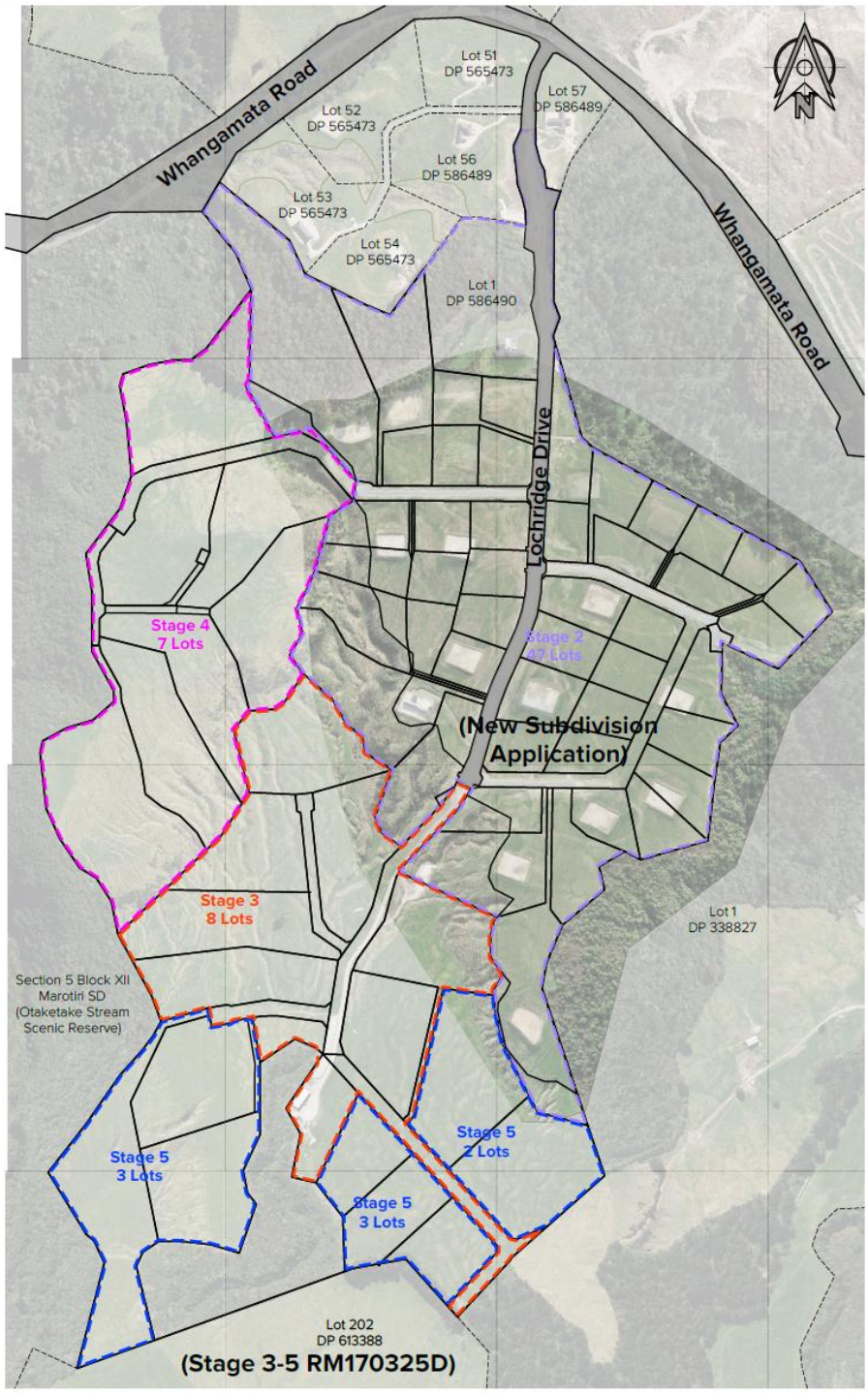
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Lochridge Estate, Kinloch

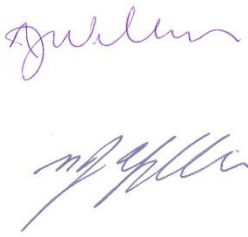
Integrated Transport Assessment
Prepared for Kotare Properties Ltd

21 September 2026



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1.0 Introduction

Lochridge Estate Limited (the Applicant) proposes to vary the existing resource consent for a staged residential subdivision at Kinloch, Taupo. Stage 1 of the subdivision has already been completed, with the remaining stages benefiting from an existing resource consent. The proposed variation seeks to increase the number of residential lots and make associated amendments to the approved subdivision layout.

This report provides an assessment of the potential transportation effects associated with the proposed variation. The assessment has been structured to provide:

- a description of the existing and planned future transport environment surrounding the site;
- a description of the proposed variation and the changes from the currently consented subdivision;
- an assessment of the expected changes in traffic generation and distribution;
- an assessment of the proposed transport network, including the suitability of the approved road layout to accommodate the increased development yield;
- an assessment of compliance with the relevant Taupō District Plan transport standards; and
- recommendations regarding any transport mitigation measures or consent conditions warranted to support the proposal.

In preparing this assessment, consideration has been given to the existing resource consent, the approved engineering design, the current transport environment, and previous transport assessments undertaken by others for adjoining development where these provide relevant context.

These and other matters are described and assessed in the sections that follow. By way of summary, it is concluded that the proposed variation does not materially alter the transport outcomes anticipated by the existing consent. Subject to the matters identified in this report, the proposal can be supported from a transportation perspective and the associated transport effects are assessed as less than minor.

2.0 Existing & Planned Transport Infrastructure

The key elements that describe the current and planned future traffic and transport environment are described in the sections that follow.

2.1 Site Location

Lochridge Estate is located on the north-western edge of Kinloch, approximately 20 km by road from the Taupo town centre. The site is subject to existing land use and subdivision consents RM170324B and RM170325D held by Te Tuhi Limited. The completed part of the subdivision is accessed via Lochridge Drive, which connects with Whangamata Road. The site location is shown on Figure 2-1 and Figure 2-3 below.

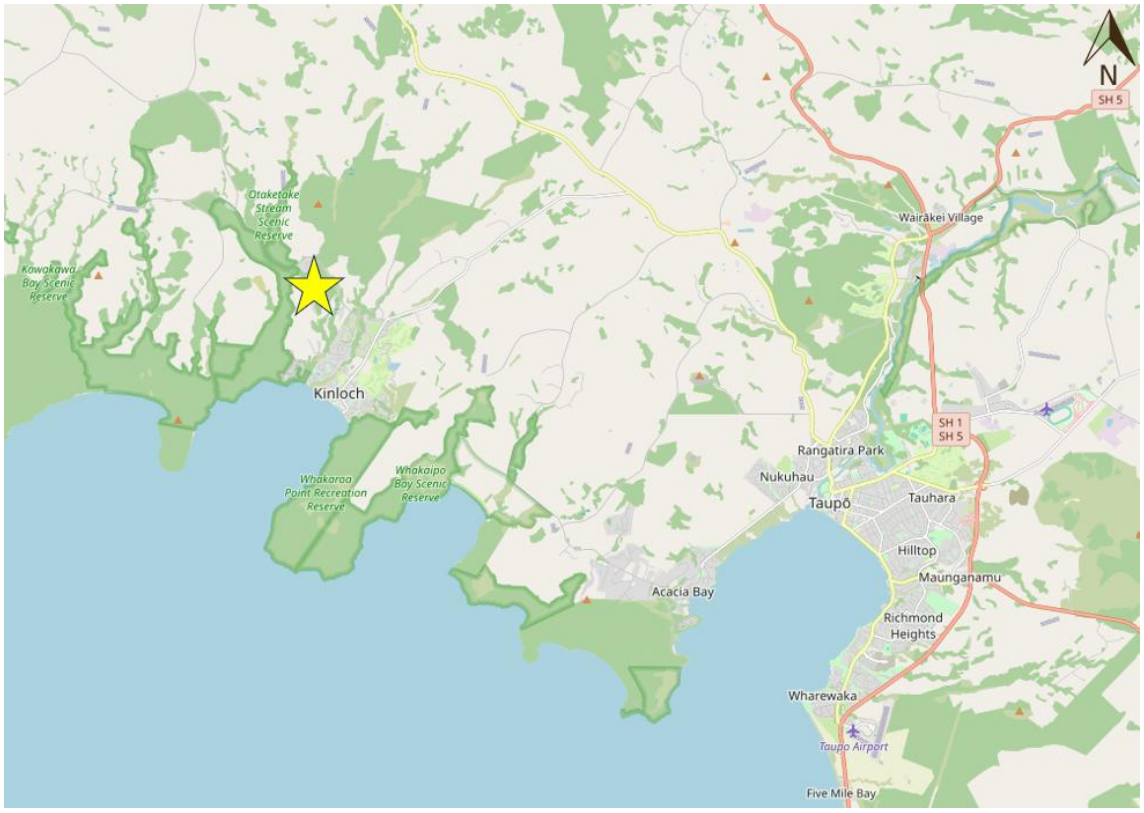


Figure 2-1: Site Location Wide View (Base Map Source: Open Street Map)

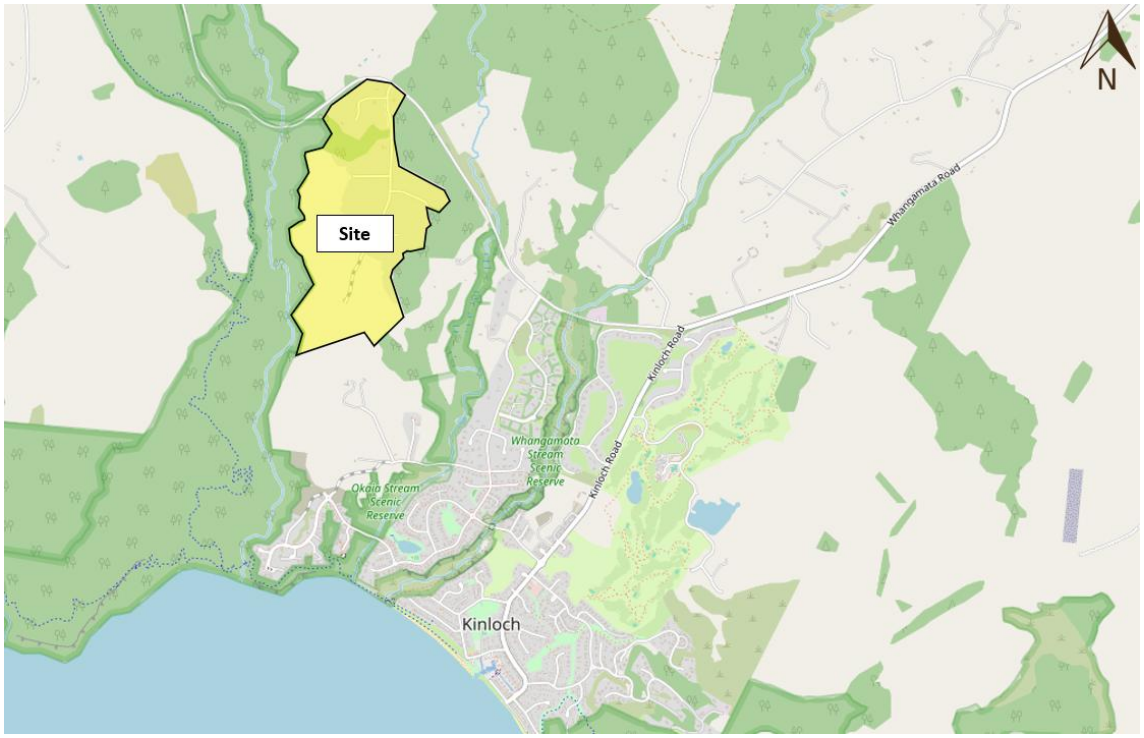


Figure 2-2: Site Location – Local View (Base Map Source: Open Street Map)

The site includes a staged residential subdivision, with Stage 1 already constructed and the remaining stages benefiting from an existing resource consent. The surrounding area is characterised by established and developing residential areas to the south and east, and rural land to the north and west. The site, road network and surrounding land use context are shown as Figure 2-3 below.



Figure 2-3: Site Context Aerial View (Base Map Source: TDC Mapi)

2.2 Planning Context

2.2.1 District Plan Zoning

The site is zoned Rural Lifestyle by the TDC District Plan. Land to the west and on the opposite side of Whangamata Road is zoned General Rural, while land to the south and east is zoned Low Density Residential and General Residential. The zoning context is shown as Figure 2-4 below.

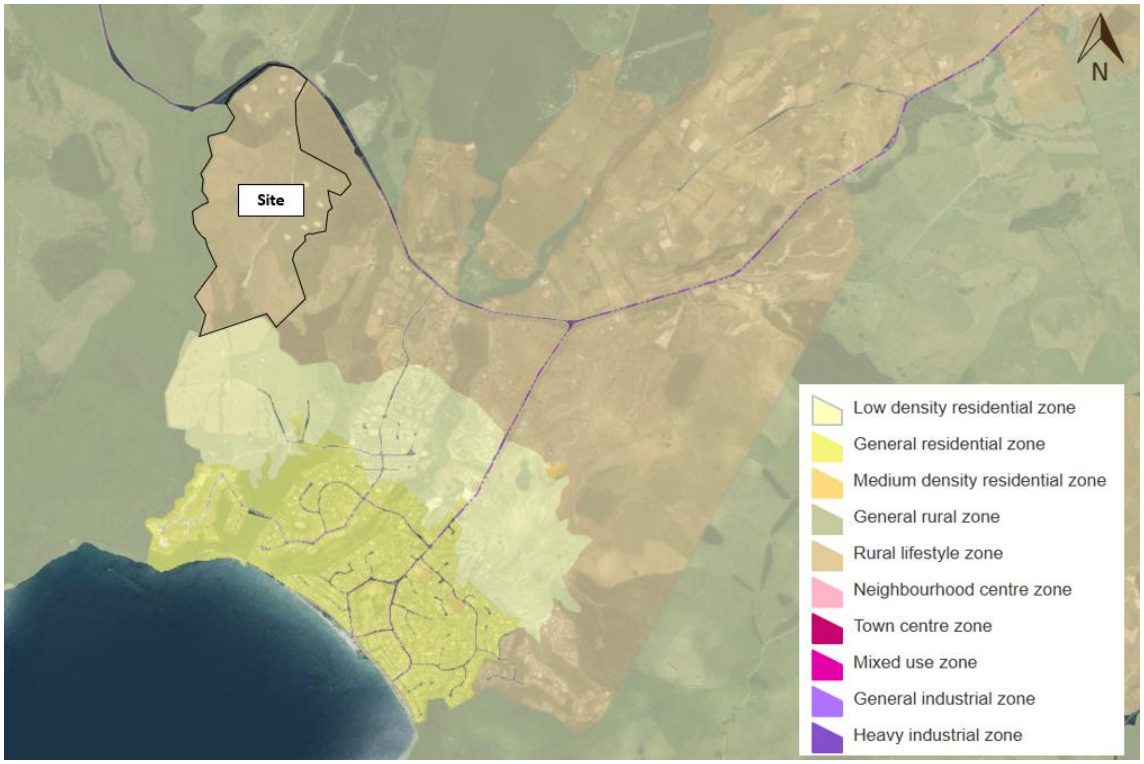


Figure 2-4: District Plan Zoning (Base Map Source: TDC Mapi)

2.2.2 Consent History

The site is subject to existing land use and subdivision consents for the staged development of the Lochridge Estate subdivision. The original land use and subdivision consents (RM170324 and RM170325) were granted in June 2018 for a 44-lot rural residential subdivision to be developed over five stages.

Since the original consent was granted, several changes to the consent conditions have been approved. These have included amendments to the subdivision layout, staging boundaries, roading, building platforms, servicing arrangements and lot configuration. Stage 1 has been completed and the current operative consents are RM170324B (Land Use) and RM170325D (Subdivision), held by Te Tuhi Limited.

An overview of the approved subdivision layout for Stages 2 to 5, taken from RM170325D is shown below as Figure 2-5.

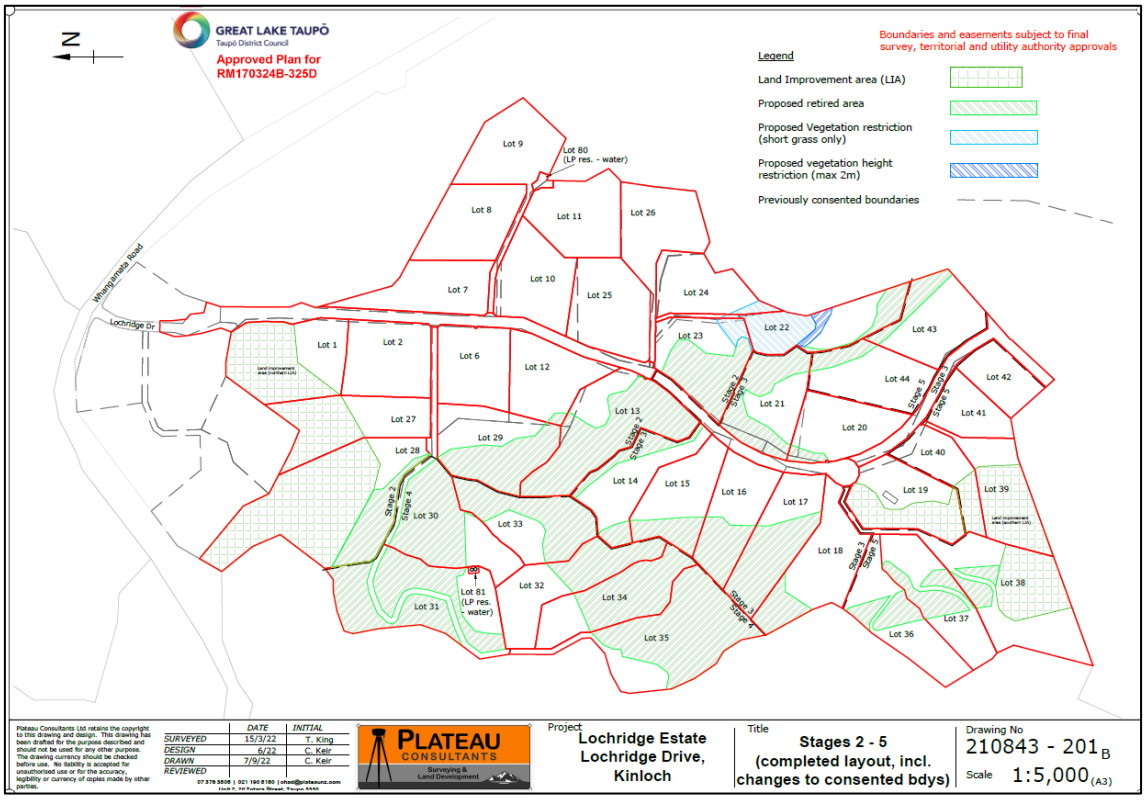


Figure 2-5: Approved Subdivision Layout for Stages 2-5 (RM170325D)

The existing consents established the principal transport framework for the subdivision, including the access from Whangamata Road, the primary internal road network and the future connection to the adjoining Seven Oaks subdivision. The current proposal retains these fundamental transport elements while increasing the residential yield and making associated refinements to the internal road layout.

The approved Seven Oaks (Terraces) subdivision provides for a public road connection (Road Lot 106) extending north through Stage 6 of the development to the common boundary with Lochridge Estate. The approved Seven Oaks layout is shown as Figure 2-6 below.

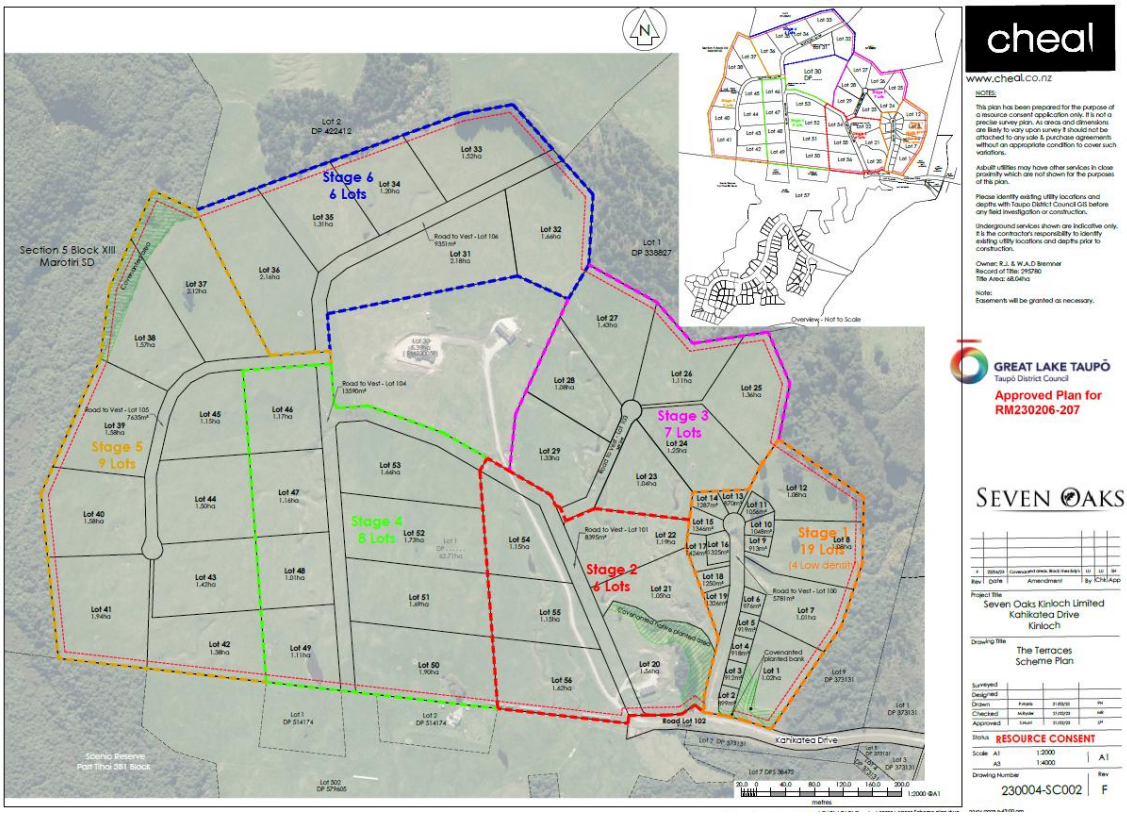


Figure 2-6: Approved Seven Oaks Layout (RM230206-207)

Upon completion, this connection will provide an integrated local road network between the two subdivisions, enabling vehicular connectivity between Lochridge Drive, the internal road network of the Seven Oaks subdivision, and Kahikatea Drive in Kinloch.

2.3 Road Hierarchy

The site is located south and west of Whangamata Road, which provides the primary connection between Kinloch and the wider transport network. Whangamata Road is classified in the District Plan road hierarchy as an arterial east of Kinloch Road and a collector road west of Kinloch Road. The site is located on the collector section of Whangamata Road.

Access to the Kinloch township is primarily provided via Kinloch Road and Oakdale Drive. Kinloch Road is classified as an arterial south of Whangamata Road before transitioning to a collector road within the township. Oakdale Drive is classified as a local road and provides an alternative connection between Whangamata Road and the Kinloch township.

2.4 Road Formation

Along the site frontage, Whangamata Road is a sealed two-lane road with one traffic lane in each direction. The road traverses gently undulating rural terrain and has a sealed width[1] of approximately 6.6m to 7.0m. The carriageway is marked with a centreline and has edge line markings in some locations. The posted speed limit is 100km/h. This reduces to 60km/h at a point just north of Oakdale Drive.

Lochridge Drive meets Whangamata Road at a priority-controlled T-intersection where Whangamata Road has priority. This intersection provides the sole existing vehicular access to the Lochridge Estate subdivision.

Within the subdivision, Lochridge Drive forms the primary internal road, extending south from Whangamata Road through the development. A series of unmarked priority-controlled T-intersections provide access to the surrounding local road network, including Lemonwood Lane, Pigeonwood Lane, Tea Tree Lane and Akeake Lane. These intersections are shown on Figure 2-7 below.

[1] Pavement widths sourced from Mobileroad.org

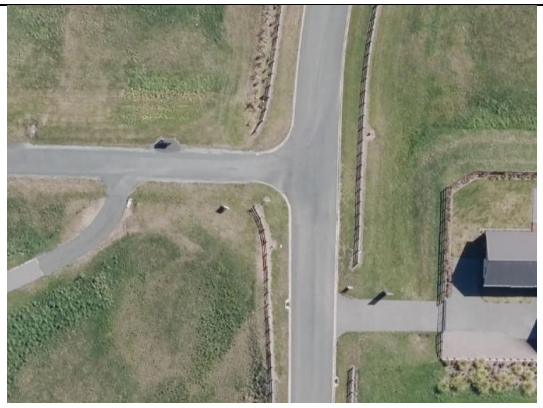
Whangamata Road/Lochridge Drive	Lochridge Drive/Lemonwood Lane
	
Lochridge Drive intersections with Pigeonwood Lane (left) and Tea Tree Lane (right)	**Lochridge Drive/Akeake Lane**
	

Figure 2-7: Existing Lochridge Estate Road Network

The internal road network consists of Lochridge Drive, which forms the principal public road through the subdivision, together with four private rights of way providing access to the remaining lots.

Lochridge Drive has a generally 19-20 m wide legal road corridor. The northern section has an urban cross-section incorporating kerb and channel and an approximately 7.1 m wide sealed carriageway. South of approximately Chainage 470, the road transitions to a rural cross-section incorporating an approximately 7.4 m wide sealed carriageway with roadside swales.

The private rights of way are constructed to narrower standards that reflect the number of lots they serve. A formal turnaround area is provided adjacent to the water booster pump station at the end of Tea Tree Lane, while a hammerhead turning facility is provided at the western end of Pigeonwood Lane to facilitate the manoeuvring of larger vehicles. The characteristics of each road are summarised in Table 2-1 below.

Table 2-1: Road Cross-Section Summary

Road	Legal Width (m)	Sealed Width (m)	Lots Served (for ROWs)
Lochridge Drive	19 – 20	7.1 – 7.4	-
Lemonwood Lane	10	4.0	5
Pigeonwood Lane (ROW F)	12	6.0	5
Tea Tree Lane (ROW D)	10	4.0	5
Akeake Lane (ROW E)	10	4.0	4

2.5 Walking and Cycling

There are no dedicated pedestrian or cycling facilities within the Lochridge Estate subdivision. Pedestrians can walk within the road corridor, including on the sealed carriageway and grassed berms, while cyclists share the carriageway with general traffic.

Whangamata Road similarly does not provide dedicated pedestrian or cycling facilities in the vicinity of the site. This is consistent with its rural character and function. Any cyclists using the road would share the carriageway with general traffic.

Within the Kinloch urban area, footpaths are generally provided on at least one side of the road along the principal streets, including Kahikatea Drive and Kinloch Road. These facilities connect with the wider local road network throughout the township.

The site is also located in proximity to the Great Lake Trails network. The Otaketake Trail is located to the west of the site and forms part of the wider Great Lake Trails, providing an off-road walking and cycling route between Kinloch, Kawakawa Bay and the western side of Lake Taupo.

2.6 Public Transport

There are no scheduled public transport services operating along Whangamata Road in the vicinity of the site.

The nearest public transport service is the Connect2Taupo Route 35 (Kinloch-Taupo), operated as part of the Waikato Regional Council BUSIT network. Route 35 provides a return service between Kinloch and Taupo on Wednesdays and operates as a hail-and-ride service, meaning passengers may board or alight at safe locations along the route rather than at formal bus stops.

2.7 Planned Network Changes

The TDC Long-term Plan 2024-2034 identifies a number of transport projects and programmes that may influence the wider transport network over the next ten years. Of particular relevance

to the site is the Rural Road Safety Programme, which includes planned improvements to Whangamata Road together with a range of district-wide rural road safety initiatives, including shoulder widening, drainage improvements, guardrails, intersection lighting and continued rural road sealing.

The LTP also includes a district-wide programme of accessibility, walking and cycling improvements, including pedestrian crossing upgrades and other active transport initiatives.

In addition, the LTP provides for planning, design and construction of a new Waikato River crossing in Taupo between 2024 and 2031. While this project is located outside the immediate vicinity of the site, it forms part of the wider transport network connecting Kinloch with Taupo.

3.0 Existing Travel Patterns

The existing transport network traffic patterns are described in the following sections.

3.1 Daily Traffic Volumes

Table 3-1 summarises average daily traffic volumes on roads around the site. These are taken from the MobileRoad website, which sources data from Council asset management databases.

Table 3-1: Daily Traffic Volumes

Road	Section	Daily Volume (vpd)	Date
Whangamata Road	West of Kinloch Road	1,400	2026
	East of Kinloch Road	2,689	2026
Lochridge Drive	South of Whangamata Road	20	2022
Kinloch Road	South of Whangamata Road	1,552	2024

Traffic volumes are highest on the eastern section of Whangamata Road, reflecting its role as the principal route between Kinloch and Taupo. Lower volumes are recorded west of Kinloch Road, while Kinloch Road carries moderate traffic associated with travel to and from Kinloch. Traffic volumes on Lochridge Drive are currently very low, reflecting the staged development of the subdivision and the limited number of lots presently developed.

3.2 Road Safety

The New Zealand Transport Agency (NZTA) Crash Analysis System (CAS) was used to review the road safety history along the frontage of the site. The five-year period 2021-2025 was reviewed as well as any available data from 2026 to date.

The search included the Stage 1 subdivision and approximately 3 km of Whangamata Road from 250m west of Lochridge Drive to 250m east of Kinloch Road, inclusive of the Lochridge Drive, Oakdale Drive and Kinloch Road intersections.

Three reported crashes were identified within the study area during the review period. These included a serious injury crash at the Whangamata Road/Kinloch Road intersection in April 2021 involving a driver turning right from Kinloch Road who failed to give way to an eastbound vehicle on Whangamata Road.

A minor injury single-vehicle crash occurred in February 2022 north of Oakdale Drive when a vehicle lost control within a temporary roadworks area after entering a gravel roadwork section. A non-injury head-on collision occurred in February 2025 west of the Kinloch Road intersection when an alcohol-impaired driver crossed the centreline into the path of an oncoming vehicle.

No reported crashes were recorded at the Whangamata Road / Lochridge Drive intersection during the review period. Overall, the crash history does not identify any recurring crash pattern or existing road safety issues in the vicinity of the site access or the surrounding section of Whangamata Road.

4.0 Proposed Changes

4.1 Overview

The Applicant proposes to amend the approved subdivision layout for the remaining undeveloped stages of Lochridge Estate. The proposal retains the approved access from Whangamata Road, the primary internal road network and the future road connection to the adjoining Seven Oaks subdivision.

The principal changes relate to the subdivision layout, residential lot yield, staging and associated lot configuration. The proposed layout is shown on the lefthand side of Figure 4-1 below. The approved layout is shown on the righthand side. Figure 4-2 shows the proposed layout overlaid onto the approved layout.

Larger scale plans are also included as **Appendix 1** and road design plans are included as **Appendix 2**.

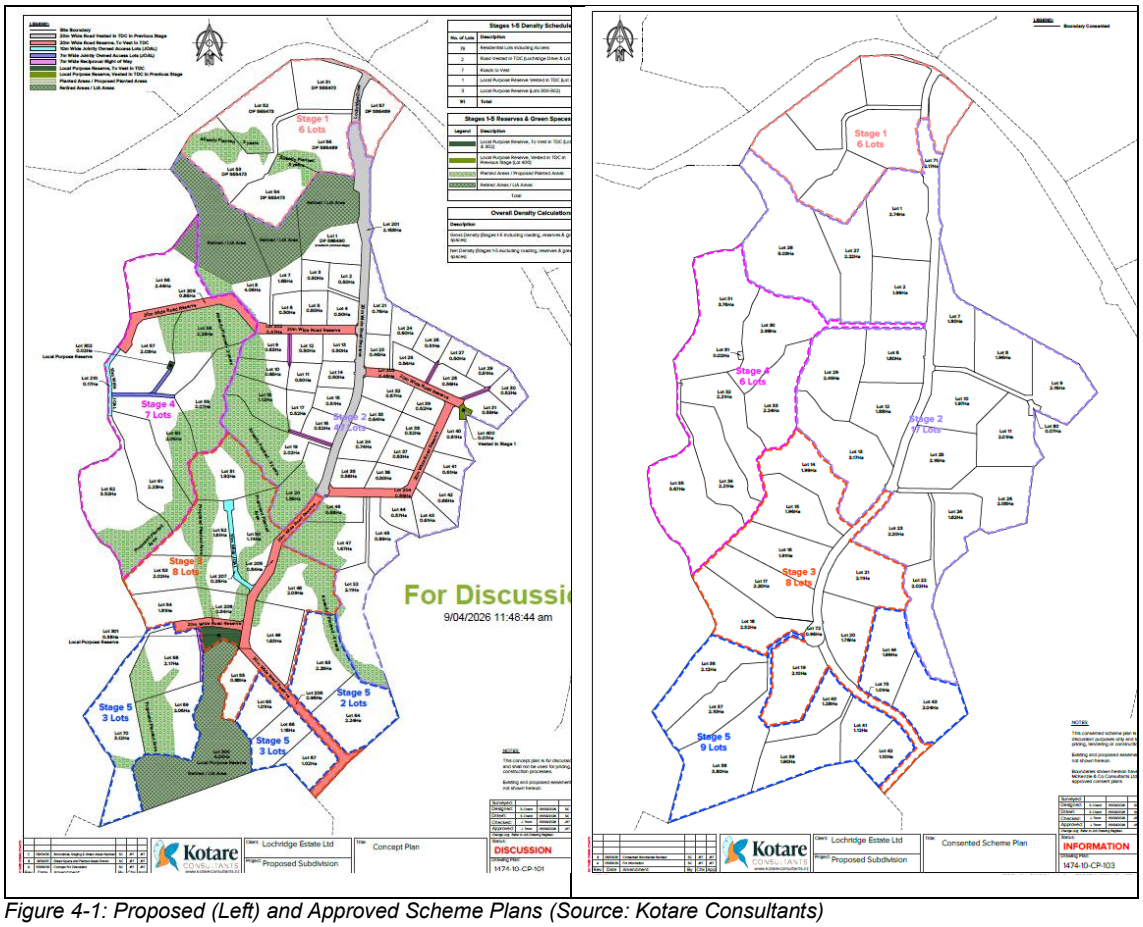


Figure 4-1: Proposed (Left) and Approved Scheme Plans (Source: Kotare Consultants)

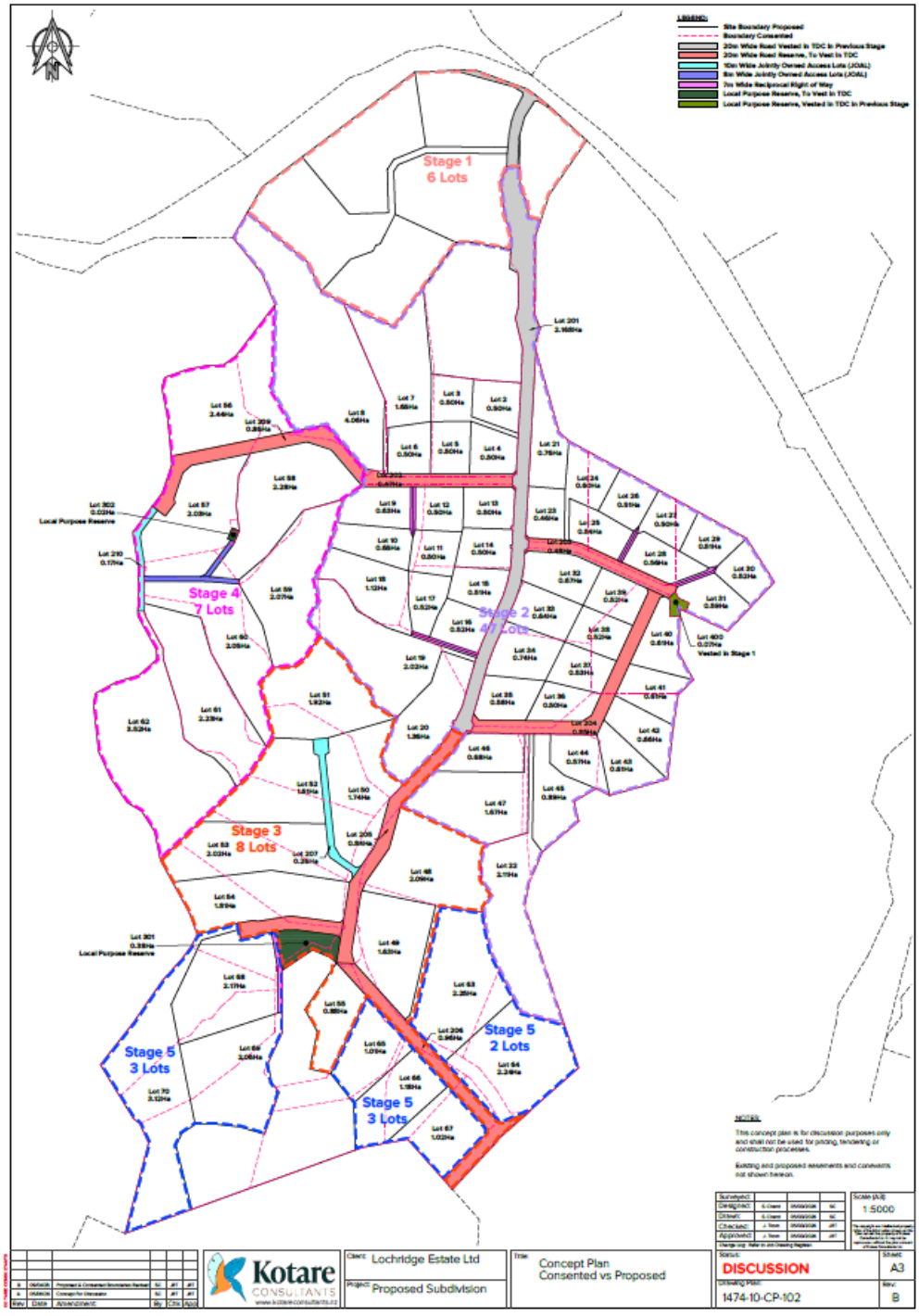


Figure 4-2: Proposed vs Consented Concept Plan (Source: Kotare Consultants)

The proposed changes increase the total number of residential lots from 44 to 76. The increase in yield is primarily achieved through the subdivision of the larger rural lifestyle lots into smaller rural residential lots, with most proposed lots having an area of approximately 0.5 to 0.7 hectares (ha).

