

Appendix C

AMETI Stage 2A Landscape Architecture and Visual Assessment

Report

AMETI Stage 2A Landscape and Visual Assessment

Prepared for Auckland Transport

Prepared by Beca Ltd (Beca)

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1 Introduction

1.1 Purpose

The purpose of this report is to assess both landscape and visual effects resulting from the Project as described below. It is one of a suite of technical assessments that contribute to the broader assessment of environmental effects that accompanies the Notice of Requirement (NoR) and resource consents for AMETI Stage 2a Project (the Project) of the AMETI project.

1.2 Methodology

This assessment of landscape and visual effects is based on the following process:

1.2.1 Research

An initial review of all landscape-related material prepared for previous phases and individual packages of the AMETI project were reviewed. The relevant reports included:

1. AMETI Project Overview Document (APOD), April 2008.
2. AMETI Package 01: Panmure Phase Scheme Assessment (SAR). July 2009
3. AMETI Package 01: Panmure Phase 2 (Draft) Preliminary Design Philosophy Statement (DPS). September 2011.
4. AMETI Package 01: Panmure Corridor Phase 2, Lagoon Drive to Panmure Bridge. Landscape, Open Space & Visual Effects Assessment. (LVA) Final Draft. Opus. May 2012.
5. AMETI Package 01: Phase 2 Final Design Report (FDR) Draft Issue 1. July 2012.
6. AMETI Package 04: Design Philosophy Statement (DPS). March 2012.
7. AMETI Package 04: Scheme Assessment. Landscape and Visual Assessment. Draft. GHD. December 2012.
8. AMETI Package 04 Statutory Assessment and Assessment of Environmental Effects. December 2012.
9. AMETI Package 04: Pakuranga Road, Ti Rakau Drive and Reeves Road Scheme Assessment Report (SAR) and Appendices. 2013.

The purpose of this review was to gain an initial understanding of the (physical) project context, including any specific areas of interest and/or sensitivity, and to establish an appreciation for how subsequent changes to the existing design (i.e. alignment, length and width and key structures) might affect the nature and degree of landscape and visual effects.

It was apparent from this review that the majority of 'typical' landscape and visual matters (e.g. effects on residential character and visual effects) have been adequately considered. The only notable omissions from

the assessments related to the consideration of natural character¹ and the expression of cultural associative (both Tāngata Whenua and European) aspects in and around the Panmure Bridge/ Mokoia Pa area.

In response to this, documents providing background to the existing landscape were researched covering both the natural and human history of the area. These documents included the Project Heritage and Archaeology², Cultural Values³ and Ecological Effects⁴ assessments. Documents are listed in the reference list attached as **Appendix 1**.

Relevant statutory provisions were also reviewed. The relevant policy documents are listed under Section 6 of this assessment with specific landscape and visual provisions summarised under **Appendix 2**. The purpose of this review is to provide a context for the landscape and visual assessment and to identify specific landscape issues that might assist in focusing the report further. It is not a definitive assessment of statutory planning provisions which is covered in the main Assessment of Environmental Effects (AEE).

1.2.2 Site Visits

An initial visit to the site and wider AMETI project areas was undertaken on 23 January 2014 alongside the wider project team. The purpose of this site visit was to provide an overview of the project area and to develop an appreciation of the likely extent of works, character of the local landscape and the overall breadth of the effects 'envelope' as it relates to landscape and visual matters.

A second site visit was carried out on 4th August 2014 in order to further understand the character and sensitivities of the site. Several key 'hot spots' were identified where landscape and/or visual effects were likely to be greatest or where a particular design/ enhancement opportunity might exist. In addition, the extent of the existing environment and a series of suitable sectors were identified and subsequently form the basis for this assessment (see 'Existing Environment' section below).

A final site visit was undertaken on 3rd March 2015 following the completion of the project design phase to confirm the extent of the effects envelope and to identify specific locations and associated user groups likely to be affected by the project. It was at this stage that the assessment of visual effects on these key user groups was undertaken.

1.2.3 Analysis of existing landscape

Landscape is an expression of those natural and cultural features, patterns and processes that exist in an area. It is about the physical components of a place and those human perceptions and associations with it – the way these physical, perceptual and associative components 'hang together' manifests as landscape character.

A description of the existing environment is provided under Section 3. Several sectors have been identified and form the basis for landscape characterisation and sensitivity analysis. These sectors have been identified and described using landform, land cover and land use as the basis with additional observations around perceptual aspects (primarily visual), key user groups and cultural associations provided.

¹ As addressed under Section 6(a) of the RMA and Policies 13 and 15 of the NZCPS.

² Opus International Consultants Ltd. April 2015. *Heritage Impact Assessment Archaeological Assessment AMETI Stage 2a*. Auckland Transport.

³ Tama Hovell, Atkins Holm Majurey Limited. July 2014. Cultural Values Assessment in relation to the Proposed AMETI Project Phase Two (Package 1). Auckland Transport.

⁴ Opus International Consultants Ltd. April 2015. *Assessment of Ecological Effects*. Auckland Manukau Eastern Transport Initiative Stage 2a Project. Auckland Transport.

In addition to those reports mentioned in Section 1.2.1 above several other specialist reports⁵ were also considered where they are relevant to landscape matters.

A summary character statement is provided for each of the sectors, as well as the consideration of natural character (in the case of the Tamaki River and its margins) and the overall sensitivity of the sector (or specific area or feature) and its status under Section 6(a) and (b) of the Resource Management Act (1991) (RMA) and Policies 13 and 15 of the New Zealand Coastal Policy Statement (2010) (NZCPS).

1.2.4 Integrated design process

There has been a high degree of interface with the Lagoon Drive/ Mokoia Pa and Pakuranga Road design teams during the assessment phase of the project. This consisted of several integrated workshops with representation from all disciplines with the purpose being to ensure that key issues were being identified and that technical experts from the NoR team were able to highlight areas where specific design resolution needed to focus to avoid potential effects/ risk.

As a result of these workshops and identification of key design issues, a number of smaller more focussed design sessions were undertaken. The purpose of these sessions was to provide an opportunity for the respective design teams to discuss specific design responses with technical experts, and for those experts to provide some additional oversight, to ensure that specific effects were being avoided where possible. Where effects could not be avoided then further remedial or mitigation measures were developed.

Landscape input to the process described above included:

1. Input into the development and refinement of the Panmure Bridge design
2. Input into the development and refinement of project wide design continuity (i.e. consistent design language) whilst providing for context specific design
3. Input into the identification, design and treatment of key nodes and opportunities for design along the route. These include open spaces; key 'pause points' along the Panmure Bridge; bridge abutments, crossing points and medians.
4. Input into stormwater, lighting and noise barrier design, including the integration of street trees and other vegetation.
5. Input into the project Urban Design and Landscape Framework⁶.

The resulting landscape and visual design and mitigation measures that resulted from this integrated process are described under Section

1.2.5 Assessment of Effects

Effects have been categorised in two ways: landscape and visual.

⁵ Stormwater, Noise and Urban Design

⁶ AMETI Stage 2a Urban and Landscape Design Framework, April 2015

Landscape Effects:

Landscape effects are essentially those effects that the project has on the physical, perceptual and associative aspects that comprise landscape character. These effects have been considered separately, with a summary statement regarding effects on landscape character (including natural character) provided. Effects on amenity values⁷ are inherent within this context.

An assessment of effects on landscape character requires the consideration of the Project in the context of the descriptive and analytical material described under Section 1.2.3. Given the nature of the Project and its physical context the following were key considerations in assessing effects on landscape character:

- **Physical effects** – being those effects on key landforms, watercourses (i.e. coastal edge) and vegetation resulting from earthworks. It includes effects on existing urban/ residential development due to the widening of the carriageway (e.g. removal of houses and boundary treatment).
- **Perceptual effects** – being those effects on people’s perceptions of landscape including visual and aesthetic qualities like visual coherence and legibility (e.g. effects on key landmarks/ features), sense of place. Consideration of experiential qualities like noises, smells, exposure to elements and interface with water are also included.

The consideration of perceptual effects is essentially about how the project ‘fits’ into the existing landscape and how this ‘fit’ influences the feelings and behaviour of key user groups (i.e. how and whether they enjoy living and moving through the landscape.)

- **Associative effects** – being those effects on people’s historical connections with a place including current residents and any aspects that are significant to mana whenua and early European settlement (i.e. in and around the Panmure Bridge area). In this case reference (where relevant) has been made to specialist reports including the Heritage and Archaeology Assessment and the Cultural/ Māori Values Assessments.

Visual Effects:

Visual effects are a subset of landscape (perceptual) effects that require the consideration of project visibility and assessing the effects for specific ‘viewing audiences’. Given the nature and context of the Project an assessment of visual effects on local residential properties has been undertaken in addition to a general assessment of various ‘road’ users.

Factors that (generally) contribute to visual effects include:

- The nature and sensitivity of the viewing location (e.g. static or moving; orientation of view; public or private location);
- The nature and sensitivity of the viewing audience (e.g. home owners, local road users, tourists etc);
- Overall bulk and scale of the Proposal;
- Distance of the proposal from key view points;

⁷ Those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes.

- The complexity of the view and extent of intervening elements (e.g. topography, structure and vegetation);
- The nature of the existing view (e.g. heavily modified vs 'natural'; fixed or moving structures); and
- Transient values such as seasonal variation and weather patterns.

A five point scale has been used in assessing the nature and degree of landscape and visual effects of the proposal. This scale includes: very low; low; moderate; high and very high and for the purposes of this assessment⁸:

- Effects that are **very low and low** are considered acceptable on their own and cumulatively and do not require additional mitigation;
- Effects that are **moderate** are discernible, without being significant on their own. There is the potential for cumulative effects to be more significant but they can generally be mitigated to an appropriate level;
- Effects that are **high** are significant on their own and are likely to increase in a cumulative sense. In general, a high degree of effect is likely to represent an inappropriate development⁹; however, there is potential for additional mitigation to reduce effects to a lower degree; and
- Effects that are **very high** are also significant and additional mitigation is unlikely to reduce the degree of effect to any discernible degree.

⁸ As opposed to a broader assessment of environmental effects that considers the full range of positive and adverse effects in considering the overall appropriateness of a proposal.

⁹ In a landscape and visual sense alone and not taking into account the 'balance' required under the broader RMA decision making process.

2 Design and Mitigation Measures

The integrated design process that has been undertaken in parallel with the assessment was outlined previously under Section 1.2.4.

The design measures listed below include those 'positive' initiatives that were incorporated into the design packages to ensure overall positive aesthetic and experiential outcomes. These proactive measures were adopted as a matter of 'good practice' as opposed to (pure) mitigation measures that are in response to an impact (i.e. significant excavation of large noise barriers) and associated effect (e.g. visual and experiential) that cannot be avoided or 'designed out' during the development phase.

