Tahimana Limited
Stagecoach Road Development
Tasman

Development Report

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12498

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Introduction

Tahimana Ltd are the owners of a parcel of land located at Stagecoach Road, Tasman, for which they have prepared an application to submit to Tasman District Council to develop into a range of residential and lifestyle sized allotments. They have engaged a group of consultants to provide advice on a range of inputs during concept development and to provide reporting to accompany the development application. It is acknowledged by the applicant that the development site is of historical and ongoing importance to local Iwi. The concept for development has been adapted and enhanced as a result of liaison with and feedback received from Iwi representatives during the concept development phase.

Concept development has been undertaken over a significant period of time resulting in a number of concept iterations, with careful interrogation and consideration given to each iteration progression to ensure a development outcome which is relevant to the site constraints present whilst also acknowledging the processes and outcomes detailed in the Tasman District Council design guide for the Coastal Tasman Area.

Below is a list of consultants and organisations engaged by or with Tahimana Ltd to provide expert advice and reporting for the application.

Resource Management / Planning	Staig and Smith Ltd
3 Waters and Land Contamination (PSI)	Envirolink
Hydrology	Pattle Delamore Partners
Transportation	Traffic Concepts
Ecology	RMA Ecology Ltd
Landscape Assessment	Rough Milne Mitchell Landscape Architects
Archaeology	Amanda Young – Cultural Heritage Consultant
Geotechnical	Swanney Geotechnical and Civil Engineering
Noise	Bladon Bronka Acoustics Ltd
Productivity	Land Vision Ltd
Cultural Values	Ngāti Rārua, Ngāti Tama and Te Ātiawa

The purpose of this report is to provide an overview of the development concept and, where needed, to provide comment on specific details of the application that are not included in the reporting by the consultants above.

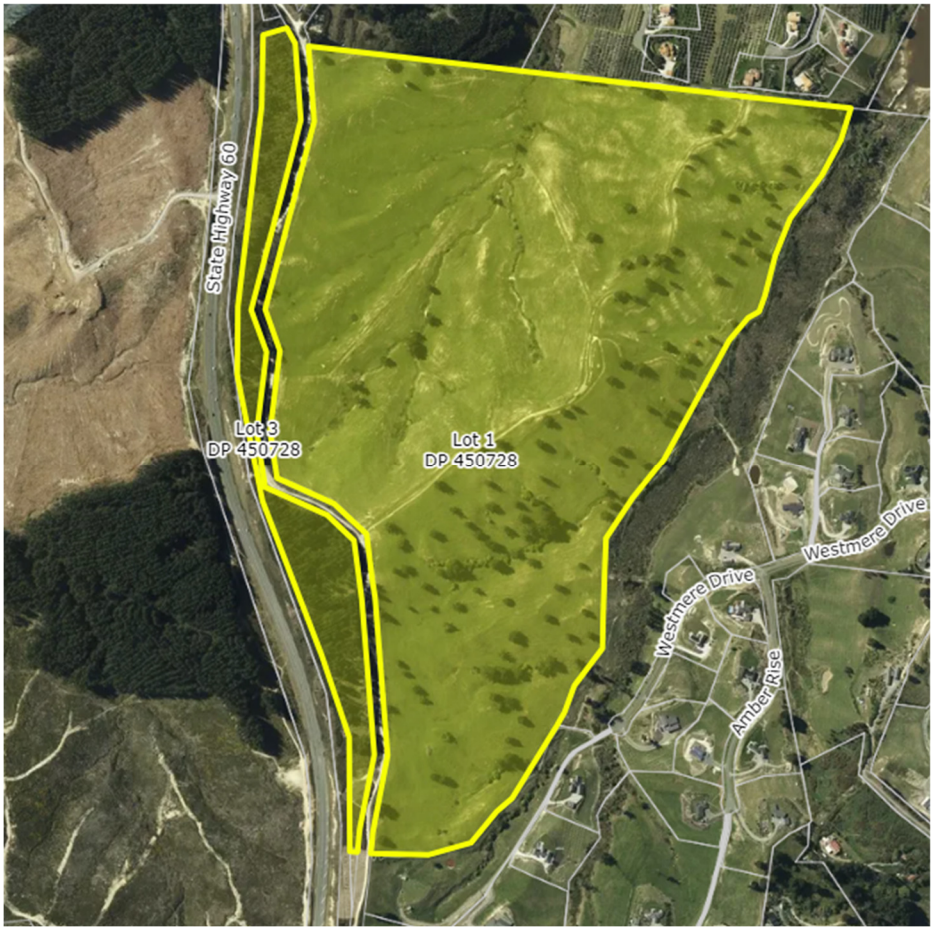
We note that a pre application meeting for this development was held in March 2023 and Council subsequently issued a pre application feedback letter dated 27 April 2023. Comments in the feedback letter have been considered in the subsequent period of concept development. There has also been ongoing communication between Tahimana representatives and Council staff regarding water supply from Council's existing reticulated network in Stagecoach Road.

