

Draft Report and Decision of the Board of Inquiry into the New Zealand Transport Agency Waterview Connection Proposal

Draft produced under Section 149Q of the Resource Management Act 1991

Volume 1

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May 2011

**BEFORE THE BOARD OF INQUIRY CONCERNING THE WATERVIEW
CONNECTION PROPOSAL**

IN THE MATTER The Resource Management Act 1991 (“The Act” or “RMA”) and the deliberations of a Board of Inquiry appointed under S 149J of the Act to consider applications by New Zealand Transport Agency (NZTA) for resource consents and designations for the Waterview Connection Proposal

HEARING AT: Auckland on the following dates: 7, 11, 15, 16, 18, 28 February; 1, 2, 7-11, 21, 22 and 25 March 2011

APPEARANCES: Refer to Annexure “A” to this Decision

Board: Environment Court Judge Laurie Newhook (Chairman)
Alan Dormer (Member)
Environment Commissioner Ross Dunlop (Member)
Sandra Hardie (Member)
Susan Jackson (Member)

**DRAFT DECISION AND REPORT OF BOARD OF INQUIRY
UNDER SECTION 149Q OF THE ACT**

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1 INTRODUCTION

1.1 Background, reference to Board of Inquiry, and Minister's reasons

[1] On 17 August 2010, NZ Transport Agency ("NZTA") lodged with the Environmental Protection Authority ("EPA") a substantial body of documentation comprising resource consent applications and Notices of Requirement (collectively called "the applications"). These concerned a proposed extension of the State Highway 20 motorway from Mt Roskill to link up with State Highway 16 at Pt Chevalier, together with significant enhancements of the existing interchange there, and significant upgrading north-westwards along SH16 to and through Te Atatu (collectively called "the Project").

[2] The applications comprised Notices of Requirement for alterations to designations in the Auckland District Plan and Waitakere District Plan, and for new designations in the Auckland District Plan; also applications for resource consents under the Auckland Regional Plans, and under s89(2) of the Resource Management Act 1991 ("RMA").

[3] NZTA lodged a very substantial suite of documents supporting the applications, being an Assessment of Environmental Effects and supporting technical reports, parts of which will be described in more detail in the course of this decision. In all, the applications and supporting materials were contained in 43 substantial ring-binder folders.

[4] On 27 August 2010 the EPA advised NZTA that it had completed its check of the resource consent applications and Notices of Requirement. It also advised that it considered that NZTA had provided all the information it required for the purposes of Sections 145 and 88 RMA.

[5] The EPA accordingly recommended to the Minister for the Environment and the Minister of Conservation that they refer the applications to a Board of Inquiry for the purposes of decision-making under s 147(1) RMA.

[6] Thereafter, pursuant to ss147 and 149C RMA, the Ministers gave notice of their direction to refer the applications to a Board of Inquiry. Public notice was given on September 18, 2010. We constitute that Board, having been appointed by the Ministers under s149J.

[7] The following reasons were recorded by the Ministers for directing that the applications be referred to a Board of Inquiry:

- ***The proposal has aroused widespread concern or public interest regarding its actual or likely effect on the environment (including the global environment)***

NZTA, (formerly Transit NZ) has been consulting on the SH20 proposal since 2000, and the SH16 proposal since 2007. Over this time, the general public has displayed a high level of interest in both proposals.

- ***The proposal involves or is likely to involve significant use of natural and physical resources***

The proposed motorway will result in the acquisition (purchase) of approximately 180 residential dwellings and, at a community level, the loss of significant areas of open space currently used for both active (eg, sports fields) and passive recreational purposes.

- ***The proposal affects or is likely to affect a structure, feature, place, or area of national significance***

SH16 and SH20 are structures of national significance. Both are key components in Auckland's transport network and, in this regard, are considered to have economic, environmental and social significance of a national scale.

Components of the proposal that are in the Coastal Marine Area are within the Hauraki Gulf Marine Park. The Hauraki Gulf Marine Park Act 2000 recognises the national significance of the Hauraki Gulf.

The proposal would involve reclamation of land within the Motu Manawa (Pollen Island) Marine Reserve. Section 3(1) of the Marine Reserves Act 1971 describes the preservation of marine reserves as being in the national interest. The Reserve protects approximately 500 hectares of inter-tidal mudflats, tidal channels, mangrove swamp, salt marsh and shell banks.

The Waterview Estuary and northern sides of the existing causeway extending into the Coastal Marine Area to the north-west of Pollen Island comprise bird feeding grounds and roosting habitats important for a number of nationally threatened species.

The coastline of Pollen and Traherne Islands and the Rosebank Peninsula are identified as being an Outstanding Landscape in the Auckland Regional Plan: Coastal.

The proposal will also affect the Chenier Plain – Shell Barrier Beach, an historically rare ecosystem which by its classification is nationally significant.

- ***The proposal results or is likely to result in or contribute to significant or irreversible changes to the environment (including the global environment).***

The Ministers consider that aspects of the proposal including the reclamation of coastal land, the loss of significant areas of public open space and the acquisition of approximately 180 residential dwellings, will result in significant changes to the environment.

- ***The proposal will assist the Crown in fulfilling its public health, welfare, security, or safety obligations and functions.***

The Ministers consider that the completion of the Western Ring Route as an alternative to SH1 will help the Crown fulfil its safety obligations.

- ***The proposal affects or is likely to affect more than one region or district.***

The proposal affects more than one district under the current Auckland local government arrangements. The impacted districts are Waitakere City and Auckland City. This will not be the case after 1 November 2010, when the new Auckland local government arrangements take effect.

- ***The proposal relates to a network utility operation that extends or is proposed to extend to more than one district or region.***

The network utility operation (of which the proposal is a part) extends across Auckland City, Waitakere City, and Auckland Regional Council jurisdictions. This will not be the case after 1 November 2010, when the new Auckland local government arrangements take effect.

[8] The reasons recorded above (not including the details applicable to this particular project) are matters drawn from a list of potential considerations expressed in s142(3) RMA, which by s147(3), the Ministers must apply in deciding whether the matter is or is not part of a proposal of national significance.

[9] Our Board of Inquiry was appointed pursuant to s149L RMA, pursuant to which we may exercise any of the powers, rights and discretions of a consent authority under ss92-92B, and 99 to 100 as if –

(a) the matter were an application for a resource consent; and

(b) every reference in those sections to an application or an application for a resource consent were a reference to the matter.

1.2 Matters to be considered under Section 149P of the RMA

[10] Our consideration of the proposal is to be conducted under the relevant parts of s149P RMA. The parts provide as follows:

- (1) A board of inquiry considering a matter must -
 - (a) have regard to the Minister's reasons for making a direction in relation to the matter; and
 - (b) consider any information provided to it by the EPA under section 149G; and
 - (c) act in accordance with subsection(2), (3), (4), (5), (6), or (7), as the case may be
- (2) A board of inquiry considering a matter that is an application for a resource consent must apply sections 104 to 110 and 138A as if it were a consent authority...
- (4) A board of inquiry considering a matter that is a notice of requirement for a designation or to alter a designation –
 - (a) must have regard to the matters set out in section 171(1) and comply with section 171(1A) as if it were a territorial authority; and
 - (b) may –
 - [i] cancel the requirement
 - [ii] confirm the requirement; or
 - [iii] confirm the requirement, but modify it or impose conditions on it as the board thinks fit; and
 - (c) may waive the requirement for an outline plan to be submitted under section 176A.

[11] By s149Q RMA, we are to provide a draft decision and draft written report. This is that document. By subsection (3), the EPA must provide a copy of it to the parties and certain other persons listed, after which those parties and persons may send to the EPA any comments on minor or technical aspects of the report, no later than 20 working days after the date of the invitation. We will provide further detail of what is required, at the end of this draft decision.

[12] Before moving to describe the substance of the proposal, we record that at the time of public notification, we took the step of arranging for the EPA to appoint an Auckland-

based senior resource management practitioner to provide assistance to potential submitters on matters of process, particularly around the making of submissions and some further steps beyond that. We called this person the “Friend of Submitters”. Mr Brian Putt was the practitioner appointed, and we understand that he conducted a number of public meetings, and generally made himself available to interested persons to provide them with free advice on matters of process. A number of submitters praised his assistance, and we record our gratitude to him for his efforts. His work was of importance to the orderly progress of our inquiry, and seemed to us to be necessary out of fairness to potential submitters, given the relatively short statutory timeframe (9 months from notification) within which we are to complete our task, and the correspondingly short time that interested persons had to make submissions. The proposal is extremely large and complex, and the task facing prospective submitters must have been quite daunting given the sheer volume of materials and the complexities of involvement in RMA processes, overlaid as they are on this occasion by the specialist processes in Part 6AA of the Act. In this instance, submissions were required to be filed with the EPA by 15 October 2010.

1.3 Minutes and Directions issued

[13] From time to time the Board issued Minutes communicating to parties important information about process. Directions were issued by us to the parties by this method.

[14] In our first Minute, we confirmed the previously tentative timetable for preparation for hearing that had appeared in the original public notice, but modified it in minor respects. We added some explanatory notes about the nature of various kinds of evidence that parties might wish to file, and representations that they or their representatives might wish to offer.

[15] Six weeks after the hearing concluded, and by agreement (even encouragement) of the parties, we issued a Minute directing further drafting and caucusing by the parties’ expert witnesses in the various technical areas. The intention was that having deliberated and undertaken significant work in the drafting of our decision, the experts should assist in re-drafting conditions to achieve certain outcomes, albeit that we were not at that point completely decided that consent should issue. We expressly recorded in that Minute that if the groups of experts could carry out certain re-drafting to our satisfaction, the outcomes might inform our decision about whether to grant consent. The experts delivered a book of re-drafted conditions on 13 May, along with certain plans that we had also called for,

and a brief memorandum of NZTA's counsel as to the methods that had been employed by the experts in undertaking the tasks. We are grateful to the experts for their timely and careful attention to the work. We have been significantly assisted by it, and hold the belief that the finalising of conditions will have taken a much shorter time overall than if we had had to do the work entirely on our own.

2 OUTLINE OF PROPOSAL

2.1 Introduction to the Proposal

[16] The Waterview Connection project is identified as one of 7 projects labelled Roads of National Significance ("RoNS") in a Government Policy Statement prepared under the Land Transport Management Act 2003.

[17] The Project is intended to provide a link between two sections of the state highway network between SH16 and SH20 as previously described, essentially comprising a western link in a ring route for Auckland. Project materials describe it as offering a motorway link between Manukau in South Auckland, and Albany on the North Shore, ultimately at the northern end to join SH18 (the Upper Harbour Motorway). The Project's strategic significance is said to be provision of an alternative route to that presently afforded by SH1 through the Auckland CBD. We attach as **Annexure "B"** a map illustrating the location of the proposal, called "Western Ring Route: Waterview Connection (SH 16-20) – Sector Diagram".

2.2 Project Sectors

[18] Project documentation describes and assesses nine geographic sectors which are mapped on Annexure "B" described above. Within these sectors are found to varying degrees, (originally 7, but now) 6, notices of requirement¹ put forward each on an allegedly stand-alone basis, and 54 applications for resource consent. Sectors 1 to 6 span the length of SH16 linking Henderson Creek, the Te Atatu Interchange, and the St Lukes Interchange, passing through the existing Great North Road Interchange at Pt Chevalier. Sectors 7 to 9 comprise the SH20 corridor linking the Great North Road Interchange and the Maioro Street Interchange, which is the present northern terminus of SH20 which

¹ Notice of requirement number 6, for an emergency ventilation exhaust stack at Craddock Street, was withdrawn during the early stages of the inquiry.

originates at SH1 at Manukau, and passes through Onehunga. A more detailed description of each sector is found below.

2.3 Statutory Applications, and Approvals Needed

[19] The Project application was lodged not long before the new Auckland Council replaced existing units of local government including (of relevance in this case) the former Auckland and Waitakere City Councils, and the Auckland Regional Council.

[20] One notice of requirement related to the former Waitakere City area, and one land use consent was required there; 6 (now 5) notices of requirement are within the former Auckland City area, and 1 land use consent is required there. 52 regional consents or permits are required from the former Auckland Regional council.

2.4 Role of NZTA, and applications lodged

[21] NZTA is a requiring authority, capable of issuing notices of requirement under Part 8 of the RMA, seeking designations and alterations to existing designations.

[22] NZTA in the current instance seeks to:

- (a) designate 3 (previously 4) contiguous areas of land as a new designation, being NOR4 (highway purposes), NOR5 (sub-strata), and NOR7 (highway purposes); and
- (b) alter 3 existing designations, being NOR1 (alteration to NZTA 1), NOR2 (alteration to A07-01), and NOR3 (alteration to A07-01).

[23] The notice of requirement sought within the former Waitakere City area is:

- **EPA10/2.001 (WCC: NOR – 2010 – 1034)**

Alteration to designation NZTA1, SH16, between Whau River and Henderson Creek, to include widening of the SH16 carriageway, modifications to the existing Te Atatu interchange, ancillary safety and operational services, temporary works, a cycleway and pedestrian path, and ancillary works and services – **NOR1**.

[24] The notices of requirement within the former Auckland City are:

- **EPA10/2.003 (ACC: Plan Modification 202)**, to alter designation A07-01, SH16, causeway and Rosebank Peninsula – NOR2.

Alteration to existing designation at Rosebank interchange and Patiki bridges, including part of Rosebank Park Domain; modifications to land on existing causeway, ancillary safety and operational services, and maintenance, relocation of services, pedestrian and cycleway, landscaping and planting etc.

- **EPA10/2.004 (ACC: Plan Modification 202)** to alter designation A07-01 SH16, between Great North Road and St Lukes interchanges – NOR3

Addition of properties to existing designation, and construction of two new lanes, stormwater treatment, wetland pond, ancillary works and services, vegetation removal and restoration works, relocation of services, works on existing cycleway, landscaping and planting.

- **EPA10/2.005 (ACC: Plan Modification 202)** for a new designation, SH16, SH20 and Great North underpass – NOR4.

A new surface designation for construction, operation and maintenance of new interchange and structures associated with tunnel operation including ventilation building and stack, mitigation and local road access, taking in new pieces of land, and allowing for construction and operation of ramps, stormwater, wetland ponds, ancillary safety and operational services and maintenance, temporary works, vegetation removal and restoration, relocation of services, works on north-western cycleway, landscaping and planting, open space restoration and restoration of the Oakley Inlet heritage area.

- **EPA10/2.006 (ACC: Plan Modification 202)** for new designation, SH20 tunnels, Great North Road underpass to Alan Wood Reserve – NOR5.

New strata (subsoil) designation for construction, operation and maintenance of cut and cover and deep excavation tunnels, restricting subsurface activities beneath certain properties, through proposed sectors 7 and 8; construction, operation and maintenance and protection of SH20 subsurface works (tunnels).

- **EPA10/2.007 (ACC: Plan Modification 202)**, for new designation for an emergency tunnel exhaust at 36 Craddock Street Avondale – NOR6 – **subsequently withdrawn.**

- **EPA10/2.008 (ACC: Plan Modification 202)**, for new designation, SH20, southern tunnel portal to Maioro Street interchange – NOR7.

New surface designation for construction, operation and maintenance of the SH20 surface component from Maioro Street interchange to the proposed tunnels; includes land for structures associated with tunnel operation and works for mitigation and local road access and ramps; land taken from reserves and from land owned by the Crown for rail and residential purposes, generally in sector 9.

Works for construction, operation and maintenance of SH20 described above and including stormwater treatment, wetland ponds, ancillary safety and operational services, ventilation building and stack, temporary works, vegetation removal and restoration works, cycleway extension, landscaping and planting, installation and maintenance of grout curtain for groundwater management.

[25] An application was made in the former Auckland City area for land use consent **EPA10/2.009 (ACC: R/LUC/2010/3396)**, to construct, operate and maintain SH16 and its ancillary services on land to be reclaimed in sectors 1-4. An application was made in the former Waitakere City area for land use consent **EPA10/2.002** for activity on reclaimed land, for the construction, operation and maintenance and ancillary activities of State Highway in sector 1.

[26] The following are the applications for resource consents sought from the former ARC:

- **EPA 10/2.010 (ARC: 38313)**
Land disturbance for Roding Tracking and Trenching
- **EPA 10/2.011 (ARC: 38316)**
Oakley Creek Stormwater Piping
- **EPA 10/2.012 (ARC: 38317)**
Bridges over Oakley Creek
- **EPA 10/2.013 (ARC: 38318)**
Stormwater Outfall Structures, Pixie Stream
- **EPA 0/2.014 (ARC: 38319)**
Stormwater Outfall Structures, Oakley Creek

- **EPA 10/2.015 (ARC: 38320)**
Stormwater Outfall Structures, Meola Creek
- **EPA 10/2.016 (ARC: 38321)**
Diversion of Oakley Creek and an unnamed tributary of Oakley Creek
- **EPA 10/2.017 (ARC: 38322)**
Diversion and Discharge of Stormwater to Water Table of Roads
- **EPA 10/2.018 (ARC: 38323)**
Stormwater Diversion and Discharge from Roads
- **EPA 10/2.019 (ARC: 38324)**
Stormwater Discharges in Urban Areas
- **EPA 10/2.020 (ARC: 38325)**
Discharges from Rock Crushing Activities
- **EPA 10/2.021 (ARC: 36474)**
Discharges from Contaminated Land
- **EPA 10/2.022 (ARC: 38326)**
Discharges to Land and Water from a Concrete Batching Plant
- **EPA 10/2.023 (ARC: 38327)**
Discharge to Air from Crushing Activities
- **EPA 10/2.024 (ARC: 38328)**
Discharges to Air from a Concrete Batching Plant
- **EPS 10/2.025 (arc: 38329)**
Discharge to Air from Road Works
- **EPA 10/2.026 (ARC: 83830)**
Floodplain Flow Diversions

- **EPA 10/2.027 (ARC: 38331)**
Groundwater Diversion during Construction
- **EPA 10/2.028 (ARC: 38332)**
Groundwater Diversion during Operation
- **EPA 10/2.029 (ARC: 38333)**
Groundwater Diversion for the Tunnel
- **EPA 10/2.030 (ARC: 38334)**
Use of the Coastal Marine Area for State Highway 16
- **EPA 10/2.031 (ARC: 38335)**
Temporary Structures in the Coastal Marine Area
- **EPA 10/2.033 (ARC: 38336)**
Permanent Structures in the Coastal Marine Area
- **EPA 10/2.033 (ARC: 38338)**
Temporary Structures in the Coastal Marine Area – Waterview Estuary
- **EPA 10/2.034 (ARC: 38339)**
Permanent Structures in the Coastal Marine Area – Waterview Estuary
- **EPA 10/2.035 (ARC: 38340)**
Temporary Structures in the Coastal Marine Area – Oakley Creek Inlet
- **EPA 10/2.036 (ARC: 38341)**
Permanent Structures in the Coastal Marine Area – Oakley Creek Inlet
- **APA 10/2.037 (ARC: 36576)**
Temporary and Permanent Reclamation in the Coastal Marine Area
- **EPA 10/2.038 (ARC: 38342)**
Temporary and Permanent Reclamation in the Coastal Marine Area

- **EPA 10/2.039 (ARC: 38343)**
Disturbance of Foreshore and Seabed for Construction
- **EPA 10/2.040 (ARC: 38344)**
Disturbance of Foreshore and Seabed for Vegetation Removal
- **EPA 10/2.041 (ARC: 38345)**
Disturbance of the Foreshore and Seabed during Construction
- **EPA 10/2.042 (ARC: 38346)**
Disturbance of the Foreshore and Seabed using Motor Vehicles
- **EOA 10/2.043 (ARC: 38347)**
Taking and Use of Inner Coastal Water for Cofferdam
- **EPA 10/2.044 (ARC: 38348)**
Damming and Impounding of Inner Coastal Water for Cofferdam
- **EPA 10/2.045 (ARC: 38349)**
Damming and Impounding of Inner Coastal Water for Cofferdam
- **EPA 10/2.046 (ARC: 38350)**
Discharge of Contaminants and Contaminated Water to the Coastal Marine Area
- **EPA 10/2.047 (ARC: 38351)**
Discharge of Contaminants and Contaminated Water to the Coastal Marine Area
- **EPA 10/2.048 (ARC: 38352)**
Permanent Discharge of Stormwater to the Coastal Marine Area, Henderson Creek
- **EPA 10/2.049 (ARC: 38353)**
Permanent Discharge of Stormwater to the Coastal Marine Area, Whau River and Mooring Management Area

- **EPA 10/2.050 (ARC: 38354)**
Permanent Discharge of Stormwater to the Coastal Marine Area, Causeway and Interchange
- **EPA 10/2.051 (ARC: 38355)**
Permanent Discharge of Stormwater to the Coastal Marine Area, Great North Road Interchange, Pt Chevalier
- **EPA 10/2.052 (ARC: 38356)**
Permanent Occupation of the Coastal Marine Area, SH16 Widening
- **EPA 10/2.053 (ARC: 38357)**
Occupation of the Coastal Marine Area, Stormwater Outfalls, Henderson Creek
- **EPA 10/2.054 (ARC: 38359)**
Occupation of the Coastal Marine Area, Stormwater Outfalls, Whau River and Mooring Management Area
- **EPA 10/2.055 (ARC: 38360)**
Occupation of the Coastal Marine Area, Stormwater Outfalls, Causeway Interchange, Waterview Inlet and Surrounds
- **EPA 10/2.056 (ARC: 38361)**
Occupation of the Coastal Marine Area, General Management Area
- **EPA 10/2.057 (ARC: 38362)**
Occupation of the Coastal Marine Area, CPA 2
- **EPA 10/2.058 (ARC: 38363)**
Occupation of the Coastal Marine Area, CPA 1
- **EPA 10/2.059 (ARC: 38364)**
Permanent Occupation of the Coastal Marine Area, General Motorway Widening

- **EPA 10/2.060 (ARC: 38365)**
Use, Operation and Maintenance of the Coastal Marine Area by the State Highway
- **EPA 10/2.061 (ARC: 38366)**
Use, Operation and Maintenance of the Coastal Marine Area by the State Highway

2.5 Project Documentation

[27] As noted earlier, the application and supporting documentation was contained within 43 substantial ring-binder folders. These comprise an Overview, Notices of Requirement and Consent Application forms; an Assessment of Environmental Effects divided into Parts A-F; and an extensive series of technical reports in Volumes G1 – G31. Of particular importance is folder G.21, the draft **Construction Environment Management Plan (“CEMP”)**. This plan, supported extensively by other reports and draft Management Plans found in other volumes of the G series, are central to the design and implementation of environmental management and monitoring procedures during the Project’s construction phase. The supporting management plans are:

1. Assessment of Construction Noise Effects – found in Technical Report G.5
2. Assessment of Vibration Effects – found in Technical Report G.19
3. Erosion and Sediment Control Plan – found in Technical Report G.22
4. Temporary Stormwater Management Plan – appended to Assessment of Stormwater and Streamworks effects –G.15
5. Groundwater Management Plan – appended to Assessment of Groundwater effects – G7
6. Contaminated Soils Management Plan – appended to Assessment of Land and Groundwater Contamination – G.9
7. Hazardous Substances Management Plan – appendix L to CEMP, G.21
8. Archaeological Site Management Plan – appended to Assessment of Archaeological Effects – G.2

9. Construction Traffic Management Plan – appended to Assessment of Temporary Traffic Effects – G.16
10. Concrete Batching and Crushing Plant Management Plan – appended to 3 Assessments – Air Quality effects (G.1), Construction Noise effects (G.5), and Stormwater and Streamworks effects (G.15)

[28] The CEMP, together with related management plans as listed, describes environmental objectives, describes construction activities; sets minimum environmental management standards and specifications; sets roles, responsibilities and related training requirements for the construction phase; sets operating procedures, provides for management of emergencies and incidents, complaints and guidelines for internal and external communications and interface; and provides tools for implementation including monitoring and review, auditing, corrective actions, and management reviews.

2.6 Project Objectives

[29] The Project is described by NZTA as the “final critical link in the Western Ring Route”, and its completion is expected by NZTA to have a number of significant benefits locally, regionally, and nationally. The objectives for the Project are set out in greater detail in section 11 of this Decision, but for the present purposes are recorded here in summary form:

1. To contribute to the Region’s critical transport infrastructure and its land use and transport strategies;
2. To provide accessibility for individuals and businesses and support regional economic growth and productivity;
3. To improve resilience and reliability of the State Highway network;
4. To support mobility and modal choices within the wider Auckland Region;
5. To improve the connectivity and efficiency of the transport network.

2.7 NZ Transport Agency

[30] Section 94 of the Land Transport Management Act 2003 (“LTMA”) records that the objective of NZTA is “... *to undertake its functions in a way that contributes to an affordable, integrated, safe, responsive, and sustainable land transport system...*”.

[31] The functions of NZTA are defined in Section 95(1) LTMA. Those of relevance to the Project include:

- a. To promote an affordable, integrated, safe, responsive and sustainable land transport system.
- c. To manage the State Highway system, including planning, funding, design, supervision, construction and maintenance and operations, in accordance with this Act and the Government Roding Powers Act 1989.

[32] By section 96 LTMA, NZTA, in meeting its objective and undertaking its functions, must, amongst other things, exhibit a sense of social and environmental responsibility which includes avoiding, to the extent reasonable in the circumstances, adverse effects on the environment, taking into account the views of affected communities, giving land transport options and alternatives an early and full consideration, providing early and full opportunities to persons and organisations who are required to be consulted; it must also use its revenue in a manner that seeks value for money, and ensure that its revenue and expenditure are accounted for in a transparent manner.

2.8 Project Description

[33] As we have noted, the Project is divided into nine separate sectors, which NZTA says broadly defines the different construction requirements of the Project. We refer again to the Sector Diagram, Annexure B to this decision. A brief description of the sectors is as follows:

- **Sector 1 – Te Atatu Interchange**
Improvements to the Te Atatu Interchange, including enlargement and reconfiguration of the on and off ramps to accommodate additional lanes on SH16 and to provide for a bus shoulder and priority for other high occupancy vehicles; also modifications to a configuration including provision to accommodate vehicle stacking resulting from ramp signaling and improved facilities for pedestrians and cyclists using the interchange
- **Sector 2 – Whau River**
Involves enlargement of the existing Whau River bridge to accommodate additional lanes, with a separate dedicated cycle/pedestrian bridge to be constructed alongside the enlarged road bridge
- **Sector 3 – Rosebank Terrestrial**
Involves reconfiguration of the existing Rosebank on and off ramps to improve traffic merging. Between Rosebank and Te Atatu interchanges additional lanes will be added to provide four east-bound.

- **Sector 4 – NOR2 – Reclamation**
Widening and raising the causeway, including reclamation to protect it against inundation and future-proof against sea level rise; widening and raising causeway bridges, with additional piling, to create east and west bound lanes from Rosebank interchange to Great North Road interchange to create five lanes each way and a dedicated bus shoulder in each direction; construction of a new pedestrian/cycleway bridge south of the causeway bridges, with additional piling, and new connection at Patiki interchange; related reclamation and permanent occupation of CMA; temporary occupation of CMA, including temporary staging and piling.
- **Sector 5 – NOR4 – Great North Road interchange**
New motorway interchange at Great North Road providing connections when SH16 and SH20, including four new elevated ramps; new bridge structures to occupy the CMA; construction of retaining wall approaches to tunnel portal; three construction yards, including the operation of a concrete batching plant 24 hours a day; temporary replacement reserves.
- **Sector 6 – NOR3 – SH16 to St Lukes**
Widening SH16 to provide an additional lane in each section between the interchanges (providing eight-lane carriageway); bus shoulder lane; a permanent wetland pond; effects on areas of open space; construction yard 5.
- **Sector 7 – NOR4 and NOR5 – Great North Road underpass**
Great North Road underpass; ventilation building and stack at northern end of proposed tunnel.
- **Sector 8 – NOR 5 – Avondale Heights tunnel**
Two, 2km long tunnels, each accommodating three vehicle lanes, extending to 50 metres below ground, and generally following the alignment of Oakley Creek, with the southern portal being in Alan Wood Reserve.
- **Sector 9 – NOR 7 – Alan Wood Reserve**
Southern portal of tunnels, and ventilation building; new carriageway through Alan Wood Reserve to Maioro Street interchange; Richardson Road bridge; Hendon Ave cycle/pedestrian bridge; the northern half of Maioro Street interchange.

2.9 Project History

[34] The SH20 Waterview link and the SH16 upgrade projects were brought together as the one “Waterview Connection Project” in 2009.

[35] The SH20 project had commenced in 1996 with a preliminary feasibility report, scoping and other reports through to 2001; preliminary scheme assessment in 2002, route options assessment in 2003, and a Review under the LTMA in 2006; after which various options for construction were considered including a driven tunnel, and a combination of surface road and tunnels; through until the present applications were lodged.

[36] The SH16 upgrade was the subject of scoping and feasibility studies leading to a preliminary scheme assessment in 2007, and a study of causeway ground improvement and construction options in 2009.

[37] The Project has essentially had a long history (particularly the SH20 aspect), and there have been a number of phases of investigations, studies, and consideration of options. During these processes there have been design, social and environmental assessments, and extensive consultation with stakeholders and the community. The AEE included extensive chapters concerning consultation and assessment of alternatives, described in detailed evidence from a number of NZTA's witnesses, all of which we have considered with care. Certain aspects will be commented on further in this decision. It is sufficient to say at this juncture, that these tasks have been undertaken with great thoroughness, obviously over a longer period of time in relation to SH20 than SH16. There is an up-side and a down-side to such an extensive period of consultation, the up-side being the extent to which the community is hopefully adequately informed, and the down-side being the period of time for which people suffer uncertainty and stress. The latter aspect is particularly acknowledged by this Board.

3 PRELIMINARY MATTERS

3.1 Time for lodgment of submissions, and late submissions

[38] As already noted, submissions closed on 15 October 2010. The EPA received 19 late or non-conforming submissions, and the issue of acceptance of them or otherwise was considered by the Chairman under delegation from the Board. All 19 were accepted. One submission, from the Albert-Eden Local Board, was received significantly late on account of local government restructuring in the region. The submission was in fact, however, identical to a submission that had been lodged within time by the former Eden-Albert Community Board, which was withdrawn by the new Auckland Council.

[39] 252 submissions were received in all. Five have subsequently been withdrawn.

3.2 Scope of Submissions

[40] In addition to providing us with various reports under s42A RMA, the planning consultancy Environmental Management Services Ltd ("EMS") provided us with an

extremely helpful analysis of the submissions. This was done against a background in which the range of matters submitted upon was (understandably) complex and extensive, but we have been able to use the analysis as a starting point for clarification of the key issues in the case during preparation for hearing, and the hearing itself.

[41] Bearing in mind these exigencies and qualifications, the nature of the submissions was analysed so as to be broadly seen to comprise the following:

Support	19
Support in Part	13
Oppose	82
Oppose in part	100
Neutral	4
Neutral in part	1
Mixed	32

[42] 156 submitters expressed a wish to be heard, and 73 recorded a wish not to be heard. The balance, 23, were silent on this aspect.

4 OVERVIEW OF SUBMISSIONS RECEIVED

4.1 General Overview

[43] Again recognising the above exigencies and qualifications, EMS helpfully provided us with a reasonably robust issues table flowing from the submissions. It was as follows:

Issue	Scope
Property	Land loss, property values, compensation, Compliance with district plan standards Vibration, stability, subsidence Risk assessment of tunnelling
Marine environment	Marine life, native flora and fauna, chenier beaches Extension of Motu Manawa Marine Reserve

Issue	Scope
Oakley Creek	<ul style="list-style-type: none"> Effects of reclamation and discharges Tidal flows, increased sedimentation – bridge design Climate change, sea level rise, peak oil Recreational users
Community Effects	<ul style="list-style-type: none"> Potential for flooding Discharge of heavy metals Native flora and fauna Loss of historic/archaeological/culturally important sites Health effects of ventilation stacks and untreated emissions Effects on community facilities/schools/crime Demolition of residential property Loss of and reduced quality green/recreational space Severance of communities and facilities Loss of open space connectivity Loss of social housing and reducing school rolls Counselling/support for residents Community consultation processes Construction timelines
Amenity effects	<ul style="list-style-type: none"> Combined effects of road and rail corridor Light, height, noise, dust, visual effects and mitigation Construction hours
Transport	<ul style="list-style-type: none"> Urgency to complete ring roads Reliability of modelling data Consideration of alternatives Continuity of bus lanes and cycle ways Wider network effects Additional connectivity to SH20 or Waterview interchange Additional pedestrian/cycle connections Construction yard traffic 2006 alternative route AR1 Design requirements for HCV Alternative routes for dangerous goods, tunnel safety, and emergency procedures Benefits relative to public transport
Process and Regulatory	<ul style="list-style-type: none"> Methods, timeframes, information and consultation Project Aims and Objectives

Issue	Scope
Cultural	Existing plans/strategies Overlap with rail designation Robustness of benefits assessment Amendments to provide clarity Protection of assets and operations Ongoing monitoring and reporting – noise, air, stormwater Safeguard options for rail Management plans and stakeholder involvement Heritage of Oakley Creek and Motu Manawa Heritage and culturally significant sites Iwi processes and practices
Other	Includes: <ul style="list-style-type: none"> Tourism impacts Basaltic exposures Effects on water quality for Mt Albert residents Leachate from contaminated soils Concrete slurry No comments provided

[44] Our own consideration of the submissions and the evidence later filed on behalf of those submitters taking part in the hearing, essentially confirmed for us the broad accuracy of the analysis undertaken by EMS.

[45] As can be seen, some issues extend across the whole or most of the Project, while others focus on localised areas.

4.2 Principal Project-wide Issues

[46] As can be seen from the table of Issues, some can clearly be identified to be of a project-wide nature. These include loss of land, property values, compensation, compliance with District Plan standards, recreational activities, discharge of heavy metals, health effects, demolition of residential property, loss of and reduced quality of green/recreational space, severance of communities and facilities, loss of open space connectivity, counselling and support for residents, community consultation processes, construction timelines, light, height, noise, dust, visual effects, construction hours,

urgency to complete the ring road, reliability of modelling data, consideration of alternatives, continuity of bus lanes and cycleways, wider network effects, benefits relative to public transport, information and consultation, project aims and objectives, existing plans and strategies, robustness of benefits assessment, ongoing operating and reporting, management plans and stakeholder involvement, and tourism impacts.

4.3 Principal Sector-by-Sector Issues

[47] Recognising once again the exigencies and qualifications expressed concerning an ability to summarise submissions, and recognising once again that these issues are not the “Principal Issues” referred to in s149(Q)(2)(c) RMA, the following is a summation in broad terms of issues arising within each of the nine sectors

- **Sector 1**
 - Design and reconfiguration of Te Atatu Interchange including public transport provision
 - Location of construction yard 1 and community use effects (particularly Te Atatu Pony Club)

- **Sector 2**
 - Reduction of Motu Manawa Marine Reserve
 - Navigation effects on the Whau River

- **Sectors 3 and 4**
 - Recognition of Motu Manawa Marine Reserve and marine environment including and beyond Waterview embayment and Oakley Creek Inlet

- **Sector 5**
 - Design of the Great North Road intersection and local connections
 - Connectivity between Waterview and Pt Chevalier communities, the coastal area and Oakley Creek Gully
 - Impacts on cultural and historic heritage areas
 - Loss of open space and its equitable replacement in terms of quantity, quality and location

- **Sector 6**

- Provision for alternative travel modes (bus prioritisation, pedestrian/cycleway connectivity)
 - Noise mitigation treatments
- **Sector 7**
 - Northern Portal building and ventilation stack location and impact on community
 - Oakley Creek quality and character
 - Connectivity to Unitec Campus
- **Sector 8**
 - Construction effects of the tunnel
 - Emergency exhaust stack (NOR 6, subsequently withdrawn)
 - Future role and location of reserves
 - At grade pedestrian/cycleway connectivity
- **Sector 9**
 - Noise effects associated with the open section of the motorway
 - Southern portal building and ventilation stack location and impact on community
 - Loss of usable open space
 - Stream diversion and stormwater management effects on Oakley Creek
 - Integration with wider road network

5 STATUTORY FRAMEWORK FOR DELIBERATIONS

5.1 Jurisdiction of the Board of Inquiry

[48] As already noted, the starting point for jurisdiction of the Board in considering the proposal, is Part 6AA RMA, introduced as from 1 October 2009 by the Amendment to the Act of that year.

[49] S149P (headed “Consideration of Matters by Board”), is central. We have already set out the section in full.

[50] As to the matters in sub-section 1 of that provision, we have already recorded the Minister's reasons for making his direction.

[51] By sub-section 1(b) we record that we have been provided with reports pursuant to s149G, by the former Auckland City Council, Waitakere City Council and Auckland Regional Council, predecessors to the current Auckland Council, in whose areas of jurisdiction the works are proposed.

[52] In relation to sub-paragraph (1)(c) we are required to act in accordance with sub-sections (2) to (7), of which we note only sub-sections (2) and (4) are relevant for present purposes.

[53] In connection with sub-section (2), we are to apply ss104-112 as if we were a consent authority.

[54] In connection with sub-section (4), given that there are Notices of Requirement for designations before us, we:

- a. must have regard to the matters set out in s171(1) and comply with s171(1A) as if we were a territorial authority; and
- b. may -
 - i. cancel the requirements; or
 - ii. confirm the requirements; or
 - iii. confirm the requirements, but modify them or impose conditions on them as the Board thinks fit; and
- c. may waive any requirement for an Outline Plan to be submitted under s176A.

5.2 Notices of Requirement for Designation

[55] S171(1) provides as follows:

- (1) when considering a requirement and any submissions received, a territorial authority must, subject to Part 2, consider the effects on the environment of allowing the Requirement, having particular regard to:
 - (a) any relevant provisions of:
 - (i) a National policy statement
 - (ii) a New Zealand coastal policy statement
 - (iii) a regional policy statement or proposed regional policy statement
 - (iv) a plan or proposed plan; and
 - (b) whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work if –
 - (i) the requiring authority does not have an interest in the land sufficient for undertaking the works; or
 - (ii) it is likely that the work will have a significant adverse effect on the environment; and
 - (c) whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought; and
 - (d) any other matter the territorial authority considers reasonably necessary in order to make the recommendation on the requirement.

[56] As to adequacy of alternatives under sub-section (b), NZTA did not submit to us that it held interests in all land sufficient for undertaking the work, or that the work was not likely to have a significant adverse effect on the environment. Indeed, in large measure, we understood the evidence to be to the effect that neither of those two qualifications is met. What NZTA submitted however, was that we are required to assess whether adequate consideration has been given, primarily to alternative alignments or methods. Its counsel Ms Janissen submitted (correctly in our view) that the provision does not require that NZTA demonstrate that it has considered all possible alternatives, or that it had selected the best of all available alternatives.² For completeness we quote the precise words from the relevant passage from the High Court decision she cited:

If the Environment Court is called upon to review the decision of the territorial authority, it is required to consider whether alternatives have been properly considered, rather than whether all possible alternatives have been excluded or the best alternative has been chosen.

² see *Meridian Energy Ltd v Central Otago District Council* [2010] NZRMA 477, at paragraph [81]

[57] In terms of sub-section (c), we are required to consider whether both the work and the designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought. It was Ms Janissen's submission that in doing so the Board is not to pass judgement on the merits or otherwise of NZTA's objectives, but rather is to have particular regard to whether the proposed work and designations are reasonably necessary for achieving those objectives.³ Once again, we accept that submission.

5.3 Applications for Resource Consents

[58] A key part of s104 RMA is sub-section (1) which provides as follows:

- (1) when considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2, have regard to –
 - (a) any actual and potential effects on the environment of allowing the activity; and
 - (b) any relevant provisions of –
 - (i) a national environmental standard
 - (ii) other regulations
 - (iii) a national policy statement
 - (iv) a New Zealand coastal policy statement
 - (v) a regional policy statement or proposed regional policy statement
 - (vi) a plan or proposed plan; and
 - (c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

[59] We note at the same time the provisions of sub-section (2) which provide that we may disregard any adverse effect of the activity on the environment if a national environmental standard or the relevant plan permits the activity with that effect.

[60] It appeared to be an uncontroverted part of the case for NZTA that activities requiring resource consent range from controlled to non-complying. Applying a well-

³ *Babington v Invercargill City Council (1993)* to NZRMA 480, at page 486

known principle about consideration of bundles of related applications, the presence of non-complying activities in the bundle generally triggers a requirement for assessment of all applications against the non-complying activity tests⁴.

[61] S104D sets particular restrictions, or a “gateway” which effectively provides that we may only grant applications for non-complying activities if either the adverse effects of the activity on the environment will be minor; or the application is for an activity that would not be contrary to the objectives and policies of the relevant plans or proposed plans.

[62] It was the submission on behalf of NZTA that, in considering whether an activity is or is not contrary to the objectives and policies of relevant statutory planning documents, we must consider whether the Project is contrary to the overall purpose and scheme of those plans, rather than assessing the non-complying activity against the detailed provisions of those plans. Further, that non-complying activity status of itself recognises that the proposed activity is unlikely to be supported by the provisions of the relevant plan, however consent may be granted if the activity is not contrary to the overall objectives and policies of the plan.⁵ We are in general agreement with that submission, based as it is on long-standing Court of Appeal authority.

[63] If we determine that the resource consent applications pass through one or both of the gateway tests, we are then to have regard to the matters set out in s104, with an overall discretion as to whether then to grant the consents.

[64] S105 RMA is relevant in relation to discharge or coastal permits which are before us. In this connection we are to have regard to:

- (a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and
- (b) the applicant’s reasons for the proposed choice; and

⁴ See for instance *Body Corporate 97010 v Auckland City Council* [2000] 3 NZLR 513; (2000) 6 ELRNZ 303; [2000] NZRMA 529 (CA)

⁵ citing *Arrigato Investments & ors v Auckland Regional Council & ors* (2001) 7ELRNZ 193 (CA) at paragraphs [17] and [18]

- (c) any possible alternative methods of discharge, including discharge into any other receiving environment.

[65] By sub-section (2) of s105 we must, in addition to the above matters, consider whether an esplanade reserve or esplanade strip is appropriate, and if so impose a condition under s108(2)(g) on the resource consent. In this regard, it was Ms Janissen's submission that it would not be appropriate to contemplate any such condition, because the result would be to require more reclamation than is presently proposed, within a marine reserve. Such an outcome did not seem to be within the contemplation of other parties, but some sought something that they might have thought analogous, namely that the Motu Manawa Marine Reserve be expanded. We will provide our reasoning as to why this cannot be within jurisdiction in this case. We have also been cognizant of the provisions of s107 during the case, setting out as it does, restrictions on the grant of certain discharge permits.

[66] Given the numerous references during the case to Part 2 of the Act, and indeed given its central status, it is important to refer to those matters. S5(1) provides that the purpose of the Act is to promote the sustainable management of natural and physical resources. Sustainable management is defined in sub-section (2) as meaning:

Managing the use, development and protection of natural and physical resources in a way or at a rate which enables people and communities to provide for their social, economic and cultural wellbeing and for their health and safety while:

- (a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
- (b) safeguarding the life supporting capacity of air, water, soil and ecosystems; and
- (c) avoiding, remedying or mitigating any adverse effects of activities on the environment.

[67] Sections 6, 7 and 8 make up the balance of matters in Part 2, s6 providing for matters of national importance (that we are required to recognise and provide for), s7 providing for other matters that we are to have particular regard to, and s8 requiring us to take into account the principles of the Treaty of Waitangi. In submissions and evidence NZTA accepted that all of the matters of national importance listed in s6 are relevant in the present case, and that all matters in s7 except (h) and (j) are also relevant. In

somewhat summary form (subject to more detailed discussion that may need to follow in certain instances) matters under ss6 and 7 have to do with the natural character of the coastal environment, wetlands, rivers and their margins; protection of outstanding natural features and landscapes; protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna; maintenance and enhancement of public access to and along the coastal marine area and rivers; the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga⁶; kaitiakitanga, stewardship, efficient use and development of natural and physical resources; efficiency of the end use of energy; maintenance and enhancement of amenity values; intrinsic values of ecosystems; finite characteristics of natural and physical resources; and the effects of climate change⁷.

6 REPORTS TO THE BOARD UNDER S 149G RMA

6.1 Overview

[68] S 149G(2) RMA requires the EPA to provide to us “the matter”, all information received by the EPA relating to the matter, and the submissions received by the EPA on it. We understand that all of these materials have been supplied to us by the EPA.

[69] Under sub-section (3) the EPA must commission from the local authorities within whose jurisdiction the proposal is found, reports on the key issues in relation to the matter, including:

- (a) any relevant provisions of a national policy statement, a New Zealand coastal policy statement, a regional policy statement or proposed regional policy statement, and a plan or proposed plan; and
- (b) a statement on whether all required resource consents in relation to the proposal to which the matter relates have been applied for; and
- (c) if applicable, the activity status of all proposed activities in relation to the matter.

⁶ These matters are from S6 RMA

⁷ Matters in S7 RMA

[70] Each of the Waitakere City Council, Auckland City Council and Auckland Regional Council, before being superseded by Auckland Council, provided us with such a report.

6.2 Report from Waitakere City Council

[71] Sector 1 and Notice of Requirement 1 (“NOR1”) are within the area of the former Waitakere City. The report from that former council lists issues, objectives and policies, together with rules, which pertain either within the area of sector 1, or are relevant in a general sense from the operative district plan. There is also reference to regional planning instruments, and the National Policy Statement on Electricity Transmission 2008, possibly relevant because of Transpower transmission infrastructure being located within the boundary of NOR1 in Jack Colvin Park.

[72] The report confirms that all resource consents required under the District Plan have been applied for (essentially relating to the use of reclaimed land once created), with the rest of this part of the Project needing to be authorised by way of designation.

[73] The report identifies the relevant policy statements and plans as we have noted, but does not identify the relevant provisions within those plans. Reference is made to Issue headings, but policy thrust is not identified. The focus of the report is primarily concerning rules in the Plan, with a view to assessing any relevant permitted baseline. No opinion is offered as to whether a permitted baseline can be identified, or should be applied as a matter of discretion. It can be inferred, however, that nearly all intended works that are geographically within the area of the current motorway designation, would fall within a permitted baseline (because of that designation), but none of the works that are proposed within expansions of the designation.

[74] A document called Plan Change 16 is mentioned, concerning integration of urban growth with transport infrastructure. Regrettably, the report does not identify the relevant provisions and does not offer any position on whether the Project is consistent with the instrument.

[75] Two existing designations placed by other entities are identified as potentially conflicting with the proposal, those entities being Watercare Services Ltd, and Vector

Limited. The Board has inquired of NZTA as to whether there is indeed any conflict, and has received submissions and evidence in the negative.

6.3 Report from Auckland City Council

[76] This report notes that there is one resource consent application and six Notices of Requirement for evaluation against the provisions of the Isthmus Section of the Auckland City Plan.

[77] This report also focuses heavily on permitted baseline issues and plan rules that could be relevant with the Project being pursued entirely by way of resource consent applications. Once again, relevant policy statements and plans are identified, but relevant objectives and policies are not. Rules are comprehensively identified, essentially because of the focus on permitted baseline issues.

[78] The report advises that the bulk of the proposed works are located within the Special Purpose 3 Zone in which the existing SH16, and the designated Avondale to Southdown rail corridor, are permitted activities. It is recorded essentially that works outside this zone would generally not have an applicable permitted activity baseline in terms of their effects. Notably, the heights of the two ventilation buildings (one at each end of the proposed tunnels), the associated ventilation stacks, and ramp structures, are recorded as being well in excess of permitted controls.

[79] There is reference to the prospect for a National Environmental Standard for sea level rise, and its possible relevance in relation to works near Waterview Inlet and Oakley Creek. We cannot of course take account of a document not as yet formulated. There is, however, an instrument recently created bearing on this issue: the New Zealand Coastal Policy Statement 2010, in force as from 3 December last year. Policy 24 of that document requires identification of coastal hazards, which are to be assessed against certain stated parameters. The NZCPS will be discussed further in this decision, but for the moment it is noted that portions of existing SH16 are intended to be raised not only to overcome historical subsidence, but also in connection with potential future sea level rise.

[80] The report notes that Traherne Island is scheduled as an ecological feature, and is subject to Rule 5C.7.9, being zoned Open Space 1. The report records that the zone rules

are among the most restrictive in the Plan. Ecological issues in relation to Traherne Island will be discussed further in this decision.

[81] The report identifies the potential for jurisdictional and procedural questions to arise under s245 RMA, which provides, in relation to reclamations, that the person undertaking them will submit a Plan of Survey to the relevant consent authority.

6.4 Report from Auckland Regional Council

[82] This report quite helpfully identified key issues under the headings Coastal Works, Coastal Processes, Ecology, Land Disturbance, Contamination, Stormwater and Streamworks, Groundwater and Settlement. The report concluded that permitted baselines probably had little or no relevance to the granting of wide-ranging regional resource consents, which appeared to us to be realistic at first blush.

[83] The report provides some guidance on relevant provisions of Policy Statements and Regional Plans, and specifically identifies relevant provisions in appendices attached. An inference to be drawn from the report is the need for robust conditions and monitoring to ensure performance and compliance with region controls in relation to both construction of the works, and operation of them in the long term.

7 REGIONAL AND PROJECT-WIDE EFFECTS

7.1 Introduction

[84] It is almost trite that a project of this magnitude will have regional and project-wide effects that include positive as well as adverse effects. Effects assessed in the extensive AEE include, of note: social, socio-economic, cultural, open space, transport, ground settlement, landscape, visual, vegetation, archaeological, heritage, streams, coastal processes, groundwater, avian ecology, marine ecology, herpetofauna ecology, fresh water ecology, air emissions, noise emissions, vibration emissions, light emissions, discharge of contaminants (stormwater), contamination effects and natural hazards including flooding.

[85] Because documentation in the case reached huge proportions, we put processes in place to narrow issues and focus on essentials to the greatest extent possible. Techniques employed have included work by the Friend of Submitters to assist submitters to

understand process; encouragement to submitters to group together to study issues and make presentations, continuing consultation amongst parties initiated by NZTA and others; facilitated meetings of experts in caucus; and the issuing of directions and questions from time to time, seeking elucidation, focus, and narrowing of issues. At one stage of the hearing we swore in 3 acoustic engineering witnesses together, in order to tackle certain noise effect issues in a contemporaneous and consistent fashion.⁸

[86] The various groups of experts, who participated constructively in caucusing, produced helpful, and generally quite succinct, reports as to facts and issues agreed, facts and issues remaining unresolved, and (generally) succinct reasons for the latter. We were careful to point out however, that agreements reached amongst experts did not represent some sort of unassailable conclusion on the issues they were concerned with. Notwithstanding such agreements, all submissions lodged last October, whether by parties seeking subsequently to be heard or not, have, we assured participants, been placed in the mix of deliberations, as have all statements of evidence and representations by parties or their agents. Agreements amongst experts obviously however deserve due respect.

[87] In respect of one group of topics, we considered that it would be helpful to allow active involvement of non-experts in consideration of technical matters. So at our first Pre-hearing Conference we arranged some caucusing sessions amongst parties, non-experts and experts, on social and open space issues, prior to expert caucusing on those topics. We felt that it might be constructive for non-expert participants to inform the expert caucusing process, and for information and opinion to flow both ways. Such a step would not usually be contemplated in resource management cases at appeal level, but we believe that our deliberations have been assisted by adopting this course on this occasion.

7.2 Traffic and Transport

[88] It was a key plank in the case for NZTA that this project would upgrade and complete a critical part of the strategic transport network in the Auckland region. As already recorded in this decision, the routes are intended to link the region to other regions, and other regions to each other. The strategy of providing such routes is identified in the Auckland City District Plan.

⁸ A process occasionally employed in Environment Court hearings, and somewhat delightfully known in some Australian jurisdictions as “hot tubbing”.

[89] NZTA has recently completed the SH20 route from the Southern Motorway, through Onehunga, and as far as Mt Roskill. It indicated that this has resulted in a reduction in traffic flows on arterials in the city such as Mt Albert Road, but has increased flows on others such as Gillies Avenue in Epsom.

[90] To the north-west, SH16 currently carries in excess of 100,000 vehicles per day. Growth in the future is said by NZTA to be constrained by capacity, an issue which the Project sets out to address. The applicant's traffic modelling suggests that without the Project, travel times on the network in this part of Auckland would continue to increase, with the SH16 evening peak offering the most significant problem with a 16 percent increase.

[91] Modelling suggests that by 2026, with the Project completed, it could be expected that there would be:

- A decrease in traffic on SH1 as a result of vehicles moving to the western ring route; but any available capacity on SH1 then being taken up by traffic diverting onto it from local roads.
- An increase in the flows on SH20 as the network is completed.
- An increase in traffic on SH18, Upper Harbour Drive, by 2 percent, suggesting that the Project would not greatly increase vehicle trips to and from the North Shore.

[92] Further modelling, by analysis of future origins and destinations after completion of the Project, indicated to NZTA that the Project would provide a "through traffic" function. Some parties have been critical of the lack of local access, particularly around the Great North Road interchange, an aspect that we acknowledge, and which not unsurprisingly underlines claims by NZTA as to the importance to it of the "through traffic" function.

[93] Travel times for the modelled origins and destinations are predicted to decrease after the Project is completed, although some delays are also identified, said to originate from portions of SH16 and SH20 outside the Project.

[94] It was the case for NZTA that overall, the effects on the strategic network would be:

- Improving the capacity of the western ring route.
- Improving the resilience and reliability of the state highway network.
- Improving the accessibility, effectiveness and efficiency of the state highway network.

[95] NZTA has predicted that the SH20 component of the Project is expected to attract 83,000 vehicles per day by 2026, against a capacity of 150,000. Most of the interchange ramps in the Project are designed to incorporate 2 lanes, and have been assessed by it as likely adequately to accommodate traffic flows predicted for 2026.

[96] In relation to SH16, the growth of traffic is said to be largely associated with the increase in capacity of this stretch of highway within the Project. Between 2006 and 2026, flows within the Project section are expected to increase by 25 percent east-bound, and 35 percent west-bound. East-bound travel times are expected to improve, but queuing would be expected east of St Lukes' interchange, towards the Great North Road interchange. East-bound queues are also expected at the Te Atatu and Great North Road interchanges. The situation at St Lukes' interchange was the subject of expressions of concern by a number of parties, but as will be seen from our analysis of the evidence, benefits from the current design would outweigh the problems, and undertaking further works in the vicinity to overcome the problems would be outside the jurisdiction of this project.⁹ (Further, we understand from NZTA and the council that a separate project is under consideration for this interchange).

[97] There is the potential for interchanges to become congested and require improved management of light-phasing for signal controls.

[98] On SH20 there is potential for north-bound queuing extending back into the tunnel, and a Tunnel Management Plan is proposed to address this. Otherwise SH20 is anticipated to operate satisfactorily.

⁹ Refer to our discussion elsewhere of the jurisdictional limitations of works and mitigation beyond the footprint of the Project, and our findings on those things.

[99] Submitters raised a number of important issues which were highlighted by the authors of the s42A report that we commissioned. These, and other issues, were addressed directly and constructively in expert caucusing amongst traffic witnesses. The issues raised by submitters included, in summary:

- Would it be safe and efficient to use shoulders on SH16 for bus priority?
- What issues will arise at interchanges, and can they be controlled by ramp metering?
- Should the Project provide for a dedicated bus-way as opposed to bus lanes?
- The scope for detailed design to provide for dedicated bus lanes as part of the Te Atatu interchange.
- Should the tunnel provide for public transport, or would it be more effective to improve existing Great North Road facilities?
- Whether there should be provision for an at-grade cycleway connection through Sector 8, not currently proposed by NZTA, where the motorway would run in tunnels underground.
- Provision of an integrated set of drawings showing pedestrian pathways, cycleways, bus lanes and bus-ways for the Project (an issue that was raised by us with NZTA at an early stage in the hearing, and on which it responded by lodging a series of drawings illustrating its proposals for these features through most of the Project, but not through the tunnelled sectors, 7 and 8).
- Provision of safe, direct pedestrian and cycle movements through the Te Atatu interchange.
- Feasibility of enhancing north-south pedestrian/cycleway connectivity between Waterview and Pt Chevalier.
- Whether there should be certain pedestrian and/or cycle connection on bridges over SH20.

- Assessment of potential conflict with KiwiRail's existing designated rail corridor.

[100] A feature of the case for NZTA was that there would be reductions in heavy commercial flows on local roads due to the transfer of such vehicles to the strategic routes. At the same time, NZTA acknowledged that the Project would not be a panacea to solve all or even the majority of Auckland's transportation issues, and that some areas of congestion would arise over time during peak hours. We were invited essentially to consider the Project as an important component in the overall transportation strategy for the region. It was urged that the link should be regarded not only as regionally important, but nationally important as well.

[101] Concerning construction traffic, it was the case for NZTA that traffic would be able to use existing state highways for the majority of their routes to construction yards. Such traffic movements have been estimated at just over 7,200 at the peak of the works, an increase in overall network flows of between 2 and 3 percent which, while minor, would be expected to affect interchanges to some degree.

[102] In particular, construction work itself would affect the function of the network, with lane narrowing and other measures being undertaken on existing SH16, potentially increasing travel times between 8 percent and 29 percent east-bound, and 16 and 22 percent west-bound. The highest impact could be expected at the Te Atatu Road interchange east-bound, with an estimated 6 minute increase in travel time through this link. Some mitigation could be offered by adjusting traffic signals, and some improvements could be expected due to traffic diverting off SH16 on to the local network, but with consequent effects there. NZTA proposes site specific Traffic Management Plans where lane closures are required, in association with the establishment of a Traffic Management Governance Group, close liaison with passenger transport agencies, road user campaigns, advice on detour routes, and liaison with major traffic generators. The Construction Management Plan requires monthly monitoring and reporting to the consent authority.

[103] A small number of submitters sought to argue that the Project could not be justified in transport terms. (Economic arguments are considered elsewhere in this decision). These submissions offered the view that investment would be better made in public transport projects. As will be seen, we consider that there will be public transport benefits, particularly with the close attention that we require to the provision of bus

priority on shoulders. In any event, our jurisdiction in this case does not extend to directing how NZTA makes use of its funding beyond the proposal before us and its objectives, and NZTA's general objective and functions of relevance to the Project.

[104] Subject to the resolution of a number of detailed issues as raised by submitters, and particularly as addressed by the experts in caucus, we hold the view that the Project will have substantial transportation and traffic circulation benefits, but recognise that it is only a part of the overall regional transport picture. Issues of whether steps should be taken to at least encourage greater use of public transport have limited relevance for our inquiry, and should primarily be dealt with as matters of national policy, which is, of course, a matter beyond our jurisdiction.

[105] As we have noted, key issues in this area boiled down to a number of topics. We set the expert traffic engineers the task of caucusing to endeavour to narrow issues and reach agreements where possible. They attended three meetings early this year, facilitated by an experienced traffic engineer, Ross Rutherford. In attendance were the following, on behalf of NZTA: Andrew Murray, transport witness; Rob Mason, traffic expert; Andre Walter, NZTA construction manager. In attendance of behalf of Auckland Council and Auckland Transport was Ian Clark, transport expert. In attendance on behalf of submitter Sir Harold Marshall, was John Parlane, transport expert, and in attendance on behalf of Living Communities (Auckland) Inc, a submitter, was Duncan McKenzie a resource management planner who was given leave to be involved on account of some apparently constructive suggestions concerning the provision of local access lanes. Mr John Gottler, a traffic expert concerned with construction and temporary traffic issues, attended one of the sessions, and Mr Max Robitzsch, a transportation engineer representing Cycle Action Auckland, attended two of the sessions with our leave, albeit that he was a party as well as a person having expert qualifications.

[106] A high level of agreement was reached, and in areas where disagreement remained, some relatively succinct reasons were supplied by the group. We are grateful to them for their efforts. The most efficient way to record the outcomes of the work of these experts is to reproduce it in full, which we now do.

[107] **Local ramp connections to SH20**

[Evidence of Sir Harold Marshall and John Parlane requesting local connections to SH20]

Areas of disagreement that have been resolved

The following sets out the jointly agreed positions reached during the meeting:

1. In principle it is desirable to have connections from SH20 to provide access to the local communities and to assist with the operation of the motorway network by taking pressure off the adjacent interchanges (especially St Lukes Road and Maoro Street) [but note disagreement on the desirability of these specific ramps below].
2. Previous investigations and decisions have ruled out local connections at New North Road and at Great North Road in the vicinity of the intersection with Blockhouse Bay Road, limiting the options for providing such local connections to the Waterview/Point Chevalier/Carrington/Unitec communities to the vicinity of the Great North Road interchange.
3. It is desirable that such (south-facing) local connections include both an on-ramp and an off-ramp. However, there are no strict requirements to have both, and there are examples in the Auckland network where only one is provided.
4. It is agreed that travel times accessing SH20 from Point Chevalier, Carrington and Waterview are likely to be improved with provision of the ramp(s).
5. It is agreed that a new interchange could adversely affect other local movements passing through the Great North/Carrington Road intersections and northern end of Carrington Road (potentially requiring consideration of mitigation).
6. In the context of the accessibility implications of providing local connections, it is agreed that accessibility can be measured in different ways, but generally involves a combination of both travel time and distance travelled.
7. It is agreed that preliminary indications show that the ramp connections to/from SH20 at Carrington Road/Great North Road interchange may be geometrically feasible (but see below on opinions of specific desirability).

Note: The modeled traffic flows on the local on-ramp and off-ramp connections were reported by Andrew Murray to be 3,400 vpd respectively for the year 2016. These projected flows were accepted by the caucus members, as were projections on the resulting changes in traffic flows elsewhere in the network.

Areas of disagreement that have not been resolved

1. It is not agreed whether the Project is expected to adversely affect accessibility to the Waterview, Point Chevalier and Carrington communities.

Reasons:

- John Parlane considers that the Project is likely to reduce existing traffic through these communities, but it does nothing to address the future needs of traffic generated by these communities. There is insufficient information for him to conclude that the local areas are not adversely affected.
 - Andrew Murray considers that there are not adverse accessibility effects because the Project does not restrict existing access and the detailed analysis undertaken shows that with the Project, accessibility is either not affected or improved.
2. It is not agreed that there is sufficient information to judge the safety and operation concerns with both the on and off-ramps.

Reasons:

- Rob Mason considers that sufficient design has been undertaken to determine that, in his opinion there are significant safety issues with the design, as well as non-transport constraints.
 - John Parlane considers that if the ramps were designed as an integral part of the Project rather than added at the end, these issues might be addressed. No designs have been circulated in evidence, and the design that has been tabled in caucusing may not be optimal.
 - Andrew Murray considers that the modeling undertaken showed operational problems with the proposed on-ramp intersection at Carrington Road.
3. It is not agreed that the overall need for, or desirability of providing these specific ramps at Carrington Road/Great North Road interchange.

Reasons:

- John Parlane considers that if they can be provided then they should be provided. He considers that if they are not provided the distance between interchanges will be greater than they should be and the matter may need to be revisited in the future.
- Andrew Murray considers they are not needed and should not be provided as they are not required to mitigate effects, would have an overall detrimental effect on the operation of the wider network and hence overall are contrary to the Project objectives.
- Ian Clark considers there may be advantages to local communities in providing these ramps but there may also be adverse affects adjacent to the proposed interchange. He did not state an opinion on the need for the ramps.
- Rob Mason considers that the ramps are not needed and should not be provided due to the significant adverse safety impacts on the ramps and on Carrington Road.
- Max Robitzsch considers that the ramps would likely have adverse effects on the local cycling and pedestrian connectivity especially on Carrington Road. He did not state an opinion on the need for the ramps.
- Andre Walter considers that the ramps are not needed and should not be provided due to the significant implications of relocating the northern tunnel portal further south along with the associated relocation of ventilation building and stack.

Signatories: John Parlane, Andrew Murray, Rob Mason, Ian Clark, Andre Walter and Max Robitzsch.¹⁰

[108] Northern Tunnel Portal Location

[Evidence of Duncan McKenzie regarding the selection of the ramp configuration at the Waterview Interchange]

¹⁰ Max Robitzsch was not present at the discussion on points of agreement, but attended the later part of the discussion.

Areas of disagreement that have been resolved

1. Duncan McKenzie has expressed concerns at the environmental effects on the Waterview area of the northern tunnel location and has suggested that the relocation northward of the portal would reduce these effects. He was concerned that there had not been a sufficiently rigorous assessment on the effects of the portal location. Following a discussion between Duncan McKenzie, Andrew Murray, Rob Mason and Andre Walter, it was accepted by Duncan McKenzie that relocating the portal a sufficient distance northwards to reduce identified effects would require shifting the Great North Road interchange a similar distance northwards with significant effects on the area north of the existing interchange. Consequently, Mr McKenzie stated that he could see the rationale and reasoning behind the selected portal location and accepted that a more rigorous assessment was unlikely to come up with a different result.

Signatories: Duncan McKenzie, Rob Mason, Andrew Walter.

[109] Great North Road Bus lane

[Evidence of Ian Clark requesting Bus and Cycle lanes being added to Great North Road as part of reinstatement of this section of road]

Areas of disagreement that have been resolved

1. It was agreed that this issue can be resolved through amendments to the Proposed Operational Traffic Condition OT.1 Integration with Local Road Network, which refers to preparation of a Network Integration Plan (NIP) by the NZTA]

The recommendations are as follows:

1. Replace 'consultation' with 'collaboration' in the first line and replace 'Auckland transport agencies' with 'Auckland Transport'. The effect is that the NIP then becomes a joint document of the NZTA and Auckland Transport.
2. Remove the last paragraph starting with "The NIP ... on the basis that the NIP is now a collaborative document.
3. Last line clause (a), delete 'existing designation' replace with 'final project designation' to remove ambiguity.

For the sake of clarity, the experts understand this to mean that if adopted, the NZTA would provide this facility, as long as the works remain within the final project designation and that the works can be implemented as part of the reinstatement of Great North Road.

Signatories: Andrew Murray, Ian Clark, Andre Walter

[110] St Luke's Interchange

[Evidence of Ian Clark requesting upgrades to the St Luke's Interchange as part of the Project]

Areas of disagreement that have been resolved

1. It is agreed that there are existing deficiencies at the St Luke's Rd/SH16 Motorway ramp terminals/Great North Rd Intersection and that it would be desirable for the NZTA and Auckland Transport to work together to resolve these deficiencies (with appropriate funding arrangements to be determined).
2. It is agreed that the Waterview project may slightly increase delays at the interchange during the weekday/morning peak period, and reduce delays during the weekday evening peak period.
3. It is agreed that any extra delays are unlikely to affect bus operations on Great North Road in the morning peak.

Areas of disagreement that have not been resolved

1. There was no agreement on whether the Waterview project creates an overall adverse effect which needed to be mitigated.

Reasons:

- Ian Clark considers that the extra delay expected at the Interchange in the morning peak constitutes an adverse effect
- Andrew Murray considers there is not an adverse effect because of reduced delays outside the morning peak and because his analysis showed that of the vehicles passing through the Interchange, only 6% had a material increase in delay, when their complete journey was considered.¹¹

Signatories: Andrew Murray and Ian Clark

[111] SH16 and SH20 Bus Facilities

[Reference Section 42A Report paragraph 13.1.15, requesting consideration of the proposed use of bus shoulder lanes on SH16]

1. There is agreement that provision of bus shoulder lanes are an appropriate treatment for bus priority on SH16 in the Project area. This is consistent with the PTNP¹² and the RPTP¹³ which indicate that this section of SH16 forms part of the Quality Transport Network, not the existing or future Rapid Transit Network.
2. It is agreed that bus facilities in the Project area are not identified in the PTNP or the RPTP and they were not previously requested by ARTA.

Signatories: Ian Clark and Andrew Murray

[112] Cycleway

[Evidence of Ian Clark (and others), seeking provision of a cycleway through Sector 8 as part of the Project]

¹¹ Note that this information was presented to the first caucusing session and that information requested by Ian Clark on the St Lukes interchange forecast flows in 2026 without and with the Project were provided prior to the second caucusing session

¹² Passenger Transport Network Plan 2006

¹³ Regional Passenger Transport Plan 2010

Areas of disagreement that have been resolved

1. There is agreement that both Auckland Transport and NZTA have policy directives and responsibilities in providing cycling facilities and it would be desirable for the NZTA and Auckland Transport to work together to progress the provision of such a cycleway (with appropriate funding arrangements to be determined).
2. There is agreement that such a cycleway would advance some of the Project objectives.
3. It is agreed that the Waterview Project does not create an adverse transport effect that requires such a cycle link as a mitigation measure. It is noted that other issues (e.g. access to open space) that may be addressed by provision of the cycleway or parts of the cycleway are being considered by other caucuses.
4. It is agreed that the optimal route for a sector 8 cycleway (and connections to it, and its form, whether on-road or off-road) has not been determined. Consequently it is not possible to determine a position on the need for or appropriateness of specific elements.

Areas of disagreement that have not been resolved

1. There is not agreement about whether the Sector 8 cycleway is needed to be included as part of the Project to meet its objectives:

Reasons:

- Max Robitzsch, Duncan McKenzie and Ian Clark consider that the cycleway is necessary to meet objectives related to supporting mobility and modal choices by providing a multi-modal corridor linking SH16 and SH20.
- Andrew Murray and Rob Mason consider that other elements of the Project substantially contribute to meeting those objectives, and hence the Sector 8 cycleway is not reasonably necessary to meet the Project Objectives.

Signatories: Duncan McKenzie, Andrew Murray, Rob Mason, Ian Clark, Max Robitzsch

[113] Waterview to Point Chevalier Pedestrian Cycle Links

[Evidence of Duncan McKenzie (and others), requesting a cycle/pedestrian bridge over SH16 between Waterview and Point Chevalier]

Areas of disagreement that have been resolved

1. There is agreement that a pedestrian/cycle link over SH16 between Waterview and Point Chevalier (known as the Eric Armishaw Bridge) is unlikely to be appropriate mitigation of any adverse traffic effects created by this project (but see below about disagreement on whether there is an adverse effect).

Areas of disagreement that have not been resolved

1. There is not agreement about whether the Project creates an adverse effect on pedestrian/cycle links between Waterview and Point Chevalier.

Reasons:

- Duncan McKenzie considers that an adverse effect is created by the removal of houses on Great North Road, thereby reducing passive surveillance of the existing pedestrian/cycle link.

- Andrew Murray considers that visibility and surveillance would remain high due to the high traffic flows, and that any adverse effects would be mitigated by the significant reduction in traffic flows on all the at-grade crossings and the availability of the alternative off-road route
2. If there was adverse effect, there is not agreement about whether a connection from Waterview to Unitec (such as via the 'Oakley Bridge'¹⁴) would constitute appropriate mitigation.

Reasons:

- Duncan McKenzie considers that such a link has the potential to provide a higher quality connection between Waterview and Point Chevalier
- Andrew Murray considers that, given the good quality connections via the existing cycleway at Great North Road, such a link would not be a more attractive connection between Waterview and Point Chevalier

Signatories: Duncan McKenzie, Andrew Murray

[114] SH16 Cycleway Design Issues (2m 'Pinch point')

Areas of disagreement that have been resolved

1. Following further investigation by the NZTA, it is confirmed that a minimum clear width of 2.4m can be provided on the cycleway between road chainages 3520 and 3610. Further it is agreed that the distance with a minimum clear width of 2.2m between road chainages 3350 and 3380 at the cellphone tower be kept to the shortest length possible during the detail design of the shared pedestrian/cycleway.

Signatories: Max Robitzsch, Andre Walter

[115] Te Atatu Cycleway Design

[Evidence of Cycle Action Auckland, requesting grade-separation of the cycleway at Te Atatu to avoid delays at the traffic signals]

Areas of disagreement that have been resolved

1. Following discussions between Andre Walter and Max Robitzsch after the caucusing meeting of 28 January it was agreed that the increase in the number of traffic signals and increase of traffic and the number of traffic lanes at the signals is likely to lead to a level of additional delay for cycling traffic at this location.
2. It was agreed that the Network Integration Plan required as part of proposed condition OT.1 should be expanded to specifically consider opportunities to review traffic signal timings at the Te Atatu Interchange with a view to minimize delays to all users, including cyclists on the SH16 cycleway.
3. As part of proposed condition OT.1, the NIP should consider whether or not improvements to the cycle connections (such as underpasses or overbridges) would be feasible to reduce the number of signalized cycle crossings at the Te Atatu Interchange.

