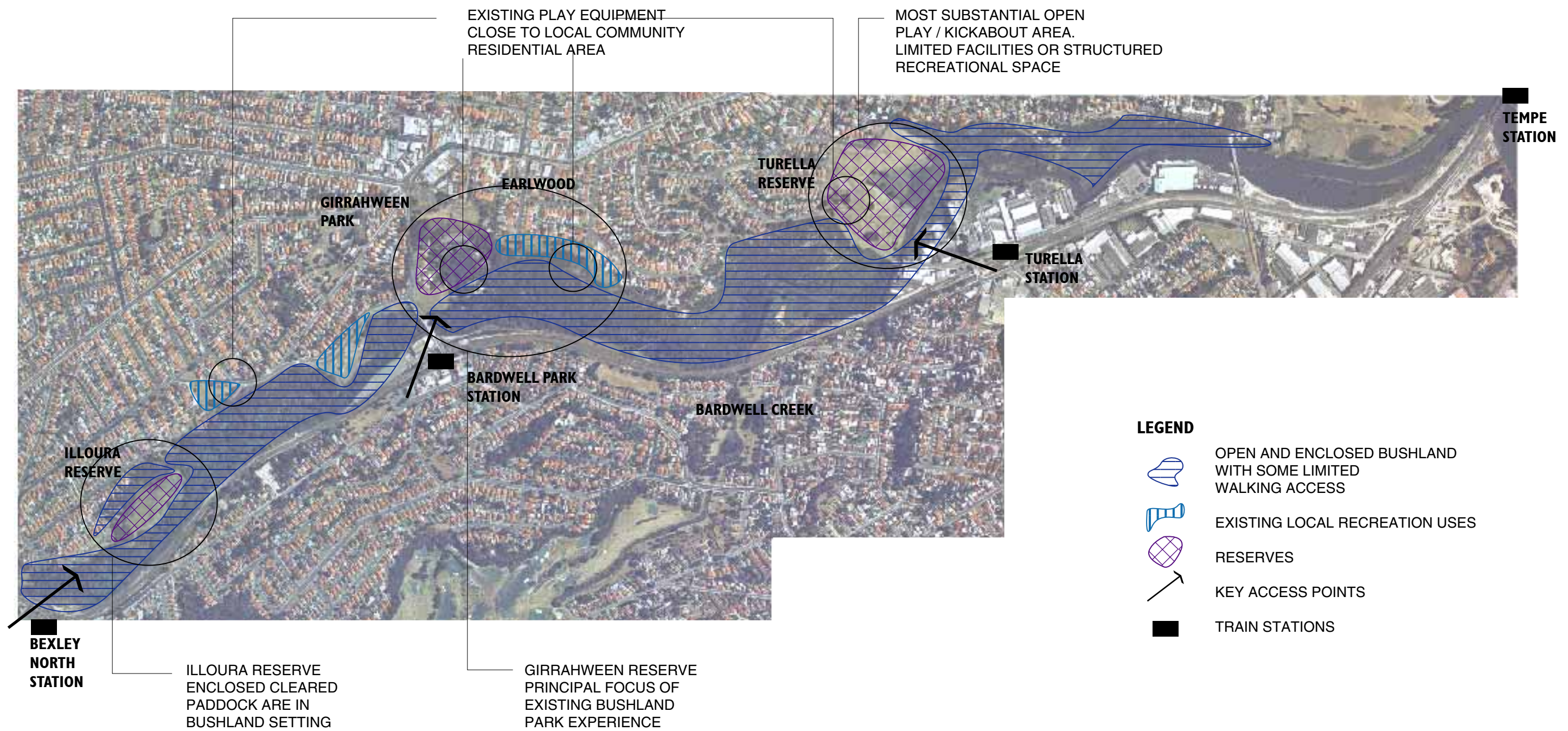
Given the regional nature of the Park it is critical to define an appropriate recreation focus that meets both local and regional needs.

There would appear to be an opportunity for an improved balance of movement oriented and destination-based recreation within the Park.

