Approval process for amendment of planning schemes

Part 3, Land Use Planning and Approvals Act 1993



TPC: Tasmanian Planning Commission

TCP P/L 20 December 2016

Proposed Rezoning and Subdivision to rezone CT 149641 folios 1 and 2, Rheban Road Orford from Rural Resource to General Residential - M and H Lawrence and others



Planning Report

Author

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1.0 Background:

H and M Lawrence own a parcel of land identified as Lot 2 Rheban Road, Orford. Certificate of title is identified as CT 149641/2 (**Annexure A**) which has a total site area of 10.2 ha. N and S Ransley own 135 Rheban Road, Orford which is identified as CT 149641/1 and has an area of 4000 sq.m. Together these two properties (the subject land) represent the land entity sought to be rezoned from Rural Resource to General Residential under the Glamorgan Spring Bay Interim Planning Scheme 2015.

A pipeline easement is shown on title for CT 149641/2 but otherwise the site is unencumbered. No easements are shown on title CT 149641/1 though a benefitting easement for drainage across CT 149641/2 is shown on the Schedule of Easements.

There is a house on CT 149641/1 located towards the western side of the property. Essentially that property due to size is limited to rural living/low density residential use presently. CT 149641/2 is substantially a greenfield site with a few scattered farm sheds only to the east. The location of the subject land is identified in Figures 1 and 2. Photos provided later in this report confirm conditions.



Figure 1 Site Location – broad geographical context (Source: LIST @ State of Tasmania)



Figure 2 Site Location (Source: LIST @ State of Tasmania)

The plans with respect to subdivision for both owners differ. The owner of CT 149641/1 seeks subdivision of the land concurrent with the rezoning. The owner of CT 149641/1 has no direct plans to subdivide at this point but may do so at a later date. It is logical that both parcels of land are included within the rezoning application.

As the development potential of CT 149641/1 is more limited no detailed assessment of subdivision potential has been carried out. However, a full and comprehensive application has been prepared and is assessed for CT 149641/2 as part of this current application.

Note: that whilst there has been discussion with the owner of CT 117058/159 – the land to the immediate west, Mr A.J Miller at this time does not wish to be included in the rezoning application.

2.0 Site Context and Other Relevant Information:

The subject land is accessed off Rheban Road and sits south of East Shelly Road within the south eastern arm of the Orford settlement. An unconstructed road reserve extends to the middle low point of CT 149641/2 off East Shelly Road. Rheban Road is a rural standard sealed road maintained by Council.

As per Figure 3, within 1.7km are the following services and facilities:

- Orford Primary School (identified as 'A')
- An independent supermarket (identified as 'B')
- Police Station (identified as 'C')
- Bowls Rink and Club (identified as 'D')
- Recreation Reserve (identified as 'E')

An existing house sits upon CT 149641/1 and is at least 30 years old. The larger title being CT 149641/2 is essentially vacant. Aerial imagery and some machinery on CT 1498641/1 show that this site was once a horse trotting track. LIST Map shows a 'training track' on the site, though this is no longer evident on ground.

Ostensibly no vegetation is found on either title of note. The only vegetation of significance is found within the localised drainage line being white gum (E viminalis) and black gum (E ovata) towards the lower section of CT 149641/2. The landscape is however more accurately described as open paddock and pasture with the described trees comprising remnant patches only.

Site levels are generally slight with much of the developable land above the 10m AHD contour. Aspect is northerly to north easterly.



Figure 3 Site Location (Source: LIST @ State of Tasmania)



There is sewer and water reticulated supply in the immediate area (see Figure 4).

Figure 4 Water and sewer mains along with fire hydrants are located directly below the site (Source: LIST @ State of Tasmania)

Within the wider context land use is described in Figure 5.



Figure 5 Settlement Context – land use (Source: LIST @ State of Tasmania) Urban* = constrained. Low Density residential use.

A sewerage treatment plant sits a minimum 230m to the south but is generally 300m or greater distance from the majority of the subject land.

Photos indicating site conditions are provided on the following pages.



Photos 1 & 2 Drainage conditions on CT 149641/2 above the dam



Photos 3 & 4 Drainage conditions on CT 149641/2 below the dam



Photos 5 & 6 Open paddocks and unnamed waterway above East Shelly Rd



Photos 7 & 8 Site conditions on CT 149641/2 near western side of property



Photos 9 & 10 Site conditions on CT 149641/2 near eastern side of property



Photo 11 Panorama taken from eastern side of CT 149641/2



Photos 12 & 13 Access conditions – Rheban Road



Photo 14 Existing House – CT 149641/1



Figure 6 Photo Locations (Source: LIST @ State of Tasmania)

Land capability is classified as part class 4 meaning it has suitability for grazing but is not State Significant (Figure 7).



Figure 7 Land Capability (Source: LIST @ State of Tasmania)

3.0 Infrastructure:

Power supply is provided along Rheban Road and also East Shelly Road as is the phone service. Reticulated water and sewer is available in the immediate area (see Figure 4).

Stormwater drainage would be generally towards East Shelly Road via the unnamed water course identified in the photos, corresponding to existing fall.

4.0 Applicable Planning Legislation:

The zoning of the subject land is Rural Resource under the Glamorgan Spring Bay Interim Planning Scheme 2015 (Figure 8). The following overlays apply:

- Waterway and Coastal Protection Area Overlay (along the drainage lines).
- Coastal Inundation Hazard Area (below 10m AHD).

The State Policy on the Protection of Agricultural Land 2009 applies as does the State Coastal Policy 1996 and the State Policy on Water Quality Management. Each of these matters will be assessed later in this report (see 6.3).



Figure 8 Zoning Arrangements (Source: iPLan @ State of Tasmania)



Figure 9 Overlay Arrangements (Source: iPLan @ State of Tasmania)

5.0 Proposal:

There are two parts to the proposal:

- (a) To rezone the subject land from Rural Resource to General Residential.
- (b) To approve a subdivision of CT 149641/2 as submitted.

6.0 Assessment:

An individual may lodge a request to rezone land under S37 of the *Land Use Planning and Approvals Act 1993*. In addition, under S40T of the *Land Use Planning and Approvals Act 1993*, provision exists to submit and have assessed by the planning authority (in this case Glamorgan Spring Bay Council) a combined rezoning and permit application.

Therefore, in this section the relevant strategic and statutory matters relate to the following:

- (a) Rezoning assessment strategic assessment.
- (b) Subdivision application assessment statutory assessment.

6.1 Rezoning Assessment

For the purposes of this report the rezoning assessment is provided in three distinct but connected sections, namely (a) the objectives and outcomes sought in the Rural Resource Zone and General Residential Zone; (b) general strategic directions of Council; and (c) zone options.

(a) The objectives sought in the Rural Resource Zone

The objectives of the Rural Resource Zone are set out as follows as per cl. 26.1.1 of the Interim Scheme.

26.1.1.1

To provide for the sustainable use or <u>development</u> of resources for agriculture, <u>aquaculture</u>, forestry, mining and other primary industries, including opportunities for <u>resource processing</u>.

Response: The subject land could be used for low intensity grazing (it is Class 4). But it is surrounded by housing to the north, east and west with a Taswater sewage treatment plant to the south. There is a significant degree of fettering by existing uses, drainage is a limitation and the land is functionally separate from the larger farming titles to the south. Given the infrastructure installed in the immediate area (esp. sewer and water) and the lack of likelihood that this land has any value for aquaculture, mining, forestry or resource processing, the only consideration is the potential loss of land from grazing activity.

There is little evidence that sustainable use of the two properties for agriculture is feasible/probable due to surrounding uses and land fragmentation.

26.1.1.2

To provide for other use or <u>development</u> that does not constrain or conflict with <u>resource</u> <u>development</u> uses.

Response: There is no adjoining or nearby resource development impacted by the potential conversion of the subject land from rural to residential purposes. Given surrounding uses it is unlikely resource development would occur on this land.

26.1.1.3

To provide for non-<u>agricultural use</u> or <u>development</u>, such as recreation, <u>conservation</u>, tourism and retailing, where it supports existing agriculture, <u>aquaculture</u>, forestry, mining and other primary industries.

Response: See response to 26.1.1.1. There is little purpose in holding the land in the Rural Resource Zone for conservation since there are no identified values of note. In turn tourism is of little benefit to consider.

26.1.1.4

To allow for <u>residential</u> and other uses not necessary to support agriculture, <u>aquaculture</u> and other primary industries provided that such uses do not:

- (a) fetter existing or potential rural resource use and <u>development</u> on other land;
- (b) add to the need to provide services or infrastructure or to upgrade existing infrastructure;
- (c) contribute to the incremental loss of productive rural resources.

Response: If the subject land has only limited utility for low impact grazing (at best) there is minimal relevance considering housing to support rural resource uses.

26.1.1.5

To provide for protection of rural land so future <u>resource development</u> opportunities are no lost.

Response: Resource development covers a wide range of potential uses from bee keeping to horse studs to turf growing as well as handling, packing and storage of produce. These uses require certain resources to be available – whether it be food sources (bees), sufficient land (horse studs) or infrastructure (irrigation) for turf production.

None of these or the other myriad scenarios appear feasible or likely on the subject land.

(b) General Strategic Directions of Council and the data available:

Council issued the Triabunna/Orford Structure Plan in April 2014. A Structure Plan sets out the major changes to land use, transport, built form and public spaces within settlements including the identification of greenfield growth areas where appropriate.

Thus, the Structure Plan sets out the issues, challenges and opportunities for Orford for the next few decades and gives specific strategic direction – well beyond the broad directions of the Southern Tasmanian Regional Land Use Strategy 2010-2035 (STRLUS). It also embodies and expands further on the directions contained in Vision East 2030.

What does the Structure Plan tell us?

Demographics (2011 census)

- The median age of residents in Orford was 57 years old versus 42 years old in Triabunna. Significance – Orford is attractive to retirees and older households.
- Lone person households in Orford are more common than the SE Tasmania average (30% of households v 25%) Significance likely a consequence of age profile. Any growth in population or even slow growth can fuel more housing demand.

• By profession, the largest group in Orford are Managers (22.5%) well above the SE Tasmania average (16%) – Significance – it would appear the lifestyle attraction of Orford influences its level of attraction to householders moving into the area. Anecdotal evidence is that this is largely from SE Tasmania with Hobart around 1 hr. drive distant.

Land Supply and demand

- Between 1999/2000 and 2013/14 207 residential dwelling approvals were issued for Triabunna/Orford. 77% of these were been in Orford.
- Occupancy rates in Orford were low when measured on census night (August 2011). This reflects the likely high number of holiday homes and the seasonality of use.
- At 2011 there were 706 dwellings in Orford, more than double that of Triabunna (350).

AVERAGE AGE	DEPENDENCY	000	UPATION	OWNERSHIP
60+	singer 64	17.	Agriculture	44 retroume
	36 Ferniles	12	Retail trade	29 Turchang

Figure 10 Snapshot (source: http://www.domain.com.au/suburb-profile/orford-tas-7190)

- In terms of land supply across Triabunna, Orford and Spring Beach the Structure Plan identified capacity for 524 to 744 new dwellings within the existing settlement. However, at a more local level the supply was calculated at 129 dwellings for Orford.
- A demand for something in the order of 17 dwellings per year has been calculated for Orford and Triabunna. Escalation of take-up is evident in Orford in the period 2012/13 with 16 dwellings approved in Orford alone. See data on approvals Figure 11.
- If such a trend were to continue, this would suggest a 7-8 year housing supply exists in Orford. Ongoing monitoring of demand is logical and appropriate.

Overview, identifying future land supply to enable a 10-15 year supply in all major settlements is generally advisable given the timeframe it takes to zone, obtain permits and release land to market (2-4 years typically). Orford at current rates of demand has likely less than 10 years residential land supply.

That would, in turn suggest more detailed consideration of logical inclusions in the Shelly Beach precinct to meet the 'latent demand', especially for holiday homes. As the Structure Plan sensibly points out, this would comprise land north of Rheban Road and infills the land behind the existing linear settlement on Shelly Beach (see Figure 12).



Figure 11 Dwelling Approvals in Orford & Triabunna 1999-2012/13 completed years (source: GSBC, 2014)



Figure 12 Suggested Zoning Arrangements - Orford (source: GSB Council, 2014)

(c) Alternative Zone Options:

The zone purpose and considerations are as follows:

10.1.1 Zone Purpose Statements

10.1.1.1

To provide for <u>residential</u> use or <u>development</u> that accommodates a range of <u>dwelling</u> types at suburban densities, where full infrastructure services are available or can be provided.

Response: The land is considered suitable for residential use or development. The mandate within the Scheme to achieve smaller lots to achieve a net density of around 15 dwellings/ha will see lots of varying size which will encourage different dwelling types. Full services can be provided to the site.

10.1.1.2

To provide for compatible non-<u>residential</u> uses that primarily serve the local community.

Response: Noted. The proposed open space will serve the wider community as well as that of the future residents within the subdivision.

10.1.1.3 To provide for the efficient utilisation of services.

Response: Full sewer and water reticulation exists in this area.

Whilst the option exists to rezone the land to Low Density Residential this would appear more appropriate in areas with known infrastructure or environmental constraints. Council has applied that zone to Spring Beach which likely reflects a range of constraints and lifestyle considerations. But for greenfield land abutting the main settlement of Orford there seems little merit in the Low Density Residential Zone.

Consistency with STRLUS and Strategic Planning Directions

The sequence of strategic planning frameworks and directions relevant to Orford are summarised as follows:

 Vision East 2030 – a land use framework for the east coast Councils from Sorell to Break O' Day. Identifies Orford as a village with medium growth potential. Given a village typically has a population, as defined in Vision East, of 200-500 and the ABS population of Orford at 2011 was over 500 it may in fact be closer to the size of a small township (there are 734 dwellings in Orford alone). The logical zoning inclusion as suggested in this submission is not inconsistent with Vision East, noting that holiday housing demand driven by proximity to Greater Hobart is strong and likely to remain so given convenience to the metropolitan population.



Figure 13 Orford as defined by ABS boundaries in 2011 (source: ABS 2015)

- **Background Report 1** STRLUS: The Project Background for the Southern Tasmania Regional Land Use Framework (April 2010) notes that Vision East will be subsumed into the STRLUS and the controls and strategic direction will remain largely the same as in Vision East.
- STRLUS issued in October 2011. It shows a hierarchy of strategic directions from the objectives in Schedule 1 of the *Land Use Planning and Approvals Act 1993* through to Structure Plans and site development plans at the local level. On page 27 it requires consolidation of residential development and avoiding ribbon development. Orford is classified as a township but with a low growth scenario being applied. Low growth is defined as <10% growth in dwellings. Zoning the subject land for residential purposes is not ribbon development ie it is behind existing coastal housing areas.

