3. OVERALL OUTCOMES

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The overall outcomes for the Project is to let the landscape speak for itself [D26] by designing:

- A clean uncluttered highway
- A stitched together landscape
- To celebrate the cultural footprint and values of Mana Whenua in the landscape

The outcomes are described in three tiers as shown on the following diagram:

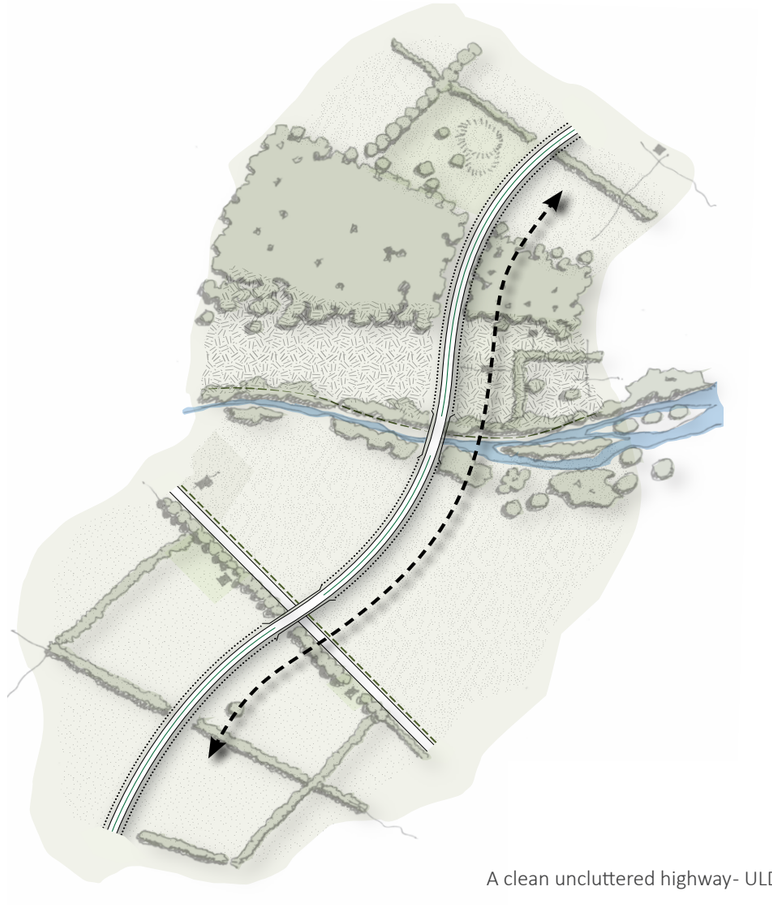
3.1 A CLEAN, UNCLUTTERED HIGHWAY

Section 4 of this document addresses the Highway Outcomes of the Project, where 'a clean, uncluttered highway' is the focal outcome. The related outcomes of the Project are to design the motorway to enhance the experience of travelling through the landscape with minimal highway furniture, while considering the 'Safe System' approach at the heart of the design.

The design contributes to the 'clean, uncluttered highway' outcome and the sub-outcomes that give effect to it. Through careful design of a 'family' of highway elements the outcomes provided are:

- Refined and minimalistic aesthetic
- Cohesive suites of highway elements
- Standardised spatial layout of highway elements
- Aesthetically clean highway margins
- Green margins, minimising herbicide maintenance
- Clean lines, minimalist detailing
- Minimal variety of materials and colours

The motorway, as it runs through the Project, has an understated aesthetic in that it has been designed to neither draw attention to itself, nor be an unattractive foreground. The design solutions are contextually appropriate and minimalistic.



A clean uncluttered highway- ULDF

Projected Visualisation demonstrating a 'refined and minimalistic aesthetic' near Perry Road, the motorway embankment can be seen behind the white shed

Indicative visualisation showing the vertical height of the alignment and embankments in the landscape, without landscape treatment