The principles for future planning and management with respect to recreation and leisure will include:

- Creating a recreational focus for the Park that has at its core the enjoyment and educational benefits of the site's natural values.
- Importance of linear movement through the Park but acknowledging the existing constraints of the site and its sensitive environments which may determine a variety of approaches and opportunities.
- Promotion of activities within the Park that meet the diverse needs of the community and are appropriate to the bushland and creek setting.
- Increased focus on access to and enjoyment of the creek itself through paths, informal canoe launching sites etc.
- Ensuring that recreation facilities are sited in appropriate settings within the Park.





wolli creek regional park
EXISTING RECREATION AND LEISURE
 FIG. 4

3.5 CIRCULATION AND ACCESS

In a highly urban setting, a very linear park necessarily attracts high levels of use, both as a destination and as a crossing route. Whilst the extensive boundary length of the Park generates impacts on its natural system it does however provide extended local and regional access opportunities where these are carefully planned and managed.

3.5.1 Existing Status

Public Transport

- There are several train stations within walking distance of the Park and will provide the major public transport links. These include:
 - Tempe Station
 - Turrella Station has direct access to Turrella Reserve
 - Bardwell Park Station has close access to Girrahween Park
 - Bexley North Station
- Central Station is a twenty minute train trip from Wolli Creek Valley.
- The proposed Wolli Creek Station located between Turrella and Tempe stations will provide a direct link to Sydney Airport and further increase the number of stations adjacent to the Park.



Private Vehicles and Parking

- Vehicle access to the park is limited to the surrounding residential streets with only one formal vehicle entrance at Girrahween Park.
- No formal parking exists within the Park.
- There are several existing parking areas in close proximity to the Park. Parking areas at Bardwell Park Station and the Bardwell Earlwood RSL and Earlwood shops are in walking distance to Girrahween Park.
- Wide verges along Bray Avenue and Johnston Street also provide informal parking.

Pedestrian and Cycle

- Local and regional links and connections are not generally formalised within the Park. Extensive use of Girrahween Park has defined popular routes within the bushland.

- Footpath access is limited through the entire Park due to a number of issues including:
 - limited formalised entry or access points
 - steep topography
 - barriers, such as impenetrable bushland or weeds, train line corridor, proposed sound attenuation walls
- There is limited creek crossings with only two small pedestrian bridges between Turrella Reserve and Henderson Street and at Girrahween Park.
- There is limited access to the creek and key vantage points.
- The RTA has made a commitment to provide a regional cycleway as part of the M5 East development. The proposal includes a regional off-road cycleway. The generally preferred route for the off-road cycleway is adjacent to the Park, north of the rail corridor and south of the Creek. This route requires further investigation at Turrella Industrial area due to existing constraints particularly given land ownership and the limited space to the west of Turrella Station.
- There is no existing strategy or hierarchy of entrances, paths or signage.

Service and Emergency Access

- There are no formal or extensive emergency access routes through the Park.
- There are existing service easements through the Park, however there are no formal service access routes.

3.5.2 Community Perceptions and Issues

Public Transport

- Workshop participants considered the promotion of public transport access to the park is crucial, particularly given the limited provision for parking.

Pedestrian and Cycle

With respect to cycle and pedestrian paths key issues raised included:

- Need to create local links between Bardwell Valley and Stotts Reserve.
- Need to provide disabled access paths and facilities such as accessible toilets, BBQs, tables and seats and key areas of the Park.

- Need to improve safety within the Park for those entering and moving around the Park.
- Need to formalise walking trails for education and interpretation purposes.
- Importance of limiting access to some areas of the Park to protect existing natural and cultural heritage items.
- Consideration of new access opportunities such as boardwalks through mangroves.
- Need for improved water access for viewing and boats.
- Transit links for cycling should be provided, but many concerned at potential impacts of cycling in sensitive parts of the Park.
- The wider community surveyed through the telephone survey, 81% supported the option for a cycle path within the Park although the type was not specified.

Private Vehicles and Parking

Key perceptions raised in the community workshops included:

- Consideration of multiple access points to the Park, rather than major entrances to disperse parking.
- Important that future parking does not impinge on the Park itself.

3.5.3 Discussion

Given the context and linear nature of the Park there are ideal opportunities to exploit public transport and, through its promotion, minimise the need for car access.

