Improving Health & Liveability for a Resilient Uralla

znet Uralla Shire

LFA Landscape Foundation of Australia

Funding credit:
NAB Foundation Community Grant Program



Acknowledgment of Country: We acknowledge the Traditional Custodians of the land that is now the Uralla Township, the Anaiwan people, and recognise their long and sacred connection to Country. We pay our respect to their Elders past, present and emerging.

Introductory Message

The focus of ZNET Uralla's 'Greening Uralla' project is to support initiatives that improve the liveability, beauty, resilience and biodiversity, and to lower carbon emissions in our shire. Our projects to date have included a 1200 tree give-away to shire residents, with a focus on planting along the western side of homes to provide shade and cooling. The 'Adopt-a- Tree' program in which residents are committed to looking after trees planted on the verge in front of their property to provide shade for people walking along the street. Our 'Nooks & Crannies' program is increasing biodiversity in 14 sites around town of Uralla.

When Emeritus Professor Linda Corkery, a founding director of the Landscape Foundation of Australia, approached us to partner with the Foundation on a project addressing the liveability of urban landscapes during heat events, we were delighted to join with them. We hope that this project deepens residents' understanding and appreciation of the need for actions to be taken now to provide an environment that supports a healthy lifestyle and sustainable environment for the near future.

Carol Shantal, President, ZNET Uralla
ZNET Uralla

ZNET Uralla Shire is a not-for-profit community group working to educate the shire's residents and businesses on how to lower their energy needs and costs as well as understand the emissions embedded in food and materials waste streams. Also that the wise use of water, combined with a landscape rich in bio-diversity, are critical to the liveability of our communities.

Vision: A sustainable Uralla Shire in a sustainable world.

Mission: To assist the people of Uralla Shire to come together to build resilience as we transition to a regenerative and sustainable way of living that minimises demand for resources, maximises health of the community and environment, whilst proactively responding to future challenges.

Introductory Message

In May 2022, the Landscape Foundation of Australia (LFA) received a NAB Foundation Community Grant to fund a community-based project in Uralla: “Keeping Uralla Summers Cool.” In partnership with ZNET Uralla, the purpose of the project was to expand the community group’s understanding of the impacts of increasing temperatures and extreme heat events on human health and the local environment.

During three workshops, the group identified strategies to build community resilience and actions to ensure the safety, comfort and health of Uralla residents during hotter conditions. They also realised there were broader issues of liveability to be addressed beyond ‘keeping Uralla cool.’ It was, therefore, agreed that the final report would be titled “Improving Health & Liveability for a Resilient Uralla.” This report documents the process of engaging with a committed group of community members to generate ideas for the design of improvements to Uralla’s streetscapes, public open spaces, and the general environment. It recommends five priority actions, one of which is developing a Uralla Cooling Action Plan. The other proposed actions relate to increasing the Shire’s environmental sustainability, which will support the Cooling Action Plan as well as improve the conditions for a healthy and liveable Uralla in the coming decades.
On behalf of Louise McKenzie and myself, sincere thanks to ZNET Uralla President Carol Shantal and Heidi McElnea, ZNET’s Communications coordinator for their support during the project. We also thank workshop members who contributed their ideas, expertise, time and carried out assessments during the project: Peter Low, Robert Hughes, Megan Robinson, Elizabeth Gardiner, and new Uralla resident, Murray Stocks.

Linda Corkery | Director, Landscape Foundation of Australia

LFA Landscape Foundation of Australia

The Landscape Foundation of Australia is a not-for-profit organisation that supports the protection, restoration and sustainable management of natural environments and landscapes that occur in and around Australian cities and towns. Our focus is on the human-nature interactions in open spaces, reserves, parklands, areas of native vegetation and riparian corridors, facilitating community-based projects that protect valuable local ecological systems and encourage inclusion and equitable access for all community members.

Vision: People and nature thriving together.
Mission: To support research, education and community initiatives focused on urban landscapes.

Executive Summary

The “Keeping Uralla Summers Cool” (KUSC) project was undertaken through a collaboration between the Landscape Foundation of Australia (LFA) and ZNET Uralla. Funded in June 2022 by the NAB Foundation Community Grants, the project has focused on identifying the challenges posed by climate change to community health and liveability of the Uralla township, and preparing strategies and identifying actions that can be taken to address the challenges.

The project has emphasized the use of ‘urban greening’ to prepare for the increased temperatures, extended heatwaves, and occasional extreme heat events that are predicted to become more frequent and severe as a result of climate change. Through the community engagement process there was increased awareness that climate change adaptation formed part of the wider issue of liveability of Uralla for residents and visitors. The proposed actions identified through the KUSC project address this broader issue, of which adaptation to climate change is a major part.

Through the process of engagement and identification of actions, those community members involved in the project now have a deeper understanding of the issues that need to be addressed and a program of actions that can be taken to address them. Some of these actions can be taken by those individuals or community groups, while others will require collaboration with Uralla Shire Council and potentially other government organisations. The outcomes of the KUSC project will help facilitate a collaborative and constructive working relationship between community members, Councillors, Council officers and the wider community of Uralla Shire.

It is evident from the energy and high level of engagement with the project demonstrated by thos community members who attended the three public workshops, that Uralla has a significant number of committed and capable residents who are keen to work in collaboration with Council and other members of the community to improve the liveability of Uralla.

This report will be of particular interest to community members who attended the workshops, as well as others in the Uralla community who wish to contribute to improving the liveability of the township and surrounding settlements. It will also be of value to Uralla Shire Council to assist in understanding the issues of particular concern to community members in relation to health, safety, and liveability of Uralla. This understanding will provide the foundation for a collaborative approach to address the issues in a planned and coordinated process over time. Potential projects and programs identified in the Report mostly relate to streets and roads throughout the town, parks and open spaces, sports and recreation facilities, schools, health care and community facilities.

Vision: *The Shire of Uralla provides a healthy, safe and liveable environment that supports a resilient community of residents.*

FACTORS THAT SUPPORT OPTIMISM FOR ACHIEVING THIS VISION, INCLUDE:

- Active, capable and committed community members who are keen to collaborate with Uralla Council and others to improve the health and liveability of Uralla and surrounding settlements.
- Opportunities to expand the implementation of small-scale projects by active, committed community volunteer groups.
- New residents who are attracted to the current environment and the potential for greater liveability in Uralla.
- New and successful commercial and community enterprises in and around the township.
- Development of renewable energy projects around Uralla providing employment and economic activity to attract new residents, along with other related industries.
- Commitment of Uralla Shire Council to several current projects that will make a positive contribution to the liveability of the township. These include the upgrading of the "legacy parks"—The Glen, Rotary Park and Pioneer Park—bicycle paths construction, and the Racecourse Lagoon Reserve ecological restoration project.

THE CHALLENGES TO ACHIEVING THIS VISION INCLUDE:

- A changing climate—at both global and local levels—that is bringing higher summer temperatures and potentially more frequent, more intense and longer duration heatwaves, as well as wetter and colder winters
- Shifting demographics for Uralla Shire represented by an ageing population and potentially more citizens dealing with chronic disease
- Limited availability of funding from traditional sources, particularly for capital works construction and maintenance
- Decreased availability of housing options, both ownership and rental.

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1 Introduction

1.1 THE PROJECT

The news reports of heatwaves, severe flooding and dramatic wildfires sparked by extreme heat and ultra-dry conditions during the Northern Hemisphere summer of 2022 presented a picture of one “unprecedented” weather event after another. In June 2022, when the “Keeping Uralla Cool” project was launched, it was hard to imagine that Australia could also be facing these higher temperatures in the coming summers. This was because during the previous two years of La Niña weather conditions Australia had generally experienced greater than average rainfall and cooler temperatures, in some cases leading to large-scale, destructive flooding. But these wide variations in extreme weather conditions have been predicted by scientists for decades.

The Australian Bureau of Meteorology (BoM) reports that the summer of 2018-2019 was Australia’s hottest summer on record. BoM records show that over the past 30 years, Uralla has experienced an increasing number of ‘hot days’, which are days when the temperature reaches above 30oC. The town has also experienced an increased number of ‘heatwaves’. There is general agreement among climate scientists that the increases in average annual temperatures and more incidents of extreme heat events in cities and regions around the world are indicators of climate change.

Some Australian regions and major cities have experienced these higher-than-average temperatures in recent years. Research in universities across the country has been tracking these changes and monitoring their impacts on human health. An effective response is to prepare for higher temperatures by developing ‘cooling strategies’ that incorporate measures to mitigate increasing urban heat. Urban-focused research has identified the potential cooling benefits of ‘urban greening’ and ‘green infrastructure’ and the mitigation of urban heat island effects. The research also recognises the health implications of extreme heat events, particularly for people with chronic disease, the elderly and children.

Communities can increase their capacity to deal with heatwaves through a combination of measures that include urban greening: increasing tree canopy cover, carefully managing existing natural assets, identifying places that provide opportunities to create “cool” public spaces and streetscapes, and constructing shade structures.

Equally important is having a comprehensive action plan for assisting vulnerable community members when extreme heat events do occur. LFA's overall aim throughout the project has been to work with the community group ZNET Uralla to develop an action plan to present to Uralla Shire Council that can form the basis for ongoing collaboration to implement the actions through a planned and coordinated program over time.

While most research and proposed cooling strategies have been focused in densely developed urban areas of cities and surrounding suburbs, with far less attention given to regional cities and towns. With these concerns in mind, the "Keeping Uralla Cool" project was undertaken by the LFA, in collaboration with community organisation, ZNET Uralla. The primary activities of ZNET Uralla are focused on promoting a transition to net-zero energy by 2030 through a reduction in energy use and renewable sources. However, engagement in the "Keeping Uralla Cool" project has provided an opportunity for members of ZNET to expand their focus to broader issues of liveability for residents of Uralla. Consequently, the project name was modified to "Keeping Uralla Summers Cool."

As the project progressed, it became apparent that Uralla's current climate challenges relate not only to keeping the town cool in summer but also with ensuring houses can be sustainably kept warm during the winter season. With its inland location and relatively high elevation at almost 1000m above sea level, combined with an undulating topography and strong prevailing westerly winds, the concern for warming during the winter months is currently of greater concern than extreme summer heat. Additionally, during the months in which LFA was engaged in the KUSC project, Australia was in the final stages of its third year of La Niña conditions—cooler and more rain than normal. And as the project progressed, the focus of the workshops was broadened so that in the final workshop it was agreed that the working title for the project would become "Improving Health & Liveability for a Resilient Uralla."

The KUSC project team has communicated with Uralla Shire Council during the series of workshops and has worked with the ZNET members to prepare this final report. The next step is for ZNET and other community members to collaborate with Council to implement the proposed priority actions that have been identified through the workshops. These priorities relate to public facilities, open spaces, streets and roadways. Some are simple improvements that can be achieved within the scope of routine Council activities, while others will require planning, design and funding to implement them.

1.2 COMMUNITY INVOLVEMENT

This report has been prepared through significant community consultation and documents the substantial on-the-ground data collection and site observations carried out by engaged community members. The workshops involved the generation of ideas on how improvements can be made to ensure better conditions for public health and a higher standard of liveability that will help create a resilient Uralla. While the main town centre of Uralla has been a focus for the KUSC project, the assessment process undertaken and many of the specific potential actions identified, could be effectively applied in other settlements across the Uralla Shire and as well in other rural towns beyond.

The project has been led by Linda Corkery, who is a Director of LFA and Emeritus Professor UNSW, and Dr. Louise McKenzie, landscape architect with expertise on urban heat in public spaces. Linda and Louise have worked closely with the local community through ZNET Uralla; in particular, Carol Shantal, president, and Heidi McElnea, communications coordinator.



Public workshop in Uralla Community Centre

Between September 2022 and February 2023, three public workshops were held in Uralla to expand participants' understanding of the impacts of increasing temperatures and extreme heat events on human health and the local environment. The workshop group explored potential ways to adapt and manage their homes and individual landscapes, particularly in relation to the increased energy consumption associated with operating air conditioners. Additionally, the project team explored ideas for the design and management of public spaces, streetscapes, parks and open spaces, to identify how the general environment of the town can be improved to mitigate the impacts of higher temperatures and extreme heat events.

1.3 OVERVIEW OF THE PROJECT PROCESS

The three workshops were held at the Uralla Community Centre on September 18 and November 6 in 2022, and February 12, 2023. The workshops were advertised in the 'Uralla Wordsworth' online community newspaper. ZNET Uralla also promoted the workshops through Facebook, and flyers advertising the workshops were posted around the town centre. The first workshop attracted 15 participants. By the third workshop, there was a core group of people who had attended all three sessions, and one new person who had recently moved to Uralla. Each workshop covered specific content, together with associated activities, and allowed time for discussion as summarised in Table 1 on the following page.

WS	Participants	Date	Themes and Activities
1	15 people	18 Sept 2022	• getting the 'big picture' on urban heat and expanding participants' understanding of the impacts of increasing temperatures and extreme heat events on human health and the local environment • sharing personal experiences of hot weather in Uralla; and Uralla Heat survey • considering the range of strategies that could be taken to mitigate and/or adapt to more heatwaves and extreme heat events
2	8 people	4 Nov 2022	• conducting a baseline assessment of the context for heat impacts in Uralla • options for adapting and managing homes and individual properties, particularly in relation to the increased energy consumption associated with operating air conditioners • mapping public spaces, streetscapes, open spaces that could be improved to mitigate the impacts associated with higher temperatures • looking at urban cooling strategies from other towns and cities to understand what can be done in public spaces to mitigate and/or help people adapt and/or be prepared to cope with higher temperatures. • conducting a 'walking audit' (See Appendix) of several streets in Uralla—residential and main street.
3	7 people	12 Feb 2023	• review of ZNET's tree planting activities throughout the town over recent years • reports from individuals on specific sites in the town, walking audits, and collection of temperature data • focused discussion on the development of a final report documenting the workshops and presentation to Council • final document to cover 'urban greening' initiatives and a broader look at an urban heat/ cooling strategy as it relates to creating a "healthy, liveable and resilient Uralla".

Table 1. Summary of Workshops

1.4 WORKSHOPS

WORKSHOP 1

The first workshop ran for three hours on a Sunday afternoon at the Uralla Community Centre. The main purpose of the workshop was to introduce the Keeping Uralla Cool project, discuss what would be covered, and the intended outcomes of the workshops. The aim was for participants to share an understanding of the "big picture" concepts about heat and how the project outcomes could connect to other initiatives that ZNET Uralla and Uralla Shire Council had planned or commenced. The concepts discussed were also linked to high level State and Federal programs, policies, and international efforts to help citizens prepare for a changing climate, such as the United Nations Sustainable Development Goals.

The initial presentations covered information about increasing temperatures and the dangers of over exposure to UV radiation, as well as impacts on humans, animals and vegetation. The links between urban heat, extreme heat events, and the concepts of 'health', 'wellbeing', 'liveability' and 'resilience' were discussed. For most of the workshop participants, these links were well understood and acknowledged.

Experiencing Heat in Uralla

The workshop participants completed a survey about "Experiencing Heat in Uralla", which was based on a survey conducted by the Sydney-based organisation, Sweltering Cities, in the summer of 2020. (See www.swelteringcities.org.au and a copy of the survey in Appendix B.)

The workshop participants were asked about their individual behaviour and responses during periods of hot weather.

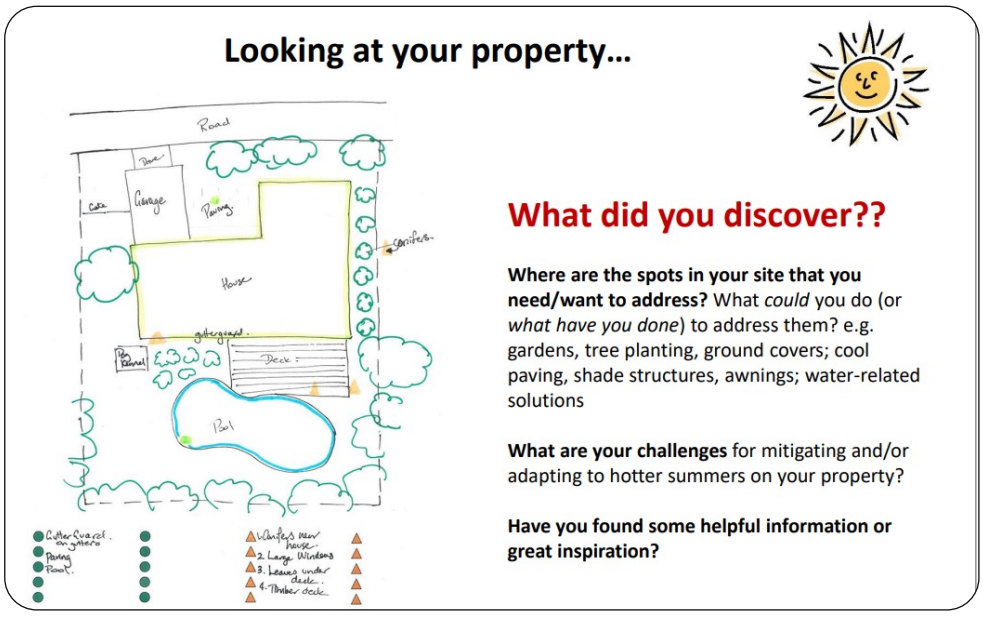


Figure 1. Analysis of residential property, hot and cold spots

The first questions gathered basic personal information that included:

- Ten people completed the survey; four were in the 46-65 years age group and six were over 65 years old.
- All respondents live in single-family homes; nine out of the ten own their home; one rents their residence.

The remaining survey questions were about personal behaviour and strategies for staying cool on hot days:

- Six people said the heat affected them “a little bit”; one “moderately”; and two “quite a bit.”
- Asked if they went somewhere cooler when it got too hot, nine people said “No”, “...my house is cool enough” while one person said they went to the park.

During hot days people reported on those activities that they avoided, which included:

- running errands
- being outside in the sun
- sporting activities
- gardening
- walking to town (e.g. for coffee or groceries)
- building projects
- exercise
- indoor projects.

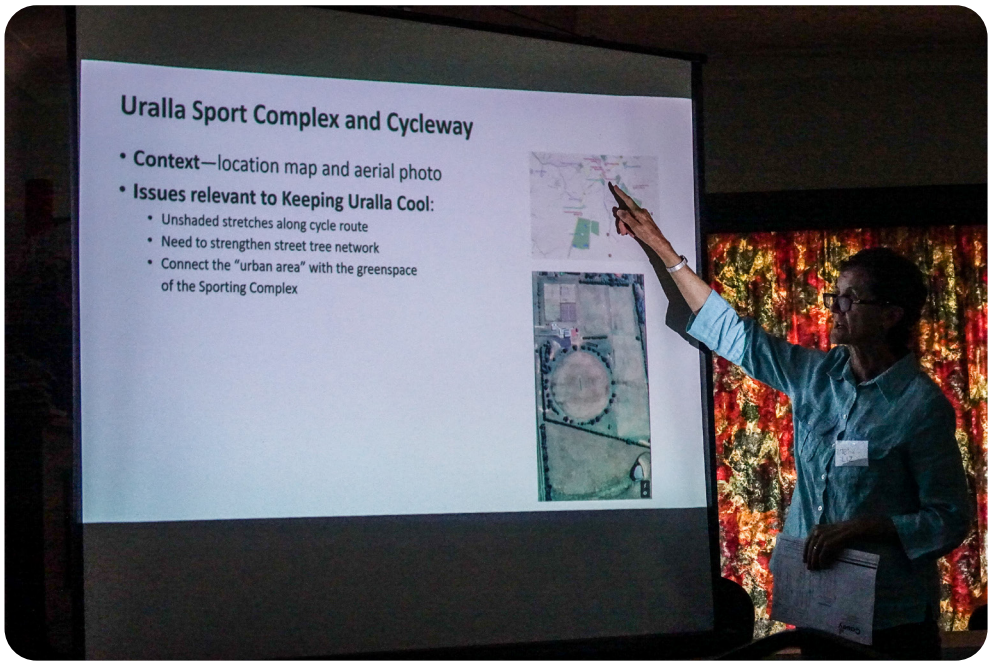
The discussion about strategies for staying cool moved from individual actions to neighbourhood-town-and city-scale actions that have been implemented in other places. Case studies and/or projects from other Australian cities and towns, focusing on public spaces, demonstrated innovations in urban design, streetscape design, open space planning, as well as building design and construction that could mitigate urban heat. Information resources about these approaches were shared and are listed with the References at the end of this report.

At the conclusion of Workshop 1, participants were given a ‘homework’ assignment to complete prior to Workshop 2. It involved drawing a sketch plan of their house and yard, identifying hot and cool spots, actions they have implemented or would like to implement to adapt their property and/or taking measures around their home to mitigate against higher temperature. Some examples of the analysis were shared by participants, and an example is shown below. Generally, the KUSC workshop participants were very familiar with most of these concepts and have made appropriate improvements to their properties.

WORKSHOP 2

This workshop was convened in early November when the weather in Uralla was still quite cool. After recapping on the previous workshop and taking time to review each other's home site plan analyses, the focus of this three-hour session was on preparing for a warmer climate by creating public spaces that enabled and encouraged more active lifestyles. Options identified included the provision of well-constructed and maintained footpaths and cycle paths that connect to major destinations and the Town Centre.

