

WALHALLA WASTEWATER MANAGEMENT FEASIBILITY AND CROWN LAND SALES



Acknowledgements

We acknowledge the ongoing support and participation in this project from the Gunaikurnai Land and Waters Aboriginal Corporation, the Baw Baw Shire Council, Gippsland Water and Parks Victoria.

Author

Ian Morland, Project Manager Walhalla Projects, DELWP Gippsland. Email: ian.morland@delwp.vic.gov.au.

Editor

This report has been reviewed and endorsed by the Walhalla Wastewater Management Feasibility and Crown Land Sales Project Control Board consisting of members from the Gunaikurnai Land and Waters Aboriginal Corporation, Baw Baw Shire Council, Gippsland Water, Parks Victoria and DELWP Gippsland Region.

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Acknowledgment

We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, their unique ability to care for Country and deep spiritual connection to it. We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices.

We are committed to genuinely partner, and meaningfully engage, with Victoria's Traditional Owners and Aboriginal communities to support the protection of Country, the maintenance of spiritual and cultural practices and their broader aspirations in the 21st century and beyond.



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Executive Summary

Walhalla is an iconic tourist destination in central Gippsland with over 130,000 visitors per year. The township is nestled in a steep valley only thirty minutes drive from Moe or Traralgon and is known for its goldrush history and picturesque setting with a blend of native and European vegetation.

In 2018, Baw Baw Shire Council and the Department of Environment, Land, Water and Planning (DELWP) undertook an initial pre-feasibility study for a sewerage system for the township, in recognition of the towns significance as key regional tourism destination.

The Walhalla Wastewater Management and Crown Land Sales Project was subsequently funded by the DELWP Land Sales Trust in mid-2019 to develop a business case for government investment into sewerage treatment capital works and Crown land sales in the area.

Through this funding, DELWP was provided \$500,000 to investigate the feasibility of a sewerage treatment plant and conduct planning and water testing studies to determine the level of risk and opportunity available for future infrastructure development at Walhalla. DELWP established a Project Control Board to oversee the project, comprising membership from the Gippsland Land and Waters Aboriginal Corporation (GLAWAC), Baw Baw Shire Council, Gippsland Water, Parks Victoria and DELWP.

This final project report tests the assumptions made within the draft Central Gippsland Public Land Strategy which contributed to the initial feasibility position for this investment. The report outlines:

- project studies and analysis undertaken;
- areas identified for potential development and Crown land sale;
- the work of consultants engaged to undertake planning feasibility studies and the underlying criteria used for assessment and mapping analysis; and
- the results of risk assessment and testing undertaken of wastewater systems and water bodies in the area.

The report concludes that there is no public health issue or risk requiring action or investment within Walhalla and that capital investment in a reticulated sewerage scheme in the township is not warranted at this time. The report also acknowledges that the Walhalla area faces major strategic planning issues and finds that proposed Crown land sales (96 potential sales) cannot be supported due to significant risks relating to bushfire, access, slope and biodiversity impacts. Potential development and land sale opportunities were also costed at a substantially lower value than previously assumed. It is recommended that these strategic planning issues impacting on future development of in Walhalla be referred for consideration in the Walhalla Masterplan by Baw Baw Shire.

This report will be made available to all relevant stakeholders, including Baw Baw Shire Council, the Department of Justice and Community Safety and Gippsland Water.

Background

Walhalla's permanent population is approximately 16 people, however the population swells to the hundreds during the summer holiday season as visitors flock to their holiday homes, book rooms with the many accommodation providers, or camp within the town at the designated campsites.

Over many years there has been an outcry to do something about the impact of high visitor numbers, especially on the water quality of Stringers Creek, and about the rubbish left by visitors which contaminates the streets and streams. Many of the water quality issues have been put down to inadequate septic and other private waste management systems like long drop toilets etc. and water testing has been done over the years to verify this. Although contamination of the creek has occurred and even some reported cases of sickness attributed to the water quality there was no direct evidence that it is the private waste management systems that are the major contributor.

Walhalla, because of its secluded and somewhat remote location has been at significant risk of bushfire over the summer periods and while development was largely unchecked in the past, planning processes have now recognised this significant risk to life and assets. Under the Victorian Planning Provisions, Bushfire Management Overlay (BMO) it is incumbent on the proponent of any development to demonstrate how they can mitigate the bushfire risk to an acceptable level through the creation of defendable space around a residence and /or building to a prescribed bushfire attack level rating. Walhalla's heritage, geology, vegetation and steep topography all contribute to the complexity of residential and commercial development in the town.

There are many other constraints for people wishing to build and develop in Walhalla, like allotment size, and position and although these can be complex are not insurmountable providing development meets the required planning and environmental standards.

The project proposal determined that there were many substantial benefits:

- A sewerage solution was technically feasible and affordable,
- Up to 96 Crown allotments could be sold and developed over several years yielding up to \$20M in net revenue for the state,
- Up to 80 private allotments would become developable for commercial and residential purposes,
- A considerable indirect economic benefit would result for Walhalla, the Baw Baw Alpine Resort, the central Gippsland area and the state.

These benefits were assumed based on an understanding that:

- An unacceptable level of human waste contamination creating a significant public health risk was occurring in Stringers Creek from sewerage and grey water entering the water course from inadequate and aging septic and other systems,
- Most vacant land could be readily developed and that Crown allotments could be prepared for sale with planning approvals and native title approvals in place prior to sale,
- The sewerage treatment solution could be implemented at a cost of around \$5,000,000.

The Walhalla Sewerage Feasibility and Crown Land Sales project set out to verify the assumptions to support a business case for government investment in public infrastructure, a reticulated networked wastewater management solution and Crown land sales.

The resulting studies paint a very different picture of what can and should be achieved in Walhalla as this report explains.

PROJECT STUDIES AND ANALYSIS

1. SEWERAGE FEASIBILITY

In late 2019 Mott McDonald was engaged to undertake a feasibility study into the options for wastewater management in Walhalla including on-site management, networked gravity or pressurised sewerage solution with discharge into either Stringers Creek, the Thompson River or piped to the Gippsland Water facility at Rawson or storage, pump out and transfer to the Gippsland Water facility at Moe. See Table 0.1.

