
Tosha Falls Management Plan

Part A



Prepared for Ballina Shire Council

by MikeSvikisPlanning

8 June 2017

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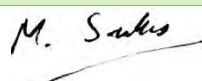
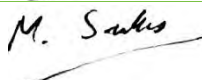

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Photograph on front cover: Courtesy of J Gardiner (2017)

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1 Introduction

Tosha Falls has been a popular spot for Alstonville locals and visitors for more than one hundred years. It was completely surrounded by private land until the 1970s when Council acquired land near the falls and 20 metre easements for pedestrian access were imposed on adjacent land along the banks of Maguires Creek. The site is associated with a history of trespass, privacy issues and vandalism arising from attempts to gain access to it via surrounding private property.

In July 2016, Council resolved that a management plan be prepared for Tosha Falls to assist with the long term planning of the site.

This management plan seeks to:

- provide options for management of the site
- identify potential opportunities for future development of facilities, access, and use of the site
- document a risk management strategy for the site.

Further information on a range of issues including the early neighbour and community consultation is included in Part B to this management plan.

1.1 Objectives

The objectives of the management plan are to:

- Manage the land consistent with the provisions of the *Local Government Act 1993*.
- Provide for the safety of visitors to the subject land.
- Provide that any visitor use of the subject land does not unduly impact on the operational use of the balance of the site as an STP.
- Ensure the ecological viability of the land by protecting its biodiversity and promoting rehabilitation of rainforest.
- Protect and respect the aesthetic, heritage, recreation, education and scientific values of the land and Maguires Creek.
- Investigate facilities proportionate to site use that allow public enjoyment of the land.

2 Tosha Falls Management Area

2.1 Land to which this Plan Applies

The land subject to this management plan is part of Lot 1 DP 853747 (the subject land). Part Lot 1 is approximately 0.92 hectares and is primarily a riparian strip located at the western edge of Lot 1 (Figure 1).

The entire area of Lot 1 is approximately 5.2 hectares, and a large part of this is occupied by the Alstonville Sewage Treatment Plant (Figure 2). The lot is located at the termination of Johnstons Road on the southern side. Council also owns land on a separate lot on the northern side of Johnstons Road. Tosha Falls is located on Maguires Creek, which is the boundary between Lot 5 DP 253899 (to the west) and Lot 1 DP 853747 to the east. Approximately 30 metres to the south of Tosha Falls is Lot 2 DP 1182136.

The nature of the property boundaries in this location indicates that the bed of Maguires Creek, including the rocks that form the waterfall and the swimming hole, are not on Council or private land and remain Crown land.

Lot 1 DP 853747 was purchased (in two stages) by Council from an adjacent farm. It was developed as a sewage treatment plant in 1976. The location was chosen because it allows the sewage from Alstonville to be gravity fed to the plant, and treated water not used for irrigation on surrounding farms can be released into Maguires Creek downstream of the plant. The STP was upgraded in 1983, and services the population of Alstonville and Wollongbar.

The primary use of Lot 1 DP 853747 is for a sewage treatment plant, and the management plan for the Tosha Falls locality needs to ensure it does not unduly impact on this primary use.



Figure 1: Part Lot 1 DP 853747, Alstonville (the subject land)

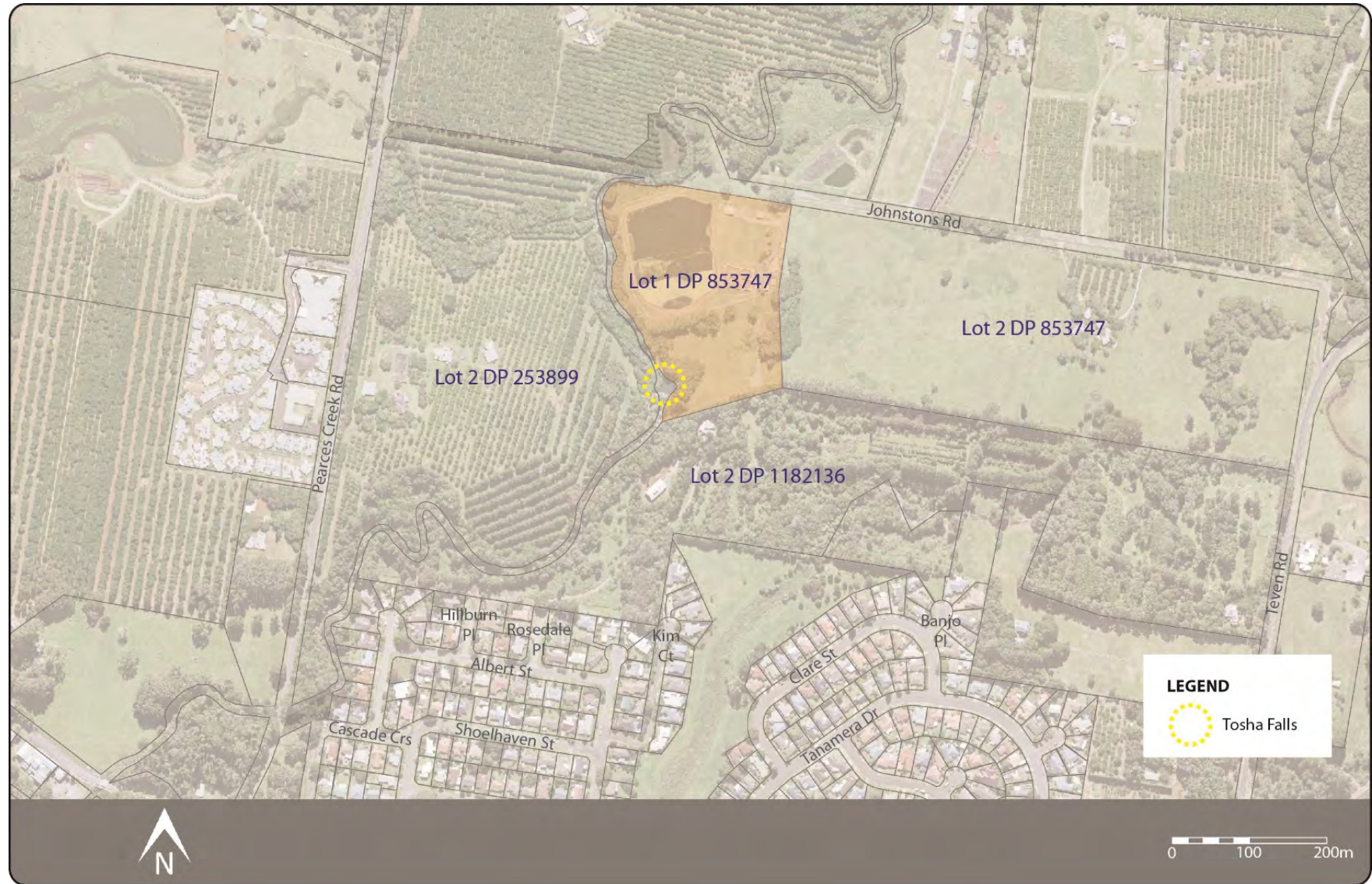


Figure 2: Lot 1 DP 853747, Alstonville (and surrounding land)

3 Management Context

3.1 Legislative and Policy Framework

The subject land is owned by Ballina Shire Council and is classified under the *Local Government Act 1993* as Operational land. It was acquired to construct a sewage treatment plant for Alstonville, which has been operating since 1976.

As Operational land, it is not subject to the *Ballina Shire Plan of Management for Community Land (2015)*, and does not have a site-specific plan of management at present. Operational land is usually not intended for use by the general public, but public use is not prohibited and has been permitted on other Operational land sites (eg a water reservoir with a public lookout). If the subject land remains classified as Operational, it can be managed as Council wishes and does not need to be categorised further. It is recommended that it remains Operational land, notwithstanding the community interest in the site.

The subject land is zoned entirely SP2 Sewerage System under Ballina LEP 2012 (Figure 3) and is subject to a minimum lot size of 40 hectares. The objectives of the SP2 zone are:

- *To provide for infrastructure and related uses.*
- *To prevent development that is not compatible with or that may detract from the provision of infrastructure.*

Within this zone “Environmental protection works; and Roads” are permitted without Council consent. The development that is permitted with Council consent is the purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose. All other development is prohibited.

environmental protection works means works associated with the rehabilitation of land towards its natural state or any work to protect land from environmental degradation, and includes bush regeneration works, wetland protection works, erosion protection works, dune restoration works and the like, but does not include coastal protection works.

road means a public road or a private road within the meaning of the Roads Act 1993, and includes a classified road.

The actions and strategies arising from this management plan are expected to be development “permitted without Council consent”. If they go beyond this, they will need to be ancillary to a sewerage system. If not, then the land uses permitted at the site under Ballina LEP 2012 may need to be amended.

State Environmental Planning Policy (Infrastructure) 2007 also permits a range of minor development as either exempt or complying development, depending on the scale and circumstances.

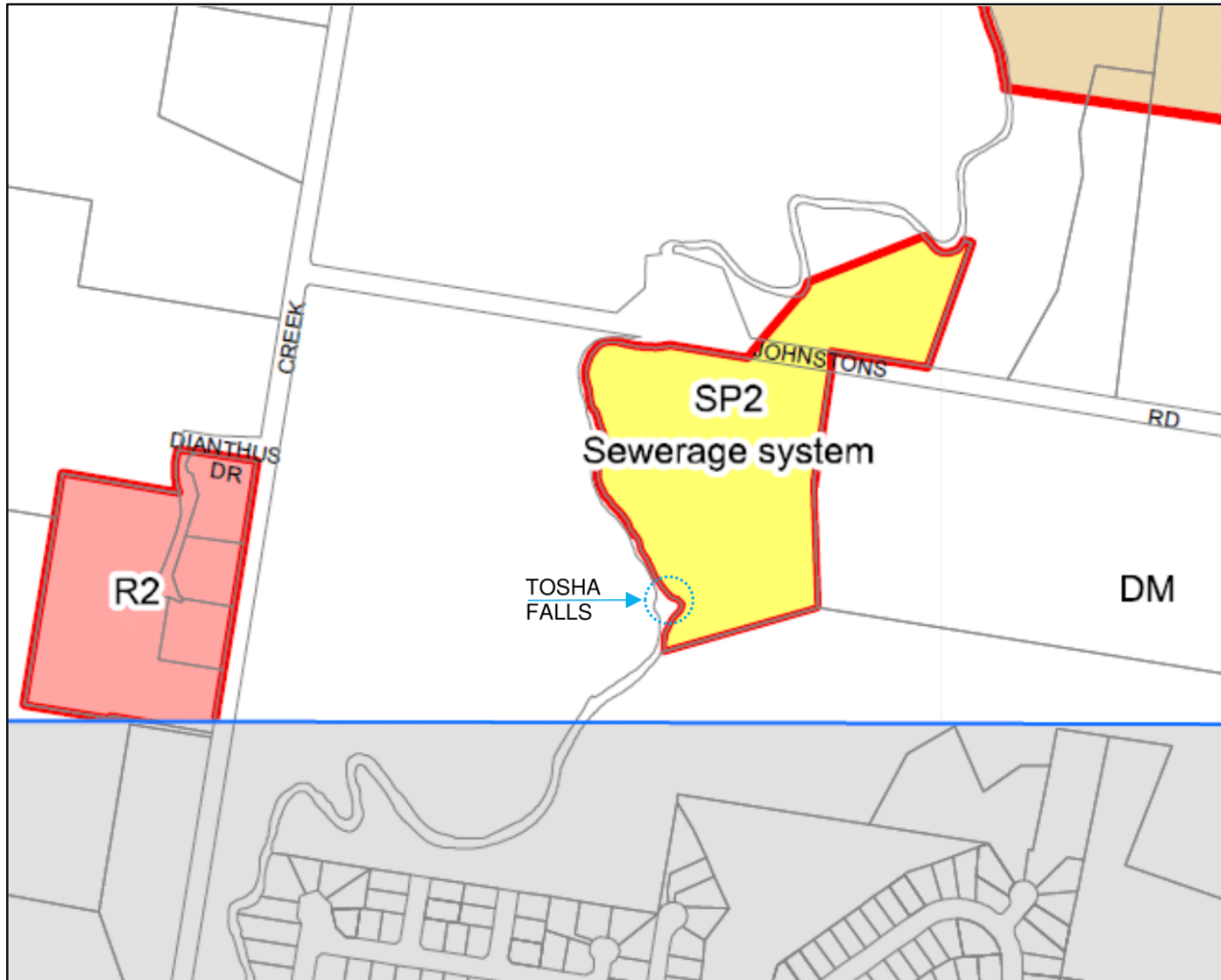


Figure 3: Land use zones under Ballina LEP 2012

3.2 Visitation Numbers and Characteristics

It is difficult to be precise about how many people visit Tosha Falls each day or each week, partly because we know that some people come via Johnstons Road, some come via a neighbour's land with permission (eg friends and family), and some trespass via one of several access points. It is likely that visitation is higher in summer months when swimming is more popular and during school holidays when young people have more time for leisure. It is also likely that weather affects site usage. There are three ways to gauge visitation levels – count the numbers on-site, ask people in a survey, and speak to the neighbours (including STP staff).

A site count was undertaken on Saturday 21 January (school holidays) between 10 am and 2 pm, and seven (7) adults and three (3) teenagers visited in two groups. Ten (10) visitors all up. It was a warm but cloudy day, and it rained lightly at times during the site count period. All visitors came by vehicle and parked at Johnstons Road, and five of the ten visitors swam and jumped off the rocks. One group of five adults was on a private tour and stayed 15 minutes. The other group stayed about 20 minutes.

The online survey undertaken in January/February 2017 indicates that most people visit less than five times per year but about one in four visit more than ten times per year. About 57% of those surveyed listed an Alstonville postcode as their address and 78% listed Alstonville, Ballina, Byron or Lismore postcodes as their address. About 19% of respondents indicated an interstate or overseas address.

The most popular things to do at Tosha Falls are swimming (85% of respondents), jumping off the rocks (60%) and picnics (36%). Most people came with family and friends. About 69% (50 respondents) accessed the falls via Johnstons Road, and about 27% (20 respondents) by neighbouring property either with or without the consent of the owners.

In relation to changes at Tosha Falls, the three most popular answers were – no changes – leave it as it is; toilets; and a better walking track.

Alstonville STP workers observe the vehicles that come and go on week days at Johnstons Road. They indicated that five cars are about the most that park there, generally after school hours on a hot day or on a Wednesday afternoon (sport day). They have seen up to about ten young people swimming on some days at the falls. Generally, people arrive in small groups. They observed a small tour bus (about 15 seats) stopping at the site in January/February 2017. This has never happened before.

One neighbour made a record of all people (trespassers) they observed accessing Tosha Falls via the Prendergast property from 2 April 2011 until 3 November 2012. Over a period of 582 days 1,242 persons were observed. Trespass was recorded on 188 days over that period. Over the whole observation period, that is an average of between two and three persons per day arriving other than through Johnstons Road. Most were children and teenagers. Visitor numbers and frequency of days increased in summer months. The largest group observed trespassing was about 20 persons. The most that trespassed in various groups on one day was 26 persons.

The access ratio taken from the recent online and site survey indicates that access via the Prendergast or Mitchell properties is about one-third of all visitors, and access from Johnstons Road is about two-thirds of all visitor numbers.

The neighbour survey suggests an average of three visitors per day (rounding up). Applying the access ratio from the survey, the Johnstons Road access would average about six visitors per day. With this option, the site receives about nine visitors per day on average over the year, or about 3,285 visitors overall.

If five cars use the Johnstons Road access on an average warm day (STP workers' observations) and each car has three occupants then about 15 visitors per day come via this option. Applying the access ratio from the survey, then the access via the Prendergast or Mitchell properties would average about five visitors per day. With this option, the site receives about 15 visitors per day on average over the year, or about 5,475 visitors overall.

If we apply the site count numbers from 21 January 2017 (2.5 persons per hour) across a longer day – say 9 am to 5 pm, then the visitor numbers for a full day would be 20 per day. Applying the access ratio from the survey, then the access via the Prendergast or Mitchell properties would average about 10 visitors per day. This brings the total visitors per day to thirty. Assuming this average over the year, then there might be about 10,950 visitors overall.