In terms of STRLUS, if the total number of dwellings was 734 in Orford in 2011 (source: ABS Code UCL621015 (UCL)) and noting growth rates it would be best part of 800 dwellings in 2015 and more today. A 10% growth rate would involve 80-85 more dwellings being provided in total. That could be likely accommodated within Orford without further residential rezoning occurring. However, noting that permanent residential housing is only one component of housing demand. Holiday homes plays a significant role in Orford. Both permanent and part-time occupied residences together, constitute overall housing demand.

It is not unreasonable therefore to cater for both permanent residents and holiday home owners (who may ultimately convert their home to permanent residences) and provide for both in existing established areas and those areas identified by local structure plans.

6.2 Assessment of Rezoning against LUPA ACT 1993

The rezoning has been assessed against the relevant provisions of Schedule 1 of the Land Use Planning and Approvals Act 1993.

LUPA Schedule 1 Objectives	Response
Part 1	There are no environmental issues attached to
1.(a) to promote the sustainable development of natural and physical resources and the maintenance of ecological processes and genetic diversity; and	this proposed draft amendment or subdivision. The subject land comprises a logical infill within a substantially cleared greenfield scenario.
 (b) to provide for the fair, orderly and sustainable use and development of air, land and water; and 	Consistent with Council's adopted strategy (Triabunna/Orford SP).
 (c) to encourage public involvement in resource management and planning; and 	No issues identified.
 (d) to facilitate economic development in accordance with the objectives set out in paragraphs (a) (b) and (c); and 	This proposal has no adverse impact on these objectives. There zoning and subdivision would promote economic development (housing) in an area where demonstrated demand exists.
 (e) to promote the sharing of responsibility for resource management and planning between the different spheres of Government, the community and industry in the State. 	No issues identified.
 Part 2 (a) to require sound strategic planning and co- ordinated action by State and local government; and 	No impact identified. Council tabled the rezoning of the subject land to TPC during the interim scheme hearing process. It was resolved that an amendment to the Interim Scheme was the best process to undertake future planning.
 (b) to establish a system of planning instruments to be the principal way of setting objectives, policies and controls for the use, development and protection of land; and 	No adverse impact identified.
 (c) to ensure that the effects on the environment are considered and provide for explicit consideration of social and economic effects when decisions are made about the use and development of land 	No environmental impact identified. The site does not require any land clearing.
 (d) to require land use and development planning and policy to be easily integrated with environmental, social, economic, conservation and resource management policies at State, regional and municipal level; and 	Noted. The amendment does not affect these considerations.
 (e) to provide for the consolidation of approvals for land use or development and related matters, and to co-ordinate planning approvals with related approvals; and 	There is no adverse environmental effect from the amendment. The benefit of the combined process of rezoning and subdivision is that the ultimate use and layout of development is considered concurrently with the zoning process, establishing that orderly development of the site is possible.

(f)	to promote the health and wellbeing of all Tasmanians and visitors to Tasmania by ensuring a pleasant, efficient and safe environment for working, living and recreation; and	The proposed amendment does not pose any issues with respect to land use and development policy. The draft amendment is consistent with the identified role of the southern section of Orford as the main growth corridor within the settlement.
(g)	to conserve those buildings, areas or other	No issues identified. Consultation with AHT has
.0/	places which are of scientific, aesthetic,	not identified any records of Aboriginal cultural
	architectural or historical interest, or	heritage. There are no European culture
	otherwise of special cultural value; and	heritage issues identified.
(h)	to protect public infrastructure and other	No issues identified. The site is ideally suited
	assets and enable the orderly provision and	with regards to aspect, location, slope and
	co-ordination of public utilities and other	access to facilities in Orford.
	facilities for the benefit of the community;	
	and	
(i)	to provide a planning framework which	No issues identified.
	fully considers land capability.	

 Table 1
 LUPA
 Considerations

6.3 Subdivision Application Assessment

The subdivision has been assessed against the relevant provisions of the General Residential Zone and applicable overlays, which are as follows:

- Waterway and Coastal Protection Area Overlay (along the drainage lines).
- Coastal Inundation Hazard Area (below 10m AHD).

The State Policy on the Protection of Agricultural Land 2009 applies as does the State Coastal Policy 1996 and the State Policy on Water Quality Management. Each of these matters will be assessed.

6.3.1 General Residential Zone provisions

Subdivision is regulated under clauses 10.6.1 through to clause 10.6.4.

Each is assessed as follows:

10.6.1 Lot Design: With respect to objectives it is noted that:

- (a) The subdivision is designed consistent with the zone purpose. There are no Character Statements defined for the General Residential Zone within the Planning Scheme.
- (b) All proposed lots are deemed suitable for development. All are free of hazard risk.
- (c) There is a mix of lot sizes which should encourage a range of dwelling types.
- (d) The layout, where practicable utilizes east-west roads to enhance residential amenity and solar access. To the east, due to lot configuration this is less practicable but fortunately the entire site has a northerly aspect which ensures all lots will enjoy good amenity.
- (e) Average density is 14 dw/ha. The density well exceeds that of the wider area and clearly meets the principles set out in the Scheme on efficient use of land. A cursory examination of density along East Shelly Road shows the proposed layout is considerably more efficient than surrounding subdivisions.

- (f) Internal lots are minimized. Only 3 out of 91 lots are internal and given road layout limitations to the east - the cul-de-sac, a limited number of battle axe lots is difficult to avoid. A balance between density, amenity and lot layout has been sought.
- (g) The layout responds well to the need for efficient and ordered provision of infrastructure.

Five development standards apply under lot design (cl. 10.6.1). The first relates to lot sizes which must meet the standards set out in Table 10.1 - see Table 2.

Lot Size Requirements	Assessment	Comments
Ordinary Lots (not described	All ordinary lots not otherwise	Noting the change of
below)	specified in Table 10.1 are below 1000	ownership at the
	sq.m except lot 39 which is marginally	common boundary with
	over.	135 Rheban Road it is
		impractical to make the
		Lot 39 smaller as it would
		create a subminimal lot.
Corner Lots	Corner lots are to be no less than 550	
	sq.m in area and no larger than 1000	
	sq.m. Corner lots are Lots 1, 36, 4,	
	40, 41, 44, 50, 53, 54, 58 81 and 91.	
	All meet the standard.	
Internal Lots	Internal lots must be between 550-	
	1000 sq.m. These are Lots 77, 78 and	
	83. All meet the standard.	
Lots adjoining or opposite	All lots adjoining proposed Lot 2	
public open space	(open space) meet the maximum lot	
	size of 600 sq.m.	

Table 2 Assessment of compliance with cl. 10.6.1 Table 1

The second standard relates to building areas. All lots meet this standard, whether in terms of slope grade, capacity to contain a rectangle measuring 10m x 15m or setback standards.

The third standard relates to frontage requirements. All lots meet the standards contained in Table 10.2, noting however that internal lots will rely on 6m frontages.

The fourth standard in terms of battle axe lots (a) there are few proposed (3 of 91); (b) these are dictated by the road layout for the eastern side of the subdivision; (c) represents an efficient use of the land; (d) have relatively short access handles. Passive surveillance and the other provisions of P4 are met noting the effort to create regular shaped lots, clear vision of the street and the other principles set out.

Finally, the subdivision is for more than 3 lots and therefore P5 is relied upon. A staging plan is provided, the layout is appropriate in consideration of accessibility to local services and is an efficient subdivision of the land. No character statements direct alternative layout options be developed.

10.6.2 Roads: Standard P1 is relied upon as news roads are being created. The road layout meets the needs for a connected road layout and limits cul –de –sacs as best practicable. Due to the drainage line within the open space area there is no reasonable way to connect the two precincts within the subdivision together. Such links would fragment the proposed open space. Bicycle

network provision within the road layout can be achieved, noting road reservation widths. Road connectivity with adjoining land is provided.

10.6.3 Ways and Public Open Space: Standard P1 is relied upon. The open space proposed is generous and provides for a legible movement network. The critical issue in this area is integrating the subdivision with the existing residential development in the East Shelly Road area. Open space along the unnamed drainage line connecting to East Shelly Road is the optimal method to achieve such an outcome.

10.6.4 Services: All acceptable solutions are met with respect to water supply, reticulated sewer and stormwater drainage. Whilst A4 provides no Acceptable Solution where roads are created, the requirement for fibre ready facilities can be conditioned within a planning permit.

6.3.2 Overlay Controls

The Waterway and Coastal Protection Code impacts the subject land as per Figure 9. Entirely, the drainage line in question is contained within the proposed open space reserve. Under cl. E.11.2 the Code has no bearing on the proposed lots within the subdivision identified for residential purposes. Accordingly, no further assessment of this Code is required. [Note: Figure 9 shows a minor incursion of the Overlay onto lots fronting the southern side of Rheban Road frontage. Noting that stormwater and drainage is directed to the west and east within formed waterways and there is no evidence of overland flow the mapping is considered an anomaly here.]

Below 10m AHD Code E15 Inundation Prone Areas Code applies. Again, Figure 9 shows the extent to which this Code applies, being the bottom quarter of the site in a SW-NE direction across Lots 11-21 and 72-78 primarily. Clause E15.8 concerns subdivision regulation. It in turn relied on Table E15.1. For Orford, modelling produces a range of scenarios but the salient point is that the low hazard area risk sites are at 2.2m AHD. Allowing for all the contingencies including building control and wave runup, the entire site is free of risk. The 10m AHD figure is therefore a mapping simplification embedded within the planning scheme only requiring the issue to be examined further.

To paraphrase – the subdivision is located well above the majority of the existing settlement of Shelly Beach. Consequently, the risk is below 'Low' based on Code 15.

6.3.3 State Planning Policies

As indicated earlier, three State Policies apply. A broad review indicates the following:

- The State Policy on Agricultural Land does indicate that all zoned farming land has some intrinsic value. But as discussed elsewhere, the land is highly fettered and is most productively developed for residential use (demand, level of service infrastructure, adopted Structure Plan). Its loss from agricultural future use is not considered significant in terms of land capability.
- The State Coastal Policy 1996 applies as the site is within 1km of the coast. However, in practical terms it is more distant from the foreshore than the existing settlement and no issues have been identified except for suitable conditions on water quality control through the subdivision design process. Aboriginal heritage and other cultural and environmental management issues can be conditioned as per standard practice.
- The State Policy on Water Quality Management 1997 can be addressed via permit conditions.

6.3.4 Other Matters

Clause 8.1 of the Glamorgan Spring Bay Interim Planning Scheme 2015 sets out all the information to be provided. These are met or can be reasonably conditioned.

7.0 Observations:

The area concerned is the main growth corridor in Orford. It was foreshadowed in the Triabunna/Orford Structure Plan (2014) that the subject land be rezoned for residential use. The subject land abuts the existing General Residential Zone in the Shelly Beach area to the north and is the next logical stage of residential development east of Jetty Road. Already the General Residential Zone sits to the east at French Street. Rheban Road therefore forms a logical southern zone boundary.

The proposed rezoning is situated within relatively close proximity to all community infrastructure in Orford (primary school, supermarket, library, police station, bowls club, sports oval, boat ramp). Full sewer and water reticulation off East Shelly Road is achievable.

There are no slope constraints or environmental constraints identified. No land clearing is required.

There have not been any major land releases in this area since the 55 lots released via the RMPAT decision in Hamilton v GSB Council TASRMPAT 25 (10 Feb 2005) and 14 lots at 11 Elizabeth Street Orford approved via Gentile Properties v GSB Council [20060 TASRMPAT 207 (9 Oct. 2006). Whilst some vacant lots still exist in both subdivision the larger subdivision (off Trochus Drive and Nautilus) is now well advanced in takeup as is the Elizabeth Street subdivision.

There is demonstrated demand for housing in Orford. By best estimates there is < 10 years supply remaining in the area. The proposed subdivision would provide likely 5-6 years supply of housing for Orford, noting it would be likely staged. A staging plan is provided by Aldanmark.



Photo 15 New housing built in East Shelly Road area (last 5 years)



Photo 16 New housing built in East Shelly Road area (last 5 years)



Photo 17 New housing built in East Shelly Road area (last 5 years)

The highest and best use of the subject land is for residential use. The loss of land from the Rural Resource Zone is not significant in area terms. The rezoning raises no strategic issues and does not impact any nearby farming operations. There are no intensive agricultural operations adjoining which raise issue with spray drift or other fettering risks.

The State PAL Policy does not warrant the land being retained in the Rural Resource Zone and the proposal is not inconsistent with the local strategy. It represents orderly planning.

No fettering of nearby agricultural uses has been identified.

The Southern Regional Land Use Strategy needs to be read in conjunction with local strategy.

8.0 Summary:

The land in question is a logical inclusion in the **General Residential Zone** for the following reasons:

- The Triabunna/Orford Structure Plan (2014) supports infill development of this site.
- There is evidence that there is demand for housing, especially holiday homes in Orford which will be difficult to meet if logical infill sites are not provided over the next 10-15 years.
- There is a noted demand for housing in Orford in the Shelly Beach area. That demand well exceeds that for Triabunna.
- The land has TasWater sewer and water infrastructure along East Shelly Road and is a logical infill in that it results in land being used for housing, consistent with that occurring on three sides presently.
- A low to moderate growth scenario in Orford would justify rezoning under STRLUS and Vision East as well as the adopted Structure Plan in the shorter term. Orford is an established township, not a village and any development of this land would have the benefit of enabling Council to reduce development pressure in more sensitive areas nearer the coast in the Orford area.

Town and Country Planning Pty Ltd 20 December 2016

References

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Glamorgan Spring Bay Interim Planning Scheme 2015, accessed from http://www.gsbc.tas.gov.au/page.aspx, 21 September 2015.

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Southern Tasmanian Councils Authority (2011): Southern Tasmanian Regional Land Use Strategy 2010-2035 unpublished.

Urbis (2014): Triabunna/Orford Structure Plan, Final Report updated April 2014, downloaded from Glamorgan Spring Bay accessed from http://www.gsbc.tas.gov.au/page.aspx, 21 September 2015.

Annexure A Copy of Title

Refer to attached plans.

