

Appendix 7 - Infrastructure Summary Report (RARE)

Our Ref: 251013

8th November 2024

Update 19 November 2024

Update 31 January 2025

Holmes Dyer Pty Ltd
Leve 3, Reid House, 15 Featherstone Place
Adelaide SA 5000

ATTENTION: S Holmes

Dear Stephen

SITE ANALYSIS REPORT FOR INFRASTRUCTURE REQUIREMENTS – BOYER PSP

I am writing to you about the findings to date for the provision of infrastructure services to the proposed subdivision based on the Plan 1792-002 R2>14.01.25 provided by Holmes Dyer. This working document shows approximately 362 lots. The essential services required include power supply from TasNetworks, sewer systems and water supply from TasWater and communications from NBN Co. Brighton Council have provided feedback on stormwater management including stormwater quantity and quality control. Consideration has been given to the provision of natural gas supply from TasGas. Additionally, to the infrastructure requirements, information from Tas Irrigation is included showing the approximate location of an irrigation supply pipeline. Keith Midson Traffic Engineer, has provided intersection treatments for entry points along Boyer Road.

The collection of background information on the services will inform the establishment of funding models.

TasNetworks - Power Supply

Contact Person – Gary Hancl – 0438 338 060 Alan Heald and Alex Izbecki

Initial contact was made via email to Clodagh Doyle on 24/9/24. Due to some internal staff movements, setting up an Early Engagement meeting proved difficult. On 31/10/24 a discussion finally took place with Gary Hancl – Team Leader. This was a good opportunity to explain the project context and that we are planning the future and not the developers of the project. He understands that we are looking for high level design of the system that will lead to high level costings enabling a model for funding to be established that links the power supply infrastructure to the future development. He has now organised an Early Engagement meeting for 10am on 12/11/24 with the right people within TasNetworks. Further reporting to follow.

Update 19/11/24

Early Engagement meeting was held on 12/11/24 with Gary Hancl, Angela Trewin and Chris Symons. The Network Planning Representative was not at the meeting but was contacted after the meeting. The positive outcomes were that TasNetworks do not have any issues in terms of supply to this location. The design may



include a looped supply especially if there is connectivity to Cobbs Hill Road. The internal requirements for supply are a 750kVa sub station per 100 lots. Preferable substation locations are central to the lots being supplied.

Update 10/1/24

After advice received from the Enquiry by Design Meeting from TasNetworks, the suggestion was to apply for a Feasibility Study. This occurred and on return to the office 6/1/25 and invitation for a new Early Engagement Meeting was received for 9/1/25 from different people in the Negotiated Connections Team, including Alan Heald and Katherine Johnstone. At the meeting Alex Izbecki was in attendance and understood that we are in a pre-planning and pre-subdivision phase.

The machinations of TasNetworks do not cater for pre-planning and they are used to dealing with subdivision developments with Planning Approval. They could do the feasibility study for a cost and would require a Staging Plan, which has now been produced.

Having said this they have indicated that they have an obligation to supply, that any costs associated with augmentation or upgrade requirements are bundled up into the developer costs that are normally associated with a subdivision. These developer costs include the HV lead in, sub-stations and underground reticulation. TasNetworks have indicated an indicative cost of \$15 000 to \$20 000 per lot.

Minutes of the meeting attached in Appendix D.

Funding of Infrastructure Decision 31/1/25

Based on advice from TasNetworks the design and supply of the power to the future subdivision site is achievable. Augmentation of HV supply is achievable and final design will be developed with a development plan as per TasNetworks practice. The costs associated to achieve the required HV supply and the breakdown to LV via substations will be distributed to the developer generally as per lot basis. No costs are to be included in a contribution's arrangement.

TasWater – Sewer Systems and Water Supply

Contact Person - Elio Ross – 0467 874 330 Update provided 22/11/24

Sewer System

In the first instance the advice from TasWater was to lodge a Service Enquiry. This was lodged with TasWater through their Portal on 16/10/24. To provide context to the servicing discussion we made calculations for Equivalent Tenements (ET's) for the sewer based on the three natural catchments within the development area. Each catchment has a low point adjacent to Boyer Road and will require a Sewer Pump Station. Pump Station 1 is located in 50 Boyer Road (Property ID: 7676361, Title Ref: 44724/8). Pump Station 2 is located in 170 Boyer Road (Property ID: 7676396, Title Ref: 44724/9) and Pump Station 3 is located furthest west in the property known as Boyer Road (Property ID: 1972194, Title Ref: 44724/2). The ET's for each catchment and Pump Station are listed in Table 1. A typical allowance for a 20% growth rate has also been included.

The sewer pump stations have been sized at the highest level for environmental sensitivity based on their close proximity to the Derwent Estuary, meaning the storage time will be 8 hours (in accordance with *Taswater Supplement to WSA 04-2005 2.1 WSAA Sewage Pumping Code of Australia*) and hence the pump station size will be larger than a regular pump station with low environmental rating. The default environmental rating may be lowered subject to further risk assessments in consultation with Taswater, however due to the proximity to the Derwent Estuary, it is assumed that a high rating is appropriate and is likely to be required.

Consideration was given to a common rising main to allow each pump station to discharge into a common line before being discharged into a gravity manhole outside 24 Boyer Road. A professional discussion took place to investigate the possibility of achieving this outcome. After this discussion it was determined that it would not be possible to achieve this. There are two other possible ways to achieve the discharge requirements of the three pump stations. The first is to install an individual rising main to each sewer pump station. This means a common trench can be used from near Serenity Drive all the way to 24 Boyer Road. The other possible solution is to daisy chain the pump stations, that is one pumps to the other and then the next one. This means the pump stations would have to increase in size to accommodate the additional effluent discharged by the previous pump station and the inflow from the local catchment. A high-level cost analysis of these options will be carried out. In the first instance the multiple rising main option is likely to be the best option for cost but also for the fact that the stand-alone development can occur on the individual larger parcels. Please see new advice received about the pump stations and a common rising main.

The sewer pump station volumes for the multiple rising main option are shown in Table 1.

Table 1 – Sewage Pump Station Parameters – Current Plan > 362 lots

Pump Station ID	Developed Equivalent Tenements (ET's) (+20% Growth Rate)	Pump Station Volume	Pump Flow Rate
1 (50 Boyer Road)	134	20.1 m ³	10.62 L/s
2 (170 Boyer Road)	248	37.2 m ³	18.04 L/s
3 ('Boyer Road')	71	10.6 m ³	5.95 L/s

Preliminary comment from Taswater was received on 05/11/24 (included in Appendix B), with more detailed advice from Taswater's assets and modelling teams still to follow. Taswater's preliminary comment assumed connection to the existing Riverside Drive Sewage Pumping Station (ID: GRPSP12) which represents another option for connection location, however indicated that several upgrades to the existing piped network and sewage pumping station would likely be required in this instance and the Riverside Drive SPS will not be included.

Service Enquiry Update 22/11/24

After discussion with TasWater and receiving the written advice indications are that a common rising main linking all three pumpstations is a possibility. This may change the configuration of each of the pump stations and will be subject of future design. The already calculated total capacity requirements for all three pump stations are unlikely to change and hence these sizes can be used to calculate costs in relation to a contribution model.

TasWater have also provided additional information about their downstream sewerage infrastructure. They are indicating that there is significant strain on the gravity system, the existing sewer pump stations and rising mains. One positive is that the Green Point Sewerage Treatment Plant has adequate capacity to cater for the development.