2.1 Design Measures

2.1.1 Lagoon Drive and Panmure Bridge

- Pocket parks throughout the road corridor create visual amenity for road users as well as pause points for cyclists and pedestrians. There are seven within the Lagoon Drive and Panmure Bridge Section of the project as follows:
 - Approximately 450 m² of open space located beside Potaka Lane where it meets Jellicoe Road and containing mounded grass, specimen trees and a footpath connection from Ellerslie-Panmure Highway to Potaka Lane;
 - Terraced open space measuring approximately 230m² between Queens Road and Lagoon Drive containing grass and specimen trees;
 - Open space measuring approximately 220m² located on the corner of Basin View Lane and Lagoon Drive and containing grass and specimen trees;
 - Open space measuring approximately 170m² located on the corner of Domain Road and Lagoon Drive containing grass and specimen trees;
 - Terraced open space measuring approximately 270m² located on the corner of Church Crescent and Lagoon Drive containing grass, specimen trees and a pedestrian connection between Church Road and Lagoon Drive;
 - Terraced open space measuring approximately 1800m² at the end of Bridge Street (Mokoia Pā) containing amenity planting, a pedestrian connection from Bridge Street to Lagoon Drive, retention of historic defensive ditch, grass and specimen trees;
- Approximately 2600m² of planting and 83 trees in the median islands, pocket parks and road verges within the extent of works between Ellerslie-Panmure Highway and Panmure Bridge;
- Four pedestrian viewing platforms integrated into the Panmure Bridge structure.

2.1.2 Pakuranga Road

- Pocket parks throughout the road corridor create visual amenity for road users as well as pause points for cyclists and pedestrians. There are five within the Pakuranga Road Section of the project as follows:
 - An 850m² park located adjacent to the southern bridge abutment. The park features a grass picnic area, seating, and a pedestrian connection to Pakuranga Road pedestrian and cycle ways as well as connection to the existing rotary walk;
 - Open space measuring 2100m² is located at the intersection between Kerswill Place and Pakuranga Road. The pocket park consists of grass with a structured arrangement of specimen trees and provides a sense of transition between the motorway environment and the existing residential environment;
 - The design features approximately 1300m² of coastal margin and re-vegetation planting as well as two viewing platforms located adjacent to the Tamaki River Flats.
 - A 200m long x 20m wide linear park is located on the northern side of Pakuranga Road between Williams's Ave and Millen Road. This area of open space features native amenity planting, specimen trees, grass, and allows for the pedestrian connection to weave away from the main highway in a less formal arrangement.
 - Open space measuring approximately 270m² located at the end of Latham Avenue featuring grassed open space and a specimen tree.
 - Approximately 13,000m² of planting and 212 trees in the median islands, pocket parks, swales and road verges within the extent of works between Panmure Bridge and Ti Rakau Drive. This includes 2500m² of revegetation planting at the western end of Pakuranga Road adjacent to the Tamaki River providing a green gateway and strong entry experience to Pakuranga residential area.

2.2 Mitigation Measures

In addition to the design measures above the following mitigation measures are proposed:

- The face of the 130m long soil nail wall located west of the intersection of Church Crescent with Lagoon Drive incorporates soil filled planter bags which will allow *Muehlenbeckia complexa* to grow and hide the structure over time; and
- All noise walls are to have a minimum of 1.5m wide planting areas in front of them which will provide screening in time.

3 Project Description

AMETI is a package of improvements focused on promoting an integrated, multi-modal transport system to support population and economic growth in south-east Auckland. This involves the provision of a greater number of improved transport choices and aims to enhance the safety, quality and attractiveness of public transport and walking and cycling environments, while recognising that not all transport demand can be met by these modes alone.

The overall AMETI project involves the construction of a dedicated busway between Panmure, Pakuranga and Botany town centres, the construction of new stations at Panmure and Pakuranga, as well as roading improvements at traffic bottlenecks across the extent of the overall AMETI project area; which encompasses Panmure, Mt Wellington, Sylvia Park, Pakuranga and Botany.

3.1 Project Area

As noted above, this report relates specifically to Stage 2a . The Project Area comprises Panmure Roundabout in the north, Lagoon Drive and Panmure Bridge, and Pakuranga Road to Ti Rakau Drive in the south. Figure 1 below shows the Project Area.



Figure 1 Extent of Project Area. (Auckland Council GIS Viewer, 2015).

3.2 Proposed Design

AT proposes to reconfigure the Panmure roundabout to a signalised intersection, and provide a new 2.4 km long dedicated busway from this intersection along Lagoon Drive, across the Tamaki River and along Pakuranga Road to the intersection with Ti Rakau Drive. The project will also provide for shared or separated cycle and footpaths, medians and stormwater treatment devices. The works will require widening of Lagoon Drive and Pakuranga Road (on the northern/eastern side) and a duplication of the Panmure Bridge. In addition, as part of the project, a number of changes are proposed to existing intersections and property access arrangements.

Key elements of the proposed design include:

- Replacement of the existing Panmure Roundabout with a new 4-legged signalised intersection, to enhance safety and improve connections to the Panmure Station and Panmure town centre;
- A 6m wide segregated busway, with one 3.2m wide lane in each direction, located along Lagoon Drive between the existing Panmure Roundabout and the Panmure Bridge;
- A 7m wide segregated busway, with one 3m wide lane in each direction, located on the Panmure Bridge and along Pakuranga Road between the Tamaki River and Ti Rakau Drive;
- A 4.3m wide shared path alongside Lagoon Drive, and a separate cycle path (3.0m) and footpath 2m footpath alongside Pakuranga Road;
- A new Panmure Bridge, on a parallel alignment with the existing bridge, comprising two 3.5m wide dedicated bus lanes and a 4.3m wide shared path on the northern side. The proposed bridge will be approximately 1.7m higher than the existing Panmure Bridge, to minimise excavation on Mokoia Pa site at the northern abutment;
- One new bus stop on Pakuranga Road;
- Landscaping is proposed throughout the project length to provide a higher degree of public amenity. Particular design treatment is proposed in the following locations:
 - Terraced pocket parks at the corner of Lagoon Drive and Queens Road, and at the corner of Lagoon Drive and Church Crescent;
 - A linear park alongside Pakuranga Road between the Millen Ave and Williams Ave intersections;
 - Grassed parkland area alongside Pakuranga Road between the Williams Ave and Ti Rakau intersections;

In addition to the above features, a number of changes are proposed to existing road layouts, intersections and property access arrangements, to provide for the proposed design including:

- Lagoon Drive (which currently provides for two traffic lanes in each direction) will be reconfigured to provide for a single traffic lane in each direction;
- The intersection of Domain Road and Basin View Lane will be re-aligned slightly to the north;
- The existing intersections on Pakuranga Road at Kerswill Place and Williams Ave will become signalised intersections;
- Latham Avenue is proposed to be converted into a cul-de-sac at Pakuranga Road. Access to Pakuranga Road will be via Millen Ave and a new connection created between Latham Avenue and Dillimore Avenue; and
- Tamaki Bay Drive is also proposed to be converted into a cul-de-sac at Pakuranga Road. Access to Pakuranga Road will be via the new signalised intersection at Williams Avenue.

Property access across the new busway will be prevented for safety and efficiency. As a result new access ways for a number of properties are proposed.

4 Existing Environment

The AMETI Stage 2a corridor traverses a series of suburbs within south east Auckland's Isthmus connecting the town centres of Panmure and Pakuranga (**Appendix 3, Annexure 1**). The corridor also sits adjacent to three significant landscape features:

- Maungarei / Mt Wellington;
- Panmure Basin; and
- Tamaki River.

At the western end of the corridor, Maungarei / Mt Wellington rises well above a surrounding mix of residential, light industrial and commercial development. It is the largest of Auckland's volcanic cones and a key landmark within the Mt Wellington / Panmure area being clearly etched on the local skyline and easily differentiated from the urban apron around it. This situation is reinforced by the cone's prominence from a number of locations along the AMETI Stage 2a corridor, in particular from the Panmure Roundabout, Panmure Bridge and Pakuranga Town Centre approximately 3.3km away.

Immediately south of Maungarei / Mt Wellington lies Panmure Basin, a highly cohesive¹⁰ and distinctive landform feature that is characterised by a circular volcanic explosion crater and associated tuff ring¹¹ (about 1500m diameter) and a flooded intertidal basin¹². The basin is surrounded by mainly residential properties and its eastern edge is demarcated by Lagoon Drive. Despite this surrounding modification the natural form of the basin remains intact as a distinctive feature, the legibility¹³ of which is enhanced by natural tidal movements of the Tamaki River flowing into the Basin.

The Tamaki River extends between Bucklands Beach in the north to Otahuhu in the south and is characterised by a distinct intertidal harbour environment dominated by a central open water channel, expansive coastal and estuarine flats, and mangrove colonies. In the vicinity of the AMETI Stage 2a road corridor, the river fringe is characterised by low lying sedimentary cliffs rising between 5 – 10m above sea level and terminating in gently shelving, sandstone / mudstone reefs and outcrops.

Residential, industrial, and commercial development extends down to the river's edge in many places with small segments of the river fringe covered in vegetation. The AMETI Stage 2a road corridor crosses the Tamaki River between Lagoon Drive and Pakuranga Road (Panmure Bridge). In addition, the Pakuranga Highway also crosses the Tamaki River to the south of the Panmure Bridge connecting Sylvia Park and Pakuranga Town Centres.

The topography around Panmure and Pakuranga is relatively flat and low lying although there are areas around the Panmure Basin that are more undulating in nature. The built environment surrounding the corridor is dominated by traditional 1960s and 1970s low rise suburban development with additional pockets of extensive infill. Clusters of high density terraced housing sit adjacent to Panmure Town Centre.

¹⁰ the degree to which landscape elements interact to create an attractive composition and patterns (2 dimensions) and sense of structure or 'legibility' (3 dimensions) that, in turn, enhance the perception of depth and attractive order of a landscape or locality.

¹¹ a raised rim made of tuff occurring around an explosion crater.

¹² the crater was naturally breached by postglacial sea level rise to form a tidal lagoon.

¹³ how obviously the landscape demonstrates its formative processes (expressiveness).

Finally, there are several small open space areas adjacent to the corridor including the coastal edge of Lagoon Drive/ Panmure Basin; grassed areas on either side of Kerswill Place/ Pakuranga Road intersection; and on the southwestern corner of the Pakuranga Road/ Ti Rakau Drive intersection. The Panmure Recreational Walkway and the Pakuranga Rotary Walkway also provide for key linkages in the local landscape.

4.1 AMETI Corridor Sectors

The AMETI corridor has been divided into three sectors for the purposes of this assessment and as illustrated in **Figure 2** below. The extent of each sector is based on landform, land cover, land use, ecological and urban processes and patterns which combine to form the character of each sector. Site photographs and their locations within each sector are provided in Appendix 3, **Annexures 2, 3 & 4**. The sectors include:

- **Sector 1:** Lagoon Drive (Panmure Town Centre);
- **Sector 2:** Lagoon Drive (Panmure Basin);
- **Sector 3:** Pakuranga Road (Pakuranga Suburb);



Figure 2: Corridor sectors map

The following descriptions summarise the key landscape attributes and overall character of Sectors 1 – 3.