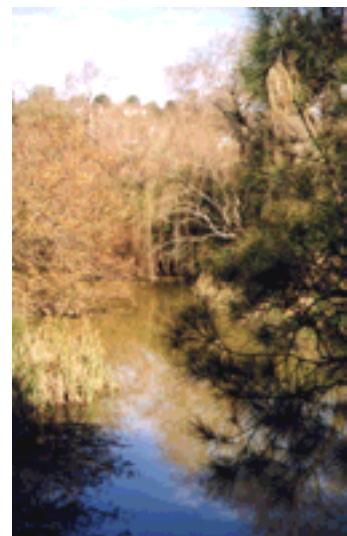
Likewise, from a local perspective a network of footpaths linked to the adjoining street system and regional cycleways will greatly improve access to and enjoyment of the Park.

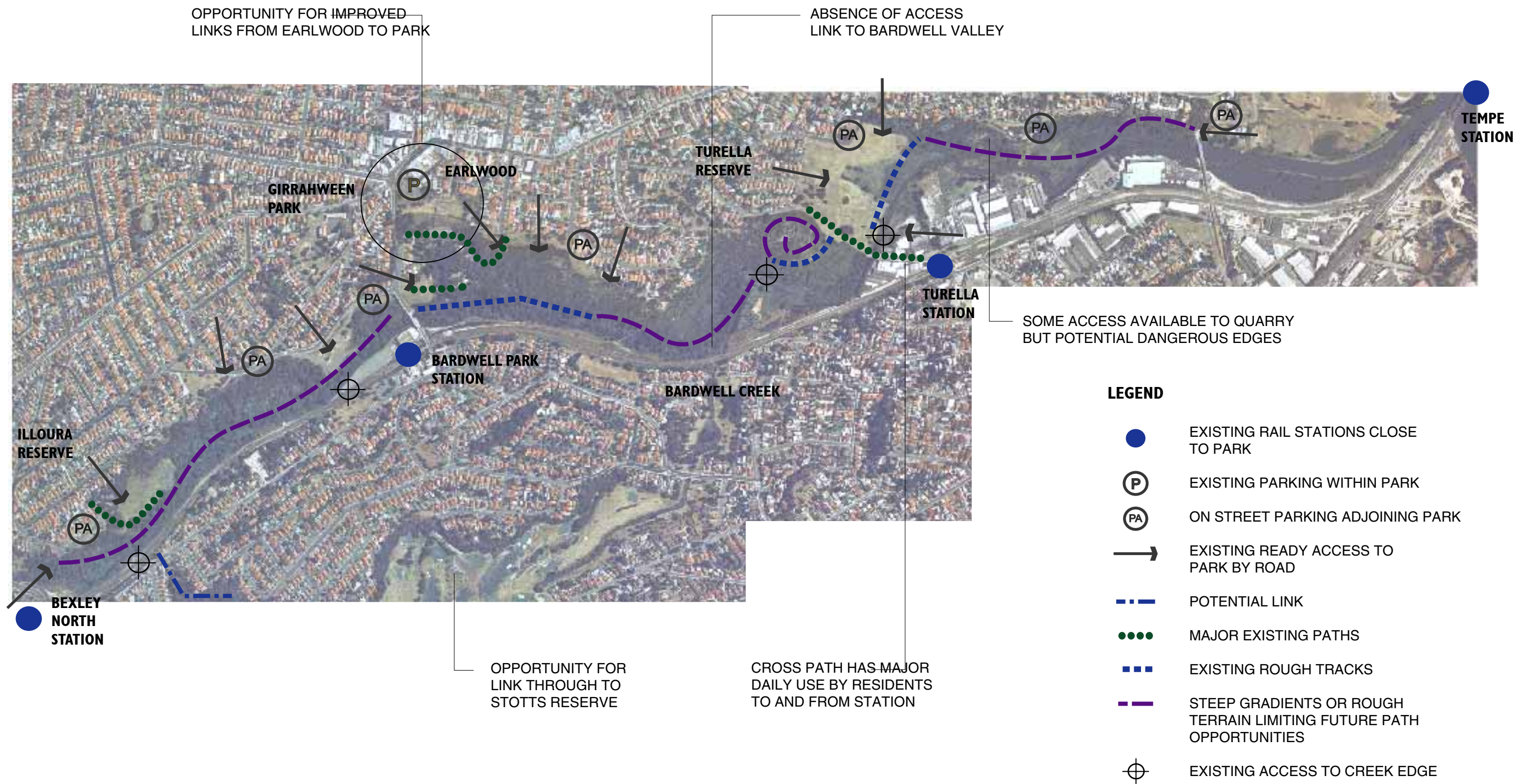
The steep topography and nature of bushland precludes extensive barrier free access through the entire length of the Park and up and down the escarpment without compromise to the environment. In such instances a practical approach to limitations is essential.

