

23 December 2015

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Dear Mr Hayes,

**Re: Permit Application Number: PP2001/160.A**  
**Subject Land: Titan Willows' Rock and Scoria Quarry, Princes Highway, Camperdown**  
**Lot 1 TP 667906P, Parish of Colongulac**

The National Trust has advocated for the protection of the Leura Maar, within which the subject land sits, since the 1970s. Mt Sugarloaf was saved from destruction in an unprecedented conservation battle - nowhere else in Australia had local people taken direct action to save a natural landmark. Local residents actually sat in front of a bulldozer during the battle to save the mount in 1969. The National Trust purchased the land in 1972 to prevent any further quarrying of the scoria and to guarantee the preservation of the remaining mount. Today Mt Sugarloaf is considered the best example of a scoria cone in the Western District, and is cared for by Corangamite Shire Council, the Management Committee and the Friends of Mt Leura.

The Mount Leura complex is one of the largest maar and tuff volcanoes in Victoria, and is a prominent feature in the Kanawinka Geopark, part of the global geoparks network. Following this international recognition, the educational value of the Leura Maar is growing, thanks to local volunteers who have installed a geocaching trail and volcanic education centre in addition to the existing interpretive trails, signs and lookouts.

As you will be aware, the permit application falls within Significant Landscape Overlay Schedule 1 (SLO1) Volcanic Landscape Areas. This reflects the National Trust's main area of concern as an advocate for significant landscapes.

The SLO1 maps show that the extent of the overlay covers the broader Leura Maar complex, including the Mt Leura and Mt Sugarloaf reserve, and surrounding private property.

The National Trust highlights that the statement of nature and key elements of landscape at part 1.0 states that Corangamite Shire *"contains some of the State's most significant volcanic landscapes and features. These areas provide visual interest with variation in topography and vegetation and are to be protected from inappropriate development."*

The National Trust has assessed the application against the decision guidelines of SLO1. The decision guidelines have been numbered for cross-referencing within this submission.

In considering this application, the responsible authority should consider, where appropriate:

**1) Whether the proposed siting will meet the landscape character objectives of this schedule.**

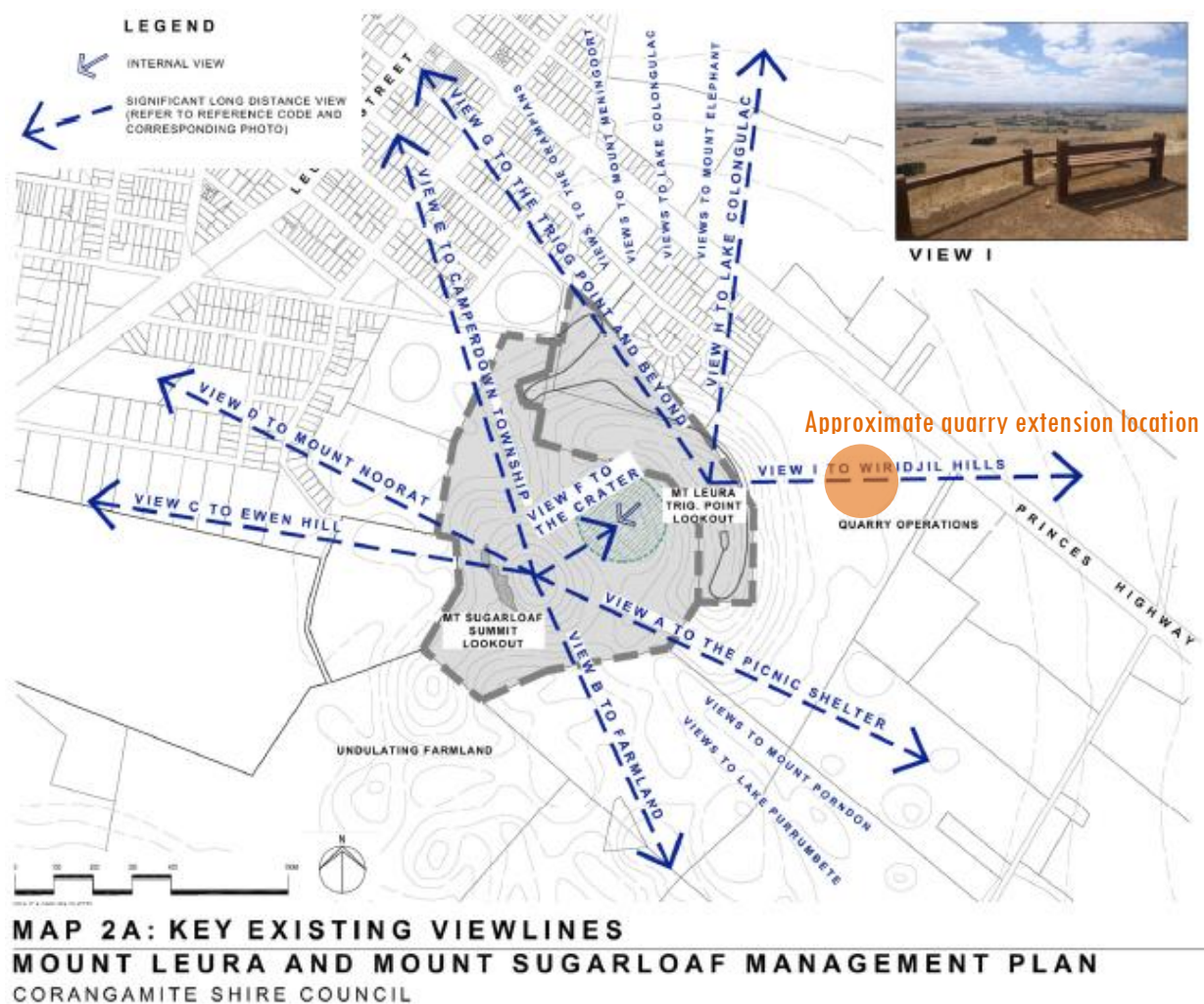
The National Trust submits that the proposal does not comply with the following landscape character objectives at part 2.0 of cl 42.03 SLO1:

