Before a Board of Inquiry
Transmission Gully
Notices of Requirement and Consents

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under: the Resource Management Act 1991

in the matter of: Notices of requirement for designations and resource consent applications by the NZ Transport Agency, Porirua City Council and Transpower New Zealand Limited for the Transmission Gully Proposal

between: **NZ Transport Agency**
Requiring Authority and Applicant

and: **Porirua City Council**
Local Authority and Applicant

and: **Transpower New Zealand Limited**
Applicant

Statement of evidence of Lynne Rosa Hancock (Urban design) for the NZ Transport Agency and Porirua City Council

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Dated: 17 November 2011

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STATEMENT OF EVIDENCE OF LYNNE ROSA HANCOCK FOR THE NZ TRANSPORT AGENCY AND PORIRUA CITY COUNCIL

QUALIFICATIONS AND EXPERIENCE

1 My full name is Lynne Rosa Hancock.

2 I am a Technical Director – Urban Design at Beca Pty Limited (*Beca*). I have worked as an urban designer for 16 years in both the private and public sectors and in Australia and New Zealand. I have worked on a wide range of urban design projects, including large complex infrastructure projects.

3 I hold a postgraduate Bachelor of Architecture degree (with Honours) from the University of Technology Sydney, Australia; a Bachelor of Arts in Architecture from Oxford Brookes University, a Diploma in Management Studies from the University of Westminster, London, and a Master of Philosophy degree from the University of Oxford, all in the United Kingdom; and a Bachelor of Arts degree (with Honours) in English literature from Victoria University of Wellington.

4 I am a full member of the Urban Design Chapter of the Planning Institute of Australia, and an Independent Professional Advisor in Urban Design to the NZ Transport Agency (*the NZTA*) (Auckland Northland panel).

5 My recent experience as an urban design consultant on roading projects includes:

5.1 Urban Design team leader and expert witness, Western Ring Route – Waterview Connection;

5.2 Urban Design Manager, Victoria Park Tunnel Alliance;

5.3 Urban Design Lead, Kumeu to Huapai Transportation Study; and

5.4 Urban Designer, Tauranga Eastern Link.

6 I was responsible for preparing and producing urban design frameworks for the Waterview, Kumeu to Huapai and for the Tauranga Eastern Link roading projects.

7 In my role as Beca's Urban Design business leader, I have also been responsible for the quality of urban design frameworks prepared by other teams (e.g. Hairini Link in Tauranga, and Auckland's Northern Busway and Central Business District Rail Link) and for verifying the detailed landscape design for the Christchurch Southern Motorway.

8 On 15 August 2011 the NZTA, Porirua City Council (*PCC)* and Transpower New Zealand Limited *(Transpower)* lodged Notices of Requirement (*NoRs)* and applications for resource consent with the Environmental Protection

Authority (*EPA)* in relation to the Transmission Gully Proposal (*the Proposal)*.

9 The Proposal comprises three individual projects, being:

9.1 The 'NZTA Project', which refers to the construction, operation and maintenance of the Main Alignment and the Kenepuru Link Road by the NZTA;

9.2 The 'PCC Project' which refers to the construction, operation and maintenance of the Porirua Link Roads by PCC[1]; and

9.3 The 'Transpower Project' which refers to the relocation of parts of the PKK-TKR A 110kV electricity transmission line between MacKays Crossing and Pauatahanui Substation by Transpower.

10 My evidence relates to the NZTA and PCC Projects. It does not relate to the Transpower Project. For the purposes of my evidence, I will refer to the NZTA Project and the PCC Project collectively as the "Transmission Gully Project" (and hereafter, *the TGP* or *the Project*).

11 I am familiar with the area that the Project covers and the State highway and local roading network in the vicinity of the Project.

12 I am the Technical Director ultimately responsible for the Urban and Landscape Design Framework[2] (*the ULDF*), which was authored by Beca (with input from Isthmus), which describes the urban and landscape design concepts of the Project.

13 I have read the Code of Conduct for Expert Witnesses as contained in the Environment Court Consolidated Practice Note (2011), and I agree to comply with it as if this Inquiry were an Environment Court proceeding. My qualifications as an expert are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE

14 My evidence will deal with the following:

14.1 Summary of evidence;

14.2 Background and role;

14.3 The relevance of urban design to highway projects;

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[1] Being the Whitby Link Road and the Waitangirua Link Road.

[2] Technical Report 23 appended to the Assessment of Environmental Effects lodged in support of the Project.

14.4 The role of an Urban and Landscape Design Framework;

14.5 Methodology for developing the ULDF;

14.6 Urban design issues for the Project;

14.7 Response to submissions; and

14.8 Proposed conditions.

SUMMARY OF EVIDENCE

15 The Project is an important transport development for the Wellington region. For much of its length the Project traverses remote rural areas. However, at Linden, Kenepuru Drive, Waitangirua, Pauatahanui, MacKays Crossing and two regional parks, the Project adjoins existing communities and/or movement networks where there is the potential for land use, character, connectivity and amenity issues.

16 In accordance with the NZTA's policies[3] a ULDF has been prepared for this Project and lodged with the Assessment of Environmental Effects (*AEE*).

17 Key urban design issues for the Project have been identified and addressed in the ULDF. They are:

17.1 Integration of the roads with the surrounding urban context;

17.2 Pedestrian and cycle networks;

17.3 Design of the road structures in relation to their context; and

17.4 The experience of road users.

18 I consider that the ULDF clearly sets out the background and rationale for an integrated design process. It responds to the key urban design issues and presents a considered and balanced 'vision' for the corridor. The design principles that support that vision provide a strong framework for appropriate, place-sensitive urban and landscape design concepts.

19 The design concepts in the ULDF represent one way of responding to the design principles. They should be considered as performance criteria. This means that while there is flexibility in the detailed design of these elements going forward, the intent of the ULDF is a key consideration, especially as regards connectivity, the interface with urban and suburban areas, amenity for residents, pedestrians and cyclists, and the quality of design of major structures.

[3] NZTA Environmental and Social Responsibility Policy 2011 and Transit New Zealand (Now NZTA) Urban Design Policy 2007.

20 Proposed designation conditions will ensure that detailed Landscape and Urban Design Management Plans (*LUDMPs*) will be consistent with specific design principles and concepts contained in the ULDF.

21 In my opinion, the Project urban design:

21.1 has been integrated in all aspects of the Project to date through a systematic and collaborative process across all Project disciplines, consistent with the NZ Urban Design Protocol (*the Protocol*)[4];

21.2 has thereby ensured that key urban design issues have been appropriately addressed;

21.3 has informed a design that balances operational, amenity, sustainability, cost and environmental considerations in line with the Transit New Zealand (now the NZTA)'s Urban Design Policy 2007 (*NZTA's Urban Design Policy*)[5] (attached as **Annexure A**);

21.4 provides a level of detail appropriate to the NoRs;

21.5 has adequately responded to the relevant matters in Part 2 of the Resource Management Act 1991 (*RMA*), being:

(a) enabling people and communities to provide for their social, economic, and cultural well-being and for their health and safety (s5(2));

(b) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers (s6(d));

(c) the maintenance and enhancement of amenity values (s7(c)); and

(d) the maintenance and enhancement of the quality of the environment (s7(f)); and

21.6 includes proposed designation conditions with respect to urban design that are comprehensive, appropriate and sound.