Gravity main upgrades are required between the receiving manhole and the Nielsen Parade SPS. Further to this gravity and rising main upgrades may be required from the Nielsen Parade SPS to the Green Point STP.

The Sewer Pump Station at Nielsen Parade requires an upgrade in volume, at total of 52.6kL. Taswater water have nominated that 30.1kL are the responsibility of the development. Further to this pump upgrades will be required with additional flow rate. The additional flow rate will require a larger rising main. These works are shown on Plan 251013 C503, with alternatives for the possible rising main upgrades. TasWater Servicing Advice found in Appendix B.

Funding of Infrastructure 31/1/25 - Sewer

The upgrade to the existing Nielsen Parade Pump Station will have shared costs between TasWater and an infrastructure contribution for Boyer PSP. Taswater have been clear in regard to volume upgrades and pump upgrades and their portion of these costs. The final part of the puzzle is the final rising main size. The cost difference is minimal in the rising main pipe diameter as most of the cost is in trenching and backfilling. A BoQ has been produced to assist the Quantity Surveyor to establish the apportioned costs to the contributions plan.

Water Supply

The creation of a reticulated water supply network to service the development will require connection to the existing Taswater supply network. The closest connection location is at the intersection of Serenity Drive and Boyer Road to an existing DN100 PVC main. Preliminary comment from Taswater (included in Appendix B) has indicated that the existing DN100 main will be too small to service the development with a DN200 connection (or 2 x DN150) typically required for a development of this size. The existing Taswater network within a reasonable proximity to the site (developed areas to the east) consists entirely of DN100 or less sized mains, meaning no suitable connection is in close proximity to the site from this area.

The existing developed area to the east is supplied from the single Bridgewater Reservoir (ID: HOBWS017), which is located adjacent to Cobbs Hill Road to the north of the site. Taswater has advised that connection for the site will likely be required directly from the existing DN375 main (ID: A203814) at the reservoir. Connection at this location would mean the new water supply will be required to run through areas of 29 Cobbs Hill Road not previously included for development. Taswater has also advised that the creation of a new road reserve would be required to house the new DN200 main as new water mains cannot be located within private property. It is likely that the new mains servicing the site will also require connection back into the existing network at Serenity Drive to create a closed loop.

No other existing infrastructure suitable for direct connection is present within the surrounding areas. Several large bulk transfer mains are located further north of the site as well as a DN630 irrigation main that partially runs through 50 Boyer Road, however these are not suitable nor available for connection. This means that Taswater's initial comments on connection location nearby the reservoir are very likely to be the required solution for the site.

In preliminary assessment of possible connections to Serenity Drive, an EPANET model has been undertaken which has been adjusted to include supply from the Bridgewater Reservoir. Preliminary results from the model show that adequate pressures and flows are expected to be available to all lots on the site inclusive of both residential and fire flows to the most hydraulically disadvantaged lot. A screenshot of the EPANET model is provided in Figure 1 below.

Service Enquiry Update 22/11/24

Water Infrastructure

Previous advice in regards to supply from the reservoir on Cobbs Hill Road still applies including the trunk supply at DN200 then spreading to DN100 throughout the subdivision. The new advice is that the capacity of the reservoir is not adequate to maintain existing servicing and supply the proposed subdivision. To this end TasWater will require additional capacity, either by rebuilding the existing reservoir with additional capacity or by building a second reservoir to give the additional capacity. If there is adequate land area a second reservoir is the likely outcome as this will limit supply disruption. We will discuss further with TasWater about the like volume requirement for additional storage.

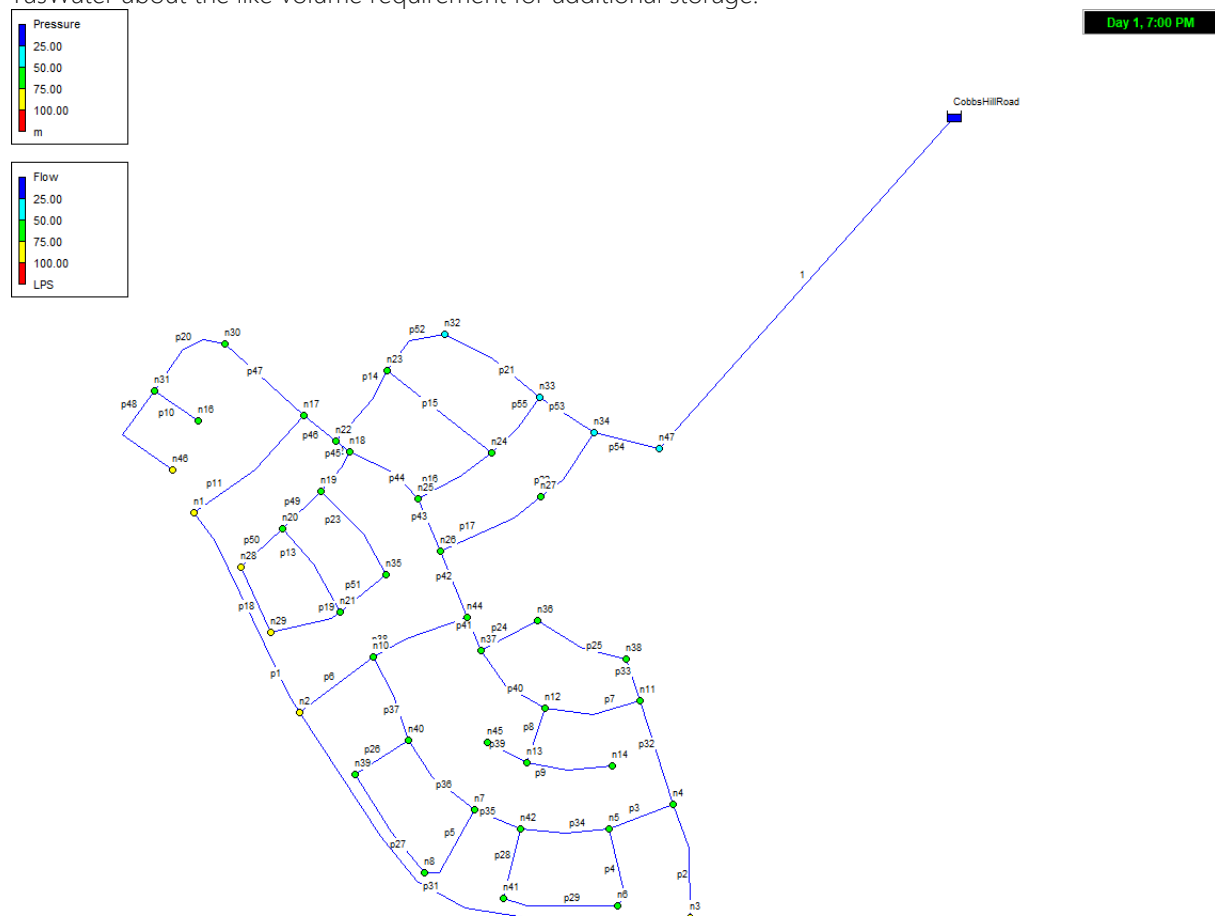


Figure 1 – EPANET Model (Cobbs Hill Road Connection)

This model provides DN 200 lead in from the reservoir spreading to a DN100 network within the subdivision.