¹⁴ Oakley Bridge refers to a connection from Great North Road in the vicinity of Oakley Avenue, Alford Road or Alverston Street to the Unitec Campus.

Signatories: Max Robitzsch, Andrew Murray Andre Walter, Ian Clark.

Predictions of Induced Traffic [related to Issues raised in the Section 42a Air Quality Report]

Areas of disagreement that have been resolved

There is agreement that the modelling process has followed standard procedure and that the modeling is generally responding reasonably, including the prediction of induced traffic.

Signatories: Andrew Murray, Ian Clark.

[116] Temporary Traffic Conditions

Areas of disagreement that have been resolved

1. Ian Clark and John Gottler met separately and discussed the proposed amendments sought by Auckland Transport to the conditions relating to temporary traffic operations. Ian Clark is satisfied that the amendments from John Gottler address his expert concerns, subject to:
 - Auckland Transport's acceptance of the Traffic Management Governance Group as the appropriate forum for approval of SSTMPs.¹⁵
 - The explanations to be provided in the rebuttal evidence of John Gottler and others in relation to the Education Liaison Group being able to positively input into SSTMPs that affect school related travel during the afternoon traffic peak (thereby demonstrating that the extension of the defined evening peak to 3pm rather than 4pm, suggested in the evidence of Ian Clark, is not necessary).
 - Auckland Transport and Auckland Council's support for the agreed detailed wording used in the proposed consent conditions.
2. It was agreed that the amended conditions developed by John Gottler and Ian Clark be provided to Auckland Transport and NZTA for final approval for submission in rebuttal evidence.

Signatories: Ian Clark, John Gottler

[117] As to the first issue, 7.2.1, absence of local ramp connections to SH20, there was a further development during the hearing. Counsel for Sir Harold Marshall and the Mt Albert Residents Association, Mr D Allan, announced during his submissions that his clients reluctantly accepted that while the experts' caucus had accepted the desirability of such ramps, it had to be recognised that implementation would have consequent environmental effects that his clients could not accept. For instance, it would necessitate moving the northern tunnel portal further south, thus increasing adverse effects on the Waterview community. We infer from the evidence of some witnesses that another

¹⁵ Site Specific Traffic Management Plans

consequence might have been to require the interchange to move northwards, with new adverse effects on another community in Pt Chevalier, and perhaps on the ecologies of the mouth of Oakley Creek and the Waitemata Harbour. In either event, the changes would almost certainly be beyond the jurisdiction of the present case.

[118] As to the issue about a bridge at Pt Chevalier, Mr Allan announced the withdrawal of the relief seeking the provision of a bridge between Waterview and Eric Armishaw Park. Other parties however continued to consider such a link desirable.

[119] NZTA, through its counsel, indicated a high level of acceptance of the recommendations of the traffic experts concerning conditions of consent. During the hearing we were working with a set of draft conditions of consent compiled on 10 February 2011 referring to the topics “*Te Atatu Interchange Cycleway Design*”, and “*Temporary Traffic Conditions*”. NZTA indicated that it accepted all suggested amendments to conditions TT.1 to TT.11, and to draft condition OT.1. Counsel advised that all those changes to TT.1 to TT.11 had been incorporated in the 10 February version of conditions, but that the suggested changes to OT.1 had not. It was indicated that this was on account of the comparative timing of the availability of the caucusing report, and the compilation of the 10 February version of draft conditions.

[120] We have subsequently taken this issue up with the parties and the experts, most recently in the Minute attaching directions about conditions generally, issued on 7 May, described in Section 15 of this decision. A copy of those directions is attached to this decision as Annexure “C”. Responses from the groups of experts were lodged with the Board on 13 May (Annexure “D” to this decision). On this issue the experts have offered greater clarity around condition OT.1 (a) concerning bus priority measures, but left matters unacceptably uncertain in 1(g) regarding improvements to cycle connections across the Te Atatu Interchange. We require strengthening of that condition to commit NZTA to synchronised cycle lights at the interchange unless through detailed design it proves feasible to construct underpasses and/or overpasses that make lights unnecessary.

[121] Issues relating to the cycleway concept in sector 8 and cycleway connectivity between Waterview and Pt Chevalier have been dealt with elsewhere in this Decision.

[122] We turn our attention at this stage to connectivity, circulation, and safety issues.

[123] At least 38 submissions were received expressing criticism about lack of access to SH20 for local Waterview traffic, lack of connection from Great North Road to the new motorway at Pt Chevalier interchange, that the Project will not serve the people of Waterview at all, and seeking improvements in connectivity between affected communities. One example of such a submission was a combined one from J Blair-Schulze, Armstrong family, Bowman family, Tipene family, and Taiapa family, who live in Waterbank Crescent and Herdman Street.

[124] Discussion about the tension that exists between the views of such submitters and what NZTA proposes, can commence by noting Objective 5 of the Project:

To improve the connectivity and efficiency of the transport network.

[125] It is, however, noted from the AEE, Part A, chapter 3.3, that the Project objective is qualified by the addition of:

... by separating through traffic from local traffic within the wider SH20 corridor.

[126] NZTA provided a significant amount of information about this issue in its AEE. Mr A Murray, Project transportation engineer, in his evidence in chief systematically reviewed the results of the traffic modelling for the wider state highway effects, and reported that a general effect of the Project is to divert traffic from local and arterial roads across a wide area.

[127] Mr Murray tabulated the projected change in traffic flows on key arterial roads in 2016 and 2026 following the completion of the SH20 connection and widening of SH16, and predicted that volumes of traffic would be reduced at a number of locations including the following:

- 3,600 (13%) from Tiverton Street
- 2,300 (14%) from Mt Albert Road
- 7,800 (25%) from Carrington Road
- 2,700 (8%) from Great North Road west of New Lynn
- 4,000 (9%) from Great North Road (north of Blockhouse Bay Road)

- 4,800 (32%) from Blockhouse Bay Road
- 6,700 (19%) from St Lukes Road

[128] Mr Murray reported the prospect of minor (7% or less) increases in traffic flows in 2016 as a result of the Project on the following arterial roads: New North Road, Richardson Road, and Te Atatu Road (south of SH16).

[129] He reported that results of the Transport Assessment show that travel times within the Project are generally expected to reduce significantly, with savings of 11 minutes on Great North Road (to SH16 north-bound) and 12 minutes along SH16 (Te Atatu to Newton). In the evening peak, the savings are not as significant, with only limited savings travelling along SH16 itself (less than a minute). However, with the Project in place, the corridor would be carrying substantially more traffic, most of which would have diverted from the local network. The travel time savings in the corridor would be constrained by the ability of the local network to accommodate the higher flows, and this is reflected in the travel times on some of the access roads to SH16 predicted to have increases in delay.

[130] In terms of local traffic access to SH20 at Waterview interchange, Mr Murray said in evidence in chief:

In transport terms, there is often a conflict between providing access to a motorway and maintaining performance of a motorway corridor. This is because new connections can reduce the through capacity, reliability and safety of the motorway route. Additionally, while providing new motorway connections can improve local accessibility, such connections can also increase through traffic on local streets.

Various connections between SH20 and the local network have been considered previously by the NZTA during Project planning, including at New North Road and at Great North Road. These were found to increase connectivity between SH20 and Avondale, Waterview and the Rosebank Peninsula. However they also resulted in significant increases in traffic through local streets.

[131] As to a suggested Carrington Road ramp, Mr Murray assessed the situation and demonstrated that the shortest distance from Waterview, Unitec, and Pt Chevalier to SH20, south, was via the local network. He therefore concluded that such a ramp should not be provided on the grounds that it would only partially address the local accessibility issue, would be inefficient, and would likely have a detrimental impact on the performance and usability of the motorway and local network.

[132] On the issue of traffic flows on Great North Road and in the Waterview area, Mr Murray told us that the traffic modelling indicates an expected reduction in traffic flow along Great North Road (in the section between Blockhouse Bay Road and the Great North Road interchange). Further, that traffic reductions are also expected on most local and arterial roads in the Waterview/Mt Albert area, including Carrington, St Lukes Road, Woodward Road and Richardson Road. Further, and interestingly, that Gillies Avenue in Epsom is projected to reduce by 32% in 2016.

[133] Concerning predicted traffic flows at Pt Chevalier, it was Mr Murray's evidence that the traffic modelling undertaken for the Project indicates similar traffic flows going into and out of Pt Chevalier area between the "do minimum" scenario and the Project option. However, there is expected to be a significant reduction in traffic at Carrington and through the Carrington/Great North Road intersection as a result of the Project, which will significantly reduce congestion at this main access point to Pt Chevalier.

[134] On the subject of traffic impacts in Owairaka town centre, Mr Murray said that the traffic modelling analysis indicates a significant reduction in daily traffic volumes on Stoddard Road (31% in 2026), Richardson Road (38% in 2026) and the Owairaka town centre, as a result of the Project. This is due to traffic being able to remain on SH20 to connect to SH16, rather than needing to use the local network such as Stoddard Road and Richardson Road.

[135] As to concerns expressed about the potential for increased traffic on Stoddard Road, Mr Murray said that the traffic modelling indicates significant reduction in daily traffic volumes on Stoddard Road in the section north of the Maioro Street interchange. The section of Stoddard Road immediately south of the Maioro Street interchange is expected to increase by 2,000 vehicles per day in 2026, due to traffic wishing to access SH20 via the interchange. Mr Murray considered that this section of Stoddard Road would be able to accommodate this increase, as it is less sensitive to any increase in traffic volumes than the section north of Maioro Street interchange where the shops are located.

[136] Concerning issues around the St Lukes interchange, Mr Murray noted that various submitters had requested that improvements be made as part of this Project, including that there should be further consideration of adverse effects at the interchange relating to queuing on St Lukes Road and requesting enhancement around the interchange. Mr Murray deposed that extensive queuing northbound on St Lukes Road already occurs in

the morning peak, and the queuing referred to in the Transport Assessment shows that without improvements, this is expected to remain in future years. However, as the traffic modelling indicates, a net reduction in 2026 traffic flows along St Lukes Road as a result of the Project (6,400 vehicles per day), any such queuing is not increased by the Project, and is therefore not an adverse effect of the Project that requires mitigation. He also said that the Project would reduce the flow on St Lukes Road approaching the interchange by diverting traffic onto SH20. The Project was expected to increase traffic on SH16 passing under the St Lukes interchange and on the west facing on and off ramps, however a significant reduction is expected on St Lukes Road itself entering the interchange, and on the east facing ramps.

[137] On behalf of Auckland Council, its traffic witness Mr I Clark undertook a comprehensive assessment of benefits and efficiencies of the Project. Of particular note he said that the Project is expected to offer significant transport-related benefits including:

- The benefits of completing the Western Ring Route, to allow that route to provide a viable alternative to the existing SH1;
- Significant benefits across a wide area, by increasing the capacity of the SH16 corridor and improving the connectivity of the motorway system, thereby removing significant general and freight vehicles from the local and arterial network.

[138] He noted, however, that there was going to be a lengthy construction period, with significant disruption for the local community over a number of years. He also considered that there was an opportunity to enhance the benefits of the Project by the creation of a bus lane at Waterview as part of the reinstatement of Great North Road.

[139] In response to Mr Murray's evidence about sensitivity of traffic modelling, Mr Clark considered the information important as it reflected the knowledge that traffic forecasts can be uncertain and subject to a range of assumptions, drawing our attention to implications of certain uncommitted projects not materialising as currently assumed in the traffic modelling such as widening of SH16 between Te Atatu and Westgate, and widening of SH20 through the Mt Roskill extension, to 6 lanes, thereby limiting the rate at which traffic can either reach or head away from, the Project roads.

[140] We are well aware that there can be knock-on effects from extending motorways, for instance transferring congestion effects “further down the line”, to coin a phrase. We asked witnesses, particularly NZTA witnesses, about this during the hearing. We will comment further on their answers, shortly.

[141] Mr D Mead, a town planner and resident of Westmere discussing the northern end of the Project, deposed that there would be adverse effects on Grey Lynn, Pt Chevalier and Waterview communities that are not appropriately mitigated. At Grey Lynn, he considered that there would be additional traffic using local roads; at Pt Chevalier, options to redevelop and expand the town centre might be curtailed; and at Waterview there are acknowledged unmitigated effects offset by wider transport benefits.

[142] The former Auckland Regional Transport Authority (“ARTA”) lodged a submission but did not contribute evidence. It noted that completing SH20 and upgrading SH16 would alter traffic patterns on the arterial network, removing through traffic and providing capacity to allow improvements for public transport priorities. Further, that completing the Project would increase traffic congestion on local roads adjacent to the motorway corridor that would require mitigation, particularly at peak periods. It particularly identified areas within the proposed designation at St Lukes Road (19% reduction in 2016), and at Great North Road around the St Lukes interchange, and at Great North Road around the Waterview interchange.

[143] ARTA generally supported the Project, but simply recorded that it wanted the Board of Inquiry to ensure that NZTA had taken the necessary steps to ensure that the local transport network is not compromised by the Proposal.

[144] Unitec expressed concern in its submission about access to its site, but ultimately came to an agreement with NZTA.

[145] Other submitters, some of whose evidence we have discussed in this section and elsewhere, were Sir Harold Marshall, Living Communities Inc, Northwestern Community Association, and Mr G Easte. Some resiled from criticisms about lack of connectivity for Waterview residents around the Great North Road interchange, in particular the traffic engineer who had been called by Sir Harold Marshall, Mr J Parlane. We consider that this might have been a proper and constructive response to the rebuttal evidence of Mr Murray

that, when effects of installing such ramps might be aggregated across the network, the network would be less efficient with such ramps than without them.

[146] As to the key point raised by Mr Mead, that relating to the Pt Chevalier town centre, Mr Murray said in rebuttal that it is a town centre dominated by high traffic flows and congestion at the major Great North Road/Carrington Road intersection, both expected to be reduced as a result of the Project. Mr Murray said that while much of the reduction would be on the movement between Great North Road westbound and Carrington Road, the overall reductions would be of benefit to the adjacent town centre in terms of delays and other traffic related effects. He considered that the effect on Great North Road eastbound through the main centre would be negligible, and that the predicted increase in Pt Chevalier would be due to traffic that would otherwise have used the parallel residential roads such as Huia Road, shifting back to the arterial network. As to his Grey Lynn issue, although apparently researched with care, we need to remember Mr Mead's lack of specialist qualifications, and to acknowledge that it would be completely unrealistic if the Project objectives included entire avoidance of some minor adverse effects. His Waterview concern is addressed elsewhere in this section of the evidence.

[147] Mr Murray concluded on balance that the Project would create transport benefits, rather than adverse effects, on the Pt Chevalier town centre.

[148] We consider that the modelling and analysis undertaken by NZTA, and the detailed responses to submitter's concerns, both through caucusing and further evidence, have been constructive and robust. It will always be the case that a Project of this magnitude and complexity will create some adverse effects, even while producing significant benefits, which we find it would, as forecast by Mr Murray and acknowledged by others.

[149] In connection with issues around the Great North interchange, Waterview and Pt Chevalier, we accept that benefits would greatly outweigh adverse effects, and that the adverse traffic effects will be no more than minor in the context of the present and future situations after completion of construction. Naturally, construction will provide disruptions that will need to be managed in accordance with the comprehensive traffic management plans proposed, which we do not underestimate.

[150] We accept that it is not practically achievable to construct further ramps in this vicinity given design constraints and other potential adverse effects that could occur. Indeed the potential for such further adverse effects could well mean that we would not have jurisdiction to direct the carrying out of such further works.

[151] In relation to the St Lukes interchange, there are some existing deficiencies. The Project will mitigate some. Any exacerbation will be minor in the comparative scheme of the present and projected environments. It is noteworthy that Auckland Council is no longer pursuing a St Lukes interchange upgrade as part of the present Project, and that NZTA through Mr Parker has offered to work with Auckland Transport to identify and address deficiencies in that area.

[152] These issues have ultimately been resolved to our satisfaction, assisted greatly by the quality of the caucusing that was undertaken, and the sensible approach taken to realities of the situation by some submitters.

[153] During the course of the hearing, the Board placed some questions before NZTA about one of the effects touched on above. That is, congestion occurring at each end of the Project (Te Atatu and Mt Roskill) where the 6-lane highway constructed as the Project narrows to a smaller number of lanes, for instance four.

[154] One aspect of this was that we asked about the possibility and consequences of traffic “backing up” into the tunnels, particularly at the northern end.

[155] It was NZTA’s response that the Network Integration Plan required by proposed Operational Traffic Condition OT.1 will look at this issue in greater detail. While congestion westbound on SH16 has the potential to extend back into the northbound tunnel, operational transport modelling indicates that this is unlikely. The transport assessment identified some improvements to Te Atatu Road that could further improve the operation of SH16 and decrease congestion. There may be other desirable changes beyond the extent of the present Project, but condition OT.1(c) requires the NIP to address integration of the works proposed on Te Atatu Road to appropriately transition between the Project and any projects being progressed by Auckland Transport.

[156] Furthermore, the response told us that Auckland Council's Regional Arterial Rooding Plan and NZTA's Western Ring Route (Northwest) Network Plan include improvements to arterial roads to address issues and maximise opportunities.

[157] We were also told that the Tunnel Traffic Operation Plan ("TTOP") required by proposed condition OT.2 will include procedures for managing traffic to avoid or minimise potential congestion in the tunnel, particularly during peak periods. This will include methods to manage entering and leaving the tunnel and how the risk of traffic queuing in the tunnel can be managed, including restricting the flow of traffic entering the tunnel via onramps, and traffic heading west on SH16.

[158] Draft condition OT.1 in the form before us at 25 March did not have specific mention of tunnel safety, and we considered that it should, in a generic fashion, in its introductory words. We required that addition despite the fact that OT.2 specifically relates to the tunnels. In OT.2 itself we required express reference to be made of safety issues in the tunnels arising from the potential for congestion caused elsewhere in the corridor.

[159] We also asked what was being done to ensure that problems similar to those recently being experienced on SH1 and SH20, where they merge at Manukau, are not repeated at Waterview.

[160] That problem was explained to us as being the result of limited capacity on SH1 southbound, with no management plan in place to deal with such problems until after the problem emerged.

[161] We were also told that details of operational modelling of the integration of SH20 and SH16 has been undertaken for this project, and that the NIP and the TTOP will assist in identifying issues and minimising risk of similar problems.

[162] We have already mentioned that an inherent issue with new motorway projects is that areas of congestion are simply moved further along to points where there is less capacity. While it may not be practical to avoid all such issues without endlessly spending very large amounts of money on new and improved roads, steps must be taken to mitigate the effects to the extent required by the Act. 7.3 Issues About Economics

[163] As has been referred to elsewhere, the Project has been declared by the Minister of Transport as one of 7 Roads of National Significance.

[164] The planning, land acquisition and construction cost of the Project is put by NZTA at a sum in excess of \$1.7 billion, and its Board has approved funding for it of up to \$2 billion.

[165] Mr M C Copeland, a consulting economist, gave evidence on behalf of NZTA. The relevance of economic issues was well expressed him by reference to s.5(2) of the Act, and in particular to enabling “*people and communities to provide for their ... economic wellbeing*”, as part of the meaning of “*sustainable management*”. He also referred to s.7(b) and the need to “*have particular regard to ... the efficient use and development of natural and physical resources*”.

[166] Whilst s.149P requires us to “*have regard to*” the Minister’s reasons for referring these matters to the Board, as noted elsewhere in this decision, it is proper to record that this is clearly a lower level consideration than that dictated by s.5 and required by s.7(b).

[167] The economic benefits claimed by the proponents and supporters of the Project have resonated with us in a further significant and qualifying respect. The economic benefits will very largely be derived at a regional and national level. The costs in terms of reduced amenity and environmental detraction will conversely be borne at a local level by the communities through which the proposed motorway is to pass, albeit that there was evidence of likely creation of jobs in the locality as one would expect.

[168] Many submitters stressed to us the fact that the suburbs of Owairaka and Waterview (being those at the southern and northern ends of the proposed tunnel respectively), are home to a disproportionate number of refugees, migrants and people on low incomes. Waterview School’s catchment for example is said to be Decile 2 on a 10 point scale. McGehan Close in Owairaka, a short street in the neighbourhood of the proposed designation, was described by the Prime Minister four years ago as being one of those streets where “*the rungs on the ladder of opportunity have been broken*”.¹⁶

¹⁶ The Rt Hon John Key – “*A State of the Nation Speech*” delivered at Burnside Rugby Clubrooms, Christchurch on 30 January 2007.

[169] We therefore face a situation in which a project which is said to bring some hundreds of millions of dollars in economic benefits to the regional and national economy, is being imposed on communities which are in many senses amongst the less privileged. Such amenities, reserves, and recreation opportunities as are available to the affected communities are therefore all the more valuable to them.

[170] We have come to the view that in such circumstances, if there are calls for mitigation of environmental effects, then an application of s.5's imperatives relating to the "*social, economic and cultural well being ...*" to a real extent warrants those calls being given strong weighting.

[171] A large part of the economic benefits claimed for the Project relate to savings in travel time. The relevance of this was well explained by Mr Copeland, at paragraphs 43-47 in his evidence:

- "44. ... travel time savings do have economic benefits. Travel time savings from road improvement projects are made up of work and non-work time savings for vehicle drivers and passengers, vehicle time savings, freight time savings and improvement in travel time reliability. ...
45. Work time savings for vehicle drivers and passengers free up resources to do other tasks or enable fewer people to be employed to achieve the same level of output. Similarly, shortening journey times for work vehicles enables fewer vehicles to do the same amount of work within a given time period. There is an obvious link here to improvements in productivity and economic efficiency. The time taken for freight once ordered to arrive at a destination impacts on the requirements to hold inventory stock, whilst perishable freight, (e.g. foodstuffs in transit) is another dimension of freight time values.
46. Non-work time savings benefit the individuals concerned who need to spend less time commuting to or from work or undertaking other trips in their non-work time. Creating a greater amount of time to undertake other tasks or pursue leisure activities is of benefit to individuals and therefore part of the wider community economic (and social) well being."

[172] We note that Mr Copeland addressed these matters in broad terms without however any reference to time costs that have been acknowledged by NZTA to be likely to occur during the construction periods, nor indeed the length of time for which the operational savings will continue. We nevertheless accept Mr Copeland's evidence in this regard as far as it went, and note that he was not cross-examined by any party.

[173] Evidence on a number of the economic aspects of the issue was presented by Professor T Hazledine of the University of Auckland. He expressed:

- (a) concerns that some of the assumptions underlying the extent of the economic benefits might not be entirely valid;
- (b) the view that even if the benefits were as stated, then consideration should be given to alternative projects that might have a higher benefit:cost ratio; and
- (c) support for congestion charging as an alternative means of accommodating traffic growth.

We have several concerns about Prof Hazledine's theories. First, he sought no relief in his submission lodged last October that we could consider granting; indeed he expressly recorded that he was "neutral" in relation to the proposal. Secondly, as we record elsewhere in this decision, our job is not to identify "best" or "better" alternatives. And thirdly, we have no jurisdiction to enquire into matters of Government policy, for instance to second-guess correctness of the road having been placed in a list of 7 Roads of National Significance, or whether congestion charging should be introduced as a tool to deal with traffic growth.

[174] Mr Pitches of the Campaign for Better Transport made an oral representation to the Board, as did Mr M Tritt, a local resident. Both questioned the alleged benefits of the NZTA proposal and expressed a preference for a greater variety of transport options.

[175] We were not however able to pay significant regard to the concerns and views of these submitters.

[176] Our Board is a creature of statute: it has very closely defined powers and duties and these do not extend to enable us to question the designating authority's objectives, or even its choice of alternatives (except that we must consider whether adequate consideration has been given to alternatives – as to which see the relevant part of this decision).

[177] Representations and evidence questioning those objectives are therefore not matters to which we can give weight, and nor can we reach a view that the designating authority has selected an inferior option as a means of achieving its objectives.

[178] A number of submitters came before us with complaints about the land acquisition and compensation process, including the MP for Mt Albert Mr D Shearer.

[179] Such issues are essentially matters to be determined under the provisions of the Public Works Act, and are not within the jurisdiction of this Board.

[180] If there are inadequacies in the compensation or acquisition regime, then those are matters for Parliament to remedy, a point which Mr Shearer raised with us himself. They are not matters to which we can have regard in determining the issues referred to us under the Resource Management Act.

[181] There is a difference between compensation for loss of land and mitigation of environmental effects. It is to the latter that our considerations must be confined.

[182] Campaign for Better Transport submitted that the benefits of the Project had not been properly evaluated in the context of rising fuel prices. This was, however, a matter that was addressed in the evidence on behalf of NZTA by Mr AP Murray, transportation engineer. He did this by reference to the Traffic Modelling Report in the AEE, Technical report G.25. It is relevant that the report models fuel prices for 2026, at \$2.75/litre, noting that such a value is in real 2026 terms, thereby showing a 77 percent increase over the 2006 fuel price. The benefit cost ratio, as calculated from the ART3 model, utilises that pricing.

[183] We note that Campaign for Better Transport did not file any evidence of its own; it simply addressed representations to the Board through its agent Mr Pitches. So, no sworn evidence was offered, and in particular, the group's thinking was not put forward in a way that could be tested by cross examination by other parties. Further, Mr Murray was not cross examined by any representative of Campaign for Better Transport.

[184] We have no basis for holding that future fuel prices have not already been considered in the modelling and the benefit cost calculations.

[185] Mr M Tritt, a Hendon Avenue resident and former property owner claiming to have an interest in "transport issues" presented us with a short statement of his views by way of representation (again, not evidence that could be tested). He did not claim any expertise in traffic engineering or economics. He nevertheless attacked the assessed benefit: cost ratio calculations.

[186] Not only, as we have said, did he not hold qualifications that would allow us to place some weight on his assertions, but neither did he question Mr Copeland (no party did) or Mr Murray.

[187] We have no basis for doing other than holding that NZTA has provided us with reliable evidence from appropriately qualified experts such as Mr Copeland and Mr Murray, in answer to criticisms by parties such as Professor Hazledine and Mr Tritt.

[188] We must apply the same reasoning to other untested assertions made by Professor Hazledine, Mr Tritt, and Campaign for Better Transport, for instance as to criticisms of the “do minimum” scenario in Technical Report G.25, a request by Campaign for a Post Construction Audit, and a suggestion by the latter that the benefits of enhanced productivity and economic growth is some sort of unproven assumption. In respect of the latter, reference is made to the Rebuttal evidence of Mr T Parker to a further economic assessment report, SAHA, which evidence again went untested when Mr Parker was available for questioning.

[189] We also acknowledge the thoughtful evidence on this topic from Mr D Mead, a party and experienced planner. He questioned the extent to which transport benefits could be called upon to compensate or offset social and community impacts. It was his opinion that in terms of Part 2 of the Act, any residual impacts need to be mitigated, not traded off, and that if such additional mitigation were to raise the cost of the project, then that needed to be considered in the context of the overall benefit to cost ratio. These and other parts of his evidence were not undermined through cross examination. Equally however, Mr Copeland was not cross examined by Mr Mead. As will be seen later in this decision, such considerations do not ultimately cause us to refuse consent, but they do underscore the importance of carefully considering whether the adverse effects can be mitigated, and if so, what levels of mitigation are called for.

7.4 Social Effects

[190] Chapter 13.4 of the AEE briefly identified and discussed the following social benefits and impacts (our list is a summary):

- (a) Accessibility and connectivity including:

- [i] Improvements to the network
 - [ii] Regional public transport opportunities
 - [iii] Cycle opportunities
 - [iv] Improved regional access to residential areas, community facilities, education, employment and recreation
 - [v] How passenger transport, cycle and pedestrian facilities will assist those without access to other modes
 - [vi] Reduction in traffic from local roads
- (b) Economic growth and development:
- [i] Improved access between centres resulting in improved productivity
 - [ii] Improved access to employment opportunities
 - [iii] In the long term, improved quality of living and working spaces and overall urban form
- (c) Sustainable living spaces:
- [i] Environmental improvements in mitigation compensate for reclamation
 - [ii] Provision of stormwater treatment
 - [iii] Decrease in traffic from local streets
- (d) Healthy communities:
- [i] Improved access and mobility to healthcare facilities

- [ii] Improved traffic safety
- [iii] Improved access to active modes
- [iv] Improvements in air quality regionally, and reduced emissions around arterial roads

[191] We agree with the comment made by the writers of our principal report under s42A that the AEE would appear to indicate strong net social benefits. It does not however consider opportunities for communities associated with the construction period, nor is there any assessment of regional economic benefits to support the assertions on productivity improvements. However, Report G.14, Assessment of Social Effects, refers to creation of jobs as a result of the Project, a one-off increase in GDP, and some welfare gains. (Economic aspects are discussed elsewhere in this decision).

[192] Many of the direct impacts are on the Te Atatu, Pt Chevalier, Waterview and Owairaka communities, and particularly arise during the 5 to 7 year construction period, when there will be considerable disruption and nuisance effects borne by those communities, largely for the regional and national good. Operation of a number of the proposed construction yards, as well as creation of the tunnels, ramps, and building infrastructure, feature high on the list.

[193] In **sector 1**, the social connections between schools, community facilities, shopping areas and residences are already divided by the existing SH16. In some respects, the work around the Te Atatu interchange may assist with connectivity post construction, but it will expand the area of influence of the interchange. Connectivity from the Te Atatu area to central Auckland and other parts of the region should be improved in some respects.

[194] Social effects are not considered to be a major issue in **sectors 2, 3 or 4**.

[195] In **sectors 5 and 7**, property acquisition is a very significant issue – about 8.5% of households in Waterview. Motorway structures would be highly visible in these areas, with the potential to bring noticeable change to community character. Light spill is a related issue for some submitters in sector 5. Reductions in traffic level on local streets could be a benefit, but improved connectivity to the motorway system for local residents

would not be afforded. Reinstatement of reserves and open spaces, and timing of such, is major issues in these areas. Four construction yards would be located here, with a number of different types of effects on the local community. Potential impacts on the Waterview Primary School and Waterview Kindergarten became major issues in the case, ultimately to be the subject of agreements between relevant ruling bodies. Provision of cycleways and walking access were significant issues in these sectors.

[196] Social effects are less of an issue in **sector 6**. Unitec was a major submitter (it in fact interfaces with sectors 5, 6 and 7), but ultimately an agreement was reached between NZTA and Unitec.

[197] In **sector 8** the applicant considered that there would be a number of social benefits, and few adverse effects, because this is the area through which the tunnels would run. Reduced traffic on local roads and potential economic opportunities were identified as benefits, while the potential for stress and anxiety from vibration during tunnel construction was identified as a negative effect.

[198] In **sector 9** major issues arose regarding loss of and disruption to reserves and open spaces, and the extent to which those effects were proposed to be mitigated by NZTA. A motorway running at “grade” through the middle of the community must inevitably create major social effects, both during construction and afterwards. The presence of some existing major roads is acknowledged. Noise was identified as a significant issue, particularly due to the location of conveyors, concrete batch plants and crushers (and similarly for sector 5).

[199] The topic “social effects” inevitably has a significant crossover with numbers of other effects on the environment that are relevant in a project like this. This is particularly the case with the next topic that we shall discuss, effects on open spaces and public reserves. Issues in relation to sub-sets of social effects will therefore largely be considered in our discussion of those other particular effects throughout this decision.

[200] Before passing from the topic of “social effects” generally, we noted the depth and intensity of concern on the part of many submitters in their submissions and subsequent statements of evidence. Accordingly, in addition to directing the caucusing of relevant groups of experts, and as previously mentioned, we ordered a preliminary meeting amongst interested submitters and experts, in order that each might inform the other prior

to the experts' sessions. We also went out of our way to explain to submitters that, although we would place appropriate weight on matters agreed amongst groups of experts, those agreements would not constitute finalisation of the issues, but that we would also be taking full account of the submitters' own expressions of fact, opinion, and concern.

7.5 Effects on Open Space and Public Reserves

[201] Responsibility for evidence concerning these issues on the part of NZTA was divided amongst a number of witnesses. Those principally involved were Mr D J Little, senior landscape architect employed by Stephen Brown Environments Limited, Ms L R Hancock, an urban designer, and Ms A J Linzey, a planner, whose evidence on various topics is discussed extensively in this decision.

[202] Mr Little specialises in open space network planning. In lengthy evidence he discussed potential adverse impacts of the motorway proposal on the quantum and quality of open space, as well as on connectivity, ecology, personal safety, and amenity aspects, together with provision of recreational facilities such as playing fields. In order to assess and mitigate these effects, he and others had undertaken significant open space planning in order to understand potential effects and offer mitigation opportunities. In particular they studied the quantum of open space (including consideration of future flexibility as to size, contour and shape), recreational and community facilities, quality of open space (amenity), ecological impacts on vegetation, crime prevention through environmental design principles ("CPTED"), and connectivity and linkages.

[203] More particularly around SH20 than SH16, the issues were found to be complex, and a detailed methodology was developed. Initial assessment identified an existing fractured and incomplete open space network, resulting in part from historical uncertainty over the final route for the motorway. Initially, therefore, the applicant addressed open space concepts via a series of improved linkages and upgraded reserve areas along the route. This was termed a "**network approach.**"

[204] Consultation produced some community feedback however, that was critical of this, with pressure being applied in various communities for replacement of areas and facilities lost as locally as possible. This approach (which became termed the "**land for land**" approach), then gained ground at the expense of the network approach. We have been required to consider and deliberate on some extensive debates amongst the parties

about the appropriateness of each of these approaches. Auckland Council in particular was highly critical of the change of emphasis, and we have paid close attention to its views because it is, after all, the body principally charged with administration of open spaces and reserves in the area, and would “inherit” much of what NZTA will be undertaking.

[205] Topics considered in the AEE and the NZTA evidence included the following:

- In **sectors 1 to 4**, modifications to reserves along the SH16 corridor at Jack Colvin Park, Orangihina Park, McCormick Green, and Rosebank Domain.
- In **sectors 5 to 7**, a relocated Waterview Reserve and upgraded facilities, completion of a coastal esplanade walkway at the mouth of Oakley Creek, attention to an area of Maori and European heritage around the mouth of Oakley Creek, walking links to Pt Chevalier, possible enlargement and development of Saxon Reserve (subject to land purchase), upgrades to parks, pathways, facilities, and vegetation in all affected areas, possible extension of Howlett Esplanade Reserve, and a 20m width esplanade reserve strip at 36 Cradock Street, bordering Oakley Creek. On the “land for land” basis, NZTA foresaw an overall increase of 0.46 hectares of open space in the northern Waterview community, and 0.19 hectares of open space at Cradock Street.
- In **sectors 8 to 9**, proposals included additional connections to create one continuous public open space in Alan Wood Reserve, linkage of that reserve south to the existing SH20 cycleway, creation of a Hendon cycle bridge across Oakley Creek north-south, acquisition and development of open space at Valonia Street Reserve, with connection to Alan Wood Reserve, a 20m width esplanade strip along Oakley Creek at the edge of 6 Hendon Avenue, rehabilitation and re-vegetation of the partially realigned Oakley Creek channel, low pedestrian/cycle bridges crossing Oakley Creek, upgrades to facilities, playing fields, pathways, furniture and vegetation in all areas, and creation of 2 stormwater ponds. On the “land for land” approach, there would be an overall increase of some 0.62 hectares of open space in the vicinity of Alan Wood Reserve. There was acknowledgement, nevertheless, of potential adverse impacts on the quality of open space from the presence of the new surface motorway through sector 9, especially on its use for passive purposes.

[206] Mr Little described the methodology employed. In summary this involved desktop and on-the-ground investigations, consideration of community issues including connectivity, ecological, hydrological, visual and social impacts; consultation with (the then) Auckland City Council, stakeholder organisations, and the Council’s Urban Design Panel; consideration of policy framework and background documentation including Auckland Regional Growth Strategy, the District Plan, and various publications by Auckland City concerning reserves, open space, and walking and cycling strategy.

[207] Open spaces were reviewed, mapped and photographed, and described by size, typology, condition, layout, vegetation, current usage, ownership, and statutory issues.

[208] Open space principles were developed from all of these considerations, a critical aspect amongst which was said to be consideration of local open spaces as a linked network rather than a series of discrete spaces, in line with a key objective of the Council’s Parks Plan (“Our Collective Taonga: Parks Plan – a plan for the future of Auckland’s green spaces”, where we have found no less than 16 references in its 12 pages to networking, connectivity, walkways and cycleways, and similar matters) which reads:

Strengthen Auckland’s Park Network

Focusses on protecting our parks, developing green corridors and park networks across the city and along the coast, and enhancing their ecological, heritage and biodiversity values.

[209] We question whether this critical aspect has been properly addressed by NZTA given its switch (in the main) from the “network approach” to the “land for land” approach.

[210] The NZTA team moved to prepare SWOT diagrams,¹⁷ noting opportunities for a network, and challenges, particularly those posed by the Project. They proposed open space network concepts, organised critical input into engineering work-streams, undertook assessments of impacts of mitigation, prepared preliminary concepts for affected reserves, and moved to public and stakeholder consultation.

[211] Revision of the approach to a “land for land” basis resulted in revised preliminary concept diagrams, further preliminary plans for particular reserves, and ongoing consultation.

¹⁷ Strengths, Weakness, Opportunities and Threats

[212] Mr Little then set out in considerable detail, some particular proposals for the various reserves on and near the route of the proposed SH16 and SH20 alignments. He described existing layouts, dimensions and facilities, proposals for changes in same (particularly improvements), ecological considerations, CPTED considerations, connectivity, quality and amenity, and continuity of provision during construction. He also provided detailed comments on submissions that had been received about the many reserves and the proposals; commented on suggestions that the Project be redesigned to reduce the amount of open space required overall; addressed the issue of inadequate compensation (noting that “it is widely held” that the Project area has one of the lowest open space ratios in the former Auckland City area). He also noted some concerns that the Project results in a reduction in quantity of discrete types of open space (passive or active), that the Project results in a reduction of recreational facilities, and noted particular impacts around the Waterview, Alan Wood, and other reserves, and along the Oakley Creek corridor.

[213] Mr Little discussed submissions that suggested that an expanded reserve at Valonia Street would be unsuitable because of stormwater and flood retention issues, adverse impacts of the cut and cover section of the tunnel on the Waterview Glades area, removal from the Project of earlier proposals to upgrade the Phyllis Reserve, requests for particular attention to the most severely impacted areas of Waterview and Owairaka, concerns regarding the configuration of open spaces, requests for accessibility to the stormwater ponds, requests for community input into the design of open spaces, suggestions for utilisation of the rail designation area near Alan Wood Reserve, and many detailed suggestions for individual reserves including educational signage, artworks, playgrounds, carparks, dog exercise areas, location of noise barriers, formats for noise bund landscaping, CPTED issues, landscaping issues, requests concerning access, sports-field configurations, and many related issues.

[214] We have been able to avoid making a highly detailed analysis of many issues because of the extensive work by NZTA, Auckland Council and many “stakeholders”, resulting in draft conditions of consent and management plans that have resulted in a degree of resolution. There has also been some measure of agreement arising from the caucusing of relevant experts, assisted in some respects by the information gained in their meeting with a number of parties.

[215] Before moving to discuss these things, we make mention of some other evidence called by NZTA.

[216] Ms Hancock described urban design aspects of the work of the NZTA team, in particular the preparation of an Urban and Landscape Design Framework to introduce place-based principles and design concepts. This is an “aspirational document”, which strangely was not originally included in the hearing materials, but which we called for, and found instructive.

[217] Ms Hancock offered her opinion that key urban design issues for the Project were:

- Impact on the surrounding urban context
- Open space network planting and amenity
- Pedestrian and cycle linkages
- Bulk and scale of ventilation structures
- Design of motorway structures.

[218] She described the urban design methodology employed, including consultation with “key stakeholders” offered opinions on the relationship of urban design to open space, the role of an urban and landscape design framework in roading projects, and the development of urban design for this project. She described the issues and the work of the team on them, sector by sector. Naturally, there was considerable crossover in places with work undertaken on traffic and transport issues, pedestrian and cycleway access, bulk and scale of the ventilation buildings at each end of the tunnel, placement and operation of noise barriers, design of motorway structures including bridges and retaining walls, and many other related issues.

[219] Ms Hancock offered comment on submissions received, some in considerable detail, for instance Friends of Oakley Creek, Living Communities, Cycle Action Auckland, Northwestern Residents Association, ecological groups interested in the land and water areas surrounding SH16, and of course the Councils.

[220] The planning evidence of Ms Linzey highlighted crossovers amongst topics such as open space, landscape, vibration, noise, air quality, and construction. Such is the complexity and interlocking nature of many issues on a project as substantial as this one.

[221] Evidence on behalf of **Auckland Council** was given by Mr A F Beer, a policy analyst with expertise in the field of open space planning, and Mr M C Gallagher, the Council's parks adviser (active recreation). These witnesses impressed us with their knowledge of the issues at stake.

[222] Mr Beer described for us the Council's open space strategy, and its policy concepts deriving from the former Auckland City and Waitakere City Councils. That of Auckland City was largely provided by its Open Space Framework called "Our Collective Taonga: Places for People, Places for Nature", (the plan referred to by us above) supported by 6 associated action plans each relating to a component of the city's open space network. Waitakere City's 2009 Plan "Waitakere Parks and Open Space Strategic Plan", sets out 6 objectives and guiding principles. The witness saw these documents as setting key directions for open space in the relevant areas.

[223] In addressing such factors as function, capacity, quality and accessibility, Mr Beer noted that there has been a shift of focus in the council's open space programme from quantity to quality, particularly in the urbanised or developed areas. He did not however believe that this implied that quantity of open space was not important, or that reductions in space would be anticipated.

[224] The strategies and policies particularly recognise the importance of providing physically connected networks of open spaces and continuous green corridors, to provide a range of benefits including recreational activities such as walking and cycling, ecological connections, and protection of natural features. We note that these strategies and policies find support in the district plans, for instance the Auckland Isthmus Section Plan, where Resource Management Issues (Clause 9.2), and Objective 9.3.1 and its 6th Policy require recognition, maintenance, and enhancement of open spaces and recreational resources, together with encouragement of walkway systems linking areas of open space, schools, commercial and community facilities, and public transport.

[225] Both witnesses described the difficulty that the councils have had in meeting the community's demand for sports fields, particularly in developed areas where the supply is

“relatively constant”. The council’s planning emphasises acquisitions of sports fields that are large enough to provide for economies of scale and maintenance, and provide for a range of sporting codes.

[226] Responding to a suggestion by Mr Little that there could be trade-offs between various physical and experiential attributes that contribute to the quality of open spaces, Mr Beer offered a qualification that a limit can be reached whereby an attribute becomes degraded to such a degree that an open space can no longer effectively serve its intended function.

[227] Because of the strategic and policy emphasis on improving the quality of open space networks, Mr Beer was critical of NZTA’s undue focus on quantities of open space identified for replacement. He also noted that there were a number of specific areas of land, identified in Auckland City Council’s submission, that Auckland Council does not wish to accept as reinstated open space, but which were nevertheless identified by NZTA for that purpose; hence the exact area of open space land reinstatement was an issue remaining to be resolved.

[228] Mr Beer described the issues sector by sector. We will describe and consider the contentious ones later in this decision. Some, such as the proposal to place Construction Yard 1 in the Harbour View-Orangihina Park currently occupied by Te Atatu Pony Club, attracted a great deal of comment, but ultimately some measure of agreement. Issues in sectors 5, 7 and 9 about quality and quantity of open space, and issues about NZTA’s insistence that it did not need to provide a cycleway through sector 8 (because the motorway will be underground at that point), likewise attracted a great deal of evidence and submission.

[229] Mr Gallagher gave evidence about the importance of sports fields, desirable attributes for sports field venues hosting various types of sporting codes, such as good drainage, safety zones, space for spectators, support buildings and infrastructure, parking, transport links, CPTED principles, and more.

[230] Mr Gallagher offered us comments and criticisms about NZTA’s proposals for particular sports fields, including Waterview Reserve, Alan Wood Reserve, Valonia Reserve, and Phyllis Reserve. He put forward alternative proposals in respect of some mitigation advanced by NZTA in respect of them.

[231] Once again, we noted strong elements of cross-over between these statements of evidence and others offered on behalf of Auckland Council, for example Mr I Clark on traffic and transport, Mr D J Scott on landscape, and Ms T E Richmond on planning.

[232] It will suffice for present purposes if we summarise the concerns of the council in the following terms:

- The location and size of Construction Yard 1 has the potential to affect the ability of the Te Atatu Pony Club to carry out its day to day operations. A separate application for resource consent to change the configuration of the yard to meet some of these concerns bore fruit towards the end of our hearing.
- Due to the proximity of the motorway and the effect on amenity of adjoining open space land, part of the reinstated Waterview Reserve would not be suitable for passive recreation as proposed by NZTA; the scale and function of open space at Waterview Reserve should be reconsidered to address this effect.
- The construction and operation of the motorway would affect the ability of open spaces in Owairaka and New Windsor to provide for passive recreation; accordingly the Council proposed a further expansion of Valonia Reserve, which would then be developed to serve both active and passive recreation, along with nearby Murray Halberg Park which should be upgraded.
- The Council put forward an alternative approach to addressing the effect of the proposal on sports fields, short and long term, considering its proposal to be more efficient use of public open space land.

[233] **Mr Duncan McKenzie**, with his wife a resident of Bollard Avenue in New Windsor for nearly 30 years, offered personal evidence, as well as expert planning evidence on behalf of the submitter Living Communities. Mr McKenzie's professional experience, and his detailed knowledge of issues in the area, particularly those relating to open space, proved valuable in the hearing. Mr McKenzie operated most carefully at the interface of professional independence and personal interest - no mean feat.

[234] Mr McKenzie gave evidence of some detailed concerns about replacement space and configuration for Waterview Reserve, uncertainties around the expansion of Saxon

Reserve, and problems for the organisation of the heritage reserve at Oakley Creek on account of placement of motorway ramps, and CPTED issues. He stressed the need for quality of open spaces as well as quantity.

[235] Mr McKenzie also offered detailed thoughts about complementary arrangement of open spaces (and by implication networking) rather than having to provide all open space functions within a limited geographical area. Connectivity at Pt Chevalier, and across Oakley Creek in various places, figured prominently in his thinking. He strongly supported pedestrian and cycle access throughout the corridor, and bridges over Oakley Creek in the vicinity of Unitec, and the Phyllis Reserve.

[236] Mr McKenzie discussed the complexity of the interrelationship of the proposed rail corridor and adjoining green spaces such as Alan Wood Reserve and Valonia Reserve. He was critical of the suggested placement of the southern ventilation and control building at an extremely narrow part of Alan Wood Reserve, and supported moving it somewhat southwards so as to offer improvements in open space and connectivity.

[237] In a supplementary statement of evidence Mr McKenzie offered some detailed calculations about provision of open space in the vicinity of Alan Wood Reserve and Hendon Park, taking into account, as he saw the need, some designated railway land that has been leased to the Council for recreational purposes. It was Mr McKenzie's view that potential loss of this land should be factored into calculations of open space deficit from the time of commencement of construction of the motorway and beyond. We will comment further on this issue when discussing the notes from the caucus session of open space experts.

[238] **Ms BAE Cuthbert**, another experienced planner, was the spokesperson for **Cycle Action Auckland**, another submitter. She provided us with detailed and thoughtful evidence about the need for provision of a walkway and cycleway through sector 8, the need for better connectivity to the proposed walkways and cycleways generally, the need for better cycling connectivity over interchanges, and the need for timely construction of walkways and cycleways. The submission document itself offered an extremely detailed commentary on many of the open space and connectivity issues before us.

[239] Ms Cuthbert thanked the Board for creating the opportunity for non-expert caucusing as well as expert, which she considered had been conducive to reaching partial

agreements of some of Cycle Action's concerns. She also acknowledged the excellent work of NZTA on recent Auckland motorway works, in providing "a raft of the most outstanding cycle bridges built by any public body in Auckland". She was nevertheless concerned that the SH20 and SH16 cycling routes are currently disconnected, necessitating use of heavily trafficked arterial roads which are very unfriendly to cycling, and other barriers that have to be overcome by long detours. That the city is experiencing major growth in public demand for sustainable transport, including cycling, was agreed by many submitters.

[240] Ms Cuthbert was critical of the ongoing debate between NZTA and Auckland Council about who should fund the bridging of the cycleway gap where the motorway would be tunnelled. She submitted that the cycleway should not be seen as a mitigation feature, but like the motorway tunnels themselves, a legitimate new transport link, and a key part of making Waterview a really multi-modal project. It should remain integral to NZTA's and the Council's overall transport policies and objectives.¹⁸ Ms Cuthbert therefore submitted that it was neither inappropriate nor too late for NZTA and the Council to settle on an appropriate funding agreement to provide the cycleway as part of the Waterview project, and that it should be a public priority given the transport responsibilities of both bodies.

[241] Ms Cuthbert stressed that Cycle Action Auckland is a body that represents people who cycle for transport rather than for sport. In like vein were submissions from other commuter cyclists, for instance Ms S Woodfield and Mr M Roberts. They were concerned about their safety during the construction phase, on their daily commute to the CBD. They described footpaths as the "arteries of the community", and strongly supported an at grade cycleway through sector 8 and generally alongside motorways so as to be within the transport corridor.

[242] For **Friends of Oakley Creek**, the open space issues tended to cross over into ecological concerns, for instance the approach to be taken to vegetation and maintenance of stream margins, and the control of litter in Alan Wood Reserve.

[243] Representing submitter **Metro Mt Albert Sports Club**, were its Chairman Mr Wilson Irons, and the Chief Executive Officer of the Auckland Football Federation, Mr

¹⁸ Such as the Land Transport Act 2003, NZTA's 2010-2013 Statement of Intent, the Project Objectives, and the Regional Land Transport Strategy 2010-2040/the Regional Cycle Network Plan 2010

David Parker. The club was concerned with loss of and reduced quality of recreational space, and a loss of open space connectivity, particularly in sectors 5 and 8.

[244] In sector 5, the concern was that while the changes to Waterview Reserve are addressed quantitatively by NZTA, the qualitative aspects of the proposal offer less value in terms of amenity, community value, and accessibility.

[245] In sector 8, the concern was that Phyllis Reserve needs attention as to adequacy of sports facilities that are to be provided there in replacement of facilities that are to be lost elsewhere; the reserve looks positioned to play a more significant role in meeting the needs of the wider area; and there should be increased connectivity to it from surrounding areas and other open spaces as well as increased sports fields to include an all weather surface.

[246] These representatives told us about pressure on sports parks in the former Auckland City area, and noted that the proposed SH20 construction works run through a part of Auckland with high demand for sports parks, such that any removal from the inventory of fields at Alan Wood Reserve and Waterview would remove essential elements of organised sporting opportunity for the local communities.

[247] Mr Parker told us that the 5 Auckland football clubs in the general area represent over 6,000 members, almost 1/3 of the Auckland total player base. The submission was made that these people couldn't simply go and play "somewhere else". They considered that Phyllis St Reserve could be capable of being the place at which replacement inventory or enhanced capacity on the same field spaces could be created and that these options should be properly explored and implemented, not just field for field, but hour by hour of playing time. They wished the Board to make decisions that would require NZTA and Auckland Council to use the SH20 works as an opportunity to create high quality replacement sports park provision to properly meet current and future needs, not merely limp along with the minimum required to meet legislative instructions. They proposed a new 2-field reserve at Valonia Reserve (even though a tight fit), and investment at Phyllis Reserve to take up the rest of the current demand for fields in the area, including an increased number of full sized fields in the reserve. A proposed replacement field at Waterview would be on a site with reduced access following SH20 works, and would be of much reduced value as a sports park. Open space value to the local community of a new layout for Waterview Reserve could be achieved without a sports park. We were also

struck by Mr Parker's evidence about football being the "first language" of many migrants, and about their enthusiastic use of areas of open space for informal games. This evidence corroborated that of others, who were concerned about how the Project would affect low decile immigrants, in Owairaka especially.

[248] NZTA's proposed temporary replacement fields at Alan Wood Reserve for use during construction works, would create less than satisfactory provision of fields in close proximity to the construction zone, and were not considered an entirely appropriate amelioration measure.

7.5.1 Caucusing Outcomes

[249] A large group of 13 expert witnesses took part in expert caucusing on the topic of open space, on 4 February. They included the open space, urban design, and planning witnesses for parties interested in the topic.

[250] These witnesses made use of notes from the meeting with parties that had been held on 24 January.

[251] First, it was acknowledged by the experts that the discussion was focussed on open space mitigation only, and there remained the need to consider overall mitigation requirements for the Project in a comprehensive and integrated manner. Particular issues are described in following paragraphs.

7.5.1.1 Rail

[252] **Issue 1: Inclusion of the rail designation in quantum of existing open space.** It was Mr McKenzie who raised this issue, but all others disagreed with him. He sought to include the presently open green railway corridor in calculating existing open space, thereby demonstrating that there was a greater shortfall in the Project's open space quantum. The other experts disagreed because the rail land is not zoned open space, and its future is not guaranteed as such, and any temporary leasing agreements are just that – temporary.

[253] We consider that the majority view is correct. To include the presently open green rail corridor space in overall open space calculation would be too speculative.

[254] **Issue 2: Use of future rail corridor land.** This was a topic on which agreement was reached, to the effect that the rail corridor itself, behind Hendon Avenue, is not suitable for public access and should be inaccessible and excluded from open space calculations because it is an isolated strip of land, it is not overlooked, there are concerns about security for people and property, and it is not appropriate to preclude future use of the land for rail. The experts agreed that while the land would still have an open landscape flavour, the revised UDL plans should signal greater diversity in planting (than flax) within the rail corridor, and that this topic should be delivered through condition OS.2.

[255] Having ourselves inspected the land concerned, and properties surrounding it, particularly in the neighbourhood of the Pak 'n Save supermarket, we agree.

7.5.1.2 Connectivity

[256] The experts acknowledged that the non expert session had discussed open space connectivity in terms of community cohesion and accessibility (ie transport) and indicated that connections were very important to them both during construction and in the long term.

[257] **Issue 1: Full north – south cycleway, SH20 to SH16:** The experts resolved that a completed cycleway would be beneficial in providing the missing link between SH20 and SH16, and providing access to a number of open spaces. They agreed that Auckland Council, Auckland Transport, and NZTA would need to work together on this. They also agreed that there would be open space benefits if the cycleway could be constructed as early as possible through sectors 7 to 9, subject to considerations of user safety and construction sequencing.

[258] The experts could not agree that the full link was necessary to mitigate open space effects of the Project, NZTA witnesses taking the position that there is no existing full link affected by the Project.

[259] We shall return to this issue at some length later.

[260] **Issue 2: Shared Paths.** It was noted that Auckland Council pedestrian path width standard is 1.8m minimum, but that in AUSTRROADS the preferred width for cycleways is 3m minimum.

[261] Agreement was reached as follows: The AUSTRROADS standards should apply to pedestrian and shared paths respectively, and that the UDL plans attached to Ms Hancock's rebuttal evidence should be updated accordingly.

[262] All agreed that the following should be shown on the revised UDL plans and Integrated Transport Plans:

- 3m width shared path from Great North Road interchange towards Eric Armishaw Reserve, to the extent of the designation. Shared path or pedestrian connections to local streets (Montrose, Alberta, Berridge) to be investigated during detailed design, depending on grade, CPTED assessment and consultation.
- A minimum 3m shared path on the western side of Great North Road on land from the existing Great North Road over-bridge as far as Herdman Street.
- An Outline Plan of Works is an appropriate process to handle the path width between Herdman and Oakley Streets (as part of the northern vent building OPW).
- Retention of the proposed pedestrian path and bridge within the Oakley Creek heritage area as pedestrian paths, because cycle paths would be impractical and inappropriate and this area should not be counted as open space provision – so long as kayak access is possible under the proposed pedestrian bridge at mean high water springs.
- Pedestrian path upgrades for Waterview Glades and Oakley Creek coastal inlet, as the grades are too steep for bicycles.
- 3m width shared path behind the southern portal building to be constructed to the extent of the designation.

- Retention of the pedestrian link between Methuen Road and Alan Wood Reserve (the “zig zag”), noting that gradient and minimum turning radii preclude cycle access on this path.
- Widened link to 3m from Barrymore Street to the Hendon bridge and shared path.
- At Valonia Street, pedestrian paths remaining at the width they are shown on the existing plans.
- In principle, all agreed it would be beneficial to introduce a separate pedestrian path alongside the cycleway by the carpark to minimise pedestrian/cycle conflicts at busy times, and that this intent be reflected in an open space restoration plan condition.

7.5.1.3 Cross connections

[263] **Issue 1: Eric Armishaw Bridge.** Some witnesses, including Mr McKenzie, considered it desirable to have a major pedestrian and cycle bridge across SH16 for mitigation of social effects, construction disruption, and severance effects. Others considered that the bridge was beyond mitigation required for open space, and in particular Mr Clark and Ms Cuthbert agreed that enhancement of links through the Great North Road interchange would be preferable to this bridge.

[264] Some submitters, including Living Communities Inc, subsequently resiled from seeking this bridge as relief. As will be seen later in this decision, our finding is that it should not be built as part of the Project.

[265] **Issue 2: Oakley/Unitec (or Alford) Bridge.** Again, many witnesses, including Mr McKenzie, consider this desirable for mitigation of social effects, construction disruption, and severance effects including CPTED effects of the degraded walk along Great North Road from Waterview to the Pt Chevalier shops. Others disagreed, and considered that the bridge would be over and above required mitigation for open space. Our findings are reported subsequently.

[266] **Issue 3: Phyllis Reserve Bridge.** A majority considered that such a bridge across the railway corridor (which seems to us to be a flawed consideration because there is no

railway corridor at that point) could contribute to a north-south cycleway, but one NZTA witness, Mr Little, considered that as mitigation this would be a long way from the effect being generated (unless the Waterview sports field were relocated). Others, including Mr McKenzie, considered that an Oakley bridge (see last topic) would provide more community benefit, and could also provide access to Phyllis Reserve. NZTA witnesses considered this bridge to be over and above mitigation required for the Project.

[267] We consider that as this area is over the underground portion of the designation, and given that the possible future railway is not part of this designation, such mitigation is not required as part of this project.

[268] **Issue 4: Soljak Bridge.** The majority of witnesses, including Auckland Council and NZTA witnesses, agreed that a bridge at this point would enhance access to the Council's passive open spaces and Phyllis Reserve, and help facilitate a continuous north-south cycleway. Non-NZTA witnesses agreed that such a connection would go a long way to support project objectives, especially those relating to transport and urban design. Further agreement did not occur because while witnesses, including Mr Little, agreed that it would have positive mitigation effects for unaddressed quality impacts at Alan Wood Reserve, it was noted by Ms Linzey and Mr McKenzie that the work would require additional consents and agreement from KiwiRail. We agree with their views in the latter regards.

[269] **Issue 5: Olympus Bridge.** It was agreed that some degree of pedestrian/cycle connection be provided between Murray Halberg Reserve and Brydon Place, and that this would be a valuable connection to an area that is currently disconnected. There was, however, no agreement on the degree to which such a proposed connection in the Project would adequately link communities and open space.

[270] **Issue 6: 174 Methuen Road accessway to Alan Wood Reserve.** Some non-NZTA witnesses sought a new shared path and bridge over the realigned Oakley Creek connecting the existing accessway and the proposed cycleway through Alan Wood Reserve. It was agreed, despite some CPTED concerns on Mr Little's part, that in the Open Space Restoration Plan there should be a condition that, subject to a CPTED review, this connection should be made.

[271] **Issue 7: Hendon Bridge.** Witnesses noted that Professor Haarhof considered that there was an opportunity to extend the proposed Hendon Bridge to Methuen Road to provide for more access for the community to open space. The witnesses agreed, noting that this could be run together with the Methuen Road connection just discussed.

7.4.1.4 Active open space

[272] **Issue 1: Sports field provision as mitigation – Waterview Reserve.** The experts acknowledged that there were divergent community views, with some seeking provision of a sports field as proposed by NZTA, and others, some other kinds of activity instead.

[273] There was also considerable divergence of opinion amongst the experts. NZTA witnesses considered that the proposal as lodged by it would provide adequate mitigation, as it would retain the dual formal and informal active recreation there, would maintain the facilities that are lost there, and would establish (subject to further land purchase – approximately 66% of what is needed has been acquired) a new passive open space area at Saxon Reserve, and would offer a passive recreation connection (Howlett Reserve to Waterview Esplanade).

[274] Auckland Council's and Living Communities' experts disagreed. They could see no adequate documentation in the application to show how a sports field would be provided at Waterview during construction works, and also were concerned that there appeared to be inadequate room to locate a basketball court, volleyball court and sports field within the area identified for those activities.

[275] Mr Little considered that there was space at Waterview Reserve to fit in a sports field outside the construction yard in the location shown on UDL plan F16:212. The Auckland Council experts agreed that if a 10m buffer can be maintained around the sports field, volleyball and basketball courts, and other facilities identified within this area on that plan, then this would address the concern about provision of a sports field at Waterview during construction.

[276] It was agreed by all that because sports fields are a regional resource, mitigation of loss at one location could be undertaken in another area.

[277] We acknowledge this point in a careful way, but it begs the question about quality of connectivity between areas.

[278] All accepted that co-locating fields at Phyllis Reserve and Valonia Reserve was desirable from the perspective of Council operations.

[279] All agreed that an outcome that includes: a mixture of passive and informal active open space, relocated community facilities (toilet block), volleyball court, basketball court and children's playground), and increased vegetation at Waterview Reserve, and the enlargement and development of Saxon Reserve, and the relocation of the sports field, changing room facilities and car parking to Phyllis Reserve, would achieve mitigation of direct open space impacts associated with Waterview Reserve.

[280] Ms Richmond, Mr McKenzie, and Ms Linzey noted that NZTA had no resource consent applications lodged in relation to Phyllis Reserve, and as that would involve work beyond the Project designation, and on land not owned by NZTA, there would be a need for a Memorandum of Understanding outside the present process.

[281] **Issue 2: Layout and suitability of Valonia Street site for sports fields.** Some expressed concerns in relation to flooding. Mr Little noted that the council was proposing to undertake works that would alter flood patterns in the future, and it was acknowledged that these were being addressed by other experts.

[282] The Auckland Council experts considered that more information was necessary in relation to this issue. That apart, Auckland Council and NZTA experts agreed that 2 full-sized sports fields at Valonia are appropriate as part mitigation for loss of fields, but there was disagreement about layout. Mr Gallagher considered that the alignment of the fields was not particularly versatile (the council prefers side by side fields with a cricket wicket in the centre), while Mr Little asserted that this configuration does not exist at Alan Wood at the moment, and to achieve it at Valonia would require acquisition of 8 extra properties).

[283] We understand from the council's presentation that Auckland Council is contemplating the acquisition of those extra properties, but in our view there cannot be sufficient certainty about that for us to impose relevant conditions of consent. While the Board can see merit in the council's proposal, it lacks jurisdiction to extend the

designation footprint. If it were to occur it would require a separate initiative from the council.

[284] The Council experts also raised a concern about proximity of fencing to the fields and the impact on the practicality of using those fields. There were issues of proximity to neighbouring residences, and offsite effects of noise and lighting. Mr Little considered that this could be dealt with at the detailed design stage, including minor alteration of stream meander and potential piping of the drainage swale.

[285] **Issue 3: Temporary field provision.** Ms Linzey confirmed that conditions were proposed to install replacement fields at Valonia Street, early in the process. Mr Gallagher considered that sports clubs might accept losing the Waterview field for up to 1 year if they were going to achieve a better long term outcome such as the Phyllis Reserve proposition.

[286] The experts noted that NZTA was proposing a condition either to put in a permanent sports field or to make a financial contribution to the Council to develop it elsewhere. They all agreed that building permanent rather than temporary fields was a more efficient use of resources.

7.4.1.5 Passive open space

[287] The experts noted that high value was placed on passive recreation values of open space by parties who attended the non expert caucusing session.

[288] **Issue 1: Howlett Reserve.** The experts acknowledged that there were divergent views in the community session, with some failing to see value in this particular suggested acquisition. The experts agreed with Mr Little that this proposed link is a good thing, supporting as it does a long term continuous waterfront walkway, and that acquiring one property would open up the esplanade connection. We are however concerned that there is no guarantee that NZTA can deliver on this, and that it could therefore be accorded mitigation value.

[289] **Issue 2: Saxon Reserve.** All experts agreed that expansion and enhancement of Saxon Reserve with a playground and picnic facilities would contribute passive open space mitigation, and that there was no dissent in the non expert session about this.

[290] We note that steps are continuing on the part of NZTA and Auckland Council to acquire 2 extra residential properties for further expansion beyond the 2 sections already being added.

[291] **Issue 3: Waterview Glades.** All experts agreed that detailed design of the Project restoration in this area would need a further approval process, that is, consultation with the proposed Community Liaison Group, and final acceptance by Auckland Council. Ms Linzey accepted that it was critical to get the walkway and planting outside the construction yard, done early, and amendments were to be made to the relevant open space condition.

[292] **Issue 4: Remnant open space on Hendon Avenue.** Mr Little discussed 2 properties on Hendon Avenue that are included in the Project as open space. Ms Richmond and Mr Beer noted that acquisition of spaces of this size was not consistent with the Council's approach on acquisition of open space. It was agreed to exclude these areas from the Project's open space restoration area calculations. We concur, having regard in particular to council's policies.

7.5.1.6 Passive open space within Alan Wood Reserve

[293] All issues under this heading remained unresolved at the Caucus.

[294] **Issue 1: Recreation facilities during the construction period.** Mr Little, Mr McKenzie, Mr Beer, and Living Communities' expert Mr McKay agreed that there will be unmitigated impacts on passive open space in Alan Wood Reserve during construction.

[295] Mr McKenzie, Ms Linzey, Mr Little and Mr McKay agreed that early works (for instance the proposed Hendon Bridge, stream alignment, and provision of connection to south side of the motorway) would provide some mitigation in relation to this impact. We noted that the Council experts were not part of that tentative and limited agreement.

[296] **Issue 2: Permanent impacts on passive recreation.** Mr Beer, Mr McKay and Mr McKenzie agreed, and got Mr Little to acknowledge, that the quality of passive open space is not fully mitigated. Mr Beer questioned the value of passive open space adjacent to the motorway because of increased noise (Ms Wilkening acknowledging that there would be increased noise there, but considered that the space would benefit from barriers

erected to protect adjacent residential properties). Mr Beer and Mr McKay remained concerned that open space remaining in Alan Wood Reserve would not provide an acceptably high quality passive recreation function.

[297] **Issue 3: Relocation of stormwater pond.** There seemed to be some general, if slightly reluctant, agreement that the proposed relocation would be positive for passive open space amenity.

[298] **Issue 4: Valonia Street site.** Mr Beer, Mr McKay and Mr Little agreed that NZTA's design for 25 Valonia Street would not provide an explicit passive recreation function, but Mr Beer thought that it should do so for the New Windsor/Owairaka communities. Mr Beer and Mr McKay considered that the Council design for the site was more multifunctional, and would partially mitigate the effects of the Project on passive open space for these communities; Mr Little disagreed and considered that council's proposal offers a similar quantum and function of passive open space (ie adequate mitigation).

[299] **Issue 5: Southern portal location.** There was discussion about the potential to move the portal buildings approximately 80m to the southeast. All agreed that this would assist open space, connectivity, and reduction of noise. There was disagreement, however, about the extent of benefits and mitigation. There appeared to be a general feeling that a small amount of open space would become available, depending on precise final location of the buildings, but that there could be a reduction in opportunities for passive surveillance.

7.5.1.7 Northern vent stack location – open space impacts

[300] NZTA confirmed that it did not wish to move the stack, but some discussion occurred about sketches then available. Mr McKay considered that options 1 and 2 did not have any perceived or real impact on open space, while Mr Little considered that options 2 and 3 did not have open space impacts other than visual, and option 1 had minor negative open space impacts because of the space taken.

7.5.2 Answers to certain questions - general

[301] NZTA and Auckland Council witnesses met again and produced a caucus report on 21 March. As expressly recorded, the caucusing was limited to discussion of clarifications and amendments to the proposed draft conditions as produced by NZTA on 1 March. The new versions of conditions were expressly recorded as not addressing anything other than NZTA's mitigation proposals.

[302] We have described NZTA's change from focussing on a networking approach to a "land for land" approach. This might have been understandable on account of strong community input during consultation phases, but there is the potential for the greater good to be overlooked when small communities or neighbourhoods lobby to retain facilities "close to home". Indeed, Mr Little acknowledged to Mr Lanning that messages coming through strongly in consultation were that mitigation delivered "off-line in an area outside of a walkable distance from the affected community, wasn't the way that the community saw mitigation as being appropriate".

[303] The first casualty of that in our view, is NZTA's departure from the Council's strategic and policy approach to networking and wider community use of reserves, particularly those offering active recreation. Mr Little acknowledged to Mr Lanning that it is the Council that will be responsible for the open space and sports fields that NZTA are to provide.

[304] The risk in departing somewhat from the networking or holistic approach is that quantity may be unduly emphasised at the expense of quality. We are not saying that NZTA has fled entirely from a qualitative approach to a quantitative one. It has maintained some view of the qualitative aspect, but we think that it has allowed itself to ultimately place rather too much emphasis on "numbers", pointing as it did quite strongly to some small increases in area of land available for certain purposes.

[305] Ms Linzey demonstrated that she at least had a good understanding of the broader issues when giving a frank answer to a question from Mr Lanning about the social effects of mitigation of open space concerns.¹⁹ She said:

The opportunities for people to have places for recreation, for community cohesion and connectivity, meeting places, socializing areas. With the

¹⁹ Bottom page 344, and on to 345 Transcript

increasing urban density and development, these places also become important outdoor areas where residential opportunities themselves tend to have less of these spaces, so they serve all those functions, sort of a space, a time out space and a meeting place and recreational area and connectivity.

[306] In the preceding section of this decision concerning the outcomes of caucusing, we described a number of matters that were agreed, of which we approved. We will summarise them here before moving on to matters that remained contentious.

[307] First, there was the set of agreements reached concerning shared paths for pedestrian and cycle access ways.

[308] Secondly, there was agreement that active reserve facilities are a regional rather than local resource, and can therefore be located in another area, which we think points powerfully in the direction of networking as an aspect of qualitative assessment of reserve provision.

[309] Thirdly, mitigation of open space impacts in and around the Waterview and Saxon reserves (as to which Ms Janissen in her Reply pointed to draft conditions OS.5 and OS.10). We note however the qualification that we have already recorded, to which NZTA's Ms Linzey subscribed, about the need for some further consents at Phyllis Reserve.

[310] Fourthly, in relation to passive open space and Howlett Reserve, that the waterfront walkway provided by the linkage would provide open space benefits. We note that Ms Janissen in her Reply appeared to extend this level of agreement to another issue in the neighbourhood, that of Saxon Reserve which, while there was agreement amongst the experts about its contribution to passive open space mitigation, we have noted that a question mark remains concerning the provision of 2 further sections of land, and resource consent to develop them for the purposes of the reserve. We understand that resource consent would also be required for the Howlett Reserve link as intimated by Ms Janissen in her reply (paragraph [272]).

[311] Fifthly, that impact on Western Springs Garden would be addressed if there was no permanent loss of car parking which, as pointed out by Ms Janissen, is provided for in proposed condition OS.15.

[312] Proposed condition OS.4 requires all open space restoration plans to be prepared in general accordance with the UDL Plans, which we interpret to be the AEE F:16 series as amended in Ms Hancock’s Rebuttal evidence (Annexure B) and with the addition of Exhibit B, lodged by her during the hearing. Amongst other things, Condition OS.4(a) requires that restoration plans include “*details of, including the location of any artworks and educational signage (sic).*” In response to questions from the Board, Ms Hancock stated that no artworks have been identified as such but a process has been mooted by which there “*could well be*” public art and educational signage (sic).²⁰ A positive example of the latter might be the interpretative signage for R11/2101 (mill/tannery/quarry) proposed in the draft Archaeological Site Management Plan and Condition ARCH.1. Apart from the preceding example, however, we have been unable to ascertain from the consent documentation or the non statutory Urban and Landscape Design Framework (“ULDF”) the nature or status of the process which Ms Hancock said was mooted. Nevertheless, we endorse the concept. We have added an Advice Note to OS.4(a) to assist Auckland Council in keeping the issue in view.