These numbers cannot be regarded as accurate because the limitations and methodology on the neighbour survey are unknown, and the online and site survey undertaken for this management plan are a simple snapshot at one time. It does, however, give a general guide to the level of use of the site, those that use it and how they get there.

On balance, the evidence suggests that Tosha Falls has a fairly low visitation rate, probably between 3,285 and 10,950 visitors per year.

As a comparison, it is worth considering the patronage at Ballina and Alstonville pools, which in one sense are the modern alternative to swimming at a local creek or somewhere like Tosha Falls. In 2015/16 Alstonville pool was open from 1 September to 15 May, and Ballina pool (and slide) from 19 September to 24 April. Alstonville had 70,096 patrons, and Ballina pool had 89,860 patrons. The current year is heading for similar numbers. During the week ending Sunday 22 January 2017, Alstonville pool received 2,078 patrons for an average of 296 per day; and Ballina pool received 3,967 patrons for an average of 566 per day.

Over the 2016/17 swimming season so far (up to 19 February 2017), the Alstonville pool has averaged 1,466 visits per week or 209 per day. Ballina pool has averaged 2,234 visits per week or 319 per day.

If the average daily visitation to Tosha Falls is between nine (9) and 30 visitors per day, then Tosha Falls generates between 4% and 14% of the daily visitation at Alstonville pool, and between 3% and 9% of the daily visitation at Ballina pool.

4 Values of the Management Area

4.1 Landform, Geology and Soils

Maguires Creek commences in farm land on the Alstonville Plateau south-west of the Bruxner Highway. It skirts the western edge of Alstonville before heading north through Lumley Park, travelling past the Alstonville STP (and Tosha Falls), through Alstonvale before swinging east and then south to eventually connect to Emigrant Creek along the Teven Road, and then the Richmond River at West Ballina.

The banks of Maguires Creek vary from steep sided to low, rocky and undulating. Most of the subject land is flood affected to some extent, and land near to the creek bed will at times be affected by high velocity flows and potentially flash flooding. Debris loads in high flows could be significant, particularly after long periods of dry weather or storm conditions that knock trees and limbs into the waterway.

Morand describes the red soils of the subject land as originating from the Mount Warning volcano. They are a deep, well structured red clay loam (Krasnozem of Feresol). It is deep and free draining, and subject to basalt floaters and rock layers.

4.2 Vegetation and Habitat

A vegetation management plan was prepared for Tosha Falls in 2007 (Envite, 2007) and it documented the vegetation of the subject land at that time. It was described as a previously cleared area that contains secondary regrowth forest of mainly rainforest pioneer species such as Red kamala, Sally Wattle and Guioa together with exotics such as Camphor laurel, large leaved privet and an understorey of exotic shrubs and weeds. The description remains accurate as only minimal vegetation rehabilitation has been undertaken on the subject land since that time.

The subject land would have been part of the Big Scrub rainforest prior to white settlement. The Big Scrub was approximately 75,000 hectares of subtropical rainforest associated with the Mount Warning Volcanics, located approximately between east Lismore, Alstonville, St Helena and Dunoon. By the turn of the 1900s, much of the Big Scrub had been reduced to a series of isolated remnants that comprise less than 1% (or 300 hectares) of the original vegetation. The private land immediately opposite the subject land has been subject to extensive rainforest regeneration, and now provides an important link between the Lumley Park rainforest remnant and the Maguires Creek remnant to the north of the subject land.



Figure 4: Much of the land surrounding Tosha Falls was still cleared in the late 1970s and early 1980s
(Photo courtesy of Mitchell family)

4.3 Heritage

A Heritage Assessment of the Alstonville Plateau (Gardiner and Knox, 1996) lists Tosha Falls as one of five significant waterfalls on the Alstonville Plateau that were suggested by the local community as being important natural heritage items. A high priority action of the same report is that Council “actively manage its natural areas”, and that “Council investigate building a walking track from Lumley Park to Tosha Falls along an existing public easement”. Tosha Falls is not listed in the current Local Environmental Plan as a heritage item.

The neighbouring property to the west of Tosha Falls is called Cascade Farm, but the sign at the gate says “Tosha Farm”. The current owner indicates that it was called this when they bought it about 40 years ago, and they understand the falls and farm are both named after a racehorse (Mitchell, 2017, pers comm). *The Clarence and Richmond Examiner* (Sporting Notes) of 9 September 1913 indicates that a horse named Tosha did race and win events at Victoria Park (and potentially other tracks including Queensland). The Royal Agricultural Society of Queensland (Toowoomba Show website) indicates that Athol Strong was born at Alstonville, and he trained a horse called Tosha to win 17 races. A member of the Gray family (that once lived on Cascade Farm) has confirmed that Athol Strong did own the property at some time in the 1950s and 1960s. Hence, there is probably a link between the name of the falls, a horse called Tosha and a previous owner (Gardiner, 2017).

The Alstonville Plateau Historical Society, in its submission to the Ballina Community Based Heritage Study, commented that Tosha Falls had also been called Cascade Falls, Grays Falls or Elliotts Falls after the two pioneering families that owned property adjacent to the falls. They also believe it has been used by locals as a swimming hole since the 1800s.

More recently the Alstonville Plateau Heritage Society (Gardiner, 2017) has supplied the following information on Tosha Falls. Gardiner (2017) states that “an early reference to these falls appears in Frank Russell’s (c1906) *Farm Life on the Richmond Tweed* published by John Sands Sydney

(page 127). It describes the 300 acre property owned by William Elliott fronting what is now Pearce’s Creek Road. The description of the falls on Maguires Creek is as follows “*Situated in the immediate vicinity of a creek, and possessing a very pretty waterfall, is Cascade farm...*”. Actually the property was owned by two brothers W D and A I Elliott. William Dixon Elliott was well known in the district being a Director of the Alstonville Butter Factory. He resigned this position in 1927 due to ill health and went to Sydney (*Northern Star* 16/12/1927 p 3). His brother Albert carried on until 1951 when the farm was put up for auction sale (*Northern Star* 13/10/1951 p 9). In 1951, it was still referred to as Cascade Farm. So until this time, the falls were probably known as Cascade or Elliotts falls. Other references to the falls are recorded in the Alstonville Plateau Historical Society’s book *Milestones and Memories* (2007). “Tinny” Fuller, who grew up in Alstonville, told us several times about going to Tosha Falls. At first he said “*we went through Grays farm and to Grays falls (now Tosha falls)*” (p 53), and then he said explicitly that he “*and his mates went swimming at Gray’s falls (Tosha falls) – often there were between thirty and fifty kids at one time.*”

The Ballina Community Based Heritage Study (BSC 2008) states:

The shire’s waterfalls that were utilised by the public for recreation include Cawleys, Dalwood, Tosha and Marshalls Falls on the Alstonville Plateau and Killen Falls at Newrybar. Evidence of the use of these falls is scant, mostly derived from oral accounts and photographic evidence (these photos taken to promote these places). The scant nature of this evidence does not diminish the significance these areas had as places of recreation. The broader context of the history of the use of the natural environment for leisure demonstrates the popularity and widespread patronage of natural recreational spots.

The use of these places was passive, with sightseeing, walking and picnicking enjoyed in these areas. Miss Lois Gray, whose family were early ‘pioneers’ at Alstonville made notes on its early history in the 1960s from accounts passed to her, including the cultural and recreational history of the area. Lois notes that ‘in the early days ... Lots of picnics were held in the area. Marshalls Falls and the Cascades

[Tosha] on Mr. Moses Gray's farm was popular places [sic].' Similarly Ida Clothier (nee Crawford) remembers outings to the shire's falls.

'The bountiful rainfall of those days kept the creeks full and clean, and the rushing waterfalls were a popular place to take our visitors.

Marshall's Falls further down the creek, having a straight drop of 70 feet, was a favourite picnic spot for visitors from Lismore. The scrub track leading to it being an added attraction with its border of tree ferns, bungalows, vines, giant fig trees and the chance of seeing the little paddymelons, attractive little creatures'.



Figure 5: Swimming at Tosha Falls in the 1950s. Note the cleared land above the falls (Photo courtesy of APHS)

4.4 Aboriginal Heritage

It can be assumed that all streams and waterholes were used by Aboriginal people throughout the Alstonville Plateau prior to white settlement.

Tosha Falls, however, is not registered as a site on the AHIMS register. At the time of preparing this draft management plan, the Jali Local Aboriginal Land Council had not responded.

4.5 Existing Easements for Pedestrian Access

A subdivision of land around Tosha Falls (registered in 1977) established 20 metre wide easements for the purposes of pedestrian access over private land in proximity to Maguires Creek. These easements link the Council STP land (and Tosha Falls) back to Pearces Creek Road in two places (Part B – Appendix D). The easements continue past Tosha Falls and connect through to the Maguires Creek Big Scrub remnant, downstream of the subject land. The establishment of the easements is consistent with a Council policy adopted on 20 January 1975 (Public Access – Creek Banks) that requires 20 metre pedestrian easements to be created if any property with a creek frontage is subdivided.

5 Issues in the Management Area

5.1 Safety and Risk

Jumping from the rocks at Tosha Falls is a common practice, and this may pose a risk to both the jumper and anyone in the water. The jumping rock at Tosha Falls is only about 3 metres above the water, is quite sheer and the pool below is relatively deep. These factors assist in reducing risk to users. The site is already signposted to warn against the dangers of jumping from the rocks and swimming in the waterhole. Jumping off a rock face is an inherently risky activity that should be discouraged.

Slip and trip type injuries are possible when both accessing the site and getting in and out of the water. Council currently mows from Johnstons Road to the falls regularly as part of its STP property maintenance. The access from Johnstons Road to the falls is mown grass that is partly the edge of the major wastewater pond. It is easy to walk but has a slight cross fall that may be difficult for the elderly or the disabled. It is relatively flat over its length, and a trail could be identified a little further from the edge of the wastewater pond (thus reducing cross fall) to cater for all ages and abilities of site users. Council does not support swimming in this location, and modifying the edge of the pool to create easier access will send a mixed message to visitors. It is not recommended.

Snakes can be an issue in hot weather. Mowing the grass will assist in protecting site users by providing better vision to the walking trail.

Anecdotal advice is that some visitors bring alcohol on to the Tosha Falls site. It would be very difficult to clean up broken glass if bottles were smashed either intentionally or accidentally. Alcohol can also cause behavioural issues with some visitors and make the subject land less attractive to families and more attractive for parties. The subject land can only be declared an “alcohol prohibited area” under the *Local Government Act 1993* with approval of the Local Area Commander of Police, and this normally occurs where there is an increased risk of alcohol-related crime or

anti-social behaviour. In the absence of reports from the Police, the area could be signposted as “glass free” to reduce the risk from broken glass.

Hazard warning signs consistent with Australian Standards should be located at appropriate points on entry to the site and at the falls, and replaced if stolen or vandalised.

5.2 Water Quality and Swimming

The waterhole below Tosha Falls has been a local swimming spot for a long time. For most of its history it has been surrounded by private land and access has been at the discretion of neighbours (other than by trespass). Council does not identify Tosha Falls as a location for swimming.

Council has collected water samples regularly downstream of the falls as a baseline for Maguires Creek. The creek receives treated wastewater from the Alstonville STP at a location approximately 300 metres downstream of the falls. Water quality data for Maguires Creek (below the falls but above the wastewater outlet) is provided in Part B – Appendix E. Although this data has not been collected for the purposes of assessing if it meets standards for swimming, it does give an indication of water quality.

A recent study (Hachich, et al, 2012) comparing thermotolerant coliform counts to *E. coli* (the coliform that is normally tested for swimming water standards) suggested that “1000 thermotolerant coliforms would correspond to approximately 800 *E. coli*”. This was based on a two year sampling program from 25 sites collecting 380 samples. If this ratio is applied to the Maguires Creek data (between the falls and the STP outlet) then the 90 percentile level of 1,650 thermotolerant coliforms per 100 ml of water equates to approximately 1,320 *E. coli* per 100 ml of water. The standard normally required for swimming water is less than 40 *E. coli* per 100 ml of water, to avoid illness (Table 1). When levels exceed 500, there may be a significant risk of illness.

Category	95 th Percentile of enterococci (cfu/100 mL)	Basis of derivation	Estimation of probability
A	≤40	No illness seen in most epidemiological studies	GI* illness risk <1% AFRI** risk <0.3%
B	41–200	Upper level is above the threshold of illness transmission reported in most studies	GI illness risk >1–5% AFRI risk >0.3–1.9%
C	201–500	Represents a substantial elevation in the probability of adverse health outcomes	GI illness risk >5–10% AFRI risk >1.9–3.9%
D	>500	Above this level there may be a significant risk of high levels of illness transmission	GI illness risk >10% AFRI risk >3.9%

* GI = gastrointestinal

** AFRI = acute febrile respiratory illness

Table 1: Microbial assessment categories for fresh water (source NHMRC 2008)

Note: Enterococci is a group of faecal bacteria common to the faecal matter of warm-blooded animals, including humans; a subset of the faecal streptococci, but generally the vast majority; now referred to in Europe as the intestinal enterococci. Escherichia coli (E. coli) is a bacterium found in the gut, used as an indicator of faecal contamination of water (from warm-blooded animals and humans).

Like the majority of natural swimming locations in the Shire, the water quality is variable depending on weather, especially rainfall, and land uses in the catchment. Water quality data for the site collected below the falls demonstrates that variability. The safety to users can also change at any time without warning (eg due to an outbreak of blue-green algae or a branch dropping into the waterhole from upstream). Council does not have a life guard on duty or any life saving equipment at or near the site (other than a first aid kit at the Alstonville STP during working hours). Notwithstanding this, the site still attracts some users where the 'wild state' of the locality is the attraction to swim there.

If Council permits access to Tosha Falls (via Johnstons Road or another option) then it is permitting the public to access land under its care and control. However, if it is aware that the public enter this land now (which they do) then it already has a duty of care to the public.

It is important that Council indicates to the public that it is not recommending Tosha Falls and the waterhole as a place to swim or jump off the rocks. Council's risk management strategy is to ensure that it takes reasonable steps to guard site users against reasonably foreseeable risk of injury arising from being on the subject site. This would likely include:

- Site safety inspections to be conducted (noting inspections are currently carried out by Council officers) on a regular basis.

- Any ropes or devices (such as swings) for entering the pool should be removed as soon as practicable.
- Expand the information on Council's Beachwatch website regarding water quality at Tosha Falls such as blue-green algae outbreaks, as well as pollution signs.
- Hazard warning signs should be replaced if stolen or vandalised.
- Install warning signage at the site indicating that the site is not routinely monitored by Council for water quality parameters and therefore swimming is not recommended.
- If Council decided to promote the site as a swimming location, regular water quality monitoring should be undertaken and suitable associated signage erected. This would require significant resourcing.

5.3 Site Access

Although the site can be accessed by road (and a short walk), it is closer to the northern suburban edge of Alstonville than it is to Johnstons Road. The trespass occurs largely from drainage or road reserves that abut Lot 2 DP 1182136, owned by the Prendergast family. In particular, it occurs from the north-western corner of Tanamera drainage reserve, Banjo Place, Kim Court, Rosedale Place and Hillburn Place. Many of the trespassers are children or teenagers, and the paths they choose are insensitive to the privacy of those that live near the falls or near to the key trespass access points.

Observations of the neighbours suggest that the level of trespass is at times regular and highly disruptive to the peaceful enjoyment of private land.

The trespass access points are all from public land or road reserves that are poorly fenced and signposted. Past attempts to do both have been subject to vandalism. The trespass has been reported by neighbours to local Police, but this has not resulted in any obvious reduction in trespass.



Figure 6: Trespass and privacy issues related to accessing Tosha Falls

5.4 Johnstons Road

At the termination of Johnstons Road, there is currently a wire fence that is signposted “Sewage Treatment Works – Private Property – No Entry Permitted”. Council has in recent years regarded this site as Operational land that should not be accessed by the public. There is an argument that if the public cannot access lawfully from Johnstons Road then this exacerbates the trespass issue across other neighbours’ land. The use of the site by the general public during warm weather indicates that users do not take the Johnstons Road signage seriously.