Presentation of site analysis by workshop participant



Walking Audits

An analysis method known as a 'walking audit' was introduced to the workshop group. The audit form used for this activity was adapted from VictoriaWalks, an organisation that has developed a 'walking audit' methodology for assessing urban streets. To test the methodology, the Workshop Group conducted audits in several blocks of the local neighbourhoods and the main street of Uralla town centre. The ratings recorded on the audit forms provided a picture of the general walkability of a portion of the town and identified where improvements are required.

Completion of the audit form required the workshop group members to observe details of the urban environment more closely and in particular the condition of the streetscape.

Walking audit by workshop group



The elements of streetscape that were rated included: footpaths, facilities (e.g. bus stops, benches, street trees), road crossings, volume of traffic, safety, and aesthetics. The streetscapes were rated against a defined scale:

- 0 - the best score, no apparent problems
- 1 - there are problems that would make it difficult for some people
- 2 - there is definitely a problem for some people, and
- 3 - definitely a problem for everyone.

Ideally, walking audits should be carried out by diverse groups of users, including school children who walk to school; young people who walk or bicycle around town and/or walk to catch transport to school or work, young parents with prams, residents who are walking to improve their health and fitness; and elderly people or people with disabilities needing to access local facilities and shops. The results of this limited walking audit confirm that a town-wide walking audit of Uralla would provide a valuable, community-derived analysis of the priorities for making improvements to increase walkability throughout the town.

Figure 2. First pages of the walking audit form illustrates how streetscapes are assessed & rated. Source: VictoriaWalks, victoriawalks.org.au

Victoria walks

Walking Audit Form

Names of people doing the audit:
Place / area that you're auditing:
Time of audit:

Rating scale:
0 = Great! I can't see any problems.
1 = Maybe a problem for some people - I can see a problem that would *probably* make it hard for older people, people with prams or wheelchairs or young children to walk here safely and comfortably.
2 = Definitely a problem for some people - I can see a problem that would *definitely* make it hard for older people, people with prams or wheelchairs or young children to walk here safely and comfortably.
3 = Definitely a problem for everyone - I can see a problem that would *definitely* make it hard for everyone to walk here safely and comfortably.

FOOTPATHS			
	ISSUE	RATING	OBSERVATIONS
1.	Does the footpath go the whole way, on both sides of the street, with no missing sections?		General area:
			Specific location:
2.	Are the footpaths non-slip, smooth, even and well maintained?		General area:
			Specific location:
3.	Are the footpaths wide enough for everyone to use? (e.g. someone in a wheelchair or with a pram or stroller?)		General area:
			Specific location:
4.	Is there anything blocking the footpaths? (e.g. parked cars or signs)?		General area:
			Specific location:

FACILITIES			
	ISSUE	RATING	OBSERVATIONS
5.	Is there street furniture (e.g. seating, shelters, rubbish bins) and are they in good condition?		General area:
			Specific location:
6.	Are there trees or enough shade on paths to keep you comfortable on a hot day?		General area:
			Specific location:
7.	Are there signs to guide and direct pedestrians (as well as cars)?		General area:
			Specific location:

CROSSING THE ROAD			
	ISSUE	RATING	OBSERVATIONS
8.	Are there crossings at logical places – such as opposite schools, major intersections, or shops?		General area:
			Specific location:
9.	Are there the right sort of crossings for the size of the road, and the amount of traffic?		General area:
			Specific location:
10.	Do the traffic signals allow enough time to cross the road safety?		General area:
			Specific location:
11.	Is there anything blocking your view of oncoming traffic so you can see whether it's safe to cross the road?		General area:
			Specific location:
12.	Where you cross, is the slope from the footpath to the road safe, smooth and comfortable to use?		General area:
			Specific location:
13.	Is there a safe place to stop (a pedestrian island) in the middle of big roads?		General area:
			Specific location:

WORKSHOP 3

The third workshop was held on Sunday, 12 February. It focused on reviewing the material that had been covered in previous workshops, including Council's existing strategic plans, particularly the Uralla Open Space Strategy, the Design Report for Three Parks, Uralla Community Strategic Plan (2022-2031) and how they relate to the goals of the KUSC project.

The workshop group identified potential public spaces that could become locations for 'cool oases', which included the three legacy parks projects. Priority projects that could make an impact toward improving the 'health and livability of a resilient Uralla' were also identified.



Workshop group discussing priority projects

A number of 'quick fix' actions were identified which the group felt could be implemented quickly in the CBD without great expense.

They included:

- Plant trees in the vacant spaces in the blisters.
- Keep the blisters well-watered and maintained.
- Tidy and repair the seating and shade canopy in Apex Park.
- Install LED lighting in the Breezeway and add seating
- Install 2 drinking fountains incorporating water bottle filling and animal bowls.
- Install bike racks.
- Repair watering system for street plantings.

The discussion centred on formulating the priority actions that the workshop group would like to present to Uralla Council to progress their planning and implementation.

1.5 AUDIENCES FOR THIS DOCUMENT

Uralla Shire Council

A primary audience for this report is Uralla Shire's elected councillors. It is important that the councillors receive, understand and engage with the recommendations of the KUSC project. Having participated in three workshops, ZNET Uralla is in the best position to present their ideas to Council in the spirit of collaboration, working with Council to advance them. This report, in effect, puts ZNET 'on the record' as having undertaken initial analysis of the current situation. Further, the workshop participants have carefully considered how the proposed improvements align with Council's aims and objectives, so the recommendations will be accepted and can be progressed. In the long term, the implementation of the recommended actions will help improve the health and wellbeing of Uralla residents and address the objectives outlined in the Uralla Community Development Strategy, specifically those related to "Society" and "Environment".



Uralla Community Garden at Wood Street entrance to Rotary Park

The Uralla Community

The general Uralla community, its residents and businesspeople, represent an equally important audience of potential advocates, supporters and volunteers to promote and progressively implement the proposals put forward in this report.

Other Individuals and Agencies

Other authorities and agencies that are likely to be interested in this report include NSW state agencies, such as:

- Northern Tableland MP to Federal Parliament, Adam Marshall, who is well regarded for his supportive engagement with this electorate
- NSW Department of Health (see their 'Beat the Heat' webpage at https://www.health.nsw.gov.au/environment/beattheheat/Pages/default.aspx)
- NSW Regional Development Australia/Northern Inland Region NSW
- NSW Department of Planning and Environment, Government Architects Directorate; their Urban Design for Regional NSW document, which offers supportive strategies and principles to be applied in the case of Uralla. The workshops identified specific recommendations for improvement projects in the town that need to be embedded in an overall urban design study for the town.

1.6 A MODEL PROCESS

As noted in the introduction to this report, the process followed and outcomes of the three community workshops could provide a model for engaging with the other settlements throughout Uralla Shire, and/or other towns in rural NSW. Guidelines such as the NSW Government Architect's Urban Design for Regional NSW and strategic plans produced by Council, provide direction with their high-level planning and design principles. However, those ideas need to be adapted and tested in the context of the specific conditions for individual towns or settlements. The processes undertaken in the KUSC project provide an approach to 'localising' the broader principles.

2 Profile of Uralla

2.1 GEOGRAPHIC CONTEXT

Uralla is located in the Northern Tablelands region of New South Wales approximately 180km from the east coast. The Department of Planning identifies this area as the New England North West Region. (See Figure X.) The eastern portion of the region is dominated by the Great Dividing Range and Uralla is located on the elevated tablelands at an elevation of approximately 1,012 m above sea level.

The Traditional Custodians of the lands in this area are the Anaiwan people. It is thought that the name, "Uralla", derives from the Anaiwan language and was the given to the district denoting it as a ceremonial meeting place and lookout which was situated on the top of a hill or the two hills at the town's north-western boundary (https://www.aussietowns.com.au/town/uralla-nsw).
The total area of the Uralla Shire Council is approximately 3,230 km2. Outside the Uralla town centre, other villages or settlements in the LGA include: Bundarra, Gostwyck, Bakers Creek, Rocky River, Invergowrie, Kentucky, Kentucky South, Wollun, Yarrowyck, Brushgrove, Torryburn, Abington, and Kingstown.

Figure 3. Uralla's location



Land use in the area is mostly Primary Production (75%), with Rural Landscape (20%), and General Residential (2%). Free standing houses are typical in Uralla (94%) and the highest proportion of homes in Uralla are owned outright by couples without children. Household composition comprises: 45% couples without children; 26% couple family with children; 10% single parent family. (Source: Landchecker, https://landchecker.com.au/).

The landscape around Uralla was historically cleared extensively for agricultural production and grazing and there are substantial areas of land immediately around the town devoid of trees. In the Town Centre, wide paved streets and few significant street trees contribute to uncomfortable thermal conditions when temperatures rise. There is little respite from this discomfort in the public spaces along the main street and the residential streetscapes connecting to the main street. Hotter temperatures during the summer months are occurring more frequently and are predicted to become more pronounced in coming years.

Figure 4. Uralla Town & Surrounding Landscape



2.2 SOCIAL CONTEXT

Population characteristics

(Source: Landchecker, https://landchecker.com.au/).

The total population of Uralla Shire in 2021 was 5,972 with the township of Uralla having a population of 2,743. Throughout the Shire, Aboriginal and Torres Strait Island people comprise 524 residents.

Uralla is considered to have an ageing population and the average age in Uralla was 45 in 2021. Residents in the 74+ years old category accounted for 9% of the population, with 29% in the 55-74 years old group. At the other end of the age spectrum, children and young people, 5-19 years of age, accounted for 19% of Uralla's population.

Over half (53%) of the population of Uralla was in full-time employment in 2021; another 36% was employed part-time and 6% were unemployed. Of those in employment, 83% reported they travel to work by car, 1% by bicycle, and just over 7% walk

Community Plan

The Uralla Shire Community Strategic Plan 2022-2031, is an important reference document as it confirms the commitment of Council to decision making that reflects what has been learned about residents' aspirations and preferences for Uralla's future. This information will guide Council in deciding where to focus planning and management activities, in the short-, medium, and long-term.

The four key themes that came out of the community consultation for the Community Strategic Plan included: (p.14)

1. Creating unity across the Shire
- Building connections between townships and settlements
- Expanding NBN and mobile coverage
- Developing Shire-wide signage
- Strengthening the identify of 'Uralla Shire' townships
- Opportunities for community transport

2. Managing extremes of weather and water issues
- Effects of droughts
- Impact of floods and erosion
- Damage to road infrastructure: road surfaces, causeways
- Need for proactive management of waterways

3. Harness emerging industries, support existing industries
Seasonal workers and remote work
- Farming, 'paddock to plate'
- Retaining skills and training
- Supporting small businesses
- Supporting affordability and cost of living

4. Outdoor lifestyles
- Value parks, gardens and open spaces throughout the Shire, worth investing in their upkeep
- More bike tracks, footpaths to encourage walking and cycling
- Activities for young people
- Celebrating, enhancing and protecting natural environment

Of these four themes, all are relevant to varying degrees to the KUSC project, but "managing extremes of weather and water" and "outdoor lifestyles" are particularly relevant to the focus of this report and the recommendations presented in it.

Uralla in the Future

The Uralla Open Spaces and Recreation Facilities Asset Management Plan 2022-2032 (Draft) includes a table of projected demographic trends and associated impacts on Uralla's open spaces and recreation assets (p. 11). Table 2 on the following page has been adapted from this Plan and indicates Council's current forecasts for asset management planning and funding requirements. It is noted that the projections in Table 2 will need to be reviewed and revised in response to the impacts of COVID and current state government policy on regional growth.

Demand drive	Present position	Projection	Impact on services
Population	5,971 (2021 census)	NSW Department of Planning and Environment predicts a minor annual decrease of 1.15% over the next 20 years to 5,450 in 2041.	A decrease in population is anticipated to lead to decreased use of open spaces and recreation assets.
Demographics	In 2021, the median age of people in Uralla Shire was 47. People aged 65 years and over made up 23.2% of the population	The working age population (aged 15-64) is estimated to decrease by 3,750 from 2016 to 2,900 in 2041. The number of people aged 65 and over is estimated to increase from 1,200 in 2016 to 1,700 by 2041.	A decrease in younger population is anticipated to lead to decreased us of open spaces and recreation assets. Accessible facilities will be required to meet the demands of an ageing population.
Lifestyle	Sporting, recreational and cultural activities are organised and supported throughout the Shire.	Residents will continue to require and utilise the sporting, recreational and cultural activities that are currently on offer.	Demand for open spaces and recreation facilities which support sporting, recreation and cultural activities will remain steady.
Environmental awareness	The community and Council are more environmentally aware and responsible	Energy efficiency in Council facilities will be identified as a priority	Additional resources will be required for energy efficiency upgrades to recreation facilities.
Climate	Extremes increasing	An increase in average maximum temperatures may result in increased public demand for certain open spaces and recreation assets including shade structures/shelters and tree plantings	Additional costs may be incurred to fund additional facilities or structures with increased capacity. Increased likelihood of drought conditions will result in higher maintenance cost of parks and gardens and necessitate native and/or drought resistant plantings.

Table 2. Demand factors, projects and impact on services. Adapted from the draft Uralla Open Spaces and Recreation Facilities Asset Management Plan, 2022-2023, p.11.

3 Liveability of Uralla

Liveability is a concept with many dimensions and is generally central to decisions that people make in relation staying in and/ or moving to regional towns such as Uralla. During the recent COVID pandemic, migration out of urban areas to regional towns accelerated and regional areas were considered to offer high quality liveability.

The factors that contribute to this perception include:

- lower cost of living, generally
- less expensive homes and land, more space
- less hectic daily life: less traffic, limited commuting, generally quieter
- flexibility of working and/or learning remotely
- prospering regional economies and opportunities

Environmental factors such as the typical climatic conditions of an area also are a major consideration in 'liveability'. Some people seek a warmer climate and access to the ocean—the "sea-changers", while others seek a locale that enjoys the changing seasons and has cooler temperatures—the "tree-changers".

Green open space along creek corridor



As an inland regional town situated at a relatively high elevation, Uralla is in the second category and, in fact, over the past few years has welcomed new residents to the town attracted by the notable change of seasons and the character of the landscape. The Shire experiences occasional extreme weather conditions—high

temperatures on summer days, and low temperatures in the winter with frequent frosts and windy conditions. While ZNET's energy efficiency program has focused on helping residents stay warm and comfortable in winter, higher temperatures will also create a demand on energy that is consumed to help people stay cool by using fans and air conditioners.

The increasing age profile of Uralla will create a larger number of vulnerable people in relation to health and mobility. 'Liveability' for this sector of the community will be defined by having a supportive residential environment and being able to access and safely move around public spaces. The design and maintenance of Uralla's streetscapes, therefore, will need to be planned and maintained to meet this need.

Pedestrian crossing of Bridge Steet in Uralla town centre



With the increased attraction of regional towns during the COVID pandemic, Uralla experienced increased real estate values and decreased availability of housing options, both for sale and for renting. How this situation develops will affect the standard of liveability for many residents of Uralla.

3.1 URALLA'S CLIMATE—CURRENT AND FUTURE

In 2014 researchers reported that more people had died in Australia as a result of severe and extreme heatwaves than any other natural hazard (Coates, et al.). The Peril AUS database (www.riskfrontiers.com), lists a 'natural hazard' as including bush and/or grassfires, floods, tropical cyclones, lightning, wind, hail, and rainstorms.

While extreme heat waves may lead to disastrous natural hazard events such as bushfires, they can deliver equally deadly hazardous conditions preceding the fire events. For example, the Black Saturday bushfires that occurred in Victoria in 2009 claimed the lives of 173 people as a direct result of the bushfires, while another 374 died during the extreme heat wave in the days that preceded the fires.

As noted in one of the KUSC workshop presentations, heatwaves are regarded as 'silent killers' because they are not typically associated with violent weather. The damage they can cause to health is residual, which means death can come well after the heat wave has passed. As a result of this, the actual cause of death is often difficult to determine as it is generally associated with other pre-existing health conditions in addition to the effects of the heat wave. Heatwaves present multiple health risks, for example, causing people (and animals) to suffer shock, dehydration and other illnesses. The most vulnerable community members include elderly people (over 75 years of age) and very young children. During heatwave periods, people with chronic diseases also often experience worsened conditions. Heatwaves also present risks that aren't human-related, such as transport operations, agricultural activities, energy service delivery and associated infrastructure.

During the KUSC workshop discussions about heatwaves and extreme heat, participants were advised to be aware that heat or high temperatures are not an indication of ultraviolet, or UV radiation levels. While UV rays are equally concerning, these damaging rays are related to other serious health issues. The Australian Cancer Council notes, that of the three types of UV, it is UVA and UVC that are of particular concern as they cause sunburn, skin ageing, eye damage, and skin cancer. The provision of shade—either tree canopy or constructed shade— provides the combined benefits of protecting people from UV radiation and reducing heat impacts sun exposure.

The New England region is projected to continue to warm during the near future (2020–2039) and far future (2060–2079), compared to recent years (Office of Environment & Heritage, 2014). The level of warming is projected to be on average about 0.7o C in the near future, increasing to about 2.2o C on average in the far future. The number of high temperature days is projected to increase, with

fewer potential frost risk nights. However, it should be noted that these predictions were made almost 10 years ago, the forecast temperature increases could now be even higher and should be revised.

To provide current information specifically for Uralla, local resident, Peter Low, undertook the task of monitoring daily temperature ranges intermittently throughout the summer months leading up to the final workshop in February 2023. Using his own equipment, which included temperature sensors, meters and his laptop computer, Peter collected and analysed the data from various locations in the Town Centre and surrounding residential streets. The sensors recorded the change of temperature and relative humidity throughout the day. Peter plotted this data in a series of diagrams that provide clear illustrations of how the temperature ranges throughout the day and the varies over time.

In addition, Peter used a thermal imaging camera to capture a number of typical Uralla streetscape settings, for example, along Bridge Street in the Town Centre, in residential areas with and without street tree plantings, and in Alma Park. For each location, two versions of the setting are recorded. One is a typical coloured 'snapshot' photograph and the other is an infrared image showing the variation in temperatures in the scene.

The infrared image includes 2 to 4 spot temperatures that illustrate the differences in temperature of various surfaces, which include road pavement, buildings, lawn grass and ground shaded by canopy trees. These images illustrate the microclimates created by the relationships of buildings, covered verandahs, footpaths, road pavements, lawns, garden bed plantings and dense canopy shade trees. They also show how tree shade can effectively reduce air and surface temperatures in an urban environment.

A selection of the data gathered and analyses undertaken by Peter Low for this project are presented in Appendix B of this report.

3.2 PHYSICAL CHARACTER OF THE TOWN

The Uralla Shire Open Space Strategy (2021) prepared for Council by Moir Landscape Architecture Pty Ltd, includes an analysis of the town's street layout to identify connectivity and accessibility to open spaces. It also included detailed audits of the open spaces within the town of Uralla and outlying villages and settlements. The strategy report is a useful companion document to this KUSC report because it substantiates observations from the KUSC workshop group about the lack of pedestrian and cycling connectivity throughout the town, as well as the lack of shade and amenity for pedestrians.

View to intersection of Hill Street and main street of Uralla (New England Highway)



The plan presented in Figure 5, which is reproduced from the Open Space Strategy report, clearly illustrates the strong grid pattern of Uralla's street layout and its relationship to the "green" spaces distributed throughout the town, as well as the "blue" system of drainage corridors and creek lines. The streets are all wide but the provision of footpaths varies greatly; most only have footpaths on one side or none at all; few streets have footpaths on both sides. These conditions, along with the general lack of shade provision, are detailed in the Open Space Strategy report.

The green spaces within Uralla, which include open space and recreational parks, sports fields, and playgrounds, encompass approximately 33 ha, and accounts for seven percent of the total land use area in the township (Moir 2021, p.11).

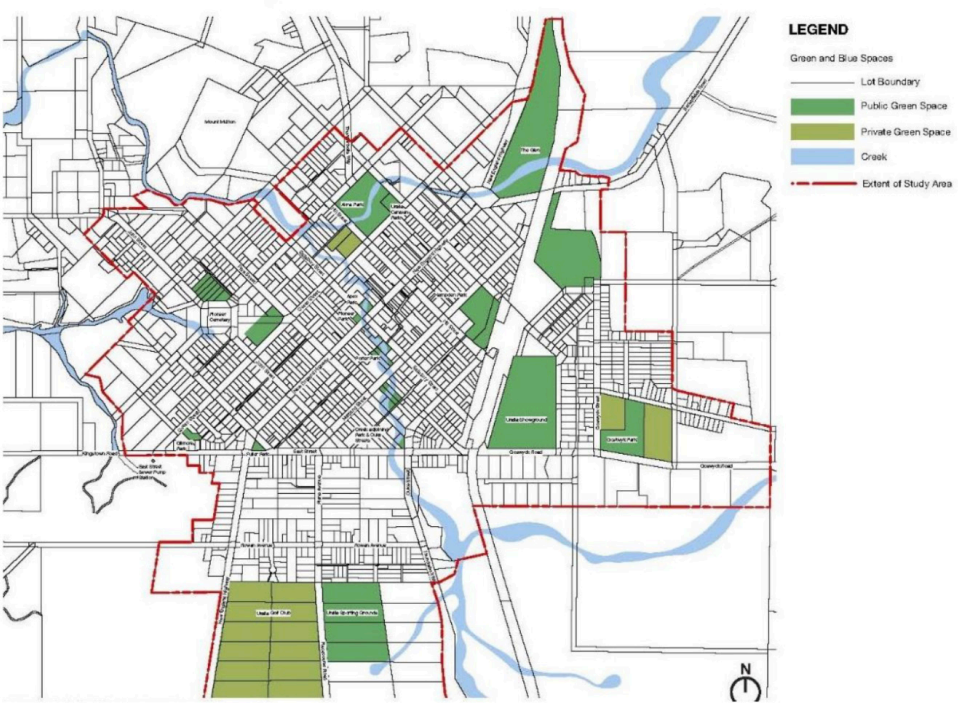


Figure 5. Uralla street layout, green open spaces & creek lines. Source: Uralla Shire Open Space Strategy (2021)

Uralla has dozens of attractive and well-maintained historical buildings, some of which have been repurposed into new commercial enterprises. Most of these buildings are located along Bridge Street, which is the town's main street and a section of the New England Highway. Other buildings are within walking distance from the town centre. The Uralla Heritage Walk attracts a considerable number of tourists throughout the year. The visual character provided by the town, for visitors driving through the centre, is that of an attractive historic rural town.