[313] In reply to a further question from the Board, Ms Hancock stated that there was no provision for artwork to be incorporated on any of the proposed engineering structures but acknowledged that it “*could be a good thing*”. She gave an example of another recent NZTA project in Urban Auckland where this has occurred to good effect.²¹ The Board concurs with that view and directed on 7 May that NZTA submit a suitable condition to secure the concept, if the matter had not already been achieved by an alternative means not identified by Ms Hancock. This direction was met by provision of a new condition LV.2(j).

[314] Finally, we note Ms Hancock’s answer that she supposed compliance with that part of condition OS.4, which requires open space restoration plans to be in general accordance with relevant UDL drawings, would ideally be determined by reference to the principles in the Urban and Landscape Design Framework and plans.²² On a related matter, Ms Hancock stated that if there were Management Plan proposals on F:16 UDL drawings, which the Board considered should be secured as part of any consent, it “*may well be*” appropriate to make those matters subject to conditions.²³ The Board is mindful that the ULDF is not, as previously noted, part of the consent documentation originally

²⁰ TOP page 595

²¹ *ibid*

²² *Ibid* page 596

²³ *Ibid* page 595

lodged, so we need to approach Ms Hancock's evidence with care. We are grateful, however, for her guidance in the latter regard and to that end directed the following F:16 UDL Management Plan matters to be made subject to implementation conditions:

- (i) Sheet 210 M1 – M4
- (ii) Sheet 211 M1 – M3
- (iii) Sheet 212 M1, M11, M12 and M13
- (iv) Sheet 218 M1, M2, M4-5, M8-9
- (v) Sheet 219 M2
- (vi) Sheet 220 M1-5
- (vii) Sheet 221 M1-3, M7-10, M12, M13
- (viii) Sheet 222 M1-2, M4-6
- (ix) Sheet 223, M1, M3
- (x) Sheet 224 M1
- (xi) Sheet 229 M1

In other respects redevelopment of reserves and the provision of related facilities for same is to be determined by other relevant conditions, for example OS.1-.1

[315] In response to our recent directions to experts described in Section 15 of this decision, we have been advised that each of these matters has been made the subject of relevant updated conditions in the OS series. We have checked each of those redrafted conditions, and accept the amendments. In specific reference to item (ii) above, NZTA and the experts suggested that if the Board held it desirable that the links near Eric Armishaw Park noted in M1 and M2 on Plan 211, and works within the park to complete

the linkage, be completed, a further (suggested) amendment should be made to OS.16. We thank them for that constructive suggestion, and have amended the condition accordingly.

[316] For further discussion of the subject of the relationship of conditions of consent, the UDL Plans, and the ULDF, refer to the section this decision on Landscape and Visual Issues Generally.

[317] The Board raised an issue with NZTA during the hearing, about the timing of commencement of construction works in relation to upgrading works needed for purposes of mitigation, on Valonia, Howlett, and Saxon Reserves, and on the Pony Club land at Te Atatu. The particular query was about the need for resource consents for the recreational upgrading works, and the time that might be needed to gain those, additional to the works themselves. In her Reply at the end of the hearing, Ms Janissen accepted on behalf of NZTA that the construction works should not proceed until the mitigation was in place, and that it will assume the risk of obtaining consents in a timely manner so as to meet construction schedules.

7.5.3 Answers to certain questions – sports field provision at Waterview Reserve (and alternative provision at Phyllis Reserve)

[318] Mr Gallagher had given evidence about possible space difficulties occasioned by creation of a construction yard, with providing a sports field at Waterview Reserve, along with a basketball and volleyball court. Bearing in mind the slight uncertainties about that expressed by the witnesses in caucus, and noting the agreement of the witnesses about desirability of co-locating fields at Phyllis Reserve and Valonia, we noted Mr Little's acceptance under questioning by Mr Lanning that the latter was a good outcome, even if NZTA's involvement had to be by way of financial support towards upgrading Phyllis as an active reserve (because of a need for further consents). Mr Lanning then had the witness examine a draft consent condition (OS.9 in the 10 February version) about provision of a temporary playing field at Waterview Reserve prior to occupation of the construction areas within that reserve, or in lieu an equivalent financial payment to the Council. Mr Little agreed that the Council's proposal to upgrade Phyllis Reserve was a superior option, albeit that he didn't see it as NZTA's responsibility to fund the Council's full proposal. He agreed, however, that it concerned the formal sports facilities.²⁴ The witness also agreed that the Council's proposal would clearly allow for replacement fields

²⁴ See pages 512-517 transcript

to be provided away from the noise and dust of the proposed construction yard for the 5 years during which it would operate.

[319] Mr Little agreed that the proposed upgrade of Phyllis Street Reserve would assist to negate the need for temporary fields at Alan Wood Reserve as well. He also acknowledged that the Council's proposed package included an upgrade of Valonia Street Reserve as well, but noted that the Council sought a different outcome there to what NZTA had been proposing.

[320] Auckland Council's open space planning witness Mr Beer was asked by Ms Devine what benefits the provision of the Phyllis Reserve Bridge would bring in terms of open space. He replied that there would be an access improvement from Great North Road through to Phyllis Reserve, providing a safer access than the present one, due to it being at grade and more visible. It would provide better quality access for residents of Waterview to open spaces such as Phyllis Reserve.

[321] Mr Beer was asked by Ms Janissen whether NZTA's proposed sports field at Waterview Reserve could be accommodated within so much of the area of the reserve as would not be given over to the construction yard, and he replied that it appeared so. He confirmed, however, that it was Council's preference that the field go to the Phyllis Reserve. Asked if the local community would lose the benefit of that sports field in that event he agreed in terms of a formal sports field, but not in terms of informal activities, such as shown on the plan attached to his evidence showing a recreational lawn area, volleyball and basketball courts, a 2m wide concrete footpath and small landscaped areas.

[322] Auckland Council's parks advisor Mr Gallagher was questioned by Ms Janissen about whether a sports field could be accommodated in the Waterview Reserve by way of modification to the boundary of construction yard 6. He thought it would work. He maintained that the Council nevertheless considered that the sports field should be relocated to Phyllis Reserve, and that that was supported by the community representatives who took part in the non-expert caucusing session.

[323] Mr Gallagher agreed under questioning by Ms Janissen that Council was interested in taking the opportunity presented by the Project to make improvements to the Phyllis Reserve, and to its stock of sports fields in general. He acknowledged that the proposed reconfiguration at Phyllis Reserve was fairly substantial, and would require work to

mitigate against a closed landfill on part of it. Drainage would be quite tricky over that field (no. 4), and leachate discharges would have to be mitigated.

[324] Asked whether one submitter's idea that a skate park and BMX bike track should be provided at Waterview Park (and a skate park at Alan Wood Reserve), Mr Gallagher said that it was a difficult question as to whether those might be required to mitigate the motorway works, because there are so many different ways of mitigating; but that could be one way of looking at it. However he did not have enough knowledge of Council's policies in that regard.

[325] Counsel for Auckland Council Ms Faesenkloet asked submitter Mr McKenzie his view about the Council's proposed open space package in relation to the Waterview, Owairaka and New Windsor communities. He said that he understood that it involved expenditure of money on the Phyllis Reserve expanding what it provided and improving access to it, and he considered that a reasonable kind of mitigation package, including as offset mitigation for the unmitigated effects of the motorway proposal.

[326] In her reply at the end of the hearing, Ms Janissen noted that NZTA was offering the establishment of a replacement sports field at Waterview Reserve (either within the designation or as a financial payment on an "Augier" basis to facilities elsewhere), some other active recreation facilities, development of an expanded Saxon Reserve area, and improvements to the connection of Howlett Reserve to Howlett Street or Oakley Avenue (or in lieu a financial payment for other open space upgrades) prior to construction commencing. (See draft condition OS.10.) Post construction, NZTA was offering planning and implementation of restoration of the Waterview Reserve, providing equivalent or better open space facilities including playground, ablution block, full size basketball court, volleyball court, enhanced integration and development of the Oakley Inlet heritage area, improved esplanade reserve linkages along the coast (OS.5) and restoration of Waterview Glades (OS.7).

[327] She submitted that, with the exception of the expressed preference by the Council for development of sports field facilities at Phyllis Street rather than at Waterview Reserve, it was considered that there were no remaining outstanding issues between NZTA and the Council in respect of open space in the Waterview area. That may indeed be the case, but we remain concerned that both NZTA and the Council are being unduly

optimistic in relation to this Board's ability to impose conditions in relation to expansion at Saxon Reserve, where there remain uncertainties regarding further land acquisitions.

[328] We will return to the issue of financial payments in lieu, noting that we doubt that they need to be put forward on an Augier (voluntary²⁵) basis.

[329] Ms Janissen said that NZTA concurred with some conclusions in the final Addendum Report from the Board's s42A advisors, EMS, as follows:

- The like for like approach is favoured over a network linkages approach. (We have already indicated that our finding is to the contrary).
- There is a diverse range of opinions regarding open space mitigation options, including some that range to betterment rather than mitigation.
- The suggested Eric Armishaw bridge over SH16 at Pt Chevalier is not appropriate or justified (some submitters resiled from the request during the course of the hearing), and we have concluded that they were right to do so, primarily for the reason that such a bridge could possibly create adverse visual effects at the Pt Chevalier end that could potentially be of concern to people in that locality.
- The Alford Bridge is not required because SH20 will be in tunnel at this point, and existing access to Unitec will be retained. (We will offer our own findings shortly.)
- Impacts arising from construction are not sufficiently unmitigated to warrant further network connections. (We will offer our own findings shortly.)

7.5.4 Answers to certain questions – layout and suitability of Valonia Reserve (active)

[330] Picking up from Mr Lanning's questioning of Mr Little about the Phyllis Street Reserve, and noting that the Council sought to bring the Valonia Reserve into that

²⁵ The reference is to an often cited English decision *Augier v Secretary of State for the Environment (1978) 38 P&CR219 (QBD)*, where in summary it was held that if an applicant volunteered a condition that would otherwise be unenforceable for illegality of want of jurisdiction, the condition would nevertheless become enforceable.

equation, Mr Little considered that there were pros and cons between NZTA's proposed layout at the latter and the Council's. He noted that Council was endeavouring to create a cricket pitch based on its preferred orientation of sports fields, and considered that the Council was seeking to gain a betterment that NZTA should not have to fund as mitigation. Annexure A to the evidence of Mr Gallagher shows his preferred layout of 2 sports fields, with a summer cricket pitch over the top of them. However, we note that achieving that would depend on the Council's wish to acquire 8 residential lots along the street front, and we have already commented about the uncertainty of that. Frankly, if the council had been serious about that proposal we would have expected to have been told about steps having been taken towards acquisition of the lots and planning consents sought. Mr Little agreed that the NZTA proposal for Valonia Reserve did not show a playground, but said that it was not the case that one would be displaced from Alan Wood Reserve.

[331] Mr Little considered, in answer to a further question, that the 2 concepts were reasonably similar in terms of provision of cycle and walking paths to provide connectivity.²⁶

[332] Mr Beer, cross examined by Ms Janissen, confirmed that the Council's wish to acquire the 8 extra sections at Valonia Street was to mitigate loss of passive open space resulting from the Project, (not simply "to accommodate council's policy in relation to passive open space", as was put to him). He accepted that the 8 properties were outside the NZTA designation, and that NZTA would not have jurisdiction to seek to designate them for passive open space.

[333] Mr Gallagher acknowledged to Ms Janissen that if NZTA was proposing sand carpeting of the 2 sports fields proposed there, that would be an improvement over the quality of fields being replaced. He acknowledged that the offer was of full sized fields. He also acknowledged that north-south orientation of the fields, as proposed, was preferable under FIFA guidelines, that the NZTA proposal involved co-locating fields within Valonia Reserve, and would have the advantage that they wouldn't straddle a railway designation any more. Mr Gallagher understood that one of the fields would not be orientated north-south, but otherwise acknowledged the desirable attributes of the NZTA design. He agreed that he and Mr Beer acknowledge that two full size fields at

²⁶ These issues covered through to page 521 of the transcript.

Valonia are appropriate mitigation for the loss of the fields at Alan Wood Reserve, subject to the qualification about them not being side by side.

[334] As to the ability to accommodate a cricket ground over them in summer, he acknowledged that there is no existing cricket facility at Alan Wood Reserve at present. He also acknowledged that there would be a need to have a greater area provided at Valonia for this to occur, confirming our earlier thoughts that the Council was somewhat pushing beyond what was reasonably capable of being installed for mitigation, by introducing the issue about the need to acquire 8 more properties.

7.5.5 Answers to certain questions – temporary sports fields provision

[335] We have discussed this issue to some degree already, in the sections dealing with sports field provision at Waterview Reserve or at Phyllis Street, and the layout and suitability of Valonia Reserve. The answers provided by Mr Little under questioning by Mr Lanning confirmed our thinking that the Council's approach to the Waterview and Phyllis aspects was to be preferred, but that no reliance could be placed on the prospect of expanding the Valonia Reserve by the Council acquiring up to 8 sections. On the other hand, NZTA's proposal in relation to Valonia should be upheld, and while we consider that the Council's proposed layout would be preferable, we acknowledge that on a strict "like for like" basis, there would have been betterment, or at least an element in the equation favouring NZTA, if we had directed that it fund the altered layout over the expanded area. The space at Waterview Park is directed to be developed as a skate park and BMX bike track (non-motorised). Pursuant to our 7 May directions, the experts have re-cast the relevant parts of condition OS.5 more or less to our satisfaction, barring a small ambiguity in (c) that we have cured.

7.5.6 Answers to certain questions – Howlett Reserve

[336] Ms Devine asked Mr Beer of Auckland Council about the link referred to in the caucus agreement concerning passive open space issues at Howlett Reserve, where it had been agreed that the link was a good thing to support a long term continuous waterfront walkway, and that acquiring one property would open up the esplanade connection. The witness agreed that the existing access to Howlett Street is extremely narrow, and that sign-posting it or taking other minor steps would not provide the necessary benefits that acquisition of a residential section would. We note that draft condition OS.10 requires

improvements to existing pathway connections so as to provide wider and safer access to either Howlett Street or Oakley Avenue, and that in the event that land purchase requirements deem this unable to be completed prior to occupation of the construction areas within Waterview Reserve, certain financial payment provisions are to be actioned. Pursuant to our most recent direction an issue around the means of calculating such a contribution in OS.10(d) has been attended to. We have further tightened the condition by reference to an identifiable type of land value, and the need for Council to approve whatever site NZTA is to base its offer on.

7.5.7 Answers to certain questions – Saxon Reserve

[337] In answer to questions from Ms Devine, Mr Little indicated that he understood there was a high likelihood that the Council would acquire the extra 2 residential sections needed to fully expand this reserve as envisaged in the ULDF [C-72]. He agreed that the development of this reserve as a community park was critical to mitigation at Waterview, and considered that the full mitigation proposed should be required.²⁷

[338] In answer to questions from Ms Devine, Mr Beer made it clear that the importance of Saxon Reserve as mitigation for land lost by the Waterview Reserve was inclusive of the need for all 4 residential sections to be acquired and included in the Reserve as a community park.

[339] Later in cross examination by Ms Janissen, Mr Beer confirmed that the 3rd and 4th residential properties would be important to creating a good mitigation outcome, for instance from the point of view of increasing sight lines and safety as well as areas of functional use. There would be open space benefits with 2 sections acquired as has occurred, but he maintained his view about the need for the 4. He acknowledged that a resource consent application lodged by NZTA sought to introduce new facilities into the expanded area (on the 2 sections acquired), including playground facilities, landscaping, picnic tables, barbecues, and a public toilet. The acquisition and planning of the 3rd and 4th sections remains too speculative. The conditions of consent are to relate to the 2 for which acquisition is reasonably certain. The shortfall in mitigation is acknowledged by us, to be dealt with as we will shortly set out.

²⁷ Page 545 Transcript

7.5.8 Answers to certain questions – Alan Wood Reserve

7.5.8.1 During construction

[340] Mr Little confirmed in answer to Mr Lanning that it was his evidence that, during the construction period, there will be unmitigated effects on the passive open space function here. Mr Little said that the effects arose due to the splitting of 2 parts of the reserve, but acknowledged when pressed that the construction activities in the 2 construction yards would also contribute. He acknowledged that about 75 percent of the area of the Alan Wood Reserve would be used for construction activities, and that the level of effect would be significant, at least initially during stream rehabilitation works, but he wasn't sure of the time that work would take.

[341] In addition to noise effects, there will potentially also be effects from nuisance dust and machine exhaust as acknowledged by the evidence in chief of Dr D R Black called by NZTA. Conditions are proposed in relation to mitigation of dust, however it is inevitable it will not be possible to mitigate that effect in its totality.

[342] Under cross examination by Ms Janissen, Mr Beer reiterated that which he had said in his evidence in chief, that the NZTA proposal would mitigate impacts on active recreation at this reserve. His concern had been about loss of passive recreation during the construction phase. Referred to Annexure H to the second supplementary statement of Ms Linzey, he acknowledged that 3 areas labelled "A" of 4.6ha, 2.2ha and 0.2ha (which we note are widely scattered and adjoin construction yards), would be available prior to and during the start of construction. His attention was then drawn to area "B" of 2.5ha, a narrow strip linking 2 of the areas A and wrapping around construction yard 10. He acknowledged that he understood that that area would be available after stream alignment works had been undertaken in the early stages of the contract. Asked if, therefore, that after about 12 months of construction there would be passive open space area available in the form of a full walkway linkage, he disagreed, as he imagined that it would be difficult to do in terms of topography and vegetation proposed to be planted along the creek. He also noted that it was adjacent to a major construction site which would detract from its passive recreation qualities, and would be an isolated area which would be poor in terms of crime prevention. Pressed to acknowledge that there would be something of the order of 6ha of land that could be available for passive open space, he responded succinctly that he was concerned about the quality of it.

[343] Ms Janissen in her Reply noted that NZTA is offering the early provision of sports fields (or equivalent financial payments), other active recreation facilities and passive open spaces prior to construction, and some expansion of open space once the Oakley Creek realignment is completed, (conditions OS.9(a) and OS.9(b) and Plan Annexure H to Ms Linzey's second supplementary statement). We acknowledge an attempt by NZTA through OS.9(a) and (b) to maintain access ways and linkages so far as possible during construction, but find nevertheless that on account of the presence of significant works adjacent, noise, limitations in ground conditions in places (eg wetness), there will be significant unmitigated impacts on passive open space in this area during construction, that will need to be addressed by other means that we will come to.

7.5.8.2 Permanent impacts

[344] After examining several sheets of plans showing the position of roading and buildings after construction, Mr Little said in answer to questions from Mr Lanning that the largest area of open space available for passive activities would be that which was around the portal and buildings, as it would be the area least affected by motorway noise. Hence he said, it was the intention to cluster active recreation in the areas more impacted by motorway noise, and passive areas in locations less so affected. Nevertheless he saw some areas that could be used for informal activities such as kicking a ball.

[345] Having regard to other aspects of this decision, it is our view that if the southern portal buildings were to be shifted ultimately 70-80m to the south-east, there would be some improvements, because the buildings would move away from the "pinch point" in the reserve, but those benefits would be qualified by there still remaining some CPTED issues.

[346] Mr Little conceded to Mr Lanning that one playing field (a small or junior one) would remain towards the northern end of the reserve, but that it would be a little isolated from any other sports fields.

[347] We have noted that Ms Wilkening agreed during the open space caucusing that the Alan Wood Reserve will be noisier than at present on account of motorway noise, albeit that there will be some mitigation from barriers. Two "open to play" full-sized, and one half size field for training, are to be provided (subject at least in part to possible financial contribution).

[348] Auckland Council's Mr Gallagher acknowledged to Ms Janissen that, of the 2 full sized and 1 half sized fields at Alan Wood Reserve, 2 are probably located on railway land. He acknowledged that in mitigation NZTA proposes 2 senior sports fields at Valonia, with parking, basketball court and ablution facilities, but with changing facilities deleted (the latter aspect considered by Ms Janissen to have been in error).

[349] He acknowledged that in draft condition OS.8 (this is now OS.6(a)(i)and(ii)), there was an offer of the provision of 3 soccer playing fields and associated facilities, or an equivalent financial payment towards Auckland Council parks. He accepted that NZTA would be fully mitigating issues concerning provision of sports fields at Alan Wood Reserve, but pointed out that a volleyball court would be missing. (This is now remedied by OS.6(a)(iv).

[350] Ms Devine asked Mr McKenzie what alternative mitigation could possibly be carried out if Saxon Reserve could not be expanded as proposed by NZTA. He responded that it was not obvious where you could get something more into the Waterview area, and one would need to consider improvement of connectivity through to recreation facilities at Phyllis Reserve. He said that if NZTA was able to obtain all the land for expansion of Saxon Reserve and Howlett Reserve that had been anticipated, that the open space deficit in Waterview would be largely made up, that it was "all rather contingent on those things being done." Otherwise he considered that there could be an open space shortfall.

[351] Ms Janissen, in reply, noted that NZTA was offering restoration for Alan Wood Reserve, providing equivalent or better open space facilities including 2 full sized sand-carpeted sports fields, changing and ablution facilities, a half-size basketball and volleyball court, enhanced integration and development of the Oakley Creek area, and improved esplanade reserve linkages along the creek (condition OS.5). She also noted proposed restoration of Waterview Glades (OS.7), and a pedestrian/cycleway including pedestrian bridge parallel to the open carriageway sections through Alan Wood Reserve.

[352] She noted comments in the final EMS Addendum Report favouring "like for like", suggesting that some requested mitigation options amount to betterment, suggesting that expansion of the Valonia Reserve on to 8 residential sections is not warranted, and that the setting up of a Community Trust Fund might address unmitigated effects. Our own findings will follow.

[353] Ms Janissen acknowledged that in the case of the Alan Wood Reserve, not all adverse effects on open space are fully mitigated, but she considered that there are some “betterments” being put forward:

- Improved sports field provision (in size and hours of play);
- Long term capacity of a completed open space linkage between Richardson Road and New North Road.
- Improved walking and cycling facilities (noting that this is the most popular passive open space activity).
- Improving connectivity across the open space network (currently severed by Oakley Creek).
- Enhancing the ecological value of passive open spaces (consistent with Auckland Council’s open spaces policy).
- Reallocation of open space to improve accessibility for local communities which presently have no access to these areas (eg New Windsor area).

Ms Janissen submitted that red-lined changes to proposed conditions OS.1 through OS.16 (25 March version) offered these things. Our own view is that with 2 exceptions (the Hendon Bridge, and to a small extent the link at 174 Methuen Rd), they amount to mitigation, not betterment, for a community bearing the brunt of severe construction effects for 5 to 7 years, and considerable adverse operational effects subsequently, for regional and national benefit, and little local benefit.

7.5.8.3 Valonia (passive)

[354] We have already noted, while discussing active recreation provision at Valonia Reserve, that provision of passive recreation on a strictly “like for like” basis, appears to be in neutral territory.

[355] The Board asked Mr Gallagher about a suggestion that had been made by Mr McKenzie and other witnesses about possible merit in a property of approximately 1.9ha,

at 6 Barrymore Place off the south-eastern side of Hendon Road, becoming open space parkland after the construction works finish in sector 9. Mr Gallagher said he could see merit in that suggestion, and advised that Auckland Council had asked for first right of refusal from NZTA in relation to it. The land concerned is north-east of Valonia Reserve and south-east of Alan Wood reserve, that is, handily placed between them. We are strongly of the view that if this land were to be disposed of after the construction works finish, an opportunity would be lost to provide good mitigation of some of the adverse effects on passive open space in the locality, so we indicated to the parties' experts on 7 May that we were minded to direct that on completion of the works it be vested in Auckland Council for the purposes of a reserve. The response was that the land is owned by "The Crown", not NZTA, which had either escaped us in the mass of evidence lodged, or was not advised to us. The response was therefore that a new condition OS.17 could be imposed, but subject to the outcome of necessary land disposal procedures under the Public Works Act 1981. We do not accept that that should be the end of the matter, particularly in the event that the land does not become available for vesting in the Council. Bearing in mind our later findings (in the "financial contributions" subsection of this decision, below), the unavailability of this land for long-term mitigation purposes would compound the inadequacies of mitigation that we there identify. We have therefore decided that the newly inserted condition OS.17 must be expanded to cover that contingency. Public records at Auckland Council show that the land has a CV of \$1,130,000. We have added to OS.17, provision for that sum to be paid to the Council as a financial contribution or payment in lieu, in that eventuality.

7.5.8.4 Location of southern portal and stack

[356] A member of the Board put a question to Mr McKenzie that he had also put to Ms Linzey, asking him to imagine that he had somewhere between \$11-21m to spend on environmental enhancements to resolve environmental issues in the western half of the Auckland isthmus, and if he was asked to compile a list of say 20 possible projects including such things as cleaning estuaries and providing further parks, would the moving of the southern portal 70m figure on such a list, and if so how high. Mr McKenzie's thoughtful answer was that he considered that there was a long term deficit in open space in the area; in particular there is a substantial area of open space currently leased to the Council by KiwiRail which it is "threatening to take off them", so provision of additional reserve land would be fairly high on his list.

7.5.9 Northern stack location

[357] If this stack were to be moved to the eastern side of Great North Road, it would take up approximately 60 sq metres of land in the quite large esplanade reserve, also known as Waterview Glades. In quantitative terms, that is not significant. However, it would unavoidably have an impact on the quality of the reserve, even after mitigation by planting.

7.5.10 Answers to certain questions – proposed Soljak Bridge

[358] We remind ourselves that in caucus, the experts agreed that there would be benefits from a bridge at this point, being an enhancement of council's passive open spaces and Phyllis Reserve, and facilitation of a continuous north-south cycleway if one were to be built. We also recall that a range of experts including Mr Little, considered that it could have positive mitigation effects for unaddressed quality impacts at Alan Wood Reserve, but that Ms Linzey and Mr McKenzie considered that additional consents would be required, and that it might have other potential effects not considered in the Project as proposed.

[359] Questioned about the benefits in relation to Alan Wood Reserve by Mr Allan, Mr Little confirmed that that was his view, but considered that his position would be modified somewhat if the southern portal were to be moved to the position of what has been called "option 3". He agreed that if option 3 wasn't taken up, impacts on the quality of passive open space would need to be mitigated in another way, and this Soljak Bridge could be one approach.

[360] Under questioning from Mr Allan, Ms Hancock agreed with the answers that Mr Little had given on this issue.

[361] Mr Allan asked Ms Linzey about an aspect of mitigation that could assist concerning long term degradation of conditions for passive recreation in Alan Wood Reserve, particularly on account of noise from the motorway. He put it to her that one opportunity available near the southern end of the tunnel would be to connect the end of the park through the Soljak area up into the ribbon of parks that run through the Oakley Creek and up through Unitec. Ms Linzey answered in a less than direct manner by saying

that the link itself wouldn't provide that, but that once you were across it, and into the reserve, you would be into an area with a much quieter environment.

[362] Ms Devine asked Mr Beer about benefits of a Soljak Bridge, which she described as being capable of providing access to Harbutt Reserve and the Oakley Creek waterway for residents around the affected area at the north-western end of Alan Wood Reserve; and also benefits in linking open spaces by way of a continuous cycleway. He considered that for residents of Waterview it could provide a connection southwards, although he thought that some distance was involved. That of course is the nature of linear open space networks.

[363] Mr Beer was questioned by Ms Janissen about supplementary evidence received from KiwiRail about a possible bridge at Soljak. It was noted that it was KiwiRail's position that while the cycleway and footbridge structure would be acceptable in the short to medium term, it would be likely to be replaced in the long term should the Avondale-Southdown line be developed. KiwiRail would require whoever developed the cycleway to accept liability for altering or removing the structure to accommodate the rail line. The witness acknowledged that, and confirmed that he did not know whether it was council policy to build a bridge from Soljak, albeit that it was its counsel who expressly sought construction of it. He acknowledged that, if the cycleway developer had to build a bridge twice, that would have a significant impact on cost, albeit over a reasonably long period of time. Our finding is that there are too many imponderables about this bridge to order that it be physically incorporated as part of the Project. At the same time we recognise that if it had been incorporated, it could have offered significant mitigation of impacts on passive open space during construction, and long term.

7.5.11 Answers to certain questions – Oakley/Alford/Unitec Bridge

[364] Mr Little was pressed by Mr Allan, counsel for Living Communities, about the prospective benefits of a pedestrian and cycle bridge across Oakley Creek to the Unitec grounds to the east, in comparison to the small bridge that is presently there which necessitates a relatively steep walk down, or up, at either end. Mr Little did not resile from his earlier view that the need for any such bridge would not arise from the motorway project. The motorway, of course, passes under this area in a tunnel.²⁸

²⁸ Page 549-550 Transcript

[365] Mr Allan questioned Ms Hancock in relation to the proposition that the suggested Alford Bridge might not be required in connection with the motorway project. The basis of his questioning was that the present walk along Great North Road and up to the Pt Chevalier shops, for residents of Waterview, would be less safe in the CPTED sense, and on account of degraded amenity, because of the construction of the motorway north of the northern portal and the removal of houses along the western side of Great North Road as part of the Project. His proposition was that the residents could receive mitigation by being able to cross a level bridge to the Unitec grounds, and walk or cycle to Pt Chevalier through there. Ms Hancock accepted that the experience for residents following the street system, of having ramps (to use Mr Allan's words) "flying up and around you to a greater extent than is currently the case", would be a negative. As to security, Ms Hancock considered that any problem would be more one of perception than actuality, albeit that perception of lack of security can be important for people. She nevertheless considered that there were still alternative routes, but then conceded that the present walk on the eastern side of the street would be lost. She accepted that there was little or no further improvement that could be made in terms of amenity and security along the street system.

[366] As to the suggested alternative of the Alford Bridge and cycle/walkway through Unitec, she agreed that choice would always be a good thing, but questioned the point at which this choice should be provided. She and Mr Allan agreed that that might be a task for this Board.²⁹

[367] Ms Hancock agreed that Waterview is a small but isolated pocket of residential housing, but continued to see the suggested Alford Bridge as a bonus for the community and Unitec, but believed that it was not for her to say whether it should actually be provided, noting that Mr Little and Ms Linzey had offered their view that such a bridge would be over and above mitigation required for open space.

[368] Ms Devine asked Mr Beer about the benefits of providing this bridge, and he saw it as primarily providing access to the existing cycleway at SH16, at Western Springs. An answer about giving access northwards towards Pt Chevalier, more or less had to be prised out of him.³⁰ Our findings follow in the next 2 sections of this decision dealing with the proposition of a north-south cycleway and bridges collectively.

²⁹ Pages 579-580 Transcript

³⁰ P1204 Transcript

7.5.12 Answers to certain questions – North-south cycleway and constituent bridges

[369] Many submitters pushed very hard for a north-south cycleway on the land surface through sector 8 by way of mitigation of adverse effects on open space and reserves within the SH20 corridor generally, asserting that there were wider issues than the apparently simple approach by NZTA that, because the motorway was tunnelling underground in sector 8, there were no adverse effects on aboveground features there.

[370] NZTA expressed concern that not only was land on the surface of sector 8 not the subject of the requirement for designation, but also that there were areas of land under varying ownership or control that would militate against forming the cycleway and building the bridges, and further, that resource consents would be needed which had not been applied for.

[371] On the latter point, the Board asked for a more detailed response. Ms Linzey supplied that.³¹ She had in fact undertaken an assessment of the consent requirements for the entire cycleway, including bridge components, and the following is her conclusion about it.

[372] The Soljak Bridge would require non-complying activity consent in the open space 2 zone and discretionary activity consent in the open space 3. There would also be an issue with the designation for the North Auckland railway line. In the vicinity of the Phyllis Reserve, 2 or 3 residential properties could need to be acquired depending on the alignment, and non complying activity consent obtained over land zoned residential (the cycle/pedestrian way being a permitted activity in all open space zones). In the vicinity of the Alford Bridge proposal, some tree consents might be necessary, earthworks consents would be required, and issues could arise around the rail designation again (we can't see the latter as being correct...there is no rail designation there), the Unitec designation, and some other landowner issues. We are driven to say that in light of their stated support for the concept of a north-south cycle/pedestrian way, (never mind the argument about who might pay for it), it is disappointing that no steps had been taken by Auckland Council, Auckland Transport, and/or NZTA, in the direction of solving the issues.

³¹ Pages 409ff Transcript

[373] Auckland Council's traffic and transport witness, Mr I Clark, had provided evidence in chief about the desirability of such a link. Amongst other things, he noted that it would mitigate the significant adverse effects (in a general sense) on the local communities, particularly during the construction phase; enhance the benefits of the project overall in line with certain of the project objectives and high quality urban design outcomes; and "unlock" the full benefits of similar infrastructure running up to but terminating at each end of Sector 8. He was questioned by Ms Janissen and confirmed that it would be desirable for NZTA and the council to work together in the future to progress provision of such. The argument about cost was however all too evident.

[374] On 26 February 2011, Ms Linzey filed another supplementary statement of evidence at our request, offering on this occasion information about likely cost for the cycleway.

[375] She said that NZTA had investigated a number of pedestrian/cycleway connections as part of the Project, including through sector 8, and that the most advanced of these was undertaken as part of the Urban Design and Landscape Framework in June 2010 which identified the wider aspirations of various parties, including an off-road cycleway connection from Alan Wood Reserve, through Phyllis Reserve on to Great North Road as detailed in the evidence in chief of Ms Hancock.

[376] Cost estimates were undertaken, now summarised here as follows:

- | | | |
|-----|--|-----------------------|
| (a) | Pedestrian/cycle bridges (Phyllis St and Soljak): | \$2.1m to \$2.6m each |
| (b) | Off-road cycleway: | \$3-\$4.7m |
| (c) | Land purchase (Great North Road, Phyllis St,
New North Road): | \$2.5-\$3m |

The total cost would therefore be approximately \$9.7-\$12.9m. She noted that a section, approximately 450m in length, along the frontage of 1510 Great North Road (the Unitec apartments) would still require to be on the road.

[377] Finally, at the northern end, the suggested Alford Bridge had been costed at between \$2-\$2.5m.

[378] Mr Clark, on being questioned by the Board, advised that he was not an engineer and could not assist with detailed comment on such cost estimates, but he did not seem surprised about them.

[379] Ms Devine asked Mr McKenzie how the provision of linkage to distant areas of open space by extra bridges would mitigate effects on residents of Waterview and Owairaka. He said that it would provide opportunities for people to access open space which would not be as close to them, but at least would be available to them, for instance the Alan Wood park area for walking, jogging, and dog walking. He said that additional bridges, particularly crossing the Oakley Creek, would be very important.

[380] To the Board, Mr McKenzie said that the important links to provide for this connectivity were the Alford and Soljak bridges.

[381] In contrast to the strong submissions of Mr Allan and Mr Lanning, Ms Janissen noted in her Reply that NZTA does not support the inclusion of any of the bridges as part of the Project, nor does it consider them necessary mitigation for effects of the Project.

[382] She understood that the Alford and Phyllis bridges were proposed by submitters as:

- Offset mitigation for the loss of Waterview Park and open space
- For the increased severance of Waterview community as a result of the Project
- To improve accessibility to other open space areas during and post construction.

[383] She considered that a move of facilities to Phyllis Street Reserve was simply a request of the Council, and not a direct effect of the Project. Also, as agreed in expert caucusing, the provision of active recreation facilities is considered a regional open space issue rather than a local one.

[384] Ms Janissen submitted that a link from Great North Road through Unitec would be of comparable length to walking or cycling on the roads, and that a degree of isolation through Unitec would have its own issues for perceptions of safety (relying on the evidence of Ms Hancock). We acknowledge that there is an element of truth about the

perception of safety aspect, but more in relation to pedestrians than cyclists, and more possibly in the evenings than during the day. Direct comparisons of length of travel is, in our view, to play too much of a numbers game, and to ignore the amenity and some limited CPTED issues with the route along Great North Road, through the interchange, and up to Pt Chevalier shops.

[385] Ms Janissen noted that the Alford Street Bridge would not be available during the construction phase, but noted that draft condition SO.10 provides open space mitigation during this time. We acknowledge both points, but remind ourselves about the importance of a qualitative and network approach, as well as a quantitative.

[386] Ms Janissen submitted that the ability for the public to access passive open space on the Unitec site needed to be seen in light of Unitec's own development plans. We have already held that those are no more than conceptual, and are speculative at this stage, and while there might be a reduction in open green spaces, that is very unlikely to be anything like total.

[387] Ms Janissen reiterated the points regularly raised during the hearing about want of land ownership and resource consents, as well as the significant costs for constructing them.

[388] In answer to questions from the Board, by reference to the High Court Hamilton decision *Westfield* (cited elsewhere in this decision), she submitted that a condition precedent on these issues being sorted out, would be not so much impossible as not fair and reasonable because it would hold up the Project works. We will have more to say about the issue shortly.

[389] As regards the suggested Soljak Bridge, apparently put forward on the basis of improving accessibility to other open spaces during construction, and as an offset mitigation for the loss of passive open space in Alan Wood Reserve, Ms Janissen acknowledged that at the time of the application, there were unmitigated open space effects in Alan Wood Reserve, however she considered those now addressed with greater certainty. She acknowledged that operational effects, particularly noise, would change the passive open space experience, however other measures including ecological restoration of Oakley Creek, and provision of extensive walkways and cycleway facilities through Alan Wood Reserve, will improve other aspects of passive open space functionality. She

noted again that there would be a high level of cost with this bridge, and ownership and consenting issues, pointing in particular to advice received from KiwiRail as earlier discussed.

[390] As to the suggested Olympus Bridge, reportedly to address severance issues in sector 9, Ms Janissen submitted that the increased extent of cover proposed in the application as lodged meant that such connection was no longer necessary mitigation for the Project. She expressed concern about the cost. This in any event was not really further pursued by Mr Allan's clients.

[391] Regarding provision of a cycleway at grade through sector 8, Ms Janissen reiterated that there was no agreed route, a 450m "gap" along Great North Road at the northern end (which we don't comprehend if the Alford Bridge were to be constructed), as well as land ownership consenting issues.

[392] Ms Janissen reiterated that the cycleway was not required to meet Project objectives or mitigate effects. As to the Project Objective related to the provision of cycleways ("*to support mobility and modal choices within the wider Auckland region by providing opportunities for improved public transport, cycling and walking*"), Ms Janissen submitted that the proposals as put forward will meet that, as well as local and regional plans and strategies, specifically through reducing traffic flows on a number of arterial routes. She submitted that the road surfaces through sector 8 are controlled by the local authority and not NZTA, and that provision of a cycleway here must sit with Auckland Transport, with funding support from NZTA. She reminded us that rebuttal evidence from Mr Murray had noted that benefits would be uncertain given the less direct nature of the route compared to using the existing local connections, and there are potential CPTED concerns; cost efficiency alone does not justify inclusion of a sector 8 cycleway in the Project; and Auckland Transport also has a cycleway provider mandate. We shall consider all of these points in the next section of this decision.

7.5.13 Some further answers – Overall mitigation, open space and reserves

[393] A strong underlying theme of the many cases of submitters raising open space and reserves concerns can be summarised quite succinctly. It is that the local community, or collections of small communities, are being expected to bear the majority of adverse

effects, many of them serious, for a project that offers primarily regional and national benefits, and very few local ones.

[394] This was acknowledged in a careful way from time to time by NZTA witnesses, and seems exemplified from an honest and objective response from Ms Linzey to a question by Ms Devine³² as follows:

I accept that there are primarily regional benefits from the Project. There are some local benefits from a social perspective from the Project, but certainly the majority of adverse effects, particularly construction, are realized locally rather than regionally, yes.

Ms Linzey acknowledged that the impacts would be at their most severe in sectors 5, 7 and 9.

[395] She further acknowledged by reference to the AEE social report, G.14, that open space is particularly important for lower socio-economic communities where recreation opportunities may be more limited, than for better resourced neighbourhoods, acknowledging that Waterview, Owairaka, and Te Atatu are in the former category.

[396] Of some interest on this theme was an opinion offered by a submitter, an architect and local Waterview resident Ms M Riley. She advocated the building of a bridge over the creek to Unitec, at the level of Great North Road, to allow Waterview to become a “servicing neighbourhood” for Unitec. She foresaw economic benefit in that, a kind of “economic kick-start” after 5 years of motorway construction, and mitigation in that regard.

[397] When giving evidence on behalf of Council, Mr Beer produced 2 exhibits. Exhibit 11 was a schedule showing the ratio of local parks to residents by local board area in the newly expanded Auckland City, where the Albert-Eden area came bottom of the 21 area list, with a ratio of 1.61ha of local parks per 1,000 residents.³³ He was also asked about his exhibit 12, a map of the Eden-Albert local board area extending, so it seemed to us quite remarkably, from Oakley Creek in the west to the Southern Motorway near Mitchelson Street, Ellerslie, in the east. Mr Beer acknowledged that the proposed motorway would to a degree be located in the Whau Local Board area to the west, which contains Waterview. Asked if the Waterview area would demonstrate a ratio of 5.14ha

³² Pages 347-348 Transcript

³³ Where the highest ratio was Great Barrier with 42.68ha, and the median appeared to be about 7ha

per 1,000 head of population, Mr Beer said he hadn't done that analysis. Asked then to look at Owairaka West, he disagreed that the ratio appeared to be about 5 ha per 1,000. He did, however, acknowledge that it would be fair to say that the 1.61ha of local parks for the residents reflected in exhibit 11 is not necessarily indicative of what the impact is on the individual communities affected by the Project, saying however that quantity of open space is only one measure of provision, and is not necessarily particularly useful one in terms of analysis of open space.

7.5.14 – Evaluation and conclusions on Open Space and Reserves

[398] We have already expressed words of caution about focussing too closely on a quantitative approach and paying insufficient attention to a qualitative one. We do, however, take the point that the position for the communities along the route is not as dire as it appeared to be portrayed by exhibit 11, and we acknowledge that ranging a little more widely away from land in the close vicinity of the motorway, there are some other reserves, for instance the Mt Albert volcanic cone where there is provision of passive open space (for walking and scenic views), and a small area of active open space in the crater. However, to our way of thinking, and applying a network approach to the issues as described to us in the evidence, the more distant the other parks are from the areas of adverse effect, the less accessible they are to the affected communities, particularly on foot. Ultimately it is not possible to make precise or mathematical calculations of “unders and overs” in terms of both quantitative and qualitative assessment. It can really only be done by standing back and making a value judgment, acknowledging all the inputs in relation to all issues on a spectrum that stretches from individual precise losses of playing fields in one location, through to a global view about overall provision of both active and passive spaces, and ultimately connectivity, at the other end of the spectrum.

[399] Drawing on our numerous findings about the various reserves, we feel able to make the following assessments of unmitigated effects in the round in each case. We leave aside the spaces adjacent to SH16 which in net terms will either be affected (and not mitigated) to a zero to minor degree, or are separately addressed in specific ways, for example the pony club area in Te Atatu. In the vicinity of the Oakley Creek Inlet and Waterview Glades, the reserves will be affected to an unmitigated degree in severe fashion during the construction years, and moderately after that, albeit that in the Glades, new landscaping will heal effects after a number of years. At the Saxon Reserve, there will be a small net benefit with the provision of new facilities, but not to the extent that would have

been possible if all 4 adjacent extra lots had been acquired and developed with appropriate facilities. The Waterview Reserve will experience severe adverse unmitigated effects during the construction years and beyond, albeit that some active function will be made up for at Phyllis Reserve. The latter will be the subject of an appropriate level and quality of mitigation (not betterment as contended by NZTA). The Cowley Reserve will be permanently lost. At Howlett Reserve, an improved accessway is suggested but cannot yet be assured. At Alan Wood Reserve there will be moderate to severe unmitigated effects in the long term, and severe ones during the construction years. At Valonia Reserve, as in some other small pockets, mitigation will be offered that will help to reverse the overall shortfall.

[400] In summary first in relation to **active open spaces**, and having brought together the extensive materials on the subject concerning the several reserves where active recreation and sport occurs, we have the impression that in quantitative terms, almost sufficient mitigation has eventually come about to a moderate extent (if not wholly adequate) through offers of mitigation by NZTA and upgrading of draft conditions of consent during the hearing. A notable exception is probably that NZTA and the Council are prematurely optimistic (given their lack of committed resolve to date) about gaining the extra area at Valonia Reserve, and that should be discounted, and the proposed mitigation by sports fields there downgraded in qualitative and quantitative terms because of the want of space, and noise. In qualitative terms, the user experience of playing fields at Alan Wood Reserve and Valonia Reserve, and at Waterview Reserve if the playing field is not shifted to Phyllis, will be significantly impacted during the construction works.

[401] Post construction, and despite the erection of barriers, there will be moderate to significant adverse effects, principally from noise, at Alan Wood and Valonia Reserves.

[402] We consider that **passive open spaces** will be more significantly affected, both during construction and afterwards, with, it seems, general agreement that there will be unmitigated impacts on this, albeit that Ms Janissen submitted in Reply that upgrading of some conditions of consent had narrowed the gap.

[403] We find that the somewhat clinical approach by NZTA, focusing unduly on “like for like” and insufficiently in qualitative and networking aspects, has led it to rather shut its eyes to the sheer enormity of the effects during 5-7 years of construction, and the short and long term division of communities to the north and the south of the tunnelled portion.

(While recognising however that division of Owairaka and New Windsor from each other would in due course be mitigated to some degree by the proposed Hendon Bridge). In these regards we identify a significant shortfall in terms of mitigation offered, even when one takes account of the potential for people to move somewhat more widely than the geographic area analysed by the submitters. As an example it would be reasonable to take into account the potential to access the summit and crater of Mt Albert, and some other reserves to the west and the east of the Waterview and Owairaka communities, but walkable connectivity is almost a non-issue with those, and cycling and motoring becomes less relevant the further away those reserves are.

7.5.14.1 *Financial contributions?*

[404] By the end of the hearing NZTA was, in a number of areas, proposing conditions to make certain financial payments as an alternative to undertaking immediate physical mitigation at certain of the reserves. We infer that the offers were made on account of a wish by NZTA to be able to commence its construction activities in the area at the earliest possible date, and avoid the hold-up of having to wait for certain pieces of land to be acquired, resource consents and the like.

[405] We held doubts as to the need for conditions about financial payments to be on a voluntary or Augier basis, and have given close attention to some of the jurisprudence that was discussed during the hearing, particularly in the context of overall shortfalls of mitigation of adverse impacts on reserves and open spaces in and adjoining sectors 5, 7 and 9.

[406] The issue concerns the lawful extent of conditions that can be imposed on designations, for the reason that the relevant provisions of the RMA are silent about such power, in contrast to the express provisions of s108(2) in relation to resource consents.

[407] Section 149P(4)(b)(iii) gives the Board the power to “*confirm the requirement, but modify it or impose conditions on it as the Board thinks fit.*” On its face this appears to be a very broad discretion. The power is similar to that vested in the Environment Court when determining appeals from a decision of a requiring authority under s174(4)(c).

[408] It is noted that Ms Janissen in her Reply generally accepted that the law relating to resource consent conditions relates also to designations, but she submitted that the power

to impose conditions is not unfettered. Referring to the decision of the New Zealand Supreme Court in *Waitakere City Council v Estate Homes Limited*,³⁴ and in particular its discussion of the tests expressed by the House of Lords in *Newbury District Council v Secretary of State for the Environment*,³⁵ three requirements were identified by the Supreme Court as follows:

Under these general requirements of administrative law, conditions must be imposed for a planning purpose, rather than one outside the purposes of the empowering legislation, however desirable it may be in terms of the wider public interest. The conditions must also fairly and reasonably relate to the permitted development and may not be unreasonable.

[409] Ms Janissen submitted that the power under s108 to impose a condition related to a financial contribution on resource consent, does not apply to designations. She also submitted that in the case of the suggested sector 8 cycleway and constituent bridges, a requirement to provide funding would be unreasonable because it would be likely to be incapable of performance. In making that submission she was referring to the decision of the High Court in *Westfield (NZ) Limited v Hamilton City Council*.³⁶

[410] There can be no doubt about the relevance of the *Newbury* limitations in this situation.

[411] Addressing Ms Janissen's assertion that the issue about resource consent conditions apply to designations in a broader sense, we have our concerns. Resource consents are granted in the context of the content of relevant plans, whereas a designation expressly, by s176(2), removes an area from the jurisdiction of the relevant plans, and supplants its own provisions. The relevant plans must inform resource consent conditions, but are not pivotal in setting designation conditions.

[412] In the case of resource consent conditions s108(2)(a) gives express power to require a financial contribution. Sub-section (10) expresses limitations on the scope of such conditions : that financial contribution can only be required in the manner and for the purposes described in the relevant plan. We find that on account of the different nexus that resource consent conditions and designation conditions have with a plan, the limitations in subsection (10) would not be expected in relation to designation conditions.

³⁴ [2007] 2NZLR149 at [61]

³⁵ [1981] AC578

³⁶ [2004] NZRMA556 at [55]

[413] What then of the comparative wording of the provisions about resource consents on the one hand, and the provisions about designations on the other? That is, what of the silence about imposition of financial conditions in the latter, having regard to the Latin legal maxim “*expressio unius est exclusio alterius*”?³⁷

[414] If that approach were to be the proper one, it would have to be argued that the same would hold for all matters listed in s108(2), for instance, subsection (2)(c), which provides that a resource consent may include “*a condition requiring that services or works including (but without limitation) the protection, planting, or the replanting of any tree or other vegetation for the protection, restoration, or enhancement of any natural or physical resource*”. Clearly a condition of that sort must be available in the context of conditions on designations. Hence, in logic, there should be no basis for holding that the subject-matter of s108(2)(a) in relation to resource consents might not equally be relevant in relation to designations.

[415] It occurs to us that in many instances designations are used to achieve a public benefit, and do not impose additional demands on community resources, meaning that there is little rationale for imposing financial contributions. That, however, will not always be the case. As in the present case, the nature or extent of adverse effects brought about by the designation works and activities might mean that financial contributions are the best way to avoid, remedy or mitigate them. This of course is completely consistent with the purpose of the Act in Part 2.

[416] Ms Janissen submitted that this issue ultimately depended on whether a financial contribution could be brought within the general purposes of financial contributions in the District Plan. However, as noted, designations are exceptions to an established planning regime, and it is therefore not to be expected that a financial contributions regime created to address the granting of resource consents, will apply to designations. As already noted, there is logic in the provisions of s108(2) and (10) not being replicated in ss149P(4)(b)(iii) and 174(4)(c).

[417] Turning to the question of whether funding for a cycleway might be the subject of an appropriate condition of consent on a designation, we consider in light of the evidence about effects in this case, particularly need for and lack of connectivity through the relevant communities, and also matters of policy in the district plan and in relevant non

³⁷ To express one, is [comparatively] to exclude another

statutory documents described, and not forgetting one of NZTA's project objectives "to support mobility and modal choices within the wider Auckland Region by providing opportunities for improved public transport, cycling and walking", that the imposition of a condition for payment of a financial contribution towards a cycleway, would be one for a relevant resource management purpose. It would also, in our view, clearly relate fairly and reasonably to the proposed Project – that is construction works and subsequent motorway operations in Sectors 5, 7 and 9. Furthermore, we consider that it would not be at all unreasonable.

[418] On the latter point, bearing in mind the findings of the High Court in the *Westfield* decision, such an approach would seem eminently reasonable. We see some irony in Ms Janissen's submission that it would be unreasonable to follow the *condition precedent* course upheld as valid in *Westfield*, involving as that course would, a delay, perhaps considerable, in commencement of construction works on the motorway if land acquisition and consenting steps had first to be taken to provide the connectivity of the cycleway seen as necessary mitigation. What a financial contribution in lieu would neatly achieve, would be to overcome that delay, futile though the latter might be because of the findings of the High Court in *Westfield* which are binding on us.

[419] Ms Janissen offered another submission as to why a financial contribution of this sort could not be imposed in this case. She submitted in her Reply that the Land Transport Management Act 2003 ("LTMA") imposes a limitation on NZTA's funding decisions. She pointed to s20(2)(a) LTMA as authority for the proposition that NZTA must be satisfied that an activity is included in the National Land Transport Programme ("NLTP") (or amounts to one of 2 specified categories of urgency). She referred as well to a number of provisions of s95 of that Act, relating to the functions of NZTA. Ms Janissen propounded that a cycleway in Sector 8 is not found in the NLTP, and that therefore NZTA cannot fund it.

[420] The flaw in her argument is simply that what we have in mind is not that a Sector 8 cycleway should be part of the project, but that enablement of a connection (at the earliest possible time) is mitigation needed concerning some significant and otherwise inadequately mitigated adverse effects that will occur in and adjoining Sectors 5, 7 and 9. The works and operations proposed in those sectors are undoubtedly found in the NLTP.

[421] We have already commented that it is not possible to take a precise mathematical approach to calculating an appropriate level of mitigation. This is especially so given the myriad effects, circumstances, and items of mitigation put forward. This is one of those cases where, at the end of the day, it is necessary to stand back and make an overall value judgment about what is needed. We also remind ourselves that a notable feature of the case is that the local communities will bear the brunt of the adverse effects, in the greater (regional and national) good. That factor too is very difficult of calculation.

[422] Standing back from all these findings, and looking at matters in the round, we hold that an appropriate financial contribution, or alternatively a payment in lieu towards the enablement of connectivity between Waterview and Owairaka/New Windsor to make up the overall shortfall in mitigation in Sectors 5, 7 and 9, is \$8 million. The sum has been estimated as a reasonable contribution by NZTA towards the cost of the necessary bridges and pathway as advised by its personnel and witnesses in answer to questions from the Board.

[423] It would not be appropriate or fair to require that the money simply be paid to the council. It is necessary that the purpose for which it is paid actually comes about. NZTA is therefore to pay that sum upon certification by Auckland Council that it and/or Auckland Transport have acquired the necessary land or obtained all necessary interest and/or landowner approvals on a permanent basis, obtained the necessary resource consents, and formally resolved to commence and complete the pedestrian and cycleway to AUSTRROADS standards between Alan Wood Reserve and Unitec. The bridges that will be needed are what have been called the Alford and Soljak Bridges, and the Hendon Bridge will need the pathway extension agreed by the experts in caucus (the latter already being the subject of a draft condition of consent offered by NZTA).

[424] This was another matter on which we sent directions to the parties' experts on 7 May. Their response was divided, unfortunately it seemed driven by counsels' inputs. Representatives of parties other than NZTA offered a condition very close to what we had directed. NZTA offered another that was conditional on it securing funding approval under the LTMA after taking "all reasonable steps". NZTA also suggested a cut off date in respect of the conditional aspect, which we thought wholly inappropriate since it would have much of the control of the process. We issued a brief Minute criticizing the NZTA stance, reiterating our thoughts on the LTMA funding regime, stressing that the mitigation required was for Sectors 5,7 and 9, and suggesting a joint further response. We mentioned

again the loss of connectivity amongst those sectors, and recorded our understanding of the evidence that funding was in place for those sectors. We suggested that there was a corollary which was that NZTA must be funded to undertake mitigation for those sectors. We noted that it must be a further corollary that if NZTA couldn't or wouldn't mitigate effects in those sectors, consent for them might be called into question. The Board received a joint response on 18 May from which it seemed that our view might have been heard. The jointly drafted new condition SO.14 has now been placed into the conditions of consent with our approval. The earlier suggested time limit was now explained as being the time within which the Council must certify that it holds all necessary land interests and resource consents. That is a far more satisfactory provision.

[425] Before leaving this topic, we should record that a slightly related matter of a possible "community fund" arose. It was initially floated by Mr D Mead, a party and professional planner, in his evidence, and commented on favourably by EMS in section 4.3 of their final addendum report. Ms Janissen commented on it in her Reply, raising a number of possible difficulties, but finishing with a guarded invitation to refer it to relevant experts for caucusing if we were to favour it. She acknowledged to the Board that this could be seen as an "Augier" offer.

[426] We feel compelled to acknowledge the difficulties that would surround the concept. No party has offered any real detail about what legal form it would take, what its objectives would be, how it would be administered, who the beneficiaries or recipients would be and as to whether by use of capital or income, and a host of other necessary details. The need in this case is for mitigation, and we consider that the contingent financial contribution we have ordered, fits the bill. It is hard to see that a "community fund" would do likewise.

7.6 Cultural Impacts

[427] NZTA provided an assessment of cultural issues and potential effects on them, in various parts of the AEE.

[428] In another section of this decision we note that the former ARC, under s149G, discussed the issue of conformity of the Proposal against the Auckland Regional Policy Statement and Proposed Plan Change 6, without drawing any particular conclusion. The

report noted that a cultural assessment was yet to be completed by tangata whenua. Two relevant groups became submitters, Ngati Whatua o Orakei and Te Kawerau a Maki.

[429] The position of the first named became clear prior to the hearing, and we were advised by Ms Janissen in opening that the group would have the opportunity to provide input into the detailed design process, archaeological, and assessment of cultural planting. In consequence, Ngati Whatua advised that it did not seek any specific conditions and did not appear at the hearing.

[430] Mr Pita Turei appeared at the hearing on behalf of Te Kawerau o Maki, wanting to ensure that his Iwi would be able to participate, be involved in, and informed about the Project as it progressed. NZTA has consequently proposed a number of conditions or amendments to conditions as follows: Public Information condition PI.5 (by which community liaison groups will be open to relevant Iwi); Open Space condition OS.2 requiring that open space restoration plans be prepared in consultation with Iwi; Social condition SO.6 requiring the working liaison group to invite Te Kawerau a Maki to participate in this forum; Archaeology condition ARCH.1, requiring the archaeological site management plan to include whether Iwi supervision is required for a specific site (determined by consultation with relevant Iwi); and Streamworks condition STW.20 which requires the Streamworks Environment Management Plan to include the outcomes of consultation with Iwi.

[431] Mr Turei also raised lighting issues, concerned about the impact of motorway lighting on night sky viewing, particular Te Rangi Matariki; in respect of which NZTA has offered in writing to liaise with Te Kawerau a Maki at the detailed design stage to consider how lighting effects might be mitigated without compromising traffic safety and breaching relevant Standards, District Plan Rules and By-laws. In our 7 May Minute to the parties' experts, we required attention to this matter in an appropriate SO condition. This has been attended to by addition of a new sub-clause (e) to condition SO.6.

[432] We consider that NZTA has worked comprehensively with Iwi, to the point of meeting the requirements of Part 2 of the Act, and achieving acceptable conformity with the regional policy instruments.

7.7 Effects on Heritage

[433] An experienced archaeologist Dr RE Clough gave evidence on behalf of NZTA concerning heritage and archaeological matters. Dr Clough had been the lead author of Technical Report G.2 – Assessment of Archaeological Effects, as part of the AEE, and had approached relevant issues most thoroughly. He and members of his team had undertaken literature searches and field surveys in relevant areas, building on work that he and others had undertaken at earlier times, for instance for the former Auckland City Council's Isthmus Archaeological Upgrade Project.

[434] Dr Clough had assessed potential effects of the Project on archaeological and other heritage sites, and offered proposals for mitigation and overall conclusions.

[435] While the majority of the reported sites affected by the Project are located in the Rosebank Peninsula area (sector 3), the sites of greatest interest are to be found in sector 5 in the vicinity of the Great North Road interchange and the Oakley Creek inlet.

[436] Dr Clough concluded that the sites on Rosebank Peninsula had either been destroyed or heavily modified, and were of limited archaeological value, the result of which was that the effects of the Project on them were considered to be minor.

[437] The sites in sector 5 therefore became the prime points of discussion in his evidence.

[438] In a submission the former Auckland City Council recommended the carrying out of more detailed surveys of 3 archaeological sites on the Rosebank Peninsula. Dr Clough discussed each in turn, one being shell fragments associated with a former Maori settlement, another midden that has been destroyed by earthworks, and another an early European house where he considered that it would be unlikely that any further material would be found beyond material already located and studied. Dr Clough considered that the general draft conditions of consent relating to steps to be taken if archaeological materials are uncovered by works would be quite sufficient in this locality. The matter did not arise further in evidence in the hearing, and we agree with Dr Clough's view.

[439] The New Zealand Historic Places Trust's submission was generally supportive of the measures taken by NZTA to avoid, remedy or mitigate any adverse effects of the

[440] NZHPT requested some minor changes to draft conditions of consent, and by and large Dr Clough either agreed with those suggestions, or considered that they could be further enhanced. He provided an updated draft.

[441] The former Auckland Regional Council lodged a submission seeking amongst other things a level of protection for sites that Dr Clough considered had been destroyed or heavily modified. This matter was not taken further in evidence, Dr Clough's opinion was not tested, and we have no difficulty in finding in favour of his opinions, backed as they are by his thorough work.

[442] The ARC submitted that Auckland Council heritage experts should be involved in all aspects of the detailed Plan of Works affecting historic heritage resources in the Oakley Inlet heritage area, including its final design and implementation. Dr Clough fully supported that submission, and expressed his view that draft condition SO.1 covered the issues. We consider that he was correct in the general sense about what would be a desirable outcome, but we note that it is achieved by condition ARCH.5, not SO.1.

[443] Attached to Dr Clough's evidence in chief was an updated set of draft conditions that he recommended be imposed, to take account of matters raised in submissions.

7.8 Coastal Processes

[444] The broad findings of the AEE Report G.4 Assessment of Coastal Processes, which focused on the three CMA environments of the Whau River, central Waitemata Harbour north of the SH 16 causeway, and Waterview Estuary (including the Oakley Inlet), were challenged only in matters of detail. Principal amongst the findings were that, subject to mitigation measures incorporated in the notified proposal, the short and long term effects of structures (temporary and permanent), reclamations (temporary and permanent), disturbances of the seabed and foreshore, including sedimentation and discharges, on coastal processes, would be either minor or less than minor. Notwithstanding, various specific matters were raised in submissions and subsequently discussed in evidence and representations, and addressed in caucusing by relevant experts. We now address those matters.

7.8.1 “Rosebank culverts” under SH16

[445] A number of parties questioned whether two 600 mm culverts installed in the early 1950s under the SH 16 causeway on the eastern edge of the Rosebank Peninsula, to provide some form of ongoing connection to the Central Waitemata Harbour,³⁸ should be closed as NZTA contended. It was not contested that:

The development of SH 16 has significantly modified the Waterview estuary and Oakley Creek systems. They have been subject to an increased accumulation of fine-grain sediments throughout the estuary that are primarily derived from the Oakley catchment. In addition to the reduced tidal flushing of the estuarine system, decades of industrial activity and a long history of poor environmental practices have resulted in a degradation of water quality within the estuary³⁹.

The Estuary comprises a fairly significant part of the Motu Manawa Marine Reserve (“MMMMR”). We were told that one of the culverts is now completely blocked and the other is calculated to provide between 0.05% - 0.07% of the total tidal volume that enters and leaves the Waterview estuary on a spring tide, reducing to zero for high tides less than 3.0 m above Chart Datum.⁴⁰ The area serviced by the culvert is exceedingly small relative to the whole Estuary.⁴¹ Dr Bell, a coastal processes engineer and scientist with over thirty years experience called by NZTA, deposed that without intervention the remaining culvert would eventually block.

[446] In caucusing it was agreed between the participating experts that the western inlet of the estuary needs more water circulation; that the current poorly designed culvert system was not effectively providing water circulation; and that the (remaining) culvert should be decommissioned as NZTA proposes.

[447] Approximately 50 submitters expressed concerns about degraded water quality in the Estuary, including about the lack of flushing of sediments. The Royal Forest and Bird Protection Society of NZ (RFBPS”), and the Forest and Bird Motu Manawa Marine Reserve Restoration Group were principal participants concerning this issue during the hearing. While accepting that the culverts should be decommissioned, their representatives proposed through caucusing that “... a new properly designed replacement culvert be created and a channel, similar to the 1950’s channel, be

³⁸ Dr R Bell, EIC [44]

³⁹ AEE, G.4: Assessment of Coastal Processes, Section 3.3.1.

⁴⁰ Dr R Bell, EIC [46]

⁴¹ Ibid, Figure 1 p 13

excavated”⁴². We apprehend from answers given under re-examination by Dr Bellingham of RFBPS (who is qualified in planning and with some experience in ecology), that the purpose of such a channel would be to enhance flushing across the “embayment” and to transport accumulated/accumulating “material” into the Harbour for dispersal⁴³. Without such action Mr MPA Coote, a non expert witness called by the Restoration Group⁴⁴, was concerned that insufficient tidal flow would be retained to “maintain the mangroves impounded by the causeway and their resident wildlife in a healthy state within the Rosebank Peninsula area of the [MMMR]”. He deposed that “cessation of [a] residual flow by blocking or destroying the culvert as part of the [Project] is likely to produce irreversible environmental change to the mangrove environment there [in contravention of the Marine Reserves Act 1971]”.⁴⁵ Dr Bellingham was also concerned that if Oakley Creek were not redirected to discharge directly to the Harbour, all possible methods needed to be available to maintain flushing of contaminants within the Estuary⁴⁶. Ironically, and despite the evidence led, the principal representative for the Restoration Group did not seek specific relief in respect of the culvert(s). The most closely related outcome sought by Mr McNatty was, possibly, that there be:

An appropriately funded and managed program that will ensure the reduction of contaminant levels within sediments of the Motu Manawa – Pollen island Marine Reserve.⁴⁷

[448] Dr Bell opposed the measures proposed by the Forest and Bird witnesses because, in his opinion, to achieve any increase in tidal flushing from the culvert it would be necessary to undertake major excavation of the in-filled tidal channel in the western inlet. He observed that the sediments in the western inlet of the estuary are contaminated, as described in the evidence of Dr De Luca for NZTA and technical report G.11, and opined that disturbing them would risk their mobilisation and ongoing transfer to the less-contaminated Pollen Island environment north of the causeway. Drs Bell and De Luca also foresaw a related potential for habitat loss. On the question of tidal irrigation, it was Dr Bell’s evidence “that current movements in the western side inlet through to the western side of Traherne Island, show that brackish water from the causeway bridges’

⁴² Caucusing Joint Report – Coastal Processes, [11] 28 January 2011.

⁴³ TOP p 956 - 957

⁴⁴ TOP p949 - 950

⁴⁵ Coote EIC p 3 [e]

⁴⁶ Dr Bellingham EIC [24]

⁴⁷ Mr WL McNatty, Representation 7 March 2001, [37.2].

inflow, and inundate the inlet. Also, on the falling tide, the currents reverse to flow towards the causeway bridges channel after the culvert outflow diminishes”.⁴⁸

[449] We are not persuaded that the relief sought by the submitters’ witnesses in caucusing is appropriate in all the circumstances. We find it possible that intervening in the manner they proposed would potentially aggravate adverse effects on the coastal and marine ecology environments by mobilising and redistributing contaminants adhered to sediments over a wider area. Having said that, it was common ground that the natural environment of the Estuary has been impacted adversely by a number of activities, including the existing SH 16 causeway and restricted flushing. We are not persuaded that the single survey proposed by Dr Bell and required by proposed condition C.15 will remedy or mitigate the adverse effects of concern, but shall not direct that the condition be deleted. Its findings may assist future management of the estuary in some small way. Rather, we consider that Mr McNatty’s “suggestion” was more apposite to the extent that it contemplates an integrated suite of investigations as the basis for a remediation programme sometime in the future. However, that is not something we find it appropriate to charge NZTA with in the context of the present application.

[450] There is a legal point as well. Section 5(2)(c) refers to “*avoiding, remedying, or mitigating any adverse effects of activities on the environment*”. It was no doubt those words that were being focussed on by the Forest and Bird parties, and Star Mills. It is important to understand what is meant by that term in the section. It has been defined by the Environment Court in *JF Investments Ltd v Queenstown-Lakes District Council*⁴⁹ as meaning that “*adverse effects of an activity may be allowed to occur as part of sustainable management if redress or reparation for those effects is later given*”. So, rather than meaning that (to coin a phrase) “the sins of the father [predecessor of NZTA] should be remedied by the son”, adverse effects that are permitted to occur in the carrying out of this project if consented, are to be remedied. Examples elsewhere in the present Project include rehabilitation of soil and vegetated areas when construction yards are removed, remedying of ground settlement effects on buildings following a post-construction survey, and rehabilitation planting along Oakley Creek to remedy loss of stream length on account of its realignment in places. Remedying of historical siltation and contamination issues contributed to by the existing north-western motorway is not an example of what is meant by the term “remedying” in s5(2)(c).

⁴⁸ Dr R Bell, EIC [49]

⁴⁹ Decision No. C48/2006 at para [21]

7.8.2 *Chenier Ridges and Remediation*

[451] The Springleigh Residents Association submitted that the chenier plain (shell deposits) in the MMR is a rare geological and ecological feature, and sought that negative effects on it be avoided rather than mitigated⁵⁰. Ms K Walls described the same as “*important seascape, geological features and roosting/feeding areas for wildlife*”. She sought that the features be left entirely intact and unthreatened in any way by the impacts of sedimentation or erosion⁵¹. The Geosciences Society of New Zealand (Geo-heritage Subcommittee) sought that both temporary and permanent intrusions into, and reclamation within the MMR, be reduced to the absolute minimum, particularly in the vicinity of the Pollen and Traherne Islands and the active shell banks. The Society considered that, if necessary, the proposed works should be moved southwards to occupy more of the end of the Rosebank Peninsula⁵². S Kerr and N Patel sought that the chenier plain – shell barrier beach be protected as much as possible⁵³.

[452] The application documentation acknowledges that small areas of chenier deposits are located in the area of permanent reclamation at the north eastern end of the causeway. NZTA proposes to minimise the loss of the affected features from permanent reclamation by excavating, temporarily stockpiling and after completion of the revetment works, replacing the material on the beach in front of the new reclamation at the same geographical locations. NZTA expects that, during high spring tides, waves will eventually sort the shell banks towards an equilibrium beach profile and rebuild the chenier ridge⁵⁴. This approach is allowed for by proposed Condition C.12, with the placement of shell bank material to be to the satisfaction of council. Dr Bell stated, on the basis of field observations, that he expected the re-sorting process might occur within weeks to months of the re-positioning of the shell material and with no more than minor effects⁵⁵. The (then) Auckland Regional Council expressly supported the proposed approach⁵⁶.

[453] We accept Dr Bell’s evidence on the likely efficacy of the approach and significance of any related adverse effects. We also accept his evidence that while the

⁵⁰ Springleigh Residents Association, submission [27]

⁵¹ K Walls, submission p 7

⁵² New Zealand (Geo-heritage Subcommittee) submission p 7

⁵³ Messrs S Kerr and N Patel submission, [7]

⁵⁴ AEE Part D (Volume 1) [17.6.5]

⁵⁵ Dr Bell EIC [99]

⁵⁶ ARC submission, p 18(n).

shell banks in question are not common around Auckland, they are not as scientifically significant as the purportedly (only) 12 chenier plains in the world referred to in the relevant s42A report⁵⁷ or of “global importance”, as the Residents’ Association evidence would have it⁵⁸. We also note and approve the conclusion in the Coastal Processes Caucus Agreement “..... *that the chenier ridges are important features and habitat*”. We are all satisfied with Condition C.12⁵⁹.

7.8.3 Fast Currents under Causeway Bridges, and Kayakers’ Headspace

[454] It is proposed to lower the soffit level of the existing Sector 4 causeway bridges “about 220 mm, assuming a bridge camber slope of 2.5%”⁶⁰; widen the bridges, which will require additional piles in the CMA; and construct a new pedestrian/cycle bridge over the causeway outlet involving four additional piles in the CMA⁶¹. It was NZTA’s case that the additional structures would not have any significant effect on recreational boating, as tidal flows would be parallel with the pier groups, and the existing, low soffit levels already limit the passage of powered vessels⁶².

[455] In evidence Mr R A Black, a Waterview resident, social worker and member of the Waterview School Board motorway subcommittee, opined that the outlet structures should be lengthened and raised to “remediate the decreased flows into the marine reserve” and to slow the current (presumably on an ebb tide) so swimmers, kayakers and dinghies can safely access the Waitemata Harbour. He deposed that safe passage was not presently possible but was required under Policy 10.4.12(b) of the Auckland Regional Plan: Coastal⁶³. He did not provide evidence on the potential effects of his unspecified proposal on other aspects of the coastal environment.