Short and long term cycle routes will need to be considered with emphasis on the protection of key vegetation areas; this may mean that much of the RTA cycle route lies outside, but close to the Park.

With respect to the Park's circulation and access the critical principles for future planning and management will include:

- Promote / cross promote public transport to the site.
- Establishment of a range of path types and loops, particularly orientated to access from and to the train stations.
- Maintain emergency and service access without extensive construction within the Park.
- Ensure that cycle path types, sizes and locations are compatible with the Park.
- Improvement of access to the water.
- Cater for events and activities with service temporary parking and access
- Access for disabled should wherever possible be designed to be evidently for that purpose to improve visual aspects and engender a sense of common need and use.





wollie creek regional park
EXISTING CIRCULATION AND ACCESS
 FIG. 5

3.6 VISUAL QUALITY AND LANDSCAPE CHARACTER

The highly elevated nature and dramatic topography of the Park provides many local residents and Park visitors with extraordinary views of the creek and the Park with its extensive bushland. The opportunity to conserve and enhance both the viewpoints and the view seen will do much to promote and define the Park to its wider community.



3.6.1 Existing Status

Visual Quality

- The landscape is defined by the sandstone escarpments and vegetation associations.
- Visual experiences within the Park vary from enclosed rainforest gallery and limited views to the Creek, through to open bushland and expansive views from the ridgeline and high points such as Nanny Goat Hill.
- Visual features of particular qualities may be summarised as:
 - excellent distant views (especially from Nanny Goat Hill, Rocky Knoll at Unwin Street, end of Wavell Parade, the old stone quarry and the bridge at Henderson Street weir)
 - sandstone rock escarpment between Girrahween Park and Turrella Reserve
 - recumbent cross-bedding, for example Wave Rock
 - mangroves and saltmarshes in the eastern section of the Park
 - fern gully east of Girrahween Park
 - high quality bushland between Girrahween Park and Turrella Reserve
 - historic features such as stone quarry, entrance to Girrahween Park, aboriginal shelters, swimming pool
- Visual detractors requiring attention include:
 - weeds obscuring much of the Creek and bushland areas
 - dumping of rubbish in the bushland and open reserves
 - rubbish in the creek
 - Henderson Street weir
- Nanny Goat Hill and particular areas along the ridgeline provide panoramic views over the Park, creek and to the city skyline and Botany Bay.
- The Park incorporates an area of special qualities and a wide variety of landscape characters.



- There are good visual connections to adjacent open spaces such as Bardwell Valley and Stotts Reserve from the ridgeline.
- Close proximity of the rail corridor provides opportunity for visual access to the Park and Creek.
- Opportunities exist for high public exposure to the Park from Turrella Reserve, Bray Avenue, Slade Road Reserve, and Bardwell Valley.
- Limiting existing visual access to the site from the roads, and rail corridor