The proposed road network generally follows the layout approved under the existing consent. The principal access from Whangamata Road via Lochridge Drive is unchanged, as is the future road connection to the adjoining Seven Oaks subdivision.

A number of internal roads have been extended or reconfigured to provide frontage and access to the additional residential lots. This has reduced the reliance on jointly owned access lots (JOALs) and private rights of way within parts of the subdivision, with a greater proportion of lots obtaining frontage to public roads. Associated amendments have also been made to the staging, reserve areas and lot configuration.

The subdivision is proposed to be developed in a number of stages, generally progressing from the existing Lochridge Drive frontage towards the northern and eastern portions of the site. Each stage is capable of operating independently and includes the extension of the public road network required to service the lots created within that stage. The staging also preserves the future road connection to the adjoining Seven Oaks subdivision (in Stage 3), enabling the planned integration of the wider transport network as surrounding land is developed.

5.0 Traffic Generation

The proposed variation increases the number of residential lots within Lochridge Estate from 44 lots under the existing consent to 76 residential lots. The assessment therefore considers both the total traffic expected from the proposed subdivision and the incremental increase relative to the consented subdivision.

The appropriate peak hour trip generation rate for residential development at Kinloch was considered through the recent Seven Oaks resource consent process. A peak hour trip generation rate of 0.59 vehicle movements per hour (vph) per dwelling was ultimately adopted, reflecting the seasonal occupancy characteristics of Kinloch and the relatively high proportion of dwellings that are not permanently occupied. This methodology was accepted through the consent process and has been adopted for the purposes of this assessment.

A corresponding daily trip generation rate was not established through the Seven Oaks process. Accordingly, the daily rate has been derived using the relationship between the peak-hour and daily trip rates identified in NZTA Research Report 453 (RR453) for outer suburban residential dwellings. RR453 identifies rates of 0.9 vph/dwelling and 6.9 vehicle movements per day (vpd) per dwelling. Applying the same relationship to the adopted Kinloch peak hour rate results in an estimated daily trip generation rate of 4.5 vpd/dwelling. The assessment of daily and peak hour traffic generation is set out in Table 5-1 below.

Table 5-1: Trip Generation

Scenario	Residential Lots	Daily Trips (vpd)	Peak Hour Trips (vph)
Consented	44	198	26
Proposed	76	342	45
Change	32	144	19

The proposed variation is therefore expected to increase traffic generation by approximately 144 vehicle movements per day and 19 vehicle movements during the peak hour compared with the consented subdivision. The following assessment considers whether this incremental increase results in any material effects on the operation and safety of the surrounding transport network.

6.0 Assessment of Effects

6.1 Network Capacity

The proposed variation does not alter the external road network, the approved access to Whangamata Road, or the primary internal road network. Accordingly, this assessment considers whether the additional traffic generated by the increase in residential yield can be accommodated by the surrounding transport network.

As outlined in Section 5.0, the proposed variation is expected to generate approximately 117 additional vehicle movements per day and 15 additional vehicle movements during the peak hour compared with the consented subdivision.

On Whangamata Road west of Kinloch Road, existing traffic volumes are approximately 1,400 vpd. Accounting for traffic associated with both the consented subdivision (198 vpd) and the proposed variation (117 vpd) results in an estimated daily traffic volume of approximately 1,715 vpd. Similarly, on Whangamata Road east of Kinloch Road, existing traffic volumes of approximately 2,689 vpd would increase to approximately 3,000 vpd. These traffic volumes are appropriate for the function of Whangamata Road and are well within the capacity of a two-lane rural road, with the collector function west of Kinloch Road and the arterial function to the east.

The wider effects of residential growth within Kinloch and Nukuhau have recently been assessed through the Seven Oaks resource consent process. That assessment included detailed SIDRA modelling of the principal route between Kinloch and Taupo, including the Poihipi Road / Wairakei Drive intersection, the Norman Smith Street / Wairakei Drive intersection and the Control Gates Bridge corridor. The modelling methodology, traffic generation assumptions and assessment approach were agreed between the applicant's transportation advisers, TDC, and an independent transportation peer reviewer.

The traffic evidence presented during the Seven Oaks hearing indicates that the Norman Smith Street/Wairakei Drive intersection currently carries approximately 2,700 vph during the morning peak and 3,000 vph during the evening peak. Against this background, the additional 15 vph generated by the proposed variation represent around 0.5% of the traffic already using the intersection. Only approximately 61% of trips generated within Kinloch are expected to travel via the Control Gates Bridge corridor, with the remaining trips either remaining within Kinloch or travelling to other destinations. Accordingly, fewer than 10 of the additional peak hour trips generated by the proposed variation would be expected to travel towards Taupo.

The additional traffic generated by the proposed variation is therefore substantially smaller than the cumulative traffic growth assessed through the Seven Oaks modelling and is not expected to result in any measurable change to the operation of the wider transport network. This is consistent with the conclusions of the Seven Oaks assessment, which found that development traffic would result in only negligible increases in delay at the key intersections surrounding the Control Gates Bridge.

The need for additional capacity across the Waikato River is recognised by TDC and is driven by cumulative growth across Kinloch and the wider Taupo urban area, rather than any individual development. Consistent with the conclusions reached through the Seven Oaks resource consent process, the proposed variation makes only a small incremental contribution to that future demand. The appropriate response is therefore for developments to contribute towards Council's planned network upgrades through the development contributions framework, rather than requiring individual developments to provide separate transport mitigation.

6.2 Whangamata Road/Lochridge Drive Intersection

The proposed variation does not alter the location or the geometry of the Whangamata Road/Lochridge Drive intersection. The assessment therefore focuses on whether the existing intersection remains appropriate to accommodate the additional traffic associated with the increase in residential yield.

The District Plan requires accesses to collector roads with a posted speed greater than 80 km/h to provide minimum sight distance of 160 m in both directions. Sight distance at the Whangamata Road/Lochridge Drive intersection was specifically addressed through the Stage 2 consent, which required vegetation removal and other physical works to ensure 200 m of sustainable clear visibility in both directions. The condition required these and the intersection signage, marking and lighting to be undertaken to the satisfaction of the TDC Development Engineer. It is understood these works have subsequently been completed as part of the Stage 2 works. On this basis, the existing intersection is assessed to provide an appropriate level of sight distance for the existing road and speed environment.

The suitability of the intersection layout has also been assessed against the Austroads auxiliary turn treatment warrants. For a conservative assessment, the analysis assumes all traffic generated by the proposed 76-lot subdivision accesses Whangamata Road via Lochridge Drive and includes a 20% allowance for background traffic growth on Whangamata Road.

Under these assumptions, the projected left-turn and right-turn volumes remain comfortably below the Austroads warrants for auxiliary turn lane treatment during both the morning and afternoon peak periods. Accordingly, no auxiliary turn lane treatments are warranted.

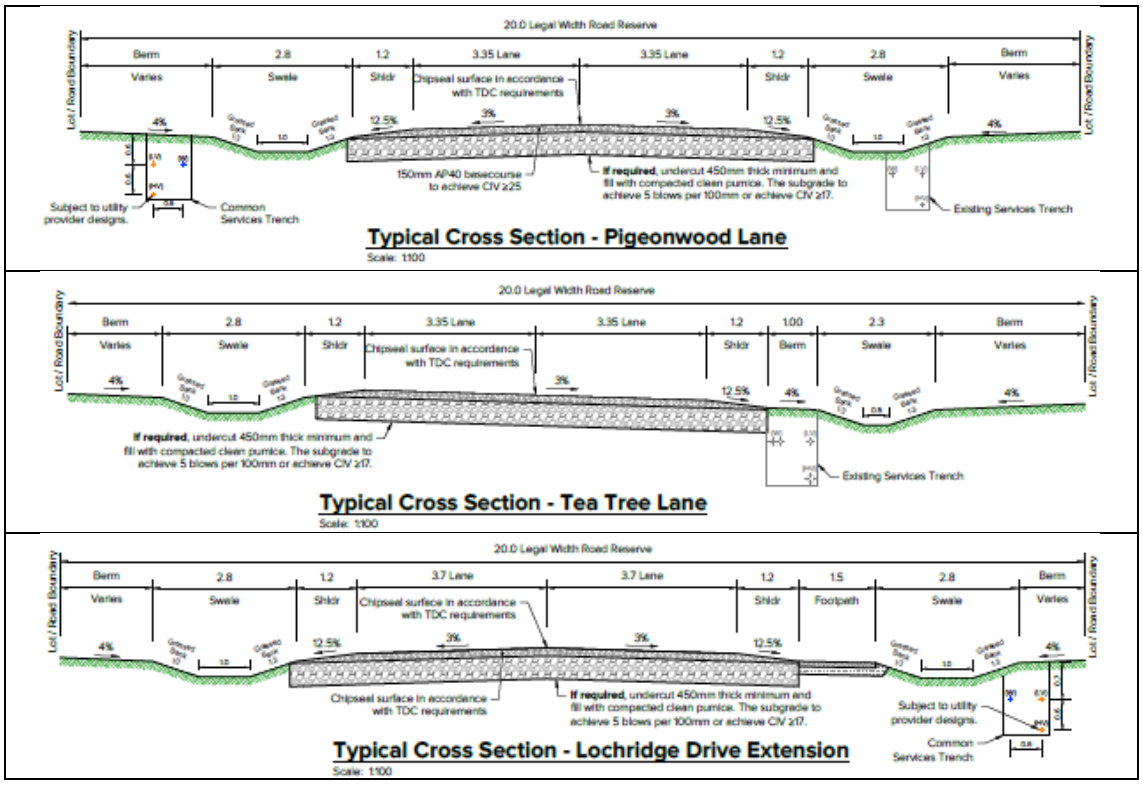
Although Whangamata Road is not a State Highway, the proposed intersection was also assessed against the intersection form guidance contained within the NZTA Planning Policy Manual (PPM) for three-leg rural intersections serving large developments. The projected traffic volumes remain well below the thresholds at which a higher-order intersection treatment would typically be considered. While the guidance does not formally apply in this instance, it provides a useful benchmark and similarly indicates that a simple priority-controlled T-intersection remains an appropriate form of access.

On the basis of the approved access location and design, and the outcomes of both the Austroads and PPM assessments, the existing Whangamata Road/Lochridge Drive intersection is assessed as suitable to accommodate traffic generated by the proposed variation. No changes to the approved intersection layout are required.

6.3 Internal Roads and Accessways

The proposed public road network has been designed in accordance with the TDC Code of Practice for Development of Land (2009) (CoP). Details and cross-sections are shown on the plans prepared by Kotare Consultants in Appendix 2.

The relevant standard in Figure 3.1R of the CoP is rural public roads serving less than 100 sites. These roads are required to be 20 m wide, provided a sealed width of at least 6.7m and with 3.5m verges and 1.2m of grass edging. Gradient and crossfall requirements also apply. Proposed cross-sections, drawn from the broader plan set in Appendix 2, are shown below.



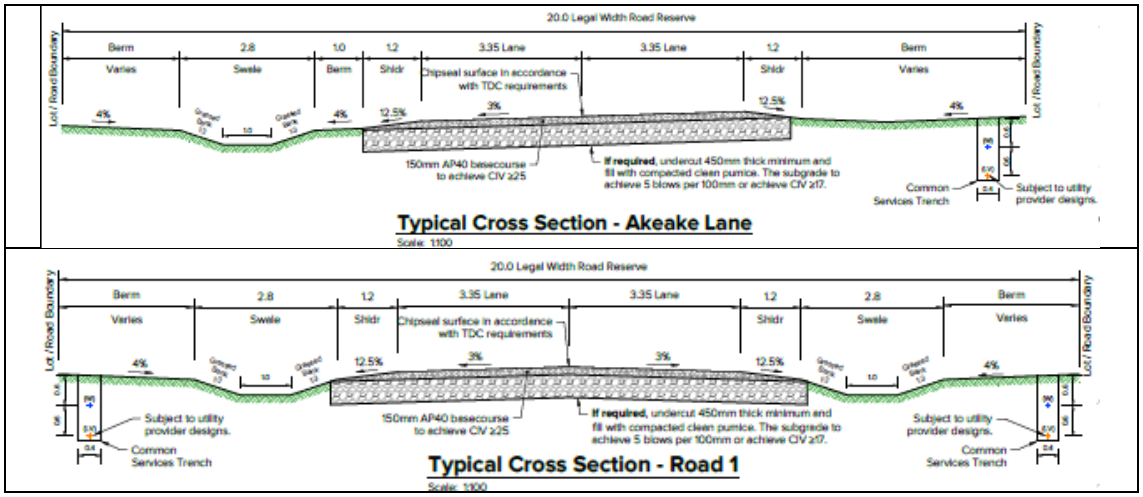


Figure 6-1: Proposed Public Road Cross-Sections (Source: Kotare Consultants)

All public roads comply with the relevant standards and are expected to be subject to standard engineering approval conditions.

The District Plan establishes minimum standards for private accessways in rural zones based on the number of allotments served. Accesses serving up to three allotments are required to have a minimum legal width of 7 m and a 3 m formed carriageway. This increases to 8 m legal width and a 4 m formed carriageway for accesses serving four to six allotments, and 10 m legal width and a 6 m formed carriageway for accesses serving seven to twelve allotments. Accesses serving more than twelve allotments are required to be vested as legal road.

Figure 6-2 below illustrates that the proposed subdivision is served by a combination of 20 m public roads, 10 m jointly owned access lots (JOALs), 7 m jointly owned access lots, and 7 m reciprocal rights of way (ROWs). The proposed road hierarchy is consistent with the requirements of the District Plan, with the principal movement corridor provided by Lochridge Drive and lower-order access arrangements serving small numbers of residential lots.

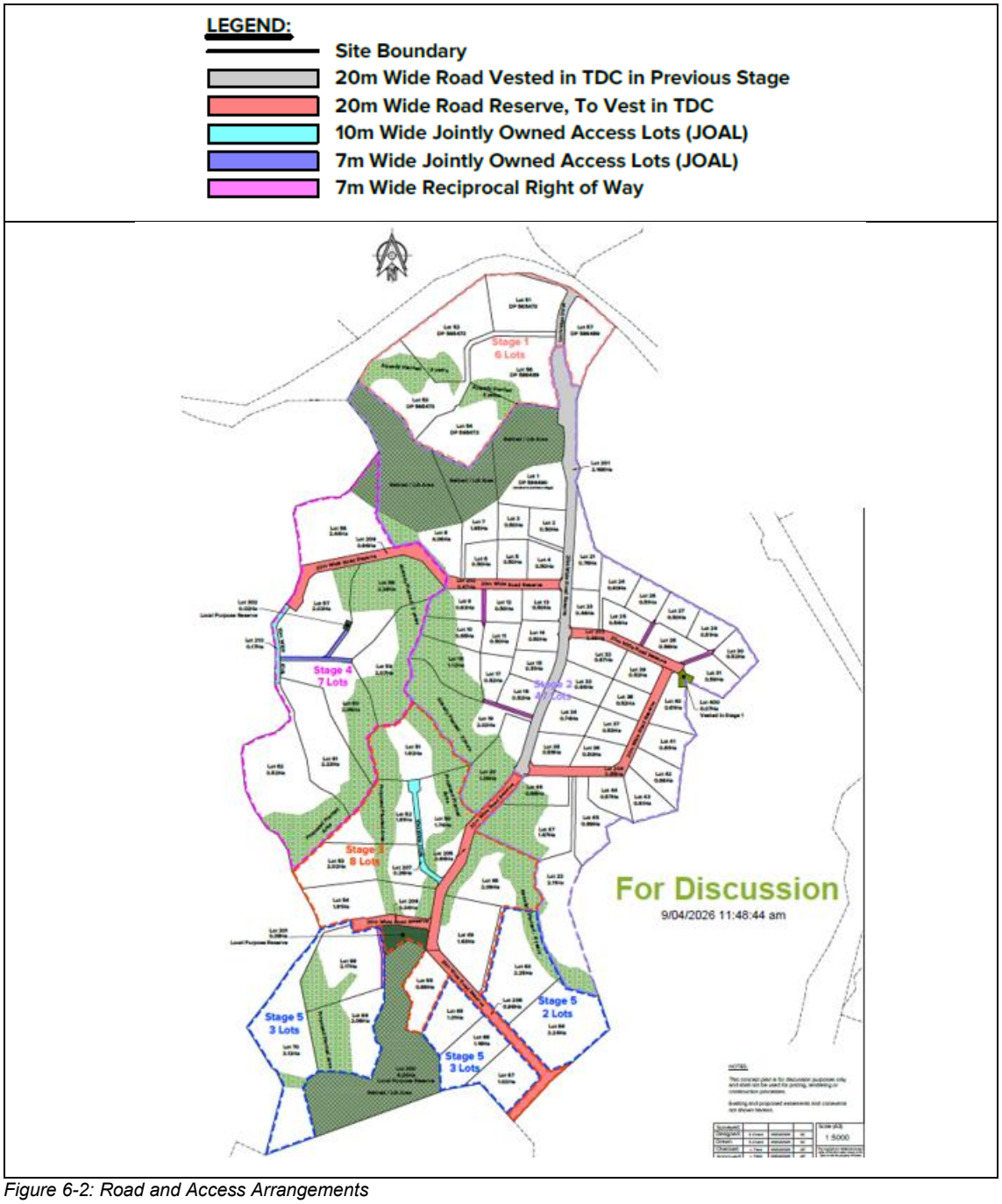


Figure 6-2: Road and Access Arrangements

The proposed variation retains the established hierarchy of public roads within the subdivision. Lochridge Drive continues to form the primary north-south connection between Whangamata Road and the future road connection to the adjoining Seven Oaks subdivision. The proposed variation also extends the public road network by converting the previously approved Tea Tree Lane and Akeake Lane accessways into a connected public road and crescent, rather than two separate no-exit roads. The previously approved Pigeonwood Lane accessway is widened and converted to a public road. These changes increase the proportion of residential lots with frontage to public road, improve internal connectivity and legibility, and reduce reliance on jointly owned access lots and private rights of way. The overall road hierarchy is therefore

strengthened while maintaining the layout and connectivity established under the existing consent.

The proposed ROW and JOAL arrangements are summarised in Table 6-1 below.

Table 6-1: ROW and JOAL Summary

ROW or JOAL	Type	Maximum Lots Permitted by District Plan	Lots Dependent on Access	Lots Also Fronting Another Road or Access
Between (Btw) Lot 9 and Lot 12	7m ROW	Up to 3	10 and 11	9 and 12
Btw Lot 25 and 28	7m ROW		26 and 27	25 and 28
Btw Lot 28 and 31	7m ROW		29 and 30	28 and 31
Btw Lot 16 and 19	7m ROW		18 and 17	16 and 19
Btw Lot 68 and 301	7m ROW		69	68
Btw Lot 57 and 60	7m JOAL	Up to 3	59 and 302 (Local Purpose Reserve)	60, 58, 57
Lot 207 (JOAL 1)	10m JOAL	Up to 12	51 and 52	50 and 53
Lot 210 (JOAL 2)	10m JOAL	Up to 12	61, 62	60, 57

Review of the proposed subdivision layout indicates that all ROWs and JOALs comply with the District Plan standards in terms of the number of lots that are solely reliant on them for access.

In addition, a number of adjoining lots have frontage to both a ROW or JOAL and an alternative public road or accessway. These lots are not dependent on the shared access for legal or practical access but provide flexibility for future vehicle crossing locations. Consequently, each shared access has additional capacity available should some of these lots elect to take access from the ROW or JOAL, while remaining within the maximum number of allotments permitted by the District Plan. All ROWs and JOALs are also expected to have compliant seal widths and legal widths.

6.4 Internal Intersections

The proposed public road network incorporates a series of conventional priority-controlled T-intersections (where Lots 202, 203, 204 and 208 meet Lochridge Drive). The proposed variation does not introduce any complex or unusual intersection forms, with all intersections connecting roads of similar residential function.

Vehicle tracking has been undertaken by Kotare Consultants for the proposed intersection arrangements. The public road intersections have been assessed using an 11.5 m large rigid truck (LRT), while an 8 m medium rigid truck (MRT) has been used to assess the lower-order JOAL and ROW connections. The drawings in Appendix 2 demonstrate that the respective design vehicles can negotiate the proposed intersections and connections satisfactorily.

A 50 km/h design speed has been adopted for the internal road network. This is consistent with the 50 km/h speed limit applying to Oakdale Drive, which performs a similar collector function within Kinloch, and is considered appropriate for Lochridge Drive as development progresses.

TRAN-R4.5 requires a minimum sight distance of 40 m for accesses to local roads within a 50-60 km/h speed environment. The sight distance drawings included in Appendix 2 demonstrate that a minimum sight distance of 50 m is available in both directions at each of the proposed public road intersections. The assessment incorporates the vertical road geometry and adopts a driver eye height of 1.15 m. The available sight distances therefore exceed the applicable District Plan requirement.

The District Plan also requires a minimum separation of 15 m between a vehicle crossing and a road intersection on local roads within a 50-60 km/h speed environment. Individual vehicle crossings have not been designed as part of the subdivision road layout and are expected to be established at the subsequent dwelling design stage. Given the lot sizes and frontages proposed, it is expected that vehicle crossings can generally be positioned to achieve the required 15 m separation. Where the detailed design of an individual lot results in a departure from this standard, this can be assessed by Council on a case-by-case basis at the relevant approval stage.

Overall, the proposed internal intersections are considered appropriate for the intended 50 km/h speed environment and residential function of the road network.

6.5 Loading, Servicing and Waste Collection

The proposed subdivision includes conventional rural residential allotments fronting either public roads or compliant ROW and JOAL access arrangements. Loading, servicing and waste collection activities will therefore occur from the adjoining road network in the same manner as a typical rural lifestyle subdivision.

The proposed public roads are designed in accordance with the TDC CoP (Figure 3.1R) for local rural roads serving fewer than 100 sites. The adopted road standard provides an appropriate carriageway width and road corridor to accommodate residential traffic together with the occasional use by larger vehicles, including refuse collection vehicles, emergency services, moving trucks and delivery vehicles.

The road design drawings prepared by Kotare Consultants demonstrate that the intersections have been designed to accommodate the swept path of an 11.5m LRT.

No transportation issues associated with loading, servicing or waste collection are anticipated.

6.6 Walking and Cycling

The proposed internal road network has generally been designed as low-volume rural roads in accordance with the TDC Code of Practice (CoP). Dedicated cycling facilities are not proposed, with the anticipated low traffic volumes and 50 km/h speed environment enabling cycling to be accommodated within the road carriageway.

Pedestrian facilities are proposed along parts of Lochridge Drive to provide connectivity with the existing network. Scarlett Drive and Kahikatea Drive, which provide connections towards the

more urban parts of Kinloch, are provided with 1.5 m wide footpaths. To provide continuity with these facilities and support local walking, a 1.5 m wide footpath is proposed along the south and western side of Lochridge Drive through Stages 3 and 5.

This will provide the opportunity for local connectivity through the development and towards the existing Kinloch pedestrian network, while retaining a road form appropriate to the rural residential character of the subdivision. The proposed walking and cycling provision is therefore assessed as appropriate for the nature and anticipated level of activity generated by the development.

6.7 Parking

No formal on-street parking is proposed within the subdivision, consistent with the CoP expectations for local rural roads. Each residential allotment has adequate size to accommodate reasonable resident and visitor parking demands on-site.

6.8 Construction Effects

A construction methodology has not been developed at this stage of the project. Specific traffic management controls may be required for works within, or affecting, public road reserves managed by TDC. Works within the State Highway network are not anticipated.

Construction-related traffic effects can be appropriately managed through standard conditions of consent requiring the preparation and implementation of a Construction Traffic Management Plan (CTMP).

The CTMP would be prepared in accordance with current New Zealand Transport Agency (NZTA) guidance, including the New Zealand Guide to Temporary Traffic Management (NZGTTM), and relevant Council requirements.

A consent condition is recommended to reflect the construction traffic management aspects generally as follows:

- Construction Works Proposal;
- Construction Staging and Programme;
- Access;
- Heavy Commercial Vehicle Demands and Routes;
- Confinement and Management of Materials;
- Mitigation/Minimisation of off-site Construction Movements;
- Contractor Offices and Amenities;
- Temporary Traffic Management Controls;
- Approval Processes; and
- Contractor Contacts.

This is recommended to be included as a condition of consent, for approval by TDC.

7.0 District Plan Compliance

An assessment against the relevant provisions in Section 7.3 (Transport) of the Taupo District Plan is included as **Appendix 3**.

The proposal establishes a rural residential subdivision within the Rural Lifestyle Zone, seeking to vary an existing consent. The proposed transport network has been designed in accordance with the TDC CoP and includes a hierarchy of public roads, ROWs and JOALS that have been assessed as appropriate for the anticipated traffic demands associated with the development.

The proposed public roads are expected to comply with the applicable Council engineering standards, while the proposed ROWs and JOALs can comply with the District Plan requirements relating to the number of allotments served. The layout provides safe and efficient access to all proposed lots and is expected to appropriately accommodate residential traffic and occasional service vehicles. Sight distance at the proposed internal intersections has been demonstrated to comply with the applicable requirements for the intended 50 km/h speed environment. Pedestrian connectivity will also be provided through a 1.5 m wide footpath along Lochridge Drive, connecting with the existing pedestrian network towards Kinloch.

Individual vehicle crossing locations have not been fixed at subdivision stage and will instead be determined in conjunction with the future development of each lot. It is expected that these can generally be located to comply with the applicable District Plan standards, including the required 15 m separation from intersections, with any site-specific departures able to be assessed by TDC at the relevant approval stage. Other detailed matters relating to driveway gradients, parking and manoeuvring will similarly be addressed as individual lots are developed.

Overall, the proposed transport network is assessed as capable of complying with the relevant transport standards of the District Plan and appropriately accommodates the anticipated transport demands of the development.

8.0 Conclusion

Lochridge Estate Limited (the Applicant) proposes to vary the existing resource consent for the staged Lochridge Estate subdivision at Kinloch, Taupo. The proposed variation retains the approved access from Whangamata Road and the established road hierarchy while increasing the number of residential lots within the undeveloped stages from 44 to 76. The proposal also includes associated changes to the internal road layout, staging and lot configuration.

The proposed variation is expected to generate approximately 342 vehicle movements per day, representing an increase of approximately 144 vehicle movements per day and 19 vehicle movements during the peak hour compared with the consented subdivision. These additional traffic demands are modest and are readily accommodated by the surrounding road network. The existing Whangamata Road/Lochridge Drive intersection remains appropriate for the anticipated traffic demands, with no changes to the approved access arrangement required.

The proposed internal transport network is assessed as appropriate for the anticipated traffic demands associated with the proposal. The public roads have been designed in accordance with the TDC COP while the proposed rights-of-way and jointly owned access lots are consistent with the relevant District Plan requirements. Vehicle tracking demonstrates that the proposed intersections and connections can accommodate the relevant design vehicles, while the available sight distances exceed the applicable requirements for the intended 50 km/h speed environment.

The proposed road hierarchy provides safe and efficient access to the proposed allotments and appropriately accommodates residential traffic and occasional service vehicle demands. A 1.5 m wide footpath along parts of Lochridge Drive will also provide pedestrian connectivity through the development and towards the existing Kinloch pedestrian network, while cyclists can be appropriately accommodated within the low-volume road environment.

Assessment against the relevant transport provisions of the District Plan indicates that the proposal can comply with the applicable transport standards. Individual vehicle crossing locations will be determined as the respective lots are developed, with compliance with the applicable crossing standards able to be addressed at that stage. Other lot-specific matters, including driveway gradients, parking and manoeuvring can similarly be addressed through subsequent design and approval processes.

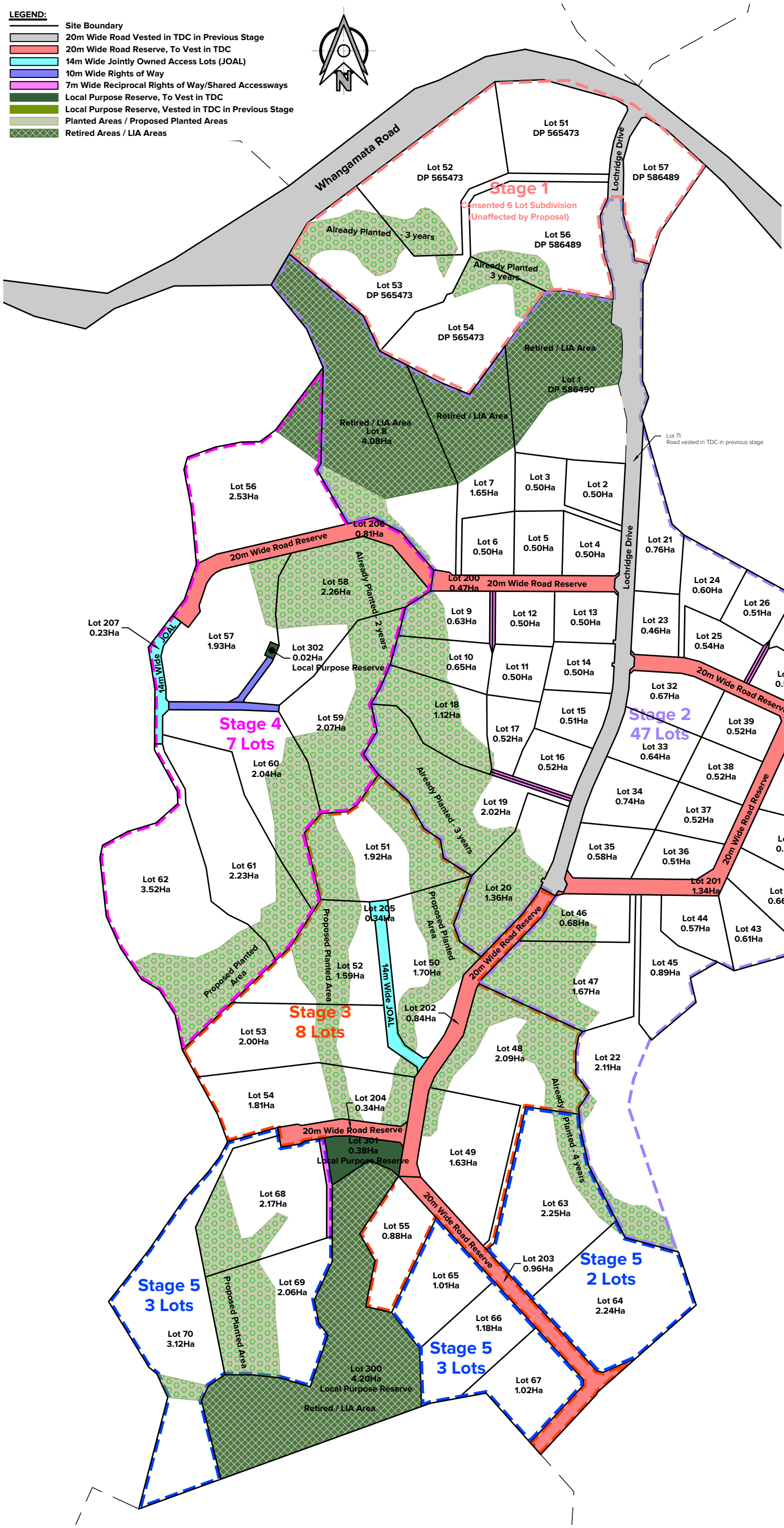
Standard conditions of consent are recommended in relation to detailed engineering design and the preparation and implementation of a Construction Traffic Management Plan.

On the basis of the assessments presented in this report, and subject to the implementation of the recommended conditions, it is concluded that the proposed variation will not result in any more than minor transport effects and that there are no transportation reasons why the application could not be approved.