Pedestrian crossing of Bridge Street in town centre



Uralla Heritage Walk marker



Heritage buildings along Uralla Heritage Walk



Heritage building on Bridge Street in town centre



3.3 SOCIAL INFRASTRUCTURE

The Australian Infrastructure Audit 2019 identifies social infrastructure assets as “the buildings and spaces that facilitate the delivery of social services by governments and other service providers” (p.388). While many of these assets are often considered individually, and at all levels of government, the Audit points out that social infrastructure networks play a significant role in supporting Australia’s economy, liveability and sustainability.

‘The Glen’ sculpture element



‘The Glen’ wetland with trees planted by community volunteers



The facilities and spaces that are typically regarded as social infrastructure include:

- Health and aged care facilities
- Education facilities, at all levels
- Green, blue and recreation spaces
- Arts and cultural facilities
- Social housing
- Justice and emergency services.

The social infrastructure of Uralla Shire would therefore include:

- Schools
- Community Centre and associated facilities that support services such as the Community Transport programs
- Parks and green spaces
- Swimming pool
- Sports Complex
- Showground
- McCrossin's Mill Museum and performance space
- Uralla Library
- Information Centre
- McMaugh's and Grace Munro aged care facilities

Social infrastructure is not the same as "social capital." However, the physical places and spaces that comprise social infrastructure can encourage and support the development of social capital. This concept refers to the relationships and personal connections that exist among friends and neighbours (Klinenberg 2018, p.5). For example, Uralla benefits from a highly engaged community, with close to 30% of residents engaging in voluntary work through an organisation or group (Uralla Community Strategic Plan 2022-2031, Appendix A).

Entrance to Uralla High Country Markets at Showground



Uralla High Country Markets at Showground



The facilities listed above could all have the potential to contribute to the vision of a 'healthy, liveable and resilient Uralla.' For example, there is potential for some of these facilities to become 'cool oases' during heatwave conditions. There is also an opportunity to use these facilities to disseminate materials as part of an awareness campaign for managing heat stroke.

4 Action Strategy

Throughout the KUSC project, LFA has kept Uralla Shire Council—the elected councillors, General Manager and Council officers—apprised of the project and the schedule of workshops. Early in the project, the core group of participants was committed to developing a strategic proposal to Council that linked 'ZNET's' tree-planting activities with issues associated with increasing heat, health and active living in Uralla. This KUSC report is intended to provide the basis for a presentation by ZNET to Council in the near future. The report can also be used by Council to understand the issues of concern to the Uralla community - health, livability and resilience - and then work collaboratively to implement the project initiatives identified.

4.1 PRIORITY ACTIONS

By Workshop 3, there was a core group of participants who had been involved with the project from the beginning, as well as a new Uralla resident. A clear message from the third workshop session was the group's commitment to present the outcomes of the KUSC project to Uralla Shire Council, emphasizing that they want to work collaboratively with Council to progress the recommendations and priority projects identified through the KUSC project.

The five main recommendations for future actions generated from the three KUSC workshops include:

1. Prepare a Plan of Management for the Uralla Sports Complex that addresses the need for additional shade and cool spots throughout the site.

2. Develop a Tree Inventory and Masterplan for Uralla, together with recommendations for other settlements throughout the Uralla Shire.

3. Commission an Urban Design Concept Plan for Uralla Town Centre that addresses:
- walkability, connectivity and comfort
- shade provision and cool spots on both sides of the street
- stormwater management analysis that explores opportunities for Water Sensitive Urban Design features; and connections to the parking area east of the shops.

4. Prepare Plans of Management for Alma Park and Mt Mutton that address their unique issues and strengthen the connectivity between the two open spaces.

5. Prepare a Uralla Cooling Action Plan to assist residents to deal with heatwaves and extreme heat events.

Each of these recommendations is discussed in more detail in the following sections.

4.2 PLAN OF MANAGEMENT FOR THE SPORTS COMPLEX

A Plan of Management for the Sports Complex was identified as a high priority for the KUSC Workshop Group, because it is a well-used major facility for Uralla residents and visitors. It is the focus for regional sporting events, providing an impressive range of facilities, that includes: tennis courts, squash courts, basketball courts, football and soccer fields, cricket oval, athletics oval, playground and an outdoor gym. The Sports Complex plays an important role in promoting informal daily exercise for individuals and groups, as well as formal team-based sports.

Two KUSC Workshop Group members carried out an initial site analysis of the Sports Complex and made recommendations for improvements, specifically in relation to the provision of more shade and cool spots throughout the site. Their report, which is presented in Appendix A, details the existing conditions of the Sports Complex and identifies the potential for making the Sporting Complex, and the walking/cycleway from town to the Complex, more attractive, comfortable and safe for residents and visitors who are using it, particularly during summer. The Sports Complex report also includes commentary on the provision, or lack of, shade trees, constructed footpaths and cycleway along Maitland Street and Plane Avenue.

New England HIghway southern approach to Uralla town centre



The initial site analysis prepared for the Sports Complex noted that when sporting events are held, spectators and participants need to have places available throughout the site to allow them to cool down. These include shaded areas and/or cool spots with water and shade. The group emphasised that a Plan of Management should include improved connectivity between the Sports Complex and Uralla Town Centre to provide continuous, safe, shaded and comfortable routes for walkers and cyclists.

Shared pedestrian/cycle path lacking shade trees



It is noted that the Uralla Shire Open Space Strategy by Moir Landscape Architecture, Pty Ltd includes a detailed inventory and audit of open space and recreation assets at the Sport Complex and makes recommendations for improvements and upgrading at the complex over the next 5-, 10- and 15-year periods. While the Open Space Strategy is not a Plan of Management, per se, it provides a starting point for preparing one.

WHO SHOULD BE INVOLVED?

Uralla Shire Council has the primary responsibility for managing the preparation of a Plan of Management under relevant legislation. However, Council has an opportunity to harness the knowledge and energy of community members through a comprehensive program of engagement to prepare and implement the Plan of Management.

A sound and comprehensive Plan of Management will assist Council to obtain funding and sponsorship support, as well as volunteer involvement by individuals and community groups.

NEXT STEPS:

1. Review Council's current plans or proposals for any upgrading work scheduled for the Sports Complex and in relation to issues raised by the KUSC workshop group, such as:
- Provision of more shade through tree planting and shade structures
- Provision of 'cool spots' throughout the site for players and spectators and other users
- Improved connectivity to the Uralla town centre and improved entry and parking arrangements.

2. Commence the process of preparing a Plan of Management for the Sports Complex in accordance with the relevant local government legislation, starting with engagement with the local community.

3. Explore additional funding sources, such as NSW Sport and Recreation grants and/or funding programs related to green infrastructure and/or ShadeSmart-type programs at the state level.

4, Confirm details with Council of the planned residential development in proximity to the Sports Complex to identify a potential additional group of users of the Sports Complex.

5. Establish a community reference group to work with Council in progressing the Plan of Management.

4.3 URALLA SHIRE TREE MASTER PLAN

During Workshop 1 it was noted that over the past forty years Uralla residents have contributed many volunteer hours through planting and clearing projects throughout the town and adjoining areas. This work is largely undocumented and was carried out without the benefit an overall plan. The recommendation to develop a Uralla Shire Tree Master Plan addresses the need to have not only a detailed inventory of the locations, species, conditions, and approximate ages of existing trees, but also to provide a system for recording where new plantings need to be carried out to achieve the maximum benefits.

Importantly, a Tree Master Plan would assess the existing percentage of tree canopy cover throughout the town and determine a target for how much this should be increased to provide adequate shade along streets, footpaths and cycle paths. This would also assist in identifying the areas where more tree planting is needed. Additional shade trees will improve walkability as well as thermal comfort for residents and visitors moving around the town, contributing to their physical and emotional health.

Bus stop in residential area without seating or shelter



A Tree Master Plan would also be linked to an assessment of the connectivity and access to Uralla's major open spaces, particularly the three new 'legacy parks', and Alma Park. The remnant areas of bushland associated with Mt Mutton and the Uralla Creek Walk Sanctuary provide dense shade as well as valuable biodiversity in vegetation and wildlife species.

Residential street lacking shade trees along one side



ZNET members and KUSC Workshop participants, Peter Low and Carol Shantal, provided a timeline recording community-based tree planting and related urban greening activities. (The timeline is presented in Appendix D.) These planting activities were organised by the Uralla Garden Club working with Council staff. Greening Australia, Harnham Landcare Group and Armidale Tree Group planted thousands of trees at The Glen and around the Racecourse Lagoon in the 1990s and a Rivercare Group was active between 2002-2012 in clearing out weed trees and planting native species along creek lines. Evidence of these planting by volunteers and ZNET Uralla's more recent planting work can be seen throughout the town. However, there are no records or plans indicating where, how many, and what species of trees have been planted.

It is unclear what commitment there is to maintain the plantings carried out by the volunteer efforts to ensure they mature. In some situations, street tree plantings have been unwelcomed by residents and trees have been removed. It is, therefore, important that the planning and implementation process includes engagement with residents in a genuine participatory process in order to understand why, in some cases, there is a reluctance to accept street tree planting (Gallagher 2018).

The tree planting timeline notes that in 2015 a Street Tree Survey was initiated by Council's Environmental Management Coordinator at the time. However, it may not have been completed because that officer moved from Uralla. If any records of this initial survey work were still available, they could provide a starting point for the inventory required for a Tree Master Plan. In any case an inventory of existing tees will be required to prepare a Tree Master Plan for Uralla.

While a Tree Master Plan would mainly address Uralla's Town Centre and adjacent residential streetscapes and open spaces, similar work should be carried out in villages and settlements throughout the

Shire. This is particularly important in areas around schools, shops, parks, and bus stops that are currently lacking in shade and amenity.

In the process of developing the Tree Master Plan, the Uralla community needs to be engaged and a corresponding public awareness program delivered to inform people about the importance and benefits of increasing the numbers of trees in towns and throughout the countryside to support human and environmental health. The awareness program should also emphasise that trees are natural assets that increase in value over time.

WHO SHOULD BE INVOLVED:

Uralla Shire Council will have a primary role in preparing the Tree Master Plan, but involvement of volunteer community members can greatly assist, particularly in carrying out the inventory of existing trees. The Uralla community can also provide input during the process of setting priorities for implementation of the Tree Master Plan. Utility authorities that are responsible for above ground and underground services will need to be engaged in preparation of the Tree Master Plan to minimise potential future conflicts and safety risks.

NEXT STEPS:

1. Determine if this project can be carried out internally through Council's Environmental Management Officer or if consulting services would be required.

2. Create a detailed inventory using a GIS-based system and/or a platform such as iTree to record the locations, land tenure, species, size and approximate age of trees and assess their condition. Determine if there are existing records of Council's Street Tree Survey that was initiated in 2015.

3. Establish a community reference group to work with Council to progress the tree inventory and Tree Master Plan preparation and develop an education and awareness program about the value of trees in towns.

4. Identify funding sources that would support the development of a Tree Masterplan or Town Forestry Plan and apply for grants.

4.4 URALLA TOWN CENTRE URBAN DESIGN STUDY

During the final KUSC workshop, a comprehensive walking audit of the Town Centre was presented by Carol Shantal and Rob Hughes, which expanded upon the observations that the workshop group made when they walked the central area of Bridge Street during the previous workshop.

Awnings along east side of Bridge Street provides shade to pedestrians and outdoor seating



Shade provided by shop awning along east side of Bridge Street



A number of opportunities for specific actions and ‘quick fix’ improvements to this area were identified. It also became clear that a comprehensive urban design strategy was required for the Town Centre to provide a framework for a suite of improvements to the urban physical quality, appearance and level of liveability. The urban design strategy needs to take into consideration issues specifically related to heat mitigation/adaptation to ensure comfort and safety for residents and visitors walking along the main street, as well as between the Town Centre and surrounding residential areas.

Pedestrian path lacking shade



Bridge Street is the main street of Uralla and is also a section of the New England Highway. Consequently, there is a continuous flow of traffic through the centre of the town, including heavy trucks.

Bridge Street can also be considered a ‘precinct’ with a distinct visual character and physical structure by virtue of its width and the age of the building stock on both sides. Uralla’s remaining heritage buildings lend an attractive character to the streetscape of the township. The Uralla Heritage Walk is a well-known tourist attraction that also makes a significant contribution to the liveability of the town.

Bridge Street section of New England Highway through Uralla town centre



Outdoor seating along Bridge Street in Uralla town centre



The analysis of Bridge Street as a precinct identified three zones, each with distinctive character of the building stock, uses of the buildings, the road width and streetscape design, and the slope of the topography. These zones are:

South Section—the southern entrance into the town that starts at the 50km/hr sign on the New England Highway

Central Section—comprising the main cluster of shops that include a bakery, pie shop, cafes, chemist, florist, hairdresser, and professional services between Salisbury and King St.

North Section—from King St to the 50km/hr sign on the highway north of Ward St.

Urban landscape improvements along Bridge Street provide some shade and visual interest. The works include installation of traffic 'blisters' with planting of trees, flowers and ground covers that divides the angle parking along both sides of the street into distinct sections. Picnic tables and seating have also been installed in various locations, and several cafes have added tables and chairs outside their premises. Where the buildings have awnings, good shade and rain protection is provided, but while most of the footpath on the east side of Bridge Street is covered by awnings, the western side of the street generally lacks awnings. However, at particular times of the day and season the buildings themselves provide shade along the western side of the main street.

Heritage building on corner of Bridge Street and Hill Street restored as a cafe/ restaurant



A valuable opportunity exists for the installation of solar collectors over the public parking area behind the shops along the eastern side of the main street. The solar collectors would not only generate renewable energy but also provide shade for parked cars, particularly during hot summer months.

A Town Centre Urban Design Strategy will need to address a combination of issues that include:

- Connections to key destinations throughout Uralla township for residents, visitors and tourists passing through and/or stopping to explore the town, its shops and cafes, Heritage Walk, etc
- Connectivity to open spaces, parks and recreation facilities, including the three Legacy Parks, Alma Park with caravan park, Mt Mutton Reserve, the Uralla Showground and network of pedestrian and cycle paths
- Upgrading of bus stops with comfortable seating, shade and protection from sun and rain, together with good footpath connections
- Stormwater management, in particular the potential to capture and store water for use to cool public spaces, which could include misting systems and/or water play features, as well as opportunities to introduce water sensitive urban design (WSUD) features to capture and retain stormwater to support tree and garden plantings
- Connection from the main street to the large open space and parking area behind the shops on the east side of the Town Centre, which has the potential to be covered with solar collector panels to generate energy and provide shade

- An overall review of the walkability, connectivity, safety and comfort for pedestrians and cyclists moving between surrounding residential streets and around the town centre
- Potential street tree planting locations, shade structures and cool spots on both sides of the main street, which would form a key element in the Uralla Tree Master Plan.

Shade tree in planting island along Bridge Street



WHO SHOULD BE INVOLVED?

Uralla Shire Council will have a primary role in preparation of the Urban Design Strategy, but involvement of business owners and the broader community will be essential to ensure success and ongoing engagement.

NEXT STEPS:

1. Develop a project brief for the urban design study and engage an experienced consultant

2. Establish a community reference group to provide input to the design brief and to participate with Council officers and the appointed consultant in developing the Urban Design Strategy

3. Identify potential funding sources that would support the preparation of the Urban Design Strategy and apply for grants.

4.5 PLANS OF MANAGEMENT FOR ALMA PARK AND MT MUTTON RESERVE

Alma Park is a primary public open space in the township of Uralla. Located north of the town centre at the base of Mount Mutton, the Park is bisected by Rocky River Creek that flows from The Glen open space to the east. Alma Park incorporates a range of facilities that include a caravan park, a major playground, picnic facilities, amenity block, paths and extensive tree cover. A War Memorial is incorporated into the entrance at southwest corner of the park. The KUSC workshop group recognised the importance of Alma Park to the residents of and visitors to Uralla and the potential to improve the scope and quality of facilities. Preparation of a new Plan of Management will provide an opportunity to assess the current uses and assets and identify additional facilities and uses that are compatible with the character of the Park.

The age and condition of the trees in the Park needs to be assessed and a program of replacement implemented as they reach maturity and start to deteriorate and become a public safety hazard. This aspect of the Plan of Management will need to be coordinated with the Tree Master Plan.

The section of Rocky Creek running through the centre of Alma Park provides some degree of cooling when water is flowing. However, to provide a source of water for cooling during extended dry periods will require collection and storage of stormwater. This would allow for the creation of a 'cool oasis' in the park, that could incorporate a water play feature and misting system to help residents deal with future extreme heat days.

Mount Mutton is a visually prominent tree-covered hill located north of the town centre that forms a landmark and visual reference for people moving around the town or passing through it. The remnant vegetation cover provides valuable habitat and significant biodiversity values. The concrete water storage tank located on top of Mount Mutton forms a key component of the Uralla water supply. The top of Mount Mutton is accessible to the public by an unsealed road and facilities at the top include a picnic shelter and table. Views from the top of Mount Mutton are generally blocked by the surrounding tree cover, but a framed view over the township is available along the cleared powerline easement running down the slope. An unsealed walking track runs around the mid-slope of Mount Mutton and incorporates interpretive signage.

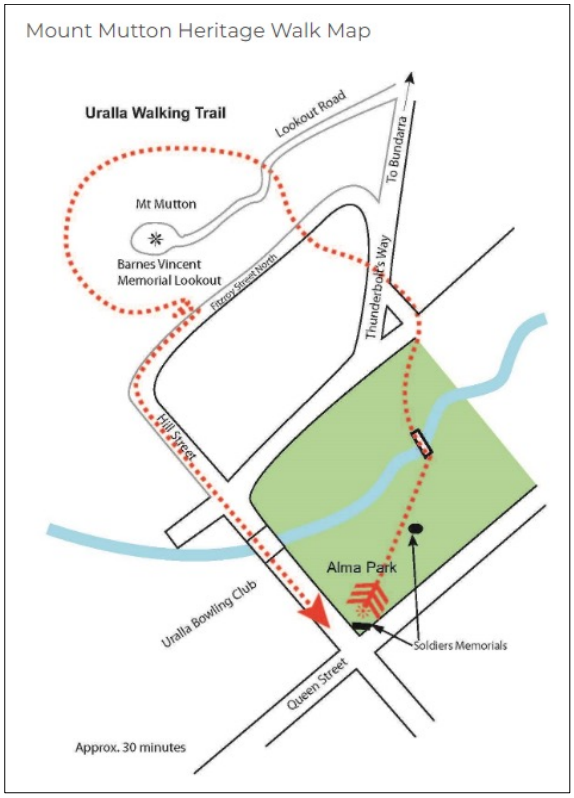
Walking path to Mount Mutton



The KUSC workshop group identified the need for a new Plan of Management to guide the provision of new facilities while ensuring the sustainable management of the natural ecosystem in the Mount Mutton Reserve. While the primary function of the Reserve should continue to be the protection of the natural environment, the Plan of Management could identify opportunities to upgrade the walking track and provide rest places at regular intervals.

Preparation of plans of management for both Alma Park and Mount Mutton Reserve should include provision for the creation of a fully accessible and safe walking path system that connects the two public open spaces, as illustrated on the plan below.

Figure 6. Uralla Walking Trail connection between Alma Park and Mt Mutton. (Source: Uralla Open Space Strategy, 2021)



WHO SHOULD BE INVOLVED?:

Uralla Shire Council has the primary responsibility for managing the preparation of the Plans of Management under relevant legislation. However, Council has an opportunity to take advantage of the knowledge and energy of community members through a comprehensive program of engagement to prepare and implement the plans of management.

Sound and comprehensive plans of management will assist Council to obtain funding and sponsorship support, as well as volunteer involvement by individuals and community groups.

NEXT STEPS:

1. Review Council's current plans for any scheduled upgrading work for Alma Park and Mount Mutton Reserve in relation to the following issues raised by the Workshop group:

- An assessment of the condition of trees in Alma Park and any actions required to ensure the safety of park users
- Provision of 'cool spots' within Alma Park
- Improved pedestrian connectivity between Alma Park and Mount Mutton Reserve
- Provision of rest spots along the walking path around Mount Mutton as well as drinking water facilities

2. Commence the process of preparing new Plans of Management for the park and reserve in accordance with the relevant local government legislation and implement a comprehensive program of engagement with the local community.