- i) **To protect and enhance the visual and environmental quality and character of volcanic features, including crater lakes and scoria cones and their environs.**

The proposal does not protect or enhance the visual and environmental quality and character of the Leura Maar and its environs.

The permit documentation acknowledges that there will be a significant visual impact from this development on the vistas from the Mt Leura summit; the Work Authority No. 5 (undated) attached to the Planning Application confirms 'the site is highly visible from the summit of Mount Leura and also from a section of road to the summit'.

Specifically, the proposed quarry works will be in the direct foreground of the Key Viewline to Wiridjil Hills, one of the three key viewlines identified from the Mt Leura Trig Point Lookout on Map 2A of the Mount Leura and Mount Sugarloaf Management Plan 2013-2018 (amended version below). This proposal does not protect, and absolutely does not enhance the visual and environmental quality of the the Leura Maar complex.



**ii) To provide control over the visual impact of development on prominent volcanic features.**

This proposal does not provide control over the visual impact of development on the Leura Maar, which has been identified as a volcanic feature of national significance. That the proposal will be highly visually intrusive is at odds with the landscape significance enjoyed by both tourists and residents of Camperdown. The Leura Maar is likely the most frequently visited volcanic peak in Corangamite Shire, with an estimated 50,000 visitors per annum.

The SLO is in place to provide control over any visual impact, which if allowed, will be viewed by thousands of visitors annually. This proposal breaches the controls that the SLO seeks to apply. The proposal creates an irreversible negative visual impact on the Leura Maar complex.

**iii) To recognise the landscape, geological, biological, historical and recreational significance of volcanic features, including crater lakes, scoria cones and their environs.**

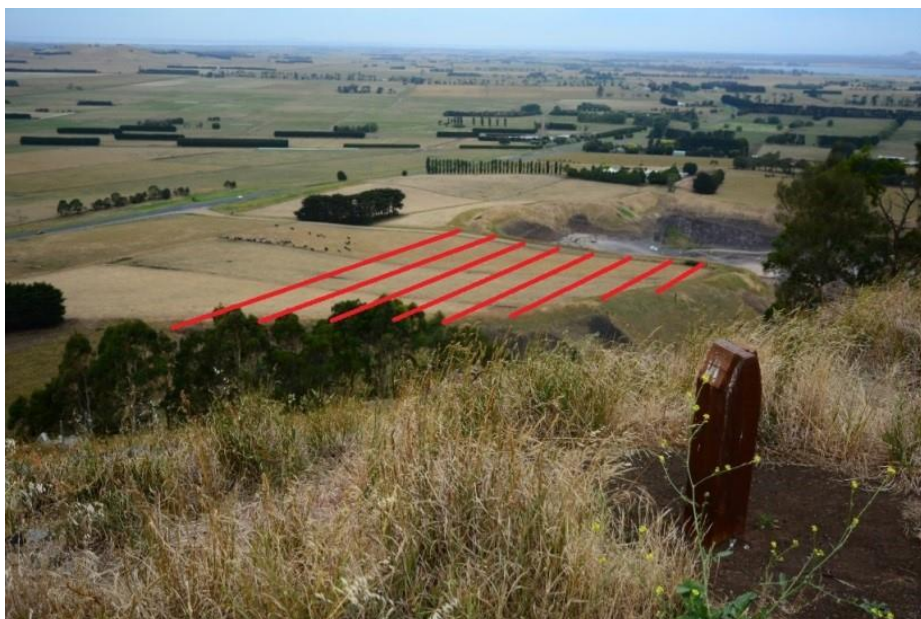
This project does not recognise the landscape, geological, and recreational significance of the Leura Maar. This proposal is, in no way, consistent with maintaining the significance of the area.

Specifically, it does not protect the landscape, geological or recreational significance of the site as outlined below:

**Landscape significance:** The 2013 South West Landscape Assessment designated the landscape of, and views from, Mount Leura to be of state significance. The Mt Leura complex is classified by the National Trust at state level for its landscape value. The quarry will impact the viewlines and irreversibly alter the landscape values identified by these reports.

**Geological significance:** The Mt Leura complex is classified by the National Trust at national level for its geological value. It forms part of the Kanawinka Global Geopark, an internationally recognised network supported by Corangamite Shire Council. The quarry will irreversibly remove part of the geological value of the Mt Leura complex (also referred to as the Leura Maar).

**Recreational significance:** The National Trust classification report states that “the value of the geological feature is enhanced by the fact that much of it lies within a public reserve provided with a network of footpaths, so that the site can be readily accessed by student groups and the community”. The Reserve attracts an estimated 50,000 visitors each year. The quarry will irreversibly impact the views and amenity of recreational users of the Mt Leura reserve.