Funding of Infrastructure 31/1/25 - Water

The requirement for additional reservoir storage at Cobbs Hill Road will fall under an infrastructure contribution model. Also included will be the DN200 connection from the Cobbs Hill Reservoir into the subdivision as it is required. Link water infrastructure that enables 50 Boyer Road, 170 Boyer Road and the third property on Boyer Road to be included in the infrastructure contribution model. A Bill of Quantities has been prepared for use by the Quantity Surveyor.

Council - Stormwater Discharges and Onsite Detention – Internal Roads

Contact Person – Leigh Wighton – 0418 569 044

A meeting with Brighton Council was undertaken on 05/11/24 which included discussion on stormwater quality and quantity management with the information provided below being in-line with these discussions and Council's direction/requirements.

The land has three overall catchments with each falling to Boyer Road as shown on the concept plans provided in Appendix A. Each catchment discharges via an existing pipe under Boyer Road. Catchment 1 (50 Boyer Road) has a twin DN375 discharging under Boyer Road into a table drain that runs towards the railway crossing point at Riverside Drive. Catchment 2 (170 Boyer Road) discharges via a DN900 under Boyer Road and then under the railway corridor and finally to the Derwent Estuary. Finally, Catchment 3 ('Boyer Road') has a DN1200 discharging under Boyer Road and then under the railway corridor to the Derwent Estuary. Photos of the existing pipes from the upstream side are provided in Appendix C.

The Catchments 2 & 3 have defined gullies, and because of the rural nature have farm dams capturing flows at various locations. While these dams provide online storage, this has been ignored for the overall catchment modelling. The catchment modelling was carried out using the software package DRAINS to determine the impact of increasing the impervious areas due to development. A screenshot of the DRAINS model is provided in Figure 2. The discharge parameters used consisted of maintaining the existing pipe sizes beneath Boyer Road to control flows up to the 1% AEP event including a climate change increase factor of 16.3%. The results of the modelling including likely detention sizes required, are shown in Table 2, noting that catchment 3 did not require any detention with the existing DN1200 pipe and roadside depression being adequate to build driving head and discharge of the post-development flows.

Table 2 – Stormwater Flows and Detention Requirements

Catchment ID	Existing Pipe Discharge Size	Peak 1% AEP Post-Developed Flow (Generated by Catchment)	Approximate Detention Volume Required	Peak 1% AEP Post-Developed Flow Through Culvert (With Detention)
1 (50 Boyer Road Discharge)	2 x DN375	1.04 m ³ /s	1,300 m ³ (Approx. 1400m ² , 2m max. depth)	0.358 m ³ /s
2 (170 Boyer Road Discharge)	DN900	3.57 m ³ /s	2,360 m ³ (Approx. 2000m ² , 3m max. depth)	2.23 m ³ /s

3 ('Boyer Road' Discharge)	DN1200	3.56 m ³ /s	Nil (sufficient pipe capacity/inlet storage)	3.35 m ³ /s
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With the presence of an existing gully within Catchment 2, the topography is expected to lend itself to the creation of a suitable detention basin. The topography adjacent to the outlet for Catchment 1 is less well defined in regards to an existing low point/water course and would likely require additional earthworks to construct a suitable detention basin.

Results for median storm in critical 1% AEP ensembles using Full Unsteady hydraulic model.

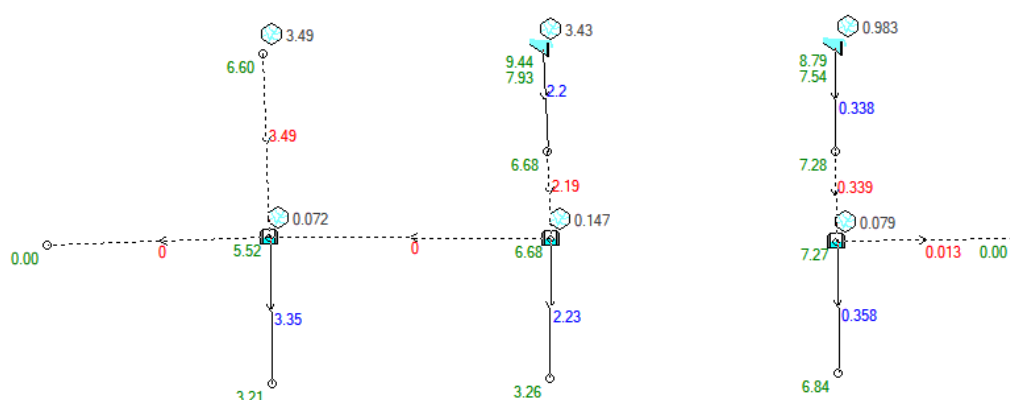


Figure 2 – DRAINS Model (1% AEP Event)

Funding of Infrastructure

It is likely that the detention basins would be included in a funding model as there based on their need to limit flows and prevent further pipe infrastructure upgrades. It would be fair for these to be aggregated as a whole of development requirement.

Stormwater Quality

Treatment of stormwater flows from developed areas is expected to be required in accordance with the pollutant reduction targets of 90% Gross Pollutants (GP), 80% Total Suspended Solids (TSS), 45% Total Phosphorus (TP) and 45% Total Nitrogen (TN) outlined in the *Tasmanian Stormwater Policy Guidance and Standards for Development* document.

Due to the significant portion of external undeveloped catchment flows and the nature of the development having the potential for staged or partial development of individual land parcels, it is expected to provide a better outcome to provide at source treatment/control. This would involve treatment at the localised discharges from the major developed areas before discharging into the existing gullies/watercourses, and/or

by providing treatment at the time of development on each individual lot. By allowing the large portion of external catchment flows to discharge directly to Boyer Road, bypassing treatment, more efficient removal of pollutants from developed areas can be carried out with less dilution of polluted flows. This may assist in lowering the total sizes of treatment infrastructure required. Potential locations for combined treatment systems are indicated on the concept plans provided in Appendix A, however may be located elsewhere depending on final outlet locations.

It is expected that with the inclusion of the open space/watercourse areas that sufficient space will be available for treatment devices to meet the required pollutant reduction targets at the outlets from individual developed areas. The configuration of treatment devices may include both the use of 'natural' WSUD solutions (e.g. sediment ponds, swales, bioretention) and proprietary treatment devices (e.g. gross pollutant traps, filtration systems) with further assessment required to determine treatment sizes dependant on selected methods.

Funding of Infrastructure

Local source control water quality devices to fall under local developer costs.

Internal Road Bridges

While the internal road network built to LGAT standards and requirements will be the developers cost, there are two bridges crossing the water ways, one in 170 Boyer Road and the other in western Boyer Road property. These have been considered for contribution funding but on the basis that they are not required to facilitate the development for all six properties have been excluded from contribution funding.

NBN

Contact Person – Peter Freshney – Kisstel – 0417 287 006 Daniel Costa – NBN Co.
daniel.costa@nbnco.com.au

Communication services in the form of the NBN are located at the intersection of Boyer Road and Serenity Drive. Both 50 and 170 Boyer Road are connected by Fixed Wireless to the NBN network. Contact has been made with a local designer and installer to receive an appropriate contact with Development Planning at NBN for discussion. Peter has advised that Daniel Costa of NBN Co. is our contact. We will follow up with Daniel in due course.

Update 6/12/24

Met with Daniel Costa from NBN. He is confident that NBN will supply the future subdivision and lead in infrastructure will be provided as part of an overall development plan. Costs will be part of developer charges similar to TasNetworks. Typically costs are \$1000 to \$1500 per lot.

Funding of Infrastructure

NBN infrastructure to fall under local developer costs.