3.2 A STITCHED-TOGETHER LANDSCAPE

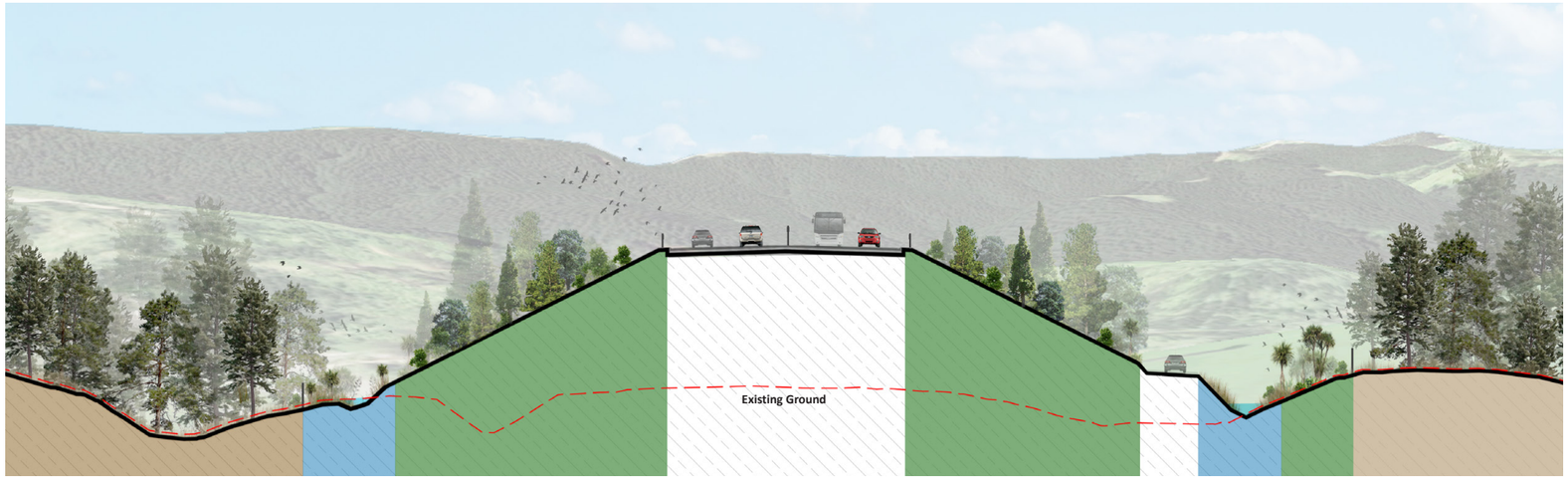
Section 5 of this document addresses the Landscape Outcomes of the Project, where the design delivers 'a stitched together landscape'. The Project provides a holistic design that lets the landscape speak [D26]. Specific design incorporated to meet this outcome:

- Minimisation of the footprint and reduction in the extent of earthworks, the number and size of hard structures, and the severity of cut slopes, especially in the foothills of the south and central sections of the Project. It creates a road curvature that helps drivers 'read' and appreciate the landscape, while optimising safety
- Strengthening ecological mitigation planting by connecting ecological nodes and corridors, integrating visual mitigation (screening) and ecological planting
- Inclusion of wetlands that combine stormwater management and landscape design. Wetlands, although engineered are designed with a naturalised form
- Maximising of areas of productive pastoral and forestry land to enable the handback of large tracts of land to be reverted to their previous land use
- Local road connectivity is continued specifically with the Te Tapuwae o Kahumatamomoe in this sector. Cultural design references included in section 3.3 and 6, emphasise the east to west linkage of current and past occupants of this area
- Longitudinal consistency with the Northern Gateway Toll Road
- Consistency of planting with historically represented species

Urban and landscape design on roading projects are concerned with 'fit' of the corridor within the wider landscape: how the Project addresses amenity, functionality, land use and ecological sustainability, connectivity and community at a range of scales and over generations. Robustness and low maintenance have been key to both structures and landscape design, and ongoing maintenance requirements integral to material selection, the planting palette, and the landscape management approach. The landscape outcomes of the ULDF and reflected in this ULDSP are:

- Stitching together streams and riparian margins either side of the highway
- Stitching together ecological corridors
- Restoring adjacent vegetation and land-use patterns
- Planting in a bold manner in scale with the landscape beyond the highway
- Connecting roads and footpaths
- Protecting distinctive natural features
- Recognising and highlighting human landmarks including indigenous cultural footprints

Indicative cross section demonstrating the fit of the motorway with landscaping (refer to page 11 for the location of the section)