The Site

The Tahimana development is located on the unsealed portion of Stagecoach Road, approximately 2.3km north of the intersection with The Coastal Highway (SH No. 60), with a frontage to Stagecoach Road of approximately 1.3km. The property straddles Stagecoach Road and is in two parcels (Lots 1 and 3 DP 450728) which are held in one certificate of title, CFR 573241, totalling approximately 68 hectares. State Highway No 60 adjoins the site immediately to west and the recent development of Westmere Drive adjoins the site to the east. Williams Road, Horton Road and Mamaku Road terminate to the north of the development.

The area of development to the east of Stagecoach Road consists of several ridgelines and gully areas and is in pasture. This portion of the site is currently being used to graze stock and, with the exception of Lot 139, is the area that is proposed to be developed for residential and rural/residential use. The area to the west of Stagecoach Road (Lot 144) has recently had exotic pine plantation removed and is currently not being used for farming activities. This area of the site along with lot 139 are to be used for communal wastewater disposal. An area of Waka Kohati NZ Transport Agency land adjoining the site in the form of a strip of land located between State Highway No 60 and Lot 144 is also to be used for communal wastewater disposal. Waka Kotahi have advised that they will accept the land being used for this purpose and will enter in a licence to occupy agreement with the consent holder when resource consent for the development has been obtained.

The diagram below shows the Tahimana Ltd land ownership highlighted in yellow along with the underlying parcel appellations.



Stagecoach Road where it passes through the site is used regularly by recreational users on foot or bicycle. There are recreational corridors free of motor vehicles from this location that provide links to Westmere Drive, Williams Road and Dicker Road which in turn provide low trafficked routes to the Tasman Great Taste Trail, thereby linking to Motueka, Tasman, Ruby Bay and Mapua via.

A number of wetlands and waterways have been identified on the development site and wetlands and catchment drainage systems are present in the adjoining Westmere Drive development to the east and Horton Road to the north.

The various consultant reports included with the application provide details on a number of site attributes including ground conditions, soil types, current and historic land use, topography, and both landscape and ecological values. All of which create environmental constraints and opportunities that have been considered and used to inform the development concept and resource consent application.

Off Site Servicing

The subdivision of the site will require several services to be extended to the property boundary from areas outside the immediate development footprint. These services are included in the reporting below and consist of

- Reticulated water supply (firefighting and residential lot potable water supply)
- Power reticulation
- Communications
- Stagecoach Road upgrade from approx. 1700m south to the site

Servicing of development

Details of proposed servicing for the development is set out below under appropriate headings.