3. Explore additional funding sources, such as NSW Sport and Recreation grants and/or funding programs related to green infrastructure at the state level.

4. Establish a community reference group to work with Council in progressing the two Plans of Management.

4.6 URALLA COOLING ACTION PLAN

The public health implications associated with high temperatures and the potential impact on the more vulnerable groups of people in Uralla Shire have been given primary consideration in the KUSC workshops. Therefore, the final recommendation from the KUSC project is for a 'cooling action plan' to be developed that will incorporate:

- **mitigation measures,** that include physical improvements to aspects of public spaces that can reduce the impact of increased urban heat. For example, increasing the percentage of shade canopy cover along streets and in public spaces; providing water play areas and/or misting systems to cool specific locations; selecting 'cool' materials for building construction.

- **adaptation measures**, such as sharing information to increase residents' awareness and understanding of the seriousness of heatwaves and extreme heat events, and how to be prepared to look after themselves, their families and neighbours; nominating 'cool spots' and 'oases' where people can have refuge on hot days; strengthening community connections to provide needed social networks during extreme heat events.

There are many individual and collective actions that can make up a Cooling Action Plan: these range from changing the physical environments of home environments at one end of the spectrum, to improvements or changes to public spaces that are shared by all community members at the other end.

ZNET has worked closely with residents to help them understand ways to stay warm during the winter season, reduce energy use and lower costs. Similar programs to address ways to stay cool and introduce more passive cooling around homes is an equally important information campaign.

Reducing the ambient temperatures can be achieved by increasing tree canopy to provide more shade around our homes, along streetscapes and in open spaces throughout the town. Cool public spaces and streetscapes can be created with tree planting, water features in various forms, areas with constructed shade structures, and use of cool paving materials.

Some people may need encouragement to change their behaviour in periods of extreme heat. Knowing who is 'at risk' and issuing them with 'heat alerts' and keeping in contact with the most vulnerable community members children, people with disabilities or chronic illness, and elderly people. When extreme heat events occur, these are community members who may need assistance to move to a 'cool hub' or an 'oasis.'

The Cooling Action Plan would include specific actions to be taken during extreme heat events. This could include making use of existing available spaces, such as the Swimming Pool, Bowling Club, Council Library, and Uralla Information Centre as 'cool oases' during those events. Locations accessible from the town centre and in key local greenspaces can be designed to provide respite, places with deep shade and water elements. Water kiosks where people can get a drink and/or refill a water bottle need to be located in several locations throughout the town, such as along the main street, at the sports complex and the showground. Water misting systems could be considered where rainwater can be captured and recycled.

Many cities around Australia, including regional cities and towns, are anticipating a hotter climate by preparing 'cooling action plans' or 'urban heat action plans'. Several of these were presented in the KUSC workshops and recommended as valuable sources of information, they include:

- Tamworth Regional Council recently adopted (September 2022) the **Tamworth Urban Heat Island Report** (2022) that details how high temperatures are impacting Tamworth's central business district. While not specifically an 'action plan', the report presents recommended actions to mitigate urban heat island effects through 'greening' and 'non-greening' means.
- The **Lake Macquarie City Urban Heat Strategy** (2022) states that its vision "...is for the communities of Lake Macquarie to be cool, liveable and resilient to the impacts of urban heat" (p.6). This is a strategy that combines mitigation and adaptation measures, as it notes: "Responding to the hazards and impacts of urban heat requires a broad, coordinated approach in collaboration with other organisations, government agencies and the community" (p.10). This document is an excellent example of a regional city's approach to the issues and a good one for Uralla Shire Council to carefully consider.
- With the subtitle "Cooling the City", the **Canberra Living Infrastructure Plan** is focused on mitigation measures through protecting, restoring, enhancing the natural assets, the 'living infrastructure', of the urban landscape including - street trees, wetlands, creeks, nature reserves, parks, playing fields, private yards, green roofs and balconies, and living walls (p.7). This plan recommends actions for management, physical measures to mitigate the impacts of urban heat, provision of community resources, and pilot projects to demonstrate mitigation and adaptation measures for dealing with urban heat.
- The **ACT Climate Wise Guidelines** is one of the outcomes of the Canberra Living Infrastructure Plan. It is meant for a diverse audience of users including local residents and built environment professionals, to assist them in the planning and design of "healthy, climate resilient and bio-diverse gardens and public lands." In particular, the advice for measures people can take on their own properties is of relevance to Uralla.

WHO SHOULD BE INVOLVED:

Uralla Shire Council will have primary responsibility for the preparation of a Uralla Cooling Action Plan. However, involvement of a working group from the broader community is essential to ensure the plan has community support and engagement to implement it.

NEXT STEPS:

1. Review Council's current plans for any upgrading work scheduled for public open spaces, including streetscape in the Town Centre, and review these plans in relation to issues raised by the KUSC Workshop group, such as:
- Provision of more shade through tree planting and/or shade structure
- Provision of 'cool spots' throughout the town

2. Identify additional funding sources, such as state-level grants and/or funding programs related to green infrastructure and/or ShadeSmart-type programs and submit applications.

3. Once an Action Plan is developed, Council liases regularly with the community reference group to progress these plans.

5 References and Resources

5.1 REFERENCES

ACT Government (2019) Canberra's Living Infrastructure Plan: Cooling the City

AECOM. (2021) "Remembering the Bush"—A Climate-wise Landscape Guide for the ACT, ACT Government.

Australian Government. (2022) Bureau of Meteorology. (http://www.bom.gov.au/australia/heatwave/knowledge-centre/understanding.shtml).

Bush, J., Coffye, B. and L. de Kleyn. (2023). Urban greening beyond the major cities: insights from the 'Naturally Cooler Towns' initiative in Victoria's Goulburn Murray region. Australian Planner. https://doi.org/10.1080/07293682.2023.2176527

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Klinenberg, E. (2018) Palaces for the People: How social infrastructure can hlpe fight inequality, polarization, and the decline of civic life. Crown Press, New York.

Loughnan, M., Carroll, M., and N. Tapper. (2014) Learning from our older people: Pilot study findings on responding to heat. Australasian Journal on Ageing, Volume 33, Number 4, December 2014, pp. 271-277.

State of NSW Department of Planning, Industry and Environment. (2020) Urban Design for Regional NSW: A guide for creating healthy built environments in regional NSW. Sydney.

State of NSW Office of Environment & Heritage. (2014) New England North West – Climate change snapshot. Sydney.

5.2 RESOURCES: STRATEGIES, POLICIES, GUIDELINES

During the KUSC workshops, participants were referred to relevant strategies, policies, and guidelines that have been issued in recent years at various levels of government—national, state, regional, and local government.

International programs relevant to our discussions include the United Nations' Sustainable Development Goals (SDGs) and the UN's Decade of Ecosystem Restoration (2021-2030), as well as the C40 Cities network of mayors who are leading their cities in fighting

climate change. In particular, the C40 Knowledge Hub is an excellent resource for community groups and one that ZNET Uralla is familiar with.
Referencing these international, national, and local government programs can help community groups understand that their efforts are linked with global concerns. Furthermore, they can learn from and benefit by accessing the resources available through these groups, while also sharing their work with others in NSW and throughout Australia.

ACT Government (2019) Canberra's Living Infrastructure Plan: Cooling the City. Available at: https://www.environment.act.gov.au/data/assets/pdf_file/0005/1413770/Canberras-Living-Infrastructure-Plan.pdf

AECOM. (2021) Remembering the Bush—A Climate-wise Landscape Guide for the ACT. Available at: https://www.climatechoices.act.gov. au/data/assets/pdf_file/0004/2031556/ACT-Climate-wise-Landscape-Guide.pdf

Australian Government. (2021) National Climate Resilience and Adaptation Strategy 2021-2025. Department of Agriculture, Water and the Environment, Canberra. Available at: https://www.agriculture.gov.au/sites/default/files/documents/national-climate-resilience-and-adaptation-strategy.pdf

C40 Cities Knowledge Hub.Available at: https://www.c40knowledgehub.org/s/?language=en_US

Civille. (2021) Urban Heat Planning Toolkit. For Western Region Organisation of Councils (WSROC), Sydney. Available at: https://wsroc.com.au/projects/project-turn-down-the-heat/turn-down-the-heat-resources-2

Civille. (2022) Uralla Parks: Pioneer Park, The Glen, Rotary Park Upgrades. For Uralla Shire Council. Uralla, NSW.

Edge Environment (2022) Tamworth Urban Heat Island Report Available in Tamworth Regional Council meeting notes from 27 September 2022.

Lake Macquarie City Council (2022) Urban Heat Strategy. Available through Lake Macquarie Council.

APPENDICES

APPENDIX A - Uralla Sports Complex, Analysis & Recommendations

APPENDIX B - Thermal Images & Data Collection

APPENDIX C - Walking Audits & Streetscape Assessments

APPENDIX D - Record of Tree Planting prepared by ZNET Uralla

APPENDIX A

Uralla Sports Complex and Cycleway: Site analysis and recommendations for improvements

By Liz Gardiner and Megan Robinson
February 2022

Introduction

The Uralla Sporting Complex and Cycleway were identified by the workshop participants as being a significant destination open space in the town that attracts heavy use throughout the year and could present a location with beneficial cooling properties during hot days with some investment in its existing infrastructure.

The analysis presented in this section was carried out by two community participants in the workshop—Liz Gardiner and Megan Robinson. It describes the current situation of the sporting complex and investigates the potential for making the Sporting Complex, and the walking/cycleway from town to the Complex, more attractive, comfortable and safe for residents and visitors who are using it during the hotter seasons of the year.

Context

The Uralla Sporting Complex is situated at the southern end of Plane Avenue and comprises tennis courts, squash courts, basketball courts, football and soccer fields, cricket oval, and athletics oval. Other facilities include: a playground, an outdoor gym, a canteen, a tennis clubhouse, and a toilet block.

Across Plane Avenue, west of the Sporting Complex there is an 18-hole golf course that includes a clubhouse. Continuing south from these sporting facilities, Racecourse Road leads to the Racecourse Lagoon and Picnic area where proposed improvements and tree planting will attract more cyclists, walkers, and picnickers to an area renowned for its variety of waterbird life. (Note: Uralla Shire Council has been successful in securing funding from the NSW Environmental Trust Grant program to undertake this project in the 2023-24 financial year.)

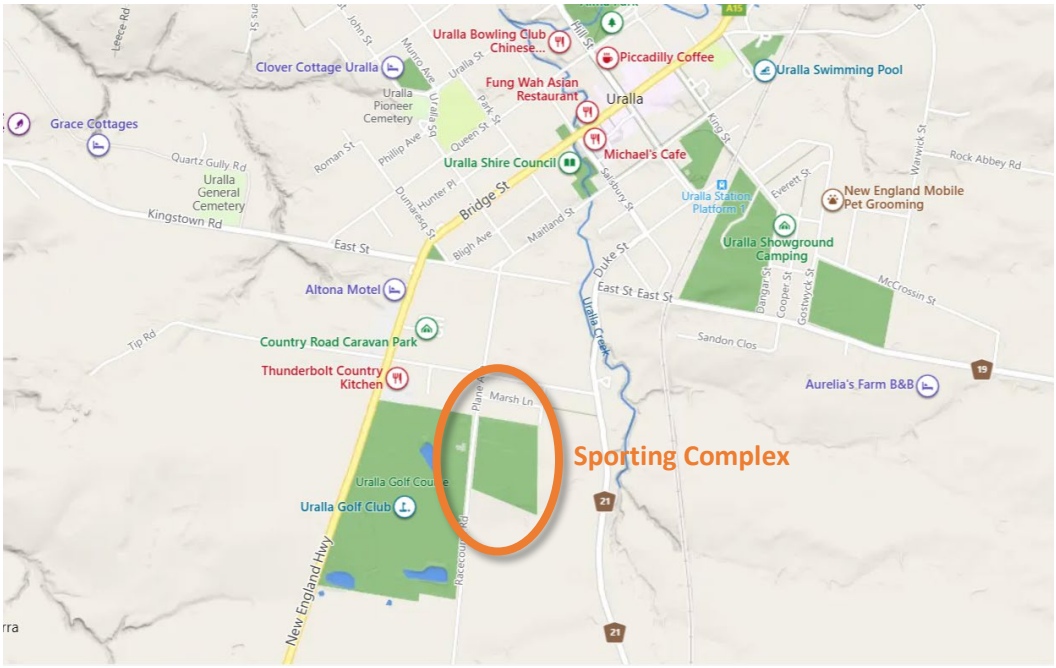


Figure 1. The Uralla Sporting Complex is the green shaded area to the east of Uralla Golf Club.



Figure 2. Aerial view of Sporting Complex

Maitland Street and Plane Avenue

Council has funds to complete the next section of the walking/cycling track from the town centre along Maitland Street and Plane Avenue, continuing to the Sporting Complex at the end of Plane Avenue. (See Figure 2.) The cycleway is partially complete and where it exists allows easy access by foot or cycle to the sportsfields and we look forward to this being completed, however, it is understood that more funding will be required to complete the cycleway.

These improvements represent part of the planned upgrading and enhancement of Uralla's pedestrian network which will contribute to balancing the provision of facilities for active sport and passive recreation, as recommended in sections 5.4 and 5.5 of *Uralla Shire Council Open Space Strategy*.

Issues to be addressed for cooling, comfort, connectivity and safety

Improvements to the pathway route have focused on providing paved, off-road shared walking/cycling paths. There are many stretches without shade where additional trees could be planted. (See Figure 3.) Street trees of substantial size and dense canopy, planted on at least one side of the street would provide a more inviting, shady, cool, and comfortable route for walkers and cyclists. Street tree plantings along Maitland Street and Plane Avenue would also give continuity to Uralla's overall street tree network as well as visually connecting the urban area with the "green space" of the Sporting Complex. (See also, 5.5 and 5.6 in *Uralla Shire Council's Open Spaces Strategy)*.





Figure 3. Above photos show treeless sections of Plane Avenue (left) and Maitland Street (right).

On Maitland Street the cycleway is now completed, but on Plane Avenue it is yet to be constructed. No seating or drinking fountains are provided along either street, nor is there any street lighting on either street

Along with a lack of shade, there is no seating for walkers to rest along the route. A seat (preferably of timber or recycled plastic materials) on each street block of the pathway would

assist elderly, people with disabilities or small children who need some time resting at intervals along Plane Avenue and Maitland Street.

There are no drinking fountains along the pathway. It would be beneficial to have a drinking fountain or tap to refill water bottles in at least two locations along the walkway/cycleway, especially on Maitland Street. Ideally, these locations would also provide a seat under a constructed shade roof, plus rubbish bin, including recycling bins. Location of seating should also be considered in relation to bus routes throughout the town.

There is not adequate lighting to encourage walkers to safely make their way along Maitland Street and Plane Avenue in the evenings.

There are no special attractions along the walkway/cycleway to attract visitors. There is potential to add artworks or gardens along the route.

It has been observed that some vehicles will speed past the Entrance to the Sporting Complex on Plane Avenue near where children ride bikes or are delivered to sporting venues, especially at weekends. It would be helpful to have a lower speed limit along Plane Avenue, with a speed hump on each side of the entrance to the sporting fields. (See Figure 4.)



Figure 4. Photo shows the two Entrances to the Sporting Complex; speed humps could be added on Plane Av. to slow the passing traffic.

Sporting Complex

At the Sporting Complex itself some areas have had windbreaks and shade trees planted over the years. (See Figure 5.)

Issues to be addressed for cooling, comfort and connectivity

More shade trees are needed around tennis courts, soccer/football/athletics fields and cricket ground, as well as near the Playground, outdoor gym and Canteen. These additional trees would also provide much-needed windbreaks for the cooler seasons of the year. The entire site is quite exposed to wind as well as sun.



Figure 5. Photo on the left shows area between cricket ground and athletics/football oval. There is a lack of shade trees, one bin (no recycling bin), and limited seating. Photo on right shows the worn grass area east of the tennis and basketball courts. High exposure to sun and wind makes this side of the grounds uncomfortable.

Replacing fallen down trees around the perimeter of the Sporting Complex as well as extending the existing shade amenity would also assist with biodiversity links at the southern end of Uralla.



Figure 6. Above photos show cypresses and eucalypt trees that have fallen over in extremely wet and/or windy conditions.

Additional seating should be provided around the cricket ground and football/athletics/soccer fields, preferably made from wood or recycled plastic, not metal which is too hot in the sun. More seating and shade are also needed near the playground and canteen, preferably with

metal roofs. Constructed shade structure, other than sails, would be preferable to avoid the problem of sails needing to be replaced over time.

Using water in specific locations on the site should be explored. For example, misting stations or overhead systems could be added near the playground and canteen. For best water saving practice, these could recycle the water, use a solar pump to generate the required energy, and only operate when a button is pressed, rather than be constantly running.

The addition of a simple Water Play Park at the Sporting Complex would be an attractive feature throughout the warmer months. It could use recycled water and avoid having any standing water to address necessary safety concerns. This could be located near the Canteen and Playground on a level area near where water is already supplied. As with a Misting feature, this could use recycled water, solar pump and operate only when switched on, not constantly.



Figure 6. Photo shows playground & canteen with level area in foreground suitable for a Water Park. Note lack of trees, seating and bins.

There is an opportunity to capture water from the roof runoff of the buildings on site. Water tanks should be added to capture the runoff from the tennis club, squash courts and canteen area. Currently all the roof catchments simply return water to the stormwater system.



Figure 7. Photo shows roof space across some of the buildings which could be used to catch rainwater into water tanks.

The large concrete container “gardens” near the tennis clubhouse need to be assessed as to what they are contributing to the landscape structure of the Complex. Depending on their perceived value, they might work more effectively in another position. Another consideration is what kinds of plantings would be more effective in them. Currently, the plants in these over-sized pots are exposed to full sun and many are struggling.

Potentially these containers could be relocated near the Playground area where additional trees near seating and parking areas should also be planted. In their place, an avenue of trees along the Entrance driveway would provide extra shade for parking or for walkers and better demarcate the circulate into and out of the Complex. (This is also recommended in Section 8.2 of *Uralla Shire Council’s Open Spaces Strategy*.)



Figure 8. Photo shows row of concrete container “gardens” along the Entrance to the complex.

While some rubbish bins are provided around the Sporting Complex, there are currently no recycling bins. These should be added, especially near clubhouses, canteen, and each sporting field.

An overall site assessment of the circulation zones should be carried out. Presently, there are many areas where grass is worn down to gravel or dirt leaving very hot areas to move across. It would be helpful to have new paths constructed in these areas.



Figure 9. Photo shows typical “one bin only” and areas where grass needs to be re-established.

Commitment to ongoing site maintenance

It is apparent to those who work as volunteers in tree planting projects, those who attempt to keep garden areas alive and the multitudes who would love to see Uralla made more attractive to visitors and residents, that dedicated groundspeople for Uralla’s parks, streets and gardens is necessary to achieve any long-term improvements. Currently ground staff are kept busy mowing and looking after sports fields or have been reallocated to road maintenance.

If funding became available, it would be very beneficial to have someone to maintain street plantings and beautify existing gardens in parks while also creating other garden areas, such as at the Railway Station, outside Council Chambers, at the Sporting Complex and in specific places along many streets, including the main shopping precinct.



Figure 10. Key to suggestions for improvements to Sporting Complex shown in above/previous page diagram.

Legend for Figure 10 drawing:

1. Speed humps
2. Proposed additional tree plantings
3. Fallen tree removal
4. Proposed Water Park
5. Misting Station
6. Water tanks
7. Shelter roof structures
8. Areas where additional seating and recycling bins are needed
9. Existing lighting – which is inadequate for evening/night-time use in the summer months, particularly around the tennis courts

Additional reference information on Water Parks and Misting Stations:

Splash & Water Play Parks: Commercial Aquatics

Elements within splash parks and water play parks are designed to suit a number of different ages and confidence levels, from exciting fully enclosed water slides, to shaded paddling pools with beach-style entry. Children enjoy the opportunity for free play with fountains, sprays, tipping buckets, 'lazy rivers' and bubble pools.

These water play parks have been installed in a wide variety of locations, including public open spaces, residential developments, indoor and outdoor leisure and aquatic centres, child care facilities and children's medical facilities.

Commercial Aquatics Australia has helped clients design and then gone on to construct a wide variety of these family attractions, incorporating elements that mean sustainable parks with low maintenance requirements and reduced running costs. These features range from extensive water reclamation measures and continuous water recycling, to design determinations that obviate the need for full-time lifeguard attendance.

Cooling Systems for Public Spaces | Outdoor Misting Solutions- Youmist

Cooling stations, evaporating misting for sporting fields and recreation areas.

