

IN THE MATTER OF the Resource Management Act 1991

AND

IN THE MATTER OF proposed private Plan Change 12 to the
Waipā District Plan by Sanderson Group
Limited and Kotare Properties Limited for
the rezoning of Growth Cell T2 from
‘deferred residential zone’ to ‘residential’

STATEMENT OF EVIDENCE OF CIARAN PETER MURPHY

ENGINEERING

15 March 2021

Introduction

1. My name is Ciaran Peter Murphy. I am the General Manager and a Director of Kotare Consultants Ltd (“Kotare”).
2. I have a Bachelor of Surveying from Otago University. I am a Licensed Cadastral Surveyor and a Member of the New Zealand Institute of Surveyors. Kotare is a Member of the Consulting Surveyors of New Zealand.
3. Early in my professional career I specialised in dimensional control and industrial measurement and was involved in the deformation monitoring and structural analysis of reservoir dams and water towers, the instalment of offshore oil platforms and wells, and the remote fabrication of modular gas plants. Further to this, I have over ten years’ experience in subdivision and land development, civil engineering design, construction supervision, and project management.

Code of Conduct for Expert Witnesses

4. I am familiar with the Code of Conduct for Expert Witnesses (Environment Court Consolidated Practice Note 2014) and although I note this is a Council hearing, I agree to comply with this code. The evidence I will present is within my area of expertise, except where I state that I am relying on information provided by another party. I have not knowingly omitted facts or information that might alter or detract from opinions I express.
5. Although Kotare Consultants Limited of which I am a director is a company related to Kotare Properties Limited, I am aware of my duty as an expert witness in giving this evidence to the decision maker.

Scope of evidence

6. My evidence will cover:
 - (a) Wastewater philosophy for the T2 growth cell;
 - (b) Consultation with Waipā District Council Development Engineering staff regarding Wastewater viability;
 - (c) Water Reticulation philosophy for the T2 growth cell; and
 - (d) Consultation with Waipā District Council Development Engineering staff regarding Water Reticulation viability.
7. I have read the WSP 'T1 and T2 Growth Cells Wastewater Assessment' (August 2018) made available by the Council and enclosed as **Appendix 1**. I have reviewed the latest resource consent application 'SP/0171/20' and associated development engineering plans of Frontier Estate, as made available by Waipā District Council following a request under the Official Information Act 1982. I have not read the 'WSP Waipā District Council Three Waters Master Plan' report (June 2020) or the 'T1 and T2 Booster Pump Modelling, Design and Construction' report (February 2021) that the Council commissioned as these are for internal use only. I have relied on consultation with Waipā District Council Development Engineering staff as it relates to the above-mentioned documents (information provided by another party).
8. I enclose a set of the latest development concept plans as **Appendix 2**.
9. I have read and am familiar with the submissions, officer's report and the proposed changes to be made to the Waipā District Plan.

10. I have visited the site multiple times over the past 12 months and have undertaken a full topographical site survey and preliminary civil engineering concept design.

Executive summary

11. The philosophy for wastewater and water reticulation serviceability remains as detailed in the Private Plan Change 12 application.
12. I am informed by Waipā District Council Development Engineering staff that there is adequate capacity and supply in both public water and wastewater infrastructure networks when giving due consideration to existing infrastructure and current and proposed infrastructure upgrades, as planned to cater for future growth.
13. I am also aware that the Development Contribution Policy is in place to ensure appropriate funding for infrastructure required to service future growth cells and that associated development costs are allocated fairly to developers at the time of their developments.
14. Notable infrastructure upgrades to ensure appropriate Level of Service to both T1 and T2 Growth Cells and the wider Te Awamutu water and wastewater networks include ongoing upgrades to the Te Awamutu Wastewater Treatment Plant, the completion of the Parallel Road Water Treatment Plant later this year and proposed works in relation to the Frontier Road Reservoir Booster Pump.
15. This evidence demonstrates feasibility of wastewater and potable water infrastructure, as it relates to the development of the T2 Growth cell, as proposed by way of Private Plan Change 12. Furthermore, the evidence demonstrates that there is no significant impact on wider Te Awamutu and Waipā District infrastructure capacity when giving due consideration to

proposed infrastructure upgrades that are anticipated with the ongoing and scheduled growth of Te Awamutu.

16. I have addressed the submissions relevant to wastewater and water reticulation capacity matters and I conclude that there are no reasons why the proposed plan change should not be approved.

Evidence

17. The purpose of this evidence is to demonstrate feasibility of wastewater and potable water infrastructure as it relates to proposed Private Plan Change 12 (PPC12). This statement will refer to Stage 1 as the southern portion of T2, comprising the proposed Kotare Properties Subdivision 'Kotare Heights' and the Sanderson Group 'Te Awamutu Country Club' Retirement Development. I will refer to Stage 2 as comprising anticipated future development in the T2 Growth Cell to the north of the Sanderson Group Development. 'T1' will be used to refer to the 'T1 Growth Cell' currently being developed by Frontier Developments to the East of the 'T2' growth cell.

Wastewater philosophy for the T2 growth cell

18. The overall wastewater strategy is similar for both Stages 1 and 2, however these are both somewhat independent systems. The concept for Stage 1 is a gravity reticulation network to a centralised low point where a wastewater pumping station will be constructed to Regional Infrastructure Technical Specification (RITS) standards, and thereafter vested in Waipā District Council. A rising main will be designed to RITS requirements to pump wastewater to the eastern boundary of T2 and all the way north to Pirongia Road. Appropriate easements will be registered to provide for this reticulation. The rising main would continue east along Pirongia Road to an existing Council manhole (Asset ID 20190725094422) where the 225mm $\varnothing$ existing gravity reticulation will convey wastewater to the nearby Te Awamutu Wastewater Treatment Plant.

There is the ability for this rising main to be modified and re-directed if and when desired for future T1 and T2 development.

19. The philosophy for Stage 2 is anticipated to be similar in nature to the strategy for Stage 1, with gravity reticulation to a low point on site. Conversations with Council's Development Engineering staff suggest that wastewater may also be able to be pumped to T1 Stage 3 as it is anticipated that this will be completed prior to the development of Stage 2 of T2. There are also possible routes for rising main infrastructure to run along Pirongia Road, similarly to what is proposed for Stage 1, or for new reticulated infrastructure for the conveyance of wastewater to the Te Awamutu Wastewater Treatment Plant to be developed dependant on future design requirements.
20. As noted on plan 1001-07 (contained in Appendix 2), infrastructure within the Te Awamutu Country Club development will be private and will connect to the public system to be provided as part of the Kotare Heights subdivision and the associated vested road and reserves networks.

Consultation with Waipā District Council Development Engineering regarding Wastewater viability

21. Conversations with Council's Development Engineering staff have confirmed the above outlined approach is acceptable and that prior planning has intended for the above-mentioned existing wastewater manhole to be the receiving infrastructure for both the T1 and T2 growth cells. An upgrade of reticulation has already occurred for this purpose as outlined in the WSP 'T1 and T2 Growth Cells Wastewater Assessment' (August 2018). Furthermore, I have been informed by the Council's Development Engineering staff that works at the Te Awamutu Wastewater Treatment Plant are currently being undertaken, and that upgrades and maintenance will continue on an ongoing basis to ensure sufficient capacity. This can be achieved, because the plant is modular in nature with an adequate supply of land for further expansion.

22. The Development Contribution Policy is in place to ensure appropriate funding for infrastructure, for required upgrades to service the growth cells. The associated development costs are allocated fairly to developers at the time which they develop.

Water Reticulation Philosophy for the T2 Growth Cell

23. Waipā District Council Development Engineering staff, on advice from WSP, has confirmed that there is adequate water supply in the Council system for both the T1 and T2 growth cells. It is anticipated that supply will be made available from an existing 375mmØ main in Frontier Road for Stage 1 and that future connection will be provided for the T1 development at the common T1 - T2 road interface. Detailed design of the water reticulation network will be undertaken as part of the development of Stage 1 following further reporting and advice from WSP and Waipā District Council. Given Stage 2 is anticipated to be developed post-2035, and after the development of Stage 1 of T2 and T1 Stage 3, it is anticipated that there will be multiple water reticulation connection points available to ensure a high level of network integration and acceptable level of service for this portion of the T2 growth cell.

Consultation with Waipā District Council Development Engineering regarding Water Reticulation viability

24. Following consultation with Waipā District Council Development Engineering regarding the 'T1 and T2 Booster Pump Modelling, Design and Construction' report (February 2021) and the wider Te Awamutu water reticulation network, I am informed that the Parallel Road Water Treatment Plant is to be completed this year providing water supply to Te Awamutu via the Waikato River. This is an additional supply source not currently available to Te Awamutu and will allow water to be distributed more evenly across the district. It has been assessed by WSP that following the completion of this infrastructure, supply

will be adequate with due consideration to forecasted growth. Furthermore, this development will implement water metering, as part of an ongoing Council initiative that is helping to reduce water consumption. A booster pump or alternative infrastructure may be installed at the Frontier Road Reservoir if required to provide appropriate levels of water pressure for T1 and T2. This relates largely to localised water pressure rather than town water supply. Multiple solutions have been identified by WSP as viable, and a process is in place for Waipā District Council Development Engineering to provide the required level of service in due course.

Officer's Report

25. I confirm that I have read the Officer's Report and concur with comments related to wastewater and water reticulation matters.
26. At section 5.126 of the Officer's Report a concern is raised relating to the location of the pump station near to the playground/reserve area. I comment that the pump station is located at a significantly lower elevation than the proposed recreational areas, will be integrated into the surrounding landscaping, topography, and abutting embankment, and will incorporate an odour filter to address the amenity concerns that have been raised. The pump station has been strategically located at a common low point to the development and will be installed as per RITS requirements. The design and location of the pump station will also be addressed in more detail through the Kotare subdivision consenting process.

Submissions

27. I address submission points relevant to my area of expertise that I have been asked to comment on as follows.
28. Submitters have commented the following in relation to water reticulation:

- (a) Richard and Diane Swarbrick submits *'Yet more stress on infrastructure. Insufficient Water.'*
 - (b) Paul Wheeler and Rebecca Fraser submit *'Te Awamutu infrastructure is not equipped to handle current subdivisions let alone proposed ones. Water or lack of is already inadequate & have severe water restrictions.'*
 - (c) Joan Galloway and Neil McNamara submit *'Te Awamutu's current water infrastructure is already struggling to cope, with restrictions every summer. The councils own plans highlight the improvement to Te Awamutu's water supply is 10 year plan. If the council agrees to release any land ahead of planned dates in the growth plan does this not have a knock effect to the total plan around all infrastructure spending'.*
 - (d) Graeme Blackstock submits *'In the concept plan for T 2 it advises that the town has adequate water supply for this and the future planned growth. At a residents meeting a resident with knowledge of the towns water supply advised that this is not the case'.*
 - (e) Diane Nicoll submits *'Water can't manage now always restrictions'.*
 - (f) Fonterra submits *'Fonterra understands that the Waipa District Council have undertaken further analysis of the Te Awamutu Township's potable water supply and network requirements - which account for its projected growth. Fonterra is not clear what the impacts of the earlier than planned release of the T2 Growth Cell will mean for the continued availability of water supplied by Council to its Te Awamutu site'.*
29. As set out in section 23 above, I am informed that the Parallel Road Water Treatment Plant is to be completed this year providing water supply to Te Awamutu via the Waikato River. This is an additional supply source not

currently available to Te Awamutu and will allow water to be distributed more evenly across the District. It has been assessed by WSP that following the completion of this infrastructure, supply will be adequate with due consideration to forecasted growth. Furthermore, this development will require water metering, as part of an ongoing Council initiative that is helping to reduce water consumption. The report also suggests further infrastructure to be installed as part of regular ongoing maintenance and upgrade works. These works will be set out in more detail in the Long Term Plan that the Council is preparing this year.

30. Oak Ridge Holdings Limited submits *'Extracts from Opus water modelling report confirm it is unclear whether the Opus model has accounted for other growth cell development, which is zoned residential or planned to be developed between now and 2035. This include T3, T8, T9, T10, T11, T12, T13 growth cells and Bond Road and Paterangi Road Industrial growth cells. Given 4.4 above it seems there are some uncertainties regarding the LOS regarding water supply. While fire flows can be provided for Stage 1 of the development there is no commentary regarding how this may affect other parts of the Te Awamutu urban water reticulation area. Oak Ridge Holdings object to the uplifting of the deferred residential Zone for any of T2 area until it can be demonstrated that there is no reduced level of service in Council's water or wastewater reticulation with respect to undeveloped zoned urban land (particularly the T8 growth area) or land planned for urban growth between now and 2035 (As per Waipa 2050 growth Strategy). Relief Sought - That Council do not rezone land to Residential for the T2 growth area until it is demonstrated that there are no adverse effects on the water or wastewater network supply to planned growth areas in Te Awamutu as identified in Council's 2050 Growth Strategy, or mitigation measures (upgrades) are proposed and confirmed to avoid or reduce these network effects to an acceptable level.'*
31. As set out at Paragraph 24 above, the Parallel Road Water Treatment Plant is to be completed this year providing water supply to Te Awamutu via the

Waikato River. This is an additional supply source not currently available to Te Awamutu and will allow water to be distributed more evenly across the District. It has been assessed by WSP that following the completion of this infrastructure, supply will be adequate with due consideration to forecasted growth. A booster pump or alternative infrastructure may also be installed at the Frontier Road Reservoir, if required, to provide appropriate levels of water pressure for T1 and T2. This relates largely to localised water pressure rather than town water supply. Multiple solutions have been identified by WSP as viable, and a process is in place for Waipā District Council Development Engineering to provide the required level of service in due course.

32. Frontier Developments Limited submits *'The attached Opus report indicates that following installation of a 150mm water main between Frontier & Pirongia Roads T1 has sufficient water pressure to meet firefighting requirements – but does need a booster pump to maintain the arbitrary 20m head pressure – note booster pump should be installed now to service the existing Frontier Rd houses who are at similar elevation to the proposed T1 housing. The booster pump should have been installed already to service the nearby existing Frontier Road housing. The submitter objects to any DC's that may be placed on T1 as a result of these upgrades.'*
33. Following consultation with Waipā District Council Development Engineering staff regarding the 'T1 and T2 Booster Pump Modelling, Design and Construction' report (February 2021), I am informed that WSP has assessed multiple booster pump or alternative solutions as viable and appropriate for providing an adequate water reticulation level of service (domestic and firefighting). Waipā District Council Development Engineering staff have also informed me that they are in the process of selecting an option before implementing associated methodology as detailed by WSP.
34. Oak Ridge Holdings Limited submits in relation to wastewater supply that *'infrastructure capacity within the Te Awamutu urban area may be used by the*

proposed T2 development and reduce capacity for other planned growth areas. The Plan Change document does not confirm any modelling of the wastewater system to confirm sufficient capacity exists. It is assumed that the planned growth order as identified by the Waipa Growth Strategy will be built into all infrastructure modelling. It is uncertain from the Plan Change document whether there are any adverse effects on the capacity of the Council water and wastewater networks.'