[456] Mr WD McKay, chairperson of the North Western Community Association, and senior lecturer in the School of Architecture and Planning at Auckland University,

⁵⁷ Ryder Consulting, Review of the Assessment of Marine Ecological Effects and Submissions with Relevance to Marine Ecology, [7.4]

⁵⁸ The Auckland Regional Policy Statement: Significant Natural Heritage Areas and Values records shell banks as significant features on Pollen and Traherne islands [105] but has a separate listing for the Miranda Chenier Plain [245]. The Auckland Regional Plan: Coastal CPA 53 similarly refers to shell banks in the MMR.

⁵⁹ Expert Caucusing Joint Report – Coastal Processes (28 January 2011) [6]

⁶⁰ Dr Bell EIC [97.7]

⁶¹ AEE Part D (Volume 1) [17.6.2]

⁶² Ibid [17.6.2.2]

⁶³ ARP: Coastal Policy 10.4.12(b): In assessing proposals for subdivision, use and development in the CMA, particular regard shall be had to ensuring(b) The safe passage of vessels throughout the CMA.

expressed similar concerns. While accepting that the reduced clearance would appear nevertheless to allow passage, Mr McKay was concerned that the proposal would create safety issues especially given the rip nature of water exiting the estuary after high tide. He was also concerned that a bicycle/pedestrian bridge over the Creek in the Star Mills area should be re-designed to allow kayak passage and that the existing culvert beneath Great North Road be maintained⁶⁴. Answering questions from the Board, Mr McKay stated that the 2m clearance that presently exists at mean high watermark springs would come down by about 500mm to 1.5m⁶⁵.

[457] NZTA's expert Dr Bell responded to these concerns, describing currents under the bridge in some detail. It was his uncontroverted evidence that the measured peak current velocity, averaged over the channel cross-section, is presently 1.2 to 1.3m/s on ebbing spring tides. This peak was said to have decreased by about 30% since the early 1980's, resulting in a commensurate reduction in hazard to craft passing through the channel. Further, recent measurements were said to have established that peak ebb tide velocities occur for relatively short lengths of time within the 12.4 hour tide cycle. Dr Bell deposed that these periods, when the current runs at 0.8 to 1m/s, could be avoided by channel users. He was not tested about this. In Dr Bell's opinion, widening the causeway would not exacerbate the current position. Finally, leaving aside questions of cost, Dr Bell opined that the reduction in current velocities that would result from increasing the area of channel under a "longer-bridged" scenario would substantially alter the existing geomorphology and approach-channel depths⁶⁶. He also clarified that the minimum headroom under the bridge(s) at MWWS would be 1.24m at the lowest landward edge of the westbound bridge, gradually diminishing as sea level rises this century⁶⁷.

[458] We note that the Coastal Processes Caucus Agreement (28 January 2011) signed by five witnesses, four of whom have relevant tertiary qualifications, concluded that "*We agree that fast currents and less headspace under the causeway bridges is [sic] not a significant issue.*"

[459] Largely for the reasons given in evidence by Dr Bell and confirmed by his professional colleagues in the Caucus Agreement, we find there are no grounds for granting the somewhat unspecific relief sought by the submitters. Even if they had come

⁶⁴ McKay EIC [6.17]

⁶⁵ TOP p 995

⁶⁶ Dr Bell rebuttal [14 – 18]

⁶⁷ AEE G: 4 Assessment of Coastal Processes p84

before us with a specific proposal for amending NZTA's causeway and bridge proposals, we would have needed evidence on the likely environmental effects of same.

[460] Although maintenance of the existing Great North Road culvert did not assume great significance during the hearing, we infer from the Freshwater Ecology background report that it is to remain as existing⁶⁸. This understanding appears to be confirmed by the evidence in chief of Dr TSR Fisher,⁶⁹ which includes a "Great North Road culvert" on an attached drawing of the Project's stormwater and streamworks operational phase. The height of the pedestrian bridge proposed to link the north and south banks of the Star Mills archaeological precinct, also assumed a low profile. However we note that proposed condition ARCH.6 allows for such a bridge and refers in sub-clause (a) to its design. In our 7 May Minute to the parties' experts we directed that the words "and the passage of kayaks" be added to the end of the subparagraph, and that has been done.

7.8.4 Sea-level rise and causeway height

[461] Dr Bell stated that the target crest elevation for the causeway rock revetments (not the centre of the causeway) is 3.0m above Auckland Vertical Datum – 1946, after allowing for post-construction settlement. The final height profile of the causeway cross-section will be determined during detailed design. The design level allows for 0.8m sea-level rise by 2100 with flexibility to further raise the causeway height by up to 0.57m if sea-level rise exceeds 0.8m above present levels.

[462] Dr Bell described in appropriate detail how the design height was based on numerous parameters, including storm-tide water level from a combination of events for a given annual exceedance probability; wave run-up and overtopping processes; accommodating sea-level rise up to 2100; wave climate and storm surge changes due to climate change; judgement around wave-overtopping volume tolerance for vehicle safety; and flexibility for further adaptation to climate change post 2100 if sea-level were to rise faster than projected. We note in particular Dr Bell's evidence on how "future-proofing" of the causeway has been allowed for by providing sufficient ground treatment strength and a 3m wide crest along the top of the revetment that will allow the causeway height to be raised in the future. His evidence was uncontroverted that, providing flexibility in this way deals pragmatically with the uncertainty surrounding projections and timeframes for

⁶⁸ AEE Report G: 6 Assessment of Freshwater Ecology Effects [Section 6.6.1.2]

⁶⁹ Dr TSR Fisher, EIC Annexure A Sheet 20.1.11-3-D-D-300-109

the upper range of sea-level rise and is in line with international, adaptive, climate change design practice for infrastructure⁷⁰.

[463] In its s42A Addendum Report, EMS suggested that the NZTA might provide an additional coastal condition or monitoring obligation to address sea-level rise⁷¹. Dr Bell expressed the expectation, reasonable in our view, that NZTA will most likely be conducting ongoing coastal hazard risk assessments for its State Highway network without the need for a specific Project monitoring condition. The coastal process experts concurred with this view in their Caucusing Joint Report⁷².

[464] For the reasons given in evidence by Dr Bell summarised above, we find that suitable provision has been made for sea-level rise in designing the causeway height and that a project-specific monitoring condition is unnecessary.

7.8.5 Level of information on coastal processes and suspended sediment modelling alleged not adequate

[465] Concerns were expressed by Ms Grueger in evidence in chief for the Springleigh Residents Association about coastal processes, sedimentation impacts on Oakley Creek, the estuary of Oakley Creek and beyond, including the MMR. Ms Grueger raised perceived shortcomings with various aspects of the Project documentation in these areas. No good purpose would be served by reviewing in detail the relevant aspects of that material or the evidence of Dr Bell and others on related topics. The simple facts are:

- Although Ms Grueger holds tertiary qualifications,⁷³ they are not as focused on coastal processes as those of Dr Bell, nor are they as advanced or supported by similar practical experience.
- Dr Bell's evidence in the areas challenged by the Residents Association was not detracted from by cross examination. In particular we note that this submitter did not question him.

⁷⁰ Dr Bell EIC [28] – [36] and Rebuttal [61]

⁷¹ EMS s42A Addendum Report, [3.5.1]

⁷² Expert caucusing Joint Report – Coastal Processes (28 January 2011) [8]

⁷³ A BSc in physical geography incorporating Middle Eastern Studies and a MSc in geography. Both degrees incorporate town planning and resource management.

[466] For these reasons the Board prefers the evidence of Dr Bell in these areas, and notes that the coastal process experts who caucused, arrived at a very similar conclusion, namely that *“We agree that the level of information on coastal processes provided by Dr Bell is sufficient, but that historic background data is inadequate”*⁷⁴.

7.8.6 Navigation for vessels under slightly lower Whau Bridge

[467] While this topic generically fits within the broader topic of coastal processes, we have written about it in a section dealing with particular effects in Sector 2.

7.9 Marine Ecology

[468] The Project is intended to be constructed partly in the coastal marine area (“CMA”), and would have effects ranging from minor to at least moderate in ecological and other terms. These issues arise principally in relation to the SH16 corridor, and the effects have required study in sectors 1-5, particularly in sectors 3 and 4.

[469] NZTA prepared a detailed report, G.11 – Assessment of Marine Ecological Effects, the principal author of which was Dr S B De Luca, qualified in environmental and marine science.

[470] Our Board obtained a report under s42A, from a similarly qualified expert Dr B Stewart, of Ryder Consulting Limited. That report usefully drew together matters studied and assessed by the applicant, submissions lodged, and evidence presented in the case.

[471] Interestingly, Dr Stewart observed that a high percentage of the population of New Zealand lives on or near the coast, and therefore many human activities have impacts on marine environments, which often produces heated debates because many activities and interests can be in conflict. Indeed, in this case, over a third of the submissions received mentioned concerns about likely effects on one or more aspects of the marine environment somewhere in sectors 1 to 5.

[472] Equally, as Dr Stewart observed, the marine environment along this corridor is by no means pristine, but it nevertheless falls to be considered within the context of

⁷⁴ Expert caucusing Joint Report – Coastal Processes (28 January 2011) [10]

cumulative effects of historical and current works that permanently reduce marine benthic habitat in the Waitemata Harbour and the Motu Manawa Marine Reserve.

[473] It was almost common ground that the margins of the Waterview estuary have been modified by industrial and residential land use, and the establishment of significant roading, in particular the existing north-western motorway (SH16) from about the 1950s. The marine habitat has accordingly been significantly modified with some benthic habitat loss or degradation.

[474] Nevertheless, the Motu Manawa Marine Reserve (“MMMR”) is an area of special interest, comprising the low-lying Pollen Island, Traherne Island, dense wetland scrub, rare chenier shell ridges, estuarine areas including mangroves, and waters of the upper Waitemata Harbour.

[475] We agree with Dr Stewart that the assessment in report G.11 was generally thorough and robust, and used a variety of descriptions to determine the ecological values and the likely adverse effects of construction and the later operational activities on those values for each sector.

[476] The AEE report noted that ecological values ranged from low to high, with those at the lower end of the spectrum generally falling within the Waterview estuary while moderate to high values were generally found north of SH16 and within the MMMR.

[477] The thoroughness of the AEE assessment assisted to produce a situation where by the end of the hearing, there was very little by way of issues in serious contention. At an early stage of the process a number of parties keenly submitted that we should direct mitigation that required the Applicant and perhaps other bodies in some way to expand the MMMR to compensate for land and water area sacrificed for the Project. The MMMR was created under the Marine Reserves Act 1971, and we have no powers under that legislation or any other, to make such a direction. We think the parties interested in this topic came to accept that situation when we raised it with them during the hearing.

[478] The MMMR was created in 1995, and a useful and succinct description of it was found in report G.11. It encompasses some 511 hectares of the inner reaches of the Waitemata Harbour, and surrounds Pollen and Traherne Islands, and incorporates the Waterview estuary and an extensive area of inter-tidal and sub-tidal flats north of the

SH16 causeway. The eastern boundary extends upstream of the mouth of Oakley Creek inlet, and the western boundary is found in the Waitemata Harbour. It has been described⁷⁵ as representative of a low energy inner harbour ecosystem, within a large city, with historical and current surrounding land use including industrial, residential and infrastructural activities with consequent stormwater runoff and contamination.

[479] Subject to detail that we shall come to, having considered the G.11 report, and all evidence, we agree with the s42A report about issues surrounding both temporary and permanent occupation of the land and coastal marine area involved. Temporary occupation of land and disturbance of inter-tidal habitats by noise, vibration and sediment discharges associated with construction activities will be transitory, and generally have negligible significance if adequately mitigated. Stormwater runoff during construction (and later) will continue to add to contaminants in the marine environment, albeit at a reduced rate due to the treatment measures that will be used.

[480] Permanent occupation of the CMA during and after construction is an issue of greater concern, described by the authors of the AEE as having a potential moderate adverse ecological effect, and by Dr Stewart as potentially slightly more than that.

[481] In general terms, we agree with Dr Stewart that the range of measures proposed to mitigate adverse effects which will be transitory and/or negligible, are generally satisfactorily.

[482] We also agree with him in part in relation to permanent reclamation, that the proposed mitigation measures go some way towards ameliorating adverse effects, but we must stop short of purporting to direct expansion of the MMR as he wanted.

[483] Each of the sectors, particularly 3 and 4, comprise a combination of land and inter-tidal habitat, with a preponderance of land in 3, and a significantly greater amount of marine and estuarine habitats in 4. The AEE offers a comprehensive description of the general nature of these elements of each sector, present and potential future sediment quality, vegetation, invertebrates, fish, and proposed mitigation.

⁷⁵ Sivaguru and Grace 2002

[484] Effects on fish are unlikely, as they tend to move away from areas where there is disturbance of their habitat such as from noise and vibration, and excessive suspended sediment.

[485] Some impact will occur on mangrove covered inter-tidal mudflats, often involving mangroves, and sometimes coastal marsh species, and effects on these are likely to be moderate or greater.

[486] Invertebrates in the estuarine environment will be affected to a minor degree in some places such as sector 4, but in a moderate way in others such as sector 3.

[487] We agree with the assessment by Dr Stewart that proposed mitigation measures in sector 3, such as stormwater treatment (discussed elsewhere in this decision), and silt fences, are considered acceptable given the relatively small areas involved, likely recolonisation by marine organisms of temporarily disturbed habitat, and the benefits accrued from improved runoff treatment as also discussed elsewhere. In sector 4 there would be more significant construction activities, and upon completion, road traffic would be closer to the marine environment in some places. Mitigation will be required in relation to sediments and increased suspended solids in the water column, along with contaminants residing there. Pile driving, installation and removing of coffered dams, ground engineering works, and channel realignment will feature. There will be temporary and permanent occupation of the CMA, and new piles required to support widened causeway bridges and new pedestrian/cycleway bridges. Temporary habitat loss is likely to be a minor effect. Where permanent habitat loss is proposed there would be potentially a moderate adverse effect requiring avoidance or mitigation, including providing a habitat remediation zone on the other side of the reclamation revetments, restoration of the coastal fringe habitat, and removal of litter and debris from within and adjacent to the CMA.

[488] As noted, stormwater collection and treatment is discussed elsewhere in this decision.

[489] The relatively uncommon chenier ridge shell banks are intended to be removed, temporarily stockpiled, and reinstated at the toe of the new causeway embankment following completion of the works. As already recorded, we share the view of the AEE authors and Dr Stewart that wave action should reform the shell deposits into a natural profile in a relatively short period of time.

[490] Monitoring of the marine environment is proposed to ensure that the suggested construction mitigation measures are effective in protecting marine ecological values. This will include suspended sediments, pH, and benthic invertebrate community composition. Details are proposed in the Ecological Management Plan (“ECOMP”) contained in Appendix H of the report G.21, the CEMP.

[491] Similar issues arise in sector 5, where additionally there are proposals for restoring coastal fringe habitat pursuant to the Urban Design and Landscape Plans. Vegetating the faces of the ground improvement work areas would provide an opportunity to increase ecological values at the interface of the terrestrial and coastal habitats. Restoring the coastal fringe by re-vegetation with appropriate species and weed control, will provide benefit to marine ecological values through an increase in biodiversity.

[492] Similar issues arise in sector 2, and in addition there arises the loss of approximately 3,150m² of habitat from the MMMR on a permanent basis, plus a temporary occupation loss of an additional 4,800m² of habitat.

[493] Unsurprisingly, a large number of submissions on this topic expressed a strong concern about the reduction in the MMMR, and the temporary and permanent loss of habitat. Some sought that Traherne Island be afforded similar conservation status to that of Pollen Island. Others again sought better public access to the reserve, but that attracted a level of opposition from those who administer it, and other submitters, who considered that such could compromise conservation values.

[494] Other submitters focussed on mangrove habitat, the chenier ridges, and related ecological aspects.

[495] Several submitters sought better provision for tidal drainage of the Waterview estuary, including the opening up and extension of an existing culvert under the highway. We have dealt with that issue elsewhere.

[496] Eleven experts met in caucus, being Dr De Luca, Dr Bell, Dr T Fisher, a stormwater engineer for NZTA, Mr D Slaven, botanical ecologist for NZTA, Dr Stewart, Dr Ryder, Dr M Bellingham of NZ Forest and Bird Motu Manawa Restoration, Mr M Coote of the same organisation, Dr A Julian, ecologist for Auckland Council, Mr D

Havill, a conservancy botanist at DOC, and Ms S Myers, ecologist for Living Communities and Friends of Oakley Creek.

[497] The experts agreed three matters:

- (a) The permanent loss of 2.79ha of mangrove habitat is not significant in isolation of other ecological effects;
- (b) The marine monitoring conditions proposed are sufficient;
- (c) There is limited capacity for further onsite mitigation within the adjacent CMA affected by the Project.

[498] The experts could not agree that there has been sufficient recognition of the status of the MMR under the RMA process. We have already recorded that this is a matter we cannot take further.

[499] The experts were also unable to agree that mitigation proposed to offset permanent habitat loss from the widened causeway was sufficient, whether or not ongoing contamination attributable to stormwater discharge from the Project contributes to a significant permanent degradation of habitat in the marine reserve, and whether additional mitigation (including off site) for permanent habitat loss and ongoing degradation from contaminants is required.

[500] Evidence on behalf of Royal Forest and Bird Protection Society was given by Dr Bellingham, whose doctorate is in planning, albeit that he has carried out ecological survey work on the MMR at various times over the past 20 years. He spoke about loss of part of the reserve, past and ongoing contamination of the marine reserve by stormwater from the motorway, increased contamination of the marine reserve from a combination of increased contaminated runoff into the marine reserve being trapped in the Waterview estuary by the restricted tidal circulation as a result of the motorway causeway, and contamination of the marine reserve from construction activities.

[501] The loss of part of the reserve is significant, but it is not within our power to direct an expansion of the reserve in other directions.

[502] Elsewhere in this decision we have set out key objectives and policies of the NZCPS 2010. While acknowledging that many of these place strong emphasis on the safeguarding and preservation of aspects of the coastal environment including its natural character, we note as well policies such as 6 and 10, recognising the need for provision of infrastructure important to the social, economic and cultural wellbeing of people and communities [in a careful and qualified way] and the avoidance of reclamation in the CMA unless other options are not available in a practical sense or the activity cannot occur elsewhere, or significant regional or national benefits accrue. These matters are pertinent to the proposal and cannot be lost sight of in the ultimate weighing of all issues.

[503] Matters of stormwater runoff from the motorway, tidal flushing in Waterview Estuary, and the issue of present and future contaminants are discussed elsewhere.

[504] Having considered all evidence and submissions from Forest and Bird and its Motu Manawa group, and many others, we have come to the conclusion that NZTA and its advisers have taken a thorough approach to these issues, and that the draft conditions of consent are appropriate for the purpose of avoidance, remedial action and mitigation of these matters.

7.10 Freshwater Ecology

[505] The topic of freshwater ecology was the subject of a reasonably extensive Technical Report G.6, as part of the AEE, entitled *Assessment of Freshwater Ecological Effects*. This document had a number of detailed appendices related to mitigation, monitoring, and realignment and rehabilitation guidelines. It cross-referenced fairly extensively into other technical reports supporting the AEE, including G.15, *Assessment of Stormwater and Streamwork Effects*, G.21, *Construction Environmental Management Plan* (inclusive of its appendices G: Temporary Stormwater Management Plan, H: Ecological Management Plan, I: Groundwater Management Plan, and J: Settlement Effects Management Plan), G.22, *Erosion and Sediment Control Plan*, and G.27, *Stormwater and Streamworks Design*. Accordingly, this section of the decision will be followed by one concerning **stormwater, ground water, and ground settlement**.

[506] Given the extensive and complex nature of the works, and by reference to some of the submissions that had been filed with the EPA at an early stage, the Board perceived that major issues could arise in the hearing, and accordingly commissioned a report under

S42A RMA from an experienced freshwater ecologist, Dr G I Ryder. He noted that the footprint for the Project would impact on four urban streams contained within three catchments as follows:

- Pixie Stream (Sector 1, SH16, Te Atatu Interchange)
- Meola Creek (Sector 6, SH16, Great North Road to St Lukes Interchange)
- Oakley Creek (Sectors 5, 7, 8 and 9, SH16 and SH20)
- Stoddard Road tributary of Oakley Stream (Sector 9, SH20)

[507] Dr Ryder considered the extensive materials filed on behalf of the Applicant and provided us with an assessment of important aspects, including survey and assessment techniques, stream character, project effects (construction and operational), loss of in-stream habitat, Oakley Creek hydrology, tunnel settlement effects on Oakley Creek, mitigation and environmental compensation proposed, management plans and monitoring, the NZTA proposed draft consent conditions, and submissions received from the former Auckland City Council, the former Auckland Regional Council, Friends of Oakley Creek, Ngati Whatua o Orakei Corporate Limited, S Erdrich, and E van Alkamade.

[508] After considering all of these materials, Dr Ryder offered us his opinion that any significant adverse effects on freshwater ecology resulting from construction and operational phases of the proposed Project, could be mitigated to appropriate levels such that the overall ecological effects on freshwater ecosystems would be minor or less than minor. He did note, however, that some adverse effects would be unavoidable, but the more significant of those would be of a temporary nature only, with no significant long term effects.

[509] Dr Ryder also identified that there would be some potential benefit that could be derived from the Project through the establishment of stormwater treatment facilities that would not only treat motorway runoff associated with the newly constructed road and related infrastructure, but also treat runoff from roads that currently do not receive treatment before discharging to freshwater (and marine) environments. He also identified an opportunity to enhance existing stream environments, particularly in Oakley Creek, however it was important that, if the Project received consent, conditions be appropriately

structured to ensure that the quality and quantity of proposed mitigation and environmental compensation was retained and enforced.

[510] Dr Ryder considered that the survey and assessment techniques used by the Applicant's advisers had been appropriate, and conducted to an acceptable level of inquiry. He had one mild concern, however, about lack of stream flow data presented in the freshwater ecology report. Further attention was given to this subsequently in the freshwater ecology caucus, resulting in amendment to conditions of which we approve.

[511] As had largely been identified in the AEE materials, and by the NZTA expert witness on freshwater ecology, Mr E S G Sides, the streams on inspection, and through study of background information, were exhibiting highly modified aquatic environments in which their physical character had been altered over time through various practices such as channelization, realignment, bridge culverting, piping, lining the channel with artificial materials such as concrete, removal or alteration of riparian vegetation, piping of tributaries, widespread alteration of watershed land use for urban development, and associated changes in the hydrological and water quality character of the water they receive and convey to the coast. These widespread modifications had resulted in changes to the ecology of the streams over time. Degraded water quality, combined with an altered physical environment, has meant that the stream biotas are now dominated by taxa more tolerant of pollutants, and a modified physical environment with less diversity of habitat.

[512] Notwithstanding, the environments still retained some ecological value (in addition to other likely values such as aesthetic appeal and cultural significance, which are separate topics). These contexts had been used by the Applicant's experts to assess the level of potential adverse effects from construction and operation of the Project, and the measures accordingly required to avoid, remedy or mitigate significant adverse effects.

[513] Dr Ryder generally endorsed the approach offered through proposed conditions and management plans, but noted that the latter should spell out a requirement that the plans be submitted to the council for final certification. We have added provision for that in condition F.1.

[514] Expert caucusing was directed in this field as well. Persons attending were Dr Ryder, Mr Sides, Mr Tim Fisher, a senior stormwater engineer and witness for NZTA, Ms Shona Myers for Friends of Oakley Creek and Living Communities Inc, Ms Bronwyn

Rhynd for Friends of Oakley Creek and Living Communities. Other experts in attendance in order to help with related issues were Mr D C Slaven, a botanical witness for NZTA, and Ms A Williams, a groundwater expert witness for NZTA.

[515] These witnesses worked constructively, and produced the outcome that none of the proposed freshwater conditions were unresolved at the end of their meeting.

[516] They resolved that condition G.12 about continuous monitoring being reviewed on a monthly basis to determine if there was any effect of tunnelling on base flows in Oakley Creek, should be reviewed by a hydrologist and freshwater ecologist, and provided to the Auckland Council. We assume that that means peer review, and approve.

[517] The participants also recommended amending condition F.5 to add groundwater condition G.12 into the monitoring arrangements. Once again we approve, although we raise a question mark about the introductory requirement to condition F.5 about the NZTA reviewing the freshwater monitoring results. We consider that the professionals mentioned above in connection with G.12 should be those that conduct such a review. This has been attended to by the experts pursuant to our 7 May directions.

[518] Ms Myers had expressed a concern about draft condition STW.1, seeking to amend it to refer to the need to follow the Oakley Creek realignment and rehabilitation guidelines (being dealt with by caucusing of stormwater witnesses). It was agreed that STW.15 addresses the matter of supervision by a qualified freshwater ecologist.

[519] Ms Myers had also raised an issue concerning proposed condition STW.20(c) concerning detailed design and plans of all enhancements to the stream bed and/or stream channel, including any structures for engineering works. The participants agreed that this should expressly include replication of the existing “waterfall” located in the Stoddard Road tributary near the confluence with Oakley Creek in a similar position within the new alignment.

[520] Ms Myers had also raised a concern in relation to proposed condition F.3, wanting baseline surveys undertaken on a specified more regular basis during construction, and this was agreed.

[521] As to concerns raised by Ms Myers and Ms Rhynd, and in the S42A report of Dr Ryder, concerning clarification of the extent and location of the Stream Ecological Valuation offset mitigation associated with the Project, the participants agreed that there should be a new condition STW.20A, to read as follows:

The realignment necessary for highway construction will be rehabilitated separately to the Project's SEV-offset mitigation requirement of 343 metres. The Project's SEV-offset mitigation requirements will be undertaken within the areas demarcated as "Oakley Creek Rehabilitation A-D" as shown on drawing 20.1.11-3-D-D330-211 Rev A.

...Advice Note: the SEV-offset mitigation associated with the Maioro Interchange project is intended to be undertaken upstream and downstream of those areas shown for realignment and rehabilitation on drawing 20.1.11-3-D-D330-211 Rev A, for the purposes of creating a coherent ecological corridor in this area.

[522] This condition and its advice note have been placed in NZTA's subsequent version of draft conditions of consent as STW.21.

7.11 Vegetation

[523] NZTA called the evidence of Mr DC Slaven, an experienced botanist with professional involvement in differing types of ecosystems and habitats including wetlands and intertidal, forest, and scrub. He presented a comprehensive analysis of the terrestrial vegetation issues through various sectors, drawing strongly on a report prepared for the AEE, G.17 – Assessment of Terrestrial Vegetation Effects.

[524] Mr Slaven told us that there are 4 species of flora that are considered to be at risk within the Project footprint, a geranium in Oakley Creek that may turn out to be a non-native species but will need to be translocated or replacement plants propagated; the coastal herb *Mimulus repens*, which should be translocated (trials already under way); a fern *Doodia squarrosa*; and an aquatic moss *Fissidens berteroi* (considered to be sufficiently distant from construction activities not to be affected); and a non-threatened species of coastal Tree Daisy *Olearia solandri*, of which only a few specimens should be affected.

[525] Mr Slaven told us that there would be 17.94ha of vegetation lost along the SH16 causeway, reducing later to 13.6ha in the operational phase. The great majority of

vegetation to be lost is existing highway verge planting (61 percent). The remainder comprises fresh water, saline and maritime flora.

[526] Apart from the at-risk species, he said there are no affected species or vegetation types that are considered to be of particular botanical importance, however the presence of eco-tone sequences at Traherne Island is considered to be significant. The Project would result in the loss of 1.85ha of these eco-tones (approximately 14.5 percent of the total extent of eco-tones on this island), and mitigation is proposed by creating replacement eco-tones within the Project area.

[527] The Project as notified proposed substantial mitigation planting, including revegetation using native species along the new causeway margins, the creation of a new rock forest at the mouth of Oakley Creek, the creation of new (replacement) eco-tones adjacent to Eric Armishaw Park, and extensive riparian restoration (involving bank reshaping and planting) alongside Oakley Creek in Hendon Park.

[528] Some quite extensive botanical evidence was offered on behalf of some parties. Auckland Council called the evidence of Dr A E Julian; Friends of Oakley Creek and Living Communities Inc called the evidence of Ms S Myers; DOC called the evidence of Mr D Havell; and Mr M Coote, a non expert witness, was called by Royal Forest and Bird Protection Society and its Motu Manawa Restoration Group.

[529] In addition, other parties offered evidence about vegetation and trees, notably Mr P McCurdy on behalf of the Star Mills Preservation Group. Other submitters raised issues more on a sector by sector basis, for instance criticising proposals to re-vegetate using only native species.

[530] The botanical evidence was so extensive, and scattered throughout the hearing materials, that rather than describing it extensively, it will be more efficient for us to outline the matters agreed and matters unresolved by the vegetation witnesses who caucused. These were Mr Slaven, Dr Julian, Ms Myers, Mr Havell and Mr Coote. They were assisted by the presence of Mr E Sides, freshwater ecology expert for NZTA, and Mr M Lewis, the principal author of the Oakley Creek Realignment and Rehabilitation Guidelines.

[531] The first matter agreed was an amendment to draft condition V.8. This required project constructors to undertake weed control and management of all invasive plant pests within so much of the Project as is not in the tunnel, as well as all vegetation management areas associated with the Project, for a period of 2 years following construction; after which ongoing control and management of all invasive plant pests would be the responsibility of NZTA. We approve of those provisions.

[532] In presenting her Reply at the end of the hearing, Ms Janissen drew our attention to a further rewording of the draft condition, and submitted that this was required in part for legal reasons. We accept that the obligation cannot extend beyond areas of its operational designation. We do not however accept a second submission that the perpetual aspect of the required weeding should be left to NZTA as part of its overall management, apparently pursuant to something called its Regional Pest Management Strategy. That is a document that could change at any time. In any event we wonder at the effectiveness of any such strategy, because as we pointed out during the hearing, there appear to be extensive planted areas alongside motorways around Auckland in which vegetation is being swamped by climbing weed species such as moth plant vine and convolvulus. The condition as agreed by the witnesses must stand.

[533] Dr Julian and Ms Myers having expressed concern in evidence about lack of proper provision for restoration of “rock forest”, a new condition V.14 was agreed which involved the preparation of planting plans to be submitted to the Council for approval, followed by implementation, to take particular account of cultural heritage values including but not limited to those in the Oakley Inlet Heritage Area. We approve this proposal.

[534] Another new condition, V.15, was agreed concerning planting along and within the rock revetment of the widened SH16 causeway. We approve of the condition, which makes reference to the CEMP and the Ecological Management Plan (“ECOMP”).

[535] Another new condition, V16, was agreed concerning re-vegetation at Eric Armishaw Park and surrounds, either for eco-tone replacement or other mitigation purposes, again by reference to those management plans. Subject importantly to findings we shall shortly make deleting the eco-tone replacement aspect, we approve that approach.

[536] The witnesses agreed an amendment to proposed condition V.10, resulting from concerns expressed by Dr Julian and Ms Myers, requiring that any planting utilising native plants should be genetically sourced from (preferably) the Tamaki Ecological District, or from within the Auckland Ecological Region.

[537] To address concerns raised by Dr Julian and Mr Havell, the witnesses agreed to amendments to condition V.11 about the uplifting and relocating of *Mimulus repens*, inclusive of trials and monitoring. The proposals seem robust in relation to this endangered species, and we approve them.

[538] Witnesses also addressed concerns raised by Dr Julian and Ms Myers about riparian planting programmes pursuant to a Streamworks Environmental Management Plan to achieve overall average 70 percent shading of stream at maturity within those reaches where realignments or offsetting mitigation associated with the Project are proposed. These include a Maioro Interchange project within Hendon Park, and Alan Wood Reserve. We approve this matter as well.

[539] The request by Ms Myers on behalf of FOOC to have specific reference to TP 148 in proposed stream-works condition STW.20(d), was the subject of some concessions by her under questioning by Mr Law, including that in some areas there would not be 20m of width beside the stream because of the presence of private properties, because such planting could be in conflict with CPTED principles, and some amenity and recreational concerns. She also accepted that the Project's 1:5 ratio of increase of vegetation along the creek was a significant positive effect for riparian vegetation. We accept that the draft condition is correct to refer to the requirement for 70 percent shading as an “overall average” applied to those areas where realignments or SEV off-setting mitigation are proposed. We accept that the proposed condition is consistent with the TP. 148 guideline, positive for riparian vegetation, and should have our approval.

[540] Vegetation and weed control on Traherne Island proved somewhat thorny related issues for the witnesses, and continued to be the subject of debate right up until the end of the hearing. Dr Julian, Ms Myers and to a degree Mr Havell, agreed that there should be a condition of consent that achieves comprehensive weed and animal pest management in perpetuity on Traherne Island. They were concerned that current processes for management of Traherne Island have insufficient statutory weight, and that plant pest control required under the Regional Pest Management Strategy and the Auckland

Motorway Alliance Pest Management Plan are insufficient to achieve maintenance of the ecological values on Traherne Island. They considered that such management should take as its basis Traherne Island Natural Heritage Restoration Plan 2009-2014 (NZTA and DOC).

[541] On the other hand, Mr Slaven considered that management of Traherne Island was sufficiently well addressed by other processes such as the Natural Heritage Restoration Plan, that sufficient mitigation for Project-related adverse effects is provided elsewhere, and that adequate processes exist for amendments to be made to the Plan under its existing protocols should new target species be identified.

[542] We consider that the extent of adverse effects from the widening of the causeway on Traherne Island necessitates significant mitigation. The issue is in part related to the potential loss of eco-tones (distinct bands of vegetation types which, on Traherne Island, progress through flax and cabbage tree wetlands, to salt scrub, salt marsh, and mangroves). Noting that witnesses other than NZTA's Mr Slaven, preferred to support the remaining eco-tones at Traherne Island, NZTA ultimately moved to accept their position and proposed to delete proposed condition V.16 (which provided for the Eric Armishaw eco-tone relocation), and instead amend proposed condition V.17 which provides for the continuation of weed and pest management under the Restoration Plan until 2014, with a further proposed amendment that that control will continue on Traherne Island until 2020.

[543] We note that Dr Julian in her evidence in chief expressed a concern that the Restoration Plan, despite being developed in partnership with DOC, has no statutory weight except insofar as it fulfils NZTA's legal requirements under the Auckland Regional Pest Management Strategy to control weeds on land it manages. She recommended a separate weed and pest management plan, to be approved by Auckland Council, to address appropriate mitigation on an ongoing basis. In her Reply, Ms Janissen expressed the hope that weed management issues would be significantly under control on the Island by 2020, but we do not understand there to be any proper evidential basis for such. Ms Julian was not cross examined on this issue. Indeed, the only party to question her was Ms Docherty of FOOC, in answer to which Dr Julian confirmed her pest control concerns.

[544] We have two concerns about the Restoration Plan. First that it runs only until 2014 (although NZTA offered to extend its purview until 2020, which in our view is hardly very long); and secondly its non statutory basis. We consider that the effect of the works on ecologically-significant Traherne Island, in particular the reduction in the eco-tones, and the propensity for invasive plant pests to enter newly exposed areas of soil, requires strong mitigation. On 7 May we directed the parties' experts to draft a condition of consent requiring the preparation of a weed and pest management strategy for Traherne Island, to be approved by the appropriate delegatee of Auckland Council (DOC having also been consulted), to take effect indefinitely. Should Ms Janissen's hope be proved correct (although we do not share her confidence), then the approved plan can make appropriate provision for changes in monitoring and implementation accordingly. The experts responded with a new pair of conditions, V.17 and .18. These appropriately directed the preparation of such a plan in the terms we had required, but we have since added words requiring its review every 5 years, and that it is to have effect indefinitely.

7.11.1 Remaining unresolved issues concerning Oakley Creek and Oakley Inlet.

[545] Ms Myers recommended that re-vegetation be undertaken between Waterview and New North Road, in sector 8 (and we infer also in sector 5). In Sector 8 the Project is largely underground in tunnels. While acknowledging this, Ms Myers suggested that potential effects on stream hydrology and groundwater in this area (due to the presence of the tunnels) could result in adverse ecological effects, some of which could be mitigated by vegetation in the area. NZTA's expert Mr Slaven did not agree, citing findings in the relevant AEE Report G.6 – "Freshwater Ecology" such that any effects would be less than minor. He also considered that the restoration of the construction yards in these sectors would provide some degree of re-vegetation, pointing to draft LV conditions. He considered that there would be sufficient extent of re-vegetation around the Oakley Creek in this area.

[546] On this issue we consider the analysis in Reply by Ms Janissen to be correct. She submitted that planting and weed management measures in Sector 8 were not needed to mitigate the effects of the Project. She pointed to report G.6, noting the proposal for riparian planting to be implemented in accordance with the Oakley Creek Realignment and Rehabilitation Guidelines, Appendix C to the report. South of New North Road, the Council's "Environmental Weed Control And Native Re-vegetation Programme For Oakley Creek (Te Auaunga)", would apply, which submissions by Friends of Oakley

Creek accepted as being “the management plan for Oakley Creek”. This appeared to us to be quite an impressive document.

[547] Another issue amongst the witnesses was resolved by it being agreed that Friends of Oakley Creek would be included as a member of the Community Liaison Group (see proposed public information condition PI.5).

[548] Elsewhere in this decision we have addressed issues around retention of mature oaks and Monterey pines, removal of a Robinia species, and care to be taken with re-vegetation of the Oakley Inlet Heritage area.

[549] An issue arose concerning amenity trees, the origin of which was found within Appendix E.7 in the AEE. The assessment there undertaken was to highlight in a preliminary way trees that might need specific protection or management during the construction works.

[550] Ms L Haines, representing The Tree Council, asserted that her group was confused about identification and assessments of amenity trees in the application documents, and considered that the list of those identified was very incomplete compared to what her members knew to be present in the Project area.

[551] Venturing further into the Project documentation, Ms Haines recorded that she was pleased to see included in redrafted conditions of consent, a condition CEMP.6(o), requiring a Standard Tree Evaluation Method (“STEM”) assessment of the amenity trees in Schedule E.7 of the AEE to confirm the final amenity trees as identified by the Project arborist. She remained confused, however, about what was proposed.

[552] In Reply, Ms Janissen provided a helpful analysis of how the Project documentation (conditions and management plans) would work in this area. We recognise that the methodology is relatively complex in comparison to run-of-the-mill resource management applications, but it is becoming a recognised method of control of large projects such as this one.

[553] Amenity trees within construction yards are mapped in the Construction Yard Plans (F.06 of the AEE). In other areas, once the complete list of amenity trees is confirmed in the manner provided, they will be illustrated as a map layer in the

Environmental Constraints mapping of the CEMP. Work undertaken to date is preliminary, and is to be updated and finalised as provided.

[554] The numbers of trees as yet identified which caused the confusion, was explained by Ms Janissen by reference to the parameters for counting and assessment. We are satisfied with the explanation, and do not need to record the detail of it. Of importance, is that the following process is proposed by the CEMP in the revised conditions:

- Confirm construction methodology and footprint with the chosen contractor
- Appoint a Project arborist
- Undertake STEM assessment for trees and footprint areas, to confirm the list of amenity trees.
- Undertake consultation with the Community Liaison Group on the STEM assessment.
- Confirm trees that can be protected through construction management, and assess the potential to relocate trees that need to be removed.
- Site meetings with the Project arborist and Auckland Council prior to construction works commencing; at “risk” amenity trees to be provided with appropriate protection measures; monitoring of those during construction, and remedial measures as necessary.
- Undertake necessary replacement of Amenity trees in accordance with the provisions of proposed condition LV.10. We have already noted that we require special conditions to be framed in relation to the Oakley Inlet Heritage area.

[555] Ms Haines also offered us some thought-provoking ideas about vegetation types. Perhaps in line with some tentative thinking of our own, she submitted that there could in places be a wider range of species, particularly specimen trees, than proposed, and that exotics should not be overlooked, particularly in areas where the likes of oaks, poplars and eucalypts presently set a scene. She advocated that in places there could be hybrid landscapes of native and exotic species. Shade and shelter should also be considered in

parks. We agree with these sentiments, and seriously wonder about an unduly slavish pursuit of native vegetation, particularly in city and suburban areas. We infer that monotonous flax forests along motorway fringes might be one example of concern to her.

[556] We recall that the late Professor John Morton, a noted Auckland ecologist, wrote about this. In his book *“A Natural History of Auckland”*, he offered the following thoughts : *“There are those who would replant nothing not pristine, even genetically pure. Yet urban Judges Bay is today an artefact haven : pohutukawa and oaks grow together...Diversely beautiful too are the groves and avenues of Cornwall Park, the pasture of Ambury’s Farm, plantings as small as Eden Gardens or as large as the Regional Botanical Garden..”*

[557] We direct that attention be given to the relevant Open Space and Vegetation conditions, with particular reference to areas currently exhibiting these blends of exotic and native vegetation, the area around Oakley Creek Inlet being a prime example, where some parties and witnesses have gone as far as to identify heritage value in same.

[558] We note that some aspects of vegetation (principally to do with mature trees) are discussed in the Avian Ecology section of this decision.

7.12 Herpetofauna (Lizards)

[559] Evidence was given on behalf of NZTA by an ecologist with expertise in the study of reptiles and amphibians, Mr S P Chapman. He had had involvement with preparation of Technical Report G.8 – Assessment of Herpetofauna Ecological Effects. He and his team had comprehensively investigated existing herpetofauna communities in the Project area with a view to recommending best practice methodologies for mitigation. They had located some populations of ecologically significant copper skink within the project footprint. He recommended relocation to mitigate ecological effects and to comply with the Wildlife Act 1953. He prepared a draft Lizard Management Plan, and offered his opinion that ecological effects of the Project on herpetofauna would be mitigated if the Plan were finalised and implemented in accordance with the proposed Herpetofauna conditions.

[560] Auckland Council called the evidence of Mr P J Anderson, a person with similar qualifications and experience. He recommended some changes to 3 parts of the Lizard Management Plan.

[561] These witnesses caucused, and agreed to amend the condition H.1(d), to require finalisation and implementation through the CEMP and the ECOMP to include details of lizard management to be undertaken, including habitat enhancement at population release sites, and a detailed pest controls programme for a minimum of 1 month prior to release and a minimum of 3 consecutive years after release, together with monitoring and maintenance of lizard protective fencing.

[562] No further dispute remained on this topic, and we approve the amended draft condition.

7.13 Stormwater, Groundwater and Ground Settlement

7.13.1 Stormwater

[563] Technical Report G.15 entitled Assessment of Stormwater and Streamworks deals with both quality (contaminants) and quantity (flooding & erosion) aspects of stormwater, for both construction and operational phases. A proposed draft management plan for operational stormwater is included in Appendix D of G.15 entitled Operational Stormwater Management Plan. A proposed draft management plan for construction stormwater is included in Appendix E of G.15, entitled Temporary Stormwater Management Plan. As one might expect there is a significant overlap between different components of the proposed stormwater works. More specifically, some measures required to manage the sedimentation effects of construction earthworks will be retained for operational stormwater quality and quantity management purposes. We shall first describe NZTA's overarching design philosophy statement and then deal with:

- Operational stormwater design criteria;
- Extent of operational stormwater works;
- Extent of construction stormwater works;
- Operational issues pertaining to stormwater quantity and Board findings on same;
- Operational issues pertaining to stormwater quality and Board findings on same;
- Construction issues pertaining to stormwater quantity and quality and Board findings on same.

[564] The key design principles of the Stormwater Design are contained in G.27 Stormwater and Streamworks Design Philosophy Statement. It outlines design parameters, constraints and assumptions adopted by NZTA in the design, whilst allowing flexibility for innovation. Assuming approval of the Project, NZTA proposes that the design statement be updated to incorporate designation and/or consent conditions. In summary, it is proposed that the operational stormwater design :

- Incorporate the total stormwater management system (collection and conveyance networks; treatment devices; stormwater cross drainage; Oakley creek culverts and diversions);
- Includes full consideration of stormwater operational implications throughout the Project's 100 year design life;
- "Best practicably" mimic the existing hydrologic regime and setting, to deliver outcome objectives that remedy or mitigate adverse environmental effects;
- Consider measures to improve current flood issues in the catchment;
- Provide best practicable options (BOP) to avoid, remedy or mitigate adverse environmental effects, determined through a robust evaluation of options;
- Result in negligible effects on the 100 year ARI flood flows and levels in the Oakley catchment under the maximum probable development of catchments scenario (including those areas outside the proposed designation), and incorporate opportunities to reduce flood levels (in conjunction with Metrowater⁷⁶) to allow the vertical alignment of the motorway to be lowered and reduce habitable floor flooding;
- Preserve a minimum freeboard above the 100 year ARI flood level in Oakley Creek to the outer most carriageway edges;
- Protect the SH 20 motorway tunnels from flooding from Oakley Creek or overland flow from the 100 year ARI event, including designing for the very extreme 2,500 year ARI storm event, as the "design storm";

⁷⁶ Now replaced by the council controlled organisation Watercare.

- Provide a streamworks design which provides for flood protection, and freeboard; and includes the principles detailed in the Project “Oakley Creek Re-alignment and Rehabilitation Guidelines”⁷⁷ (including hydraulic, ecological and landscape requirements).

[565] The Board accepts NZTA’s operational stormwater design philosophy, having heard no evidence to the effect that the principles and related objectives are inappropriate.

7.13.1.1 Operational stormwater design criteria:

[566] Technical Report G: 27 also cites a number of other design standards/and guide documents⁷⁸. Some are site specific whilst others are of local and national relevance. Collectively they result in the following, more specific operational stormwater design criteria which are to operate beneath the (previously described) overarching design philosophy:

- The operational stormwater systems shall cater for the maximum probable development of catchments (including those outside the proposed designation), the 2 year, 10 year and 100 year average recurrence interval (ARI), modified for the Ministry of the Environment’s 2090 mid-range climate change scenario, and projected 2100 sea level rise;
- The motorway surfacing shall provide for the collection and containment of the 100 year ARI stormwater event within the drainage gutter and shoulders with no encroachment onto traffic lanes;
- For those motorway catchment areas discharging to the lower Oakley Creek, lower Meola Creek and other freshwater environments where flood attenuation is not proposed, namely where the 100year ARI overflow can be managed in overland flow paths without damage or hindrance to other property, or risk to persons, the motorway stormwater collection and conveyance systems shall provide for the 10 year ARI event, with a 0.5m freeboard at the receiving environment or within the stormwater system;

⁷⁷ Technical Report G: 9 Assessment of Freshwater Ecology, Appendix C

⁷⁸ G27 Section 4 pages 5 & 6

- For those motorway catchment areas discharging directly to the Coastal Marine Area where flood attenuation is not proposed, and where the 100 year ARI overflow can be managed in overland flow paths without damage or hindrance to other property, or risk to persons, the motorway stormwater collection and conveyance systems shall provide for the 10 year ARI event; elsewhere a 10 year ARI rainfall / 2 year ARI sea level combination with a 0.5m freeboard at the receiving environment or within the stormwater system, or a 2 year ARI rainfall / 10 year ARI sea level combination with a 0.5m freeboard at the receiving environment or within the stormwater system;
- For the remainder of the motorway catchment areas, where flood attenuation is required (ie for the catchments draining to Oakley Creek), the motorway stormwater collection and conveyance systems shall provide for the 100 year ARI rainfall event, backwater effects from the 100 year ARI flood event, a 0.5m freeboard within the stormwater system, and the effects of timing between the motorway catchment and the catchment flood peak;
- All motorway catchment secondary overflow paths shall be designed for the 100 year ARI rainfall event;
- All cross drainage and other roads' catchment design shall provide for their primary design to ACC/Metrowater requirements⁷⁹, and their secondary/overland flow paths for the 100 year ARI rainfall event;
- All culverts shall cater for the 100 year ARI rainfall event to pass (allowing a maximum 2m heading up over the culvert soffit, or a 0.5m freeboard to the road edge whichever is the lesser); the 10 year ARI rainfall event without heading up above the culvert soffit; consideration to the likelihood and consequence of culvert blockage and the need for energy dissipation and erosion protection;
- All swales and filter strips shall provide for containment of the 100 year ARI rainfall event below the carriageway;
- Stormwater flow into motorway tunnels shall be minimised;

⁷⁹ The Board assumes that this reference should (now) read Auckland Council/Watercare.

- Stormwater collection within the tunnels shall provide for the worst case combination scenario of stormwater brought in by vehicles, ground water seepage, operational cleaning and fire fighting.

7.13.1.2 Extent of Operational Stormwater Works

[567] The operational stormwater collection systems proposed by NZTA are shown in technical report G.15⁸⁰ and summarised below:

In Sector 1

This area consists of urbanised catchments draining to the Whau River and Henderson Creek. Proposed work would increase the impervious area by 47%. NZTA proposes to construct a wetland in Jack Colvin Reserve, complete with bypass; extend two existing culverts, increase the size of an existing culvert and construct two treatment swales at the Te Atatu Interchange.

In Sector 2

The catchments consist of SH16 and the Whau River bridges. It is proposed that stormwater runoff from the bridges be collected, piped and discharged to the Whau River, and that stormwater runoff from SH16 will be collected, piped and discharged to the CMA, complete with two proprietary filter cartridge vaults and two bio-filter strips.

In Sector 3

The sector comprises mainly industrial urban catchments. Stormwater runoff from SH16 will be collected, piped and discharged into the CMA, including the installation of five proprietary filter cartridge vaults. Three existing settlement tanks are to be removed, and existing stormwater pipes are to be extended or connected into the new stormwater network.

⁸⁰ G15; Appendix A: Drawings 20.1.11-3-D-D-300-000, 100-119

In Sector 4

Stormwater runoff from SH16 will be collected along the length of the paved areas, and discharged diffusely to the rock armour revetments along the causeway edges after passing through either one of seven new proprietary filter cartridge vaults, or one of four bio-filter strips. One existing settlement tank is to be removed, and existing stormwater pipes are to be extended or connected into the new stormwater network. There is no collection proposed for the stormwater runoff from the bridge referred to as the causeway bridge.

In Sector 5

Stormwater runoff from SH16 will be collected, piped and discharged via two new wetlands (the Northern Portal wetland and SH16 Onramp Eastbound wetland), a treatment swale, three filter cartridge vaults (one of which is existing and will be retrofitted) and two bio-filter strips, directly to the Oakley Creek estuarine area, the Waterview Inlet and the Upper Waitemata Harbour (north of the causeway).

In Sector 6

It is proposed to collect 100% of the proposed works and 70% of the existing impervious surface stormwater runoff, resulting in approximately a 20% increase in the stormwater volume discharged to Meola Creek via a Meola wetland. To provide for this increase, which has the potential for bank erosion, the proposal includes extended detention of stormwater within both the wetland and the piped stormwater system for a volume up to the 100 ARI stormwater event.

In Sector 7

In this sector, tunnel surface water will be collected, piped and pumped to the northern portal, where runoff suitable for treatment within the Project will be discharged to the proposed Northern Portal wetland in Sector 5, and all other water⁸¹ will be collected and disposed of off-site. The latter is expected to comprise groundwater infiltration, rainwater collected into the tunnel and water

⁸¹ That is, water which cannot be treated to achieve 75% total suspended solids (TSS) removal.

generated by tunnel washdown operations, and deluge flows activated during any fire emergencies.

NZTA notes that flooding currently occurs in Sectors 7-9 in the Oakley Creek catchment, and that the addition of impervious motorway surfaces in these sectors has the potential to reduce infiltration to ground, and re-divert stormwater to stormwater systems.

In Sector 8

There is no stormwater discharged within Sector 8, due to all works being underground. However similar to Sector 7, it is proposed that tunnel water will be collected, piped and pumped to the northern portal, where sufficiently clean and treatable water will be discharged to the proposed Northern Portal Wetland in Sector 5, and all other water will be collected and disposed of off-site.

In Sector 9

The proposed motorway increases the impermeable surface area in this sector; bisects existing stormwater overland flow paths, and reduces the flood storage area. All of these matters have the potential to impact on the extent of flooding within this sector, upstream and downstream. NZTA proposes that the collection of all stormwater runoff from the motorway upstream of the southern portal, from southern portal building surrounds, and from the stream alignments upstream of the southern portal be collected and discharged to two new wetland ponds; one in Alan Wood reserve and the other in Valonia Reserve.

[568] In all sectors where it is proposed that stormwater be discharged directly to the CMA and there is a potential for erosion and/or scour, NZTA propose fitting energy dissipation and erosion control measures to all treatment device outfalls.

[569] NZTA has carried out an extensive assessment of stormwater treatment devices and summarised the best practicable option for the Project's operational phase in Technical Report G.15⁸². Included with this assessment is a summary of the proposed treatment devices, their projected percentage of TSS removal, and whether flood

⁸² G.15 Section 6

detention, flood attenuation and/or flood erosion is to be provided. These matters are expressly included in proposed condition SW.11 (25 March 2011) on a sector by sector basis, together with the adoption of ARC TP10 devices.

[570] The (former) ARC⁸³ identified that PARP:ALW Policy 5.4 requires NZTA as a highway network operator to adopt the BPO at a catchment or network level in order to prevent or minimise adverse effects on the environment from diversions and discharges (Policy 5.4.8), and that the plan also requires proposed stormwater measures to be technically feasible. No parties challenged the technical feasibility of the devices proposed by NZTA.

7.13.1.3 *Extent of Construction Stormwater Works*

[571] The stormwater collection and treatment systems proposed by NZTA for the Project's construction phase are set out in Technical Report G.15 Appendix A⁸⁴, and are summarised below. In addition to these works, proposed erosion and sediment control devices are contained in Technical Report G.22, Appendix F⁸⁵. In a number of locations the construction stormwater collection and treatment systems and sediment retention ponds are combined:

In Sector 1

NZTA proposes a temporary wet pond⁸⁶ for Construction Yard 1, and a temporary sediment control pond in Harbourview/Orangihina Park. Runoff from earthworks that drain to Henderson Creek are to be managed during the construction phase by a number of erosion and sediment treatment devices, as referred to above in G.22.

In Sector 2

The proposal allows for maintaining the existing sediment discharge controls and constructing and bringing on line permanent treatment devices as additional impervious areas are added.

⁸³ ARC S149G report Chapter 5 Discharges to Land Water and Land Management pg 49

⁸⁴ Drawings 20.1.11-3-D-D-300-000, 20.1.11-3-D-D-350-100-119

⁸⁵ Drawings 20.1.11-3-D-EN-740-001-119

⁸⁶ Wetpond – A wetpond provides both sediment retention and stormwater treatment

In Sector 3

The proposal allows for maintaining the existing sediment discharge controls, constructing and bringing on line permanent treatment devices as additional impervious areas are added, the installation of three cartridge filters, and construction of a temporary wet pond for Construction Yard 2.

In Sector 4

The proposal allows for the installation of operational filter trenches, maintenance of existing discharge controls and construction and bringing on line of permanent treatment devices as additional impervious areas are added.

In Sector 5

The proposal allows for maintaining the existing stormwater treatment including the treating of Construction Yard 4 runoff with the existing wetland, treating construction yard 3 stormwater with a temporary pond, and treating Construction Yard 6 runoff with a temporary wet pond.

In Sector 6

The proposal allows for Implementation of erosion and sediment discharge control measures and the construction and utilisation of a proposed, permanent stormwater wetland pond for Construction Yard 5.

In Sector 7

The proposal allows for construction of a temporary wet pond in Construction Yard 7, for treating stormwater runoff from the Yard and construction stormwater from the tunnel after pre-treatment.

In Sector 8

The proposal allows for collection of tunnel water for treatment at the northern portal and discharge during construction to a wet pond in Construction Yard 7.

In Sector 9

The proposal allows for construction of temporary wet ponds within Construction Yard 8, complete with a stilling well at an Oakley Creek discharge; a temporary wet pond within Construction Yard 9, complete with a rock apron at an Oakley Creek discharge; a wetland in Alan Wood Reserve within Construction Yard 10,

which will be later modified to provide for the operational wetland; a wet pond in Valonia Reserve which will later become an operational wetland; and modification of the stream alignment between Stoddard Road and the Southern Portal.

[572] NZTA have carried out an extensive assessment of stormwater treatment devices and summarised the best practicable stormwater treatment option for the construction phase in Technical Report G.15. Included in the assessment is a summary of the proposed treatment devices, their projected percentage of TSS removal, and whether flood detention, flood attenuation and/or flood erosion is provided. These matters are expressly included in proposed condition SW.1 (25 March 2011) on a sector by sector basis.

[573] Again, in the absence of any effective challenge from other parties, the Board accepts the technical feasibility and suitability of the construction phase stormwater management and treatment devices proposed by NZTA.

[574] We shall now turn our attention to the potential environmental effects and merits of other aspects of NZTA's proposals, taking into account relevant submissions and evidence and commencing with operational aspects of stormwater quantity.

7.13.1.4 Operational issues pertaining to stormwater quantity and Board findings on same

[575] NZTA proposes that⁸⁷ 23.31 hectares of additional impervious surface area be created, resulting in an estimated impervious motorway area of 56.83 hectares (across the Project).

[576] The AEE identifies flooding and erosion as the main potential environmental effects resulting from the projected increase in stormwater volumes and/or diversion of stormwater collection and disposal system(s).

[577] NZTA advises⁸⁸ that where a direct discharge is proposed to the CMA or to a freshwater course (with the exception of Oakley Creek), that flooding is not a concern and that erosion is the only potential adverse environmental effect. As previously described,

⁸⁷ G15 Section 1.2 paragraph 3

⁸⁸ G15 Section 5.9 page 47 paragraph 2

NZTA proposes to mitigate such effects by deploying energy dissipation and erosion control measures at all treatment device outfalls.

[578] Flooding is identified as an existing, major issue in the Oakley floodplain in Sector 9.⁸⁹ In this sector the preliminary design submitted for consenting allows for the 100 year flood storage area to be reduced from 79,400m³ to 47,600m³. The final available volume, which NZTA proposes be determined by detailed design post consenting, is dependent on the inclusion of the Goldstar property (25 Valonia Street) in the motorway designation, the proposed Oakley Creek stream works, and the construction of two stormwater wetlands (with a total area of 14.53ha).

[579] NZTA has assessed that the Goldstar property, on which both it and the council propose two permanent sports fields, albeit located differently, would be in flood for 10 year ARI storm events. The council did not challenge either the ARI calculation or its appropriateness in the context of sports field inundation. While we heard evidence from a Bollard Road resident⁹⁰ lower in the catchment, that parts of his property flooded 2 – 3 times each year his representation does not provide a sufficient evidential basis for a different conclusion from that of NZTA about the probable efficacy of the combined works it proposes, or its ARI assessment for the Goldstar property.

[580] As previously explained, NZTA's design criteria⁹¹ include avoiding adverse hydrological effects in relation to flooding and not giving rise to flooding of adjacent land or exacerbating existing flooding. The AEE reports⁹² that proposed wetlands provide extended detention to protect Oakley Stream within Sector 9 and peak flow from flooding events up to the 100year ARI event, and that the design provides for peak flows to be reduced from the predevelopment level.

[581] Appendix C of Technical report G.15 comprises a letter report from AURECOM⁹³, dated 16 July 2010 to NZTA and accompanying drawings. From preliminary investigations, AURECOM conclude that the Project would maintain or reduce existing flood levels throughout the area of the works, and would provide sufficient freeboard between the motorway and flood levels for both the 100 year ARI storm event

⁸⁹ G15 Section 5.9 page 47 paragraph 2

⁹⁰ Dr A Woolf, 34B Bollard Road.

⁹¹ G.15 Table 4.3 page 25

⁹² AEE Section 22.10.2.2

⁹³ An engineering consultancy reporting to NZTA.

and the 2,500 year ARI rainfall event. Five modelled scenarios were plotted by AURECOM. They include, the existing or without motorway scenario; with motorway scenario; with motorway and pass-forward scenario⁹⁴; without motorway and pass-forward scenario; and with motorway and with downstream culverts with 50% blockage, (all with the 100 year ARI and climate change allowance). Significantly, the plots indicate the “with motorway” scenario results in an increase in flooding to private land immediately upstream of the Bollard Avenue Culverts.

[582] More particularly, we understand the G.15 Appendix C drawings to indicate that:

- The “with motorway” scenario (Figure 2) shows an increase in the extent of flooding outside the designation area between the southern portal and the Bollard Avenue culverts, and within the Maioro Street/Stoddard Road area and a decrease within the area of the proposed motorway designation.
- The “with motorway and pass-forward scenario” (Figure 3) - shows a further increase in the extent of flooding outside the designation area between the southern portal and the rail crossing north of New North Road, and within the Maioro Street/Stoddard Road area and a decrease within the motorway designation area.
- The “with motorway & downstream culverts blocked 50% scenario” (Figure 5) , shows a further increase in the extent of flooding outside the designation area, between the southern portal and the rail crossing north of New North Road, and within the Maioro Street/Stoddard Road area.

[583] NZTA also indicates the extent of projected flooding in Technical Report G.15 (Figure 8.7a): “Flood extents for the With Motorway and 100 year ARI storm event” and reports that a small number of habitable floors are at risk of flooding. NZTA considers only one of these buildings would be adversely affected, a basement garage at 12A Bollard Avenue, which would receive an estimated increase in flood depth of approximately 120mm. However we interpret Figure 8.7a to indicate increased flooding at all of the properties between 12-34B Bollard Avenue, and at those in the vicinity of 68-70 Methuen Road. The Board has found the information in G.15 unhelpful in terms of

⁹⁴ The “pass-forward” component of the scenario comprises streamwork options proposed by council upstream of the proposed designation

understanding the likely increase in flooding (spatial extent and depth) at these other properties or prospective effects on habitable space.

[584] Overall, NZTA contends that its preliminary design submitted for consenting purposes provides what it terms a “negligible effect” on the 100 ARI flood flows and levels in the Oakley creek catchment assuming the Auckland Council’s maximum probable catchment development scenario; considering opportunities to reduce flood levels in conjunction with council; the mutual benefits of lowering the motorway’s vertical alignment and reduction in habitable floor flooding; providing a 500mm motorway freeboard to the 100 year ARI flood level; and protection of the tunnels from flooding by Oakley Creek or overland flows; all being consistent with the flood protection components of NZTA’s design philosophy statement.

[585] We are mindful that the EMS S42A⁹⁵ report identified the potential for flooding of Oakley Creek as a key project wide issue, and concluded⁹⁶ that once the stormwater proposals are in place, the flood risk will be reduced in nearly all cases despite reducing the total flood storage.

[586] The ARC S149G report⁹⁷ states that the information supplied on motorway flood protection measures in Alan Wood Reserve covers a range of possible design scenarios sufficiently well for potential effects to be assessed. However, in order to confirm NZTA’s design assumptions, the ARC considered that additional information would be required when the Oakley Creek flood management plans were finalised by Council.

[587] Given the potential for further flooding of adjacent and downstream properties, the Board sought clarification from NZTA of its storm event design volume. In response NZTA⁹⁸ advised that in the detailed design stage the following, which the Board accepts as appropriate, would be carried out:

- Extrapolation of the climate change predictions to estimate the rainfall in 2116 for the design events 10 year ARI, 100 Year ARI and 2,500 year ARI and that these rainfall estimates would be used for the design, or for the planning of, adaptive

⁹⁵ Environmental Management Services S42A report 20 Dec 2010– section 5.2.1 Table

⁹⁶ EMS S42A 10.10.102 under heading Stream Diversion, Flooding and Stormwater Management

⁹⁷ Auckland Regional Council s149G(3) Report Section 2.6.3 page 17

⁹⁸ Memorandum of Counsel for NZTA dated 6 February 2011 & Mr Fishers Rebuttal Evidence pages 21-24

approaches, whichever is more appropriate to the stormwater elements being considered for design.

- Sensitivity testing would be carried out to ensure that the hydrological uncertainties (with other provisions for freeboard) are appropriately accounted for in the freeboard allowances.
- Flood level combinations shall consist of:
 - 100 year ARI rainfall event plus the 20 year ARI sea level, and
 - 20 year ARI rainfall event plus the 100 year ARI sea level.

[588] In the same response, NZTA also advised that a storm event equivalent to the 100 year ARI had never occurred in this catchment. In the absence of information to the contrary, the Board also accepts this information.

[589] Ms M Gotelli, Environmental Planning Manager for Watercare, the council controlled organisation with responsibility for stormwater management (amongst other things) presented a written representation to the Board. It focussed on agreements Watercare has or proposes with NZTA for managing the potential effects of construction work on its assets and its ability to access its network within the proposed designations post construction. Ms Gotelli did not address stormwater quality or quantity. Nor did Mr Lanning include these subjects in his list of unresolved issues when making his Opening submissions. Notwithstanding the apparent acceptance by council of NZTA's stormwater and stream works proposals there were submissions from others on these aspects and, as will be seen, the Board had residual concerns.

[590] With little reference to the Project documentation that we have described, but drawing on their personal experience, a number of submitters expressed concerns about the flooding of private property and the possible impact of aspects of the stormwater outfall designs.

[591] Ms W John⁹⁹ questioned whether adverse cumulative, hydrological effects would result from the Project in combination with the Mt Roskill section of SH 20, including the

⁹⁹ Chairperson of the Friends of Oakley Creek- Te Auaunga Committee- Evidence Sections 4 & 5

current Maioro Street interchange work. In his rebuttal evidence, Mr T Fisher stated that effects on the floodplain from the interchange work had been assessed as part of the current Project, and deposed that there would be no adverse cumulative effects from the changes to the floodplain from the works identified by Ms John. Mr Fisher's evidence, which we accept, was neither contradicted by another expert nor undermined by cross examination.

[592] Ms John and Ms S Myer¹⁰⁰ also suggested that it would be preferable for NZTA to provide a larger wetland at 25 Valonia Street (the Goldstar property) rather than the combined wetland and sports fields it proposes, to achieve a higher level of stormwater treatment¹⁰¹. Mr Fisher¹⁰² stated in his rebuttal evidence that the Goldstar property was required for flood storage for both extreme events and for open space. Whilst that answer was not directly on point it was not further tested during the hearing.

[593] Dr A Woolf, to whom we have previously referred, has lived at 34B Bollard Avenue¹⁰³ for some years. He was concerned, amongst other things, about the possible reinstatement of a grill at the Bollard Avenue culvert downstream of his property, which he advised previously caused significant blockage resulting in the holding back of flood waters, and increasing flood levels at his property. Dr Woolf gave an informative presentation and provided us with photographs showing his property with and without flood events. He offered several photographs of his house and the stream, one with lines drawn onto it indicating his understanding of water levels that had been experienced during certain past storm events. He understood the lowest line, coinciding with the top of the Creek's concrete block side, to be approximately equivalent to the 10 year ARI, but stated that that level had been exceeded three times in one year. He deposed that the third highest line depicted his understanding of the 100 year ARI as measured from the bottom. Dr Woolf's representation highlighted to us the impact of flood waters from storm events with volumes in the order of 63%¹⁰⁴ of the design 100 year ARI storm event on his property. In rebuttal, Mr Fisher¹⁰⁵ stated that any flooding at 34B Bollard Avenue would be below the floor level of Mr Woolf's house and we accept his unchallenged technical

¹⁰⁰ Ms Shona C Myers - Expert Witness (Master of Science - Ecology & Botany) Evidence on behalf of Living Communities and Friends of Oakley Creek

¹⁰¹ Mr N Buchanan Evidence – Section 3.5 page 8

¹⁰² Mr Fisher Rebuttal Evidence – paragraph 46-47

¹⁰³ Mr A Woolf Evidence Section 3

¹⁰⁴ NZTA G.15 Vol 2 – NZTA's design rainfall depths -147mm 10yr ARI, and 234mm for 100yr ARI

¹⁰⁵ Mr T Fisher Rebuttal evidence paragraph 62 page 19

evidence on that point, as we do his advice that NZTA does not have control over the culvert which has troubled Dr Woolf in the past.

[594] Dr Woolf's representation highlighted potential local effects well, including the need for appropriate stream management and asset maintenance. At the end of the day, the stream and other stormwater management works that NZTA proposes undertaking, and vesting in council, will only be effective if they are maintained satisfactorily, which task we understand will fall to Watercare once the post construction designation boundaries are finalised.

7.13.1.5 Findings

[595] Having heard and carefully analysed the preceding submissions and evidence, the Board concurs with NZTA that its proposals for managing the potential flooding effects of stormwater collected from impervious motorway surfaces in Sectors 1-5 are likely to be less than minor.

[596] The Board also concurs that by fitting appropriately designed energy dissipation and erosion control measures at all discharge points the effects of erosion and/or scouring at stormwater discharges will be less than minor.

[597] As regards potential flooding effects in the Oakley Creek catchment, we are left with a situation where on the preliminary design there would be an increased flooding effect on privately owned land upstream of the Bollard Avenue culvert, namely at 12 – 34B Bollard and 68 – 70 Methuen Avenue.

[598] The Board does not accept that the Project should leave the owners of any property with a flood environment that is greater “with project” than currently exists. Nor does the Board accept that as currently framed this aspect of NZTA's proposal gives effect adequately to NZTA's design criteria of not flooding adjacent land or exacerbating existing flooding¹⁰⁶; albeit NZTA considers these criteria to be met by providing that all habitable floors have a 500mm freeboard. The Board considers it reasonable that all potentially affected owners should have a clear understanding of the design flood event effects on their property; the consequences of this flooding in relation to future use of their

¹⁰⁶ G27 – “Best practicably mimic the existing hydrologic regime and setting”, to deliver outcome objectives that remedy or mitigate adverse environmental effects

land; the impact on their outdoor environment, implications for access to their buildings; and the likely effect of flooding on the use and durability of their buildings (if any); whether or not they are habitable.

[599] The Board is mindful that the extent to which properties are negatively affected may differ following final design but requires that the design criterion of “mimicking the existing hydrologic regime” be achieved for all land outside the proposed motorway designations.

[600] To give effect to the preceding finding, the Board directed an amendment to condition SW13 (25 March version) to achieve the following outcomes for stormwater in the operational phase: that the final designs for the construction stormwater and operational systems give full effect to the G: 27 Stormwater and Streamworks design philosophy statement, including the criterion that provides for the operational stormwater design to mimic the existing hydrologic regime at the designation boundaries. This change was agreed and made by the experts in their response of 13 May.

In addition, and to reflect communications that the Board undertook with NZTA and relevant parties, NZTA will meet its undertaking when doing detailed design for Council approval, by : extrapolation of the climate change predictions to estimate rainfall in 2116 for the design events 10 year ARI, 100 Year ARI and 2,500 year ARI and that these rainfall estimates be used for the design, or for the planning of, adaptive approaches, whichever is more appropriate to the stormwater elements being considered for design; sensitivity testing to be carried out to ensure that the hydrological uncertainties (with other provisions for freeboard) are appropriately accounted for in the freeboard allowances; and combined flood level calculations shall consist of: 100 year ARI rainfall event plus the 20 year ARI sea level, and 100 year ARI rainfall event plus the 20 year ARI sea level, and 20 year ARI rainfall event plus the 100 year ARI sea level.

7.13.2 Operational issues pertaining to stormwater quality and related Board findings

[601] NZTA¹⁰⁷ proposed that stormwater discharge effects during the operational phase of the Project be mitigated by treatment devices that meet the requirements of the Proposed Auckland Regional Plan: Air, Land and Water (PARP:ALW) using a best

¹⁰⁷ G.15 Section 1.2 page 2

practicable option (BPO) approach and design based on ARC Technical Publication 10 – “Stormwater management Devices: Design Guidelines Manual” (TP10)2003.

[602] NZTA also stated that the PARP: ALW requires and ARC TP10 targets 75 % total suspended solids removal (TSS) on a long term average basis, and that this target will be met at all discharges, and it will be exceeded for stormwater collected and discharged to the CMA, including the treatment of an impervious surface area equivalent to the existing SH16.

[603] The EMS S42A¹⁰⁸ report records an understanding that stormwater treatment in all sectors is to be in accordance with TP10, and notes that overall adverse effects of stormwater discharges can be mitigated adequately through the design approach and treatment system adopted. The report anticipates an overall improvement in treatment standards. In Sectors 1-4 the report notes that the enhanced stormwater treatment proposed (designed to remove 80% TSS and treating runoff from currently untreated existing state highway) is viewed by NZTA as being an “off-set” to other, adverse ecological effects associated with the Project. In Sector 5¹⁰⁹ the report notes an improvement in stormwater treatment, with 100% of the new impervious surface treated and 85% of the existing surface treated. In Sector 6¹¹⁰, the report notes the proposed construction yard has a higher risk for pollution generation, with early construction of the operational stormwater pond being desirable. In Sector 7¹¹¹ the report notes that stormwater discharges to Oakley Creek would be confined to the construction period, and would be carried out in conjunction with NZTA’s Erosion and Sediment Control Plan and Temporary Stormwater Management Plan. Ryder Consulting¹¹², who also assisted the Board under s42A, considered the operational stormwater discharge mitigation measures proposed by NZTA to be adequate. There are no operational discharges proposed for Sector 8. For Sector 9¹¹³, the EMS S42A report¹¹⁴ found the wetlands proposed by NZTA would provide adequate stormwater detention of peak flows. The EMS report¹¹⁵ concludes that, once in place, the Oakley Creek habitat will be materially improved by the measures proposed by NZTA and that, in this regard, considered its stormwater proposals are comprehensive and appropriate.