TasGas

TasGas have reticulation of Natural Gas on the eastern side of the Midland Highway in Bridgewater. The supply of Natural Gas is not considered to be an essential service but rather an optional service. Generally,



TasGas will make a commercial decision in terms of supplying an area based on the level of interest of future customers.

Funding of Infrastructure

As this is not an essential service this will not form any part of the funding agreement.

Department of State Growth – Entry Road Intersections

Advice has been received from Keith Midson concerning the treatment at the three entry road locations. A CHR(S) treatment is appropriate at all three locations. A CHR(S) treatment is approximately 160m long and involves introducing pavement widening, line marking and signage. A Bill of Quantities will be prepared for the Quantity Surveyor.

The construction of the CHR(S) intersections will facilitate development for the total land holding and the total cost for the three intersections will form part of the contributions plan.

Further to the intersections, a possible shared bike and pedestrian path from the Main Street to the entry point in 50 Boyer Road is being considered. Space and terrain may limit this proposal.

Funding of Infrastructure

The construction of three intersections to be included in a contributions plan and cost distributed on a per lot or developable land basis. A bike shared pathway would be included in a contributions scheme.

Tas Irrigation

Inquiries with Tas Irrigation have taken place after the LIST showed an irrigation pipeline located in the property. This is a DN630 irrigation line that runs from the north at Cobbs Hill Road into 25 Cobbs Hill Road and then into 50 Boyer Road before leaving the property crossing Boyer Road, under the rail corridor and into the Derwent Estuary crossing the river to Granton. The proposed layout keeps this irrigation infrastructure in proposed public land areas.

Conclusion

The Boyer Road development requires the provision of new services infrastructure to service approximately 360 residential lots. Early discussions with service authorities have been undertaken alongside preliminary concept design to determine the most likely and/or appropriate way forward for delivery of services.

Sewer infrastructure is expected to require the provision of three separate sewage pump stations at the low points of each catchment for pumping to existing gravity infrastructure outside 24 Boyer Road to the east. Upgrades to existing Nielsen Pde SPS will be required and include additional gravity and rising mains

Water supply will come from the Reservoir on Cobbs Hill Road. A minimum DN200 connection with a new main required to feed the development within a new road reserve or public reserve through the northern properties. To meet the supply needs a volume upgrade will be required to the reservoir.

To manage stormwater from both the site and existing catchments, stormwater detention is proposed within the two eastern-most catchments 1 & 2 with approximately 1,300m³ and 2,360m³ of detention volume expected to be required respectively. The western-most catchment 3 is not expected to require detention.

All three catchments are to discharge through existing culverts beneath Boyer Road. Stormwater treatment is recommended to be provided at the source, either at the discharge from each developed area or on an individual lot basis to more effectively treat more highly polluted flows and minimise required infrastructure.

Power and communications supply is achievable with connection to existing infrastructure or augmented infrastructure and is not considered a risk to the development. TasNetworks will bundle supply and reticulation into a per lot charge passed onto the developer. NBN will take the same approach with guarantee to supply and cost recovery via a developer charge.

TasGas is considered an optional service with TasGas to determine if servicing the development is to be commercially viable.

The Traffic Engineer has provided intersection details and the cost of these will be determined and included in an overall contributions plan.

To assist the Quantity Surveyor a scope discussion is provided in Table format in Appendix E.

Yours Faithfully



Rodney Jesson
Director
Civil and Infrastructure

rare.

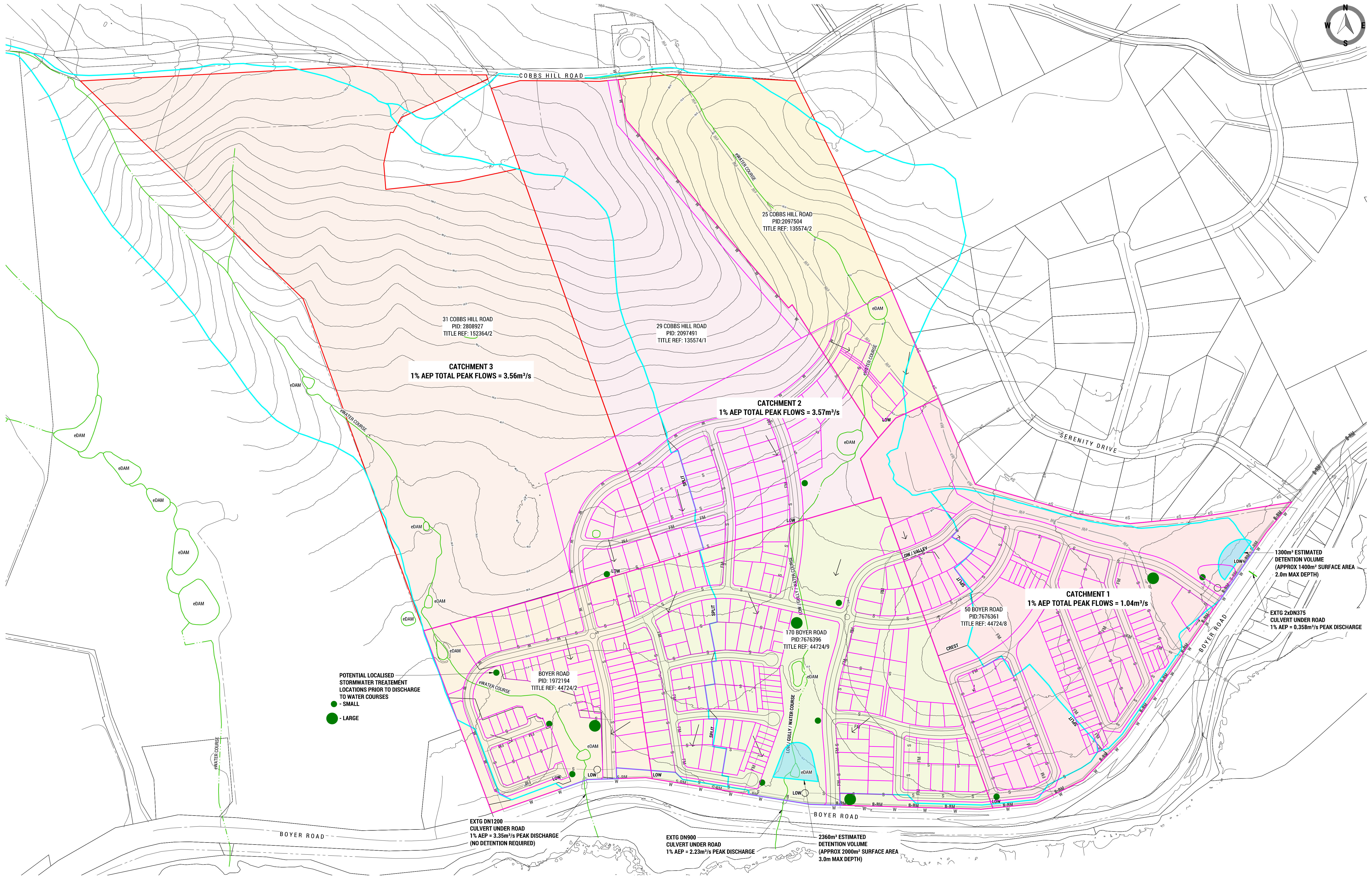
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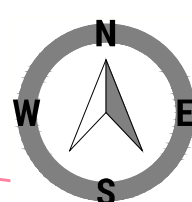
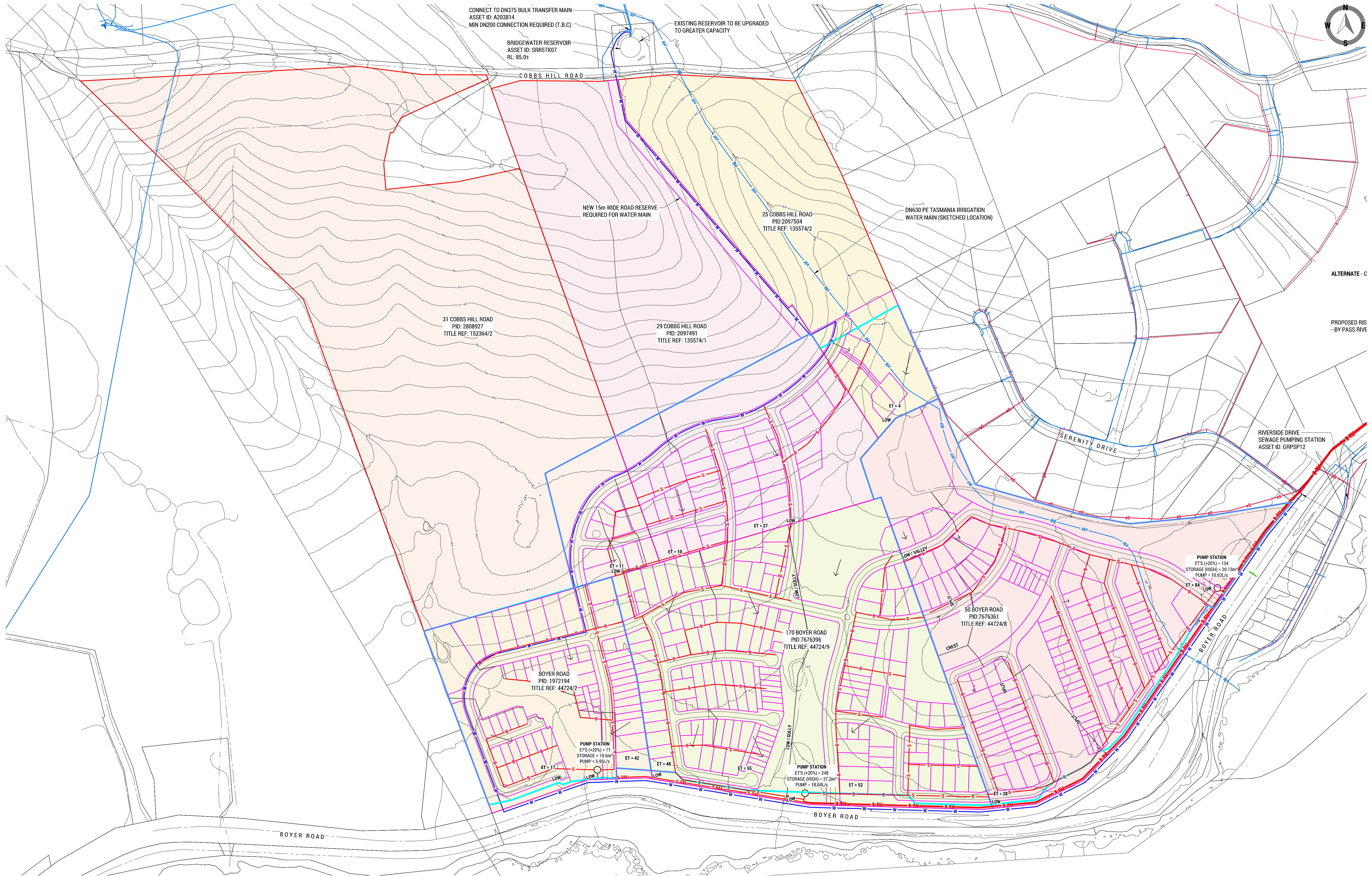
Appendix A – Concept Site Services Plans