BACKGROUND AND ROLE

22 The NZTA appointed Beca to provide urban design services for this phase of the Project. The NZTA also appointed Isthmus Group to provide landscape and visual services both for the preparation of the Assessment of Landscape and Visual Effects (Technical Report 5) and to contribute to the preparation of the ULDF for the Project.

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[4] Ministry for the Environment, New Zealand Urban Design Policy, March 2005.

[5] http://www.nzta.govt.nz/resources/urban-design/policy/docs/urban-design-policy.pdf

23 My role was to scope, guide and oversee the preparation of the ULDF, which was developed by Ms Lucie Desrosiers, then an Associate – Urban Design (Beca) in close collaboration with the Isthmus Group and other design professionals on the Project team.

24 In order to fulfil this role I have undertaken or overseen various activities including:

24.1 Multi-disciplinary design workshops to identify urban design issues and address areas of the Project design where a number of disciplines overlapped;

24.2 Co-ordination of inputs from other consultants in the preparation of the ULDF and delivery of the document;

24.3 Providing bridge aesthetics guidance and feedback to the Project's bridge designer throughout the Project; and

24.4 Reviewing submissions received on the NORs and resource consent applications for the Project relating to urban design issues (which I will address later in my evidence).

25 In addition, Ms Desrosiers undertook the following activities in developing the Project urban design and has reported to me on them:

25.1 Fact-finding meetings with Wellington City Council, PCC and Kapiti Coast District Council on walking and cycling;

25.2 Meeting with representatives of the Maraeroa Marae and Tokelau Church to address localised urban design issues; and

25.3 Contributing to the Waitangirua Site Specific Environmental Management Plan (*SSEMP*).

THE RELEVANCE OF URBAN DESIGN TO HIGHWAY PROJECTS

Definition of urban design

26 The Protocol defines urban design as follows:

> "Urban design is concerned with the design of the buildings, places, spaces and networks that make up our towns and cities, and the ways people use them. It ranges in scale from a metropolitan region, city or town down to a street, public space or even a single building. Urban design is concerned not just with appearances and built form but with the environmental, economic, social and cultural consequences of design. It is an approach that draws together many different sectors and professions, and it includes both the process of decision-making as well as the outcomes of design." [6]

[6] Ministry for the Environment, NZ Urban Design Protocol 2005, page 7.

27 While the Protocol focuses on the design of towns and cities, it recognises the importance of networks that connect and support them within the wider environment.[7] For the NZTA, "Urban design involves the arrangement and design of buildings, public spaces, transports, systems, services, and amenities".[8] The NZTA's Urban Design Policy (attached as **Annexure A**) builds further on the Protocol with two key objectives that explicitly extend the definition of urban design to include the rural as well as the urban environment. These objectives are:

27.1 "Ensure State highways contribute to vibrant, attractive and safe urban and rural areas"; and

27.2 "Achieve integration between State highways, local roads, public transport, cycling and walking networks, and the land uses they serve".

28 The NZTA's "Standard Professional Services Guideline PSG/12 - Urban Design" reinforces that "urban design applies to all areas of the state highway network and is a multidisciplinary approach to improve the quality of life for communities."[9]

29 For this Project, then, the term 'urban design' is used to describe both the process of shaping the built aspects of both urban and rural environments as well as the outcomes of that process.

NZTA's obligations in relation to urban design

30 The main documents that provide the policy framework underpinning NZTA's urban design obligations are the:

30.1 RMA;

30.2 Land Transport Management Act 2003 (*LTMA*);

30.3 NZTA's Environmental and Social Responsibility Policy 2011 (*the NZTA's ESR Policy*); and

30.4 NZTA's Urban Design Policy.

The relevant aspects of these documents are summarised below.

31 The RMA sets out a number of matters in its purpose and principles. Of relevance to urban design are:

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[7] Ibid, page 21.

[8] NZTA website: http://www.nzta.govt.nz/resources/urban-design/urban-design-policy.html.

[9] http://www.nzta.govt.nz/resources/state-highway-professional-services-contract-proforma-manual/guidelines/docs/psg12-2011.pdf page 1.

(a) enabling people and communities to provide for their social, economic, and cultural well-being and for their health and safety (s5(2));

(b) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers (s6(d));

(c) the maintenance and enhancement of amenity values (s7(c)); and

(d) the maintenance and enhancement of the quality of the environment (s7(f)).

32 The LTMA requires the NZTA to "exhibit a sense of social and environmental responsibility" in promoting "an affordable, integrated, safe, responsive, and sustainable land transport system."

33 The NZTA's ESR Policy implements the LTMA's requirements with regard to social and environmental responsibility and commits the NZTA to: "integrating good urban design into all its activities"; promoting an accessible and safe transport system that contributes positively to New Zealand's economic, social and environmental welfare; and acting in an environmentally and socially responsible manner.

34 Transit New Zealand (now the NZTA) became a signatory to the Protocol in 2005, making a voluntary commitment to "planning for, developing and promoting quality urban design".[10] This commitment is confirmed in the NZTA's Urban Design Policy (attached as **Annexure A**), which continues to guide the NZTA in implementing urban design.

THE ROLE OF AN URBAN AND LANDSCAPE DESIGN FRAMEWORK

35 The NZTA's "Urban and Landscape Design Frameworks - Highways and Network Operations Guideline 2009" outlines the requirement for, purpose and content of ULDFs.

36 The role of an ULDF is to ensure that the urban and landscape design concepts for a project are appropriately defined, developed, described and implemented, by integrating operational engineering requirements with a site's surrounding natural, modified and human environments. An iterative design process often involves close inter-disciplinary collaboration amongst project team members to address matters such as:

36.1 Refinement of highway alignment;

36.2 Future land use character post construction;

[10] NZTA website, http://www.nzta.govt.nz/planning/process/urban.html.

36.3 The type and form of key structures, e.g. noise barriers, retaining walls and bridges;

36.4 Open space design and site layout of key open space elements, including stormwater management areas;

36.5 Location and guiding principles for key pedestrian and cycle way linkages and connections;

36.6 Amenity and ecological planting;

36.7 Material and finishes of key structural elements; and

36.8 Recommendations in relation to public art opportunities.

The purpose of the ULDF in this Project

37 This ULDF is a key tool for the NZTA in ensuring its urban design commitments are satisfied. The ULDF supports the RMA process by providing design concepts, principles and proposals which respond to effects identified by other disciplines. Of particular relevance to the preparation of the ULDF were the effects identified by the following disciplines:

37.1 **Landscape: Mr Lister** discusses the Landscape and Visual Effects Assessment (Technical Report 5) prepared by Isthmus, which identifies the effects of the Project on, amongst others, landscape character and aesthetics, recreational use, historical landscape associations, nearby properties and future road users. Isthmus also prepared design principles for engineering elements and landscape proposals which are incorporated into the ULDF;

37.2 **Transport: Mr Kelly** discusses the Assessment of Traffic and Transportation Effects (Technical Report 4) which assesses the effects of the Project on, amongst others, local road networks, public transport, walking and cycling;

37.3 **Social: Mr Rae** discusses the Social Impact Assessment (Technical Report 17) which assesses the effects of the Project on the affected communities, including regional impacts on accessibility and connectivity, and local impacts on community cohesion, character, structure and stability;

37.4 **Acoustics: Dr Chiles** discusses the Acoustics Assessment (Technical Report 12) which identifies the road-traffic and construction noise effects of the Project and recommends acoustic barriers in some locations.