Water Supply

Reticulated water supply for the provision of firefighting water flows to the entire development and potable water to the residential portion of the development is to be supplied from the Council operated Mapua Rural Restricted Scheme via the existing pump station at the Pomona Road reservoir. Currently water is pumped to Council owned and operated storage tanks on Stagecoach Road approximately 500 metres south of the Tahimana development. It is proposed to extend the existing pumped water line north along Stagecoach Road from the existing storage tank site to a new 300m^3 tank to serve the development which is to be located on Lot 146 of the development. Envirolink have undertaken calculations on the existing supply system delivering water to Stagecoach Road and confirmed that it has the capacity to provide the additional water required to service the development in compliance with the NTLDM2020.

Reticulation from the new 300m^3 water tank to be located on lot 146 will be extended into the development as detailed on the concept water reticulation plans accompanying this application (sheets 41 – 45). The

tank has been located at a position on the site where it will provide the best operating pressure (head) possible. Sheet 45 of the resource consent drawings shows the tank site and its relationship to Stagecoach Road and Lot 1. Drainage and access routes to Stagecoach Road are shown along with the overflow route taken through Lot 1 should the primary drainage route to Stagecoach Road be unable to accommodate excessive flows from that tank site area. The flow route through Lot 1 is located clear of proposed earthworks and the BLA area on Lot 1 within an existing gully area.

The reticulated network for the development is to provide connections to the residential sized lots and fire hydrants which are to be located throughout the development in accordance with PAS 4509:2008 New Zealand Fire Service Firefighting Water Supplies Code of Practice. All residential lots are to have a connection to the reticulated water supply and are to be provided with a restricted flow connection providing $1m^3$ of water per day. Each residential lot will be required to provide additional water storage of $3m^3$ and a pump to provide a pressurised water system for the individual lot at the time each lot is further developed with a consented dwelling.

A water connection is also to be provided to the wastewater treatment plant on Lot 144 and is to be fitted with an RPZ fitting at the point of supply.

The larger lifestyle sized blocks are not to be provided with reticulated water and will be required to collect roof water to storage for potable domestic supply in accordance with the rules in the TRMP. However, as a reticulated firefighting supply will be provided from the reticulated network to cover all building sites within the development individual on site storage of water for firefighting purposes will not be required.

Wastewater

Wastewater disposal for the development is to be via either individual on-site treatment and disposal system (for the rural lifestyle lots) or a communal treatment and disposal system (for the residential sites). All lifestyle sized lots able to accommodate appropriate on-site wastewater disposal areas (including reserve disposal areas) are to install individual on site wastewater treatment and disposal systems at the time of further development of the lot i.e. house build. A number of lifestyle sized lots have been identified as not being able to accommodate appropriately sized on site disposal areas, and these lots along with all residential lots are to be connected to a reticulated low pressure wastewater network conveying flows to the communal on-site wastewater treatment and disposal system.

The exact type and supplier of the communal wastewater treatment and disposal system has not yet been confirmed; however, a proprietary *prelos* type system is the preferred option, whereby primary treatment is undertaken on site prior to the liquid only component of the wastewater effluent being pumped via the low pressure reticulated network to the communal treatment system and disposal area. An example of this type of system is the integrated treatment system provided by Innoflow Technologies.

Schematic details of the wastewater reticulation network are shown on sheet 56 of the application drawings and technical reporting to support both the onsite wastewater disposal and communal wastewater system is contained in the three waters report prepared by Envirolink. The area of land to be used for disposal of treated wastewater from the communal treatment system (including a reserve field area) is identified as lots 139 and 144 on the application scheme plan along with a portion of land identified as Section 34 SO 440217 which adjoins the development to the west. Section 34 SO 440217 is administered

by Waka Kotahi, who have advised that they will offer a license to occupy this land subsequent to resource consent being obtained for the development.

The general concept for the communal wastewater disposal system is for all lots that are not capable of accommodating an individual onsite wastewater disposal area to pump wastewater utilising individual on site pumps via a low pressure piped network to a communal treatment plant, after first passing through an individual on site primary treatment tank. After passing through the communal treatment plant the treated waste is to be disposed of in the communal disposal area.