APPENDIX B

Presentation to the KUSC Workshop by Peter Low about thermal data collected from December 2022 to February 2023

- Thermal Image Report

- Meters Used and Data Collected Presentation

Keeping Uralla Cool - Thermal Image Report

Z-NET Uralla thermal image report

Measurements

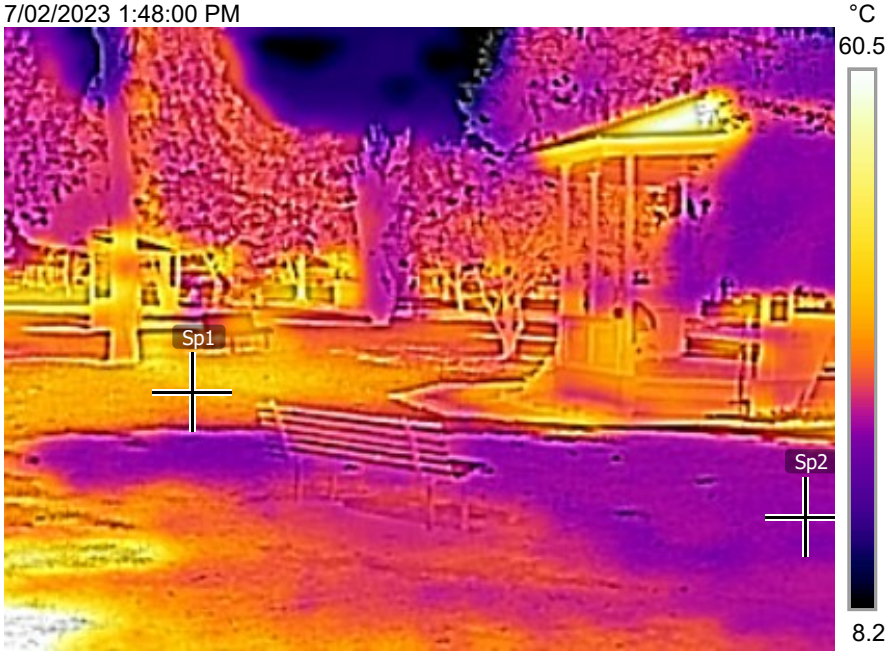
Sp1	38.9 °C
Sp2	28.3 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

Alma Park

7/02/2023 1:48:00 PM



FLIR1707.jpg FLIR C2 720042480

7/02/2023 1:48:00 PM



FLIR1707.jpg FLIR C2 720042480

Z-NET Uralla thermal image report

Measurements

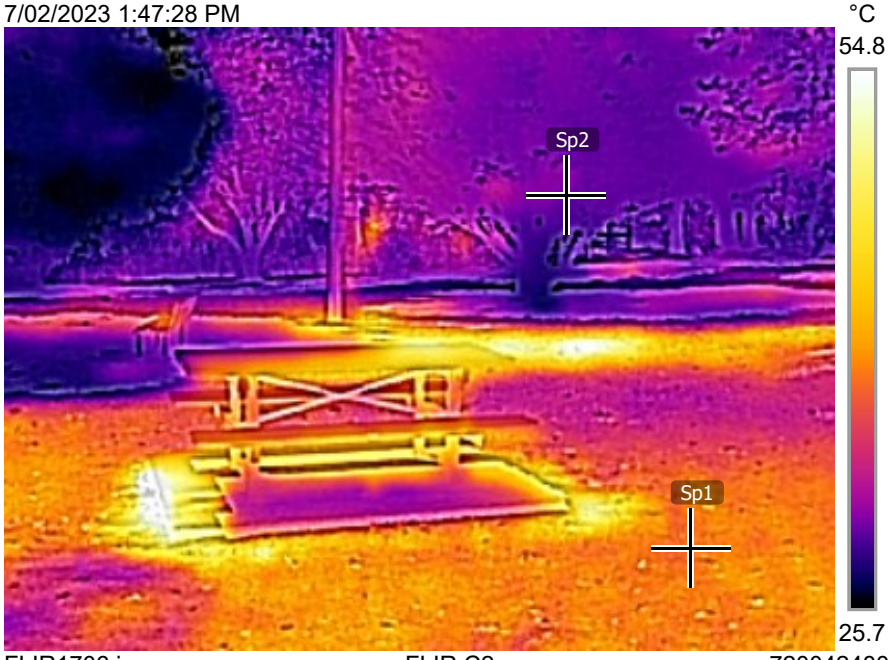
Sp1	39.0 °C
Sp2	30.4 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

Location 2
in a tree in Alma Park on edge of shaded area still seeing some radiant heat from open ground

7/02/2023 1:47:28 PM



FLIR1706.jpg FLIR C2 720042480

7/02/2023 1:47:28 PM



FLIR1706.jpg FLIR C2 720042480

Z-NET Uralla thermal image report

Measurements

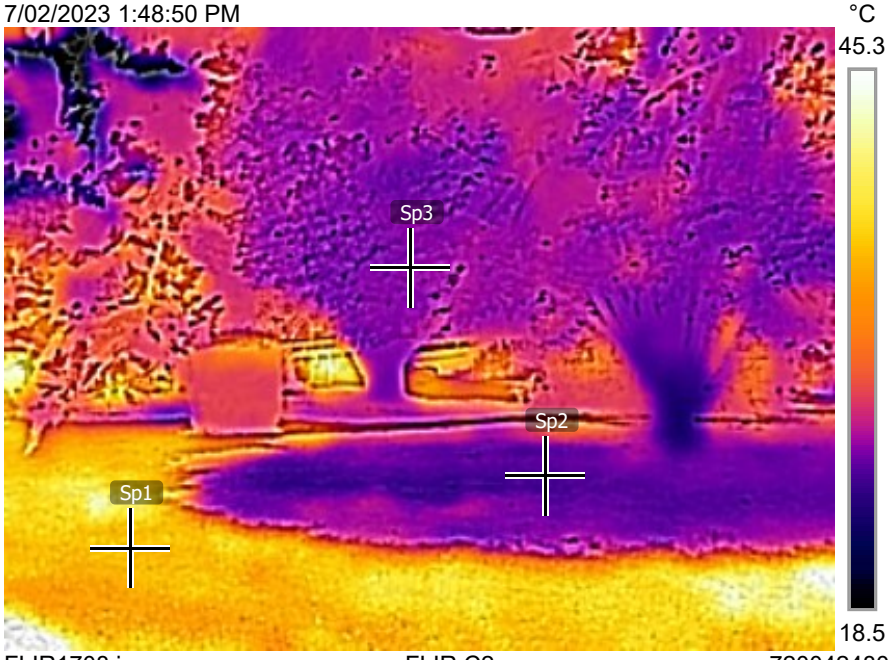
Sp1	37.2 °C
Sp2	25.7 °C
Sp3	27.1 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

Location 17
in well shaded area in
Alma Park

7/02/2023 1:48:50 PM



FLIR1708.jpg FLIR C2 720042480

7/02/2023 1:48:50 PM



FLIR1708.jpg FLIR C2 720042480

Z-NET Uralla thermal image report

Measurements

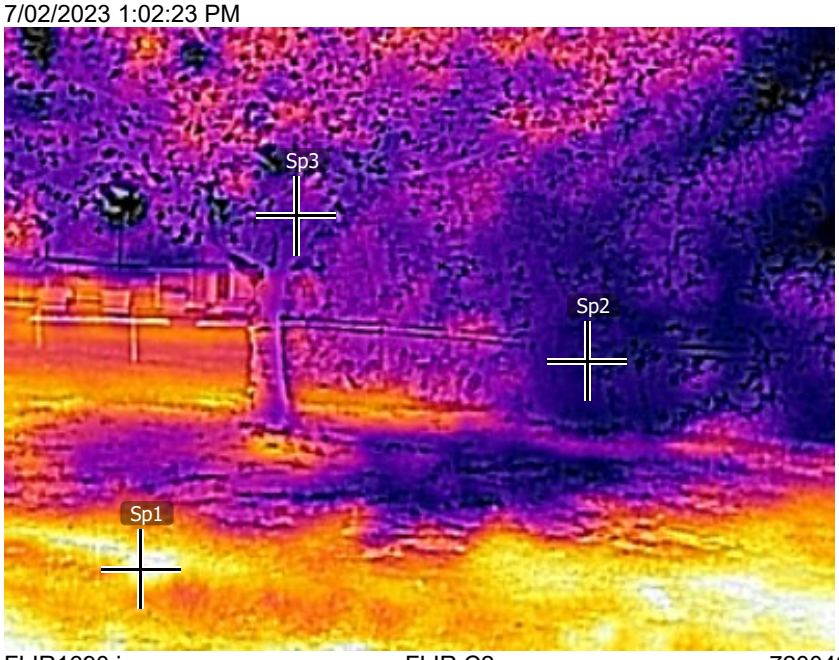
Sp1	47.8 °C
Sp2	26.2 °C
Sp3	27.0 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

Location 1
Plane Ave near Golf Course clubhouse.
Meter in hedge of conifers in an otherwise very exposed location

7/02/2023 1:02:23 PM



FLIR1690.jpg FLIR C2 720042480

7/02/2023 1:02:23 PM



FLIR1690.jpg FLIR C2 720042480

Z-NET Uralla thermal image report

Measurements

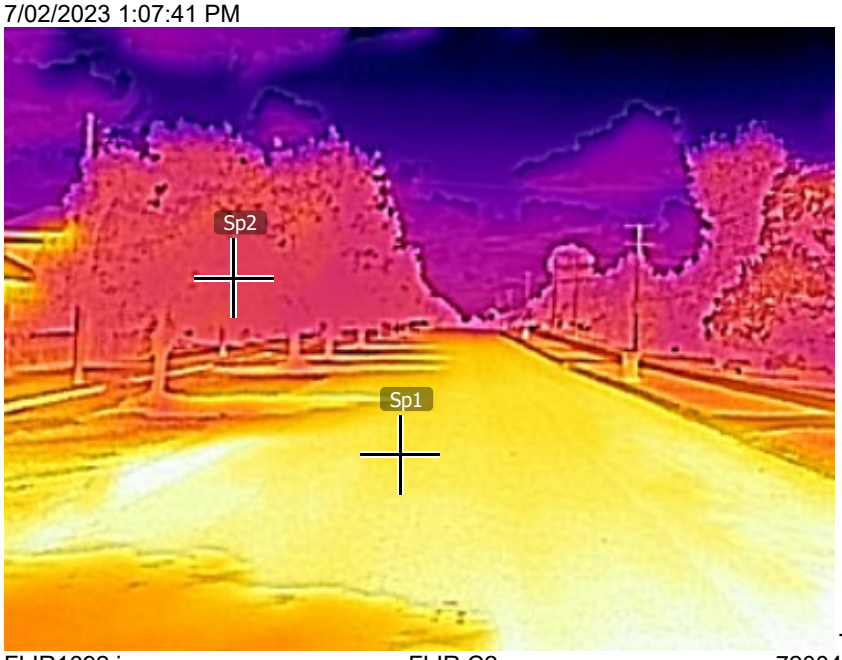
Sp1	57.5 °C
Sp2	28.4 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

Maitland St

7/02/2023 1:07:41 PM



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7/02/2023 1:07:41 PM



FLIR1692.jpg FLIR C2 720042480

Z-NET Uralla thermal image report

Measurements

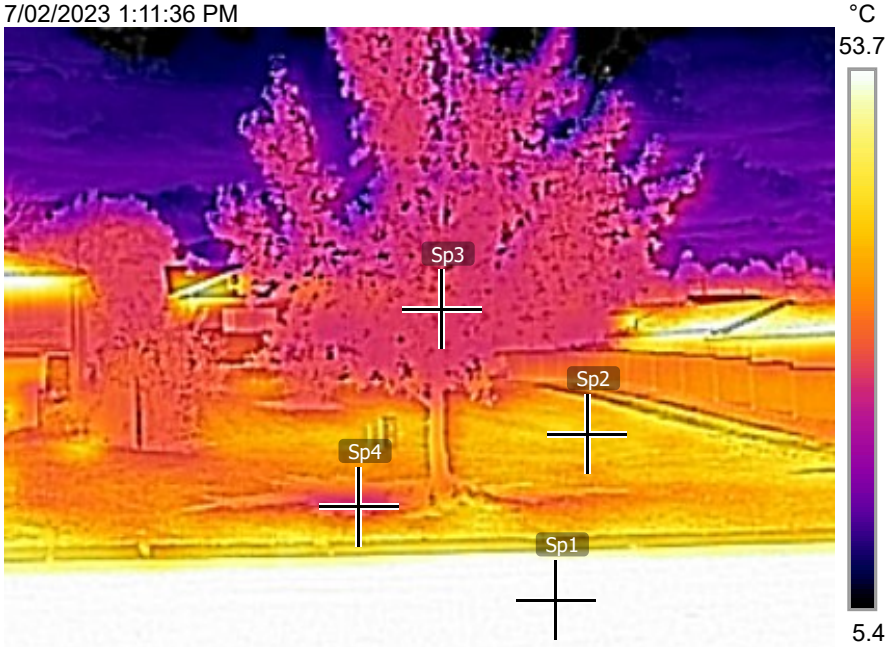
Sp1	58.9 °C
Sp2	41.3 °C
Sp3	29.1 °C
Sp4	28.5 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

Location 6
outside 8 Maitland St.
Very exposed, little shade, very little house garden planting in this street

7/02/2023 1:11:36 PM °C



FLIR1697.jpg FLIR C2 720042480

7/02/2023 1:11:36 PM



FLIR1697.jpg FLIR C2 720042480

Measurements

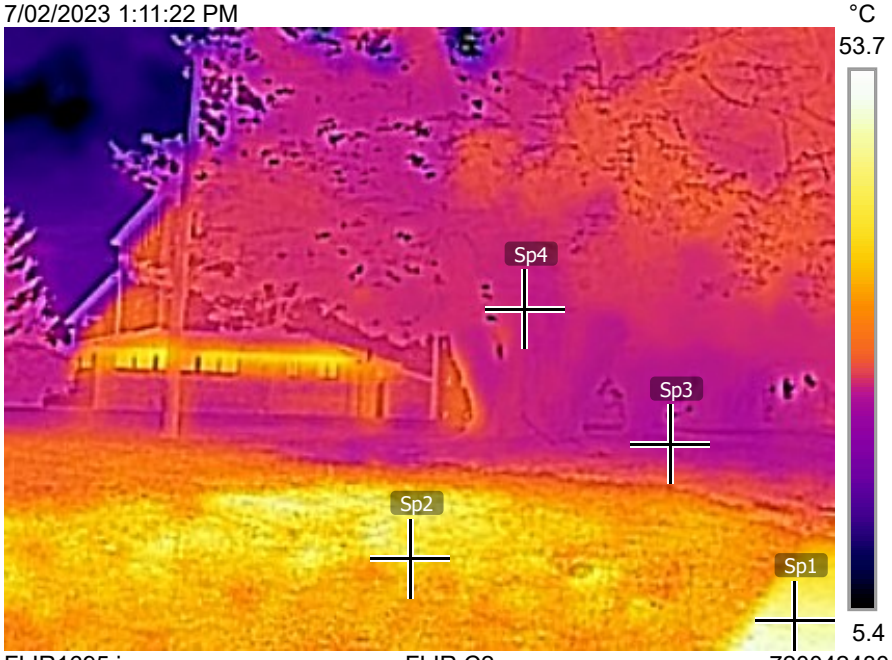
Sp1	48.3 °C
Sp2	43.0 °C
Sp3	27.0 °C
Sp4	27.9 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

Location 7
Large conifers on western side of street give good cover, ground is otherwise very bare and hot

7/02/2023 1:11:22 PM



FLIR1695.jpg FLIR C2 720042480

7/02/2023 1:11:22 PM



FLIR1695.jpg FLIR C2 720042480

Z-NET Uralla thermal image report

Measurements

Sp1	59.2 °C
Sp2	44.3 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

Location 11
Under seat in very exposed footpath 32 Bridge St

7/02/2023 1:29:24 PM



FLIR1698.jpg FLIR C2 720042480

7/02/2023 1:29:24 PM



FLIR1698.jpg FLIR C2 720042480

Z-NET Uralla thermal image report

Measurements

Sp1	57.1 °C
Sp2	29.0 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

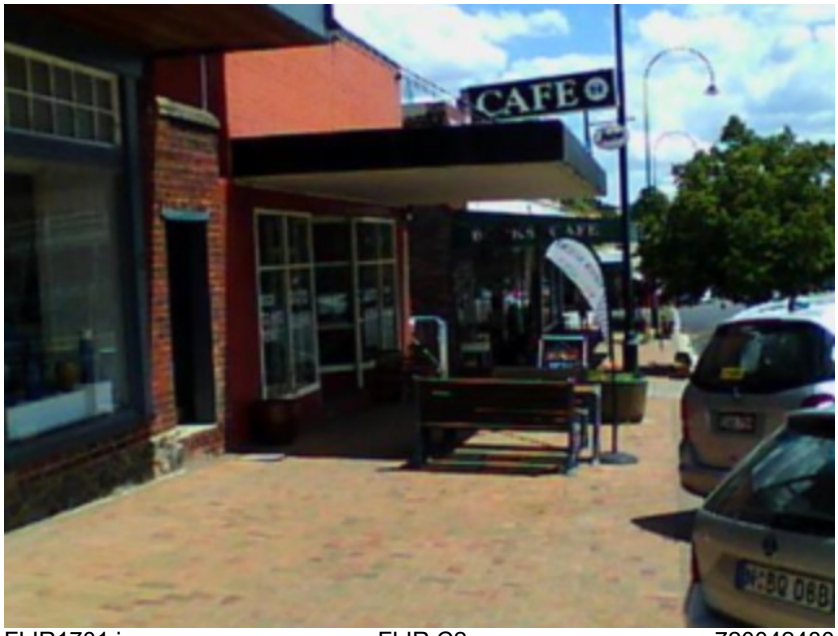
Location 10
42 Bridge St

7/02/2023 1:33:36 PM



FLIR1701.jpg FLIR C2 720042480

7/02/2023 1:33:36 PM



FLIR1701.jpg FLIR C2 720042480

Z-NET Uralla thermal image report

Measurements

Sp1	52.0 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

Location 10
42 Bridge St
some morning shade from shop awning

7/02/2023 1:32:56 PM



FLIR1700.jpg FLIR C2 720042480

7/02/2023 1:32:56 PM



FLIR1700.jpg FLIR C2 720042480

Measurements

Sp1	65.8 °C
Sp2	58.0 °C
Sp3	41.7 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

Location 9
morning shade from shop awnings.
tree provides some extra shade

7/02/2023 1:40:46 PM



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7/02/2023 1:40:46 PM



FLIR1702.jpg FLIR C2 720042480

Z-NET Uralla thermal image report

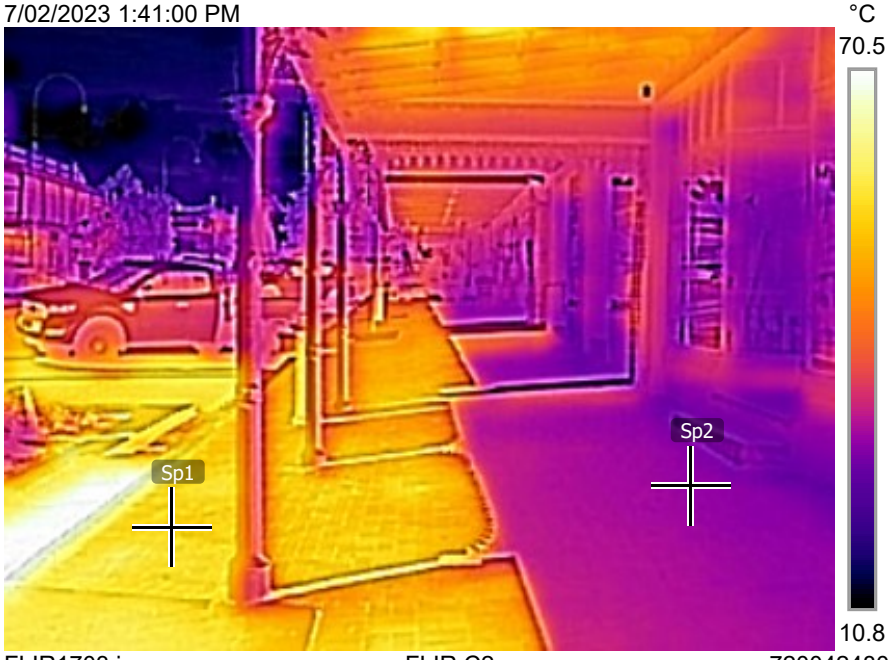
Measurements

Sp1	57.2 °C
Sp2	32.8 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

7/02/2023 1:41:00 PM



FLIR1703.jpg FLIR C2 720042480

7/02/2023 1:41:00 PM



FLIR1703.jpg FLIR C2 720042480

Z-NET Uralla thermal image report

Measurements

Sp1	55.4 °C
Sp2	34.0 °C
Sp3	32.3 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