Despite the signage saying “No Entry Permitted”, there is a gap in the Johnstons Road fence that allows pedestrian access. During the most recent warm weather (January/February 2017), the main fence at Johnstons Road was cut several times to allow private vehicles to access the falls. This

has been done after hours and the purpose of the vehicle access is not known. Council has repaired the fence promptly after each event. Other parks nearby that have been subject to unauthorised vehicle entry have been “fenced” with large rocks to prevent vehicle access. That may be appropriate in this location also.

Parking is available at the end of Johnstons Road. At least 10 cars could be easily accommodated in the wide road reserve with minimal modifications to the surface. A sign could indicate that rear to kerb 90 degree parking is preferred. Rock bollards could be located to block illegal vehicle access, while still allowing emergency and maintenance vehicles through a locked vehicle gate.

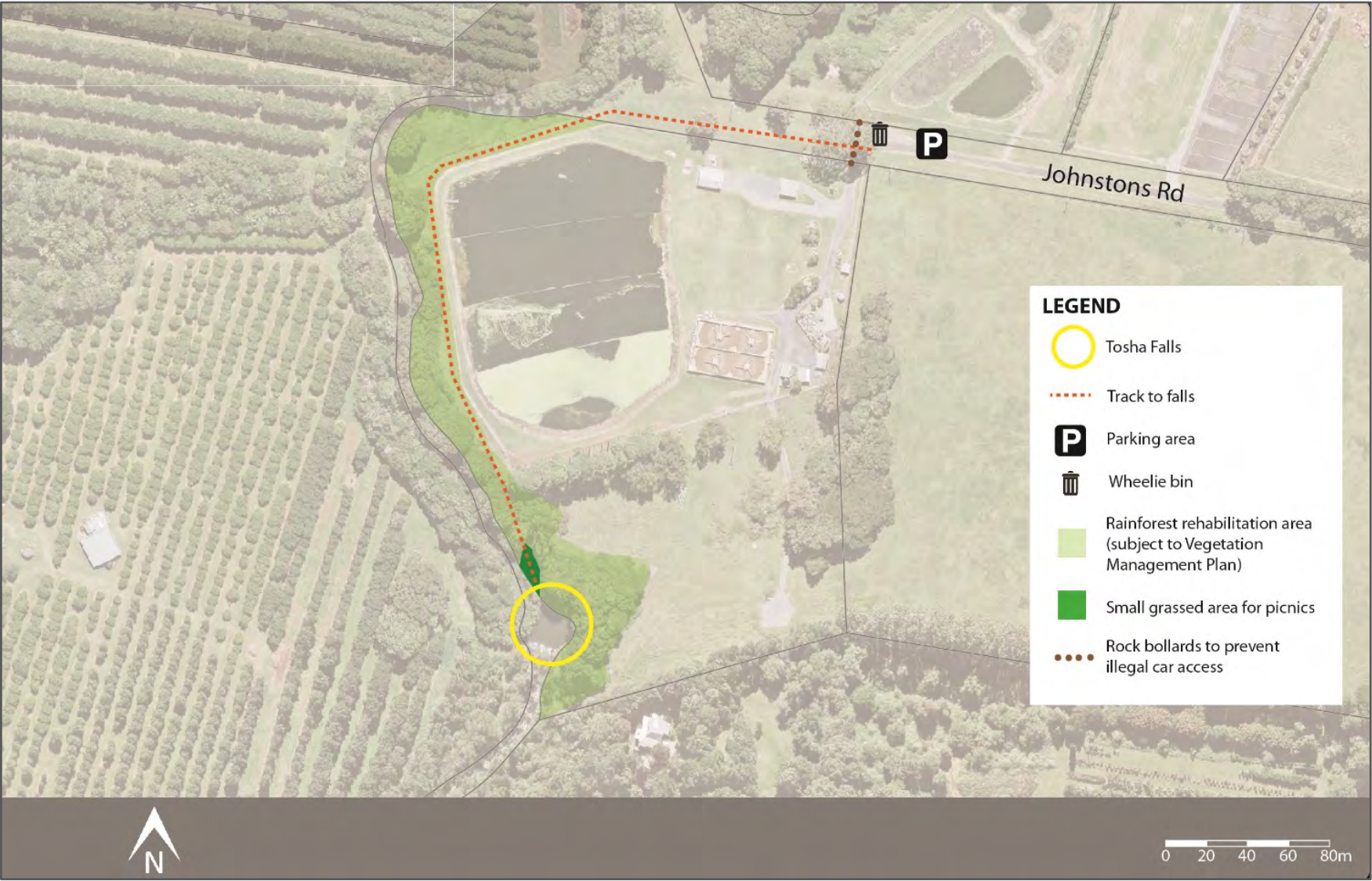


Figure 7: Accessing Tosha Falls from Johnstons Road

5.5 Other Access Options

Several options exist that might provide access to Tosha Falls other than via Johnstons Road.

Option 1: From Lumley Park via a creek side easement

This option has been considered for many years and has been supported by some neighbours. It was also raised in a 1996 heritage assessment. Mr Prendergast indicates that it was the reason for the creation of an easement across Lot 2 DP 1182136 in 1977. The presence of an easement for public access indicates the idea has probably been supported in the past by Council officers. It would be a pleasant creek side walk to an interesting destination.

Starting a walking track from Lumley Park through to Tosha Falls also has the advantage of existing parking and toilets for users. The main problem is that Lumley Park is on the western edge of Alstonville, and the younger site users that currently access Tosha Falls are unlikely to walk out to Lumley Park and then walk back to the falls. Creating this path may not stop the trespass issue.

The cost of creating a path (including any creek crossings), its environmental impact in a riparian rainforest corridor, and the problems of construction and maintenance in a partly flood affected area are all considerations that may also inhibit this option being realised. However, it is a potentially worthy project to consider in the long term.

Option 2: A direct pedestrian easement across Lot 2 DP 1182136 from a public road near to the site

This option was canvassed with the owners of Lot 2 DP 1182136. The shape of their land is long and narrow, and the locations that best respond to existing trespass locations (say Rosedale Place) would place an easement across their land, effectively cutting it off from the balance. There would be no advantage for the land owners, and they would still have people crossing their farmland with all the problems that it brings.

Neighbours to the Tanamera drainage reserve, Banjo Place, Kim Court, Rosedale Place and Hillburn Place may also object if the easement was near them as it could create traffic in their streets if people drive to the easement. It would also create pedestrian traffic near to private homes as the access became more widely known. This may affect privacy.

Option 3: Acquisition of part of Lot 2 DP 1182136 to create public land from a public road direct to Council land at Tosha Falls

This option has been offered to Council by the owners of Lot 2 DP 1182136, however negotiations have never taken place. The cost of this option and how much land is required are unknown. It has a clear advantage for the land owner as they do not have to manage land on either side of an easement and they receive financial compensation for the loss of some of their land. If it is well located, it may satisfy the 'direct route' that young site users of Tosha Falls apparently desire.

Depending on the location, it could have the same negative impacts as the direct easement option (traffic and privacy). The cost of this option would include the acquisition costs plus any path construction and maintenance costs. It requires further investigation and negotiation but is a potentially worthy option to consider in the long term. The best location for this acquisition would be at the end of Rosedale Place as this is a central and direct access point to the falls from suburban Alstonville and is already apparently well used by trespassers (neighbour's observations). However, it is the primary access to the worker's cottage on Lot 2 DP 1182136, and an easement for this use would be required. Neighbours in Rosedale Place may also object to this option as it could create traffic in their street. It would also create pedestrian traffic near to private homes as the access became more widely known. This may affect privacy.

Option 4: Prevent access to Tosha Falls

This option is the current situation, and the level of usage and willingness by some to trespass indicates that it does not work very well. Signs and fences will deter some but not everyone. The site has been a popular destination for a very long time and that is unlikely to change.

If site users know there is an opportunity to visit the site without trespass then many will use that option.

It is important to note that prevention of access at trespass locations is still part of the solution to better management of Tosha Falls. It will require Council to work together with land owners to achieve results.

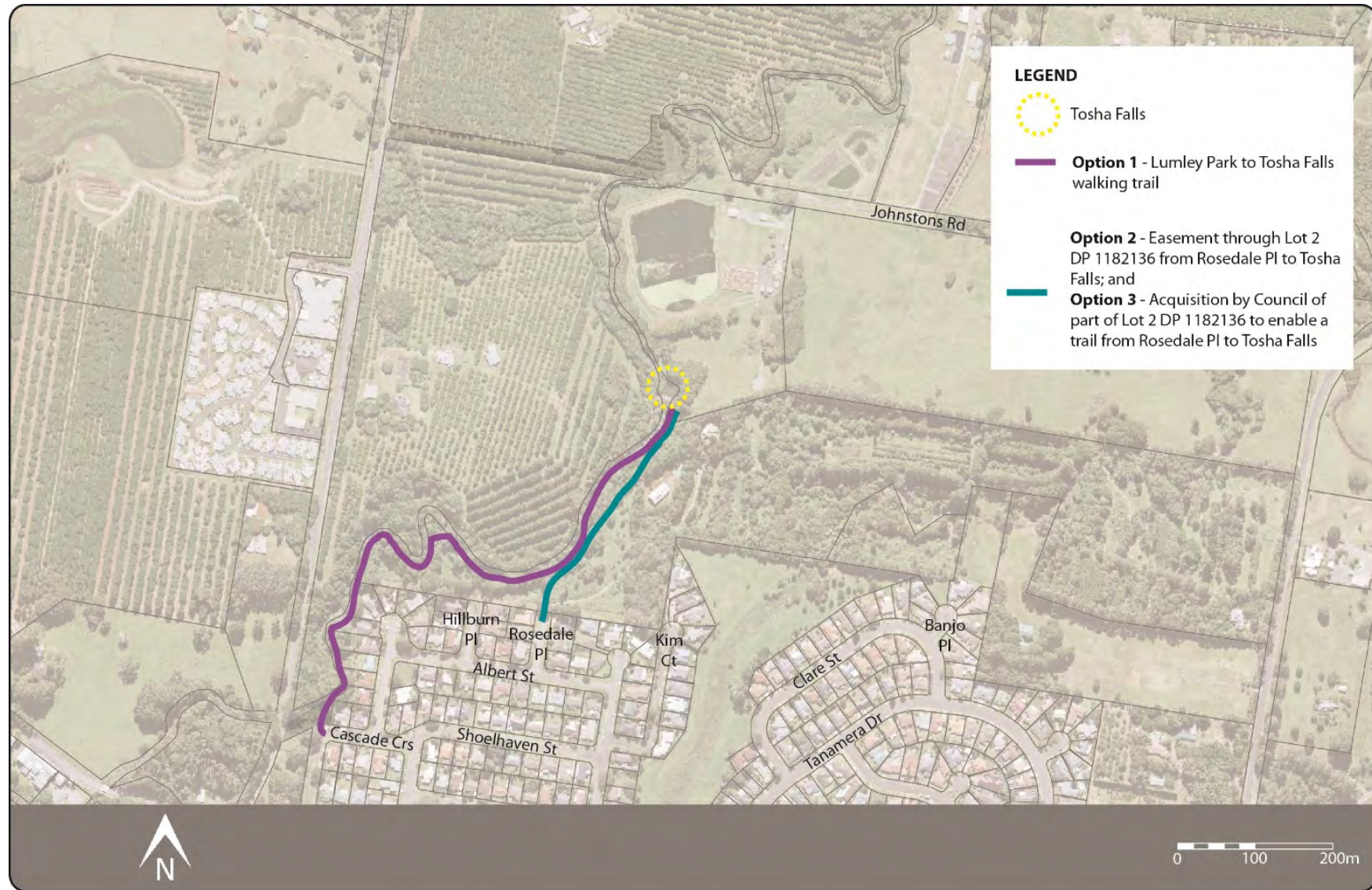


Figure 8: Accessing Tosha Falls other than from Johnstons Road

5.6 Environmental Restoration

There is a stark contrast between the extensive rainforest regeneration undertaken by the neighbouring property and the weed dominated Council land. Council has a vegetation management plan for the site (prepared in 2007) that can be relatively quickly checked and updated as required. It is based on a combination of weeding in all locations, planting in some locations and assisted natural regeneration in other locations. It can be implemented over time as resources become available. Rehabilitation of the subject land will increase biodiversity as well as providing an improved riparian link between the Maguires Creek rainforest remnant and the Lumley Park rainforest remnant. It would also improve water quality and improve the overall visitor experience by bringing people into a riparian rainforest as opposed to a riparian weed forest.

5.7 Rubbish and Toilets

There is no rubbish bin located at or near Tosha Falls. The nearest rubbish bins and public toilet are at Lumley Park in Alstonville, off Pearces Creek Road. STP staff pick up rubbish and suggest that if a bin were provided, it should be located at the Johnstons Road access point so it can easily be emptied and monitored. There is a risk that it may become a destination for household rubbish dumping.

Given the level of use at the site, it may be preferable to not provide a bin and thereby encourage people to take rubbish with them. This has been successful in remote nature reserves where regular bin collection is impractical.

There is also an argument that Tosha Falls is pretty much the same as it has been for many decades (plus or minus surrounding vegetation). To make any significant changes to infrastructure or facilities will impact on something that is very simple and popular with local people.

A bin at the Johnstons Road site entrance is warranted as a trial. If it creates problems, it can be removed easily at minimal cost. It can be emptied in

conjunction with waste collection from the STP. Figure 7 shows a possible location for a bin.

A toilet near the Johnstons Road access point is relatively simple to install from an infrastructure perspective as there is an opportunity to dispose of waste direct to the STP, which can also supply recycled water for flushing and electricity for construction. However, with relatively low use rates (especially in winter) and most visitors being locals, it is not warranted at this stage. If the falls become more popular in the future, this position could be reconsidered. In this case a toilet connected to the STP at the Johnstons Road entrance is the preferred location, but it is not recommended.

5.8 Dogs

If dogs are brought to the falls, this could be a risk to other users and wildlife. Dogs swimming in the waterhole would not assist with water quality and would not be conducive to the area being platypus habitat.

Unless dogs are on leads, it would not be possible to stop them from straying onto adjacent private land near the falls. Permitting dogs also brings with it the need for dog faeces bags and a rubbish bin to dispose of them. The site is also mooted for environmental restoration, and dogs are not consistent with that outcome. Neighbours have suggested that dogs should not be permitted at the site.

Under the *Companion Animals Act 1988*, dogs are prohibited in the following places:

- In or within 10 metres of any children's play areas
- Recreation areas where dogs are declared prohibited
- Wildlife protection areas.

A dog off leash area is already available at Gap Road, Alstonville.

Dogs should not be permitted on the subject land.

6 Management Strategies and Actions

An outline of the recommended strategies and actions is provided below:

- Hazard signage is required for public safety and this should include water quality warnings.
- Council needs to implement its risk management strategy for this site including water quality testing, site safety inspections, and hazard signage maintenance and replacement.
- Access to the falls should be pedestrian only (via Johnstons Road), with stronger measures than current fencing required to keep vehicles out. The existing grass and dirt track is adequate but needs to be marked to make the access self-evident.
- Parking should be signposted at the Johnstons Road entrance to encourage orderly use of the space. No treatment of the road verge is recommended at this stage due to the low level of usage.
- Alstonville residents should be made aware of the access via Johnstons Road and should be requested to not trespass across private land to get to the site.
- It is recommended that Council assists land owners with fencing and signage where Council land meets private land at key trespass points. These costs would be shared as with all fencing.
- A wheelie bin should be trialled at the Johnstons Road entrance to establish if littering is reduced at the site. If there is no noticeable improvement or it is abused or vandalised, it can be removed easily.

Priority 1 = Are required for public safety or risk reasons; can be implemented within 12 months of adopting the management plan; are relatively low cost.

Priority 2 = Can be implemented within 1 to 3 years of adopting the management plan; are more expensive to implement.

Priority 3 = May take more than 3 years to implement after adopting the management plan; are more expensive to implement; may not be feasible once investigations are completed.