Annexure B Plan of Subdivision

Refer to Plan of Subdivision (Aldanmark Project 15E96-10)





SEARCH OF TORRENS TITLE

VOLUME	FOLIO
149641	2
EDITION	DATE OF ISSUE
5	18-Oct-2011

SEARCH DATE : 31-Aug-2016 SEARCH TIME : 08.25 PM

DESCRIPTION OF LAND

Parish of ORFORD Land District of PEMBROKE Lot 2 on Sealed Plan 149641 Derivation : Part of 1050 Acres Gtd. to Frederick Maning Prior CTs 49324/1 and 49389/1

SCHEDULE 1

C775808 TRANSFER to MICHAEL JOHN LAWRENCE and HARRIETT FLORENCE GUNN LAWRENCE Registered 27-Aug-2007 at 12. 01 PM

SCHEDULE 2

Reservati	ons and conditions in the Crown Grant if any
SP149641	COVENANTS in Schedule of Easements
SP149641	FENCING COVENANT in Schedule of Easements
SP149641	SEWERAGE AND/OR DRAINAGE RESTRICTION
C775809	BURDENING EASEMENT: pipeline rights (appurtenant to
	Lot 1 on SP 149641) over the Pipeline Easement 0.50
	Wide shown passing through the said land within
	described (subject to provisions) Registered
	27-Aug-2007 at 12.02 PM
SP 10835	FENCING PROVISION in Schedule of Easements
SP 49324	FENCING COVENANT in Schedule of Easements
SP 49324	COVENANTS in Schedule of Easements
C778361	AGREEMENT pursuant to Section 71 of the Land Use
	Planning and Approvals Act 1993 Registered
	03-May-2007 at noon
D33446	MORTGAGE to Butler McIntyre Investments Ltd
	Registered 18-Oct-2011 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations



Search Time: 08:25 PM

Search Date: 31 Aug 2016



1

SCHEDULE OF EASEMENTS

Registered Number

SP1496

PAGE 1 OF # PAGE/S

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



SCHEDULE OF EASEMENTS

NOTE: THE SCHEDULE MUST BE SIGNED BY THE OWNERS & MORTGAGEES OF THE LAND AFFECTED. SIGNATURES MUST BE ATTESTED.

EASEMENTS AND PROFITS

Each lot on the plan is together with:-

(1) such rights of drainage over the drainage easements shown on the plan (if any) as may be necessary to drain the stormwater and other surplus water from such lot; and

(2) any easements or profits a prendre described hereunder.

Each lot on the plan is subject to:-

 such rights of drainage over the drainage easements shown on the plan (if any) as passing through such lot as may be necessary to drain the stormwater and other surplus water from any other lot on the plan; and

(2) any easements or profits a prendre described hereunder.

The direction of the flow of water through the drainage easements shown on the plan is indicated by arrows.

That part of Lot 2 on the Plan formerly shown as Lot 1 on Sealed Plan 49324 is burdened by the covenants created by and more fully set forth in SP49324.

FENCING CONDITION COVENANT

The owner of each lot on the plan covenants with the Vendor, Neville John Ransley and Shirley Emma Ransley that the Vendor shall not be required to fence.

<u>SIGNED</u> by the said Neville John Ransley and Shirley Emma Ransley the Registered Proprietors of the land comprised in Certificate of Title Volume 49324 Folio 1 and Volume 49389 Folio 1

in the presence of:

Matthew Kent Goodman Solicitor 100A Collins Street Hobart Tas

) N J Kansley } d. Ransley.

(USE ANNEXURE PAGES FOR CONTINUATION)

FOLIO REF: Volume 49324 Folios 1 & Volume 49389 Folioi 1 SOLICITOR Goodman Solicitors REF NO.	
SUBDIVIDER: Neville John Ransley & Shirley Emma PLAN SEALED BY: Glamorgan Spring Bay Council Ransley DATE: 2002/07	

Search Date: 31 Aug 2016

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Department of Primary Industries, Parks, Water and Environment

Volume Number: 149641



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SCHEDULE OF EASEMENTS

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



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ANNEXURE TO SCHEDULE OF EASEMENTS

PAGE 2 OF 2 PAGES

SP149641

SUBDIVIDER: Neville John Ransley & Shirley Emma Ransley FOLIO REFERENCE: 49234/1 & 49389/1

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BRYCE ANDREW HARDING	under)
Power No. 131000K (and the said BRYCE ANDREW HARDING	and)
declare that they have received no no revocation of the said Power) in the p	tice of presence of:)

lon. JENNY BAILEY LOANS ADMINISTRAT ON OFFIC 172 COLLINS STREET HOBART

NOTE: Every annexed page must be signed by the parties to the dealing or where the party is a corporate body be signed by the persons who have attested the affixing of the seal of that body to the dealing.

Volume Number: 149641

Page 2 of 2

CIVIL DRAWINGS PROPOSED SUBDIVISION LOT 2 RHEBAN ROAD, ORFORD, TASMANIA 7190

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GENERAL NOTES:

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TRAFFIC IMPACT ASSESSMENT

PROPOSED

RESIDENTIAL SUBDIVISION DEVELOPMENT

LOT 2 RHEBAN ROAD

ORFORD

JULY 2017



TRAFFIC IMPACT ASSESSMENT

PROPOSED

RESIDENTIAL SUBDIVISION DEVELOPMENT

LOT 2 RHEBAN ROAD ORFORD

JULY 2017

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ATTACHMENTS:

Attachment A - Detailed drawing of proposed residential subdivision development layout



EXECUTIVE SUMMARY

The proposal for the property at Lot 2 Rheban Road is a subdivision development to create 91 residential lots. There will be two subdivisional roads servicing access to 57 and 34 lots respectively which will junction with Rheban Road.

This assessment has reviewed the existing road and traffic environment along Rheban Road in the area of the development site and no issues of significant concern have been identified.

It has been estimated the current traffic volume along Rheban road past the development site is around 180 vehicles/day and this increases to around 500 vehicles/day during the summer period.

There have been four reported crashes at the Tasman Highway/Charles Street/Esplanade intersection. Three have been loss of control incidents resulting in property damage and one was an angle collision resulting in minor injury.

Along Rheban Road, there has been one minor parking incident near the Wielangta Road junction and one collision at the Walpole Street /Charles Street junction when a vehicle pulled out, both resulting in property damage only.

It has been estimated that the proposed subdivision development, when fully completed and occupied, would generate some 270 vehicles/day and around 27 vehicles/hour during peak traffic periods in the summer period of the year.

The addition of 27 vehicle/hour along Rheban Road will not create any operational or efficiency problems along the road or at the subdivisional road junctions on Rheban Road.

With an estimated peak passing traffic volume of 50 vehicles/hour along Rheban Road during the summer period, an addition of 17 vehicle/hour and 10 vehicles/hour at each subdivisional road junction with Rheban Road will not create any operational or efficiency problems at the junctions or along the road.

Conflicting traffic volumes of up to 1,500 vehicles/hour can generally be accommodated at intersections quite efficiently at Levels of Service C. The level of traffic conflict in this case will be less than 5% of this maximum traffic volume.

Surveys indicate the 85th percentile speed of traffic along this section of Rheban Road is around 74km/h. The required sight distance for an 85th percentile speed of 80km/h based on the Planning Scheme for a public road junction (Clause E5.6.4), is 175m.

The current sight distances for vehicles turning to and from Rheban Road at the western subdivisional road are around 60m to the west and around 35m to



i

the east, with the trees within the road reserve each side of the proposed subdivisional road limiting the line of sight. Removal of the trees will increase the available sight distances to achieve more than the required 175m.

The current sight distances for the vehicle turning to and from Rheban Road at the eastern subdivisional road are well over 200m.

It is expected the subdivisional roads will be sealed with kerb and gutter constructed both sides of the road and a footpath along one side of the road.

It is strongly recommended that the subdivisional roads should be constructed to a width between kerb faces of no more than a maximum of 6.4m. Widths of 8.9m between kerb faces are appropriate for collector roads, not for local residential streets in this subdivision development that will carry less than 200 vehicles/day.

The subdivisional road layout has been designed to not create any four leg intersections and ensure vehicle priorities at conflict point are clear.

It is recommended that 'give way' signs and 'holding lines, be installed at the proposed two subdivisional road junctions with Rheban Road, the same as exists at other junctions along Rheban Road, for consistency of treatment.

In considering the road network in this area of Orford, there is no reason to have a road connection between the subdivision areas and East Shelly Road. The layout of the western subdivision area provides for a possible future road connection to Jetty Road, which has a minor collector road function, the same as Rheban Road.

If future development of the areas around this subdivision is proposed, the resultant level of traffic activity will not be high enough to support other than additional subdivision roads that junction with Rheban Road.

New subdivisional road junctions along Rheban Road should be spaced sufficiently far apart to not require a reduction in the 80km/h speed limit. The creation of internal subdivisional road connections between subdivisions would assist in this regard.

With the provision of the recommended traffic control measures at the subdivisional road junctions and removal of trees at the western junction, it has been concluded that the proposed subdivision development can be supported on traffic grounds as it will not give rise to any adverse safety or operational traffic issues.



1. INTRODUCTION

A residential subdivision development is proposed for the property at Lot 2 Rheban Road in Orford.

The Glamorgan Spring Bay Council has requested:

• A Traffic Impact Assessment considering the internal design of the subdivision, how the site relates to land to either side of the subject site, adequacy of the road network, sight distances and whether the proposed junctions onto Rheban Road should serve surrounding land in the future as well as the subject site.

This Traffic Impact Assessment (TIA) report has been prepared in support of the residential subdivision development and to address this request. It considers the existing road and traffic characteristics along Rheban Road. An assessment has been made of the traffic activity that the subdivision development will generate and the effect that this traffic will have on Rheban Road.

Consideration has also been given to the subdivisional road layout, the location of the new road intersections and available intersection sight distances and the impact of potential future development of surrounding land on the road network management.

The report is based on the Department of State Growth (DSG) Traffic Impact Assessment Guidelines.

The techniques used in the investigation and assessment incorporate best practice road safety and traffic management principles.



2. SITE DESCRIPTION

The subdivision development site lies around 2.3km to the south of the Tasman Highway.

It is located near the southern end of the main built up area of Orford along Rheban Road. There is some residential and shack development in the Spring Beach area which is located some 2km further to the east along Rheban Road from the development site.

There is ribbon residential development along East Shelly Road, which lies immediately to the north of the development site. That development extends for another one kilometre to the southeast of the development site.

The location of the development site has been highlighted on the extract from the street atlas for this area, seen in Figure 2.1.



Figure 2.1: Extract of street atlas showing location of proposed subdivision development



3. DEVELOPMENT PROPOSAL

The property at Lot 2 Rheban Road is currently undeveloped apart for a few sheds located near the south-eastern part of the site.

The proposal is to subdivide the land into 91 residential lots.

The lots will mostly have an area between $600m^2$ and $900m^2$; one lot will have an area of $1,126m^2$.

Two subdivisional roads will be constructed off Rheban Road to access the lots on two parcels of land which will be separated by an area of public open space.

The western subdivisional road will junction with the northern side of Rheban Road some 265m to the east of the Jetty Road junction and form a square shaped loop road within the site. It will service access to 57 lots.

The eastern subdivisional road will junction with the northern side of Rheban Road some 320m to the east of the western subdivisional road. It will have a slightly curved alignment to the north and will service access to 34 lots.

The drawing showing the proposed layout of the residential subdivision roads and lots are included as Attachment A to this report.



4. EXISTING ROAD AND TRAFFIC ENVIRONMENT

4.1 Road Characteristics

In considering the proposed development, the only road of relevance is Rheban Road.

Rheban Road is the eastward continuation of Charles Street which junctions with the Tasman Highway at its western end and becomes Rheban Road to the east of the Wielangta Road junction, around one kilometre from the highway.

Charles Street - Rheban Road would function as the collector road for Orford, linking with Spring Beach and the bushland beyond.

In the area past the subdivision development site, Rheban Road follows an alignment with slight horizontal and vertical curves.

The road is sealed to a width of around 6.3m with around 0.7m to 1.0m wide gravel shoulders each side.

Photographs 4.1 and 4.2 provide views of the Rheban Road character in the area of the subdivisional road junctions.





Photograph 4.1: View to east along Rheban Road towards location of western subdivisional road junction (opposite parked car)



Photograph 4.2: View to east along Rheban Road towards location of eastern subdivisional road junction (opposite parked car)



4.2 Traffic Activity

In order to have some knowledge, or allow determination, of the traffic volume along Rheban Road, traffic volume data was received from DSG for the Tasman Highway in Orford. Some traffic volume surveys were also undertaken along Charles Street – Rheban Road.

The DSG surveys were undertaken in November 2016 and the following traffic volumes were recorded for the uniform traffic segment to the west of the Charles Street intersection on a Friday, which was the busiest day of the week:

Average Friday traffic	- 2,824 vehicles/day;
Morning Friday peak hour traffic (11-12pm)	153 vehicles/hour to east;96 vehicles/hour to west;
Afternoon Friday peak hour traffic (5-6pm)	173 vehicles/hour to east;107 vehicles/hour to west;

The traffic volumes recorded in November 2016 for the uniform traffic segment to the north of the Charles Street intersection on a Friday were as follows:

The traffic volumes were recorded at the western road segment were:

Average Friday traffic	- 3,292 vehicles/day;
Morning Friday peak hour traffic (11-12pm)	174 vehicles/hour to north;141 vehicles/hour to south;
Afternoon Friday peak hour traffic (2-3pm)	186 vehicles/hour to north;128 vehicles/hour to south;

The hourly distribution of traffic volumes for the average Friday at each site has been presented graphically in Figures 4.1 and 4.2.

The traffic growth has been 2.2% p.a. for the road segment to the west of the Charles Street junction and 1% p.a. for the road segment to the north of the Charles Street junction.

The seasonal traffic variation falls into Group P51 to the north of Charles Street and P59 to the west of Charles Street.





Figure 4.1: Average hourly Friday traffic distribution for Tasman Highway west of Charles Street



AVERAGE HOURLY FRIDAY TRAFFIC DISTRIBUTION

Figure 4.2: Average hourly weekday traffic distribution for Tasman Highway north of Charles Street

Survey of vehicle movements along Rheban Road and Charles Street were undertaken during the site investigations on Tuesday 6 June 2017.

A half hour turning movement survey was undertaken at the Tasman Highway/Charles Street/Esplanade intersection during the 4:10-4:40pm period and the results summarised in Figure 4.3.



TIA – PROPOSED RESIDENTIAL SUBDIVISION DEVELOPMENT LOT 2 RHEBAN ROAD, ORFORD





Figure 4.3: Hourly vehicle volumes turning at junction of Tasman Highway/Rheban Road/Esplanade - 4:10pm to 4:40pm

The speed limit along Charles Street to Wielangta Road is 50km/h; it then increases to 60km/h along Rheban Road to around 140m west of the proposed western subdivisional road junction, where it increases to 80km/h past the development site.