*View towards the proposed quarry location from the Mt Leura information trail, showing approximate area of the proposal.*

**2) The impact on the visual and environmental quality of the volcanic features, including scoria cones, crater lakes and their environs.**

The impact of the proposal on the visual quality of the Leura Maar was discussed extensively at part 1) i) and ii) of this submission. The National Trust submits that the proposed quarry extension, in this location, has an unacceptable impact on the visual quality of the Leura Maar complex. Of particular note is this decision guideline's inclusion of 'environs' as part of Council's consideration – it shows that the immediate context of the prominent features contributes to their landscape significance.

Further, the proposal not only impacts on the visual quality, but also the environmental quality as the proposed quarry extension is located *within* the Mt Leura Maar and will involve quarrying away part of a nationally significant geological feature, which is unacceptable. The proposal creates an irreversible negative impact on the visual and environmental quality of the Mt Leura Maar.

**3) Whether appropriate siting, design and landscaping is proposed to avoid marked visual intrusion.**

The impact of the proposal on the visual quality of the Leura Maar was discussed extensively at part 1) i) and ii) of this submission. There is no indication that the siting of this quarry avoids the marked visual intrusion that it will cause visitors to the Mt Leura Reserve. The proposed quarry extension will be as visible, or potentially more visible, than the existing quarry. The new quarry is further north, and closer to the Princes Highway, than the existing quarry, and therefore will be closer to the main lookout for Mt Leura Reserve at the northern end of the summit. That said, the Reserve is used extensively by visitors for both passive and active recreation, and the proposal will create a marked visual intrusion from several points within the Reserve, as outlined by the Friends of Mt Leura in their objection to this application.

**4) Whether the proposal is consistent with maintaining the landscape, geological, biological, historical and recreational significance of the area.**

This proposal is, in no way, consistent with maintaining the significance of the area. A detailed discussion of the reasons this project is at odds with maintaining the landscape, geological and recreational significance of the area was provided at part 1) iii).

**5) How buildings and works appear as a related group, rather than as individual units.**

The works appear to nearly double the footprint of the existing quarry at that location. The approval of a quarry extension is not a *fait accompli* simply because quarry works were established in this location in past years. These works are no longer an acceptable outcome in an area identified as being of National significance for its geology and now protected by an SLO.

**6) The visual impact of infrastructure services developed in conjunction with the buildings and works they relate to.**

N/A - the National Trust is not aware of additional utility services required to expand the quarry.

**7) Whether screen planting is desirable. Screening should not be a means to allow poor siting and design.**

Screen planting is not desirable. The location of the quarry at the toe of the Mt Leura slope, means that screening vegetation around the edge of the quarry would not ameliorate any of the visual impact viewed by visitors to the Mt Leura Reserve, but would instead have the detrimental impact of softening the dramatic appearance of the volcanic features. The National Trust has some concerns that the revegetation proposed between the northern edge of the Stage 3 quarry and the Princes Highway has the potential to block and reduce the views from the main highway towards the Leura Maar complex.

Screen planting on the Mt Leura Reserve will not mitigate the visual impact of the proposed quarry without also losing the panoramic views that visitors to the Reserve enjoy. On the contrary, we note

that the managers and Friends of the Reserve are currently planning a tree thinning program to open views where revegetation has established and blocked some viewlines.

**8) Effect on the profile of distinctive landforms and the viewed surfaces of elevated landforms.**

No landscape impact assessment has been provided to show the expected impact on the profile of the landform. No photomontage has been provided to illustrate the impact, or lack thereof, on the profile of Mt Leura and the Leura Maar.

Four elevation drawings (elevations) were advertised (Brian Consulting, page 4 of 5). These elevations do not have any key map to demonstrate the location of the cross-sections depicted. The elevations do not appear to include an image that shows the cut in respect to the profile of Mt Leura, nor are the geological features of the Leura Maar identified on the elevations.

**9) Rehabilitation of mineral, stone and soil extraction sites, including progressive restoration of topsoil, indigenous vegetation and the original shape of the land.**

The Work Authority document discusses the remediation of the site in section 8, 'Rehabilitation Plan'. We understand it is proposed that the quarry hole will be filled and the surface reformed at a moderate grade (1V:5H) with some random undulations to provide a more natural appearance to the finished surface. We understand this is the landholders preferred option for cattle grazing, but it is not clear from the documentation whether this finished appearance restores the slope and landform of the site prior to works. We submit it is unlikely that any remediation could adequately restore the natural appearance of the Maar once the site has been quarried. Existing quarry remediation, or lack thereof, does not reassure the National Trust that the site can be sensitively rehabilitated following the proposed works.