Relationship of ULDF to application documents and the detailed design phase of the Project

38 The ULDF is a technical report lodged as part of the AEE, in support of the NoRs and resource consent applications. It describes an overall urban and landscape design concept[11] for the Project, complementing Technical Report 1: Road Design Philosophy. It also contains a series of principles to guide the future detailed design of specific aspects of the Project such as earthworks, bridges, pedestrian and cycle facilities, highway furniture and noise barriers.

39 The ULDF will be used to inform the preparation of more detailed LUDMPs for the corridor. Proposed conditions require that the future detailed design be undertaken consistent with specific concepts and principles contained therein.

40 In my opinion, the proposed concept and supporting design principles are linked to the identified contextual issues, consistent with the NZTA's Urban Design Policy, and provide a suitable foundation for the future detailed design of the Project.

METHODOLOGY FOR DEVELOPING THE ULDF

41 The methodology used for the preparation of the ULDF reflected the multidisciplinary nature of the Project. The urban design and landscape team undertook the following core activities:

41.1 **Identification of design issues -** This activity included: a review of the NZTA's and PCC's Project objectives; visits to the proposed roading corridors and surrounding landscape and adjoining urban areas; a review of relevant background, historical and policy documents; fact-finding meetings with representatives of the territorial authorities; and attendance at a series of multi-disciplinary workshops;

41.2 **Refinement of the highway alignment – Mr Edwards'** evidence deals in detail with the refinement of the Project's "Preferred Alignment". The process included multi-disciplinary workshops that challenged aspects of the design, such as the junction arrangements in response to the contextual issues identified;

41.3 **Preparation of urban and landscape concept, and project-wide design principles -** The urban design and landscape team worked with other technical specialists to develop design principles for the Project's earthworks, structures, landscape design, noise barriers, pedestrian and cycle links, stormwater devices and highway furniture; and

[11] ULDF, page 30.

41.4 **Preparation of section-specific design proposals -** The urban design and landscape team worked with other technical specialists to develop solutions to the particular urban design and landscape issues arising in each of the nine sections of the Project (the Link Roads were considered in relation to Section 7, which is the section of the Main Alignment which they connect to). This included working with the engineers to develop location-specific bridge, underpass and retaining wall designs; contributing to the selection of noise mitigation measures; and meeting with the Maraeroa Marae and Tokelau Church to discuss boundary treatments.

42 In parallel with these Project activities, Ms Desrosiers took part in coordination meetings involving the urban design consultants working on the other segments of the Wellington Roads of National Significance (*RoNS*) corridor. Ms Desrosiers reported to me on these meetings. I understand that this group defined the four character areas for the Wellington RoNS (of which Transmission Gully itself is one) and corridor-wide urban design principles which this Project is consistent with.

43 In my opinion, the methodology adopted to deliver the ULDF reflects the aims of the Protocol and NZTA's Urban Design Policy in that it involved the urban design team in a collaborative, multi-disciplinary approach that enabled design decisions to strike a balance between engineering requirements, cost constraints and other considerations to achieve the Project objectives for the NZTA and PCC Projects.

URBAN DESIGN ISSUES FOR THE PROJECT

Key issues

44 Through my understanding of the statutory and policy context for highway design, and my involvement with the Project, I consider the key urban design issues which require consideration are the following:

44.1 The integration of the Main Alignment and Link Roads with the surrounding urban context;

44.2 The maintenance or enhancement of pedestrian and cycle networks in the vicinity of the Project; and

44.3 Design of the road structures (including bridges, retaining walls, underpasses, earthworks and noise walls) in relation to their context and to the experience of road users.

45 There is some overlap between issues, for example between the connectivity and amenity offered by bridges / underpasses where they cross the road alignment, and the appearance of these structures in the landscape. I generally discuss such bridges under the issue heading 'Pedestrian and cycle networks' below.

Project urban design proposals

46 In this section of my evidence I comment on how the Project addresses these issues, referring to the key design proposals which are set out in more detail in the ULDF.

47 By way of context for the design principles and proposals, the overall urban and landscape concept for the Project is to emphasise expansive views, create a linear highway character, reinforce existing landscape patterns, and celebrate the rural-urban threshold.[12]

Integration with the surrounding urban context

48 The proximity of the Project to urban and residential areas, a neighbourhood centre, primary school and public open spaces, and the local road connections, all require particular attention to the design of road approaches, structures, noise barriers, pedestrian facilities and landscape.

49 The visual effects of the Project, recommended landscape mitigation measures and the landscape design responses to integrate the Project with different landscape character areas are addressed in **Mr Lister's** evidence.

Section 7 – James Cook

50 In Section 7 of the Project the Main Alignment skirts areas identified for potential future development (Judgeford Hills Structure Plan area and Whitby), while the Porirua Link Roads abut existing urban areas and will in the future be able to serve future residential development either side. The design proposals in the ULDF take into account potential community severance effects of the Project on the Waitangirua neighbourhood centre (discussed in **Mr Rae's** evidence) and the requirements for safe pedestrian and cycle movements at the intersection of Waitangirua Road and Warspite Avenue (addressed in **Mr Kelly's** evidence).

51 The stated design aims in the ULDF include integrating the Link Roads with the local road network and suburban environments and with the Maraeroa Marae, capturing and exploiting attractive views, and catering for pedestrians and cyclists at the Waitangirua Link Road / Warspite Avenue junction.