4.1.1 Sector 1: Lagoon Drive (Panmure Town Centre)

This sector of Lagoon Drive includes the Panmure Town Centre between the Panmure Roundabout and the intersection of Lagoon Drive and Domain Road. Appendix 3, **Annexure 2** provides photos of the existing environment.

The key attributes of this segment include:

- Views of Maungarei / Mt Wellington from the western end of Lagoon Drive;
- Small scale commercial premises, terraced housing, and a series of open carparking areas flanked by the brick façade of the Panmure Town Centre retail strip to the north;
- Rising terrain from Panmure Basin up to Queens Road.

Car parking and car sales yards dominate the area immediately adjacent to the Panmure roundabout and on both sides of Lagoon Drive leading up to it. A large retaining wall demarcates the very western end of Lagoon Drive on its northern side just below the primary retail strip of Panmure Town Centre.

In contrast to the uniform strip of retail frontages along Queens Road, the northern side of Lagoon Drive is characterised by a mix of service lanes, car parking, retaining walls, and unused spaces that intersect and break up the sequence of commercial premises down that side of the road corridor.

The YMCA Aquatic Centre and a mixture of 1960's and 1970's housing types are located on the southern side of Lagoon Drive with access via a slip lane off Lagoon Drive. The remaining three lanes of the road corridor are above the slip lane and retained by a high concrete wall topped with steel railing. This pocket of residential housing and the Aquatic Centre screen views of Panmure Basin when travelling east along this sector.

This sector is relatively devoid of any substantial trees or grassed open space aside from pockets of vegetation within the residential area on the southern side of the road and surrounding the YMCA Aquatic Centre.

When approaching the Panmure roundabout from Lagoon Drive, the imposing volcanic landform of Maungarei / Mt Wellington dramatically comes into view. This major intersection acts as a gateway to the Panmure Town Centre and is significantly aided by the low height of buildings immediately north of the intersection, which provide relatively uninterrupted views of the cone. The clearly articulated volcanic cone is etched on the local skyline and creates a sense of arrival to the Mt Wellington / Panmure area.

Overall, the character of this sector is defined by the existing road network, associated built structures and retaining including the commercial activities, extensive car parking, the rear walling of Queens Road retail strip and prominent terraced housing on the northern side of Lagoon Drive.

Although the natural (land) form of the Panmure volcanic basin is still evident and Maungarei / Mt Wellington remains a dominant element in northern views, natural character is low. Further to this and given the already high level of modification and dominance of the road corridor and adjacent development on the user experience, the sector has a low level of sensitivity to development.

4.1.2 Sector 2: Lagoon Drive (Panmure Basin)

This sector includes the fringe of Panmure Basin between the intersection of Lagoon Drive and Domain Road through to the end of the Panmure Bridge. **Appendix 3, Annexure 3** provides photos of the existing environment.

The key attributes of this sector include:

- Panmure Basin;
- Native vegetation, predominately pohutukawa, along the Basin's embankment;
- Moderate to steeply rising terrain from the edge of Lagoon Drive;
- Pedestrian walkway and bridge that connects with a wider path network around the perimeter of Panmure Basin;
- Panmure Bridge and its interface with the Tamaki River.

Lagoon Drive traverses the inner tuff ring slopes of Panmure Basin and sits around 4m above sea level at its western end rising to 12m at its eastern end near the intersection with Church Street. The interface between Panmure Basin and Lagoon Drive is characterised by a 2m high basalt wall which retains an elevated pedestrian walkway that runs parallel to the road corridor.

A narrow steep grassed embankment lined with mature pohutukawa trees separates Lagoon Drive from the walkway, as well as filtering and softening views of the four lane carriageway from western and southern parts of the Basin. While the line of pohutukawa provides glimpses of Panmure Basin from Lagoon Drive they also direct views toward Maungarei / Mt Wellington when travelling west.

To the north, the road corridor is flanked by a steep embankment topped by residential housing. An eclectic mix of native and exotic vegetation covers the embankment's steeper sections while some parts are near vertical and expose the distinctive layering of sedimentary rock.

The breached tidal entrance connecting Panmure Basin and Tamaki River at the eastern end of the sector provides a degree of respite from the experience of the busy Lagoon Drive. Its steep embankment rises some 10m from sea level and is characterised by mature indigenous vegetation including pohutukawa, totara, and puriri. It also includes a variety of introduced tree and shrub species¹⁴. Layers of exposed sedimentary rock merge with estuarine mudflats at the base of the embankment and accentuate the natural movement of water and sediment in and out of the Basin. A distinctive pedestrian bridge with an arched profile crosses the tidal entrance, connecting the pedestrian walkway around the perimeter of Panmure Basin.

The western end of the sector leads into an area of open space including a skateboard park that is flanked by two aquatic facilities either side of the road corridor. The open space is framed by a line of mature pohutukawa trees that provide a degree of softening and transition to the southern end of Panmure Town Centre.

Approaching this sector from the east, the Panmure Bridge is solidly framed by the western bank of the Tamaki River, with its established vegetation and steep embankment, together with the rising profile of Maungarei / Mt Wellington in behind. The elevated point at the confluence of Tamaki River and the tidal channel to Panmure Basin was historically the site of Mokoia Pa, though this is not visually apparent on the ground due its modification by residential housing and the western abutment of the Panmure Bridge. The extent of the surrounding residential development is most apparent when viewed from the eastern end of the

¹⁴ Page 8. Opus International Consultants Ltd. April 2015. *Assessment of Ecological Effects*. Auckland Manukau Eastern Transport Initiative Stage 2a Project. Auckland Transport.

bridge and adjoining river edge. In this context houses are highly visible to the north and south (opposite side of the breach to the bridge) of the western bridge abutment.

There are extensive views to the north along the length of the Tamaki River toward Half Moon Bay when travelling across the Panmure Bridge. Distant views to the south are obscured by the elevated Pakuranga Highway Bridge. Although the inner tidal margins, mangroves and the coastal regrowth along its embankment are also associated with this part of the Tamaki River, a line of moored boats, the jetty and berths of the Panmure Bridge Marina and its clubhouse add a strong 'recreational' dimension to the current river environs.

The presence of the existing road corridor and Panmure Bridge, in combination with surrounding residential development; retaining structures; boat shed/ club house building; boats and associated moorings/ jetties means this sector is a clearly modified one. In spite of these characteristics, the relative intactness of the Panmure Basin landform, together with the pohutukawa lining the roadway and vegetation covering the entrance to Tamaki River imbue this sector with an overall moderate degree of natural character, which sets it apart from the other sectors. With this in mind the intactness of the coastal embankments on the Basin side of Lagoon Drive, including the extent of coastal vegetation are both considered particularly sensitive to further modification.

It is noted that the Panmure Basin is identified as an Outstanding Natural Feature (ONF) in the Proposed Auckland Unitary Plan (PAUP). The overlay boundary also partially encompasses the legible edge of the crater rim along the southern edge of Lagoon Drive and extends to the mouth of the tidal breach (excluding Panmure Bridge). The landscape perceptual values of this feature relate to its very large (1.5km diameter) explosion crater, circular crater rim, and flooded intertidal basin which remain relatively distinctive despite surrounding urban development. The crater itself is highly expressive of formative volcanic processes and its legibility is enhanced by intertidal waters and flats. In addition, aesthetic values are associated with the basins recreational use and open space that contrasts with the surrounding urban form.

A separate portion of ONF is shown on the north-east slopes above Lagoon Drive within the cadastral boundary of Sunset Reserve. The criteria used to evaluate ONF's in the PAUP appear to have been predominately based on intrinsic geological significance but which also included wider values such as community associations, aesthetic values and the importance of the area to Tangata Whenua. I note that all the 270 ONF's identified in the PAUP were first provisionally scheduled (Schedule 6) by Auckland Council as part of the development of Map Series 2c of the Draft Auckland Regional Policy Statement (2009 / 2010) and provisionally identified as outstanding geological heritage features using the same list of 11 selection criteria. When using this criteria it is unclear how one would make the distinction between sites of geological value that did not have a clear or distinct landform representation and those that do within the context of s.6(b) of the Resource Management Act 1991 (RMA). Current best practice evaluation of ONF's emphasises the need to look at the subject landscape or feature in a much wider context and determine whether it is also "... conspicuous, eminent ...remarkable..." (WESI p.48) in determining whether or not it merits ONL or ONF status. This is particularly relevant in distinguishing between a geological site that may have been identified for a very particular geological expression or geological material as opposed to larger landform expressions of formative geological processes that have resulted in features that are more obvious to a wider audience than those with specific geological knowledge.

In relation to the Sunset Reserve portion of the Panmure Basin ONF, it is considered that this discreet area would most likely meet several criteria currently in the PAUP due to its geological associations with the Panmure Basin. However, this portion of land is both visually and physically severed from Panmure Basin by Lagoon Drive. While Sunset Reserve forms a small part of the elevated tuff ring at the eastern edge of the Basin, it does not form the legible edge of the Panmure Basin which is considered to follow the top of the embankment along the edge of the crater below Lagoon Drive. In terms of best practice delineation of ONF's, weight should be applied to clearly defined geomorphological 'lines', visual catchment limits, and

character differentiation (land use, cover, and form) than on less well-defined characteristics of geological features. Furthermore, the delineation of Sunset Reserve and the entire Panmure Basin ONF appears to be 'snapped' to follow cadastral boundaries which clearly do not follow geomorphological 'lines' that contribute to landform and bear no relationship to best practice delineation of landscape values.

4.1.3 Sector 3: Pakuranga Road

This sector includes the section of Pakuranga Road between Tamaki River and its intersection with Ti Rakau Drive adjacent Pakuranga Town Centre. Appendix 3, **Annexure 4** provides photos of the existing environment. The key attributes of this sector include:

- Generally flat terrain that is elevated approximately 5 – 10m above the Tamaki River;
- A five lane road corridor - merging into four lanes between Millen Ave and Panmure Bridge then into three lanes across the Bridge;
- Traditional low rise suburban development, dominated by housing from the 1960s and 1970s throughout its length;
- Two small open spaces areas including Kerswill Corner Reserve directly abutting a large swathe of mangroves at the intersection of Pakuranga Road and Kerswill Place, and Ti Rakau Corner Reserve at the intersection of Pakuranga Road and Ti Rakau Drive.

Moving east, beyond the immediate environs of the Tamaki River, views are relatively confined to the road corridor due to the flat terrain and enclosure by established vegetation both within the road reserve and residential properties.