- The rainforest rehabilitation will be a major ecological improvement that will benefit users and the environment over time.
- In the longer term, other access options can be negotiated and assessed in more detail. This includes a possible trail linking Lumley Park to Tosha Falls and Johnstons Road. It also includes negotiating an acquisition of land for a direct access from a public road such as Rosedale Place through to Tosha Falls.

No facilities are recommended at the falls itself. No toilet is recommended for the site at this stage as the level of use does not warrant it. This could be reassessed if the level of use changes in the future.

It is not recommended that Council promotes or advertises Tosha Falls.

6.1 Summary of Strategies and Actions

The approach taken with this management plan is to document actions and strategies, and then cluster them into three priority options to manage and develop the site. Council can then consider these options that represent a minimal, moderate and major approach in terms of risk and safety, timing, feasibility and cost. Risk and safety is the dominant factor in prioritising the actions. They are a cumulative set of options with Priority 1 being the baseline of actions that should be undertaken. Priority 2 (if adopted) will be in addition to Priority 1, and Priority 3 (if adopted) will be in addition to Priorities 1 and 2.

Objective	PRIORITY 1: Strategies and Actions	Cost (ex GST)
<p>Ensure the ecological viability of the land by protecting its biodiversity and promoting rehabilitation of rainforest;</p> <p>And</p> <p>Protect and respect the aesthetic, heritage, recreation, education and scientific values of the land and Maguires Creek.</p>	<p>Declare the subject land to be a dog prohibited area.</p>	<p>Minimal</p>
<p>Minimise impacts arising from the use of the subject land on adjacent private land (in particular trespass and privacy);</p> <p>And</p> <p>Provide that any use of the subject land does not unduly impact on the operational use of the balance of the site as an STP;</p> <p>And</p> <p>Provide for the safety of the users of the subject land.</p>	<p>Establish Johnstons Road access as a lawful pedestrian access to Tosha Falls, including parking signage.</p> <p>Modify signage at entrance to mark it as an access to Tosha Falls for pedestrians only.</p> <p>Use large rocks to block the fence area so that vehicles cannot access the falls. Retain the vehicle gate for maintenance and emergencies.</p> <p>Use signage and track markers to direct visitors to access the falls. Locate the mown track to guide pedestrians to the more level areas of land.</p> <p>Implement risk management strategy on an ongoing basis (water quality testing, inspections, etc).</p> <p>Follow up with tour operators that visit Tosha Falls to ensure they have a licence with Ballina Shire Council to operate on public land and that they have appropriate insurance in place (consistent with Council policy).</p>	<p>\$250 (\$250 per sign)</p> <p>\$250</p> <p>\$800 (\$100 per rock)</p> <p>\$500 (\$125 per sign)</p> <p>\$2,500 (per annum)</p> <p>Minimal</p>
<p>Provide facilities and information proportionate and relevant to site use that allow the safe enjoyment of the land by the public;</p> <p>And</p> <p>Provide for the safety of the users of the subject land.</p>	<p>Provide signage alerting the public of potential risk where required or appropriate based on Australian Standards for hazard signage.</p> <p>Provide signage advising that Council does not make any claim that the water in Maguires Creek meets the standard required for swimming, and that swimming is not advised.</p> <p>Provide signage directing pedestrian traffic to designated access track/path and to keep out of vegetation rehabilitation areas.</p>	<p>\$250</p> <p>\$250</p> <p>\$500</p>

Objective	PRIORITY 1: Strategies and Actions	Cost (ex GST)
	Declare the area to be glass free to reduce risk related to broken glass.	Minimal
<p>Provide facilities and information proportionate and relevant to site use that allow the safe enjoyment of the land by the public;</p> <p>And</p> <p>Minimise impacts arising from the use of the subject land on adjacent private land (in particular trespass and privacy).</p>	Retain a small grassed area adjacent to the waterhole below the falls for a family picnic area.	Minimal
<p>Minimise impacts arising from the use of the subject land on adjacent private land (in particular trespass and privacy);</p> <p>And</p> <p>Provide for the safety of the users of the subject land.</p>	Work with neighbours to erect appropriate signage at key locations where trespass occurs, and maintain it if it is vandalised. Signage should identify private land and nominate Johnstons Road as the public access to Tosha Falls.	\$1,500
	Work with neighbours to erect and maintain fences at key locations to discourage trespass. Persevere with repair and maintenance to discourage anti-social behaviour.	<p>\$2,500* (plus costs at Rosedale and other locations TBC)</p> <p>(\$50 per lineal metre – mesh and barbed wire)</p>
	Prepare a fact sheet for Alstonville residents to advise that access is permitted from Johnstons Road and that all other access points are not available to the public.	\$1,000 (plus print costs if required)

* Costs to be shared

Table 2: Priority 1 Strategies and Actions – Summary and Costs

Objective	PRIORITY 2: Strategies and Actions	Cost (ex GST)
<p>Ensure the ecological viability of the land by protecting its biodiversity and promoting rehabilitation of rainforest;</p> <p>And</p> <p>Protect and respect the aesthetic, heritage, recreation, education and scientific values of the land and Maguires Creek.</p>	<p>Update Tosha Falls Vegetation Management Plan 2007.</p>	<p>\$3,000</p>
<p>Provide facilities and information proportionate and relevant to site use that allow the safe enjoyment of the land by the public;</p> <p>And</p> <p>Minimise impacts arising from the use of the subject land on adjacent private land (in particular trespass and privacy).</p>	<p>Trial a wheelie bin for rubbish at the Johnstons Road entrance for a period of 12 months.</p>	<p>\$1,000 (plus waste collection charges)</p>

Table 3: Priority 2 Strategies and Actions – Summary and Costs

Objective	PRIORITY 3: Strategies and Actions	Cost (ex GST)
<p>Ensure the ecological viability of the land by protecting its biodiversity and promoting rehabilitation of rainforest;</p> <p>And</p> <p>Protect and respect the aesthetic, heritage, recreation, education and scientific values of the land and Maguires Creek.</p>	<p>Implement the updated Tosha Falls Vegetation Management Plan – to achieve riparian rainforest rehabilitation throughout the entire subject land.</p>	<p>\$50k – \$100k</p>
<p>Provide facilities and information proportionate and relevant to site use that allow the safe enjoyment of the land by the public;</p> <p>And</p> <p>Minimise impacts arising from the use of the subject land on adjacent private land (in particular trespass and privacy).</p>	<p>Investigate a Lumley Park to Tosha Falls walking track as part of the recreation trail system for Alstonville.</p> <p>Negotiate an access for the public through Lot 2 DP 1182136 through a voluntary sale to Council. Commence negotiations on how much land, where the access can be located, and what it will cost to acquire and construct a trail from the Alstonville urban area to Tosha Falls.</p>	<p>TBC</p> <p>TBC</p>

Table 4: Priority 3 Strategies and Actions – Summary and Costs

The full suite of possible actions and strategies is presented in Figure 9.

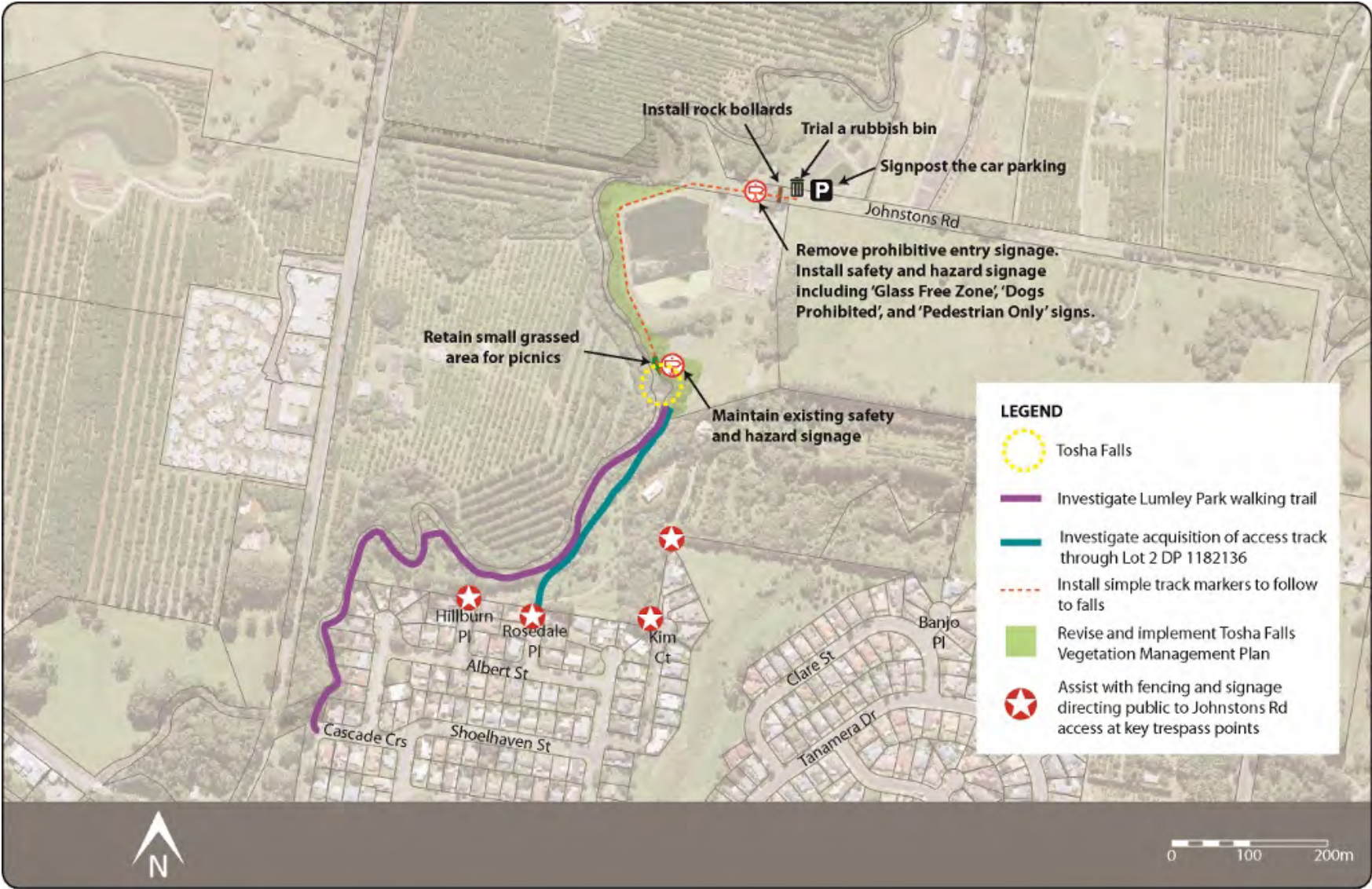


Figure 9: Possible Strategies and Actions illustrated on a site map

Discussion of the costs of actions and strategies, and how they might be funded is included in Part B to this management plan.

Site photographs and infrastructure examples are shown in Part B – Appendix F.

6.2 Monitoring

As this site has never been subject to a management plan, it is important that the actions are monitored to establish if the anticipated outcomes have been achieved.

The management plan should be monitored on an annual basis, and comprehensively reviewed after five years.

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Tosha Falls Management Plan

Part B



Prepared for Ballina Shire Council

by MikeSvikisPlanning

8 June 2017

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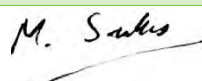
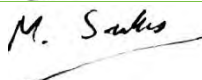

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Photograph on front cover: Courtesy of J Gardiner (2017)

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1 Background

In July 2016, Council resolved that a management plan be prepared for Tosha Falls to assist with the long term planning of the site.

The management plan seeks to:

- provide options for management of the site
- identify potential opportunities for future development of facilities, access, and use of the site
- document a risk management strategy for the site.

The Tosha Falls Management Plan has been split into two parts to make it easier to read and simpler to access online. Part A has sufficient information to document the actions and strategies that are the basis of the management plan, while Part B documents a range of issues including the early neighbour, community and agency consultation. Part B also outlines the costs of actions and infrastructure, and how it might be funded. Part B includes the appendices with additional supporting information such as site photographs and infrastructure examples.

2 Early Consultation

2.1 Who We Spoke To

There are two land owners that directly abut the Tosha Falls land owned by Council. One is the Prendergast land (Alstonville Tree Farms); and the other is the Mitchell land, known as Cascade Farm (or Tosha Farm). Both these owners were interviewed, their property inspected and discussions held on site. Direct contact was also made with a land owner in Kim Court that has previously made representations to Council concerning this access to Tosha Falls. All three have made written submissions (Appendix A).

Contact was also made with:

- the Alstonville STP operators that work daily at the Johnstons Road site.
- the Office of Environment and Heritage, and a written submission is at Appendix B.
- the Jali Aboriginal Land Council (at this stage it has not made a written response).

A summary of the early consultation with neighbours is at Appendix C. Key issues raised include trespass and privacy, Johnstons Road and other access options, tracks and other Infrastructure, environmental restoration, water quality, toilets and rubbish, cliff jumping, safety and risk.

2.2 Online and On-site Survey

A survey of some of the public that use Tosha falls was also undertaken through January and February 2017. The purpose was to gain an idea of the range of people that use Tosha Falls, where they live, the way in which they access it and use it, and what the community values about the falls. It is important to note that the results collected in this survey represent a

snapshot in time of some of the site users, and are not statistically accurate due to sample size and methodology. Filling out the survey did not require names or other identification.

Seventy-two (72) people filled out the eight question survey, and a summary of the survey results is at Appendix C.

2.3 Community Values

Tosha Falls' users and neighbours (contacted in early consultation) describe the values of the subject land as:

- Ecologically significant
- Habitat for native species
- Pleasant to visit and look at the waterfall
- Great swimming hole
- Great jumping rocks
- Fun to visit
- Quiet, peaceful and secluded
- Close to Alstonville
- Easy walk via Johnstons Road
- Special local spot

2.4 Recreation Needs and Opportunities

Early consultation and site visits indicate that the subject land fulfils a range of recreation needs and opportunities. People of all ages come to the falls to:

- Swim in the pool and/or jump off the rocks
- Look at the waterfall and take photos
- Picnic on the mown grass area with family and friends
- Enjoy a short walk to an interesting destination

2.5 Commercial Activities

One tour operator was encountered when conducting early consultation on this management plan. He runs a mini-bus tour that takes tourists (mostly backpackers) to local swimming holes and waterfalls for a “freshwater” experience that is an alternative to the obvious coastal attractions of the Ballina area. On the day that he was interviewed he had five guests and stayed about 15 minutes at the site before departing to another waterfall location. Only one of his guests chose to swim at Tosha Falls. He accessed the site via Johnstons Road.

There do not appear to be any other regular commercial activities carried out at Tosha Falls, although it has been used in commercials and music film clips. This is supported by the observations of the STP operators.

3 Costs and Funding

3.1 Costs

Implement the Risk Management Strategy	Council needs to implement its risk management strategy for this site including water quality testing, site safety inspections and hazard signage maintenance and replacement. This is a recurrent cost that will be impacted by the incidence of vandalism. It is assumed to be \$2,500 per year.
Update Tosha Falls Vegetation Management Plan	This document could be readily updated by Envite (the original authors). Envite has indicated the update would cost approximately \$3,000.
Rainforest Rehabilitation	The costs for rehabilitation vary considerably. However, over the long term, Council should budget \$50,000 to \$100,000 to get this site on its way to long term rehabilitation as a riparian rainforest.
Signage and Track Markers	<p>Council signs that warn or advise the public (in accordance with Australian Standards) cost \$250 per sign installed. These will be used for a variety of purposes and warnings.</p> <p>Track markers are a simple directional sign fixed to a steel or treated pole that guides a visitor to a point where the next marker can be seen until you arrive at the destination (in this case the falls). They are used where the track is not formalised. In this case a mown grass track. They cost approximately \$125 installed, and up to four are required from Johnstons Road to the falls.</p>
Rubbish Bins	A wheelie bin is normally set on a concrete plinth with steel structure that restricts opening, to reduce household dumping and vermin issues (from leaving the lid open). Assuming traffic control may be required (probably not on Johnstons Road) then this would cost \$1,000 installed.
Signage at Trespass Locations	It is assumed that signage will be required at five key trespass locations. Assuming three signs will be required at each location (either initially or as replacement signs) then this will cost \$1,500. The wording can be discussed with land owners, however it needs to be clear that they are marking the boundary of private land, and Tosha Falls can be accessed via Johnstons Road.