4.3 Crash Record

All crashes that result in personal injury are required to be reported to Tasmania Police. Tasmania Police record all crashes that they attend. Any crashes that result in property damage only, which are reported to Tasmania Police, are also recorded even though they may not visit the site.

Details of reported crashes are collated and recorded on a computerised database that is maintained by DSG.

Information was requested from DSG about any reported crashes along the length of Charles Street- Rheban Road in the last five and a half year period from the beginning of 2012.



There have been four reported crashes at the Tasman Highway/Charles Street/Esplanade intersection. Three have been loss of control incidents resulting in property damage and one was an angle collision resulting in minor injury.

Along the road length there has been one minor parking incident near the Wielangta Road junction and one collision at the Walpole Street /Charles Street junction in which a vehicle pulled out; both resulted in property damage only.

The crash record is not of concern.



5. TRAFFIC GENERATION BY THE DEVELOPMENT

As outlined in Section 3 of this report the proposed development is a residential subdivision with 91 lots.

In considering the traffic activity that the dwellings on the subdivisional lots will generate when occupied, guidance is normally sought from the New South Wales, Road Traffic Authority (RTA) document – Guide to Traffic Generating Developments. The RTA guide is a nationally well accepted document that provides advice on trip generation rates and vehicle parking requirements for new developments.

The updated 'Technical Direction' to the Guide dated August 2013 advises that the trip generation for residential dwellings in regional areas of New South Wales is 7.4 vehicles/dwelling/day.

This is consistent with findings by this consultant for dwellings in Tasmania. Surveys in the built-up areas of Tasmania over a number of years have found that typically the traffic generation is 8.0 vehicles/dwelling/day with smaller residential units generating around 4 vehicles/dwelling/day and larger residential units generating around 6 vehicles/dwelling/day.

It is relevant to note that in non-metropolitan areas it has been found that the number of vehicle trips for each dwelling is much lower, in the order of 5-6 vehicles/dwelling/day in country towns and even as low as 4 vehicles/dwelling/day in smaller communities and more remote areas. Surveys have also determined the traffic generation rates to be around 6.8 vehicles/dwelling/day in Snug, 6 vehicles/dwelling/day in Huonville, 5 vehicles/dwelling/day in Opossum Bay and around 4.5 vehicles/dwelling/day in Koonya.

The above Tasmanian trip generation data would suggest that the traffic generation in a place such as Orford would be no more than 5.0 trips/dwelling/day during the summer months and much less than this during the colder months of the year. However even in summer months, not all dwellings would have occupants every day or every weekend.

Orford is mostly a holiday and retirement town, therefore the traffic distribution along roads in the town would have peaks during the midmorning to mid-afternoon periods; there would not be commuter peak hour periods. Also, realistically, the traffic generation could be more around that for a retirement village which is around 2.1 vehicles/dwelling/day.

Allowing for some multiple dwelling developments on a few of the lots and assuming a traffic generation rate of 3.0 vehicles/lot/day during the summer period, the expected traffic generation by the proposed 91 lot subdivision development is up to around 270 vehicles/day when fully developed and all dwellings are occupied.

The peak hour traffic volume would be around 27 vehicles/hour based on this being the typical 10% of the daily traffic volume.



The 57 lot subdivision will generate up to around 170 vehicles/day and 17 vehicles/hour; the 34 lot subdivision will generate up to around 100 vehicles/day and 10 vehicles/hour.



6. TRAFFIC ASSESSMENT AND IMPACT

This section of the report considers the impact that the traffic expected to be generated by the proposed residential subdivision development will have on Rheban Road.

Consideration has also been given to the adequacy of the intersection sight distances at the new junctions on Rheban Road. The proposed subdivisional road layout and traffic circulation within the subdivision is discussed as well as potential connectivity to developments on neighbouring land around the proposed subdivision site, as requested by the Glamorgan Spring Bay Council.

6.1 Operational Impact of Increased Traffic Activity

The proposed development will generate some 270 additional vehicles/day along Rheban Road, as detailed in Section 5 of this report. During peak traffic periods, the additional traffic volume will be around 27 vehicles/hour.

As seen from the survey data in Section 4.2 of this report, the current two-way traffic volume (June 2017) along Rheban Road past the development site during the 3:00pm – 4:00pm period is 18 vehicle movements (two way).

It is expected the daily traffic distribution would be similar to that in Figure 4.2, with a seasonal variation similar to that for the Tasman Highway.

On this basis, the passing traffic volume on Rheban Road during the peak summer period would be around 40-50 vehicles/hour.

There appear to be some 170 existing dwellings to the east of the development site, from a Google Earth view of Orford. Applying a traffic generation rate of 3 vehicles/lot/day, the traffic volume passing the development site during the summer period would be around 510 vehicles/day and around 50 vehicles/hour during the peak hours of the day, the same as estimated above.

Accepting a peak passing traffic volume of 50 vehicles/hour along Rheban Road, the addition of 17 vehicle/hour and 10 vehicles/hour at each subdivisional road junction with Rheban Road will not create any operational or efficiency problems at the junctions or along the road.

Conflicting traffic volumes of up to 1,500 vehicles/hour can generally be accommodated at intersections quite efficiently at Levels of Service C.

The level of traffic conflict in this case will be less than 5% of this maximum traffic volume.



TIA – PROPOSED RESIDENTIAL SUBDIVISION DEVELOPMENT LOT 2 RHEBAN ROAD, ORFORD

6.2 Adequacy of Sight Distances

A check has been made of the available sight distances at the proposed new subdivisional road junctions onto Rheban Road.

The speed limit along Rheban Road past the development site is 80km/h. A survey was undertaken of a sample of approach vehicle speeds at the location of both subdivision road junctions over a one hour period. The surveys found the 85th percentile speed to be 74km/h.

The required sight distance for an 85th percentile speed of 80km/h based on the Planning Scheme for a public road junction (Clause E5.6.4), is 175m.

Western subdivisional road junction

The current sight distances for the vehicle turning to and from Rheban Road at the western subdivisional road are around 60m to the west and around 35m to the east, with the trees within the road reserve each side of the proposed subdivisional road limiting the line of sight. Removal of the trees, seen in Photographs 6.1 and 6.2, will greatly increase the available sight distances to achieve the required 175m, as can be appreciated from the views in Photographs 6.3 and 6.4.

There will clearly be no issues with sight lines to and from vehicles turning at the subdivisional road junction, as seen in Photographs 6.5 and 6.6.

Eastern subdivisional road junction

The current sight distances for the vehicle turning to and from Rheban Road at the eastern subdivisional road are well over 200m.

Views of available sightlines for vehicles entering and exiting Rheban Road at the eastern proposed subdivisional road junction are seen in Photographs 6.7 to 6.10.





Photograph 6.1: View to west along Rheban Road from proposed western subdivisional road – 3m from road edge



Photograph 6.2: View to east along Rheban Road from proposed western subdivisional road – 3m from road edge





Photograph 6.3: View to west along Rheban Road from proposed western subdivisional road – 1m from road edge



Photograph 6.4: View to east along Rheban Road from proposed western subdivisional road – 1m from road edge





Photograph 6.5: View to west along Rheban Road from vehicle turning right into proposed western subdivisional road



Photograph 6.6: View to east along Rheban Road from rear of vehicle turning right into proposed western subdivisional road





Photograph 6.7: View to west along Rheban Road from proposed eastern subdivisional road



Photograph 6.8: View to east along Rheban Road from proposed eastern subdivisional road





Photograph 6.9: View to west along Rheban Road from vehicle turning right into proposed eastern subdivisional road



Photograph 6.10: View to east along Rheban Road from rear of vehicle turning right into proposed eastern subdivisional road



6.3 Internal Subdivisional Road Design

Road Design Standards

The proposed subdivision development will consist of two separate subdivisional roads that will junction with Rheban Road and service access to 57 and 34 lots respectively.

The daily traffic volume at the start of each subdivisional road is expected to be 170 vehicles/day and 100 vehicles/day for the western and eastern subdivision, respectively.

The subdivisional roads will be sealed with kerb and gutter constructed both sides of the road and a footpath along one side of the road.

When considering the desirable construction standard for new local residential streets and minor collector roads, the width of the street must have design characteristics that encourage driver behaviour which will be appropriate for the street function and to among other things ensure good residential amenity without the need to retrofit traffic management treatments into the future in order to provide for a speed environment less than 50km/h and desirably around 40km/h in local streets.

The current Local Government (IPWEA) geometric street design standards require street widths that are far too wide for the intended local access street function. Widths of 8.9m or greater between kerb faces are appropriate for collector roads rather than local residential streets in this subdivision development that will carry less than 200 vehicles/day (average of one vehicle every three minutes during the busiest hour of the day).

Therefore, it is strongly recommended that such streets should be constructed to a width between kerb faces of no more than a maximum of 6.4m. This width for access streets is more than adequate to accommodate any on-street parking as well as at the same time allowing for the movement of occasional service vehicles/trucks including medium rigid trucks used for garbage collection. There is no need to provide any indented parking bays in such streets and any requirement for this is not supported.

The subdivisional road layout has been designed to not create any four leg intersections and ensure vehicle priorities at conflict point will be clear to drivers.

While the traffic volume along Rheban Road is not high enough to justify junctions having 'give way' sign and 'holding line' controls, with other junctions along Rheban Road already having such measures, it is recommended the proposed two subdivisional road junctions with Rheban Road be provided with the same controls, for consistency of treatment.

The area of public open space between the two subdivisional areas, which has a watercourse along its length, will include pedestrian and bicycle paths linking both subdivision areas across East Shelly Road to Shelly Beach.



Road Network Considerations

There is no reason to have a road connection between the subdivision areas and East Shelly Road. The traffic control measures at intersections along Jetty Road define this road as a priority route and hence a minor collector road. From a road hierarchy consideration, there is not a need to create another north – south road connection within some 400m when East Shelly Road and Jetty Road provide road connectivity that is more than sufficient for this area.

The layout of the proposed western subdivision area provides for a possible future road connection to Jetty Road through the land on Title CT 117058/150. If this land is subdivided in the future, it allows for other internal subdivisional roads to connect to this east - west road with all traffic access via Jetty Road. A road connection to Rheban Road (based on road hierarchy considerations) would not be necessary in this case; as a result, it would not add to the number of roads or accesses off Rheban Road, ensuring that the current speed limits along the road do not need to be further reduced.

It is not clear what potential exist for future development of land to the east of the proposed subdivision development or across the road, given there is a treatment plant in this area.

If development of these areas is proposed, the resultant level of traffic activity will not be high enough to support other arrangements than the construction of additional subdivision roads that junction with Rheban Road. There would not be sufficient traffic to warrant consideration of four leg intersections with roundabout controls and hence cross intersections on Rheban Road must be avoided.

New subdivisional road junctions along Rheban Road should also be spaced sufficiently far apart to not require a reduction in the 80km./h speed limit. The creation of internal subdivisional road connections between subdivisions would assist in this regard.



7. CONCLUSIONS

The proposed 91 lot subdivision development, when fully developed and occupied will generate some 270 vehicles/day and around 27 vehicles/hour during peak traffic periods, based on the peak hour traffic being the typical 10% of the daily traffic volume.

The addition of 27 vehicle/hour along Rheban Road will not create any operational or efficiency problems at the subdivisional junctions or along the road.

Conflicting traffic volumes of up to 1,500 vehicles/hour can generally be accommodated at intersections quite efficiently at Levels of Service C. The level of traffic conflict in this case will be less than 5% of this maximum traffic volume.

Surveys indicate the 85th percentile speed of passing traffic on Rheban Road is 74km/h. The required sight distance for a speed of 80km/h is 175m.

The current sight distances for vehicles turning to and from Rheban Road at the western subdivisional road is limited by trees in the road reservation. Removal of the trees will greatly increase the available sight distances to achieve the required 175m and more.

The current sight distances for the vehicle turning to and from Rheban Road at the eastern subdivisional road are more than sufficient at well over 200m.

It is expected the subdivisional roads will be sealed with kerb and gutter constructed both sides of the street and a footpath along one side of the road.

It is strongly recommended that the streets should be constructed to a width between kerb faces of no more than a maximum of 6.4m. Widths of 8.9m between kerb faces are not appropriate for streets that will carry less than 200 vehicles/day (average of one vehicle every three minutes during the busiest hour of the day).

It is recommended the proposed two subdivisional road junctions with Rheban Road be provided with 'give way' sign and 'holding line' controls, the same as at other junctions along Rheban Road.



8. **REFERENCES:**

- Australian Standard AS 1742.2-2009 Manual of uniform traffic control devices Part 2: Traffic control devices for general use
- AUSTROADS Guide to Road Safety Part 6: Road Safety Audit (2009)
- AUSTROADS Guide to Road Design Part 4A: Unsignalised and Signalised Intersections (2009)
- AUSTROADS Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings (2009)
- Road Traffic Authority NSW Guide to Traffic Generating Developments, 2002
- Road and Maritime Services (Transport) Guide to Traffic Generating Developments; Updated traffic surveys (August 2013)
- Glamorgan Spring Bay Interim Planning Scheme 2015



ATTACHMENT A Detailed drawing of proposed residential subdivision development layout


BUSHFIRE HAZARD MANAGEMENT PLAN ASSESSMENT REPORT

PROPOSED 91 LOT SUBDIVISION UPON CT 149641/2

RHEBAN ROAD, ORFORD

FOR M & H LAWRENCE





(source: LIST @State of Tasmania)

Andrew Goodsell Accreditation No: BFP 104

October 2018

EXECUTIVE SUMMARY

There is a proposal for a ninety one (91) lot subdivision, including a rezoning upon land situated at Rheban Road, Orford (site identified as CT 149641/2). Whilst the rezoning includes a property identified as 135 Rheban Road (CT 149641/1 - area of 4000 sq.m), this land is not presently proposed to be subdivided. Accordingly this report is concerned solely with bushfire risk in relation to the subdivision of CT 149641/2.



Figure 1. Plan of subdivision (source: Aldanmark)

Having regard to Planning Directive No.5.1 Bushfire Prone Areas Code, there is bushfire prone vegetation upon the subject land (though this will be converted to urban use) as well as on adjoining land within 100m radius of the site. That vegetation comprises a mix of unmanaged grassland (dryland grazing country) and riparian vegetation in the form of woodland. Based on observed ground conditions each lot is to achieve a construction requirement of BAL 19 (or greater) under AS 3959:2009.