Location 9
80 Bridge St

7/02/2023 1:41:31 PM



FLIR1704.jpg FLIR C2 720042480

7/02/2023 1:41:31 PM



FLIR1704.jpg FLIR C2 720042480

Z-NET Uralla thermal image report

Measurements

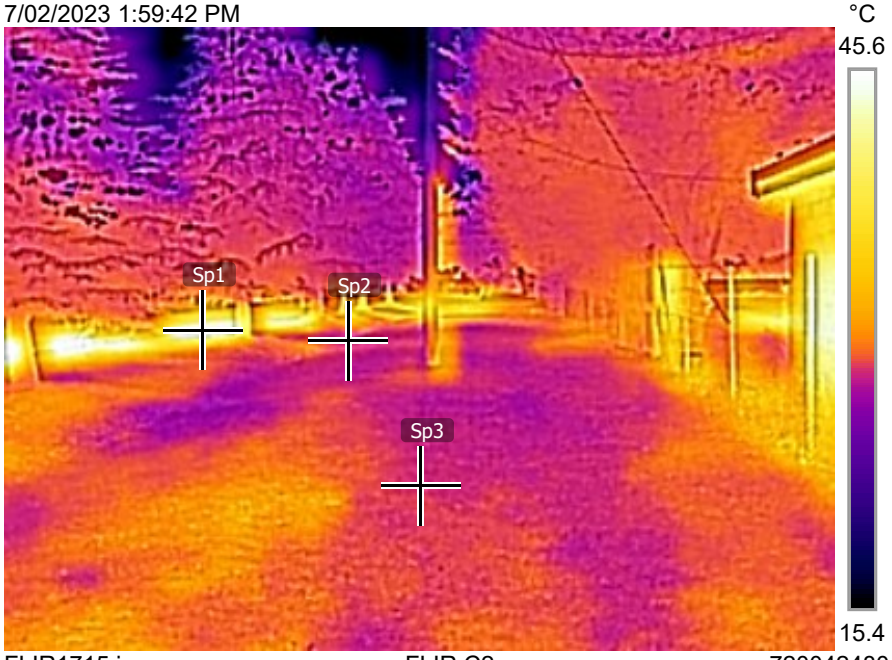
Sp1	47.1 °C
Sp2	29.3 °C
Sp3	29.7 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

Location 14
Gostwyck St near club house
some shade from a line of conifers

7/02/2023 1:59:42 PM



FLIR1715.jpg FLIR C2 720042480

7/02/2023 1:59:42 PM



FLIR1715.jpg FLIR C2 720042480

Z-NET Uralla thermal image report

Measurements

Sp1	52.3 °C
Sp2	33.3 °C
Sp3	29.1 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

Location 13
good street coverage and many well established house gardens

7/02/2023 1:56:06 PM



FLIR1714.jpg FLIR C2 720042480

7/02/2023 1:56:06 PM



FLIR1714.jpg FLIR C2 720042480

Z-NET Uralla thermal image report

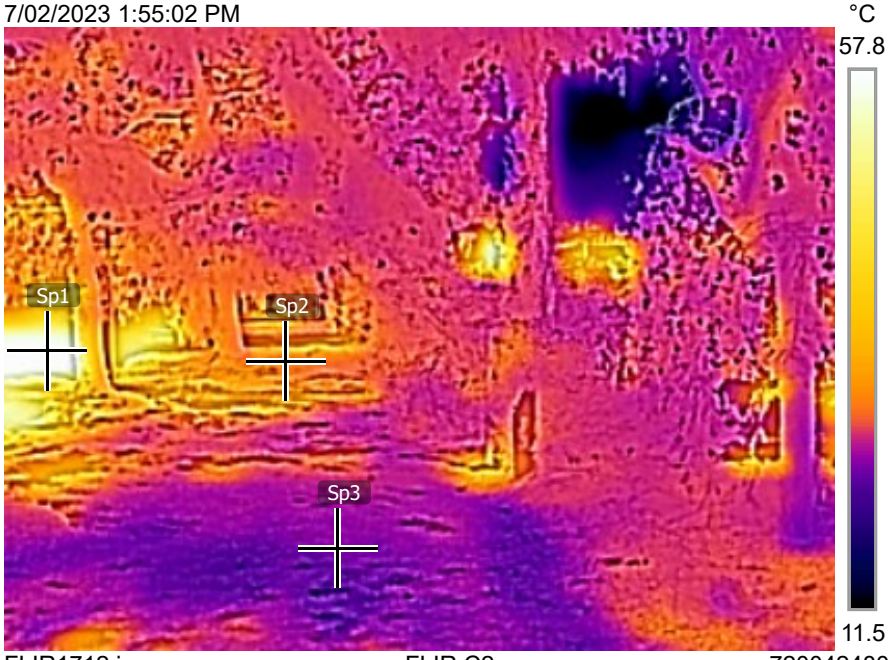
Measurements

Sp1	59.0 °C
Sp2	31.5 °C
Sp3	25.7 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

7/02/2023 1:55:02 PM



FLIR1712.jpg FLIR C2 720042480

Location 15
good street coverage and many well established house gardens

7/02/2023 1:55:02 PM



FLIR1712.jpg FLIR C2 720042480

Z-NET Uralla thermal image report

Measurements

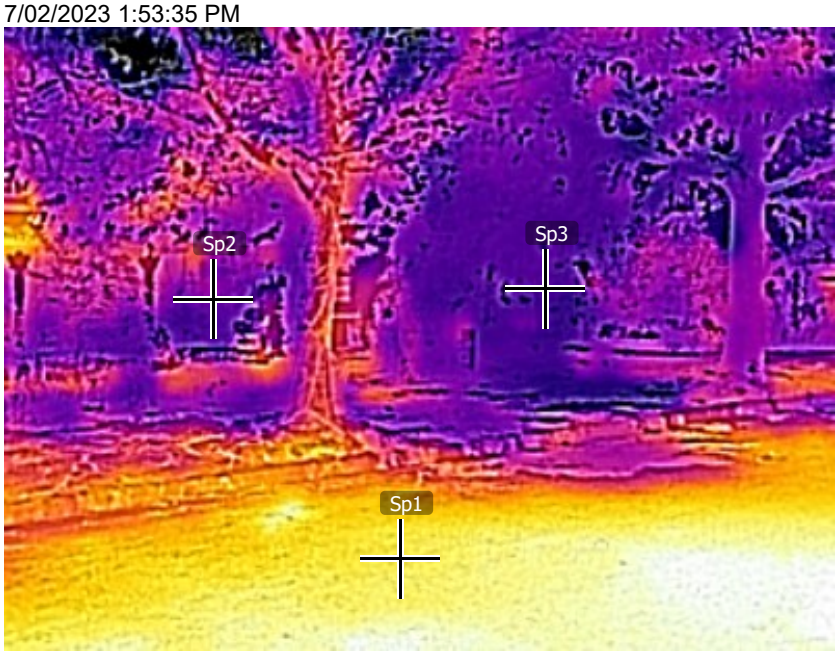
Sp1	61.2 °C
Sp2	31.1 °C
Sp3	29.6 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

Location 15
good street coverage and many well established house gardens

7/02/2023 1:53:35 PM



FLIR1710.jpg FLIR C2 720042480

7/02/2023 1:53:35 PM



FLIR1710.jpg FLIR C2 720042480

Keeping Uralla Cool - Meters Used and Data Collected

Meters in use

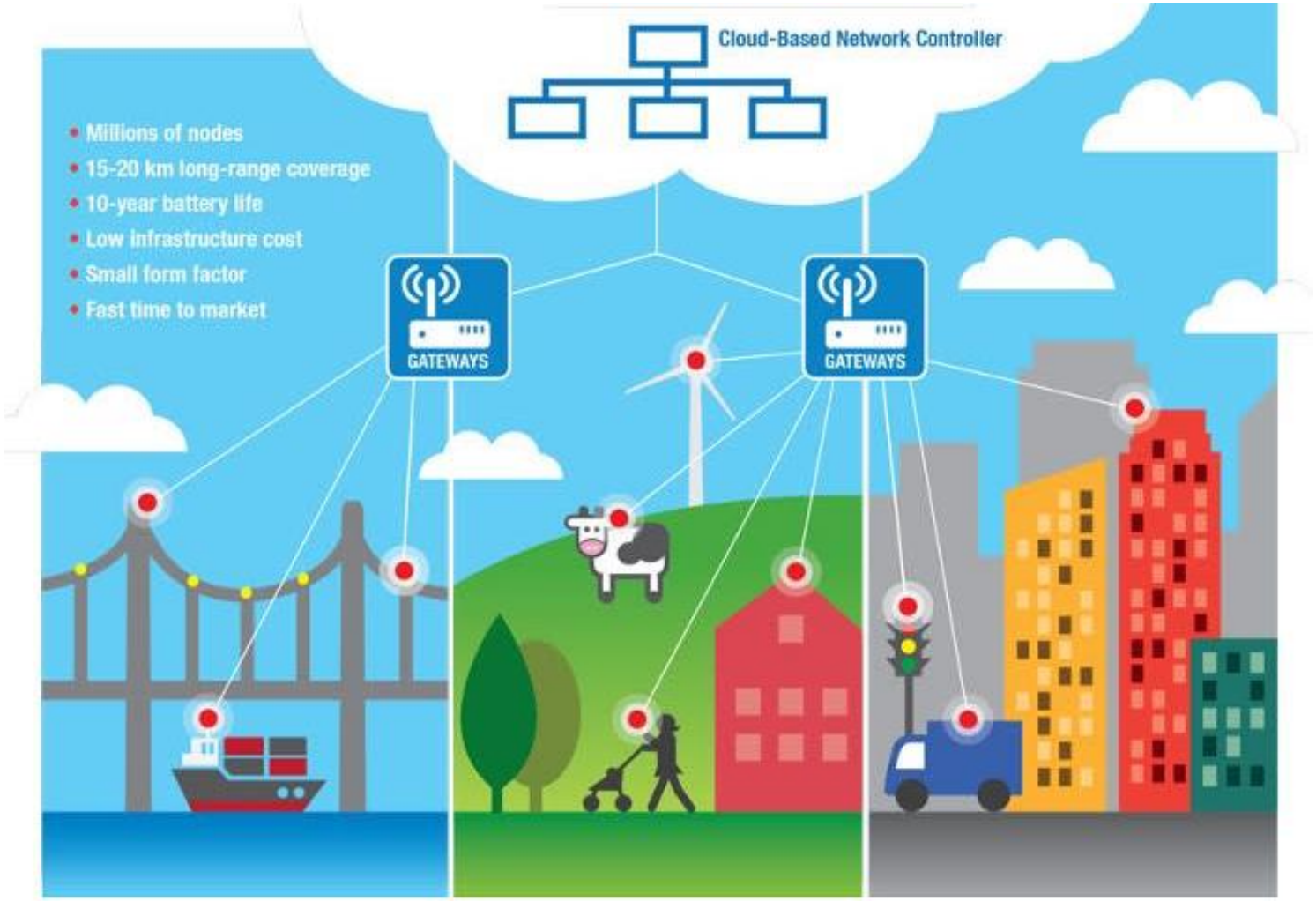








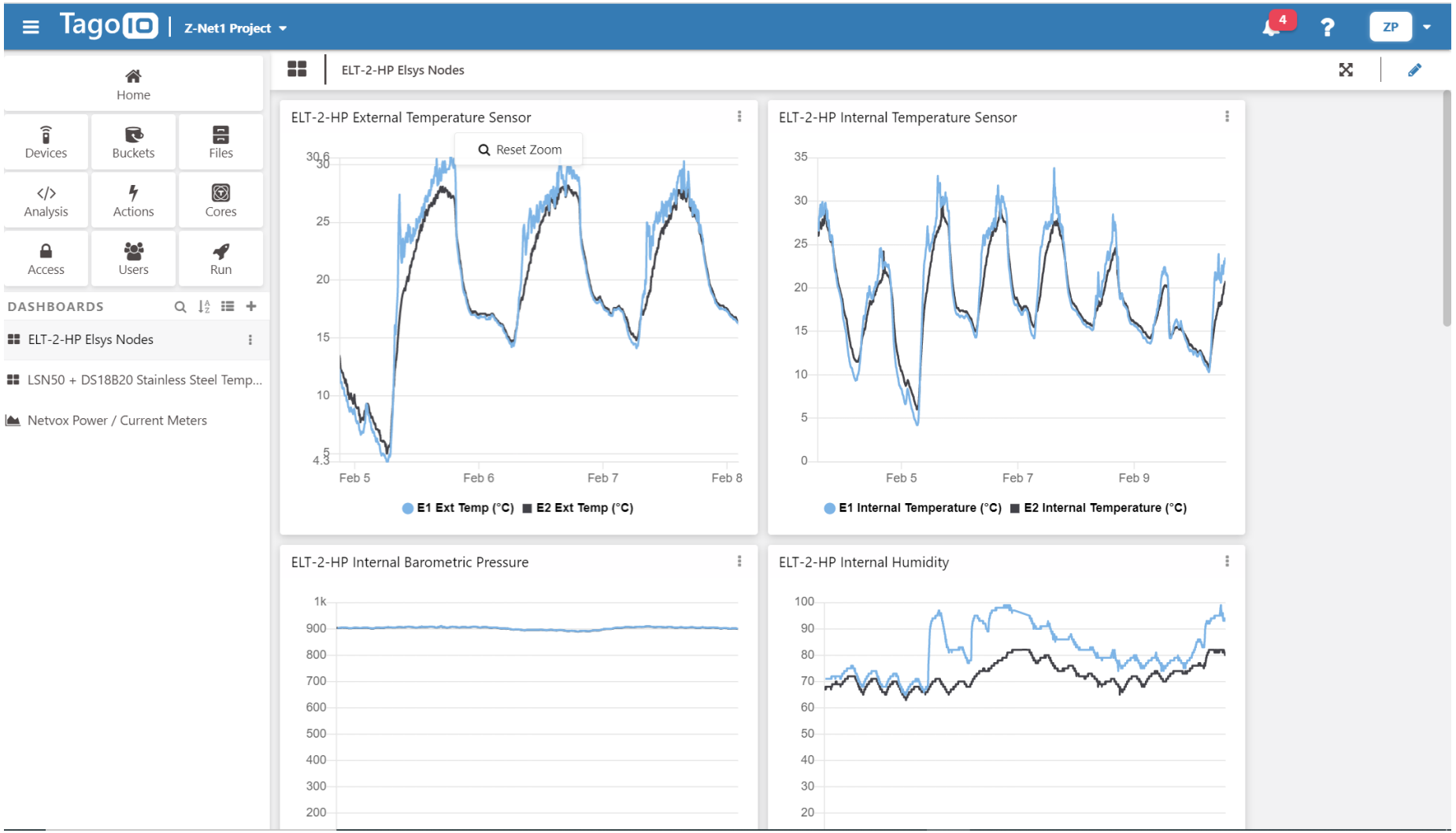
LoRaWAN data collection



LoRaWAN meters provide ready access to data collected via Computer and phone Apps.

Use of these LoraWAN meters in Uralla has been limited as some locations are shielded by large buildings or hills. Dataloggers were used in the CUB because of this limitation.

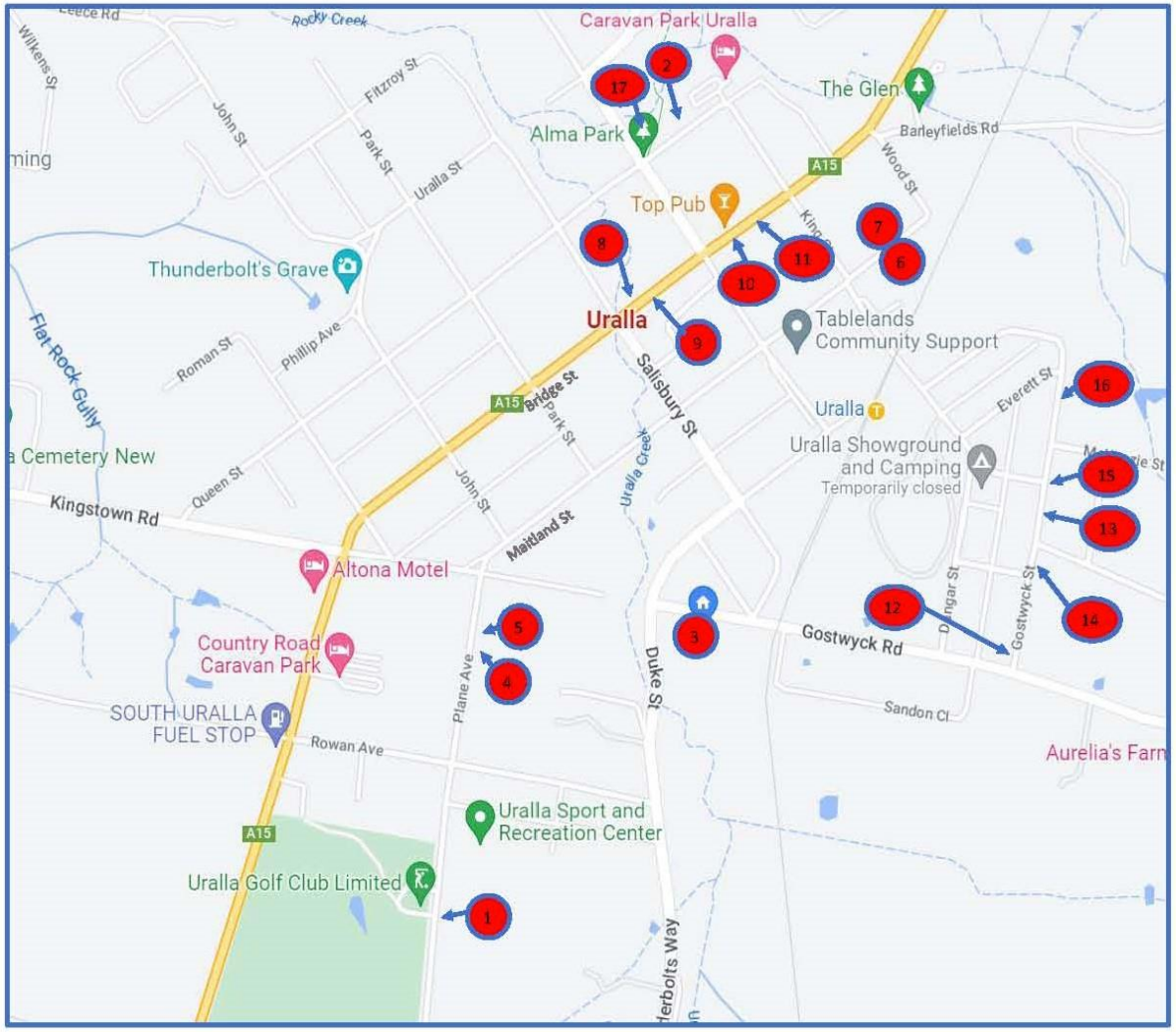
Tago – Server platform, data collection and App



Meters used and their locations

Location	Meter no.	System	Meter Model	Reading	Measuring Period		Desciption of location	Ht above ground (m)
1	LSN801	LoRaWAN	LSN50K	temp & RH	24/01/2023		in trees opposite Golf Club	1.8
2	LSN802	LoRaWAN	LSN50K	temp & RH	24/01/2023	7/02/2023	in tree in shady part of Alma Park at edge of tree cover	2.3
3	LSN803	LoRaWAN	LSN50K	temp & RH	24/01/2023		on back veranda 10 East St in full shade	0.8
4	LSN804	LoRaWAN	LSN50K	temp & RH	24/01/2023		under tree outside 14 Plane Ave	2.3
5	LSN806	LoRaWAN	LSN50K	temp	24/01/2023		in shielded box on fence post 10 Plane Ave	0.8
6	E1	LoRaWAN	ELT2HP	temp	24/01/2023		in tree outside 8 Maitland St	2.3
7	E2	LoRaWAN	ELT2HP	temp	24/01/2023		in trees across road from 6 Maitland St	2.1
8	OM26	datalogger	OM-EL-USB-2	temp & RH	24/01/2023	6/02/2023	under wooden seat outside 53 Bridge St, shaded afternoon	0.4
9	OM36	datalogger	OM-EL-USB-2	temp & RH	24/01/2023	6/02/2023	under wooden table outside 80 Bridge St, shaded morning	0.7
10	OM38	datalogger	OM-EL-USB-2	temp & RH	24/01/2023	6/02/2023	under wooden seat outside 42 Bridge St, shaded in morning	0.4
11	OM39	datalogger	OM-EL-USB-2	temp & RH	24/01/2023	6/02/2023	under wooded seat outside 32 Bridge St, no shade	0.4
12	OM26	datalogger	OM-EL-USB-2	temp & RH	6/02/2023		in shielded box on fence 2 Gostwyck St, no shade	0.6
13	OM34	datalogger	OM-EL-USB-2	temp & RH	6/02/2023		in large tree with no garden shade nearby	1.8
14	OM36	datalogger	OM-EL-USB-2	temp & RH	6/02/2023		in tree in heavily shaded nature strip near good garden shade	2.1
15	OM38	datalogger	OM-EL-USB-2	temp & RH	6/02/2023		in tree in heavily shaded nature strip near good garden shade	2.1
16	OM39	datalogger	OM-EL-USB-2	temp & RH	6/02/2023		in small tree with light foliage and no garden shade nearby	1.8
17	LSN802	LoRaWAN	LSN50K	temp & RH	7/03/2023		in tree in shady part of Alma Park depper in fully shaded area	2.3