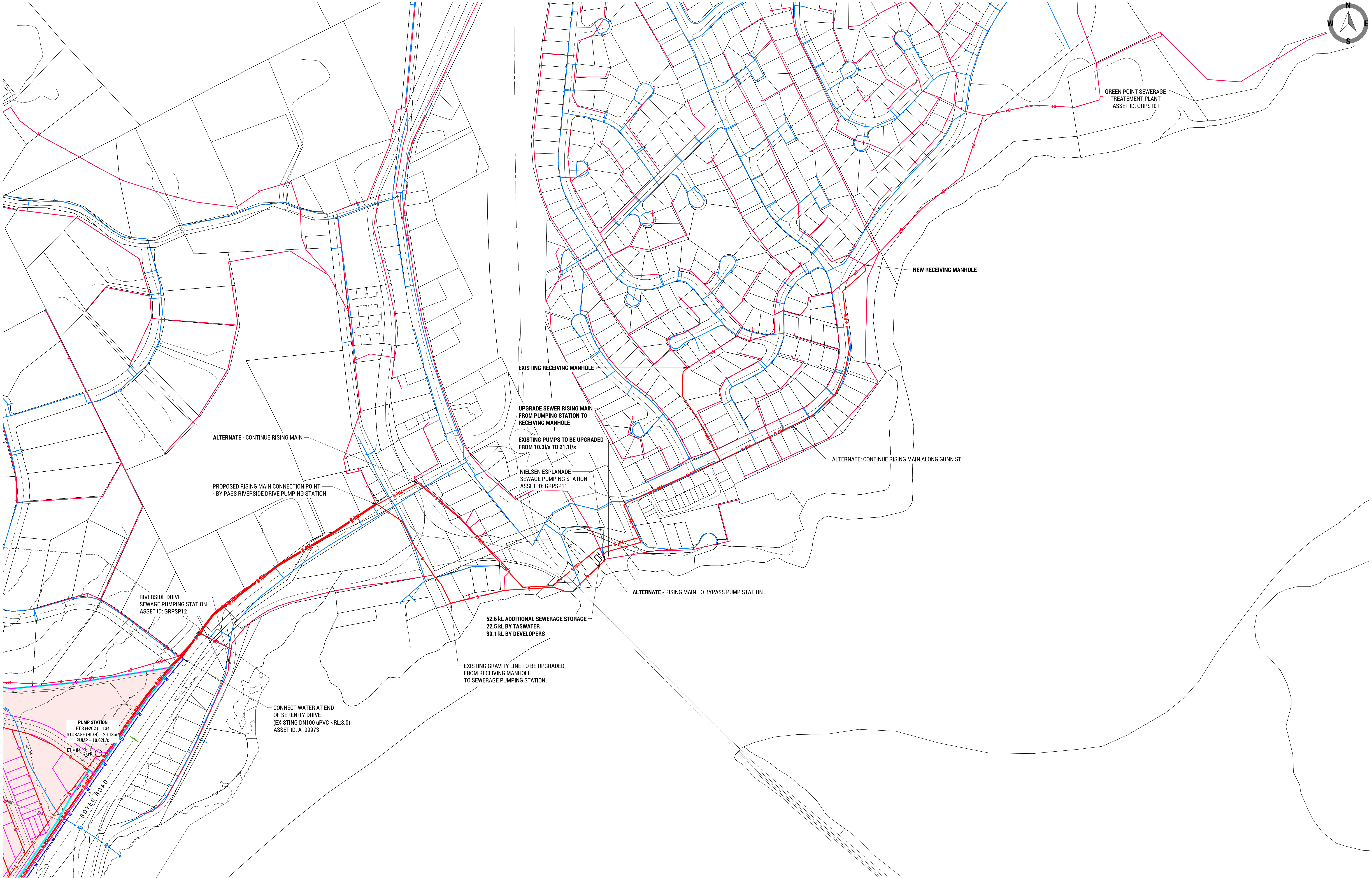
CONCEPT STORMWATER PLAN
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		DO NOT SCALE - IF IN DOUBT, ASK THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257		DESIGN CHK: JS		PROJECT: BOYER ROAD PRECINCT	
				DRAWN BY: PVD		ADDRESS: 50 - 170 BOYER ROAD BRIDGEWATER	
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CONCEPT SEWER + WATER SERVICE PLAN - SHEET 1
SCALE 1:2500