Table 0.1: Options Summary

Option	Network Collection CAPEX Cost	Treatment/ Transfer CAPEX Cost	Total Option CAPEX Cost	Estimated OPEX Cost per annum	Net Present Value	Enables Economic Growth Drivers	Addresses Creek Contamination Risk	Risks
Do Nothing – Decentralised Treatment	\$0m	\$0m	\$0m	\$0m	\$0m	No	Maybe	<ul style="list-style-type: none"> Prohibitive of economic growth objectives. May result in effluent entering the creek and causing a risk to human health
Local Treatment & Discharge to Stringers Creek	\$4.99m	\$2.05m	\$7.05m	\$175k	\$7.75m	Yes	Yes	<ul style="list-style-type: none"> Uncertain EPA discharge requirements Power supply capacity unconfirmed
Local Treatment & Discharge to Thompson River	\$4.99m	\$4.33m	\$9.32m	\$97k	\$8.72m	Yes	Yes	<ul style="list-style-type: none"> Pipeline construction along Heritage Railway Rocky geology Power supply capacity unconfirmed
Transfer to Rawson WWTP	\$4.99m	\$8.72m	\$13.72m	\$71k	\$12.01m	Yes	Yes	<ul style="list-style-type: none"> Pipeline construction along Heritage Railway and Thompson River Bridge Rocky geology Power supply to pumping station Septicity Transfer rising main length
Storage, pump out and transportation to Moe WWTP	\$4.99m	\$2.36m	\$7.36m	\$2,246k	\$25.02m	Yes	Yes	<ul style="list-style-type: none"> Construction Disruption to Town Significant Heavy Vehicle Traffic increase for the town Visual impact may require screening or below ground tanks Septic sewage leading to odour issues, potential odour treatment required

The Mott McDonald Design Report Walhalla Sewer System (December 2020) recommends that based on the lowest capital expenditure (CAPEX) and net present value assessment (NPV) a pressurised pipe network and sewerage treatment plant with discharge to Stringers Creek is the preferred option and is feasible to address the future management of wastewater for Walhalla.

The report was prepared based on the assumed population growth associated with having nearly 180 extra developable lots within the town. The estimated flow rates were calculated over ten-year intervals out to 2040 and became the basis for the design criteria. The estimated flow rates grow from an annual total of 4.35 megalitres in 2020 to 16.55 megalitres annually in 2040, based on the assumed availability of allotments and subsequent predicted population growth. See Table 0.2.

Table 0.2: Walhalla Population Equivalent Projections

Producer of Effluent	Population								
	2020			2030			2040		
	Week day	Weekend	Peak days	Week day	Week end	Peak days	Week day	Weekend	Peak days
Permanent residents	18	18	18	154	154	154	226	226	226
Holiday houses	5	47	94	5	26	52	8	38	76
Camping	2	20	300	6	28	420	6	28	420
Public toilets	27	265	530	96	482	964	96	482	964
Tourist attractions	14	135	270	45	225	450	45	225	450
Retail Accom (B&Bs, hotels)	7	33	100	33	65	130	40	80	160
Train station (public toilet)	20	200	400	60	300	600	60	300	600

Source: Mott MacDonald calculation

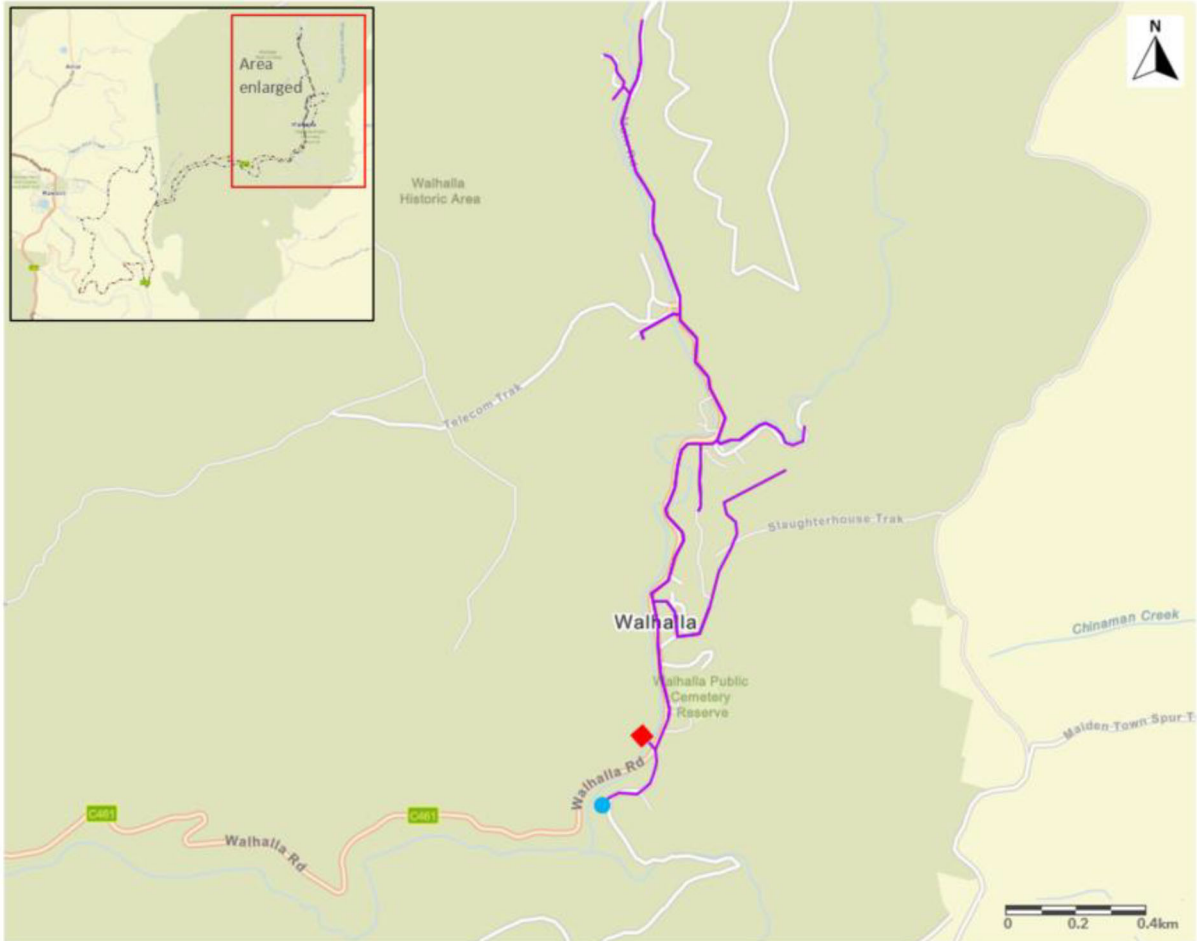
Note: Tourism attractions with fixed volumes and no population figures are not included above but are included in subsequent flow assessments.

The preferred option, a pressurised pipe network, with local centralised Membrane Bioreactor (MBR) treatment process with discharge into Stringers Creek, is technically feasible at an estimated cost of around \$5M for the pressurised pipe network including household pump stations with the associated treatment plant estimated by Mott McDonald at some \$2M. Membrane Bioreactor (MBR) plants require relatively low maintenance with much of the maintenance to clean the membranes automated with air scouring and cleaning daily. Gippsland Water Engineers reviewed the report and provided feedback including that the estimates do not include:

- required further geotechnical investigation for the alignment and installation of the pipe network,
- detailed flow and water quality monitoring upstream and downstream of the township to establish a full data set of seasonal flows for the EPA to use as part of their assessment processes. (the EPA may not agree to discharge into Stingers Creek due to the seasonal nature of flows),

- that the EPA may require a more stringent discharge licence requiring larger treatment processes, chemical dosing and/or additional processes leading to significant increased capital and operational costs,
- the likelihood of power failure, no provision for backup power or inhibited network flows to the treatment plant.