The applicant's preference is for the wastewater reticulation, treatment plant and disposal system to pass into council ownership, however Council staff have advised that there is no interest within Council for the treatment system to vest with Council. If the system is to remain in private ownership, operation and maintenance will be the responsibility of a wastewater association to be set up for administration and operation of any commonly owned wastewater assets within the development. Council have advised that they will accept the vesting of wastewater reticulation infrastructure from each of the lots to the point of treatment.

Stormwater

Envirolink have been engaged to provide reporting on stormwater management within the site including details of on-site stormwater detention requirements to ensure that post development flows leaving the site do not exceed those of predevelopment and the drainage system concept. Along with accepting the need for post development stormwater management of the developed areas the applicant is aware of the close relationship between the site's current natural drainage features and the wetlands and watercourses present and acknowledges that this relationship must be maintained to ensure that the identified wetland areas remain viable into the future. Along with Envirolink the applicant has engaged Pattle Delamore Partners to undertake a hydrological assessment of the development to ensure that water inputs and flows currently available for the wetlands are not reduced post development. RMA Ecology have also been engaged to provide advice on location of detention structures and the requirements of construction and location of stormwater discharge points to ensure wetland recharge.

In general, the stormwater management throughout the residential areas of the development will be the same as could be expected in any urban residential development, however additional measures are to be implemented to ensure that the current water balance supporting the existing wetlands is maintained and water quality is to be addressed utilising natural treatment systems such as treatment swales. It is noted that the roading infrastructure proposed does not trigger a requirement for treatment of road runoff under sections 5.4.8.3 of the NTLDM2020, however treatment of road runoff is proposed as part of a larger development concept intended to align with Water Sensitive Design concepts set out in section 5.3.2 of the NTLDM2020.

The residential development area is to be reticulated with a piped stormwater system with each lot provided with a lateral connection, in some cases two connections with the second one to provide a clean water outlet to an adjoining wetland, and runoff from road areas is to be collected by kerb and channel and directed to sumps and the piped network. The various piped networks will discharge downstream of the developed areas to swales that will provide water quality treatment and convey runoff to detention structures shown on the plans or in the case of clean water from collected from roof and soft areas to

outlets provided with scour protection and energy dissipater structures allowing the runoff to then pass overland to the wetland or gully areas.

The rural lifestyle area of the development will not be provided with a reticulated stormwater system other than the culverts required to convey road runoff clear of the road corridor. Stormwater from these lots is to be directed to natural drainage areas clear of the on-site wastewater disposal areas. The rural lifestyle lots will be required to collect roof water for potable water use within the dwelling on each lot with an overflow to be provided to the from the storage system to the onsite stormwater system.

It is the intention of the applicant to install detention on site to ensure that post development flows leaving the site do not exceed those present predevelopment. Envirolink have provided reporting on this in their stormwater assessment for the development application. Due to the nature of the site, there are a number of detention structures proposed to achieve the total volume of detention required and appropriate spread of attenuated water outlets that will allow release of water into wetland areas at appropriate locations, flow rates and volumes. The location of the detention structures is shown on the scheme plans, earthworks plans and stormwater reticulation concept plans. In all there are 12 detention structures, with 6 located in the western catchment (labelled W1 – W6) and 6 located in the eastern catchment are labelled (E2 – E7).

The detention structures have been designed to occupy the minimum footprint needed to provide a structurally suitable dam requiring a minimum of maintenance. They are not intended to permanently hold or store water; however, they will hold attenuated water during and after rainfall events with the volume detained varying depending on the level of rainfall event being experienced.

It is important to note that the detention structures have been located outside of the main gully areas where possible and there are no structures located within the identified wetland areas. The maximum impounded water footprint for each detention structure is also shown on the plans. The plans also show that detention structures W4, E5 and E6 are located on streams identified in RMA Ecology reporting, thereby requiring fish passage to be accommodated into the design and construction of the decant structures. The project ecologist will be involved in the design process for these structures and will also be available at time of construction to supervise installation.