The road corridor through this sector is both visually and physically dominant. The road gradually widens from three lanes along Panmure Bridge to five lanes as it moves closer to Pakuranga Town Centre. A wide concrete median containing street lights runs along much of the road corridor between its intersection with Ti Rakau Drive and Millen Avenue. There are two slip lanes along the southern edge of the road corridor demarcated by concrete retaining walls and metal railing which provide access to residents between 37 – 51 and 75 – 105 Pakuranga Road.

The general character of housing along this sector is relatively consistent, containing 1960's single storey detached dwellings interspersed with several two storey houses and brick and tile units (sausage flats). A mixture of mature exotic and native vegetation frame views along the road corridor and give the sector a well-established character.

The pervasive nature of constant traffic movement up and down this heavily used corridor dominates the experiential aspects of the sector. The physical width and perceived expanse of the road corridor is heightened by the lack of vegetation within the corridor and due to the existing narrow footpaths being 'pushed' to the edge of the corridor and having to provide for both pedestrian and (off line) cycle movement.

The combination of pedestrian movement and vegetation being on the outer edges of the road corridor mean that views are generally confined to the road corridor itself. However, there are distant views to Maungarei / Mt Wellington when travelling west from the intersection of Pakuranga Road and Kerswill Place through to Panmure Bridge – this provides some connection with the wider landscape and overall sense of place.

Overall, the character of this sector is a highly modified one being dominated by the expanse and experiential dominance of the road corridor. Despite more remote views toward Maungarei / Mt Wellington

and the established vegetation that line the fringes of the road itself this sector is not considered sensitive to further development and exhibits very little in the way of natural character.

4.1.4 Cultural associations

This assessment relies on information provided in the Heritage and Archaeology and Cultural Values Assessments to provide insight to the cultural associations manifest in the local landscape.

In terms of mana whenua values both assessments draw on similar reference material and therefore provide very similar accounts and acknowledgement of Ngāti Pāoa as holders of mana whenua for the entire project area.

The draft *Cultural Values Assessment* (CVA) provides a thorough account of the connection that Ngāti Pāoa with the wider AMETI project area and the area in and around the Tamaki River/ Panmure basin in particular.

It is clear from reading the CVA that Mokoia (and Mauinaina) Pā is of particular significance to Ngāti Pāoa, reflected in the following excerpts from the draft CVA:

“Mokoia was the epicentre of Ngāti Pāoa political, cultural, spiritual and economic identity and power. It displayed and represented the mana of Ngāti Pāoa in this area and symbolised a healthy tribe, strong in tradition, custom, resources and identity. The Ngāti Pāoa MVA records the associations of hapū with Mauinaina and Mokoia Pā as follows:

“Mokoia and Mauinaina were the strongholds of the Ngāti Hura, Te Rapupo, Ngāti Kapu, and Te Uri Karaka sub tribes of Ngāti Pāoa...

Mokoia Pā is a principle kainga of Ngāti Hura and our turangawaewae – it features as a central focal point in our history and our future. It served as our home, a gathering place for our people to practice our traditional, customary way of life. It was our cultural centre, a thriving hub of community and social stability, development, education, industry, trade, communications promoting political and social stability, sustainability, wealth, and well-being. It also served in a military aspect as a strategic citadel and sentinel pā, a place of comfort, safety, refuge and defence in times of adversity. All local resources, land, water and people based were cultivated and nurtured to further this enterprise in accordance with tikanga.” (Section 8).

The draft CVA highlights the underlying significance of Mokoia Pā to Ngāti Pāoa in the context of its rich and eventful history. This significance is best reflected by the following excerpts:

“Mauinaina / Mokoia Pā was the central pā for Ngāti Pāoa hapū and remains significant to Ngāti Pāoa to this day. The pā itself is synonymous with Ngāti Pāoa mana in Te Tauoma and Tamaki Makaurau. (Para 104).

The relationship with Mokoia site is an ancestral one that extends back to the founding waka and ancestors that originally journeyed from Hawaiiiki and were the founding ancestors for Mana Whenua iwi and hapū of today (Para 105).

For Ngāti Pāoa, Mauinaina and Mokoia Pā are wāhi tapu and wāhi parekura (site of many deaths). The large number of deaths and blood spilt there, the mana of those rangatira who died there, and the accounts of bravery, and the resulting displacement are such that this area is tapu in the most extreme.” (Para 108)

Currently there is very little physical manifestation of the significance of Mokoia Pā to Ngāti Pāoa. This is a direct result of the level of development and modification that local landscape has been subject to since

European colonisation. The draft CVA and HAIA provide a useful and informative account of this development from the 1841 purchase of the Kohimarama block from Ngāti Pāoa by the Crown to the 'fencibles town' in 1849 and present day Panmure.

Those reports also provide detail of the richness of the Tamaki River, Panmure Basin and surrounding land with regard to food sources and wider resource utilisation. Early cropping, subsequent farming practices and the presence of several portages in the local and wider landscape meant that this stretch of the Tamaki River was a key transportation route between the Waitemata and Manukau Harbours.

The stretch of the Tamaki River directly adjacent to Mokoia Pā has always been viewed as an important river crossing point. Section 7.13 and 7.14 of the HAIA provides detail relating to the evolution of crossing methods and associated structures – from the original ferry/ punt (circa 1850) to the Panmure Swivel section (1865-1916), second ferro-concrete bridge to the east (1910s) and current Panmure Bridge.

In contrast to mana whenua features, the presence of these early European connections to the local landscape remain visible in the landscape – via the retained swivel bridge structure and abutment cuttings – reflecting the on-going relevance of the land immediately adjacent to Mokoia Pā as a key linkage between the land to the east and west of the Tamaki River (i.e. Pakuranga and Penrose).

5 Assessment of Effects

As noted in Section 1.2.5 this assessment has categorised effects into (firstly) landscape and (secondly) visual, whereby:

1. Landscape effects are essentially those effects that the project has on the physical, perceptual and associative aspects that comprise landscape character. Effects on amenity values are inherent within this context; and
2. Visual effects are a subset of landscape (perceptual) effects that require the consideration of project visibility and assessing the effects for specific 'viewing audiences'.

5.1 Sector 1: Lagoon Drive (Panmure Town Centre)

Landscape Drawings in **Appendix 4** illustrate the proposed changes to the existing road corridor layout and features in Sector 1. The key physical changes to occur in Sector 1 include the:

- Replacement of the Panmure roundabout with a signalised intersection.
- Addition of a segregated busway on the northern side of (existing) Lagoon Drive, passing through a mixture of adjoining commercial buildings and carparks.
- Addition of several small public 'pocket parks'/ open spaces around the new intersection
- Addition of new shared pedestrian/ cycle path immediately to the north of the proposed busway.
- The addition of low growing vegetation within the medians and adjacent to the shared pathway. The latter is in conjunction with native street trees; and
- 10-12m high light poles along the length of the main alignment.

5.1.1 Landscape effects:

Overall, it is considered that the changes above will result in a low degree of effect in the context of the current landscape character and overall road user experience for Sector 1. This assertion is based on the following:

5.1.1.1 Physical effects

Aside from the addition of the busway and adjacent shared pathway, the proposed changes will not significantly increase the overall footprint and associated physical prominence of the road corridor. Despite the removal of several buildings and carpark areas no significant physical alteration (i.e. earthworks) to the landform is required. The proposal will result in little to no effects on key landforms, watercourses or vegetation resulting from earthworks. With regard to vegetation, the addition of several open space areas and vegetation within and immediately adjacent to the carriageway will result in positive physical effects.

5.1.1.2 Perceptual effects

The enhanced legibility provided to the road user as a result of the reconfigured intersection, crossing points and shared pathway mean that the overall road user experience will be enhanced. The addition of vegetation within the road corridor will further enhance this 'on the ground' experience. The introduction of the signalised intersection will also provide drivers with an additional 'moment of pause' not currently provided by the existing roundabout. This is likely to heighten people's awareness and visual connection with Maungarei / Mt Wellington to the north – strengthening an overall sense of place. Given the character of the existing road corridor and likely positive effects of the proposal, it is considered that the proposed changes clearly 'fit' into the existing landscape context and will have positive effects on the overall road user experience.

5.1.1.3 Associative effects

There are no specific cultural features identified in either the Heritage and Archaeology Assessment or CVA that are likely to be adversely affected by the project. This highlights the potential to "discover and affect both Māori and Fencible-era archaeological sites". Whilst the assessment doesn't assess the degree/ magnitude of adverse effect the CVA provides some context around the significance of the Mauinaina and Mokoia Pā site as a major wāhi tapu and that even small physical effects may have serious effects on the relationship of Māori with this wāhi tapu and tāonga.

While previous comments regarding increased visual connection with the culturally significant Maungarei / Mt Wellington serve to reinforce the mana whenua of Ngāti Pāoa, the CVA excerpt above suggests that potential effects on mana whenua associations will be significantly adverse (particularly in a cumulative sense). In response to this, mitigation has been proposed in the form of an accidental discovery protocol to be agreed upon by mana whenua.

Several open days were held over the course of the Project to provide the current community an opportunity to understand and comment on various aspects of the project. Of those concerns raised at the open days, effects on individual properties and temporary construction effects were highlighted and some people expressed their disappointment in the removal of the Panmure roundabout given it is a feature of the modern day landscape. The said, the iconic Panmure sign, currently located in the centre of the roundabout, is being retained. On this basis it is considered that adverse effects on the existing communities associations with Sector 1 are of a low degree.

5.1.2 Visual Effects:

Two key audiences are relevant to the assessment of visual effects:

5.1.2.1 Adjoining property owners/ occupiers

Given the presence of the existing road corridor and the already high volume of traffic along Lagoon Drive, the mix of commercial and residential properties adjacent to Sector 1 (see photos 1-6, Annexure 2) are not considered to be sensitive in terms of visual effects. The overall visibility of the existing road corridor and proposed changes is low due to the gently sloping nature of the existing landform and extent of surrounding built development. Despite the removal of some of the existing buildings and extension of the road corridor into several adjoining commercial properties, the Project will not change the outlook for adjoining property owners/ occupiers to any real degree.

While the nature of the existing view, being a well-established and relatively expansive road corridor, will remain unchanged the addition of additional planting alongside and within the carriageway will improve the overall quality of the view. Importantly, any existing views to and across the Panmure Basin from elevated properties to the north of the carriageway (e.g. along Bay View lane) will be maintained.

5.1.2.2 Road users

Two types of view are relevant in this regard:

- **Views of the road corridor** – These are views experienced by vehicle (car and bus) and pedestrian/ cycle users as they travel along the road corridor. These views are significantly constrained by adjoining development – the view shed is a narrow, linear one that is constrained/ funnelled within and along the carriageway itself. In this case it is considered that the increased width of the carriageway, whilst noticeable, will be offset by the addition of new median planting and street trees along the northern road margin. Whilst the quality of the viewing experience is likely to improve, the proposed changes are unlikely to change (for better or worse) the overall nature and extent of the existing viewing experience.
- **A view of the wider landscape** – As mentioned above the overall viewing experience for road users is relatively constrained. However, views to Maungarei / Mt Wellington from locations in and around the existing Panmure roundabout and proposed signalised intersection are prevalent – it is a dominant element in this context. It is considered that the proposed changes to the road layout in this area will positively contribute to the quality of these existing views. The reconfiguration of the roundabout to a signalised intersection will mean that northbound vehicles will be required to stop and can potentially enjoy unobstructed views of Maungarei / Mt Wellington for a period of time. The provision of a more generous and legible shared path network and several quality open space areas around the intersection, will also provide an opportunity for pedestrians and cyclists to enjoy these views in a more relaxed and informal manner. Again, the introduction of additional planting adjacent to the carriageway will positively contribute to the quality of these views.