Main Collection Pipe Network Layout Source: Mott MacDonald graphic



Legend

- Sewerage collection system
- Wastewater treatment plant
- Discharge point

Walhalla WWTP – Membrane Bioreactor (MBR) Plant Indicative Layout Source: Mott MacDonald graphic



Mott McDonald considered additional items to be included into a full concept design including but not limited to:

- Completed Walhalla Master Plan with growth forecasts,
- Completed creek Flow and Quality monitoring,
- Full topographic town survey,
- Power and telecommunications network capability and route details and
- Environmental and Ecological surveys.

Mott McDonald further recommended that due to the size of the plant and the suggested package configuration, it should be feasible to fully automate the plant with remote monitoring and actuation such that maintenance can be planned and proactive. This should also keep visits to a weekly basis to minimise cost.

For sites of this size this is typical practice in many parts of the world, including the United Kingdom and New Zealand, however this has yet to become common practice in Australia and may encounter some resistance in the industry. If this option is carried forward, it was recommended that further investigation, including examples of similar remote operation plants, is undertaken for surety and in anticipation of industry resistance.

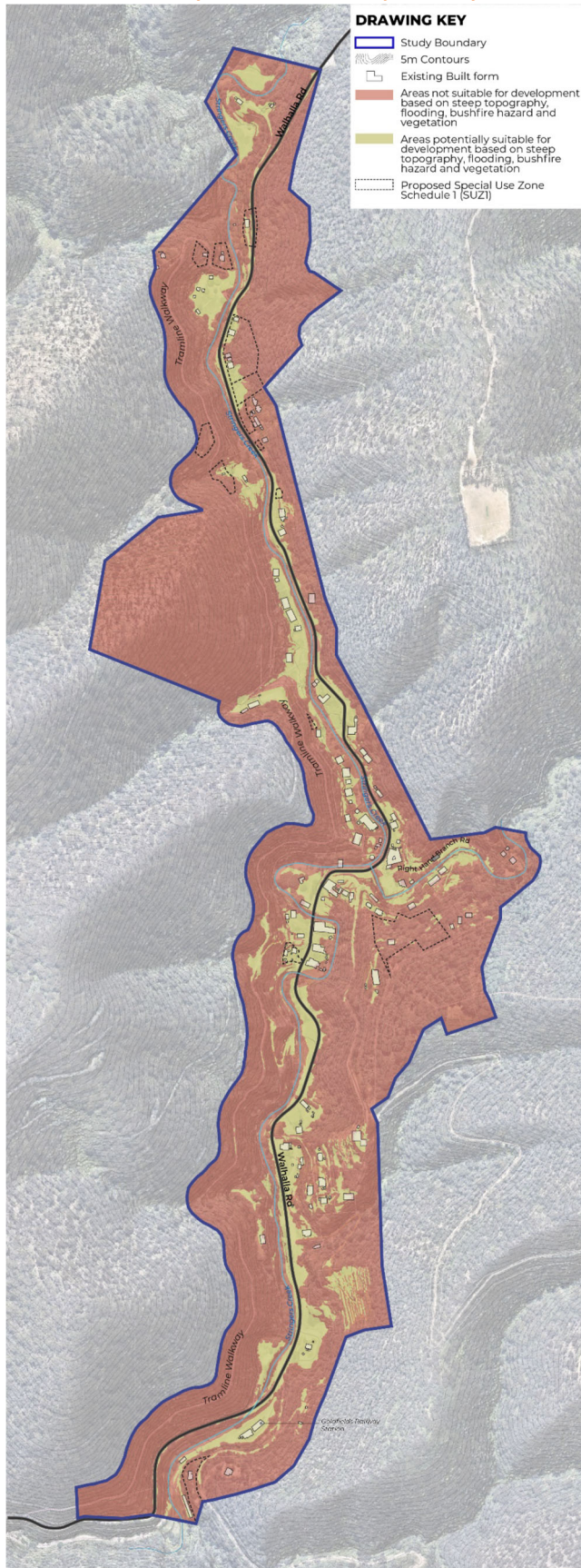
Plant ownership is considered as part of a package including the pressurised pipe network to enable the network and plant to communicate with each other to manage flows to the system including withholding to balance the network itself.

It is possible to employ third party suppliers to conduct the maintenance and operation of the plant, particularly for package plant systems where this can be connected to a Design, Build and Operate contract form. Thus, eliminating the need for experienced personnel for the owner, and minimising some risks.

There is no identified owner or manager for a reticulated sewer system. The system would need to be proven to be environmentally and independently economically justifiable to be considered.

2. CROWN LAND SALES

Areas Potentially Suitable for Development in yellow



The assumption that with the implementation of a sewer solution for Walhalla that close to 180 Crown and privately owned allotments in Walhalla could be successfully developed providing a much-needed economic boost for Walhalla and up to \$20 Million revenue from associated Crown land sales.

As detailed in the planning feasibility it is now known that with the terrain and access constraints and the thorough consideration of the other risks there is a limited volume of land that can safely and compliantly be developed in Walhalla today. It is realised that with some further investigation there is a possible 20 greenfield sites that could be developed and a further 40 sites that should be rezoned and sold to the occupiers.

Partially rezoning these allotments would ensure the existing use is accurately reflected by the zone. It will also ensure every allotment has a single zone applied.

Whilst rezoning will ensure consistency is achieved with the actual use of the land, the sites identified in yellow will not generate further development by applying the SUZ1.

Through the planning feasibility study, each of these sites was analysed to understand their development potential, based on existing site conditions.

The sites proposed to be rezoned to SUZ1 are heavily constrained by dense vegetation, bushfire risk or steep topography making them unsuitable for development, irrespective of the planning controls.

The Gunaikurnai Land and Water Aboriginal Corporation (GLaWAC) is a key partner and major stakeholder in the project. The sale of crown land extinguishes all native title rights for the Gunaikurnai people. All crown land sales in Gunaikurnai country are subject to the provisions of the Native Title Act 1993 (Cth) and require an Indigenous Land Use Agreement (ILUA). An ILUA is an agreement negotiated with GLaWAC, on behalf of the Gunaikurnai people, and can include a dollar amount for the loss of native title and other economic, cultural, and recognition benefits for the Traditional Owners. Prior to any ILUA being signed, GLaWAC will conduct its own cultural heritage assessments and continue discussions around how the cultural and economic interests of the Gunaikurnai can be preserved and enhanced through the ILUA process. Gunaikurnai native title holders must be consulted about proposed Crown land sales.

The recent High Court decision of *Griffiths v Northern Territory* [2019] HCA 7 (known as the Timber Creek Decision) confirmed that native title holders are entitled to compensation for extinguishment of native title rights. As a result, the question of how to compensate native title holders for this loss of rights has been the subject of state and wider national discussions. In Victoria, compensation for extinguishment and impairment of native title rights is currently subject to the First Principles Review process, which is a joint State and Traditional Owner-led review that seeks to make improvements to the Traditional Owner Settlement Act 2010 (Vic). How Traditional Owners should be compensated for the sale of crown land has not been settled and continues to be negotiated as part of the First Principles Review.