35. Capacity of water reticulation networks is demonstrated above. Regarding wastewater infrastructure, following consultation with Waipā District Council Development Engineering staff regarding the 'WSP Waipā District Council Three Waters Master Plan' report (June 2020), I am informed that the Te Awamutu Wastewater Treatment Plant is modular in nature and there is adequate supply of land for its further expansion. Furthermore, there are upgrade works currently being undertaken at the wastewater treatment plant and further works have been scheduled for the plant, and the associated receiving reticulation and pump station, to ensure adequate servicing to cater for both existing and planned growth. It is worth noting that the wastewater network servicing T3, T8, T9, T10, T12 and T13 is largely independent of the network servicing T2, and the common reticulation is all located in rural land in proximity to the treatment plant itself. I reference the WSP 'T1 and T2 Growth Cells Wastewater Assessment' (August 2018) enclosed as Appendix 1 for recent upgrades that have been undertaken to ensure sufficient capacity for T2.
36. Frontier Developments Limited submits '*The infrastructure report states that T2 will have a pump station discharging into Stage 3 of T1. However, this has not been incorporated in the design of T1. Therefore, alternative provision is required.*'
37. Alternative provision is provided in that, should there not be capacity to discharge wastewater within the T1 development, both the pump stations and

associated rising mains detailed for Stage 1 and Stage 2 have the ability to discharge into existing infrastructure within Pirongia Road as has been discussed with Waipā District Council Development Engineering staff. I reference the WSP 'T1 and T2 Growth Cells Wastewater Assessment' (August 2018) attached as Appendix 1 for recent upgrades that have been undertaken to ensure sufficient capacity in the receiving wastewater infrastructure for T1 and T2.

Conclusion

38. This evidence demonstrates the feasibility of wastewater and potable water infrastructure as it relates to development of the T2 Growth cell as proposed by way of Private Plan Change 12. Furthermore, the evidence demonstrates that there is no significant impact on wider Te Awamutu and Waipā District infrastructure capacity when considering infrastructure upgrades that have been or are planned to be undertaken to cater for not only the existing growth cells, but future growth cells including T2. I have addressed the submissions received that have raised concerns with regards to wastewater and water reticulation capacity matters and I conclude that there are no reasons in relation to wastewater or water supply that the proposed plan change should not be approved.



Ciaran Murphy

15 March 2021



Memorandum

To Ryan Mackinnon and Robin Walker

Copy

From Avinash Gangurde / Charlotte Mills

Office Christchurch Environmental Office

Date 10 August 2018

File

Subject T1 and T2 Growth Cells Wastewater Assessment

1. Introduction

WSP Opus was commissioned by Waipa District Council (Council) to assess whether the existing wastewater network had capacity to accept flows from the new T1 and T2 growth cells.

As it was thought the existing system did not have capacity a second part of this assessment was to determine an appropriate pipe upgrade. A new alignment was proposed by Council and an appropriate pipe size has been determined based on this new alignment.

2. Assessment Approach

- The model used for this assessment is the “Te Awamutu - Waikeria Options NZTM Aug 2017”, which was modelled in InfoWorks ICM v6.0.9 (WSP Opus model reference: *chpc044:40000/Waipa WW Models*);
- The T1 and T2 Growth cells proposed plan details was provided by Waipa District Council (WDC) and were added in the base model for wet weather flows (WWF) by WSP Opus.
- A new scenario called “T1 & T2 Growth cells WWF” was created to model the proposed developments’ wastewater contribution to the existing network.
- No other growth cells were considered in this assessment apart from T1 and T2.

3. Uncertainties and Limitations

- The Te Awamutu wastewater network has separate models to represent dry and wet weather flows. The dry weather model is based on the observed flow survey undertaken in 2007. The wet weather model includes an allowance for ingress at 16,500 L/ha/day, applied as a constant flow rate.
- Hence the wet weather results do not correspond to a particular storm event in either return period or duration. However, the model gives an instantaneous peak wet weather flow that is 4 to 5 times the average DWF; this is commonly used for design in New Zealand. Adding ingress as a constant flow does, however, result in potentially overly conservative volume predictions. Thus, the model is not suited for wet weather storage analysis or pump station optimisation.
- Recently it has been identified that the Christie Avenue pump station flow rate is significantly impacted by the operation of the Albert Park pump station, as they share

a section of rising main, refer to Section 4. To assess the capacity of these pump stations, peak flow and volume needs to be represented accurately. The current model does not have this accuracy during wet weather flow, so the assessment of the Christie Ave pump station capacity included in this assessment is potentially inaccurate.

4. Modelling

The peak wet weather flow (PWWF) was calculated as 13.6 L/s for the T1 growth cell and 19.8 L/s for T2 growth cell. These flows were calculated based on the following data:

- The growth cell T1 has GIS measured area of 24.2 ha with 447 lots residential subdivisions whereas T2 has 41.0 ha area with 600 residential lots.
- The Waipa District Development and Subdivision Manual¹ was used to calculate flows from the development. A surface water ingress allowance of 16,500 L/ha/day was used for WWF. An infiltration allowance of 2,250 L/ha/day was used to calculate base flows. Residential foul flow was calculated assuming 200 L/person/day. A peaking factor of 2.7 was assumed for both T1 and T2 growth cells.

The flows from T1 and T2 was added to the manhole circled on *Figure 1*.

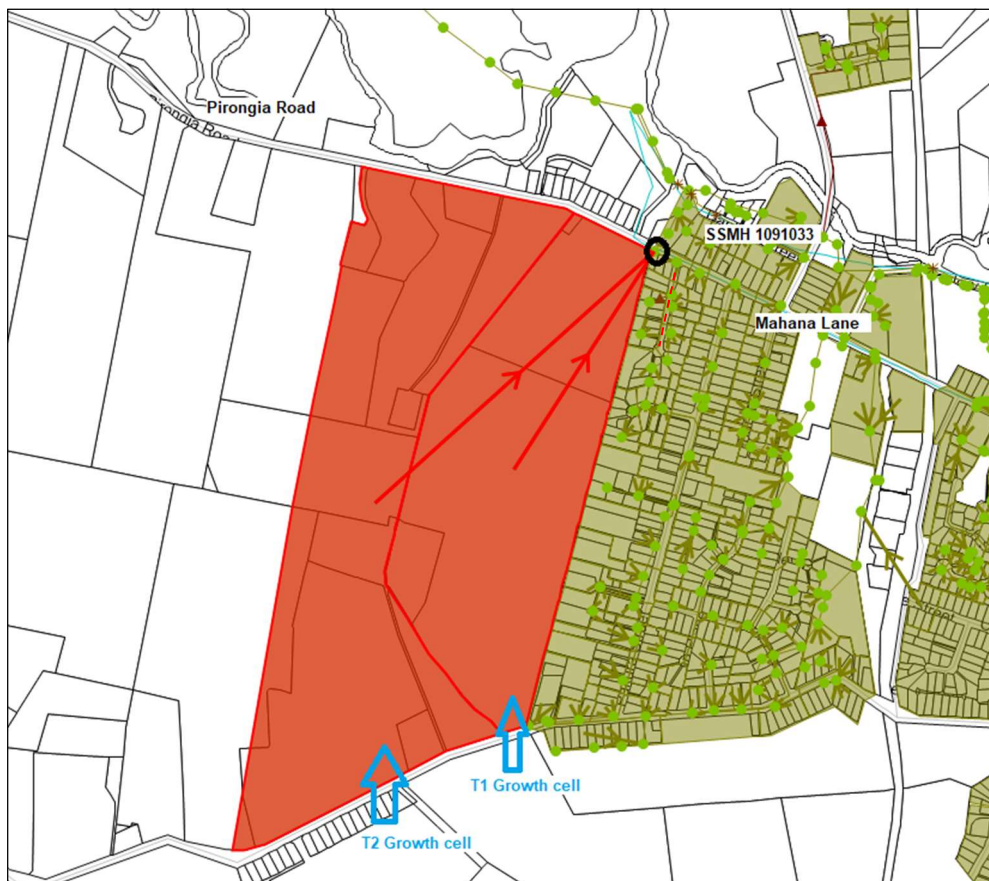


Figure 1: T1 & T2 growth cells (red polygon)

5. Results

5.1 Wet Weather Flow

Figure 2 represents the plan view of the long section along the Māhāna Lane and Figure 3 presents the long section of wastewater network for the WWF scenario with the additional T1 and T2 flows.



Figure 2 Plan view of Long section along Māhāna Lane

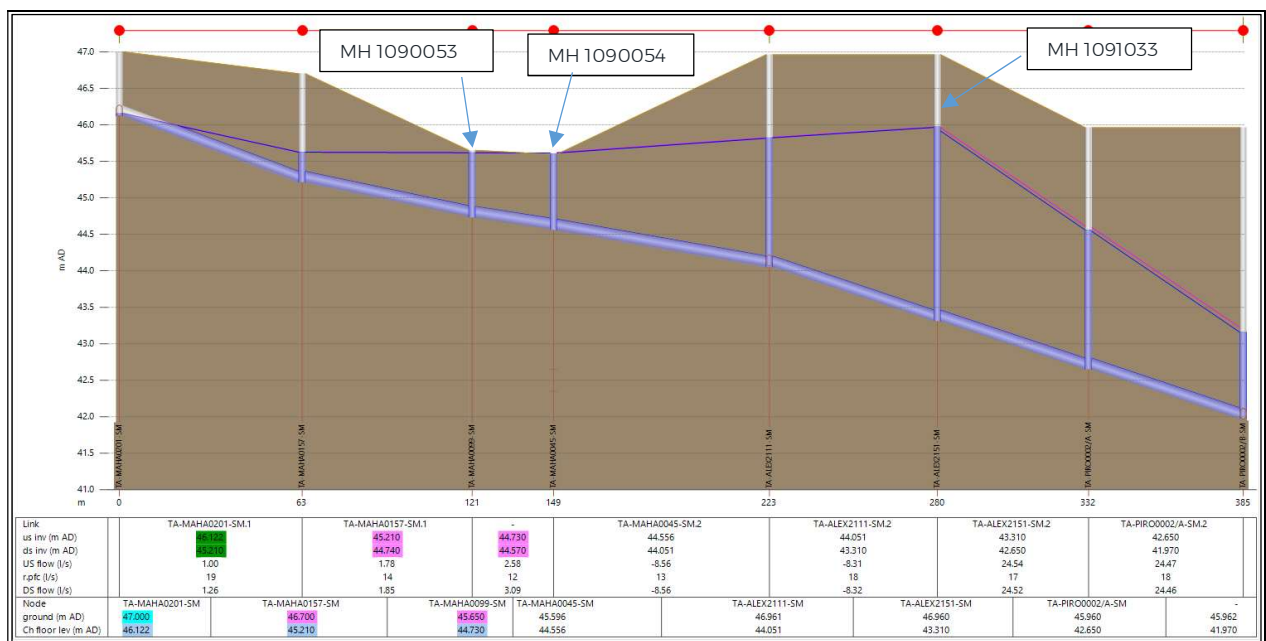


Figure 3 Long section at Māhāna Lane before adding new Alignment

Significant surcharging in the system is predicted with the addition of flows from the T1 and T2 growth cells. Manhole SSMH 1090054 (TA-MAHA0045-SM) on Māhana Lane is predicted to overflow. In addition, the manhole SSMH 1090053 (TA-MAHA0099-SM) is predicted to be surcharged to within 100mm of the manhole lid level.

Council provided a new alignment from manhole SSMH 1091033 up to SSMH 1093042, which is shown in Figure 4.



Figure 4 New Pipe Alignment

Figure 5 represents the plan view of long section of wastewater network along the Māhana Lane with newly added pipe DN225 from SSMH 1091033 up to SSMH 1093042 with T1 and T2 growth cells.

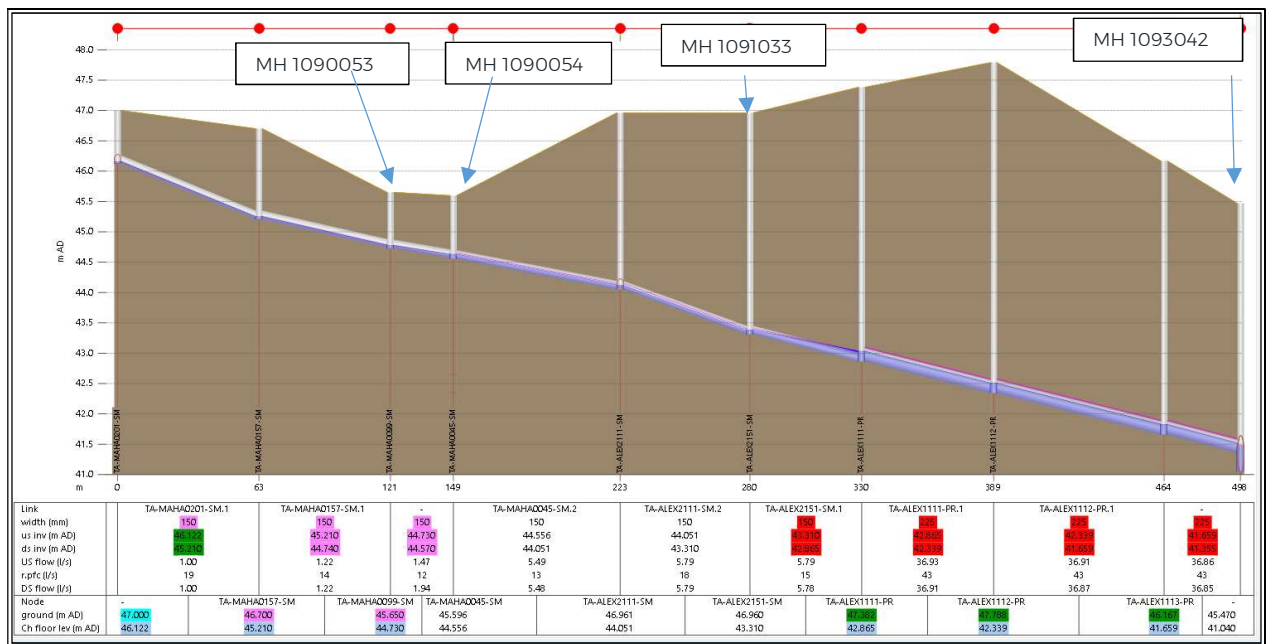


Figure 5 Long section at Māhana Lane after adding new Pipe Alignment

The new DN225 pipeline, is capable of carrying the flows from T1 and T2 growth cells, with no overflows or surcharging predicted in the model. However, there are some downsides to this alignment, as the pipeline is around 4 m deep and there could be a potential clash with the culvert under Pirongia Road. It is recommended these issues are addressed during the pipeline design stage.