5.1.3 Summary:

The existing environment is vehicle dominated and is characterised by the existing carriageway, Panmure roundabout and adjacent commercial and residential development. It is a highly modified, predominantly 'built' environment of low quality in terms of landscape character and public amenity.

The overall level of (physical) modification required to reconfigure the Panmure roundabout and widen the existing carriageway and provide for the proposed segregated busway is considered minimal. In addition, this low level of modification includes predominantly hardstand, removal of several buildings and adjoining car park areas. These areas are not considered particularly sensitive to change and **adverse effects on physical aspects of the landscape will be very low.**

Effects on perceptual aspects of the landscape (including visual effects) will be moderately positive.

The overall nature of views experienced from adjacent commercial and residential properties won't change (i.e. outlook to and across an established road corridor). Given the additional vegetation proposed within and adjacent to the carriageway/ busway the overall quality of these views across the road corridor will improve. In addition, the reconfiguration of the existing roundabout; introduction of shared paths; and open space areas will mean the overall road user experience will be enhanced.

Despite the opportunities to strengthen and enhance visual connections to Maungarei / Mt Wellington it is acknowledged that **potential adverse effects on mana whenua associative values may be significantly adverse**. This is due to proposed earthworks and the potential discovery of undocumented heritage items as well as the continued modification and development of an area of significant value to Ngati Paoa. However, the proposed Accidental Discovery Protocol will provide a level of mitigation for these effects during construction. In addition, the Mana Whenua Engagement conditions make provision for mana whenua involvement in the final form of the corridors elements, in particular application of Te Aranga Principles in the detailed design phase. This has the potential to remedy adverse associative landscape effects

5.2 Sector 2: Lagoon Drive (Panmure Basin)

Landscape Drawings attached as **Appendix 4** illustrate the proposed changes to the existing road corridor layout and features in Sector 2. The key physical changes to occur in Sector 2 include the:

- Addition of a segregated busway on the northern side of (existing) Lagoon Drive, passing through a mixture of adjoining commercial and residential properties.
- Addition of new shared pedestrian/ cycle path immediately to the north of the proposed busway.
- Further excavation of the existing embankment on the northern side of Lagoon Drive and construction of between 0-12m high soil nail/ retaining walls ¹⁵.
- Inclusion of noisewalls between 2-3.5 m high and in one location 2.0m above the soil nail/ retaining wall and adjacent to residential properties.
- Addition of a small 'pocket park' at the intersection of Lagoon Drive and Church Crescent.
- Addition of a second pocket park/ open space area at the end of Bridge Street and to the north of Lagoon Drive¹⁶.
- Addition of low growing vegetation within the medians and adjacent to the shared pathway. The latter is in conjunction with native street trees.
- Addition of a new two lane Panmure Bridge that also includes provision for an 3m wide shared path on the northern side.
- Removal of the existing marina building adjacent to the eastern bridge abutment and reconfiguration of adjacent retaining structures and public walkways.

¹⁵ In two sections ranging from 0-11.96m high and 0-4.9m high. Both sections are located on the northern side of Lagoon Drive between Church Crescent and Domain Road.

¹⁶ The final design for this area is subject to further consultation with tangata whenua.

- Upgrade and addition of some with new aprons and headwalls and all with addition of riprap on the foreshore. The longest rip-rap apron size will be 7 m long x 8.25 m wide x 0.6 m deep. The deepest will be 6.25 m long x 6.4 m wide x 1 m deep; and
- 10-12m high light poles along the length of the main alignment.

5.2.1 Landscape effects:

Overall, it is considered that the changes above will result in a moderate degree of adverse effect in the context of the current landscape character, adjoining land owners and the overall road user experience of this sector. This assertion is based on the following:

5.2.1.1 Physical effects

The most significant physical alterations occur within this sector of the project. Excavation is required along approximately half of the northern edge of Lagoon Drive, resulting in a combination of shallow batter slopes, retaining walls and soil nail walls ranging from 0m to 11.96m in height between Domain Road and the Lagoon Drive/ Church Crescent intersection. The excavation in this area will result in removal of the existing embankment substrate and covering vegetation – currently consisting of a mix of native and exotic trees and shrubs and invasive weed species. In terms of ecological value the *Assessment of Ecological Effects* considers this vegetation¹⁷ and that resulting adverse effects will be “minor only”.¹⁸

Although new planting is proposed¹⁹ along the soil nail wall above Lagoon Drive, a notable section of the wall will remain unplanted. Instead patterning of the rock bolts across a portion of the wall is proposed which will provide visual interest, however the sheer extent of this hard surface will remain out of character with the appearance of the existing embankment.

Additional and less significant excavation and associated retaining walls will also be required at the eastern end of Lagoon Drive, past the Lagoon Drive/ Church Crescent intersection on the approach to the new bridge. The removal of several houses and associated amenity vegetation to the north of the existing road corridor will be required to provide for these works.

The depth of excavation in this area will range from 3m at the Lagoon Drive/ Church Crescent intersection and will steadily reduce to approx. 0.3m adjacent to the western bridge abutment. The depth of cut at the western bridge abutment is approximately 1.3m. This steady reduction in cut depth is due to the vertical alignment of the bridge being raised to minimise cut depth and overall modification of the existing landform.

Another important outcome of this approach is that the established pohutukawa trees and other mixed vegetation²⁰ on the southern side of Lagoon Drive will be retained. The retention of these trees avoids effects on valuable plant and avifauna communities and overall natural character of the (Panmure Basin) tidal channel to the Tamaki River.

The area in and around the eastern bridge abutment, on the Pakuranga side of the Tamaki River, will also remain largely intact due to the proposed bridge being ‘floated’ to a point where it meets existing ground level. This approach will minimise earthworks, resulting in an up to 4m high ‘L-shaped’ retaining providing the

¹⁷ Page 19. Opus International Consultants Ltd. April 2015. *Assessment of Ecological Effects*. Auckland Manukau Eastern Transport Initiative Stage 2a Project. Auckland Transport

¹⁸ Ibid.

¹⁹ See Appendix 4 plant schedule.

²⁰ Page 8. Opus International Consultants Ltd. April 2015. *Assessment of Ecological Effects*. Auckland Manukau Eastern Transport Initiative Stage 2a Project. Auckland Transport.

eastern bridge abutment. In addition to the abutment retaining wall, minor earthworks and associated retaining walls will be required to provide for a 4.3m wide shared path from Pakuranga Road to the historic swivel bridge turn table. The proposal will involve the removal of the existing marina building and associated moorings, which is considered further under perceptual effects below.

A significant amount of coastal revegetation planting is proposed adjacent to the eastern end of the proposed bridge and within the project area. It is intended that this planting will improve both plant and animal habitat and make a positive contribution to overall natural character in this location.

In terms of physical aspects of natural character the *Assessment of Ecological Effects* also considers impacts on the ecological value (water quality and habitat) of the Panmure Basin and Tamaki River resulting from the proposed works. In both instances the assessment considers effects to be (at worst) minor subject to mitigation measures being put in place.

Based on the discussion above, overall physical effects in Sector 2 are considered moderate in degree. The primary (negative) contributing factor here is the scale of excavation required along the northern edge of Lagoon Drive and the fact that existing vegetation, albeit of a low quality, will be replaced with 'hard structures' in some locations. However, further efforts could be made to better integrate and reduce the adverse effects of the soil nail wall on the embankment above Panmure Basin, particularly the large exposed portion of the wall. The continuation of *muehlenbeckia* planting across this exposed walling in combination with infill restoration planting at the end of Sunset View Road to compliment the proposed planting atop of the soil nail wall would help to reduce the overall physical effects in Sector 2. This is recommended to be included as a condition of designation.

The efforts to limit modification of the (Mokoia Pā) headland, retain existing valuable vegetation, limit effects on the Panmure Basin/ Tamaki River estuarine habitat and provide additional coastal revegetation planting help to mitigate physical effects of this excavation within Sector 2.

5.2.1.2 Perceptual effects

In terms of the overall road corridor experience the landscape effects associated with the length of Lagoon Drive will be positive.

In the same manner as Sector 1, the widening and reconfiguration of the carriageway and introduction of additional planting within and along the carriageway will enhance the overall road user experience. The retention of the coastal vegetation along the southern side of the road, will maintain the existing green edge and help to reduce the overall prominence of the widened carriageway when viewed from adjacent residential properties that, as a result of their elevation and orientation, currently enjoy views over the existing carriageway to Panmure basin beyond.

The introduction and retention of new and existing planting (respectively) will also assist in reducing the overall prominence of the proposed soil nail walls, particularly given the extent of planting on and adjacent to the walls themselves.

The proposed changes to this section of Lagoon Drive will also enhance the existing pedestrian and cyclist experience. The provision of a widened shared path and the reconfiguration of crossing points in and around the Lagoon Drive/ Church Road intersection will increase the ground level legibility and sense of safety when moving along the road corridor. The addition of vegetation within the road corridor will further enhance the 'on the ground' experience.

In contrast, the proposed 120m long x up to 5m (max) high soil nail wall along the northern edge of Lagoon Drive, directly adjacent to the shared footpath, will be visually imposing until the proposed vegetation has an opportunity to colonise the face of the wall. This is likely to take a period of 5 to 10 years to achieve.

An additional soil nail wall, 93.5m long that ranges from 0m to 12 m in height and is located approximately half way along Lagoon Drive between Church Crescent and Domain Road. Despite the final appearance of the wall being refined and the wall itself being a relatively discrete feature in the context of the overall road user experience, it will contribute to the visual prominence of built structures along this section of Lagoon Drive.

The inclusion of a series of 2m high noise walls are shown on the plans attached as **Appendix 4**. They are located along residential property boundaries, adjacent to the road corridor and downhill of the existing dwellings. The noise walls will be particularly visible from the road until proposed mitigation planting has established which is likely to take up to 5 years to achieve. This is likely to increase the overall perception of built structures in the landscape, albeit temporarily, further characterised by additional widening of the carriageway.

Given the discussion above it is considered that there will be moderate adverse effects on perceptual aspects for the section of Sector 2 between Domain Road and Lagoon Drive/ Church Crescent intersection. This is due to the proliferation and prominence of built elements in the short to medium term. Effects will be of a low degree in the longer term and once proposed vegetation has had an opportunity to mature and screen the bulk of the built structures.