GLaWAC, acting on behalf of the native title owners, and DELWP continue discussions around how the cultural and economic interests of the Gunaikurnai can be preserved and enhanced through the ILUA process.

3. PLANNING FEASIBILITY

Assuming that there was up to 180 private and Crown allotments potentially able to be developed with the implementation of a reticulated wastewater management system in mid-2020 MESH Planning Consultants were contracted to undertake a planning feasibility across the township. This feasibility report was scoped to estimate the number of developable and/or saleable lots within the existing planning controls and other constraints and make recommendations as to the types of development. The study was established to understand the effect of planning controls and other constraints and applied to freehold and Crown land and explored potential areas for development rather than limiting the study to DELWPs interest in crown land.

The scope of the planning feasibility study was:

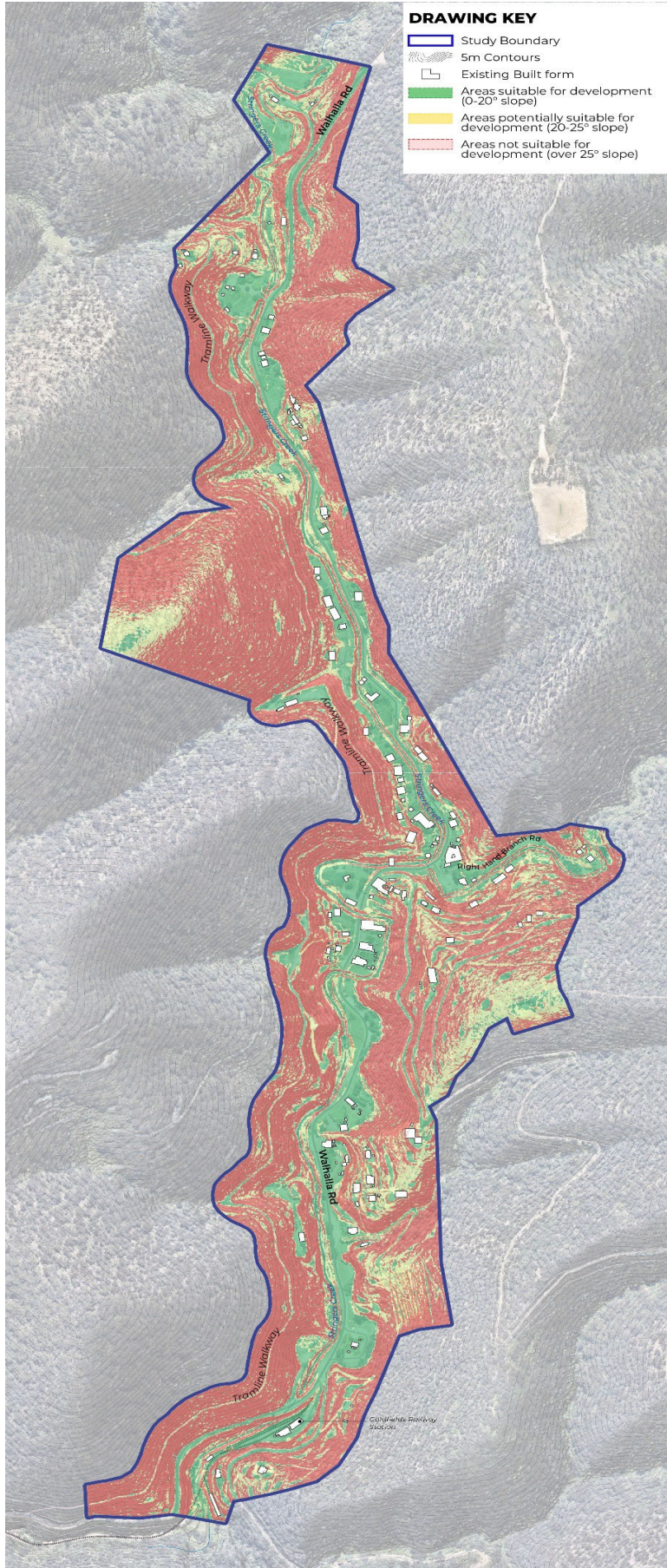
- To determine future development opportunities within Walhalla by analysing strategic policy, spatial data and planning tools.
- To spatially identify areas suitable for potential development (subject to additional investigations and planning processes).
- To determine gaps and next steps for pursuing further planning and development in Walhalla.

Spatial data was used, and six elements identified as the basis to the assessment criteria and mapping analysis.

Four of these elements, Steep topography, Flooding, Vegetation, and Bushfire Hazard were used to include or exclude sites that through the analysis might be considered suitable for development and two elements, Heritage and Access used as development considerations as some sites could still attract a planning permit subject to further infrastructure investment and planning. These were workshopped with key stakeholders to establish the likelihood of land being safely developed under existing planning controls and other local considerations.

The graphics below help visualise the effect of applying the 6 criteria.