6. Conclusions

Overall, the existing wastewater system does not have a capacity to accept the additional flows from the new T1 and T2 growth cells. To overcome this issue a new DN225 pipeline is recommended on the new alignment proposed by Council.

7. Disclaimer

This report has been prepared by WSP Opus for WDC (Client) in respect of the T1 and T2 Growth Cells development enquiry for the purposes agreed between the Client and WSP Opus as specified in the report (Purpose). WSP Opus accepts no responsibility for the validity, appropriateness, sufficiency or consequences of the Client using the report for purposes other than the Purposes and the report is not to be produced without WSP Opus' prior written permission.

This report is not intended for general publication or circulation and is not intended for, and may not be used, by third parties. WSP Opus disclaims all risk and all responsibility to any third party.

This report is subject to the following limitations:

- WSP Opus has provided the report based on the various assumptions contained in this report. This report is provided based on information received from the Client upon which WSP Opus relies, and known to WSP Opus as at the date of the report, including design calculations and drawings. WSP Opus takes no responsibility for the accuracy of that information.

KOTARE PROPERTIES

SUBDIVISION APPLICATION PLAN SET



KOTARE HEIGHTS

52 FRONTIER ROAD, TE AWAMUTU

FEBRUARY 2021

CONTENTS

SHEET 01:	TOPOGRAPHICAL SITE PLAN
SHEET 02:	EXISTING ALLOTMENTS PLAN
SHEET 03:	SUBDIVISION LAYOUT PLAN - ROAD AND RESERVE
SHEET 04:	SUBDIVISION CONSENT PLANS STAGES 1 -4 (PLANS A - E)
SHEET 05:	FINAL CONTOURS PLAN
SHEET 06:	CUT FILL EARTHWORKS PLAN
SHEET 07:	COMBINED SERVICES CONCEPT PLANS
SHEET 08:	SEWER RISING MAIN CONCEPT PLANS (PLANS A & B)
SHEET 09:	TYPICAL ROAD SECTIONS CONCEPT



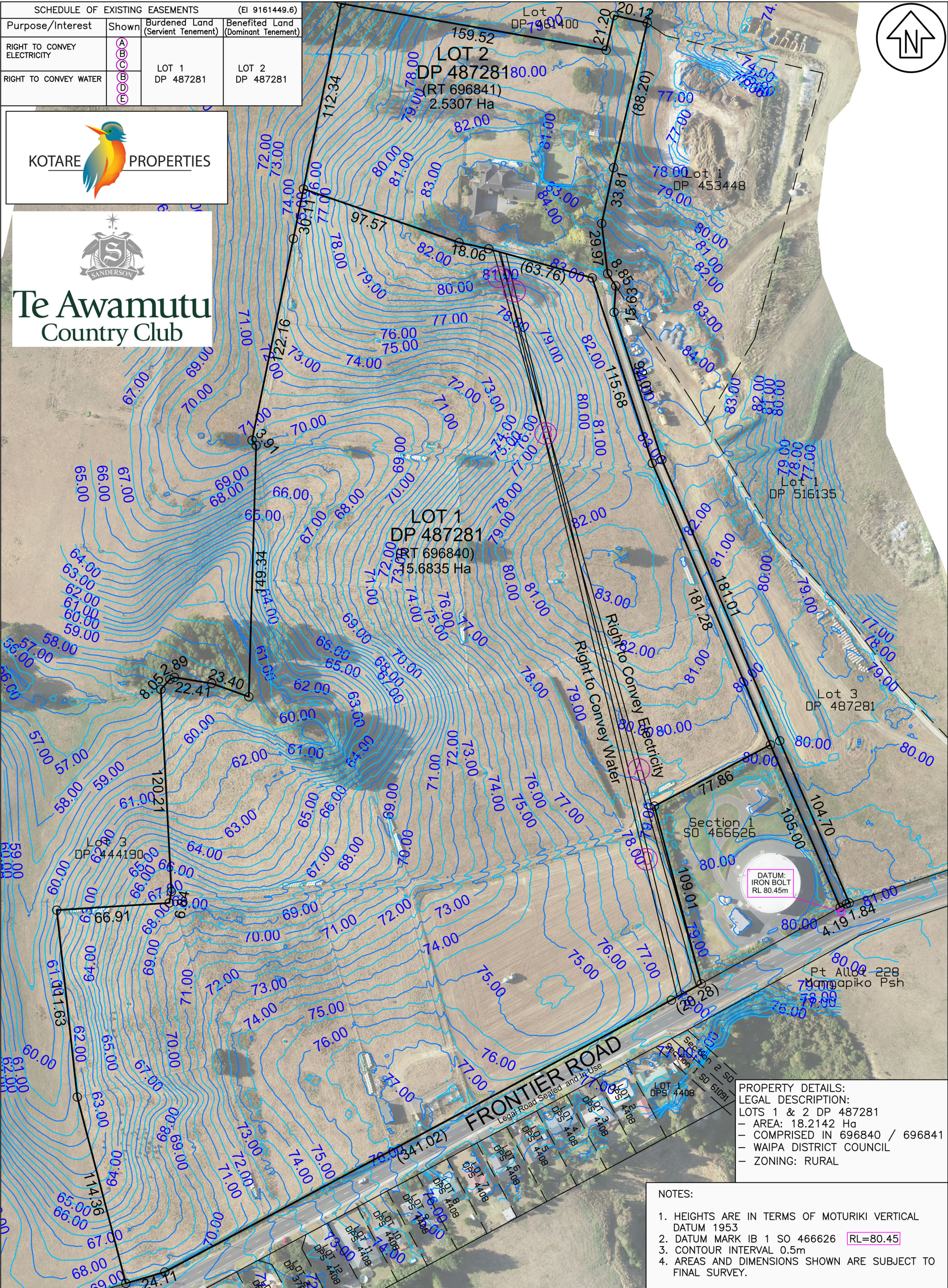
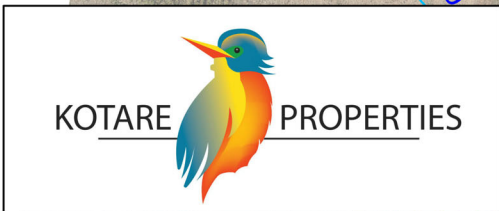
Kotare
CONSULTANTS

Unit D Victoria Arcade
75 Victoria Street
Cambridge 3434 NZ

Tel: 07 827 5340
kotareconsultants.nz
ciaran@kotareconsultants.nz

COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

SCHEDULE OF EXISTING EASEMENTS (EI 9161449.6)			
Purpose/Interest	Shown	Burdened Land (Servient Tenement)	Benefited Land (Dominant Tenement)
RIGHT TO CONVEY ELECTRICITY	(A) (B) (C)	LOT 1 DP 487281	LOT 2 DP 487281
RIGHT TO CONVEY WATER	(B)		
	(D)		
	(E)		



COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

SCHEDULE OF EXISTING EASEMENTS (EI 9161449.6)			
Purpose/Interest	Shown	Burdened Land (Servient Tenement)	Benefited Land (Dominant Tenement)
RIGHT TO CONVEY ELECTRICITY	(A) (B) (C) (D) (E)	LOT 1 DP 487281	LOT 2 DP 487281
RIGHT TO CONVEY WATER	(B) (D) (E)		



PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOTS 1 & 2 DP 487281
- AREA: 18.2142 Ha
- COMPRISED IN 696840 / 696841
- WAIPA DISTRICT COUNCIL
- ZONING: RURAL

- NOTES:
1. HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
 2. DATUM MARK IB 1 SO 466626 **RL=80.45**
 3. CONTOUR INTERVAL 1.0m
 4. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



PLAN TITLE
EXISTING ALLOTMENTS PLAN
OVER LOTS 1 & 2 DP 487281
AT 10 & 52 FRONTIER ROAD, TE AWAMUTU
KOTARE PROPERTIES AND SANDERSON GROUP

REVISION	Rev'd Original	10 SEP 2020	JOB	SHEET
			1001	02
DATE	8 FEBRUARY 2021	SCALE AT A3	1:2000	REV 1
CAD	CPM			

KOTARE HEIGHTS

LOT INFORMATION	
TOTAL NO. OF LOTS	101
AVERAGE LOT SIZE	553m ²
NO. OF FRONT LOTS	86
AVERAGE FRONT LOT SIZE	551m ²
NO. OF REAR LOTS	15
AVERAGE REAR LOT SIZE	563m ²
SMALLEST LOT SIZE	500m ²
LARGEST LOT SIZE	689m ²

TOTAL NUMBER OF REPRESENTATIVE
CARPARKS = 120

Note

Representative Concept Only - Detailed Road Layout and Engineering Design to be provided in due course for review and acceptance by Waipa District Council Development Engineering



PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOTS 1 & 2 DP 487281
— AREA: 18.2142 Ha
— COMPRISED IN 696840 / 696841
— WAIPA DISTRICT COUNCIL
— ZONING: RURAL

NOTES:

1. HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
2. DATUM MARK IB 1 SO 466626 RL=80.45
3. CONTOUR INTERVAL 1.0m
4. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

MEMORANDUM OF EASEMENTS (Pursuant to s243 Resource Management Act 1991)			
Purpose/Interest	Shown	Burdened Land (Servient Tenement)	Benefited Land (Dominant Tenement)
RIGHT OF WAY RIGHT TO CONVEY WATER, TELECOMMUNICATIONS & COMPUTER MEDIA, ELECTRICITY & GAS RIGHT TO DRAIN WATER RIGHT TO DRAIN SEWAGE	(A)	LOT 1003 HEREON	LOTS 1001 & 1002 HEREON

AMALGAMATION CONDITION: (Pursuant to Section 220(2)(a) Resource Management Act 1991)			
THAT LOT 1001 HEREON AND LOT 1002 HEREON BE HELD IN THE SAME RECORD OF TITLE. SEE LINZ REQUEST			

MEMORANDUM OF EASEMENTS IN GROSS (Pursuant to s243 Resource Management Act 1991)			
Purpose /Interest	SHOWN	Burdened Land (Servient Tenement)	Grantee
RIGHT TO DRAIN SEWAGE	(A)		WAIPA DISTRICT COUNCIL
	(B)	LOT 1003 HEREON	
	(G)	LOT 1001 HEREON	
	(H)	LOT 7 DP 461400	
	(I)	LOT 2 DP 534367	
	(J)	LOT 2 DP 457600	



STAGE
ONE

LOT 1001
TE AWAMUTU COUNTRY CLUB
8.12 Ha

LOT 1003
KOTARE HEIGHTS
9.16 Ha
'see Stages 2, 3, & 4'

LOT 1002
TE AWAMUTU
COUNTRY CLUB
0.82 Ha Net
0.93 Ha Gross

Section 1
SO 466626

WAIPA DISTRICT COUNCIL
RESERVOIR AND WATER
TREATMENT PLANT

Existing Entrance
Right Lines
- 260m East
- 490m West

Pt Allot 228
Mangapiko Psh

PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOTS 1 & 2 DP 487281
- AREA: 18.2142 Ha
- COMPRISED IN 696840 / 696841
- WAIPA DISTRICT COUNCIL
- ZONING: RURAL

NOTES:

- HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
- DATUM MARK IB 1 SO 466626 **RL=80.45**
- CONTOUR INTERVAL 1.0m
- AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



PLAN TITLE

SUBDIVISION CONSENT PLAN – STAGE ONE
LOTS 1001–1003 BEING A SUBDIVISION
OF LOTS 1 & 2 DP 487281
AT 10 & 52 FRONTIER ROAD, TE AWAMUTU
KOTARE PROPERTIES and SANDERSON GROUP

REVISION	Rev'd Original	10 SEP 2020	JOB
			1001
DATE	8 February 2021		SCALE AT A3
CAD	CPM		1:2000

SHEET	04A
REV 0	

COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

STAGE ONE (North)

Proposed Easements over

- Lot 1001 Stage One
- Lot 7 DP 461400
- Lot 2 DP 534367
- Lot 2 DP 457600

Lot 1
DP 327266

Lot 2
DP 457600

Lot 1
DP 500541

Lot 2
DP 534367

Lot 3
DP 478844

Lot 1
DP 516135

Lot 7
DP 461400

PIRONGIA ROAD
Legal Road Sealed and In Use



MEMORANDUM OF EASEMENTS IN GROSS (Pursuant to s243 Resource Management Act 1991)			
Purpose /Interest	SHOWN	Burdened Land (Servient Tenement)	Grantee
RIGHT TO DRAIN WATER	D	LOT 110 HEREON	WAIPA DISTRICT COUNCIL
RIGHT TO DRAIN SEWAGE	A	LOT 113 HEREON	WAIPA DISTRICT COUNCIL
	B	LOT 110 HEREON	
	D	LOT 110 HEREON	
	G	LOT 1001 STAGE 1	
	H	LOT 7 DP 461400	
	I	LOT 2 DP 534367	
	J	LOT 2 DP 457600	



NOTES:

1. HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
2. DATUM MARK IB 1 SO 466626 RL=80.45
3. CONTOUR INTERVAL 2.0m
4. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



PLAN TITLE
SUBDIVISION CONSENT PLAN – STAGE ONE
LOTS 1001–1003 BEING A SUBDIVISION
OF LOTS 1 & 2 DP 487281
AT 10 & 52 FRONTIER ROAD, TE AWAMUTU
KOTARE PROPERTIES AND SANDERSON GROUP

REVISION	Rev0 Original	10 SEP 2020	JOB	SHEET
			1001	04B
DATE	8 February 2021		SCALE AT A3	REV 0
CAD	CPM		1:2000	

COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

AMALGAMATION CONDITION: (Pursuant to Section 220(1)(b)(iv) Resource Management Act 1991) THAT LOT 109 HEREON BE HELD AS TO FIVE UNDIVIDED ONE-FIFTH SHARES BY THE OWNERS OF LOTS 18 TO 22 HEREON SEE LINZ REQUEST			
--	--	--	--