For the section of Lagoon Drive between the northern bridge abutment and Church Crescent, the balance between built and non-built elements will shift in favour of the latter. The overall prominence of the existing green vegetation/ open space framework will be increased through the addition of the small pocket park on the corner of Lagoon Drive and Church Crescent, the larger open space area to the north of Lagoon Drive, and additional street tree and low growing median planting. Despite the level of land form modification required to provide for the busway, the retention of the existing coastal vegetation and the additional vegetation/ open space described above will create a softer 'green scene' for road users entering and exiting the proposed bridge. The Project will make an overall positive contribution to perceptual aspects in this section of the Sector 2 landscape.

In terms of the proposed bridge it is clear that the introduction of an additional 200m long by 15m wide structure 5.4m to the north of the existing bridge will increase the overall prominence of built form within this local stretch of the Tamaki River. Perceptually the balance between built and natural elements in this location will noticeably shift toward the former.

The biggest contributing factor in this case is the difference in scale and form of the two bridges and how their close proximity creates a clear juxtaposition between the existing lower, four-pier bridge and the more elevated, two-pier proposed bridge. On the one hand, this contrast in design establishes a sense of autonomy and individual identity, but at the same time it will heighten a sense of dominance of built form and the perception of another structure being 'squeezed' into the local coastal landscape.

Section 4 of this assessment identifies those existing attributes that contribute (both negatively and positively) to the perception of natural character in this location – being of a moderate degree. Adverse effects on the key perceptual aspects of natural character (being intactness of the Panmure Basin landform, established pohutukawa and vegetation covering the Panmure crater rim and tidal entrance to Tamaki River) will be of a very low degree.

Key mitigating factors include the retention of existing vegetation and substantial additional coastal revegetation, particularly on the eastern river embankment. The removal of the existing marina building and

boat moorings in and around the swivel bridge structure will also reduce some of the ‘building clutter’ that currently exists. Removing some of these human elements will help to offset adverse perceptual effects of the new bridge.

5.2.1.3 Associative effects

There are no specific cultural features identified in either the Heritage and Archaeology Assessment or CVA that are likely to be adversely affected by proposed works to the west of the bridge. However, the potential to “discover and affect both Māori and Fencible-era archaeological sites”²¹ is still relevant and in this regard the potential for “serious effects on the relationship of Māori with this wāhi tapu and tāonga”²² remains. In addition to these (potentially) smaller and more generic effects the introduction of the proposed bridge into the landscape has the potential to result in adverse effects in terms of European and mana whenua heritage values.

In the first instance the proposed bridge will pass directly over the old Panmure swivel span structure and would require the removal of the existing marina building. The HAIA provides recommendations that will ensure that this significant heritage item is preserved in an appropriate manner.

Provided these recommendations are adopted and key management objectives are achieved, the ‘exposure’ of the original swivel span structure is considered to be a significant opportunity for the public to physically and perceptually ‘access’ this feature. In addition, the close (spatial) alignment of the proposed bridge with the swivel span structure serves to reinforce the function of the original bridge and emphasis the on-going character of this location as key crossing point for both past, present and future communities.

The landscape drawings in **Appendix 4** illustrate the intention to provide design elements, such as raised viewing platforms and floating board walks, to allow people to view and move around the swivel span structure. The intended quality of the space surrounding the structure and areas adjacent to the proposed eastern bridge abutment reflects the importance of associative value of this heritage item and resulting effects are considered to be positive in this regard.

In the second instance the proposed bridge will ‘land’ on the headland approximately 5m to the north of the existing bridge. Despite existing modification of the headland (i.e. existing carriageway and houses) the fact that the bridge will result in additional modification of the landform and sits well within the historical bounds of Mokoia Pā suggests that effects on mana whenua associative values are significantly adverse. Whilst the extent of excavation has been minimised through raising the vertical alignment of the bridge it is clear that the proposed bridge and associated widening of Lagoon Drive will result in further built form ‘ownership’ of Mokoia Pā.

In terms of mitigation for mana whenua associative values, the proposed Accidental Discovery Protocol will provide a level of mitigation for the effects identified above during construction. In addition, the Mana Whenua Engagement conditions make provision for mana whenua involvement in the final form of the corridors elements, in particular application of Te Aranga Principles in the detailed design phase. This has the potential to remedy adverse associative landscape effects. It is also acknowledged that this engagement is ongoing and alternative methods to mitigate may be identified.

²¹ Page 158. Opus International Consultants Ltd. April 2015. *Heritage Impact Assessment Archaeological Assessment AMETI Stage 2a*. Auckland Transport/ Beca.

²² Page 17. Tama Hovell, Atkins Holm Majurey Limited. July 2014. Cultural Values Assessment in relation to the Proposed AMETI Project Phase Two (Package 1). Auckland Transport

Several open days were held over the course of the Project to provide the current community an opportunity to understand and comment on various aspects of the project. Feedback on the wider project objectives was generally positive with the majority of people viewing the wider betterment provided by the Project as positive.

Those concerns raised by residents in relation to Sector 1 are similar to Sector 2. In terms of landscape and visual effects, very few people commented on the effects of the proposed bridge. The removal of the existing marina building was viewed in both positive and negative light and the overwhelming opinion of the proposed landscaping throughout the project was positive. On this basis it is considered that adverse effects on the existing communities associations with Sector 2 are of a low degree.

5.2.2 Visual Effects:

There are several key audiences relevant to the assessment of visual effects as they relate to Lagoon Drive and the Panmure Bridge:

5.2.2.1 Lagoon Drive:

- **Adjoining property owners/ occupiers** – Those dwellings located between Lagoon Drive and Church Crescent are located to the north and are elevated well above the carriageway. Views from these houses are to the Panmure Basin are over the top of the well-established Pohutukawa trees to the south of the carriageway. Views to the existing carriageway itself are non-existent, being too low down in the view, or screened by intervening vegetation and/or fencing. As described above, many existing fences will be removed and replaced with new noise fences and associated planting. The scale and appearance of these new fences will be consistent with existing residential character and will continue to screen glimpses/ views of the road below.

The overall outlook from these properties is unlikely to change to any noticeable degree and any resulting visual effects will be very low.

- **Road users** – two types of view are relevant in this regard:
 - **Views of the road corridor** – Similar to Sector 1 these are views experienced by vehicle (car and bus) and pedestrian/ cycle users as they travel along the road corridor. These existing views are significantly constrained by rising landform and residential development to the north. Views are generally constrained/ funnelled within and along the carriageway itself although there are also views available through the established Pohutukawa trees to the Panmure basin to the south. The increased width and reconfiguration of the carriageway, whilst noticeable, will be offset by the addition of new median planting and street trees. Planting associated with noise and retaining walls will also soften the appearance of these structures and in combination with additional pocket park/ open space areas, will increase the overall quality of the viewing experience.
 - **A view of the wider landscape** – Again, in a similar manner to Sector 1 the overall viewing experience for road users is relatively constrained. However, views to Maungarei / Mt Wellington from locations in and around the Lagoon Drive/ Church Road intersection are notable – it is a dominant element in this context. It is considered that the proposed changes to the road layout in this area will positively contribute to the quality of these existing views. In addition, the provision of a more generous and legible shared path network and several quality open space areas, will provide an opportunity for pedestrians and cyclists to enjoy these views in a more relaxed and informal manner. Again, the introduction of additional planting adjacent to the carriageway will positively contribute to the quality of these views.

5.2.2.2 Panmure Bridge:

- **Residents and recreational users** – There are several key audiences in this context. All experience views within 150m of the proposed bridge:
 - **Properties to the north (Appendix 3, Photo 17)** – This includes views from houses with views to the south and southeast towards the proposed bridge. Both the existing Panmure and (distant) Pakuranga Highway bridges are visible from these residential locations. The proposed bridge will be visible above the existing bridge but below the Pakuranga Highway bridge. In this sense the proposed bridge will reinforce the prominence of this existing structural line that passes horizontally through the view –consistent with the character of existing structures in this view. For these reasons associated adverse visual effects will be of a low degree.
 - **Properties to the south (Photo 18)** – This includes views from several houses located along the top of the coastal escarpment above the Rotary Walkway. Visual effects from these dwellings will be low in degree. Although the proposed bridge will introduce another large structure into the environment, it will obscure the existing bridge, negating any potential cumulative visual effects. In addition, the removal of other visually prominent structures as a result of the bridge construction will help to reduce overall visual clutter and maintain the balance between built and natural elements in the view.
 - **Properties to the west (Appendix 3, Photo 19)** – This is essentially a mirror view of that described above. In this case houses are located further away than those to the south of the bridge and the existing bridge will provide partial screening of the proposed structure. While the proposed bridge will project above the existing, at this distance they will likely 'read' as one structure and therefore cumulative visual effects will be negligible. The difference in pier configuration will be noticeable from this direction. This will contribute to some additional (water level) clutter in the view; however, this will be offset by the removal of additional buildings, moorings, boats and associated structures from the view.
 - **Recreational users (Appendix 3, Photo 20)** – This includes those people walking along the Rotary Walkway to the east of the proposed bridge and also those people accessing boats and moorings on both sides of Tamaki River.

The proposed bridge will be at its most prominent when viewed from these lower elevations and when people are 'looking up' and the underside of the bridge. From these locations the substructure of the existing bridge will be visible underneath the (higher) proposed bridge and with the difference in pier configuration, the bridges will be discernible from one another – increasing the overall visual prominence in these views.

Despite this increase in prominence, the visual effects of the additional structure will be of a low degree. This is primarily due to the reduction in the proliferation of structures in the existing view resulting from the construction of the bridge, which will increase the overall quality of the view.

- **Road users:**
 - **Existing bridge** – Views from vehicles travelling along the existing Panmure Bridge will be most affected by the construction of the proposed bridge. Views to the north, down the Tamaki River towards Half Moon Bay, will be significantly if not completely screened by the

proposed bridge. This is due to its elevation some 1.5m above (max) the existing bridge deck.

The presence of the proposed bridge and its proximity to the existing structure will significantly reduce the openness of the existing view to the north, albeit fleeting and at an acute angle. Mitigating factors in this case include impedance of views to the south and, for northbound vehicles, retention of distant views to Maungarei / Mt Wellington. The latter is significant in retaining visual legibility and connection with key landscape features. With this in mind, adverse effects on views from the existing bridge are considered low/moderate in degree.

- **Proposed bridge** – Views from the existing bridge will be enjoyed by bus patrons, pedestrians and cyclists. All of these key users will experience elevated views to the north and south of the bridge and in that regard the overall visual experience will be similar to those experienced from the existing Panmure Bridge.