Steep Topography



Flooding



Bushfire Hazard

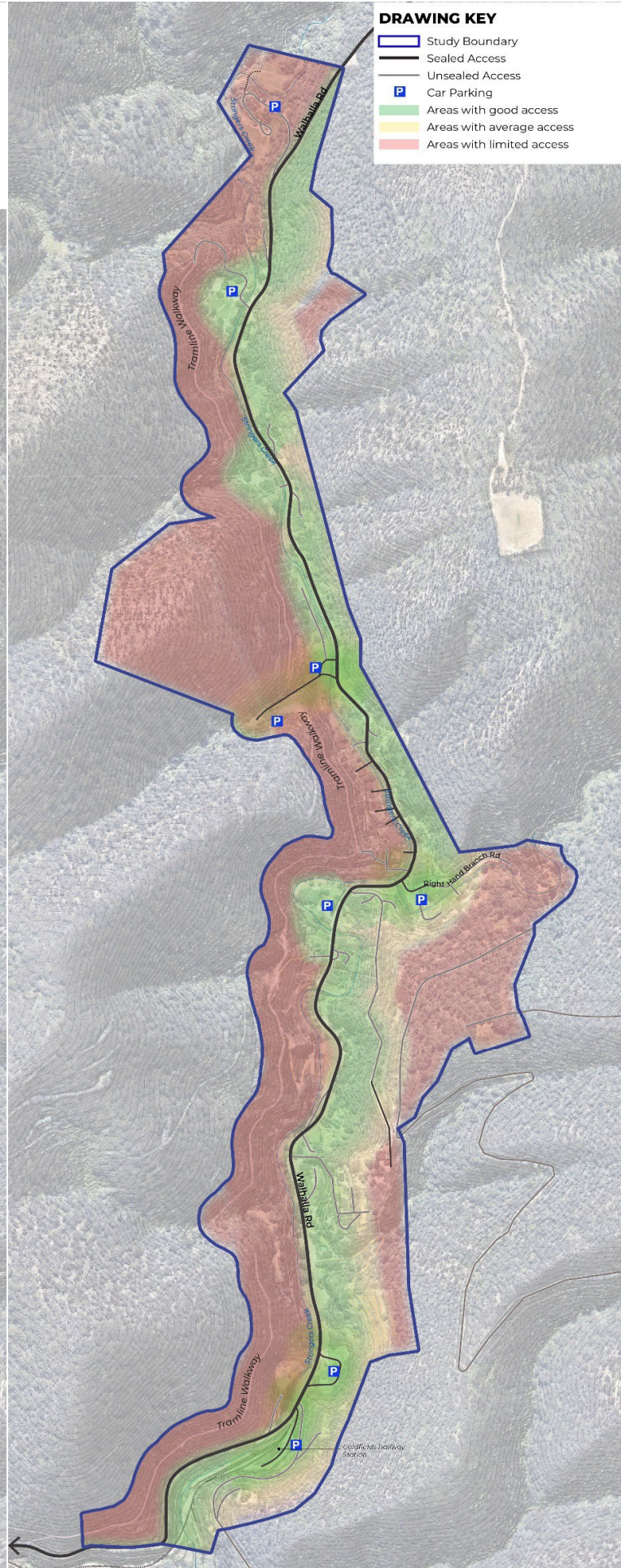
Vegetation



Heritage



Access



Six areas were identified as potentially developable and within these areas 20 sites were identified that could potentially be developed for tourism-based accommodation or commercial development, residential development and enhancing camping and cabin accommodation at existing campsites. **See Figures 1 and 2**

A site visit to inspect the sites in closer detail and to test the spatial analysis findings was made with staff from Mesh consultants and planning staff from Baw Baw Shire and DELWP. This provided an opportunity to observe the constraints and opportunities of each site firsthand.

The planning report also identified some of the key issues for the township from a planning perspective:

- Highly valued characteristics (such as heritage) and environmental constraints contribute to under-development of Walhalla,
- Only a single access road into the town, creating a sense of isolation,
- Private dwellings wholly or partially located within Crown land,
- Lack of reticulated water supply,
- High bushfire hazard,
- Steep topography.

Baw Baw Shire's Municipal Strategic Statement included several strategies relevant to the planning study:

- Maintain the steep valley setting by minimising modification to the valley's slopes.
- Ensure that new development is planned appropriately in response to bushfire risk.
- Maintain the appearance of nature reclaiming the township and maintain the stability of the slopes by removing vegetation below the tramline walkway only where development requires it e.g. for buildings, gardens, fire buffers and views.
- Provide camping opportunities at designated locations with appropriate facilities. Maintain and enhance, where necessary, land immediately adjacent to Stringers Creek.
- Complement the historic character of the township through complementary siting, forms, materials, colours and details.
- Promote tourism compatible with natural environment and cultural heritage
- Enhance the historic landscape character and reduce fire hazard by using appropriate exotic and native species on cleared private and public land up to the tramway tracks.
- Ensure that new development is planned appropriately in response to bushfire risk.

The planning study was specifically asked to review the current planning controls and make suggestions for change to outdated or historic controls that inhibit development.

The 20 sites identified through this study may, with further investigation and assessment of development proposals, be safely developed as they potentially meet the current criteria for safe development.

Half the sites are Crown land with the remainder either totally freehold or part freehold and part Crown land. Of the Crown land sites 4 are reserved for public purposes and managed by the Walhalla Board of Management, 6 are unreserved Crown land either under licence or otherwise occupied.

The unreserved sites could be made available for sale with the correct land zoning, survey and planning considerations. These sites, included with the historically occupied Crown land (hardship land sales), could mean up to 60 Crown land sites could be sold.

It must be noted that the 40 or so 'hardship' sales will not create additional greenfield development opportunities as they are already built on, heavily constrained by dense vegetation, bushfire risk or steep topography making them unsuitable for further large development irrespective of the planning controls. Selling will however resolve land occupation issues for the asset owners and help them manage their risks and provide them with the security of ownership they need to maintain and improve their existing assets.