Existing pine forest

Stream riparian planting- plant community

- Kōwhai
- Kahikatea
- Mānuka
- Harakeke
- Karamu
- Mapou

Landscape restoration planting- upper slope community

- Kauri
- Rimu
- Rewarewa
- Tanekaha
- Mānuka
- Coprosma robusta or Karamu helic
- Five finger
- Totara
- Mapou
- Kānuka

Motorway

Landscape restoration planting- upper slope community

- Kauri
- Rimu
- Rewarewa
- Tanekaha
- Mānuka
- Coprosma robusta or Karamu helic
- Five finger
- Mapou
- Kānuka

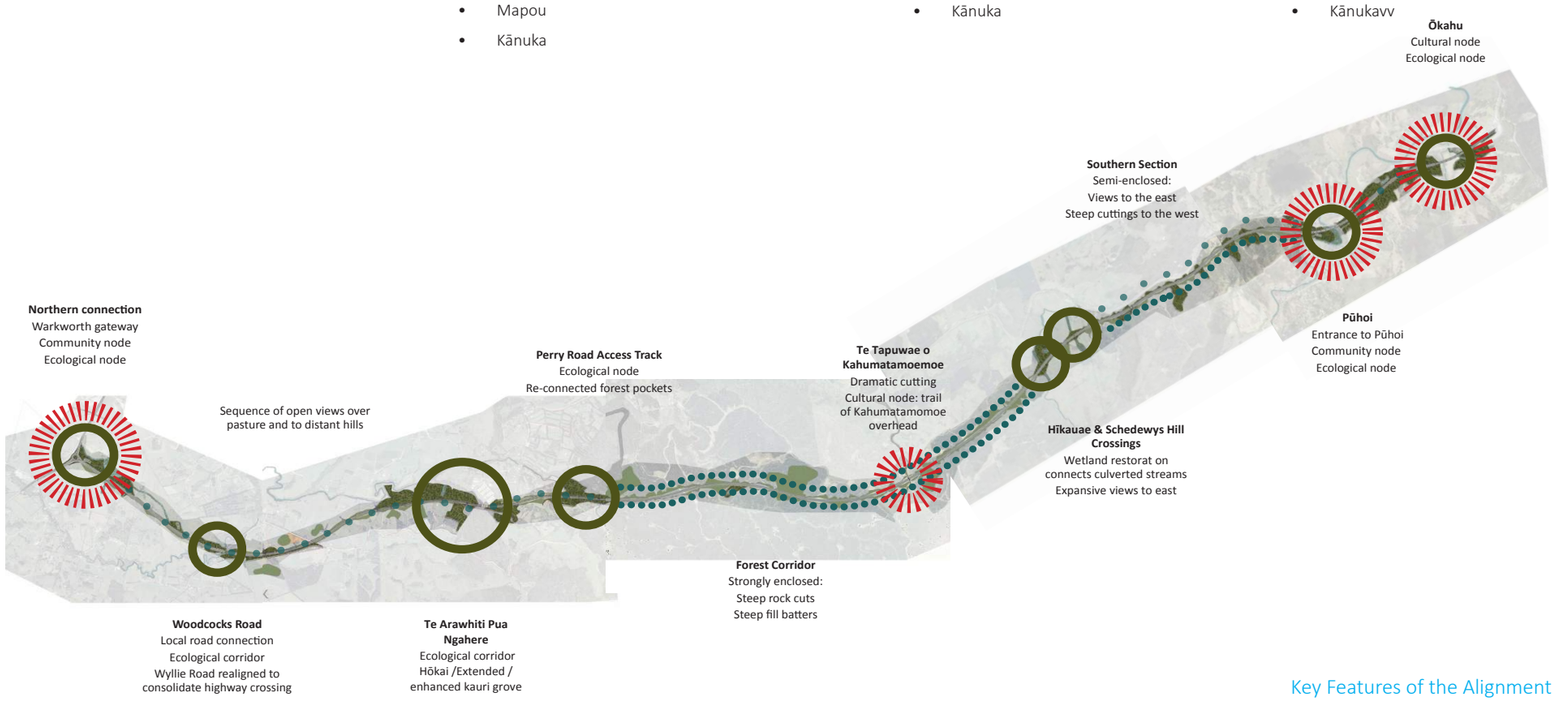
Stream riparian planting- plant community

- Kōwhai
- Kahikatea
- Mānuka
- Toetoe
- Pukio
- Harakeke

Landscape restoration planting- upper slope community

- Kauri
- Rimu
- Rewarewa
- Tanekaha
- Mānuka
- Coprosma robusta or Karamu helic
- Five Finger
- Mapou
- Kānukavv

Existing pine forest



Key Features of the Alignment

Existing stream plant community
Species include regenerating kahikatea, mānuka, kōwhai, oioi, toetoe, pukio, harakeke

Stream planting
Species include kahikatea, mānuka, kōwhai, toetoe and harakeke. Species have been selected to match the existing species.