Meter Locations



Location	Meter no.	System	Meter Model	Measuring Period		Desciption of location	Ht above ground (m)
1	LSN801	LoRaWAN	LSN50K	24/01/2023		in trees opposite Golf Club	1.8
2	LSN802	LoRaWAN	LSN50K	24/01/2023	7/02/2023	in tree in shady part of Alma Park at edge of tree cover	2.3
3	LSN803	LoRaWAN	LSN50K	24/01/2023		on back veranda 10 East St in full shade	0.8
4	LSN804	LoRaWAN	LSN50K	24/01/2023		under tree outside 14 Plane Ave	2.3
5	LSN805	LoRaWAN	LSN50K	24/01/2023		in shielded box on fence post 10 Plane Ave	0.8
6	E1	LoRaWAN	ELT2HP	24/01/2023		in tree outside 8 Maitland St	2.3
7	E2	LoRaWAN	ELT2HP	24/01/2023		in trees across road from 6 Maitland St	2.1
8	OM26	datalogger	OM-EL-USB-2	24/01/2023	6/02/2023	under wooden seat outside 53 Bridge St, shaded afternoon	0.4
9	OM36	datalogger	OM-EL-USB-2	24/01/2023	6/02/2023	under wooden table outside 80 Bridge St, shaded morning	0.7
10	OM38	datalogger	OM-EL-USB-2	24/01/2023	6/02/2023	under wooden seat outside 42 Bridge St, shaded in morning	0.4
11	OM39	datalogger	OM-EL-USB-2	24/01/2023	6/02/2023	under wooded seat outside 32 Bridge St, no shade	0.4
12	OM26	datalogger	OM-EL-USB-2	6/02/2023		in shielded box on fence 2 Gostwyck St, no shade	0.6
13	OM34	datalogger	OM-EL-USB-2	6/02/2023		in large tree with no garden shade nearby	1.8
14	OM36	datalogger	OM-EL-USB-2	6/02/2023		in tree in heavily shaded nature strip near good garden shade	2.1
15	OM38	datalogger	OM-EL-USB-2	6/02/2023		in tree in heavily shaded nature strip near good garden shade	2.1
16	OM39	datalogger	OM-EL-USB-2	6/02/2023		in small tree with light foliage and no garden shade nearby	1.8
17	LSN802	LoRaWAN	LSN50K	7/03/2023		in tree in shady part of Alma Park depper in fully shaded area	2.3

Meters in exposed locations





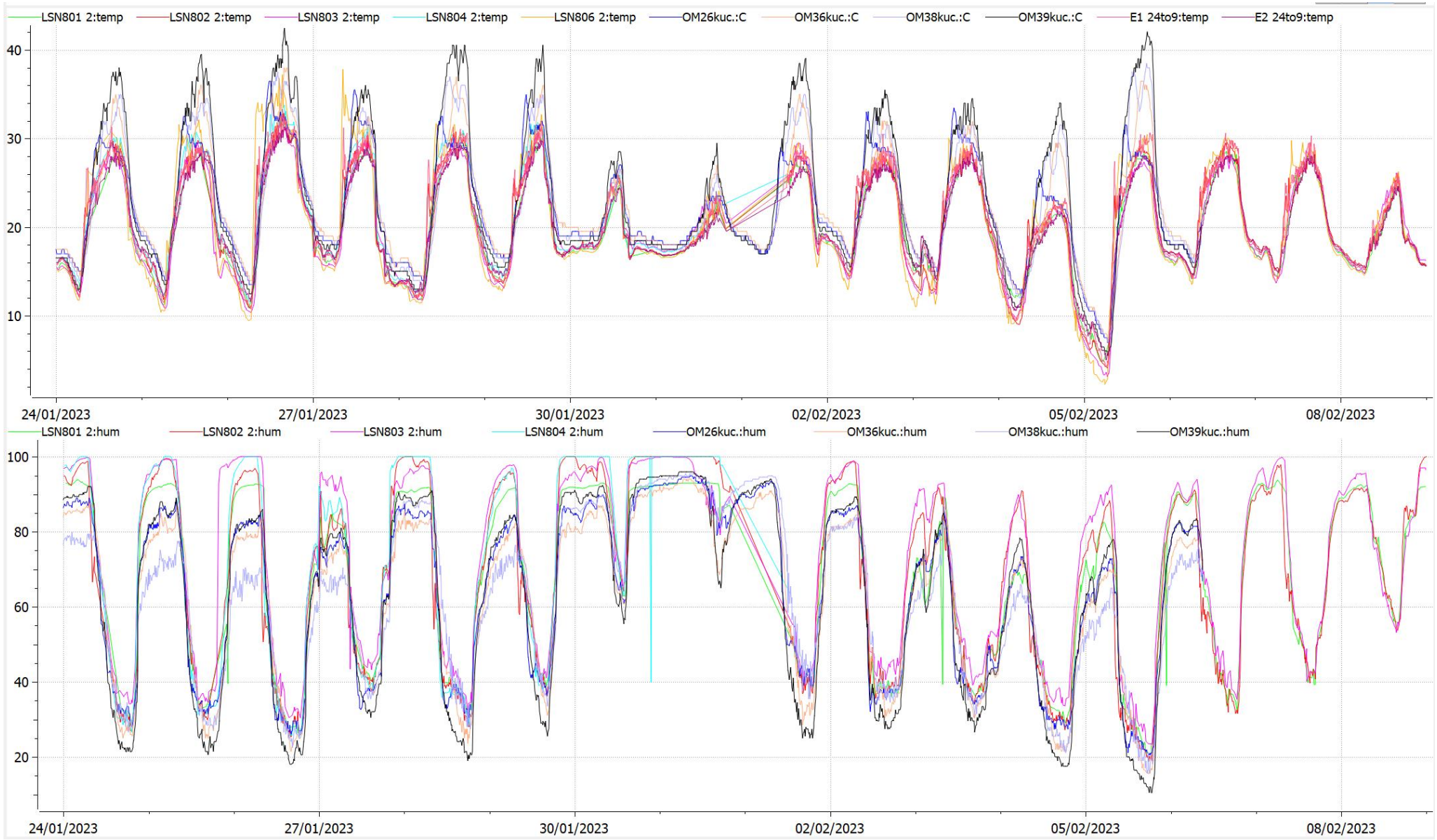
Meters in well treed locations



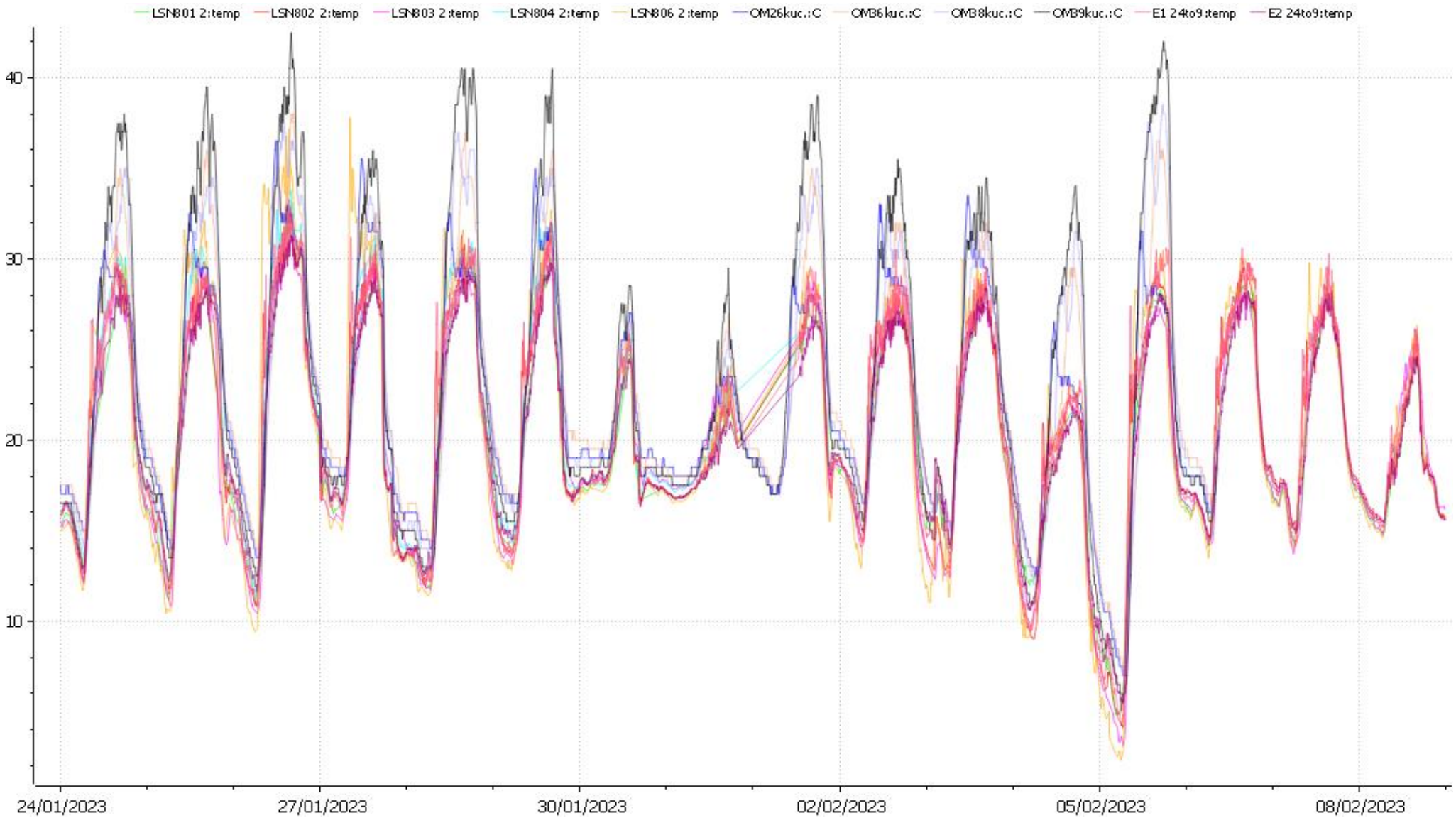
A meter in an oasis in an otherwise bare streetscape near sports centre



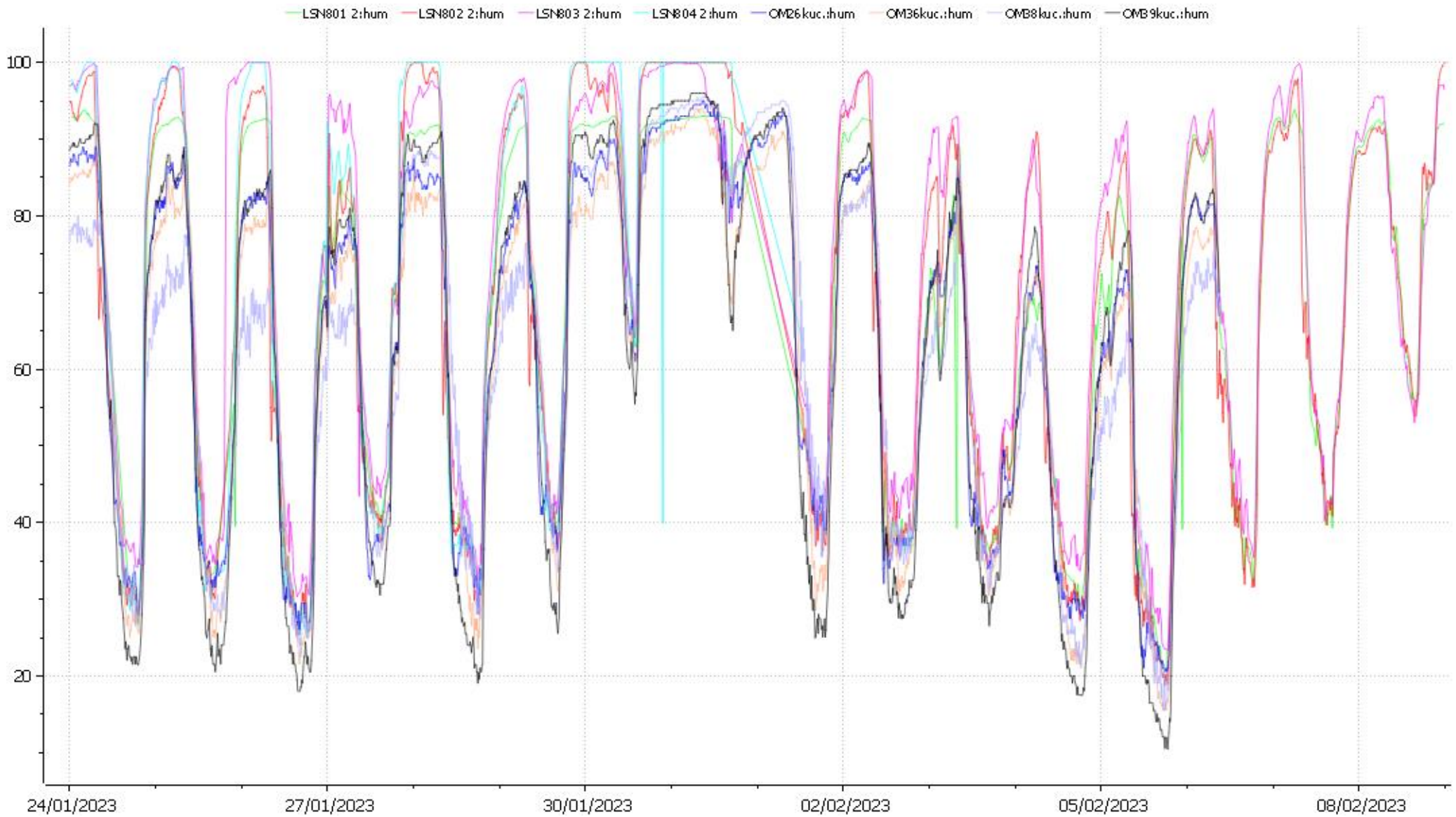
Temperatures and Rel Humidity – all data



Temperatures – all data



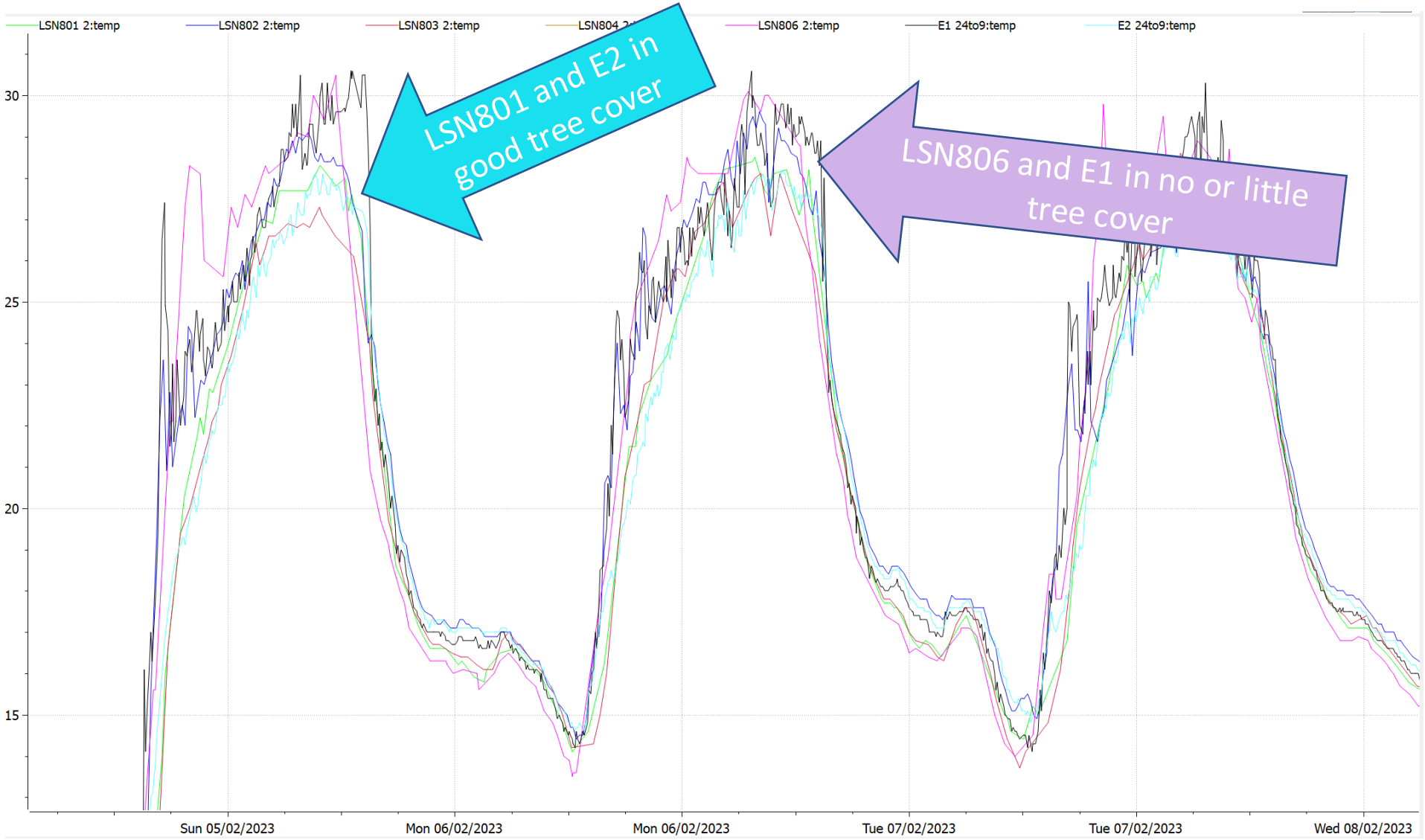
Relative Humidity – all data

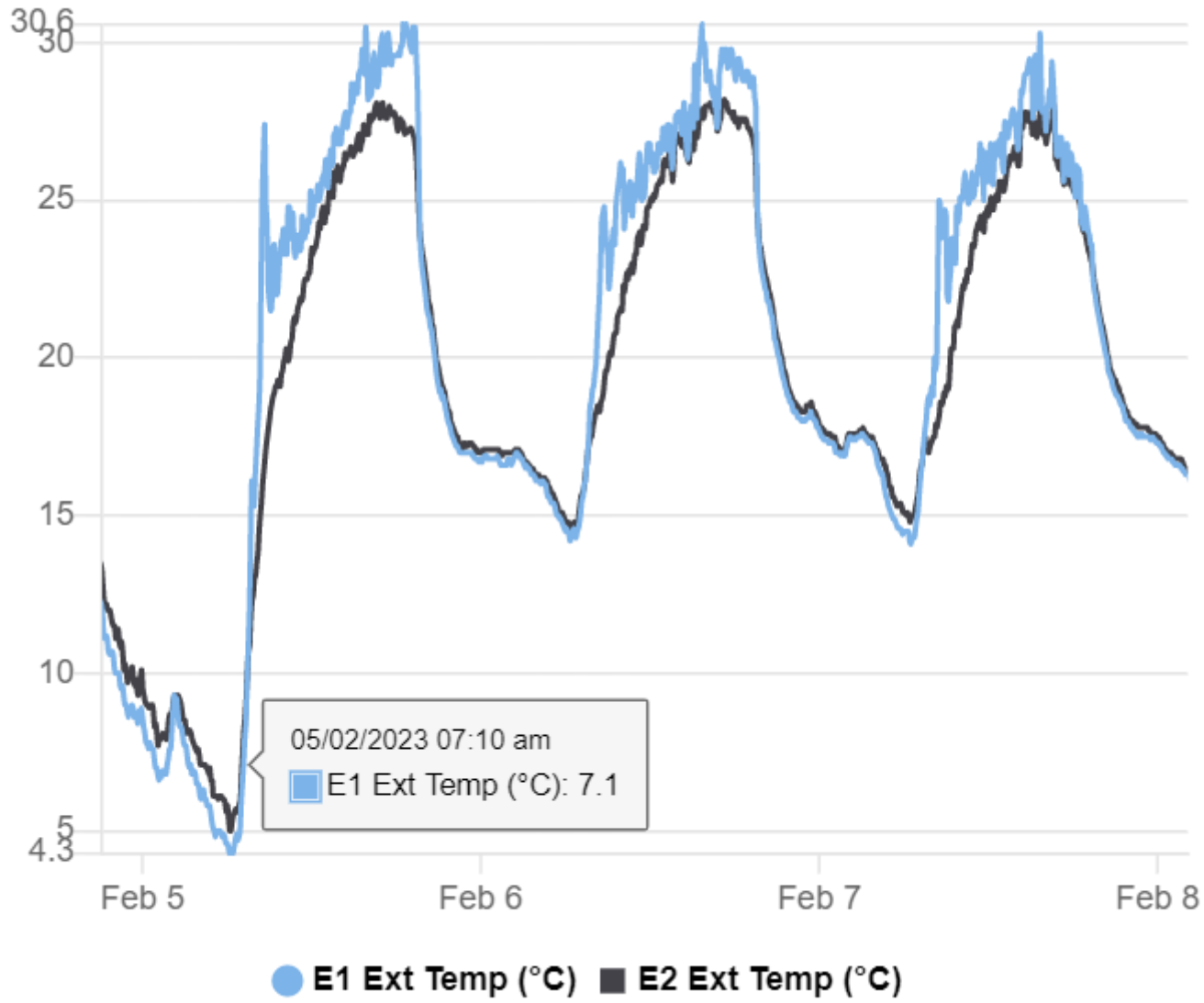


ELT dataloggers in Bridge St



LSN and ELT meters Plane Ave and Maitland St - temps only




30.6
30
25
20
15
10
5
4.3
Feb 5
Feb 6
Feb 7
Feb 8
05/02/2023 07:10 am
E1 Ext Temp (°C): 7.1
E1 Ext Temp (°C)
E2 Ext Temp (°C)

Meters in Maitland St – West side has good dense tree cover, though with little other vegetation. There are no or little garden plantings in this part of the street.