Figure 1

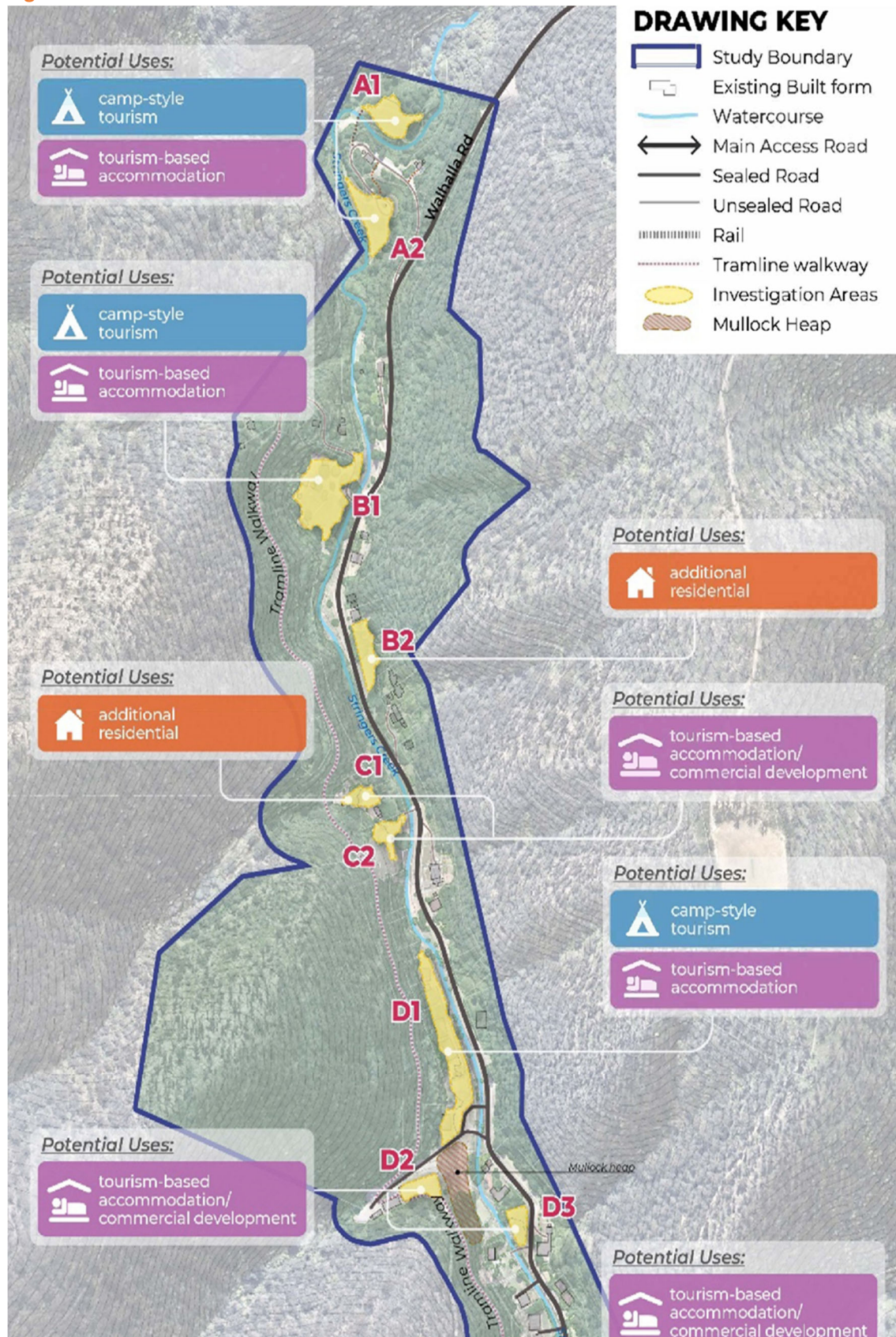
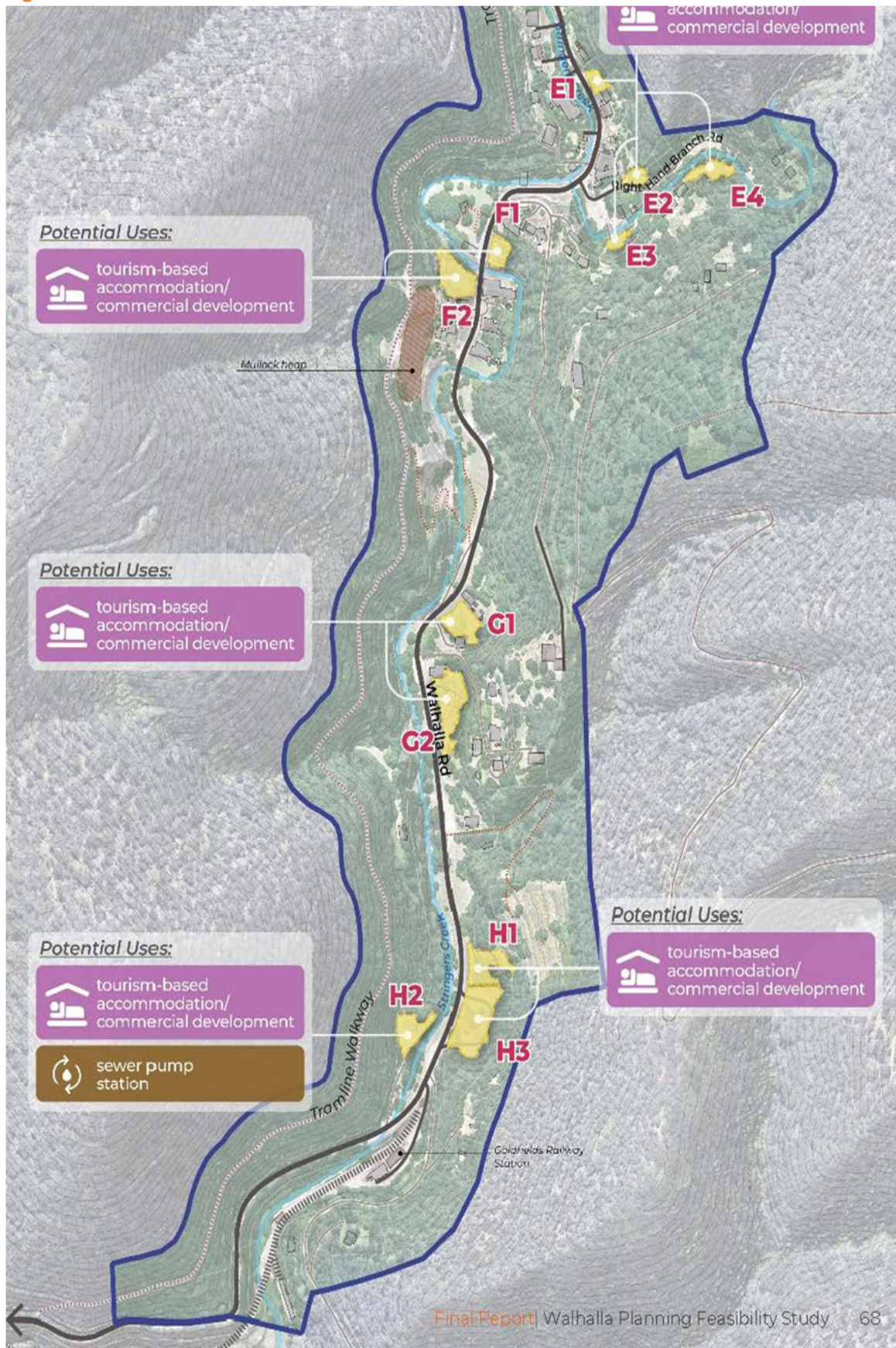


Figure 2



4. WASTEWATER SYSTEMS RISK ASSESSMENT AND WATER TESTING

To understand the extent of the public health risk posed by the contamination of Stringers Creek from waste management systems Baw Baw Shire undertook a town wide wastewater management systems risk assessment in 2020/21 and a water testing regime over the busy summer 'peak' visitor periods in Walhalla in 2019/20 and 2020/21. A total of 176 individual properties were identified within the township boundaries being a combination of residential, commercial, vacant lots and government owned properties including DELWP, Baw Baw Shire Council and the CFA. A desktop analysis identified 71 properties with dwellings, habitable buildings or toilet facilities on site (Campgrounds).

To construct an overall wastewater risk for the township the project team undertook to visit all 71 properties to assess wastewater system functionality, approximate volume of wastewater entering the environment and the likelihood of wastewater leaving the property boundary.

A total of 53 residential properties were attended and generally found compliant systems, in many instances it was difficult to fully determine the system functionality however, it was noted that no system was observed as discharging grey or black water beyond property boundaries. The total of all residential wastewater water is estimated to be 3-5 Megalitres annually.

Commercial properties comprise two hotels, several mid-sized accommodation premises, ten retail premises and public toilet facilities at parks and camping reserves. Business owners had good knowledge of their systems compared to residential owners.

The findings of the report in summary are:

- **Residential property:**
Attended 53 properties and generally found compliant systems, in many instances it was difficult to fully determine the system functionality however, it was noted that no system was observed as discharging grey or black water beyond property boundaries. The total of all residential wastewater water is estimated to be 3-5 Megalitres annually. Individual residential properties posed low to very low public health risks from their wastewater systems.
- **Commercial entities':**
The approximation of total commercial wastewater is estimated to be 1-1.5 Megalitres annually. It was observed that commercial premises have an array of wastewater management practices in place, with these being less than ideal and posing the greater risk in true Hazard Analysis and Critical Control Point terms and in respect of owner/operator honesty. The way commercial entities must handle all aspects of wastewater posed the greatest risk.
- **Visitors:**
Visitors can exponentially increase the daily wastewater loads to town. It was observed from visitation that visitor numbers on the weekends were placing extraordinary additional demands on the ability of public infrastructure to withhold all wastewater (see photo below which shows an overflowing waste pipe.) Visitors proportionally increased the risk of wastewater potentially causing detrimental public health outcomes.