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CONCEPT SEWER + WATER SERVICE PLAN - SHEET 2
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Appendix B – Taswater Correspondence

Update 22/11/24 Attached



Water and Sewerage Servicing Advice

TasWater Reference No. TWSI 2024/00697-BTN

Date of response [22/11/2024](#)
[19/11/2024](#)
05/11/2024

TasWater Contact Elio Ross

Phone No. 0467 874 330

Response issued to

Name Rare Innovation Pty Ltd

Address 22-24 Paterson Street LAUNCESTON, TAS 7250

Contact details approvals@rarein.com.au

Development details

Address 170 BOYER RD, BRIDGEWATER

Property ID (PID) 7676396

Description of development Proposed Subdivision 250-300 Lot

Advice

Hi Paul,

Thanks for the call earlier regarding the proposed 300 lots subdivision at 170 BOYER RD, BRIDGEWATER.

Pending the official comments back for our assets and modelling teams, I have reviewed the documentation to provide some preliminary comments.

~~It's assumed that the sewer is to fall to Riverside Drive Sewage Pumping Station BRIDGEWATER, (id GRPSP12). Likely several upgrades would be required, depending on the proposed discharge location it looks as though pipes will need to be upsized as well as SPS and storage locations.~~ [See updated advice below](#)

Water, there were no concept plans provided with potential connection points nominated for the water network. Currently, the area is partly zoned in the Boyer Restricted Zone (BRW16), Pressure Head Level 161.7m, assuming this is because of its coming off the DN648 (id: A3352946) Bulk main and not suitable for a connection for this development.

The other part of the development is located at 50 BOYER RD, which is zoned as Bridgewater Reservoir Zone (BRW1), with a head of 91m. This zone is more suitable for pressures given the approximate elevation of the lots range is 10m to 50m.

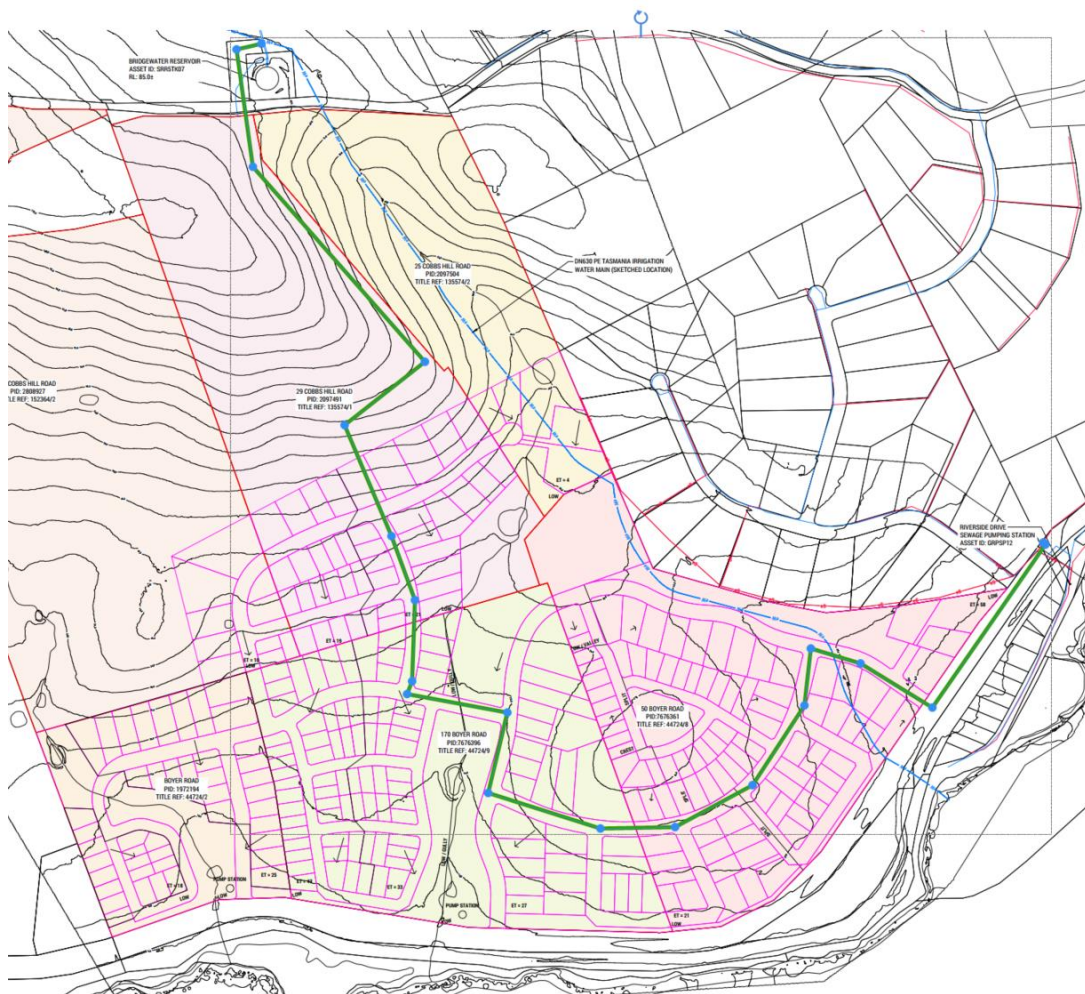
It is unclear where the proposed connections to the water network to feed the development will be located. The nearest location would be D100 (id A199973), which is too small to feed this development.

Typically, a single-direction feed would require a DN200 connection, or at least 2 x dn150 connections on a well-looped stable network.

Possibly a min DN200 connection to DN375 (id A203814) at the Bridgewater Reservoir, looped down to Serenity Drives DN100 would be the best approach.

Please note that the new water main cannot be in private property, the upper section of the loop will need to be located in a new roadway or council reserve.

I have sketched this below in green.



Please note that this is an early, provisional review of the area. More detailed modelling and asset reviews are being conducted, which will result in changes to the current assessment. This process will take additional time to complete.

Sewer Gravity:

Modelling analysis indicated that in the absence of the development, there is already a huge strain on the system with an abundance of excessively surcharging sewers and significant downstream capacity issues.

To accommodate this development all of the gravity mains between the discharge of the Riverside Drive SPS rising main to the Nielsen Parade SPS will need upsizing. TasWater may consider in a joint venture with the developer. However, this will require further investigations, consideration and approvals that will need to be confirmed.

The developer may also have to contribute to the upsizing of gravity mains between the discharge of the Nielsen Parade SPS rising main and the STP.

TasWater cannot accept the risks of allowing this development to connect without any infrastructure upgrades occurring.

SPS:

The development impacts two downstream SPS's GRPSP11 Nielsen Parade SPS and GRPSP12 Riverside Drive SPS.