Existing native vegetation plant community - Mānuka and Kānuka forest
Regenerating bush with some regenerating native canopy species

Ecological planting - mid slope and gully
Species have been selected to match those already present in this damp gully environment and include rewarewa, totara, taraire, pūriri, kānuka, karamu, mapou, matai, miro and kahikatea

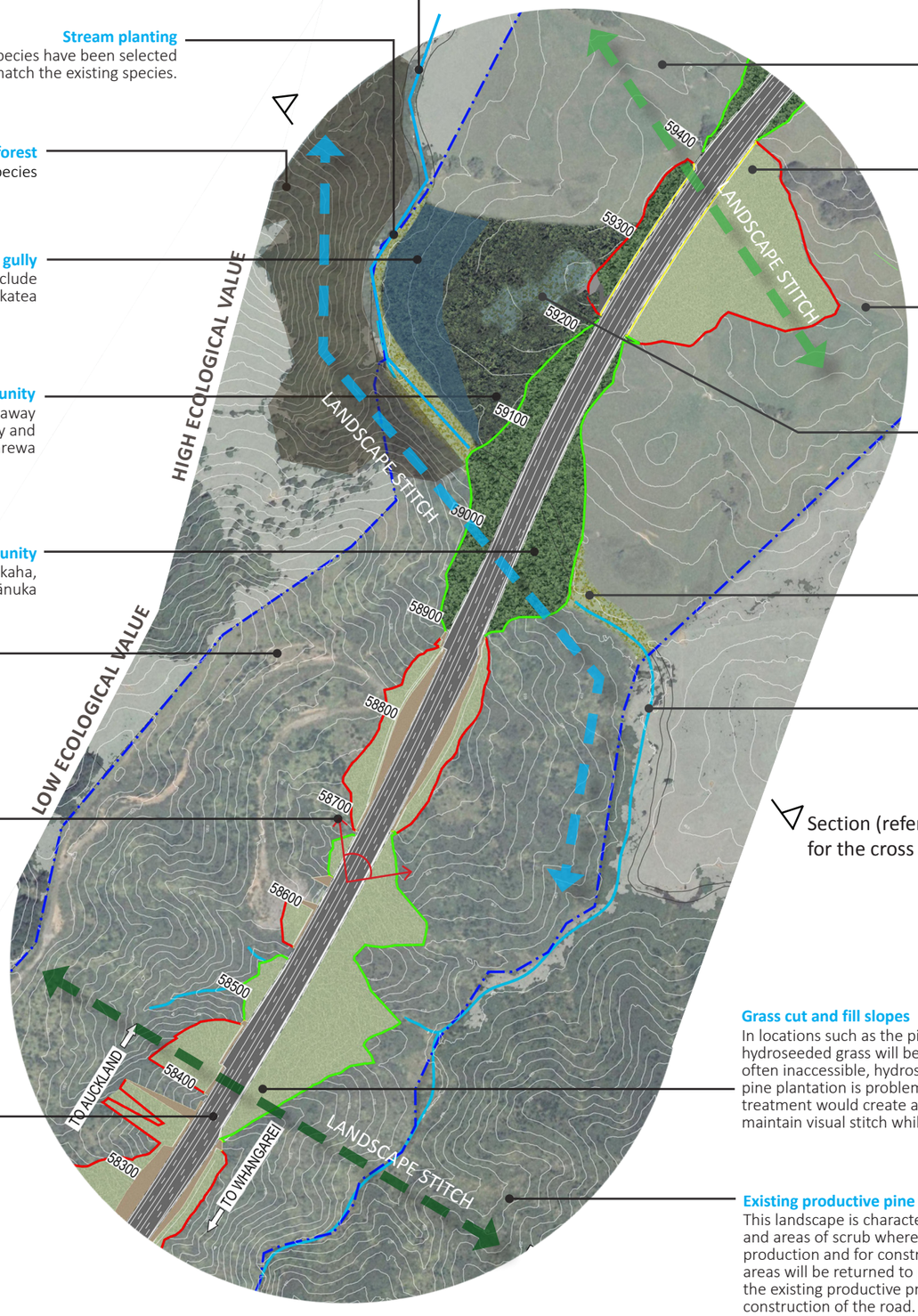
Ecological mitigation planting - Upper slope plant community
Species have been selected to match those found on ridges or drier environments away from stream environments and include rimu, kauri, totara, tanekaha, karamu, wineberry and rewarewa