<p>Fencing</p>	<p>Security fencing is typically steel posts in concrete with security mesh to 1.8 metres high, and then three strands of barbed wire above that. This is the sort of fence that surrounds the Alstonville STP. It can generally be constructed for about \$50 per lineal metre. In some locations such as Kim Court, a strip of fencing approximately 10 metres is required (\$500). Hillburn Place could be fenced at the end of the road reserve (20 metres) as this is not required as an access to Lot 2 DP 1182136 (\$1,000). However, Rosedale Place is problematic as this location has an open gate that is used as an access to the rural worker’s dwelling on Lot 2 DP 1182136. This needs to be discussed with the land owner. Banjo Place also has an open gate and currently no front fence. This needs to be discussed with the land owner. The northern boundary of Tanamera Reserve is approximately 300 metres long. The key access point is in the north-western corner. Security fencing along the whole boundary would cost \$15,000 and is not practical as it is a drainage reserve and the fencing would restrict water flows in high rainfall events. Fencing the north-western corner (approximately 20 metres for \$1,000) may be sufficient. This needs to be discussed with the land owner. As with normal neighbour fencing arrangements, Council would expect that 50% of the cost of fencing would be borne by each party. This can be negotiated.</p>
<p>Rock Bollards</p>	<p>Typically, Council uses these when vehicles are accessing parks and reserves unlawfully and doing damage or creating hazards for other users. The size is usually about 2 tonnes, and each rock costs about \$100 delivered to a local site. Up to eight rocks may be needed to block off the Johnstons Road access, leaving only the locked gate for vehicles to do maintenance or for emergencies.</p>
<p>Fact Sheet for Alstonville Residents</p>	<p>If Council wants to inform residents that they can access Tosha Falls via Johnstons Road and not via private land then it needs to prepare a fact sheet to use on its website or to use with a press release or advertisement in the local press. The draft management plan will generate interest, and Council needs to back this up with information once a position is taken regarding access to Tosha Falls. It will take approximately \$1,000 to put this information together plus printing costs if this is required (such as a letterbox drop to houses within 800 metres of the key trespass points).</p>
<p>Lumley Park to Tosha Falls Walking Track</p>	<p>This needs to be considered as part of the overall plan for walking trails around Alstonville and the Shire. Although the easement is there, it is not clear that a track can be built along its length and how this would be done. There is likely to be at least one creek crossing and this could be expensive in a high velocity environment. The impact of the track on the riparian zone is also a consideration. A detailed feasibility and cost benefit analysis is required to decide if this track is appropriate. That should be the subject of future work. A cost cannot be estimated at this stage.</p>
<p>Negotiate to acquire part of Lot 2 DP 1182136 for the public through a voluntary sale to Council</p>	<p>The offer has been made to sell a part of this land to Council and negotiations should commence. However, it is not clear how easily an arrangement can be reached or whether Council can afford the cost (as yet unknown). A cost cannot be estimated at this stage.</p>

3.2 Funding

<p>North Coast Local Land Services Grants</p>	<p>Each year North Coast Local Land Services deliver a number of grant and funding programs to support the community to undertake natural resource management and sustainable agriculture activities.</p> <p>When available, funding opportunities are advertised on this website and promoted through the North Coast Local e-newsletter. Each funding program has clearly defined objectives and selection criteria, and must be lodged using specific application forms. Available funding is highly sought after, and opportunities are very competitive.</p> <p>This funding could be used for updating the Tosha Falls Vegetation Management Plan 2007, and for rainforest rehabilitation on the subject land consistent with that plan.</p>								
<p>Australian Government's National Landcare Program</p>	<p>The Australian Government will invest \$1 billion through the National Landcare Program over four years from 2014–15, including support for the Landcare Networks, 20 Million Trees and Australia’s 56 regional natural resource management (NRM) organisations. This funding helps support local environmental and sustainable agriculture projects, including the Reef 2050 implementation, and complements funding for the Land Sector Package.</p> <p>Applications for funding in regional locations is likely to occur again in 2017–18.</p> <p>There are four Strategic objectives including the following:</p> <table border="1" data-bbox="609 775 2031 1007"> <thead> <tr> <th data-bbox="609 775 1014 847">Strategic Objective 1</th> <th data-bbox="1021 775 1426 847">Strategic Outcomes</th> <th data-bbox="1433 775 2031 847">Contribution to National and International Obligations</th> </tr> </thead> <tbody> <tr> <td data-bbox="609 852 1014 1007">Communities are managing landscapes to sustain long term economic and social benefits from their environment</td> <td data-bbox="1021 852 1426 1007">Maintain and improve ecosystem services through sustainable management of local and regional landscapes</td> <td data-bbox="1433 852 2031 1007">Protection and restoration of ecosystem function, resilience and biodiversity; appropriate management of invasive species which threaten ecosystems, habitats or native species</td> </tr> </tbody> </table> <p>This funding could be used for updating the Tosha Falls Vegetation Management Plan 2007, and for rainforest rehabilitation on the subject land consistent with that plan.</p>			Strategic Objective 1	Strategic Outcomes	Contribution to National and International Obligations	Communities are managing landscapes to sustain long term economic and social benefits from their environment	Maintain and improve ecosystem services through sustainable management of local and regional landscapes	Protection and restoration of ecosystem function, resilience and biodiversity; appropriate management of invasive species which threaten ecosystems, habitats or native species
Strategic Objective 1	Strategic Outcomes	Contribution to National and International Obligations							
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Crowdfunding

Crowdfunding is the practice of funding a project or venture by raising money from a large number of people who each contribute a relatively small amount, typically via the internet. Although it has been used widely to fund music, cultural or business projects, it has also been used to fund natural resource and land management outcomes.

The technique is currently being used by three Victorian Catchment Management Authorities to pay for the conservation project called “Funds for Fish”. The Victorian Government will agree to match dollar for dollar the money raised by crowdfunding with the aim of raising \$40k. It gives a sense of community ownership to projects and a very direct and local outcome with money being spent only on local projects.

More locally, Brunswick Valley Landcare has run a “Pozible” crowdfunding project to raise money for nest-boxes for owls. The target was \$7,500 and this was reached in the time allowed from 81 supporters. That is an average of \$92 per donation.

This funding could be used for updating the Tosha Falls Vegetation Management Plan 2007, and for rainforest rehabilitation on the subject land consistent with that plan. It may also be used to acquire land for rainforest rehabilitation (and access) or to build a walking trail from Lumley Park to Tosha Falls. Council could consider matching money raised dollar for dollar to achieve better outcomes. It could be used in conjunction with other grant funding.

Appendices

Appendix A: Written submissions from neighbours

Appendix B: OEH submission

Appendix C: Summary of early neighbour consultation and survey consultation

Appendix D: Pedestrian easements on DP 253899 near Tosha Falls

Appendix E: Maguires Creek water quality data summary

Appendix F: Site photographs and infrastructure examples

APPENDIX A

Written submissions from neighbours

Re: Lot 1-2 DP 1182136

Submission Prior to the Draft Plan of Management for Tosha Falls

Attention: the Strategic and Community Facilities Group

Dear Jessica Saad & Mike Svikis,

Thank you for the opportunity to provide a submission to the Draft Plan of Management for Tosha Falls. We have long-sought meaningful engagement with Council regarding the management of Tosha Falls and particularly the significant impost of trespassers accessing the Falls from Council land through our property. The issues associated with land-use conflict relating to Lot 1-2 DP 1182136 and public access to Tosha Falls remain un-resolved and need urgent, transparent and considered attention by Council.

This submission outlines a number of concerns and some ideas/opportunities that may be useful to Council undertaking the draft planning. A variety of excerpts of letters previously provided to Council over recent years are also included which refer to matters that remain relevant to significant zoning problems and land-use conflict associated with public use of Tosha Falls.

It is unfortunate that council has not undertaken consultation with neighboring landholders before release of the public survey. Furthermore, no terms of reference related to the proposed Plan of Management of Killen and Tosha Falls was communicated (nor are the terms of reference apparently available through the council website.) We have been proactively seeking dialogue with Council about the management of Tosha Falls and Maguire's creek for the best part of three decades, so it is disappointing and discouraging to learn of the preparation for this plan without first engaging with us.

The survey demonstrates inadequacy and what can only be viewed as a cursory inclusion of Tosha Falls as a survey subject - it appears the survey is aimed at resolving public health and access concerns raised at Killen Falls (which is located on and accessed solely via Council land, starkly different to the context of Tosha Falls, its proximity to the township and private landholdings). What are aims of the survey in relation to Tosha Falls? How does the survey seek community need/want regarding access to Tasha Falls and how will a survey like this engage members of the public who are those knowingly trespassing to volunteer this information? We feel these questions remain unanswered – an indication of an ill-thought-through survey.

If a communications plan, regarding the preparation stage of the plan of management and the survey, was developed it does not appear to have been very effective and since it was not shared with neighboring and affected landholders the effectiveness of the survey questions related to Tosha falls has been compromised.

Any improvement to the amenities offered by Council at Tosha Falls will have an adverse impact on neighboring landholders without additional measures aimed at managing trespass on private land. The ongoing and increased cost of malicious damage to buildings, trees, water-infrastructure and farming activities, as well as trespassers continuing to disrespect and abuse landholders is a real concern. This is a concern that Council has failed over the years to address with us, time-and-time again.

Any plans to improve access, signage or amenities associated with Tosha Falls must be prepared by something similar to a Steering Committee made up of neighboring landholders, council representatives and the public to ensure meaningful engagement and the need to improve the significant conflict of land-use currently experienced, while also aiming to the address public amenity desires. The terms of reference of any Plan of Management for Tosha falls must also include Maguire's creek, and may need to refer to other key natural assets like remnants of "Big Scrub" and existing public reserves and council land.

We are encouraged that Council is now looking to take accountability to effectively manage conflict of land use imposed by area zoning and public amenity associated with accessing the Maguire's creek & Tosha Falls and we are willing to work with the Council and the public to the mutual benefit of all.

A key commitment of Council within the management plan must include the maintenance of effective fences and clear signage to manage boundaries between council and private lands where trespass is known to be a significant problem – these areas includes:

- Tanamera Drive Reserve,
- Kim Court,
- Rosedale Place,
- Hillburn Place,
- Banjo Place,
- BSC operational land adjacent to Tosha Falls/Sewerage Plant.

The management plan must also allow for meaningful and ongoing dialogue with landholders affected by public access to Tosha Falls & Maguire's Creek. The plan needs to consider the deployment of a suite of useful/practical remedies to respond to landholder, Council and public concerns as well as conflicts between these stakeholders. These remedies and responses include providing the public and tourists with effective information, including, but not limited to, social media and local newspapers content, about how to access Tosha Falls and the need of the public to be respectful of neighboring landowners.

It has been suggested to Council previously that their acquisition of land between Tosha Falls and the township of Alstonville (which is currently used by the trespassing-public to gain access to Maguire's Creek and Tosha Falls) may be a strategic corridor offering high value amenity to the public and tourists. In 2011 Council requested an indicative of the value of the property that would be offered for sale, that offer is contained in the excerpts below.

We are very pleased that Council is preparing a Draft Plan of Management for Tosha Falls and we are looking forward to meaningful engagement within the terms of reference of the process that will be used to realise this Plan.

Regards,
Sue & Terry Prendergast
0412 665 558

Excerpt from letter October 2011,

[111015_Boundary_Sale_Development_JPratten.docx]

RE: Common Boundary Issues and Sale of Land - Lot 2 DP 253899, "Talisman" 1336 Teven Road, Alstonville

We are writing to discuss matters further to our meeting on 15 August 2011. There exist numerous long-standing issues relating to the management of boundaries that are shared by Council public space/reserve and our property and the increasing land-use conflict between the operation of the property and neighbouring community. The public amenity our property provides to the community is an unreasonable burden that we alone carry at substantial risk and cost.

Correspondence to council on 18 July 2011 outlined the following areas we wish to work with council to effectively resolve, manage or work toward solutions for the following matters:

1. Develop a management plan to prevent and repair fencing damage/removal on boundaries shared with Council managed land.
2. Consider installing council endorsed "No Trespassing by order of Council General Manager" signage, consistent with signage used on the Lennox township foreshore.
3. Recognise the community value of Maguires Creek and the Waterfall which is a significant recreation destination resulting in five to 20 trespassers on our property daily through six entry points shared with public amenity land or council operational land). Commence dialogue with stakeholders to assess if public access to the Creek and Waterfall is in the public best interest and what means maybe applied to enable these parties to work together to provide appropriate access.
4. Develop an engineering solution to the storm-water run-off from residential and public land and subsequent erosion/land degradation issues associated with the dead end roads of Evelyn Villa Drive, Hillburn and Rosedale Place.

Sale of land option:

Recent local government acquisition of similar size property for community use by Lismore City council of Simoni's Land in Goonellabah resulted in transaction of in excess of two million dollars (circa 2002). Due to the long-standing issues and conflicts of land use (and ultimate restrictions relating to the right to farm) present compelling reasons to divest the land. Due to uncertain draft LEP zoning and continuing public exhibition as well the unique location and character of the land it is different to provide a valuation. As a guideline we seek to encourage dialogue with council in the range of \$1.5 or 2 million for the portion of land described on page three of this correspondence, we provide this pricing indication in good faith and we are willing to negotiate with council to arrive at a mutually agreeable price.

Alternative option:

An alternative approach we have discussed with council in the past is the appropriate zoning of the lands to reflect current residential/urban character of the area outlined by the concept sketch on page four of this correspondence. Rezoning and subsequent development of the land would be carried out under close cooperation with council to provide public access to Maguires Creek and waterfall. Any development would be low impact residential development that is well located and designed so that it would not have an adverse effect on the environmental qualities of the lands, furthermore development would also have positive benefits to the public interest with respect to social and economic prosperity of the area and as part of a comprehensive and considered land supply and demand strategy.

The property contains high value qualities conducive to housing with respect to the accessibility to services and public transport within the Alstonville Village for future residents and the

compatibility with the adjoining residential settlement to the south of the site. This land is consistent with lands sought as part of Council's affordable housing strategy.

Excerpt from Letter, December 2013

[reference: 111213_LEP_Letter_BSC_Councillors_rev JA.docx]

... The issues associated with land use conflict relating to Lot 2 DP 253899 remain un-resolved and need urgent, transparent and considered attention by Council and the LEP process.

Consultation with Tintenbar Shire Engineer Peter Thorp in 1976 (prior to our purchase of the property) made allowance for a 40 meter pedestrian access easement along Maguires creek linking Lumley Park and remnant rainforest (lot 5) with the unnamed waterfall. However, in 1987 Council applied 7(i) zoning on the same property without notice or any consultation in a manner contrary to advice from then State Planning Commissioner Simpson who made assurances that rounding off would occur and allow for development in line with a prior approved subdivision on the property. This has not occurred and Council has repeatedly failed to engage in dialogue with us regarding this matter. Its reluctance to discuss these options with us is confusing and does not present a transparent case or acknowledge significant changes that have been made to zoning on our property without proper or reasonable consultation. We have been seeking to address this issue since becoming aware of the improper application of 7(i) in 1988 and hoped the recent LEP process would enable this matter to be resolved in a transparent manner.

Excerpt from Letter, June 2014

[Reference: Review of Northern Councils E zones submission_ 1336 Teven Road_050614.pdf]

...the close proximity to urban areas along the entire length of our longest boundary renders normal farming practices exceedingly difficult due to high levels of land use conflict as arising from both children and adults trespassing through the property, and many residential neighbours that historically have and continue to restrict/interfere with certain rural activities....

Lot 2 DP 253899 [should be] included in 'Minor Rounding-off', which means developing a small area of land occupying a gap in an urban zone. This would make 'good planning sense' with improved community and environmental outcome while also alleviating existing land use conflict (eg by the incorporation of a buffer imposed on the developer) as well as efficient and economic use of infrastructure.

Community value & ownership maximised

The council could acquire and establish community owned buffers in the new LEP, such as parks, water management zones, scenic areas and outdoor recreational areas that resolve or minimise land use conflicts between urban and rural areas.