**10) The contents and recommendations of the following reports:**

- a. Rosengren, N. (1994) Eruption Points of the Newer Volcanics Province of Victoria - An Inventory and Evaluation of Scientific Significance, National Trust of Australia (Victoria) and the Geological Society of Australia (Victorian Division);**
- b. Jeavons, M. (1990) Shire of Heytesbury Landscape Assessment - A Report for the Shire of Heytesbury, Shire of Heytesbury, and Holmgren, D. (1987) Trees on the Treeless Plains - Revegetation Manual for the Volcanic Landscapes of Central Victoria, Holmgren Design Services.**

The Rosengren (1994) report (p.208) attests to the National significance of the Leura Maar complex, as one of the largest maar and tuff ring volcanoes in Victoria. The report further attests to the site providing easily accessible examples of many of the landforms produced by volcanic activity in Victoria during the late Tertiary period. The report also mentions peridotite xenoliths of international significance; it is understood these are rocks enveloped within rocks, combining material from the lower crust and upper mantle of the Earth. Further, with regard to quarries (p.30), the Rosengren (1994) report states:

*Quarries also degrade some scientific values. In a region where volcanicity is no longer active, scoria and tuff are non-renewable resources. Once altered by human activity, the configurations of the eruption points cannot regenerate or recover unless there are more eruptions. Quarry operators may not recognise the significance of uncovered material or structures and may unknowingly destroy specimens or exposures, fill in craters or bury material with overburden or stockpile. Outcrops or topography significant in displaying volcanic history may be modified, buried or removed. Some entire deposits of scoria or tuff from small eruption points have been removed. As well as removing significant material, quarrying produces synthetic landforms. Holes and overburden mounds alter the form and slope angles of cones and mounds and may confuse future interpretation of original eruption topography and products. Active quarrying operations (noise, dust, traffic, physical impact) may reduce the amenity value of public sites.*

The National Trust submits that this warning, issued by Rosengren in 1994, remains timely in considering this application. In light of Rosengren's advice, we submit that the proposal is not appropriate.



**11) Any landscape or management plan adopted by the responsible authority for the area.**

The National Trust is not aware of any reference to neighbouring quarries in the Mount Leura and Mount Sugarloaf Management Plan 2013 – 2018.

**12) Any applicable heritage study or historical research for the area.**

The Mount Leura and Mount Sugarloaf Management Plan 2013 – 2018 states (p.6) that the Camperdown district was originally inhabited by Indigenous people of the Leehura gundidj language group, who named Mt Sugarloaf Tuunumbee Heear meaning 'moving moving woman'. Mt Leura and Mt Sugarloaf were important landmarks to the Leehura people, as a guide for their semi-nomadic lifestyle, as signalling towers, and as lookouts to observe the movements of game, and to observe the travels of neighbouring peoples.

Luebbers & Associates (2004) detail several historical accounts that support a *prima facie* case for the Leura Maar having Indigenous cultural significance. It is lamentable that, thus far, there have been insufficient historical documents detailing the relationship of the Leehura people to the Leura Maar collated to statutorily register Mt Leura as an Aboriginal Place. Luebbers and Associates suggest that a more detailed review of 19<sup>th</sup> Century literature identified by Ian Clark (1990) could further illuminate this relationship. This work was deemed to be beyond the scope of this study.

In conclusion, we submit that the proposed quarry extension is in direct opposition to the objectives of the Significant Landscape Overlay Schedule 1.

We appreciate the opportunity to provide comment regarding this permit application. Should you have any queries regarding our concerns, I would be pleased to assist.

Yours sincerely,



Anna Foley  
Senior Advocate, Environmental Heritage  
National Trust of Australia (Victoria)

Attachment 1: Excerpt from Rosengren, N. (1994) Eruption Points of the Newer Volcanics Province of Victoria - An Inventory and Evaluation of Scientific Significance, National Trust of Australia (Victoria) and the Geological Society of Australia (Victorian Division);

Attachment 2: National Trust classification report – Mt Leura Complex

## MT LEURA

38 15 00S 143 10 00E; 7521-4-2 (CAMPERDOWN) 887647. Eastern outskirts of the Town of Camperdown.

Town of Camperdown; Shire of Hampden

Private land for most of area. Small area of public land at Mount Leura scoria cone.

Mount Sugarloaf is a National Trust of Australia (Victoria) property. Two operating tuff pits on the northern tuff rim and two in scoria and tuff on the northeast of Mount Leura. Other private land is in agricultural or residential use.

*Type 8: Nested tuff ring maar.*

Mount Leura is a scoria cone surrounding a dry crater 100 m deep and is the central and most obvious component of a larger volcanic complex southeast of the town of Camperdown. The complex includes a broad shallow maar crater measuring 2.5 km by 1.7 km surrounded by a low tuff ring inside which are the secondary eruption points of Mount Leura and several smaller unnamed mounds and cones of scoria. These may represent eruptions along a north-south fissure. The walls of the cone are alternating layers of tuff and scoria with numerous blocks and volcanic bombs. Mount Sugarloaf is a conical mound on the southwestern flank of Mount Leura and represents a final stage of activity of the Leura volcano when a small vent ejected a large volume of lava fragments in a short time without a change in the direction of the eruption column. This produced a steep, symmetrical, conical mound of volcanic ash, scoria and larger blocks and bombs. The scoria at Mount Leura is notable for the inclusions of high temperature megacrysts and xenoliths (fragments of the lower crust and mantle of the earth) which occur here in unusually high concentrations.

310+m; 130m  
Gill 1978; Edney & Nicholls 1984; Nicholls 1984 (includes an extensive bibliography relating mainly to the inclusions).

**NATIONAL:** The Mount Leura complex is one of the largest maar and tuff ring volcanoes in Victoria and one of a small number of nested or complex maars in the Newer Volcanics. The relationship between the various components of the complex are very readily observed, with the Mount Leura cone and crater as the central and dominant features. Mount Sugarloaf, on the southwestern rim of Mount Leura, is an unusually symmetrical scoria mound. The site provides easily accessible examples of many of the landforms produced by volcanic activity in Victoria during the late Tertiary. The peridotite xenoliths are numerous and are of international significance as examples of lower crust and upper mantle material.