Rheban Road in the vicinity of the subdivision has reticulated water supply and hydrants. The subdivision itself will also have reticulated water supply and future hydrants throughout via permit conditions attached to the subdivision.

Hazard management areas (HMAs) to achieve BAL 19 (or greater ie BAL 29) under AS 3959:2009 are shown in **Annexure A** for each of the proposed lots. Access requirements for the subdivision are also specified in the report and as per **Annexure A**. Provided prescriptions contained in this report are met, bushfire risk can be adequately managed and the subdivision should be approved with conditions.

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1.0 Introduction

1.1 Scope

A planning permit (and rezoning) is required for a ninety one (91) lot subdivision on land situated at CT 149641/2 (the subject land) located on Rheban Road, Orford. 135 Rheban Road, identified as CT 149641/1 is also to be rezoned but is not subject to a subdivision application and is therefore not further assessed in this report.

Bushfire hazard risk is a potential constraint for this area given vegetation types, which is a mix of pasture (grassland) and remnant patches of woodland within 100m of the site.



Figure 2. General construction requirements relating to bushfire prone vegetation (source: TFS, 2013)

A bushfire assessment report is required to determine whether the site or surrounding land constitutes bushfire prone vegetation and thus whether a bushfire hazard management plan is required. In the event that a bushfire hazard management plan is not required, an exemption will be issued.

1.2 Purpose

The purpose of the bushfire assessment report is to identify and mitigate bushfire risk consistent with AS3959:2009 and Guidelines for Development in Bushfire Prone Areas (TFS). Planning Directive No.5.1 has also been considered.

1.3 Limitations

This report is for the purposes of identifying and mitigating bushfire hazard risk as part of the subdivision design process and subsequent construction standards for the proposed subdivision.

The prescriptions proposed do not relate to any bushfire hazard risk on nearby or adjoining properties (unless otherwise specified). Nor is the report of itself sufficient to mitigate bushfire hazard risk. It

will be an obligation of the lot owner/s to carry out regular maintenance and any other obligations as set out in this report to effectively manage risk to an acceptable level.

1.4 Author (Qualifications)

The author of this report is Andrew Goodsell, qualified town planner with over 25 years practical experience and someone who has prepared a number of bushfire hazard assessments over the last few years. I hold accreditation to prepare a bushfire hazard assessment under Part 4A of the *Fire Service Act 1979*.

1.5 Site Inspections and available information

I have visited the site recently, examined the propose plan of subdivision and considered other available information on-line.

1.6 Site Details

The site location is identified in Figure 3 and is more fully described under the site description heading of this report (see 2.5).



Figure 3. Site Location – broad geographical context (Source: LIST @ State of Tasmania)

2.0 Site Description

2.1 Title

The subject land is identified as CT 149641 folio 2 with an area of some 10.26 ha approximately (title provided separately).

2.2 Locality

Topographically the general area is relatively flat and substantially cleared terrain, with urban development to the north and west. To the south east is the coastal settlement of Spring Beach.

A sewerage treatment plant sits a minimum 230m to the south on Rheban Road. That facility is situated on slight to moderately sloping land, much of which has been cleared to enable low intensity dryland farming. An unnamed waterway runs south to north through the subject land and similar waterways are identified to the near east and west.

2.3 Zoning and Municipality (LGA) and Planning Scheme

The current zoning of the subject land is Rural Resource under the Glamorgan Spring Bay Interim Planning Scheme 2015. The zoning is confirmed in Figure 4.



Figure 4. Land Use Zoning (source: IPlan @State of Tasmania)

Overlays have not been assessed as this is not within the scope of the task. But the subject land is not subject to a bushfire prone area overlay.

2.4 Status

A planning permit is required for the proposed subdivision.

2.5 Topographical Context/Site Character

The subject land is accessed off Rheban Road and sits south of East Shelly Road within the south eastern arm of the Orford settlement. Rheban Road is a rural sealed road maintained by Council.

An existing house sits upon CT 149641/1 and is at least 30 years old. The larger title being CT 149641/2 is essentially vacant. Aerial imagery and some machinery on CT 1498641/1 show that this site was once a horse trotting track.

Ostensibly no vegetation of note is found on title. The only vegetation of significance is found within the localised drainage line to the NW of the existing house on CT 149641/1 being white gum (E viminalis) and black gum (E ovata). The landscape is however more accurately described as open paddock and improved pasture. Site levels are generally slight. Aspect is northerly to north easterly.

There is a defined water course identified upon the site, running through proposed Lot 2. There is also another unnamed watercourse on the western boundary of the site and another to the east. The character of the subject land is established in Figure 5.

BUSHFIRE HAZARD MANAGEMENT PLAN ASSESSMENT REPORT - 91 LOT SUBDIVISION (CT 149641/2)



Figure 5. Land use character (Source: LIST @ State of Tasmania)

TFS indicate no recent fire history upon the site though bushfire events have occurred upslope to the south and south west in the last two fire seasons. These incidents are mapped in Figure 6.



Figure 6. Bushfire History (source: LIST @ State of Tasmania).

2.6 Vegetation communities, access and reticulated water supply

The dominant vegetation community found in this area is farmland or grassland (see Figure 7). Adjoining land subdivided unto residential lots is mapped as urban. Ground observation suggests, with evident fire management applied to the site as well as clearing, that vegetation on site and surrounds is more reasonably classified as either pasture (grassland) or open woodland.

All weather access is provided onto Rheban Road as per Figure 5. There is reticulated water supply available in the area.



Figure 7. Vegetation conditions in area (source: LIST @ State of Tasmania). Green boundary is 100m radius of subject land.



Photo 1 Drainage conditions on CT 149641/2 above dam



Photo 2 & 3 Drainage conditions on CT 149641/2 below dam. Woodland not forest typical in this area.



Photo 4 Open paddocks above East Shelly Rd



Photos 5 & 6 Site conditions on CT 149641/2 near western side of property

BUSHFIRE HAZARD MANAGEMENT PLAN ASSESSMENT REPORT – 91 LOT SUBDIVISION (CT 149641/2)



Photos 7 & 8 Site conditions on CT 149641/2 near eastern side of property



Photo 9 Panorama taken from eastern side of CT 149641/2

3.0 Proposal (prescriptions)

The prescriptions for the proposed subdivision are set out below as relevant.

3.1 Defendable Space

The extent of defendable space is determined by type of vegetation, aspect, slope and other factors. Conditions are mapped in Figure 8.

BUSHFIRE HAZARD MANAGEMENT PLAN ASSESSMENT REPORT - 91 LOT SUBDIVISION (CT 149641/2)



Figure 8. Bushfire prone vegetation as viewed on-ground (source: LIST @ State of Tasmania).

It is concluded that there is bushfire prone vegetation on immediately adjoining land as per Figure 8, though in essence grassland unmanaged as the dominant community.

3.2 Water for Fire Fighting Purposes

There is reticulated water supply or fire hydrants nearby, off East Shelly Road or will be conditioned as part of the subdivision proposal to extend to the Rheban Road frontage.

3.3 Access

The plan of subdivision shows two access points onto Rheban Road, the main access being to the west.

3.4 Construction- BAL

Refer to section 4 of report.

3.5 Staging

As per the plan of subdivision, six stages are proposed, beginning south, heading north, thence west to east as per Figure 9.

BUSHFIRE HAZARD MANAGEMENT PLAN ASSESSMENT REPORT - 91 LOT SUBDIVISION (CT 149641/2)



Figure 9. Staging Plan (source: Aldanmark).

4.0 Bushfire Assessment Analysis

4.1 Vegetation Conditions

The property is a mosaic of unmanaged grassland/paddock and woodland as described within this report. Grassland is overwhelmingly the primary vegetation type in this area. Urbanised conditions exist to the north along the entire frontage [Note this result is valid for the time the inspection was carried out].

4.2 Slope Conditions

The slope conditions for each frontage of the subdivision, this assessment being simplified to four frontages, as per parent lot configuration, are described as below.

Aspect	Veg Type	Distance to Veg* (Presently)	Slope & Condition*
East Shelly Rd frontage (NE) (for Lots 13-21 & 72-78	Urban (managed conditions)	N/A	D/S (<3 ⁰)
Western frontage (for Lots 1-13)	Grassland (G) & Woodland (B)	<10m	At grade
Eastern frontage (for Lots 78-91)	Grassland (G)	<10m	At grade
Southern frontage (for Lots 1, 36-39, 58 & 91)	Grassland	18m (width of Rheban Rd reservation)	U/S (3 ⁰)

Table 1 Slope Assessment

D/S = downslope. U/S = upslope *bushfire prone vegetation off site. Assume all bushfire prone vegetation currently in place upon subject land will be either removed or managed.

4.3 BAL Assessment

The BAL assessment including Hazard Management Areas (HMAs) is as per table 2.

Parameters	East Shelly Rd frontage (NE) for Lots 13-21 & 72-78)	Western frontage (for Lots 1-13)	Eastern frontage (for Lots 78-91)	Southern frontage (for Lots 1, 36-39, 58 & 91)
Defendable Space Proposed	Not specified	Not specified	Not specified	Not specified
BAL Required	No HMA applies. Urban conditions. BAL PROPOSED = 19	 Requires 10m HMA to western boundary (Lots 1- 3). BAL PROPOSED = 19 	 Requires 6m HMA to western boundary (Lots 78-83). 	 Requires 10m HMA to eastern boundary. BAL PROPOSED =19
		 Requires 10m HMA to western boundary (Lots 4- 13). BAL PROPOSED =29* 	 BAL PROPOSED =29** Requires 10m HMA to eastern boundary (Lots 84-91) BAL PROPOSED =19 	
			BALTROTOSED -13	
Water	Water supply to meet Table E4 (retic supply and hydrants)	Water supply to meet Table E4 (retic supply and hydrants)	Water supply to meet Table E4 (retic supply and hydrants)	Water supply to meet Table E4 (retic supply and hydrants)
Access	Access to meet Table E2 standard PD 5.1	Access to meet Table E2 standard PD 5.1	Access to meet Table E2 standard PD 5.1	Access to meet Table E2 standard PD 5.1

 Table 2 Bushfire Assessment – Proposed Subdivision

Note: each lot is treated as a hazard management area.

*Hazard Management Area is to be 15m if built to BAL 19. ** Hazard Management Area is to be 10m if built to BAL 19. Note: Road construction for the road lot as set out in the plan of subdivision is to meet standards as set out in Table E2 of PD 5.1.

No fire trail is deemed necessary given the topography, level of bushfire risk and road layout. An emergency egress point is however appropriate, accessible from both the eastern and western sides of the subdivision onto East Shelly Road (refer to **Annexure A**).

5.0 Building Prescriptions

All lots are to provide building envelopes as per **Annexure A**, be specified that dwellings are to achieve BAL 19 or greater (BAL 29 on specified lots) under AS 3959:2009. On ground works including access standards and water along with hazard management are addressed separately in this report.

6.0 PD 5.1 Bushfire Prone Areas Code

E1.6.1 Hazard Management Areas – **Annexure A** to this BHMP shows HMAS as per AS 3959:2009 meeting Acceptable Solution A1.

E1.6.2 Public and Fire Fighting Access - **Annexure A** to this BHMP shows access arrangements for each lot as per Acceptable Solution A1. No fire trails are required.

E1.6.3 Provision of Water Supply for Fire Fighting Purposes – A1 concerns subdivisions in areas of reticulated supply. Hydrant locations can be conditioned to ensure each lot is within 120m hose reel length of a designated hydrant, whether new or existing.

7.0 Recommendations

Provided all lots are treated as hazard management areas, setbacks of all building envelopes to common boundaries external to the subject land achieve the HMA's specified in **Annexure A**, suitable reticulated supply of water is installed and construction achieves BAL 19 or greater as also set out under **Annexure A** the subdivision can proceed as proposed.

Provision is also required for emergency vehicular egress from the subdivision via the identified walkways onto the open space reserve shown on the plan of subdivision onto East Shelly Road. Where vehicular access may be impracticable (such as from the eastern access road cul-de-sac), pedestrian access must be guaranteed via formed pathway network, suitably signed.

8.0 Conclusion.

The proposed subdivision is endorsed that each lot is to meet BAL 19 or as otherwise specified under AS 3959:2009 for the purposes of dwelling construction subject to meeting conditions as set out in **Annexure A** to this report.

Andre Southals

Andrew Goodsell BFP 104 14 October 2018

9.0 References

AS 3959:2009 Construction of Buildings in Bushfire Prone Areas

Interim Planning Directive No. 5.1 Bushfire Prone Areas Code

Glamorgan Spring Bay Interim Planning Scheme 2015

Tasmania Fire Service (2013). Planning and Building in Bushfire-Prone Areas for Owners and Builders, TFS, Hobart

10.0 Annexures

A Bushfire Hazard Management Plan (provided separately)









CODE E1 – BUSHFIRE-PRONE AREAS CODE

CERTIFICATE¹ UNDER S51(2)(d) LAND USE PLANNING AND APPROVALS ACT 1993

1. Land to which certificate applies²

Land that <u>is</u> the Use or Development Site that is relied upon for bushfire hazard management or protection.

Name of planning scheme or instrument:	Glamorgan Spring Bay Interim Planning Scheme 2015
Street address:	Rheban Road, Orford
Certificate of Title / PID:	CT 149641/2

Land that <u>is not</u> the Use or Development Site that is relied upon for bushfire hazard management or protection.

Street address:

N/A

Certificate of Title / PID:

2. Proposed Use or Development

Description of Use or Development:

91 lot subdivision.			
Code Clauses ³ :			

E1.4 Exempt Development

E1.5.1 Vulnerable Use

E1.5.2 Hazardous Use

X E1.6.1 Subdivision

¹ This document is the approved form of certification for this purpose, and must not be altered from its original form.

² If the certificate relates to bushfire management or protection measures that rely on land that is not in the same lot as the site for the use or development described, the details of all of the applicable land must be provided.

³ Indicate by placing X in the corresponding D for the relevant clauses of E1.0 Bushfire-prone Areas Code.

3. Documents relied upon⁴

Documents, Plans and/or Specifications

Title:	Civil Drawings - Proposed Subdivision Lot 2 Rheban Road Orford		
Author:	Aldanmark		
Date:	20/12/16	Version:	В

Bushfire Hazard Report

Title:	BHMP Assessment Report_CT 149641/2, Rheban Road, Orford		
Author:	A Goodsell		
Date:	October 2018	Version:	1

Bushfire Hazard Management Plan

Title:	Annexure A_BHMP_CT 149641/2, Rheban Road Orford		
Author:	A Goodsell		
Date:	October 2018 Versio	on: 1	

Other Documents Title: Author:

⁴ List each document that is provided or relied upon to describe the use or development, or to assess and manage risk from bushfire. Each document must be identified by reference to title, author, date and version.