MEMORANDUM OF EASEMENTS (Pursuant to s243 Resource Management Act 1991)			
Purpose/Interest	Shown	Burdened Land (Servient Tenement)	Benefited Land (Dominant Tenement)
RIGHT OF WAY RIGHT TO CONVEY WATER, TELECOMMUNICATIONS & COMPUTER MEDIA, ELECTRICITY & GAS RIGHT TO DRAIN WATER RIGHT TO DRAIN SEWAGE	C	LOT 109 HEREON	LOTS 18 & 22 HEREON

MEMORANDUM OF EASEMENTS IN GROSS (Pursuant to s243 Resource Management Act 1991)			
Purpose /Interest	SHOWN	Burdened Land (Servient Tenement)	Grantee
RIGHT TO DRAIN SEWAGE	C	LOT 109 HEREON	WAIPA DISTRICT COUNCIL
RIGHT TO DRAIN WATER	C	LOT 109 HEREON	WAIPA DISTRICT COUNCIL
RIGHT TO CONVEY WATER	C	LOT 109 HEREON	WAIPA DISTRICT COUNCIL
RIGHT TO CONVEY ELECTRICITY & TELECOMMUNICATIONS	C	LOT 109 HEREON	WAIPA NETWORKS LTD
RIGHT TO CONVEY TELECOMMUNICATIONS	C	LOT 109 HEREON	ULTRAFAST FIBRE LTD
RIGHT TO CONVEY GAS	C	LOT 109 HEREON	FIRST GAS LTD
RIGHT TO DRAIN SEWAGE	D	LOT 109 HEREON	WAIPA DISTRICT COUNCIL
RIGHT TO DRAIN WATER	D	LOT 109 HEREON	WAIPA DISTRICT COUNCIL
RIGHT TO DRAIN SEWAGE	K	LOT 1004 HEREON	WAIPA DISTRICT COUNCIL
RIGHT TO DRAIN WATER	K	LOT 1004 HEREON	WAIPA DISTRICT COUNCIL
RIGHT TO DRAIN SEWAGE	L	LOT 1004 HEREON	WAIPA DISTRICT COUNCIL
RIGHT TO DRAIN WATER	L	LOT 1004 HEREON	WAIPA DISTRICT COUNCIL

SCHEDULE OF EASEMENTS TO BE SURRENDERED			
Purpose /Interest	SHOWN	Burdened Land (Servient Tenement)	Grantee
RIGHT TO DRAIN SEWAGE	B	LOT 1003 'STAGE ONE'	WAIPA DISTRICT COUNCIL



KEY

Lot with 13mØ Shape Factor

Yard Setbacks as per
Waipa District Plan

Specific Development Control

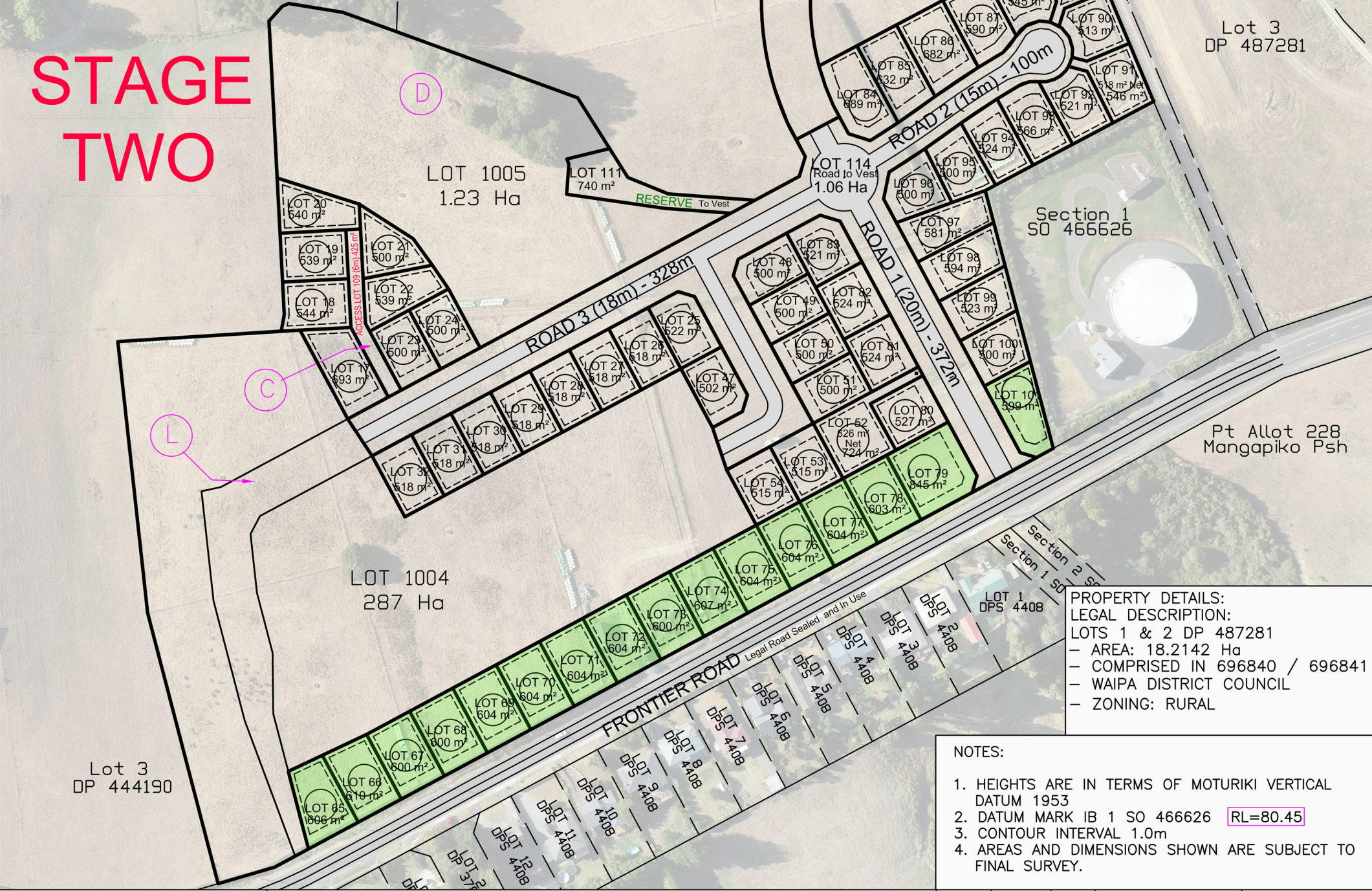
- 5m Max. Building Height Limit

- 1.2m Max Fence Height Limit

SCHEDULE OF EXISTING EASEMENTS IN GROSS (Pursuant to s243 Resource Management Act 1991)			
Purpose /Interest	SHOWN	Burdened Land (Servient Tenement)	Grantee
RIGHT TO DRAIN SEWAGE	A	LOT 113 HEREON	WAIPA DISTRICT COUNCIL
	G	LOT 1001 STAGE 1	
	H	LOT 7 DP 461400	
	I	LOT 2 DP 534367	
	J	LOT 2 DP 457600	

SCHEDULE OF EXISTING EASEMENTS			
Purpose/Interest	Shown	Burdened Land (Servient Tenement)	Benefited Land (Dominant Tenement)
RIGHT OF WAY RIGHT TO CONVEY WATER, TELECOMMUNICATIONS & COMPUTER MEDIA, ELECTRICITY & GAS RIGHT TO DRAIN WATER RIGHT TO DRAIN SEWAGE	A	LOT 113 HEREON	LOTS 1001 & 1002 STAGE 1

STAGE TWO



PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOTS 1 & 2 DP 487281
- AREA: 18.2142 Ha
- COMPRISED IN 696840 / 696841
- WAIPA DISTRICT COUNCIL
- ZONING: RURAL

- NOTES:
- HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
 - DATUM MARK IB 1 SO 466626 **RL=80.45**
 - CONTOUR INTERVAL 1.0m
 - AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



PLAN TITLE **SUBDIVISION CONSENT PLAN – STAGE TWO**
LOTS 17–32, 47–54, 65–101, 111, 113, 114, 1004 & 1005
BEING A SUBDIVISION OF LOT 1003 (STAGE ONE)
AT 10 & 52 FRONTIER ROAD, TE AWAMUTU
KOTARE PROPERTIES

REVISION	Rev0 Original	10 SEP 2020	JOB	SHEET
			1001	04C
DATE	8 FEBRUARY 2021		SCALE AT A3	REV 1
CAD	CPM		1:2000	

STAGE THREE

MEMORANDUM OF EASEMENTS TO BE SURRENDERED (Pursuant to s243 Resource Management Act 1991)			
Purpose/Interest	Shown	Burdened Land (Servient Tenement)	Benefited Land (Dominant Tenement)
RIGHT OF WAY RIGHT TO CONVEY WATER, TELECOMMUNICATIONS & COMPUTER MEDIA, ELECTRICITY & GAS RIGHT TO DRAIN WATER RIGHT TO DRAIN SEWAGE	(A)	LOT 113 STAGE 2	LOT 116 & 117 HEREON

MEMORANDUM OF EASEMENTS IN GROSS TO BE SURRENDERED (Pursuant to s243 Resource Management Act 1991)			
Purpose /Interest	SHOWN	Burdened Land (Servient Tenement)	Grantee
RIGHT TO DRAIN SEWAGE	(A) (K)	LOT 113 STAGE 2	WAIPA DISTRICT COUNCIL
RIGHT TO DRAIN STORMWATER	(K)	LOT 113 STAGE 2	WAIPA DISTRICT COUNCIL



LOT 116
TE AWAMUTU COUNTRY CLUB
8.12 Ha

LOT 113
STAGE 2
0.45 Ha
Road to Vest
in Waipa DC

LOT 117
TE AWAMUTU
COUNTRY CLUB
0.82 Ha Net
0.93 Ha Gross

ROAD 1 (20m)
To Vest ~210m

ROAD 2 (15m) - 100m

ROAD 1 (20m) - 162m

ROAD 3 (18m) - 328m

LOT 1005
STAGE TWO

LOT 1004
STAGE TWO

Section 1
SO 466626

Pt Allot 228
Mangapiko Psh

PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOTS 1 & 2 DP 487281
- AREA: 18.2142 Ha
- COMPRISED IN 696840 / 696841
- WAIPA DISTRICT COUNCIL
- ZONING: RURAL

NOTES:

- HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
- DATUM MARK IB 1 SO 466626 **RL=80.45**
- CONTOUR INTERVAL 1.0m
- AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

PLAN TITLE

SUBDIVISION CONSENT PLAN – STAGE THREE
LOTS 113 & 117 BEING A SUBDIVISION OF
LOTS 1001 & 1002 (STAGE ONE)
AT 10 & 52 FRONTIER ROAD, TE AWAMUTU
KOTARE PROPERTIES



Kotare Consultants Limited:

Unit D Victoria Arcade, 75 Victoria Street. Cambridge 3434 NZ

Tel: 07 827 5340

office@kotareconsultants.nz

REVISION	Rev0 Original	10 SEP 2020	JOB
			1001
DATE	8 FEBRUARY 2021	SCALE AT A3	1:2000
CAD	CPM		

SHEET	04D
REV 1	

COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

C:\USERS\CIARA\KOTARE CONSULTANTS\KOTARE PROJECTS - DOCUMENTS\1001 KOTARE HEIGHTS\5 DESIGN\SUB CONSENT\1001-04D STAGE THREE PLAN REV1.DWG

COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

AMALGAMATION CONDITION: (Pursuant to Section 220(1)(b)(iv) Resource Management Act 1991) THAT LOT 107 HEREON BE HELD AS TO THREE UNDIVIDED ONE-THIRD SHARES BY THE OWNERS OF LOTS 1 TO 3 HEREON SEE LINZ REQUEST			
AMALGAMATION CONDITION: (Pursuant to Section 220(1)(b)(iv) Resource Management Act 1991) THAT LOT 108 HEREON BE HELD AS TO FOUR UNDIVIDED ONE-FOURTH SHARES BY THE OWNERS OF LOTS 10 TO 13 HEREON SEE LINZ REQUEST			
MEMORANDUM OF EASEMENTS (Pursuant to s243 Resource Management Act 1991)			
Purpose/Interest	Shown	Burdened Land (Servient Tenement)	Benefited Land (Dominant Tenement)
RIGHT OF WAY RIGHT TO CONVEY WATER, TELECOMMUNICATIONS & COMPUTER MEDIA, ELECTRICITY & GAS RIGHT TO DRAIN WATER RIGHT TO DRAIN SEWAGE	(E)	LOT 107 HEREON	LOT 1 – 3 HEREON
	(F)	LOT 108 HEREON	LOT 10 –13 HEREON
MEMORANDUM OF EASEMENTS IN GROSS (Pursuant to s243 Resource Management Act 1991)			
Purpose /Interest	SHOWN	Burdened Land (Servient Tenement)	Grantee
RIGHT TO DRAIN SEWAGE	(E)	LOT 107 HEREON	WAIPA DISTRICT COUNCIL
	(F)	LOT 108 HEREON	
RIGHT TO DRAIN WATER	(E)	LOT 107 HEREON	WAIPA DISTRICT COUNCIL
	(F)	LOT 108 HEREON	
RIGHT TO CONVEY WATER	(E)	LOT 107 HEREON	WAIPA DISTRICT COUNCIL
	(F)	LOT 108 HEREON	
RIGHT TO CONVEY ELECTRICITY & TELECOMMUNICATIONS	(E)	LOT 107 HEREON	WAIPA NETWORKS LTD
	(F)	LOT 108 HEREON	
RIGHT TO CONVEY TELECOMMUNICATIONS	(E)	LOT 107 HEREON	ULTRAFAST FIBRE LTD
	(F)	LOT 108 HEREON	
RIGHT TO CONVEY GAS	(E)	LOT 107 HEREON	FIRST GAS LTD
	(F)	LOT 108 HEREON	