**CLASS 2** Quarrying and access roads have a major impact. Quarries also provide significant exposures of bedding in tuff and scoria and many xenoliths are obtained from these. A detailed management plan to define the areas to be made available for quarrying is required. Some of the quarry walls should be preserved and maintained as displays of bedded pyroclastic deposits.

## CORANGAMITE VOLCANIC PLAINS. GROUP 2. VOLCANIC HILLS

**2A. MOUNT LEURA COMPLEX**

NB This area has previously been classified by the National Trust and is on the Trust's Landscape Classification Register as entry L7 (L10155). This is an updated and extended classification document.

**NAME**

Mount Leura complex

**LOCATION**

Administrative District: Shire of Corangamite

Maps: Corangamite 1:100 000 Topographic map sheet 7521

Grid reference: 887647

**STATEMENT OF LANDSCAPE HERITAGE SIGNIFICANCE****What is significant?**

Mount Leura is the highest hill in a complex volcanic feature comprising several distinct cones and craters within the outer wall of a maar, or broad explosion crater. The whole feature is hereafter referred to as the Mount Leura complex

**How is it significant?**

The Mount Leura complex is of National Significance as a geological feature, and of State Significance for its landscape value.

**Why is it significant?**

The Mount Leura complex is significant as a geological site. It comprises an outstanding example of a group of scoria cones within a broad volcanic crater, or maar. Because it is a relatively young landform the features visible within it are very fresh and unaltered by erosion, so they show clearly the processes by which they were formed.

The value of the geological feature is enhanced by the fact that much of it lies within a public reserve provided with a network of footpaths, so that the site can be readily accessed by student groups and the community.

The value of the Mount Leura complex for educational purposes and for general tourist interest is enhanced by the provision of easy access by road to the top, from which there are outstanding views across the surrounding area. This enables Mount Leura to be seen in context as one of the most prominent of a series of cones, representing the end stage of a phase of volcanic activity which began with the formation of the basalt plain on which they are superimposed.

Additional biological significance will develop in future as the recent replanting work by the local Friends Group restores a vegetation cover similar to that present prior to European settlement. This in turn will provide a habitat for natural recolonisation or re-introduction of an appropriate range of fauna.

The Mount Leura complex has landscape significance for the striking appearance of steep sided cones rising out of the flat surrounding plain, and the intricate pattern of smaller cones and craters within the outer maar rim. The Schedule to the Corangamite Shire's Significant Landscape Overlay SLO1 states that it is part of one of the State's most significant volcanic landscapes and features. These areas provide visual interest with variation in topography and vegetation and should be protected from inappropriate development.

The proximity of Mount Leura to the historic town of Camperdown makes it a local icon, and the complete view of the historic township available from the summit shows how early towns were designed around road and rail links.



**EXTENT:**

This classification applies to the volcanic complex in which Mt Leura is the most prominent hill. It extends to just over the crest of the outer rim of the maar in the south and southeast: to Browns Road on the east; to the Princes Highway in the northeast (NB the rim of the maar extends north of the Princes Highway but this section has already been extensively degraded, partly due to quarrying, and partly to being overbuilt in the township of Camperdown): to the edge of the town subdivisions in the north, north west and west (see attached map).

**FILE NO:**

To be allocated

L10155

**CATEGORY:**

The Mount Leura complex is an Associative Landscape, a visually striking feature associated with a group of distinctive geological landforms.

**DESCRIPTION***Geology and Geomorphology*

"Mount Leura is a scoria cone approximately 170 metres high with a crater 100 metres deep. The structure is complicated by smaller cones to the south of Mount Leura..... The scoria cones are nested in a tuff ring about 1.6 km in diameter which is open to the west. The scoria cones are at the northern end of the wide, shallow maar crater associated with the tuff ring" Quoted from Joyce and King (1980) p. 113. Gill 1971 suggest an age of around 22,000BP for Mount Leura, based on dating of volcanic ash depots at nearby Lake Colungulac.

Mt Sugarloaf, the most prominent of the nested cones, is described in the existing National Trust citation, prepared when the site was purchased for the Trust in 1970, as "the best example of a scoria cone in the western district, remarkable for its symmetry of form, its position close to the existing Mount Leura Reserve and its scenic importance to the town of Camperdown and the people of Victoria".

*Flora and Fauna*

This section is largely based on information contained in Thomson Hay and Associates, 1994, *Landscape Master Plan and Management Plan for Mount Leura and Mount Sugarloaf*.

The original natural vegetation on the Mount Leura complex was probably open woodland, dominated by Manna Gum (*Eucalyptus viminalis*), Blackwood (*Acacia melanoxylon*) and Drooping She-oak (*Allocasuarina verticillata*). Most of the natural vegetation has been cleared and replaced by introduced pasture grasses. Cypress trees were planted around the Mt Leura summit in the 1920s, and grew to obscure some of the fine views from the complex. The Friends of Mt Leura have since removed most of these and replaced them with an open woodland planting, designed to recover some of the vegetation which is thought to have been there originally.