52 The Project response is to design both Porirua Link Roads as local roads (i.e. single carriageway 50 km/h roads with some side access). The ULDF provides for additional features to clearly communicate to road users the transition from the 100 km/h motorway environment to the suburban environment. These features are:

52.1 The design of the Whitby Link Road to merge seamlessly with the local movement network by: including footpaths on both sides; continuing the existing pattern of grassed verge separating the footpath from the carriageway; providing for cyclists either in the road shoulders or along an off-road shared pedestrian and cycle

[12] ULDF, Project-wide design principles, page 30.

path; and providing street lighting.[13] These features could be staged to coincide with urban development taking place along the Link Road;

52.2 The design of the section of the Waitangirua Link Road nearest Warspite Avenue to provide early warning to road users that they are approaching a neighbourhood centre by: narrowing of the carriageway; street trees; provision for cyclists either in the road shoulders or along an off-road shared path, street lighting; and public art or distinctive landscape treatment;[14]

52.3 Provision for the Waitangirua Link Road / Warspite Avenue junction to be a signalised junction catering for pedestrian and cycle movements across all four legs of the junction with marked crossings and pedestrian phases in the traffic lights.[15] This is a positive move that supports the pedestrian and cycle links design principles in the ULDF[16] and is an improvement on an early proposal for a roundabout. A signalised junction supports safer crossing movements for pedestrians and cyclists than a roundabout by giving more vulnerable road users priority over vehicular traffic during pedestrian phases. I understand that the current proposal was developed through cross-discipline workshops and consider it to be a strength of the design; and

52.4 Design of the interface of the Waitangirua Link Road with the Marae and Church on either side to include new boundary fences, street trees, landscape planting on both sides of the fences and aesthetic treatment to the fences, the detail of which is to be agreed with the Marae and Church at the outline plan stage. Proposed designation condition PCC.30 covers these aspects of the Project and consultation with the relevant parties.

53 I consider these measures will encourage safe driving behaviour, integration with the local context and a 'sense of place' that will make a positive contribution to the area identity.

Section 9 – Linden

54 This section covers the Kenepuru Interchange, the Kenepuru Link Road and the tie-in of the Main Alignment with the existing SH1. The Main Alignment skirts the suburban areas of Cannons Creek and Ranui Heights before entering the urban area of Linden. Linden Primary School and Arthur Carman Park adjoin the Main Alignment the west. Mahoe Park adjoins the Main Alignment to the east.

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[13] ULDF, page 124.

[14] ULDF, page 124.

[15] ULDF, pages 124-126.

[16] ULDF, page 39.

55 This is the most urban section of the route, where the proximity of the Project to residential areas, public open spaces and a primary school necessitates particular attention to the design of structures, noise barriers, pedestrian facilities and landscape treatments.

56 The ULDF design objectives include: ensuring that the amenity of the school, adjoining residential properties and public open spaces is maintained or enhanced; retaining views to the wider landscape for travellers; designing elevated structures with regard to their high visibility both to road users and to the local community; and designing structures, earthworks and landscape to celebrate the 'natural gateway' that is the threshold between the urban and hill country environments.[17]

57 The Project response includes the following:

57.1 Where the Project requires the widening of the existing SH1 on the approach at Linden, where road reserve is currently contiguous with Linden Primary School, the ULDF provides for the highway to be widened on the eastern side only (not the school side) so as not to bring the road edge closer to the school.[18] While this is at the cost of amenity impacts to six properties on the eastern side[19], I consider that the amenity of the school environment (both the classroom areas and the playing field) is the priority, because of the greater number of people / school children affected and the importance of supporting the learning environment;

57.2 I understand that the NZTA is building a new playground for the Linden Primary School, further away from the boundary with the Project;

57.3 The ULDF[20] provides for any vegetation removed along Arthur Carman and Mahoe Parks during the construction process to be replaced with amenity planting that creates equivalent or better screening to visually buffer the motorway for park users, to support the continued use of these spaces by the local community;

57.4 The ULDF[21] (and Landscape Plan LA20) shows that existing vegetation (mostly pine trees) will be retained as a buffer to properties in Ranui Heights (Ernest Street, Gillies Avenue, Ash Grove, Japonica Crescent and Apple Crescent);

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17 ULDF, page 146.

18 ULDF, page 148.

19 Houses at the end of Mahoe Street, Raroa Terrace and Collins Avenue.

20 ULDF, page 163.

21 ULDF, page 152.

57.5 The ULDF[22] acknowledges that some properties in Greenacres may need to be removed to accommodate road widening, and provides that in that circumstance a new landscaped buffer will be introduced to those properties that remain. Buffering will take the form of vegetation, bunds, fences or a combination; and

57.6 The Kenepuru Link Road Bridge is an elevated structure that will pass between two existing industrial buildings to traverse the railway line and existing SH1. The ULDF[23] provides for this bridge to be designed and placed to fit with existing buildings (so as not to compromise their use).

Pedestrian and cycle networks

58 Pedestrian and cycle networks play an important role for both commuting and recreation, in contributing to a well-used environment and in enhancing people's enjoyment of the open space network. Accessibility, amenity (including safety), visibility and direct lines of travel are key considerations in my assessment of the Project design proposals.

Section 1 – MacKays Crossing

59 This section of the Project covers the tie-in with the existing SH1 near the existing MacKays Crossing Interchange, where the existing SH1 is part of the Regional Cycling Network[24].

60 The ULDF[25] describes the potential for new cycle facilities both within and beyond the boundaries of the Project. I understand that, while there is no confirmed alignment as yet, the NZTA will provide a shared path between the existing SH1 and MacKays Crossing, and a route that allows cyclists to travel north from MacKays Crossing to Paekakariki and thence to the coast. This may include a mix of on-road and off-road paths. Such a route will extend the Regional Cycling Network and make a positive contribution to user amenity.

61 Bridge 1 (SH1 underpass) is designed with generous head height and with clear lines of sight and a difference in level between vehicles and the cycle / pedestrian shared path. The concept design is well supported by general principles for pedestrian and cycle links[26] and underpasses[27] and will accommodate pedestrian and cycle movements safely and present a simple, tidy, high quality finish to road users.

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22 ULDF, page 149.

23 ULDF pages 148-149.

24 Regional Cycling Network map, GWRC, 2008.

25 ULDF, Figure 5.7, page 54.

26 ULDF, page 39.

27 ULDF, page 36.

Sections 1 – 4 – MacKays Crossing, Wainui Saddle, Horokiri Stream, Battle Hill

62 Post construction, a new shared path for pedestrians and cyclists will be provided from Battle Hill Farm Forest Park (*BHFFP*) to the northern end of the Main Alignment. This path will generally follow the route of an existing vehicle access track, using a combination of the existing track where possible and new linking sections where necessary. This not only provides some 15 kilometres of new linear shared path, it also connects with an existing tramping track at the Mt Wainui summit and thence to Queen Elizabeth Park. In other words it creates an alternative walking loop.

Section 4 – Battle Hill

63 Within BHFFP, the Main Alignment crosses the "Transmission Gully Puketiro Loop" multi-use track. The track is used for walking, mountain biking and horse riding and is currently the only track providing access to the part of the Park east of the Main Alignment.

64 The ULDF[28] provides for Bridge 7 (Battle Hill underpass) to be designed to accommodate pedestrian, cycle and horse riding movements safely and to provide good amenity for park users. This includes ensuring, in the detailed design, that the underpass' height is sufficient to allow equestrian riders to remain on horseback through it and that its width is sufficient to allow separation of the slow moving pedestrians from the faster moving mountain bikes and horses. I consider this to be an appropriate measure to maintain connectivity for park users across the Main Alignment. Indeed, this underpass will also link the Puketiro Loop track to the proposed pedestrian and cycle path between the northern end of the Project and BHFFP (discussed above). This provides new opportunities to connect from the Park into a regional path system.