Appendix 1: Subdivision Plans

LEGEND:

- Site Boundary
- 20m Wide Road Vested in TDC in Previous Stage
- 20m Wide Road Reserve, To Vest in TDC
- 14m Wide Jointly Owned Access Lots (JOAL)
- 10m Wide Rights of Way
- 7m Wide Reciprocal Rights of Way/Shared Accessways
- Local Purpose Reserve, To Vest in TDC
- Local Purpose Reserve, Vested in TDC in Previous Stage
- Planted Areas / Proposed Planted Areas
- Retired Areas / LIA Areas



Stages 1-5 Density Schedules

No. of Lots	Description	Area (Ha)
76	Residential Lots including Access	94.89
1	Road Vested in TDC (Lochridge Drive)	2.479
6	Roads to Vest (Lots 200-204 & 206)	4.80
1	Local Purpose Reserve Vested in TDC (Lot 80)	0.07
3	Local Purpose Reserve (Lots 300-302)	4.60
4	JOALs (Lots 205 & 207) & ROWs	0.76
91	**Total**	**107.599**

Stages 1-5 Reserves & Green Spaces Schedule

Legend	Description	Area (Ha)
	Local Purpose Reserve, To Vest in TDC (Lot 301 & 302)	0.40
	Local Purpose Reserve, Vested in TDC in Previous Stage (Lot 80)	0.07
	Planted Areas / Proposed Planted Areas	20.40
	Retired Areas / LIA Areas	10.53
	Total	**31.40**

Overall Development Areas

Description	Area (Ha)
Gross Density (Stages 1-5 including roading, reserves & green spaces)	107.599
Net Density (Stages 1-5 excluding roading, reserves & green spaces)	68.93

Note: Stage 1 is shown for context and to inform the overall development density calculation. It does not form part of the current resource consent application

Surveyed:			
Designed:	S. Chand	05/03/2026	SC
Drawn:	S. Chand	05/03/2026	SC
Checked:	J. Thom	05/03/2026	JRT
Approved:	J. Thom	05/03/2026	JRT

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A	18/09/26	First Issue	SC	JRT	JRT

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Client: Lochridge Estate Ltd

Title: Proposed Subdivision Layout

Project: Proposed Stage 2 Resubdivision and Stages 3-5 Reconfiguration

Status: **RESOURCE CONSENT**

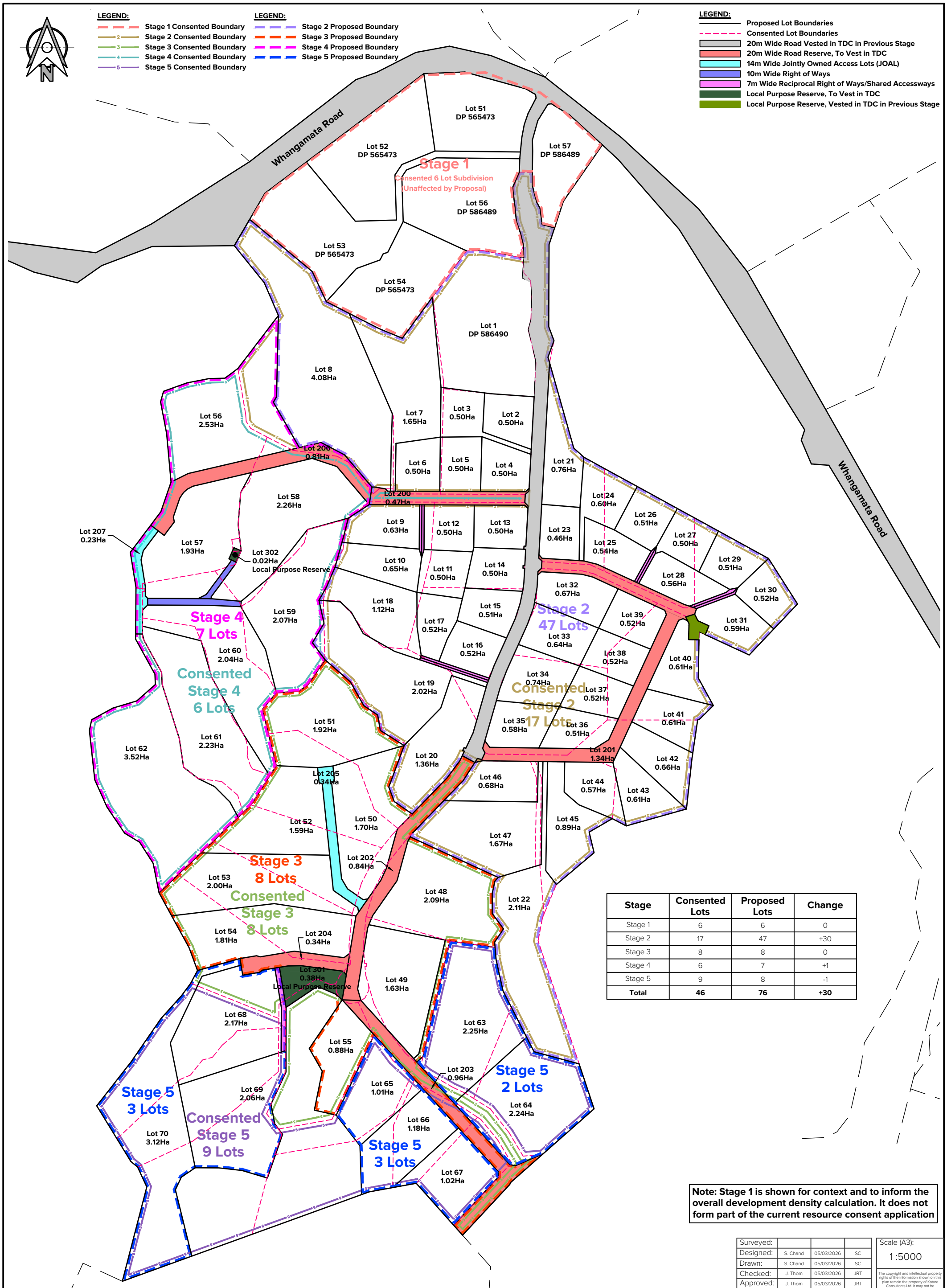
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Rev: A

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Stage	Consented Lots	Proposed Lots	Change
Stage 1	6	6	0
Stage 2	17	47	+30
Stage 3	8	8	0
Stage 4	6	7	+1
Stage 5	9	8	-1
Total	**46**	**76**	**+30**

Note: Stage 1 is shown for context and to inform the overall development density calculation. It does not form part of the current resource consent application

Rev	Date	Amendment:	By	Chk	App
A	18/09/26	First Issue	SC	JRT	JRT

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Client: Lochridge Estate Ltd

Title: Comparison of Consented & Proposed Subdivision Layouts

Project: Proposed Stage 2 Resubdivision and Stages 3-5 Reconfiguration

Surveyed:			
Designed:	S. Chand	05/03/2026	SC
Drawn:	S. Chand	05/03/2026	SC
Checked:	J. Thom	05/03/2026	JRT
Approved:	J. Thom	05/03/2026	JRT

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LEGEND:

- Consented Lot Boundaries
- Stage 1 Consented Boundary
- 2 Stage 2 Consented Boundary
- 3 Stage 3 Consented Boundary
- 4 Stage 4 Consented Boundary
- 5 Stage 5 Consented Boundary

Whangamata Road

Whangamata Road

Lot 51 DP 565473

Lot 52 DP 565473

Lot 57 DP 586489

Stage 1
Consented 6 Lot Subdivision
(Unaffected by Proposal)

Lot 56 DP 586489

Lot 53 DP 565473

Lot 71 2.17Ha

Lot 54 DP 565473

Lot 1 2.74Ha

Lot 28 5.03Ha

Lot 27 2.22Ha

Lot 2 1.99Ha

Lot 31 3.76Ha

Lot 30 2.98Ha

Lot 7 1.80Ha

Lot 81 0.02Ha

Lot 6 1.80Ha

Lot 8 1.96Ha

Lot 29 2.49Ha

Lot 9 2.16Ha

Lot 32 2.21Ha

Lot 33 2.24Ha

Lot 12 1.88Ha

Lot 10 1.97Ha

Lot 80 0.07Ha

Consented Stage 4 6 Lots

Lot 13 3.17Ha

Lot 11 2.01Ha

Consented Stage 2 17 Lots

Lot 25 2.16Ha

Lot 14 1.99Ha

Lot 35 3.67Ha

Lot 34 2.21Ha

Lot 26 2.08Ha

Lot 15 1.96Ha

Lot 24 1.62Ha

Lot 23 2.20Ha

Lot 16 1.91Ha

Lot 21 2.11Ha

Lot 22 2.02Ha

Consented Stage 3 8 Lots

Lot 17 2.20Ha

Lot 18 2.32Ha

Lot 72 0.96Ha

Lot 20 1.76Ha

Lot 44 1.99Ha

Lot 36 2.12Ha

Lot 19 2.10Ha

Lot 73 1.01Ha

Lot 40 1.28Ha

Lot 43 2.04Ha

Lot 37 2.10Ha

Consented Stage 5 9 Lots

Lot 41 1.12Ha

Lot 39 1.90Ha

Lot 42 1.10Ha

Lot 38 3.80Ha

Note: Stage 1 is shown for context and to inform the overall development density calculation. It does not form part of the current resource consent application

A	18/09/26	First Issue	SC	JRT	JRT
Rev	Date	Amendment:	By	Chk	App

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Client: Lochridge Estate Ltd

Title: Consented Subdivision Layout

Project: Proposed Stage 2 Resubdivision and Stages 3-5 Reconfiguration

Surveyed:			
Designed:	S. Chand	05/03/2026	SC
Drawn:	S. Chand	05/03/2026	SC
Checked:	J. Thom	05/03/2026	JRT
Approved:	J. Thom	05/03/2026	JRT

Change Log: Refer to Job Drawing Register.

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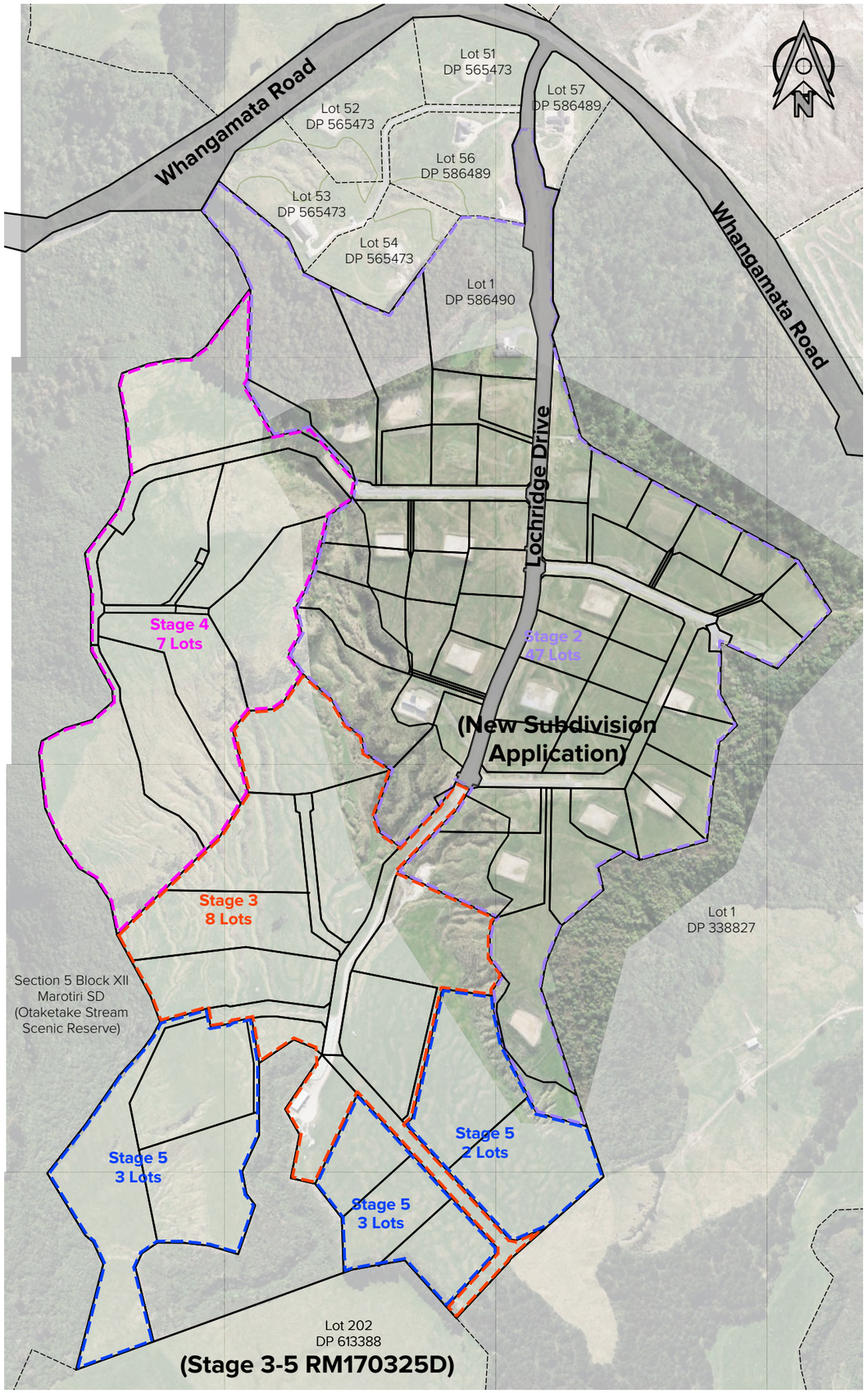
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Drawing Plan: 1474-10-SC-105

Rev: A

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Appendix 2: Road Design Plans



STAGES 2 - 5

LOCHRIDGE ESTATE LIMITED

LOCHRIDGE DRIVE, KINLOCH, TAUPO

SEPTEMBER 2026

ENGINEERING PLANS

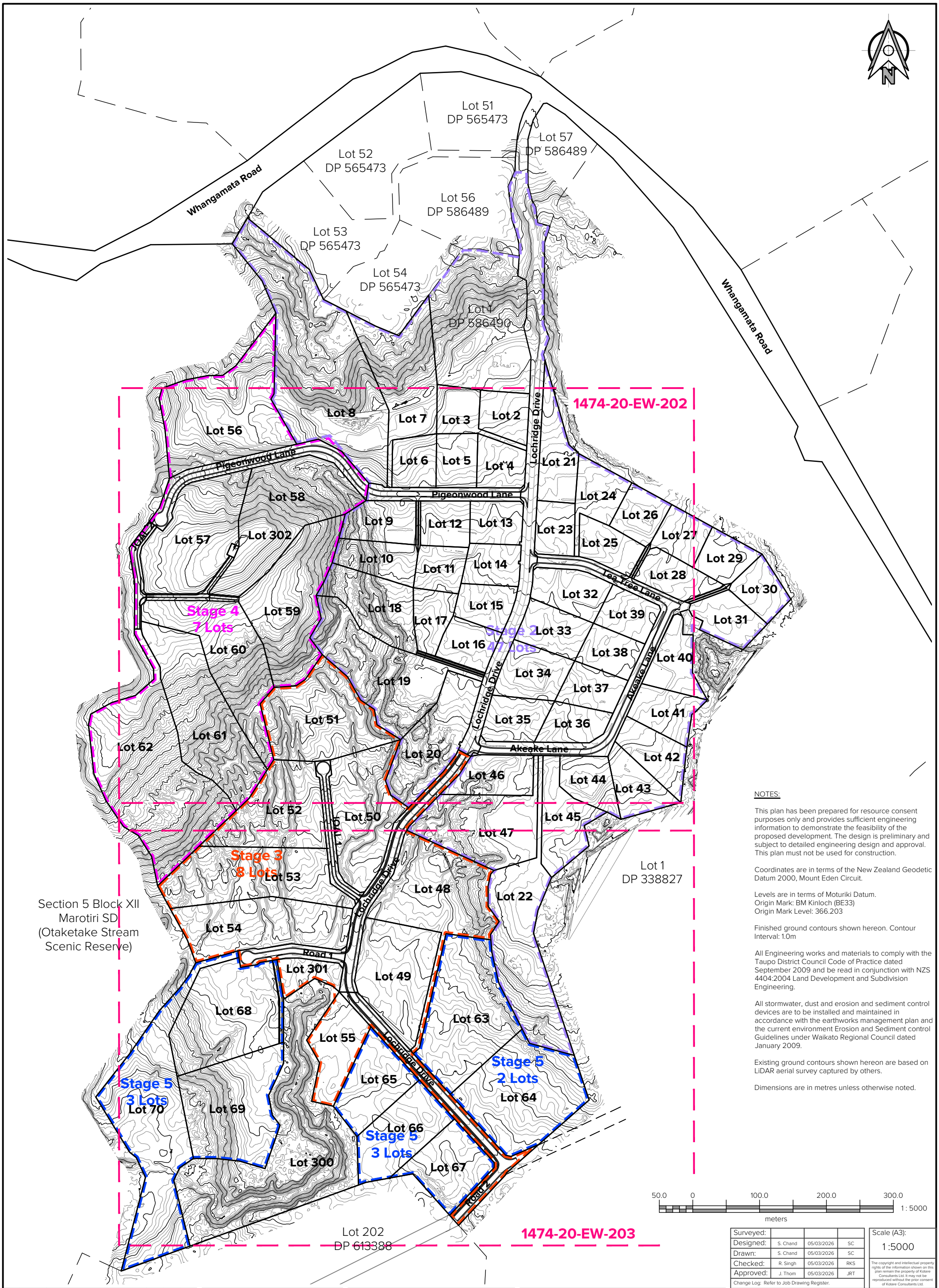
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	General	
1474-00-GR-001	Cover Sheet & Site Location Plan	B
	Earthworks	
1474-20-EW-201	Overall Finished Contour Plan	B
1474-20-EW-202	Finished Contour Plan (Enlarged)	B
1474-20-EW-203	Finished Contour Plan (Enlarged)	B
1474-20-EW-204	Overall Cut & Fill Plan	B
1474-20-EW-205	Cut & Fill Plan (Enlarged)	B
1474-20-EW-206	Cut & Fill Plan (Enlarged)	B
1474-20-EW-211	Erosion & Sediment Control Plan Sheet 1 of 2	B
1474-20-EW-212	Erosion & Sediment Control Plan Sheet 2 of 2	B
1474-20-EW-213	Erosion & Sediment Control Details	B
	Roading	
1474-30-RD-301	Roading Network Plan	B
1474-30-RD-302	Pigeonwood Lane Plan, Long & Typ. Cross Section	B
1474-30-RD-303	Tea Tree Lane Plan, Long & Typ. Cross Section	B
1474-30-RD-304	Akeake Lane Plan, Long & Typ. Cross Section	B
1474-30-RD-305	Lochridge Drive Plan, Long & Typ. Cross Section	B
1474-30-RD-306	JOAL 1 Plan, Long & Typ. Cross Section	B
1474-30-RD-307	Road 1 Plan, Long & Typ. Cross Section	B
1474-30-RD-308	JOAL 2, ROW 1 & 2 Plan, Long & Typ. Cross Section	B
1474-30-RD-321	Local/Collector Road Junction Vehicle Tracking	B
1474-30-RD-322	JOAL/ROW Junction Vehicle Tracking	B
1474-30-RD-331	Sight Distance Assessment	B
1474-30-RD-332	Sight Distance Assessment	B
1474-30-RD-333	Sight Distance Assessment	B
	Stormwater	
1474-40-SW-401	General Arrangement Plan	B
1474-40-SW-402	Pre-Development Catchment Plan	B
1474-40-SW-403	Post-Development Catchment Plan	B
1474-40-SW-404	Stormwater Layout Sheet 1 of 7	B
1474-40-SW-405	Stormwater Layout Sheet 2 of 7	B
1474-40-SW-406	Stormwater Layout Sheet 3 of 7	B
1474-40-SW-407	Stormwater Layout Sheet 4 of 7	B

Drawing #:	Drawing Title:	Revision:
1474-40-SW-408	Stormwater Layout Sheet 5 of 7	B
1474-40-SW-409	Stormwater Layout Sheet 6 of 7	B
1474-40-SW-410	Stormwater Layout Sheet 7 of 7	B
	Water Reticulation & Services	
1474-60-WT-601	General Arrangement Plan	B
1474-60-WT-602	Water Reticulation & Services Layout Sheet 1 of 7	B
1474-60-WT-603	Water Reticulation & Services Layout Sheet 2 of 7	B
1474-60-WT-604	Water Reticulation & Services Layout Sheet 3 of 7	B
1474-60-WT-605	Water Reticulation & Services Layout Sheet 4 of 7	B
1474-60-WT-606	Water Reticulation & Services Layout Sheet 5 of 7	B
1474-60-WT-607	Water Reticulation & Services Layout Sheet 6 of 7	B
1474-60-WT-608	Water Reticulation & Services Layout Sheet 7 of 7	B

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Status:	Sheet:
RESOURCE CONSENT	A3
Drawing Plan:	Rev:
1474-00-GR-001	B

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NOTES:

This plan has been prepared for resource consent purposes only and provides sufficient engineering information to demonstrate the feasibility of the proposed development. The design is preliminary and subject to detailed engineering design and approval. This plan must not be used for construction.

Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

All Engineering works and materials to comply with the Taupo District Council Code of Practice dated September 2009 and be read in conjunction with NZS 4404:2004 Land Development and Subdivision Engineering.

All stormwater, dust and erosion and sediment control devices are to be installed and maintained in accordance with the earthworks management plan and the current environment Erosion and Sediment control Guidelines under Waikato Regional Council dated January 2009.

Existing ground contours shown hereon are based on LiDAR aerial survey captured by others.

Dimensions are in metres unless otherwise noted.

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meters
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Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Earthworks Revised	SC	JRT	JRT
A	14/09/26	First Issue	SC	RKS	JRT

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Client: Lochridge Estate Ltd

Project: Stages 2-5

Title: Earthworks
Overall Finished Contour Plan

Surveyed:			
Designed:	S. Chand	05/03/2026	SC
Drawn:	S. Chand	05/03/2026	SC
Checked:	R. Singh	05/03/2026	RKS
Approved:	J. Thom	05/03/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): 1 :5000

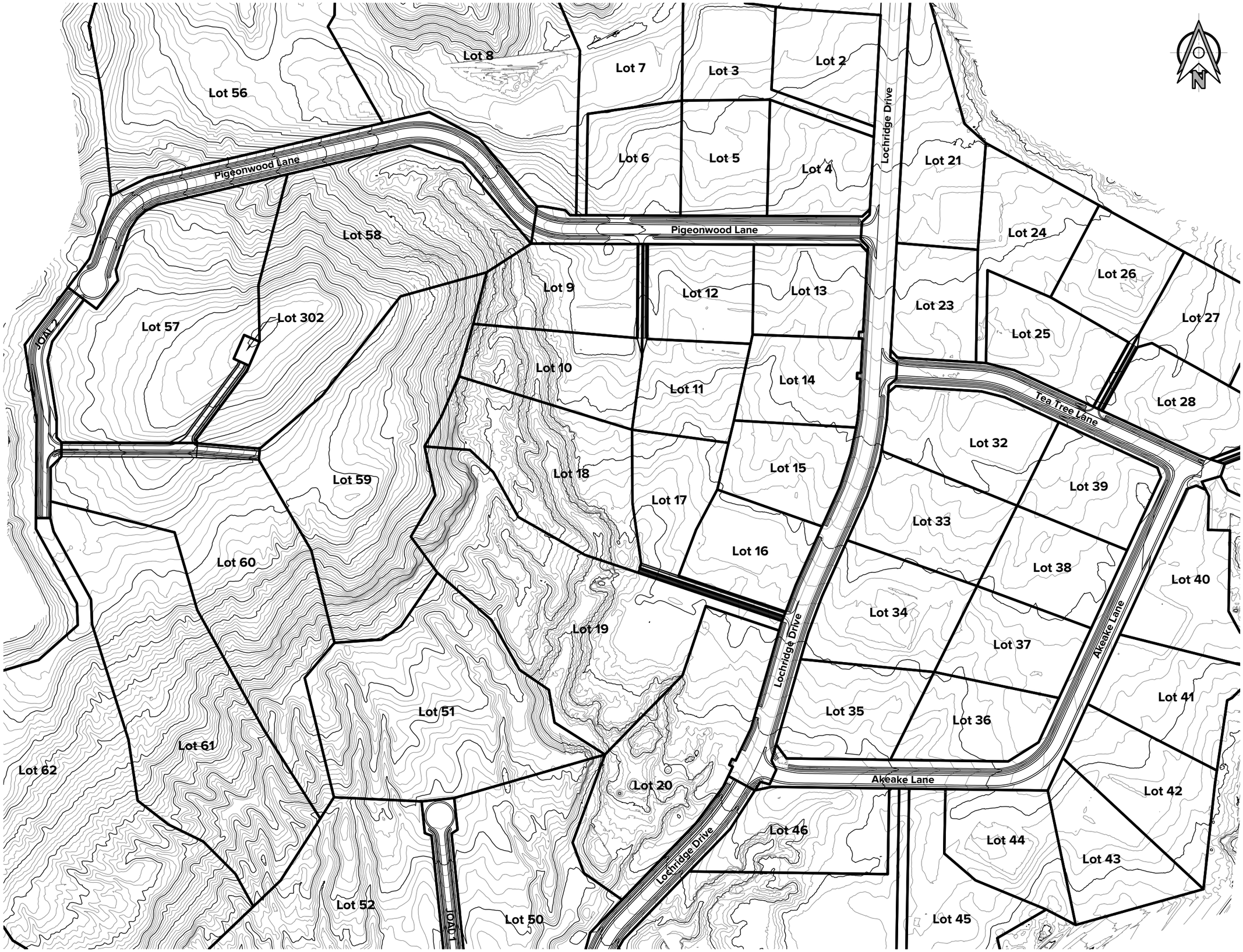
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Sheet: A3

Drawing Plan: 1474-20-EW-201

Rev: B



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NOTES:

This plan has been prepared for resource consent purposes only and provides sufficient engineering information to demonstrate the feasibility of the proposed development. The design is preliminary and subject to detailed engineering design and approval. This plan must not be used for construction.

Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

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Existing ground contours shown hereon are based on LiDAR aerial survey captured by others.

Dimensions are in metres unless otherwise noted.

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Earthworks Revised	SC	JRT	JRT
A	14/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Earthworks
Finished Contour Plan (Enlarged)

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

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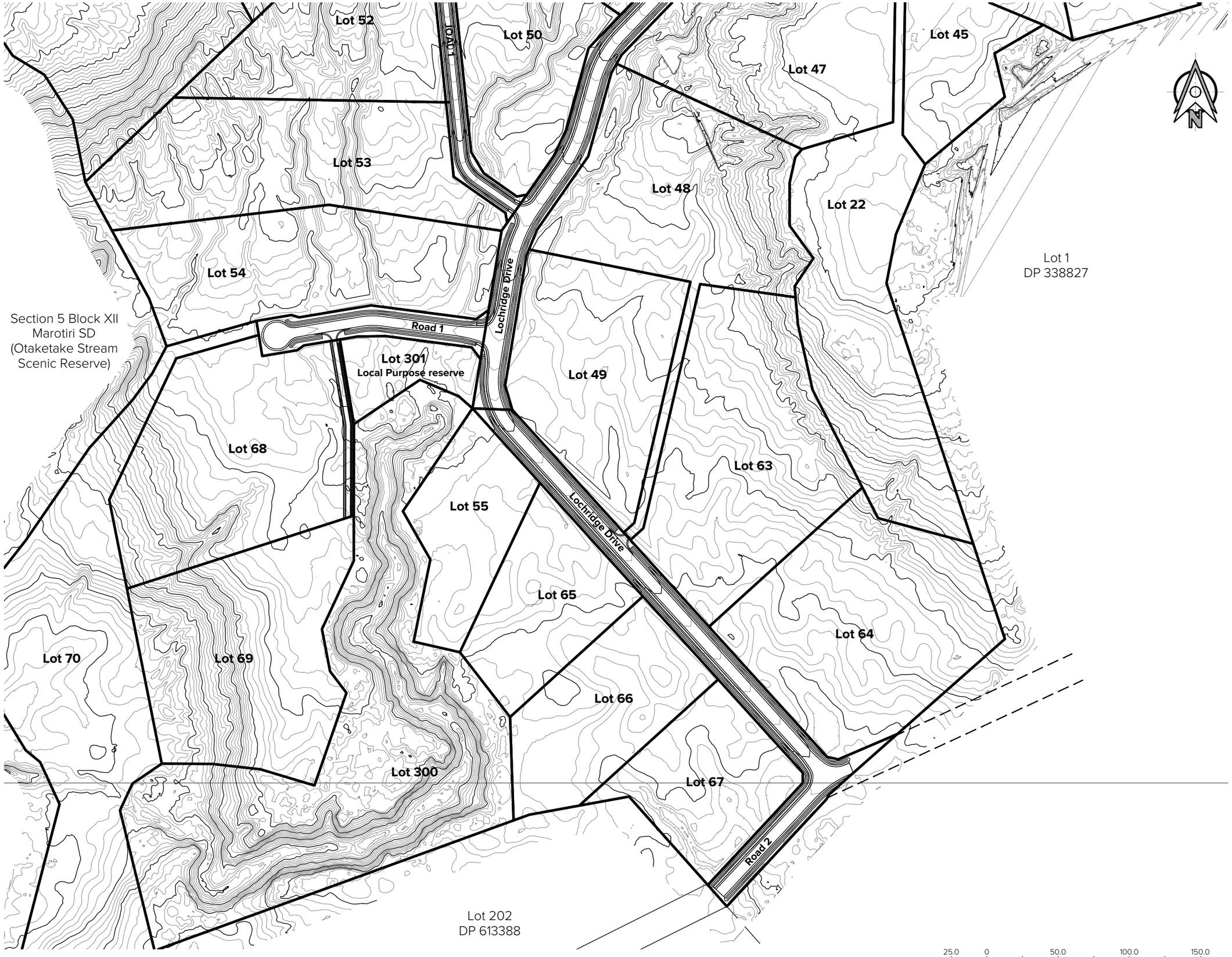
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Drawing Plan: 1474-20-EW-202

Rev: B

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NOTES:

This plan has been prepared for resource consent purposes only and provides sufficient engineering information to demonstrate the feasibility of the proposed development. The design is preliminary and subject to detailed engineering design and approval. This plan must not be used for construction.

Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

All Engineering works and materials to comply with the Taupo District Council Code of Practice dated September 2009 and be read in conjunction with NZS 4404:2004 Land Development and Subdivision Engineering.

All stormwater, dust and erosion and sediment control devices are to be installed and maintained in accordance with the earthworks management plan and the current environment Erosion and Sediment control Guidelines under Waikato Regional Council dated January 2009.

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Dimensions are in metres unless otherwise noted.

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Earthworks Revised	SC	JRT	JRT
A	14/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Earthworks
Finished Contour Plan (Enlarged)

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3):
1 : 2500

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Status:
RESOURCE CONSENT

Sheet:
A3

Drawing Plan:
1474-20-EW-203

Rev:
B

KOTARE CONSULTANTS
AUTO CAD

C:\12dS\data\KotareSYN\1474-T - Lochridge Estate_417\01 CADD\3 CAD\1474-20-EW.dwg 17/Sept/2026 12:49 pm

Cut & Fill Depth Ranges Table				
Color	Cut / Fill Depth (m)	Cut / Fill Depth (m)	Cut / Fill	Area (m²)
	-5.53	-5.00	Cut	37
	-5.00	-4.00	Cut	187
	-4.00	-3.00	Cut	944
	-3.00	-2.00	Cut	2111
	-2.00	-1.00	Cut	7577
	-1.00	0.00	Cut	29428
	0.00	1.00	Fill	21205
	1.00	2.00	Fill	3090
	2.00	3.00	Fill	1117
	3.00	4.00	Fill	735
	4.00	5.00	Fill	622
	5.00	6.00	Fill	395
	6.00	7.00	Fill	197
	7.00	7.24	Fill	41

Note:
Cut depth ranges shown above are comparison between existing ground surface and finished surface.
No allowance has been made for undercuts or topsoil.

Cut & Fill Volume Summary					
Type:	**Area (m^2)**	**Depth (mm)**	**In-Site Cut (m^3)**	**Fill Factor**	**Solid (m^3)**
Cut	37,687	-	31,750	-	**31,750**
Fill			23,665	1.67	**39,520**
Fill Shortage					**7,770**

Lot 51 DP 565473
Lot 52 DP 565473
Lot 53 DP 565473
Lot 54 DP 565473
Lot 56 DP 586489
Lot 57 DP 586489
Lot 1 DP 586490
Lot 1 DP 338827
Lot 202 DP 613388

Whangamata Road
Lochridge Drive
Pigeonwood Lane
Akeake Lane
Tea Tree Lane
Road 1
Road 2

1474-20-EW-205
1474-20-EW-206

Lot 1, Lot 2, Lot 3, Lot 4, Lot 5, Lot 6, Lot 7, Lot 8, Lot 9, Lot 10, Lot 11, Lot 12, Lot 13, Lot 14, Lot 15, Lot 16, Lot 17, Lot 18, Lot 19, Lot 20, Lot 21, Lot 22, Lot 23, Lot 24, Lot 25, Lot 26, Lot 27, Lot 28, Lot 29, Lot 30, Lot 31, Lot 32, Lot 33, Lot 34, Lot 35, Lot 36, Lot 37, Lot 38, Lot 39, Lot 40, Lot 41, Lot 42, Lot 43, Lot 44, Lot 45, Lot 46, Lot 47, Lot 48, Lot 49, Lot 50, Lot 51, Lot 52, Lot 53, Lot 54, Lot 55, Lot 56, Lot 57, Lot 58, Lot 59, Lot 60, Lot 61, Lot 62, Lot 63, Lot 64, Lot 65, Lot 66, Lot 67, Lot 68, Lot 69, Lot 70, Lot 300, Lot 301, Lot 302

Section 5 Block XII Marotiri SD (Otaketake Stream Scenic Reserve)

50.0 0 100.0 200.0 300.0
1 : 5000
meters

NOTES:

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Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

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Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Earthworks Revised	SC	JRT	JRT
A	14/09/26	First Issue	SC	RKS	JRT

KOTARE CONSULTANTS
AUTO CAD

Kotare CONSULTANTS
www.kotareconsultants.nz

Client: Lochridge Estate Ltd
Project: Stages 2-5
Title: Earthworks Overall Cut & Fill Plan

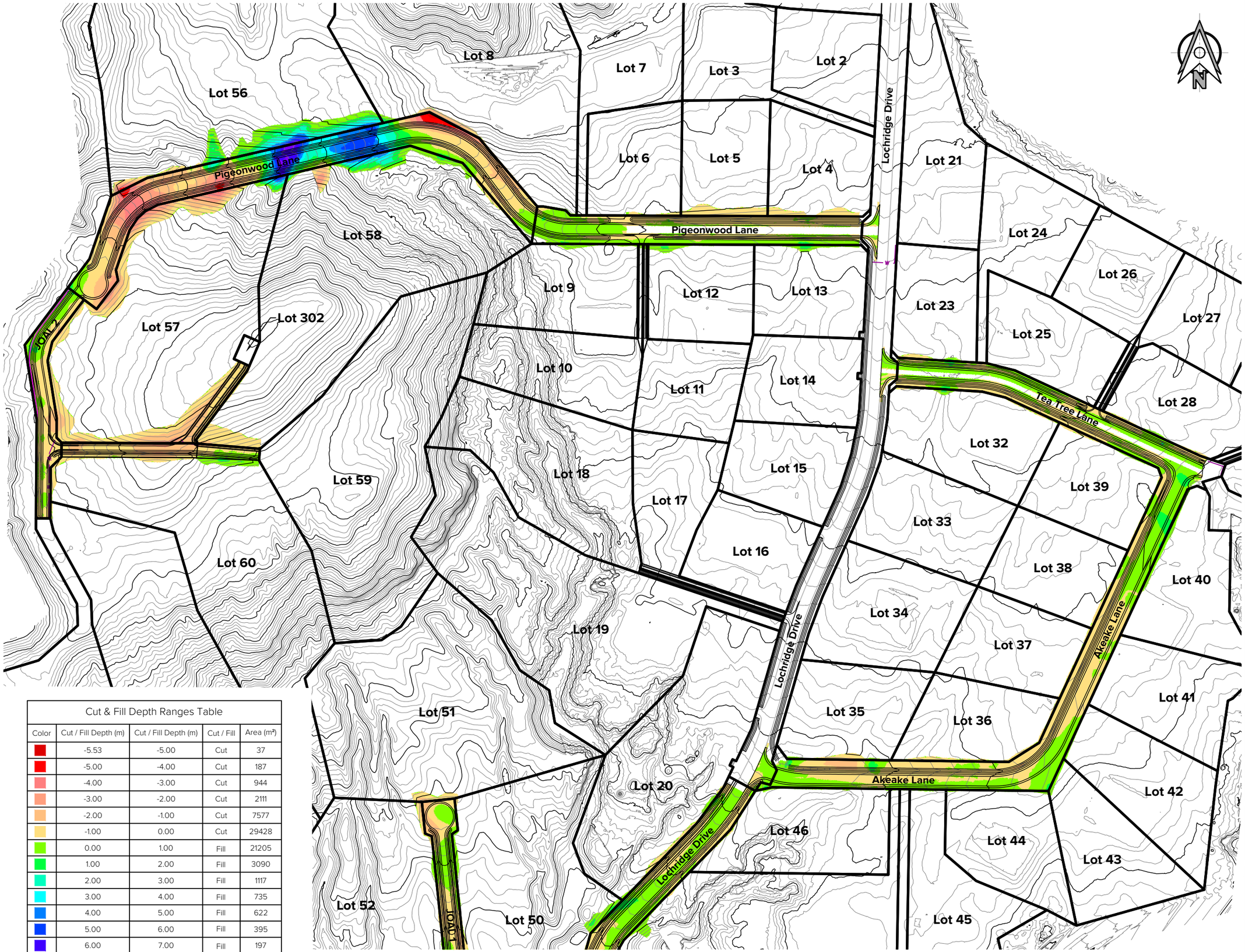
Surveyed:			
Designed:	S. Chand	05/03/2026	SC
Drawn:	S. Chand	05/03/2026	SC
Checked:	R. Singh	05/03/2026	RKS
Approved:	J. Thom	05/03/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): 1 :5000

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Status: **RESOURCE CONSENT**
Sheet: A3
Drawing Plan: 1474-20-EW-204
Rev: B



Cut & Fill Depth Ranges Table				
Color	Cut / Fill Depth (m)	Cut / Fill Depth (m)	Cut / Fill	Area (m²)
	-5.53	-5.00	Cut	37
	-5.00	-4.00	Cut	187
	-4.00	-3.00	Cut	944
	-3.00	-2.00	Cut	2111
	-2.00	-1.00	Cut	7577
	-1.00	0.00	Cut	29428
	0.00	1.00	Fill	21205
	1.00	2.00	Fill	3090
	2.00	3.00	Fill	1117
	3.00	4.00	Fill	735
	4.00	5.00	Fill	622
	5.00	6.00	Fill	395
	6.00	7.00	Fill	197
	7.00	7.24	Fill	41

25.0 0 50.0 100.0 150.0 1 : 2500
meters

Kotare CONSULTANTS
www.kotareconsultants.nz

NOTES:

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Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

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Dimensions are in metres unless otherwise noted.