*Land use*

Much of the land within the Mt Leura maar is farmed, principally for beef cattle. The whole of the area was originally owned by the Manifold family, but in 1896 J.C. Manifold, then President of the Shire of Hampden Council, donated the Mount Leura section to the public. Mt Leura, its crater and Mt Sugarloaf are now public reserves, the former owned by the Shire of Corangamite (f. Hampden), the latter by the National Trust, which bought it in 1970 to save it from further damage by quarrying. A road up Mt Leura, completed in 1935, gives easy public access to a car park on the summit, from which there are extensive views of intact pastoral landscapes on the volcanic plains to the north, east and west, and through to the Otways in the south. The Leura Recreation Reserve, off Adeney Street, located in the north western part of this classified landscape was set aside for public use in March 1875, and has remained associated with sporting activities in the town and region ever since. It adjoins the Camperdown Showgrounds, also located within the classified area, and still used each year.

The summit of Mount Leura also offers an almost complete view of the historic town of Camperdown, the layout of which partly overlaps the maar ring in the north. Camperdown was laid out as a planned township in the 1850s, and its original rectangular layout around the cross roads,

and subsequent extension across the railway line, is a classic example of early Victorian urban design (Powell, 1970, p.42)

When quarrying was first carried out at the site it was by scraping away at the foot of Mt Sugarloaf. This created a prominent scar, and although work was subsequently halted by the Department of Mines the scar is still highly visible decades afterwards. Later quarries were required to locate on flatter land around the mount so that they would be less visible from a distance. Land around the western and northern footslope of Mt Leura has been extensively quarried for scoria. The quarry north of the Princes Highway has been abandoned, while that on the eastern side is active and an application to extend has recently (2003) been approved, subject to provision for site reclamation. Extensive educational use is made of the Mount Leura complex, which is visited by field excursions from school and tertiary institutions looking at geology, geomorphology and biology. It also receives an estimated 50,000 tourist visits per year.

#### **INTACTNESS:**

The southwest side of Mount Sugarloaf has been damaged by quarrying, creating a prominent scar visible from a long distance around. The north and northeast footslope of Mount Leura has also been quarried. Although less visible from a distance the quarries are prominent in the view from the summit. The abandoned quarry north of the Princes Highway is now partly grass covered, but little has been done to mitigate the topographic impact, and a deep, steep sided hollow is still visible from the Princes Highway.

The natural vegetation on the Mount Leura complex has been almost entirely removed, but revegetation work by the local community has now begun to restore the former appearance of the hill slopes.

#### **COMPARISON:**

Although there are numerous volcanic cones in the Western District, and an estimated 40 maars, the Mount Leura complex is of particular interest to geologists. Rosengren (1994, p.208) describes it as "one of the largest maar and tuff rings in Victoria, and one of a small number of nested or complex maars in the Newer Volcanics". It is of interest because it shows the sequence of activity from the explosive (phreatic) type of eruption which created the original maar, through to the later stages of volcanic activity which involved emission of scoria to form a cone around a central vent. The cones take a variety of forms: Mount Sugarloaf is a high and almost perfectly symmetrical cone, while some of the vents around it have lower cones with central craters.

The Mount Leura complex is of major scenic importance, both because of the site itself, and for the views from the summit. The complex is an intricate small scale mix of steep hills and hollows, with a distinctive profile visible from a long way away. Extensive views can be seen from the summits, extending across the central section of the Shire of Corangamite, where a pleasant pastoral landscape is interspersed with numerous lakes and volcanic cones. The mount also offers an excellent view of Camperdown, a small western district town with many historic buildings, some visible from Mount Leura. Mount Leura is one of only two volcanic hills in the region with a summit accessible by car (the other is Red Rock, near Colac). Facilities for visitors include a car park and display boards: a network of walking trails is being developed to allow visitors to access other parts of the reserve. Like most of the volcanic cones in the Western District, the Mount Leura complex has been cleared of its native vegetation. However because large parts of the complex are located within a public reserve it has been possible for the Shire and the local community to instigate an extensive revegetation program. The only other maar where a similar change is occurring is Tower Hill, where the Department of Sustainability and Environment has restored vegetation to recreate that shown in an early painting of the site. It is expected that within a few years the vegetation on a large section of the Mount Leura complex will also resemble that present prior to European settlement.

### APPENDIX 3. REFERENCES

Birch, W.D. (1994) *Volcanoes in Victoria*. Melbourne. Royal Society of Victoria, pp 18-19.

Friends of Mount Leura Inc. (2002) Submission to Victorian Civil and Administrative Appeals Tribunal Objecting to Granting of Planning Permit Application No 01/160 30 September 2002

Gill, E. D. (1971). Application of radiocarbon dating in Victoria. *Proc.Roy.Soc.Vic.*, 18, 71-85.

Joyce, E. B., & King, R. L. (Ed.). (1980). *Geological Features of the National Estate in Victoria: an Inventory compiled for the Australian Heritage Commission*. Melbourne: Geological Society of Australia, Victorian Division.

Powell, J.M. (1970) *The Public Lands of Australia Felix*. Melbourne, Oxford University press.

Rosengren, N (1994) Eruption Points of the Newer Volcanics Province of Victoria – an Inventory and Evaluation of Scientific Significance. A report prepared for the National Trust of Australia (Victoria) and the Geological Society of Australia(Victorian Division).

Thomson, Hay and Associates (1994) Landscape Master Plan and Management Plan for Mount Leura and Mount Sugarloaf.