Section 6 – State Highway 58

65 Where the Main Alignment severs the existing SH58 (part of the Regional Cycle Network) near Pauatahanui Village, pedestrian and cycle connectivity will be maintained with a new off-road shared pedestrian and cycle path along Pauatahanui Stream, crossing the Main Alignment under Bridge 15 (Pauatahanui Stream Crossing) to tie in to the existing path network.[29]

66 As well as maintaining connectivity, there is also an opportunity to restore that part of Lanes Flat not used for SH58 with wetland and natural vegetation. **Mr Lister** comments that this will "represent a significant enhancement and restoration… that will mitigate the adverse landscape and visual effects of the Project within the valley".[30] I consider that this proposed restoration, together with the new path that will enable public access to, and enjoyment of, the wetland area, will contribute to the character of the Pauatahanui area. It will also provide a break in urban development between Pauatahanui Village and Whitby, thus helping the

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28 ULDF, page 86.

29 ULDF, page 110.

30 Refer **Mr Lister's** evidence, para 39.

Village retain its identity as a separate settlement. I concur with **Mr Lister** that these outcomes also support the recommendations of the Pauatahanui Village Plan (2009).[31]

Section 8 – Cannons Creek

67 This section of the Project covers the crossing of the Belmont Regional Park and land west of the Park. It includes the crossing of the deep Cannons Creek gorge. Within the Park, the Main Alignment crosses the Takapu and Duck Creek tracks, used for walking, horse riding and in the case of the Takapu Track, mountain biking. The Takapu Track is the main link between the suburbs of Cannons Creek and Waitangirua and the Park's wider network of tracks.

68 The ULDF[32] provides for the Duck Creek Track to be re-aligned under Bridges 18 and 19 and the Takapu Track to be re-aligned under Bridge 20 (Cannons Creek bridge). In my opinion, this will minimise the disturbance to the tracks (particularly when compared with the use of over-bridges) and allow park users to gain impressive close range views of the Cannons Creek gorge and bridge.

Section 9 – Linden

69 New pedestrian and cycle facilities are proposed in two locations, at Collins Avenue and the Kenepuru Link Road junction.[33]

70 The existing footpath on the southern side of Collins Avenue is maintained under the new Collins Road bridge (Bridge No. 26). The Project also offers the potential for an extension of the footpath on the northern side under the bridge, as far as Little Collins Avenue. This footpath currently stops between Ranui Terrace and Arthur Carman Park; extending it would support pedestrian access into the park. I understand the NZTA would be prepared to extend this footpath, as I have described.

71 Between the end of Raroa Terrace and Collins Avenue, currently on NZTA land, is an informal path which is used by children going to and from the Linden Primary School and is also part of the link across SH1 between the Greenacres community and the Linden neighbourhood centre and train station. The NZTA has indicated that it will give this land to Wellington City Council for Council to formalise the path.

72 The Kenepuru Link Road junction will have new, grade separated shared path, new dedicated pedestrian path, and a dedicated cycle path, to facilitate movement along and through the interchange and to connect with the Regional Cycle Network.

73 I consider that the proposed pedestrian and cycle provisions across the Project satisfy the NZTA's objective of integrating all systems of movement

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[31] Future Focus: A Framework for Pauatahanui Village, Porirua City Council, 2009.

[32] ULDF, page 143.

[33] ULDF, page 162.

along and across the transport corridor[34], are appropriate for the context and improve the amenity for cycle and pedestrian network users.

Design of structures

74 The ULDF contains general design principles that apply to all structures in the Project. I consider these to reflect best practice[35] and provide a suitable foundation for detailed design. For example, in response to the 'open sky' design concept, bridge side barriers are generally to include a metal top rail in lieu of a higher solid concrete barrier, to maximise views out and over the landscape from the bridge. This will contribute positively to road users' experience. [36]

75 The general principles have been taken into the concept design of individual structures and refined or added to, as suitable, where those structures are in highly visible and / or sensitive locations. I comment briefly below on the key structures.

Bridges

76 Bridge 15 (Pauatahanui Stream crossing) will comprise three separate decks with the voids between the decks maximised to provide natural light to the shared path and Pauatahanui Stream below.[37] I note that in a previous iteration of the Project, this bridge was an approximately 90 metre long culvert, which would not have provided safe nor enjoyable access for pedestrian and cyclists. In my opinion, the revised design is a significant improvement over the earlier design and accords with urban design best practice both in terms of an improved outcome and the holistic design process that delivered it.

77 Bridge 16 (James Cook Interchange bridge) will be mostly visible to road users approaching the Main Alignment from the Porirua Link Roads. The ULDF appropriately contains principles to guide the design of the retaining walls and bridge barriers and the landscape treatment of the fill batters, which will be the most noticeable features of the bridge.[38]

78 The concept design for Bridge 20 (Cannons Creek bridge) will provide good amenity for park users passing underneath it and an elegant profile for residents and park users who will see it from a distance.[39]

79 Bridge 26[40] (Collins Avenue) will be viewed at close range and low speed on a daily basis by Linden Primary School children and other local pedestrians, and will be visible from Arthur Carman Park and to residents

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34 NZTA website, http://www.nzta.govt.nz/planning/process/urban.html.

35 For example refer NZTA, Road bridge guidance notes, 2009.

36 ULDF, page 44.

37 ULDF, pages 111-112.

38 ULDF, page 129.

39 ULDF, page 142.

40 ULDF, page 156.

on Little Collins Street. The ULDF identifies that the design of the bridge soffit, internal walls, abutments and barriers therefore warrant special consideration in the Outline Plan of Works stage. I note that the ULDF provides broad direction for the detailed design, such that it shall be consistent with the corridor-wide landscape concept. I support this approach as providing both flexibility, as the design develops, but also assurance that the landscape and urban design principles retain their guiding status.

80 Bridge 27[41] (Kenepuru Link Road underpass) will be a distinctive gateway feature into Porirua City for road users entering or exiting the new highway at Linden and will help road user orientation and sense of place. The ULDF concept design is for as 'open' a structure as possible, where natural light penetration can minimise any perceived 'tunnel effect'. The rationale is that optimising daylight from the portals will help minimise the perceived length of the underpass for users, reduce the contrast in lighting levels outside and inside the underpass, and enhance the driver experience.

Noise and retaining walls

81 Noise barriers will be of varying height and their design will have visual implications for motorway and road users, pedestrians and cyclists, residents, users of reserves and school children.

82 The Project uses bunding, and combines noise walls with bunds where possible to reduce the height of the 'structure' element. This will assist in softening the appearance of the walls, particularly when associated with planting, as per the general noise barrier design principles.[42]

83 Where the Project skirts the Pauatahanui Golf Course and rural residential subdivisions, noise mitigation measures will be integrated in the landscape in a manner consistent with ULDF principles, such as by using a 2m high earth bund.[43]

84 In Section 9 a number of noise walls will be required, next to residential properties and the Linden Primary School. Their alignment and height vary in response to their different locational requirements, including the opportunity to maintain or extend the pedestrian network. The ULDF[44] contains principles for the detailed design of the noise bunds and walls that will in my view ensure that the noise barriers will be of high visual quality and well integrated in their respective contexts.