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Earthworks Revised	SC	JRT	JRT
A	14/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Earthworks
Cut & Fill Plan (Enlarged)

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): 1 : 2500

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Status: RESOURCE CONSENT
Sheet: A3
Drawing Plan: 1474-20-EW-205
Rev: B

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Lot 52
Lot 50
Lot 45
Lot 47
Lot 53
Lot 48
Lot 22
Lot 54
Lot 1
DP 338827
Section 5 Block XII
Marotiri SD
(Otaketake Stream
Scenic Reserve)
Road 1
Lochridge Drive
Lot 301
Local Purpose reserve
Lot 49
Lot 68
Lot 63
Lot 55
Lochridge Drive
Lot 65
Lot 64
Lot 70
Lot 69
Lot 66
Lot 300
Lot 67
Road 2
Lot 202
DP 613388

N

25.0 0 50.0 100.0 150.0
meters
1 : 2500

Cut & Fill Depth Ranges Table

Color	Cut / Fill Depth (m)	Cut / Fill Depth (m)	Cut / Fill	Area (m²)
	-5.53	-5.00	Cut	37
	-5.00	-4.00	Cut	187
	-4.00	-3.00	Cut	944
	-3.00	-2.00	Cut	2111
	-2.00	-1.00	Cut	7577
	-1.00	0.00	Cut	29428
	0.00	1.00	Fill	21205
	1.00	2.00	Fill	3090
	2.00	3.00	Fill	1117
	3.00	4.00	Fill	735
	4.00	5.00	Fill	622
	5.00	6.00	Fill	395
	6.00	7.00	Fill	197
	7.00	7.24	Fill	41

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Origin Mark Level: 366.203

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Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Earthworks Revised	SC	JRT	JRT
A	14/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Earthworks
Cut & Fill Plan (Enlarged)

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3):
1 : 2500

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Status:
RESOURCE CONSENT

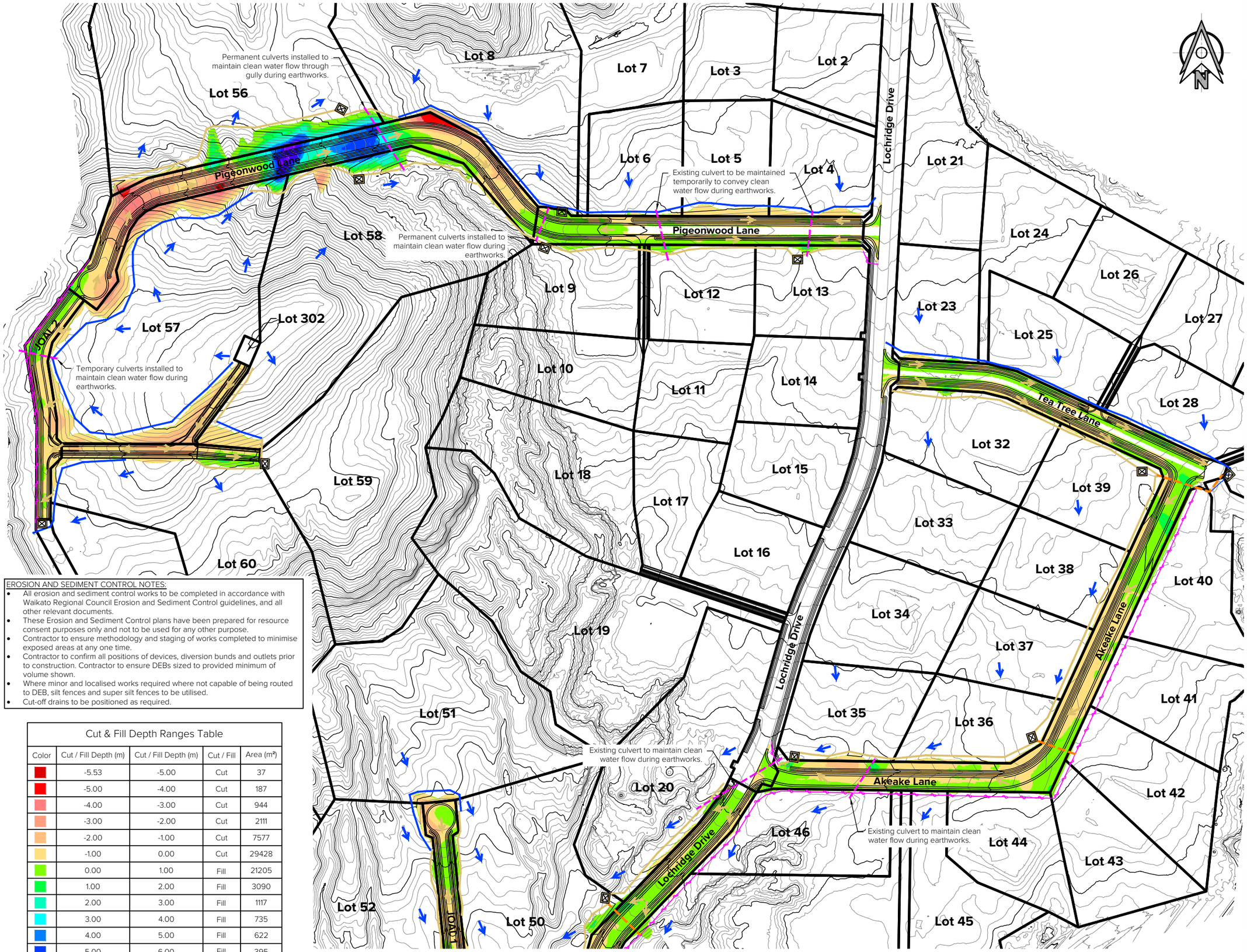
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Drawing Plan:
1474-20-EW-206

Rev:
B

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AUTO CAD

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EROSION AND SEDIMENT CONTROL NOTES:

- All erosion and sediment control works to be completed in accordance with Waikato Regional Council Erosion and Sediment Control guidelines, and all other relevant documents.
- These Erosion and Sediment Control plans have been prepared for resource consent purposes only and not to be used for any other purpose.
- Contractor to ensure methodology and staging of works completed to minimise exposed areas at any one time.
- Contractor to confirm all positions of devices, diversion bunds and outlets prior to construction. Contractor to ensure DEBs sized to provided minimum of volume shown.
- Where minor and localised works required where not capable of being routed to DEB, silt fences and super silt fences to be utilised.
- Cut-off drains to be positioned as required.

Cut & Fill Depth Ranges Table

Color	Cut / Fill Depth (m)	Cut / Fill Depth (m)	Cut / Fill	Area (m²)
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	-4.00	-3.00	Cut	944
	-3.00	-2.00	Cut	2111
	-2.00	-1.00	Cut	7577
	-1.00	0.00	Cut	29428
	0.00	1.00	Fill	21205
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	2.00	3.00	Fill	1117
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LEGEND:

- Site Boundary
- Clean Water Diversion Bunds
- Dirty Water Diversion Bunds
- Silt Fence
- Culvert/Farmboss
- Cut-off Drain/Drivable Bunds
- Decanting Earth Bunds

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Earthworks Revised	SC	JRT	JRT
A	14/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Earthworks - Erosion & Sediment Control Plan Sheet 1 of 2

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3):
1 : 2500

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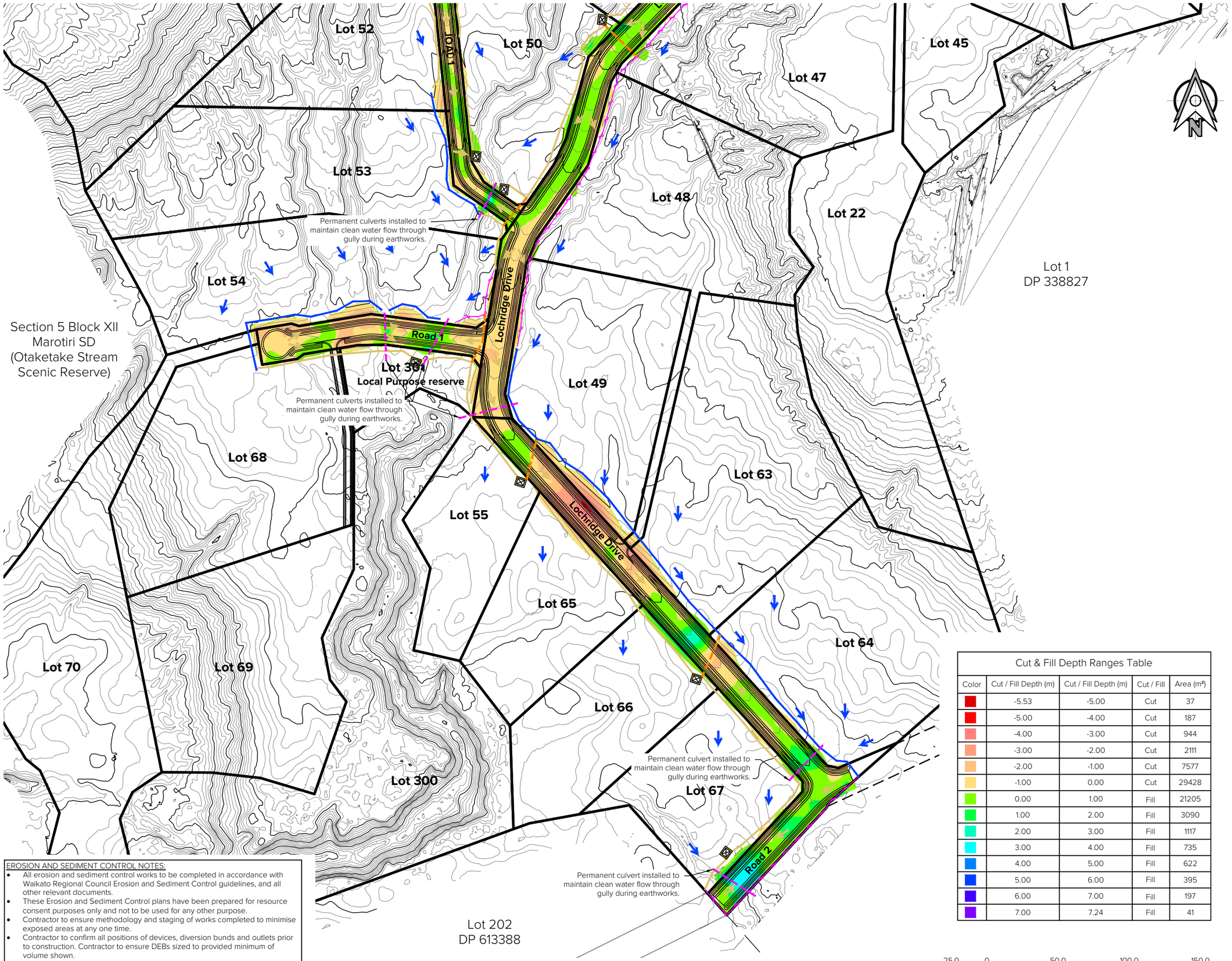
Status:
RESOURCE CONSENT

Sheet:
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Drawing Plan:
1474-20-EW-211

Rev:
B

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AUTO CAD



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Origin Mark Level: 366.203

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LEGEND:

- Site Boundary
- Clean Water Diversion Bunds
- Dirty Water Diversion Bunds
- Silt Fence
- Culvert/Farmboss
- Cut-off Drain/Drivable Bunds
- Decanting Earth Bunds

EROSION AND SEDIMENT CONTROL NOTES:

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	4.00	5.00	Fill	622
	5.00	6.00	Fill	395
	6.00	7.00	Fill	197
	7.00	7.24	Fill	41

25.0 0 50.0 100.0 150.0
meters
1 : 2500

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Earthworks Revised	SC	JRT	JRT
A	14/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Earthworks - Erosion & Sediment Control Plan Sheet 2 of 2

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3):
1 : 2500

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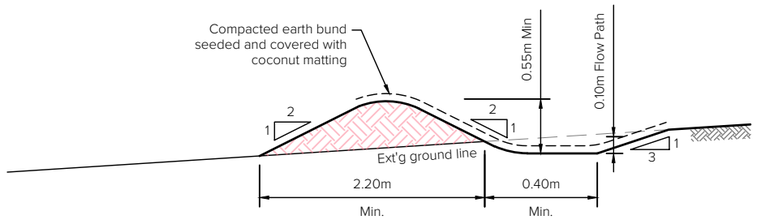
Status:
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Sheet:
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Drawing Plan:
1474-20-EW-212

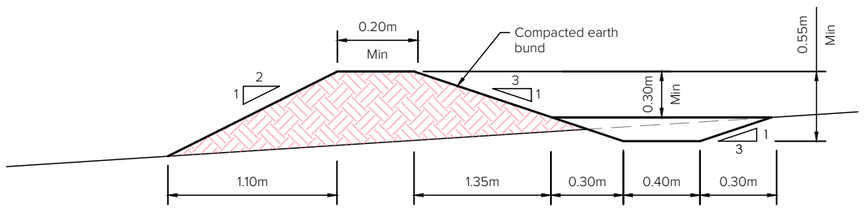
Rev:
B

KOTARE CONSULTANTS
AUTO CAD



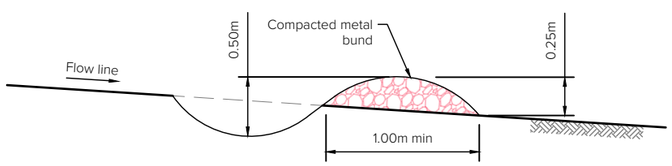
Clean Water Diversion Bund

N.T.S



Dirty Water Diversion Bund

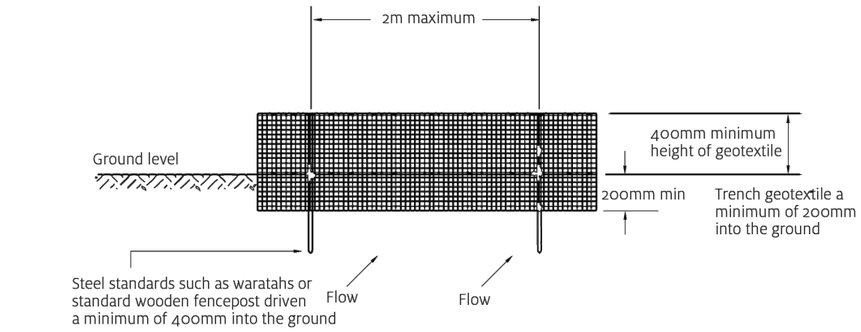
N.T.S



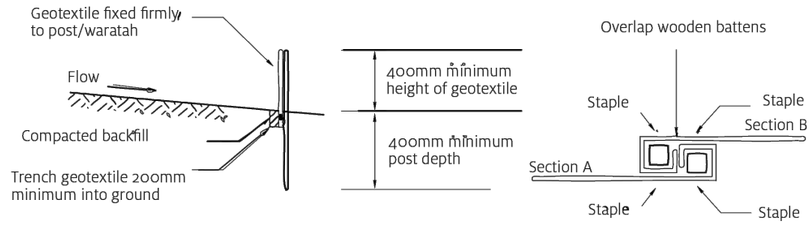
Cut Off Drain

N.T.S

Figure 1

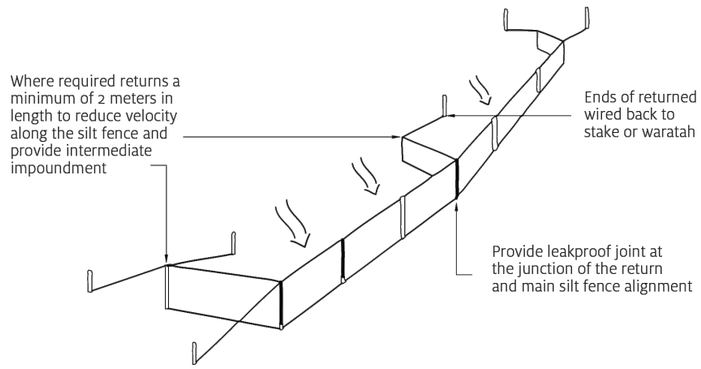


Elevation



Cross section

Standard fabric joint



Perspective view

Silt Fence Installation Detail (If Required)

N.T.S

Kotare CONSULTANTS
www.kotareconsultants.nz

NOTES:

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Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

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Dimensions are in metres unless otherwise noted.

Rev	Date	Amendment:	By	Chk	App
A	14/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Earthworks - Erosion & Sediment Control Details

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): 1 : 2500

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Status: **RESOURCE CONSENT**

Sheet: A3

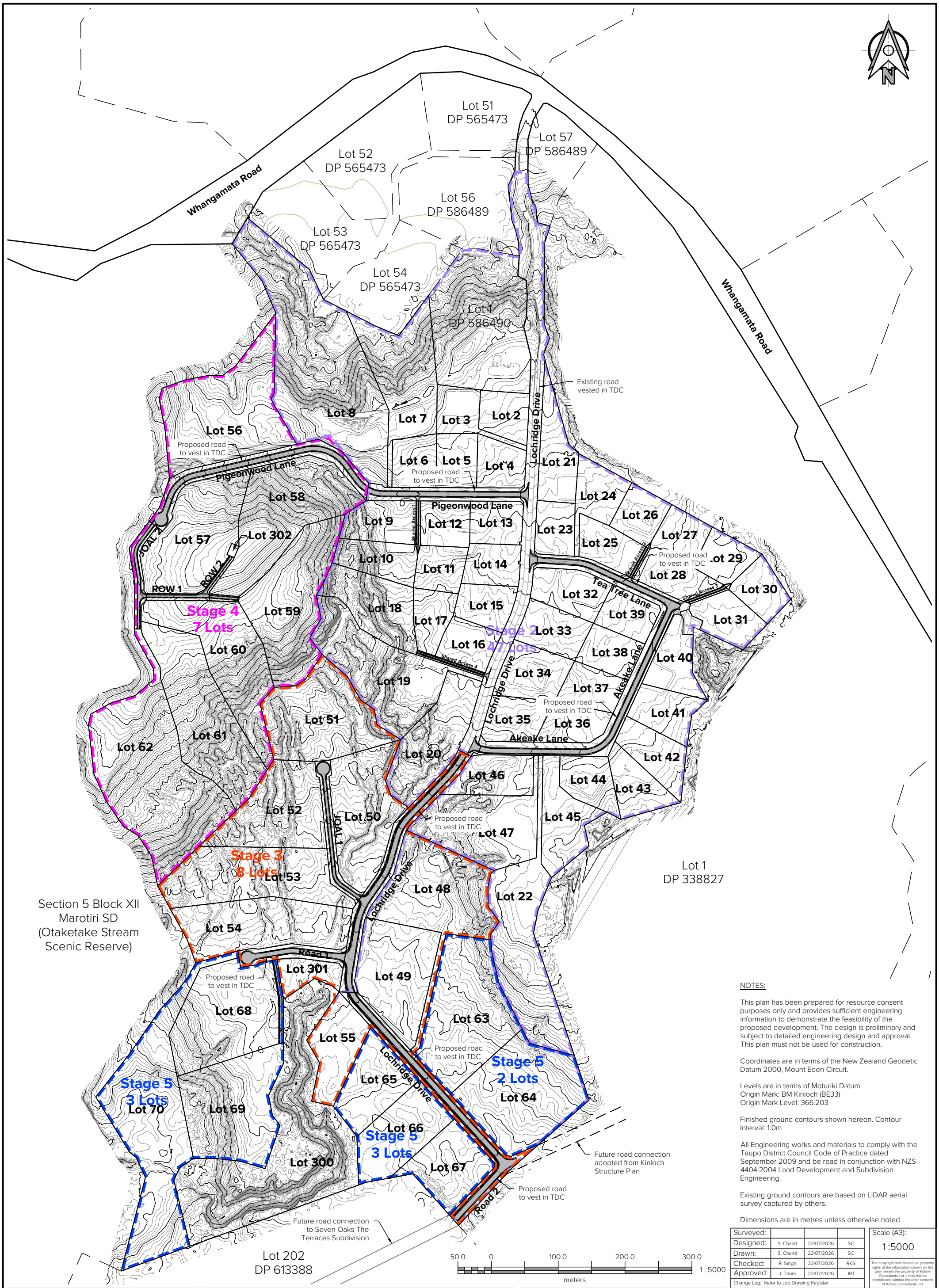
Drawing Plan: 1474-20-EW-213

Rev: A

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AUTO CAD

C:\12dS\data\KotareSYN\1474-T - Lochridge Estate_417\01 CADD\3 CAD\1474-20-EW.dwg 17/Sept/2026 12:51 pm



NOTES:

This plan has been prepared for resource consent purposes only and provides sufficient engineering information to demonstrate the feasibility of the proposed development. The design is preliminary and subject to detailed engineering design and approval. This plan must not be used for construction.

Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

All Engineering works and materials to comply with the Taupo District Council Code of Practice dated September 2009 and be read in conjunction with NZS 4404:2004 Land Development and Subdivision Engineering.

Existing ground contours are based on LiDAR aerial survey captured by others.

Dimensions are in metres unless otherwise noted.

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): 1 :5000

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Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Roading Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

KOTARE CONSULTANTS

AUTO CAD

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Client: Lochridge Estate Ltd

Project: Stages 2-5

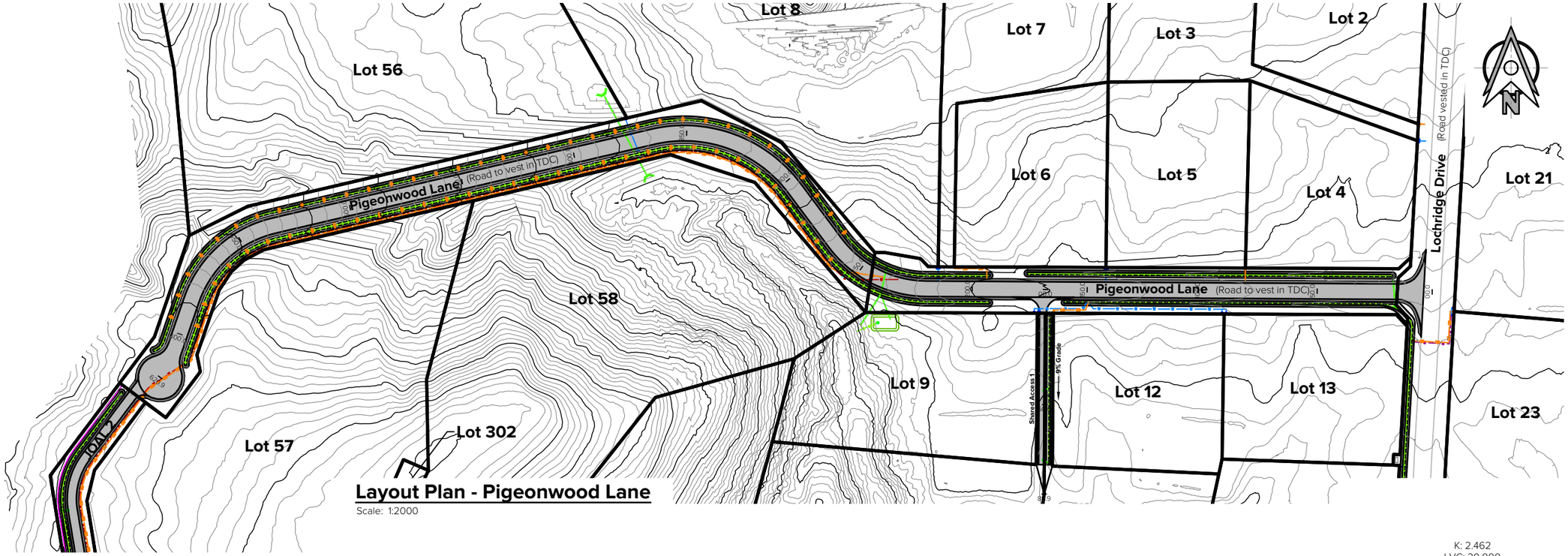
Title: Roading Network Plan

Status: **RESOURCE CONSENT**

Sheet: A3

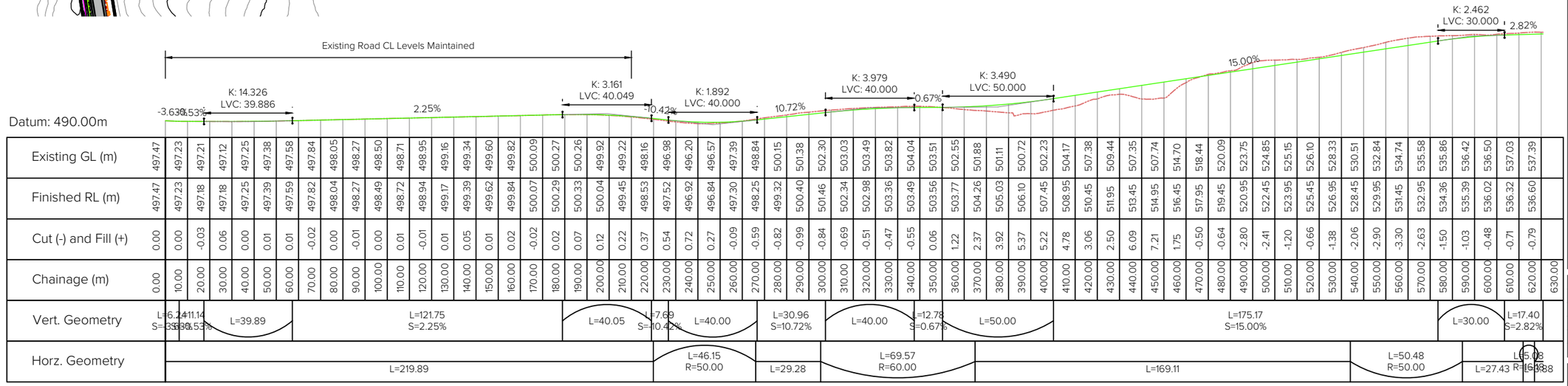
Drawing Plan: 1474-30-RD-301

Rev: B



Layout Plan - Pigeonwood Lane

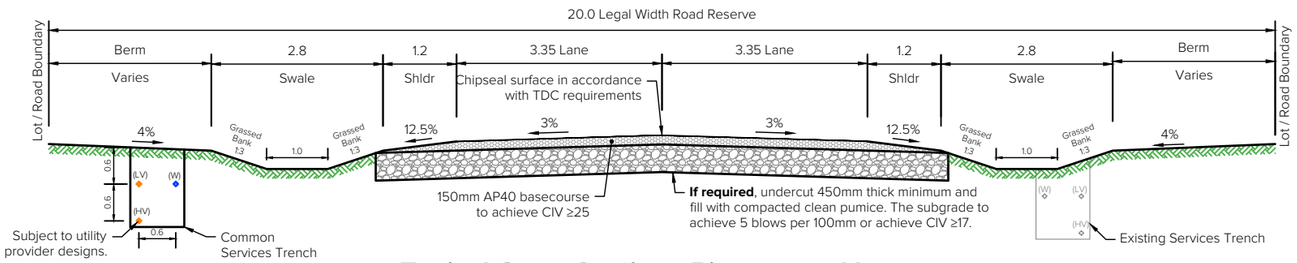
Scale: 1:2000



Chainage (m)	Existing GL (m)	Finished RL (m)	Cut (-) and Fill (+)
0.00	497.47	497.47	0.00
10.00	497.23	497.23	0.00
20.00	497.21	497.18	-0.03
30.00	497.12	497.18	0.06
40.00	497.25	497.25	0.00
50.00	497.38	497.39	0.01
60.00	497.58	497.59	0.01
70.00	497.84	497.82	-0.02
80.00	498.05	498.04	0.00
90.00	498.27	498.27	-0.01
100.00	498.50	498.49	0.00
110.00	498.71	498.72	0.01
120.00	498.95	498.94	-0.01
130.00	499.16	499.17	0.01
140.00	499.34	499.39	0.05
150.00	499.60	499.62	0.01
160.00	499.82	499.84	0.02
170.00	500.09	500.07	-0.02
180.00	500.27	500.29	0.02
190.00	500.26	500.33	0.07
200.00	499.92	500.04	0.12
210.00	499.22	499.45	0.22
220.00	498.16	498.53	0.37
230.00	496.98	497.52	0.54
240.00	496.20	496.92	0.72
250.00	496.57	496.84	0.27
260.00	497.39	497.30	-0.09
270.00	498.84	498.25	-0.59
280.00	500.15	499.32	-0.82
290.00	501.38	500.40	-0.99
300.00	502.30	501.46	-0.84
310.00	503.03	502.34	-0.69
320.00	503.49	502.98	-0.51
330.00	503.82	503.36	-0.47
340.00	504.04	503.49	-0.55
350.00	503.51	503.56	0.06
360.00	502.55	503.77	1.22
370.00	501.88	504.26	2.37
380.00	501.11	505.03	3.92
390.00	500.72	506.10	5.37
400.00	502.23	507.45	5.22
410.00	504.17	508.95	4.78
420.00	507.38	510.45	3.06
430.00	509.44	511.95	2.50
440.00	507.35	513.45	6.09
450.00	507.74	514.95	7.21
460.00	514.70	516.45	1.75
470.00	518.44	517.95	-0.50
480.00	520.09	519.45	-0.64
490.00	523.75	520.95	-2.80
500.00	524.85	522.45	-2.41
510.00	525.15	523.95	-1.20
520.00	526.10	525.45	-0.66
530.00	528.33	526.95	-1.38
540.00	530.51	528.45	-2.06
550.00	532.84	529.95	-2.90
560.00	534.74	531.45	-3.30
570.00	535.58	532.95	-2.63
580.00	535.86	534.36	-1.50
590.00	536.42	535.39	-1.03
600.00	536.50	536.02	-0.48
610.00	537.03	536.32	-0.71
620.00	537.39	536.60	-0.79
630.00			

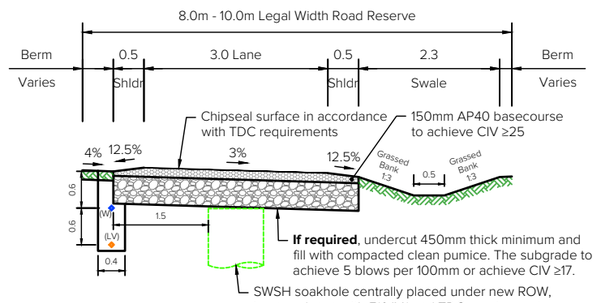
Long Section - Pigeonwood Lane

Scale: 1:2000



Typical Cross Section - Pigeonwood Lane

Scale: 1:100



Typical Cross Section - Shared Access 1

Scale: 1:100

20.0 0 40.0 80.0 120.0
meters
1 : 2000

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NOTES:

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Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

All Engineering works and materials to comply with the Taupo District Council Code of Practice dated September 2009 and be read in conjunction with NZS 4404:2004 Land Development and Subdivision Engineering.

Existing ground contours are based on LiDAR aerial survey captured by others.

Dimensions are in metres unless otherwise noted.

LEGEND:
- Site Boundary
- Proposed Road Seal
- Proposed 1.2m Wide Road Shoulder
- Proposed Road Swale
- Proposed 1.5m Wide Footpath

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Roading Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Roading - Pigeonwood Lane
Plan, Long & Typ. Cross Section

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	JRT
Approved:	J. Thom	22/07/2026	JRT

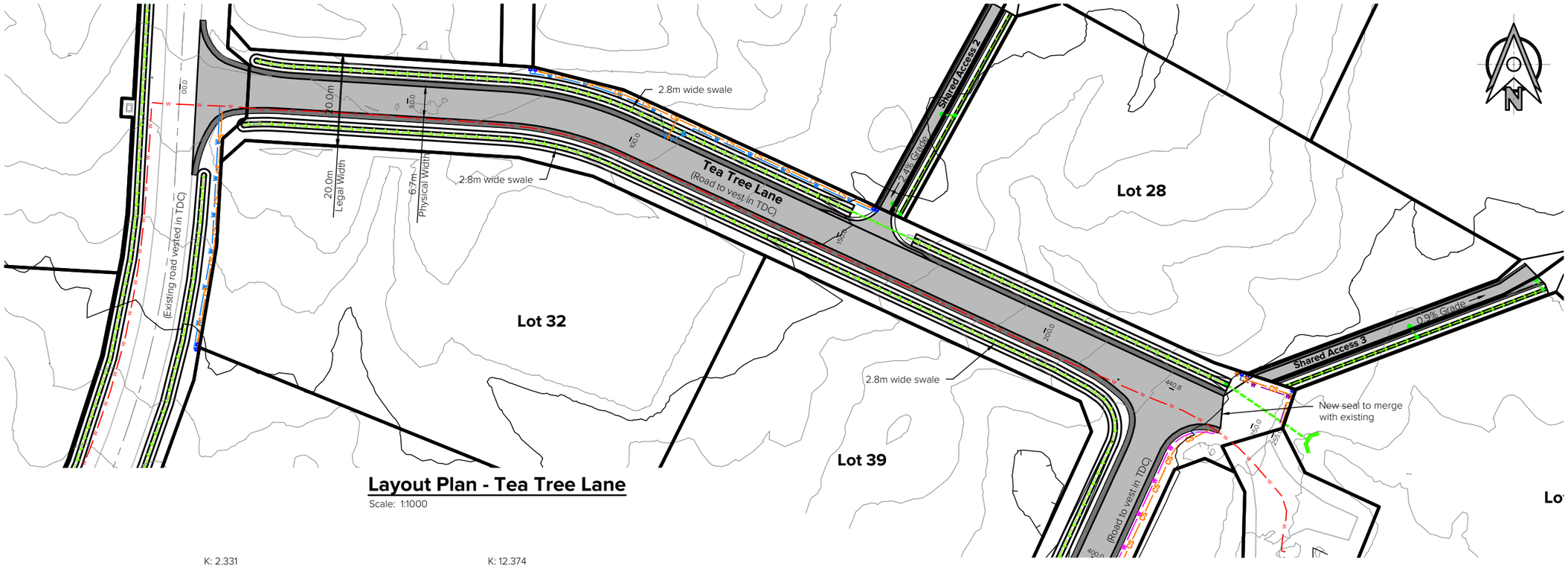
Change Log: Refer to Job Drawing Register.