A review of Council Customer Service Systems revealed that since 2010 over 865 requests related to Walhalla have been generated. A review of these requests and impacts on water system identified:

- 865 requests (including condition of roads, fallen trees etc...) extracted from this number includes: 15 complaints about the condition of the public toilets (usually during summertime periods).
- 3 complaints relating to public health risks from wastewater systems. In all of these instances, the complaints were unable to be justified.
- 40 complaints regarding low levels of flooding and blocked culverts requiring remedial action.

In addition to the above data – the Public Health Unit of council has no knowledge of any cases of gastrointestinal illness since 2010.

The major findings were:

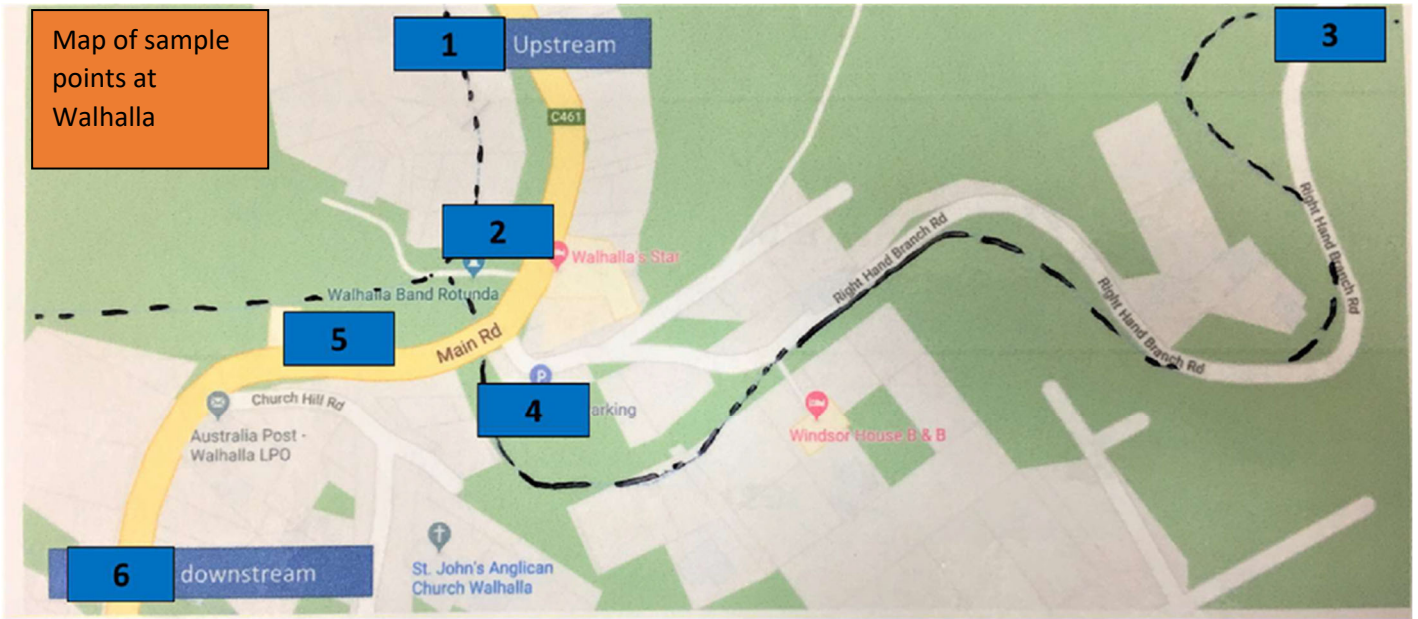
Septic tanks are not the major contributor of raw sewage directly into the creek. There were some indicators of animal contamination and this is consistent with the previous year's findings.

Some ground filtered discharge is likely to be entering the creek particularly between Site 3 (East branch outer) and Site 4 (Eastern Branch inner) which was consistent with last year's data. This year much larger increases of Enterococci were also seen between Site 1 (Western Branch outer) and Site 2 (Western Branch inner) **(see map of sample points below)**.

A rain event on the 7th of January 2021 increased the flow of the river by an estimated 10-fold when compared to other sampling events.

The water quality decreased from fair to very poor as the tourist season commenced. Especially sites 2 and 6 **(see map of sample points below)**. On a concentration basis this was not significantly poorer than the previous year. However due to the higher creek flows (based on more rainfall) a higher total mass loading of microbiology was experienced with greater tourist numbers.

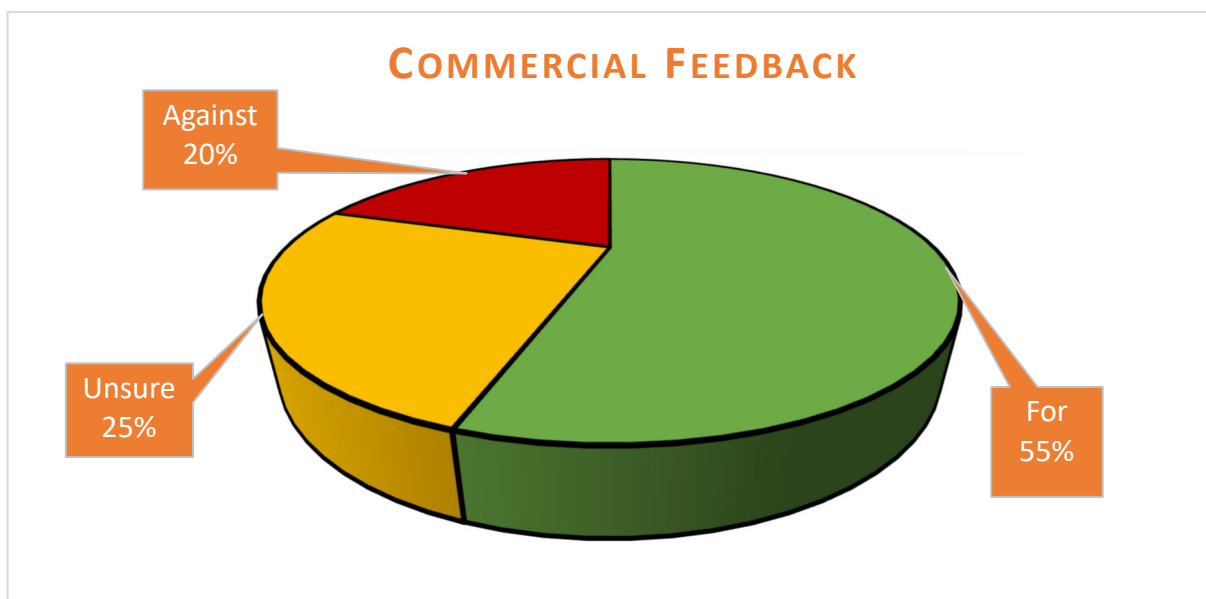
Mass loadings of nitrogen gained in the township of Walhalla on days with normal weather were around 0.6kg/ day of Total Nitrogen. The phosphate balance was less conclusive with some days showing uptake rather than nett discharge. This is possibly due to algal matt formation which was observable in the creek.