Date:

Version:

4. Nature of Certificate⁵

E1.4 – Use or develo	pment exempt from this code	
Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
E1.4 (a)	Insufficient increase in risk	

E1.5.1 – Vulnerable Uses			
Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)	
E1.5.1 P1	Risk is mitigated		
E1.5.1 A2	ВНМР		
E1.5.1 A3	Emergency Plan		

E1.5.2 – Hazardous Uses			
Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)	
E1.5.2 P1	Risk is mitigated		
E1.5.2 A2	BHMP		
E1.5.2 A3	Emergency Plan		

х	E1.6 – Development standards for subdivision				
	E1.6.1 Subdivision: F	E1.6.1 Subdivision: Provision of hazard management areas			
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)		
	E1.6.1 P1	Hazard Management Areas are sufficient to mitigate risk			
	E1.6.1 A1 (a)	Insufficient increase in risk			
x	E1.6.1 A1 (b)	Provides BAL 19 for all lots (or above)	BHMP Assessment Report_CT 149641/2 Rheban Road, Orford		

⁵ The certificate must indicate by placing X in the corresponding D for each applicable standard and the corresponding compliance test within each standard that is relied upon to demonstrate compliance to Code E1

	E1.6.2 Subdivision: F	1.6.2 Subdivision: Public and fire fighting access		
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)	
	E1.6.2 P1	Access is sufficient to mitigate risk		
	E1.6.2 A1 (a)	Insufficient increase in risk		
x	E1.6.2 A1 (b)	Access complies with Tables E1, E2 & E3	BHMP Assessment Report_CT 149641/2 Rheban Road, Orford	

	E1.6.3 Subdivision: F	E1.6.3 Subdivision: Provision of water supply for fire fighting purposes	
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
	E1.6.3 A1 (a)	Insufficient increase in risk	
x	E1.6.3 A1 (b)	Reticulated water supply complies with Table E4	BHMP Assessment Report_CT 149641/2 Rheban Road, Orford
	E1.6.3 A1 (c)	Water supply consistent with the objective	
	E1.6.3 A2 (a)	Insufficient increase in risk	
	E1.6.3 A2 (b)	Static water supply complies with Table E5	
	E1.6.3 A2 (c)	Static water supply is consistent with the objective	

5. Bushfire Hazard Practitioner ⁶				
Name:	A Goodsell		Phone No:	0428118292
Address:	32 The Parkway		Fax No:	-
	Caroline Springs		Email	agoodsell@tcptas.com.au
	Vic	3023	Address.	
Accreditati	on No: BFP – 104		Scope:	1, 2, 3A, 3B,3C

6. Certification⁷

I, certify that in accordance with the authority given under Part 4A of the Fire Service Act 1979-

The use or development described in this certificate is exempt from application of Code E1 – Bushfire-Prone Areas in accordance with Clause E1.4 (a) because there is an insufficient increase in risk to the use or development from bushfire to warrant any specific bushfire protection measure in order to be consistent with the objectives for all the applicable standards identified in Section 4 of this Certificate.	
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

or

There is an insufficient increase in risk from bushfire to warrant the provision of specific measures for bushfire hazard management and/or bushfire protection in order for the use or development described to be consistent with the objective for each of the applicable standards identified in Section 4 of this Certificate.

and/or

The Bushfire Hazard Management Plan/s identified in Section 4 of this certificate is/are in accordance with the Chief Officer's requirements and can deliver an outcome for the use or development described that is consistent with the objective and the relevant compliance test for each of the applicable standards identified in Section 4 of this Certificate.

Signed: certifier	A Goodsell		
Date:	31/10/18	Certificate No:	2018-6

Х

⁶ A Bushfire Hazard Practitioner is a person accredited by the Chief Officer of the Tasmania Fire Service under Part IVA of *Fire Service Act 1979*. The list of practitioners and scope of work is found at www.fire.tas.gov.au.

 $^{^7}$ The relevant certification must be indicated by placing X in the corresponding $\square.$

M. & H. LAWRENCE and OTHERS

ORFORD SEWAGE TREATMENT PLANT ODOUR ASSESSMENT

Environmental Dynamics Project ED5190 First issued on 8 May 2018 Reissued on 15 July 2018

> 6 Gourlay Street West Hobart, TAS 7000 (03) 6231 0500

Release notes.

This document replaces the report issued on 8 May 2018.

The document is unchanged except for an addendum section that addresses comments by TasWater.

M. & H. LAWRENCE and OTHERS

ORFORD SEWAGE TREATMENT PLANT ODOUR ASSESSMENT

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Glossary and Terminology

GLC	Ground level concentration
OU	Odour unit
OER	Odour emission rate (OUV/s)
PST	Primary sedimentation tank
SOER	Specific odour emission rate (OUV/s/m ²)
WWTP / STP	Wastewater / Sewage Treatment Plant

<u>Odour units (OU).</u> One odour unit (1 OU) is defined as the concentration of odour just detectable by 50% of a panel of "expert sniffers". For example, if 1 m^3 of air has an odour concentration of 2 OU, and it is mixed with 1 m^3 of odourless air, the resulting 2 m^3 volume of air will have an odour concentration of 1 OU.

Odour Emission Rates (OERs). An odour emission rate (OER) is measured in OUV/s, sometimes written OU.m³/s. Odour is treated by dispersion models as simply another airborne contaminant, and its different units are just a matter of convenience.

Basic relationship:	Concentration x flow rate = emission rate.
Odour emission rate	$OU \ge m^3/s = OUV/s$
Mass emission rate	$g/m^3 \ge m^3/s = g/s$

Averaging period. A measurement, or prediction, of odour concentration must be associated with an averaging period. This is the length of time over which the odour sample is taken, or the prediction is made, and it is called an averaging period because the odour concentration can fluctuate during the period, so the concentration is an average value. Typical averaging periods for odour are 1 hour, 3 minutes, and 1 second.

Lagoon OERs are measured using a flux hood to measure odour emissions per m² per second, called a Specific Odour Emission Rate (SOER), and multiplying by the area of the source gives the total OER.

<u>Upset conditions</u> refer to periods of significantly elevated odour emissions, for example due to the WWTP processing certain trade wastes, or equipment breakdown.

1. Introduction

A 91-unit residential subdivision has been proposed for Lot 2, Rheban Road, Orford. The proposed subdivision lies partly within the 350m attenuation distance of the Orford Sewage Treatment Plant (STP) and accordingly TasWater has requested an odour assessment be carried out by a suitably qualified person to determine whether the attenuation distance can be relaxed.

The proponents are M. & H. Lawrence and others. The proponents have engaged Aldanmark Pty Ltd to provide civil design services; and have engaged Environmental Dynamics (Dr Steve Carter) to carry out the required odour assessment.

Qualifications

Dr Carter is a consulting environmental engineer with dual qualifications as a physicist. He has carried out odour impact assessments of sewage treatment plants, a landfill, abattoir, compost facility, a mort (dead fish) processing plant, asphalt plants, poultry farms and other facilities. In 2017, he was engaged by the Macquarie Point Development Corporation to assess the odour impact of the Macquarie Point wastewater treatment plant, a project that involved extensive odour sampling and modelling, working in partnership with TasWater. The work was peer reviewed by TasWater's specialists and consultants, and the EPA. Cross-check modelling was also carried out.

2. The Orford STP and proposed subdivision

Figure 1 shows the location of the Orford STP on the south side of Rheban Road, on the eastern outskirts of Orford. The STP has an inlet works, an aeration lagoon and three secondary lagoons. The inlet works are located adjacent to the SW corner of the aeration lagoon, about 360m south of Rheban Road. TasWater has advised that the STP operates at an average daily inflow of 179 kL/day and has a design capacity of 473 kL/day. The Glamorgan Spring Bay interim planning scheme 2015 specifies an attenuation distance of 350m for an STP with a design capacity between 275 kL/day and 1,375 kL/day.



Figure 1. The Orford Sewage Treatment Plant and proposed subdivision.

Figure 1 also shows the location of the proposed subdivision on the north side of Rheban Road, where there is a single existing residence. The 350m attenuation distance is measured from the north side of the third (northern most) secondary lagoon and extends about halfway into the proposed subdivision.

3. Odour assessment methodology

Schedule 3 of the *Tasmanian Environment Protection Policy (Air Quality) 2004* specifies odour assessment criteria. For an unknown mixture of odiferous pollutants, a 2 OU design ground level concentration (GLC) is specified, over a one-hour averaging period. The maximum GLC predictions are used to assess compliance, unless high quality site-specific meteorology data and odour emission rate data are available, in which case the 99.5 percentile GLC predictions can be used to assess compliance. The standard approach is to make GLC predictions for a year of meteorology, producing 8,760 GLC (1 hour) predictions at each point in the prediction grid, in which case the maximum GLC is the highest GLC prediction at each point, and the 99.5 percentile GLC is the 44th highest GLC prediction at each point.

4. Choice of model

Wind prediction model

Historically, the lack of good site specific meteorological data reduced the credibility of many dispersion modelling exercises. This problem can now be avoided by using computer models to produce the required meteorology. This study uses CSIRO's model The Air Pollution Model (TAPM). It predicts fully 3-D winds from synoptic scale meteorological data gathered by the Bureau of Meteorology from weather stations across the country, supported by data sets of land use, soil and vegetation, sea surface temperature, and terrain. TAPM Version 4.0.5 is used by this study. Calmet is the other model often used in Australia to predict 3-D winds to drive a dispersion modelling exercise.

Dispersion model

Four dispersion models are commonly used in Australia. Ausplume and Aermod are workhorse Gaussian plume models, making "lighthouse" predictions based on a single set of meteorology data each hour. TAPM (dispersion model) and Calpuff are more sophisticated models with algorithms that take advantage of the 3-D meteorology that TAPM (wind prediction model) and Calmet can provide. TAPM V4.0.5 was chosen for the dispersion modelling work. The model has been verified using Australian and international datasets and is described by papers available on the CSIRO's web site <u>www.cmar.csiro.au</u>.

TAPM vs Calmet/Calpuff vs Ausplume

A common fallacy is that Ausplume should be used for odour modelling, presumably because it facilitates the use of the units used for odour emission rates and odour concentrations. However, odour is just another airborne contaminant, and if TAPM or Calpuff are better models for other gaseous contaminants then they are also better for odour modelling.

A recent WWTP odour assessment project compared the wind predictions of Calmet and TAPM and the odour dispersion predictions of Calpuff and TAPM. TasWater and the EPA are aware of this comparison exercise and that there was little difference between the predictions.

5. Wind predictions

Table 1 gives the TAPM meteorology model inputs for the wind predictions. The year 2013 was chosen because it was a typical year and came before the unusual weather conditions that produced record low rainfall across Tasmania.

Default file	Orford.def (available on request)		
Meteorology	2013 with two days in December 2012 day in January 2014 used to ensure clo	with two days in December 2012 used for model spin-up, and one January 2014 used to ensure clean end of year predictions.	
Terrain, land use.	Geodata 9-sec DEM	~250 m resolution	
and soil type data	Tas100mgrid.txt	~100 m resolution	
	Vege.aus 3-min grid	~5 km resolution	
	TasSVLU250m.txt	~250 m resolution	
	Soil.aus 3-min grid	~ 5km resolution	
Wind grid centre	147° 20.5' E, 42° 52.5' S	GDA 94 datum	
	{527,905 m E, 5,253,009 m N}	GDA 94 datum	
Meteorology grids	25 x 25 horizontal grid points, all five g 30 km, 10 km, 3 km, 1 km, 300 m reso	rids lution	
	25 vertical grid points. At {10, 25, 50, 1	00,,6000, 7000, 8000 m}.	

Table 1. TAPM wind prediction model inputs.

Figure 2 shows the digital terrain used for wind prediction modelling over the 4th of the 5 nested prediction grids, a 24 km x 24 km grid with 1 km grid spaces. The high ground south of the STP will tend to suppress the southerly winds at the STP, which is important because the proposed subdivision is located due north of the STP and can only be impacted by odour from the STP when winds are from the south,

Figure 3 shows the annual surface (10m) 2013 wind rose predicted at the WWTP by TAPM. The dominant west to SW wind signature is associated with the flow of weather systems across Tasmania from west to east, together with terrain channeling of winds including nocturnal katabatics. The digital terrain plot in Figure 2 clearly shows that terrain blocking / channeling is expected. The east to NE wind signature is due to the afternoon sea breeze and becomes more prominent in a wind rose showing the 3pm winds.

The wind rose confirms that winds from the south, towards the proposed subdivision, are rare.



Figure 2. Digital terrain used by the model. This figure shows the terrain for the 4th of the 5 nested wind prediction grids, which is a 24 km x 24 km grid with 1 km spacing. The data has approximately 100 m resolution. The view is looking SW.



Figure 3. 2013 surface wind roses (m/s) predicted at the STP by TAPM.

Figure 4 shows the distribution of stability classes in 2013 predicted by TAPM. Stability classes A, B and C refer to unstable atmospheric conditions. Class A conditions are associated with hot sunny days, with excellent dispersion due to substantial mixing of the air by vertical eddies. Classes B and C are also associated with good dispersion conditions. Together, these atmospheric conditions occur about 25 percent of the time in the vicinity of the STP.

Stability class D refers to neutral atmospheric conditions, which occur just over 40 percent of the time near the STP. Stability classes E and F refer to stable and very stable conditions respectively, for example due to a temperature inversion under which vertical mixing of the air is suppressed. These conditions are associated with poor emission dispersion and occur about 35 percent of the time near the STP.



Figure 4. Frequency distribution of 2013 stability classes predicted at the STP by TAPM.

6. Odour emission rates and source representation

Aeration lagoon

The Assured Monitoring Group (AMG) was engaged to carry out odour sampling of the STP's lagoons. The aeration lagoon was the only source of detectable odour, mainly near the small inlet works located at the SW corner of the lagoon. The inflow to the STP was intermittent.

The aeration lagoon was sampled near the inlet works in the SW part of the lagoon; near the outflow to the first of the secondary lagoons in the NW part of the lagoon; and about halfway between these two points. As can be seen in Figure 5, conditions were calm, and the flux hood measurements were high quality.



Figure 5. The STP's inlet works and aeration lagoon, showing odour sampling locations.