KEY

Lot with 13mØ Shape Factor

Yard Setbacks as per Waipa District Plan

Specific Development Control

- 4m Building Setback West Boundary

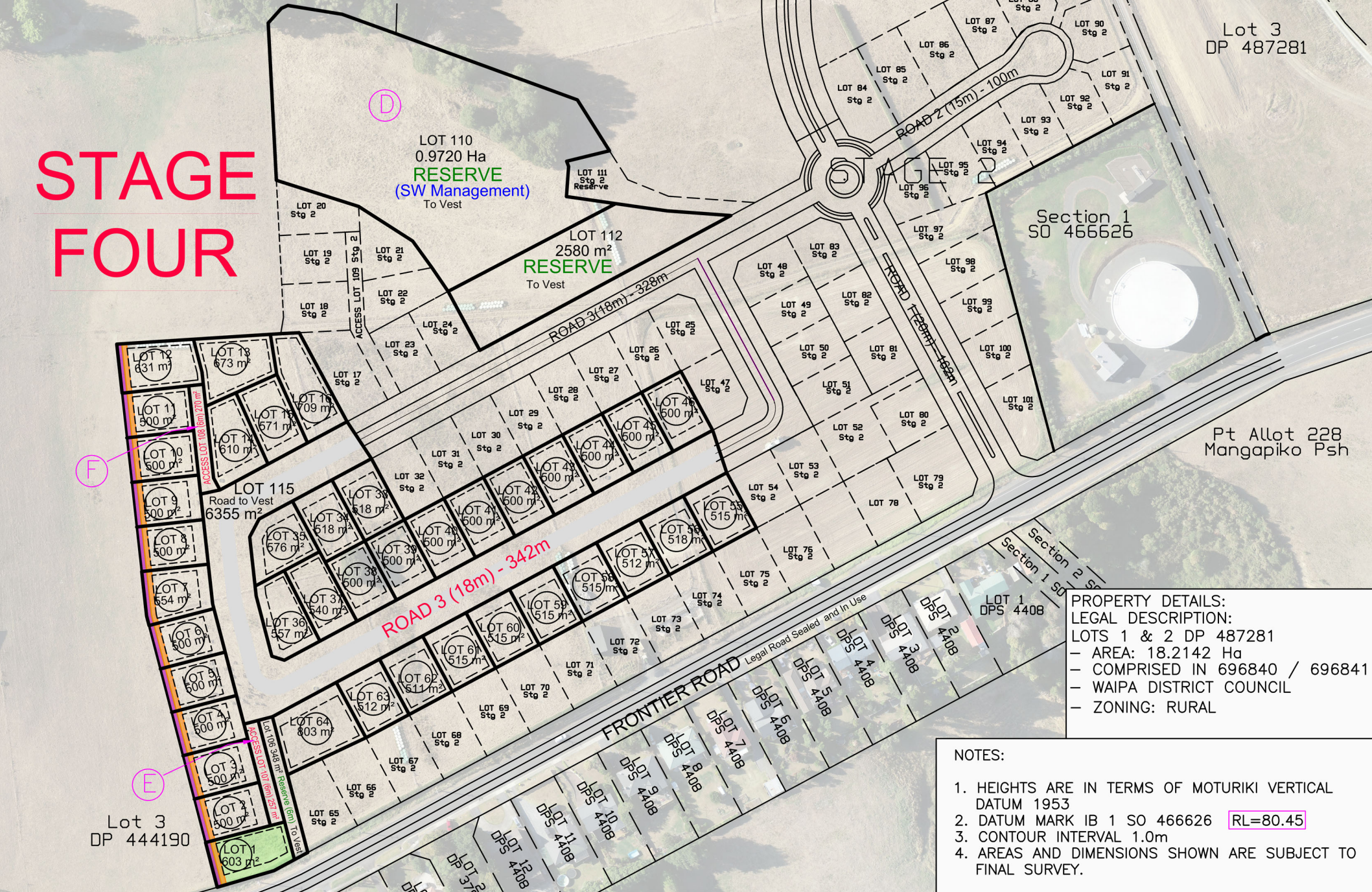
- 2m Buffer Planting Area

- 5m Max. Building Height Limit

- 1.2m Max Fence Height Limit

MEMORANDUM OF EASEMENTS TO BE SURRENDERED (Pursuant to s243 Resource Management Act 1991)			
Purpose /Interest	SHOWN	Burdened Land (Servient Tenement)	Grantee
RIGHT TO DRAIN SEWAGE	(D)	LOTS 110 & 112 HEREON	WAIPA DISTRICT COUNCIL
RIGHT TO DRAIN WATER	(D)	LOTS 110 & 112 HEREON	WAIPA DISTRICT COUNCIL
RIGHT TO DRAIN SEWAGE	(L)	LOT 1004 STG 2	WAIPA DISTRICT COUNCIL
RIGHT TO DRAIN WATER	(L)	LOT 1004 STG 2	WAIPA DISTRICT COUNCIL

STAGE
FOUR



PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOTS 1 & 2 DP 487281
- AREA: 18.2142 Ha
- COMPRISED IN 696840 / 696841
- WAIPA DISTRICT COUNCIL
- ZONING: RURAL

- NOTES:
- HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
 - DATUM MARK IB 1 SO 466626 **RL=80.45**
 - CONTOUR INTERVAL 1.0m
 - AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

PLAN TITLE
SUBDIVISION CONSENT PLAN – STAGE FOUR
LOTS 1–16, 33–46, 55–64 & 110, 112, & 115
BEING A SUBDIVISION OF LOTS 1004 & 1005 (STAGE TWO)
AT 10 & 52 FRONTIER ROAD, TE AWAMUTU
KOTARE PROPERTIES

REVISION	Rev0 Original	10 SEP 2020	JOB	1001	SHEET	04E
DATE	8 FEBRUARY 2021		SCALE AT A3	1:2000	REV	1
CAD	CPM					



Kotare Consultants Limited:

Unit D Victoria Arcade, 75 Victoria Street. Cambridge 3434 NZ

Tel: 07 827 5340

office@kotareconsultants.nz

C:\USERS\CIARA\KOTARE CONSULTANTS\KOTARE PROJECTS - DOCUMENTS\1001 KOTARE HEIGHTS\5 DESIGN\SUB CONSENT\1001-04E STAGE FOUR PLAN REV1.DWG

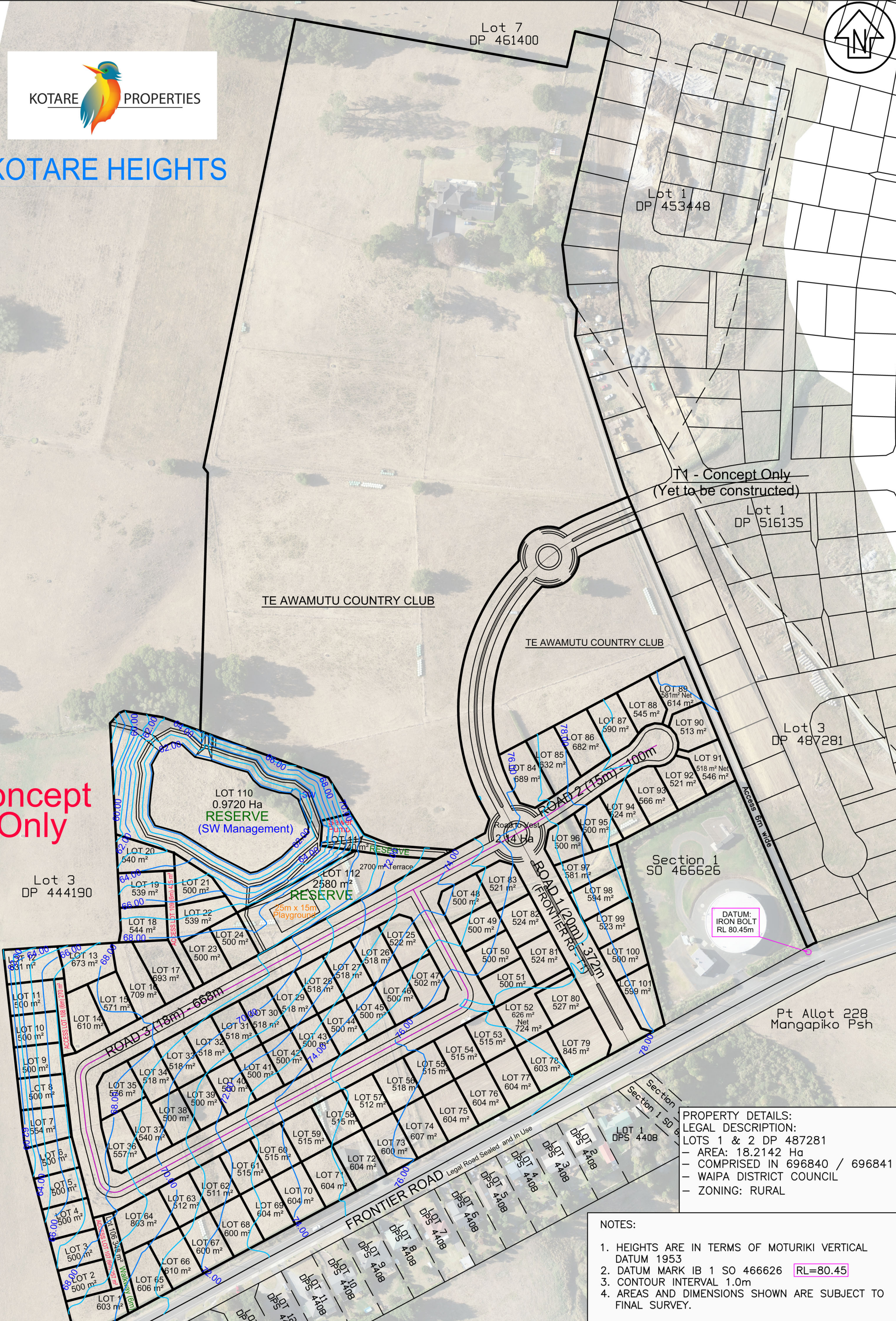
COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



KOTARE HEIGHTS



Concept Only



PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOTS 1 & 2 DP 487281
- AREA: 18.2142 Ha
- COMPRISED IN 696840 / 696841
- WAIPA DISTRICT COUNCIL
- ZONING: RURAL

- NOTES:
- 1. HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
 - 2. DATUM MARK IB 1 SO 466626 RL=80.45
 - 3. CONTOUR INTERVAL 1.0m
 - 4. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

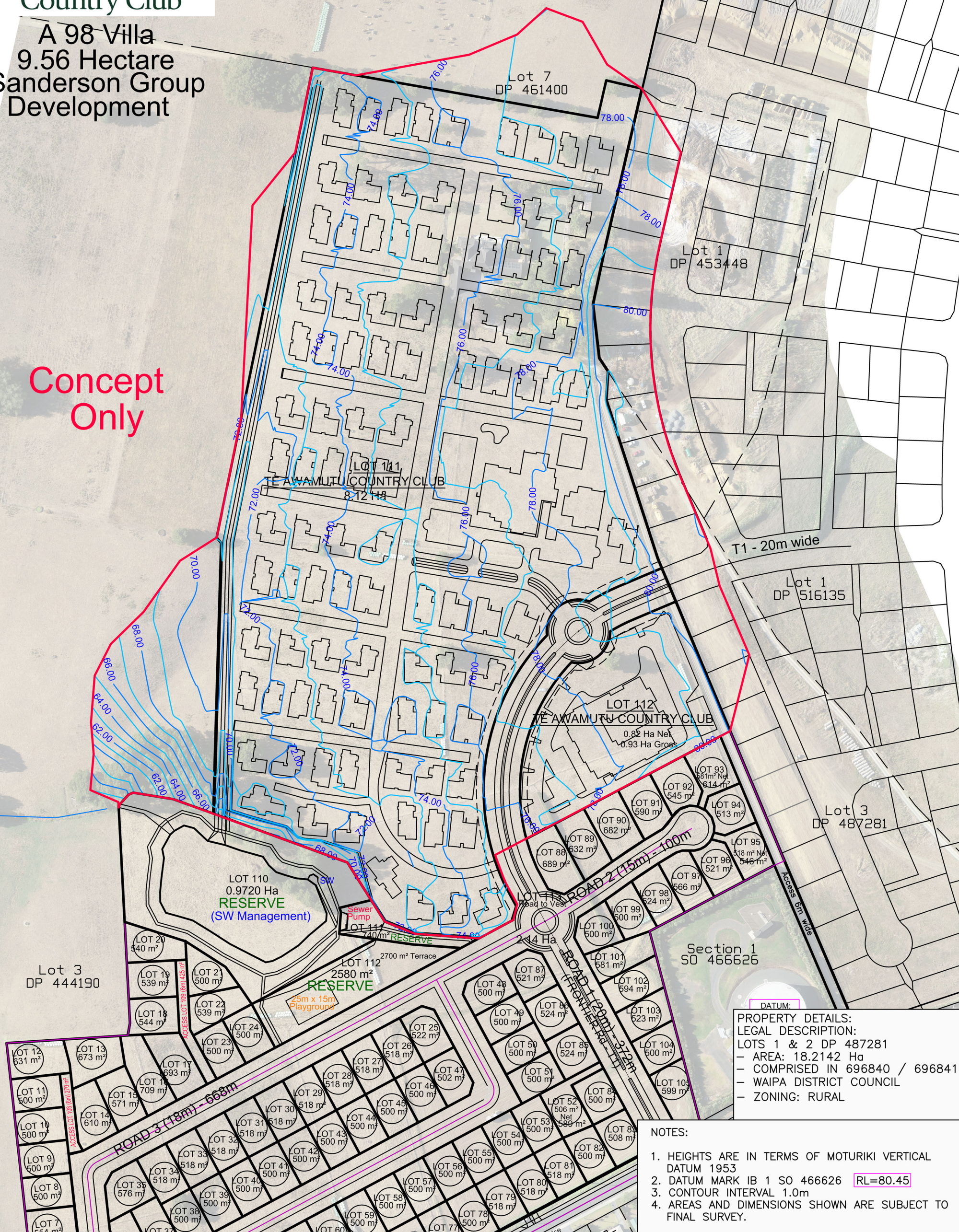


PLAN TITLE
FINAL CONTOURS PLAN
LOTS 1-117 BEING A SUBDIVISION
OF LOTS 1 & 2 DP 487281
AT 10 & 52 FRONTIER ROAD, TE AWAMUTU
KOTARE PROPERTIES

REVISION	Rev0 Original	10 SEP 2020	JOB	1001	SHEET	05
DATE	8 FEBRUARY 2021		SCALE AT A3	1:2000	REV	1
CAD	CPM					

A 98 Villa
9.56 Hectare
Sanderson Group
Development

Concept Only



DATUM:

PROPERTY DETAILS:

LEGAL DESCRIPTION:

LOTS 1 & 2 DP 487281

- AREA: 18.2142 Ha
- COMPRISED IN 696840 / 696841
- WAIPA DISTRICT COUNCIL
- ZONING: RURAL

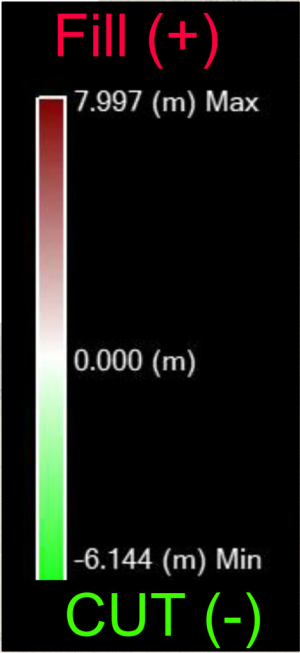
NOTES:

1. HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
2. DATUM MARK IB 1 SO 466626 RL=80.45
3. CONTOUR INTERVAL 1.0m
4. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY

COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

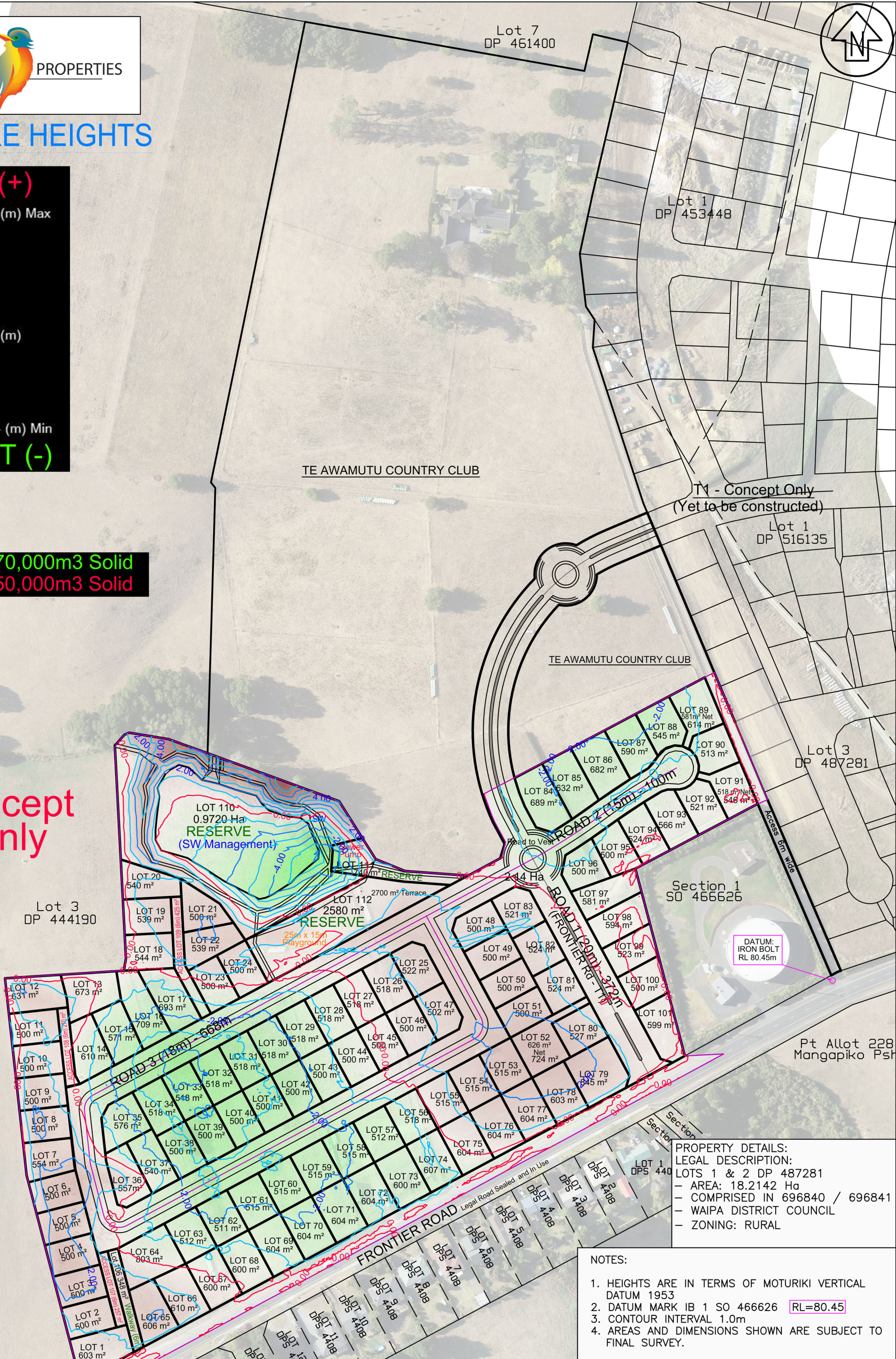


KOTARE HEIGHTS



CUT = 70,000m3 Solid
Fill = 50,000m3 Solid
x1.4

Concept Only



PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOTS 1 & 2 DP 487281
- AREA: 18.2142 Ha
- COMPRISED IN 696840 / 696841
- WAIPA DISTRICT COUNCIL
- ZONING: RURAL

- NOTES:
1. HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
 2. DATUM MARK IB 1 SO 466626 RL=80.45
 3. CONTOUR INTERVAL 1.0m
 4. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



PLAN TITLE
CUT FILL CONTOURS PLAN
LOTS 1-117 BEING AN SUBDIVISION
OF LOTS 1 & 2 DP 487281
AT 10 & 52 FRONTIER ROAD, TE AWAMUTU
KOTARE PROPERTIES

REVISION	RevD Original	10 SEP 2020	JOB	SHEET
			1001	06
DATE	8 FEBRUARY 2021		SCALE AT A3	REV 1
CAD	CPM		1:2000	



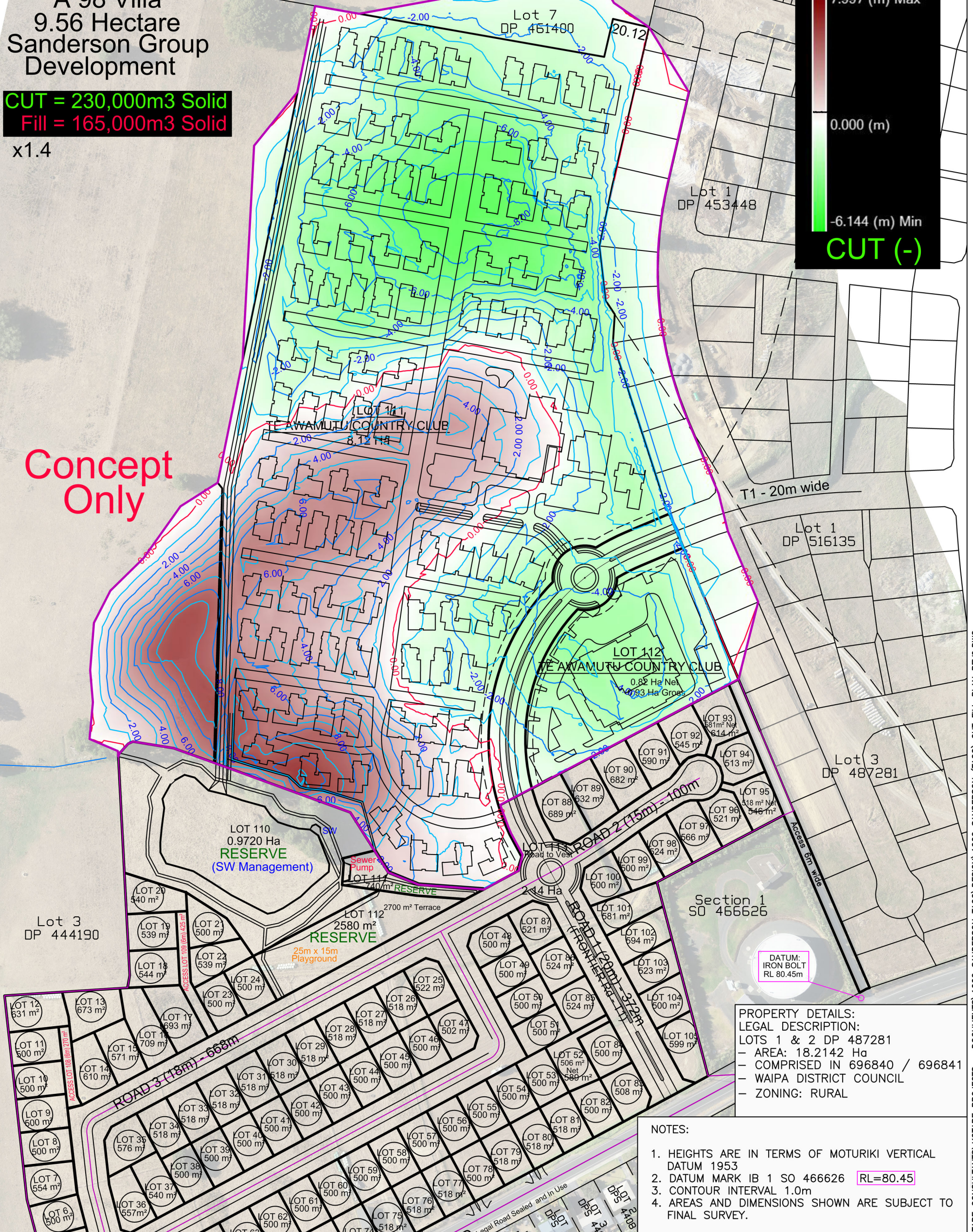
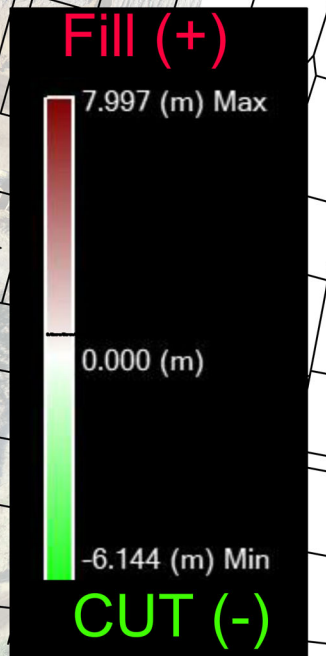
Te Awamutu Country Club

A 98 Villa
9.56 Hectare
Sanderson Group
Development

CUT = 230,000m³ Solid
Fill = 165,000m³ Solid

x1.4

Concept
Only



PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOTS 1 & 2 DP 487281
- AREA: 18.2142 Ha
- COMPRISED IN 696840 / 696841
- WAIPA DISTRICT COUNCIL
- ZONING: RURAL

NOTES:

1. HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
2. DATUM MARK IB 1 SO 466626 RL=80.45
3. CONTOUR INTERVAL 1.0m
4. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

PLAN TITLE

CUT FILL CONTOURS PLAN
TE AWAMUTU COUNTRY CLUB
OVER LOTS 1 & 2 DP 487281
AT 10 FRONTIER ROAD, TE AWAMUTU
SANDERSON GROUP

REVISION	Rev'd Original	10 SEP 2020	JOB
			1002
DATE	SEPTEMBER 2020	SCALE AT A3	1:2000
CAD	CPM		

SHEET	06
REV 9	



COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



KOTARE HEIGHTS

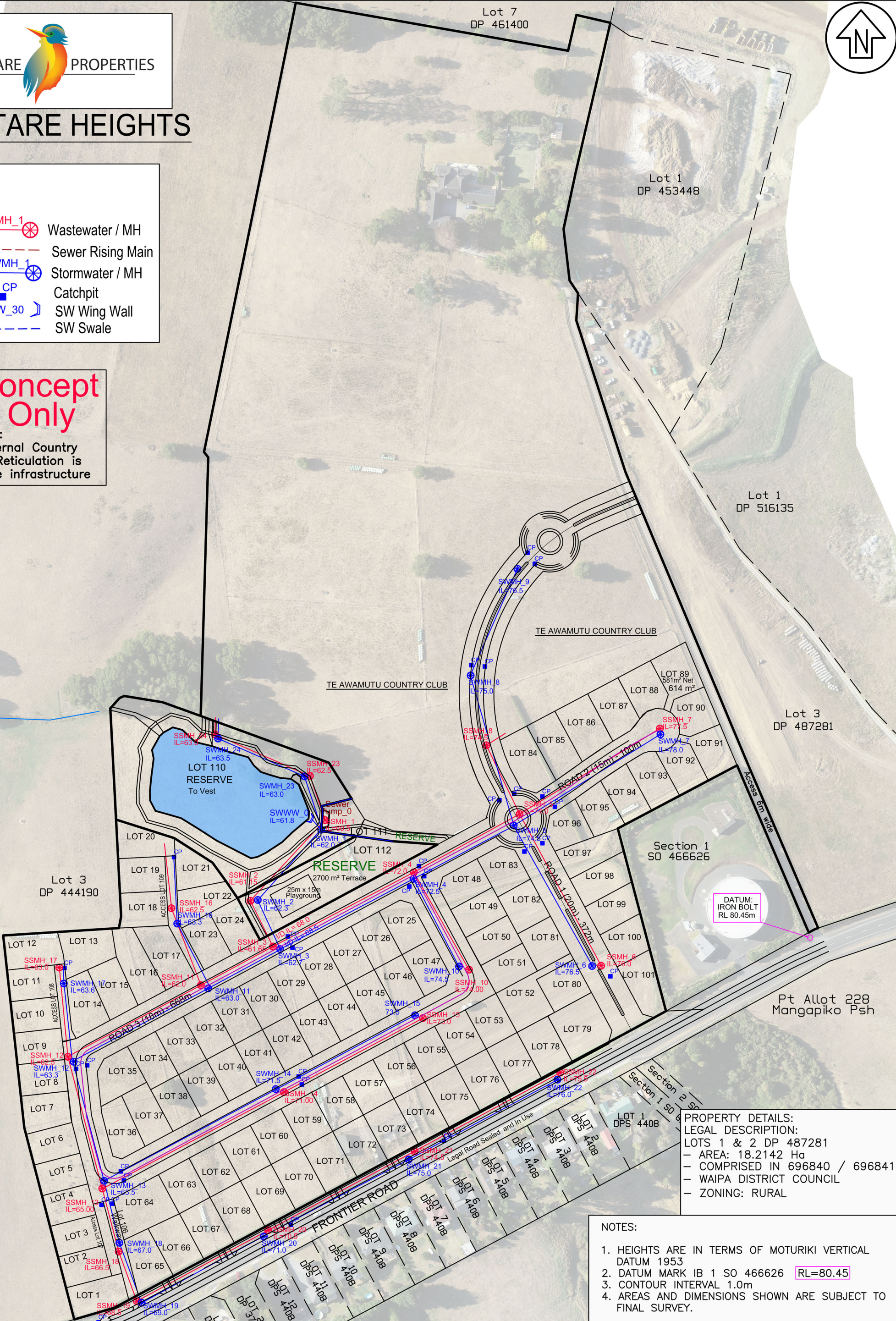
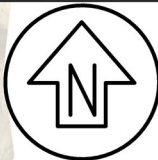
KEY