5.2.3 Summary:

Overall **adverse physical effects in Sector 2 are considered moderate in degree**. Efforts to limit modification of the (Mokoia Pā) headland; retain existing valuable vegetation; limit effects on the Panmure Basin/ Tamaki River estuarine habitat and provide additional coastal revegetation offset the level of (physical) modification required to widen Lagoon Drive and provide for the proposed segregated busway – particularly for the length of Lagoon Drive between Domain Road and Church Crescent. As mentioned, however, further efforts could be made to better integrate and reduce the adverse effects of the soil nail wall on the embankment above Panmure Basin, particularly the large exposed portion of the wall. The continuation of muehlenbeckia planting across this exposed walling in combination with infill restoration planting at the end of Sunset View Road to compliment the proposed planting atop of the soil nail wall would help to reduce the overall physical effects in Sector 2.

Adverse effects on perceptual aspects of the landscape (including visual effects) will be low to moderate in degree. This assessment is based on a moderate degree of effect for road users and residents between Domain Road and Lagoon Drive/ Church Crescent intersection and for the proposed Bridge. These effects are offset somewhat by the positive contribution that the section of the Project between the northern bridge abutment and Church Crescent will have on road users and adjacent residents. :

Despite efforts to minimise the physical impact of the Project on Mokoia Pā and to enhance other physical aspects of the coastal landscape, it is acknowledged that potential **adverse effects on mana whenua associative values may be significantly adverse**. This is due to the increased 'ownership' of the Mokoia pa headland by the proposed bridge and widened carriageway in addition to the potential discovery of undocumented heritage items. Both the Accidental Discovery Protocol and Mana Whenua Engagement conditions provide a level of mitigation during construction and in the detailed design phase that will potentially remedy adverse associative landscape effects.

In contrast the Project provides an opportunity to **generate positive effects through enhance the post-colonial and present day European associations with the landscape** through the retention, exposure and provision of access to the swivel span structure located on the eastern bank of the Tamaki River.

In summary, the existing carriageway and adjacent residential development characterise the majority of Sector 2 with the existing Panmure Bridge introducing a significant built element to the eastern end of the sector. Unlike the previous sector, Sector 2 demonstrates more of a balance between built and non-built elements resulting from the relative intactness of the Panmure Basin landform, Tamaki River corridor and

associated coastal vegetation meaning that the overall level of landscape (including natural) character and public amenity are of a moderate degree.

5.3 Sector 3: Pakuranga Road (Pakuranga Suburb)

Landscape Drawings attached in **Appendix 4** illustrate the proposed changes to the existing road corridor layout and features in Sector 3. The key physical changes to occur in Sector 3 include the:

- Removal and acquisition of the 'front line' of residential properties along the northern side of Pakuranga Road to accommodate the new busway, cycleway, and pedestrian paths.
- Addition of a busway on the northern side of (existing) Pakuranga Road.
- Addition of new shared separated cycle and pedestrian path immediately to the north of the proposed busway.
- Reconfiguration of Kerswill Corner Reserve.
- Addition of a 'Terramesh' retaining wall and associated boardwalk/platforms adjacent to the Coastal Marine Area (CMA) to the east of Kerswill Place. This includes a riprap apron for a new stormwater outfall.
- Addition of a linear park/ open space near the intersection of Williams Ave and Pakuranga Road. This includes residual land between Williams Ave and Tamaki Bay Drive.
- Addition of low growing vegetation within the medians, swales/rain gardens and adjacent to the cycle path.
- Addition of large exotic tree species within the road medians and along the edge of the road corridor.
- Addition of a large area of native coastal planting at the southern abutment of the Panmure Bridge.
- Addition of 1.8m high noise walls along residential property boundaries to the north of Pakuranga Road. There are noise walls proposed for properties to the south of Pakuranga Road; and
- 12m high light poles at spacings ranging between 30m and 55m located within the central road median and median/swale separating the busway from vehicle lanes and both 12m and 4m high light poles located on the south side of Pakuranga Road at spacings ranging between 35m and 57m.

5.3.1 Landscape effects:

Overall, it is considered that the changes above will be positive in the context of the current landscape character and the overall road user experience of this sector of the Project. This assertion is based on the following:

5.3.1.1 Physical effects

The addition of the busway and separated cycle and pedestrian paths will significantly increase the overall footprint and physical prominence of the road corridor. Despite the removal and acquisition of 'front line' residential dwellings along Pakuranga Road, no physical alteration of the landform is required. The only notable area of modification is located at Kerswill Corner Reserve where the carriage way extends out over the grassed embankment requiring a retaining wall adjacent to the CMA. The retaining wall is likely to be 'terramesh' that will enable coastal and estuarine plants to be established across it. Given the modified

condition of the existing environment at this location, it is anticipated that this retaining wall will have a very low degree of effect on the Tamaki River landform.

As part of the removal and acquisition of properties along Pakuranga Road, a large quantum of established vegetation will be removed. This vegetation comprises mostly exotic trees and shrubs. A significant mitigating factor for this removal is the swathe of planting proposed along the length of this sector. Large areas of residual land between the edge of the pedestrian path and properties that now adjoin the road corridor are planted in a mixture of native and exotic species. Furthermore, planted swales and rows of trees within medians will significantly offset the loss of vegetation within this sector. Overall physical effects in Sector 3 are very low in degree.

5.3.1.2 Perceptual effects

Despite the increase in width of the road corridor, the addition of vegetation in the form of planted swales, tree lined medians, and swathes of native coastal species on residual land north of the road corridor will significantly enhance the 'on the ground' experience' for road users and residents alike. A sense of 'breathing space' at the edge of the corridor will be apparent for road users, particularly near Williams Ave where a tree lined linear park is proposed. In addition, a large strip of excess land along the northern side of Pakuranga Road between Ti Rakau Drive and Latham Ave is to be grassed and will temporarily function as open space parkland. The presence of this mown parkland will enhance the overall amenity and aesthetics of the road corridor. For the reasons given above perceptual effects will be positive throughout Sector 3.

5.3.1.3 Associative effects

Neither the CVA or HAIA identify any specific heritage features that are of particular interest within Sector 3. However, given the rich history of Māori occupation and the importance of the eastern bank of the Tamaki being "*the main landing place for cattle from the East Coast making its way to the Auckland market*"²³, the discovery of valuable heritage items is likely.

Given the above and also the relatively low level of landform modification in Sector 3, associative values and resulting effects are likely to be similar to those in Sector 1. In this sense there is still the potential for "*serious effects on the relationship of Māori with this wāhi tapu and tāonga*"²⁴ to occur.

Community feedback regarding the Project (within Sector 3) during open days was similar to Sectors 1 and 2. The feedback on the wider project objectives was generally positive with the majority of people viewing the wider betterment provided by the Project as positive. People responded positively to the proposed improvements to pedestrian and cycle facilities the proposal to provide landscaping/planting in residual areas to the north of the road corridor. Concerns were raised by a group of residents about potential visual effects resulting from the removal of existing houses and the views they would have of the road corridor. Given the proposal to implement significant planting adjacent to northern property boundaries any resulting adverse visual effects will be of a low degree.

5.3.2 Visual Effects:

Two key audiences are relevant to the assessment of visual effects:

²³ Page 70. Opus International Consultants Ltd. April 2015. *Heritage Impact Assessment Archaeological Assessment AMETI Stage 2a*. Auckland Transport/ Beca.

²⁴ Page 17. Tama Hovell, Atkins Holm Majurey Limited. July 2014. Cultural Values Assessment in relation to the Proposed AMETI Project Phase Two (Package 1). Auckland Transport

5.3.2.1 Adjoining property owners/ occupiers

The enclosure by residential dwellings along Pakuranga Road and its location on a flat coastal terrace limits its overall exposure. Beyond those residents directly adjoining the road corridor the vast majority of residents in the vicinity of Pakuranga Road have very limited views of the road corridor at present. For the majority of residents, fencing and gardens along property boundaries ultimately confine their outlook and the more pervasive attributes of the busy road corridor.

Conversely, a number of dwellings have low fencing and limited garden space allowing a higher degree of surveillance to the footpath and road. Even so, the proposed widening of the corridor will have a limited impact on residents on the southern side of Pakuranga Road – the series of planted medians and swales/rain gardens spaced across the road will help to 'break up' and soften the prominence of the road corridor. The verticality of trees along the corridor will, over time, help to integrate and ground the expansive nature of the road.

The effects on residents to the north will be similar to those on residents to the south. These properties are currently sheltered from Pakuranga Road by the row of properties that have been acquired for the proposal. In most cases a buffer of land will remain between the northern property boundary and Pakuranga Road, with a large amount of native coastal species and large exotic trees proposed along this buffer, particularly from Williams Ave through to the southern bridge abutment.

East of Williams Ave there is a larger (in width) area of grassed open space between residential properties and Pakuranga Road. Visual effects on these residential properties will be of a low degree given that the combination residual land, proposed noise walls, and avenue of large exotic trees along the edge of the road corridor will reduce the sense of encroachment and prominence of the road corridor.

5.3.2.2 Road users

In this case views of the road corridor are experienced by vehicles (car and bus) and pedestrian/ cycle users as they travel along the road corridor. Views along Pakuranga Road are confined by adjoining residential dwellings – such that the view shed is a narrow, linear and constrained/ funnelled within and along the carriageway itself. In this case it is considered that the increased width of the carriageway, whilst noticeable, will be offset by the addition of new median planting and street trees along the northern road margin. The quality of the viewing experience is likely to increase, and the overall nature and extent of the existing viewing experience will be enhanced.

Effects on views to the wider landscape are not considered relevant in this sector due to their constrained nature, as result of the flat topography and residential development to the north and south of the road corridor.

5.3.3 Summary:

Sector 3 (like Sector 1) is not considered to be of a particularly high quality with regard to visual amenity, nor is it considered particularly sensitive to change with regard to landscape character. **Overall, the proposed changes to the existing road corridor within Sector 3 will generate positive effects.** Whilst the removal of the number of properties to the north of the existing carriageway is notable, overall physical modification of the flat landform will be minimal. In addition, the reconfiguration of the carriageway, introduction of a shared paths, extensive open space areas, and significant additional vegetation within the road reserve will serve to reduce the overall prominence of the widened road corridor and enhance the overall road user experience.

6 Relevant Planning Documents

Appendix 2 provides a list of those landscape-related documents and policies that are relevant to this assessment. It includes:

- NZ Coastal Policy Statement (NZCPS);
- Auckland Council Regional Policy Statement (RPS)
- Auckland Council Regional Coastal Plan (RCP);
- Operative Auckland Council District Plan: Manukau Section (for the Pakuranga side);
- Operative Auckland Council District Plan: Isthmus Section (for the Panmure side incl. Panmure Bridge); and
- Proposed Auckland Unitary Plan (PAUP).

The following commentary provides a high level response to these relevant policy themes based on the effects identified in Section 5 above.

6.1 Natural Character of the Coastal Environment

This is covered under the NZCPS, RPS and RCP.

The Panmure Basin is surrounded by mainly residential properties and its eastern edge is demarcated by Lagoon Drive. Despite this surrounding modification the natural form of the Basin remains intact as a distinctive feature, the legibility of which is enhanced by natural tidal movements of the Tamaki River flowing into the Basin.