¹⁰⁸ S42a EMS report 7 December 2010 Section 10.2.28 page 48, 51,53,55,60

¹⁰⁹ S42a EMS report 7 December 2010 Section 10.6.27 page 60

¹¹⁰ S42a EMS report 7 December 2010 Section 10.7.14 page 64

¹¹¹ S42a EMS report 7 December 2010 Section 10.8.67 page 72

¹¹² Ryder Consulting Report – Addendum to S42a Report – Freshwater ecology by Dr G Ryder

¹¹³ S42a EMS report 7 December 2010 Section 10.10.49 page 48, 51,53,55,60

¹¹⁴ S42a EMS report 7 December 2010 Section 10.2.28 onwards page 48, 51,53,55,60

¹¹⁵ S42a EMS report 7 December 2010 Section 10.10.102 page 93

[604] A number of submitters were opposed to aspects of NZTA's proposals for treating and discharging stormwater into the Coastal Marine Area and to Oakley Creek. The (former) ARC¹¹⁶ sought improved clarity to the conditions concerning stormwater and stream works together with sediment management. However, we find it significant that the ARC's successor, namely the Auckland Council, was represented by suitably qualified experts at the stormwater caucus, who participated in reaching agreement on stormwater treatment matters.

[605] Other submitters also raised specific concerns regarding the proposed degree of stormwater treatment; the likely impacts of discharges into Oakley Creek and the mitigation of same; and proposals for construction yard reinstatement.

[606] Mr H Easton, council's stormwater technical specialist, recommended that wetland final design plans be subject to council approval. Mr Fisher agreed and addressed this matter further in proposed consent conditions SW.3 and SW.13, which provide for all stormwater system elements to be provided to Auckland Council for approval prior to work commencing.

[607] As previously intimated, a caucus of the stormwater experts representing various parties was conducted at the Board's direction, and charged with determining what matters they could agree, with amendments to project documentation where necessary, and what matters remained in dispute. The experts agreed that, subject to suitable consent conditions, overall the stormwater management and streamworks proposed would adequately mitigate likely effects in their specialist area. They agreed changes to a number of conditions including those dealing with stormwater treatment standards, design of stormwater outfalls, offset mitigation for stream realignment, and provisions for subsoil strata rehabilitation plans.

[608] Ms W John for the FOOC¹¹⁷, sought a higher level of stormwater treatment for sectors 6-9, than 75% TSS removal on a long term average. Mr Fisher opined¹¹⁸ that 75% removal was appropriate based on the quality of the receiving waters; the optimal sizing of wetlands; and considering that the proposed level meets both PARP: ALW and (former) ARC TP 10 guidelines. He also noted with reference to Mr Sides' evidence, that the proposed 0.78% increase in impermeable surface in the Oakley catchment was small and

¹¹⁶ S42A 14.7 under heading Auckland Regional Council 14.7.2

¹¹⁷ Chairperson of the Friends of Oakley Creek- Te Auaunga Committee- Evidence Sections 4

¹¹⁸ T Fisher Rebuttal Evidence paragraph 40

that, for these reasons, a higher level of treatment was unwarranted. The Board accepts Mr Fisher's expert evidence in this regard.

[609] Mr G Richardson, who has an interest in the UNITEC accommodation property at 1510 Great North Road, raised concerns in his representation about an existing on-site stormwater system, which he described as being required by a resource consent condition, being disrupted by Construction Yard 7 work. The matter was addressed in rebuttal evidence for NZTA and the subject of questions from the Board¹¹⁹. We find the matter to have been satisfactorily resolved through the rewording of proposed condition CEMP.16.

[610] The Royal Forest and Bird Society, through its representative Mr McNatty, submitted that the stormwater treatment as proposed by NZTA would fail to achieve the best practicable option. He submitted that we should follow the decision of the Environment Court in *Auckland Volcanic Cones Society Inc v Transit New Zealand Limited*¹²⁰ which concerned the extension of SH20 up through Mt Roskill to Maioro Street. He submitted that Transit had offered there to achieve 90-95% total suspended solids removal from stormwater.

[611] We agree with Ms Janissen in her Reply that Mr McNatty's submission is not correct, because it confuses treatment standards for erosion and sediment control measures during initial earthworks phases of construction (as the relevant passage in *Volcanic Cones* had) with treatment standards for stormwater applying during construction once earthworks are stabilised, and afterwards during operation of the motorway. There are policy reasons for the differences arising through the TP.10 guidelines of the former ARC, around the different kinds of sediment effects that can arise in the different circumstances.

[612] In the present case NZTA intends to achieve 94% suspended solids removal through the control of erosion and sediment, in accordance with the TP.90, during the first earthworks phases of construction. Subsequently, stormwater will be managed using a best practicable option approach, up to 75% suspended solids removal for new sections of motorway and construction yards. Subsequently, during operation of the motorway, stormwater treatment will achieve the standard required of suspended solids removal under the ARC's proposed Auckland Region Plan: Air, Land and Water in sectors 6-9, with a higher standard of 80% for areas discharging directly to the CMA in sectors 1-5.

¹¹⁹ Transcript pages 1481-1484

¹²⁰ [2003] NZRMA54, at paragraphs [184], [185]

[613] We accept evidence given on behalf of NZTA that efforts to remove higher levels of TSS would be unprecedented and extremely challenging to achieve. Even more importantly, the stormwater experts produced a statement from their caucus (paragraph 5) that the level of stormwater treatment proposed was appropriate, and would adequately mitigate the effects of the Project. The Society has not produced expert evidence to the contrary, and we find accordingly.

[614] Having heard and analysed the preceding submissions and evidence, the Board concurs that the draft conditions of consent SW series are appropriate for the purpose of avoiding, remedying and mitigating the likely adverse effects of stormwater treatment during the operational phase of the Project, subject to the addition of a further condition to the following effect, as signalled to the parties on 7 May (and responded to appropriately) :

Operational runoff and/or water collected at the northern SH20 portal that is not suitable for treatment within the Project, shall be collected by the consent holder and transferred for treatment off site in accordance with any necessary council approvals or consents.

7.13.3 Construction issues pertaining to stormwater quantity and quality and related Board findings

[615] The experts' caucus report shows that the issues raised for construction stormwater design and management were generally similar to those of the operational phase, namely the need for council approval of final plans prior to work commencing and the degree of proposed stormwater treatment. Having heard and analysed the preceding submissions and evidence, the Board accepts that the draft conditions of consent SW.1 - SW.10 (25 March 2011) are appropriate for the purpose of avoiding, remedying and mitigating the adverse effects of stormwater runoff generated during the construction phase of the Project.

7.13.4 Another Matter Raised

[616] Ms John's request ¹²¹ that a cascade in the Stoddard Road tributary near its confluence with Oakley Creek be re-created was accepted by the freshwater ecology experts' caucus and is secured with the Board's concurrence by condition STW.20(c).

¹²¹ Ms W John evidence paragraph 11.3-11.4

7.13.5 Groundwater and Ground Settlement

[617] Evidence on behalf of NZTA about groundwater modelling was given by Ms A L Williams, who is well qualified in engineering, geological and hydrogeological investigations and analysis. She discussed the deployment of many bore holes, piezometers, in situ permeability tests, pumping tests, and water level monitoring, undertaken in the relevant areas over a number of years. She described the geology in relevant areas, in particular the ground through which the cut and cover, and bored tunnels are intended to be created. She considered likely levels of groundwater drawdown, potential reductions in base flow in Oakley Creek, and considered that the adverse effects of the Project on groundwater overall would be minor.

[618] This witness was significantly responsible for field investigations, testing, data analysis, and modelling undertaken for technical report G.7 – Assessment of Groundwater Effects, supported by Geotechnical Factual Reports G.28 and G.29, and informed by and relying on G.24 – Geotechnical Interpretive Report, G.9 – Assessment of Land and Groundwater Contamination, and G.13 – Assessment of Groundwater Settlement Effects.

[619] A monitoring programme has been proposed to record groundwater levels prior to, through, and following construction. This will allow actual changes in groundwater levels to be checked against those predicted, and appropriate responses implemented if needed.

[620] Evidence about ground settlement was given on behalf of NZTA by Mr G J Alexander, an engineer with long experience in geotechnical and civil engineering. This witness was primarily responsible for work in the AEE on the topic, being technical report G.7 – Assessment of Groundwater Effects, based in part on mechanical settlement calculations undertaken by geotechnical engineers from Tonkin and Taylor, summarised in Appendices B-D of technical report G.13. That report included a Settlement Effects Management Plan (“SEMP”) which identified the proposed approach for monitoring and for required mitigation of settlement effects. It was supported by certain Geotechnical Factual Reports, including G.28 and G.29; and was informed by and relied upon other technical reports, including G.7 (Groundwater Effects) and G.24 (Geotechnical Interpretive Report).

[621] Expected ground settlements would result from a combination of groundwater changes (consolidation settlement) and soil and rock response to excavation (mechanical

settlement). Ground settlements had been calculated for a particular tunnel alignment and construction methodology, was said to be conservative, and to provide an upper bound measure of the resulting magnitude of lateral extent of settlement resulting from the Project. The zone of measurable settlement typically extended approximately 400m east and 200m west of the tunnels. Effects of settlement on buildings had been assessed using a proven international methodology which considered both the deflection ratio (degree of curvature) and the horizontal strain along selected cross sections. These are the same cross sections used for calculation of groundwater effects.

[622] Potential Damage Categories had been assigned in accordance with the adopted methodology, ranging from category 0 (negligible) to category 4 (severe). Most buildings in the study area fell into category 0, with essentially no damage expected. Three properties would fall into category 1 (slight damage – fine cracks); 16 properties in category 2 (slight damage – cracks easily filled or re-pointed to ensure weather-tightness); 16 properties would be in category 3 (moderate damage – cracks require opening up to repair, with tightness not impaired); and 3 properties would fall into category 4 (severe damage – extensive repair work required).

[623] Mr Alexander said that buildings that fell into damage category 3 or 4 and that are to remain occupied during construction would be subject to ongoing condition assessment, monitoring and mitigation to ensure their safety and suitability for occupation.

[624] The effects of settlement on infrastructure (buried services, roads, rail, and surface drainage) have generally been assessed by considering surface gradient changes and the likely effects on functionality. Effects on surface infrastructure were assessed to be negligible – and buried infrastructure minor to negligible.

[625] Monitoring of ground settlement, and in some areas horizontal movement and building condition are set out in the Settlement Effects Monitoring Plan (“SEMP”), and the proposed ground settlement conditions. The results of this monitoring, along with relevant groundwater monitoring, would be used to regularly update settlement estimates and the building damage assessment, in order to give early warning of areas where settlement effects might be greater than predicted. This was said to be the primary tool for management of ground settlement effects.

[626] The witness described a variety of mitigation measures available for different forms of construction to reduce settlement, and to repair the effects of settlement. These had been set out in the draft SEMP.

[627] Auckland Council called the evidence of Mr A P Stiles, concerning potential groundwater and settlement effects at Phyllis Street Reserve, Alan Wood Reserve, and Harbutt Reserve. These reserves are underlain in part by old landfills.

[628] Following a review of the NZTA evidence, and a meeting with its advisers, Mr Stiles considered that potential hydrogeological and ground settlement effects of proposed motorway works on the 3 reserves would be none or minimal, or could be adequately managed through the suggested conditions of consent.

[629] Our Board appointed Mr P I Kelsey, a senior hydrogeologist, and Mr A H Nelson, a senior geotechnical engineer, both of Earthtech Consulting Limited, to provide it with a report under s42A on the groundwater and settlement aspects of the Project.

[630] On the topic of groundwater effects, the Board's advisers agreed with the hydrogeological units adopted and associated hydraulic conductivity and storage properties derived from testing. They disagreed, however, on how perched and groundwater table conditions are to be defined. The Earthtech review showed that drawdown related to settlement could be greater in the vicinity of the Waterview ridge.

[631] As to settlement effects, the advisers said that best practice investigations, interpretation and analysis techniques have been used to assess potential settlement arising from construction of the Project along SH20. The best estimate predictions appeared suitable and would provide certainty for all parties. Limited areas of adverse effects (building damage) are predicted, together with a clear undertaking about remediation.

[632] The advisers reviewed the draft conditions of consent and recommended certain changes, particularly in relation to groundwater drawdown.

[633] These experts undertook a caucus and were able to produce an almost complete level of agreement. In particular, in the area of groundwater modelling, they were able to agree the scope of investigations; apply a geological model with 7 hydrogeological units; agree that the groundwater monitoring network is sufficient for the understanding and

assessment of Project effects; agree hydrogeological parameters; and agree the overall groundwater modelling approach. They noted that there had been differences of water level data interpretation as between Earthtech and the NZTA engineers, and that the Earthtech interpretation could result in greater settlement effects in the vicinity of Avondale Heights. Nevertheless, provided the extent and magnitude of settlement did not exceed that identified in Figure E.14 (as updated and attached to the rebuttal evidence of Mr Alexander) then the difference in interpretation would be of little consequence.

[634] The caucus members also arrived at full agreement concerning existing groundwater users (wells); where the groundwater drawdown is or is not an effect in itself; specifying the volume of groundwater take for the purpose of long term aquifer management; timing of submission of the GWMP (condition G.1); that NZTA shall design and construct the tunnels and approaches as described in the Geotechnical Interpretive Report (and that provided the revised figure E14 forms part of the ground settlement conditions of consent, then a proposed clause G.10 is not needed as suggested by Earthtech); details of monitoring bores, involving amendments to condition G.1 and groundwater management plan details.

[635] As to ground settlement, again there was full agreement. Areas of general agreement included that the geological model, with the description of 7 hydrogeological units proposed by NZTA, was agreed; best practice investigations interpretation and analysis had been used to assess potential settlements; amended figure E.14 provides a suitable basis for the assessment of settlement induced effects and provides certainty to all parties (noting the anticipated limited areas of building damage); settlement predictions cannot be precise, so a comprehensive monitoring programme is proposed; adequate details are provided of types of buildings and services within the predicted settlement zone.

[636] Full agreements were also reached on slope stability in relation to properties along Oakley Creek, effects on operational septic tanks particularly that of submitter Stella Maris Trust at 7 Bollard Avenue (with a supplement to condition S.7(l) to include operational septic tanks), also that potential flooding effects as addressed in the evidence in chief of Mr T Fisher were agreed as no more than minor; concerning anticipated settlement by reference to amended figure E.14 and conditions S.1, S.2, and S.7; also in relation to the 3 named reserves as being no more than minor; predictions in relation to the Pak 'n Save supermarket; agreements in relation to differential settlement (in particular by

reference to condition S.2, S.11, S.4, and new condition S.17 together with monitoring as proposed in S.11). Unitec reached agreement with NZTA , as a result of which 2 categories of buildings (b and d) of relevance to it, were added to condition S.7. These changes have been made in the latest version of the conditions book.

[637] Re-drafted conditions of consent were put forward by agreement of these experts.

[638] Some individual submitters maintained their concerns, but without the benefit of having professional technical advice. For instance, we consider that the issue around septic tanks, particularly that at 7 Bollard Avenue would now be adequately addressed by the conditions as amended.

[639] Also, during the course of the hearing, there was argument about the risk contours drawn in relation to building damage, as attached to the evidence of Mr G Alexander. In particular, the scale of the drawings made it difficult to understand which damage category the Unitec accommodation at 1510 Great North Road might come within. In its Reply at the end of the hearing NZTA, through counsel, said: *However, the NZTA recognises the unique foundations of these buildings and has taken a precautionary approach to identifying the hostel within the “damaged category 2” classification (for the purposes of monitoring effects during construction). This means that, while outside the predicted effects, the hostel will be included in the survey, monitoring and management response process of the Ground Settlement Effects Plan.*

[640] Ultimately we are satisfied with the proposed draft conditions of consent as modified during the course of a highly professional approach by the relevant witnesses.

7.13.5.1 Causeway settlement SH16

[641] While considering aspects of the AEE and NZTA evidence in relation to ground settlement, the Board formulated 2 questions. The first was:

The existing causeway was constructed on very soft marine mud, as will the proposed widening be. Proposed construction also builds up the existing causeway level, adding weight to it; the existing causeway has significantly settled over the decades.

It is known that the new widened lanes will also settle over time. The foundation for the new widening works proposes to strengthen the marine mud by mixing it with cement (mudcrete).

Were test bores taken to ascertain if the existing causeway foundation should also be injected with cement to reduce the risk of differential settlement between the existing lanes and the new lanes? There is a safety issue in that settlement in between the lanes would result in an unsafe surface on the carriageway (when vehicles are changing lanes).

Note: Emphasis is on “testing” as it has been stated that the existing and new causeway sections have been designed to settle together.

[642] NZTA witness Dr Geoff Hsi, the chief technical principal (Geosolutions) of engineering consultancy SMEC Australia Pty Limited in Sydney, provided the following response:

Locations of the test bores undertaken to date did not specifically target the potential for differential settlement between the new and existing causeway lanes. However, there is a transverse differential settlement criterion (ie no greater than 1 percent) that needs to be met in the detailed design, which will ensure safety of the road. It is expected that further testing bores below the existing causeway will be undertaken during the detailed design stage so that adequate ground improvements can be designed to achieve required differential settlement criterion. It is also noted that all future traffic lanes will lie within the footprint of the existing causeway; the infrastructure to be placed above the new reclamation will be the pedestrian and cycleway, and grass filter strips.

Because the existing causeway has been in place for about 60 years, the soft marine mud directly underlying it has been compressed and consolidated, and further compressibility is reduced, as will be the need for further ground improvements.

During detailed design, geotechnical parameters will be calibrated so as to predict embankment settlement more accurately, and to allow for reinforcement where necessary.

[643] The Board’s second question was:

More importantly now, if the existing causeway is not mudcreted, whilst the widened section is, what are the risks of liquefaction in the event of an earthquake?

[644] Dr Hsi’s response was that liquefaction normally manifests in fully saturated granular soil deposits such as sands or mixtures of sand with up to 30 percent fines. Such soils are present only near the bridge abutments (the Whau River Bridge and the causeway bridge). The ground settlement at these locations will mitigate liquefaction induced settlements, slope failures and lateral spreading.

[645] No party sought to question Dr Hsi about these matters, and neither did we feel the need to. The answers have therefore been admitted to the proceedings by consent.

7.13.6 Land and groundwater contamination

[646] Evidence was given on this topic on behalf of NZTA by Mr T Widdowson, a geoscientist with experience in the contaminated land sector, including from site investigations and monitoring, risk assessment and contaminant hydrogeology, and soil and groundwater remediation. He had contributed to the technical report G.9 – Assessment of Land and Groundwater Contamination Effects, volumes 1 and 2.

[647] The report established the baseline quality of soils and groundwater within the construction footprint of the Project, and assessed environmental effects in terms of human health risk and resource consenting. Land contamination above permitted activity criteria triggered a requirement for discharge consents in sectors 2 to 6, and 9. Human health criteria were exceeded in sectors 1, 5 and 6. Fill materials (construction, demolition waste and household waste) had been identified in sectors 5, 6, 8 and 9. Groundwater contamination above water quality criteria was identified in sector 8.

[648] Mitigation of effects relating to potential discharge of soil and groundwater contaminants can, the witness said, be achieved via compliance with resource consent conditions (including as to excavation and disposal of contaminated soils). The intention is that the Project is to conform to the Contaminated Soils Management Plan (“CSMP”), and Contractor Health and Safety Plan. He noted that submissions had predominantly focussed on issues relating to the content and adoption of the CSMP, settlement and drawdown effects in the landfills within the Project footprint, and leachate migration. He considered that the issues raised would be adequately addressed by the assessment of land and groundwater contamination and the CSMP, with mitigation measures as set by conditions of consent being likely to be effective.

[649] Auckland Council called the evidence of Mr A P Cussins, an environmental scientist specialising in contaminated land and hydrogeology. He reviewed the NZTA evidence, had a meeting with its advisers, and was able to offer the opinion that the potential land and groundwater contamination effects at Phyllis Street Reserve, Harbutt Reserve and Alan Wood Reserve would be no more than minor where impacted by the

motorway works. He considered that potential effects could be adequately managed through the suggested conditions of consent and associated management plans.

[650] Once again, the Board was advised pursuant to s42A by Earthtech, in this instance by Mr Kelsey.

[651] A caucus was conducted by Ms Williams, Mr Widdowson, Mr Kelsey and Mr Cussins. They agreed the 3 matters before them.

[652] As to contaminant transport modelling, they agreed that the assessment of contaminant travel time from beneath the Phyllis Street landfill which might result as tunnelling progresses was conservative due to attenuation not being considered within the model.

[653] As to groundwater monitoring at Phyllis Street Reserve a suggested amendment to condition G.7 (from Earthtech) was agreed not to be needed because the issue is covered in Contaminated Land Condition CL.9.

[654] It was agreed that the Contaminated Land Conditions (as amended in the evidence in chief of Mr Widdowson) were adequate for the management of contaminants.

[655] We have no basis for other than finding that these issues have been fully resolved by the professional approach taken to them by the relevant witnesses.

7.14 Avian Ecology

[656] Potential effects of the Project on birdlife in the vicinity are discussed in Section 13.8, in Chapter 13 of the Assessment of Environmental Effects (“AEE”). Some numbers of common bird species are listed as being locally found terrestrial avifauna and coastal avifauna. Various kinds of native and exotic birds were found generally throughout and adjacent to the Project area, whether on land, near streams and wetlands, or in the coastal area.

[657] Threatened species observed include Caspian Tern, Pied Shag, Red-billed Gull, Reef Heron, and Wrybill. At risk species included Pied Stilt, Black Shag, Little Black Shag, South Island Oystercatcher, Variable Oystercatcher, and White-fronted Tern. The

Banded Rail and Fernbird have apparently also been identified on Pollen Island and Traherne Island.

[658] The AEE assessed potential construction effects, including direct mortality of birds by collisions with vehicles, egg and juvenile mortality from vegetation clearance, intertidal habitat reduction, disturbance effects generally, and contaminants. It also assessed potential effects from motorway operation under the heads Direct Mortality, Edge Effects (Vegetation and Habitat), Habitat Fragmentation, Operational Disturbance and Discharges. It proposed a range of mitigation measures, and reported particularly on steps that could be taken to reduce the size of the Te Atatu construction yard during the bird roost season.

[659] As to detailed mitigation measures, the AEE pointed to technical report G.3 “Assessment of Avian Ecological Effects”, noting that the effects on both terrestrial and coastal birds would be minor and would not result in a decrease of diversity of birdlife. It also concluded that effects from the Project would be likely to be temporary, and would be mitigated in certain ways including the installation of temporary roosting structures during the construction period, and scheduling vegetation clearance outside breeding seasons. Further reference was made to the Ecological Management Plan (Appendix C of Technical Report G.21, and thereby a part of the Construction Environmental Management Plan, “CEMP”).

[660] Some quite detailed evidence about these matters was offered by NZTA’s expert in faunal ecology, Mr G L Don. He described the matters contained in the various application documents, offering in particular evaluation of construction and operational effects, and offering guidance on avoidance, remediation and mitigation. He provided evidence of continued observation activity since the application had been filed, commented on submissions, supported the draft conditions contained in the AEE, and offered two new conditions concerning the control of vegetation clearance, and requiring pest management.

[661] Auckland Council called the evidence of ecologist Dr Andrea Julian, who largely agreed with the Applicant’s assessment of terrestrial vegetation and avifauna values. She confirmed the appropriateness, in large measure, of the proposed conditions, and offered some further thoughts for mitigation.

[662] These two experts caucused pursuant to our direction, reached an agreement on an amendment of one of the draft conditions, and reported that, with that amendment, no avian conditions remained unresolved.

[663] The condition discussed was Avian Condition A.5 which, as first drafted on behalf of NZTA, read:

“A.5 Where practicable, vegetation clearance shall occur outside the bird breeding season of September to October.

[664] Because Banded Rail had been confirmed as present on Traherne Island, a precautionary approach was considered desirable in relation to vegetation clearance. The experts accordingly agreed on an amended condition as follows:

A.5 Vegetation clearance at Traherne Island shall occur outside the bird breeding season of September to December. Elsewhere, vegetation clearance shall occur outside the bird breeding season of September to December where practicable.

[665] During the course of the Hearing, we took issue with the parties over the use of the phrase “*where practicable*” where it, or similar wording, was found in draft conditions. We will address that topic separately in this decision, noting that in fairly large measure, this shortcoming, and others, were addressed and substantially remedied by a caucus of the planning witnesses, mid hearing, on 4 March.

[666] Mr Peter McCurdy, representing Star Mills Preservation Group, cross examined Mr Don on the lack of pre-application avian surveys within the Oakley Creek inlet, with particular reference to the lack of surveying carried out of pied and black shags, and their use of the existing mature trees, ie oak, *Robinia pseudoacacis* and karaka trees within the Oakley Creek inlet. (As part of his presentation Mr McCurdy produced a photo of a shag in a tree within Oakley Creek, and advised that there were eight shags roosting on this tree that very morning).

[667] Mr Don was also cross examined by Ms Docherty on behalf of Friends of Oakley Creek (FOOC) in relation to the lack of pre-application surveys within sectors 7 and 8, with particular reference to the habitat restoration and pest control FOOC had been undertaking in and adjacent to sector 7; whether pest and weed control in sector 8 could provide some mitigation for loss of habitat in sectors 7 and 9; the duration between

planting and the provision of suitable and effective habitat; and whether the large pine trees which were currently used as roosting sites by herons should be retained.

[668] Mr A Woolf of Bollard Avenue commented on the presence of shags at his doorstep.

[669] In response to the questioning on extent of avian surveys, Mr Don reiterated the suitability of the pre-application/pre-hearing avian surveys, based on urban habitat and the presence of common urban bird species.

[670] In response to questioning on loss of mature trees and existing effective habitat, Mr Don advised he had checked the area right around the coastal fringe, the Waterview area, the Unitec property and the golf course, and advised that the pine trees are quite frequent, and that he did not believe the loss of a relatively small number of taller trees was going to “worry” white faced heron.

[671] In some contrast, when Mr McCurdy raised with Ms Hancock the issue of the possible retention of the 130-165 year old oak trees between the mill site and the Great North Road (those which will survive the building of the ramps), she supported the protection and retention of any large mature tree located within the designation where its removal was not a requirement of the final construction.

[672] While on the subject of trees in this area, when Mr McCurdy questioned Dr Clough (NZTA’s archaeologist) about those oak trees, Mr Clough supported their retention on the basis of age, their likely association with the mill village, and as having been a likely source of oak bark for the tanning pits. Mr Clough also supported the retention of other mature trees, the *Robinia pseudoacacia* and karaka, where these were unlikely to damage the archaeological remains.

[673] In answer to the Board’s questions seeking further information on the assessment of the historic oak trees, NZTA (Ms Linzey – 2nd supplementary evidence) provided a plan of their location in the vicinity of the Great North Road ramps (Annexure E) and provided an amendment to NZTA proposed conditions (as a new proposed ARCH.9) regarding the protection of the oak trees:

All oak trees (*Quercus* spp) over 10m in height within sector 5 will be identified and managed through the CEMP Amenity Tree process (CEMP.7(p) and (q)). Irrespective of their health (unless the Project Arborist and Auckland Council

confirm that these trees pose an immediate hazard), these trees will be confirmed as Amenity Trees. These trees shall be retained where practicable. If removal of any of these trees is required for construction, replacement trees shall be sized at 160Lt and will be oaks (*Quercus* spp) of the same species, and two trees will be provided for every tree removed. The location of the replacement trees will be defined through planning of the Oakley Inlet Heritage Area (as part of the Waterview Reserve Restoration Plan, refer Condition OS.2).

[674] We approve that condition, which has been extended to include the mature Monterey Pine trees in that vicinity.

7.15 Air quality and related health effects

[675] As with other issues in the case, this issue divides into two discrete parts, air quality issues during construction, and operational air quality issues.

[676] The work of the experts called on this subject, and consultants employed by the Board to report under s42A RMA, was notable for the high levels of agreement ultimately reached, yet remarkable for the sheer volumes of evidence and other written material generated along the way.

[677] Given these features, but particularly given the high levels of agreement reached and the absolutely minimal challenge to any of the witnesses through cross-examination, we will not be setting out any extensive record of the evidence in chief, rebuttals, supplementary statements, and initial disagreements amongst the experts. Further, we have reached a sufficient level of comfort about the cogency of the agreements ultimately reached, having undertaken some limited questioning ourselves during the hearing in respect of any lingering uncertainties on our part.

[678] We will therefore provide a relatively brief introduction to the topic, then record the matters agreed, and ultimately move to reach our decisions on the 2 policy matters not resolved amongst the experts.

[679] NZTA applied for 3 air discharge consents, all of them in relation to construction aspects. They were:

- Discharge to air from crushing activities (EPA10/2.023)

- Discharge to air from concrete batching (EPA10/2.024)
- Discharge to air from roadworks (EPA10/2.025)

[680] Of considerable importance in the case in relation to operational vehicle emissions, NZTA pointed to the presence in the Auckland Regional Plan: Air, Land and Water, of rule 4.5.3, which provides that:

The discharge of contaminants into air created by motor vehicle, aircraft, train, vessel and lawnmower engines, including those located on industrial or trade premises, is a permitted activity.

[681] It was the submission of NZTA's counsel that rule 4.5.3 applies not only in relation to vehicles on surface sections of the proposed motorway, but also in relation to the proposed ventilation stacks (one at each end of the tunnel), because those stacks are dispersing emissions created by motor vehicles. It was counsel's submission that this is consistent with the air quality rule's focus on the "activity" causing the air discharge, not on the method of dispersal to the air.

[682] After careful thought, we accept that proposition, and note that that appears to be the pattern amongst the rules in this Plan, including, for instance, those relating to combustion activities, and dust generating activities.

[683] This position at law was not challenged by other parties, even although many continued to assert substantive concerns about the likely quality of emissions from the stacks.¹²²

[684] It was NZTA's position consequently, as a matter of law, that in respect of s15(2A) RMA, the discharge from the ventilation stacks would not contravene a regional rule, because indeed it is a permitted activity. It was NZTA's further position that the evidence is that exposure levels to vehicle related contaminants from the Project will comply with the National Environmental Standards for Air Quality ("AQNES"), so s15(2) RMA is not triggered either.¹²³

¹²² For instance, Ms Devine, counsel for Albert-Eden Local Board, in offering her submissions concerning air quality, did not address the legal issue, but contented herself with pointing to the fact that people retain concerns, and ultimately leaving it to this Board to decide whether the stacks could be reduced in height to 15m on the basis that we should "ensure that potential adverse health effects are sufficiently addressed".

¹²³ The NZTA submissions were advanced not only in its Reply, but also in the Memorandum concerning "Important Matters" dated 6 February 2011.

[685] It is nevertheless noteworthy that NZTA and its consultants have undertaken a considerable amount of work, and put forward extensive and detailed draft conditions of consent both in the construction and operational arenas, and that all experts have reached agreement on technical matters, including modifications to the draft conditions.

[686] In the course of the hearing and our deliberations, we have considered the AEE, particularly aspects of chapters 6 and 23 regarding statutory and non-statutory instruments and technical report G.1 “Assessment of Air Quality Effects” (both as to construction and operational aspects and inclusive of its draft Construction Air Quality Management Plan and draft Concrete Batching and Rock Crushing Plant Management Plan), and Appendix O in relation to operational air quality monitoring. We have also considered the evidence in chief of NZTA expert witness Mr G Fisher, his rebuttal evidence, his first and second supplementary statements of evidence, the evidence in chief and supplementary statement by Ms J Petersen called by Auckland Council, and 2 reports prepared for us under s42A by Emission Impossible Limited (Jayne Metcalfe and Rachael Nicoll), dated 14 January and 25 February 2011.

[687] Of importance, as already mentioned, we have closely considered the caucusing reports of the witnesses dated 28 January and 28 February 2011. The experts who caucused on the first occasion were Mr Fisher, Ms Petersen, Ms Metcalf and medical expert Dr D R Black (to whom we will shortly refer); and on the second occasion Mr Fisher, Ms Petersen, Ms Metcalf and Ms Nicoll.

[688] We will discuss as well the evidence in chief and rebuttal evidence filed on behalf of NZTA by Dr Black, who is a medical specialist qualified in environmental and occupational medicine.

[689] Key amongst the matters that the experts agreed on were the following:

- The establishment of 3 monitoring sites (operational)
 - 1 ambient site at an agreed location representative of the minimum separation distance between residential properties and the edge of sites;
 - 1 ambient site near the existing Cowley Street site;
 - 1 tunnel portal site.

- The use of a Peer Review Panel to review the ambient air quality monitoring programme and results.
- The wording of conditions to resolve all technical monitoring and portal emission issues.
- Filtering the air passing through tunnel vents will provide no significant benefits from an air quality technical viewpoint.
- Based on the results of further modelling undertaken, the proposed 25m stacks could be reduced in height to 15m, producing only very minor changes to the ground level concentrations of all contaminants assessed.

[690] After the first round of caucusing, there remained some uncertainties about the modelling of traffic flows (and consequent impact on level of exhaust emissions likely), and whether the ventilation stacks could be reduced in height from 25m. The latter issue needed to await the results of further comprehensive dispersion modelling then being undertaken.

[691] Issues also remained to be resolved in relation to a topic called “Offsets”, which we shall discuss below, separation distances, the use of tunnel vent fans, and some detail around conditions to control construction effects.

[692] The second caucusing session made further progress. Indeed, the witnesses believed that all technical air quality issues had been resolved, and that only 2 policy matters remained.

[693] The agreement reached at this point was in relation to operational monitoring, and was in the following terms:

- (a) separation distances – ambient monitoring is to be undertaken at an agreed location which is representative of the minimum separation distance between the edge of SH20 and residential properties;
- (b) there should be 3 monitoring sites. 1 ambient site as per (a) above, 1 ambient site near the existing Cowley Street site, and 1 tunnel portal site;

- (c) a peer review panel should oversee and review all monitoring including traffic monitoring, ambient monitoring and portal emission monitoring. The peer review panel should review all monitoring and recommend whether monitoring should cease;
- (d) conditions relating to the monitoring and peer review panel were agreed in draft as suitable to resolve all technical monitoring and portal emission issues.

[694] The agreements reached at this point came about on the basis of a First Statement of Supplementary Evidence by Mr Fisher on 17 February. This described modelling undertaken in relation to the height of ventilation stacks. This further modelling had become appropriate due to some changes in the overall project design such as updated traffic modelling, and in response to questions from submitters and caucusing of experts. The new modelling proceeded using the same methodology as in the AEE, which had modelled the vents as having a height of 25m. The model employed is called the “Advanced CALPUFF Model”, and utilises the input of detailed terrain, the input of meteorological data sets as supplied by and approved by Auckland Council, and the preparation of a detailed grid of effects in the area.

[695] Mr Fisher recorded that the latest modelling results demonstrated that vents of 15m height rather than 25m, would result in very minor changes to the ground level concentrations of all the contaminants assessed, CO, NO_x, and the 2 particulate sizes PM₁₀ and PM_{2.5}. He considered that the effects of the vent discharges would still be very low for all these contaminants, at all locations. Ground level concentrations would increase very slightly, close to the vents (that is within 50m), but would still be only of the order of 1 to 1.5 percent of the limit values in the National Environment Standards.

[696] Mr Fisher went on to advise that if the northern ventilation stack was transferred across Great North Road, there would be no significant air quality effects, and in particular there would be no new areas of sensitivity.

[697] We ultimately found no difficulty in holding that the stacks should have a height of 15m above ground, but felt that that needed to be laid down with some precision (including as to definitions of height and ground level). We were also cognizant of a suggestion that their “vertical efflux velocity” should not be impeded. On 7 May we

directed the parties' experts to re-draft the conditions accordingly. They have done so, largely to our satisfaction, but we have made further minor changes to tighten matters.

[698] In response to concerns raised by submitters, a new full modelling assessment was carried out. The original dispersion modelling presented in the AEE had been undertaken at 110 locations that were deemed sensitive receptors, such as schools, hospitals, and residences very close to the roadway, chosen on a worst case scenario basis beyond the designation boundaries. As reported in the First Supplementary Evidence of Mr Fisher (particularly Annexure B), the new modelling was now undertaken covering the entire Waterview area in a finer scale mesh grid, in order to check that there were no locations that might have higher effects than were apparent at the earlier 110 receptors. Results were appended to a statement.

[699] Mr Fisher recorded that the results showed that there were some areas where ground level concentrations of contaminants would be higher than in the original modelling, but these would invariably be areas very close to the roadways where there are no sensitive receptors and no residences. No new areas were identified where contaminant concentrations would be higher than the peaks originally assessed.

[700] On the topic of separation distances, Mr Fisher noted that the experts had generally agreed that there would be no residences remaining that could be said to be too close to the proposed new or altered motorway routes. Just 2 houses on SH16 presently remain within 20m of the proposed roadway which have not yet been acquired by NZTA, but the intention is that they be acquired in the next financial year. The fact of no houses being closer than 20m represents a distinct improvement over the present situation where, for instance, near the Te Atatu interchange, there are houses between 7.5m and 15m from the roadway.

[701] The first of the issues that remained unresolved concerned construction effects and related conditions. Ms Petersen and the s42A advisors considered that consent conditions relating to odour, dust and physical emissions, as outlined in paragraph 28 of their report of 25 February 2011, should be included. Mr Fisher had no technical disagreement with the requirements in the draft conditions, but did not consider them necessary to prevent adverse effects. The suggested 4 conditions relate to avoidance of escape of odour, dust or fumes beyond site boundaries, mitigation being required if they do, avoidance of

discharge of hazardous air pollutants, and avoidance of visible emissions other than water vapour.

[702] We have considered the draft conditions AQ.1 to 9 (25 March 2011), which in relation to concrete batching and rock crushing, are somewhat prescriptive, but also rely on finalisation and implementation of management plans. Enclosure of conveyors and loading bays has ultimately been agreed and provided for at the Board's request (7May).

[703] As noted by Ms Janissen in her Reply, Ms Petersen conceded in cross-examination¹²⁴ that the matters were generally included in the Construction Air Quality Management Plan, which, pursuant to proposed condition AQ.1, must be implemented by the consent holder.

[704] That of course is correct, however as representatives of NZTA will recall, the Board expressed tentative views during the hearing about the desirability of some aspects of some draft management plans being elevated to the level of conditions for sheer transparency for potentially affected persons, and ease of enforcement. We consider these matters to be in that category, and require such elevation. This was required in our 7 May directions to the experts and has been attended to appropriately.

[705] The remaining unresolved matter concerned "offsets". All experts agreed that offsets can be valuable and effective tools, but in this instance Mr Fisher considered them to be unwarranted, unfair, difficult to implement, and extremely inefficient on a cost-benefit basis as described in detail in his first supplementary statement of evidence.

[706] As to cost, he considered that it had been assumed by the other experts that if offsets were to be applied, they should be applied to the entire volume of vehicle emissions along certain routes, rather than the incremental increases due to the Project. The issue stemmed from an understanding that along certain parts of the route, particularly relatively low lying areas, air pollution on still winter's days from the likes of woodburners, creates pollution that already exceeds national standards.

[707] There was evidently considerable discussion among the experts about the means by which offsets could be developed around the Project, and the extent of costs and benefits of them.

¹²⁴ Pages 801-803

[708] It was Mr Fisher's view in his second supplementary statement of evidence that the percentage increase in emissions above the present would be miniscule, and the cost to devise a system and take physical steps (for instance a programme of replacement of the woodburners in houses in the vicinity) would be extremely expensive.

[709] In their Appendix 1 on 25 February ("Indicative Assessment of Air Pollution Costs"), the s42A report authors advised as follows:

- the cost of health effects from motor vehicle air pollution in Auckland have been estimated at \$273.4m per annum for 2006;
- the Auckland Air Emissions Inventory estimates annual emissions of PM₁₀ from motor vehicles as 2450 tonnes per annum for the Auckland region in 2004;
- on this basis, the cost per tonne of motor vehicle PM₁₀ emissions in Auckland is estimated at approximately \$112,000;
- they estimate that particulate emissions from the new parts of the Project are approximately 1.4 tonnes per annum from each tunnel ventilation stack and the new surface road (so a total of 4.2 tonnes from the SH20 part of the Project);
- on this basis, the approximate cost of air pollution effects from the new surface road, and from each ventilation stacks would be \$156,000 per annum (so a total of \$469,000 per annum for the 3 facilities);
- this is a simplified analysis, with a number of broad assumptions, however it is adequate to demonstrate the order of magnitude of likely air pollution costs.

[710] Mr Fisher expressed a concern in his first supplementary evidence that beyond the technical aspects, the issues around such a programme are significantly wider than can be resolved just between air quality experts, for instance there are issues around national and regional policy, economics, planning, legislation, social effects, and the wider aspect of the NZTA's functions which extend well beyond this project and can have national implications. He considered that until more work is done on these issues nationally, the concept of offsets¹²⁵ is premature and inappropriate for this project.

[711] Ms Peterson, called by Auckland Council, agreed under cross-examination by Ms Janissen that further work would need to be done in terms of how an offset regime would

¹²⁵ For instance by directing the applicant to contribute financially to a targeted emission reduction programme for other pollution sources (wood burning stoves in the locality suggested as one such), to avoid any net increase in total emissions.

be implemented; that such work had not yet been done; and that Auckland Council presently has no policy with respect to offsets, but will need to implement a policy under National Environment Standards which “will be promulgated shortly”. She had to accept that there was presently no policy in place.

[712] Ms Petersen also agreed that she had not put forward any draft condition to implement on the offset regime.

[713] We agree with Ms Janissen that, even leaving the cost/benefit issue aside, the lack of any national or regional guiding policy militates against one being developed for this project. As we see it, there could well be a risk that considerable work might produce some draft conditions, but which could then prove to be out of alignment with national or regional policy or both – should they eventuate.

[714] Finally, we come back to the point that the activity of discharging contaminants into air from motor vehicle engines is a permitted activity. The offset issue cannot reasonably be taken any further in the context of the present proposal.

[715] We have briefly mentioned the involvement in the case of a public health medical specialist, Dr DR Black. He provided evidence across a number of topics, including soil and water quality effects, auditory effects, vibration effects, lighting effects (sleep disturbance), mental health and perception of risk. Of relevance in the present context, he provided evidence concerning air quality effects.

[716] It was Dr Black’s general thesis that while there will be some nuisance dust, particularly during construction, and some machine exhaust and later operational vehicle exhaust emissions, these can all be appropriately mitigated. He considered that the proposals put forward by NZTA in this regard were satisfactory.

[717] Having regard to the operational phase, he noted particularly the proposed changes to the local traffic environment which would result in traffic using the proposed motorway, including the tunnels, instead of using suburban streets. He considered that this would offer a net positive benefit for public health.

[718] Even prior to the more comprehensive air quality modelling later undertaken by Mr Fisher during the course of the hearing, Dr Black was able to conclude based on the

earlier modelling, that nowhere in the surrounding community would the level of exhaust gases or their constituents exceed the safe limits or standards which are widely accepted as providing protection from health effects. This, he said, should be contrasted with other roads such as in central Auckland, where a “canyoning” effect is present.

[719] Dr Black considered that it was important for the community at large to recognise that there are negligible health risks from the Project, including from the ventilation stacks. He was of the opinion that there would be no added risk to respiratory health compared with any risk normally accepted from living in Auckland.

[720] He recorded that it should be remembered that the net effect of motor vehicle discharges in the area would be no greater with or without the tunnels, and the emissions would be well dispersed. He noted that there would be ongoing monitoring and assessment as described in the evidence of Mr Fisher.

[721] The Auckland Regional Public Health Service lodged a submission, but did not follow up with evidence or any kind of presentation at the hearing. In its submission it requested a Health Impact Assessment (“HIA”) and a Health Risk Assessment (“HRA”) first be undertaken to ensure public health concerns are included and addressed appropriately.

[722] Dr Black noted that the concept of an HIA arose as an initiative of the World Health Organisation, and has formally been adopted in New Zealand, latterly to be described in detail in a guide published by the Public Health Advisory Committee. Dr Black was familiar with this literature, but considered that HIA was a tool more suited to establishment and testing of policy than the management of a project such as a motorway. He considered that it would be unlikely that an HIA would be conclusive or provide any additional information, relevant topics having already been covered in far more detail by the extensive work which had gone into the AEE for the proposal.

[723] As to the HRA approach, he noted the generic nature of such in which possible adverse health outcomes were identified, the likelihood of them estimated, and the overall individual and cumulative risks assessed. He considered that it was not a relevant tool for use in the context of an RMA application, and he could not identify any authority for suggesting that it is. He considered that it would be inappropriate in the context of this application.

[724] Not only was there no evidence or presentation from the Auckland Regional Public Health Service, but that organisation did not seek to question Dr Black. Indeed no party cross-examined Dr Black, who simply assisted us by answering our own questions.

[725] Parties who mentioned health effects in their evidence in chief, included Dr Alison Towns, Mr Robert Black, the Waterview Primary School Board of Trustees and Ministry of Education, Auckland Council, Andrew Tauber for Apartments Limited, Wilson Irons for Metro Mt Albert Sports Club, Margaret Watson for Albert Eden Local Board, and William McKay for North-Western Community Association. Some of these, particularly Auckland Council, were focussing on dust from rock crushing and concrete batching, subsequently dealt with by way of amendments to draft conditions of consent and consideration of relevant management plans, and subject to our recent directions discussed a few paragraphs previously.

[726] Once again, we note that parties expressing concern about air quality matters did not appear for the purpose of questioning Dr Black.

[727] Dr Black noted that Dr Alison Towns is a psychologist who is involved in public health research, but who acknowledges that she is not an expert in the field of environmental health. He was critical of her likening the approach by NZTA to the “nicotine smoking industry”, and we agree. Dr Black brought the issues back to a proper approach, the scientific one, reiterating his earlier advice to us.

[728] Regarding those who called strongly for ventilation stacks to have filtering installed, such as Mr Robert Black, Dr Black reiterated advice that he had provided in his evidence in chief to the effect that the emissions would not be harmful when dispersed in air at either 25m height or 15m, agreeing with the evidence of Mr Fisher that filtering would be both impractical and highly energy inefficient. He said that there would be no public health benefit to be derived from the installation of filters.¹²⁶ Noting what we say in the footnote here, we record however that at no time did we doubt the sincerity of submitters who sought filtration. We expect that in time they will gain confidence in the efficacy of this aspect of the Project through the operation of the air quality monitoring

¹²⁶ Dr Black recorded that he agreed with the evidence in chief of Mr Fisher that: (a) the emissions do not need to be filtered because they are not significant; (b) it is almost impossible to completely remove all the contaminants; and (c) it is hugely expensive to install and operate filters for almost no benefit to the community or the environment. Noting that neither witness was challenged on the issue, and that the issue was part of the raft of technical issues ultimately settled amongst the experts, we do not intend to take the matter further.

conditions, including the involvement of the Peer Review Panel, and the requirement for results to be disseminated through Community Liaison Groups pursuant to condition PI.5.

[729] Given that numbers of submitters raised the issue of fear of harm from emissions from the stacks, we have turned our minds to the now well understood legal position about that under the RMA.

[730] A decision of the Environment Court that has stood the test of time is *Shirley Primary School v Telecom Mobile Communications Limited*.¹²⁷ The case concerned a proposal for a cell phone tower, and dealt particularly with the twin issues of alleged adverse health effects from operation of the cell site, and adverse psychological effects, or fear of the health effects.

[731] The former having been analysed and effectively dismissed, the latter was discussed in the context of evidence given by psychologist witnesses, and a survey of people in the locality. Without needing to here record any of the detail of the evidence about those things, but noting the findings just mentioned about the health effects, the findings of present importance are as follows:

[193] In the end we find all the expert psychological evidence unhelpful. We had direct evidence about peoples' fears of exposure to RFR from enough parents and teachers to be sure that a significant part of the school community is genuinely concerned about, even fearful of, the effects. **But whether it is expert evidence or direct evidence of such fears, we have found that such fears can only be given weight if they are reasonably based on real risk.**

[Emphasis is supplied by us.]

[732] In light of our findings about the results of the modelling, and in light of Dr Black's virtually unchallenged opinions about health effects, we find ourselves in the same situation as the Environment Court in the *Shirley Primary* case. There is no basis for declining consent, or even of moving the northern stack further away from the school, kindergarten, and residences, on account of health effects or fears of them.

[733] Dr Black noted that the EMS Addendum Report of 20 December 2010, proposed a condition that arrangements be made for him to liaise with persons who have health

¹²⁷ [1999] NZRMA66, with the discussion about "adverse psychological effects" occurring between pages 122 and 126.

concerns which are not amenable to generic management, as well as suggesting that he might have a professional role and contribution to make in the Working Liaison Group. Noting that during his involvement to date with the Project, only one personal case required his direct contact and establishment of a professional relationship, he considered that it would be unnecessary to include such a condition. He considered that he would probably be of more use to the public assisting on a case by case basis where additional advice and assessments were needed, but that such assessments would need to be private, and would not be appropriate for a public forum. We agree with that point of view, and no party further challenged it. In our 7 May directions to the parties' experts, we required the creation of such a condition. They have responded accordingly, but limiting the available service to residents of Owairaka/New Windsor and Waterview/Point Chevalier. We consider that parents of pupils and prospective pupils of schools, kindergartens and other children's facilities in those areas should similarly be offered the service, and have added to the condition accordingly.

7.16 Noise and Vibration

7.16.1 Introduction to this topic

[734] Included amongst the application materials and Assessment of Effects on the Environment (AEE), were some quite extensive reports and other materials on the topics of noise and vibration. These covered both the construction period (estimated to last between 5 and 7 years in total) and the subsequent operation of the Project as motorways and associated access roading and the like. We have considered the voluminous materials from those sources, including the noise and vibration matters set out in Technical Assessment G.19 – (Assessment of Vibration Effects), which was included as Appendix 7 to Technical Report G.19 released post-lodgement. The primary materials within the AEE included volume G.5 – Assessment of Construction Noise Effects, volume G.12 – Assessment of Operational Noise Effects, G.19 (Assessment of Vibration Effects) itself, G.21, – the Construction Environmental Management Plan, and other proposed management plans informing that.

[735] We have also considered the extensive evidence-in-chief and rebuttal evidence provided on behalf of NZTA by its acoustic witness, Ms S Wilkening and its vibration expert Mr P Millar. In addition, we received some succinct but very helpful evidence from the acoustic engineer called on behalf of Auckland Council, Mr N I Hegley. Finally,

we were able to consider a report commissioned by us under s42A RMA, from acoustic engineer Mr M Hunt. Supplementary evidence was received from Ms Wilkening, and she was questioned quite extensively during the hearing. Mr Hegley was also questioned and provided us with constructive input in relation to both construction and operational noise.

[736] Of considerable assistance in narrowing issues in our inquiry, the experts participated in a caucus on 2 February, facilitated by another experienced acoustic engineer, Mr M Sullivan. That caucus succeeded in producing agreements on a number of matters, primarily in the area of construction noise and vibration, although some issues remained of concern to us that were pursued during the questioning of the witnesses.

[737] Finally, in order to gain further focus on some of the more difficult questions, we arranged for the 3 witnesses to be sworn in together and questioned by us in a process colloquially known in some Australian courts, and the NZ Environment Court, as “hot tubbing.”

7.16.2 Construction noise and vibration

[738] It was agreed amongst the experts that the construction effects would vary from sector to sector depending on the nature of the works being undertaken, and the surrounding environment. For instance, some sectors pass through areas of the CMA, and a marine reserve, with no residents or other noise-sensitive activities anywhere nearby. Other sectors pass through residential areas, and one in particular, sector 7, passes close to a school and a kindergarten.

[739] The likely noise effects are, nevertheless, sufficiently common as between some sectors, for us to treat the topic as a project-wide topic. For instance, the works would be undertaken close to residential areas and other noise-sensitive activities, in sectors 1, 5, 6, 7, and 9.

[740] The witnesses nevertheless tended to assess each sector individually, predicting construction noise levels from likely equipment at sensitive receiver positions, comparing the prediction with appropriate criteria, and recommending mitigating options. NZTA produced draft *Proposed Noise and Vibration Conditions – Construction* (the “CNV conditions”), and a *Construction Noise and Vibration Management Plan* (“CNVMP”) to provide an outline for management and mitigation of construction noise, both in relation

to noise generation and likely receiver positions. One of the difficulties associated with proceeding in this way, is that the Project is intended to be established on the basis of finding a contractor or contractors through a tender process if consent is forthcoming, and a good deal of the precise methodology, including choice of equipment, would become the responsibility of those parties.

[741] The application materials, and the evidence of Ms Wilkening, described the intention to employ NZ standard NZS6803:1999 “Acoustics - Construction Noise”, a widely used standard for construction operations, excluding blasting. Varying levels of construction noise are recommended for a range of receiving environments for different days, different times of day and night, and different durations. For instance, external noise criteria, measured 1 metre from a most exposed building facade, include a daytime range from 60-70dB_{L_{Aeq}}¹²⁸ for residential positions and 70-75 dB_{L_{Aeq}} for businesses.

[742] For residential receivers, the night time noise criterion is 45 dB_{L_{Aeq}}, meaning in general terms that only very quiet construction activities can be carried out at night time. Some sectors currently exhibit quiet ambient noise levels, while others exhibit quite high levels controlled by noise from the existing roading network, for instance SH16 and Great North Road.

[743] In order to complete the Project as soon as reasonably possible, and to undertake some activities like tunnel linings that must be done continuously for safety reasons, construction noise levels on a project such as this are likely to be very significant in places. Ms Wilkening recommended a night time noise criterion of 60 dB_{L_{Aeq}} for sectors 1 to 7, and of 45dB_{L_{Aeq}} for sectors 8 and 9, having regard to what she considered to be existing noise conditions in those areas.

[744] Educational facilities are not specifically mentioned in the standard, however she assessed them based on external residential daytime noise criteria, converted to internal noise criteria for classrooms and associated noise-sensitive rooms. Using Australasian standard AS/NZS2107:2000, she recommended design criteria ranging from 40-45dB_{L_{Aeq}} in such facilities.

¹²⁸ L_{eq}, or L_{Aeq}, means the value of the time average sound level determined at a distance of 10m from, and over the period of, a given activity, according to the definitions offered in NZS6803:1999. It is often described by experts as the “equivalent continuous sound level”, being the level of a steady sound containing the same sound energy as that contained by the varying noise environment.

[745] For noise generated by blasting, Australian standard AS2187.2:2006 (referred to in NZS6803:1999) recommends relevant noise limits so as to avoid structural damage and maintain “human comfort”, being 133dB_{L_{Zpeak}}, and 115-125dB_{L_{Zpeak}}, respectively.

[746] For reasons already mentioned, tunnel construction is intended to be undertaken 24 hours a day, 7 days a week. Vibration from tunnelling can cause structure-borne noise, sometimes called “re-radiated noise”. Ms Wilkening considered that she should apply criteria more stringent than the Standard, set by the World Health Organisation, which are 35dB_{L_{Aeq}} (16h) for living areas during daytime and 30dB_{L_{Aeq}} (8h) for bedrooms at night time. She considered that these would be acceptable to avoid sleep disturbance.

[747] By the time she prepared her evidence-in-chief, Ms Wilkening was able to take account of issues raised in submissions by parties. She therefore proposed a comprehensive set of draft Noise and Vibration Conditions (Construction) which contained modifications to those that had been set out in the AEE.

[748] Based on best estimates of equipment likely to be used in the Project, NZTA advised us about calculated noise levels anticipated to be received at closest noise sensitive locations; compared resultant noise levels with the noise criteria from the standards; determined which activities might require mitigation in some form; and noted others that might be likely to simply exceed the criteria (which we infer means are not reasonably capable of being mitigated). Uncertainty about equipment likely to be used, and detailed methodologies, have led to the overall recommendation to use the CNVMP.

[749] Ms Wilkening and Mr Millar assessed construction effects for each sector, noting that some activities would be stationary (such as construction yards and concrete batch plants), while others would move along alignments as the roads are formed. Construction yards that may affect residential buildings are located in sectors 1, 5, 6, 7, and 9, and concrete batch plants are located in sectors 5 and 9. A rock crusher is located in sector 9. Construction yards 1, 7, 9 and 10 would be likely to be operational 24 hours per day, 7 days per week. As mentioned, “shotcrete” would be required on a virtually continuous basis for lining tunnels as excavation proceeds.

[750] In **sector 1**, night time construction activities were considered potentially to be disruptive if not adequately mitigated. Mitigation would involve construction of temporary and permanent noise barriers, with the most affected residents being in Marewa

Street, Milich Terrace, McCormick Road, Royal View Road, and Alwyn Ave. We noted that the existing motorway is already very close to some properties, and that numbers of houses are being acquired by NZTA and removed, then to expose the next line of houses. The high water mark for us appeared to be a situation involving submitters Mr J R and Mrs L E Lewis, of Marewa Street, who gave evidence that it seemed that a portion of their land would be taken, and a noise barrier erected through their back yard. It quickly emerged however, that their entire property is being acquired, and settlement of the purchase occurs shortly.

[751] Construction of bridges over the Whau River in **sector 2** will be undertaken in daytime only, and daytime noise criteria can apparently be complied with.

[752] In **sector 3**, construction activities would potentially affect only commercial and industrial receivers, with some works capable of being carried out during the less sensitive night time hours, and with insulation or temporary barriers being proposed.

[753] In **sector 4**, sensitive receivers are at considerable distances.

[754] In **sector 5**, there are a number of potential issues, the Great North Road interchange being in very close proximity to the densely populated suburban areas of Waterview and Point Chevalier, and close to the education institutions of Unitec and St Francis School. Current noise levels in the area are, however, already quite elevated. Three construction yards are intended to be located in this sector, generally for storage, equipment maintenance and offices, but the construction yard in Waterview Park will include a concrete batch plant which will need to operate virtually full time.

[755] Steps are proposed to locate the likes of concrete batch plants as far away from residences and other noise sensitive activities as possible, and to create noise shielding. By a post-lodgement development, Ms Wilkening told us in her evidence in chief that St Francis School is to get a 2m high boundary fence along the southern side of its playing field adjacent to the motorway, to attenuate noise.

[756] Other construction activities in this sector include construction of ramp structures, which involve piling. NZTA witnesses considered that noise levels in this sector would generally be below the daytime noise criteria in the standards, but mitigation would be needed in places, particularly at night. At an extreme, there might be a requirement for

temporary relocation of residents. NZTA's initial proposal in this regard was to leave such issues in the hands of contractors. We poured cold water on that quite early in the hearing.

[757] In **sector 6**, noise will be created by the construction of traffic noise barriers, piling and rock breaking for the construction of the Carrington Road Bridge, and general road construction. Much of the work can be undertaken during the daytime, but some night time work might need to be undertaken to assist in mitigation of traffic interruption. Mitigation would be needed in places, including traffic barriers, and even temporary relocation of residents.

[758] **Sector 7** includes major cut-and-cover tunnel construction work. Removal of dwellings along Great North Road will expose further dwellings behind them to construction noise. There would be piling for a diaphragm wall for the tunnel, excavation and realignment and resurfacing of Great North Road. High noise levels would be generated. Tunnel works would cease creating high levels of noise once the "lid" had been placed on it. There is the potential here for considerable noise effects on residences, the Waterview Primary School, and the kindergarten. Negotiations were in progress behind the scenes during the entire hearing concerning the school and the kindergarten, and we will discuss outcomes further. In particular, the proposed temporary relocation of the kindergarten would become permanent, by agreement of NZTA. Significant mitigation would be required, including the construction of noise barriers, and even sealing of school rooms and mechanical ventilation, and some temporary relocation of residents from time to time.

[759] In **sector 8**, works would be largely underground, but with the potential for some re-radiated noise as tunnelling works moves under properties. At the proposed greater depths mid-tunnel, the WHO internal noise criteria would be likely to be achieved. Structure-borne or re-radiated noise became quite an issue during the course of the hearing. Temporary relocation was considered potentially necessary for some residents at times.

[760] **Sector 9** involves significant surface works for road formation and ramps for the Maioro Street interchange stormwater ponds, establishment of open spaces and playing fields, and traffic noise barriers. A concrete batch plant and a rock crusher would be found here, along with 5 construction yards. Full enclosure of batch plant and rock

crusher were being suggested by NZTA, but questions lingered concerning noise from activities like the loading of trucks which ultimately, it was conceded, would also be required to be done within enclosures.

[761] Other construction activities in this sector would include some blasting, drilling, piling and rock breaking, much being undertaken during the daytime. A grout curtain would need to be constructed at the tunnel approach, involving the drilling of holes and filling them with concrete. Recommended noise criteria would be exceeded at times, and mitigation such as temporary construction noise barriers and potentially some temporary relocation would be required. Once again, some construction works would be needed at night time (for instance on the Richardson Road bridge) to lessen disruption of traffic. Significant mitigation could again be required. Dwellings in Hendon Avenue and Methuen Road could be significantly affected, and, it was suggested, to a lesser degree Christ the King school and dwellings in Richardson Road. Issues came into quite sharp focus from the evidence of a family named Chand at 51 Hendon Avenue.

[762] Traffic noise was said not to be a significant part of background noise in much of this sector, such that a night time criterion of 45dB_{L_{Aeq}} could be met by and large.

[763] As mentioned, **mitigation** of various kinds was proposed from time to time and place to place. Each situation seems to require attention on a case by case basis, given varying levels of background noise, levels of proposed construction noise, relative durations, and variations in sensitivity of receivers. It became apparent at an early stage in the hearing that matters should not be left largely to be dealt with by contractors, and that the conditions of consent and the CNVMP would need careful attention from us, with input from relevant witnesses, should consent be forthcoming. A great deal of work has been undertaken in this area, which we shall discuss.

[764] Early placement of mitigation, such as construction noise barriers, received a lot of attention during the hearing. Some properties, such as schools and the kindergarten, and a Unitec student hostel (privately owned, and earlier leased to Unitec) at 1510 Great North Road, came in for particular mention. High levels of agreement were ultimately attained with some property owners, for instance Unitec, Waterview School and the kindergarten, which we shall discuss further.

[765] As mentioned, Mr P J Millar gave evidence on behalf of NZTA about vibration. He is an experienced geotechnical engineer. He described principal potential sources of vibration including blasting of basalt rock, tunnelling in East Coast Bays Formation, piling, heavy truck movements, and road base compaction work. Some would be stationary, and some moving as works progress.

[766] Mr Millar reviewed the applicability of vibration standards and adopted relevant ones, established current ambient vibration levels in various sectors, identified construction activities likely to generate significant vibration levels, analysed the collected vibration data, used prediction models to calculate potential attenuation between source and sensitive receivers, and outlined mitigation options. Particular attention was paid to control and mitigation of blasting of basalt rock through the CNVMP, including steps to limit hours of work. Vibrations above the **sector 8** tunnelling activities were the subject of particular study, including potential impacts at 1510 Great North Road, and the Pak 'n' Save supermarket in New North Road.

[767] Mr Millar offered detailed assessment and predictions in relation to such properties. As in the case of construction noise, agreements were ultimately reached with the Waterview School, the kindergarten, and Unitec.

[768] Further modifications to draft conditions of consent, beyond those put forward in the AEE, were offered.

[769] **Mr Hegley's** brief was to consider construction noise (but not operational noise). He recommended that the draft conditions of consent should be tightened to:

- Raise the night time construction noise for time periods where required to undertake the work, rather than to simply allow higher noise levels regardless of the activity;
- Limiting higher night time noise levels for pile-driving to those periods where necessary, rather than providing a higher noise level for all occasions;
- The practicality of allowing transparent noise barriers; [Mr Hegley deleted this item when he appeared for questioning, apparently on the instruction of his client!]

- A requirement for construction noise barriers to be put in place prior to works commencing, to optimise the benefit for residential neighbours.

[770] Mr Hegley was in a general sense accepting of the need for there to be slightly elevated levels of L_{Aeq} noise at night in certain places and at certain times, given the sheer scale and nature of the proposal. However, he sought to have appropriate limits placed on the times during which such noises could be emitted, with the proposed 60dB reverting back to 45dB at other times.

[771] As regards pile-driving, Mr Hegley recognised that work in areas such as the Whau Bridge would be tide dependant, and that some night time work would be necessary to take advantage of low tide, but he recommended a tightening of conditions.

[772] Mr Hegley recommended almost invariable early staging of creation of construction noise barriers ahead of the undertaking of the works themselves.

[773] He strongly supported the installation of sound mitigation in dwellings where necessary, and was critical of the draft conditions of consent for not proposing that.

[774] As mentioned, we gained assistance from acoustic engineer **Mr M Hunt**, reporting to us pursuant to the provisions of s42A of the Act. He considered the following features in particular:

- Night time construction noise criteria;
- Potential for structure-borne noise;
- Indoor noise criteria – derived from NZS2017:2000;
- Indoor noise criteria – assessment period;
- Construction yards affecting residential sites;
- Vibration standards for construction;
- Treatment of buildings where non-compliant;

- Timing of barrier construction; and
- Construction noise effects on Waterview Primary School, Kindergarten, and St Francis School.

[775] Not only did Mr Hunt recommend a considerable tightening up of the CNVMP, but he also recommended shifting a number of aspects into the CNV conditions.

[776] Mr Hunt was particularly concerned about areas that are currently relatively quiet at night, for instance in proposed sector 9, where allowing construction noise to reach levels of up to 60dB_{L_{Aeq}} could pose real issues. He was critical of NZTA's witnesses relying, for setting higher limits, on supposed recommendations from NZS6803:1999, because:

- Elevated night time noise limits, such as 60dB for residential sites is well beyond limits recommended by that standard;
- NZTA results of background sound monitoring at residentially zoned sites within sectors 1 to 7 do not justify the higher limits at all locations within those sectors; and
- While elevated night time construction noise limits might (as was alleged by NZTA) have been adopted for the recent Newmarket viaduct and Victoria Park tunnel projects, there remained a concern regarding wide application of the higher limit in the residential zones, and the potential for sleep disturbance.

[777] Mr Hunt demonstrated by reference to NZTA's own assessments, that a number of sample residential properties in sectors 1, 5 and 6, presently experience average night time background sound levels of under 45dB. The higher 65dB limit represents considerably more than a doubling in sound level (doubling essentially occurs for each 10dB increase, as confirmed by Mr Hegley in answer to the Board), and there was therefore high potential for serious adverse effects. The levels being proposed by NZTA were closer to recommendations from the standard for commercial or industrial receiving locations.

[778] Mr Hunt generally supported the approach taken by Mr Hegley, recommending time limits, limits on numbers of nights, limits on numbers of hours each night, and

advance notification of at least 5 working days prior to particular events. He also recommended that telephone contact particulars be provided for relevant members of construction teams, or supervisors. He also supported placing the thrust of controls into conditions in preference to leaving them in the CNVM Plan.

[779] Mr Hunt provided us with helpful information and graphic illustrations from Australian studies, about transmission of vibrations through the ground from tunnelling activities. He expressed a preference for the use of NZS6803:1999 rather than NZS2107:2000, because the former contains somewhat more stringent limits. He also recommended tightening of relevant conditions, including as to levels to be set for sleeping areas.

[780] Mr Hunt recommended a tightening of provisions in conditions about the length of averaging period for determining compliance with specified decibel limits. He said that assessing L_{eq} of construction noise over extended periods of 8 or 16 hours would have the effect of diluting the impact of isolated noise events which can be highly intrusive in teaching environments or sleeping accommodation. He pointed to clause 6.3 of NZS6803:1999, recommending that measurement sample time should not exceed 1 hour and that 15 minutes would often be more appropriate. He acknowledged the NZTA suggestion for reference to L_{Max} in draft condition CNV.2i, but continued strongly to recommend amending the reference time periods for L_{eq} levels to 10-60 minutes duration.

[781] Mr Hunt was generally supportive of the mitigation measures proposed for construction yards, concrete batching facilities, and the like. Some detailed attention was nevertheless going to be required to some aspects, in his view.

[782] Concerning vibration from blasting, piling, rock breaking, rollers, tunnelling, and drilling, Mr Hunt generally supported the use of a German standard DIN4150-3:1999, and the draft provisions of the CNVMP, as put forward.

[783] Mr Hunt tended to agree with NZTA witnesses that a blanket requirement for all dwellings receiving 60dB or more of night time construction noise, would not be the most effective method across the entire project. He recommended the use of such mitigation on a case-by-case basis, noting that it is not a straightforward task to install upgraded glazing and ventilation into some existing houses. We understand the potential difficulties, but will have more to say on the topic.

[784] Mr Hunt strongly supported the imposition of a condition of consent requiring early erection of construction noise barriers.

[785] The **caucusing of these witnesses** produced some important narrowing of the areas of disagreement.

[786] First, as to **ground-borne noise and vibration**, it was agreed that further protection of residents and others could be offered concerning underground works along the tunnel alignment, through an amended draft condition CNV.1 as follows:

The CNVMP shall, at a minimum, address the following:...

- xi. measures for liaising and notifying potentially affected receivers of proposed construction activities and the potential for noise and vibration effects.
 - PPF's located within 100m of surface works shall be notified not less than 30 days prior to the works.
 - PPF's within 35m of underground excavation works along the tunnel alignment shall receive prior notification no greater than 1 week (and not less than 24 hours) prior to the commencement of works

Maps showing PPFs to be notified shall be included within the CNVMP.

[787] As to early installation of construction noise barriers, agreement was reached about a new draft condition, CNV.7 as follows:

Where practicable, permanent (traffic) noise barriers required in any sector as Detailed Mitigation Options for operational noise following completion of the Project (in accordance with ON.3-ON.5) shall be erected prior to major construction works occurring.

[788] As to the **measurement period for construction noise** control, it was agreed that, while a measurement period of, for instance, 30 minutes was desirable, there would be certain situations where a noise source was not steady, and so to simplify matters it was agreed to include within the proposed conditions a reference to (T) which in turn is referenced back to NZS6803:1999, using the definition and methodology found there.

[789] As to **installation of building modification mitigation early during construction**, it was agreed that CNV.1 would provide as follows:

The CNVMP shall, at a minimum, address the following:...

...xiv investigation of the practicality of implementing Building Modification Mitigation, as required in accordance with conditions ON.6-ON.11 prior to commencement of construction within 100m of the relevant PPF.

[790] On the topic of **notification of night time construction works**, it was agreed that there be a further modification to CNV.1:

The CNVMP shall, at a minimum, address the following:

...xv methods for ensuring affected residents are notified of scheduled night time works (ie any works during the hours of 2000-0630) at least 5 days prior to the commencement of any such works.

[791] It was also agreed that maps would be incorporated into the CNVMP, showing the extent of dwellings requiring night time notification. Annexed to their caucus agreement of 2 February was a set of 7 coloured sheets showing these details, being drawings number GIS-3814238-42-1 to 7, on which the relevant dwellings in the aerial photography base, are coloured gold. (Referred to in draft condition CNV.1(xi), 3rd bullet).

[792] Concerning night time pile-driving, the experts agreed to limit both driving and extraction of piles, to hours other than 2000-0630. (Now covered by draft condition CNV.8).

[793] As to **internal noise criteria**, it was agreed that the appropriate internal noise criterion for teaching space in schools is 45dB_{L_{Aeq}}, and 40dB_{L_{Aeq}} for school halls. It was further agreed that 30dB_{L_{Aeq}} inside bedrooms between 1800-0730 would be appropriate. It was also noted that the criterion should apply to ground-borne noise received from tunnelling excavation, and that at that point the residents would be offered a good standard of protection.

[794] A new draft set of conditions was produced by NZTA on 10 February 2011, along with a Memorandum of its counsel on the same day as to acceptance by it of the changes proposed by these experts.