Landscape restoration planting - Upper slope plant community
Species will match the existing adjacent vegetation including kauri, rewarewa, tanekaha, mānuka, karamu, five finger, mapou and kānuka

Existing productive pine forest and scrub areas
This landscape is characterised by areas of semi-mature pine forest and areas of scrub where pines have already been cleared for pulp production and for construction of the new road. Much of these areas will be returned to productive pine forest, stitching together the existing productive processes of the landscape following the construction of the road.

Open views of surrounding landscape from motorway
This helps road users to get an appreciation of the dramatic topography of the pine forest area and visually stitch the landscape together.

Latitudinal stitching
Where topography allows, landscape treatments and/or existing features are brought in close to the motorway to maintain latitudinal stitching.



Existing productive pasture

Engineered slopes back to productive pasture
Where appropriate slopes will be made shallow enough to be safe for grazing stock, sown with pasture foraging grass species and handed back to the property owner. This stitches the landscape together by preserving the rural land use present before the new road

Existing productive pasture
Where possible, engineered slopes can be grassed and returned to pasture (as gradients and slopes permit)

Stormwater wetland planting
Species match those found in existing wetlands in the area and include, but are not limited to kahikatea, mānuka, kōwhai, oioi, toetoe, pukio, harakeke and ti kouka. Species have been selected to match the existing species. Despite being engineered wetlands, these help strengthen the stitch across the new road and contribute to enhancement of the local ecology

Stream planting
Species include kahikatea, mānuka, kōwhai, toetoe and harakeke. Species have been selected to match the existing species

Existing stream plant community

Section (refer to page 10 for the cross section)

Grass cut and fill slopes
In locations such as the pine forest areas where ecological values have been assessed as low, hydroseeded grass will be used as the landscape treatment. In steeper, engineered sections that are often inaccessible, hydroseeding is an effective landscape treatment. Latitudinal stitching in areas of pine plantation is problematic; the optimum method would be reinstatement of pines as any other treatment would create a visual and physical buffer. Use of grass is a compromise which helps to maintain visual stitch whilst avoiding reinstatement of non native plants.

Existing productive pine forest and scrub areas
This landscape is characterised by areas of semi-mature pine forest and areas of scrub where pines have already been cleared for pulp production and for construction of the new road. Many of these areas will be returned to productive pine forest, stitching together the existing productive processes of the landscape following the construction of the road.

Example of a Stitched Together Landscape

Stream M16 , located in the Central Sector

3.3 CELEBRATION OF MANA WHENUA VALUES & CULTURAL FOOTPRINT

Section 6 of this document addresses the Cultural Outcomes of the Project, where the "Celebration of Mana Whenua Values and Cultural Footprint" is focused in the urban and landscape design [D26].

Hōkai Nuku is the authorised voice of the four Iwi and Hapū mana whenua of the Project area – Ngāti Manuhiri, Ngāti Mauku/Ngāti Kauae of Te Uri o Hau, Ngāti Rango of Kaipara and Ngāti Whātua, who provide specialist advice for the Project.

The following cultural values provide guidance as to how mana whenua view the world:

- Mauri (life force): The interconnectedness of all things means that the wellbeing of any part of the environment will directly impact on the wellbeing of people
- Kaitiakitanga (Guardianship rights and responsibilities): The obligation to protect and enhance the mauri and wellbeing of all natural resources for the benefit of ourselves, other people living in our homeland and for future generations
- Ki uta, ki tai (from source to the sea): The mauri of waterways is also viewed holistically and includes from the source of the waterway to the sea and reinforces the view that activities upstream also impact on the well-being of the river and land downstream.