- SSMH_1 Wastewater / MH
- Sewer Rising Main
- SWMH_1 Stormwater / MH
- CP Catchpit
- SWWW_30 SW Wing Wall
- SW Swale

Concept Only

NOTES:

1. Internal Country Club Reticulation is Private infrastructure



PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOTS 1 & 2 DP 487281
- AREA: 18.2142 Ha
- COMPRISED IN 696840 / 696841
- WAIPA DISTRICT COUNCIL
- ZONING: RURAL

NOTES:

- HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
- DATUM MARK IB 1 SO 466626 **RL=80.45**
- CONTOUR INTERVAL 1.0m
- AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



PLAN TITLE
COMBINED SERVICE PLAN
LOTS 1-117 BEING A SUBDIVISION
OF LOTS 1 & 2 DP 487281
AT 10 & 52 FRONTIER ROAD, TE AWAMUTU
KOTARE PROPERTIES

REVISION	Rev'd Original	10 SEP 2020	JOB	SHEET
			1001	07A
DATE	8 FEBRUARY 2021	SCALE AT A3	1:2000	REV 1
CAD	CPM			

C:\USERS\CIARA\KOTARE CONSULTANTS\KOTARE PROJECTS - DOCUMENTS\1001 KOTARE HEIGHTS\5 DESIGN\SUB CONSENT\1001-07 COMBINED SERVICES PLAN REV1.DWG

COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

Concept
Only

NOTES:
1. Country Club is Private infrastructure

KEY

SSMH_1

Wastewater / MH

Sewer Rising Main

SWMH_1

Stormwater / MH

CP

Catchpit

SWWW_30

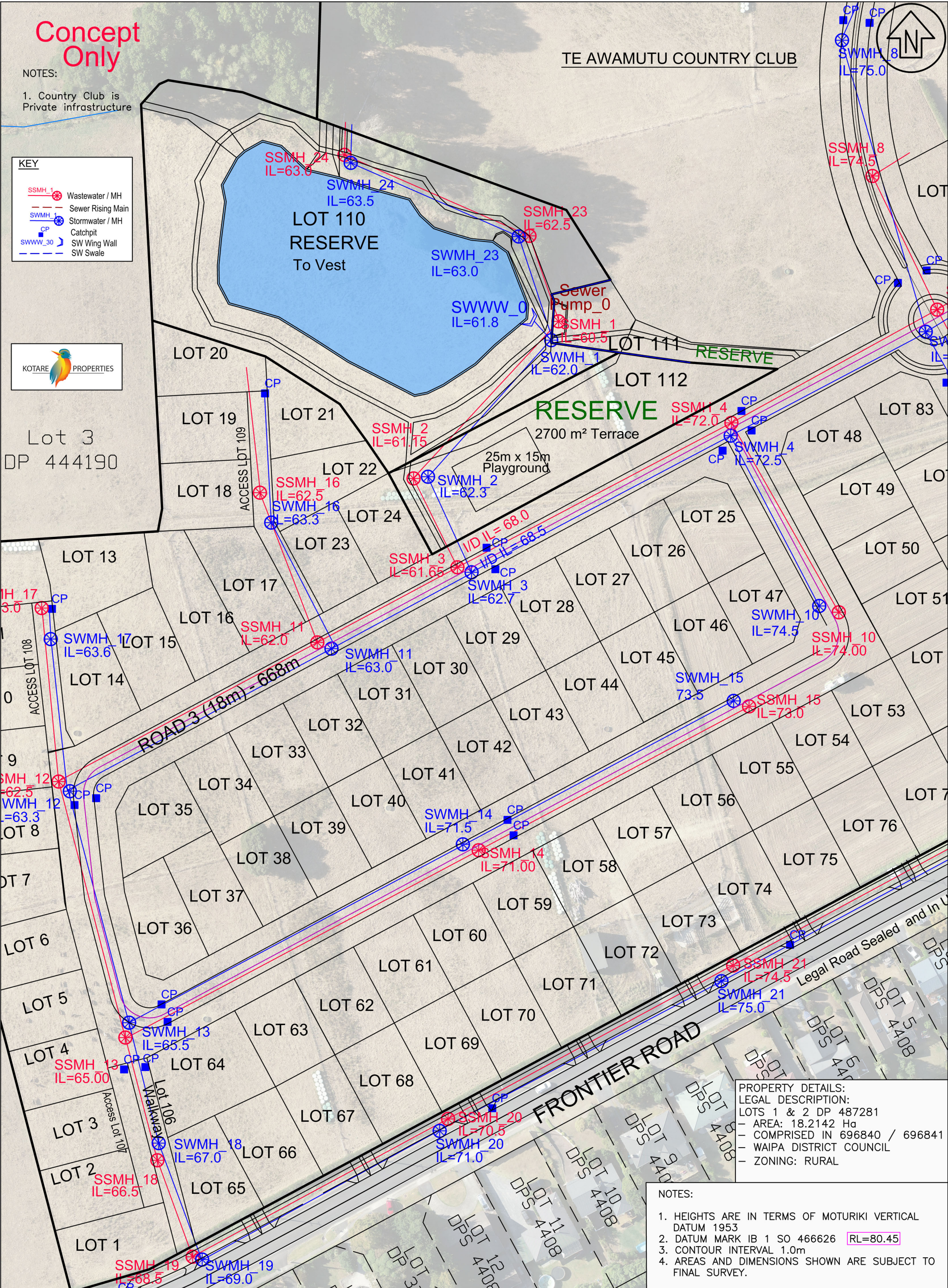
SW Wing Wall

SW Swale



Lot 3
DP 444190

TE AWAMUTU COUNTRY CLUB



PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOTS 1 & 2 DP 487281
- AREA: 18.2142 Ha
- COMPRISED IN 696840 / 696841
- WAIPA DISTRICT COUNCIL
- ZONING: RURAL

NOTES:
1. HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
2. DATUM MARK IB 1 SO 466626 RL=80.45
3. CONTOUR INTERVAL 1.0m
4. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



PLAN TITLE
COMBINED SERVICE PLAN
LOTS 1-117 BEING A SUBDIVISION
OF LOTS 1 & 2 DP 487281
AT 10 & 52 FRONTIER ROAD, TE AWAMUTU
KOTARE PROPERTIES

REVISION	Rev0 Original	10 SEP 2020	JOB	1001	SHEET	07B
DATE	8 FEBRUARY 2021		SCALE AT A3	1:1000	REV 1	
CAD	CPM					

COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

Concept
Only

NOTES:

1. Country Club is Private infrastructure



TE AWAMUTU COUNTRY CLUB

TE AWAMUTU COUNTRY CLUB

RESERVE

RESERVE

Section 1
SO 466626

IR
RL

KEY

- SSMH_1 Wastewater / MH
- SSMH_1 Sewer Rising Main
- SWMH_1 Stormwater / MH
- CP Catchpit
- SWWW_30 SW Wing Wall
- SW Swale

PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOTS 1 & 2 DP 487281
- AREA: 18.2142 Ha
- COMPRISED IN 696840 / 696841
- WAIPA DISTRICT COUNCIL
- ZONING: RURAL

NOTES:

- HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
- DATUM MARK IB 1 SO 466626 RL=80.45
- CONTOUR INTERVAL 1.0m
- AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

REVISION	Rev0 Original	10 SEP 2020	JOB
DATE	8 FEBRUARY 2021	SCALE AT A3	1:1000
CAD	CPM		

SHEET	1001	07C
REV 1		

PLAN TITLE

COMBINED SERVICE PLAN
LOTS 1-117 BEING A SUBDIVISION
OF LOTS 1 & 2 DP 487281
AT 10 & 52 FRONTIER ROAD, TE AWAMUTU
KOTARE PROPERTIES



Kotare Consultants Limited:

Unit D Victoria Arcade, 75 Victoria Street. Cambridge 3434 NZ

Tel: 07 827 5340

office@kotareconsultants.nz

C:\USERS\CIARA\KOTARE CONSULTANTS\KOTARE PROJECTS - DOCUMENTS\1001-07 COMBINED SERVICES PLAN REV1.DWG

COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



KEY

74.00

Finished Contour

SSMH_1

Sewer Manhole

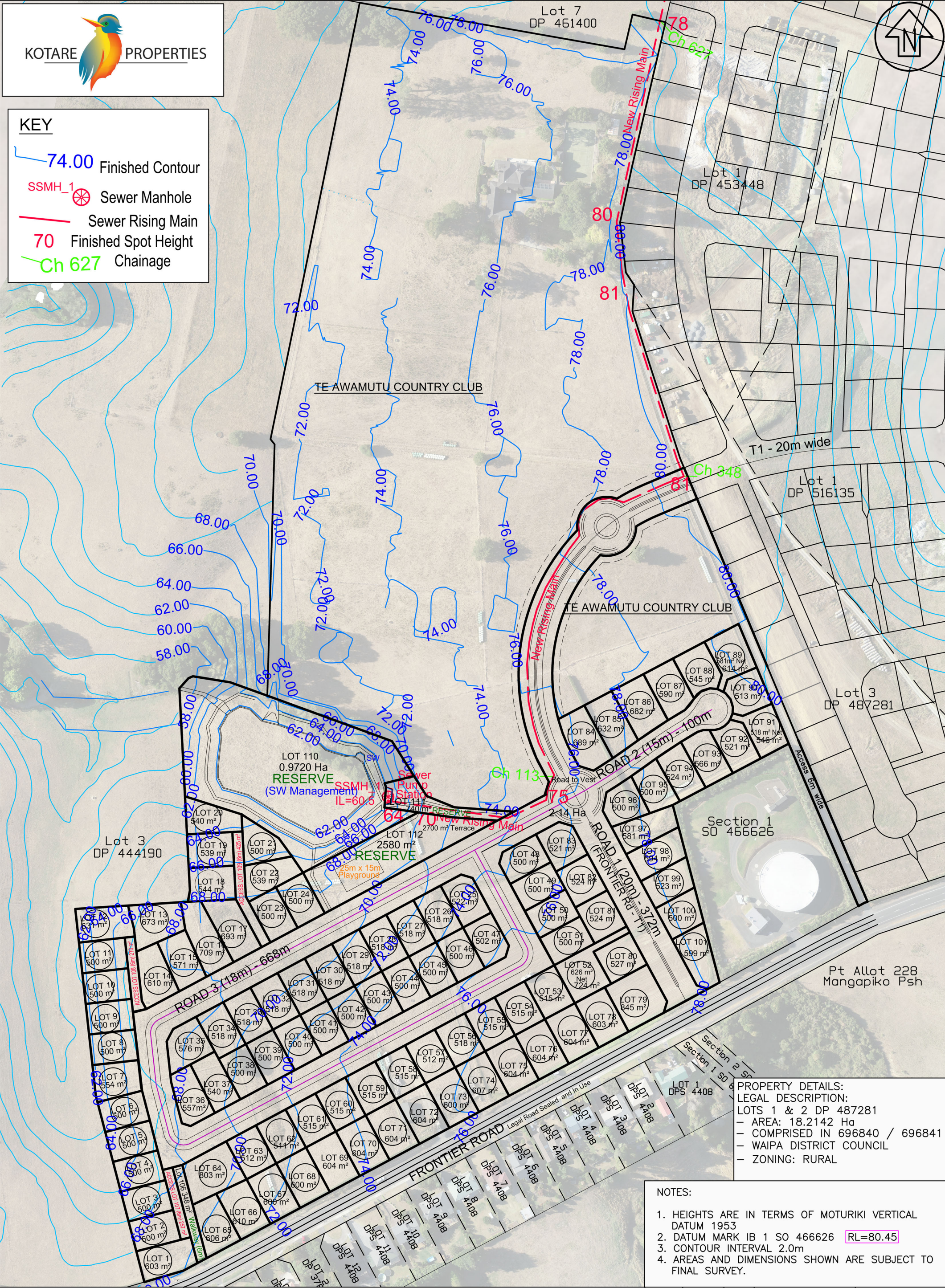
Sewer Rising Main

70

Finished Spot Height

Ch 627

Chainage



PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOTS 1 & 2 DP 487281
- AREA: 18.2142 Ha
- COMPRISED IN 696840 / 696841
- WAIPA DISTRICT COUNCIL
- ZONING: RURAL

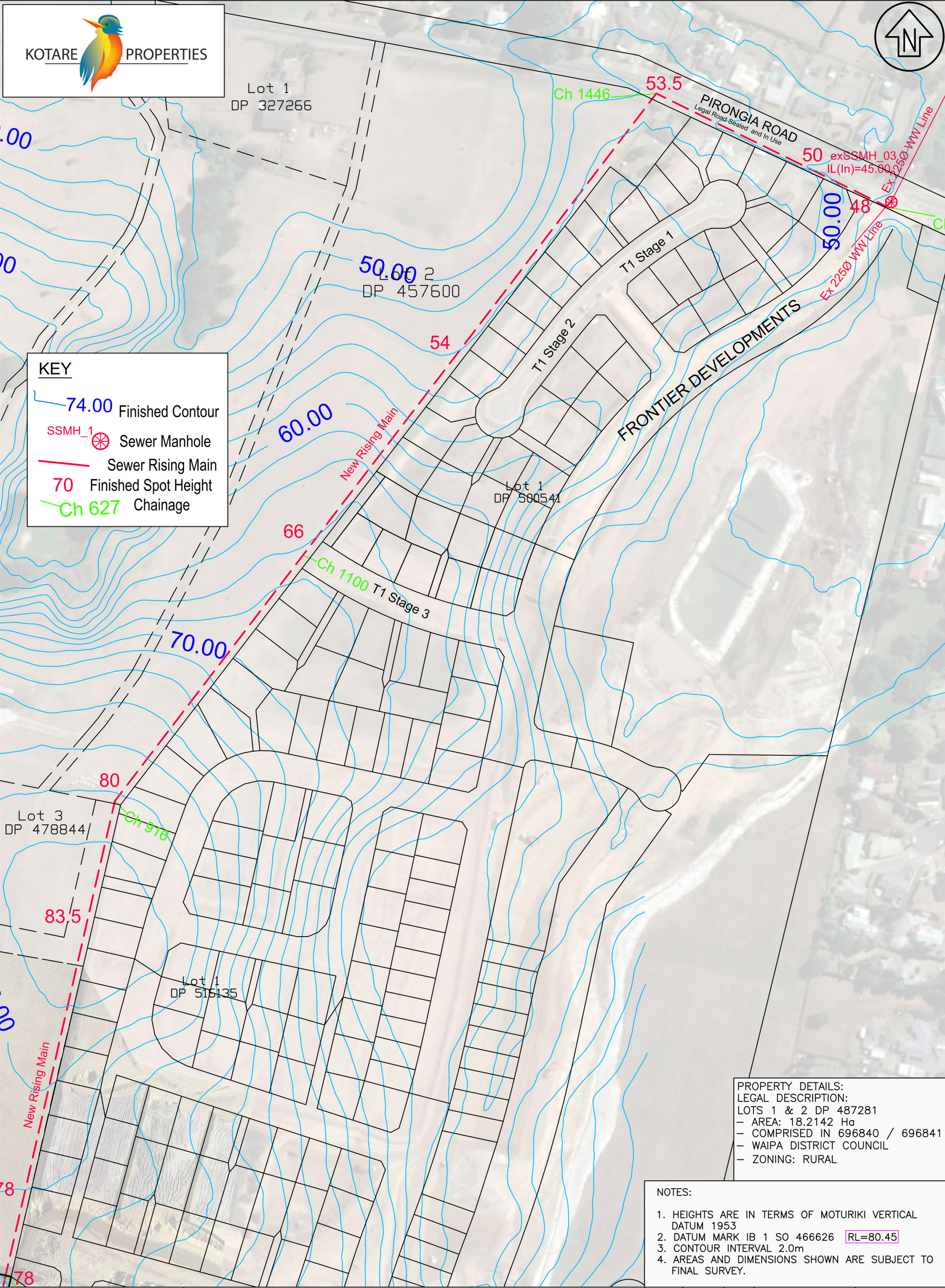
- NOTES:
- HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
 - DATUM MARK IB 1 SO 466626 RL=80.45
 - CONTOUR INTERVAL 2.0m
 - AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