[795] Despite the apparent improvements brought about by agreement among experts, the Board retained some concerns. Our unease manifested itself in the following question from the Board to NZTA during the hearing on 17 February:

The operational noise conditions include an anticipatory/predictive component such that at-risk properties are identified in advance, and mitigation works proposed/installed before effects are felt. That may be a helpful starting point

for construction noise, particularly in relation to those properties that can be expected to experience noise at non-complying levels over maybe 5-6 years of construction activity. It seems to us that we can say now that certain activities will breach noise levels that will particularly affect certain properties, and that those can be identified in advance. So at least for some of those subject to construction effects, there has to be some potential for early mitigation.

The Board seeks Ms Wilkening's further help on construction noise. Can she compile:

- (1) A list of activities that will not comply with limits.
- (2) Perhaps divide that list into:
 - a. Construction effects of greater than 2 weeks duration;
 - b. Shorter term construction effects;
 - c. A map or plan showing properties likely to be subject to noise above the levels specified.

[796] In offering supplementary evidence in answer to those questions from the Board, Ms Wilkening acknowledged that they were similar to other queries placed before NZTA before the hearing, particularly in relation to the wording in practical implementation of the proposed CNV conditions.

[797] Ms Wilkening compiled a table, drawn in the main from her Technical Report, G.5 (Assessment of Construction Noise Effects). She extracted from that report activities that are likely to exceed construction noise criteria if undertaken without implementation of mitigation measures. The table was presented in connection with construction activities proposed in sectors 1, 3, 5, 6, 7 and 9. It comprised columns headed:

- Activity
- Noisiest equipment
- Estimated total duration (weeks or months)
- Closest receivers
- Noise level at closest receiver without mitigation, $L_{Aeq}(T)$.
- Does it exceed daytime criterion $70dB_{L_{Aeq}}$?

- Does it exceed night time criterion $60\text{dB}L_{\text{Aeq}}$?
- Potential mitigation options (mitigation within designation area)

[798] We subsequently asked for some further information, and a further version of the table was presented with a further column added headed:

- Potential exceedance with mitigation in designation area (day) (night)

[799] We find it most useful to have the information collected together in one place, as it helped in gaining a picture of noise and vibration effects across the Project in a more complete way. This table became Exhibit 9 in our hearing.

[800] Notable examples of construction activity likely to create exceedance above the relatively liberal proposed limits of 70dB by day and 60dB by night, included:

- Sector 3, pad footing or pier construction with drill rig, concrete vibrator and excavator, for approximately 6 months, near the Rosebank Industrial Estate, potential level of 80dB,
- Sector 5, pad footing or pier construction, with drill rig and rock breaking, for approximately 16 months on ramps 2 and 4, near Waterbank Crescent residential area (74dB),
- Sector 6, construction of additional lanes, involving rock breakers/picks, concrete vibrator and asphalt paver, for approximately 4 months about 25 metres from Sutherland Road residents (77dB),
- Sector 7, Great North Road realignment, rock breakers/picks, concrete vibrator, asphalt paver, for approximately 4 months within 10 metres of Oakley Avenue and Alford Street residents (85dB),
- Sector 7, retaining wall structure, drilling rig, for approximately 16 months about 30 metres from Oakley Avenue and Alford Street residents (74dB),

- Sector 7, vent building, soldier piling, for about 12 months, about 20 metres from Oakley Avenue residents (80dB).

[801] The table offered numerous other examples of less significant adverse effects, some by day and some by night. In each case, a brief description was provided of mitigation that would be likely to have been put into effect in order to get sound levels down to those predicted, including timing of works during day or night, temporary construction noise barriers, localised screening, and schedule of works to be distant from residences at night time, or undertaken during school holidays, etc.

[802] Ms Wilkening was at pains to point out that in most instances construction would not be undertaken continuously over the entire duration set out in the table, but would be intermittent while moving along the alignment; hence effects on each property would be for a limited time only.

[803] Ms Wilkening referred to the set of 7 plans attached to the caucus agreement of noise experts, showing dwellings that are located within 100 metres of the surface construction areas, and which would be notified of proposed night time works in their vicinity. She said that providing further maps or plans showing properties likely to be subject to levels above the noise criteria would not be possible at this stage, as the specific choice of equipment and timing of works cannot be determined until a contractor has been appointed. Nevertheless, she considered that the most likely affected properties had been generally identified in the “closest receivers” column of her table.

[804] Ms Wilkening returned to the theme that “*construction noise from large roading projects will inherently exceed construction noise criteria from time to time*”. In practice, on such projects, potential exceedance of the construction noise criteria, and mitigation required, are generally determined by the contractor. This is because the contractor is in control of the site. She reminded us that the CNVMP contains processes on how to assess construction noise on a day to day basis, schedule work and equipment, and implement mitigation, in order to achieve the most effective and practicable outcomes for all affected parties. She considered that the approach had worked acceptably on other large projects in Auckland such as the Victoria Park Tunnel project.

[805] She advised that, for the Victoria Park Tunnel project, an environmental site manager determines, by calculation, the noise levels for each planned activity. Certain

tools are used to predict noise levels and determine in advance if noise criteria might be exceeded. In the event that compliance is predicted, the activity goes ahead and normal monitoring is undertaken. If, however, non-compliance is predicted somewhere, a **Site Specific Noise Management Plan** (“SSNMP”) would be prepared, which includes discussion of the activity, equipment, duration and timing, location, predicted noise levels, and investigated mitigation measures. She said that standard forms for a SSNMP are provided on the NZTA website, but acknowledged that the draft CNVMP for the Waterview project did not include the provision of this methodology. We struggle to understand why NZTA had not earlier put this technique forward for this project, given that it has employed it on at least one other Auckland motorway project.

[806] Accordingly, Ms Wilkening now proposed a process of “greater clarity and certainty”, to be followed in the event of non-compliance being predicted, and she provided us with a draft of some additional sections to be included in the CNVMP to that end. That includes a hierarchy of mitigation options to be followed in the event that potential non-compliance was predicted, as a first stage approach. Questions to be asked would include as to whether it was imperative that night time works were undertaken, questions about equipment and methodologies and relative noise output levels, questions about the use of noise barriers and screens, questions about whether there had been consultation with affected persons and/or whether they had been offered temporary accommodation, and questions about duration and potential individual acoustic mitigation being installed in affected buildings.

[807] The proposed amendments then move on to record that where modelled or predicted levels are greater than the noise limits by less than 10dBA, all practicable measures will be implemented from the CNVMP with the aim of achieving compliance. Further, that if actual or modelled/predicted levels are higher than the limit by 10dBA, works are to cease and a SSCNMP will be submitted to Auckland Council for certification.

[808] We pointed out that more would be required than just lodgement for certification, but that works should remain suspended, or not commenced, pending actual authorisation from the Council.

[809] We also expressed concern at the dividing line being drawn 10dBA above noise limits, for two reasons. First, the noise limits are already in our view more than generous;

and secondly, as already noted, an increase in sound of 10dBA, amounts to an approximate doubling of sound level, and the taking of steps pursuant to a SSNMP should in all probability be undertaken at something more like 5dBA above the noise limit.

[810] Mr Hegley was able to give us some further assistance with these issues. And during the course of his testimony, we gained some further answers as well from NZTA's planner, Ms A Linzey. Ms Linzey was of the view that the "practicality test" (which caused us to scratch our heads in relation to a number of draft conditions), was effectively in the hands of Auckland Council as certifier, and she pointed also to a dispute resolution clause in the CEMP as the over-arching management plan. Mr Hegley and Ms Linzey indicated that the planning witnesses and noise witnesses in the case would be undertaking further caucusing to endeavour to address these issues, and we will turn to that in another part of this decision.

[811] Answering questions from the Board on whether it was reasonable that decisions about mitigation by temporarily relocating people should be left to NZTA or contractors, Mr Hegley was clear in his answers that it wasn't.

[812] In further answer to the Board's concerns about such uncertainties with construction noise conditions (compared with operational noise conditions which we considered to be much more predictive), Mr Hegley advised that the methodology should be seen as being very similar. He believed that predictions should be capable of being made with reasonable accuracy.

[813] As already recorded, we took the step, a few days later, of swearing in the three noise experts together, and questioning them about these matters that were still of concern to us.

[814] Mr Hegley and Mr Hunt particularly agreed with our concern that a 10dBA exceedance above noise limits was too high a level to trigger a SSNMP, and they supported a level of "5dBA above" in its place. We consider that to be appropriate for the two reasons recorded above.

[815] Ms Wilkening pointed out that a SSNMP would be prepared when any potential exceedance was predicted, and that the "plus 10dBA" trigger related to Council certification. That is not how we read the draft amendments to the CNVMP. Mr Hegley

remained of the view that 5dBA is a clearly noticeable increase, and at that sort of level he would expect that Council would be fielding telephone calls of complaint. He offered, however, that the Council involvement could be expressed to commence at 5dBA above a given limit, unless otherwise required by the Council, because if complaints were not occurring it might not be necessary to take further steps.

[816] Mr Hunt was rather more inclined to strive for certainty of process, at around the 5dBA trigger level.

[817] Questions and answers ensued on whether temporary relocation should be at the option of the affected person, and there was ready agreement that it should be. Hearing levels, and perceptions of different sounds, can differ markedly amongst people; notably at one end of the scale some people are relatively more deaf than others. The issue of “practicability” remained at this point to be further considered by the caucus of planners.

[818] As to the issue of the triggering of any 4-week period (or any other period) of notice to affected persons, of an offer to temporarily relocate them, it was agreed amongst the witnesses that further clarification work should be undertaken by the planners’ caucus, in order to achieve certainty.

[819] As to appropriate indoor noise levels at nearby educational institutions affected by the construction works, Mr Hegley noted that precise agreements appeared to have been reached by NZTA with Unitec, and the Waterview school and the Kindergarten. The basis for the Kindergarten settlement has been to permanently re-establish it at some distance from the motorway portal buildings and roadway. The school is to receive, amongst other things, buildings relocated away from the works, sound attenuation mitigation, and artificial ventilation. Sound attenuation in certain Unitec buildings at an early stage of the Project has been offered that party, amongst other things like temporary relocation of students from the hostel in certain circumstances. Further details of the settlements with these parties are recorded later in this decision.

[820] As to an issue of recommendations by Mr Hegley and Mr Hunt that certain controls be placed in conditions rather than the next layer down, the CNVMP, Ms Wilkening agreed.

[821] On the issue of enclosure of concrete batching plants and rock crushers, there seemed to be a level of agreement that associated truck loading areas should also be enclosed, given otherwise the potential for considerable noise from that activity. We later included conveyors in the list, and the experts have accepted that and drafted CNV.9 accordingly.

[822] On 16 March, the planning experts lodged a **further Caucus report**. They worked on the issues that had been the subject of the “hot tub” session with the noise witnesses, just described. Their brief written statement recorded agreement on further revisions to the noise and vibration construction conditions, to provide:

- Greater certainty around the process for construction noise management; in particular the conditions had been revised to reflect the process illustrated and proposed to be included in the expanded draft CNVMP, attached to Ms Wilkening’s supplementary statement of 28 February.
- Clarity on the timing and roles of Auckland Council, residents and the NZTA in the assessment of what is “practicable”, and in the certification process.
- Providing linkages between the conditions and the process of the management plan.

[823] Amendments were offered to draft conditions CNV.1, 2, 4, and 13.

[824] In addition, we were advised that following the planning caucusing, the noise experts joined the session, and collectively all attendees confirmed the latest draft revisions.

[825] We were very pleased to note that the use of the term “as far as practicable” had been deleted from these proposed conditions, and processes suggested to be followed where noise criteria in conditions CNV.2 and 3, and vibration criteria in CNV.4, could not be met.

[826] The draft of CNV.10 was altered to provide that if noise and vibration monitoring of the tunnelling works for the Project (in accordance with CNV.1) indicated that the noise or vibration criteria of conditions CNV.2(c) and CNV.4 would potentially be

exceeded, and that temporary relocation would be offered for residents at 1510 Great North Road, then relocation (and temporary transportation) would be arranged with the leaseholder at that property for tenants, with at least 1 month's notice to the leaseholder prior to relocation; further that any accepted offer of relocation has to be in place prior to tunnelling works within 50 metres of the building.

[827] A new CNV.11 was put forward in relation to all other properties, to the effect that if noise and vibration monitoring of the tunnelling works indicated that those conditions would potentially be exceeded, then the process set out in the CNVMP would be undertaken, including site specific noise management plans, and any relocation of residents undertaken in accordance with processes in such.

[828] CNV.13 was amended to require that SSNMPs are to be submitted to the Council noise officer and Council compliance officer for review and certification at least 7 working days prior to the proposed works commencing, with a decision to be provided within the council within 5 working days of receipt, and works not to commence until certification is received. Provision is made for the Council, at its discretion, to waive the requirement for SSNMPs to be submitted.

[829] The proposed noise limits in CNV.2, and blasting pressure levels in CNV.3, and vibration limits in CNV.4 remain unaltered, in effect reflecting the reality of the nature of the Project. Of importance in the latest proposed changes, is a requirement in CNV.1(xv), that the process for developing SSNMPs, including templates and a certification process for Auckland Council in accordance with CNV.13, will occur in the CNVMP, in order to confirm the process of SSNMP review of noise mitigation options where the modelled/predicted or subsequent levels exceed the criteria in CNV.2 and/or CNV.4.

[830] In addition, Unitec reached agreement with NZTA late in the hearing as to modifications to CNV.1 and CNV.2, both of which have entered the latest version of the draft conditions of consent.

[831] In our 7 May directions to the experts, we required a number of further changes, essentially by way of some fine tuning. They have responded in accordance with our wishes, and the important topic of construction noise and vibration has ultimately been dealt with by a very positive iterative process.

7.16.3 Motorway operational noise and vibration

[832] NZTA's acoustic witness Ms Wilkening, provided evidence in chief, a rebuttal statement, and two supplementary statements on this topic. Fairly liberal reference was made in these statements to documentation supporting the original application. Evidence from others was somewhat limited; in particular it was the brief from Auckland Council to Mr Hegley that he address construction noise issues rather than operational. The Board commissioned a report under s42A RMA, from Mr M Hunt, as previously noted.

[833] Individual submitters filed a number of briefs of evidence expressing concerns about potential operational noise, and steps that should be taken in mitigation.

[834] A consequence of there being very little expert evidence in answer to the evidence of Ms Wilkening, was that the caucus of noise experts focussed on construction noise issues almost to the exclusion of the longer-term operational noise issues.

[835] As a Board we have endeavoured to avoid extending matters of controversy. Indeed our aim has been to narrow issues, gain focus, and encourage agreements among experts. Nevertheless, on this occasion, we were left with some considerable misgivings about aspects of operational noise, deriving from the proposed implementation of the new New Zealand standard NZS6806:2010: Acoustics – Road Traffic Noise – New and Altered Roads. Some of the particular issues brought to our attention by submitters in their personal statements of evidence, tended to highlight these misgivings. We therefore spent quite some time in the hearing questioning Ms Wilkening and Mr Hunt, and gaining some assistance from Mr Hegley despite the fact that operational noise had not been included in his brief. And ultimately, as already recorded, we “hot-tubbed” these three witnesses.

[836] In order to address the issues of concern at all adequately, it will be necessary for us to set out the background and describe the positions of each expert witness.

[837] Along with all evidence on the topic, written and oral, we have considered the original report by Ms Wilkening which comprised part of the Assessment of Environmental Effects (Part G, Technical Report G.12).

[838] Ms Wilkening's approach was heavily based on the new 2010 Standard mentioned above, the nature of which she acknowledged was extensive and complex.

[839] The standard includes some of the methodologies used in the Transit Noise Guidelines for the assessment of road traffic noise, including a concept of a "design year" at least 10 years after the opening of the Project. Ms Wilkening assumed that to be the year 2026.

[840] The standard specifies the types of protected premises and facilities ("PPFs") which are to be assessed in accordance with provisions in the Standard, including of relevance in this case, dwellings, educational facilities and certain playgrounds. The standard requires that PPFs need to exist, or have building consent issued, at the time of assessment. It also requires that they be within 100 metres of the proposed road alignment. Assessment positions are at the facades of each PPF. Commercial and business premises are excluded.

[841] The noise criteria of the standard are not based on existing ambient noise levels, but distinguish between new and altered roads, and roads carrying different traffic volumes.

[842] The basis of operation of the standard is the application of "best practicable option" ("BPO") to achieve one of three noise criteria categories (A, B and C), which are applied progressively; for instance, if criterion A is not practicably achievable, one moves to criterion B, and subsequently if necessary, to criterion C.

[843] Of relevance to this project, for new and altered roads with a predicted volume greater than 75,000 AADT at the design year, category A has a noise criterion of 64dB_{Leq} (24h), while B has a noise criterion of 67dB_{Leq} (24h) (both readings being external to buildings), while C has an internal noise criterion of 40dB_{Leq} (24h).

[844] The standard focuses on structural or external mitigation being implemented in preference to individual building modification for attenuation, but if habitable rooms would, after other mitigation options have been followed, receive external noise levels of more than 67dB and internal noise levels greater than 45dB, mitigation is to move to achieve category C compliance.

[845] As part of its approach to the BPO test, the Standard provides for operational scenarios to be assessed and compared, which are the existing noise environment, a future do-nothing scenario, a future do-minimum scenario, and several future mitigation options. The approach to be taken is set out in Appendix D to the Standard, which is a cost benefit analysis to be undertaken pursuant to formulae recommended, based around a national median dwelling price. Considerations such as urban design, safety, and cost come into the equation, driven by the project proponent.

[846] We understand Ms Wilkening to be correct when she advises that this project is one of the first to be assessed in accordance with the Standard. She clearly recognised that the Standard sets out to provide “general guidance as to methodology”, and suggested that she and the Project team had developed processes suitable to undertake a robust assessment of noise mitigation measures. It is probably in relation to that latter claim that we start to have misgivings.

[847] Ms Wilkening took the following steps for her assessments:

- (a) She developed several noise mitigation options for each individual noise receiving environment, that is all relevant buildings within the stipulated 100 metre distance of the road, and other PPFs; members of the Project team provided feedback from their areas of expertise (which we understand to have included the previously described aspects of urban design, safety, and cost); all feedback was then compiled in matrix form.
- (b) Mitigation options and their implications relating to all relevant project disciplines were discussed in workshops for each affected sector; often alternative mitigation options were developed.
- (c) The Project team then decided on the BPO for noise mitigation for each noise receiving environment.
- (d) Ms Wilkening recalculated the noise levels using the agreed BPO mitigation measures, which formed “Preferred Mitigation Options”, for each sector of the Project

[848] The assessments of individual houses in sectors 1, 5, 6, and 9, manifested themselves in sector plans exhibited as Appendix E to Ms Wilkening's earlier report, on which category A houses were mapped green, category B, yellow and category C, red. Notably, very few dwellings or other PPFs were mapped in red, indicating a view that had evidently been formed by the Project team in carrying out its assessment, that very little in the way of individual attenuation on buildings would be likely to be needed.

[849] Ms Wilkening told us in her evidence in chief that she had based the assessment work on a combination of long and short duration noise level surveys conducted during the last 9 years, and predictions undertaken by computer noise modelling. The surveys demonstrated ambient noise measurement results ranging from 46dB-71dB_{L_{Aeq}} (24h), which logically could be seen to depend on the relative proximity of busy roads. Ms Wilkening used the results of these surveys to verify the predictions of her computer noise modelling in accordance with the standard, and considered that the computer noise model predicted noise levels to within 2dB of the measured levels for the survey locations. She considered that individual receiver prediction levels were more accurate than noise level contours.

[850] Ms Wilkening made assessments in relation to each sector, based on current and predicted traffic volumes, assumptions about future road surface (for instance, open graded porous asphalt (OGPA) or stone mastic asphalt (recognised as low noise-generating road surface materials)). Additional mitigation could be achieved with twin layer OGPA, and she assessed where such surface could be used in the Project as part of the BPO to comply with the Standard. She also assessed the potential mitigation available from safety barriers to be erected on bridges and ramps, the use of other barriers such as earth bunds, and building modification mitigation.

[851] As already noted, her focus was on sectors 1, 5, 6 and 9.

[852] In **sector 1**, Ms Wilkening noted that there are already current high traffic noise levels in Te Atatu from SH16. She considered that the widening would produce a small increase in noise levels of up to 2dB for most of the PPFs in the sector. The exceptions would be those dwellings currently shielded by others that will be removed for the work. Consequent increases could be up to 6dB. Barriers varying in height from 2 metres to 3 metres were recommended. Four dwellings in Alwyn Avenue and Milich Terrace were

identified as still likely to exceed the category B criterion, and building modification should be offered to achieve category C criterion.

[853] In **sector 5**, there would be new interchange ramps and realignment of existing roads. Existing noise levels apparently vary from 52dB_{L_{Aeq}} (24h) for dwellings distant from SH16 and Great North Road, to 70 dB_{L_{Aeq}} (24h) for dwellings in Point Chevalier overlooking SH16 and the interchange. The Project would apparently produce a small increase in noise levels up to 3dB. The Project team developed a large number of mitigation options, but elevated properties would be difficult to achieve mitigation on. Traffic noise barriers would be largely ineffective. Highly attenuative road surface treatments would be employed.

[854] Ms Wilkening considered that only one dwelling in this sector would exceed the category B criterion, at 49 Montrose Street, which might require building modification to achieve category C.

[855] Buildings within the Unitec complex were identified as being in the same situation. Agreement has been reached with Unitec about treatment of those. ON.10 has been amended in the manner called for (that NZTA will obtain any necessary third party authorisation). As to noisy activities during exam time, condition SO.1 has been amended as agreed in the latest version. A dispute resolution provision, draft condition PI.4 (e) has been added as well.

[856] In **sector 6**, existing noise levels vary from 56dB to 74dB. Increases of between 2 to 6dB could result for affected PPFs. Mitigation options have been developed involving a combination of bund and barriers varying in height from 2 to 6 metres. Six dwellings north of SH16, in Parr Road North and Great North Road might require category C mitigation.

[857] South of SH16, some PPFs are located on a ridge above the road such that placing a barrier along the road edge would be ineffective. There would also be disadvantages from shadowing and visual effects. In places a barrier could be erected of between 2 and 4 metres in height, offset from property boundaries, but we wonder about the visual effects of that. If that mitigation were to be carried out, Ms Wilkening considered that there was only one building in this area, 26A Carrington Road, which would need to receive category C mitigation.

[858] In **sector 9**, a new section of surface motorway will pass through an existing residential area where ambient levels are quite low, except where adjacent to major roads such as Richardson Road. Current noise levels range between 45dB and 66dB. Significant increases in noise level would result for many dwellings. Barriers are intended in places ranging from 2 to 5 metres in height, and no building modification mitigation considered necessary. At the northern end of the sector the highway moves into a deep cut, which will shield buildings from traffic noise.

[859] Ms Wilkening predicted that three dwellings in Methuen Road would be likely to receive noise levels above category A criterion, but the proposed barriers would achieve reductions of 4dB.

[860] In respect of sector 9, Ms Wilkening commented that it is not possible to operate a major motorway without generating noise, but noise reductions can be achieved to “reasonable levels” while also being practicable in relation to “other disciplines such as urban design, safety and constructability”. We take it that “constructability” means “cost”, as that is the word used in the Standard.

[861] Ms Wilkening remained of the opinion that the mitigation measures that she had proposed would be the “BPO”. She then made the slightly startling observation that for sector 9, with the implementation of the BPO, noise effects on PPFs would still be more than minor, but would “not be unreasonable”.

[862] Perhaps not surprisingly, several submissions offered adverse comment on the scale, prospective effectiveness, and length of noise barriers, particularly in sector 9.

[863] In sector 1, some submissions from Alwyn Avenue residents requested that an earth bund have its shape reversed, with vegetative landscaping facing dwellings to a greater degree. Ms Wilkening considered that there would be no difference to predicted noise levels, but we acknowledge the point about the quality of visual amenity. As already noted, three dwellings might qualify for assessment for category C mitigation.

[864] As to **Category C mitigation**, Ms Wilkening pointed to recommended draft conditions ON.6 to ON.11, as to process, and noted that the dwellings mapped by her in red as possible candidates for such treatment, would be “assessed further”. She considered the proposed process to be robust, allowing sufficient time for assessment of

building modification mitigation requirements and a dialogue between NZTA and affected parties.

[865] In relation to sector 5 near the Great North Road interchange, Ms Wilkening noted, correctly, that some submitters were concerned that they had not been identified as a category C dwelling and therefore were not considered for building modification mitigation. She noted that topography would produce different results for some dwellings compared to others. We consider that the issue here goes somewhat deeper.

[866] Ms Wilkening considered that a submission from Auckland City Council had misinterpreted the Standard. She said that the Standard does not require that existing and future noise levels are compared, nor does it require that following construction of a project, noise levels at all PPFs should be 64dB or less. She reiterated that the standard is based on the concept of the BPO. Our worry is that possibly too much faith has been placed on the Standard, and that it has been employed more as a “Standard” than as a “recommendation”, which in fact the fine print reveals the document to be.

[867] Ms Wilkening, in summary in her evidence in chief, recorded that the draft consent conditions that she proposed had been based on her assessment, itself borne of a detailed process to determine the BPO. She offered the opinion that the effectiveness of these mitigation measures can be tested following the implementation of the Project by means of noise level surveys and updated computer noise modelling. However we question the wisdom of leaving matters in that way, particularly having regard to our misgivings about some aspects of the use of the Standard.

[868] The author of our **S42A report, Mr Hunt**, acknowledged in that report that some parties had expressed uncertainty regarding likely patterns of effects and the significance of effects in certain areas, but noted that the report had been “peer reviewed”, and considered that it set out reliable estimates of effects. He also considered that the report appropriately recommended monitoring and, where necessary, subsequent response to achieving the Project’s noise performance targets. Our concern is frankly with those very noise performance targets, which have been set by heavy reliance on the Standard.

[869] Mr Hunt helpfully provided a description of the workings of the Standard, which no doubt he was well placed to do, having apparently been one of its authors. We were a

little troubled, however, that he placed strong reliance on the Standard's BPO approach as being in his view a "cornerstone of the RMA".

[870] Our concern about that is in one respect simple, and in another, rather more complex. In simple terms, we are concerned that application of the BPO approach in the Standard appears to involve those who devise it in making value judgments in a number of areas which are the province of the ultimate consent authority, in this case, this Board. For instance in clause 6.3, the development of BPO, recommends that those devising it consider not only potential noise effects and possible mitigation, but inputs from other specialist areas such as visual, urban design, safety Standards and Guidelines, ecological, heritage, scientific, and cultural matters. There is also a requirement to carry out a cost benefit analysis in accordance with the provisions of Appendix D of the Standard. We have already noted some concerns about the methodology of that.

[871] A further point of some note for us, was that (somewhat in contrast with the situation regarding predictions of construction noise), Ms Wilkening and her team had been able to make predictions about operational noise effects on many residential properties and other PPFs, with considerable precision. This was acknowledged by Mr Hegley under questioning from the Board, and no expert offered any criticism of the quality or the methodology of Ms Wilkening's technical report in Part G of the AEE materials (G.12).¹²⁹

[872] Under questioning by members of the Board, Mr Hegley was referred to proposed conditions ON.1, ON.2, and ON.6. First, asked whether there were any noise levels prescribed inside inhabitable rooms for categories A and B buildings in Appendix E to the AEE technical report, Mr Hegley agreed that there were not. He also noted that draft condition ON.6 was unclear even in the case of category C, because it provided that building modification mitigation [in accordance with the Standard] "*may*" be required to achieve 40dB_{L_{Aeq}}. And then, we note from Clause 6.1.2(c) of NZS 6806:2010, only when "the internal noise levels of any habitable space would be greater than 45" (on that scale).

[873] Mr Hegley agreed that he was concerned that it would not necessarily be the case that habitable rooms in categories A and B buildings would get noise down to 40dB, and

¹²⁹ Mr Hegley acknowledged that the methodological concepts in relation to prediction of both kinds of noise, are identical.

they certainly would not if windows were open. With windows closed, he thought that attenuation of 20dB, or a bit more, could be achieved, depending on the nature of joinery.

[874] This left us with a concern that buildings in categories A and B, with external noise readings of 67 and 64dB might experience internal noise levels of approximately 47 and 44dB respectively, significantly above the target 40dB inside category C houses after attenuation. And that is supposing occupants are happy to keep all windows and doors closed, which might be quite unlikely at certain times of the year given the nature of Auckland's climate. We also offered the thought to the witnesses that owners and occupants of category C buildings might ironically be luckier than owners and occupants of categories A and B buildings.

[875] When we conducted the hot tub of the acoustic experts, Ms Wilkening explained that the 67dB level (as an example) was a 24 hour average, so that the night time noise levels would be considerably lower. She considered that dwellings near the existing SH16 and Great North Road would actually receive improved noise levels compared to the present. Under further questioning she indicated that the night time levels might be about 10dB lower, and that a further attenuation of up to 25dB might be obtained with windows closed. The reasonably simple arithmetic produces for us, the result that on a hot summer Auckland night, with the windows open, habitable rooms could experience a level of up to 57dB (based on 72dB at the facade).

[876] Mr Hegley underlined our concerns, indicating that a 10dB reduction at night might be experienced only in the absolute dead of night; otherwise the reduction would be less than 10dB during most sleeping hours. Mr Hegley expressed concern about the way in which the standard was written concerning category A and category B PPFs. He considered that sleep at night time was important for people, and that the aim should be to produce certain acceptable levels of noise indoors, in relation to all three categories, at night. He agreed that, for instance, this might mean a need to offer mechanical ventilation for houses where it was going to be necessary for windows and doors to remain shut.

[877] For his part, Mr Hunt was inclined to consider that the problem was not so much about L_{Aeq} , as about L_{Max} . Nevertheless, he also said that in comparison to the likes of ports and airports, roads were more appropriately amenable to 24 hour averaging of measurement and assessment. He commented on the World Health Organisation's apparent aim for attaining 30dB in bedrooms, and did not consider that such could be

reasonably sought along the majority of the proposed route, given the existing high noise levels.

[878] We are minded that night time levels of 30 or 35dB in habitable rooms, are levels often aimed for when controls are being set on noisy activities being consented in the near vicinity of PPFs. We note as well some inconsistency of approach by Ms Wilkening as between apparently desirable habitable room levels under construction conditions (see Section 7.16.2 above), and her views in relation to operational noise. We are also particularly minded that within sector 9, the assessments in Ms Wilkening's Technical Report, demonstrate current low ambient noise levels, except close to Richardson Road, a major road.

[879] A little over a week after the "hot tub", we received a further caucus report from the noise experts. We very much appreciate their further attempts at narrowing issues, and note that, perhaps remarkably, they considered that they had "resolved" all issues.

[880] They now all offered support for the application of the concepts and criteria set out in NZS6806:2010, for several reasons, including that road traffic noise is generally treated differently to industrial and other noise sources, World Health Organisation guidelines for internal and external noise levels are rarely achieved anywhere in the world next to busy roads, noise from new and altered roads is assessed in accordance with NZS6806:2010, and that the Standard embodies the requirements of the RMA including the concept of BPO.

[881] We have already recorded our view that as a matter of law we disagree with the view that NZS6806 embodies the requirements of the RMA in a proper fashion.

[882] The experts then noted that only a small number of buildings (14 of the 521 buildings assessed) had been identified as potentially receiving noise levels above "reasonable external levels" – that is dwellings in category C. They then proceeded to record that in accordance with the Standard, achieving the external noise criteria of categories A and B would provide a "better noise outcome for residents than the internal criterion for category C buildings". No further reasoning was supplied, and in particular no comment that would explain why the simple mathematics to the contrary, aired during the "hot tub" session, would not remain correct.

[883] Next, the experts said that for dwellings in sectors 1 to 7, along existing main roads, the BPO will result in betterment for the most affected dwellings. They did not define what they meant by “most affected dwellings”, but we infer that these are the category C buildings (the 14 referred to above).

[884] The experts then recorded that they considered by achieving the noise criteria of categories A and B externally, internal noise levels would be sufficiently controlled to “reasonable levels of traffic noise”. Again, this simply does not seem to stack up against the maths offered by Mr Hegley in particular, when the witnesses were jointly answering our questions. Nor were we told why the suggested levels were now considered to be reasonable.

[885] We applaud efforts by witnesses to endeavour to narrow issues and reach agreements, but there will on occasions be times when we do not agree with them, and this is one of them.

[886] Having heard and carefully analysed the preceding submissions and evidence, we are left with the proposition underlying the evidence of Ms Wilkening, and Mr Hunt’s report, that they seem to consider that persons living next to a motorway can properly be exposed to higher noise levels than persons receiving noise from other sources. If Mr Hunt’s opinion were to be accepted, a “natural selection” process would occur whereby those persons who are accepting of elevated levels move in and/or stay, while those who do not, leave¹³⁰. Motorways may well have distinctive noise characteristics. And communities may well value motorways, as they do other transport modes. However, it does not necessarily follow that motorways are a “special case” to the extent that people living proximate to them should be exposed to significantly greater adverse effects, without appropriate mitigation, than those receiving noise from other sources. This part of the case is about determining what constitutes appropriate mitigation.

[887] We find it relevant that NZS 6806:2010, which NZTA proposes be followed closely, is not concerned singularly with managing the adverse effects of road noise on recipients. Rather, it has been developed with the stated intention of providing:

“..... reasonable criteria for the road-traffic noise from new or altered roads taking into account adverse health effects associated with noise, the effects of relative changes in noise levels on

¹³⁰ TOP p 1166 line 10ff

people and communities; and the potential benefits of new and altered roads to people and communities”¹³¹.

As such, the criteria appear to:

- Place disproportionate weight on that part of s.5(2) concerned with enabling the community’s economic, and possibly social, wellbeing relative to the social wellbeing and health of affected people.
- Potentially discount the adverse cumulative effects of elevated noise on recipients.
- Inadequately address those parts of s.5(2)(c) RMA concerned with avoiding, remedying and mitigating adverse effects.
- Not engage those parts of s.7 RMA concerned with amenities and the quality of the environment likely to be of concern to impacted persons.
- Assume that those who experience the effects of noise also derive road benefits, which for the Waterview Connection Project is disputed by many, and which “benefits” we have held are limited at best.
- Inadequately address s16 RMA (“duty to adopt...the best practicable option [“BPO”] to ensure that the emission of noise...does not exceed a reasonable level”). We are concerned that Ms Wilkening and Mr Hunt held the view that NZ6806 approaches the development of a BPO in a somewhat rigid manner (eg Mr Hunt’s assertion that the standard’s BPO approach is a “cornerstone of the RMA”). That is not how we read s16 and the definition of BPO in s2. Further, we note that the Foreword of NZS6806 makes it clear that the Standard offers guidance and recommendations, and that it can constitute a “relevant matter” to take into account when exercising functions and powers under the RMA. In our view it is clear that the document is not a “standard” in the sense of providing a test or a set methodology. There is no statutory link between the RMA and 6806 of such a kind. A consent authority must have its full suite of powers and discretions concerning the identification of a BPO, subject to express provisions of the Act. In any given case it will have a wide range of facts, issues and topics it must consider in relation to noise and a multitude of other matters, as here.

¹³¹ G: 12 [4.1.5]

[888] Simply put, the Board does not accept in the present case that dwellings receiving more than 67 dB $L_{Aeq(24h)}$ at their facade, and having habitable space levels greater than 45 dB $L_{Aeq(24h)}$ with their windows closed, should potentially qualify for mitigation to 40 dB $L_{Aeq(24h)}$ indoors while PPFs receiving a little less than 67 dB $L_{Aeq(24h)}$ should not.

[889] The arithmetic we have earlier set out indicates that to achieve 40 dB $L_{Aeq(24h)}$ in habitable spaces it will be necessary for the noise level measured at a dwelling's facade to be in the order of:

- (a) 60 dBA or less with windows closed; and
- (b) 55 dBA or less with windows open.

From the NZTA data in G:12 Appendix F it is evident that many of the 500 plus dwellings within 100m of the proposed new and upgraded motorways are forecast to exceed 60 dBA in the 2026 design year. We agree that it is likely there will be significant numbers in that category. The most significant increase in numbers occurs in Sector 1 north of SH 16 and in Sector 9 south of proposed SH 20. In at least one location, namely Sector 1 south of SH 16 and west of Te Atatu Road a significant decrease in the number receiving more than 60 dBA is projected.

[890] It was Ms Wilkening's uncontroverted evidence that retrofitting noise barriers and providing an upgraded road surface will result in an improved noise environment for SH 16 and Great North Road dwellings – with two exceptions¹³². We take that evidence into account but are not persuaded that a reduction which lacks a specific target level gives sufficient effect to the “avoid, remedy and mitigate” component of s.5(2)(c) or, as proposed, would necessarily result in sustainable management of the affected resources (housing stock). Nor were we at ease with Ms Wilkening's evidence that “10 [dBA] or something”¹³³ should be deducted from forecast average dB $L_{Aeq(24h)}$ levels to properly understand likely night time levels. We prefer Mr Hegley's evidence that a 10 dBA night time reduction is unlikely, including in the 6am – 7am period when traffic is building towards the morning peak and when there may be “.....only a couple of decibels reduction”¹³⁴. We expect a similar position would apply in the early night time shoulder.

¹³² A small number of Alwyn Avenue residents, who reportedly prefer an unimpeded view of the Whau River (to noise barriers) and a Housing Corporation property at GNR.

¹³³ TOP p 1163 line 33

¹³⁴ TOP p 1164 line 17ff

We are also mindful that the average forecast figures would, by definition, be exceeded during the daytime producing elevated habitable space levels when some persons might reasonably be expected to be at home and, for example, sleeping (shift workers), in bed unwell, or studying.

[891] The Board accepts with a degree of reluctance that, generally, it may not be feasible to mitigate outdoor noise levels at or close to the source to any greater extent than NZTA proposes. The projected levels are high relative to what is experienced in other residential environments and can be expected to have an adverse effect on outdoor recreation and social activities - as doubtless occurs in parts of Sectors 1, 5 and 6 now. It is not practical, however, to build higher and higher barriers without adversely affecting the amenities and environment of motorway users and adjoining residents. If there is to be mitigation for this effect it will need to be through another avenue.

[892] The Board does not accept, however, that the Project should leave the occupants of any dwelling, whatever the outside noise, with an indoor noise environment which is incompatible with sleep or reasonable living conditions. This is a matter capable of practical mitigation and we note Mr Hegley's evidence to like effect, when commenting on the Standard, that "it may be appropriate to [include a] level for an indoor value as well"¹³⁵. Further, we find it inconsistent with the purpose of sustainable management that the noise level in any habitable room should have to reach 45 dBA with the windows closed before mitigation to 40 dBA is required. In Auckland people do not typically sleep with bedroom windows closed, especially in the summer. A consequence of NZTA's proposed approach is that with windows open noise levels in bedrooms would significantly exceed 45 dBA. If 40 dBA is deemed to be a reasonable level in the circumstances of motorway noise, and we heard no technical evidence to the contrary, all affected habitable spaces within 100m of the motorway(s)¹³⁶ should achieve that level¹³⁷. It would be preferable if this could be achieved with windows open but we must pragmatically accept that the mitigation which this could require by structural means closer to the source may not be feasible, and forced ventilation may need to be provided. In our judgement the equivocation about committing to building modification mitigation

¹³⁵ TOP p 1165 line 15

¹³⁶ Taking our lead on distance from the 2010 Standard.

¹³⁷ The directions that follow recognise that 45 dBA for habitable space is high relative to that typically found acceptable from non-motorway noise sources as illustrated by the HC Decision in *Ports of Auckland Ltd v Auckland City Council and Others* [1999] 1 NZLR 601; [1998] NZRMA 481; 5 ELRNZ 90, where the Court found at p 21;

"There is no dispute between the experts on both sides that a noise level above 35 DBA _{L10} inside a residential property is unacceptable".

when the specified indoor level is exceeded, and which Mr Hegley rightly criticised in proposed Condition ON.6, is also inappropriate. The words “where practicable” in proposed ON.2 create similar uncertainty.

[893] Having made the preceding findings, the Board informed the parties of its intention to make findings, in its directions to the parties’ experts on 7 May, and sought that they draft amendments to the proposed 25 March 2010 conditions to achieve the following outcomes:

- (a) That NZTA identify all PFF located 100m or less from the motorways with habitable space likely to receive in excess of 40 dBL $L_{Aeq(24hr)}$ from motorway operational noise with windows closed, in the design year.
- (b) That NZTA appraise the owners of such properties of its assessment and seek the opportunity to inspect the properties to establish a method for providing the properties’ habitable space with building mitigation so that a 40 dB $L_{Aeq(24hr)}$ noise level is not exceeded in those spaces. The mitigation may include forced ventilation and may require windows to remain closed.
- (c) NZTA is to advise the owners of affected buildings of the building mitigation measures identified by it as necessary to achieve the indoor noise level at (b) above.
- (d) If the building owner elects, NZTA shall install the building mitigation at (c) above at its own cost in all things prior to completion of construction of the Project. Workmanship, materials and equipment shall be specified to a standard agreed by the council.
- (e) If the opportunity for NZTA to make an assessment is denied by the building owner at (b) above, NZTA need take the matter no further.
- (f) Work on the preceding and all other noise-related matters shall be undertaken on the NZTA’s behalf by a suitably qualified and experienced acoustic engineer approved by the council.

Consequential amendments to the proposed 25 March 2011 conditions were directed to be made as necessary, including the deletion of provisions for Category A – C buildings. These directions were expressed not to affect any voluntary Agreement entered into on noise mitigation matters between the parties.

[894] We also had detailed concerns with the wording of Condition ON.12 – the condition should state that NZTA is not responsible for the management and maintenance of building modification mitigation measures installed by it on private land. The position as regards structural mitigation measures is different. We see no good reason to qualify retention of their attenuation performance by the words “to the extent practicable”. Nor are we persuaded that responsibility for retention of their attenuation capability should cease at the design year. The latter is to be ongoing for the life of the designation(s), which is indefinitely.

[895] We would add that while we consider that the carrying out of the above mitigation should reasonably address the environment of habitable space, nevertheless the outdoor environments for people living near the motorway will remain affected to more than a minor degree, especially in Sector 9 for properties not near existing arterial roads. We reiterate however that it is not reasonable to erect higher and higher barriers, and this residual outdoor effect is one of the matters that must ultimately be weighed along with so many others in coming to an overall result in the case.

[896] Mr Hunt responded to our 7 May directions, initially by conveying through the EPA that he was concerned that the Board might have misconstrued the workings of NZS 6806 as best practicable option and its alleged relationship with the RMA. We addressed him (copied to all parties) in terms of the law on the matter as we have described it in this decision, and he responded, accepting that the directed changes would work in a way that “does not undermine the approach of NZS 6806:2010”. The experts have undertaken the re-drafting exercise to our satisfaction except in 3 respects. First, they sought to introduce a further qualification to ON.10 that the building modifications meet “standards required in Section 8.3 of [the Standard]”. We have studied Section 8.3. Much of it is irrelevant for present purposes, and worse, in places raises the Categories A,B and C trichotomy that we had ruled out. Only 8.3.2 is of relevance and assistance. Secondly, some of the subparagraphs of ON.10 appeared needlessly to maintain a distinction between “Category C” buildings on the one hand and other PPFs on the others. Thirdly, the drafting employed

the term “habitable rooms” where “habitable spaces” is the defined language in the Standard. We have made further refinements accordingly.

7.17 Explosives

[897] In answer to an enquiry from the Board, NZTA representatives advised that it was not the intention to store explosives anywhere within the footprint of the works, including in the construction yards. At the time of the hearing the draft conditions of consent were silent on the issue. Draft condition CEMP.10 has since been modified at our direction to expressly prohibit the storage of explosives on site.

7.18 Landscape and Visual Issues Generally

[898] The principal evidence given on behalf of NZTA in this area was from Mr S K Brown, an experienced landscape architect with qualifications in that field and in planning. Mr Brown was the author of an extensive report as part of the AEE, entitled “Assessment of Visual and Landscape Effects”. This report discussed the assessment process applied, a description of all proposed sectors, detailed descriptions of the existing environments in them, and detailed analysis of effects. He attached a considerable volume of appendices, being viewpoint location and visual catchment maps, Buildmedia and Precision Aerial Surveys Visual Simulation, assessment matrices and photographs, together with a technical description of the visual simulation methodology employed.

[899] In addition we considered urban design evidence from Ms L R Hancock, open space networking evidence from Mr D J Little, and architectural evidence from Mr A D Gibbs, an urban designer and architect (concerning design issues surrounding the ventilation buildings and stacks at each end of the proposed tunnel).

[900] Evidence was also given by other experienced landscape architects, Mr D J Scott, called by Auckland Council and Auckland Transport, Ms M J Absolum, called on behalf of Living Communities (Auckland) Inc, and Mr R J Pryor, called on behalf of the Auckland Kindergarten Association.

[901] The evidence in chief of Mr Brown covered the whole proposal most extensively and comprehensively. The other experts, and numbers of submitters representing themselves, focussed on particular issues. Indeed, landscape and visual issues attained a

relatively narrow focus in many areas of the Project, so we will content ourselves with a relatively brief record of the evidence in chief of Mr Brown. One matter that should expressly be mentioned however is that the AEE and the evidence of some of the experts noted that in the Auckland Regional Plan: Coastal 2004, the Whau River, Traherne Island, and Rosebank Reserve are each identified as an outstanding landscape (ranking 6 out of 7), but in the context of an environment already heavily modified. We discuss the matter again in this decision in the section dealing with that plan.

[902] This was also another area in which we directed caucusing of expert witnesses, which resulted in a narrowing of issues and some professional agreements.

[903] The evidence in chief of Mr Brown somewhat anticipated the likelihood of such narrowing of issues, because he concluded that the Project's "higher order effects" were found to be concentrated around the Te Atatu interchange, the Great North Rd interchange, the Oakley Creek/Northern Waterview area, and the vicinity of Allan Wood Reserve and Hendon Park. He placed particular emphasis on discussing potential effects from new ramps and infrastructure at the northern tunnel portal in Waterview, the displacement of most of Allan Wood Reserve by the new SH20 corridor and southern tunnel portal at Owairaka, and the new tunnel portal buildings and ventilation stacks at each end of the proposed tunnel.

[904] As he had recorded in his earlier Assessment Report, there is the potential for considerable adverse visual effects at the interchanges and in the vicinity of the tunnel portals, despite extensive mitigation being proposed. Indeed, his report and his evidence in chief were quite forthright about these matters.

[905] By the time he came to write his evidence in chief, Mr Brown was able to acknowledge the content of many submissions lodged, and some subsequent work undertaken by Mr Gibbs's firm Construkt Architects in an endeavour to modify and mitigate visual effects in the vicinity of the tunnel portals.

[906] Despite his "unvarnished" acknowledgments about some features, Mr Brown offered the opinion that – overall – the visual and landscape effects of the Project would be manageable and appropriate in relation to the predominantly urban environments exposed.

[907] Subsequent to lodgement of the Project application, Mr Brown prepared and lodged as Appendix 8 of G.31, an Addendum to Technical Report G.20. This cross-referenced to a number of other technical reports lodged in support of the application, concerning lighting, terrestrial vegetation, stormwater and stream works, archaeological effects, and mitigation options and alternatives that had been prepared, particularly in relation to possible relocation of the northern and southern tunnel portal buildings and stacks, and possible modifications of them including by partly burying and/or lowering features of them.

[908] Mr Scott, while generally supportive of the extensive urban design and landscape work that had been done by the applicant, made the almost trite observation that the bundle of documents that comprise the application and AEE reflects the complexity of the proposal. In relation to urban design, landscape, visual and open space assessments and their correlation to design, mitigation, enhancement and ongoing implementation, monitoring and management processes, he noted that the task would be correspondingly complex and challenging. He noted that the management plan approach as promoted in the conditions of consent forms the fundamental mechanism to ensure that the urban design and landscape and amenity mitigation measures are implemented. In particular, the collection of drawings and proposals in a non-lodgement document referred to in the AEE, called the Urban and Landscape Design Framework (“ULDF”), which was provided to us at our request, as very much a collection of conceptual materials that would be subject to change. This, he noted, was reflected in the iterative approach taken to the content of draft conditions of consent as the process proceeded.

[909] Mr Scott considered that the evidence of NZTA’s experts had been fair and reasonable in addressing many of the substantive concerns of submitters. He acknowledged that the process of developing the design and mitigation proposals and the management plans would continue to evolve during the hearing, and beyond. However, he considered that there are areas where further refinements of urban design and landscape, and ecological design, are necessary to fully understand effects and provide appropriate outcomes. This was particularly so in the communities of Te Atatu, Waterview, Owairaka and New Windsor.

[910] Mr Scott particularly recommended council and community involvement in future design and management plan formulation, particularly in relation to the critical areas of the northern and southern ventilation buildings and stacks, the refinement of open space

and sports fields strategy, mitigation for temporary works, in particular the construction yards, and ongoing Management Plan resolution and implementation of appropriate mitigation proposals, including long term maintenance of mitigation, general landscape and ecological restoration plantings.

[911] This latter theme was particularly picked up by the landscape architects and urban designers in their professional caucus sessions. They noted a proposal in the first version of draft conditions to establish a Community Liaison Group and a Working Liaison Group, the latter to involve the council, Housing New Zealand Corporation, Iwi authorities, KiwiRail, and the Department of Conservation. They recommended some modifications to the latter to enhance process and outcomes, and this version of the proposed condition has been very largely accepted by NZTA, now appearing as proposed condition SO.6, in the latest version of proposed conditions dated 25 March.

[912] As to NZTA's wish to retain a degree of design flexibility, Mr Brown, in his evidence in chief, recommended certain modifications to draft conditions in relation to the most contentious elements in the case, the northern and southern ventilation buildings and stacks. In particular he recommended that the designs should be in accordance with the design principles in the ULDF, and comply with various conditions of consent intended effectively to draw on the revised design options presented during the exchange of evidence by Construct Architects. This tension between NZTA's wish for continuing design flexibility and the need of the community and regulatory authorities to understand what was being applied for, led to a development in the case at the time of NZTA's opening submissions on the first day of the hearing. NZTA conceded that the details of design of these two quite controversial features, instead of receiving final consent through the designation process, should be required to proceed through a subsequent Outline Plan of Works pursuant to s176A RMA. This has resulted in changes being put forward to the General Designation Conditions ("DC") 7, 8 and 9.

[913] We shall come to the individual contentious issues of the northern and southern tunnel portal structures, and others, in separate sections of this decision, but we mention these matters here to highlight the tensions, and the need for great care to be taken in consenting a large and complex project based on utilising management plans and a conceptual Design Framework.

[914] Before passing from this general landscape and visual topic, we note the detailed evidence of Ms Hancock about the process through which the ULDF developed. She said that NZTA's predecessor Transit NZ had become a signatory to the New Zealand Design Protocol in 2005, making a voluntary commitment to "planning for, developing and promoting quality urban design". The applicant then developed an Urban Design Policy containing two key urban design objectives, being:

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

[915] Ms Hancock told us that the ULDF on this occasion had been developed on an inter-disciplinary basis to address matters such as refinement of highway alignment, land use reinstatement, the type and form of key structures like noise barriers and bridges, open space design and site layout including stormwater management areas, design and location of key pedestrian and cycleway linkages, amenity and ecological planting, materials and finishes of key structural elements, and recommendations in relation to "aesthetic opportunities".

[916] The ULDF thereby essentially became a source document, being a reference point for mitigation of some matters NZTA had included in the project, but not for determining precise mitigation. Ms Hancock described the methodology used to develop the ULDF, involving knowledge of the proposed engineering design, strategic plans of councils, visiting and mapping the areas, public consultation, identification of issues and design implications, developing visions, concepts and themes, developing urban design principles, preparing design concepts and undertaking public consultation on them, and further development of the concept plans.

[917] She provided us with detailed evidence about interaction and consultation with "stakeholders in the community" (as she called them). Also key issues for the Project overall, and sector by sector, and information about development of the concepts through the subsequent stages of the process.

[918] We consider the ULDF to be a most interesting, even attractive, document exhibiting some positive approaches to urban design, and in particular to visual mitigation of proposed infrastructure, just one example being noise barriers. We are reminded that after Mr Scott had finished giving evidence in the hearing, we asked Ms Janissen and Ms Linzey a series of questions about the ULDF, in particular pointing out that the subsequently created F Series Plans (called UDL Plans in many of the draft conditions of consent) amounted to little more than lines on paper in many respects, and failed to pick up on much of the conceptual detail of the ULDF drawings¹³⁸. They promised that NZTA would consider the matter further, but we cannot see that that has been done. We acknowledge that draft conditions DC.8 and .9 already carry reference to use of Section B of the ULDF for future OPW steps concerning the northern and southern buildings and stacks (“*in accordance with*”). Also that draft condition ON.3 already carries reference to ULDF Section B concerning the design of noise barriers (“*in general accordance with*”). However, other important draft conditions remain focussed only on the UDL Plans and carry no mention of the ULDF work.

[919] We acknowledge NZTA’s wish to maintain some reasonable design flexibility going into the Alliance contracting stage. However, against that, the assessment of effects on the environment has been based quite heavily on the ULDF, being ULD Management Plan proposals described in some detail in notes on the F.16 series ULD plans, and we remain of the view as we were when questioning Ms Janissen and Ms Linzey, that the link to it is too weak in many of the draft conditions. In our 7 May Minute we directed that the link be bolstered by amending the LV and OS Conditions to refer to the relevant parts of the ULDF as well as the UDL plans. The parties’ experts responded in detail, but this is an area in which far too many inaccuracies remain in the conditions and in particular Schedule A thereto. This is the subject of a further general direction described by us in the section of this decision concerned with Conditions, towards the end.

[920] An example of how the ULDF work could be drawn upon (with a particular modification offered in evidence) is in the landscaping of noise bunds. Mr A Bridges of Te Atatu pointed to an illustration of a bund with planting and the gentler slope facing the motorway. He recommended reversing the slopes and focus of planting so that adjacent residents gain good mitigation in a visual sense. We consider that Mr Bridges had a valid point, and recommend to him that he take the matter up through the Community Liaison Group under condition PI.5, at the appropriate time.

¹³⁸ See Transcript p796 and following.

[921] Before passing from the topic of the ULDF, we cannot refrain from recording that we have noticed that it contains evidence of quite some amount of work having been done on an alternative location for the northern stack (east of Great North Road), and an alternative of burying the southern ventilation buildings, the existence of which pieces of work was at no stage drawn to our attention. We do not think that we are being too cynical in wondering again why the ULDF remained a “non-lodgement” document until we requested that it be produced.

7.18.1 Transparent Noise Barriers?

[922] One of the more active submitters, the Albert-Eden Local Board, raised questions with Mr Walter, Mr Brown and Ms Hancock as to whether the Project intended the use of transparent noise barriers to protect views where appropriate, and if not, why not?

[923] Mr Walter had a negative view about such barriers because they tend to attract tagging and vandalism, making maintenance of the transparency difficult.

[924] On the other hand, NZTA’s acoustic witness Ms Wilkening, accepted that such barriers can be used if there are suitable views to protect. It was noted that some have recently been installed adjacent to the Victoria Tunnel project on the Auckland Harbour Bridge approaches, between the aboveground bridge approach lanes, and the pohutakawa clad cliffs at the bottom of the suburb of St Mary’s Bay.

[925] The view of the NZTA witnesses was generally that transparent barriers would not be appropriate for this project, because, for instance, in places like Alan Wood Reserve they would simply create views of the motorway for park users and surrounding residents. Visual shielding was thought better, particularly, as Ms Wilkening observed, visual shielding can reduce people’s perception of noise effects.

[926] The focus of the local board appeared mainly to be on sector 5, the interchange ramps. While there are views to protect, Mr Brown and Ms Hancock understood that the barriers there would be likely to be only 1.1m high, being in fact the standard concrete safety barriers installed on ramps. We recommend that continuing attention be paid to the possible use of transparent barriers where peoples’ views might be affected, during the detailed design phases of the works.

7.19 Mitigation by Tunneling?

[927] NZTA contended that the proposed 2.5km tunnels constitute mitigation for the Project. This was challenged by Auckland Council, Auckland Transport, Albert-Eden Local Board, and Living Communities Inc, who submitted rather that it simply formed part of the Proposal.

[928] In one of her statements of evidence in chief, NZTA planning consultant Ms Linzey described the tunnelling as a key feature “to avoid adverse environmental (including) effects by the surface road alignment”.

[929] It is certainly clear from a study of relevant parts of the AEE, that NZTA spent a number of years considering alternative options for completion of the motorway link north of Maioro Street, including surface and tunnel options. Ms Linzey recorded that consultation over the Project, particularly in 2006, had evinced a strong desire by many people for tunnelling, which NZTA ultimately came to propose.

[930] In her submission in Reply, Ms Janissen sought to make comparisons with the decision of the Environment Court in *Auckland Volcanic Cones Society Inc v Transit New Zealand*,¹³⁹ but we are not sure that they are helpful.

[931] Ms Janissen pointed out that essentially the Project’s aim is to complete the Western Ring Route, and that it was not inherent in the Objectives that a tunnel is needed.

[932] We consider that the question to be asked is: “is the applicant proposing to *avoid, remedy or mitigate* as required by s5(2)(c), or were the various options merely part of consideration of alternatives” (in respect of which we have recorded elsewhere that there is no obligation on the Applicant to select the best alternative).

[933] Ms Janissen further submitted that:

... The tunneling avoids and/or creates significantly less adverse effects than would a surface motorway through sector 8 in this urban area, including impacts on archaeological sites, natural features, landscape and visual amenity and social effects...

¹³⁹ [2003] NZRMA 54

[934] We think that this is actually closer to the mark. What NZTA has done in proposing tunnels, is to avoid rather than mitigate certain effects. There could have been no guarantee that a surface road through sector 8 would have gained consent, so all NZTA has done is “mitigate the risk of not succeeding”.

[935] The debate about whether or not tunnelling was an example of mitigation of the Project no doubt arose because NZTA was essentially claiming that there are limits on affordability of the Project and “value for money”. Put rather colloquially, it appeared to be looking for “brownie points”. However it is our view that the exercise is not one of adding up ticks and recording demerit points for adverse effects, and then ruling off as though completing an equation. Having held that NZTA has adequately considered alternatives, it is relevant for us to undertake the Part 2 exercise, and as part of that identify any adverse effects, then assess the extent to which it is proposed to avoid, remedy or mitigate them. We find that there has been very substantial avoidance through the use of tunnelling in sector 8. What we then find, however, is that there are very significant issues arising from the proposed carriageways, portal buildings and ventilation stacks proposed at each end. It is those effects that have fallen for careful consideration, as considered elsewhere in this decision.

8 PROJECT WIDE ALTERNATIVES, ROUTES AND METHODS

[936] Pursuant to s171(1)(b), we must, subject to Part 2 of the Act, have particular regard to whether adequate consideration has been given to alternative sites, routes and methods of undertaking the public work, if the requiring authority does not have an interest in the land sufficient for undertaking the work, or it is likely that the work will have a significant adverse effect on the environment.

[937] Each of the above qualifications is relevant in this case. NZTA owns some of the land involved, including significant numbers of properties recently acquired. However there is much land that it does not yet own. And, as discussed extensively elsewhere in this decision, there are a number of aspects of the construction of the works, and subsequent operation of them, which will undoubtedly have significant adverse effects on the environment.

[938] The applicant addressed this issue in its Overview Report as part of the application, in particular in chapter 11 entitled “Assessment of Alternatives”. In addition,

a number of the supporting G series technical reports address a number of aspects of a range of routes, designs, and construction methodologies and approaches, which clearly came about through an iterative exercise carried out over a considerable period of time.

[939] Illustrated through all of this, was the extensive period of consultation in relation to SH20, and the lesser period in relation to SH16. It can be said that to quite a high degree, consultation has influenced issues of corridor, route, alignment, and design and construction details throughout the Project. Chapter 10 of the previously mentioned Overview Report evidences the considerable consultation undertaken.

[940] Chapter 11 records in summary the assessment framework, which we consider confirms that NZTA's attention to this important issue of alternatives has been of sufficient degree to demonstrate that alternative corridors, routes, alignments and interchange arrangements have been adequately considered, informed by NZTA's statutory obligations, regional policy influences, constraints analyses, and options assessments, incorporating as they have the integration of two former state highway projects into this one project. Particularly strong evidence of the impact of such consultations and assessments reflects in the choice of the combined tunnel option, relatively late in the history of development of the Project.

[941] NZTA's preference for the final alignment and design of the Project flows well from these items of documentation, supported as they are by information-collecting and mapping. Whilst at one level one might be critical about the sheer extent and complexity of the AEE, including its technical studies and the G- series reports, a study of them allows us to conclude that the assessments have been thorough, and that this has led to an adequate consideration of alternative sites, routes and methods.

[942] Guided (indeed bound) by the recent decision of the High Court *Meridian Energy Ltd v Central Otago District Council*,¹⁴⁰ we are to address the question of whether alternatives have been adequately considered, rather than whether all possible alternatives have been excluded, or the best alternative has been chosen. Our findings above will confirm that the question identified in that decision, can be answered in NZTA's favour.

[943] Not unnaturally, many submitters wanted to persuade us that there were better options for certain routes, sites, and methods, but as we have noted, such inquiries are

¹⁴⁰ [2010] NZRMA477 at para [81]

beyond our powers. That is not to say that submitters' entreaties might not need to be considered under other subsections of s171, but those are matters to be considered elsewhere. For instance, our consideration of potential effects on the environment of aspects of the proposal, has had a particularly high place in our consideration of the case.

9 NATIONAL AND REGIONAL POLICY ASSESSMENT

9.1 Relevant Statutory Documents

[944] National and regional statutory planning documents referred to by NZTA in its AEE and throughout its evidence, and to a lesser degree by other parties, are:

- National Environmental Standard – Air Quality, 2004
- NZ Coastal Policy Statement – 2010 (superseding that of 1994)
- Hauraki Gulf Marine Park Act 2000
- Auckland Regional Policy Statement 1994
- Auckland Regional Coastal Plan 2004
- Auckland Regional Plan: Air, Land and Water 2001
- Transitional Regional Plan

[945] Given the status of the new Auckland Council as a unitary authority, it may be worth mentioning the relevant district plans of the former city councils, albeit that they were of course prepared as district instruments. They are:

- Auckland City District Plan – Isthmus section 1999
- Waitakere City District Plan 1995

Detailed assessment of matters in relation to those district plans will follow in a later part of this decision.

9.2 National Environmental Standard – Air Quality - 2004

[946] This standard is designed to protect public health and the environment of New Zealand by, among other things, setting concentration limits for criteria air pollutants. The standards are mandatory and have the force of regulation. There are five ambient air quality standards, and advisors to NZTA considered that there were three that were relevant to the Project, being those relating to emissions from vehicles.

[947] NZTA prepared a Technical Report G.1 (“Assessment of Air Quality Effects”) as part of its AEE. That report offered an assessment of the air quality effects of the proposal against the three relevant pollutants, modelled predictions were compared against the standards (and also against other guidelines and targets). The report concluded that for all the modelled emission scenarios, predicted pollutant concentrations would be less than the levels set in the Standard.

[948] There is a separate section of this decision concerning air quality, where we will record our findings and reasoning.

9.3 New Zealand Coastal Policy Statements 1994 and 2010

[949] When the application was lodged, the 1994 NZ Coastal Policy Statement was in force. This was entirely replaced, with no transitional provisions, from 3 December 2010 when the NZCPS of that year took effect. Understandably, the applicant made its assessment against the then-relevant 1994 instrument, addressing a 4-part policy framework said to be relevant to the Project concerning natural character, special values to tangata whenua, activities involving subdivision use and development, and the Crown’s interest in land in the Coastal Marine Area (“CMA”). Its assessment was that the Project was consistent with those policies.

[950] The s149G report from the former Auckland Regional Council considered that policy statement, and appeared neutral on the issue of consistency.

[951] The issue of consistency with the 1994 policy statement being now academic, as our focus must be on the replacement 2010 policy statement.

[952] The 2010 NZCPS is more detailed, and can be said to provide greater guidance on protecting and managing the coastal environment. We consider that from amongst the 7 objectives and 29 policies, that all of the objectives and at least 12 of the policies are pertinent. The policies are lengthy, and it would not be efficient to set them out in full. Rather we will provide a very short summary of them, noting particularly that each of the objectives is required to be met by the taking of certain steps or the undertaking of certain activities, or avoidance or limitation of others.

- **Objective 1**

To safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, including marine and intertidal areas, estuaries, dunes and land.

- **Objective 2**

To preserve the natural character of the coastal environment and protect natural features and landscape values.

- **Objective 3**

To take account of the principles of the Treaty of Waitangi recognise the role of tangata whenua as kaitiaki and provide for tangata whenua involvement in management of the coastal environment.

- **Objective 4**

To maintain and enhance public open space qualities and recreation opportunities of the coastal environment.

- **Objective 5**

To ensure that coastal hazard risks taking account of climate change, are managed.

- **Objective 6**

To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use and development.

- **Objective 7**

To ensure that management of the coastal environment recognises and provides for New Zealand's international obligations regarding the coastal environment, including the coastal marine area.

- **Policy 1**

A list of items being extent and a number of characteristics of the coastal environment, including (amongst others) risk of coastal hazards, coastal vegetation, and habitats of migratory birds.

- **Policy 5 (Lands managed or held under conservation legislation generally)**

Consideration of (inter alia) effects on land or waters in the coastal environment or held under certain specified pieces of legislation.

- **Policy 6 (Activities in the coastal environment)**

Amongst other things, recognise the provision of infrastructure important to the social, economic and cultural wellbeing of people and communities, and built development and associated public infrastructure should be enabled to provide for the reasonably foreseeable needs of population growth without compromising the values of the coastal environment.

- **Policy 10 (Reclamation and de-reclamation)**

Amongst other things, avoid reclamation in the coastal marine area unless other options are not available in a practical sense, the activity cannot occur anywhere else, or significant regional or national benefits accrue.

- **Policy 11 (indigenous biological diversity)**

Protect certain things of this character in the coastal environment, and avoid, remedy or mitigate certain effects on them (including indigenous ecosystems and vegetation types that are threatened or rare).

- **Policy 13 (Preservation of natural character)**

Amongst other things, to preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use and development, recognising that natural character may include such things as natural elements, processes and patterns, biophysical, ecological, geological and geo-morphological aspects, and recognising that there can be a range of natural character from pristine to modified.
- **Policy 17 (Historic heritage identification and protection)**

Amongst other things, protect historic heritage in the coastal environment from inappropriate subdivision, use, and development, by identification, assessment, and recording of it, and taking specified steps in connection with (amongst other things) its management (including integrated management).
- **Policies 18 & 19 (Public Open Space and Walking Access)**

Amongst other things, recognise the need for public open space within an adjacent to the CMA, including for active and passive recreation, recognising the public expectation of a need for walking access to and along the coast, and imposing restrictions only when necessary, including, for instance, the protection of threatened indigenous species and other sensitive natural and cultural features.
- **21 (Enhancement of water quality)**

Amongst other things, where practicable restore water quality to at least a state that can support [certain food-gathering and cultural activities], ecosystems and natural habitats.
- **Policy 22 (Sedimentation)**

Amongst other things require that use and development does not result in significant increase in sedimentation, and aim to reduce sediment loadings in runoff and stormwater systems through controls on land use activities.
- **Policy 23 (Discharge of contaminants)**

Amongst other things, manage discharges, having regard to the sensitivity of the receiving environment and the nature of the contaminants.

- **Policy 24 (Identification of coastal hazards)**

Amongst other things identify areas in the coastal environment having regard to the cumulative effects of sea level rise, storm surge and wave height, while taking into account national guidance and the best available information on the likely effects of climate change on the region or district.

- **Policy 25 (Subdivision, use, and development in areas of coastal hazard risk)**

Amongst other things, avoid increasing risk of coastal hazards, and avoid redevelopment that would increase the risk of adverse effects from coastal hazards.

- **Policy 27 (Strategies for protecting significant existing development from coastal hazard risk)**

Amongst other things, assess the range of options for reducing coastal hazard risk by, amongst other things, identifying the consequences of options relative to “do nothing”; recognising hard protection structures may be the only practical means to protect existing infrastructure of national or regional importance; recognising and considering the environmental and social costs of permitting hard protection structures against certain criteria including how change might occur over at least a 100-year timeframe.

[953] A number of features of the proposal fall for consideration in other parts of our decision, particularly when we are having regard to the NZCPS 2010 as required by s104(1)(b)(iv), and having particular regard to same pursuant to s171(1)(a)(ii), each of course subject to consideration of relevant matters under Part 2 of the Act, to the respective levels required in ss5-8 of the Act. We record that we have applied the appropriate levels of consideration required by those provisions of the Act, and discuss matters in more detail when we discuss particular aspects of the proposal.

9.4 Hauraki Gulf Marine Park Act 2000

[954] As has been held in a number of decisions of the Courts, this statute adds little above the key provisions of the RMA, particularly those in Part 2 of the latter. That of course is not to detract from the importance of the legislation.

[955] It is also the case, as suggested to us by the consultants preparing a s42A report to us (7 December 2010), Environmental Management Services Ltd, that proper consideration of matters against the overarching policy framework of the NZCPS will generally determine whether the proposal is consistent with the HGMPA.

9.5 Auckland Regional Policy Statement and Proposed Change 6

[956] NZTA provided an assessment against these two policy documents in various parts of the AEE.

[957] The report from the former ARC, under s149G, discussed the issue of conformity of the proposal against the documents, without drawing any particular conclusion. The report noted that a cultural assessment was yet to be completed by tangata whenua. Two relevant groups became submitters, Ngati Whatua o Orakei, and Te Kawareau a Maki.

[958] The position of the first-named became clear prior to the hearing, and we were advised by Ms Janissen in opening that the group would have the opportunity to provide input into the detailed design process, archaeological monitoring, and assessment of cultural planting. In consequence Ngati Whatua advised that it did not seek any specific conditions and would not be appearing at the hearing.

[959] Mr Pita Turei appeared at the hearing on behalf of Te Kawarau a Maki, wanting to ensure that his group would be able to participate, be involved in, and informed about the Project as it progressed. We comment further about matters affecting Te Kawarau a Maki earlier in this decision.

[960] The former ARC tentatively raised an issue that air discharges from the ventilation stacks dispersing towards adjacent land might not maintain or enhance air quality, and for this reason could be inconsistent with the Objectives and Policies for air quality in the RPS (chapter 10). As against this, two things should be noted. First, NZTA asserted that its technical assessment concluded that air quality would be improved, a matter discussed in the relevant part of this decision. Secondly, NZTA asserted that discharge of pollutants from the ventilation stacks is a permitted activity under the Plan. We comment that as a matter of law, the extent to which we could have regard to Objectives and Policies in Plans which do not carry through into methods such as rules and other controls, can be blunted by that “disconnect”.

[961] Turning to Change 6, we note first of all that it is subject to extensive appeal to the Environment Court. Nevertheless, it has advanced a certain distance and should be accorded weight, and does not set out to significantly amend provisions of the RPS in respects relevant to the present proposal.

[962] In a general sense, assessing the proposal against the provisions of Change 6 does not throw up any significant inconsistencies. Without needing to descend into significant detail, we note a degree of consistency with the growth and transport strategies previously promulgated in the Regional Growth Strategy, including a strategy to promote high density centres and corridors in Avondale, Mt Albert, Pt Chevalier and future urban areas such as SH20/Stoddard Road, and Te Atatu Peninsula. Reference can be made in particular to Policy 2.6.14-1, whereby the operation of existing regional significant infrastructure and the provision of new upgraded regionally significant infrastructure is required to be consistent with the strategic direction of the RPS, supporting and reinforcing the Regional Growth Strategy and its proposed outcomes, and ensuring that any adverse effects of those activities on the environment (including human health) are avoided, remedied or mitigated in a manner consistent with the relevant provisions of the RPS.

[963] Subject to what we have to say later about effects, particularly air quality effects (but again noting the lack of carry-through from policy into rules), the proposal is consistent with this policy thrust.

9.6 Auckland Regional Plan: Coastal 2004

[964] In chapter 23.6 of the AEE, the applicant carried out a very detailed assessment against provisions of the plan relating to natural character, landscape, natural features and ecosystems, coastal matters of significance to tangata whenua, public access, coastal heritage, subdivision use and development, and general matters. It also assessed the proposal against activities acknowledged in the Plan as likely to occur in the CMA, provisions relating to structures, reclamation and drainage, disturbance of the foreshore and sea bed, planting and introduction of plants, taking, use damming and diverting, discharge of contaminants and natural coastal hazards. Assessment was also undertaken in chapter 6.4 of the AEE, with the relevant provisions detailed in Appendix E.3.