Various. (2001) Mount Elephant and the Basalt Plains. Proceedings of a Seminar held at Derinallum and Lismore on 20 October 2001. *Trans. Roy.Soc.Vic*, 113 (2): 17-55

Willingham, A. (2002) The Leura Nested Maar. Submission to the Victorian Civil and Administrative Appeals Tribunal Regarding the Cultural Heritage Significance of Mount Leura Reserve and mount Sugarloaf. Presented on behalf of the Friends of Mount Leura Inc. 16 September 2002

## ASSESSMENT AGAINST CRITERIA

(Only to be completed for places or objects of state significance or higher )

- a. The historical importance, association with or relationship to Victoria's history of the place or object.  
Mount Leura offers an excellent view over the whole of the town of Camperdown, which features many historic buildings associated with the early settlement of the Western District of Victoria, and displays the early ideas of town planning in relation to roads and railways.
- b. The importance of a place or object in demonstrating rarity or uniqueness.  
Rosengren (1994, p.208) describes the scoria at Mount Leura as of interest because it contains unusually high concentrations of high temperature megacrysts and xenoliths (fragments of the lower crust and mantle of the earth).
- c. The place or objects' potential to educate, illustrate or provide further scientific investigation in relation to Victoria's cultural heritage  
Mount Leura is extensively visited by school and tertiary institutions because of the range of clear volcanic landforms to which public access is readily available. It also offers a viewpoint from which visitors can gain an understanding of the geological history of this part of the state. Display boards have been provided to promote increased understanding among the numerous visitors to the site of the process of vegetation restoration, and the present and predicted use of the site by wildlife.
- d. The importance of a place or object in exhibiting the principal characteristics or the representative nature of a place or object as part of a class or type of places or objects  
The Mount Leura complex exhibits a number of geological and geomorphological features of importance, principally the recent volcanic landforms. This has led to its classification by the Australian Geological Society, Victorian Branch, as a landform of National significance.
- e. The importance of the place or object in exhibiting good design or aesthetic characteristics and/or in exhibiting a richness, diversity or unusual integration of features  
The Mount Leura complex is a visually interesting feature because its steep sides rise dramatically out of the surrounding lava plain. The complex forms an important and distinctive landmark when seen from a distance. The features within the complex display an intricate pattern of hills and hollows: the most distinctive of the former is Mount Sugarloaf, which is an almost perfectly symmetrical cone, resembling a child's drawing of a mountain.
- f. The importance of the place or object in demonstrating or being associated with scientific or technical innovations or achievements  
N/A
- g. The importance of the place or object in demonstrating social or cultural associations  
Local aboriginal people report that Mount Leura was an important viewpoint from which they could see much of their territory. They also used its distinctive profile to assist in finding their way as they moved through the district.
- h. Any other matter which the Council deems relevant to the determination of cultural heritage significance  
N/A

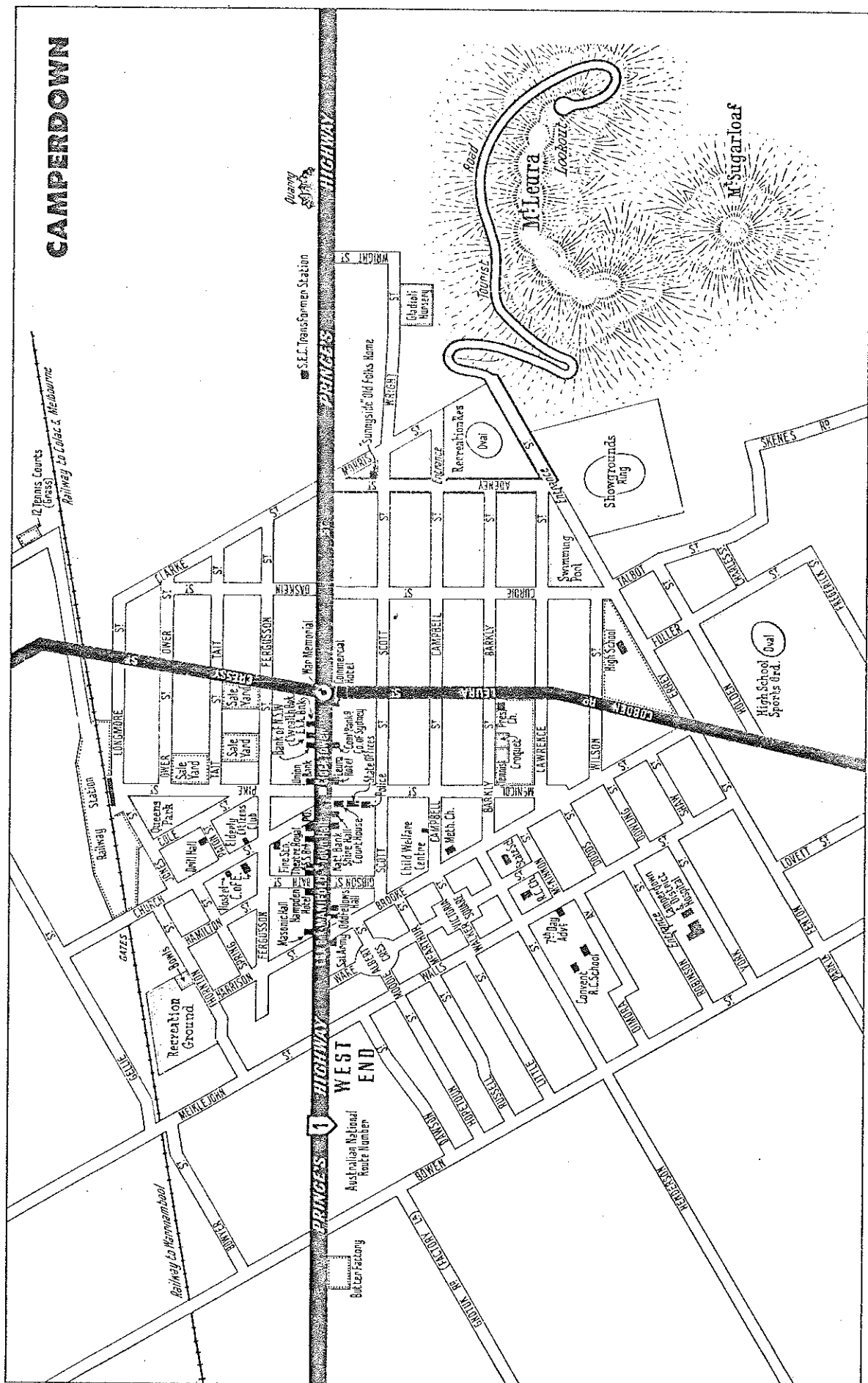
## APPENDIX 1 - MAPS - MOUNT LEURA COMPLEX