Earthworks

85 The Wainui Saddle and parts of the steep valleys of Te Puka and Horokiri Streams are set within remote rural areas. There will be large batters in

[41] ULDF, page 158.

[42] ULDF, page 38.

[43] ULDF, page 97.

[44] ULDF, page 160.

these areas whose visual effect, **Mr Lister** notes, will be exacerbated when they are over 15m high and require benching. He comments further that the design of cut batters, in particular, is important to mitigate their effect. I agree with him in supporting the design principles in the ULDF. I consider, as well, that in opening up new views for road users, the Project will make a positive contribution to people's appreciation of the landscape and area character.

86 At Kenepuru/Linden, the ULDF[45] suggests that the spoil disposal site in the triangle between the new Main Alignment, the Kenepuru Link Road and the existing SH1 motorway be designed as a large scale earth sculpture. This is an opportunity to create a positive landmark feature to mark the interchange, which will contribute to road user orientation and local identity.

RESPONSE TO SUBMISSIONS

87 Twelve submissions were received that raised matters relevant to urban design. I have grouped these under the same 'urban design issues' headings discussed above in my evidence i.e.:

87.1 Integration with the surrounding urban context[46]; and

87.2 Pedestrian and cycle networks (including bridle paths)[47].

88 Also, two submitters[48] requested that a rest area at the summit of the Wainui Saddle be created for drivers to be able to appreciate views northwards to Kapiti and the coast, and where information, signage and public toilet(s) could be provided. I agree that this view opportunity would add to the experience of drivers and their passengers, and understand that while there will not be a formal viewing area, vehicles will be able to access the brake check and truck rest areas in this location, and that an un-manned kiosk with information boards could be provided. This is dealt with in more detail by **Mr Edwards**.

Integration with the surrounding urban context

89 The Ranui Residents Association[49] requests that native trees are planted in as many places as possible, and that they should replace existing pine trees, particularly those surrounding houses in Ranui.

90 **Mr Lister** in his evidence comments on the landscape planting concept, shown both in the ULDF[50] and on Landscape Plan LA20, which is for a

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45 ULDF, page 155.

46 Submitter Nos. 12, 25, 58 and 60.

47 Submitter Nos. 15, 21, 23, 25, 44 and 50.

48 Submitter Nos. 22 and 59.

49 Submitter No.12.

50 ULDF, page 163.

predominance of native species. The intention in retaining some of the pine trees was to support residential amenity by screening views to the motorway from Ranui Heights; and I consider that this is a positive, at least during construction and establishment of new planting of native species.

91 The Waitangirua Community Park Design Team[51] are concerned that proposed street trees along Niagara Street and the new Waitangirua Link Road will have a negative impact on the safety of residents and people using the Community Park. They request that street tree planting not be undertaken.

92 This submitter has raised two issues in relation to the street tree planting: the potential for branches to be used as weapons; and the potential for concealment.

93 I have reviewed the landscape plans (LA15), the relevant photomontage (LA74)[52], and the drawing in the ULDF showing a conceptual landscape treatment.[53] While I am sympathetic to the safety concerns of this submitter, my opinion is that the landscape treatment shown will be a significant improvement to the existing character of the intersection and approach roads, and provide an incentive to pedestrian movement, which will in turn create a better used and overlooked public domain.

94 The concept is for clear trunked trees, with no additional understorey planting on Niagara Street, and a grassed verge on the new Link Road with groundcover plants and low shrubs. The ULDF (and the proposed LUDMP(s))[54] also includes a reference that the planting shall consider the principles of Crime Prevention Through Environmental Design (*CPTED*) which include keeping clear sight lines and not creating spaces for concealment. I am confident that this can be achieved.

95 Living Streets Wellington[55] have made a submission which is generally in support of walking friendly communities, and particularly in relation to the future character and connectivity of the existing SH1 as a local road serving local communities. They request modifications to the existing SH1, as part of this Project, to address existing community severance problems and to secure a local road character that facilitates local traffic movement and also enhances the pedestrian and cycling character.

96 The proposed enhancements are, in my view, consistent with good urban design practice. However, they are not within the scope of the current Project. I consider they can be appropriately delivered by local Councils

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51 Submitter No. 25.

52 Viewpoint 8 – Proposed Waitangirua Link Road – with mitigation.

53 ULDF, Figure 5.48, page 125.

54 Condition NZTA.48, PCC.30.

55 Submitter No. 58.

working with local communities. This is particularly the case given the long construction time frame for this Project and the potential changes that will occur in those townships over time. I would expect consequent development or refinement of structure plans that may well result in a different location and design (for example) of entry 'gateways' and intersections than might currently be expected.

97 Whitby Coastal Estates[56] own most of the land required for the Whitby Link Road. They submit that the current road alignment is less than optimal for residential subdivision and have proposed modifications that better suit their preferred lot layout. **Mr Edwards'** evidence addresses the ability of these modifications to conform to the design requirements for the Link Road. I understand that PCC is supportive of an ongoing process of consultation to deliver an appropriate design that satisfies development objectives as well as its own requirements.

98 From an urban design point of view, a design that enables high quality subdivision design within the residential neighbourhood (that is, a well-connected and legible network that offers movement choice, houses that address the street, lot orientation optimising passive solar design, working with the natural topography for water-sensitive design solutions), is optimal. I have no issue with an alternative alignment so long as any proposed subdivision pattern demonstrates it meets those quality objectives.

Pedestrian and cycle networks

99 Submitter No. 21 requests provision for pedestrians to cross the motorway in several places; and further, that such crossings should be in the form of at or above grade paths, rather than in subways or tunnels. The concern with subways and tunnels relates to personal safety and the potential for crime, particularly where there is no potential for casual surveillance of the path from the surrounding area.

100 Access across the Main Alignment will be provided in existing urban areas and in regional parks in order to reinstate connections that are severed by the Project. It is not proposed to be provided in remote areas that will remain rural, and where land use change is not envisaged (in other words, where people are unlikely to live or work in the future).

101 The access that has been provided is generally under the new Main Alignment, which is elevated either on embankment or on a structure. This results in underpasses through embankments under Bridges 1, 2 and 7, a path underneath the elevated structure of Bridges 3 and 15, and walking tracks under high Bridges 18, 19 and 20. Bridge 26 already goes over a local road and will be widened to accommodate the new motorway. The benefit of underpasses rather than overbridges in these locations is that the walking / cycling route remains at or near existing grade, rather

[56] Submitter No. 60.

than taking people up and over structures (which usually either renders the path inaccessible or requires very large land area).

102 Having said that, I agree with this submitter that underpasses can be generally uninviting and unsafe places. The ULDF also recognises these issues, and provides strong guiding principles for the design of underpasses[57] to secure good amenity for pedestrians and cyclists. These include maximising accessibility (with gradients as flat as possible), visibility (with clear, direct routes and approaches), natural light (by making underpasses as high and wide as possible, and introducing median skylights where practicable), and amenity (using well considered materials and finishes).