This review of zonings is a great time to get the correct, transparent planning zones and guidelines established and break the cycle that has been based on incorrect and inaccurate assumptions. With care and meaningful consultation it will be possible to resolve long-standing land use conflicts by engaging directly with the landowners and community thus helping to produce positive, sustainable outcomes on all levels: environmentally, socially and financially.

We welcome the opportunity to work with Council to this end.

27 January 2017

Ballina Shire Council

Attention: Jessica Saad

Property Officer

Strategic and Community Facilities Group

Cascade Farm Pty Ltd

56 Pearces Creek Road

Alstonville NSW 2477

Tel: 0266280022

Mob: 0416280022

Dear Jessica

Re: Plan of Management for Tosha Falls (316-04)

I am responding with regards to the plan of management proposal, to access Tosha Falls adjacent to our property.

We have valid concerns regarding the plan by council for potential facilities, access and infrastructure - points made in your letter from 20 December 2016 and how it will affect the existing habitat, the safety of visitors and access to our property.

As we have been the owners of the adjoining property to Tosha Falls for forty years (since 1977) we have had minimal issues concerning the numbers of visitors from Alstonville and the immediate surrounds (to the falls). Occasionally we have had to collect rubbish left behind along the top of the falls from short-term (local) visitors from town, however it has been minimal. We have also found that the local community have been respectful with regards to not using the area as a toilet. Likely due to the short-term nature of their visit (generally under 2 hours).

We strongly feel that implementing infrastructure would cause an increase in; larger groups of people visiting the area, commercial tour operators from outside the shire and free campers. This would increase the management and maintenance requirements by council. At present the area has co-existed satisfactorily for all these years with local community patronage and respect.

Our major points of concern are as follows:

- The safety of people jumping off the falls. For the forty year period we have lived here, we've had no fatalities or injuries by members of the local community. An overflow of visitors will place a higher risk of visitors slipping and falling off the rocks or jumping on top of swimmers below.
- Over the years we have noticed the ledges around the waterfall are intermittently changing - with pieces of rock falling into the waterhole. (This has made some areas of the waterhole unsafe for jumping into – such as the middle to western edge).
- In periods of heavy rain, debris such as logs and other plant rubbish washes over the falls – submerged logs are a potential hazard – how will this be managed to prevent accidents if there is an increase in patronage?
- With an increase in usage, visitors bring dogs. Marsupials are prominent in this area and without proper management of pets, this will affect current and future wildlife numbers.
- At times, we sight the special occurrence of platypus swimming in the Tosha Falls waterhole. The banks of the waterfall are also their breeding habitat. With an influx of visitors due to the proposed increased facilities, visitors may damage platypus inhabited holes and edges of the waterhole.

- How will 'free camping,' overnight visits and fires, if facilities are provided be managed? We have recently this year found a foam mattress submerged in the waterhole, presumably camping waste which is extremely hazardous for visitors jumping from the falls.
- How will potential fishing and trapping of perch, eels, freshwater crayfish and turtles in the waterhole be managed? (Last year we found a yabbie trap submerged and roped to a tree)
- Access to the top of the falls is by either side of the waterhole. As our land is one access point, will we be liable for accidents from people scaling the area?
- From 2003, we have invested in the regeneration of indigenous subtropical planting and camphor laurel eradication and erosion management along our side of the boundary creek bank. Will access to Tosha Falls by increased visitors climbing to the top of the falls and along the creek damage and affect this regeneration?
- Our farm is a commercial enterprise with income generating macadamia trees. As there are no fence lines - how will we prevent people trespassing onto private land and potentially damaging trees and crops?

A major concern at hand these past weeks is that the fence-lines have been cut at Johnston's Road and for the first time in the forty years that we have been monitoring the waterfall, vehicles are now accessing the grass path and parking near the Shire Council sign at the base of the waterfall. In the age of social media – we do not want this kind of behaviour multiplied and advertised.

In January this year Mike Svikis, Planning Consultant to Ballina Shire Council, visited and observed the regeneration we have undertaken along the creek boundary and heard our request to reject all facility infrastructures to meet the needs of increased visitor numbers.

The infrastructure we would like to suggest is for the regeneration of subtropical plants indigenous to this area along the creek bank on Council land - providing a meandering showcase as people walk to the falls. This will also enhance the current animal and plant habitats ensuring that the Alstonville community and short-term visitors can continue to enjoy this unique natural setting.

Please contact us if you require any information with regards to the above.

Your sincerely

Leslye, Tiffany, Georgie and James Mitchell

26 Kim Court,
Alstonville NSW 2477
T: 02 6628 5168 - 0409 984 488
E: rosborne860@gmail.com

25 January 2017

Ms Jessica Saad
Property Officer
Strategic and Community Facilities Group
Ballina Shire Council

By email: jessicas@ballina.nsw.gov.au

Re: Killen and Tosha Falls Plans of Management (316-04)

Dear Ms Saad,

Thank you for contacting us after receiving our letter of 13 Jan 2017 regarding Council's development of a management plan for Tosha Falls, a main access point to which abuts our property.

We also thank you for the opportunity to share our views with consultant Mike Svikis who visited our property last week and showed a good understanding of the issues at stake.

Prior to coming here Mr Svikis had discussed the situation with Mr and Mrs Prendergast, the owners of the land upon which a significant number of people trespass on their way to the waterhole.

We previously had the impression that the Prendergasts may have considered, under certain circumstances, including a yet to be determined entry point, or points, granting an easement through their land to Tosha Falls. However, Mr Svikis made clear that this is not the case, and that they do not want any unauthorised people entering their property.

Similarly, as we have stated previously, we do not want a daily succession of trespassers walking down the 'track' adjacent to our boundary, within two metres of our lounge-room window, often using bad language and, even unprovoked, behaving abusively towards us.

Leaving aside whether Council decides to make a more formal access to Tosha Falls from the land around the sewerage treatment plant, and provide some facilities, the issue for us is the entry to the Prendergasts' land via the bottom of Kim Court, where the barbed wire fence is frequently cut (and now is an open space).

While a sign there advises 'No trespassing', the fact that it is authorised by Ballina Shire Council suggests it is Council land, which is not the case, and more or less open to visit.

Our proposal, then, is that the boundary at this point be resolutely fenced; that signage makes clear that it is private land and not a thoroughfare to the waterhole, and that the access to Tosha Falls is (assuming Council decides in this way) via the area near the STP, perhaps including a map; and that this arrangement, like the rest of the eventual management plan, be suitably publicised.

We felt it unfortunate that the wet weather last Saturday 21 January, was less conducive to visiting Tosha Falls so Mr Svikis may not have been able to interview many people about how they got to the waterhole, where they live, etc (a survey that, you may recall, we had mentioned in an earlier letter). Suffice it to say, there have been plenty visiting this week, including many with mountain bikes and skateboards.

We appreciate your ongoing attention to this issue, and in closing would note that we have not yet received the promised letter from Council inviting us to participate in this process.

We look forward to seeing the draft recommendations for the management of Tosha Falls, and trust that Council will not delay in taking appropriate action for the benefit of both users and surrounding residents of this lovely area.

Yours faithfully

(Signed)

Robin Osborne (Mr)

Grainne O'Brien (Ms)

26 Kim Court,
Alstonville NSW 2477
T: 02 6628 5168 - 0409 984 488
E: rosborne860@gmail.com

27 January 2017

Ms Jessica Saad
Property Officer
Strategic and Community Facilities Group
Ballina Shire Council

By email: jessicas@ballina.nsw.gov.au

Re: Killen and Tosha Falls Plans of Management (316-04)

Dear Ms Saad,

I would like to clarify a comment we made in our letter to you dated 25 January 2017 regarding this matter.

In that letter we wrote -

We previously had the impression that the Prendergasts may have considered, under certain circumstances, including a yet to be determined entry point, or points, granting an easement through their land to Tosha Falls. However, Mr [Mike] Svikis made clear that this is not the case, and that they do not want any unauthorised people entering their property.

However, since then we have been visited by Mr Terry Prendergast who advised that this is not the case. In fact, he and his wife are willing to consider an easement (in the form of a properly constructed and identified pathway) through their land to Tosha Falls from the reserve/parking area at Lumley Park, Alstonville. He said he had communicated this to Mr Svikis in their recent meeting, explaining it was the same proposal they had made years ago.

The rest of the information in our letter is still relevant, especially that in relation to the frequently used, and illegal, entry point to the land at the end of Kim Court, adjacent to our property. This has just been re-fenced with barbed wire (by Mr Prendergast), but we expect it will not be long before it is vandalised again.

We thank Council for giving due consideration to the issues we have raised.

Yours faithfully
(Signed)

Robin Osborne (Mr)

Grainne O'Brien (Ms)

26 Kim Court,
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T: 02 6628 5168 - 0409 984 488
E: rosborne860@gmail.com

2 February 2017

Ms Jessica Saad
Property Officer
Strategic and Community Facilities Group
Ballina Shire Council

By email: jessicas@ballina.nsw.gov.au

**Re: Killen and Tosha Falls Plans of Management (316-04) -
Tosha Falls Survey**

Dear Ms Saad,

Further to our previous correspondence on this issue, we now wish to comment on Council's online survey of the two Falls, notably that section relating to Tosha Falls, in advance of the closing date of 6 Feb 2017.

Our responses to the survey can be viewed by those managing this exercise, but we believe they bear repeating, for the record.

The first assumption is that those undertaking the survey have already visited Tosha Falls, or do so regularly, so rightly it should be called "Tosha Falls Users Survey", despite the fact that it is not legal to visit the falls, whether entering the area via the Council facility in Johnston's Road, or via the other access points, including the one adjacent to our property, in Kim Court, Alstonville.

On the assumption that most people going there would be aware that they are trespassing, one must wonder if they are likely to undertake such a survey, especially if they felt they might somehow be identified, and prosecuted.

Moreover, as the great majority of visitors are young people, how likely are they to be undertaking a survey on a Council website? Highly unlikely, we would submit.

Absent from the survey are questions about whether people feel there should be any public access to Tosha Falls, and if so, how the area should be accessed.

I would be interested to know how many respond to question 5, 'How do you get to Tosha Falls', by saying, "We cut the barbed wire at the bottom of Kim Court and climbed through the fence."

Another doubtful question relates to whether one improvement would be a “better walking track”. This implies there is already an approved walking track, but that it is sub-standard, whereas we know that any tracks are through non-public land.

Perhaps some respondents might say “There should be better walking tracks from all of the [unauthorised] entry points to the land surrounding the Falls.”

As we noted in our online responses and above, we believe the phrasing of the questions means that the survey is fundamentally flawed, that it is unlikely to get meaningful feedback from current users, and does not touch in any meaningful way on access as a key part of a workable management plan.

Consequently, we submit that the information received from the survey should be significantly discounted and have only minor influence on the deliberations regarding this matter.

We thank Council for giving due consideration to the further issues we have raised.

Yours faithfully
(Signed)

Robin Osborne (Mr)

Grainne O’Brien (Ms)

Cc Mayor David Wright

26 Kim Court,
Alstonville NSW 2477
T: 02 6628 5168 - 0409 984 488
E: rosborne860@gmail.com

5 February 2017

Ms Jessica Saad
Property Officer
Strategic and Community Facilities Group
Ballina Shire Council

By email: jessicas@ballina.nsw.gov.au

**Re: Killen and Tosha Falls Plans of Management (316-04) -
Tosha Falls Survey**

Dear Ms Saad,

We write again on this subject, following our letter of 2 Feb 2017, and earlier, to express our serious concerns about the unapproved access to Tosha Falls via Kim Court, and particularly today regarding the aggressive behaviour of young people - approximate ages 10 to 14 - who had gone down to the Falls, and returned to Kim Court, abusing us as they passed close to our house.

In response to their behaviour, we followed them on their outward journey, up Kim Court and in a reasoned (from our perspective) but provocative (from theirs) encounter, stated that while we do not own the adjacent land, which is private property, we find it unacceptable that, without provocation, they behave offensively towards us.

They were unwilling to accept our concerns, and said we had no right to tell them what to do. They clearly felt they have every right to access the waterhole, in any way they choose.

When we said they should go the 'proper way' - along the watercourse from Lumley Park, or via Johnston's Road (not that this is a currently approved ingress) - they simply laughed and said we had to be joking that they'd go such a long way around.

Significantly, in the context of Council's online survey, closing tomorrow, they said they had never heard of it, nor knew of Council's website, and a few said they had no internet access. So much, then, for meaningful feedback from some of the main users entering via Kim Court.

Fortunately, a year 11 boy (also returning from the Falls) appeared on his own, and while stressing he had no connection with the group, said he knew the others

(mostly at Alstonville Primary or High Schools, he said) and would suggest to them that they should behave better while passing our property. He asked if they had damaged our property, and I replied that they had not, but if they did, or trespassed upon it, we would not hesitate in informing the Police.

He said he felt it unlikely he could discourage them from accessing the area at this 'entry' point.

This unpleasant confrontation in the middle of Kim Court continued for some 15 minutes, without proper resolution, and was briefly interrupted by a neighbour from No 22 Kim Court who was driving her car past.

This neighbour is an elderly, quite recently widowed lady whose property has, on numerous occasions, been trespassed upon by young people seeking access to Tosha Falls via the Council managed reserve (and then into the Prendergast owned land).

It is worth noting that her garage door was recently pelted with passionfruits from a rampant vine (part of the streetscape unpruned by Council - see my earlier email), and that she saw members of today's group breaking off branches from the shrubs along Kim Court some days ago.

It is appalling that an elderly person should feel under siege in this way. Fortunately, Grainne's 84-year old mother who lives with us has two younger adults to provide personal support.

As you would imagine, this has caused our neighbour considerable distress, and today's encounter has raised her anxiety to the point where my wife felt it necessary to visit her, discuss the issue and assure her of our ongoing support.

I (Robin) might just add that this ongoing situation has created personal wellbeing concerns to myself as well, as I work largely at home, and have been experiencing increasing hyper-vigilance when I suspect people are coming down the fence line track.

Given that we invested a significant sum to purchase this property, in what we understood to be a pleasant, well managed suburban area, we feel it is immensely disappointing, indeed completely unacceptable, to be paying such a high personal price for a situation that, at the end of the day, derives from people accessing a recreational facility that is under the control of Ballina Shire Council.

Should there be any doubt on the latter point, the fact is that Council is the party undertaking a consultation process to manage Tosha Falls, thus indicating whose responsibility it is to provide appropriate management, including access.

Indeed, the Council signage placed at the 'entry' point at the bottom of Kim Court (often pulled down - see previous correspondence and photos) - done for legal, rather than exclusionary reasons, we suggest - confirms this point.

In conclusion, should we need to repeat our concerns, this situation is not only unacceptable but escalating, at a personal (as per above) and financial (replacing fencing) cost to neighbours of the Falls area.

While we are heartened to see recent publicity about an enhanced Police presence in Alstonville, we question the agency's capacity to manage the issue, and request Council's greater involvement. It is incumbent on our elected representatives to take appropriate action to address this matter.

As our previous correspondence on the subject of the online survey indicates, we have little faith in this inadequately framed consultation, and we advocate for a proactive involvement that will take into account the rights of local residents and ratepayers, while offering access to a superb recreational setting in the local area.

As ever, we thank Council for giving due consideration to the further issues we have raised.

Yours faithfully
(Signed)

Robin Osborne (Mr)

Grainne O'Brien (Ms)

Cc Mayor David Wright, Ballina 'C' Ward Councillors

APPENDIX B

OEH submission



Our Ref: DOC17/20117
Your Ref: Killen & Tosha Falls Plans of Management (316-04)

Mr Paul Hickey
General Manager
Ballina Shire Council
PO Box 450
Ballina NSW 2478

Attention: Jessica Saad Property Officer

Dear Mr Hickey

Re: Plans of Management for Killen and Tosha Falls, Ballina.

Thank you for your letter dated 22 December 2016 requesting initial feedback on key issues or considerations to assist in the development of the Killen and Tosha Falls Plans of Management (plans). The Office of Environment and Heritage (OEH) appreciates the opportunity to provide input.