1:25,000 Camperdown (7521-4-2) north, Tandarook (7521-3-1) south



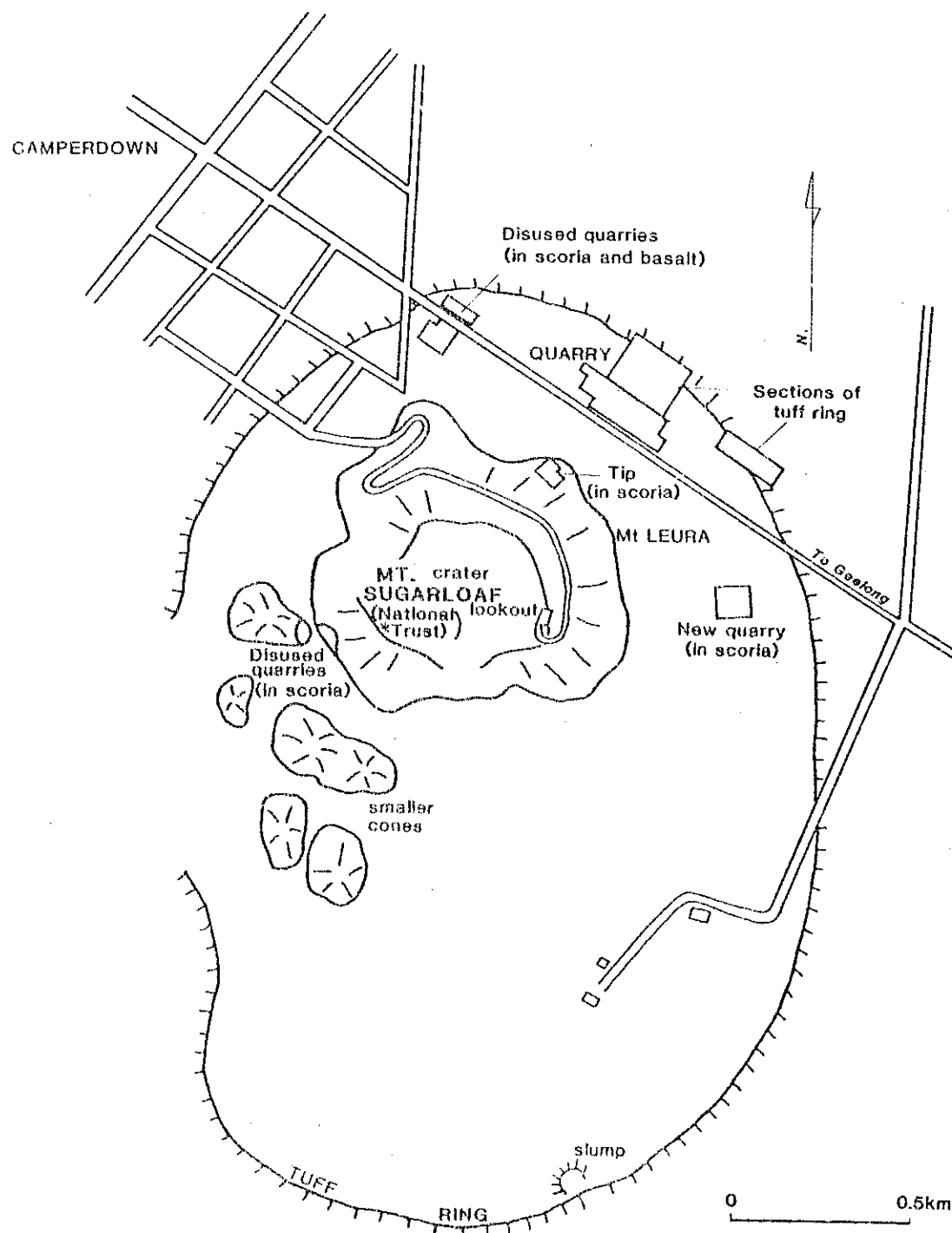


# CAMPEDOWN





Name: MT. SUGARLOAF  
 Listing Status: CLASSIFIED  
 Municipality: TOWN OF CAMPERDOWN



Sketch map Mount Leura