The measured specific odour emission rates (SOERs) were 0.42 OUV/s per m^2 near the inlet works, 0.20 OUV/s per m^2 near the lagoon outflow, and 0.37 OUV/s per m^2 halfway between these two locations.

These measured SOERs accord with expectations. The Honeywood STP near Brighton is similar to the Orford STP, and a 2012 study estimated SOERs of 0.32 OUV/s per m² for its aeration lagoon, using the Sydney Water Corporation's STP odour emission database, in consultation with the database specialist, Rod MacKenzie. To be conservative, this study assumes an SOER of 0.42 OUV/s per m² for the aeration lagoon.

Secondary lagoons

No odour was detectable around the three secondary lagoons. The SOERs for the secondary lagoons were not measured because it is conservative to assume all three lagoons have an SOER of 0.20 OUV/s per m², in other words the SOER of the aeration lagoon near its outflow. This SOER is conservative. An SOER of 0.12 OUV/s per m² was estimated for the secondary lagoons of the Honeywood STP, obtained from the Sydney Water Corporation's WWTP odour emission database, in consultation with the database specialist, Rod MacKenzie. And the SOER of the secondary ponds of the Macquarie Point STP was recently (2017) measured to be 0.16 OUV/s per m²

Environmental Dynamics

Inlet works

The inlet works is only a minor source of odour compared to the total OER of the aeration lagoon. This study conservatively assumes an OER of 100 OUV/s, higher than the 5 OUV/s used by the Honeywood STP study.

Source representation

The inlet works can be modelled either as a small volume source or as a low-level point source with a small discharge. The distance of prediction interest is several hundred meters, so GLCs depend mainly on the OER of the source, not its geometry. This study models the inlet works as a low-level point source.

The lagoons are modelled as area sources, represented by rectangles aligned north-south and east-west. The Orford STP's lagoons are already close to this alignment and this study uses a single rectangular area to represent each lagoon.

Tables 2 and 3 give the source details.

Height (m)	Diam (mm)	Speed (m/s)	Temp (° C)
1	1,000	0.1	15
Easting (m)	Northing (m)	OER (OUV/s)	
572959	5286104	100	

Table 2. Inlet works representation.

	Easting (m)	Northing (m)	Size
Aeration lagoon	572967	5286069	96m x 60m
South secondary lagoon	573000	5286137	95m x 29m
Middle secondary lagoon	572014	5286179	94m x 31m
North secondary lagoon	573029	5286221	88m x 30m
	SOER (OUV/s/m ²)	Area (m ²)	OER (OUV/s)
Aeration lagoon	0.42	5,722	2,403
South secondary lagoon	0.20	2,718	544
Middle secondary lagoon	0.20	2,900	580
North secondary lagoon	0.20	2,623	525

Table 3. Lagoon representation. The eastings and northings are of the SW corner of the lagoon.

7. Odour GLC predictions

Odour GLCs were predicted across a grid with 31 east-west points x 31 north-south points, a grid spacing of 30m and the GDA 94 coordinates of the south-west corner of the grid were {572,690m E, 5,286,159m N}.

As noted, the *Tasmanian Environment Protection Policy (Air Quality) 2004* specifies that the maximum odour GLC predictions should be used to assess compliance with the design GLC of 2 OU (1 hour), unless good site-specific meteorology and odour emission rates are available, in which case the 99.5 percentile GLC predictions can be used to assess compliance. In this case, good input data are indeed available, but both sets of GLC predictions are presented for the sake of completeness.

Figure 6 presents the maximum odour GLC (1 hour) predictions, and Figure 7 presents the 99.5 percentile odour GLC (predictions.

The design GLC of 2 OU (1 hour) is met everywhere on and beyond the boundary of the STP, which is where ambient air quality standards apply. Considering the proposed subdivision, the highest predicted GLCs are naturally along its Rheban Road boundary, with the highest maximum GLCs predicted to be 0.13 OU (1 hour) and the highest 99.5 percentile GLCs predicted to be just under 0.1 OU (1 hour).

Some jurisdictions (e.g. South Australia and Victoria) set odour design GLCs that have a three (3) minute averaging period. Odour concentrations fluctuate over an hour, and a GLC of 1 OU (1 hour) approximately equates to a GLC of 2 OU (3 minutes). Applied to the Orford STP, the highest maximum GLCs for a 3-minute averaging period are therefore predicted to be about 0.26 OU (3 minutes). The importance of this calculation is that the highest predicted odour concentration on the Rheban Road boundary of the proposed subdivision is less than 1 OU over a very short averaging period (3 minutes). Since 1 OU is the threshold of odour detection by humans, the modelling exercise is predicting that odour from the Orford STP will never be detected by residents of the subdivision. Moreover, this conclusion is supported by a factor of safety of nearly four (4) since $1/0.26 \approx 4$.



Figure 6. Maximum GLC (1 h) predictions (OU). Contours at {0.07, 0.08, 0.10, 0.12, 0.15, 0.2} OU. The yellow circles show distances (m) from the north side of the northern secondary lagoon.


Figure 7. 99.5 percentile GLC (1 h) predictions (OU). Contours at {0.04, 0.05, 0.07, 0.10, 0.15, 0.2} OU. The yellow circles show distances (m) from the north side of the northern secondary lagoon.

8. Conclusions

The Orford STP has a current average daily flow of 179 kL/day and a design capacity of 473 kL/day. The Glamorgan Spring Bay interim planning scheme 2015 specifies an attenuation distance of 350m for an STP with a design capacity between 275 kL/day and 1,375 kL/day. Therefore, although the Orford STP triggers this clause, its design capacity is at the low end of the range and its current average daily low is only 40% of the low end of the range.

The attenuation distance is required to be measured from the nearest boundary of the nearest lagoon. In the direction of the proposed subdivision this point is the north side of the third secondary lagoon. None of the secondary lagoons have detectable odour and the north side of the aeration lagoon is 100m further from the proposed subdivision.

The odour impact assessment presented in this report follows the methodology expected by the *Tasmanian Environment Protection Policy (Air Quality) 2004*. Odour emission rates for the lagoons were obtained by flux hood measurements made under calm conditions, and these odour emission rates are both consistent and conservative when compared to those measured or estimated for similar STPs operated by TasWater.

The wind predictions are supportive of the location of the proposed subdivision. A southerly wind is required for odour from the STP to impact the proposed subdivision and the annual wind rose shows that a southerly wind is rare (due mainly to terrain blocking/channeling).

The maximum odour GLC predictions at the Rheban Road boundary of the proposed subdivision are well below the 2 OU (1 hour) design GLC. They are also well below an odour concentration of 1 OU (3 minutes), which means the model is predicting that odour from the STP will never be detected by residents of the subdivision. A factor of safety of four (4) applies to this statement.

This study has not considered upset conditions because there is little that can go wrong with the Orford STP and the STP does not accept trade waste.

Yours sincerely,

Steven JB Carter

Dr Steve Carter, FIEAust, CPEng Environmental Engineer

Addendum: Response to comments by TasWater

TasWater comments

Please provide additional reassurance as to the accuracy of the model, the following should be provided and discussed within the report:

- Local BoM station wind roses and the comparison to the TAPM generated wind roses
- Discussion of any odour complaint information / correlation associated with the plant (TasWater can provide on request)
- Analysis of the maintenance condition (desludging) using increased SOERs (to values typical of sludge lagoons)

Responses

1. Model accuracy.

TAPM has been applied on numerous studies of WWTPs operated by TasWater, so it is a model that TasWater is very familiar with. As mentioned in Section 4, TasWater is also familiar with the recent odour assessment of the Macquarie Point WWTP which was subject to extensive peer review and cross-checks. TasWater contact people are Nigel Vivian, David Graham and Mike Brewster. The cross-checks included running the Calmet and Calpuff models. The wind predictions of TAPM and Calmet were very similar, and in agreement with data from the Ellerslie Road weather station. The odour GLC predictions of TAPM and Calpuff were also found to be very similar.

For the Orford WWTP modelling exercise, there isn't a weather station on the innermost wind prediction grid that has hourly wind speed and direction data, so wind predictions can't be compared to weather station observations on this project. But in addition to the Macquarie Point WWTP project I have used TAPM on many projects where comparison with weather station data was possible and also several projects where comparison with field GLC measurements was possible. The EPA was closely involved in one of these projects, for Cement Australia at Railton. Agreement between measured and predicted wind and contaminant ground level concentrations was good, including at a location 2 km from the plant.

Simpler models such as Ausplume and Aermod would also provide reasonably accurate predictions for this situation, given the situation is very straightforward with no buildings or complex terrain. However, TAPM (or Calmet) needed to be used to produce the site-specific winds and once those winds were available it doesn't make sense to switch to a simpler model.

2. Odour complaints.

The Spring Bay Glamorgan Council (Ms Jill D., pers. Comm.) has advised that they have never received a complaint of odour nuisance from the Orford WWTP. This is not surprising. The WWTP has a very small odour footprint.

2. Desludging odour emissions.

The concern about possible elevated odour emissions from desludging is valid and odour impact assessments often do need to consider such upset conditions.

However, desludging of the Orford WWTP is an infrequent and short term operation. The odour emission rate (OER) will depend on the method TasWater uses to desludge the lagoon(s), but desludging is not necessarily associated with unduly high odour emissions. For example, desludging using an excavator with subsequent dewatering can produce elevated odour emissions compared to desludging using a vacuum tanker.

The odour GLC predictions presented in this report were based on conservative and credible OERs and the maximum GLCs at the road were predicted to be about 0.13 OU (1 hour) during normal WWTP operation. The design GLC is 2 OU (1 hour) so the OER from a desludging operation can be about 15 times higher than the OERs used for the modelling exercise before the maximum GLCs are comparable to the design GLC, an SOER of about 6 OU/m² per second. That's an extremely high odour emission rate, almost certainly higher than a desludging SOER.

The other factor that means pond desludging should not be an issue for this WWTP is that the wind hardly ever blows towards the location of the proposed sub-division, so it should be easy to schedule desludging for a day when the wind is favourable.



Submission to Planning Authority Notice

Council Planning Permit No.	SA 2017 / 00004			Council notice date	14/02/2017	
TasWater details						
TasWater Reference No.	TWDA 2017/00199-GSB		Date of response	13/08/2018		
TasWater Contact	Anthony Cengia Pho		Phone No.	(03) 6237 8243		
Response issued to						
Council name	GLAMORGAN/SPRING BAY COUNCIL					
Contact details	admin@freycinet.tas.gov.au					
Development details						
Address	RHEBAN RD, ORFORD		Property ID (PID)	2775205		
Description of development	Rezoning from Rural Resource to General Residential & 91 Lot Subdivision					
Schedule of drawings/documents						
Prepared by		Drawing/document No.		Revision No.	Date of Issue	
Aldanmark Pty		15E96-10 Sheets Z01, Z06, Z07, Z08			24/07/2018	
Aldanmark Pty		15E96-10 Sheets Z02, Z03, Z04, Z05		, В	20/12/2017	
Environmental Dynamics		Project ED5190 - ORFORD SEWAGE TREATMENT PLANT ODOUR ASSESSMENT			15 July 2018	
o a sultation of						

Conditions

SUBMISSION TO PLANNING AUTHORITY NOTICE OF DRAFT AMENDMENT TO PLANNING SCHEME <u>AND</u> PLANNING APPLICATION REFERRALS

Pursuant to the *Water and Sewerage Industry Act* 2008 (TAS) Section 56P(1) TasWater makes the following submission(s):

TasWater does not object to the draft amendment to planning scheme and has no formal comments for the Tasmanian Planning Commission in relation to this matter and does not require to be notified of nor attend any subsequent hearings.

Pursuant to the *Water and Sewerage Industry Act* 2008 (TAS) Section 56P(1) TasWater imposes the following conditions on the permit for this application:

CONNECTIONS, METERING & BACKFLOW

- 1. A suitably sized water supply with metered connections / sewerage system and connections to each lot of the development must be designed and constructed to TasWater's satisfaction and be in accordance with any other conditions in this permit.
- 2. Any removal/supply and installation of water meters and/or the removal of redundant and/or installation of new and modified property service connections must be carried out by TasWater at the developer's cost.
- 3. Prior to commencing construction of the subdivision/use of the development, any water connection utilised for construction/the development must have a backflow prevention device and water meter installed, to the satisfaction of TasWater.



ASSET CREATION & INFRASTRUCTURE WORKS

- 4. Plans submitted with the application for Engineering Design Approval must, to the satisfaction of TasWater show, all existing, redundant and/or proposed property services and mains.
- 5. Prior to applying for a Permit to Construct new infrastructure the developer must obtain from TasWater Engineering Design Approval for new TasWater infrastructure. The application for Engineering Design Approval must include engineering design plans prepared by a suitably qualified person showing the hydraulic servicing requirements for water and sewerage to TasWater's satisfaction.
- 6. Prior to works commencing, a Permit to Construct must be applied for and issued by TasWater. All infrastructure works must be inspected by TasWater and be to TasWater's satisfaction.
- 7. In addition to any other conditions in this permit, all works must be constructed under the supervision of a suitably qualified person in accordance with TasWater's requirements.
- The developer must design and construct an additional 13.65m3 of emergency storage to TasWater's satisfaction which is needed at TasWater's East Shelly Sewage Pumping Station (TasWater Location ID ORFSP01). The emergency storage must be designed and constructed to allow future augmentation to add additional emergency storage.

<u>Advice:</u> In accordance with TasWater's 'Developer Charges Policy' for developments located within Serviced Land where insufficient capacity is available within an existing system, the developer pays the costs of Extension, including connection, to that system and Expansion of the system to the level of capacity required to service the development.

- 9. Prior to the issue of a Consent to Register a Legal Document all additions, extensions, alterations or upgrades to TasWater's water and sewerage infrastructure required to service the development are to be constructed at the expense of the developer to the satisfaction of TasWater, with live connections performed by TasWater.
- 10. After testing to TasWater's requirements, of newly created works, the developer must apply to TasWater for connection of these works to existing TasWater infrastructure, at the developer's cost.
- 11. At practical completion of the water and sewerage works and prior to TasWater issuing a Consent to a Register Legal Document the developer must obtain a Certificate of Practical Completion from TasWater for the works that will be transferred to TasWater. To obtain a Certificate of Practical Completion:
 - a. Written confirmation from the supervising suitably qualified person certifying that the works have been constructed in accordance with the TasWater approved plans and specifications and that the appropriate level of workmanship has been achieved;
 - b. A request for a joint on-site inspection with TasWater's authorised representative must be made;
 - c. Security for the twelve (12) month defects liability period to the value of 10% of the works must be lodged with TasWater. This security must be in the form of a bank guarantee;
 - d. As constructed drawings must be prepared by a suitably qualified person to TasWater's satisfaction and forwarded to TasWater.
- 12. After the Certificate of Practical Completion has been issued, a 12 month defects liability period applies to this infrastructure. During this period all defects must be rectified at the developer's cost and to the satisfaction of TasWater. A further 12 month defects liability period may be applied to defects after rectification. TasWater may, at its discretion, undertake rectification of any defects at the developer's cost. Upon completion, of the defects liability period the developer must request TasWater to issue a "Certificate of Final Acceptance". The newly constructed infrastructure will be



transferred to TasWater upon issue of this certificate and TasWater will release any security held for the defects liability period.