PLAN TITLE
**DEVELOPMENT ENGINEERING
WASTEWATER RISING MAIN PLAN
LOTS 1-117 BEING A SUBDIVISION
OF LOTS 1 & 2 DP 487281
AT 10 & 52 FRONTIER ROAD, TE AWAMUTU**

REVISION	Rev0 Original	10 SEP 2020	JOB	1001	SHEET	08A
DATE	8 FEBRUARY 2021		SCALE AT A3	1:2000	REV	1
CAD	CPM					

COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



KEY

74.00

Finished Contour

SSMH_1

Sewer Manhole

Sewer Rising Main

70

Finished Spot Height

Ch 627

Chainage

PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOTS 1 & 2 DP 487281
- AREA: 18.2142 Ha
- COMPRISED IN 696840 / 696841
- WAIPA DISTRICT COUNCIL
- ZONING: RURAL

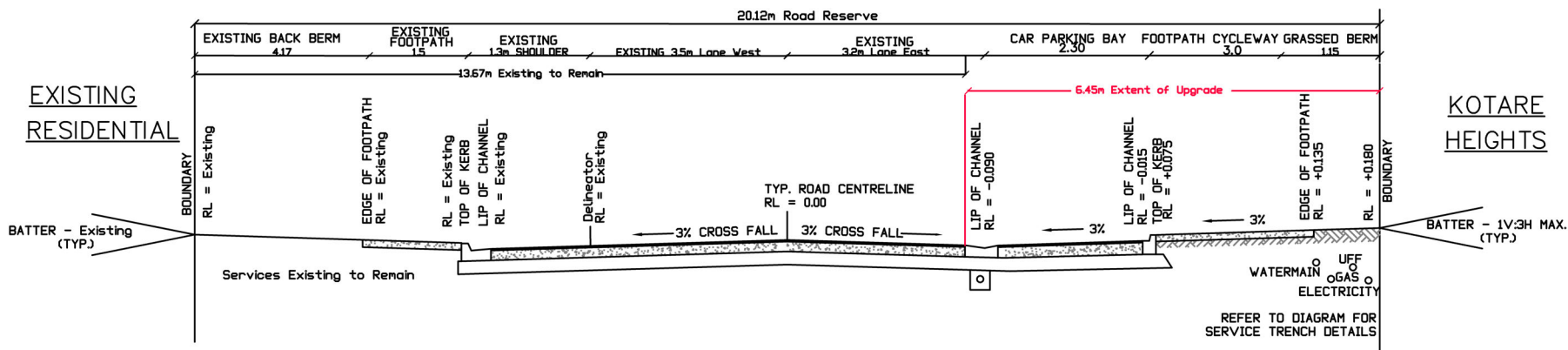
- NOTES:
- HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
 - DATUM MARK IB 1 SO 466626 RL=80.45
 - CONTOUR INTERVAL 2.0m
 - AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



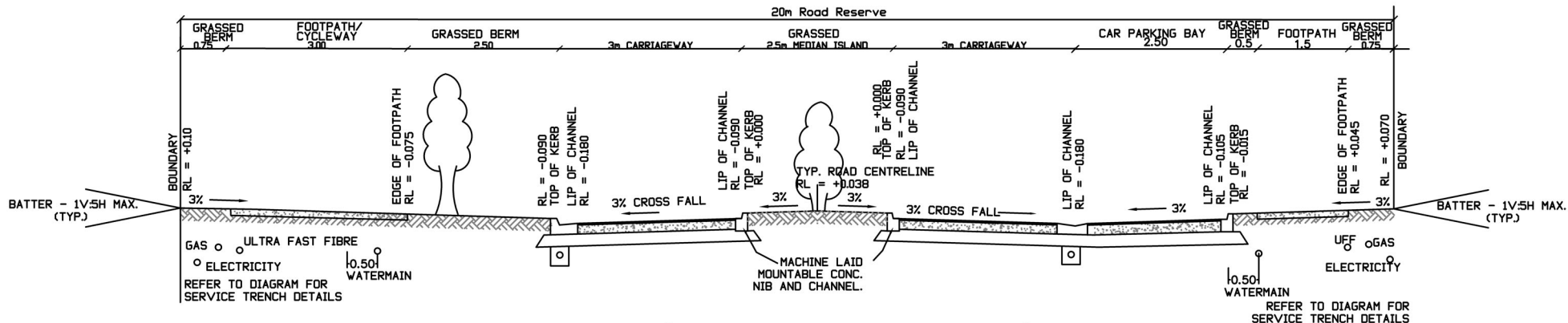
PLAN TITLE
**DEVELOPMENT ENGINEERING
WASTEWATER RISING MAIN PLAN
LOTS 1-117 BEING A SUBDIVISION
OF LOTS 1 & 2 DP 487281
AT 10 & 52 FRONTIER ROAD, TE AWAMUTU**

REVISION	Rev0 Original	10 SEP 2020	JOB	SHEET
			1001	08B
DATE	8 FEBRUARY 2021	SCALE AT A3	1:2000	REV 1
CAD	CPM			

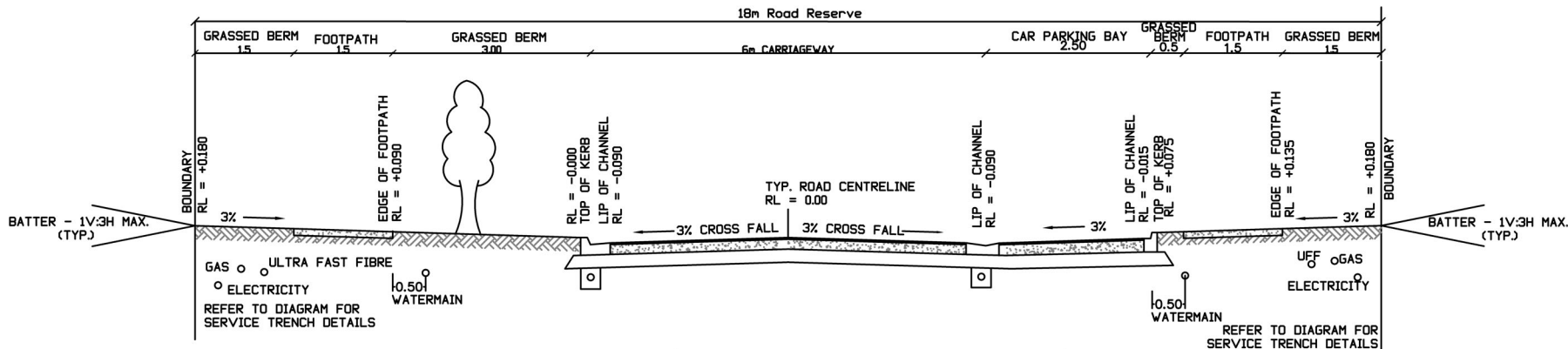
COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



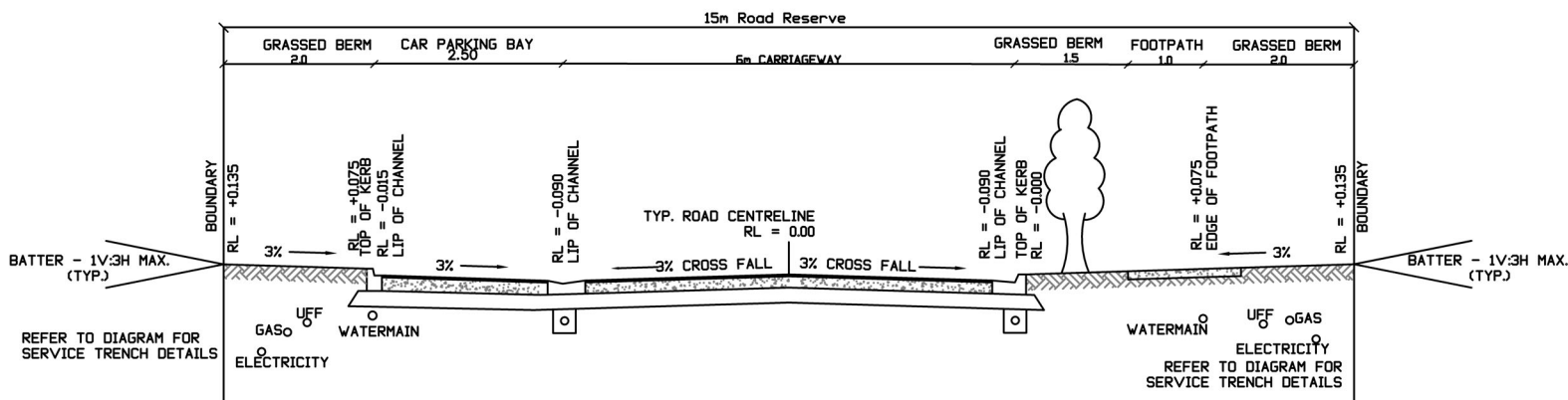
TYPICAL CROSS-SECTION A - A' FRONTIER ROAD UPGRADE (20.12m Road Reserve)



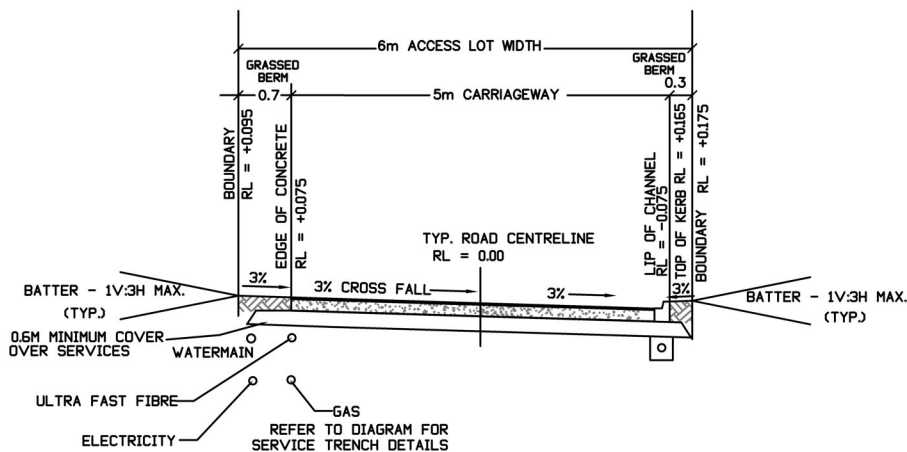
TYPICAL CROSS-SECTION B - B' DOUBLE CAR PARKING BAY (20m Road Reserve)



TYPICAL CROSS-SECTION C - C' DOUBLE CAR PARKING BAY (18m Road Reserve)



TYPICAL CROSS-SECTION D - D' SINGLE CAR PARKING BAY (15m Road Reserve - 6m Carriageway)



TYPICAL CROSS-SECTION E - E' 6.0M WIDTH ACCESS LOT 109



REFER TO PLAN 1001-03 FOR ROAD LAYOUT

NOTES:

1. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



PLAN TITLE

DEVELOPMENT ENGINEERING
TYPICAL ROAD SECTIONS
LOTS 1-113 BEING A SUBDIVISION
OF LOTS 1 & 2 DP 487281
AT 10 & 52 FRONTIER ROAD, TE AWAMUTU

REVISION	Rev0 Original	10 SEP 2020	JOB	SHEET
			1001	09
DATE	8 FEBRUARY 2021		SCALE AT A3	REV 1
CAD	CPM		1:100	

COPYRIGHT: THE COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS OF THE INFORMATION SHOWN ON THIS PLAN REMAIN THE PROPERTY OF KOTARE CONSULTANTS LTD. IT MAY NOT BE REPRODUCED WITHOUT THE PRIOR CONSENT OF KOTARE CONSULTANTS LTD. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



Te Awamutu Country Club

SANDERSON GROUP

CONCEPT ONLY



KOTARE HEIGHTS

Note
Representative Concept Only - Detailed Road Layout and Engineering Design to be provided in due course for review and acceptance by Waipa District Council Development Engineering



PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOTS 1 & 2 DP 487281
- AREA: 18.2142 Ha
- COMPRISED IN 696840 / 696841
- WAIPA DISTRICT COUNCIL
- ZONING: RURAL

- NOTES:
1. HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953
 2. DATUM MARK IB 1 SO 466626 RL=80.45
 3. CONTOUR INTERVAL 1.0m
 4. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.



PLAN TITLE
**COMBINED DEVELOPMENT CONCEPT PLAN
RESIDENTIAL AND RETIREMENT VILLAGE
OVER LOTS 1 & 2 DP 487281
AT 10 & 52 FRONTIER ROAD, TE AWAMUTU
KOTARE PROPERTIES AND SANDERSON GROUP**

REVISION	Rev'd Original	10 SEP 2020	JOB	SHEET
			1001	10
DATE	8 FEBRUARY 2021		SCALE AT A3	REV 3
CAD	CPM		1:2000	