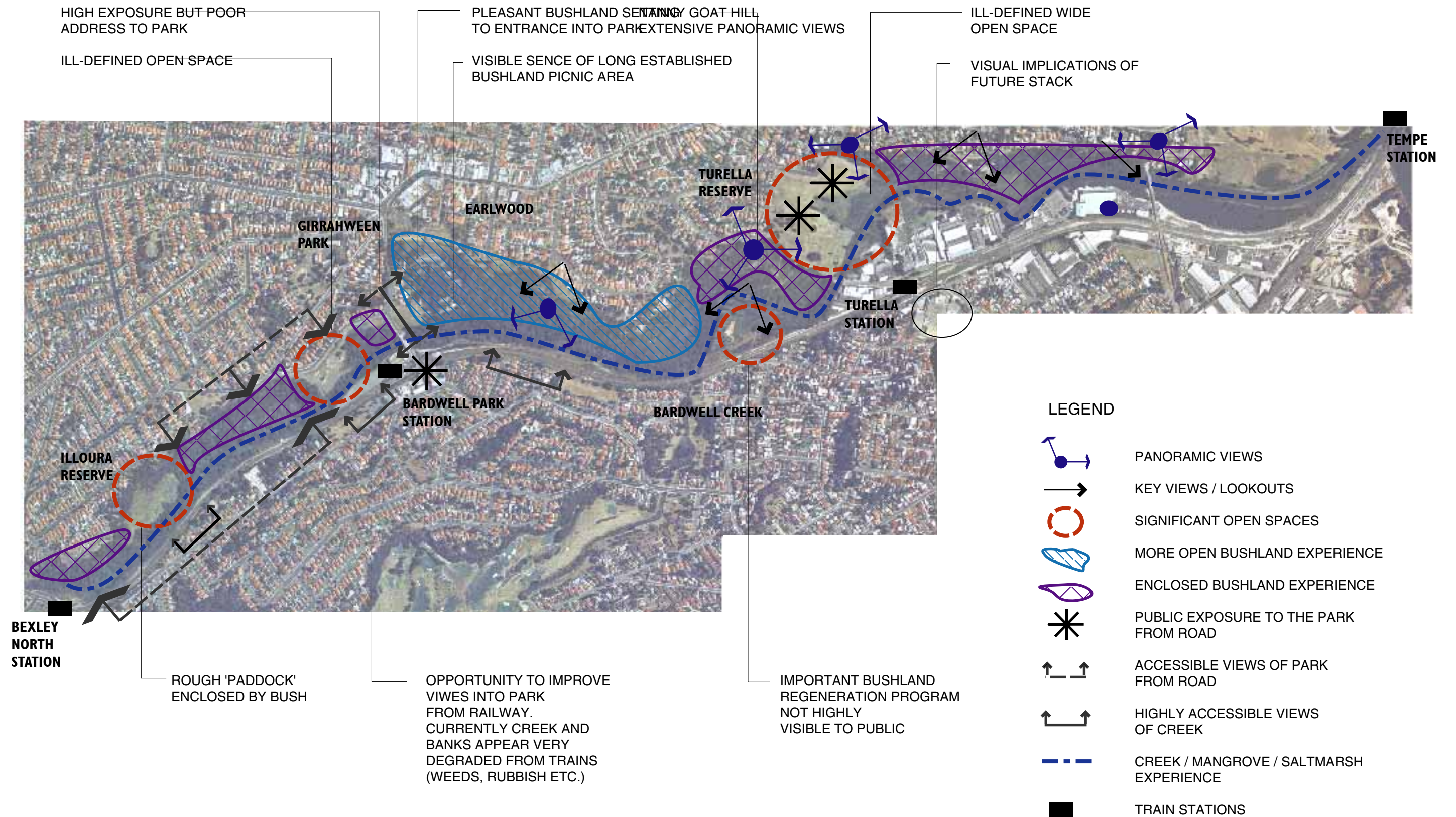
Landscape Character

- Landscape types within the Park are shown in Figure 6 and include:
 - significant open spaces at Turrella Reserve, Illoura Reserve and Harrison Reserve
 - open and enclosed bushland experience
 - creek experience
 - mangroves and saltmarshes

3.6.2 Community Perceptions and Issues

Words used by many in workshops indicate the strong scenic qualities of the Park.

- Future M5 ventilation outlet will have a visual impact on the Park and surrounding area and is a cause of much concern in the community who sees this as a blight on a landscape they have saved from the freeway.
- The visible profile of the Park should be extended to passers by on road and rail.
- There is no exclusive support for a major entry statement for the Park.
- There is a negative visible profile of the Park from the rail corridor as the weed and rubbish invasion of the Creek is apparent.
- There is an absence of a visual integration of disparate settings to create a single Park.



wolli creek regional park
VISUAL QUALITY AND LANDSCAPE CHARACTER
 FIG. 6

3.6.3 Discussion

The site already offers many diverse natural and man-made features of great value for a Regional Park.

It is crucial to maintain a high visual quality to the Park and the protection of the panoramic views over the valley from the higher points in the Park will greatly enhance the visitor experience.

With respect to the Park's visual quality and landscape character context the critical principles for future planning and management will include:

- Conserve and enhance key views.
- Improve visual profile to the passer-by and the regional community.
- Reinforce a strong visual image for the Park within the wider community.
- Maintain views from rail corridor, roads and bridges.
- Enhance visual connections to surrounding open spaces such as Bardwell Valley and Stotts Reserve.
- Ensure any construction of elements within the Park (paths, facilities etc) are in keeping with its setting.