GRPSP11 Nielsen Parade SPS

The downstream SPS "GRPSP11 Nielsen Parade SPS" currently has insufficient storage to support the proposed development. The total additional storage required at this site without the development is 22.5 kL. The total additional storage required at this site including the development is 52.6 kL.

TasWater will hence be responsible for 22.5 kL and the developer responsible for 30.1 kL.

Pumps:

The pump station prior to the development fails to meet pump requirements by 10.3 l/s. With this development included, the pump station fails to meet pump requirements by 21.1 l/s.

Rising Main:

Following the required pump upgrade specified above, the rising main will need upsizing to accommodate the development.

GRPSP12 Riverside Drive SPS

The downstream SPS "GRPSP12 Riverside Drive SPS" currently has insufficient storage to support the proposed development. The total additional storage required at this site without the development is 0 kL. The total additional storage required at this site including the development is 25 kL. TasWater will hence be responsible for 0 kL and the developer responsible for 25 kL.

Pumps:

The pump station prior to the development meets pumping requirements. With this development included, the pump station fails to meet pump requirements by 0.8 l/s.

Rising Main:

Following the required pump upgrade specified above, the rising main will need upsizing to accommodate the development.

STP:

The Green Point STP has sufficient hydraulic and treatment capacity to accommodate the additional loading from the proposed development.

Water Modelling:

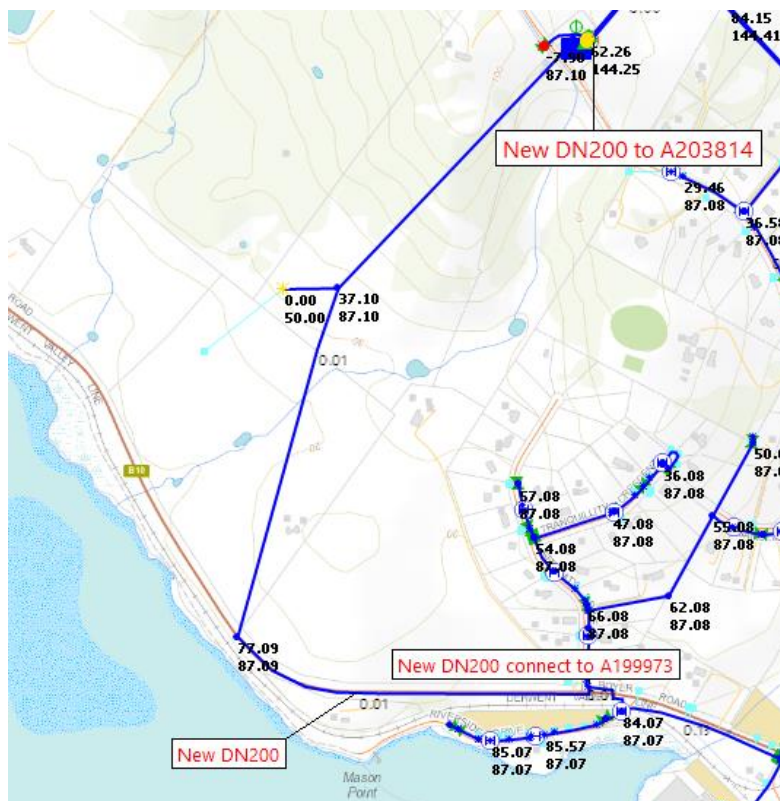
Modelling indicates there is capacity (in regards to available pressures) in the existing network at 170 Boyer Rd, Bridgewater (pipe A199973 and A203814) to supply this proposed development without impacting adversely on the existing infrastructure or customers. Total boundary heads (HGL), not pressures, at the proposed connection point(s) with the reservoir set to 1/3rd full are:

Location	H.G.L. Peak hour	H.G.L Peak day + 10 l/s fire flow
A199973 (Boyer Rd)	86	86
A203814 (Rev outlet)	87	87

These are heads within the Taswater network, so they do not account for losses in customer piping and fittings. This result is based on a sound but imperfect knowledge of conditions on the field and those who use this information should allow an appropriate margin of error in their design.

We noticed that the site falls within the Boyer Restricted Zone, and we agree that connecting to the A3352946 bulk main is not suitable for this development. Therefore, we proposed a DN200 loop: one connection from the reservoir outlet and another from 50 Boyer Rd (see image below).

The reservoir is already fully committed prior to adding this development. If this development proceeds, it will require upsizing storage (ie new reservoir) by the developer prior to the completion of the subdivision.



TasWater confirms that you have made a pre-lodgement enquiry for the above proposal. TasWater's servicing advice in this response to the above proposal is based on the water and sewerage components of the proposal only. The other aspects of the proposal will be assessed by the relevant Planning Authority, or the Development Assessment Panel established under section 60G of the *Land Use Planning and Approvals Act* ("the Act") where the proposal is declared as a major project under 60C of the Act.

Despite anything else in the servicing advice TasWater reserves its rights regarding this proposal, when it is submitted for assessment as required by law under the Act.

Fees

This assessment is provided at no cost. For details on fees applicable for a formal assessment please see www.taswater.com.au

Appendix C – Culvert Photos

Catchment 1 (50 Boyer Road)



Catchment 2 (170 Boyer Road)



Catchment 3 ('Boyer Road')



rare.

22-24 Paterson Street
Launceston, TAS 7250

P. 6388 9200

rarein.com.au

Appendix D – TasNetworks Minutes



IS Certification Services

Early Engagement Meeting - Subdivisions

Case Reference No.	CN24-316681		
Case Manager	Alan Heald		
Date	10/01/2025	Site Address	170 Boyer Road BRIDGEWATER
Attendees	Chris Symons, Alex Izbicki, Katherine Johnston, Alan Heald. Rodney Jesson (RodneyJ@rarein.com.au)		
Apologies	Stephen Holmes (customer) admin@holmesdyer.com.au Kirsty Spilsbury (consultant) approvals@rarein.com.au		