103 The Kapiti Coast District Council [58] comments that there is no alternative local route at the northern end of the Project route and requests that part of the former SH1 be used to form a local route from MacKay's Crossing to Sang Sue Corner. **Mr Kelly** and **Mr Edwards** discuss this issue in their evidence (in terms of vehicle traffic) and conclude that an alternative link route is not appropriate.

104 Notwithstanding the lack of potential for this to become a trafficked route, I support the extension of a pedestrian / cycle path in this location to link into the wider network north of the Project. The ULDF provides for such a connection. The alignment of this facility would need to be the subject of detailed design, but I understand that there are significant constraints on the eastern side of the Main Alignment (the NoR reflects this, coming hard in against the corridor at the base of an existing embankment). However, a two-way pedestrian / cycle path could be accommodated on the western side (possibly along the new earth bund) so as to link in to the disused SH1, at the northern end of the Project. This would have the benefit of creating a direct connection to the entry to Queen Elizabeth Park, and also (under the existing bridge at MacKays Crossing) adding another tie-in via the new roundabout to the local road and wider cycle network. An additional benefit, also identified by this submitter, is the potential for such a path to allow people to view and appreciate the brick fuel tank that represents the military history of the area.

105 The Cannons Creek Residents & Ratepayers Association and the Waitangirua Community Park Design Team[59] are concerned about pedestrians on Warspite Avenue, in light of the likely future increase in traffic accessing the new Waitangirua Link Road. The Waitangirua Community Park Design Team are specifically concerned about the safety of the existing pedestrian crossing on Warspite Avenue between the Maraeroa Marae and the Community Park. They are requesting additional measures (namely pedestrian barriers at this crossing) to encourage safety awareness.

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57 ULDF page 36.

58 Submitter No. 23.

59 Submitter Nos. 15 and 25.

106 I understand that the existing pedestrian crossing is expected to continue in operation, but will be monitored by PCC once the new road has been constructed, who will discuss any changes needed with the local community. From an urban design point of view, the introduction of pedestrian barriers can have negative consequences, as they create a visual as well as physical barrier, which could undermine the 'connectedness' of the Marae and the Park.

107 I note too that an additional crossing point at the intersection of Warspite Avenue / Niagara Street / Waitangirua Link Road will be provided, and that this is a signalised intersection which will give pedestrians priority on their crossing phase. The traffic signals will be quite close to the uncontrolled pedestrian crossing (within 100 metres) and I consider will be seen by and indicate to approaching drivers on Warspite Avenue the need to slow down, thereby also contributing to a safer pedestrian environment.

108 Battlehill Eventing Inc[60] are concerned about potential access restrictions to the BHFFP for equestrian eventing during construction, and the potential loss of use of trails for riders during both construction and operation.

109 In her evidence, **Ms Rickard** gives an overview of the actual and potential effects associated with construction. **Mr Rae** also considers this issue from a social impact perspective, whilst **Mr Kelly** explains proposed traffic management measures during construction. In relation to future trails, as noted, there is one multi-use track that currently provides access to the part of the Park east of the Main Alignment, and that will be severed by the Project. The other tracks are entirely on the western side of the Alignment and will remain unaffected. Bridge 7 (Battle Hill underpass) is the east-west connection proposed to reconnect the two areas of the Farm Park. The ULDF provides for the underpass to be designed to accommodate pedestrians, cyclists and horses with their riders. I consider that providing this connection enables the future use of the Park for riders.

110 The Mana Cycle Group[61] submit that the Project will not remove the existing barrier to cycle movements represented by the existing SH1. I conclude, rather, that the maintenance, enhancement and extension of the shared path network which the Project represents, on balance, improves accessibility and amenity for cyclists and for pedestrians over the Project route.[62]

111 This submitter is also concerned that the Project will destroy existing mountain biking opportunities and facilities. These concerns are not specified further but I assume that they relate to those areas of the regional parks (Akatarawa Forest Park, BHFFP and Belmont Regional Park) that are crossed or edged by the Transmission Gully corridor.

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60 Submitter No. 44.

61 Submitter No. 50.

62 As discussed above under 'Project urban design proposals'.

112 As noted, a new pedestrian / cycle path will run between the northern end of the Project route and BHFFP, providing more frontage to Akatarawa Forest Park; and the east-west connection across BHFFP will be reinstated in the form of an underpass. Belmont Regional Park currently provides for walking, mountain biking and horse riding on a track network that will be bisected by the Project. Duck Creek Track and Takapu Track will be severed and will be realigned to permit access under proposed bridges, thereby maintaining the network. I note that currently mountain bike riding is not permitted on Duck Creek Track.

113 I consider that the reinstatement of access into the regional parks is appropriate and that the Project is therefore not precluding recreational activity – mountain biking, walking, cycling and horse riding – and the future use and enjoyment of the parks.

PROPOSED CONDITIONS

114 Proposed landscape and urban design conditions were included in the AEE at NZTA.46-.50 and PCC.28-.32. Since then, I have recommended some further slight amendments to the conditions. These suggested amendments are intended to secure the intent of the ULDF for place-specific design responses that are consistent with the landscape and urban design vision, design principles and design concepts developed through the Project process and which are set out in the document.

115 Designation Conditions NZTA.46 and PCC.28 (as attached to the AEE) require that a Landscape Management Plan (*LMPs*) be prepared as part of the Outline Plan for any stage of the works. These plans are to be consistent with the ULDF and to be in accordance with NZTA's standard guidelines or principles for urban design and landscaping. Conditions NZTA.47-.50 and PCC.29-.32 set out the detail content of the LMPs and matters relating to their preparation and implementation.

116 I recommend that the title of these plans be amended so as to be called "Landscape and Urban Design Management Plans" (*LUDMPs)*, thereby also reflecting their urban design component.

117 I also propose that Conditions NZTA.48 and PCC.30 be amended so as to identify the design principles that have generated the design concepts in the ULDF, and that should be carried forward into the LUDMPs to achieve continuity with the intent of the ULDF. These are the principles for noise walls, boundary walls and those structures (including bridges, underpasses and associated retaining walls) which are identified in the ULDF as in sensitive or highly visible locations[63], the detailed alignment of pedestrian and/or cycle paths, the Waitangirua entrance feature and the selection of a palette of road furniture elements.

[63] ULDF, pages 34-35.

118 The design concepts in the ULDF can be considered as performance criteria. They are one way of meeting the design principles that provide the over-arching design 'cues' for the Project. I appreciate that over time, and as the Project develops in the future, there may need to be a reconsideration of the urban and landscape design response in the light of emerging issues. However, it will be important for any alternative design response to demonstrate how it too can satisfy the performance criteria set by the ULDF concepts. This means that while there is flexibility in the detailed design of the highway elements, there must also be consistency with the design principles. I would expect that the LUDMPs should include a design rationale to that end, as well as demonstrate how the developed concepts continue to integrate structures, landscape and architectural design.