- 13. The developer must take all precautions to protect existing TasWater infrastructure. Any damage caused to existing TasWater infrastructure during the construction period must be promptly reported to TasWater and repaired by TasWater at the developer's cost.
- 14. Ground levels over the TasWater assets and/or easements must not be altered without the written approval of TasWater.
- 15. A construction management plan must be submitted with the application for TasWater Engineering Design Approval. The construction management plan must detail how the new TasWater infrastructure will be constructed while maintaining current levels of services provided by TasWater to the community. The construction plan must also include a risk assessment and contingency plans covering major risks to TasWater during any works. The construction plan must be to the satisfaction of TasWater prior to TasWater's Engineering Design Approval being issued.

FINAL PLANS, EASEMENTS & ENDORSEMENTS

16. Prior to the Sealing of the Final Plan of Survey, a Consent to Register a Legal Document must be obtained from TasWater as evidence of compliance with these conditions when application for sealing is made.

<u>Advice:</u> Council will refer the Final Plan of Survey to TasWater requesting Consent to Register a Legal Document be issued directly to them on behalf of the applicant.

17. Pipeline easements, to TasWater's satisfaction, must be created over any existing or proposed TasWater infrastructure and be in accordance with TasWater's standard pipeline easement conditions.

DEVELOPMENT ASSESSMENT FEES

- 18. The applicant or landowner as the case may be, must pay a development assessment and Consent to Register a Legal Document fee to TasWater, as approved by the Economic Regulator and the fees will be indexed, until the date they are paid to TasWater, as follows:
 - a. \$1,139.79 for development assessment; and
 - b. \$149.20 for Consent to Register a Legal Document

The payment is required within 30 days of the issue of an invoice by TasWater.

19. In the event Council approves a staging plan, a Consent to Register a Legal Document fee for each stage, must be paid commensurate with the number of Equivalent Tenements in each stage, as approved by Council.

Advice

General

For information on TasWater development standards, please visit http://www.taswater.com.au/Development/Development-Standards

For application forms please visit <u>http://www.taswater.com.au/Development/Forms</u>

Declaration

The drawings/documents and conditions stated above constitute TasWater's Submission to Planning Authority Notice.

Authorised by



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Jason Taylor Development Assessment Manager

TasWater Contact Details				
Phone	13 6992	Email	development@taswater.com.au	
Mail	GPO Box 1393 Hobart TAS 7001	Web	www.taswater.com.au	

Shane Wells

From:	Aboriginal (Heritage) <aboriginal@heritage.tas.gov.au></aboriginal@heritage.tas.gov.au>	
Sent:	Thursday, 23 February 2017 4:37 PM	
То:	Jane Wing	
Subject:	Aboriginal Heritage Desktop Assessment - Residential Subdivision - Lot 2 and 135	
	Rheban Rd, Orford	

RE: ABORIGINAL HERITAGE DESKTOP ASSESSMENT

AHTP3023 - Residential Subdivision - Rheban Rd, Orford

Dear Jane,

Aboriginal Heritage Tasmania (AHT) has completed a search of the Aboriginal Heritage Register (AHR) regarding the proposed residential subdivision at Lot 2 and 135 Rheban Road Orford, and can advise that there are no Aboriginal heritage sites recorded within or close to the property.

Accordingly there is no requirement for an Aboriginal heritage investigation and AHT have no objection to the project proceeding.

Please be aware that all Aboriginal heritage is protected under the *Aboriginal Relics Act* 1975. If at any time during works you suspect Aboriginal heritage, cease works immediately and contact AHT for advice. Attached is an Unanticipated Discovery Plan, which you should have on hand during ground disturbing works, to aid you in meeting your requirements under the Act.

If you have any queries please do not hesitate to contact AHT.

Kind Regards,

Claire Keating

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Level 9 . 65 Murray St . Hobart . TAS 7000 GPO Box 1248 . Hobart . TAS 7001 t: (03) 6234 8666 f: (03) 6234 8988 e: mail@aldanmark.com.au

Mr David Metcalf General Manager Glamorgan Spring Bay Council PO Box 6 Triabunna Tasmania 7190

Att: Winny Ennis

Dear Mr Metcalf,

SUBMISSION ON LAND USE ZONING – CT 149641/2 (LOT 2 RHEBAN ROAD, ORFORD, PID 2775205) – GLAMORGAN SPRING BAY INTERIM PLANNING SCHEME 2015

We act on behalf of the owner of CT 149641/2 Michael and Harriett Lawrence and note your invite to comment and make submission as appropriate on proposed land use zonings.

Please find below our submission on the interim planning scheme. Our submission is set out below, pertaining to the appropriate zoning of this land under the interim planning scheme being requested.

LOCATION OF SUBJECT LAND

Our client's land is identified in Figure 1 being situated north of Rheban Road, south of East Shelly Road and east of Jetty Road within the eastern arm of Orford settlement.



Figure 1 Site Location (source: TheLIST @ State of Tasmania)

PROPOSED ZONING - GLAMORGAN SPRING BAY INTERIM PLANNING SCHEME 2015

The proposed zoning of CT 149641/2 is Rural Resource. Two overlays apply concerning waterways and coastal inundation but both are generally limited in extent and are not considered significant limitations on this site



Figure 2 Proposed Zoning - Interim Planning Scheme (source: GSB Council)

Under the Glamorgan Spring Bay Planning Scheme 1984 the land was zoned Rural.

SERVICING ARRANGEMENTS

The land in question is adjoining reticulated sewer and water mains off East Shelly Road as per Figure 3. Drainage can be provided via an unnamed watercourse to the east running south to north to Shelly Beach.



Figure 3 Proposed Zoning - Interim Planning Scheme (source: TASWATER)

USE PATTERNS AND TOPOGRAPHY

The site is used for low impacting grazing and has evidence of use for equestrian activities with a horse training track noted on the LISTmap. There is a slight fall to the north but essentially the land is flat and largely cleared. Essentially, the whole of the site is above 10m AHD, sitting the land above the lower lying land on East Shelly Road to the north.

Approximately 750m to the near west is the Orford Bowls Club and Sports Oval and 1.6km to the west is the Orford Primary School. Dominant use to the east, west and north on Rheban Road is residential activity.

A sewerage treatment plant sits a minimum 230m to the south but is generally 300m or greater distance from the majority of the subject land.



Figure 4 Use Arrangements (source: LIST @ State of Tasmania)

BASIS OF SUBMISSION

- 1. Consistency with Triabunna/Orford Structure Plan and over-arching strategy direction.
- 2. Logical inclusion in General Residential Zone service reticulation.
- 3. Consistency with Southern Tasmanian Regional Land Use Strategy 2010-2035 (STRLUS).

Consistency with Triabunna/Orford Structure Plan and Overarching Strategy direction

Council issued an updated structure plan for Triabunna and Orford in April 2014. The Structure Plan sets out the issues, challenges and opportunities for Orford for the next few decades and gives specific direction – well beyond the broad directions of the Southern Tasmanian Regional Land Use Strategy 2010-2035 (STRLUS). It also embodies and expands further on the directions contained in Vision East 2030.

In terms of land supply across Triabunna, Orford and Spring Beach there was an identified capacity for 524 to 744 new dwellings within the existing settlement. However at a more local level the supply is calculated at 129 dwellings for Orford. The ratio of unoccupied to occupied dwellings is much higher in Orford than Triabunna reflecting seasonal holiday usage in Orford by many households. A demand for something in the order of 17 dwellings per year has been calculated for Orford and Triabunna of which the majority (75%) were in Orford. Escalation of takeup is evident in Orford in 2012/13 with 16 dwellings approved in Orford alone.



Figure 5 Dwelling Approvals in Orford & Triabunna 1999-2012/13 completed years (source: GSBC, 2014)

If such a trend were to continue this would suggest a 7-8 year housing supply exists in Orford. Ongoing monitoring of demand is logical and appropriate. But equally identifying future land supply to enable a 10-15 year supply is also advisable given the timeframe it takes to zone, obtain permits and release land to market (2-4 years typically).

That would, in turn suggest more detailed consideration of logical inclusions in the Shelly Beach precinct to meet the 'latent demand', especially for holiday homes. As the Structure Plan sensibly points out, this would comprise land north of Rheban Road and infills the land behind the existing linear settlement on Shelly Beach (see Figure 6).



Figure 6 Suggested Zoning Arrangements - Orford (source: GSB Council, 2014)

Logical inclusion in General Residential Zone – service reticulation

Zoning the subject land for residential purposes is entirely consistent with the General Residential Zone objectives as set out below:

- 10.1.1 Zone Purpose Statements
- 10.1.1.1 To provide for residential use or development that accommodates a range of dwelling types at suburban densities, where full infrastructure services are available or can be provided. **Comment:** Achievable.
- 10.1.1.2 To provide for compatible non-residential uses that primarily serve the local community. **Comment:** Can be regulated under planning scheme.
- 10.1.1.3 To provide for the efficient utilisation of services. **Comment:** Site has infrastructure fronting development allowing for serviceability. Logical infill site.

We would argue that it is inconsistent given the level of servicing and surrounding land use context that the land should be zoned Rural Resource.

Consistency with STRLUS and Strategic Planning Directions

The sequence of strategic planning frameworks and directions relevant to Orford are summarised as follows:

 Vision East 2030 – a land use framework for the east coast Councils from Sorell to Break O' Day. Identifies Orford as a village with medium growth potential. Given a village typically has a population, as defined in Vision East, of 200-500 and the ABS population of Orford at 2011 was over 500 it may in fact be closer to the size of a small township (there are 734 dwellings in Orford alone). The logical zoning inclusion as suggested in this submission is not inconsistent with Vision East, noting that holiday housing demand driven by proximity to Greater Hobart is strong and likely to remain so given convenience to the metropolitan population.



Figure 7 Orford as defined by ABS boundaries in 2011 (source: ABS 2015)

- **Background Report 1** STRLUS: The Project Background for the Southern Tasmania Regional Land Use Framework (April 2010) notes that Vision East will be subsumed into the STRLUS and the controls and strategic direction will remain largely the same as in Vision East.
- **STRLUS** issued in October 2011. It shows a hierarchy of strategic directions from the objectives in Schedule 1 of the Land Use Planning and Approvals Act 1993 through to Structure Plans and site

development plans at the local level. On page 27 it requires consolidation of residential development and avoiding ribbon development. Orford is classified as a township but with a low growth scenario being applied. Low growth is defined as <10% growth in dwellings. Zoning the subject land for residential purposes is not ribbon development ie it is behind existing coastal housing areas.

In terms of STRLUS if the total number of dwellings was 734 in Orford in 2011 (source: ABS Code UCL621015 (UCL)) and noting growth rates it would be best part of 800 dwellings now in 2015. A 10% growth rate would involve 80 more dwellings being provided in total. That could be likely accommodated within Orford without further residential rezoning occurring. However, noting that permanent residential housing is only one component of housing demand and that holiday homes plays a significant role in Orford 80 dwellings works out at around 20-30 permanent residences for the next 15-20 years or only 1 per year.¹ Given that even in a low growth scenario, a goal of providing very limited opportunities for housing may be appropriate from a permanent residence perspective (low demand) but would be ineffective from a regional perspective where Orford is a well-established holiday home destination. Both, together, constitute overall housing demand.

It is not unreasonable therefore to cater for both permanent residents and holiday home owners (who may ultimately convert their home to permanent residences) and provide for both in existing established areas and those areas identified by local structure plans.

OVERVIEW AND CONCLUSION

We note that our client's land is zoned for rural purposes under the Glamorgan Spring Bay Interim Planning Scheme 2015. In this context it also is similar to the zoning under the previous planning scheme.

It is however likely that the land in question is a logical inclusion in the **General Residential Zone** for the following reasons:

- The Triabunna/Orford Structure Plan (2014) supports infill development of this site.
- There is evidence that there is demand for housing, especially holiday homes in Orford which will be difficult to meet if logical infill sites are not provided over the next 10-15 years.
- There is a noted demand for housing in Orford in the Shelly Beach area.
- The land has TasWater sewer and water infrastructure along East Shelly Road and is a logical infill in that it results in land being used for housing, consistent with that occurring on three sides presently.
- A low to moderate growth scenario in Orford would justify rezoning under STRLUS and Vision East in the shorter term. Orford is a township, not a village and any development of this land would have the benefit of enabling Council to reduce development pressure in more sensitive areas nearer the coast in the Orford area.

We look forward to further consideration of this matter by Council and the Tasmanian Planning Commission. An indication of the relevant issues, if any, attached to the rezoning of this land would be desirable as well as a timeline for when some certainty can be provided that the residential use of the site can proceed.

Yours sincerely,

Morgan McGuire AMIEAust Senior Civil Engineering Technician Aldanmark Pty Ltd Consulting Engineers

¹ Based on holiday homes to permanent residences being around 2.5:1 ratio, entirely different to the Triabunna scenario – see Triabunna/Orford Structure Plan (2014).

References

Break O'Day, Glamorgan Spring Day, Tasman and Sorell Councils (2009): Vision East 2030, the East Coast Land Use Framework, unpublished.

Glamorgan Spring Bay Interim Planning Scheme 2015, accessed from <u>http://www.gsbc.tas.gov.au/page.aspx</u>, 21 September 2015.

Southern Tasmanian Councils Authority & State of Tasmania (2010): Background Report No.1: The Project Background, Final Report, Southern Tasmanian Regional Land Use Framework.

Southern Tasmanian Councils Authority (2011): Southern Tasmanian Regional Land Use Strategy 2010-2035 unpublished.

Urbis (2014): Triabunna/Orford Structure Plan, Final Report updated April 2014, downloaded from Glamorgan Spring Bay accessed from <u>http://www.gsbc.tas.gov.au/page.aspx</u>, 21 September 2015.