[965] Detailed assessment of the proposal's development impacts was measured against a range of policy topics, for example areas of significant ecological, landform, or geological value in Coastal Protection Area 1 ("CPA1") such as the seaward side of the causeway at the mouth of Oakley Creek, and CPA2 on the landward side of the causeway. Detailed analysis led to an assessment of the impact on natural character being said to be minor, and restoration of coastal fringe habitat along the causeway and other areas reclamation as well as re-vegetation within Pollen Island, being seen as bringing environmental benefits.

[966] It was noted that the Whau River, Traherne Island and Rosebank Reserve were each identified as an outstanding landscape (ranking 6 out of a maximum of 7), but in the context of an environment already heavily modified. The conclusion reached was that changes to the causeway profile would not be noticeable, and so would maintain the values associated with this landscape.

[967] The assessment acknowledged that the most significant policy challenge would be with respect to reclamation works associated with the Project. It was nevertheless assessed that the proposed additional reclamations should be supported, and considered as offering qualified conformity with policy, on the basis that:

- Upgrading the existing causeway is the best practical option.
- The design has sought to minimise the extent of reclamation while improving multi-modal use of the causeway.
- The design and increased height will address future sea level rise predications.
- Public access is maintained across the CMA.
- The materials for use in the reclamation will not result in contaminants being discharged to the CMA.
- Restoration planting will mitigate the loss of saline vegetation during the construction and restoration works.
- Stormwater runoff quality from the causeway will improve.

[968] NZTA concluded that disturbance to the foreshore and seabed would not result in adverse effects on natural features and ecosystems, and therefore asserted that consistency was achieved with policy.

[969] A considerable amount of commentary was offered by submitters on issues raised in these areas. We were assisted by some items of evidence, but very much less so by others. Considerable assistance was derived from the results of expert caucusing by groups of witnesses in the relevant areas.

[970] The former ARC, in its report under s149G, offered extensive commentary and referencing. On this occasion, we were offered some general conclusions, with the view apparently being conveyed that the proposal measures favourably against some matters of policy, but less so against others. In the former group, examples include chapter 7 – public access, chapter 10 – general, chapter 11 – activities, and chapter 12 – structures. Amongst the latter were included chapter 3 – natural character, chapter 4 – landscape, chapter 5 – natural features and ecosystems, and chapter 13 – reclamation and drainage.

[971] We return to some of these topics in more detail in other parts of this decision, particularly where controversy was raised.

9.7 Auckland Regional Plan: Sediment Control 2001

[972] In Technical Report 22 of the AEE, entitled “Erosion and Sediment Control Plan”, the applicant conducted an extensive assessment and offered management plan proposals to reduce the risk of surface erosion during construction. It was asserted by the authors that the management approaches would reflect best practice.

[973] The former ARC in its s149G report appeared to support that stance by advising that it considered that G.22 had taken account of the relevant objectives and policies of this instrument in developing a comprehensive erosion and sediment control methodology for construction of the proposal. Further assessment of the correctness or otherwise of these opinions will be set out in relevant portions of this decision.

9.8 Proposed Auckland Regional Plan: Air, Land, and Water 2001

[974] Particular reference is made in the AEE, and in the s149G report of the former ARC, to chapters of the plan as follows:

- Chapter 2 (use and development)
- Chapter 3 (management areas)
- Chapter 4 (air quality)
- Chapter 5 (discharges to land, water and land management)
- Chapter 6 (water allocation)
- Chapter 7 (beds of lakes and rivers and diversion of surface waters)

[975] Assessment against relevant provisions was undertaken by NZTA in its AEE, chapter 23.8, on a fairly extensive basis. The ARC considered these matters to have been fully addressed.

[976] Full consistency with some provisions would not be immediately achieved during construction, for instance in the Oakley Creek catchment, which is a logical corollary of undertaking major civil infrastructural works, however the strategic regional importance of the works is a relevant matter to be taken into account, and rehabilitation proposals, of particular importance. Once again, importance will attach to the outcome of detailed analyses, and we were once again quite considerably assisted by the outcomes of caucusing by relevant witnesses, for instance as to air quality, fresh water ecology, marine ecology, and others. These matters are discussed in relevant parts of this decision.

9.9 Transitional Regional Plan 1991

[977] The former ARC conceded in its report that this instrument will have no influence on consideration of the Project, given that the entire proposal is bundled in such a way that as a matter of law the activity status would be non-complying in relation to various instruments, where under the TRP alone they are probably considered discretionary. We

agree that little weight should be placed on the provisions of this instrument, now largely overtaken by the later and more comprehensive instruments that we have discussed.

9.10 Relevant non-statutory documents

[978] Pursuant to s104(1)(c), we must have regard to any other matter that we consider relevant and reasonably necessary to determine the application. Pursuant to s171(1)(d), we must have particular regard to any other matter we consider reasonably necessary in order to make a recommendation on the [requirement].¹⁴¹

[979] In clause 6.5.10 of the AEE (Part B), NZTA listed no less than 24 non-statutory documents, some national, some regional, and some district. In that section of the AEE it identified portions of those instruments that it considered should be taken account of for the purposes of the sections of the Act mentioned above.

[980] We have considered that material, and had regard to the instruments. They are relevant to greater or lesser degrees, and in some aspects are somewhat supportive of the proposal, in others not supportive, and in others neutral.

[981] Without derogating from the task, we mention a few of those documents as having some relevance for the Proposal.

- ***Government Policy Statement on Land Transport Funding 2009/10-2018/19***
 Pursuant to s84 of the Land Transport Management Act 2003, the Minister of Transport is to issue a government policy statement (“GPS”) to guide the NZTA on transport funding. Each GPS is to address a number of funding issues, including as to priorities, and by s89 the Agency is to give effect to the GPS. In the current GPS, an issue highlighted is that the Government’s main priority is national economic growth and productivity. It records that the Government has identified seven “Roads of National Importance”, as a statement of national road development priorities. The completion of the Auckland Western Ring Route is identified as one of those 7 roads. We consider that the GPS qualifies for relevant consideration by us under s104(1)(c), and 171(1)(d) RMA. We consider this to be equivalent to the

¹⁴¹ Pursuant to ss149Q and 149R, our task under Part 6AA RMA, is to make a decision rather than a recommendation.

findings of the Environment Court in relation to the Auckland Region Land Transport Strategy in *Transit NZ v Auckland Regional Council*¹⁴²

- ***New Zealand Transport Strategy 2008***

This is an update of an earlier document, and contains objectives about assisting economic development, safety and personal security, access and mobility, protecting and promoting public health, and ensuring environmental sustainability.

- ***Auckland Regional Land Transport Strategy 2012-2040***

The LTMA 2003 requires regional authorities to produce regional land transport strategies that contribute to the overall aim of achieving an integrated safe, responsive, and sustainable land transport system. This RLTS provides policies to develop standards and guidelines on how the strategic and regional transport networks should be managed through to 2040. It sets out what is needed to develop a transport network that supports Auckland as a “great and successful society, economy and environment”. There is a strong vision about moving people and goods when and where necessary, the support of well-designed, attractive and environmentally sustainable urban and rural centres, business and economic activity, and access to social, cultural and recreational activities; streets being safe and attractive places, integration, safety, effectiveness, choices, protection and enhancement of natural environment and human health, efficiency, sustainability, innovation, and resilience to shocks and change. Of relevance in the present case, it records: “*The RLTS recognises the completion of the WRR and the Waterview Connection as key elements of the Strategic Land Transport Network (map 4 of the RLTS). The RLTS states that the Western Ring Route ... provides a strong connection between the North Shore and West Auckland and South Auckland, and also provides an alternative north-south route through the region from a little south of Albany to Manukau city centre ... completion of the Western Ring Route is scheduled for the first ten years of this strategy.*”

We note that the submitter Cycle Action Auckland identified that this Strategy document shows provision for cycling along, amongst other alignments, a route through what is sector 8 of the present Proposal, and that it is said in the RLTS that expansion of the network is one of its major goals.

¹⁴² Decision No. A100/00, 18 August 2000 at para [128]

- *Others of these Non-statutory documents* offer visions, strategies, plans, and frameworks discussing and placing emphasis on a wide range of types of public and private transport, including national and regional arterial roads, other streets and roads, passenger transport, freight transport, walking, cycling, support for economic development, growth management strategies, liveability and urban form, cultural issues, safety, asset management, a broad range of environmental issues, and many related topics.

10 LOCAL POLICY ASSESSMENT

10.1 Framework

[982] Two district plans were relevant, the Auckland District Plan – Isthmus Section 1999, promulgated by the former Auckland City Council; and the Operative Waitakere District Plan 2003, promulgated by the former Waitakere City Council. As noted previously, we obtained rather limited assistance concerning the policy context of these plans in the S149G reports from the two former councils. They tended to focus on analysing and comparing possible permitted baselines through consideration of zone rules and standards, rather than focus on policy. Also, as said elsewhere, the planning evidence called on behalf of the new Auckland Council provided no real assistance with this, focussing instead on work that had been undertaken between the Council and NZTA addressing matters raised in submissions, and reshaping conditions of consent.

[983] We have also commented elsewhere on the extent to which a permitted baseline might be relevant, or any kind of useful comparison, particularly in the context of designations effectively being exceptions to the general provisions of district plans, and significantly supplanting them. In this context, our consideration of the contents of the district plans is somewhat more limited than would be the case if the applications were instead for resource consents.

[984] Appendix E3 of the AEE offered a comprehensive but summarised listing of the objectives and policies in the district plans. Objectives and policies were scheduled as being relevant in the case, from the following parts of the Auckland City District Plan:

- Part 5B – Coastal

- Part 5C – Heritage
- Part 5D – Natural hazards
- Part 5E – Hazardous facilities
- Part 7 – Residential activity
- Part 9 – Open space and recreation activity
- Part 10 – Special purpose activity
- Part 12 – Transportation

[985] In the Waitakere City District Plan the relevant objectives and policies were identified as being found in the following:

- Issue 5.0 – Managing growth
- Issue 5.1 – Effects on water quality and quantity
- Issue 5.2 – Effects on native vegetation and fauna habitat
- Issue 5.3 – Effects on land (including soils)
- Issue 5.4 – Effects on air quality/atmospheric quality
- Issue 5.5 – Ecosystem stability
- Issue 5.7 – Effects on natural character of the coast and margins of lakes, rivers and wetlands
- Issue 5.8 – Effects on the spiritual dimension (Mauri)
- Issue 5.10 – Effects on amenity values, health and safety

- Issue 5.11 – Effects on amenity values – landscapes, local areas and neighbourhood character

[986] Mr C O Burn, consultant planner, gave evidence on behalf of NZTA devoted almost exclusively to national and regional instruments, which was not surprising given that his evidence was concerned with the resource consent applications, all bar two of which were to the ARC.

[987] Likewise, the planning evidence on behalf of NZTA from Ms Linzey tended to focus on national and regional instruments, but did contain mention of the objectives and policies of Part 5E, Hazardous Facilities, being provisions for the management of contaminated sites, relevant to a degree in connection with the construction yards.

10.2 Operative Auckland District Plan – Isthmus Section 1999

[988] We have listed the various parts of this Plan where relevant provisions can be found, and comment briefly on each of those as follows:

Part 5B – Coastal

[989] We gained considerable assistance from the marine ecology report prepared by Ryder Consulting under s42A, together with the caucusing of the relevant witnesses, and the quite considerable level of agreement reached. In line with our findings in the relevant section of this decision, we consider that the objectives and policies in this section can be satisfied

Part 5C – Heritage

[990] An important consideration in this case has been recognition of the heritage and archaeological importance of the Oakley Inlet area through conservation measures to be adopted during and post construction, to retain to the greatest extent possible the heritage values of the area albeit in an environment which will be dominated by motorway ramps. Once again, as can be seen from relevant parts of this decision, the Proposal, once subject to the amended conditions of consent that we direct, can be seen to be consistent with policy in this part of the district plan.

Part 5D – Natural hazards

[991] Flood Risk was a relatively important topic in the case, but was subject to significant levels of agreement amongst the experts. Subject to the imposition of amended conditions of consent required by us, the Proposal can be found to be consistent with policy in this part of the district plan.

Part 5E – Hazardous facilities

[992] As mentioned, Ms Linzey addressed the provisions in this part of the plan, listing them for us. There are existing areas of old landfill contamination along part of the route of the SH20 works, and potential storage and use of hazardous substances in the construction yards. Subject to the imposition of amended conditions of consent required by us, the policy requirements of this part of the district plan can be satisfied.

Part 7 – Residential activity

[993] Significant impact will occur on residential character and amenity in Waterview, Owairaka and New Windsor. There will be permanent and considerable change in land use and also provision of open space. We comment elsewhere on the (lack of) extent to which one would expect designation proposals to align with district plan provisions. The authors of the main s42A report, EMS Limited, commented that the Project's outcomes would introduce change, and at best would be neutral in their alignment with the policies, as the character and amenity of these areas will change as will the make-up of the community as it responds to the change. We think that that is a fair assessment of the situation.

Part 8 – Business activity

[994] We agree with the general assessment by EMS that the impact of the Project is at best neutral with respect to the policy of this part of the plan. Social and community services will need to respond to community demands for housing, education and other services and facilities.

Part 9 – Open space and recreation activity

[995] This decision extensively discusses a collection of potential effects on open space and reserves, most of which are adverse, most of which are significant, and some of which are in themselves minor. Collectively they have been assessed as being towards the upper end of the scale, particularly in relation to passive open space. Significant mitigation is offered individually in relation to various areas of open space and reserves, but as can be seen from the relevant part of the decision, issues of networking and connectivity amongst spaces and for members of the community, particularly in relation to passive open space, are inadequately addressed. We have considered this issue when addressing conditions of consent, and have ultimately formed the view that the difficulties can best be addressed in this way, such that the policy of this part of the plan (as described in a little more detail in the relevant part of this decision) will be met.

Part 12 – Transportation

[996] In preparing its application, NZTA offered the view that the Project would be consistent with the transport objectives and policies of the plan. However, the claim was not specific as to precise provisions. We agree with the authors of the principal s42A report, EMS Limited, that the relevant objective and policy in the plan are numbered 12.3.1. They read:

Objective 12.3.1 – Efficiency/environment

To manage the use and development of the City's transportation resources in a way that promotes the protection and enhancement of the City's environment.

Policies

- By encouraging the efficient use of the existing roading infrastructure.
- By supporting and promoting a transportation system designed and managed to encourage the efficient use of energy.
- By recognizing and providing for the inter-dependence between transportation and the efficiency of other activities.
- By supporting the creation of an efficient public transport network which provides an integrated system, with appropriate levels of convenience and service.
- By taking national and regional energy policies into account in policy development and decision making.
- By minimizing the adverse local environmental effects of proposed new roads and other additions to the City's transportation network.

- By adopting planning techniques to discourage traffic in areas where it would have significant adverse environmental effects.

[997] The Project would appear to address some of the policies, for instance that relating to the creation of an efficient public transport network, in the sense that parts of the Project are directed towards assisting bus transportation, cycling, and walking. However, as can be seen from the relevant parts of this Decision, the Project in the form originally advanced would run counter to the objective and the majority of the policies, in fairly significant ways. Without trying to repeat findings made elsewhere in this decision, the environment of the city would be adversely affected in such a way that it could not be said that it was being protected or enhanced, notably in sectors 5 and 9 where new surface motorway infrastructure is proposed. Also, there are issues of lack of accessibility to the proposed roads for residents of the areas through which they pass, even allowing for the motorways' primary function. Further, and of some critical importance, networks or interconnectivity between areas through which the roading will pass, would be adversely affected, which would exacerbate the impacts on open space and reserves previously described. Remembering once again that designations amount to exceptions to the general run of policy and control provisions in district plans, nevertheless the difficulties in this policy area in effect parallel the issues identified in the case in relation to adverse effects on the environment which are of the character that we have just described.

10.3 Operative Waitakere District Plan 2003

[998] The s149G report provided by the former Waitakere City Council provides a summary table that records the key issues and policies, cross-referenced to the AEE documentation. However no assessment was provided of the Project's consistency (or otherwise) with the policy provisions of the plan. In the application we find comment on relevant provisions, particularly in Appendix 3.3. The NZTA case was essentially that environmental effects and their management and mitigation in this area are consistent with higher order instruments such as the ARPS and NZCPS, and therefore must be consistent with relevant district plan policy.

[999] The principal sector of relevance is sector 1, containing as it does NOR1. Issues to arise, of note, are as follows:

- The location, size and orientation of Construction Yard 1, noting that Policy 11.7 concerns infrastructure provision away from sensitive ridgelines and minimising effects on the Waitemata Harbour.
- Residential amenity impacts adjacent to the SH16 corridor, Policies 10.8 and 11.4 being relevant to the extent that they address the relationship between land use, transportation networks, and urban form and amenity.
- Capacity to future-proof the Te Atatu interchange for multi-modal uses, where Policies 0.4 and 0.5, and 0.6 concern aligning future urban form with planned public transport provision.
- Water quality effects on Pixie Stream, where Policies 2.4 and 2.15 seek the conservation of native vegetation and fauna habitat.

[1000] The Project addresses a number of these policy issues in neutral to positive ways. Unlike the impacts of proposed SH20, it can be said that the Project is relatively supportive of achieving sustainable urban form through its proposed improvements to the highway network and increasing connectivity and accessibility for local residents wishing to head north or south, and to the Auckland CBD. Attention, however, has been found necessary to future-proofing the interchange for multi-modal uses, by attention to bus shoulders, and cycling and walking opportunities.

[1001] Residential amenity concerns have been addressed in the case, and have received particular attention from us, in connection with future design work to achieve appropriate levels of mitigation.

[1002] Water quality effects on Pixie Stream have generally been addressed through proposed design and mitigation.

[1003] Having particular regard to the specialist ecology assessments provided by the relevant experts, including those reporting to our Board, and the results from the caucusing of those experts, and some further attention through the evidence phase, it can be said that the Project is broadly consistent with the policy framework of the district plan on this account.

[1004] The location, size and orientation of Construction Yard 1 came in for particular attention, and as noted elsewhere in this decision, has recently been the subject of a separate resource consent granted by Auckland Council, and some further detailed attention by us to aligning conditions of consent in the case before us, with that consent.

11 NECESSITY OF PROJECT FOR ACHIEVING NZTA OBJECTIVES

[1005] In section 2 of this Decision we recorded the stated objectives of NZTA for the Project in summary form. We now set them out in full:

- (1) To contribute to the region's critical transport infrastructure and its land use and transport strategies:
 - by connecting SH16 and SH20 and completing the Western Ring Route,
 - by improving the capacity and resilience of SH16; and
- (2) To improve accessibility for individuals and businesses and support regional economic growth and productivity:
 - by improving access to and between centres of future economic development; and
- (3) To improve resilience and reliability of the State Highway network:
 - by providing an alternative to the existing SH1 corridor through Auckland that links the northern, western and southern parts of Auckland,
 - by securing the SH16 causeway against inundation; and
- (4) To support mobility and modal choices within the wider Auckland region:
 - by providing opportunities for improved public transport, cycling and walking,
 - by protecting opportunities for future passenger transport developments (eg rail); and
- (5) To improve the connectivity and efficiency of the transport network:
 - by separating through traffic from local traffic from the wider SH20 corridor.

[1006] By section 171(1)(c) we must have particular regard to “whether the work and designation are reasonably necessary for achieving the objectives of the requiring

authority for which the designation is sought”. Noting the two elements, as to whether the work is necessary and the designations that authorise the work are necessary, we consider that the tests apply both in relation to the new designations sought, and the alterations sought to existing designations.

[1007] The Project objectives have obviously been developed over a significant period of time during the lengthy history of it. Indeed, significant quantities of evidence from NZTA were offered to demonstrate that the Project would meet such objectives, and that the work and the designation were reasonably necessary for achieving them.

[1008] The legislation does not provide measurable performance standards, and furthermore there is no specified threshold.

[1009] There were many allegations made by parties in their submissions, but very little in the way of information and opinion that could be tested, to contradict the information and opinions offered by and on behalf of NZTA on this topic. In particular, certain parties and witnesses who offered commentary on the economic issues, did not appear before us to cross examine the NZTA witnesses, and did not offer their information in the form of evidence that could in turn be questioned in open hearing by NZTA or any other party.

[1010] Drawing on various sections of this Decision, including those relating to economics, and traffic/transport, we consider that the proposed works are reasonably necessary for achieving the objectives. We will not reiterate the findings here, in the interests of keeping an extremely long decision within reasonable bounds.

[1011] As to whether the proposed designations are reasonably necessary for achieving the objectives, we consider that the answer must be in the affirmative. The Project not unnaturally goes beyond existing designations and district plan zone footprints, and many aspects of what is proposed must logically be exceptions to many district plan provisions. They could conceivably even struggle on occasion to meet the threshold tests of s104D, making the designation technique important if not essential. Issues could have arisen as well had plan change techniques been adopted instead, and it can equally be suggested that changing zonings and other district plan provisions might not have offered a technique that was particularly efficient, given the complexity of design detail, mitigation planning, and the management plan technique adopted to support this project.

[1012] We have no difficulty in concluding that the requirements of s104(1)(c) and 171(1)(c) are comfortably met in this case.

12 SOME SPECIFIC SECTOR OR LOCAL EFFECTS

12.1 Overview

[1013] There are some effects which would occur only in a particular location, neighbourhood or sector, which we shall describe in this section of the decision. Examples include effects on the Pony Club in Sector 1, and the School and Kindergarten in Sector 7.

12.2 Sector 1 (Te Atatu interchange)

12.2.1 Design and Reconfiguration of Te Atatu Interchange Including Public Transport Provision

[1014] This issue primarily concerned provision of bus shoulders and walking/cycling paths, and has been addressed in the traffic and transport section of this decision.

12.2.2 Location of Construction Yard 1 and Community Use Effects (Pony Club)

[1015] The Te Atatu Pony Club leases approximately 13 hectares of Harbourview-Orangihina Park, which is owned by the council and located in Sector 1 northeast of the Te Atatu interchange.

[1016] NZTA proposes that approximately 4 hectares of the pony club site be designated for temporary use as Construction Yard 1 to support work in Sectors 1-4, with another 0.7 hectares required permanently for interchange widening.

[1017] The Pony Club has been located at the Park for 40 years. It is an urban-based club with, presently, 34 members. Most are beginners. During the 26 week season club rallies are held once a week from 5-8 pm to coach riding and horse management. In addition, each year the Club hosts events that attract visiting equestrians. The latter comprise 2 one day events for dressage, cross-country and show jumping; 2 derby days; four practice

cross-country days; dressage days; and community pony rides. Hosting invitational events is the Club's major source of fund-raising.

[1018] Three pony club groups and two members made submissions on the anticipated effects of Construction Yard 1 on the club's activities¹⁴³. Their concerns included: the shape and location of Construction Yard 1; the safety of horses, riders and spectators; keeping the club's facilities; loss of land for riding and grazing; and noise, vibration, floodlight and possible chemical effects.

[1019] Relief sought included: changing the shape of Construction Yard 1; continued commitment by the NZTA to work with the Club to ensure the welfare of horses and safety of members; abatement of noise from machinery and vehicles; a solid boundary buffer fence, dust control and night light protection; funding to replace facilities and supply supplementary feed; and compensation for lost revenue to ensure the viability of the Club.

[1020] The shape of Construction Yard 1, as originally proposed, was a principal issue as it would have effectively cut the club's grounds in two, leaving a very narrow strip of land along the eastern boundary that potentially compromised the safety of horses and riders as they moved between grassed areas and the club's built facilities.

[1021] NZTA worked constructively with the club and council to (eventually) deal with a number of the preceding concerns. Early in the hearing process we learnt that NZTA proposed to rotate the eastern portion of the construction yard designation through 90 degrees, so that it would run primarily North-South along Te Atatu Road¹⁴⁴. The reconfiguration provides a 100 metre wide access way along the eastern boundary of the (revised) yard so horses and riders can move more safely between different parts of the club's site. By the conclusion of our hearing NZTA had separately obtained land use consent from Auckland Council for the amended configuration¹⁴⁵, which effectively deals with a major club concern. The reconfiguration makes the eastern part of the designation redundant. It also raised the potential issue of whether designation conditions proposed by NZTA are consistent with those imposed on the land use consent by council. It would not

¹⁴³ Te Atatu Pony Club (Bernadette McBride #64); West Auckland Pony Club (Geoffrey Wood #105); NZ Horse & Recreation (Vivien Dostine #174); and Rebecca and Wendy Roigard (#145 and #150).

¹⁴⁴ As illustrated on Aurecon Drawing Te Atatu Interchange Construction yard 1A and Modified Yard 1 - Sheet A attached to McBride representation Annexure 3

¹⁴⁵ Council LUC-2010-1656 granted 18 March 2011.

be a satisfactory consenting arrangement to have different parts of the yard subject to different conditions. With these considerations in mind, the Board found that there is considerable merit in Ms Janissens's submission¹⁴⁶ that it would be appropriate if the Construction Yard 1 designation were rotated to cover the original portion to be retained and the area subject to the land use consent. The Board accepts Ms Janissen's related legal submissions and directs that the change be effected. The change necessitated the substitution of a revised AEE F: 6 Construction Yard Drawing 101. This has now been accomplished, and the resulting plan is attached to this decision as Annexure "E". The imposition of suitable conditions can be secured through the administration of CEMP.7 and a Construction Yard 1 specific condition, which we direct below. Should there be any inconsistency between a designation condition proposed by NZTA in the consent documentation and a council condition in LUC-2010-1656 the more stringent control is to apply. Also any conditions imposed by council not addressed in the NZTA proposed conditions are to be included. For example, Number 16 – graffiti.

[1022] Late in the hearing other matters were also agreed between NZTA and the club. It is proposed they be given effect to (largely) through a combination of Social (SO) and Construction Management Plan (CEMP) conditions as discussed below. In summary¹⁴⁷, the agreed matters provide for the following mitigation measures:

- develop a Construction Yard Plan in consultation with the Club to minimise effects on ponies and set up communication protocols;
- fence the boundary of the Construction Yard using a solid 17mm thick plywood or 9mm fibre cement sheet fence of 2.4m height;
- face all construction yard lighting inwards to ensure minimal spill onto the Club paddocks;
- relocate water systems and horse jumps;
- provide surface water drainage in the paddock adjacent to the motorway;

¹⁴⁶ Janissen Reply [502] ff

¹⁴⁷ Janissen, *ibid* [493]. The proposals are detailed in a NZTA letter to the Club (21 March 2011) attached to Ms McBride's representation to the Board. They are dependent on obtaining any required consents, protection of bird roosting areas and council approval as land owner.

- construct a new level grassed area for dressage; and
- construct a new fenced grass raceway.

The Board finds the matters listed to be appropriate mitigation for potential adverse effects on the club's activities and, subject to further findings below, directs that they be adopted.

[1023] We now turn our mind to matters not agreed between the club and NZTA and raised in club member Ms McBride's representation¹⁴⁸.

- (i) The club seeks that the agreed raceway provided for in Condition SO.10 be “....5m wide with a medium hard surface such as mud rock or similar with GAP 7, suitable for barefoot horses”. Ms McBride deposed that the addition of a permeable surface would allow the club to utilise the raceway as an exercise area all year round, maximising the safety of horse and rider as well as protecting remaining pasture¹⁴⁹. As indicated above, the NZTA has accepted responsibility for a new fenced grass runway but submitted that the cost of establishing an all-weather raceway [surface] at an estimated cost of \$60,000¹⁵⁰, which the club does not presently have, was not justified as mitigation for the Project, particularly given the club has no security of tenure beyond a month-to month lease. On 19 April 2011 after the hearing was completed counsel for the council provided the Board, and active parties, with a copy of a resolution of the Henderson- Massey local board directing community consultation on various club (TAPC) matters, including the option of it continuing on a month by month lease or a lease of five years plus five years¹⁵¹. The outcome of that consultation, which is to be reported back at an undetermined date, remains uncertain, and we will spell out what is to occur about that in the context of this decision, below. Returning to the substantive issue, we agree with the submissions of NZTA's counsel.
- (ii) In response to a question from the Board, Ms McBride opined that the raceway should be fenced with rails as opposed to wire¹⁵². Although the raceway would be a new facility we appreciate that if one or more horses were “put to flight” by

¹⁴⁸ McBride, Representation 22 March 2011 [5] ff

¹⁴⁹ Ibid [4.3(c)]. It is not necessary for the Board to determine whether a “medium hard surface” would be permeable.

¹⁵⁰ NZTA letter to TAPC 21.3.2011 [4.6]

¹⁵¹ Henderson-Massey Local Board Minutes for 7.4.2011 meeting, item [14(c)(iii)].

¹⁵² TOP p 1712 line 6

construction noise, or some other stimuli, a railed fence would better enable rider(s) to safely exit the race. We accordingly direct that the relevant condition provide for rails.

- (iii) The club sought a fenced 100m x 80m area being the minimum safe size for a show jumping arena, with sand or similar well drained surface, to enable year round riding. Ms McBride saw the facility mitigating the reduction in the club's site area, which (if confirmed) means it would not be able to maintain the full range of its current activities/events, some of which are important to fundraising. NZTA opposed this request for the reasons set out in (i) above, but, subject to what we say below about the turn of events this month, we think with a meaningful concession in the form of condition SO.9 which provides for funding (up to \$8,000/pa) to cover lost fundraising from one day events. We find the latter to be appropriate mitigation when considered as part of the package of mitigation measures NZTA has (now) accepted, including a new level grassed area (approximately 90m x 170m) for the exercise of horses allowed for in Condition SO.11 and the financial support for supplementary feed (up to \$12,000/pa) allowed for in Condition SO.8.

[1024] Amongst the matters agreed between NZTA and the club is that there should be a 2.4m high fence around the 'yard constructed from one of two materials. While there was no remaining dispute between parties on this matter, we note Ms McBride's concurrence with the Board that fibre cement sheet was more likely to injure horses than plywood in the event of an incident¹⁵³. The option of fibre cement sheet is to be deleted.

[1025] NZTA has agreed to develop the Construction Yard plan in consultation with the club, which is entirely appropriate. The plan is to include a programme of key events in the club calendar so that potentially disruptive construction activities can be rescheduled, if possible. We find the latter qualification inappropriate given the evidence we heard¹⁵⁴ on horses' propensity for "fright and flight" and the scope, with reasonable goodwill on both sides, to avoid key events. The agreed communication protocol will further assist. For these reasons we direct that the qualification be deleted.

[1026] We come finally to 3 technical matters concerning the drafting of conditions:

¹⁵³ TOP p 1712 line 11

¹⁵⁴ G Wood, representation TOP p 1704 ff

- (i) Condition SO.10 (raceway) refers to Schedule A Row 6 in NZTA's proposed conditions. There are 5 plan numbers listed in the row none of which expressly refer to Harbourview - Orangihina Park. If this is an omission it is to be corrected.
- (ii) What we understand to be NZTA's final mitigation "offer" is contained in its previously referenced letter to the club dated 21 March 2011. Paragraphs 3.2 – 3.5 and paragraphs 4.1 – 4.4 describe a range of measures that NZTA has accepted, many but not all aspects of which are summarised above. The Board is concerned that all the agreed matters be included as fully detailed conditions. We find that a suitable method to implement this direction is that there be a specific condition for Harbourview – Orangihina Park, like those for other areas of open space (OS.5 – OS.8), which collates in one place all restoration and mitigation measures for the Park. The conditions are to include those proposed by NZTA in the consent documentation; where relevant, council's conditions in LUC- 2010- 1656¹⁵⁵; and all the matters agreed between TAPC and NZTA. Subsequent to recent developments in the case, these matters are now generally provided for by re-drafted conditions SO.8 to .12.

[1027] As noted above, we were recently advised of a resolution of the Henderson-Massey Local Board, in principle to extend the club's lease northwards. As also recorded, there remains uncertainty about whether it will actually occur, and what the term of the lease might become. At our invitation, the pony club interests and NZTA addressed submissions about what effect there might be on conditions of consent. The club's response reiterated much of what it had already told us about its needs, and we do not need to change our thinking on account of those matters. NZTA on the other hand reminded us that the latest version of draft conditions SO.9 and SO.11 were predicated on the basis that the club would be losing land to the construction yard. We agree with Ms Janissen that those 2 conditions should be amended so that they apply unless the club is granted an extension of its lease to both Areas A and B, on a 5 year basis. SO.8 should also be amended to convert the advice note about pro-rating compensation for the cost of feed, to bring the advice note into the condition itself (on the same "unders or overs" basis). Amendments were made to the relevant conditions by the experts after our 7 May Minute.

¹⁵⁵ If landscape planting required by the council consent were to be accessible to horses, NZTA is to consult with TAPC about species toxic to horses and which are to be avoided, prior to finalising and submitting a planting plan to council. The consultation is to be reported in accordance with OS.4(c).

12.3 Sector 2 (Whau River)

12.3.1 Reduction of Motu Manawa Marine Reserve

[1028] Effects on the MMMR from expansion of the SH16 corridor, are covered elsewhere in this decision, for instance in the section on marine ecology. In particular, reasons are given for lack of jurisdiction on this Board's part to direct a compensatory expansion of the reserve as requested by a number of parties.

12.3.2 Navigation Effects on the Whau River

[1029] The Te Atatu Boating Club Inc was a submitter, opposing any temporary or permanent structure with a lower clearance from sea level to the underside of the bridge than exists now, over the Whau River boat channel.

[1030] The club did not file evidence or appear at the hearing. Evidence in chief was given on behalf of NZTA by Mr A B Walter, senior project manager for the Project, a civil engineer. He said that as a result of widening of the Whau River bridge, a small amount of height is to be lost due to the 2.5% camber (cross-fall) across the widened motorway, and given that the existing bridges are to be retained, the calculation of the loss starts with their levels as the benchmark. The amount of height lost would be 140mm on the causeway bridge, and between 180 and 200mm on the Whau River bridge. Putting that in perspective, we note that such measurements equate to about a human hand-span.

[1031] We find that the effect is minor indeed, and is certainly not one for which existing infrastructure should be taken out and replaced by higher bridges, at no doubt extremely high cost.

[1032] Some attention has been paid since our 7 May Minute, to matters of drafting to secure the necessary outcomes. This has been done to our satisfaction.

12.4 Sector 3 (Rosebank Terrestrial)

12.4.1 Motu Manawa Marine Reserve and Marine Environment Issues

[1033] Similar issues arise here as are described in Sector 2 above.

12.5 Sector 4 (Reclamation)

12.5.1 Recognition of Motu Manawa Marine Reserve and Marine Environment Beyond and Including Waterview Embayment and Oakley Creek Inlet

[1034] Similar issues arise here as are described in Sector 2 above. Issues also arise in relation to the inlet at the mouth of Oakley Creek, which are similarly described in other sections of this decision.

12.6 Sector 5 (Great North Road Interchange)

12.6.1 Design of the interchange and Local Connections

[1035] Issues arising in this regard are addressed in the transport and open space sections of this decision.

12.6.2 Connectivity Between Waterview and Pt Chevalier Communities, the Coastal Area and Oakley Creek Gully

[1036] Issues in these regards are likewise addressed in the transport and open space sections of this decision.

12.6.3 Impacts on Cultural and Historic Areas

[1037] Sector 5 contains the Oakley Inlet heritage area which includes significant remains relating to the Star Mill/Garrett Brothers' tannery and quarry, and a Maori settlement. These elements have been avoided by the proposed motorway ramps, but there will be physical impacts on the quarry elements of the heritage area from access and construction, and minor physical effects at the reserve restoration stage, from the provision of boardwalks.

[1038] It was acknowledged by NZTA's witness on archaeology, Dr R E Clough, that there will be unavoidable adverse visual effects from motorway ramps passing over and

adjacent to the heritage area. He acknowledged that these would be significant in view of the high heritage values.

[1039] Part of an historic dry stone wall of moderate heritage significance would be affected, but the major part of the wall would be retained.

[1040] The Project would not affect any of the Maori habitation sites on the eastern bank of Oakley Creek in sector 5 (and nearby in sector 7) which are scheduled in the District Plan. Dr Clough acknowledged however that, as always, there is the potential for effects to occur on sites that are as yet unrecorded, exposed during construction. He considered that any such remains would however be unlikely to be extensive or significant.

[1041] Dr Clough recommended that the adverse effects of the Project could be practically mitigated through a range of measures that have been identified in both the Archaeological Site Management Plan (“ASMP”) which will form part of the CEMP, and in the proposed archaeological conditions. Measures particularly proposed include:

- Protective fencing of specified sites adjacent to proposed works;
- Archaeological monitoring of specified areas to establish whether unrecorded sub-surface remains are present;
- Archaeological investigation and recording of affected archaeological remains (which will also require an Authority under the Historic Places Act 1993);
- Implementation of accidental discovery protocols;
- Vegetation removal and repairs to the unaffected part of the stone wall in sector 5, and appropriate re-use of surplus stone; and
- Vegetation management, remedial and restoration work; provision of public access (including reinstatement of an historic bridge between the north and south banks); and provision of interpretation signage.

[1042] Dr Clough undertook a literature search and field surveys, and built on earlier work in the area by himself and others. He also undertook consultation with the current

owners of the land on which the Star Mill site is found, Peter McCurdy and Robyn Mason, who are heritage professionals and who had undertaken considerable research into the site, and who made their resources available.

[1043] Mr McCurdy participated quite extensively in the hearing concerning many types of potential effect in the Waterview area, but in respect of this heritage area in particular.

[1044] Mr McCurdy is trained in civil engineering and mathematics, and has had considerable experience with heritage as a former curator of the National Maritime Museum, and a former board member of ICOMOS New Zealand.¹⁵⁶ Mr McCurdy represented the Star Mills Preservation Group, which is in the process of being registered under the Charitable Trusts Act 1957. It is a group of Waterview residents, including the owners of the site, heritage professionals, and others established to preserve and protect and advocate for the archaeological remains at issue, and the tidal part of the Oakley Creek and its surrounds.

[1045] Mr McCurdy and Ms Mason had, as already noted, carried out extensive research into the heritage significance of the remains, and it was heartening to see the level of cooperation that had evidently been established between them and Dr Clough.

[1046] Understandably, Mr McCurdy and other members of the group had gained intimate knowledge of the heritage area. In addition, they have worked closely with other groups involved in the case, particularly Friends of Oakley Creek, Living Communities Auckland Inc, and the Waterview Environmental Society.

[1047] With their starting point that the Project should not receive consent, the group developed a pragmatic approach to the issues of the case, and participated closely concerning matters of detail. They raised a broad spectrum of issues akin to those put forward by the other groups, but gave evidence and submissions concerning the heritage sites as a particular focus. Mr McCurdy described the history of Maori and European involvement with the area. We mean him no disrespect if we do not set out extensively the highly interesting information he brought us. A summary will have to suffice.

¹⁵⁶ ICOMOS is the International Council for the Conservation of Monuments and Sites, a branch of UNESCO

[1048] The enclave is rich in archaeological and heritage sites, both Maori and European. The most notable and best documented is that of a water powered flour mill called Thomas's Star Mills at the property now owned by Mr McCurdy and Ms Mason. The basalt sea walls date from around 1859, and perhaps earlier. In 1879 the mill became the Garrett Bros' Star Tannery, with tanning pits and a currier's cottage, and a bridge across the creek. A Cornish steam boiler was installed at this time, the well preserved remains of which can still be seen.

[1049] Mr McCurdy said in evidence that overall, the draft conditions of consent should assist greatly in preventing the loss of heritage, but he felt they were lacking in some respects which he detailed for us.

[1050] Mr McCurdy also gave evidence about some very old oak trees on the left bank of the creek, possibly dating from the tannery years; also some tall pine trees which are roosting sites for herons every year. Some would be within the path of a flyover, but others, he considered, could be retained and protected. Replacement trees would, he considered, preferably be pohutakawa, the species the pines replaced in the 1930s.

[1051] Mr McCurdy recommended that removal of existing vegetation should not take place except where absolutely required for construction, so as to minimise erosion and runoff into the creek. Replacement planting should be carefully designed and programmed to minimise detrimental effects. The species for planting in and near archaeological areas should be carefully selected for non-invasive root systems.

[1052] Mr McCurdy also described the recreational use currently made of Oakley Creek and the adjoining marine reserve, for kayaking and sight-seeing. He asked that headroom be retained under the widened causeway bridge and that culverts be installed under the causeway, further west, to reduce the potential dangerous concentration of water flow at the bridge.

[1053] Mr McCurdy also requested that the flyovers be provided with noise barriers.

[1054] In rebuttal evidence, Dr Clough considered that the draft condition SO.2 adequately provided for consultation with the Community Liaison Group, the Working Liaison Group, NZHPT, recreation users, and other users' representatives, in connection with the development of open space restoration plans.

[1055] We note that by proposed draft condition SO.6 (25 March), that in addition to the community liaison group established pursuant to condition PI.5, the applicant is to establish a Working Liaison Group, inviting the following to join: Auckland Council, Housing NZ Corporation, Te Kawarau iwi tribal authority, Ngati Whatua o Orakei, KiwiRail, Department of Conservation, Ministry of Education, and local boards. By draft condition PI.5, the Community Liaison Group in the relevant area is to be open to interested parties, including but not limited to the Council and Auckland Transport, educational institutions in the area, and relevant community or environmental groups (including but not limited to Friends of Oakley Creek. We consider that the latter should identify the Star Mills Preservation Group as well, and note that the necessary change has been made to condition PI.5(c) pursuant to our 7 May directions.

[1056] In relation to the proposed pedestrian bridge over Oakley Inlet, Dr Clough continued to favour good public access, with good maintenance and public interpretation. During the course of the hearing he and NZTA agreed that draft condition ARCH.6 should expressly record that the design of the bridge should be appropriate to its original historic form, and that planting in the area should be managed to avoid the encroachment of deep-rooted trees on identified archaeological sites.

[1057] During the course of the hearing Dr Clough also recognised that express reference should also be made to protection of the boiler, and that the design and location of walkways, paths and structures should include consideration of historic paths and accessways. Other wording suggested by Mr McCurdy was agreed as well.

[1058] Agreement was also reached in relation to express mention of Monterey Pines and Oak trees over 10m in height being identified and managed through the CEMP Amenity Tree process (ARCH.9 and CEMP.6(o) and (p)). Certain amendments were also agreed in relation to replacement planting with those species.

[1059] The high levels of cooperation that occurred amongst the parties and witnesses concerned with this set of issues resulted in a very complete measure of agreement about draft conditions of consent. A small matter that arose towards the end of the hearing did not by that stage however seem to have found its way into the draft conditions. Mr McCurdy had told us about the presence on the site of some Robinia trees which are likely to be removed, and whose root system can be unacceptably invasive in the vicinity of archaeological sites. The timber from those trees would be particularly valuable for

heritage boat restoration purposes, and Mr McCurdy had requested that the trees be removed in consultation not only with an arborist, but with heritage vessel restoration experts such as himself, and the timber made available for those purposes. We agreed that such provision should be included, and included the matter in our 7 May directions. The experts responded by drafting amendments to PI.5, PI.6, and SO.7. Those changes have our approval.

12.7 Sector 6 (SH16 to St Lukes)

12.7.1 Provision for Alternative Travel Roads (Bus Prioritisation, Pedestrian, Cycleway Connectivity)

[1060] Issues in these regards are dealt with elsewhere in this decision, for instance in the transport and open space sections.

12.8 Sector 7 (Great North Road Underpass)

[1061] The main elements of the Project in this sector are a “cut and cover” section of tunnel, commencing near the intersection of Great North Road and Herdman Street (near the Waterview school), and running in a southerly direction to meet with excavated tunnels under Oakley Creek in sector 8. The north-bound and south-bound alignments are intended to be accommodated within one single cut-and-cover box approximately 40m wide. The most notable feature in this sector, and one of the most controversial in the proposal, was a northbound tunnel ventilation building, designed as a very long north-south structure, coupled with a ventilation stack reaching a height of 25m above ground level.

[1062] The cut-and-cover section of the tunnel would be approximately 340m long, and would descend in depth below ground level, from an approximate 10m depth at the portal.

[1063] The existing environment is presently dominated by the north-south arterial of Great North Road, with residences, and Waterview school and Kindergarten to the west, and Oakley Creek and its associated reserve to the east.

[1064] A number of potential effects were assessed by the applicant in its AEE, which will be discussed in other sections of this decision. These include general land use effects,

traffic effects, ground settlement, social effects, cultural impacts, amenity trees, archaeology, groundwater, freshwater ecology, air quality, noise and vibration and light emissions, stormwater, land and water contamination, effects on reserves and open spaces, and connectivity and network issues. However, in this section of the decision we will discuss effects that are particular to the sector, being the landscape, visual and general amenity impacts of the proposed northern portal building and ventilation stack, effects on Oakley Creek, effects on the school and kindergarten, effects on the Unitec campus, effects on a hostel at 1510 Great North Road, and effects on the Waterview esplanade reserve.

12.8.1 Northern Portal Building and Ventilation Stack Location, and Impact on Community

[1065] As already noted, this issue proved to be among the more controversial in the case.

[1066] NZTA's landscape witness, Mr S K Brown, offered some quite "unvarnished" views on the issue, in a most objective fashion. He said that a combination of the proposed structures and landscape modification within what is presently the northern end of Waterview would have a major impact on both that residential catchment per se, and on the wider public perception of the suburb. The portal building and ventilation stack as originally designed would, in his view, introduce structures to the margins of Waterview that will have an industrial quality and act as local "landmarks" that would signal the presence of the tunnel portal and motorway, even though proposed tree planting and architectural treatment might ultimately help limit the long term impacts to a moderate level.

[1067] The more short term and temporary effects related to the removal of housing, site preparation, and development of the structures, would he said, be significant. This would include the very significant disruption that would occur with re-routing of traffic down parts of Great North Road, and even more importantly, the temporary cut into and through the Oakley Creek reserve, and the location of temporary construction yards and facilities within that space.

[1068] Mr Brown said that these temporary works would have a major impact on the verdant "pasture" and open space immediately abutting Great North Road, with open working faces cutting through current landforms, together with haulage areas, compounds,

security fencing, offices, trucks and other equipment, which would completely transform the current park-like reserve for the duration of the work (estimated by others to be 5-7 years). As a result, much of the presently tranquil open space which provides a contrast between the heavily trafficked Great North Road and suburban Waterview, would be both visually and physically displaced. The short term effects associated with the cut-and-cover operations would be very significant during the Project's construction phase.

[1069] The exposure experienced by locals, including those attending or visiting the school and kindergarten, and on members of the public passing through the vicinity, would have the potential to colour the general public perception of Waterview as a whole. While the short term impacts would be much more significant than those experienced in the long term, Mr Brown was of the view that there could be little doubt that the portal building and 25m stack would introduce a utilitarian array of components and quality to the northern end of Waterview, which would also present cumulative effects (he termed this "compounding of some of the adverse effects") deriving from the interchange immediately to the north in sector 5.

[1070] Without putting too fine a point on it, these aspects of the proposal provoked a high level of dismay, even anger, from people in the local and wider vicinities. We do not expect that NZTA should have been at all surprised about that, and probably in consequence, it took two steps. First, it engaged the services of architectural firm Konstrukt, to present a revised design option, with input from open space landscape architect Mr D J Little, and engineers. Secondly, it offered to place this aspect of the works into the Outline Plan of Works process under s176A of the RMA, as discussed elsewhere.

[1071] As explained in the evidence of the architect concerned, Mr A D Gibbs, and as commented on in the evidence of Mr Brown, a concept was developed to achieve the following:

- Deconstruction of the portal building to reduce its profile and ensure its scale is more compatible with the residential area – particularly by cutting the large structure into several smaller buildings of a more residential scale.
- Adoption of a design theme and profile that purportedly relates to the local coastal environment, redolent of sedimentary layering and marine shells. (This

in itself attracted strong criticism, it being alleged that the suggested structures were based on the use of a great mass of bunker-like concrete).

- Location of the buildings and stack as far away from the Waterview School and Kindergarten, and local housing, as possible (but still on the western side of Great North Road).
- Retention of a residential frontage along a part of Oakley Avenue, by undertaking some residential redevelopment in the vicinity of the corner with Great North Road after construction work is completed.
- Provision of open space around and between the resulting structures to contribute a feeling of a cluster of more modestly scaled buildings, compatible with the local residential character.
- Provision of a framework of trees and other planting around the revised buildings and stack, again to assist with scale and apparent proximity to neighbouring facilities and houses.

[1072] The witnesses noted that such an approach would be subject to further design work and mitigation measures, but even so, Mr Brown acknowledged that the stack would remain a prominent feature at the northern end of Waterview, but with hopefully a more positive “signature” being attained over time. He considered that the revised design was very positive and “entirely compatible with the local landscape”.

[1073] In the face of strong community opinion expressed through submissions that the stack at least should be moved to the east side of Great North Road, Mr Brown expressed concern about the impact that that would have on the Oakley Creek Reserve, potentially compromising its naturalness, aesthetic value, and passive qualities.

[1074] The landscape architect called by Auckland Council, Mr D J Scott, was generally supportive of the work of Mr Brown and others on landscape, visual and urban design matters, throughout the Project. In his evidence in chief he discussed sectors 5 (interchange) and 7 (Great North Road) together, acknowledging that the former proposes an array of new constructed elements that include elevated ramps, bridge structures, and retaining walls, extending out significantly beyond the existing footprint of the

interchange and into the Waterview community and the Oakley Creek area; while the northern portal building and stack would introduce elements that would represent a significant departure from the character of the current urban landscape. The interchange is discussed elsewhere in this decision, but a fair observation would be that the portal building and stack attracted a significantly stronger measure of submitter opposition.

[1075] Mr Scott acknowledged that the building and stack, and attendant landscape modification, would have a serious and significant major impact in the short to medium term; that the effects on the primary school and kindergarten would be moderate; that the Project would have a significant impact on the local residential catchment and on the wider public perception of the suburb; that construction would have significant landscape and visual effects for the duration of the construction phase; that there would be significant impacts on local amenity values; and that there appeared to be a lack of reinstatement plans for Oakley Creek Reserve.

[1076] Mr Scott was supportive of the concept work by Construct Architects, particularly on account of reduction of the footprint of the service buildings, the breaking up of building elements, and the addressing of general height, scale and aesthetics. Not unlike the views expressed by many private submitters, he felt that work remained to achieve an appropriate design, given that the particular concept was, in his view, relatively “brutal” in architectural form and appearance. His view, along with others, may well have fed into the NZTA concession about the use of the OPW approach.

[1077] Mr Scott was inclined to think that the coastal lowland forest theme intended around the interchange could be extended around the proposed buildings and right up to the Oakley Avenue corner. Under cross-examination, reminded about the sheer height of the stack at 25m (or even 15m if the air quality experts were able to agree on the appropriateness of that), he changed his emphasis and offered the rather remarkable thought that design work could be undertaken on it to create something of a “celebration”. We were inclined to share the astonishment of many of the parties, about this suggestion, but should not of course rule out the possibility that some clever design work might be undertaken during the OPW process, whether the stack is located where proposed, or elsewhere, such as the eastern side of Great North Road.

[1078] Under questioning by Ms Devine on behalf of the Albert-Eden local board, Mr Brown acknowledged that there appeared to be some strong community views in favour of

moving the stack to the eastern side of Great North Road, but nevertheless continued to offer his own professional judgment to the contrary. He acknowledged that the stack in its originally proposed position, would be strongly visible from the open school grounds, and also from Waterview Reserve, but in a subsequent answer to Mr Allan, counsel for Living Communities, he said that once you start to go significantly beyond the boundaries of the primary school, it would be very hard to find anywhere, and he referred as well to “breathing space” and “buffering” available from the presence of the school grounds and its mature trees.

[1079] Again in answer to Mr Allan, he did however agree that the local community might be entitled to have greater weight accorded to their interests than those of commuters on Great North Road.¹⁵⁷ He agreed that there would be no adverse effect on users of the service station site. He however insisted that he remained very uncomfortable with the notion of shifting the stack to a point where it would be “dumped on the edge of a reserve”.

[1080] Under questioning in chief, Mr Scott continued to maintain that wherever the stack was placed, it could not be completely screened or disguised, but he certainly maintained support for the lower height.

[1081] Under questioning from Ms Devine, he agreed that there would be local and transitory communities, and that the stack would be likely to have a significant visual effect for the former, although he too maintained that significant vegetation around the school would provide some screening. At this point the witness raised his idea about design of the stack offering a “celebration” quality about which we have already commented.

[1082] Under question by Mr Allan, Mr Scott appeared to place some importance on the stack remaining connected to the associated buildings (it not being seriously suggested that those should be moved to the eastern side of Great North Road). He however conceded that many people might not care what functions are contained in the buildings. For ourselves, we agree with that observation, and find that there is no real importance in visual terms in a link being maintained between these buildings and the stack.

¹⁵⁷ Transcript p461

[1083] Again under questioning by Mr Allan, the witness continued to stress the importance of the Oakley Esplanade Reserve, which importance he said was growing.¹⁵⁸ He said that although option 1 was right at the edge of the reserve, the structure would still read as a very significant element, and that planting around it could do no more than soften the visual effect around its base.

[1084] Under questioning from the Board, Mr Scott tentatively agreed that any conditions of consent referring to future design work on the northern buildings and stack might appropriately record that they should not take on an industrial look.

[1085] Ms Absolum was asked by Mr Allan by way of oral evidence in chief, to consider a set of graphic materials (admitted by consent as exhibit 7) based on a photograph looking northwards along Great North Road from the southern corner of its intersection with Oakley Avenue. Visualisation simulations were also presented based on that photograph, showing a 25m stack and ventilation buildings where originally proposed on the western side of Great North Road, a 15m stack and buildings in the same location, a 25m stack in the option 1 position on the eastern side of Great North Road, and a 15m stack there. In each of the latter 2 visualisations, the Construct version of concrete ventilation buildings remained in place where proposed on the western side of Great North Road.

[1086] She also produced by consent of the parties, a version of Mr Walters' rebuttal annexure E, showing only the positions of the original stack, and "option 1" moved slightly southwards so as to come within the jurisdiction of the designation footprint on the east side of Great North Road. It was the latter exhibit that formed the basis for the visualisations just referred to in exhibit 7.

[1087] Ms Absolum offered a detailed description of what was depicted in the visualisations, including by reference to ground level starting points for calculation of height, relative distances from the viewpoint of the street corner, presence or absence of vegetation including existing vegetation that would need to be removed, and new plantings, and the potential for "sculptural" treatment of the stack.

[1088] Under cross examination by Ms Janissen for NZTA, Ms Absolum confirmed that a 15-17m stack would reduce adverse visual landscape effects compared to a 25m one, on

¹⁵⁸ Transcript p773

the surrounding area including the school and kindergarten. She also acknowledged that there had been improvements in drafting of conditions of consent concerning vegetation.

[1089] As to whether Mr Brown and Mr Scott were correct to express concern about dividing the buildings and the stack off on separate sides of the road, Ms Absolum said that she would share their views if the environments on both sides of the road were the same, however here there is a residential community on one side of the road, and a piece of public open space on the other. She considered that all landscape witnesses had agreed that it would be possible to design the portal buildings so they fit comfortably within the residential fabric on the west side, but none felt that the stack could be similarly assimilated into either of the 2 locations, west or east.¹⁵⁹ Having weighed matters up, she had come to the view that it would be better to place the stack in the open space, even though it was not something she would normally recommend. Losing legibility of the stack being part of the tunnel (by keeping it on the same side as the buildings) was, she thought, a minor loss, compared to the gain by moving it to the other side of the road.

[1090] There were some uncertainties about the extent of earthworks that would be necessary for a stack in the newly suggested location on the eastern side, but she considered that it could be partly screened by trees, and that by being on the inside of the Great North Road curve rather than the outside, it would not be the focal point at the end of the shaft of view, as it would be on the outer side of the bend. In this respect, she acknowledged that there was less of a difference between east and west when travelling north than when travelling south. She acknowledged that she was not aware that Mr Walter of NZTA had said that construction would take an additional 6 months' disruption on Great North Road if the stack were removed to the eastern side. She acknowledged that Mr P Conder, from the submitter Unitec, had expressed negative views about the eastern location close to a possible future major access point for the institution, and said that she had some difficulty with that point of view, but acknowledged that his comments did illustrate one [potential] response.

[1091] Asked whether there might have been different submissions from people, for instance users of the reserve, if the vent stack had been shown located in the reserve, she thought that might possibly be the case, but wasn't able to offer a view about whether the reserve was of regional benefit.

¹⁵⁹Transcript p1058

[1092] When Ms Janissen delivered her formal reply on behalf of NZTA at the end of the hearing, she submitted, by reference to Ms Absolum’s general description of the exhibit 7 materials at the commencement of her oral testimony, that “*once Ms Absolum had the opportunity to better see what relocation actually involved (ie how prominent the stack would actually be on that eastern side), her evidence turned to focus on the opportunity to make something of it in that location instead of shrub up the front of the stack and try and hide it and pretend it’s not there*”. Ms Janissen also submitted by reference to an answer by Ms Absolum to Mr Allan,¹⁶⁰ that her advice about preferring east over west was a difficult and close call, because she said that she went through quite a process and wrote and re-wrote some of the evidence, and wavered a lot and finally came to a decision, because “*it is difficult - wherever we put it there are going to be problems*”.

[1093] Clearly, it was a close call for Ms Absolum at various stages, but in answer to questions from the Board, she said:

I think I’ve got to a position where it’s not so close that I’m having difficulty expressing myself to you.¹⁶¹

[1094] When Mr Pryor, an experienced landscape architect called by the Auckland Kindergarten Association gave evidence late in the hearing, he was questioned by Mr Allan. He said that he considered from the somewhat limited information he had, including a [topographical] overlay on an aerial photograph, that there would not be a need for major earthworks at or close to the “Option 1” site – and neither did he think there would be a need for major vegetation removal. He stood by his statement in the caucus statement that large scale trees in the reserve would complement the scale of the stack [if placed on the eastern side of Great North Road].

[1095] As to his part in the caucus statement in saying that he would not support option 1¹⁶², he reiterated that option 2 (by the service station) was preferable to option 1, but if option 2 wasn’t available, he now advised that option 1 would be preferable. He said that the points of agreement were in terms of his brief on behalf of the kindergarten, at which time there had been no discussion about proposed alternative options. Hence, he said that the recorded caucus agreement that if the kindergarten were to be permanently relocated, then a 15m stack in the [originally proposed] location would be acceptable, that was in

¹⁶⁰ P1053 of the transcript

¹⁶¹ Transcript p1065

¹⁶² Transcript p1689

terms of effects on the kindergarten, but not on the wider school and residential area to the west.

[1096] The position of the Waterview School, which had originally lodged evidence strongly critical of the proposal for a 25m stack near its boundary, was very much overtaken by its arriving at an agreement with NZTA at the last moment. The school principal Mr B Skeen was called to give evidence, largely in relation to the new stance adopted by the school in light of a number of items of quite significant mitigation having been offered to it by NZTA. Some of these items relate to matters of acoustic attenuation and visual mitigation. A consequence was that the school would now accept a stack in the originally proposed location, particularly if it were no more than 15-17m high.

[1097] Asked by Mr Allan on behalf of Living Communities, which of the 4 possible locations for a stack shown on Annexure E to Mr Walter's rebuttal evidence, the school would prefer, he said that there wasn't a view, but "we just prefer it as far away from the school as possible". Pressed, he said this was on account of visual issues, and potential problems of perception from parents.

[1098] The Board received a great number of submissions from members of the community, particularly from amongst the Waterview community. Waterview school parents and others, were strongly opposed to the stack being located alongside the school. Many of them, having become aware of discussion in the hearing about a possible option of placing the stack on the eastern side of Great North Road, expressed support for that if there had to be a stack in the locality. Some acknowledged that if the Project was to receive consent, it would be likely to involve the proposed tunnel, and there would be a need for a ventilation stack at each end.

[1099] Amongst the more enterprising and illuminating presentations was one from Ms L Hayes, of 7 Oakley Avenue, Waterview, 3 houses in from Great North Road. She presently enjoys an outlook over an attractively landscaped rear yard, with distant views as far as Auckland's Sky Tower. She presented power-point shots of a conceptual cylindrical chimney, visible over her back fence, at a distance that we scale at approximately 70m. Her drawing of the chimney was, she said, by reference to the scale of certain adjoining trees that she estimated at about 17 or 18m tall.

[1100] Even making allowance for the roughness of her estimates of tree heights and her conceptual chimney, the point was conveyed with some force that the occupants of houses that will remain in the immediate locality would have the stack looming over them in a very significant way. She talked of “zero mitigation”. This would of course be diminished if the stack were to be in the order of 15-17m high (about 2-3 times the approximate height of most houses in the vicinity), but the effects would no doubt still be significant and adverse.

[1101] Another Waterview resident to appear was Ms R MacLennan of Hadfield Avenue, about 3 blocks from the proposed stack. Although we believe that she would be unable to see it from her property on account of distance and intervening structures and vegetation, her concerns were about the sheer size and “eyesore” qualities of it next to the school, and what peoples’ perceptions would therefore become of Waterview. She said “*you’ve all heard before if you put lipstick on a pig, it is still a pig*”, we imagine in reference to ideas of making a sculpture or a “celebration” of it. She earnestly entreated us to move the stack to the eastern side of the road where distance from the school and houses, and some screening from trees, would help.

[1102] Ms M Riley was another local submitter to appear and offer a representation. She lives in Seaside Avenue, about 4 blocks from the proposed stack, but also expressing an opinion about likely public perception of it. Ms Riley is an architect. Amongst other things, she criticised the NZTA proposal to locate the stack on the outside of the gentle bend in Great North Road at this point, rather than the inside or eastern verge, where it would be less visible to passing motorists and others.

[1103] As counsel are wont to do, counsel for the Albert-Eden local board, Ms Devine, was inclined to pick the eyes out of aspects of the evidence that would support moving the stack. She did, however, accept that Mr Conder of Unitec considered that a stack on the eastern side of Great North Road could have a negative impact, with a risk of it being seen as an entrance marker for a future main access to the Unitec campus. She also acknowledged that there appears to be a fine balance between the alternatives, even for the experts.

[1104] Ms Devine provided us with a resolution by Auckland Council’s Park, Recreation and Heritage Forum, purporting to support relocation to the eastern side of Great North Road. We do not know what material that body considered when it made that resolution,

but we obtained advice from counsel for the Council that the Forum is not delegated to make decisions on behalf of the Council or any Committee, but instead recommends policy and planning matters to its parent Committee, in this case the Regional Development and Operations Committee. Accordingly, we can place very little weight on this resolution. Ms Devine considered that while a future Outline Plan Of Works can address design, her client considers that it would be “beneficial” for more detailed design parameters to be refined as part of our Board’s decision should the stack be “relocated”.

[1105] Mr G Easte, a local board politician, had advocated moving the stack northwards towards the interchange, but conceded that the idea had gained no support from the residents of Waterview. He therefore decided to endorse either option 1 or option 2. In the event that there proved to be jurisdictional difficulties with option 2 (although not agreeing that that was the case), he gave qualified support to option 1 as a sort of second-best. He sought a condition that the final design be to the satisfaction of the successor of the design panel of Auckland Council, and recommended an artistic and design approach akin to the work of noted local sculptor Virginia King, who with technical experts had designed the Rewarewa Bridge at New Lynn. While unable to accept much of what Mr Easte submitted, we find that that particular idea has some intrigue.

[1106] Another submitter, the local MP for Mt Albert Mr David Shearer, made a representation. We perceive that he had developed a useful knowledge of the interests and perceptions of his constituents. On this topic, he submitted that the design of the ventilation buildings and their stacks must be got right now, as they would be extremely difficult to rectify or alter in the future. He supported what he saw as a community preference for option 1 or option 2 on the east side of Great North Road. He supported shortening the stack if that were possible in air quality terms.

[1107] Mr P J McCurdy, representing the Star Mills Preservation Group, who attended a considerable part of the hearing and questioned witnesses to some effect at times, strongly supported moving the stack to the eastern side of Great North Road immediately south of the service station, while preserving as much as possible of the existing tall vegetation. He doubted that there would be any real affect either way on Unitec, and acknowledged a thoughtful view put forward by Friends of Oakley Creek, which we will come to. He urged that the balance on this aspect of the case should be weighted firmly in favour of the Waterview community.

[1108] Friends of Oakley Creek – Te Auaunga Inc, was represented throughout much of the hearing by a member, Ms Heather Docherty. She conducted the case for the group with considerable skill, particularly as to the content and manner of delivery of her questions of many witnesses. We found her participation in the case extremely helpful on many points. As one might have anticipated, the group had not been keen on the potential for the northern ventilation stack to be moved to the eastern side of Great North Road, onto the edge of a reserve that they actively and scientifically care for. We therefore particularly noted a submission that she made on the issue, indicating that the group would remain neutral on it because they recognised that it is complex, and that the stack location as originally proposed would adversely affect the Waterview community, particularly the school. The submitter would prefer option 2 near the service station over option 1, but in any event submitted that if established on the eastern side of the road, it should be done so as to have minimal impact on the environment, including existing vegetation, and that additional native planting should be undertaken around the stack, post construction, in keeping with the wide ecological environment. We considered that a most constructive and responsible representation.

[1109] Mr P E Conder is the chief financial officer of Unitec. Amongst other things, he gave evidence about some conceptual planning for possible future campus developments. Unitec had lodged a submission generally in support of the proposal, but conditional on a number of concerns being addressed. The concerns have now largely been resolved, resulting in a number of proposed amendments to conditions recorded in an agreement with NZTA. Unitec’s counsel, Ms M N Batistich, told us that Unitec “has no particular view in relation to the re-location proposals provided they do not compromise [Unitec’s] future redevelopment plans”. Option 1 evidently raises concerns in terms of potential impact on its conceptual future cross-site link, however we have the view that the possibility of such is too indefinite for us to place very much weight on it.

[1110] On behalf of Living Communities, Mr Allan offered us detailed submissions on this issue. He noted that NZTA’s urban design witness Ms Hancock had concluded that movement of the stack would “not be a deal breaker” for her, and that NZTA’s witness on open space, Mr Little, considered that option 1 would have minor negative open space effects. Mr Allan acknowledged strong professional views against a shift, on the part of other landscape witnesses.

[1111] Mr Allan stressed the smallness of the Waterview residential enclave, lack of connectivity to it, and the significance of the proposed infrastructure in that community. He expressed the hope that the ventilation building structures could be designed consistent with residential scale and amenity. As to the stack, he analysed a considerable amount of the evidence, noting particularly that despite a likely agreement between the school and NZTA, there would be parents who would have concerns about pollutants regardless of scientific evidence, and that the school's role and hence its contribution to the community could reduce, and the coherence and vitality of the community be compromised. He noted that Mr Scott tentatively accepted that the resident and school community should be given priority in this case. He stressed that it is these people whose community the motorway is to be driven through. Other audiences would include the regional community that is to benefit from the motorway, and which might have a more positive perspective on the proposal and therefore make them more tolerant of the stack.

[1112] The Waterview Environmental Society Inc supported relocation of the stack to the eastern side of Great North Road.

[1113] A side issue arose late in the hearing. On 18 March NZTA lodged a letter from Buildmedia Limited, the company that had prepared the visual simulations that had been used by Mr Brown in his evidence, and commented on by others. Evidently a background photograph that had been used as a back-plate within the visual simulation undertaken from within the school playing fields was found to be an earlier iteration that had been cropped, and appeared to shift the horizontal position of the stack to one side of the viewpoint. A corrected simulation was supplied.

[1114] At the same time, Buildmedia took the opportunity to update visual simulation work from the point of view of evidence emerging from the various landscape architects as the hearing progressed, concerning reducing the height of the stack to 15m adjacent to the school, and having either a 25m or 15m stack, not adjacent to the service station, but a little to the south, on the edge of the reserve, in a position we shall shortly discuss.

[1115] While NZTA was correct to draw it to our attention, we consider that the error in the visualisation of view from the school playing field was of no great moment. A 25m stack immediately adjacent to the school would loom strongly whether it appeared as in the incorrect simulation, or the newer correct one.

[1116] Like the school, a party to reach an almost complete agreement with NZTA by the end of the hearing, was the Auckland Kindergarten Association. The agreement was to be based on the Kindergarten being moved from the school grounds, close to the proposed northern buildings and stack, to a property acquired for the purpose by NZTA at 17 Oakley Avenue, now to be on a permanent basis rather than temporary as previously offered by NZTA.

[1117] As mentioned earlier, the association called the evidence of landscape architect, Mr R J Pryor. He too had the opportunity to consider the suggested Construct concept.

[1118] He noted the presence and the locality of numbers of mature trees, but nevertheless considered that the sensitivity of the view to change resulting from the ventilation stack would be moderate to high in the locality. He considered that the height, form and industrial nature of the ventilation stack would be completely out of context with the prevailing character of the area. It would strongly contrast with and challenge the surrounding residential environment.

[1119] While his opinions concerning the potential for very significant adverse effects on the kindergarten were it not to be shifted were ultimately overtaken, nevertheless the opinions expressed by this witness had wider applicability for the Waterview community, and people travelling to and through it.

[1120] As previously intimated, witnesses involved in the landscape, visual, and urban area, met in caucus and produced a report of these issues amongst other things. These witnesses were Mr Brown, Mr Scott, Ms Absolum, Mr Pryor, Ms Hancock, and Mr Gibbs.

[1121] They agreed the following:

- (a) While acknowledging the limitations created by underground components, it is desirable to achieve as many large scale specimen trees as possible around the portal buildings.
- (b) It is appropriate to re-establish an urban residential edge at the corner of Oakley Avenue/Great North Road (1445 and 1449 Great North Road) through comprehensive redevelopment.

- (c) Portal buildings can be accommodated in the location proposed subject to appropriate conditions relating to how they are designed in relation to their suburban context.
- (d) Security fencing should be kept to a minimum, where possible using the building facade itself to create a barrier, and to reflect the residential character of the area.

[1122] The witnesses offered draft conditions which to some degree, with and without further modification, have found their way into the latest draft conditions of consent to be offered by NZTA on 25 March.

[1123] The witnesses discussed the ventilation stack, and considered 3 alternative options for location, above that originally proposed. We infer that the options were drawn from an exhibit to the rebuttal evidence of NZTA witness Mr A Walter (Annexure E), an exhibit which came in for a great deal of scrutiny during the course of the hearing. Option 1 was on the east side of Great North Road, straddling the boundary of the Oakley Esplanade Reserve, and the service station property. Option 2 was near the eastern edge of the road, within the service station property, and close to its exit. Option 3 was on the north side of Herdman Street, opposite the primary school, and essentially closer to the interchange ramps.

[1124] Options 2 and 3 faded from view during the course of the hearing, and are barely worth further mention in this decision. In particular, option 2 by the service station exit appears to be beyond jurisdiction, being outside the designation footprint. The focus came to be on option 1, but moved southwards along the eastern edge of the Great North Road a few metres to come within the designation footprint, that is just into the reserve land.

[1125] The experts agreed that a reduction in height of the stack to approximately 15m would be preferable, and if possible a further breaking down of the form into three components. Further, that creating a piece of “urban sculpture” rather than a simple stack would be appropriate. And finally, that location preference would be linked to the scale and design of the stack. There was not, however, full agreement regarding location. It was noted, however, that options 1 and 2 would provide greater separation from the school, kindergarten, and the residential neighbourhood. Further, that large scale trees in the reserve could complement the scale of the stack.

[1126] Mr Scott, Mr Gibbs, Mr Brown and Ms Hancock favoured the originally proposed location given the other agreed parameters. Ms Absolum did not. She preferred option 2 (but which is beyond jurisdiction), and did not support option 1. Mr Pryor did not support the originally proposed location with either height, preferred option 2, and did not support the others. He recorded that if Waterview Kindergarten were to be permanently relocated, then 15m in the original location would be acceptable.

[1127] Because of the disparity of views amongst the experts and the somewhat “shifting ground” on this issue during the hearing, and also given the very strong views put forward by many Waterview residents, we have found it helpful to further analyse answers given by the experts in answer to questions.