The OEH has responsibilities relating to biodiversity, Aboriginal and historic heritage, National Parks and Wildlife Service estate, acid sulfate soils, flooding, coasts and estuary management. In response to this request, the OEH advises that the following comments are provided in relation to Aboriginal cultural heritage and biodiversity (including threatened species, populations, ecological communities, or their habitats).

1. Aboriginal cultural heritage (ACH)

The OEH advises that natural features in the landscape such as Tosha and Killen Falls may potentially have significant cultural values requiring additional consideration.

The OEH recommends:

- a) That consultation is undertaken with the local Aboriginal community representatives and/or knowledge holders to assess any cultural values within the area to inform the plan, the *Aboriginal Consultation Requirements for Proponents 2010* can be used as a guideline to assist with this process.
- b) A review of known ACH values, including the significance of Aboriginal objects and declared Aboriginal places, which exist within the local area. The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (OEH, 2010) can be used as a guideline to this process.
- c) The design and location of infrastructure and any axillary services to avoid actual or likely harm to ACH values in consultation with the local Aboriginal community.

- d) The plans should consider appropriate management of ACH values if relevant and address any sensitives requested by the local Aboriginal Community.

2. Biodiversity

In regards to biodiversity values, the OEH acknowledges that both Tosha and Killen Falls are located within highly modified landscapes, therefore any biodiversity values which exist in the riparian corridor are highly significant.

The OEH recommends:

- a) Biodiversity values at the falls are clearly identified, in that threatened species, populations, ecological communities and their habitat listed under the *Threatened Species Conservation Act 1995* are acknowledged in the early stages of the planning.
- b) The design and placement of infrastructure is sensitive to the riparian corridor and identified biodiversity/ecological values.
- c) The biodiversity values and ecosystem functions are preserved/improved over time and form part of the plans objectives and performance targets.
- d) Threatening processes and applicable aspects of recovery plans for threatened species and ecological communities present or with the potential to utilise (or recover) are included in detailed onsite actions (e.g. reducing trampling, weed control and rehabilitation of riparian vegetation communities).

Note: Consultation with Department of Primary Industry - Water and Fisheries is advised as activities proposed may occur in waterfront lands and affect species listed under the *Fisheries Management Act 1994*.

If you have any further questions about this issue, Ms Rachel Binskin, Regional Operations Officer, Regional Operations, OEH, can be contacted on 6659 8247 or at rachel.binskin@environment.nsw.gov.au.

Yours sincerely



31/1/2017

ROSALIE NEVE
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Regional Operations

Contact officer: RACHEL BINSKIN
6659 8247

APPENDIX C

Summary of early neighbour consultation and survey consultation

Tosha Falls Neighbours Consultation Summary

Trespass and Privacy

This is the key issue for Tosha Falls at this time. Although the site can be accessed by road (and a short walk), it is closer to the northern suburban edge of Alstonville than it is to Johnstons Road. The trespass occurs largely from drainage or road reserves that abut Lot 2 DP 1182136, owned by the Prendergast family. In particular, it occurs from the Tanamera drainage reserve, Banjo Place, Kim Court, Rosedale Place and Hillburn Place. The Prendergast's have more than 40 neighbours and more than 1 kilometre of fencing to maintain.

The trespass is often by teenagers and children who walk (or ride bikes, skateboards or scooters). and they are likely to live locally. If they do not have access to a vehicle then the shortest route to Tosha Falls is via the Prendergast property. After trespassing across the Prendergast property, they sometimes cross to the other side of Maguires Creek and trespass across the Mitchell family property (Lot 5 DP 253899) to walk the last stretch to the falls. When people are at the falls they often cross over to the Mitchell family property as they move around the site. Both land owners would strongly prefer that there were no trespass on their land. Both land owners indicate that they have been verbally abused when confronting trespassers. Mr Prendergast has suffered extreme acts of vandalism (including cut fences, damaged gates, signs removed, shed windows smashed multiple times, irrigation equipment damaged and trees damaged).

The Mitchell family does not support an access easement through their macadamia farm.

The Prendergast family does not support an access through their property other than from Lumley Park via the creek alignment. However, they would consider selling a piece of their land to Council for an appropriate price.

Once at Tosha Falls, there is evidence that users walk over private land to access different parts of the waterway. This can lead to issues with rubbish and damage to riparian vegetation, and erosion and track impacts.

In accessing Tosha Falls via the Prendergast land, there are significant privacy impacts for land owners at Kim Court (where one of the 'trespass trails' passes within 3 metres of their house). The occupants of a worker's dwelling on the Prendergast land, which is accessed off Rosedale Place, are also heavily impacted. Trespassers often walk down their driveway and past their house to access the falls, showing no concern for privacy or private property.

All parties suggested that fencing and signage were key issues that needed to be addressed. In particular, the Council /private land interface at key trespass locations.

Johnstons Road and other Access Options

Both the Mitchell and Prendergast families support access to Tosha Falls via Johnstons Road and have no problem in principle with people using the falls for recreation.

The Prendergasts would also support an access from Lumley Park via a walking trail within 20 metres of the bed of Maguires Creek. The Prendergasts have also previously offered to sell land they own to Council to provide a corridor between the Alstonville urban area and Tosha Falls.

The Kim Court land owner does not support an access from Johnstons Road exclusively as it is unlikely to stop the trespass by young people that cannot drive to Johnstons Road. They support an access from Lumley Park, in addition to Johnstons Road. They do not support an access from Kim Court.

Recently there has been a vehicle accessing the falls by cutting the fence on Johnstons Road. They have also used a mattress to float on in the swimming hole and this has been left behind.

Tracks and Other Infrastructure

At the termination of Johnstons Road, there is currently a wire fence that is signposted "Sewage Treatment Works – Private Property - No Entry Permitted". Despite this, there is a gap in the fence that clearly allows entry via a mown area beside the treatment ponds. There is no formed track to follow and it appears that Council does not want the public to reach Tosha Falls via its property. Subsequently, there is no current legal access to Tosha Falls as all surrounding land is either private or Council land marked "no entry".

There is no infrastructure at Tosha Falls other than a further sign warning people of the dangers of the locality.

Some of the neighbours do not support increased levels of infrastructure that they consider would increase patronage and make it more attractive to tour groups and free campers.

Environmental Restoration

The rehabilitation of the Council riparian land is supported by neighbouring land owners. In particular, there is a stark contrast between the extensive rainforest regeneration undertaken by the neighbouring property and the weed dominated Council land.

Water Quality

It is noted that streets such as Rosedale Place and Hillburn Place terminate without stormwater detention. This water flows onto private property and then into Maguires

Creek where a significant amount of Alstonville stormwater ends up and much of it has minimal treatment before reaching Tosha Falls.

Despite the origins of the water, some of the neighbouring families and many others have swum in Maguires Creek regularly with little evidence of sickness related to water quality (ear aches, etc). Anecdotally, it still contains Australian Bass, Freshwater Mullet and Herring as well as eels, turtles and platypus.

Rubbish and Toilets

All neighbours, including Council STP workers, pick up rubbish left behind on tracks, Johnstons Road and at Tosha Falls. This action keeps it under control so it could be worse. There are no bins at Johnstons Road or near the falls. There are mixed feelings about whether they are required.

There are toilets at Lumley Park, so why are they needed closer to the falls? The Mitchell family does not support them because the general stay at the falls is short. Most people come for a look or a swim and then go. Some kids stay a bit longer.

The STP staff advised that a toilet could be built and connected direct to the STP at the Johnston Road entrance to the site, however they questioned whether visitor numbers and length of stay would warrant a toilet. They suggested a bin at the Johnston Road site entrance might be warranted as a trial.

Cliff Jumping

The locals have jumped off the rocks at the falls for more than 40 years and there is no history of injury during that time. The drop is only about 3 metres and the water at the base of the jump is quite deep. Anecdotally, it is about 2 metres deep. They remove rubbish and tree branches from the water when they see it. Some time ago, they asked Council to remove a large limb that had floated down the creek and over the falls, and the STP workers did this in the interest of public safety.

Safety and Risk

Slip and trip type injuries are possible, both when accessing the site and getting in and out of the water. If dogs are brought to the falls, this could be a risk to other users and wildlife. Snakes are an issue in hot weather.

Other Issues

There was criticism of the public survey, which was run using SurveyMonkey. Both suggested the survey was not well thought through and would not reach the young people that trespass to gain access to the Tosha Falls. It would not generate reliable information.

Tosha Falls – Survey Summary

Introduction

A survey was collected from the public through January and February 2017, with the purpose of gaining an idea of the range of people that use Tosha Falls, the way in which they use it and the community's values in regard to the falls. It is important to note that the results collected in this survey represent a snapshot in time and are not statistically accurate due to sample size and methodology. Filling out the survey did not require names or other identification.

The survey asked nine (9) questions as follows:

1. *What is your postcode at your regular place of residence? (or country of residence if from overseas)?*
2. *How often do you visit Tosha Falls?*
 - a. *Less than five times per year*
 - b. *Between five and ten times per year*
 - c. *More than ten times per year*
3. *When you visit Tosha Falls who do you travel with?*
 - a. *Family*
 - b. *Friends*
 - c. *Children*
 - d. *On my own*
 - e. *A tour group*
4. *Do you access Tosha Falls via Johnstons Road?*
 - a. *Yes*
 - b. *No*
5. *If not, how do you get to Tosha Falls?*
6. *When you visit Tosha Falls do you do any of the following?*
 - a. *Swim*
 - b. *Jump off the rocks*
 - c. *Picnic*
 - d. *Other (please specify)*
7. *What do you enjoy most about Tosha Falls?*
8. *What changes, facilities or infrastructure (if any) would most improve Tosha Falls?*
 - a. *A toilet*
 - b. *More parking*
 - c. *A better walking trail*
 - d. *Other (please specify)*
9. *Do you want to make any other comments about Tosha Falls?*

Collection Methods:

Two methods were used to collect survey information:

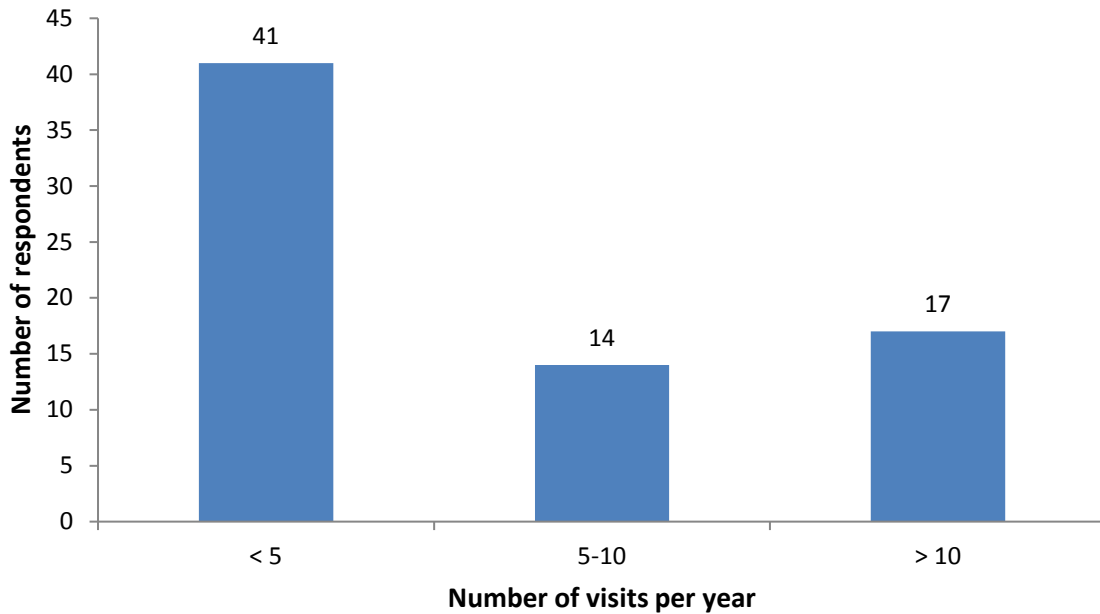
- The survey could be accessed online on SurveyMonkey from 1 January 2017 to 10 February 2017 using the following link:
<https://www.surveymonkey.com/r/MDR5V9M>
- The public were made aware of the survey through Council's website. A press release was issued by Council on 9 January 2017, and it was subsequently run in *The Northern Star* and on Channel 7 and Channel 9 local TV news.
- On 21 January 2017 from 10 am to 2 pm, surveys were collected on-site. Users of the falls were approached to answer the survey questions.

Summary of Results

Number of responses collected	
Online	65
On-site	7
Total responses collected	72

Respondents' place of residence	
Place of residence	Number of respondents
2477 – Alstonville area	41
2478 – Ballina/Lennox Head area	9
4209, 4212, 4216, 4217, 4218, 4220, 4227 – Gold Coast area, QLD	9 (7 of the 9 responses were submitted from the same IP address, one after another)
2480 – Lismore area	4
2481 – Byron Bay area	2
Netherlands	2
2488 – Cabarita area	1
4680 – Gladstone area, QLD	1
Melbourne	1
Sweden	1

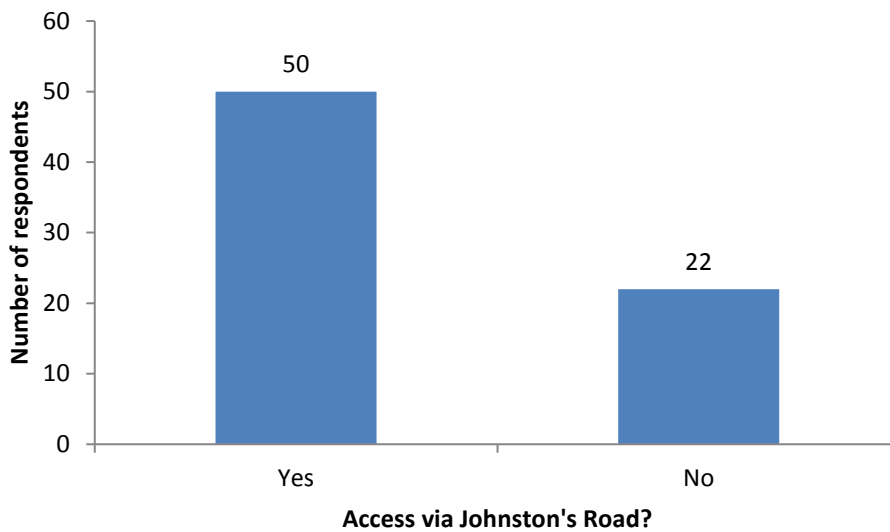
Number of visits per year by respondents



Who do respondents visit Tosha Falls with?

- 51 of 72 respondents visit with their **family**
- 33 of 72 respondents visit with **friends**
- 20 of 72 respondents visit **with children**
- 17 of 72 respondents visit **on their own**
- 5 of 72 respondents visited with a **tour group**

Do respondents access Tosha Falls via Johnston's Road?



Access to Tosha Falls by respondents that do not access it via Johnston's Road?