As described in Section 5.2 additional stormwater outlets and associated 'rip rap' are proposed immediately abutting the existing basalt retaining wall below Lagoon Drive and within the Panmure Basin ONF. On the basis that stormwater outlets (including rip rap) are common along the existing coastal edge and reflective of the level of human intervention/ modification of the Panmure Basin, effects of the proposed outlets on the values associated with the existing ONF will also be negligible.

In relation to the ONF overlay in the PAUP it is considered that the physical and perceptual values of the ONF are more closely associated with the inner parts of the Basin, along the coastal edge and in particular immediately to the south of Lagoon Drive.

There is a discrete portion of the ONF overlay situated on the north-east tuff ring, to the north-east of Lagoon Drive, which forms a small part of the overall elevated tuff ring backdrop to Panmure Basin, which is predominately covered in residential housing.

The establishment of the proposed soil nail wall will result in some excavation, including vegetation removal, within this discrete ONF overlay. The proposed works, including construction, will encroach into a small portion of this area. In the context of this small overlay effects on natural values will be moderate and mitigated overtime subject to the implementation and growth of proposed vegetation in this area. The overall effect of the soil nail wall on the wider Panmure Basin ONF status will be negligible.

The efforts to limit modification of the (Mokoia Pā) headland, retain existing valuable vegetation, limit effects on the Panmure Basin/ Tamaki River estuarine habitat and provide additional coastal revegetation planting help to mitigate physical effects of this excavation.

In terms of restoration a significant amount of coastal revegetation planting is proposed adjacent to the eastern end of the proposed bridge and within the project area. It is intended that this planting will improve both plant and animal habitat and make a positive contribution to overall natural character in this location. In addition, the retention of the Pohutukawa trees along Lagoon Drive avoids effects on valuable plant and avifauna communities and overall natural character of the (Panmure Basin) tidal channel to the Tamaki River.

In this regard, the AMETI Stage 2A project is considered acceptable in the context of the provisions contained within the NZCPS.

6.2 Landscape (incl Cultural Heritage) and Amenity

This is primarily covered under the RPS and in more detail by the Auckland Council District Plan (Operative Sections Isthmus and Manukau .and PAUP.

Given the existing environment is vehicle dominated and is characterised by the existing carriageway, Panmure roundabout and adjacent commercial and residential development, it is anticipated that the project will have a positive effect on the amenity of the area. This is largely due to the additional vegetation proposed within and adjacent to the carriageway/ busway that will improve the overall quality of views across the road corridor. In addition, the reconfiguration of the existing roundabout; introduction of shared paths; and open space areas will mean the overall road user experience will be enhanced.

Similarly the series of planted medians and swales/rain gardens spaced along Pakuranga Road will help to 'break up' and soften the prominence of the road corridor. Whilst the removal of a number of properties to the north of the existing carriageway is notable, overall physical modification of the landform will be minimal. In addition, the reconfiguration of the carriageway, introduction of a shared paths, extensive open space areas, and significant additional vegetation within the road reserve will serve to reduce the overall prominence of the widened road corridor and enhance the overall road user experience.

With the intervention of the Panmure Bridge it is clear that the introduction of an additional 200m long by 15m wide structure 5.4m to the north of the existing bridge will increase the overall prominence of built form within this local stretch of the Tamaki River. From a visual and amenity perspective the balance between built and natural elements in this location will noticeably shift toward the former. However, the removal of the marina building and associated piers and structures will help to reduce the sense of clutter within the Tamaki River and increase its legibility as a recreational resource.

As discussed in Section 6.1, the overall effect of the establishment of the soil nail wall on the wider Panmure Basin ONF status will be negligible. Similarly, the effects of the proposed stormwater outlets on the values associated with the existing ONF will also be negligible.

In relation to cultural heritage it is acknowledged that potential adverse effects on mana whenua associative values may be significantly adverse. This is due to proposed earthworks and the potential discovery of undocumented heritage items as well as the continued modification and development of an area of significant value to Ngāti Pāoa. Whilst the extent of excavation has been minimised through raising the vertical alignment of the bridge and the provision of open space to the north of the western abutment the proposed bridge and associated widening of Lagoon Drive will result in further built form 'ownership' of Mokoia Pā.

7 Proposed Conditions

1. **Mokoia Pā** (Eastern Panmure Bridge abutment) – A Landscape Management Plan is to be prepared by a suitably qualified Landscape Architect in consultation with Ngāti Pāoa. The plan shall provide a design response for residual land at the Mokoia Pa headland along with other design opportunities within the carriageway in accordance with the Te Aranga Design Principles and the Urban Design Framework. The landscape management plan is to be jointly approved by Ngāti Pāoa and AT.
2. **Southern Panmure Bridge abutment** – A Landscape Management Plan is to be prepared by a suitably qualified Landscape Architect in consultation with Ngāti Pāoa and the Lead Heritage Specialist that provides a design response for residual land at the eastern abutment with a particular focus on the remnant swivel structure of the old Panmure Bridge in accordance with the Te Aranga Principles and the Urban Design Framework. The landscape management plan is to be jointly approved by Ngāti Pāoa, Lead Heritage Specialist and AT.
3. **Noise Walls** – The structure (including height) and appearance of the noise walls that have been recommended by Marshall Day shall be designed to minimise intrusion on adjoining residents, maintain and contribute to the amenity of residents and road users, and visually integrate with the surrounding residential character. Any noise walls shall be designed in accordance with the Urban Design Framework and approved by a suitably qualified Landscape Architect or Urban Designer and AT.
4. **Proposed Planting** – detailed planting plans, specification, and maintenance schedules shall be prepared for Sectors 2 and 3 by a suitably qualified Landscape Architect in accordance with the concept plans in Appendix 4 to this report. Departures from the plans in Appendix 4 that result in a significant loss of planting or amendments to the planting schedules will void the conclusions of this report.
5. **Soil Nail Wall** - to better integrate and reduce the adverse effects of the large exposed portion of the soil nail wall it is recommended that planting across this exposed walling is established similar to the soil nail walling further south. In addition, infill restoration planting between Lagoon Drive and Sunset View Road is established similar to the planting proposed atop of the soil nail wall.

8 Conclusions

On balance, provided the proposed conditions in Section 7 are adhered to, and with regard to the provisions listed in Section 6 it is considered that the proposed AMETI Stage 2a is acceptable from a landscape and visual standpoint. This conclusion has been reached taking into account the following factors:

8.1 Sector 1

Sector 1 (Lagoon Drive) is vehicle dominated and is characterised by the existing carriageway, Panmure roundabout and adjacent commercial and residential development. It is a highly modified, predominantly 'built' environment of low quality in terms of landscape character and public amenity. The overall nature of views experienced from adjacent commercial and residential properties won't change. Given the additional vegetation proposed within and adjacent to the carriageway/ busway the overall quality of these views across the road corridor will improve. In addition, the reconfiguration of the existing roundabout; introduction of shared paths; and open space areas will mean the overall road user experience will be enhanced.

Overall, the effects on perceptual aspects of the landscape (including visual effects) will be moderately positive for Sector 1.

8.2 Sector 2

The existing environment of Sector 2 demonstrates more of a balance between built and non-built elements resulting from the relative intactness of the Panmure Basin landform, Tamaki River corridor and associated coastal vegetation meaning that the overall level of landscape (including natural) character and public amenity are of a moderate degree. Notwithstanding the above, Sector 2 is also characterised by the existing Lagoon Drive carriageway, adjacent residential development, and the existing Panmure Bridge.

In terms of design, efforts have been made to limit modification of the (Mokoia Pā) headland; retain existing valuable vegetation; limit effects on the Panmure Basin/ Tamaki River estuarine habitat and provide additional coastal revegetation to offset the level of (physical) modification required to widen Lagoon Drive and provide for the proposed segregated busway – particularly for the length of Lagoon Drive between Domain Road and Church Crescent. In relation to the soil nail wall, the scale of excavation, removal of existing vegetation, albeit of a low quality, and its replacement will large 'hard structure' along the northern edge of Lagoon drive will have moderate physical effects. However, additional planting along the exposed portions of the soil nail wall and restoration of the remaining embankment areas adjacent will help to integrate and further reduce the effects of the excavation on the embankment above Lagoon Drive. Provided this additional planting is carried out the **overall adverse physical effects in Sector 2 are considered low-moderate in degree.**

There will be a moderate degree of effect for road users and residents between Domain Road and Lagoon Drive/ Church Crescent intersection and for the proposed Bridge. These effects are offset somewhat by the positive contribution that the section of the Project between the western bridge abutment and Church Crescent will have on road users and adjacent residents. **Overall, adverse effects on perceptual aspects of the landscape in Sector 2 (including visual effects) will be low-moderate in degree.**

However, despite efforts to minimise the physical impact of the Project on Mokoia Pā and to enhance other physical aspects of the coastal landscape, it is acknowledged that potential **adverse effects on mana whenua associative values may be significantly adverse.** This is due to the increased 'ownership' of the Mokoia Pā headland by the proposed bridge and widened carriageway in addition to the potential discovery of undocumented heritage items.

That said, the proposed Accidental Discovery Protocol will provide a level of mitigation for the landscape associative effects identified above during construction mitigation. In addition, the Mana Whenua

Engagement conditions make provision for mana whenua involvement in the final form of the corridors elements, in particular application of Te Aranga Principles in the detailed design phase. This has the potential to remedy adverse associative landscape effects.

In contrast the Project does provide an opportunity to **generate positive effects through enhance the post-colonial and present day European associations with the landscape** through the retention, exposure and provision of access to the swivel span structure located on the eastern bank of the Tamaki River.

The overall effect of the establishment of the soil nail wall on the wider Panmure Basin ONF status will be negligible. The proposed works, including construction, will encroach into a small portion of this area. In the context of this small overlay effects on natural values will be moderate and mitigated overtime subject to the implementation and growth of proposed vegetation in this area. On the basis that stormwater outlets (including rip rap) are common along the existing coastal edge and reflective of the level of human intervention/ modification of the Panmure Basin, **effects of the proposed stormwater outlets on the values associated with the existing ONF will also be negligible.**

8.3 Sector 3

Sector 3 (like Sector 1) is not considered to be of a particularly high quality with regard to visual amenity, nor is it considered particularly sensitive to change with regard to landscape character. Whilst the removal of a number of properties to the north of the existing carriageway is notable, overall physical modification of the flat landform will be minimal. In addition, the reconfiguration of the carriageway, introduction of a shared paths, extensive open space areas, and significant additional vegetation within the road reserve will serve to reduce the overall prominence of the widened road corridor and enhance the overall road user experience. **Overall, the proposed changes to the existing road corridor within Sector 3 will generate positive effects.**

Appendix 1

Reference List

Appendix 2

Relevant Planning Documents



Appendix 3

Graphic Annexures



Appendix 4

**AMETI Stage 2a
Landscape Plans**