Scale (A3): As Shown

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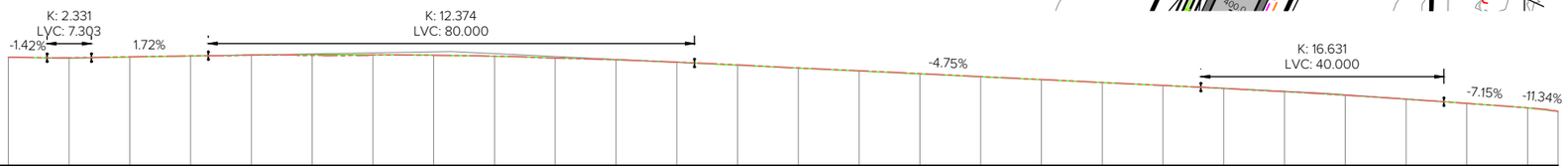
Status: RESOURCE CONSENT
Sheet: A3
Drawing Plan: 1474-30-RD-302
Rev: B

KOTARE CONSULTANTS
AUTO CAD
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Layout Plan - Tea Tree Lane

Scale: 1:1000

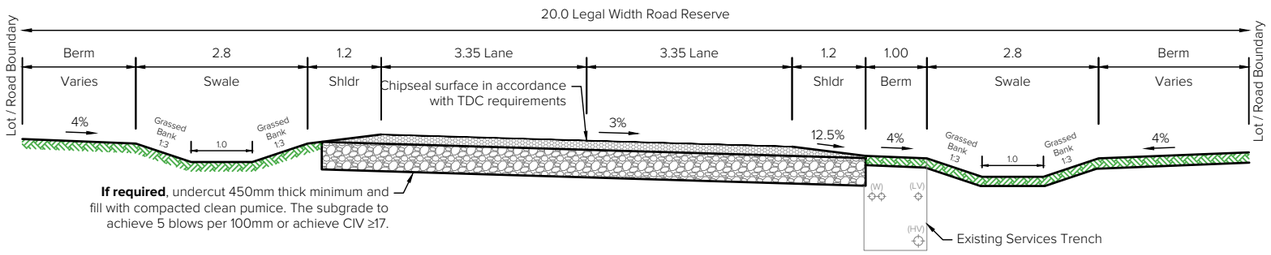


Datum: 475.00m

Existing GL (m)	492.71	492.65	492.80	492.94	493.07	493.02	493.13	493.05	492.90	492.58	492.32	491.92	491.47	490.96	490.51	490.02	489.55	489.07	488.58	488.11	487.61	487.09	486.51	485.86	485.16	484.43	483.85
Finished RL (m)	492.72	492.61	492.75	492.93	493.08	493.15	493.14	493.06	492.89	492.64	492.31	491.90	491.43	490.95	490.48	490.00	489.53	489.05	488.58	488.10	487.62	487.09	486.51	485.86	485.15	484.42	483.85
Cut (-) and Fill (+)	0.01	-0.04	-0.05	-0.01	0.00	0.13	0.01	0.00	-0.01	0.05	-0.01	-0.03	-0.04	-0.01	-0.03	-0.02	-0.02	-0.02	0.00	-0.01	0.01	0.01	0.00	0.00	-0.01	-0.02	0.00
Chainage (m)	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00	130.00	140.00	150.00	160.00	170.00	180.00	190.00	200.00	210.00	220.00	230.00	240.00	250.00	255.01
Vert. Geometry		L=6.38 S=-1.42%	L=7.30	L=19.23 S=1.72%		L=80.00										L=83.41 S=-4.75%						L=40.00			L=13.26 S=-7.15%	L=5.60 S=-11.34%	
Horz. Geometry		L=71.66									L=27.71 R=75.00										L=155.63						

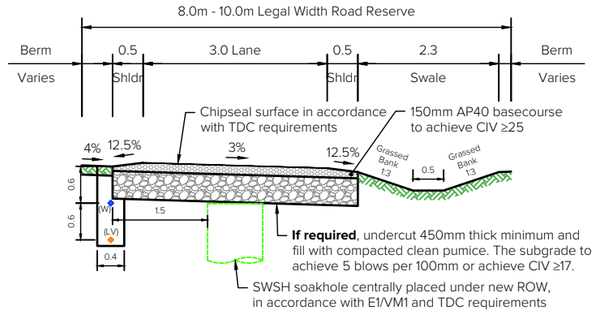
Long Section - Tea Tree Lane

Scale: 1:1000



Typical Cross Section - Tea Tree Lane

Scale: 1:100



Typical Cross Section - Shared Access 2 & 3

Scale: 1:100

10.0 0 20.0 40.0 60.0

1 : 1000

meters

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NOTES:

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Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

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Dimensions are in metres unless otherwise noted.

LEGEND:

- Site Boundary
- Proposed Road Seal
- Proposed 1.2m Wide Road Shoulder
- Proposed Road Swale
- Proposed 1.5m Wide Footpath

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Roading Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Roading - Tea Tree Lane
Plan, Long & Typ. Cross Section

Project:
Stages 2-5

Surveyed:				
Designed:	S. Chand	22/07/2026	SC	
Drawn:	S. Chand	22/07/2026	SC	
Checked:	R. Singh	22/07/2026	RKS	
Approved:	J. Thom	22/07/2026	JRT	

Change Log: Refer to Job Drawing Register.

Scale (A3): As Shown

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Status: **RESOURCE CONSENT**

Sheet: A3

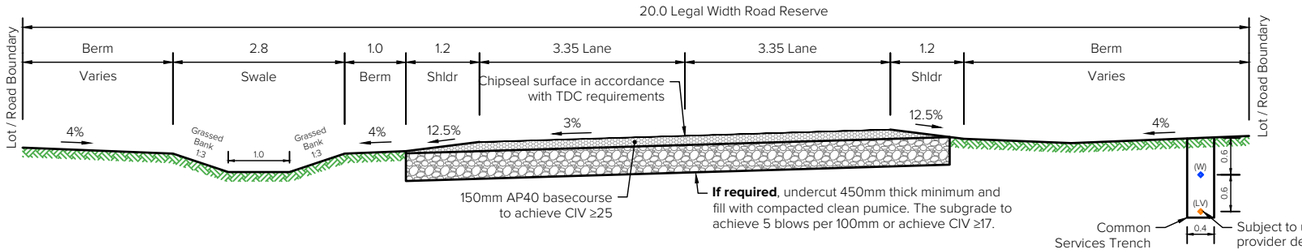
Drawing Plan: 1474-30-RD-303

Rev: B

KOTARE CONSULTANTS

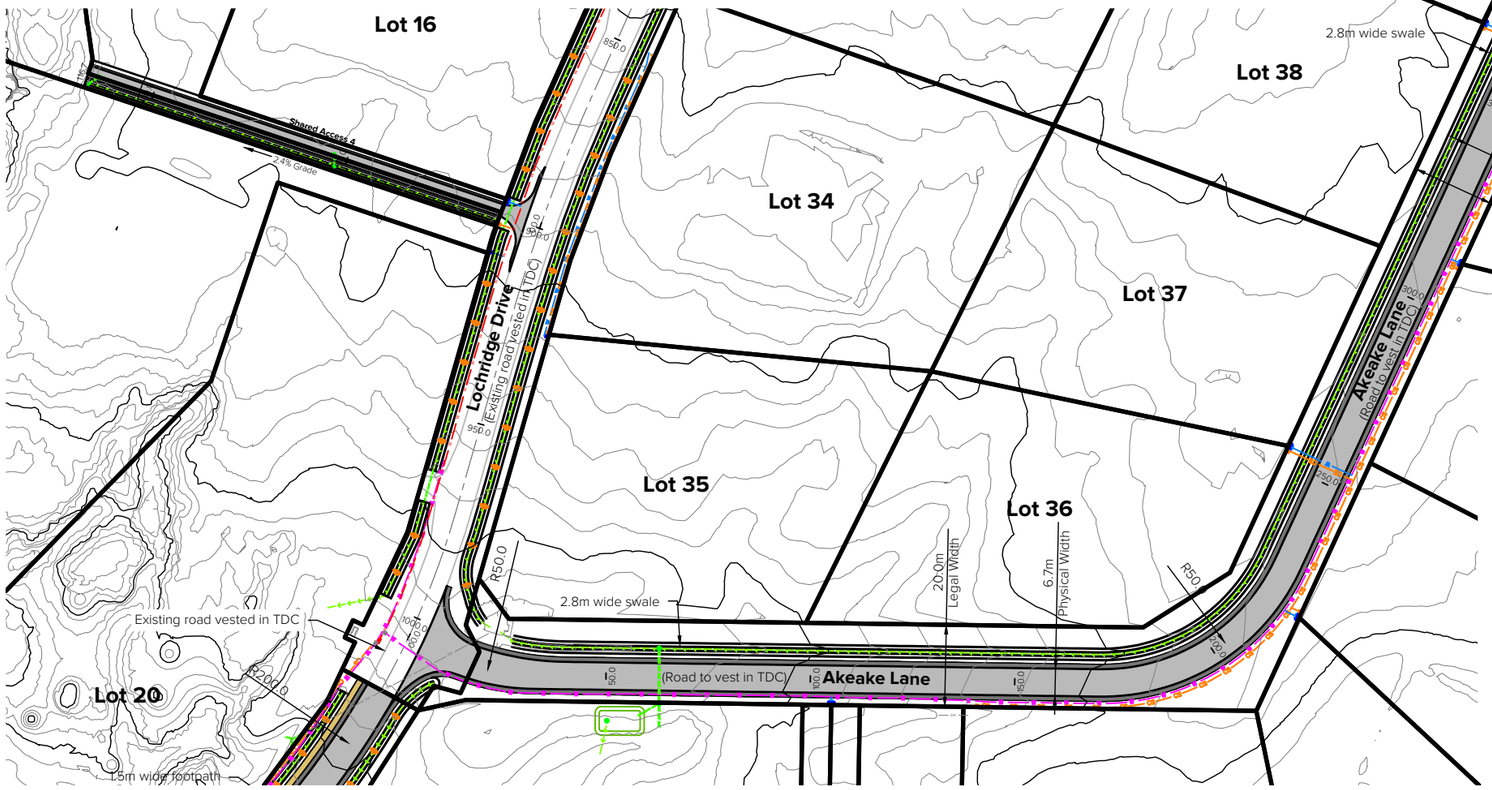
AUTO CAD

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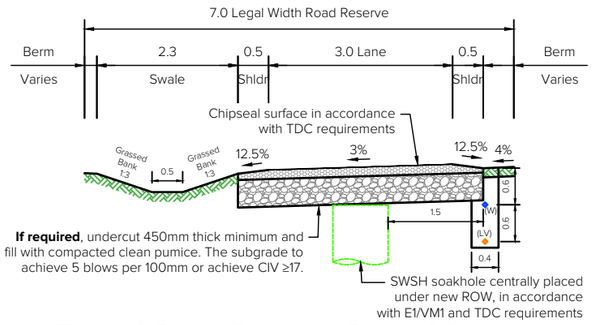
Typical Cross Section - Akeake Lane

Scale: 1:100



Layout Plan - Akeake Lane

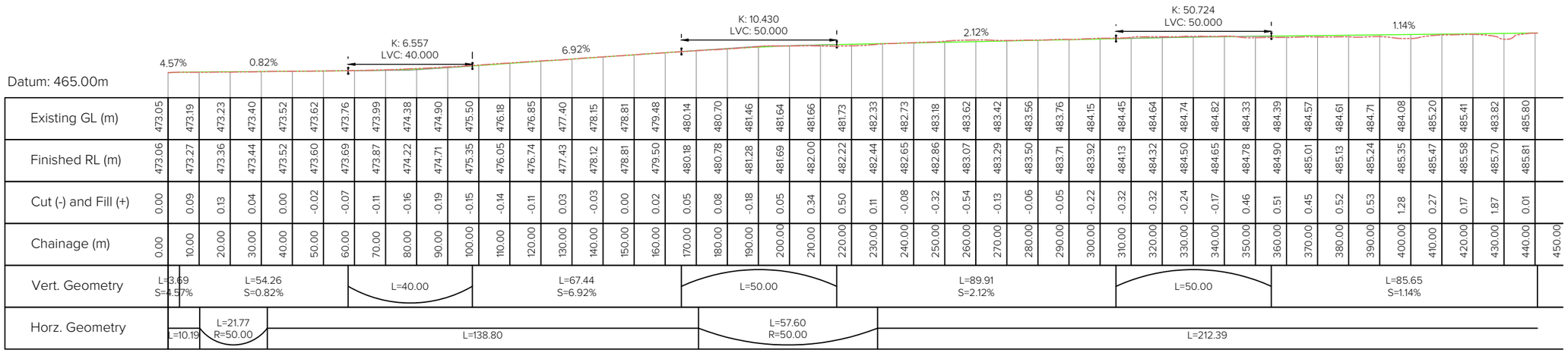
Scale: 1:1500



Typical Cross Section - Shared Access 4

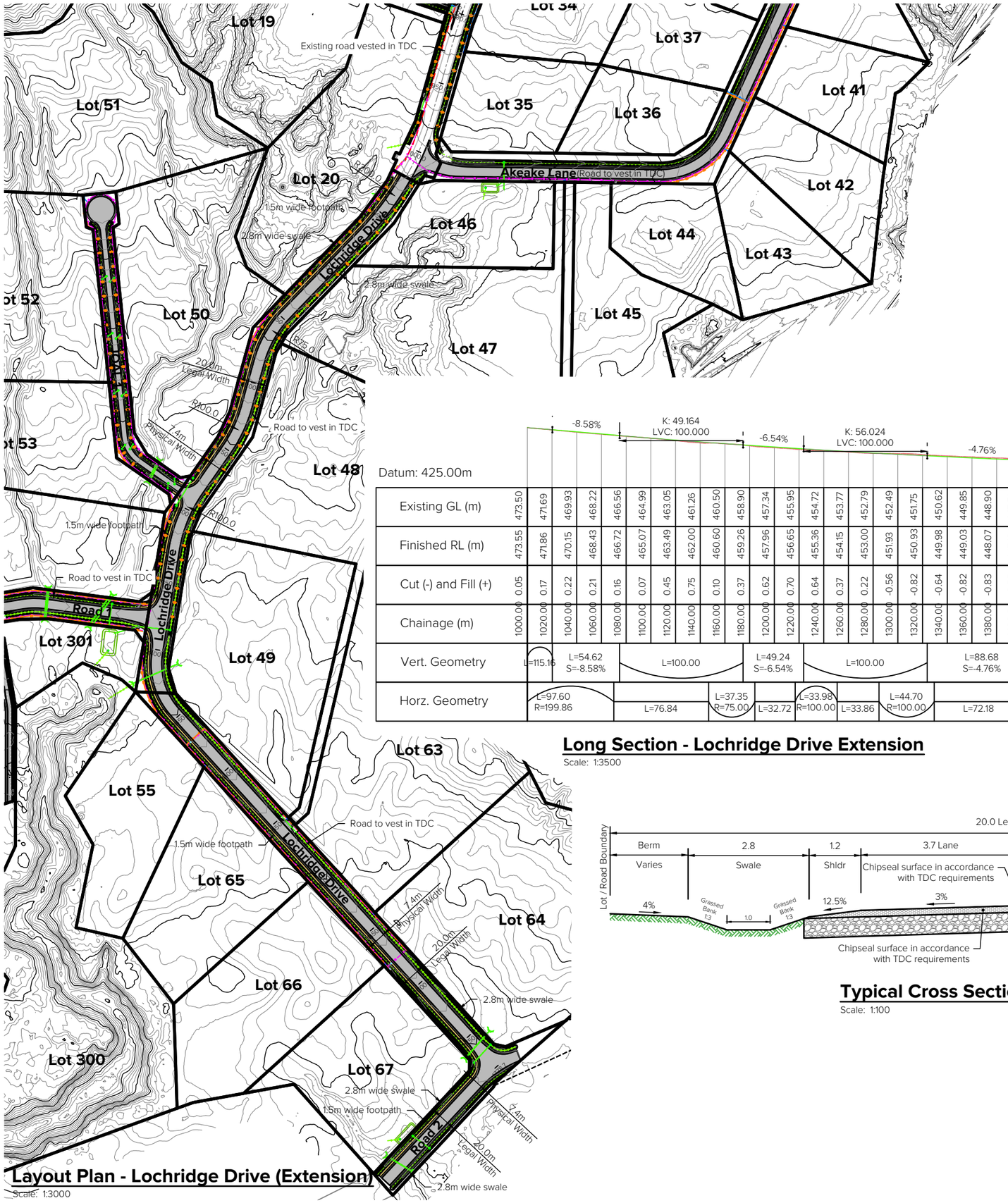
Scale: 1:100

15.0 0 30.0 60.0 90.0 meters — 1 : 1500



Datum: 465.00m

| | | |

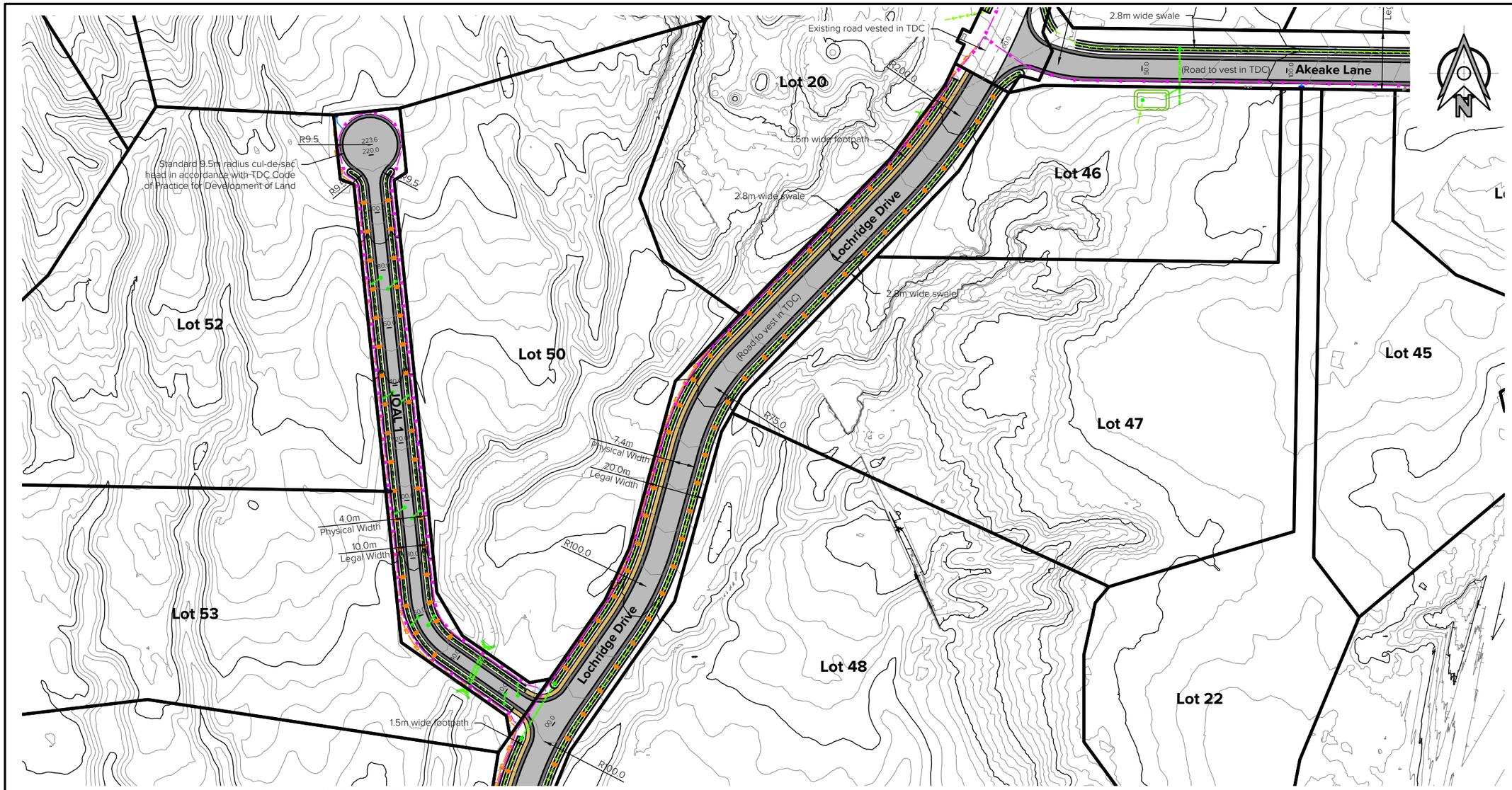


Layout Plan - Lochridge Drive (Extension)

Scale: 1:3000

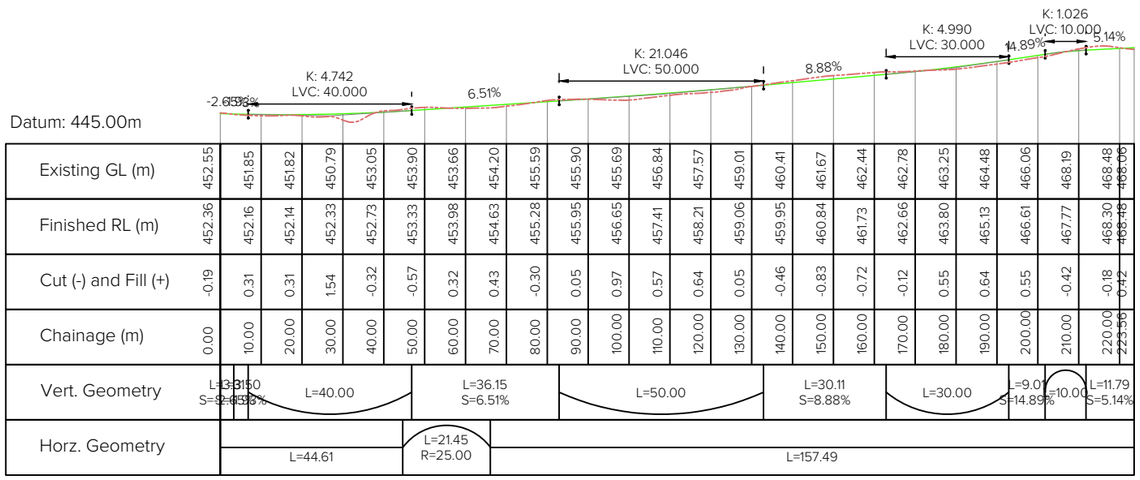
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| | | |



Layout Plan - JOAL 1

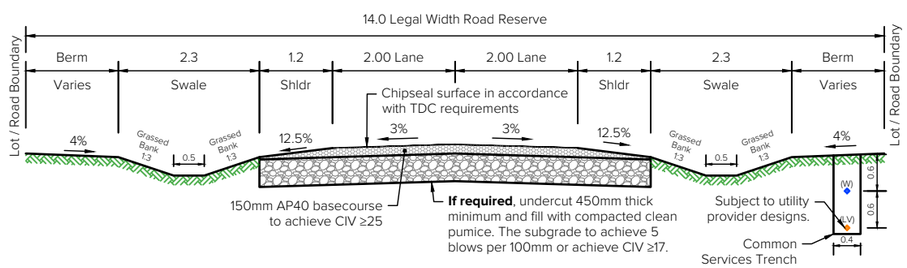
Scale: 1:1500



Existing GL (m)	452.55	451.85	451.82	450.79	453.05	453.90	453.66	454.20	455.59	455.90	455.69	456.84	457.57	459.01	460.41	461.67	462.44	462.78	463.25	464.48	466.06	468.19	468.48	468.06
Finished RL (m)	452.36	452.16	452.14	452.33	452.73	453.33	453.98	454.63	455.28	455.95	456.65	457.41	458.21	459.06	459.95	460.84	461.73	462.66	463.80	465.13	466.61	467.77	468.30	468.48
Cut (-) and Fill (+)	-0.19	0.31	0.31	1.54	-0.32	-0.57	0.32	0.43	-0.30	0.05	0.97	0.57	0.64	0.05	-0.46	-0.83	-0.72	-0.12	0.55	0.64	0.55	-0.42	-0.18	0.42
Chainage (m)	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00	130.00	140.00	150.00	160.00	170.00	180.00	190.00	200.00	210.00	220.00	223.56
Vert. Geometry		L=3.31 S=-2.65%		L=40.00		L=36.15 S=6.51%			L=50.00						L=30.11 S=8.88%			L=30.00			L=9.01 S=14.89%	L=10.00	L=11.79 S=5.14%	
Horz. Geometry		L=44.61				L=21.45 R=25.00			L=157.49															

Long Section - JOAL 1

Scale: 1:1500



Typical Cross Section - JOAL 1

Scale: 1:100

15.0 0 30.0 60.0 90.0

1 : 1500

meters

Kotare CONSULTANTS
www.kotareconsultants.nz

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Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

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LEGEND:

- Site Boundary
- Proposed Road Seal
- Proposed 1.2m Wide Road Shoulder
- Proposed Road Swale
- Proposed 1.5m Wide Footpath

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Roading Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Roading - JOAL 1
Plan, Long & Typ. Cross Section

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): As Shown

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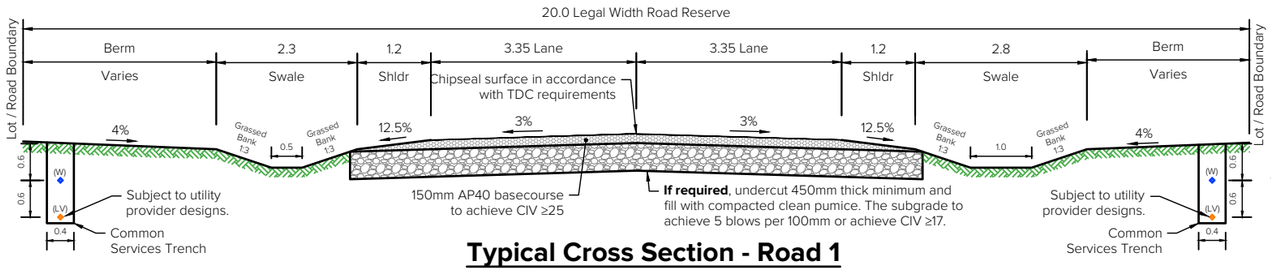
Status: RESOURCE CONSENT

Sheet: A3

Drawing Plan: 1474-30-RD-306

Rev: B

KOTARE CONSULTANTS
AUTO CAD

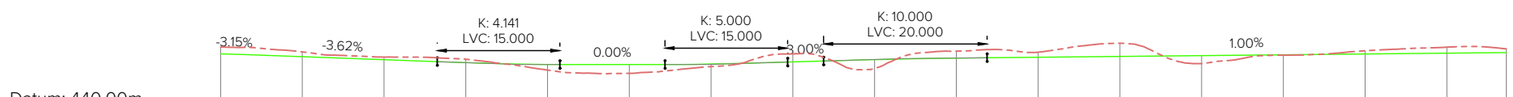


Typical Cross Section - Road 1

Scale: 1:100

Layout Plan - Road 1

Scale: 1:750



Datum: 440.00m

Existing GL (m)	448.98	448.38	447.74	447.48	446.15	445.75	446.57	448.13	446.36	448.46	448.35	449.44	446.95	447.97	448.51	448.95	448.76
Finished RL (m)	448.13	447.79	447.43	447.07	446.83	446.83	446.89	447.15	447.43	447.61	447.72	447.82	447.92	448.02	448.12	448.22	448.29
Cut (-) and Fill (+)	-0.84	-0.59	-0.32	-0.41	0.68	1.08	0.32	-0.99	1.07	-0.85	-0.62	-1.62	0.98	0.05	-0.39	-0.73	-0.46
Chainage (m)	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00	130.00	140.00	150.00	157.26
Vert. Geometry	L=3.24 S=-3.15%	L=23.29 S=-3.62%	L=15.00	L=12.85 S=0.00%	L=15.00	L=4.41 S=3.00%	L=20.00	L=63.51 S=1.00%									
Horz. Geometry	L=82.74	L=14.72 R=50.00	L=59.81														

Long Section - Road 1

Scale: 1:750

7.5 0 15.0 30.0 45.0
1 : 750
meters

Kotare CONSULTANTS
www.kotareconsultants.nz

NOTES:

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Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

All Engineering works and materials to comply with the Taupo District Council Code of Practice dated September 2009 and be read in conjunction with NZS 4404:2004 Land Development and Subdivision Engineering.

Existing ground contours are based on LiDAR aerial survey captured by others.

Dimensions are in metres unless otherwise noted.

LEGEND:

- Site Boundary
- Proposed Road Seal
- Proposed 1.2m Wide Road Shoulder
- Proposed Road Swale
- Proposed 1.5m Wide Footpath

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Roading Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Roading - Road 1
Plan, Long & Typ. Cross Section

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): As Shown

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Status: **RESOURCE CONSENT**

Sheet: A3

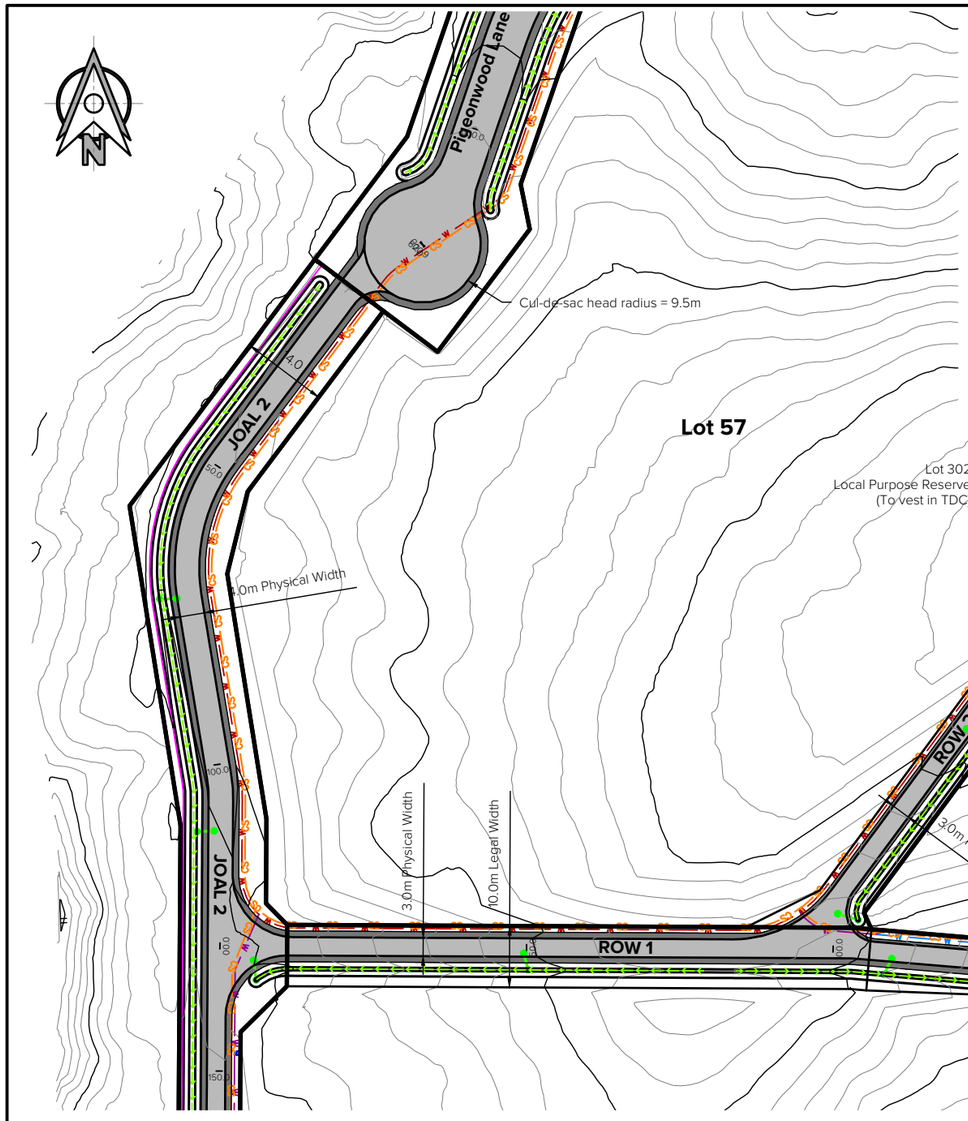
Drawing Plan: 1474-30-RD-307

Rev: B

KOTARE CONSULTANTS

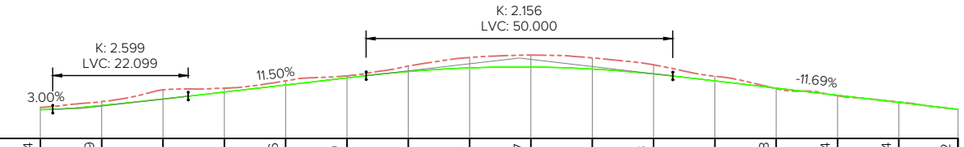
AUTO CAD

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Layout Plan - JOAL 2, ROW 1 & ROW 2

Scale: 1:1000

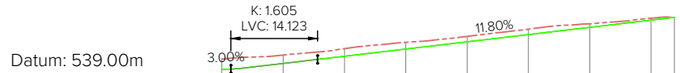


Datum: 530.00m

Existing GL (m)	535.04	535.99	537.91	538.17	539.36	540.19	541.78	543.16	543.57	543.12	541.98	540.11	538.08	536.94	535.94	534.72
Finished RL (m)	534.68	535.35	536.41	537.55	538.70	539.85	540.89	541.49	541.62	541.30	540.50	539.36	538.19	537.02	535.85	534.72
Cut (-) and Fill (+)	-0.37	-0.64	-1.50	-0.62	-0.66	-0.34	-0.89	-1.68	-1.95	-1.82	-1.48	-0.76	0.11	0.08	-0.09	0.00
Chainage (m)	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00	130.00	140.00	149.65

Long Section - ROW 1

Scale: 1:1000

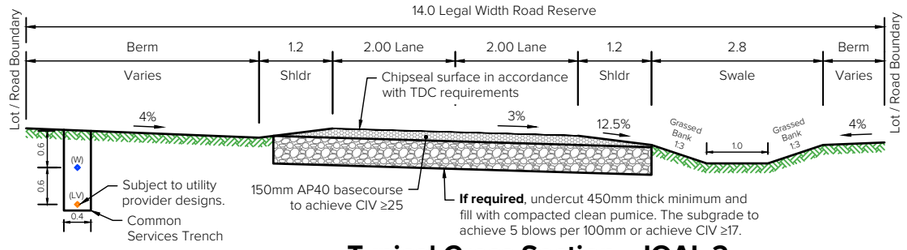


Datum: 539.00m

Existing GL (m)	542.67	543.33	544.39	545.42	546.37	547.57	548.43	549.35	549.45
Finished RL (m)	541.00	541.97	543.14	544.32	545.50	546.68	547.86	549.04	549.49
Cut (-) and Fill (+)	-1.67	-1.37	-1.25	-1.10	-0.87	-0.89	-0.57	-0.31	0.03
Chainage (m)	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	73.81

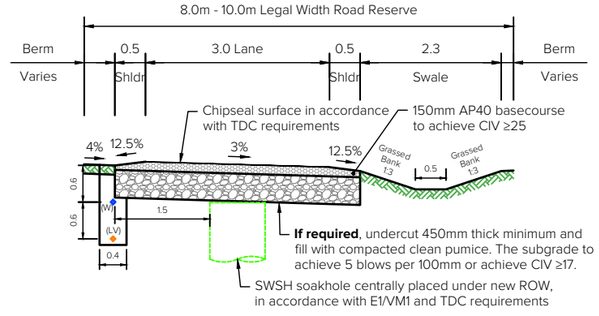
Long Section - ROW 2

Scale: 1:1000



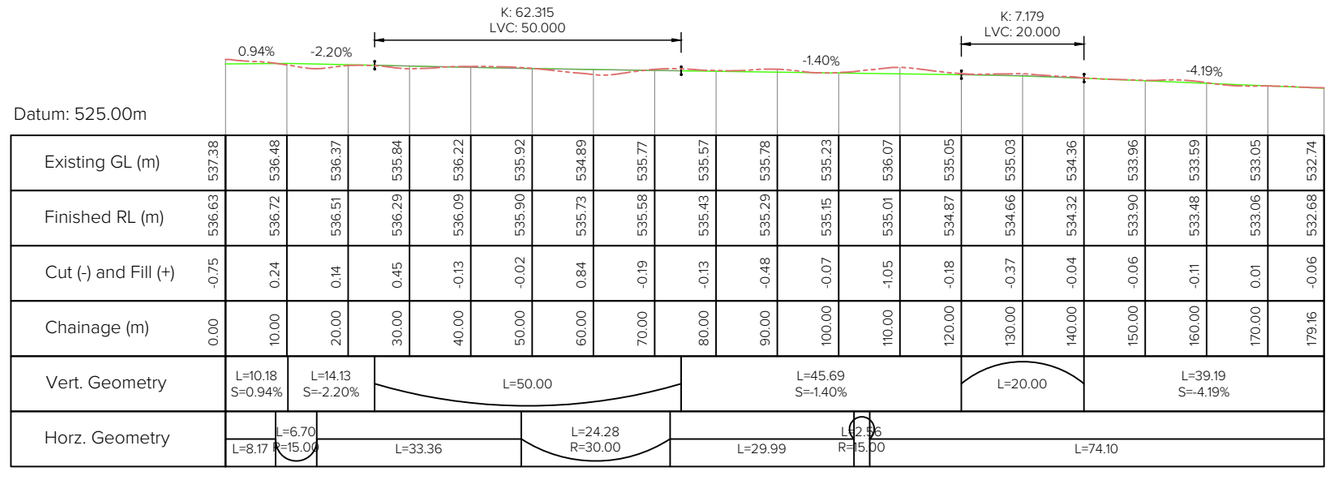
Typical Cross Section - JOAL 2

Scale: 1:100



Typical Cross Section - ROW 1 & 2

Scale: 1:100



Datum: 525.00m

Existing GL (m)	537.38	536.48	536.37	535.84	536.22	535.92	534.89	535.77	535.57	535.78	535.23	536.07	535.05	535.03	534.36	533.96	533.59	533.05	532.74
Finished RL (m)	536.63	536.72	536.51	536.29	536.09	535.90	535.73	535.58	535.43	535.29	535.15	535.01	534.87	534.66	534.32	533.90	533.48	533.06	532.68
Cut (-) and Fill (+)	-0.75	0.24	0.14	0.45	-0.13	-0.02	0.84	-0.19	-0.13	-0.48	-0.07	-1.05	-0.18	-0.37	-0.04	-0.06	-0.11	0.01	-0.06
Chainage (m)	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00	130.00	140.00	150.00	160.00	170.00	179.16
Vert. Geometry		L=10.18 S=0.94%	L=14.13 S=-2.20%	L=50.00						L=45.69 S=-1.40%				L=20.00		L=39.19 S=-4.19%			
Horz. Geometry		L=8.17	L=6.70 R=15.00	L=33.36				L=24.28 R=30.00		L=29.99	L=2.96 R=15.00		L=74.10						

Long Section - JOAL 2

Scale: 1:1000

10.0 0 20.0 40.0 60.0

1 : 1000

meters

NOTES:

This plan has been prepared for resource consent purposes only and provides sufficient engineering information to demonstrate the feasibility of the proposed development. The design is preliminary and subject to detailed engineering design and approval. This plan must not be used for construction.

Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

All Engineering works and materials to comply with the Taupo District Council Code of Practice dated September 2009 and be read in conjunction with NZS 4404:2004 Land Development and Subdivision Engineering.

Existing ground contours are based on LiDAR aerial survey captured by others.

Dimensions are in metres unless otherwise noted.

LEGEND:

- Site Boundary
- Proposed Road Seal
- Proposed 1.2m Wide Road Shoulder
- Proposed Road Swale
- Proposed 1.5m Wide Footpath

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Roading Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Roading - JOAL 2, ROW 1 & 2
Plan, Long & Typ. Cross Section

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): As Shown

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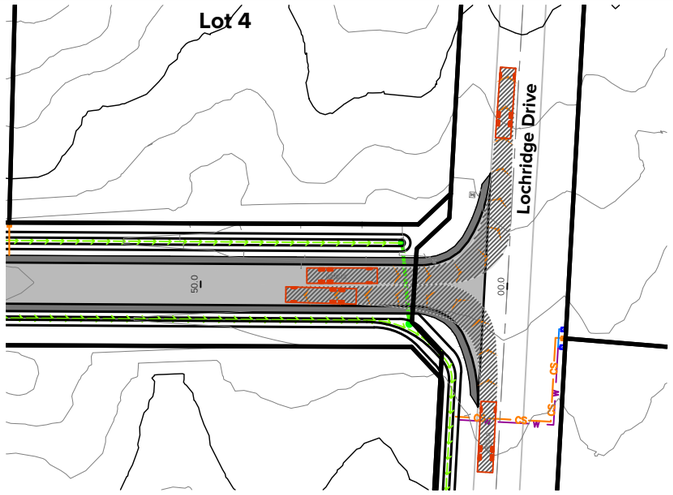
Status: RESOURCE CONSENT

Sheet: A3

Drawing Plan: 1474-30-RD-308

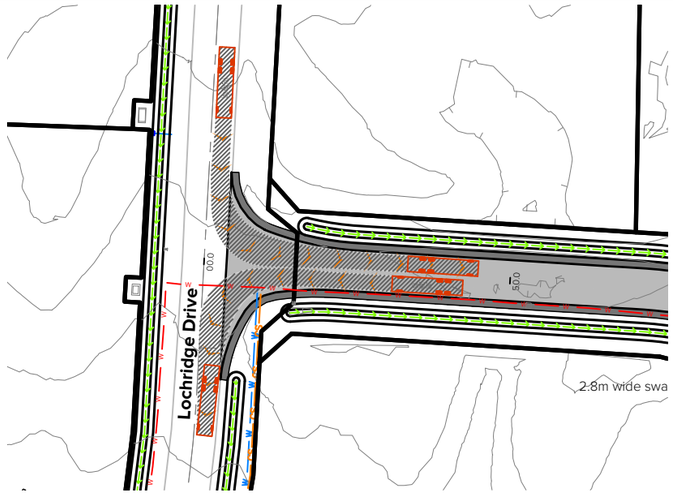
Rev: B

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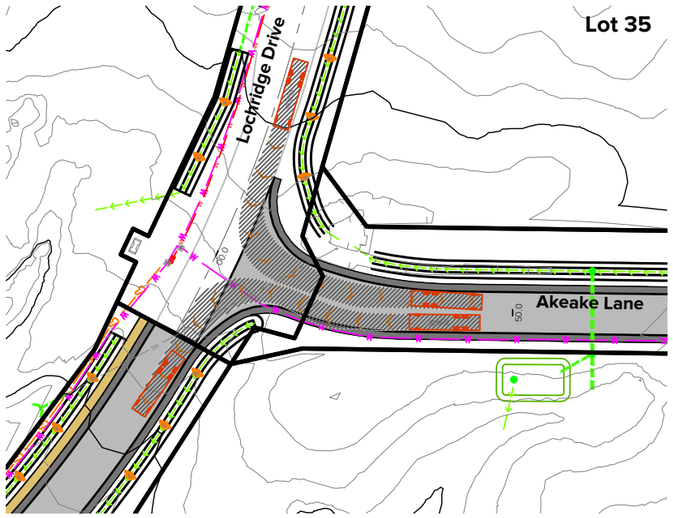
Vehicle Tracking - Lochridge Drive / Pigeonwood Lane Junction

Scale: 1:1000



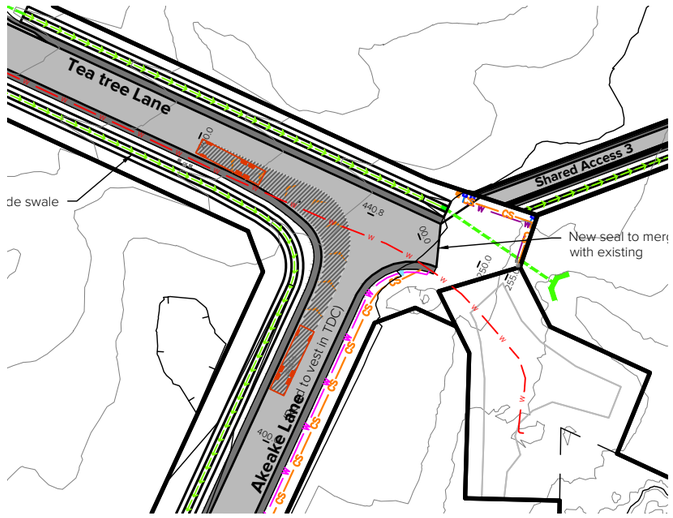
Vehicle Tracking - Lochridge Drive / Tea Tree Lane Junction

Scale: 1:1000



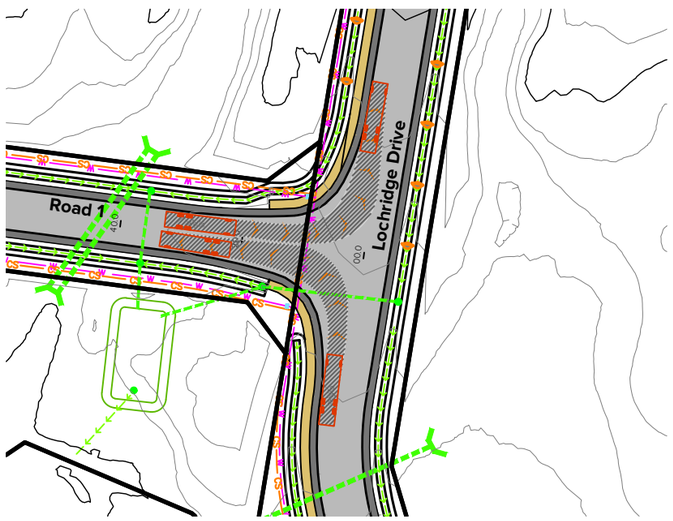
Vehicle Tracking - Lochridge Drive / Akeake Lane Junction

Scale: 1:1000



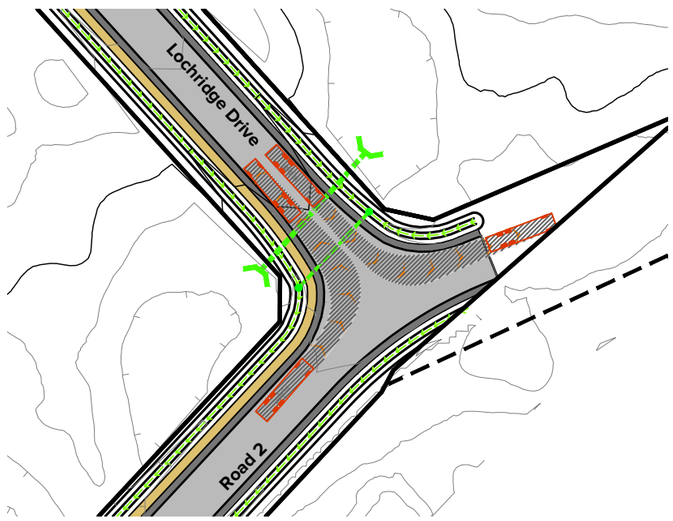
Vehicle Tracking - Akeake Lane / Tea Tree Lane Junction

Scale: 1:1000



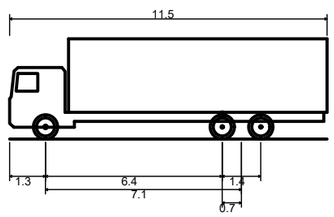
Vehicle Tracking - Lochridge Drive / Road 1 Junction

Scale: 1:1000



Vehicle Tracking - Lochridge Drive / Road 2 Junction

Scale: 1:1000



Large Rigid Truck	
Overall Length	11.500m
Overall Width	2.500m
Overall Body Height	3.632m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	6.00s
Wall to Wall Turning Radius	12.000m

Vehicle Tracking Design Vehicle

NTS

10.0 0 20.0 40.0 60.0 1 : 1000

meters

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www.kotareconsultants.nz

NOTES:

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Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

All Engineering works and materials to comply with the Taupo District Council Code of Practice dated September 2009 and be read in conjunction with NZS 4404:2004 Land Development and Subdivision Engineering.

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Dimensions are in metres unless otherwise noted.

LEGEND:

- Site Boundary
- Proposed Road Seal
- Proposed 1.2m Wide Road Shoulder
- Proposed Road Swale
- Proposed 1.5m Wide Footpath

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Roading Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Roading - Local/Collector Road Junction Vehicle Tracking

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): 1 : 1000

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Status: **RESOURCE CONSENT**

Sheet: A3

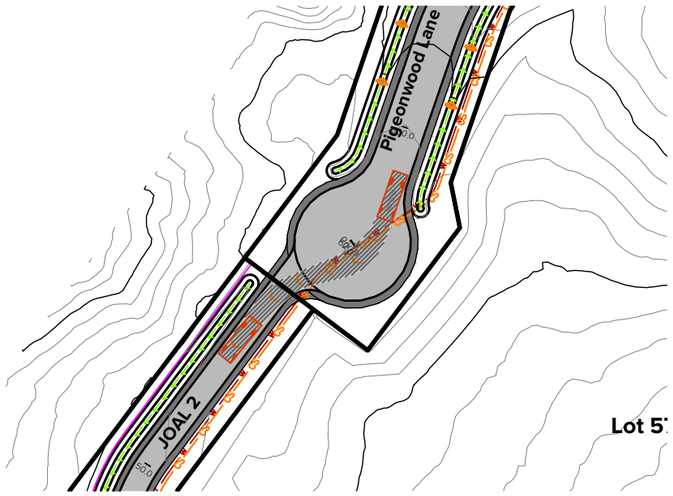
Drawing Plan: 1474-30-RD-321

Rev: B

KOTARE CONSULTANTS

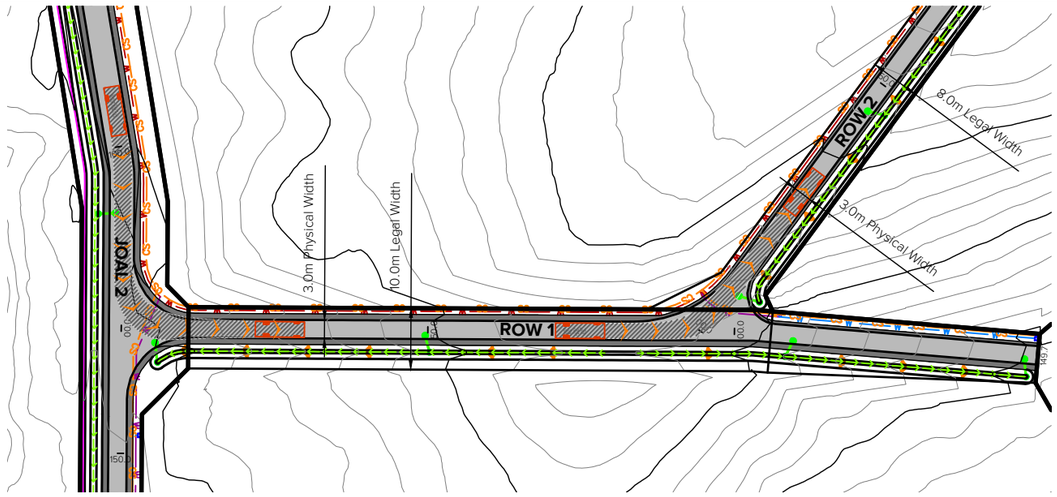
AUTO CAD

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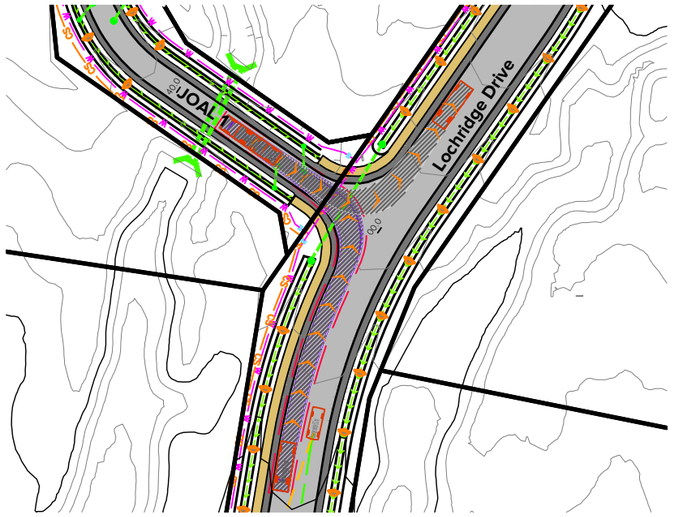
Vehicle Tracking - JOAL 2 / Pigeonwood Lane Junction

Scale: 1:1000



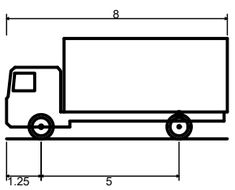
Vehicle Tracking - JOAL 2 / ROW 1 / ROW 2 Junction

Scale: 1:1000



Vehicle Tracking - Lochridge Drive / JOAL 1 Junction

Scale: 1:1000



Medium Rigid Truck	
Overall Length	8.000m
Overall Width	2.500m
Overall Body Height	3.632m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	6.00s
Wall to Wall Turning Radius	10.000m

Vehicle Tracking Design Vehicle

NTS

10.0 0 20.0 40.0 60.0

1 : 1000

meters

Kotare CONSULTANTS
www.kotareconsultants.nz

NOTES:

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Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

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Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

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Dimensions are in metres unless otherwise noted.

LEGEND:

- Site Boundary
- Proposed Road Seal
- Proposed 1.2m Wide Road Shoulder
- Proposed Road Swale
- Proposed 1.5m Wide Footpath

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Roading Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Roading - Local/JOAL/ROW Junction Vehicle Tracking

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): 1 : 1000

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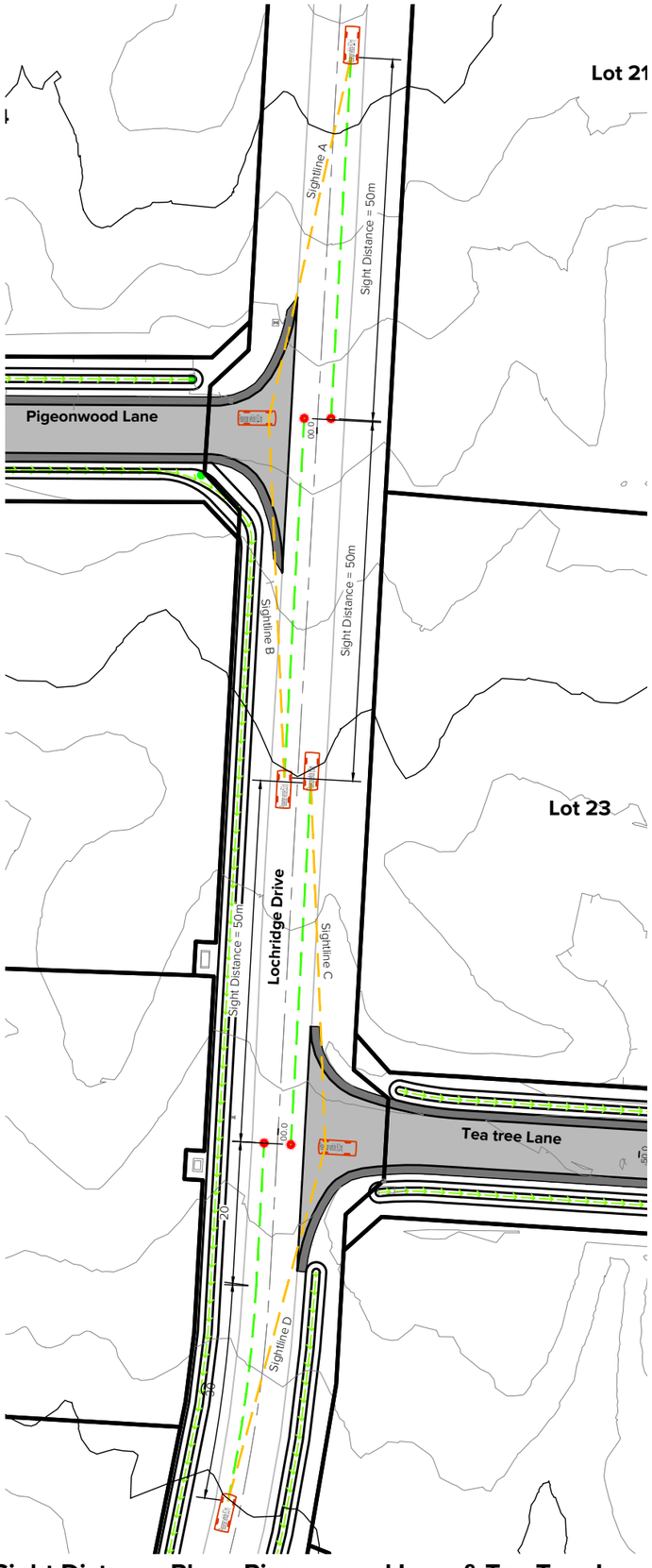
Status: **RESOURCE CONSENT**

Sheet: A3

Drawing Plan: 1474-30-RD-322

Rev: B

KOTARE CONSULTANTS
AUTO CAD



Sight Distance Plan - Pigeonwood Lane & Tea Tree Lane

Scale: 1:750

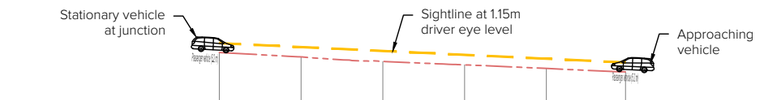


Datum: 490.00m

Existing GL (m)	497.32	497.87	498.59	499.29	499.98	500.68
Chainage (m)	0.00	10.00	20.00	30.00	40.00	50.00

Pigeonwood Lane - Sightline A

Scale: 1:750

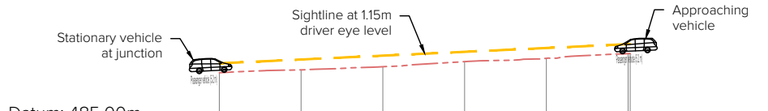


Datum: 485.00m

Existing GL (m)	497.32	496.79	496.24	495.82	495.38	494.96
Chainage (m)	0.00	10.00	20.00	30.00	40.00	49.68

Pigeonwood Lane - Sightline A

Scale: 1:750

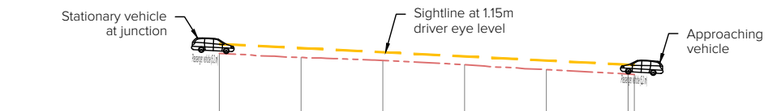


Datum: 485.00m

Existing GL (m)	492.56	492.91	493.29	493.91	494.31	494.90
Chainage (m)	0.00	10.00	20.00	30.00	40.00	50.00

Tea Tree Lane - Sightline C

Scale: 1:750



Datum: 480.00m

Existing GL (m)	492.56	492.07	491.69	491.17	490.58	489.93
Chainage (m)	0.00	10.00	20.00	30.00	40.00	50.00

Tea Tree Lane - Sightline D

Scale: 1:750

20.0 0 40.0 80.0 120.0

meters

1 : 2000

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NOTES:

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Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

All Engineering works and materials to comply with the Taupo District Council Code of Practice dated September 2009 and be read in conjunction with NZS 4404:2004 Land Development and Subdivision Engineering.

Existing ground contours shown hereon are based on LiDAR aerial survey captured by others.

Dimensions are in metres unless otherwise noted.

Safe intersection Sight Distance (SISD) assessment conducted in accordance with the Taupo District Plan based on a design speed of 50km/h and driver eye height of 1.15m.

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Roading Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Roading
Sight Distance Assessment

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): As Shown

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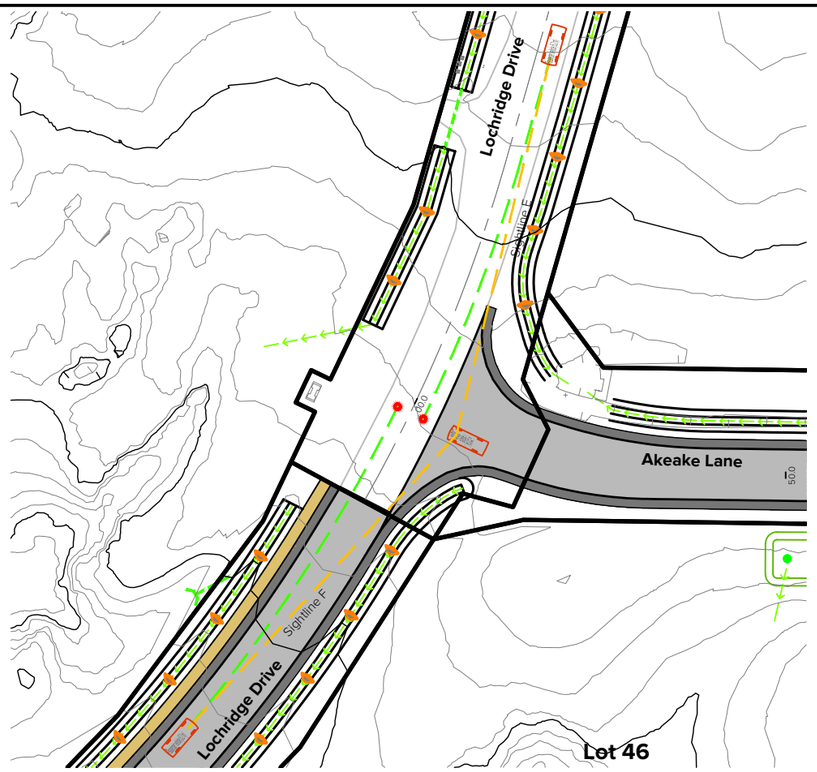
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Sheet: A3

Drawing Plan: 1474-30-RD-331

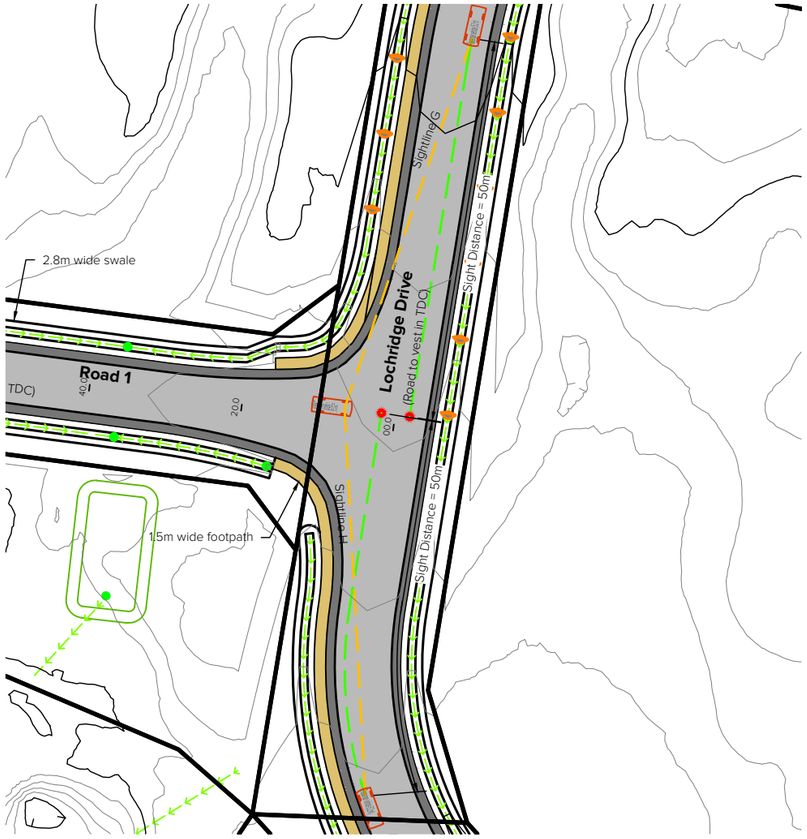
Rev: B

KOTARE CONSULTANTS
AUTO CAD



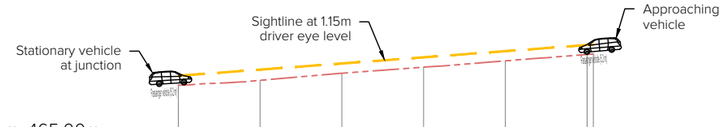
Sight Distance Plan - Akeake Lane

Scale: 1:750



Sight Distance Plan - Road 1

Scale: 1:750

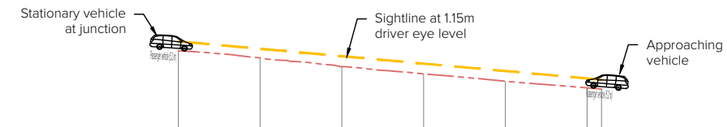


Datum: 465.00m

Existing GL (m)	473.13	473.72	474.59	475.33	476.10	476.88 476.88
Chainage (m)	0.00	10.00	20.00	30.00	40.00	50.00 50.00

Akeake Lane - Sightline E

Scale: 1:750

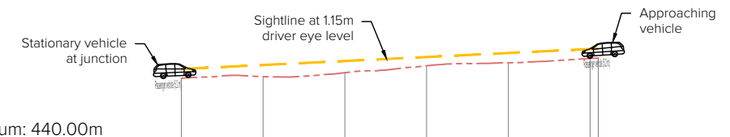


Datum: 460.00m

Existing GL (m)	473.13	472.27	471.18	470.31	469.40	468.60 468.44
Chainage (m)	0.00	10.00	20.00	30.00	40.00	50.00 51.77

Akeake Lane - Sightline F

Scale: 1:750

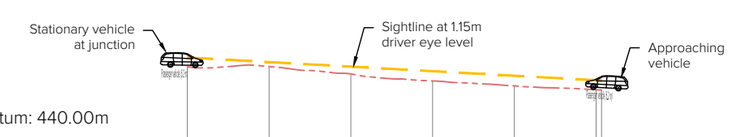


Datum: 440.00m

Existing GL (m)	448.79	449.00	449.49	450.33	450.70	451.23 451.23
Chainage (m)	0.00	10.00	20.00	30.00	40.00	50.00 51.00

Road 1 - Sightline G

Scale: 1:750



Datum: 440.00m

Existing GL (m)	448.79	448.83	447.93	447.08	446.47	446.09 446.09
Chainage (m)	0.00	10.00	20.00	30.00	40.00	50.00 50.89

Road 1 - Sightline H

Scale: 1:750

20.0 0 40.0 80.0 120.0

1 : 2000

meters

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Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

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Existing ground contours shown hereon are based on LiDAR aerial survey captured by others.

Dimensions are in metres unless otherwise noted.

Safe intersection Sight Distance (SISD) assessment conducted in accordance with the Taupo District Plan based on a design speed of 50km/h and driver eye height of 1.15m.