The Hōkai Nuku Cultural Footprint Framework expresses mana whenua connections to their ancestors (Mana Tangata), highlights iconic identity markers that provide reference points in the environment (Mana Whenua), and notes specific associations through historical events and activities (Pūtake).

When considering opportunities to celebrate the Cultural Footprint and values in the landscape, Hōkai Nuku has developed Design Principles so that these outcomes are achieved.

Hōkai Nuku Design Principles from the ULDF:

Rangatiratanga:

Affirming the self-determination of iwi and hapū and the Treaty partnership between Hōkai Nuku and the Transport Agency, is honoured by active engagement throughout the project development.

Mana Tangata:

- Tūpuna are celebrated in the naming of structures
- The use of macrons and bilingual signage

Mana Whenua:

- Cultural reference points are acknowledged with pou whenua, pou paenga and other designs
- Enduring cultural artworks

Kaitiakitanga

- Guardianship rights and responsibilities are actualised with enhanced indigenous planting which supports the ecosystem and cultural practices.
- Protecting and enhancing waterways
- Utilising sustainable design and practices
- Ability to access appropriate planting for cultural harvest (subject to appropriate safety constraints)

Hōkai Nuku has collaborated with NX2 to recognise the Cultural Footprint Framework and implement the mana whenua values through the Hōkai Nuku design principles alongside the project wide design principles.

Projected Visualisation

Indicative visualisation showing the vertical height of the alignment and embankments in the landscape, without landscape treatment

3.4 SECTOR SPECIFIC OUTCOMES

The ULDF sets specific outcomes to be achieved in this sector. These contribute to the overarching outcomes of a ‘clean, uncluttered highway’, a ‘stitched together landscape’ and 'the celebration of Mana Whenua values and cultural footprint', while also acknowledging the localised environmental factors that make the sector unique.

The Moir Hill and Hīkauae Sector outcomes include:

- Maintenance of stream integrity, by addressing the configuration of earthworks, culvert and bridge design, the location of soil disposal areas, and rehabilitation of streams and riparian margins
- Use of low flammability species for rehabilitation adjacent to plantations, with particular reference to those species identified in literature to minimise the risk of the propagation of fire alongside the transport corridor
- Providing for future connectivity of local routes including Moir Hill Road and Moir Hill Walkway subject to agreement between the Transport Agency and DOC
- Engagement with the topography for motorway users, considering specific matters such as designing a sinuous motorway alignment that accentuates the form of Te Awa Hīkauae gorge; making sure of open northbound views to Schedewys Hill from the vicinity of Fernbrook Farms; providing for rocky cut batters through Moir Hill; and allowing for an integrated and distinctive design for Te Tapuwae o Kahumatamomoe, highlighting the watershed between the Pūhoi and Mahurangi catchments
- The sector outcomes that encourage accentuation of streams
- Engagement with local artists
- Appropriate naming of structures and landscape features
- Avoidance of high value bush opposite Mahurangi West Road
- Enhancement and extension of existing areas of bush adjacent to the motorway and their incorporation into the landscape concept
- Minimisation of tree removal along Moir Hill Road
- Mitigation of the motorway specifically on the property 815 SH1, Pūhoi

Hōkai Nuku have also identified the bridge which connects Moir Hill Road as an area to celebrate and express the cultural footprint of Hōkai Nuku. A representation of Te Tapuwae o Kahumatamomoe is sought in the design outcomes for the bridge. Hōkai Nuku have identified potential design and embellishment opportunities associated with the bridge and structural components. NX2 will continue to collaborate with Hōkai Nuku to develop a final design approach for Te Tapuwae o Kahumatamomoe.

In addition to the structural and urban design inputs, Hōkai Nuku have identified where there is potential for native plant species such as toetoe to be planted near each end of the bridge, in order to complement the overall design and artistic approach.

Finally, working with the Transport Agency, Hōkai Nuku will develop and provide an appropriate name to celebrate the tupuna associated with this story, in order to acknowledge and celebrate the importance of the area and passage of Kahumatamomoe.

The above sector specific outcomes are considered in the overarching design, and the various methods through motorway and landscape design to achieve these specific outcomes and are described in the sections following.