Roading

Roading proposed for the development is generally in accordance with the requirements set out in the NTLDM 2020, with minor modifications where deemed necessary as a result of land topography and the development concept of areas of rural lifestyle sites along with the provision of residential style clusters.

Stagecoach Road

Stagecoach Road in its current form consists of various construction standards from its intersection with SH No. 60 to the northern end of the development site. Initially for the first 650 metres from the intersection with SH No. 60 the carriageway is sealed for a minimum of 6 metres with metalled shoulders, and an informal off-road cycle and walk path is evident on the western side of the road. From this point to the southern end of the development (approx. 1700 metres) Stagecoach Road is a maintained gravel formation of varying widths, generally 4.5 – 5 metres wide. An informal off-road cycle and walk path is evident in places but is not continuous and in places walkers and cyclists share the gravelled road carriageway with motor vehicles. In places the gravelled formation is located outside the legal road corridor over privately owned land. The road across the development frontage is not maintained and is generally a

clay surface with some areas having a thin layer of gravel. The road in this area has areas of prominent scouring and rutting and there is no off-track walk or cycle provision. From the northern end of Stagecoach Road there are walking and cycle connections available to Wiliams Road and Dicker Road providing connections to the Great Taste Trail and Tasman Village.

The upgrade works proposed to Stagecoach Road are detailed on the concept plans included with the resource consent application on sheets 60 - 72. No upgrade is proposed for first 650m length of the existing sealed carriageway. From the end of the existing sealed formation to the southern end of the development it is proposed to upgrade Stagecoach Road to be generally in accordance with Table 4-7 of the NTLDM 2020, Sub Collector - Rural – All. The construction is to consist of a 6.0-metre-wide sealed formation with 0.6 metre unsealed shoulders. A 2.5-metre-wide shared walk/cycle path is to be provided on the western side of the carriageway. Due to construction constraints, there will be areas where concrete edge restraint will be required, and the shared cycle / walk will be against kerb. These areas have been shown on the drawings. Where the design speed achievable is less than 60km/hr the design speed has been shown on the drawings, the minimum being 40km/hr.

The upgrade is to be constructed so that all works are located either within the legal road corridor of Stagecoach Road, or where this is not possible on land administered by Waka Kotahi with a license to occupy obtained to cover those areas of the works. No upgrade works are located over privately owned land.

Stormwater control will be by way of water tables and kerb and channel where shown. Although not shown on the resource consent drawings culverts will be required to drain road runoff, these will be detailed on the road upgrade construction drawings which will be submitted to Council for approval prior to construction works commencing.

Internal Development Roading

Development roading will consist of the upgrade to Stagecoach Road across the development frontage along with the construction of several roads internal to the development to provide road, cycle and walking access to the residential clusters and rural lifestyle lots. The NTLDM2020 does not contain roading standards that directly refer to or identify requirements for roads in the Rural 3 zone, however table 4-7 for unclassified roads sets out minimum requirements for provision of carriageways, pathways, and berms under residential, rural or rural lifestyle headings. These standards have been used to inform the development of roading concepts for the application which are not intended to conform to any particular standard in table 4-7 but should be considered a hybrid concept using the requirements from the NTLDM2020 adapted to align with the development concept and fit with the steep and segmented topography of the site.

Stagecoach Road Frontage

Stagecoach Road across the development is to be upgraded to provide a carriageway of 6.0 metres and a shared cycle / walk path of 2.5 metres width on the western side of the road, separated from the carriageway. The road detail on sheet 25 of the resource consent drawings shows the proposed profile of the road which includes concrete edge restraints in the form of mountable kerb and channel along with roadside swales to collect road runoff. The concrete edge restraints have been included as the applicant wishes to provide a road with a more formal appearance than the rural road profile along this length of frontage.