Overall, the degree of health and environmental issue created by the septic infiltration probably does not justify the building of a sewage treatment plant in Walhalla. Due to the difficulty in installing compliant systems, plans for expansion of the town would however require investment / greater council scrutiny of wastewater operations. Notwithstanding any expansion, it would be wise to direct funds to support remedial work / small infrastructure upgrades on the existing systems where they are currently burdensome for small business operators. Some attention of attenuating water flow during wet weather events would also be advantageous.

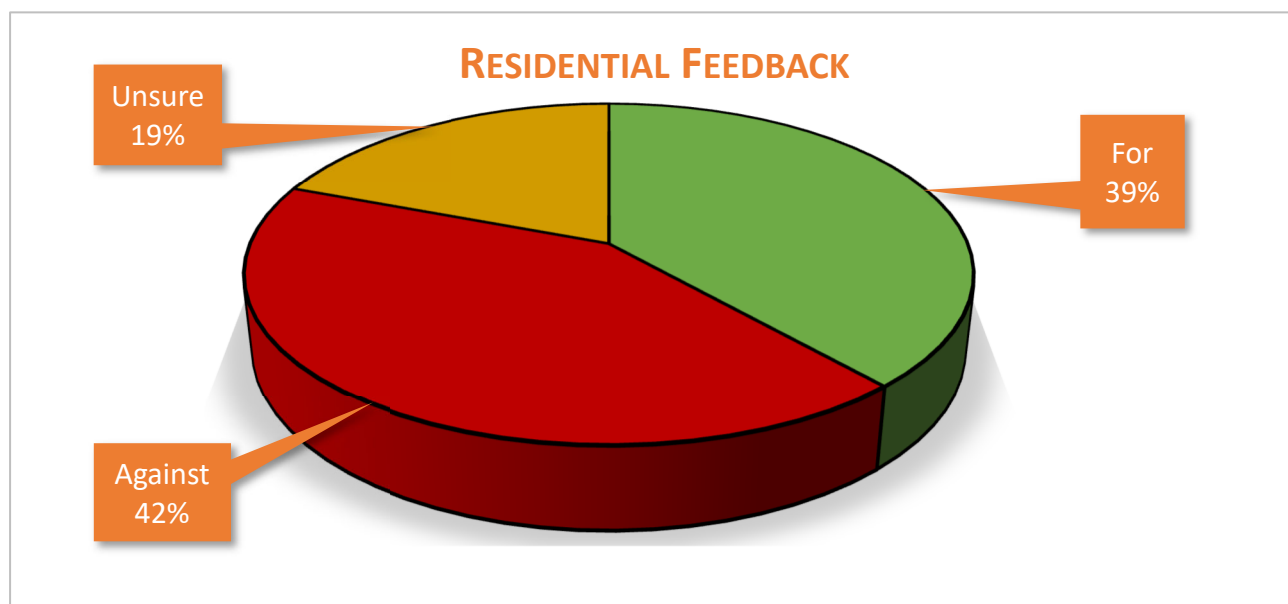
It is recommended that council and DELWP do some investigation into self-contained very small-scale treatment systems that it may be appropriate to install at sites which currently cart sewage to Rawson on a very regular basis.

5. COMMUNITY FEEDBACK



As can be seen from the charts above and below commercial operators in the town have more desire for sewerage to help grow their businesses while non-commercial property owners are more or less split on the idea, with most concerns expressed about connection and ongoing rates costs with little benefit to their property or lifestyle. A full record of the comments made is contained in the *BBSC - Public Health – Walhalla Onsite Wastewater System Analysis Summer 2020-21*.

All wastewater system owners often encouraged their comments and thoughts being provided in the report.



6. CONCLUSIONS

Acknowledging the outcomes and recommendations of the studies undertaken a networked sewerage treatment system for Walhalla is not essential to either promote town growth or mitigate the public risk.

It is also realised that given the unique landscape of Walhalla and the associated bushfire risk it is inherently unsafe to release nearly 100 Crown allotments for sale even if they are seweraged.

Community feedback on the need or otherwise for a reticulated wastewater management system for the town is somewhat split with a small section of the community adamant it is required for the development if not the survival of the town and another cohort equally convinced it is not necessary.

As these studies and community feedback show there are many varied assumptions and attitudes towards the issues facing Walhalla. There is a significant need for a strategic plan for Walhalla, that will deliver an honest and objective vision for the future of the town and surrounding area from the points of view of tourism growth and job creation, provide options and triggers for staged infrastructure development and provide a roadmap for the town to encourage private investment and improve visitor experience. A plan that pulls together all the insight, historic reports, community expectations and stakeholder aspirations into one consolidated tool that clearly identifies the things

that can and should be achieved in Walhalla and has sound evidence to support the business cases to fund them.

There is little support for a wastewater treatment plant for Walhalla from key industry stakeholders based on the required capital investment, the operational cost between \$150,000 and \$200,000 per annum, and the annual cost impost on Walhalla landowners.

Based on the findings of the studies undertaken the key to boost the economy and create jobs in central Gippsland is to develop Walhalla to connect to a complete tourism experience.

Recommend the sharing of the technical reports with key stakeholders as part of master planning process.

There are several allotments currently zoned PCRZ which are being used for residential / commercial purposes. These allotments are proposed to be rezoned to SUZ1 to remain consistent with the rest of the township.

7. RECOMMENDATIONS

Adopt and note the following key findings:

- In accordance with the original terms of reference and funding for the Walhalla Wastewater Management and Crown Sales Project the overall finding is that, proceeding with installing a wastewater management system in Walhalla and undertaking wholesale Crown Land Sales is not recommended.
- That the evidence from the sample testing undertaken over a significant period does not support that there is a public health issue or risk requiring action or investment within Walhalla.
- Residential septic systems are performing as intended with any improvement works to lie with the system owners.
- Commercial businesses may be required to undertake some septic improvement works to ensure the public health risk continues to be managed appropriately.
- Sewerage infrastructure investment is not recommended due to the large capital cost, significant ongoing operational costs, and the noted lack of a significant public health driver.
- That using land sales as an asset base for funding further development of Walhalla is not considered feasible or efficient due to several identified factors including:
 - lack of safely developable land
 - bushfire management overlays,
 - heritage issues,
 - land tenure and
 - native title considerations.
- There are major strategic planning issues and risks to be overcome that will impact future development of any sites in Walhalla.

8. NEXT STEPS:

- The strategic planning and any residual public health risks should be referred for consideration and input into the funded Walhalla Masterplan by Baw Baw Shire.
- This report be released to Baw Baw Shire Council, the Land Justice Unit of the Department of Justice and Community Safety and Gippsland Water.
- That DELWP representatives brief the Baw Baw Shire Council and Gippsland Water Executive team on the report findings.
- DELWP in collaboration with Baw Baw Shire Council engage community leaders and stakeholders to communicate the findings of this report.
- Baw Baw Shire Council and DELWP, through its delegated land manager, monitor and manage their sewerage infrastructure and if necessary, investigate upgrades to improve the performance of existing systems.
- This report finalises the Walhalla Wastewater Management and Crown Sales Project and any unused project funds be returned to the funding body.