3.7 BUILDINGS AND INFRASTRUCTURE

3.7.1 Existing Status

- A number of major services run through or are adjacent to the site and are identified on Figure 7. These services include:
 - Sewage including South Western Suburbs Sewer Aqueduct
 - sewer lines extend from Girrahween Park east through Turrella Reserve to Unwin Road
 - railway corridor and several stations and future-VFT
 - Stormwater pipes
- The site is readily accessible by public transport with the East Hills Railway Line running parallel to the Park on the southern boundary. Several stations are adjacent to the site (refer Circulation and Access) and provide key opportunities for the development of focal and activity areas in the Park.
- In association with the amplification of the railway line is the proposed use of sound attenuation walls. The amplification of the railway includes two additional tracks alternating on the north and south side of the corridor and new bridges at Hartill-Law Avenue and the confluence of Wolli and Bardwell Creeks.
- There is a range of existing infrastructure and facilities within the site and include BBQ, picnic, amenity and play facilities in several locations. Key locations include Girrahween Park (amenities, car access, picnic, BBQs), Turrella Reserve (play facilities, picnic and BBQ) and SJ Harrison Reserve (play) (See Fig.7).



3.7.2 Community Perceptions and Issues

- Importance of ensuring all construction / maintenance of service infrastructure does not damage the Park and its values.
- General preference that building infrastructure is kept to a minimum footprint, but there was strong support within the telephone survey and the community workshops for infrastructure associated with education and promotion of the Park.
- Strong support in the community workshops of the retention of views from the train line. The majority of participants believed the impact of the existing train line was minimal.

3.7.3 Discussion

The provision of building facilities such as picnic shelters, toilets and community/ information centre that meet appropriate location, built form and character requirements can do much to enhance the visitors experience.

Any future proposals for the Park must be mindful of the major services in the area and their implications for Park development options. Of particular concern is the potential impact of the proposed AGL gas service line.

The principles for future planning and management in respect to the Park's building and infrastructure will include:

- Assessment of environmental impacts of existing infrastructure.
- Importance of ongoing liaison with statutory authorities to minimise impacts, but ensure necessary access.
- Review of the quality and location of all existing park infrastructure such as furniture, playgrounds, BBQs and signage.
- Exploring options for the use / re-use of existing amenities in areas already provided for or in non-bushland environments.
- Review of service needs of the Park (eg. water, three phase power etc).



3.8 PROMOTION, INTERPRETATION AND EDUCATION

There are many features of this site that give it a regional value that are not currently well presented or interpreted to a wider community.

As a new Park there is a need for visitors to be able to find their way around and importantly to understand its origins and history.



3.8.1 Existing Status

- Amongst the regional community surveyed by telephone, two-thirds were aware of the bushland which makes up the Regional Park. Nonetheless many of the residents within the regional community are unaware of the quality of this resource in terms of natural and cultural heritage and recreational values.
- The Park has a rich and vibrant history from earlier Aboriginal associations through to recent community action, yet there is no existing interpretation of natural or cultural heritage items within the Park.
- There is limited co-ordinated entry, direction and information signage within the Park. Nor is the Park location indicated anywhere locally (on street signs or at train stations or urban centres).
- The remnant bushland and creek, geology, and cultural heritage within the Park provides an invaluable educational resource. There are up to 120 schools within the local and regional area some of whom currently use the Park.

3.8.2 Community Perceptions and Issues

- Community and telephone survey participants were in agreement of the need for information throughout the Park which directs people through the Park, identifies what recreation opportunities are available and tells the story of the place.
- Within the community workshops and telephone survey (95% of participants were in agreement) there was strong agreement for an educational role within the Park such as school field studies.
- The community strongly supported the need for improved entry, directional and interpretive signage in the Park. Key interpretive focus encouraged include:
 - natural environment for school groups and the general public
 - interactive play
 - Aboriginal and European history of the site
 - cultural heritage items

- Most of those consulted envisaged opportunities for a program of events in the Park. At present Turrella Reserve is used occasionally for community events, such as festivals of the wind and art events.
- There is opportunity for wider promotion and cross promotion of the Park.
- Opportunity for a program of guided walks. Presently community groups provide guided tours through the valley.
- There is an opportunity for the incorporation of educational guided walks, education facilities such as a field study centre within the Park. Presently community groups provide guided tours through the valley.