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Roading Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Roading
Sight Distance Assessment

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): As Shown

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Status: **RESOURCE CONSENT**

Sheet: A3

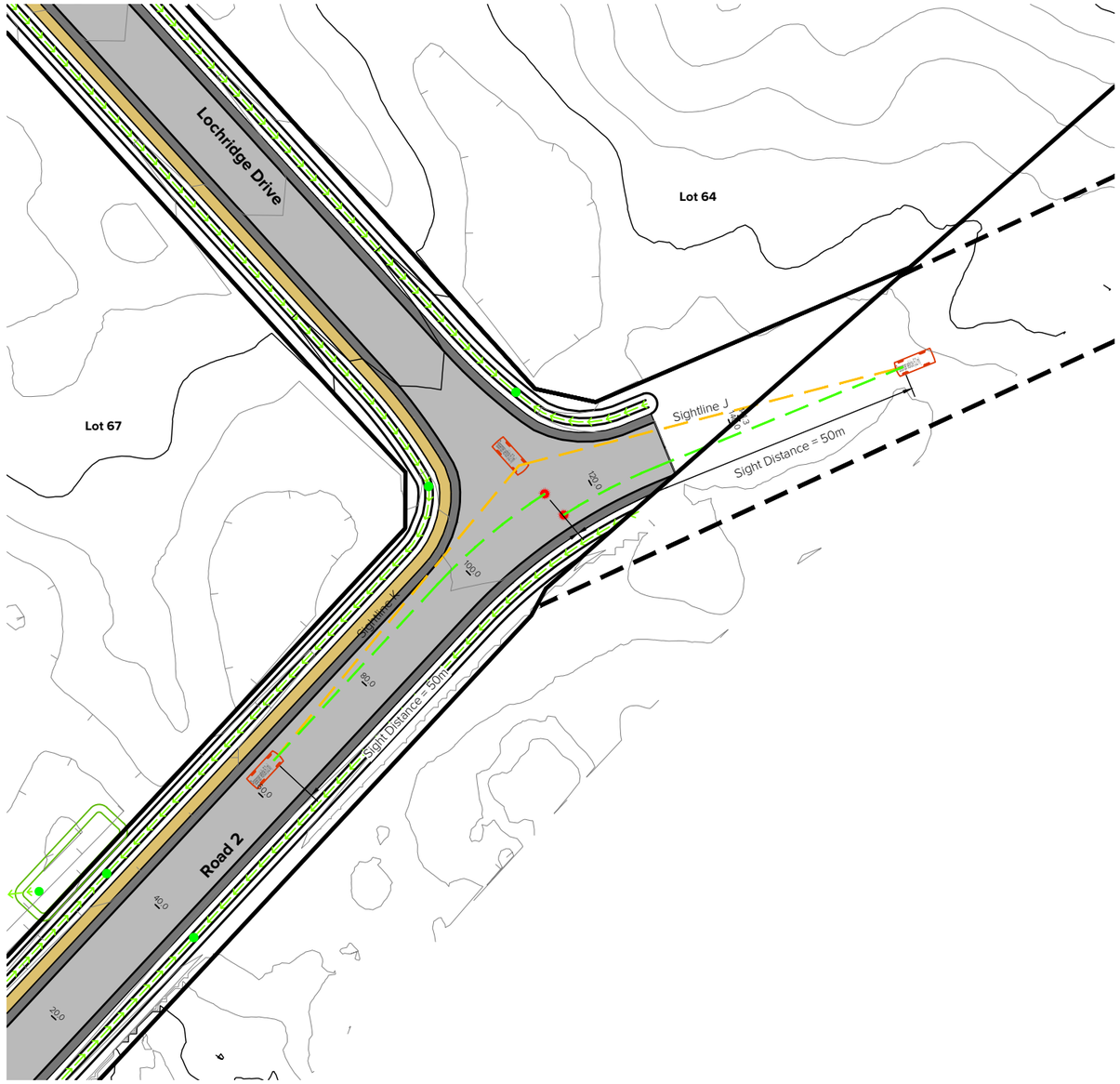
Drawing Plan: 1474-30-RD-332

Rev: B

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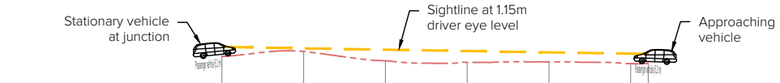
AUTO CAD

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Sight Distance Plan - Lochridge Drive & Road 2

Scale: 1:750

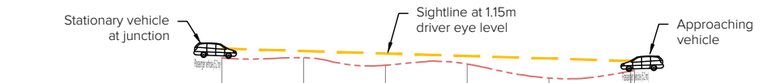


Datum: 425.00m

Existing GL (m)	434.10	434.71	433.56	433.36	433.44	433.21	433.24
Chainage (m)	0.00	10.00	20.00	30.00	40.00	50.00	52.15

Lochridge Drive - Sightline J

Scale: 1:750



Datum: 425.00m

Existing GL (m)	434.10	434.13	433.22	433.36	431.64	433.48	433.48
Chainage (m)	0.00	10.00	20.00	30.00	40.00	58.06	58.06

Lochridge Drive - Sightline K

Scale: 1:750

20.0 0 40.0 80.0 120.0

1 : 2000

meters

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Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Roading Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Roading
Sight Distance Assessment

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	22/07/2026	SC
Drawn:	S. Chand	22/07/2026	SC
Checked:	R. Singh	22/07/2026	RKS
Approved:	J. Thom	22/07/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): As Shown

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Status: **RESOURCE CONSENT**

Sheet: A3

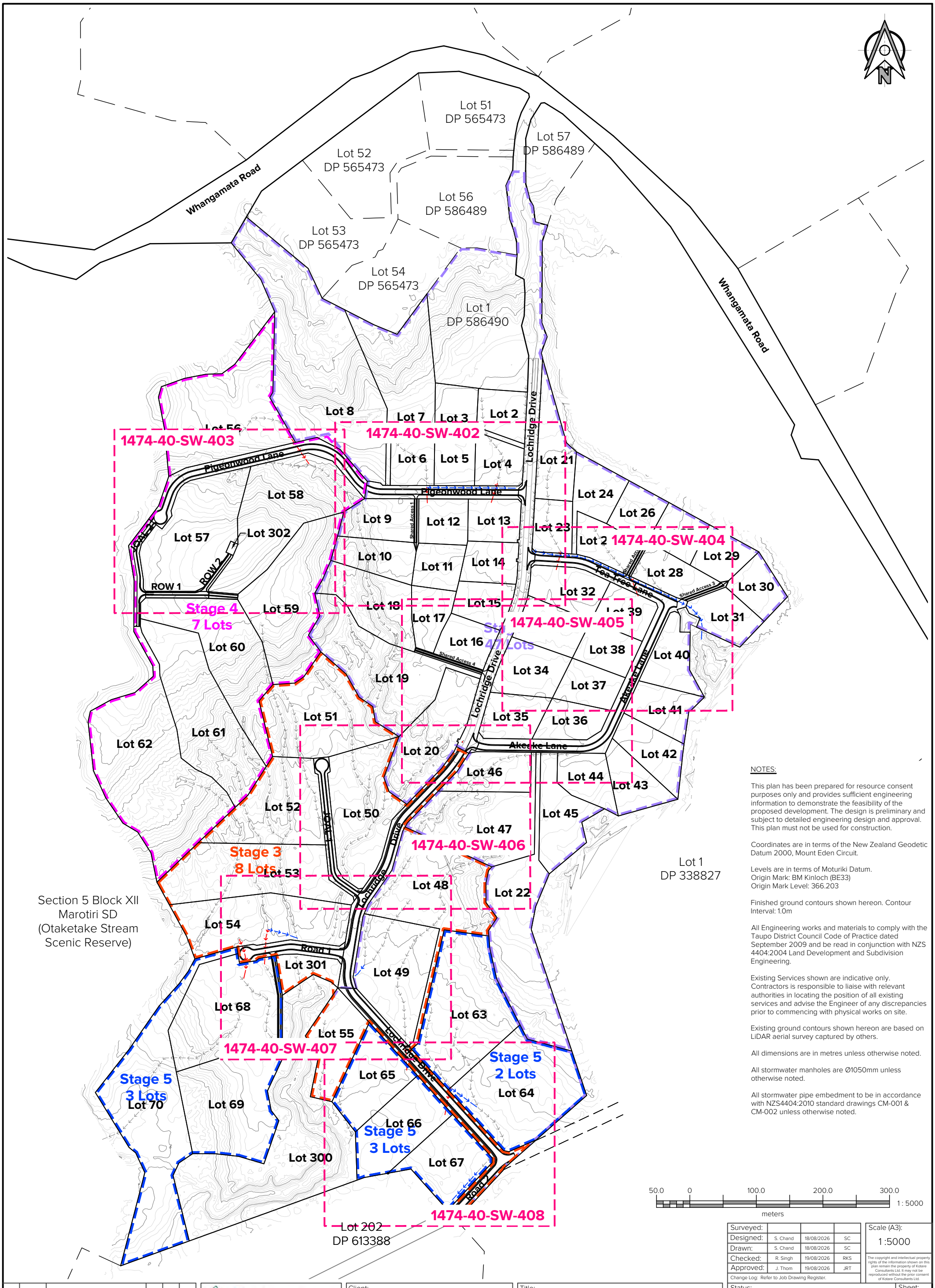
Drawing Plan: 1474-30-RD-333

Rev: B

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50.0 0 100.0 200.0 300.0
meters
1 : 5000

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Stormwater Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

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Surveyed:			
Designed:	S. Chand	18/08/2026	SC
Drawn:	S. Chand	18/08/2026	SC
Checked:	R. Singh	19/08/2026	RKS
Approved:	J. Thom	19/08/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): 1 :5000

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Client: Lochridge Estate Ltd

Project: Stages 2-5

Title: Stormwater General Arrangement Plan

Status: **RESOURCE CONSENT**

Sheet: A3

Drawing Plan: 1474-40-SW-401

Rev: B

Pre-Development Catchment Information

Color:	Catchment Label:	Catchment Area (m^2)	Catchment Area (Ha)
	CA 01	263,242	26.32
	CA 02	31,839	3.18
	CA 03	47,637	4.76
	CA 04	34,677	3.47
	CA 05	10,545	1.06
	CA 06	16,027	1.60
	CA 07	11,796	1.18
	CA 08	9,813	0.98
	CA 09	33,943	3.39
	CA 10	17,755	1.78
	CA 11	36,747	3.68
	CA 12	64,587	6.46
	CA 13	61,024	6.10
	CA 14	42,032	4.20
	CA 15	15,000	1.50
	CA 16	18,750	1.88
	CA 17	10,747	1.08

Whangamata Road
Lot 51 DP 565473
Lot 52 DP 565473
Lot 53 DP 565473
Lot 54 DP 565473
Lot 56 DP 586489
Lot 57 DP 586489
Lot 1 DP 586490
Lot 202 DP 613388
Lot 1 DP 338827
Section 5 Block XII Marotiri SD (Otaketake Stream Scenic Reserve)
Pigeonwood Lane
Lochridge Drive
Akeake Lane
Tea Tree Lane
JOAL 1
JOAL 2
ROW 1
ROW 2
Road 1
Road 2
Shared Access 1
Shared Access 2
Shared Access 3
Shared Access 4

NOTES:

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Origin Mark Level: 366.203

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50.0 0 100.0 200.0 300.0
meters
1 : 5000

B	17/09/26	Stormwater Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT
Rev	Date	Amendment:	By	Chk	App

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Surveyed:			
Designed:	S. Chand	18/08/2026	SC
Drawn:	S. Chand	18/08/2026	SC
Checked:	R. Singh	19/08/2026	RKS
Approved:	J. Thom	19/08/2026	JRT

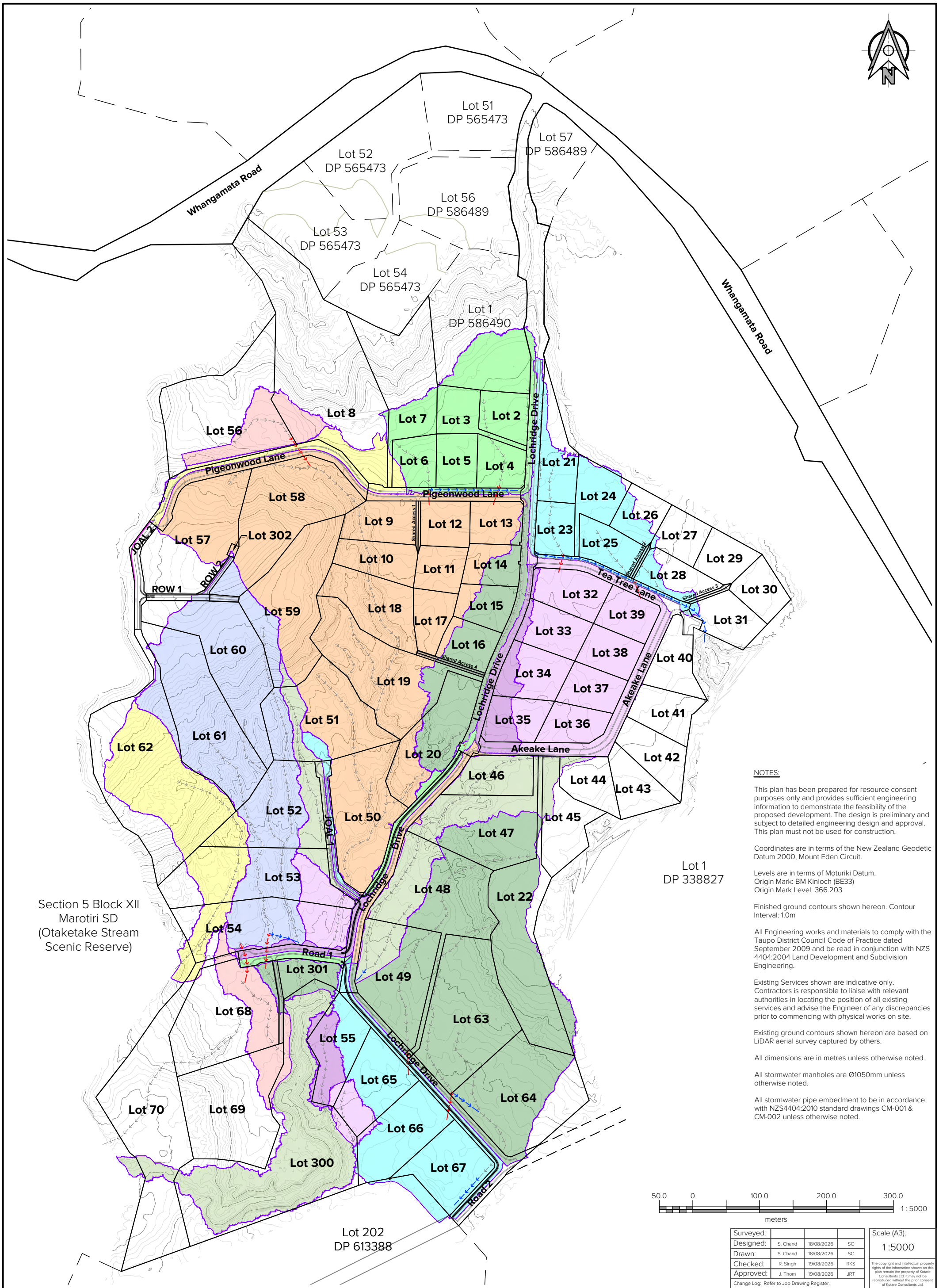
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Scale (A3): 1 :5000

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Client: Lochridge Estate Ltd
Project: Stages 2-5
Title: Pre-Development Catchment Plan
Status: RESOURCE CONSENT
Sheet: A3
Drawing Plan: 1474-40-SW-402
Rev: B

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Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Stormwater Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Surveyed:			
Designed:	S. Chand	18/08/2026	SC
Drawn:	S. Chand	18/08/2026	SC
Checked:	R. Singh	19/08/2026	RKS
Approved:	J. Thom	19/08/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): 1 :5000

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Client: Lochridge Estate Ltd

Project: Stages 2-5

Title: Post-Development Catchment Plan

Status: **RESOURCE CONSENT**

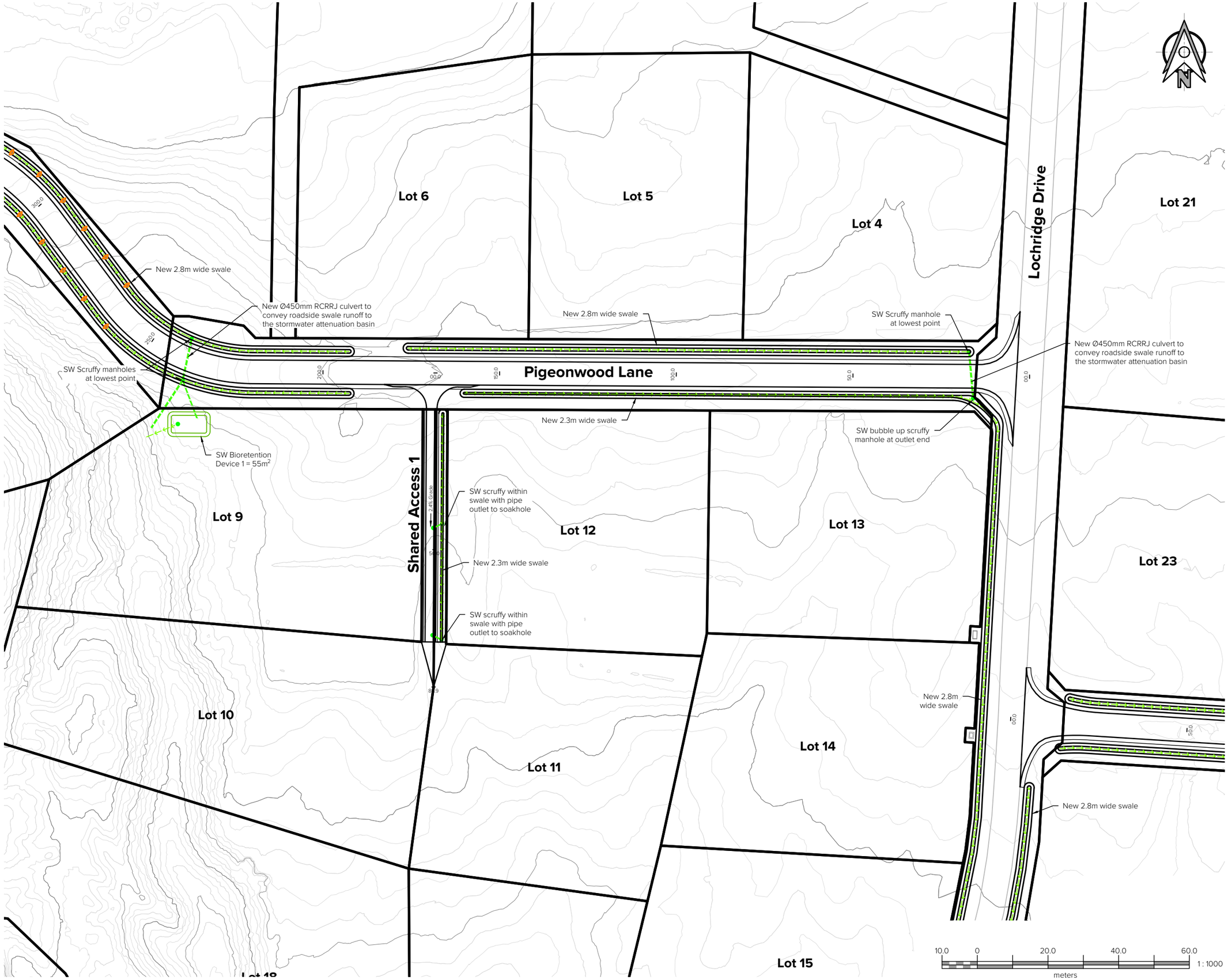
Sheet: A3

Drawing Plan: 1474-40-SW-403

Rev: B

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LEGEND:

- Site Boundary
- New Stormwater Swale Drain
- New RCRRJ Culvert
- New Stormwater Scruffy Manhole
- New Stormwater Soakhole
- New Stormwater Checkdam
- Existing Overland Flow Path (OLFP)
- New Overland Flow Path
- Existing Overland Flow Path Removed

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Stormwater Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Stormwater General Layout
Sheet 1 of 7

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	18/08/2026	SC
Drawn:	S. Chand	18/08/2026	SC
Checked:	R. Singh	19/08/2026	RKS
Approved:	J. Thom	19/08/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3):
1 : 1000

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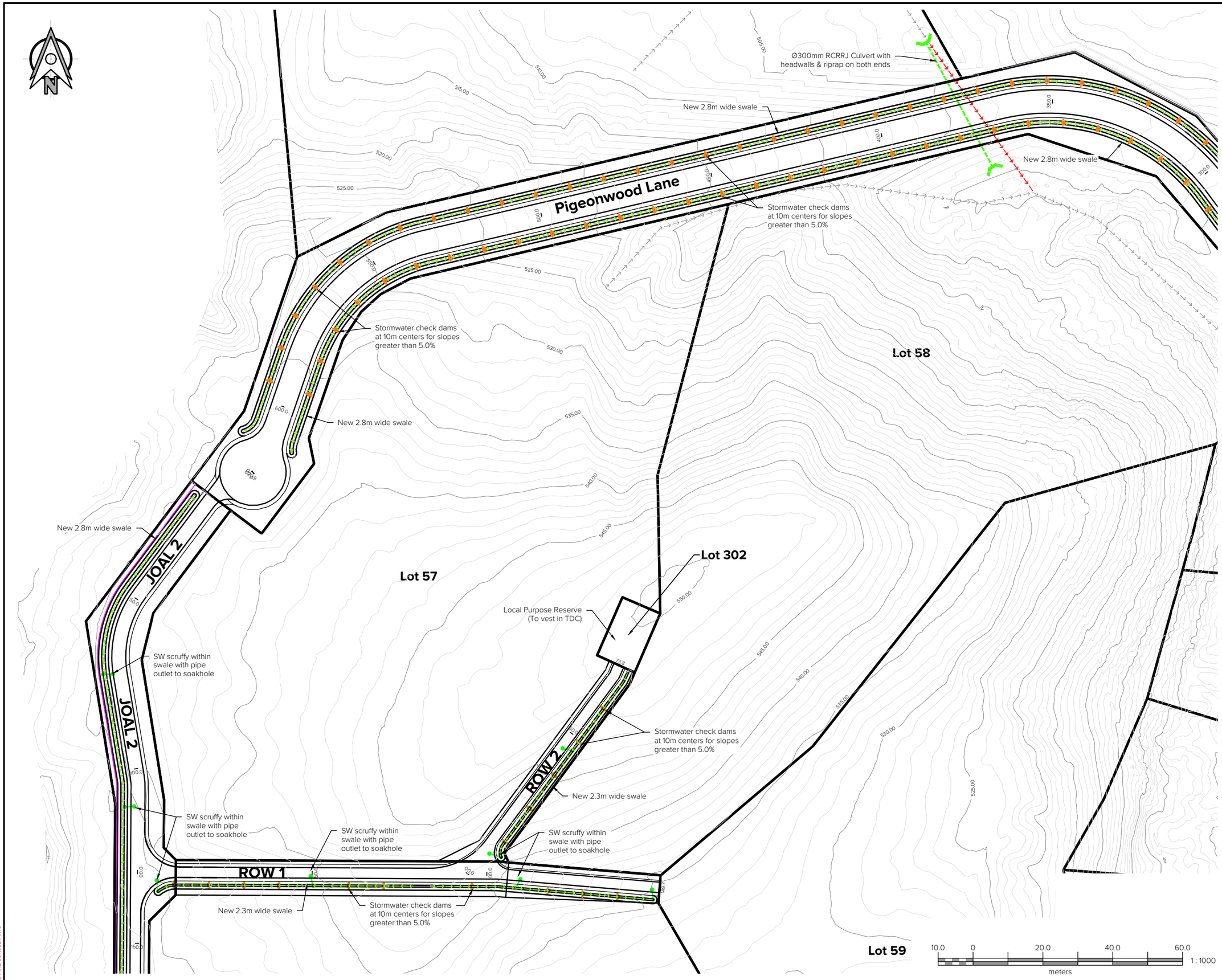
Status:
RESOURCE CONSENT

Sheet:
A3

Drawing Plan:
1474-40-SW-404

Rev:
B

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Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Stormwater Arrangement Revised	SC	JRT	JRT
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Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Stormwater General Layout
Sheet 2 of 7

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	18/08/2026	SC
Drawn:	S. Chand	18/08/2026	SC
Checked:	R. Singh	19/08/2026	RKS
Approved:	J. Thom	19/08/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): 1 : 1000

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Status: **RESOURCE CONSENT**
Sheet: A3
Drawing Plan: 1474-40-SW-405
Rev: B

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Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Stormwater Arrangement Revised	SC	JRT	JRT
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Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Stormwater General Layout
Sheet 3 of 7

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	18/08/2026	SC
Drawn:	S. Chand	18/08/2026	SC
Checked:	R. Singh	19/08/2026	RKS
Approved:	J. Thom	19/08/2026	JRT
Change Log: Refer to Job Drawing Register.			

Scale (A3):
1 : 1000

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Status:
RESOURCE CONSENT

Sheet:
A3

Drawing Plan:
1474-40-SW-406

Rev:
B

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Lot 15

Lot 17

Lot 16

Lot 33

Lot 38

Lot 34

Lot 37

Lot 35

Lot 36

Lot 20

Lot 46

Lochridge Drive

Shared Access 4

Akeake Lane

2.8m wide swale

SW scruffy within swale with pipe outlet to soakhole

RCRRJ Culvert under vehicle crossing

Stormwater check dams at 10m centers for slopes greater than 5.0%

Existing Ø375mm SW culvert to remain for existing overland flow

New Ø525mm RCRRJ culvert to convey roadside swale runoff to the stormwater attenuation basin

SW Bioretention Device 2 = 76m²

Existing SW culvert outlet to be extended

New 2.8m wide swale

490.00 480.00 475.00 470.00 485.00 300.0 250.0 200.0

10.0 0 20.0 40.0 60.0 meters 1 : 1000

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All stormwater pipe embedment to be in accordance with NZS4404:2010 standard drawings CM-001 & CM-002 unless otherwise noted.

LEGEND:

- Site Boundary
- New Stormwater Swale Drain
- New RCRRJ Culvert
- New Stormwater Scruffy Manhole
- New Stormwater Soakhole
- New Stormwater Checkdam
- Existing Overland Flow Path (OLFP)
- New Overland Flow Path
- Existing Overland Flow Path Removed

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Stormwater Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Stormwater General Layout
Sheet 4 of 7

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	18/08/2026	SC
Drawn:	S. Chand	18/08/2026	SC
Checked:	R. Singh	19/08/2026	RKS
Approved:	J. Thom	19/08/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): 1 : 1000

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Status: RESOURCE CONSENT

Sheet: A3

Drawing Plan: 1474-40-SW-407

Rev: B

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Lot 20

Lot 46

Lot 50

Lot 47

Lot 48

Lot 22

Akeake Lane

Lochridge Drive

JOAL 1

Existing Ø375mm SW culvert to remain for existing overland flow

Existing SW culvert outlet to be extended

New Ø525mm RCRRJ culvert to convey roadside swale runoff to the stormwater attenuation basin

SW Bioretention Device 2 = 76m²

New 2.8m wide swale

New 2.8m wide swale

New 2.8m wide swale

New 2.8m wide swale

New 2.3m wide swale

New 2.3m wide swale

Stormwater check dams at 10m centers for slopes greater than 5.0%

Stormwater check dams at 10m centers for slopes greater than 5.0%

SW scruffy within swale with pipe outlet to soakhole

SW scruffy within swale with pipe outlet to soakhole

SW scruffy within swale with pipe outlet to soakhole

SW Scruffy manhole at lowest point

New 2x Ø900mm RCRRJ Culvert with headwall on both ends within gully

SW bubble up scruffy manhole at outlet end

New Ø300mm RCRRJ culvert to convey roadside swale runoff to the stormwater attenuation basin

10.0 0 20.0 40.0 60.0

meters

1 : 1000

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NOTES:

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Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

All Engineering works and materials to comply with the Taupo District Council Code of Practice dated September 2009 and be read in conjunction with NZS 4404:2004 Land Development and Subdivision Engineering.

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All stormwater pipe embedment to be in accordance with NZS4404:2010 standard drawings CM-001 & CM-002 unless otherwise noted.

LEGEND:

- Site Boundary
- New Stormwater Swale Drain
- New RCRRJ Culvert
- New Stormwater Scruffy Manhole
- New Stormwater Soakhole
- New Stormwater Checkdam
- Existing Overland Flow Path (OLFP)
- New Overland Flow Path
- Existing Overland Flow Path Removed

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Stormwater Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Stormwater General Layout
Sheet 5 of 7

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	18/08/2026	SC
Drawn:	S. Chand	18/08/2026	SC
Checked:	R. Singh	19/08/2026	RKS
Approved:	J. Thom	19/08/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): 1 : 1000

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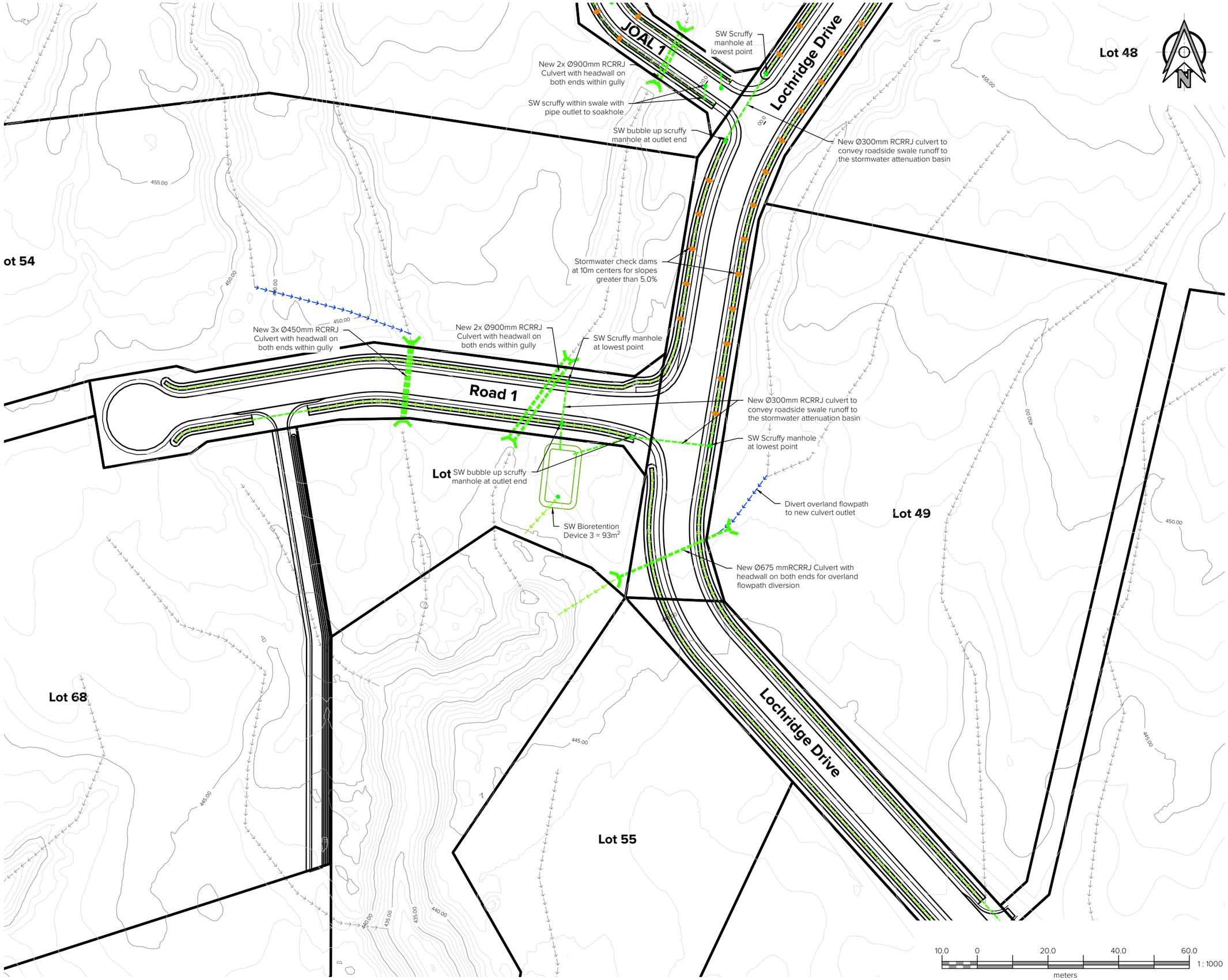
Drawing Plan: 1474-40-SW-408

Rev: B

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Origin Mark Level: 366.203

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LEGEND:

- Site Boundary
- New Stormwater Swale Drain
- New RCRRJ Culvert
- New Stormwater Scruffy Manhole
- New Stormwater Soakhole
- New Stormwater Checkdam
- Existing Overland Flow Path (OLFP)
- New Overland Flow Path
- Existing Overland Flow Path Removed

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Stormwater Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Stormwater General Layout
Sheet 6 of 7

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	18/08/2026	SC
Drawn:	S. Chand	18/08/2026	SC
Checked:	R. Singh	19/08/2026	RKS
Approved:	J. Thom	19/08/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3): 1 : 1000

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Sheet: A3
Drawing Plan: 1474-40-SW-409
Rev: B

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AUTO CAD
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Lot 65

Lot 64

Lot 66

Lot 67

Lochridge Drive

Road 2

440.00

435.00

445.00

New 2.8m wide swale

New 2.8m wide swale

SW Scruffy manhole at lowest point

New Ø525mm RCRRJ Culvert with headwall on both ends within flowpath

SW bubble up scruffy manhole at outlet end

New Ø375mm RCRRJ culvert to convey roadside swale runoff to the stormwater attenuation basin

SW Bioretention Device 4 = 68m^2

New Ø300mm RCRRJ culvert to convey roadside swale runoff to the stormwater attenuation basin

New Ø750mm RCRRJ Culvert with headwall on both ends within flowpath

10.0 0 20.0 40.0 60.0

1 : 1000

meters

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NOTES:

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Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

All Engineering works and materials to comply with the Taupo District Council Code of Practice dated September 2009 and be read in conjunction with NZS 4404:2004 Land Development and Subdivision Engineering.

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LEGEND:

- Site Boundary
- New Stormwater Swale Drain
- New RCRRJ Culvert
- New Stormwater Scruffy Manhole
- New Stormwater Soakhole
- New Stormwater Checkdam
- Existing Overland Flow Path (OLFP)
- New Overland Flow Path
- Existing Overland Flow Path Removed

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Stormwater Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Stormwater General Layout
Sheet 7 of 7

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	18/08/2026	SC
Drawn:	S. Chand	18/08/2026	SC
Checked:	R. Singh	19/08/2026	RKS
Approved:	J. Thom	19/08/2026	JRT

Change Log: Refer to Job Drawing Register.

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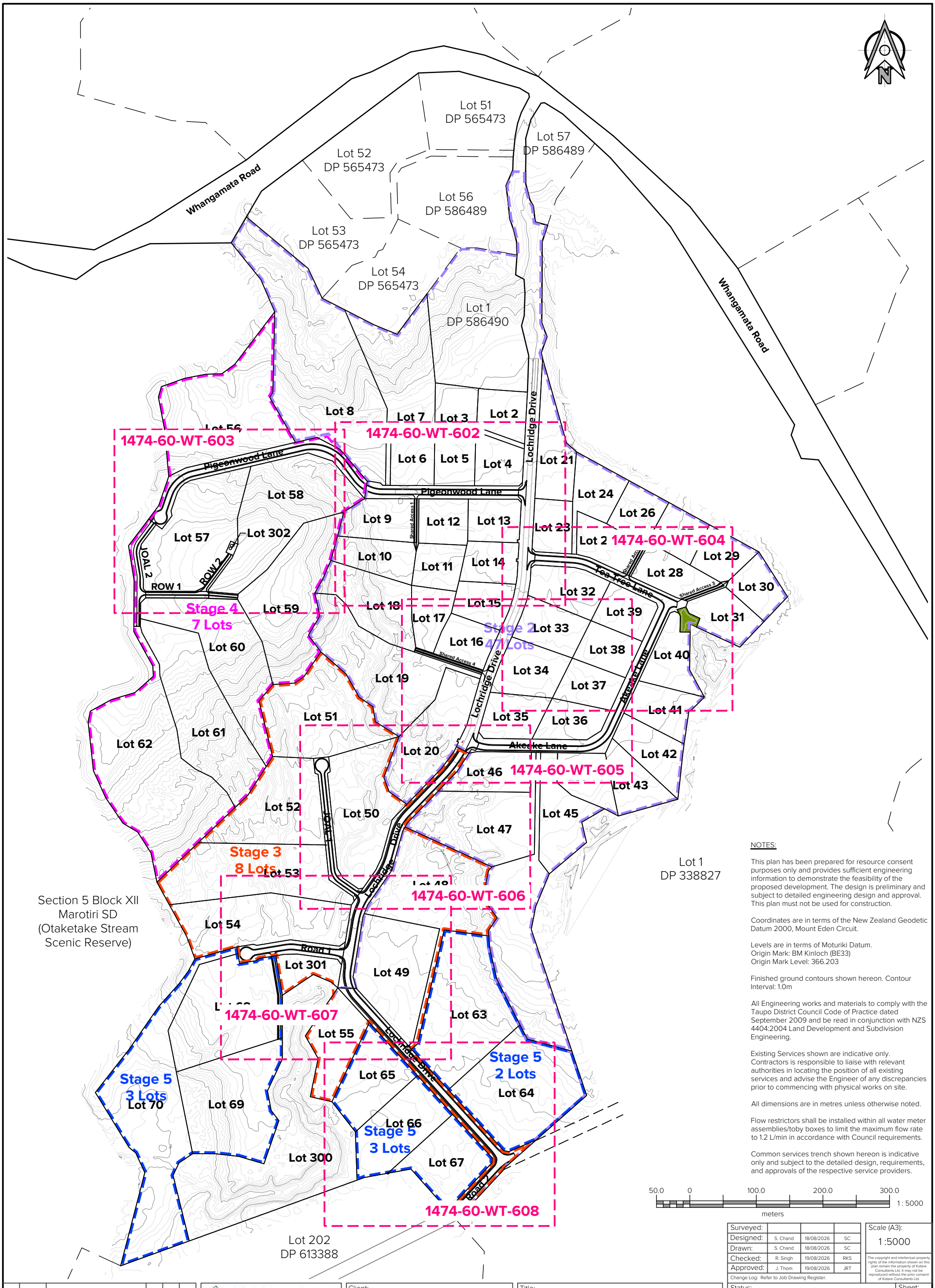
Drawing Plan:
1474-40-SW-410

Rev:
B

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NOTES:

This plan has been prepared for resource consent purposes only and provides sufficient engineering information to demonstrate the feasibility of the proposed development. The design is preliminary and subject to detailed engineering design and approval. This plan must not be used for construction.

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Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

All Engineering works and materials to comply with the Taupo District Council Code of Practice dated September 2009 and be read in conjunction with NZS 4404:2004 Land Development and Subdivision Engineering.

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All dimensions are in metres unless otherwise noted.

Flow restrictors shall be installed within all water meter assemblies/toby boxes to limit the maximum flow rate to 1.2 L/min in accordance with Council requirements.

Common services trench shown hereon is indicative only and subject to the detailed design, requirements, and approvals of the respective service providers.