Access via	Number of respondents
Streets of Alstonville, then private property	8
Prendergast property	1
Mitchell's farm	2
Hole in the fence of someone's Macadamia farm	1
Council parkland off Tanamera Drv	1
Reserve off Fairfield Estate	1
Family farm	2
Private property	3
Friend's property	1
Have never accessed it	1
Not sure – haven't been for years	1
TOTAL NUMBER OF RESPONDENTS	22

Assumptions:

Of the 22 respondents above that do not access the falls via Johnstons Road, it is likely:

- 17 respondents trespass onto private property to access the falls:
 - 8 via streets of Alstonville, then private property
 - 1 via Prendergast property
 - 2 via Mitchell's farm
 - 1 via hole in the fence of someone's Macadamia farm
 - 1 via Council parkland off Tanamera Drive (this route then requires crossing through private property to get to the falls)
 - 1 via reserve off Fairfield Estate (this route then requires crossing through private property to get to the falls)
 - 3 via private property
- 11 respondents access the falls via suburban streets of Alstonville, before walking through private property which adjoins the falls:
 - 8 via streets of Alstonville, then private property
 - 1 via Prendergast property
 - 1 via Council parkland off Tanamera Drive (this route then requires crossing through private property to get to the falls)
 - 1 via reserve off Fairfield Estate (this route then requires crossing through private property to get to the falls)
- 3 respondents access the falls via Pearces Creek Road, before walking through the Mitchell's Macadamia farm. Pearces Creek Road is the only public access point to Mitchell's farm:
 - 2 via Mitchell's farm
 - 1 via hole in the fence of someone's Macadamia farm (the only Macadamia farm that adjoins Tosha Falls is Mitchell's farm)

- 3 respondents access the falls through adjoining private property that either they themselves own or a friend owns:
 - 2 via family farm
 - 1 via friend's property

- 2 of the respondents have noted that they access the falls through a Council reserve or parkland, and may be under the impression that they are walking solely through Council land to access Tosha Falls. These routes would require trespassing onto private property at some point to access the falls:
 - 1 via Council parkland off Tanamera Drive
 - 1 via reserve off Fairfield Estate

Activities respondents engaged in at Tosha Falls

Activity	Number of respondents
Bushwalking along the creek	3
Fauna watching	1
Fishing	1
Jumping off the rocks	43
Paddling around in creek	1
Photography	2
Picking up rubbish	1
Picnic	26
Sightseeing	2
Smoking	1
Swimming	61
Walking the dog	2

Aspects of Tosha Falls that respondents most enjoyed

Ability to jump off the top of a waterfall into a swimming hole
Fun spot to go to
Bushwalking around the falls
Natural beauty/natural setting of the falls and surrounds
Natural asset
The rainforest
Watching the native animals
Feeling like you are in the wilderness
It's unspoilt and untouched/clean environment
The lack of infrastructure
The waterfall itself
Great spot to swim in
Cool freshwater
Close proximity to Alstonville
Close proximity to respondents' homes
Peacefulness/serenity/quietness
Feeling of seclusion and uncrowdedness

Aspects of Tosha Falls that respondents most enjoyed

Less crowded than other local waterfalls
Easy walking access to the falls
The grassy path from Johnstons Road to the falls
A lovely walk to get to the falls from Johnstons Road
Unique spot
Special locals' spot
Safe spot for the whole family

Changes that could be made to Tosha Falls

Improvement	Number of respondents
Better walking trail (from Johnstons Road)	14
Better walking trail (from streets in the residential areas of Alstonville)	9
Better walking trail (Pearces Creek Road to Johnstons Road)	1
Construct additional walking trails to the rainforest remnant along Maguires Creek and make more of a bushwalking experience	
Environmental restoration	11
More parking at Johnstons Road	11
Toilet	20
Bins/rubbish management	4
Café/kiosk	1
No improvements needed – leave it as it is	23
Do not install a toilet	1
Do not allow vehicles to access the bottom of the falls	1
Build steps/ramp into the waterhole	1
Install some fun equipment – slippery slide and ropes to swing from	1
Protect it from tourists	1
Johnstons Road access should be opened officially as the only trail to the falls. All other accesses through private property should be fenced off with prohibition/trespassing signage erected and a publicity campaign to make this known	1

Other comments

No changes

Leave it as it is. No changes are needed. The community have maintained it well all of these years.

Adding any infrastructure would destroy the natural ambience of the falls and the feeling of being in a relatively untouched spot. It is the natural, serene setting that makes this place special.

Don't add any infrastructure. It would bring too many people to a spot that has been relatively secluded for years.

No toilets are needed – over the 40 years I have been visiting the falls, I've never seen excrement.

Visitors and numbers

Don't promote Tosha Falls – too many people coming to it will wreck it. Keep it as a special spot for locals.

Protect the falls as a spot for locals.

No backpackers.

As a teacher, I used to take groups of Alstonville High students here.

Maintenance and improvements

It's a regional asset which needs to be maintained by Council.

Only the local neighbours clean up the rubbish.

The only thing needed here are bins.

Formalised parking at Lumley Park and Johnstons Road.

This beautiful spot needs to be looked after.

Proper maintenance and planning from Council is needed as many thousands visit here already.

Natural environment and habitat

Preserve its natural ambience and as a natural spot.

Habitat should be protected and regenerated – platypus, eels, turtles and native fish all seen here.

Animals would disappear with more people accessing the spot.

Weed control and revegetation are needed around the creek and swimming hole.

Ambience and feel

The grassed path from Johnstons Road adds to the ambience, part of what makes it special.

The quiet surrounds and the small number of people that visit makes it special.

Behaviour

Kids are always trespassing through private property to get to the falls, and are rude and threatening.

Some people leave lots of rubbish.

Access

Improve access from Johnstons Road.

Construct a track along the creek from Pearces Creek Road.

Don't restrict access to the public, and make it more accessible. Shame to see a great natural asset so close to Alstonville be legally inaccessible.

Improve access to the falls. This is the best tourist attraction of Alstonville. Many use it for swimming and youth always access it.

Don't prevent access because of risk – users are responsible for their own actions, not Council.

Car access needs to be prohibited – I have seen 3 cars parked at the bottom of the falls.

A nature trail for bushwalking would be great around this spot.

Better access from Alstonville is needed – people will not stop accessing it this way, even through private property.

Its close proximity to Alstonville makes it unique and special.

Other

It's part of my daily routine to walk and swim here when I visit family in Alstonville.

Survey is flawed as people that trespass on private property to get to the falls are unlikely to answer questions regarding access for fear of incriminating themselves.

APPENDIX D

**Pedestrian easements on DP 253899
near Tosha Falls**

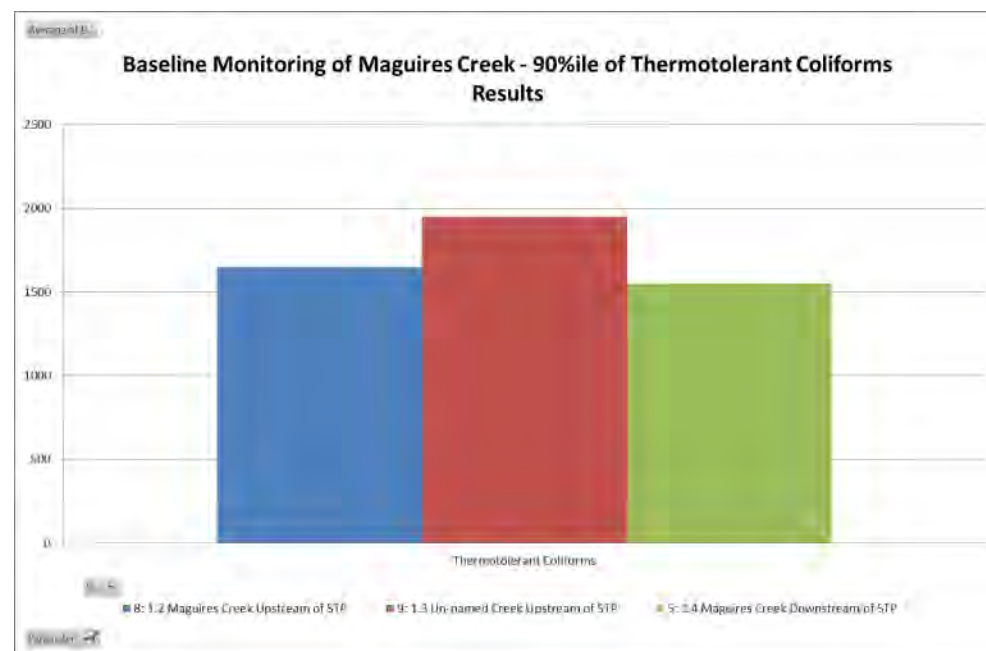
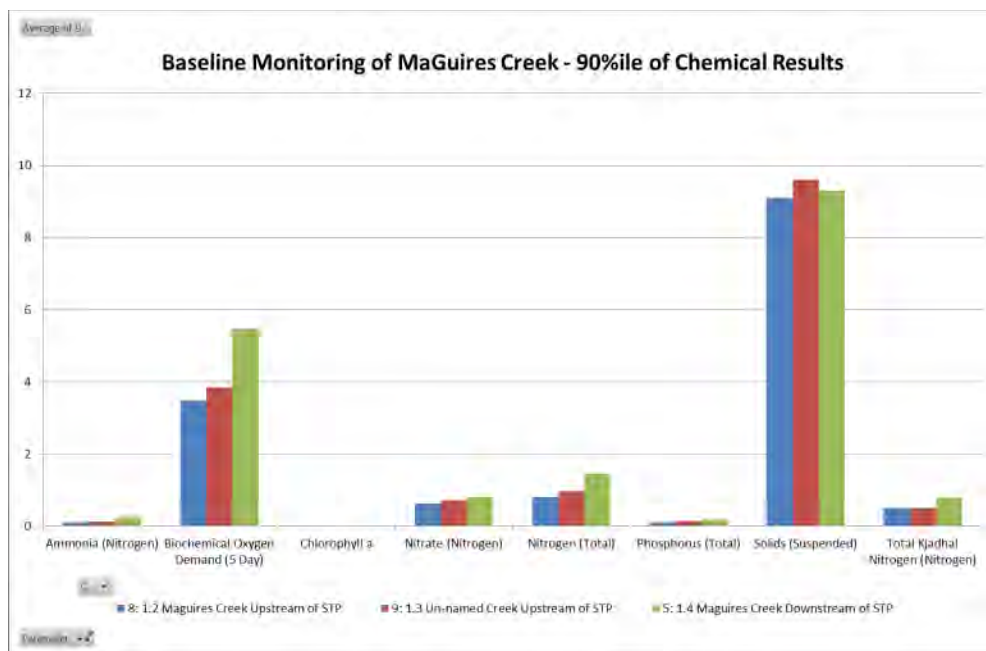
APPENDIX E

Maguires Creek water quality data summary

Water Quality Samples Summary Report

Description: Maguires Creek Environmental Monitoring
Location Name: Alstonville
Location Address: Maguires Creek
Activity: Environmental Monitoring
Period: Previous 5 Years
Date Range From: 01/01/2012 **Date Range To:** 01/01/2017

- Notes;
- that although the report range covers the previous 5 years, the data is generally from 2012-2014 and not continuous for five years. Refer to individual trend graphs for data ranges.
 - Data is provided as-is without review or interpretation. Reliance should not be made on this data without a review of individual analysis results and sampling procedures



Summary Data

SITE DETAILS			RESULT					
Site	Parameter	Units	count	min	mean	50%	90%	max
1.2 Maguires Creek Upstream of STP	Ammonia (Nitrogen)	milligrams per litre	38	0.0025	0.058	0.035	0.1058	0.401
1.2 Maguires Creek Upstream of STP	Biochemical Oxygen Demand (5 Day)	milligrams per litre	38	1	1.998	1	3.489	14.29
1.2 Maguires Creek Upstream of STP	Chlorophyll a	milligrams per litre	38	0.0005	0.004	0.001	0.0045924	0.067
1.2 Maguires Creek Upstream of STP	Nitrate (Nitrogen)	milligrams per litre	38	0.0025	0.470	0.469	0.6245	0.756
1.2 Maguires Creek Upstream of STP	Nitrogen (Total)	milligrams per litre	38	0.4	0.649	0.633	0.813	1.682
1.2 Maguires Creek Upstream of STP	Phosphorus (Total)	milligrams per litre	38	0.017	0.065	0.044	0.1163	0.351
1.2 Maguires Creek Upstream of STP	Solids (Suspended)	milligrams per litre	38	1	4.045	2.5	9.1	21
1.2 Maguires Creek Upstream of STP	Thermotolerant Coliforms	per 100 millilitres	36	30	971.167	240	1650	15000
1.2 Maguires Creek Upstream of STP	Total Kjadhah Nitrogen (Nitrogen)	milligrams per litre	37	0.025	0.208	0.148	0.5	1.02
1.3 Un-named Creek Upstream of STP	Ammonia (Nitrogen)	milligrams per litre	38	0.0025	0.069	0.055	0.1181	0.559
1.3 Un-named Creek Upstream of STP	Biochemical Oxygen Demand (5 Day)	milligrams per litre	38	1	2.034	1	3.843	14.15
1.3 Un-named Creek Upstream of STP	Chlorophyll a	milligrams per litre	38	0.0005	0.004	0.002405	0.00534	0.0214
1.3 Un-named Creek Upstream of STP	Nitrate (Nitrogen)	milligrams per litre	38	0.01	0.409	0.363	0.7167	0.884
1.3 Un-named Creek Upstream of STP	Nitrogen (Total)	milligrams per litre	38	0.219	0.591	0.5325	0.9701	1.149
1.3 Un-named Creek Upstream of STP	Phosphorus (Total)	milligrams per litre	38	0.018	0.071	0.045	0.1455	0.358
1.3 Un-named Creek Upstream of STP	Solids (Suspended)	milligrams per litre	38	1	5.053	3.5	9.6	28
1.3 Un-named Creek Upstream of STP	Thermotolerant Coliforms	per 100 millilitres	36	32	1668.667	470	1950	25000
1.3 Un-named Creek Upstream of STP	Total Kjadhah Nitrogen (Nitrogen)	milligrams per litre	37	0.025	0.333	0.2	0.5	5.368
1.4 Maguires Creek Downstream of STP	Ammonia (Nitrogen)	milligrams per litre	38	0.023	0.156	0.09	0.2518	0.89
1.4 Maguires Creek Downstream of STP	Biochemical Oxygen Demand (5 Day)	milligrams per litre	38	1	2.261	1	5.481	13.76
1.4 Maguires Creek Downstream of STP	Chlorophyll a	milligrams per litre	38	0.0005	0.009	0.00356	0.021627	0.06141
1.4 Maguires Creek Downstream of STP	Nitrate (Nitrogen)	milligrams per litre	38	0.179	0.492	0.448	0.8066	1.077
1.4 Maguires Creek Downstream of STP	Nitrogen (Total)	milligrams per litre	38	0.308	1.105	0.811	1.4587	8.294
1.4 Maguires Creek Downstream of STP	Phosphorus (Total)	milligrams per litre	38	0.026	0.126	0.0715	0.1886	0.862
1.4 Maguires Creek Downstream of STP	Solids (Suspended)	milligrams per litre	38	1	5.039	4	9.3	20
1.4 Maguires Creek Downstream of STP	Thermotolerant Coliforms	per 100 millilitres	36	48	1265.333	350	1550	15000
1.4 Maguires Creek Downstream of STP	Total Kjadhah Nitrogen (Nitrogen)	milligrams per litre	37	0.025	0.431	0.39	0.792	2

APPENDIX F

Site photographs and infrastructure examples

SITE PHOTOGRAPHS: Access Points



Figure 1: Access point on Johnstons Road is on fairly flat ground. Track to be marked



Figure 2: Banjo Place trespass access point

Appendix F:
Site Photographs and Infrastructure Examples



Figure 3: Hillburn Place trespass access point



Figure 4: Kim Court trespass access point (at left)

Appendix F:
Site Photographs and Infrastructure Examples



Figure 5: Rosedale Place trespass access point



Figure 6: Tanamera Reserve trespass access point

SITE PHOTOGRAPHS



Figure 7: Bin to be located at end of Johnstons Road as a trial



Figure 8: Parking at end of Johnstons Road to be signposted

Appendix F:
Site Photographs and Infrastructure Examples



Figure 9: Point at which Maguires Creek crosses Pearces Creek Road near Lumley Park



Figure 10: Riparian land around the falls and Maguires Creek to be restored as rainforest

Appendix F:
Site Photographs and Infrastructure Examples



Figure 11: Small grassed area near falls to be retained for picnics



Figure 12: Track behind STP to be marked but kept as mown grass

Appendix F:
Site Photographs and Infrastructure Examples



Figure 13: Track markers to be used to get visitors to the falls



Figure 14: Vandalised fencing at Kim Court to be replaced

INFRASTRUCTURE EXAMPLES



Figure 15: Standard sign to also be located at Johnstons Road with additional warnings and swimming discouraged



Figure 16: Basic trail marker suitable for Tosha access from Johnstons Road to the falls

Appendix F:
Site Photographs and Infrastructure Examples



Figure 17: Rock bollards to prohibit vehicles at Johnstons Road



Figure 18: Security mesh fencing with barbed wire to deter trespass



Figure 19: Sign that could be used to denote private land in a number of locations