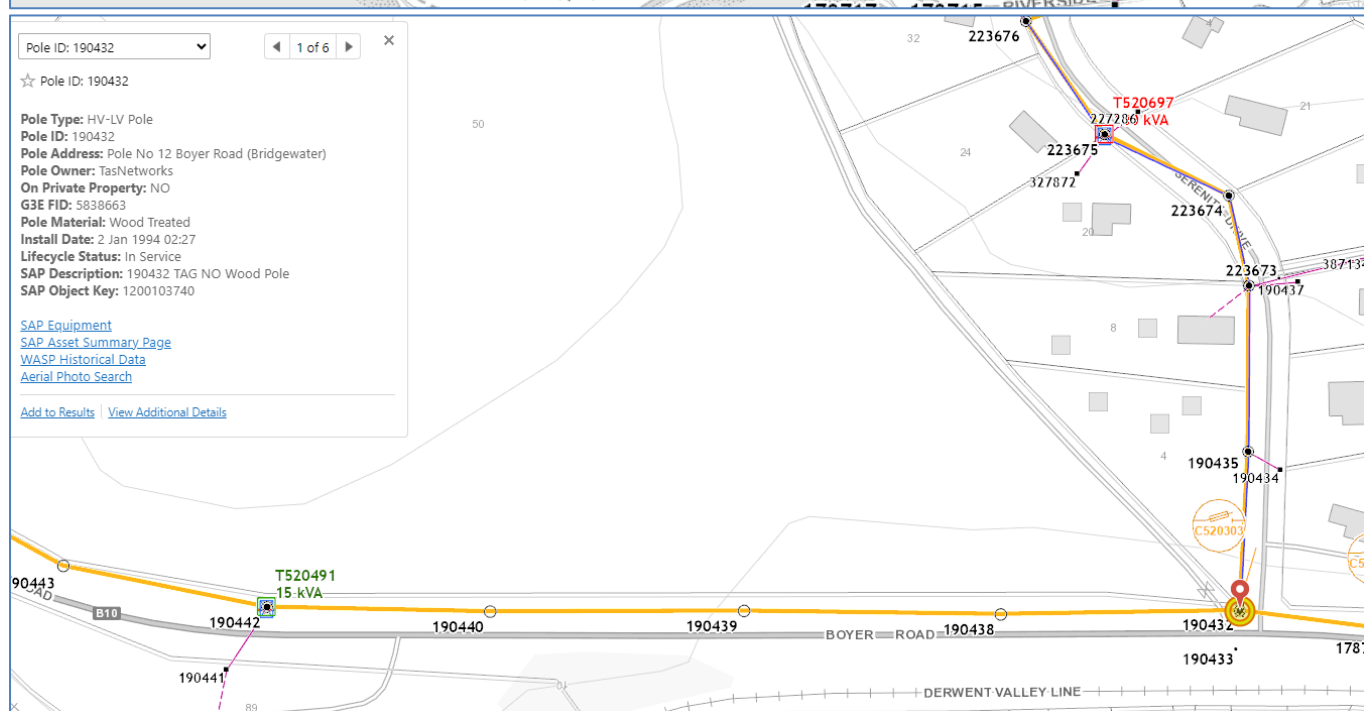
Agenda

#	Items Discussed
1	Introductions
2	<p>Developer to discuss overview of Development:</p> <ul style="list-style-type: none"> • 250 lots / multi staged development. Rodney has advised this could be up to 400 lots • There are 6 parcels of land with 6 separate owners • Planning is being undertaken by the local council and Rodney is acting as a planning consultant. • Various stakeholders have attended a meeting to future plan and gain insight into the proposed development. Cost contribution is an important factor for the development planning. • The planning approvals and stages have not been finalised and are subject to feasibility studies. Rodney is requesting this from TasNetworks. For TasNetworks to provide this, a staged plan will need to be provided. <p>What outcomes does Developer require from this meeting:</p> <p>Is a Planning Permit in-place? <input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No</p> <p>Note: application will not be progressed to design without receipt of the planning permit.</p> <p>Have any aboriginal /Enviro studies been undertaken as part of the planning permit? <input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No</p> <p>Reports to be provided if available</p> <p>Have CAD files been supplied? <input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No</p> <p>Is this Development Staged? <input checked="" type="checkbox"/> Yes or <input type="checkbox"/> No</p>

	<p>If yes staged, please provide a staging plan and confirm sequences of construction so TasNetworks can design a development plan.</p> <p>What are the intentions for street lighting, council will need to provide advice on what they require (rural subdivision)?</p>
3	<p>Customer choice options (note TasNetworks due to administrative requirements may not support changes to an option part way through the application process).</p> <p><input type="checkbox"/> Accredited Electrical Designers (AED) & Accredited Electrical Constructors (AEC)</p> <p><input type="checkbox"/> TasNetworks as Designers & Accredited Electrical Constructors (AEC)</p> <p><input type="checkbox"/> TasNetworks as Designers & TasNetworks as Constructor</p>
4	<p>What are the Developer's program timings?</p> <p>Note: Timing of TasNetworks Services</p> <ul style="list-style-type: none"> Currently: <ul style="list-style-type: none"> 14 weeks to design from start date. 20 weeks construction min. <p>36 weeks construction min. if a substation is required.</p> <p>Due to construction scheduling and procurement of equipment the construction stage may take approximately 20 weeks (indicative estimates only) to complete. In some instances, these timeframes may be extended due to the supply of materials, weather, the work schedule of construction crews, or delays that are attributable to you or your external service provider.</p> <p>This can push up-to 24 weeks if a substation is involved.</p> <p>Do you require pre-purchase of substation if choosing TN to design/construct (18-20 weeks delivery time)?</p> <p><input type="checkbox"/> Yes or <input type="checkbox"/> No</p>
5	<p>Network planning feedback:</p> <ul style="list-style-type: none"> A staging plan is required for an accurate feasibility study to strategically place substations and HV network and provide a clear feasibility plan. The feeder that supplies development will need a network augmentation when development begins. The augmentation will be based on future needs. Network Augmentation is triggered by the required needs as the development proceeds, this trigger will try to be picked up at Stage 1 but may not occur until Stage 7 depending on what other infrastructure requirements are within the network.

7	<p>Design and Estimation Feedback:</p> <ul style="list-style-type: none"> • Estimation of the cost per lot is a rough order of magnitude and can be subject to various factors that can alter this amount and should only be a guided estimation only. A figure of approximately \$12,000.00 per lot was discussed however after receiving further technical advice at the conclusion of the meeting held, cost will be in the order of \$15,000.00 to \$20,000.00. • Cost separation between network augmentation and the new network within the development is preferred for cost allocation. <p>Note: TasNetworks conducts audits to assess the general compliance of the proposed (AED) designs. Acceptance by TasNetworks does not relieve the AED of responsibility for suitability or correctness of the design. The audit will be undertaken within ten business days, unless otherwise agreed.</p>
8	<p>Construction Auditing Requirement for Accredited Electrical Constructors (AEC).</p> <ul style="list-style-type: none"> • Open trench and cabling audit • Pre-commissioning and As-built audit <p>Note: A TasNetworks Electrical Safety Specialist will complete the above staged audits, and non-compliance will be communicated to the Constructor and the Developer. The Developer is to ensure Constructor rectifies the identified non-conformance to ensure the construction schedule goes ahead as planned to mitigate any further delays.</p> <p>Note: regarding street and road names, can the developer please initiate this process early in the subdivision construction and provide to the AEC to ensure electrical labelling by the AEC is accurate at time of requesting the pre-commissioning and as-built audits Having labels fitted with roads 1,2 and 3 does not meet compliance and will not proceed to commissioning until such times as labelling is rectified.</p>
9	Are there any known risks or issues associated to this development?

	Actions	Due Date
1	Civil Site Contact #	
2	Staging plan from developer for feasibility study	



Appendix E – Funding Scope Table

Authority	Infrastructure Element	Contribution Funding	Developer Cost
TasNetworks - Power			
	HV Augmentation and Site supply		Yes
	Internal Reticulation		Yes
Council - Stormwater			
	Detention Basins x 2 including Landscaping	Yes	
	Water Quality Devices – Source Control		Yes
	Local Stormwater Network		Yes
Council - Roads			
	Internal Road Network		Yes
	Internal Bridges x2		Yes
Council - Landscaping			
	Streetscape		Yes
	Parks and Waterways		Yes
	Walking Trails		Yes
	Playground	Yes	
Department of State Growth			
	Intersection Treatment	Yes	
	Shared Bike/Pedestrian Pathway	Yes	
TasWater - Water			
	New Reservoir Capacity Upgrade	Yes	
	DN200 and trunk watermain	Yes	
	Internal water reticulation		Yes
TasWater - Sewer			
	Sewer Pump Stations and Rising Main	Yes	
	Nielsen Pde Sewer Pump Station Upgrade	Yes (TW contribution)	
	Downstream gravity main upgrades	Yes	
	Internal reticulation network		Yes
NBN			
	Infrastructure supply		Yes
	Internal reticulation		Yes