119 Finally, I also recommend that an urban designer be involved in the development of the LUDMPs.

120 I understand that NZTA and PCC are comfortable with my proposed changes to the designation conditions.

121 To that end, I consider it important that the conditions (as proposed to be amended) will achieve the following:

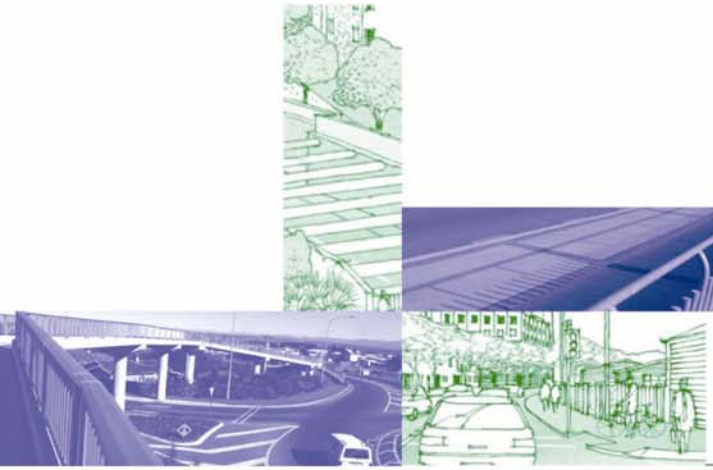
121.1 The LUDMPs provide for continuity of design concepts and principles between the ULDF and the detailed design;

121.2 An urban designer will be involved in progressing the urban design principles and concepts; and

121.3 Consultation with relevant parties over aspects of the detailed design is a requirement for the preparation of the LUDMP(s).

Lynne Rosa Hancock
17 November 2011

ANNEXURE A – THE NZTA'S URBAN DESIGN POLICY



URBAN DESIGN POLICY

Introduction and issues

New Zealand Urban Design Protocol

Transit, as a signatory to the New Zealand Urban Design Protocol (the Protocol), is committed to planning and delivering quality urban design. State highways play a key role in contributing to the quality and character of urban and rural environments. Transit's primary contribution to achieving the objectives of the Protocol is a state highway network that achieves a high level of functionality while at the same time supports a high quality natural, built and social environment.

What is urban design?

Urban design involves the design and placement of buildings, roads and open spaces in towns and cities to create desirable places in which to live, work and play. On a large scale it is concerned with urban and rural structure, the pattern of buildings, open space and movement networks. On a small scale, it is concerned with urban and rural character and function and how roads, open spaces and buildings interact, appear and function.

What urban design is not

Urban design is not just about the aesthetic characteristics of roads and the introduction of public art and sculpture. These may contribute to good urban design, but the concept is more fundamentally concerned with the structure, character and function of urban and rural areas.

How urban design assists Transit

The application of urban design principles assists Transit in the identification and evaluation of key issues early in the project development process. This allows Transit to identify scope and funding needs more accurately in the planning phase of a new state highway project, which is an essential pre-requisite for cost efficiency and effectiveness. On existing state highways there may be limited opportunity to fulfil the objectives of the NZ Urban Design Protocol and each initiative will be considered on a case-by-case basis.

One of the objectives of this focus on urban design is the achievement of an affordable state highway network that New Zealanders can be proud of in the future. However, there are many challenges involved in fulfilling this objective, including that many of the benefits of good urban design accrue in the long term.

State highway categorisation and urban design

State highway categorisation helps deliver urban design by allowing the planning and construction of state highways to reflect local context. It also requires this emphasis on local context to be balanced with the need to maintain the primary function of the state highway concerned.

For example, where the state highway forms the main street in a small town, it will be designed and managed in conjunction with the local community and may contain features to aid connectivity and town centre vibrancy such as traffic calming or controlled pedestrian crossings.

Partnership and cost sharing

Good urban design can only be achieved by working in partnership with local authorities, other agencies and communities. A number of urban design components are outside of Transit's mandate as an infrastructure provider, or may not be appropriate for Transit to seek funding for as part of a state highway project. In these situations Transit looks to its transport and planning partners to share or meet the costs involved.

Urban design is concerned with issues such as connectivity

Urban design policy

Transit will implement the Integrated Planning Policy by giving effect to this supporting policy, which relates to the contribution made by state highways to urban and rural form and amenity. Transit's policy on seeking to influence land use planning as part of an urban design approach is set out in Chapter 4.

As a signatory to the New Zealand Urban Design Protocol Transit plans and design state highways in a way that supports good urban design and value for money. In particular, Transit aims to:

- ensure state highways contribute to vibrant, attractive and safe urban and rural areas; and
- achieve integration between state highways, local roads, public transport, cycling and walking networks and the land uses they serve.

UDIP

Transit will apply its Urban Design Implementation Principles (UDIP) to all state highway activities:

1. Appropriate urban design needs to be determined on a case-by-case basis for state highway improvement activities. Each activity is different and should not be assumed to be a precedent for the next.
2. Urban design elements need to be incorporated into the activity at the outset. This will help ensure the project design addresses urban design in an efficient and cost effective manner.
3. Urban design will not represent an extravagant use of public funds. Urban design initiatives should not attempt to 'disguise' a road, rather they should enhance its integration with the surrounding environment.
4. Early collaboration with local stakeholders will occur to promote alignment between urban design initiatives of Transit and the views of affected communities.
5. Co-funding of urban design initiatives with local stakeholders will always be considered. Where a local community desires a higher level of urban design than Transit provides, Transit will seek the cost of the higher level outcomes from local stakeholders.
6. Urban design will be consistent with the operational requirements of state highways, while recognising the needs of motorists, pedestrians, cyclists and surrounding communities. State highway categorisation has a key role to play.
7. All components of urban design will be considered when incorporating urban design into state highway activities. Urban design can contribute to:
    - assisting economic development;
    - improving safety and personal security for all state highway users;
    - improving access and mobility for motorists, pedestrians, cyclists and passenger transport;
    - protecting and promoting public health through the state highway being appropriately integrated with an interconnected road network; and
    - ensuring environmental sustainability through appropriate use of materials and influencing surrounding land use development.

	Method
Urban design method	To achieve Transit's urban design policy outlined above, as it relates to the design of state highways, Transit will: 1. use the Transit Urban Design Professional Services Guide PSG/12 (contained within the State Highway Professional Services Contract Proforma Manual SM030) to implement urban design in the various stages of each Transit project. 2. seek early collaboration with local stakeholders to promote alignment between Transit's urban design initiatives and the views of affected communities. 3. seek cost sharing of urban design initiatives with relevant local authorities and other stakeholders to maximise opportunities to improve urban and rural environments, multi-modal transport opportunities and visual quality and character. 4. consider all environmental treatments (such as stormwater facilities), features to facilitate economic development (such as access to urban centres), engineering factors (such as road design being safe and functional) and facilities to address social requirements (such as community cohesion, providing pedestrian and cycling linkages) in the design of a state highway project from the outset. Guidance on detailed design issues is provided in the Urban Design Professional Services Guide PSG/12.