Thermal imaging - Bridge St street planting

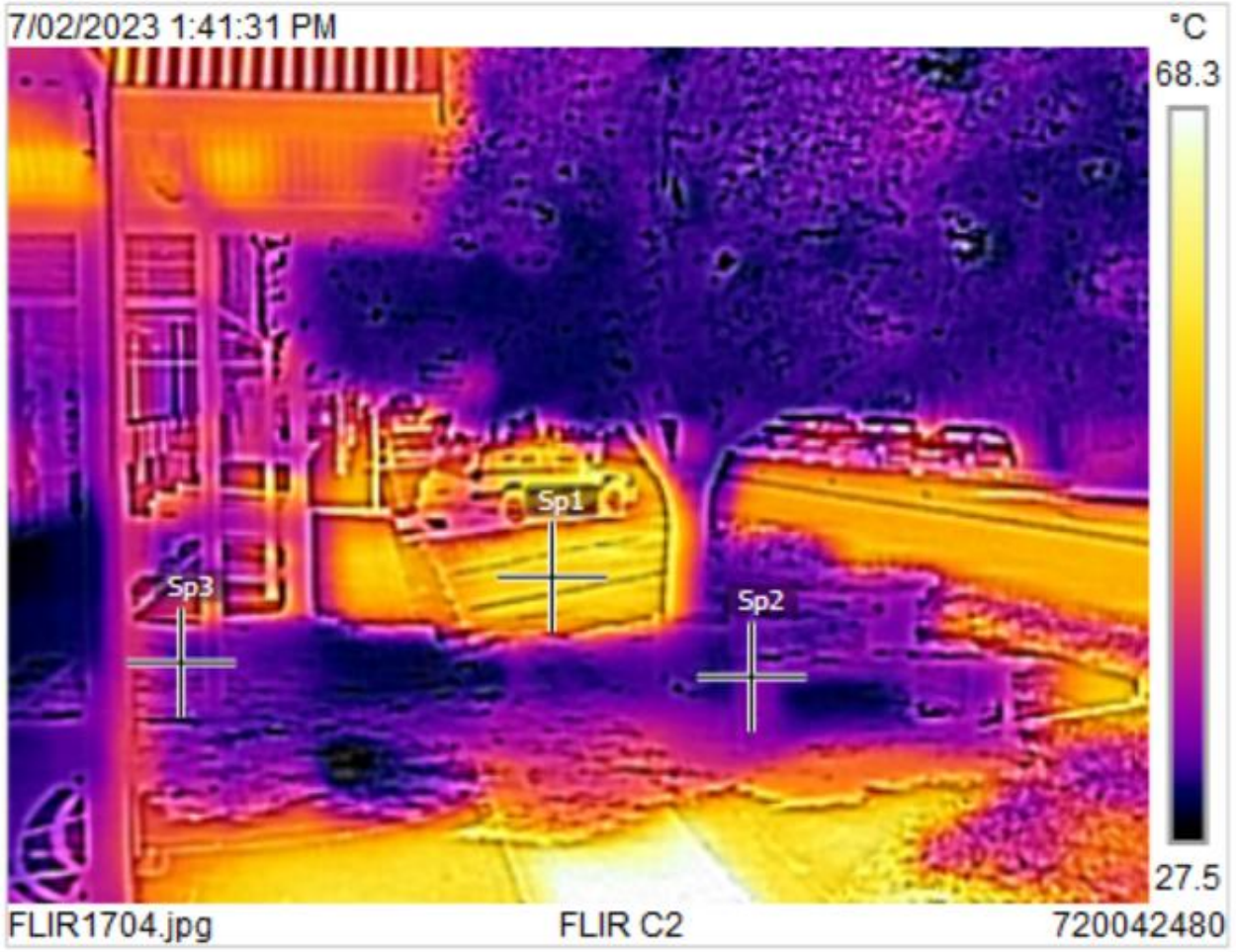
Measurements

Sp1	55.4 °C
Sp2	34.0 °C
Sp3	32.3 °C

Parameters

Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %

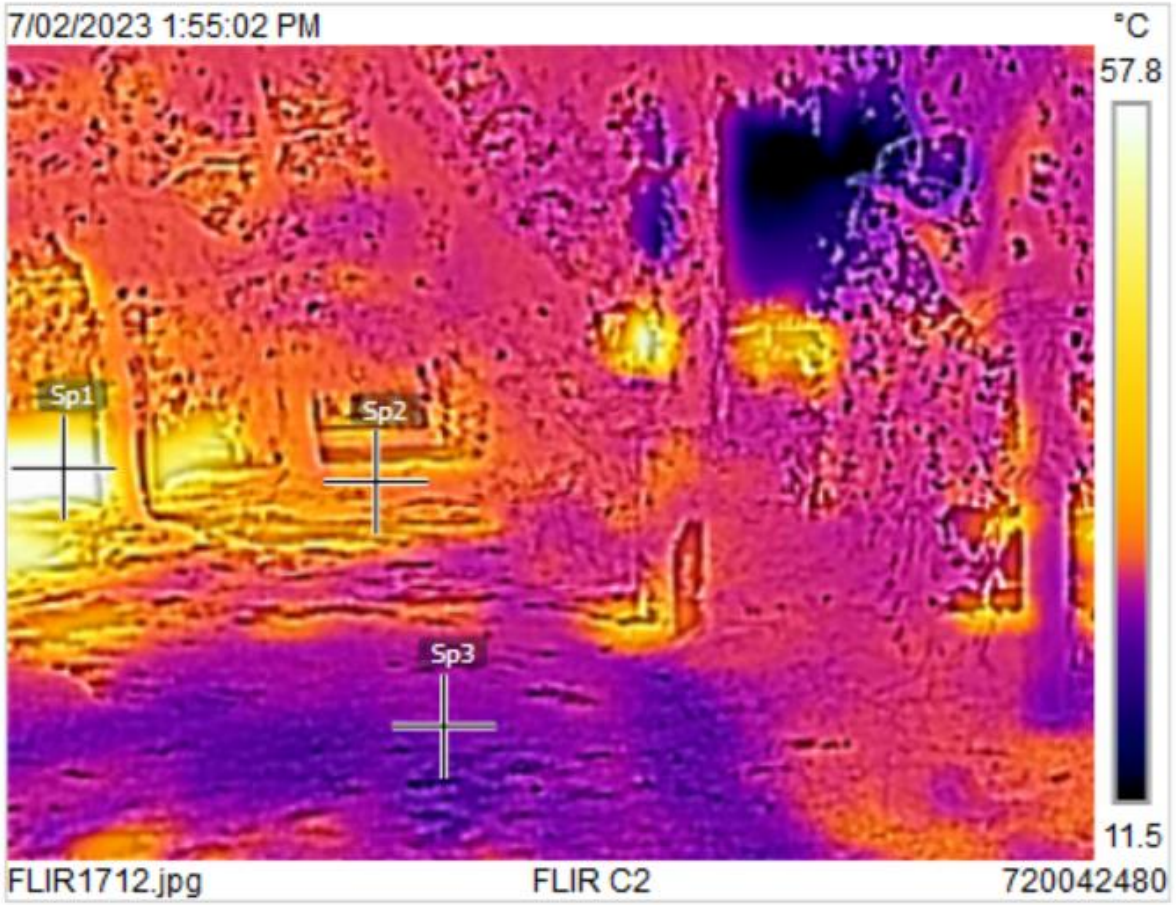
Location 9
80 Bridge St



Thermal imaging – a well planted section of Gostwyck St

Measurements	
Sp1	59.0 °C
Sp2	31.5 °C
Sp3	25.7 °C

Parameters	
Emissivity	0.8
Refl. temp.	30 °C
Distance	5 m
Atmospheric temp.	20 °C
Ext. optics temp.	20 °C
Ext. optics trans.	1
Relative humidity	50 %



Observations – Bridge St and Plane Ave-Maitland St

- Trees significantly reduce radiant heat in our street landscape
- The landscape measured mostly lacks vegetation with few trees, bare nature strips with no underplanting, house gardens are mostly lightly vegetated.
- Shop awnings provide some shade in the CBD with the eastern side providing best cover in the mornings
- Street trees in CBD help shield pedestrians from heat from roadways

APPENDIX C

Walking Audits and Streetscape Assessments

1. CBD Area of Bridge Street, Uralla Town Centre

Prepared by Carol Shantal and Rob Hughes

The CBD of Uralla is essentially the section of Bridge Street located between Salisbury and King Streets. It is the area most frequented by both residents and tourists. It is therefore critical that this area provide an environment that is safe and comfortable, easily accessed, and protected in variable weather conditions with amenities such as seating and attractive planting that create inviting spaces for social interaction.

Using the headings from the Walking Audit form, our findings are as follows:

Footpaths
The paved footpaths are generally in good condition on both sides of the street from Salisbury to King Streets.

An exception to this is the pavement in front of the Top Pub to up to King Street. In this area, the surface is very poor and there is no path, reducing access for wheelchairs or prams all the way around to Alma Park. Urgent paving and pathway required.

Also, the slope of the footpath on the eastern side of Bridge Street poses some challenges for steering of mobility vehicles and use of seating furniture.



Bridge Street North past the Brewery



Eating and seating - Note quite steep slope of the paving.



Well designed paving Bridge St West side outside Literary Institute allows easy wheelchair access.

Street Furniture
Street furniture includes seating and tables, shade structures, waste bins, drinking fountains, bicycle parking racks, signage and notice boards.

Seating

More businesses are opening on the western side of Bridge Street, however much of the western side of the street lacks shade and seating.

It is suggested that appropriate shaded seating spaces be provided, either located near shade trees or seating that includes a shade structure. This would improve interaction with businesses, walkability in hot weather and provide protection from rain in wet weather. The footpath on the eastern side of the street is mostly under cover along the shopfronts.

When funding is available to implement the installation of additional street furniture, we recommend consultation with businesses to determine optimum placement of these items. For example, one possible location for additional seating is in front of the Bushranger Motel, but the motel owners should be involved in that decision.



Planted area with shade tree on eastern side Bridge Street. Seating area looks inviting.



Unshaded picnic table outside the Bolt Inn sits on a slope without shade and close to the kerb.

Waste bins

With the increasing focus on waste mitigation and improving our recycling rates, bins for general rubbish and recyclables should be installed with clear labelling indicating which items should be disposed in specific bins. Currently, the bins along Bridge Street do not include separate containers.



Fading beauty of rubbish bins but no recycling bin

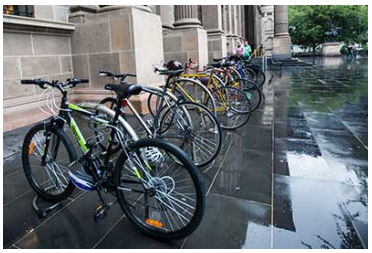
Drinking fountains

There are no drinking fountains on Bridge Street. Free, clean drinking water minimises the purchase of plastic bottled water and encourages people to remain hydrated in hot weather. Contemporary designs for drinking fountains or 'water kiosks' provide taps for getting a drink, refilling personal water bottles, and ground level bowl for animals –-and we do have a lot of dogs in Uralla!

Bicycle racks

Currently there are no bicycle parking racks along Bridge Street. With the increasing sales of e-bikes, suitable racks are required to safely park bicycles on the main street. This will encourage people who want to minimise vehicle use to reduce their emissions and enjoy some healthy exercise. Using their bicycle to do daily errands in the Town Centre would be encouraged.

Possible locations for racks would be adjacent to the motor bike stand in Hill Street or adjacent to the Subway shopfront.





Notice Board

A centrally located community notice board provides timely messages and information to residents and visitors about events and services that are taking place in Uralla and surrounding communities. It's a free service and one that is easily maintained and managed. A potential site for a community notice board would be next to the busy, well-frequented Community Street Stall on the eastern side of Bridge Street.



Amenities

Public toilets in the Town Centre

While there are public toilet facilities located in Salisbury Street and at Alma Park, they are not conveniently located, particularly for elderly pedestrians who are shopping in the town centre or parents who are accompanied by young children. It is suggested that Council consider locating a new toilet facility in the existing carpark/picnic area behind the shops on the eastern side of Bridge Street. The toilets could be accessed through the breezeway located halfway along the street. Signage along the streetscape would direct people through the breezeway to the carpark.

Breezeway cool spots

The existing breezeway, marked at its Bridge Street entrance with a 'gateway'-type structure, pavement art, curving brick paving, and a mural along an interior wall, also provides cooling breezes between the buildings. It provides clear access to the rear car park, however, it is greatly underutilised. In hot weather, passageway could provide a welcome cool spot to rest or chat with friends away from the noise of traffic.

The addition of seating with backs and improved lighting, eg LED lights, would make the breezeway space more attractive and improve the sense of safety for users. There are two other breezeways, privately owned, along Bridge Street that could also provide similar connections between the main street and the area behind the shops; both privately owned.



Traffic control and vehicle movement

Pedestrian crossings

The provision of multiple road crossings is complicated by the fact that Bridge Street is also the New England Highway and carries a high volume of heavy vehicle traffic. From observation, the existing pedestrian crossing in the centre of Bridge Street is not used by the majority of pedestrians crossing the road.

As funding becomes available, we suggest this one centre crossing be removed and replaced with 2 crossings:

- Crossing One, near the Salisbury Street end of Bridge Street where people are routinely crossing from the supermarket to parking or shopping on the western side.
- Crossing Two, closer to Hill Street to provide safe crossing for patrons of services and businesses along Hill Street.

Speed limit through the Town Centre
It is recommended that Council explore with Transport for NSW reducing the speed limit through the Town Centre to 40km/hr. This would address the issues of pedestrian access and safety, as well as provide a slightly quieter streetscape character for shoppers and people having lunch or coffee in the sidewalk cafés. It was noted that the town of Tenterfield, which is also on the New England Highway, has a speed limit through the town of 40km/hr. (There is also a proposed by-pass being planned for Tenterfield.
https://www.transport.nsw.gov.au/projects/current-projects/tenterfield-heavy-vehicle-bypass)

Carpark at rear of shops east of Bridge Street
Shading would encourage more use, either through plantings or constructed cover. A constructed cover could also be a framework to support solar panels for community power. As some shops back onto this area, over time it could be developed as a small precinct away from the noise of Bridge St


Parking rear of shops


Park and picnic area rear carpark

VISUAL AMENITY & AESTHETICS

Trees
Trees offer shade, cooling, absorption of CO2, increased oxygen levels and habitat. They also have a calming influence as well as visual appeal
As Bridge St is part of the New England Highway and used by large and heavy vehicles, large trees that grow to overhang the road are not suitable. The Linden trees currently planted work well, although they are slow growing. Another option might be crepe myrtles which seem to be popular in Uralla.

- Suggestion - Trees to be planted in vacant blisters in front of Millie's Tuckshop, Regional Bank and anywhere suitable on the western side of the street.

Traffic Blisters

Well-kept blisters are an attractive welcome to a town with the opposite being true of those that are unkempt. Growing, watered plants also add to the cooling effect of the space and offer welcome places of refuge in hot weather conditions.



Neglected garden outside bank



Garden corner Bridge & Hill Streets tended by Tom O'C

Apex Park

At the time of this review, Apex Park appeared to be well used but sadly neglected. The picnic bench and shade structure canopy need some minor repair and repainting. The nearby planting includes an unfortunate mix of blackberries and other weeds.

As stated in relation to the blisters, unkempt public areas do a disservice to both the areas of tourism and business in the town, particularly when they are placed at the entrance to the town.





WATERING SYSTEM FOR BRIDGE STREET

We noted that a watering system was originally set up for the blisters, however this has not been maintained. Repair of this system would encourage improved maintenance of street plantings.

Summary

The CBD of Uralla is seen as a vibrant, creative space with some quirky and innovative shops and great coffee. It attracts daily visits from local residents as well as many visitors who see Uralla as a destination and not just a place to stop by for coffee or pass through.

By adopting the suggestions outlined above not only will the town be providing public spaces that encourage residents to be out and about in a healthy, happy, safe and social way, it will be encouraging visitors to linger longer in a town that provides the amenities for comfortable meandering with a variety of options to suit the ambient conditions.

Some of these suggestions such as:
- changing pedestrian crossings
- upgrading the parking area possibly with community solar
- constructing new public toilets
- installing more street furniture with shade covers

… will have to wait until funding is available.

However, there are some simple things that could be done easily and with little expense. These suggested 'quick fixes' are listed below:
- plant trees in the vacant spaces in the blisters.
- keep the blisters well-watered and maintained.
- tidy and repair the seating and canopy in Apex Park.
- install LED lighting in the Breezeway with some seating.
- install 2 drinking fountains incorporating water bottle filling and animal bowls.
- install bike racks.
- repair watering system for street plantings.

2. Hill St Walking Audit

Prepared by Megan Robinson & Murray Stocks

Introduction

As part of the Keeping Uralla Summers Cool project, a walking audit of Hill St was conducted 31st March 2023. The walking audit covered both sides of Hill Street from the Railway Station terminus to Alma Park.

The Audit was divided into three sections:

1. Uralla Station to Maitland Street
2. Maitland Street to Bridge Street
3. Bridge Street to Alma Park

1. ***Uralla Station to Maitland Street***

Main issues:

- no shade available in the carpark area
- carpark surface is very uneven
- pedestrian footpath into the town starts some distance from the carpark,
- lack of continuous shade and seating when walking on this section of the Hill St footpath.







2. Maitland Street to Bridge Street
Main issues:

- lack of any shade other than directly in front of the Church
- no seating available on either side of the road
- trees planted in central road blisters provide no practical shade





3. Bridge Street to Alma Park

Main issues:

- lack of any shade or seating along this stretch of the street
- footpath on the north side of Hill Street terminates before reaching Alma Park





Summary

The Walking Audit of Hill Street highlighted the general lack of shade, lack of seating/resting spots and no provision of drinking water, both at the station and along either side of Hill Street.

Pathways need a clear starting points and destinations; they should not just disappear.

The selection of tree species currently planted in the road blisters along Bridge Street should be reviewed as they currently provide little practical shade.

3. East Street Walking Audit

Prepared by Megan Robinson

As part of the Keeping Uralla Summers Cool project a walking audit of East St was conducted on 3 February 2023.

This audit, addressing East Street between Maitland and Bridge Streets, was prompted by a conversation with a resident who commented on the amount of foot traffic in front of her house going up to the 24-hour roadhouse on Bridge Street (New England Highway).

Due to the complexity of the road between Maitland and Bridge Streets, only the southern side of the street was reviewed for this audit.

The review revealed that the streetscape provides no footpath, no shade trees, no seating/resting points and no water stations along the length of the block.





Recommendations

East Street (between Maitland and Bridge Streets) would invite more pedestrian activity during the day if suitable shade trees were planted along the southern length of the block. Although the verge is relatively flat, it would benefit from an extension to the (planned) pathway from Maitland Street.

At least one seat/resting place would be beneficial for those who might require it.

APPENDIX D

ZNET Uralla's Record of Tree Planting

ZNET member and KUSC Workshop participant, Peter Low and ZNET President, Carol Shantal provided a timeline recording community-based tree planting and related urban greening activities. Peter started by commemorating gazettal of Alma Park and Hampden Park in 1889, with 100 trees being planted in Alma Park four years later. Then he notes "ongoing tree planning and removal across the township" for some 90 years up to the 1980s. The list below picks up with activities since the 1980s.

1980s	Was a period of organised street tree planting carried out across the town with the Uralla Garden Club working with Council staff.
1990s	Porter Park planted by Julie and Noel Porter, located next to the Council Offices Greening Australia, Harnham Landcare and Armidale Tree Group planted thousands of trees around The Glen and Racecourse Lagoon
2003-2005	Uralla Garden Club prepared a street tree management and planting plan for Council to ensure suitable trees were planted and pruned where suitable; some replaced to better suit their proximity to overhead powerlines, driver visibility and other needs. This plan was accepted by Council but ignored by Northpower the grid operators.
2000-2012	Uralla Rivercare Group cleaned out weed trees and planted in Uralla creeklands
2015	Street Tree Survey conducted by Stephanie McCaffrey (Environmental Management Coordinator, Uralla Shire Council), Peter Low, Jane Rudd, and Frank Low. This may not have been completed as Stephanie moved to other work.
2018	Uralla Shire Council commissioned an Open Spaces Strategy study by Moir Landscape Architect, which is now Council's guiding document for planning annual open space improvements. https://www.uralla.nsw.gov.au/files/assets/public/council/public-notices-amp-exhibition-documents/uralla-open-space-strategy-23-november-2021.pdf
2021	Uralla Shire Council's Public Spaces Legacy Program Project Plan finalised for The Glen, Rotary Park, and Pioneer Park https://www.uralla.nsw.gov.au/Council-Services/Major-Projects/Public-Spaces-Legacy-Program-projects#:~:text=The%20PSLP%20project%20aims%20to,Park%20and%20The%20Glen%20Precinct.

2021-22 ZNET Uralla “Nooks and Crannies” tree planting has been carried out at the following locations around Uralla, with a total of with 470 trees being planted.

- Uralla Street—Central School
- Woodville Reserve
- Corner Barleyfields and Warwick Street
- Pomona Road
- Gostwyck Road
- Salisbury Street
- McDonalds Lane
- Everett Street
- Alma Park
- High Street
- 77 Barleyfields Road
- Salisbury Crescent—along the street
- Railway line
- Railway Station