3.8.3 Discussion

There is a strong sense of ownership of the Park within the local community. With improved promotion and interpretation that sense of ownership can be readily broadened to a wider catchment.

Presently the total absence of a co-ordinated orientation, interpretation or promotion strategy needs to be addressed.

The long and illustrious history of the area is not currently interpreted for the community in any form on the site. A carefully developed interpretation strategy will be essential to a successful outcome for the Park.

The regional quality of the natural, cultural and historical dimensions of the Park are significant values in the Park's development and would greatly expand the Park experience, helping to create a memorable visit and a place of value and pride for the community.

With respect to the Park's promotion, interpretation and education the critical principles for future planning and management will include:

- Wider regional promotion with links to cross promotion.
- Resource for schools and community centres with better facilities.
- Cross promotion opportunities with other community recreation organisations such as Centennial Park or the Zoo.
- A carefully developed interpretation strategy and a coordinated hierarchical signage strategy.
- Program of events and art / cultural programs.

3.9. PLANNING AND MANAGEMENT

As a new Park under new ownership there are many aspects of the site's planning and management that require re-organisation and co-ordination.

Management and planning of resources is integral to the success of the Plan of Management and the strategies developed.

As with many such Plans of Management there is a need for a critical review of all parties to the management of open space, recreation, natural systems, infrastructure and cultural heritage of the area.

Such a review must consider not only the physical management of the resource but as importantly the administrative structures and their respective working relationships. The role of the community interests will also be an important consideration in this respect.

3.9.1 Existing Status

- The majority of land is currently owned by Council, State Rail Authority and DUAP with the intention that all land will fall within the overall control of NPWS. The exact extent of ownership transfers and division of care, control and management are the subject of ongoing negotiations between NPWS and Canterbury Council, amongst other parties.
- Presently the care, control and management of the area is largely by Canterbury Council.
- Management of the area of bushland in the area has been carried out by various groups under the control of Councils with groups such as the National Trust and community groups such as Wollie Creek Preservation Society and Friends of Wollie Creek.
- There are numerous State Government Departments and authorities with interests in the area, however no formal liaison structure currently exists to co-ordinate such interests.

3.9.2 Leases and Licences

Currently only one lease lies within the park boundaries. This is a lease between the Friends of Wollie Creek and the SRA for bushland management for bird habitat protection on the triangle of land between the creek and the rail line West of Turella Station.

The lease for a peppercorn fee is on a simple reciprocal annual review by either party and has no formal expiry date.

The Friends have indicated that they would be happy to rescind the lease if the land is to be part of the Park with the understanding that they could continue to assist NPWS in bushland management.

Where future uses of the Park may require leases or licences these must conform with the regulations of the National Parks and Wildlife Act 1974 and its regulations.

3.9.3 Community Perceptions and Issues

- There is concern within the community in regards to the boundaries of the future Regional Park. Some believe that Wollie Creek should be included in the Park and the boundaries should be extended to include Stott's Reserve and Bardwell Valley.
- There is support in the community for the future involvement of community groups with the National Parks and Wildlife Service and Council in the future planning and management of the Park.
- Participants of the community workshops indicated strong support for education in bushland management for neighbouring residents.
- There were mixed views within the community workshops for the management of dogs within the Park in respect to on or off leash in open areas. All agreed it was not appropriate for dogs to be off-leash in bushland.



3.9.4 Discussion

Given the local and regional interest and involvement with the area at present there is possible opportunity for shared management of the Park.

It would be critical for the community to be involved in future planning and implementation of future strategies and this should be managed to capitalise on the extensive work already carried out by many groups over the years.

With respect to the planning and management of the Park, the critical future principles will include:

- Co-ordinated long term bushland management.
- Definition of roles for community organisations in ongoing liaison with NPWS.
- Improved definition of the Park's regional role within the Sydney Metropolitan Open Space System.
- Potential for cross-marketing with other regional parks.
- Continuation of structured liaison with Government and statutory authorities during the Park's development.
- Co-ordination with local Council's to develop guidelines on dog management within the Park.
- Need for guidelines on leases and licences.