50.0 0 100.0 200.0 300.0
meters
1 : 5000

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Water & Services Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Surveyed:				
Designed:	S. Chand	18/08/2026	SC	
Drawn:	S. Chand	18/08/2026	SC	
Checked:	R. Singh	19/08/2026	RKS	
Approved:	J. Thom	19/08/2026	JRT	

Change Log: Refer to Job Drawing Register.

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Client: Lochridge Estate Ltd

Project: Stages 2-5

Title: Water Reticulation & Services General Arrangement Plan

Status: **RESOURCE CONSENT**

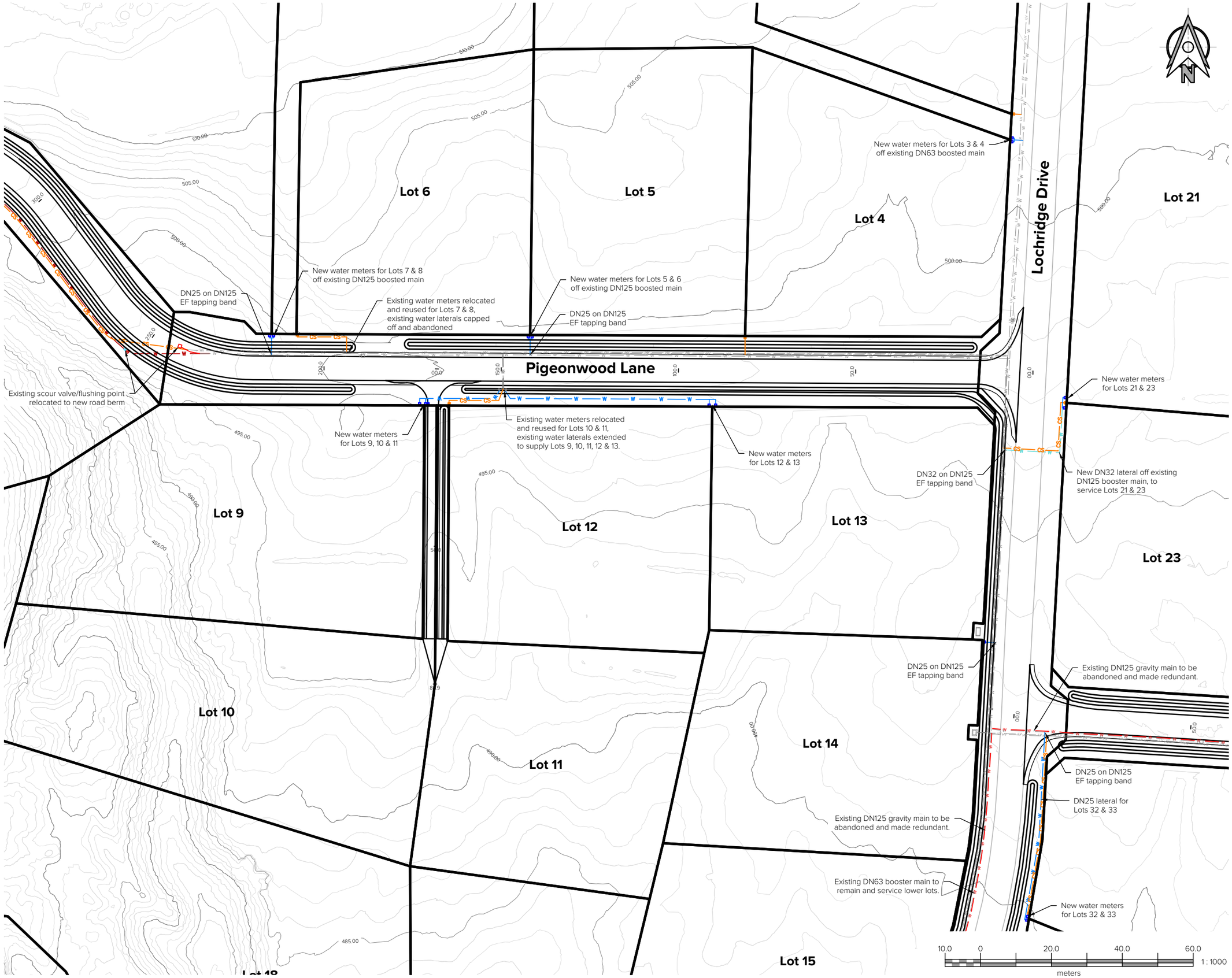
Sheet: A3

Drawing Plan: 1474-60-WT-601

Rev: B

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Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

All Engineering works and materials to comply with the Taupo District Council Code of Practice dated September 2009 and be read in conjunction with NZS 4404:2004 Land Development and Subdivision Engineering.

Existing Services shown are indicative only. Contractors is responsible to liaise with relevant authorities in locating the position of all existing services and advise the Engineer of any discrepancies prior to commencing with physical works on site.

All dimensions are in metres unless otherwise noted.

Flow restrictors shall be installed within all water meter assemblies/toby boxes to limit the maximum flow rate to 1.2 L/min in accordance with Council requirements.

Common services trench shown hereon is indicative only and subject to the detailed design, requirements, and approvals of the respective service providers.

LEGEND:

- Site Boundary
- Existing Booster Mains (Size Varies)
- Existing Gravity Mains (Redundant)
- Existing Valves (Type Varies)
- Existing Water Meter/Toby
- Existing High Voltage Line
- Existing Low Voltage Line
- New Water Pressure Line (DN125 PE)
- New Water Booster Line (DN63 PE)
- New Water Lateral (DN32 PE)
- New Water Lateral (DN25 PE)
- New Water Meter with Flow Restrictor
- New Sluice/Gate Valve
- Common Services Trench (Indicative)
- New Power Plinth/Pedestal

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Water & Services Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	JRT	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Water Reticulation & Services
Sheet 1 of 7

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	18/08/2026	SC
Drawn:	S. Chand	18/08/2026	SC
Checked:	R. Singh	19/08/2026	RKS
Approved:	J. Thom	19/08/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3):
1 : 1000

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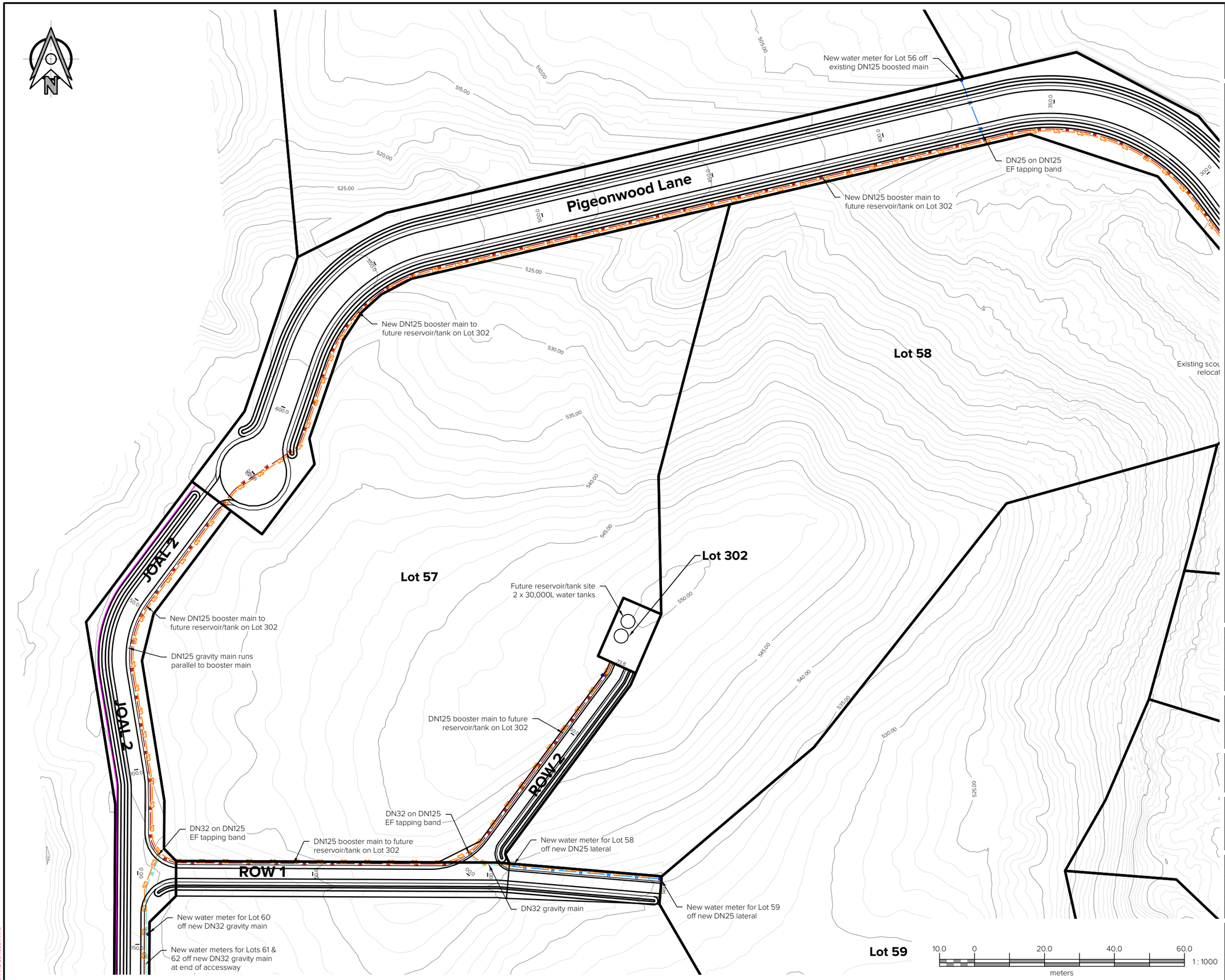
Sheet:
A3

Drawing Plan:
1474-60-WT-602

Rev:
B

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Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

All Engineering works and materials to comply with the Taupo District Council Code of Practice dated September 2009 and be read in conjunction with NZS 4404:2004 Land Development and Subdivision Engineering.

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Flow restrictors shall be installed within all water meter assemblies/toby boxes to limit the maximum flow rate to 1.2 L/min in accordance with Council requirements.

Common services trench shown hereon is indicative only and subject to the detailed design, requirements, and approvals of the respective service providers.

LEGEND:

- Site Boundary
- Existing Booster Mains (Size Varies)
- Existing Gravity Mains (Redundant)
- Existing Valves (Type Varies)
- Existing Water Meter/Toby
- Existing High Voltage Line
- Existing Low Voltage Line
- New Water Pressure Line (DN125 PE)
- New Water Booster Line (DN63 PE)
- New Water Lateral (DN32 PE)
- New Water Lateral (DN25 PE)
- New Water Meter with Flow Restrictor
- New Sluice/Gate Valve
- Common Services Trench (Indicative)
- New Power Plinth/Pedestal

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Water & Services Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Water Reticulation & Services
Sheet 2 of 7

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	18/08/2026	SC
Drawn:	S. Chand	18/08/2026	SC
Checked:	R. Singh	19/08/2026	RKS
Approved:	J. Thom	19/08/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3):
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Drawing Plan:
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Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

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Common services trench shown hereon is indicative only and subject to the detailed design, requirements, and approvals of the respective service providers.

LEGEND:

- Site Boundary
- Existing Booster Mains (Size Varies)
- Existing Gravity Mains (Redundant)
- Existing Valves (Type Varies)
- Existing Water Meter/Toby
- Existing High Voltage Line
- Existing Low Voltage Line
- New Water Pressure Line (DN125 PE)
- New Water Booster Line (DN63 PE)
- New Water Lateral (DN32 PE)
- New Water Lateral (DN25 PE)
- New Water Meter with Flow Restrictor
- New Sluice/Gate Valve
- Common Services Trench (Indicative)
- New Power Plinth/Pedestal

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Water & Services Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Water Reticulation & Services
Sheet 3 of 7

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	18/08/2026	SC
Drawn:	S. Chand	18/08/2026	SC
Checked:	R. Singh	19/08/2026	RKS
Approved:	J. Thom	19/08/2026	JRT

Change Log: Refer to Job Drawing Register.

Scale (A3):
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Status:
RESOURCE CONSENT

Sheet:
A3

Drawing Plan:
1474-60-WT-604

Rev:
B

Lot 15

Lot 17

Lot 16

Lot 33

Lot 38

Lot 34

Lot 37

Lot 35

Lot 36

Lot 46

Lot 20

Lochridge Drive

Shared Access 4

Akeake Lane

DN25 on DN63 EF tapping band

New water meters for Lots 32 & 33 off existing DN63 booster main

Existing water meter to be retained and utilised for Lot 34

DN25 lateral extended and utilised for Lot 35

New water meters for Lots 16 & 17 off existing DN63 booster main

DN25 on DN63 EF tapping band

New water meter for Lot 19 off existing DN63 booster main

Spare water meter from frontage of Lot 20 to be reused for Lot 35

Existing DN63 booster main to remain and service lower lots. Existing DN125 gravity main to be abandoned and made redundant.

Existing water meter to be retained and utilised by Lot 20. Spare water meter to be reused for Lot 35 and existing DN25 lateral capped off and abandoned

Existing DN40 booster main replaced with new DN63 booster main extension

Existing DN40 gate valve replaced with new DN63 gate valve

New DN40 booster main & DN125 gravity main extensions

Spare water meters from frontage of Lots 44 & 46 to be reused for Lots 22 & 47.

Existing water meter to be retained and utilised by Lot 46. Spare water meter to be reused for Lot 47 and existing DN25 lateral capped off and abandoned

Existing DN40 booster main replaced with new DN63 booster main extension

Existing water meter to be retained and utilised by Lot 44. Spare water meter to be reused for Lot 22 and existing DN25 lateral capped off and abandoned

New water meters for Lots 36 & 37 off new DN63 boosted main extension

DN25 on DN63 EF tapping band

New water meters for Lots 42 & 43 off new DN63 boosted main extension

DN25 on DN63 EF tapping band

New DN63 booster main extension

490.00 485.00 480.00 475.00 470.00

10.0 0 20.0 40.0 60.0 1 : 1000 meters

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Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

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Common services trench shown hereon is indicative only and subject to the detailed design, requirements, and approvals of the respective service providers.

LEGEND:

- Site Boundary
- Existing Booster Mains (Size Varies)
- Existing Gravity Mains (Redundant)
- Existing Valves (Type Varies)
- Existing Water Meter/Toby
- Existing High Voltage Line
- Existing Low Voltage Line
- New Water Pressure Line (DN125 PE)
- New Water Booster Line (DN63 PE)
- New Water Lateral (DN32 PE)
- New Water Lateral (DN25 PE)
- New Water Meter with Flow Restrictor
- New Sluice/Gate Valve
- Common Services Trench (Indicative)
- New Power Plinth/Pedestal

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Water & Services Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Water Reticulation & Services
Sheet 4 of 7

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	18/08/2026	SC
Drawn:	S. Chand	18/08/2026	SC
Checked:	R. Singh	19/08/2026	RKS
Approved:	J. Thom	19/08/2026	JRT

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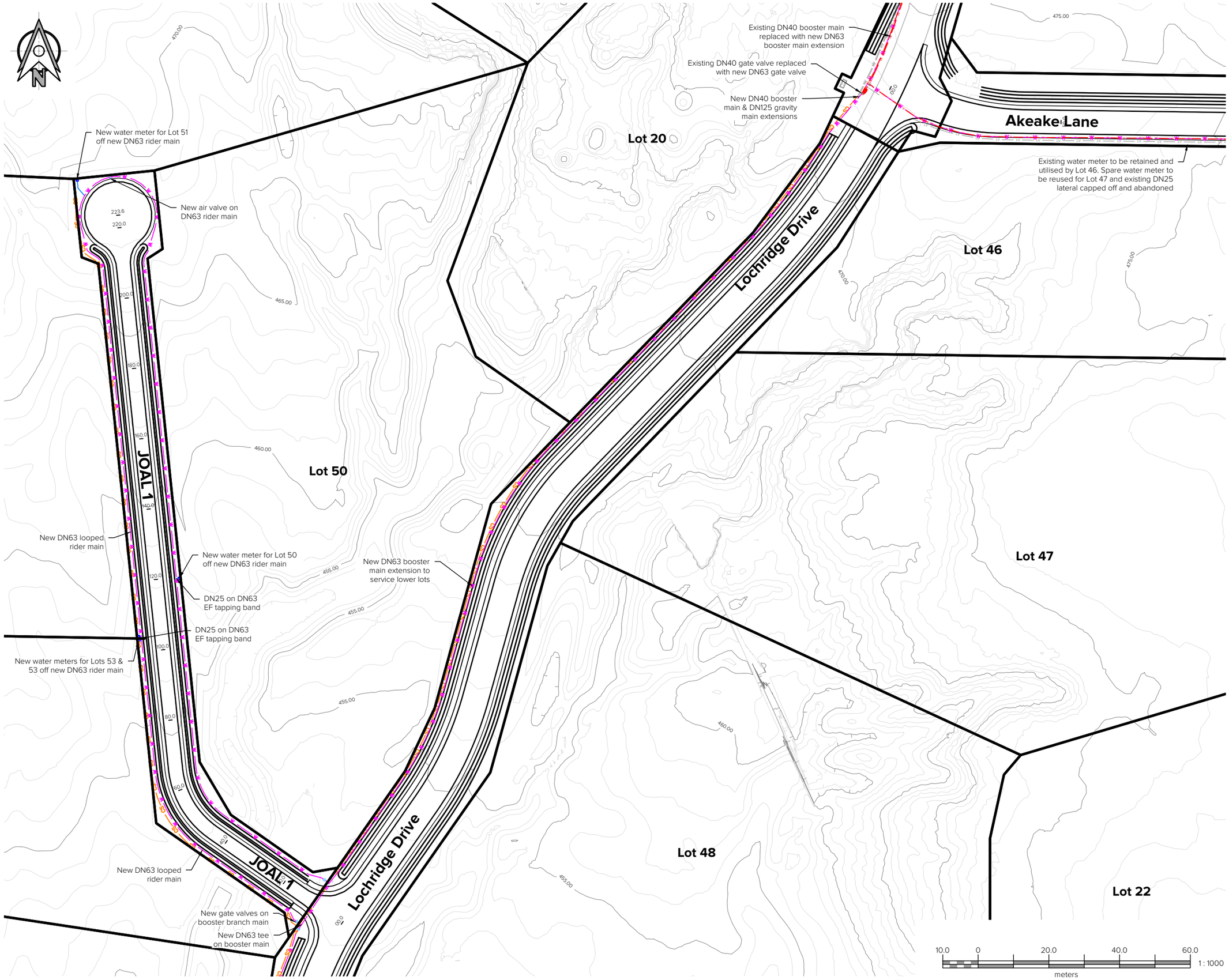
Drawing Plan: 1474-60-WT-605

Rev: B

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Coordinates are in terms of the New Zealand Geodetic Datum 2000, Mount Eden Circuit.

Levels are in terms of Moturiki Datum.
Origin Mark: BM Kinloch (BE33)
Origin Mark Level: 366.203

Finished ground contours shown hereon. Contour Interval: 1.0m

All Engineering works and materials to comply with the Taupo District Council Code of Practice dated September 2009 and be read in conjunction with NZS 4404:2004 Land Development and Subdivision Engineering.

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LEGEND:

- Site Boundary
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- Existing Valves (Type Varies)
- Existing Water Meter/Toby
- Existing High Voltage Line
- Existing Low Voltage Line
- New Water Pressure Line (DN125 PE)
- New Water Booster Line (DN63 PE)
- New Water Lateral (DN32 PE)
- New Water Lateral (DN25 PE)
- New Water Meter with Flow Restrictor
- New Sluice/Gate Valve
- Common Services Trench (Indicative)
- New Power Plinth/Pedestal

Rev	Date	Amendment:	By	Chk	App
B	17/09/26	Water & Services Arrangement Revised	SC	JRT	JRT
A	11/09/26	First Issue	SC	RKS	JRT

Client:
Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Water Reticulation & Services
Sheet 5 of 7

Project:
Stages 2-5

Surveyed:			
Designed:	S. Chand	18/08/2026	SC
Drawn:	S. Chand	18/08/2026	SC
Checked:	R. Singh	19/08/2026	RKS
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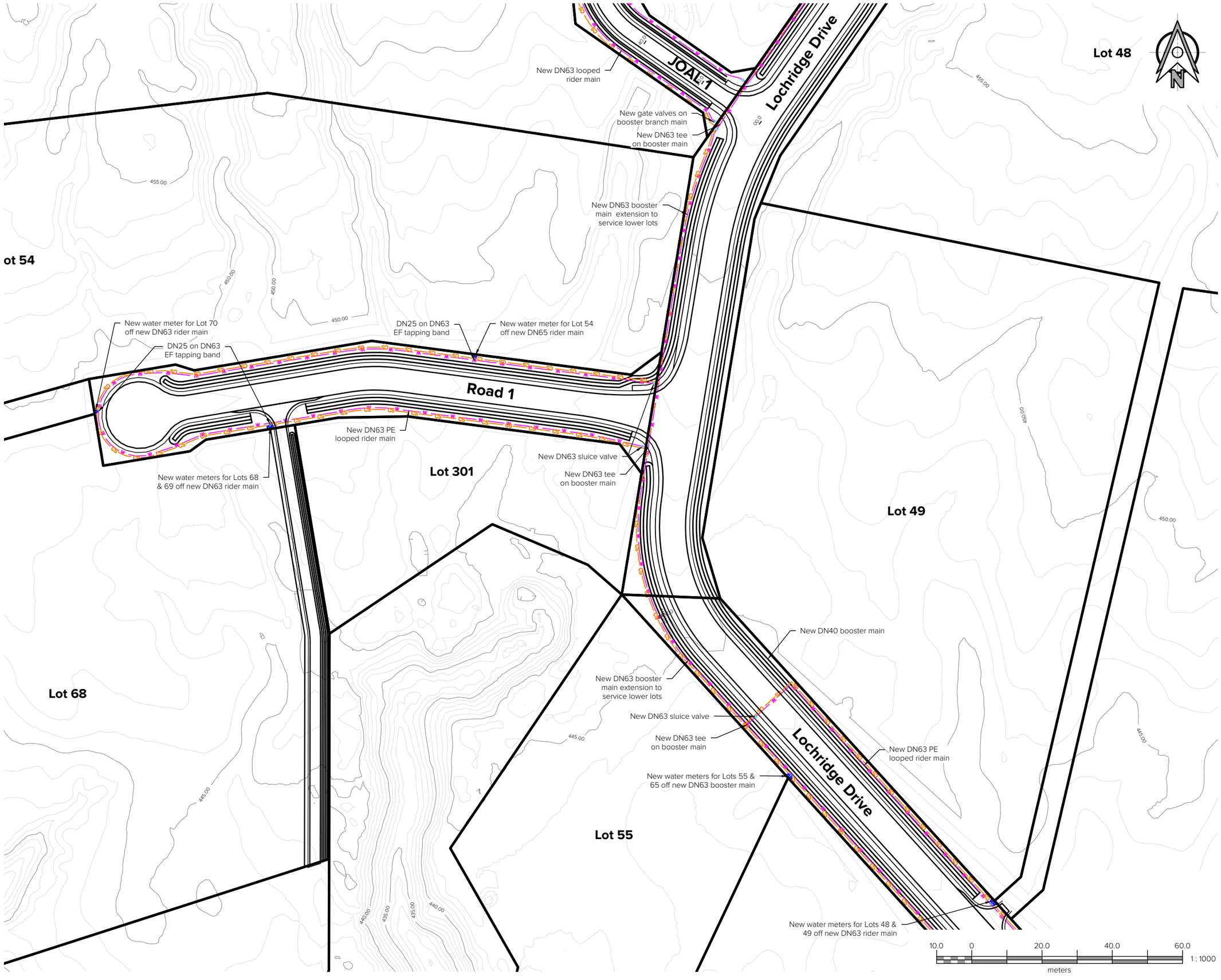
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Drawing Plan:
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Lochridge Drive, Kinloch
Taupo

Title:
Water Reticulation & Services
Sheet 6 of 7

Project:
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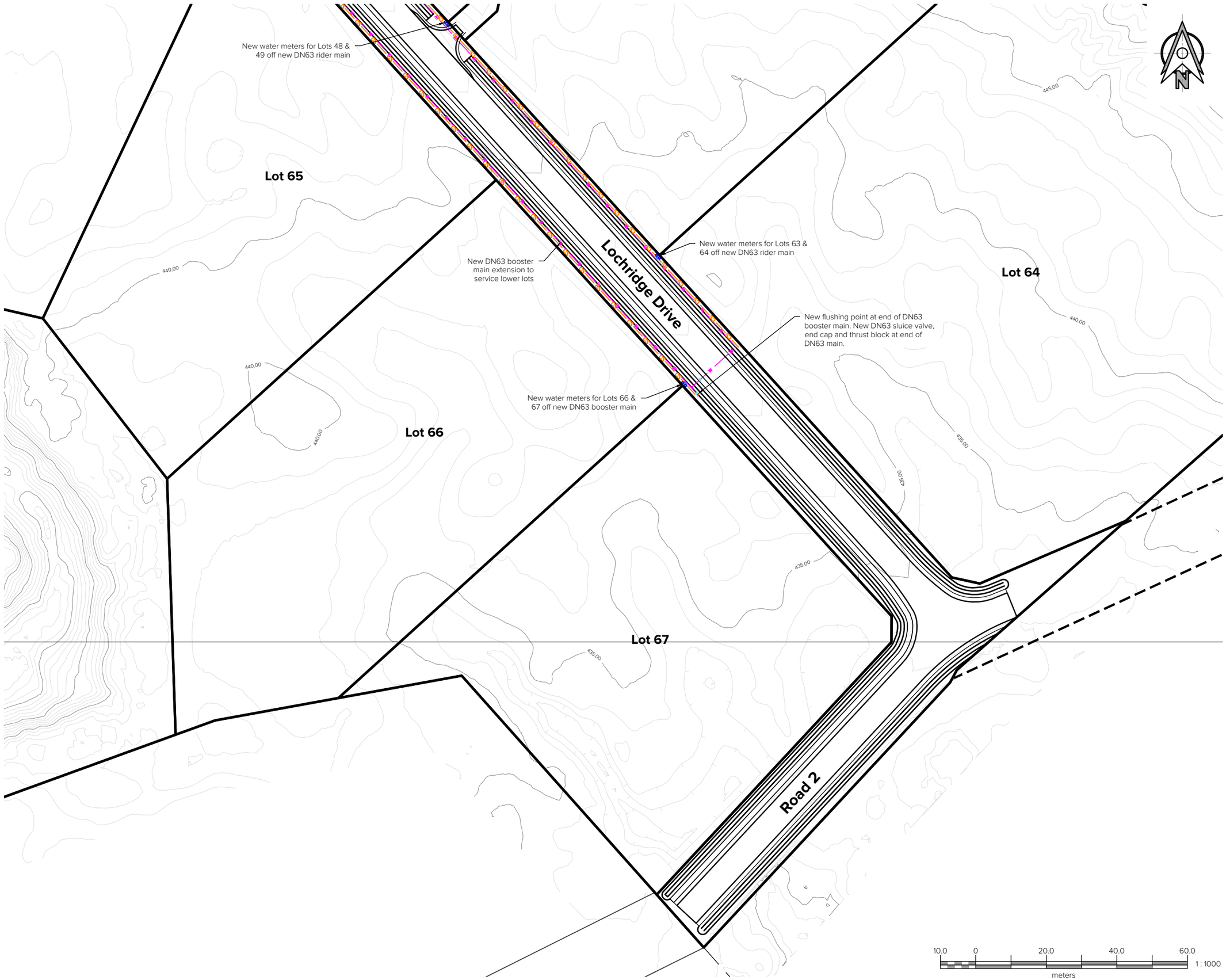
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Drawing Plan:
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Rev:
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Lochridge Estate Limited
Lochridge Drive, Kinloch
Taupo

Title:
Water Reticulation & Services
Sheet 7 of 7

Project:
Stages 2-5

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Appendix 3: District Plan Assessment

Rule	Requirement	Assessment
TRAN-R4	**PARKING, LOADING & ACCESS**	
1	All access ways, loading provisions and on-site car parking must be provided and designed in accordance with following: **Design of Parking Spaces and Access** a. Parking and manoeuvring space shall be of a sufficient size and suitable layout to accommodate vehicles described in TRAN Figure 1. b. Critical access conditions, including such features as ramps and driveways, shall not exceed a slope of 1 in 5 and shall be designed in accordance with TRAN Figure 2. c. Parking Dimensions shall be designed in accordance with TRAN Figure 3 and d. Parking areas shall be designed to ensure that vehicles are not required to reverse either on to or off a street, nor required to queue on the street, with the exception of an allotment containing a single residential unit activity. e. All parking spaces and access required to meet the standards in this Plan shall be formed, sealed and maintained to an all weather surface, and in the GRUZ shall be formed, finished and maintained to an all weather surface for a distance of 5 meters from the legal road boundary. f. All parking spaces, with the exception of those associated with residential activities, shall be clearly identified by permanent markings.	Access and parking details for individual lots have not been designed as yet but are expected to comply with the rules that relate to residential activities. Any departures can be assessed by TDC on a case-by-case basis.
2	**Parking type and Manoeuvre Space** [Dimensions and diagrams]	As above.
3	**Provision of loading spaces** a. All loading on an allotment shall be sufficient to accommodate the vehicles required to service the activity. b. Every loading space and access shall be designed to ensure that vehicles are not required to reverse either onto or off a street, nor required to queue on the street.	Individual residential lots are not expected to require loading spaces. Any departures would be assessed on a case-by-case basis.
4	**Design of Loading Spaces and Access** a. Activities requiring loading facilities or servicing from vehicles of an 8.0m axis or smaller shall be designed to accommodate vehicle described in Figure 4 b. Activities requiring loading facilities or servicing from vehicles larger than an 8.0m axis shall be designed to accommodate vehicles described in Figure 5 c. With the exception of farming and forestry activities in the GRUZ, all loading spaces and access required to meet the standards in this Plan shall be formed, sealed and maintained to an all weather surface.	

Rule	Requirement	Assessment
	d. With the exception of farming and forestry activities in the GRUZ, all loading spaces shall be clearly identified by permanent markings	
5	**Access Standards** All access shall be provided in accordance with the standards set out in this section.	
5(a) and 5(b)	**Sight Distances** i. Minimum Sight Distances from Vehicle Crossing Points shall be designed in accordance with TRAN-R8.5b TRAN Figure 6 (refer number 1). ii. Where access is to be obtained from a State Highway the consent of New Zealand Transport Agency is required under the Government Roading Powers Act 1989. The standards of the District Plan do not apply where they conflict with the standards of the road controlling authority.	Lots with access to local roads with posted speed limits of 50 km/h are required to provide 40 m of sight distance. Compliance with sight distance requirements will be confirmed for individual vehicle crossings as part of the civil engineering design and approval process. Given the low-speed local road environment, required sight distances are expected to be readily achievable. Any departures can be considered on a case-by-case basis and are not expected to result in adverse safety effects.
6	**Distance – Road Intersection to Vehicle Crossing** a. Minimum Distance from Road Intersection to Vehicle Crossing shall be designed in accordance with TRAN-R7.7 and Figure 7 (refer to number 2 in figure 7). b. Where access is to be obtained from a State Highway the consent of New Zealand Transport Agency is required under the Government Roading Powers Act 1989. The standards of the District Plan do not apply where they conflict with the standards of the road controlling authority.	Rule (a) and TRAN-R4.7 apply as per next line.
7	**Minimum Distance (m) from Road Intersection to Vehicle Crossing** With a posted speed of 50/60km/h, accesses on local and collector road should be at least 15m from intersections.	At least 15 m of separation is required between vehicle crossings and intersections in 50 km/h speed environments. Most lots are expected to comply. Any departures for lots are close to intersections can be considered on a case-by-case basis and are not expected to result in adverse safety effects.
8	**Vehicle Crossings** a. Vehicle Crossings shall be provided in accordance with TRAN-R4.9. b. Where access is to be obtained from a State Highway the consent of New Zealand Transport Agency is required under the Government Roading Powers Act 1989. The standards of the District Plan do not apply where they conflict with the standards of the road controlling authority.	TRAN-R4.9 applies
9	**Vehicle Crossing Requirements**	

<table>
<tr><th>Rule</th><th>Requirement</th><th>Assessment</th></tr>
<tr><td></td><td>Vehicle crossings in the Rural Lifestyle Zone (RLZ) on local and collector roads > 80km/h are required to be at least 100m apart.

<table>
<tr><td></td><td></td><td>a.</td></tr>
<tr><td></td><td>Zone</td><td>Min</td></tr>
<tr><td></td><td>Posted Speed Km/hr</td><td>Distance between crossings
Local and Collector roads</td></tr>
<tr><td>i.</td><td>NCZ, MRZ, GRZ, LRZ and TCZ
≤ 80 Km/hr</td><td>N/A</td></tr>
<tr><td>ii.</td><td>GIZ and HIZ
≤ 80 Km/hr</td><td>N/A</td></tr>
<tr><td>iii.</td><td>GRUZ and RLZ
>80km/hr</td><td>100m</td></tr>
</table></td><td>Complies

The Rule does not specify a minimum separation between individual vehicle crossings in the Rural Lifestyle Zone where the posted speed is 80 km/h or less.</td></tr>
<tr><td>10</td><td>Minimum Standards for Driveways and Accessways
a. Minimum Standards for Driveways and Accessways shall be designed in accordance with Table 1.
b. In accordance with Rules SUB-R13.2, SUB-R16.2 and SUB-R19.6 any single common driveway or accessway serving more than nine allotments in the Residential and Industrial Environments, and more than twelve allotments in the Rural Environment, is to be vested as legal road.
c. Except for the Rural Environment, and except in the case of a single dwelling and/or allotment, all driveways and accessways shall be formed and sealed with an all weather surface. (Please note that as required by the stormwater provisions for urban properties, all stormwater must be collected and retained within the site to meet the 10% event, except where there is a community stormwater reticulation system).
d. In the case of a single dwelling and /or allotment in the Residential Environment, all driveways or accessways shall have a stable surface that does not discharge any material off-site. Where the driveway or accessway is steeper than 6% and slopes towards the road, an all weather surface and stormwater control shall be provided in accordance with iii. above.
e. In the Rural Environment accessways shall be sealed where they serve more than 3 allotments or where they are steeper than 6% and service more than 1 allotment. Where the access is onto a sealed public roadway the vehicle crossing shall be sealed.
f. For the purposes of these performance standards, all weather shall mean a durable permanent surfacing such as concrete, seal or pavers.</td><td>Compliance expected.

Assessment against (a) and Table 1 presented earlier as Section Table 6-1. All proposed ROWs and JOALs comply with the applicable District Plan limits, while the public roads are designed in accordance with the TDC Code of Practice.

Layout and proposed vesting complies with (b).

(c) does not apply to single residential dwellings.

Compliance is expected with (d).

(e) does not apply.

(f) noted and compliance expected.</td></tr>
<tr><td>TRAN-R5</td><td>Maximum Equivalent Vehicle Movements

24 EVM in the RLZ (Kinloch)</td><td>Applies to activities on individual allotments rather than the subdivision. Typical rural residential activities are expected to generate vehicle movements well within the applicable threshold of 24 EVM. Compliance is therefore anticipated.</td></tr>
</table>

About Boffa Miskell

Boffa Miskell is a leading New Zealand professional services consultancy with offices in Whangarei, Auckland, Hamilton, Tauranga, Wellington, Nelson, Christchurch, Dunedin, and Queenstown. We work with a wide range of local and international private and public sector clients in the areas of planning, urban design, landscape architecture, landscape planning, ecology, biosecurity, cultural heritage, graphics and mapping. Over the past four decades we have built a reputation for professionalism, innovation and excellence. During this time we have been associated with a significant number of projects that have shaped New Zealand's environment.