Road A

Road A is the dominant road when viewing the development roading network and could be described as the spine road providing the demarcation between the rural lifestyle sized lots to the southeast and the residential clusters to the northwest. Road A is located along the main ridge located within the property with a number of cul-de-sacs accessing residential clusters from this road, along with rural lifestyle lots having private vehicle access to it. The road concept proposed for Road A is a modified version of the NTLDM 2020 roading standard for a *Rural Lifestyle (unclassified)* road with a design speed of 50km/hr. A 2.5-metre-wide shared pedestrian/cycleway is included however the 600mm shoulders required in the NTLDM have been removed from the profile and replaced with concrete edge restraints in the form of mountable kerb and channel. A car parking bay is to be located adjacent to the reserve area (Lot 142). Surface water is to be directed to a roadside swale which in turn will convey stormwater flows to gully areas for disposal clear of building sites and any on site wastewater disposal areas. Details of Road A are shown on sheet 25 of the drawings.

Roads B-G

Roads B to G are cul-de-sacs providing access to the residential clusters located to the northwest of Road A with connections to either Road A or Stagecoach Road. It is proposed to construct these in accordance with NTLDM 2020 Table 4-7 roading standard *Residential (<20 dwellings) (unclassified).* These roads are proposed to be constructed with a 5.5-metre-wide carriageway with parking bays provided where shown on the drawings. A concrete edge restraint is to be provided to each side of the carriageway in the form of mountable kerb and channel and a footpath is to be provided on one side of the road. These details are shown on the typical road profiles on sheet 25 of the drawings.

It is noted that Roads C, G and a short length of Road E provide access to a greater number of lots than the standards in the NTLDM 2020 table 4-7 specify for a *Residential (<20 dwellings) (unclassified)* road, however the concept proposed for these roads consists of the same carriageway width and carparking allowance required in the NTLDM 2020 table 4-7 *Residential (all) (unclassified).* Where the concept for these roads differs to the standard is the provision of a footpath on one side of the road only, rather than a footpath on both sides.

Walkways

Two off road walkways are proposed within the development to provide a walk/cycle link from Westmere Road to Stagecoach Road at the northern end of the development. The construction details of the walkways are shown on sheet 26 of the plans and the routes are indicated on the scheme plan sheets. It is intended that the walkway providing the link from Westmere Road to the reserve area on Road A will pass through lots 7,12,13, and 141. The walkway connecting Road D to Stagecoach Road will pass through lots 140 and 139. Where the walkways are to pass through areas identified as waterways they are to be constructed as boardwalks to minimise the extent of ground disturbance required for their construction. No structures or piling will be placed in a wetland or waterway and all piles will be placed outside of wetland extents or stream/river banks.

It is proposed that these walkways are available for public use and therefore easements are to be created along the walkway route in favour of Council for pedestrian and cycle use.

Earthworks

To accommodate construction of roads and building areas it is necessary to undertake bulk earthworks consisting of cutting and filling over areas of the site where development is to occur along with earthworks to accommodate the upgrade of Stagecoach Road and the shaping of the communal wastewater disposal area. The concept earthworks model is shown on Sheets 27 – 40 of the drawings and includes details of existing and proposed landform contours along with iso contour plans indicating depths of cuts and fills.

Ecological site investigations and reporting has identified areas of wetland, ponds and water courses throughout the site which have informed both the development layout and earthworks concept. Wetland areas, watercourses, and ponds identified at the time of ecological survey along with required minimum setback margins have been included in the earthworks concept drawings and provide a clear visual representation of the proximity of earthworks extents to those areas. An additional construction works buffer (set back) of 3 metres has been included in the design to accommodate earthworks operations.

Swanney Geotechnical and Civil Engineering have undertaken preliminary site and soil investigations and have provided advice on maximum cut and fill batter slopes and the appropriateness of the bulk earthworks proposed in the application, both within the areas to be used for housing development and the area to be used for the communal wastewater disposal.

The earthworks concept consists of creating flat building areas of varying size on each of the rural lifestyle and residential sites along with roading corridors to access those sites. Earthworks will also be required along the length of Stagecoach Road where upgrading is proposed to allow the formation widths proposed to be constructed. Staging of the earthworks is to align closely with the staging of the development so that at any one time the extent of earthworks being undertaken will be limited to that necessary to complete the stage or stages being progressed to issue of title.

The approximate total earthworks volume has been calculated at 225,000m^3 of cut and 160,000m^3 of fill. Due to the nature of undertaking any bulk earthworks operation over land previously used for plantation forestry and with a topography such as this site, containing ridge and gully areas, it is difficult to accurately calculate the makeup (organic, unsuitable or suitable for structural fill) of the earthworks volumes. However, it is expected that the additional cut volume will provide ample suitable material for use as structural fill and it is noted that the site will provide opportunity for unsuitable material and surplus organic material to be used to soften the appearance of the built environment. It is also noted that using surplus material on site will negate the need to remove surplus cut material from site, thereby limiting the number of construction traffic movements along Stagecoach Road and on the wider transport network.

All earthworks are to be supervised by a Geoprofessional who will ensure the earthworks are undertaken to the appropriate standard and issue close out reporting upon completion of each stage of the development. It is intended that all lots will be provided with an area certified to allow construction of a NZS3604 compliant residential building, however it should be noted that the size and shape of the certified area may not be the same as the identified building location area (BLA) on any said lot. It should also be noted that in some instances it may not be possible for a NZS3604 certified build area to be identified on a lot. In these instances, close out reporting will detail the requirements to be met to allow a residential dwelling to be built on the lot within the BLA.

A specific earthworks methodology has not yet been developed for the works but will be developed in consultation with the main contractor prior to construction works commencing on site. It is expected that a basic order of earthworks will be as set out below:

1 Establishment of contractors on site compound and lay down areas.
2 Install pre-approved dust, erosion and sediment control measures.
3 Strip topsoil to stockpile from earthworks areas.
4 Strip unsuitable material to stockpile from earthworks areas.
5 Undertake cut to fill works.
6 Spread unsuitable material to structural fill periphery.
7 Respread topsoil from stockpile over earth worked.
8 Undertake grassing out of earth worked areas.
9 Upon stabilisation of earth worked areas - dust, erosion, and sediment control measures to be removed.

During earthworks construction it is expected that other items of work will be required to be undertaken simultaneously such as installation of subsoil drains, stormwater drains, and general construction works related to the development works.

As with any project of this size there is potential for sediment laden run-off to be generated from site both during construction and post construction until such time as disturbed areas of ground are stabilised, and good stormwater control measures are in place and operational. Generation of dust and sediment is possible at any stage of construction works but has shown to be at greatest risk during earthworks construction. Prior to construction commencing on site the contractor will be required to prepare a Dust, Erosion and Sediment Control Plan (DESCP) and a Construction Environmental Management Plan (CEMP) For approval by the Tasman District Council. As a minimum, between them the plans shall address the following items.

- A site description
- Outline the proposed staging and programme of the construction activities.
- Include a locality and site map identifying wetland areas, waterways, direction of surface stormwater flows, contours, and property boundaries.
- Address how adverse effects on the environment are to be avoided or mitigated.
- Show how ground disturbance is to be minimised.
- Detail how disturbance of identified streambeds is to be avoided.
- Show measures to be implemented to avoid work areas encroaching into identified wetland areas and adjoining buffer zones during construction.
- Provide a bad weather contingency plan, including debris and flood management.
- Include onsite management measures for hazardous substances.
- Advise contact details of senior contactor staff responsible for the works for the duration of the construction activities.

The CEMP and DESCP are to be prepared on a stage-by-stage basis and approved by Council prior to being implemented on site prior to construction works commencing. The plans are to be prepared by the contractor with the involvement of the design and construction management consultants as well as the project ecologist to ensure that appropriate and workable short- and medium-term solutions are used. It is expected that ongoing review of the measures implemented will be required to ensure efficient operation of the systems installed to manage treatment of runoff from the site.