[1128] When cross examined by Ms Devine, Mr Brown agreed that in evidence in chief he had described the notified proposal as having the northern ventilation building and stack as far away as possible from the preschool and the school. He conceded that achieving that outcome “might well be” a supportive reason for the adoption of Options 1 or 2, but he did not see the extent of separation as the only relevant factor¹⁶³. He was also concerned, for example, about potential effects on the Oakley Creek open space system, notwithstanding the common contrary view of community groups on that subject. He accepted that the stack’s location might potentially change through the processes of consultation and design refinement, but did not consider relocation appropriate - notwithstanding his acknowledgement that there would “be permanent adverse effects on the residents from the northern stack”. When cross examined by Mr Allan, Mr Brown accepted that a location on the eastern side of Great North Road (Options 1 and 2) would buffer the stack from Waterview residences. He considered the alternatives would jam the stack hard against the footpath closer to commuters (than the notified proposal)¹⁶⁴ but conceded greater weight should be accorded the views of those living in the immediate vicinity than persons driving past. Mr Brown accepted that Option 1 would make the stack less prominent and reduce its scale. He conceded that residential properties, the school, its students, teachers, parents and people in the community who use the school would not be worse off in visual terms if the stack were shifted across Great North Road. He also accepted that when viewed from the lower slopes of Oakley Creek reserve, the stack would be seen at “about the same distance” irrespective of which side of the road it was on. Mr Brown did not consider the stack capable of mitigation on either side of Great

¹⁶³ TOP p 445 ff

¹⁶⁴ Ibid, p 461 ff

North Road, and held that the correct path was to take a positive sculptural approach in junction with the ventilation buildings.

[1129] When cross examined by Ms Devine, Mr Gibbs noted that a majority of the experts who caucused supported associating the stack with the ventilation equipment to avoid the potential for “visual incongruity and ambiguity about its function”. He thought people may not understand either function [ventilation buildings and stack] if the components were separated.¹⁶⁵ He accepted that placing the stack amongst other sizeable things, such as high mature trees was possible, but potentially raised complex questions if the stack weren’t to be “clear of the trees”. When Ms Devine put other potential management approaches to Mr Gibbs, including shifting [the stack] he accepted “there’s always alternative responses”. Mr Gibbs conceded to Mr Allan that members of the public probably would not consider separation of the ventilation buildings and stack on different sides of the road as important as he did. Nevertheless, he considered there was a potential for “some unease” in the public mind, which they would be unable to express. He stated that given a different brief by NZTA, which had the ventilation buildings and stack on different sides of the road, it was “quite possible” he’d be able to devise an architectural approach that responded to that circumstance. More specifically, he thought it possible to design a stack on the eastern side of the road that fitted with that environment and which involved taller trees and more of them.

[1130] In response to a question from Mr Allan, Ms Hancock, indicated that she didn’t necessarily see siting of the stack near the school boundary as a negative feature, because the [ULDF] has an urban design principle that like uses should be gathered together¹⁶⁶. She considered siting the stack “coherently” with the other ventilation buildings on the same side of Great North Road, near the ramps and tunnel portal, a more appropriate location than elsewhere. She agreed with Mr Allan that this opinion reflected urban design principles about the legibility of buildings and their purpose and function but conceded that, at times, one might have to step away from such high level things. She also accepted that the public might consider ventilation and stack infrastructure on either side of the road to be “in the same basic location”. Ms Hancock accepted that public sentiment and community concern were relevant factors, amongst others, to urban design and that at times weight had to be attributed to competing matters, as she had done, in expressing a preference for the notified proposal. She indicated that a strong expression of

¹⁶⁵ TOP p 431 ff

¹⁶⁶ TOP p581 ff

community favour in support of relocating the stack “would influence her view,” but suggested users of Great North Road and future communities could also hold relevant views. She “expected” that people who live near the stack might have a little bit more influence in weighting terms than the people who drive by it every day. Finally in reply to Mr Allan, Ms Hancock stated that her support for the Project would not disappear if the stack were to be on the eastern side of Great North Road; whilst that was her preference she didn’t consider it to be a “deal-breaker”.

[1131] In response to a question from Ms Janissen, Mr Scott also expressed support for a [stack] design integrated with the ventilation buildings¹⁶⁷. However, he confirmed to Ms Devine, that he supported locating the northern stack as far away as practicable from the kindergarten and school without compromising the aesthetic value and integrity of the Oakley Creek reserve¹⁶⁸. Whilst he identified three potentially affected “communities” (residents, regular open space users, visiting or transitional open space users), he accepted that it was the permanent residents, who see the stack on a day to day basis, which would experience the most significant visual effects. He also accepted that the stack in its notified location would dominate the school, but more so the playing fields than the buildings, which he considered to be quite well screened “at this point” by some large trees.

[1132] In reply to questions from Mr Allan¹⁶⁹, Mr Scott accepted that the local community’s views should be accorded weight and that if a well informed community were to come to a different conclusion from his own, that was something which might cause him to change his mind. He also accepted that if the stack were relocated to the eastern side of the road, the “functional [project] buildings” remaining on the western side could be made to fit quite easily with the residential area and school. Mr Scott supported an “integrated outcome”, whereby aesthetics and function were treated as related matters. In his mind this argued for the stack remaining with the other ventilation buildings. However, he accepted that affected persons might not care what the buildings housed. He agreed that relative to the whole Oakley Creek reserve, Option 1 occupied a small area on the reserve’s edge beside a major road and service station. He accepted that a person in the valley of Oakley Creek reserve would not notice the stack to any great extent and that from Waterview Glades it would be seen in either location. Mr Scott did not think that planting around the stack at Option 1 would soften its visual effect, other than around its

¹⁶⁷ Ibid, p 760

¹⁶⁸ Ibid p762 – 763 ff

¹⁶⁹ Ibid, p766 ff

base. Mr Scott considered that for the stack to work as a public sculpture it would need to be prominent, but he was not certain that “Waterview [needs] a sculpture”. Nor was he certain that the object d’art which he envisaged would necessarily be celebrated by the local community. He conceded to Mr Allan that it was possible that it would be a permanent reminder of something NZTA had imposed on Waterview.

[1133] We recall (but do not repeat) aspects that we have already described of the examination in chief of Ms Absolum by Mr Allan, particularly in relation to Exhibit 7. Also, her answers under cross examination by Ms Janissen. Further, Ms Absolum agreed with Ms Janissen’s question that Option 1 would impact on local amenities to an extent - but not quite as badly as Option 3¹⁷⁰. She confirmed her understanding that Oakley Creek reserve is of local and regional importance. She found that [weighing] the impacts of the alternative stack locations was not an easy decision and accepted it required a number of matters to be assessed, including monetary cost. Ms Absolum confirmed her evidence that the stack’s adverse effects could be reduced by familiarity over time. She considered that where land use on both sides of a road was the same, the ventilation building and stack would logically be collocated - but that is not the situation at Waterview. She recalled that none of the landscape witnesses felt the stack could be “*assimilated into either of the two different character [areas] that we’re dealing with [here]*”. And that on balance she considered it better to locate the stack in the open space because of the close association of the [notified proposal] within the residential area with important community facilities (school, kindergarten and adjoining residential neighbours].

[1134] Ms Absolum considered that the loss in “legibility” which would result from not juxtaposing the different elements to be “*a minor loss as compared with the gain by moving it to the other side of the road*”. In reaching her preferred position Ms Absolum said she had recognised and weighed the potential for the “*innate naturalness, aesthetic value and passive qualities of Oakley Reserve*” to be compromised. She had also weighed potential additional earthworks and vegetation removal effects, and discounted the latter. She found Option 1 to be less visible to south bound motorists as it is located on the inside of a curve as opposed to being towards the apex of the bend opposite. For north bound traffic there would not be very much difference. In reply to questions from the Board Ms Absolum stated that Option 1 would be visible from the primary school playing field but nowhere near as dominating [as the notified option] while the presence of “intervening

¹⁷⁰ Top p 1052 ff

elements” made it difficult to assess what the extent of visibility would be from residential sites west of Great North Road.

[1135] When examined by Mr Ryan, Mr Pryor stated that relocation of the kindergarten to 17 Oakley Avenue as agreed between NZTA and the Kindergarten Association “would mitigate the adverse effects of the stack on the kindergarten” identified in his EIC¹⁷¹. In response to questions put in cross examination by Mr Allan, he agreed those effects would remain and impact the school and wider residential area when the kindergarten was relocated. He did not imagine that Options 1 or 2 would require major vegetation removal or earthworks. He confirmed his commitment to the Caucus Agreement statement that Options 1 and 2 “*would provide greater separation from Waterview primary School, Waterview Kindergarten and the residential neighbourhood. The existing large scale trees in the reserve would complement the scale of the stack*”. Mr Pryor saw the latter attributes outweighing any vegetation and earthworks effects resulting from Options 1 and 2. He confirmed the comments attributed to him in the Caucus Agreement and gave opinions on additional related matters put to him by Mr Allan, namely:

- He did not support the notified stack proposal at a height of either 15m or 25m¹⁷².
- With a 15m stack he preferred Option 2.
- No option is suitable for a 25m stack.
- If there had to be a 25m stack he would reluctantly prefer Option 2.
- If Option 2 were not feasible he would prefer Option 1.
- The Caucus Agreement statement that “*If the Waterview Kindergarten were permanently relocated then 15 metres in the current location is acceptable*” concerned the kindergarten but not the wider school and residential area to the west.

[1136] Mr WD McKay, a senior lecturer at the School of Architecture and Planning, Auckland University, and chairperson of the North Western Community Association and

¹⁷¹ TOP p1685 ff

¹⁷² In response to a question from Ms Janissen, Mr Pryor accepted that his EIC stated that a 25m stack would be appropriate if the kindergarten were relocated [TOP p 1690].

committee member of the Tunnel or Nothing Living Communities groups, presented a supplementary statement¹⁷³ in addition to his evidence in chief for the Association. The supplementary statement was stimulated by that part of Mr A Walter's rebuttal evidence concerned with potential, alternative locations for the northern ventilation stack.¹⁷⁴ Mindful that many Waterview submitters might not have become aware of this evidence through the hearing process, Mr McKay arranged for as many of them as possible to be contacted and asked which of four positions they preferred, namely:

- The currently proposed option (western side of Great North Road between Oakley Avenue and Herdman Street.
- Alternative 1 or 2, both on the eastern side of Great North Road near the bus shelter.
- Alternative 3, on the western side of Great North Road north of Herdman Street.
- No preference

[1137] Mr McKay and other members of the NW Society were able to meet with 41 Waterview-based submitters,¹⁷⁵ who completed, signed, and dated forms stating a preference for one of the preceding options. In summary, every submitter expressed a preference for either Alternative 1 or 2. No submitter expressed a preference for retaining the stack on the western side of Great North Road.

[1138] In answer to questions put in cross examination by Ms Devine, Mr McKay deposed that the stack should be moved to the eastern side of Great North Road, as "the best solution on balance for the environment and the community". From his architectural and sculpture backgrounds he did not consider "prominence" to be an important consideration for urban sculpture.¹⁷⁶ When questioned by Ms Janissen,¹⁷⁷ Mr McKay stated he was uncertain about there being 1,218 dwellings in Waterview at the last Census, but he understood the population to be around 3,000. He also advised that the surveyed

¹⁷³ McKay, Supplementary Statement of Evidence 7 March 2011.

¹⁷⁴ As depicted in Annexure E Drawing 004B Vent – North, Alternative Stack Locations

¹⁷⁵ We calculate this to be out of a total of 53 submitters who gave Waterview as their address.

¹⁷⁶ TOP p 992

¹⁷⁷ Ibid, p 993

Waterview submitters had not been shown what Ms Janissen called “visualisations” of how the stack would look on the eastern side of Great North Road.¹⁷⁸

[1139] We have previously mentioned that the NZTA senior project manager for the proposal, Mr A B Walter, gave rebuttal evidence in addition to his evidence in chief. He noted in particular that the design work undertaken by Construkt involved placing approximately 59 percent of the northern ventilation buildings below ground. He noted that the location of the tunnel portal is fixed due to geometric alignment of it with the connecting ramps to and from SH16. He noted the potential for future mitigation from replacing housing removed early in the Project, near the corner of Oakley Avenue. We will not analyse his evidence recording why it would not be possible to entirely underground the buildings, because the general approach of parties to this, became one of guarded acceptance of them at the scale portrayed by Construkt.

[1140] Leaving aside options 2 and 3, which as we have said have more or less fallen away, Mr Walter told us that having the stack in the option 1 position, would add \$22.5m to the cost of the Project (a significant reduction from figures suggested in his evidence in chief, apparently as a result of improved understanding of the geology).

[1141] Mr T Parker, NZTA’s state highway manager for Auckland and Northland, recorded in his rebuttal evidence that the organisation does not consider that moving the stack will provide value for money or be able to be managed within the budget.

[1142] There was a strong suggestion from NZTA through these witnesses, and through counsel, that to add some millions of dollars of cost to the Project to carry out such mitigation, would have an impact on the ability of NZTA to undertake other projects. Our view of this is that the proposal is identified as one of 7 Roads of National Importance, with NZTA and the government keen to make an early start on it. We were offered no detail of how the spending of money of this order would relate to the allocation of funds to other projects, let alone what those projects might be, or what they cost. We found this expression of concern to be quite speculative, and we were unable to reconcile the taking of such an approach with our duty as a consent authority, having obligations (amongst other things) under Part 2 of the Act, including to consider the issue of mitigation of effects on the environment of this project.

¹⁷⁸ Ms Janissen clarified subsequently that the “visualisations” referred to were graphics that counsel for NZTA proposed putting to Ms Absolum in cross examination and which were admitted as Exhibit 7.

[1143] We also agree with submissions made by Mr Allan that the NZTA approach on this case was flawed for the following reasons:

- (a) the requiring authority cannot identify a limited envelope of funds to be made available for mitigation, and divide that up on the basis of what it considers gives best return for the dollar (agreed by NZTA witness Mr M Foster);
- (b) rather, the Board is charged with assessing the proposal in terms of ss149P and 171 RMA, considering effects of the proposal along the route, identifying whether those effects have been adequately avoided, remedied or mitigated, and if that has not occurred, imposing conditions that would allow that to occur regardless of whether there is benefit in spending that money elsewhere (agreed again by Mr Foster under questioning);
- (c) the approach is essential where, as in this case, different adverse effects of different scales and intensities arise along a lengthy route. There cannot be tradeoffs of mitigation;
- (d) the Board will need to assess each impact in its context and impose conditions requiring appropriate mitigation.

[1144] Mr Allan also raised the possibility that NZTA might argue that the Christchurch earthquake recovery might render the mitigation sought by the submitters an unaffordable luxury for the country. In fact NZTA did not raise that point, however some submitters did. We agree with Mr Allan's submission that the primary issue is that it would not be appropriate for events in Christchurch to result in a slackening of environmental expectations and standards elsewhere, particularly in relation to this major piece of infrastructure that would involve large structures dominating the Waterview and Owairaka landscapes for the foreseeable future.

[1145] Mr Allan's submission about cost included that if NZTA was to pose the question as to whether additional expenditure on certain mitigation would be "the best use of funds" was flawed. Mr Lanning made a similar submission that NZTA's approach to mitigation appeared to be "significantly influenced by monetary costs", and was accordingly too narrow.

[1146] Ms Janissen submitted that under the Land Transport Management Act, NZTA has a statutory responsibility in undertaking its functions to use its revenue in a manner that seeks value for money. She noted that this “value for money” was also an important feature of the government’s provision for the New Zealand Transport Strategy 2008. A key component of that records “...*the need for all investments in transport to be cost-effective and represent value for money*”. The Strategy is one of the non statutory documents drawn to our attention, and we agree with Ms Janissen’s submission that it is a relevant “other matter” that is relevant for us to have regard to under s104(1)(c), and to have particular regard to under s171(1)(d).

[1147] Ms Janissen drew our attention to the rebuttal evidence of Mr Parker and to his answers under cross examination, where in the latter instance he said:

... cost is always an issue for the Agency. We are the custodians of tax payers’ money and therefore we need to make sure that any money we spend represents good value for money.

[1148] Ms Janissen reminded us that NZTA’s Mr Parker, under cross examination by Ms Hartley for Auckland Council, had said that if additional mitigation [above that offered] were to take the Project over the “50th percentile for which it is funded”, a further draw on the National Land Transport Fund would be required, which is where there could be impact on other land transport projects around New Zealand.

[1149] She submitted that the cost and value of any mitigation required by the Board must be a relevant and important consideration. We think that must be true, even trite.

[1150] Mr Allan submitted that the costs of mitigation sought by submitters need to be kept in perspective, noting for example that “*even if the relief sought by them has a total cost in the order of \$40 million, that is only 2 percent of the Project cost*”. Ms Janissen’s response in Reply, was: “*the NZTA takes a different view, and considers that \$40 million is a significant amount of money, particularly when considered against the mitigation already being proposed for the Project*”. She did not, however, place that in the context of any detailed evidence offered us, and we are no further ahead in understanding whether such a sum would be indeed significant in the context of this large project, let alone what impact it might have on whether other projects would be able to be undertaken.

[1151] Ms Janissen pointed to a decision of the Environment Court in *Environmental Defence Society Inc v Taranaki Regional Council*¹⁷⁹ where the Court considered a condition proposed by the appellant that could technically mitigate emission of carbon dioxide from a proposed gas fired power station, would come at a cost that would be “so prohibitive that it would be unreasonable to impose such a ... condition”.

[1152] The best we can discern from the decision is that the mitigation there proposed would have cost some tens of millions of dollars. Precise calculation did not seem possible, and no context is given around, for instance, the overall cost of the power station project. We think, however, that two general points can be taken, namely that mitigation will usually come at a cost, and that the cost should be reasonable in the context of the proposal and the mitigation that is needed, beyond which the appropriateness of consent may be called in question.

[1153] Ms Janissen concluded the point by stressing the principle of affordability in the New Zealand Transport Strategy. It goes without saying, however, that that principle is but one of many matters that we must weigh when considering whether or not to grant consent, and if so, what conditions to impose.

[1154] On the score of affordability we believe useful reference might be made to a decision of the then Planning Tribunal in 1981, in the case *Re an application by NZ Synthetic Fuels Corporation Limited under the National Development act 1979*.¹⁸⁰ The case concerned an application to construct three major processing plants involving methanol and synthetic petrol. On the subject of permissible noise levels, the tribunal said at paragraph 13.19 on the subject of cost:

... we should take the cost into account. But the very suitability of the site is dependent on it being practicable to reduce potentially adverse impacts on its neighbourhood to acceptable levels which are consistent with the health, convenience and general welfare of its people and the amenities of their properties. The applicant will not be heard to begrudge the cost of noise reduction measures in the interests of those values.

[1155] Evidence was apparently given that the cost to the applicant of reducing a noise level to 55dBA would be \$7.1m, and the cost of reducing it to 45dBA would be a further \$13m for the same treatment. It was apparently said that of the extra \$13m, about half would be accounted for by reducing the level from 48dBA to 45dBA. The tribunal held

¹⁷⁹ Decision A184/2002, at para [53]

¹⁸⁰ 8NZTPA 138

that while 45dBA was an appropriate maximum noise level at the exterior of a residence, it agreed to the maximum level being 48dBA, partly on the basis that there was evidence that a rise from 45dBA to 48dBA would not be readily noticeable, and the cost of the additional noise reduction would be unreasonably high. We infer that the Tribunal was essentially addressing an issue of proportionality of effect and response.

[1156] It is our task to weigh all relevant matters and come to a result that serves the purpose of the Act. Affordability or value for money would not be a game breaker, but should be placed in the mix as one of many relevant factors.

[1157] Having regard to the findings that we have made throughout this section of the decision, we hold that mitigation should be undertaken in the form of moving the northern stack to the position slightly south of Mr Walter's option 1, as mapped on Exhibit 8. This finding is a value judgment, subject to jurisdiction to direct it, which we shall shortly consider. We find that imposition of this stack on the Waterview community in the position originally proposed, whether at a height of 25m, or of 15m, in the alternative, would have very severe adverse visual effects for nearby residents, at least out to the distance that Ms Hayes' property would be. Beyond that, obviously the effects will diminish on account of distance, and intervening vegetation, noting however that the topography in the area is relatively flat. The school and kindergarten may have arrived at a position where, with significant mitigation being offered them (a number of changes and improvements at the school, and permanent relocation of the kindergarten), they accept the proposal.¹⁸¹

[1158] A **jurisdictional issue** arose. Ms Janissen submitted in her reply on behalf of NZTA, that while the option 1 position might be found to occur within the designation boundaries currently before the Board, there is another issue that we must consider.

[1159] Counsel had earlier filed memoranda concerning a legal point that we raised with them, and were in general agreement regarding certain legal principles on modification of requirements. Ms Janissen submitted that we need to determine whether or not a proposed modification alters the essential nature and character of a Notice of Requirement, and that

¹⁸¹ We are disinclined to accept the submissions of Ms Janissen and Mr Law during the delivery of the Reply, to the effect that something more was being offered than mitigation, because the items that they tended to categorise as "improvements" we see as intended to assuage the concerns of parents and others in the community who might have been inclined to mentally downgrade the school and avoid the use of its facilities, particularly for the schooling of their children.

we may do so where the changes are minor, there is a lessening of environmental impact, and that affected landowners remain unchanged.¹⁸² However, where new parties might be involved, the power to modify could not encompass such a substantive change.¹⁸³

[1160] Ms Janissen submitted that even where the modification is to occur within the designation boundaries, we would need to consider whether there might be any persons who would be affected by such a modification who did not lodge a submission, but who would have done so if the modification formed part of the proposal as lodged and notified.¹⁸⁴

[1161] Ms Janissen submitted that the Oakley reserve is an area of open space of local and regional importance (drawing on evidence on behalf of Friends of Oakley Creek), and that visual effects of the ventilation stack might impact on local amenity values of the reserve. She submitted that its greater visibility close to the eastern side of the road, without some shielding benefits from the ventilation buildings, could potentially result in concern on the part of people walking or driving past the site. She also submitted that it was quite possible (if not very likely) that landowners or occupiers, or people who make use of Oakley Reserve, or users of Great North Road, might have submitted on the Project had a ventilation stack in Oakley Reserve formed part of the Project as lodged and notified. She submitted that if the Board cannot be satisfied that no-one else might have submitted on this basis, we should not make the change.

[1162] Ms Janissen went further and contrasted the situation concerning alleged insufficient evidence about these issues with the careful work of Ms Linzey over potential effects (and as to who might be affected) with 3 new options developed for the southern portal (as to which we refer to a subsequent section of this decision).

[1163] She ought in fairness to have extended the submission to refer as well to the careful research of a party and experienced planner Mr Duncan McKenzie about the southern portal options. Indeed, Mr McKenzie offered supplementary evidence in relation to this northern issue as well. Mr McKenzie not only pointed to the benefits of moving the stack further from the school and residences, but offered the opinion that no residents would be worse off, and for the most part would be better off as far as viewing the stack was concerned, because of further distance, an oblique viewing angle, and that any

¹⁸² *Hope v Rotorua District Council [2010] NZEnvC 7, at para [41]*

¹⁸³ *Ibid*, at [40]

¹⁸⁴ *Norwest Community Action Group Inc v Transpower NZ Ltd A113/01 at [39]*

properties on the east side of Great North Road would be at least 450m distant. In addition, the stack would not be located as the focal point for north-bound drivers along Great North Road if it were shifted. In relation to Unitec, while it would be located about 70m closer, it would still be more than 100m from the closest part of the site and more than 200m from substantial facilities on the site, and any view of the stack would be through trees. He considered that the BP site is oriented to the north to attract south bound traffic and discourage drivers from crossing from the north bound lane, so it would not be affected by the stack. He acknowledged that up to about 60m² of the open space of the reserve would be taken up by the stack structure, but because it would be located near the edge of the open space, its adverse visual effects would be minimal. He considered that residents and users of the school would have little choice about whether they viewed the stack, and therefore their interests should take precedence over those of recreational users.

[1164] Mr Allan submitted to the Board it would have the jurisdiction to adopt option 1. He submitted that the relocation does not represent an increase in the scale or intensity of the proposal. Relocation would affect an area that is already the subject of the Notice of Requirement.

[1165] He submitted that no parties would be newly or more adversely affected by the proposed changes for the following reasons:

- (a) The school is the closest and most affected site, and will benefit significantly from the stack being shifted a further 60m or so away from the school's boundary.
- (b) The existing residential properties on Great North Road will be removed as a result of the Project. No residential dwellings will be worse off as a result of the shift, and those from which the stack can be seen (located, for example, on the western side of the school), will benefit from its movement.
- (c) The service station is deliberately orientated to the north and will be unaffected by the shift.
- (d) The stack will be less visible to the travelling public on Great North Road as it would no longer be on the outside of the corner.
- (e) With regard to the reserve:

- (i) The reserve is used by the general public, but unlike the school and residential areas, is not a locality where people regularly and consistently spend long periods of time. It is also a large area from most of which the stack is not visible.
- (ii) While the stack will be visible from within the reserve, that is also largely true for the current location and there will be little difference for users of that area.
- (iii) In any event, the Waterview Glades [or esplanade] area is to be lost and then rebuilt during the course of the works; in that context the shift in the stack's location is of little moment.

[1166] We have carefully considered all of these submissions, and compared them to relevant passages of evidence and answers provided to the Board on the issue. We conclude that Mr Allan and Mr McKenzie are correct, except that the latter's point about residents' interests taking precedence over recreational users has more to do with the actual effects than the jurisdictional issue. We also acknowledge Ms Janissen's point that NZTA undertook considerably more work concerning jurisdictional matters at the southern portal than it did over the northern stack, but consider that such would have been driven by the greater complexity of issues around persons potentially differently affected at the southern end. Likewise, that would also explain Mr McKenzie's more detailed work on the southern issue than the northern.

[1167] In our 7 May directions to the parties' experts, we required that the conditions proposed by NZTA were to be amended to give effect to the preceding finding that the northern ventilation stack be relocated to the eastern side of Great North Road, subject to the more specific directions that follow. We recorded that we expected that this would require revision of the Proposed General Designation (DC) Condition to the following effect:

- (i) Amendment of Condition DC.8 to require that the stack be moved to the location marked "Alternative Vent" on Exhibit 8, with scope for its exact location in this area to be determined by NZTA in consultation with the Community Liaison Group (Waterview) (Condition PL5) and council. There may, for example, be

advantages in moving the location slightly north east into the grassed area visible on Exhibit 8 at a slightly lower elevation further removed from the road frontage.

- (ii) Amendment of Figure DC.A – OPW.1 North Ventilation Buildings and Stack, to include the area of Option 1 (as subsequently slightly amended to bring it within the designation footprint).
- (iii) The change at (i) above be recorded in Schedule A to the Conditions as appropriate.
- (iv) Provision for planting at the base of the stack to be incorporated into and undertaken as part of the Oakley Creek Esplanade (Waterview Glades) Restoration Plan (Condition OS.3).
- (v) Design of the stack to be determined in accordance with the outline plan of works process (Condition DC.8) and Condition OA.1 as to height.
- (vi) There be a condition precluding the attachment to the stack of any unrelated infrastructural equipment (but not so as to preclude or limit decoration or other mitigation of its form).

[1168] The experts responded appropriately to our directions with their re-drafted conditions on this topic (except that, wrongly, we directed them to make a change to DC.1(j), and they responded saying that they had – but we now realise that the direction should have been concerning DC.8(j), which they have indeed amended as directed (now DC.8(k)). We have made some minor alterations to condition DC.8 since receiving and considering the experts' re-draft, particularly concerning our requirement that no equipment unrelated to the structure or operation of the stack be attached or included in or on it.

[1169] In relation to the **ventilation buildings**, there was no push for relocation to the eastern side. The concerns with these were, even after they had been split into 4 smaller buildings, that the Construct concept remained out of character with the residential setting. We agree.

[1170] We recognise that Construct made a determined effort to mitigate the insertion of a very significant piece of infrastructure into a residential community, and their thinking about incorporating coastal cues, was quite innovative. However the structures are not within direct sight of the water, and we agree with Ms Absolum and some of the submitters that the concept, with its quite extensive use of rough concrete, took on a rather bunker-like appearance.

[1171] We think it is entirely appropriate that this aspect of the works should go through the OPW process. We also consider that conditions of consent necessary to discourage to the greatest extent possible, industrial or infrastructural appearance, and at the same time encourage scale compatible with a residential area (which we acknowledge the Construct concept was striving for). That was a further subject of our 7 May directions, to which again the experts responded appropriately.

12.8.2 Connectivity to Unitec Campus

[1172] This issue arises elsewhere in this decision, for instance in the context of suggestions by some parties that there should be a pedestrian and cycling bridge across Oakley Creek near where Alford Street intersects with Great North Road.

12.9 Sector 8 (Avondale Heights Tunnel)

12.9.1 At -Grade Pedestrian/Cycleway Connectivity

[1173] A fairly major issue in the case arose in this sector, which is, ironically, the sector least subject to operational effects on the environment, and perhaps even construction effects. The relative freedom from effects (except vibration during construction) comes about because the Project is to proceed underground in tunnels at this point. A wish on the part of many submitters to see a cycleway/pedestrian path on the surface, as part of the Project, attracted much input. Significant issues about transport and recreational connectivity, project objectives, and mitigation for loss of reserves and open space (both in relation to quantity and quality), were addressed in numerous statements of evidence and representations. The issues are covered in the several sections of this decision that are concerned with such matters.

12.10 Sector 9 (Alan Wood Reserve, and Surrounding Area)

12.10.1 Loss of Reserve and Open Space Areas, and Noise Effects Associated With the Open Section of the Motorway

[1174] These issues are covered in sections of the decision dealing with open spaces, reserves, and noise.

12.10.2 Southern Portal Building and Ventilation Stack Location and Impact on Community

[1175] Issues surrounding the southern portal and ventilation stack location, attracted almost as much concern as did such features at the northern end of the tunnel. The structures attracted many submissions. In this section of the decision we will deal with the landscape, visual and urban design aspects. Separate sections of this decision will deal with the air quality, and open space/reserves issues surrounding these structures.

[1176] There was strong support for undergrounding the facility, and/or moving it to some degree.

[1177] The consultants who supplied reports to us under s42A RMA, Environmental Management Services, expressed surprise¹⁸⁵ that the issues were not considered in more detail in chapter 22 of the AEE, being an assessment of effects on the environment in sector 9. We agree with that observation, and consider that the extremely brief mention of the assessment of alternatives in regard to this portal, in chapter 11 of the AEE (at 11.6.9.3), was wholly inadequate given its brevity and its focus almost exclusively on potential significant increases in construction costs from burying the building.

[1178] This for us raised questions about adequacy of consideration of alternatives, but from discussion that follows, that problem was subsequently largely overcome by a great deal of work undertaken during the exchanges of evidence, and during the hearing itself.

[1179] The AEE's visual materials in Report G.20, include visual simulations that show the modelled mass and bulk of the ventilation building, and the apparent effects over time

¹⁸⁵ See p 91 of their report dated 7 December 2010

of massed flax planting in the rail corridor. Notably however, at page 112 of that report authored primarily by Mr Stephen Brown, the following was recorded:

The effects within this catchment would be profound: the fundamental character of the Alan Wood Reserve will be fundamentally changed. Occupying a geographic “pinch point” within the reserve, the portal building will impose a completely anomalous type of development on both its immediate open space setting and wider residential domain. Its very industrial and rather utilitarian form will effectively curtail the residual space extending south from New North Road and impose itself on neighbouring properties in a most unfortunate and intrusive manner.

[1180] We agree with EMS that this assessment must be about as damning as could be conceivable in the concept of this open space and residential environment. We noted also their important comment that the building is found within the open space zone and not the Special Purpose 3 zone.

[1181] Similar issues arose in relation to this ventilation stack as occurred at the northern portal, but the thrust of the case at the southern portal did not involve suggestions that the stack be separated from the buildings.

[1182] In his evidence in chief, Mr Brown understandably focussed on new conceptual work undertaken by Construkt Architects here as well, where it was said that improvements had been made.

[1183] The evidence of the principal of Construkt Mr David Gibbs, described that work, and provided his opinion that the new concept sought to minimise its impact on its surroundings by:

- adopting a slim plan form that allows for significant landscape buffers on either side;
- providing a “green” roof; and
- treating the building and stack as a single object of urban sculpture.

[1184] He described the prospect of a tapered and curved building allowing of a landscape buffer between it and the railway designation, and a minimising of overshadowing of the adjacent cycleway. He noted that the advisory team had considered setting the building

into the ground by approximately 1 metre, but this was abandoned because of extent of ramping required for truck access, and the cost and disruption of rock-breaking.

[1185] The “green roof” indicated a sloping design, turfed, planted and partially paved, starting at grade at the northern end and reaching approximately 6m height at the southern to merge with the extract shaft. Public access to the roof would not be likely to be permitted. Mr Gibbs recorded his understanding of the need for access for maintenance vehicles and equipment once the infrastructure was in operation.

[1186] Mr Gibbs noted that the building was now tapered and curved, and was reduced in height by nearly 3 metres, had a much reduced volume, was more organic in form, and integrated the ventilation stack more successfully.

[1187] The concept drawings that he attached illustrated a significantly improved structure in overall visual terms, but concerns remained on the part of many parties.

[1188] This had the result that not only did NZTA once again concede that this feature should proceed through an Outline Plan of Works process, but also some significant further studies were undertaken in relation to other options, including moving the buildings quite significantly away from the very narrow “pinch point” that exists between a bend in the Oakley Creek (with a motor camp on the opposite or western side), and the rear of houses to be retained along the western side of Hendon Avenue.

[1189] In his evidence in chief Mr Brown considered the effects associated with this option as likely to be moderate, or possibly low to moderate when looking from north of Hendon Avenue. He noted that the structures would still occupy a sizeable part of the remaining open space within the Alan Wood Reserve, which he considered disrupted the continuity and naturalness of the residual area of park land, however he considered that many of the negative effects would be offset. The partial undergrounding would assist, but there would still be low to low to moderate levels of effect.

[1190] In evidence in rebuttal NZTA’s senior project manager for the Project, Mr Walter, brought some new information to the mix. Acknowledging criticisms in the s42A Addendum Report about lack of adequate consideration of alleged technical and cost constraints, Mr Walter now advised that NZTA had considered a number of options. While recording that the location of the portal had been determined by geological profile

in the vicinity, he said that NZTA had reconsidered the options to place the buildings underground following a review of the submitters' evidence and further discussions which had occurred during expert caucusing, and 3 options had now been evaluated:

- Option 1 – southern ventilation building within a deep cut with surface access ramps;
- Option 2 – southern ventilation building placed partially underground; and
- Option 3 – southern ventilation building within a deep cut with surface access and gantry buildings.

[1191] He described each of these options in greater detail, both as to constructability, operational appropriateness, and cost. Option 1 would relocate the stack 70m south-east into Alan Wood Reserve, and cost \$10.14m extra (capital cost). Option 2 would also relocate the stack 70m south east into the reserve, would cost \$25.2m extra (subsequently modified by correction to his evidence to \$15.2m, following further study), and would evidently involve very considerable extra infrastructure work. Option 3 would involve a similar movement of the stack, and an additional cost of \$13.5 (subsequently corrected to \$12.9m as a result of further study).

[1192] Mr Walter offered his opinion that each option raised particular engineering issues, including such as how to deal with groundwater and ensure structural stability within varying geological profile, and would all involve increased costs and complexity, including additional running costs for maintaining internal building air quality and humidity for the sensitive electrical and communications equipment. He noted the support of NZTA's landscape consultant Mr Brown for moving the tunnel portal and stack 80m to the south-east, and considered that each of the 3 options would achieve that. However, he advised that a move of 70m would achieve the same outcomes, and that 80m was the maximum possible in order to achieve the "desirable vertical clearance for the tunnel, between the motorway and the equipment".

[1193] In his landscape evidence called by Auckland Council, Mr D J Scott strongly agreed with the criticisms of Mr Brown concerning the first proposal. Considering the Construct concept created subsequently, he noted that building aesthetics had attempted to

address appearance, height and scale issues as a “sculptural response” but he considered that considerable further design work would be necessary.

[1194] Ms Absolum, called by Living Communities Inc, offered more detailed criticisms. She analysed the visual catchment and viewing audience, the latter comprising both casual and more formal users of the reserve land and adjacent residents. She was highly critical of the visual impact of the first proposal, and noted that some of the slimming and buffering proposed by Construct in the second concept would not be perceived from all viewing angles, and would remain particularly dominant for the adjacent residential areas, for whom visitors that cross open space would be truncated for the significant length of the building. Utilising visual materials put forward by NZTA, we particularly considered the potential length of the structure while visiting and viewing the locality, and we agree with her. We also note her comments about topography, particularly the steep bank down to the Oakley Creek on the west side of the reserve, and we share her concerns about lack of any significant landscape buffer despite Mr Gibbs’s suggestion to that effect.

[1195] Ms Absolum concurred with Mr Brown that the impact of transforming most of the Alan Wood Reserve into a motorway corridor would be dramatic, and a fundamental change. The more recent design approaches could assist in the healing process, but would not mitigate the actual higher order landscape and amenity effects.

[1196] Ms Absolum considered that it was important that any parts of the proposed portal buildings which needed to be above ground, be carefully positioned to maximise space around them and retain or enhance amenity values and pedestrian and cycle links across the open space.

[1197] She took on board a suggestion made by experienced planner, and local resident and party, Mr Duncan McKenzie, about moving the building 130m to the southeast, to take it away from the narrow pinch point in the reserve.

[1198] She could see no particular public benefit in having a green roof, and noted that security fencing on and around the building would contribute significant effects.

[1199] She considered that the scale was such that the only option was to bury the structures underground, but if this could not be done for technical reasons, then it should

be relocated to a slightly wider part of the reserve, while maintaining sight lines from Methuen Road and through Olympus Street to Murray Halberg Park.

[1200] Ms Absolum acknowledged that there was less potential flexibility with location of the stack compared to that of the northern portal. She noted that the decision as to whether the stack should be designed as a piece of urban sculpture, or integrated into the design of another building, might be determined by the undergrounding or otherwise of the balance of the southern portal buildings.

[1201] There was a caucus conducted by Mr Brown, Ms Hancock, Mr Gibbs, Mr Scott and Ms Absolum. They particularly explored the possibility of shifting the structures approximately 80m to the southeast along the alignment of the carriageway. They agreed:

- Access to the roof structure is desirable from a landscape, visual and recreational perspective; it is preferable if it is treated as both a route and destination.
- It is desirable to configure the building in a manner so that occupied spaces are aligned to and overlook public walkways/cycleways.
- Security fencing should be minimised, and any parking area that is required to be secured should be configured in a manner that utilises the building facade to achieve security to the maximum extent possible.
- As for the northern portal, it is desirable to achieve as many large scale specimen trees as possible around the portal buildings.

[1202] The witnesses offered re-drafted conditions.

[1203] They did not reach agreement on the question of location of the structures. The NZTA witnesses and Mr Scott agreed that if there could be public access to the roof there would be a positive tension emerging in allowing people access to the elevation at the “pinch point” and overlooking more open areas of the park; but if there were no access to the roof, movement of the building and stack 80m to the southeast would create better connectivity between the open spaces of Alan Wood Reserve, and would reduce the impacts of the pinch point around the motor camp and cycleway.

[1204] Mr Brown, Ms Hancock and Mr Scott agreed that this would be counterbalanced by potentially greater visual exposure to residents around Methuen Road looking over an area of extensive reconfiguration in the vicinity of Oakley Creek. Therefore, they considered that overall, the benefits of relocation were finely balanced.

[1205] Ms Absolum recorded that priority should be accorded to the movement of the building and stack 80m to the southeast to create the better connectivity, irrespective of access to the roof. She also considered that the benefit of a green roof would be dramatically reduced if the public cannot have access to it (which we have accepted however as being unlikely).

[1206] The issue about the height of the stack did not receive the same degree of focus in this location, as it did with the northern one. However, Mr Brown's expression of support in his rebuttal evidence for lowering the stack to 15m, appears to have been generally supported by all with an interest in the southern portal.

[1207] Just after the commencement of our hearing, Ms Linzey, a consultant planner with a central role in the whole proposal, lodged a supplementary statement of rebuttal evidence, with our leave. This was for the purpose of reporting on a multi-disciplinary assessment of a comparative evaluation of 4 southern ventilation building options, the Construct concept being termed the "base option", and Mr Walter's options 1, 2, and 3 the others.

[1208] Ms Linzey said that at the time of preparing their rebuttal evidence, some members of the NZTA team of consultants had not seen the plans for the further 3 options, but had now been able to complete a multi-disciplinary assessment.

[1209] The steps that were taken were as follows:

- scoping of potential environmental and technical issues,
- preparing a comparative evaluation matrix for use by members of the team,
- assessments undertaken by relevant members of the team,
- review and discussion,

- compilation of a completed evaluation matrix, which was presented to us in tabular form with a moderate level of detailed comment on each of the assessments of the effects topics. Impacts were assigned against these topics, on a range from + + + for significant positive effects, to 0 for no effects to - - -, for significant adverse effects.

[1210] We found this evaluation matrix most helpful and instructive, and it provided significant focus for relevant witnesses throughout the hearing.

[1211] The evaluation matrix was accompanied by a moderately detailed assessment of additional costs provided by a professional costs estimator. No other party challenged the costs estimates, and they therefore comprise the best information we have on that issue.

[1212] It was Ms Linzey's advice to us, summarising the effects evaluation matrix, that option 3 provides the best opportunity for environmental benefits compared with the base option, while options 1 and 2 are both considered to have greater adverse than positive effects. Overall, option 3 was said to be preferred from a social perspective (including landscape, visual, amenity, land use, community and open space). It was, however, considered to have greater adverse impacts on cost and constructability (technical risks, complexity, and potential for time delays in construction). Of some importance, she provided opinion evidence on a further aspect of the assessment of effects, which led to her recording that the change in effects between the base option and the other 3, would result in no newly affected people being identified.

[1213] This was an aspect that we explored with her and relevant witnesses during the hearing, the outcome of which is that we have been able to conclude that she is correct in that opinion. In particular, she and others considered visual impact from a relocated stack closer to 78-89 Hendon Avenue for options 1, 2 and 3, and in relation to option 3, at 96 and 98 Methuen Road, where the change was considered to be minor, particularly when balanced with other positive environmental effects on these properties such as operation noise. As to vibration effects during construction, options 1 and 2 would have created extra impacts in certain properties. In the area of social effects, residential properties at 81-89 Hendon Avenue might experience a minor increase in effects due to proximity of structure and access roads (including perception issues of vent buildings at the rear of their properties), however this was considered a minor change in effect, particularly when

balanced with other positive environmental effects on those properties, such as operational noise.

[1214] Unsurprisingly, during the balance of the hearing, options 1 and 2 effectively ceased to be discussed, on the basis that no party would support them. In effect, the debate became one as between further development of the base option (Construkt concept) through the Outline Plan of Works process, versus option 3. We shall confine the balance of our discussion to these two options.

[1215] We shall also proceed on the assumption that NZTA is unwilling to allow public access onto the top of the southern portal buildings, as confirmed for instance by Mr Brown under questioning by Mr Lanning.¹⁸⁶

[1216] Under questioning by Ms Devine, Mr Brown confirmed that there would be better provision of green open space in the vicinity of the “pinch point,” and better visual outcomes generally, from option 3.

[1217] Mr Brown also confirmed to her that the base option would have effects on 75-89 Hendon Avenue, albeit lesser than those on 35-37 Hendon Avenue.¹⁸⁷

[1218] To questions from the Board, Mr Brown pointed out that in the evaluation matrix attached to Ms Linzey’s supplementary evidence, he had given option 3 “+ +”, whereas the base option was rated 0, and he offered the view that that was “fairly significant”.

[1219] Ms Hancock confirmed, under questioning by Mr Allan, that the evaluation matrix fairly and fully summarised her position on the options.

[1220] To Ms Devine, Ms Absolum confirmed the views that she had offered in the caucus of visual witnesses, and added that there could be a considerable improvement in connectivity, potentially for the likes of pedestrian and cycleways, through the “pinch point” with option 3 over the earlier proposals.¹⁸⁸

¹⁸⁶ Transcript p 441

¹⁸⁷ Transcript p 456

¹⁸⁸ Page 1044

[1221] Under cross-examination by Ms Janissen, she agreed that improvements would come from having a 15-17m high stack rather than 25m. She also acknowledged support for the OPW process.

[1222] Mr Allan called Professor E J Haarhoff, a professor of architecture at Auckland University. He was highly critical of the mass, scale and positioning of the southern portal and stack. His thesis was that the structures should largely be buried underground. We have found that for reasons of engineering, construction effects, and difficulties of access for future maintenance, complete burial is not an option, but option 3 does involve significant lowering, burying and overall reduction in visible scale.

[1223] As already mentioned, a local resident, party and experienced planner, Mr Duncan McKenzie, gave evidence. He was able to provide us with considerable assistance on this issue.

[1224] Obviously with a mind to some caution being exhibited by the Board, about whether there was jurisdiction to move the structures 70-80m south-eastwards, Mr McKenzie did some very detailed and helpful research.

[1225] He described the physical make-up of the structures as first intended, and then looked at Mr Walter's option 3. He very much supported Ms Linzey's opinion at paragraph 16.1 of her supplementary rebuttal, that option 3 provides the greatest opportunity for environmental benefits compared to the base option.

[1226] Mr McKenzie noted that the reduction in bulk would be most marked through its reduction in length parallel to rear properties along Hendon Avenue (reducing from 133m to 27m). It would also involve extending the length of the covered motorway by 70-80m, thereby increasing the availability of open space and reducing the numbers of properties that back onto an open motorway. Finally, because structures have moved into a less narrow section of the park, there would be greater separation between structures and property boundaries. Accumulative adverse effects of the proposal would be significantly reduced through this modification.

[1227] As to whether some properties might be differently affected, Mr McKenzie offered an analysis. He presented a table that outlined where effects might be changed but not necessarily reduced. He also identified the properties owned by HNZC, a party

consenting to the change. Starting at 43 Hendon Avenue and moving along the western side of that street to number 89, he noted 11 properties that would receive a significant improvement, 3 that would receive moderate improvement, and 3 that would receive a “changed effect”, being 83, 85 and 89 Hendon Avenue. (A few days later Mr McKenzie produced a further supplementary statement offering written consent from the owner of number 85 to the change, on the basis of explanations that he offered her, which we have no reason to believe would have been anything other than honest and objective).

[1228] As to 83 and 85, the changes would replace an open motorway (in a deep cut), with the new ventilation building to the rear of their properties, but between them and the building would be the railway corridor, where planting could be carried out. He considered, comparing the outlook and motorway associated activities to be experienced by these properties, that option 3 would be less disruptive and that therefore the change would be neutral to positive.

[1229] As to number 89, the property would have a more oblique view of the stack and the much larger control building with the original proposal. He considered that the change would be neutral.

[1230] Mr McKenzie considered that the changes would have a positive effect on the environment of the motor camp. It would also allow an additional area of open space to be retained.

[1231] Mr McKenzie was asked a question by the Board¹⁸⁹, that if he was requested to compile a list of 20 possible projects where one might spend between \$11-21 million, for such things as cleaning up estuaries, providing further parks etc, whether moving the southern portal 70m would feature on such a list, and if it did, how high. He said it would feature fairly high. This was in part, he said, to address his concern about a long term deficit of open space in the area.

[1232] Mr McKenzie was otherwise not questioned about his statements of evidence, and his helpful and detailed supplementary statements effectively went unchallenged.

[1233] A great number of parties, when lodging their original submissions, strongly opposed the location of the southern portal and the stack as originally intended. Not all

¹⁸⁹ P1081

submitters, of course, participated in the hearing, but as the Board promised at a very early stage of the process, we have taken account of all submissions, whether spoken to by parties or not. Invariably, those who came to offer representations and/or be questioned on statements of evidence filed, supported the concept of moving the portal and stack at least 70m to the southeast, as shown in option 3. In many cases, this stance was taken, against the eventuality if it occurred, of consent being granted to the proposal overall.

[1234] We have not found it necessary to detail individual statements of evidence or representation by such parties, but we have noted their consistent theme.

[1235] We do, however, make mention of the submissions made by Mr Allan on behalf of Living Communities on the topic. He noted “almost universal agreement” that option 3 is a significant improvement on the current proposal. He submitted that the current option would: include a very tall, very lengthy building, crowned by a stack, located at the pinch point of the open space, which will dominate direct views and wider oblique vistas from a large number of houses on Hendon Avenue and will sit above the Avondale camp ground; would occupy a significant extent of open space and compromise connectivity and public safety along the open corridor; and would be quite out of scale and character with other structures in the area, the only building of comparable scale being the Pak ‘n Save supermarket, a significant distance to the west on New North Road.

[1236] By contrast, he said that option 3 would: comprise 2 much smaller above ground structures along with the stack, occupy a much smaller area of open space; has the advantage of shifting the tunnel portal 70-80m to the east, freeing up additional open space for public use; would replace the lengthy building with structures that are oriented north-south across the land and therefore allow views across the site and vistas around the site for adjacent houses; and move away from the pinch point and thus allow better connectivity, and reduce adverse effects on the camp ground.

[1237] As to effects on individual houses, Mr Allan submitted:

- It is accepted that the Board needs to explore fully the extent to which any revised scheme will generate additional and adverse effects on certain parties.

- Any assessment of effects of a proposal under the RMA involves weighing up different types of effect, for instance traffic, noise, visual, access to open space, and the formulation of an overall view.
- The fact that a property may experience an increase in one category of effect does not necessarily mean that the proposal is beyond jurisdiction. The Board needs to assess the scale of the increase in that effect and weigh it against any decreases in other effects before forming a view on whether the change would have elicited new submissions.

[1238] He submitted that the Board has the jurisdiction and the ability to adopt option 3, because the changes do not increase the scale and intensity of the proposal, but instead serve to reduce apparent scale of key visible elements; the changes will take place within the area that is already the subject of the NOR; the evidence is that no parties will be newly affected by the proposed changes; the planners Ms Linzey and Mr McKenzie appear to be of the view that, taking into account the visual impacts, impacts arising from reducing the extent of uncovered motorway, and benefits in terms of open space and connectivity, no parties would be adversely affected to a greater degree by the changes, although some properties will experience changed effects; those parties who might potentially be at risk of being affected to a greater degree are understood to support the relief sought by the submitters.

[1239] As to cost estimates for the options offered by Mr Walter, Mr Allan submitted that neither the Board nor any other party has the resources or access to information required to test the NZTA estimates. The figures have to be taken on trust. However he submitted that regardless of the exact cost, the issue for the Board is whether the mitigation of effects in a locality which is bearing the brunt of the impacts of this nationally significant infrastructure, warrant the expenditure of something less than 1 percent of the Project cost, a matter which is of apparently sufficiently minor moment to the NZTA to be delegated to the authority of Mr Parker and his general manager.¹⁹⁰ We reiterate our findings on “extra cost” and “value for money”, including the law on the subject, made in relation to the shifting of the northern stack.

¹⁹⁰ Transcript p 89

[1240] Mr Allan submitted in regard to the context of Ms Linzey's substantive conclusions¹⁹¹ that:

- It is to be expected that NZTA's expert consultants on environmental effects will have formed a view on the relative benefits of the current option and option 3 without reference to cost.
- That assessment is for NZTA initially, and now the Board, to undertake.
- Similarly, it is not surprising that Ms Linzey, who was presumably able to support the notified proposal with its very extensive structures at both the northern and southern tunnel portals, and then supported the Construct redesigns, remains of the view that additional mitigation is not necessary. It is for the Board to assess the desirability for additional mitigation.
- In forming her overall view, Ms Linzey as a planner is able to take into account the cost implications. That even apart, it clearly remains Ms Linzey's view that option 3 is the best environmental outcome from a social perspective and locally.¹⁹²

[1241] Mr Allan pointed to advice having been received from Housing NZ Corporation, as the major affected landowner, as to its preference for option 3. Also a letter from the owner of the other potentially affected house (85 Hendon Avenue) attached to the second supplementary statement of Mr McKenzie in which she records her preference for option 3.

[1242] We agree with the submissions of Mr Allan both in relation to jurisdiction and "extra cost". We also accept the careful research and opinions of Mr McKenzie and the expert visual opinions of Ms Absolum on the substantive and jurisdictional aspects. Of further note are the Reply submissions of Ms Janissen on the topic of jurisdiction, where she recorded in a footnote that based on the "multi-disciplinary assessment carried out [for option 3] and Mr Brown's response to answers, NZTA sees no obvious jurisdictional issue". In our view she could equally and fairly have added reference to the evidence of Mr McKenzie and Ms Absolum on the point.

¹⁹¹ Transcript pp 702-704

¹⁹² Transcript pp 702, 703

[1243] Having reached the point of deciding that the structures would be moved, we included directions in our Minute of 7 May to the parties' experts that the conditions proposed by NZTA were to be amended to give effect to the preceding finding that the southern ventilation building, stack and control building be relocated 70 - 80m to the south east of the position shown in the consent documentation as notified, subject to the more specific directions that follow. We recorded that we expected that this would require revision of the Proposed General Designation (DC) Condition to the following effect:

- (a) Amendment to Condition DC.9 to require that the southern ventilation building, stack and control building be relocated 70 - 80m south east from the location shown in the AEE Part F: 2 Operational Scheme Plans (Sheet 117), the precise extent of the shift to be determined in consultation with the Council and groups referred to in condition PI.5. Subject to that, the revised location of the said facilities and related access, parking and manoeuvring areas to be as shown in the evidence of Mr A Walter (Rebuttal, Annexure J: Drawings Vent South 003 and 003A).
- (b) The stack height to be as determined in Condition OA.1 and its design determined in accordance with the Outline Plan Of Works (DC.8).
- (c) AEE Part F: 26 Urban Design and Landscape Plans (Sheets 219-220) as notified and subsequently amended in the evidence of Ms L Hancock (Rebuttal Annexure B) be revised to provide for the preceding changes in a suitable manner. Such changes to be submitted to the Council as part of the Outline Of Works procedure allowed for in Condition DC.9.
- (d) AEE Part F: 2 Operation Scheme Plan (Sheet 17) and any other components of the consent documentation showing the notified location of the southern ventilation building, stack, control building and southern portal be amended to reflect the direction at (a) above.
- (e) The changes at (a), (c) and (d) above be recorded in Schedule A to the conditions as appropriate.

- (f) A consequential change to Figure DC.B – OPW2 to be made to incorporate the site of the relocated southern ventilation building, stack, control building and access within the “Area subject to Outline Plan of Works”.
- (g) A condition is to expressly preclude the attachment of equipment for any activity unrelated to the stack.

The parties’ experts responded by and large as directed, but some aspects did not get covered, in particular the 10m flexibility in final positioning of the structures, and the consultations to be undertaken in that regard. Also the requirement that attachment of equipment unrelated to the stack be provided. We have made changes to condition DC.9 to cure these matters.

12.10.3 Stream Diversion and Stormwater Management Effects on Oakley Creek

[1244] These issues are covered in other sections of this decision, for instance those dealing with stormwater, fresh water ecology, and vegetation issues.

13 SPECIFIC ISSUES RAISED BY PARTIES

13.1 Watercare Services Limited

[1245] Watercare was a submitter expressing careful concern about need for care in the relocation of its assets, particularly stormwater infrastructure, during construction of the Project.

[1246] A reasonably high level of agreement has apparently been reached concerning arrangements to minimise effects on Watercare’s network, and ensure the ability of Watercare to access its network for operations and maintenance during both the construction and post-construction phases.

[1247] One agreement has been signed, and others are under discussion, producing an apparent level of confidence on the part of Watercare that its interests are being seen to.

[1248] The concluded agreement deals with relocation of Watercare's assets as required for construction of both state highways.

[1249] Access and notification arrangements are the subject of a concluded Heads of Agreement. Post-construction arrangements are being negotiated in relation to the entire motorway system rather than just the Waterview Connection.

[1250] Watercare asked that the agreements be noted "for the record".

[1251] Watercare has requested that an advice note be included in the Designation Conditions that refer to the existence of these agreements, reading as follows:

Network infrastructure owned and operated by Watercare Services is located within the Designations. An operating agreement will be developed by NZTA and Watercare Services that will include appropriate notification and access protocols where works are to be undertaken by either network operator on or adjacent to Watercare Services' infrastructure within the Designations.

[1252] NZTA has included that advice note as an Addendum to draft conditions CEMP.16. We approve.

13.2 Vector Limited

[1253] Vector Limited is a Requiring Authority responsible for a Designation at 28 Royal View Road, Te Atatu. The company has given written consent pursuant to s177 RMA, by letter dated 7 February 2011, exhibited to the second supplementary statement of evidence by Ms Linzey.

13.3 KiwiRail

[1254] KiwiRail Group was a submitter concerning the Project, having interests as the holder of a Designation in the Auckland District Plan (Isthmus), numbered G08-05, to provide a corridor for a future Avondale/Southdown railway line. The corridor runs through sectors 8 and 9 of the Project. Essentially, NZTA proposed to build the motorway on designated railway land, and relocate the railway to a corridor generally to the north-east, and more or less parallel.

[1255] A great deal of work and negotiation has occurred on the part of both NZTA and KiwiRail, concerning sector 9 where NZTA wishes to place the motorway above ground.

[1256] While many parties in the hearing chose to place doubt on the future construction of the railway line, KiwiRail appeared by counsel and lodged submissions asserting that the work remains strategically important to it, and that its interest in the proceedings is in preserving the opportunity to develop rail along the route.

[1257] As such, NZTA requires both s177 and landowner approval from KiwiRail.

[1258] The extensive work and negotiation have produced a comprehensive written agreement between the two authorities, granting both.

[1259] It was expressly recorded that the agreement precludes the need to provide for specific conditions in the motorway consents if granted, except to the extent that it has been agreed to create certain draft conditions about such things as including KiwiRail in the Working Liaison Group. The consent was also put forward on the basis of inclusion of one condition described in the planning evidence of Ms Butler on behalf of KiwiRail, relating to the future relationship between the authorities in connection with any conditions imposed on designation of replacement rail land. The requested condition, with some minor wording changes of no consequence, appears as DC.11 in the 25 March version of draft conditions of consent presented to us with Ms Janissen's Reply.

13.4 Housing New Zealand Corporation

[1260] HCNZ is a major landowner within the Project area, as it made clear from a map attached to the submissions made by its counsel, Ms C Kirman, and referred to by its witness, consultant planner Ms OL Atimalala.

[1261] A number of HNZN properties are to be acquired by NZTA, but others will remain in the vicinity of the Project and potentially be subject to adverse effects during both the construction and operational phases. Concerns were raised relating to noise, vibration, dust, construction traffic and access. Express requests had been made in the submission of HNZN that construction management plans be prepared in consultation with stakeholders such as itself, and approved by the Council, on those matters; also that there be regular consultation including notices of works to be undertaken from time to time.

[1262] Detailed amendments were agreed between HNZC and NZTA in relation to conditions of consent. Agreements reached included that HNZC would be included in a proposed Community Liaison Group and Education Liaison Group, and as to details of communication and consultation that NZTA would have with those groups. Provision was also made to allow for relocation of occupants of HNZC properties as necessary, or the undertaking of other mitigation measures, for instance glazing of windows, alternative ventilation, and acoustic insulation.

[1263] The agreed amended conditions have been included in the latest (25 March) version of draft conditions of consent, as noted by Ms Janissen in her Reply at the end of the hearing.

[1264] Something not adverted to by Ms Janissen in her Reply was support recorded by Ms Kirman in her representation on behalf of HNZC for alternative design option 3 for location of the proposed southern portal buildings and stack. In offering that support Ms Kirman expressly adopted the evidence of Mr D McKenzie concerning environmental effects of Option 3.

[1265] Ms Kirman also addressed the request by the planning witness for KiwiRail, Ms Butler, for inclusion of a general designation condition as noted in the section of this decision concerning the KiwiRail position, above. Expressing concern about potential effect on its housing stock in Hendon Avenue if, in the future, KiwiRail proceeds with the requirement for an amended corridor that might affect landscaping undertaken to mitigate the effects of the motorway, counsel agreed with an amended KiwiRail position acknowledging that discussion regarding mitigation measures was best left to the future. Accordingly, Ms Kirman put forward a minor modification to the condition suggested by Ms Butler, referring to a potential future, publicly notified process. She advised us that KiwiRail, NZTA and HNZC had arrived at an agreement about the final form of draft condition DC.11, so as to include the matter just referred to. The amended condition was, in fact, placed in the 25 March version of draft conditions of consent.

13.5 Waterview Primary School and the Ministry of Education

[1266] Waterview Primary School is located between Oakley Avenue and Herdman Street, Waterview, approximately 2 residential sections' depth westward from Great North

Road. It has its main entrance on Herdman Street, and a pedestrian accessway from Oakley Avenue.

[1267] The Project plans indicate removal of the majority of residential properties along the section of Great North Road adjoining the school, and construction of the northern portal buildings and ventilation stack very close to the school. (We acknowledge that during the hearing NZTA committed to redeveloping dwellings on the corner of Oakley Avenue, after construction works are completed).

[1268] This aspect of the proposal understandably attracted strong opposition from the Waterview Primary School board of trustees, and the Ministry of Education. Between them they filed three strong statements of evidence, one from Robert Black, a member of the board of trustees' sub-committee concerning the motorway, another from Mr Brett Skeen, the principal of the school, and the third from Mr Brian Mitchell, the northern regional property manager of the Ministry of Education.

[1269] Mr Black is employed as a social worker by the Child Youth and Family Services of the Ministry of Social Development. He provided detailed evidence on the role of the school board, the Waterview School and its place in the community, his perception of potential impacts on the school and consequently the community, and his understanding of potential construction effects and operational effects on the school and the community. In particular he noted that the school had been rated either decile 1 or decile 2 during the last 10 years, reflecting the fact that many families in Waterview who have children attending the school have a low socio-economic status or a high deprivation rating.

[1270] Mr Skeen also provided evidence about the school, Waterview families who are involved with it, and the potential for construction effects, and later, operational effects, to have destructive impacts on the school.

[1271] Despite his serious concerns, Mr Skeen took a relatively constructive approach to the Proposal, stressing mitigation rather than avoidance of adverse effects. For instance, in relation to school buildings closest to the Project, the school hall and annexe, he recommended the installation of double glazing of doors and windows, air conditioning, strengthening, insulation, and a sound system. He also suggested relocating classes to the other end of the school grounds, moving playground equipment, and installing double

glazing and ventilation into classrooms. He recommended an enclosure of the school pool.

[1272] A feature of the school is that its hall, annexe, and other facilities are important in the life of the local community for more than just schooling. Community groups utilise the facilities seven days a week throughout the year, including for arts and music programmes, weekly church services, Maori Kapa Haka and Pasifika groups, and self defence classes.

[1273] Mr Skeen also described the school's outdoor activities, and the importance of maintaining good pedestrian access to the school, for instance for the school's successful "walking school bus".

[1274] Mr Mitchell described the place of the school in its strategies for primary education in western Auckland, noting that nearby schools in Pt Chevalier and Gladstone Primary are operating above their normal roll capacity. The Board was concerned about maintaining the roll level at Waterview in the face of negative perceptions by parents and prospective parents on account of impacts from the proposed motorway. He noted that the level of the roll of a school has an impact on Ministry funding as a matter of policy.

[1275] Understandably in light of these matters, NZTA applied considerable energy to working with the school board and Ministry, holding constructive discussions over quite a lengthy period of time. This produced the result towards the end of our hearing, that an agreement was on the point of being signed, having been executed by NZTA and the board of trustees, and awaiting the signature of the Minister of Education. After the conclusion of the hearing, a copy of a signed (undated) agreement was received by the Board from NZTA's counsel on 29 April.

[1276] A copy of the agreement was produced to us as an exhibit. Important provisions of it were to the following effect:

- Relocation of the junior classrooms to the opposite end of the school (which will require enlargement, and reconstruction of, a new junior room).

- Construction of a new resource teaching and learning behaviour unit on the former site of the kindergarten (as to the situation of the kindergarten, refer to the separate section in this Decision).
- Redevelopment of the school's entry, administration block, foyer and staffroom; in particular main entrance to the school being shifted to Oakley Avenue.
- Upgrading of all inhabited spaces such as classrooms, staffroom and the hall to install insulation, electrical and data upgrades, and acoustic mitigation measures including air conditioning and ventilation.
- An extension to the school hall and the community annexe,
- A number of other mitigation measures in relation to the school grounds and facilities.

[1277] NZTA has agreed to appoint an appropriately qualified architect in consultation with the Ministry and the school board, to act as project manager, and in particular to prepare a master plan for the school, and oversee its delivery. NZTA will then undertake the agreed works pursuant to that master plan.

[1278] In order to address negative perceptions on the part of school parents and the community, provisions were agreed concerning monitoring of the school roll and any impacts on staff funding levels that might emerge, with financial compensation to be paid by NZTA on that account.

[1279] Amendments were agreed to draft conditions of consent for the Project, including in particular draft conditions SO.4 and SO.5 as to the detail of roll monitoring and compensation.

[1280] Also clearly a product of the negotiated arrangements as between school (and others) and NZTA, condition CNV.2 sets maximum noise levels for educational facilities during teaching hours, differentiating between two types of space. Further, operational noise is to be regulated by the ON suite of conditions that apply to PPF s (protected premises and facilities) generally. Perhaps of even more significance in the latter regard

for the school are the noise attenuation measures agreed by NZTA and the Ministry of Education to manage the adverse effects of construction noise.

[1281] Counsel for the school board and the Ministry, Ms Frasier, confirmed that the agreement covered the position of her clients in relation to both construction and operational effects. Under questioning, Mr Skeen accepted that the school board is not seeking the relocation of the ventilation stack, although he did acknowledge to Mr Allan, counsel for Living Communities Inc, that the school board would prefer the ventilation stack to be as far away from the school as possible.

[1282] We note that on 18 March counsel for NZTA produced a further set of visual simulation materials from BuildMedia. This is the set of simulations that has been described elsewhere in this decision as involving correction of an error in earlier visualisations of the potential view of a 25m high ventilation stack built in the position first proposed. In addition, visualisations were offered in the new material showing a potential 25m or 15m stack in the “option 1” position on the eastern side of Great North Road. These materials were admitted in the hearing by consent. In her Reply at the end of the hearing, Ms Janissen noted that even a 15m stack across the other side of Great North Road, would be visible from the school playing fields as modelled in the latest visualisation. That would indeed appear to be the case, but as also would be expected, it would be much less visually intrusive than either a 25m or 15m stack in the original position.

[1283] Members of the Board of Inquiry were particularly interested to understand whether provisions of the agreement would remain on foot if we were to direct that the ventilation stack move to another position, for instance on the eastern side of Great North Road. The issue was expressly addressed in the agreement between the parties, on the basis that there would be no change in its terms.

[1284] Counsel for the school board and the Ministry acknowledged in submissions that the mitigation measures would be a positive outcome for the school, and that it was intended that the changes to be made at the school would be used to create an environment which would be beneficial to both current and future students.

[1285] Late in the hearing we directed that NZTA address various queries about the nature of resource consents that appeared to be needed to relocate the main entrance of the school

around to Oakley Avenue; also to relocate the kindergarten to Oakley Avenue; including the time that that might take, the cost of doing so, and the impact it might have on commencement of construction works of the Project.

[1286] We received a memorandum on 24 March from counsel for NZTA, apparently endorsed by counsel for the school, the Ministry, and the kindergarten. They pointed to various provisions of the agreement with the school, including a provision requiring NZTA, at its cost, to designate the current school access at 19 Oakley Avenue; also to carry out works pursuant to the Master Plan. They indicated that if there was a need to alter the school designation, then that would be done as part of these processes. As regards the kindergarten, the need to obtain resource consent was acknowledged, along with the (“unlikely”) possibility that other relocation options would need to be considered.

[1287] Importantly from the point of view of consent to the present Proposal, the three parties recorded their agreement that the relocations and associated works must be completed prior to Project construction commencing adjacent to the existing kindergarten site. Ms Janissen drew to our attention that draft condition SO.3 had been amended to read:

Prior to construction works commencing adjoining the kindergarten site, the NZTA shall relocate the Waterview Kindergarten to an alternative site, subject to the approval of the Ministry of Education.

[1288] We consider that the draft condition is appropriate.

[1289] The school board, Ministry of Education, and NZTA appear to have adopted a slightly different approach in relation to timing of the commencement of works at the school. Clause 5.5 of the agreement placed in front of us provides:

Provided that the School Board and the MOE have given approval to the Master Plan, design details and compliance requirements by 1.9.2011 date (or such later date as the NZTA advises in writing), the works will be carried out prior to the commencement of construction in the Waterview area (including the demolition of any houses).

13.6 Waterview Kindergarten (Auckland Kindergarten Association)

[1290] The Waterview kindergarten is presently located on the eastern side of the Waterview school, and if anything is therefore even closer to the Project than the school.

[1291] At the time the Project was put forward, NZTA was proposing to relocate the kindergarten temporarily to a new property at 17 Oakley Avenue that it had acquired for the purpose, but was then proposing to move it back to its original position more or less adjacent to the buildings associated with the northern ventilation stack. This attracted very strong opposition from the Kindergarten Association.

[1292] Evidence was filed by Mr Pablecheque, the assistant general manager of the Association. Mr Pablecheque is a person with 37 years' experience in the property and building industry.

[1293] He described the location and operation of the Association generally, and the Waterview Kindergarten in particular. This kindergarten presently has a roll of approximately 60 children (30 in the morning, and 30 in the afternoon), and has three full time teachers and a part timer.

[1294] As with the school, the proposed Construction Yards 6 and 7 would be located very close by on the northern and eastern sides of the education facilities.

[1295] Mr Pablecheque recorded his very considerable concerns not only about the potential construction environment, but also in relation to the operation of the ventilation buildings and stack, and the motorway subsequently.

[1296] The Association called the evidence of landscape architect Mr RJ Pryor, discussed in detail elsewhere in this Decision.

[1297] As with the primary school authorities, the Association entered into detailed and constructive discussions with NZTA. In summary, the following came to be agreed:

- Permanent relocation of the kindergarten to 17 Oakley Avenue, and construction of an entire new facility.
- The kindergarten would be expanded to accommodate 50 children, with the Association to fund the additional cost above the present capacity of 30.
- Roll monitoring and reimbursement of any funding shortfall, in like fashion to the agreement concerning the primary school.

[1298] The position of both the Association and NZTA has, as with the school, been cemented by a written agreement lodged by counsel on 29 April.

[1299] Mr Pryor's position regarding the stack has been recorded elsewhere in this Decision, but in summary was that if 15m in height, NZTA's proposal for its location would be acceptable, with the kindergarten moved.

[1300] The present kindergarten site is, pursuant to the agreement with the Ministry of Education and school board of trustees, to provide a unit for resource teaching learning and behaviour, a base for psychologists and teacher aides to have their offices there, but undertake their work off site at various schools throughout the district. Ms Janissen submitted in her Reply that it was important to consider the visual and perception effects of the stack in the context of that being the future arrangement for occupation of the site.

[1301] Issues about the need for resource consent before motorway construction activities can commence, is covered at the end of the previous sub-section of this Decision concerning the school.

13.7 National Trading Company of New Zealand Limited

[1302] National Trading Company of New Zealand Limited ("NTC") is the property holding company of Foodstuffs Auckland, a supermarket operator. The submission lodged by NTC concerned the Pak 'n Save supermarket at 1161-1173 New North Road. The store opened in 1990, and is scheduled to be extensively renovated in 2011.

[1303] The supermarket building is the largest structure above the proposed subsurface tunnel designation running directly beneath it. NTC lodged a submission about its concerns over potential vibration, settlement and other construction-related effects of the Project, particularly during and immediately following construction of the tunnels. NTC sought conditions to ensure that NZTA would remedy any damage to the land, building or structures.

[1304] Early discussions started to produce amendments to draft conditions of consent about ground settlement, but further negotiations were undertaken concerning some residual concerns.

[1305] By the time of the hearing, complete and detailed agreement had been reached involving a redrafting of some of the conditions of consent about ground settlement. Amendments were agreed to condition S.2 about monitoring of buildings identified in condition S.7 as being at risk. Amendments were also agreed concerning a linking of conditions S.9 and S.12 about who, precisely, would undertake building assessments. In draft condition S.11, the supermarket was included in a group of buildings for which level and/or wall inclination surveys are required. Draft condition S.12 was amended so that post construction condition assessment was required to be provided to the owners. Draft condition S.13 was agreed to be amended to include a requirement for the appointment of a communications manager as the NZTA contact for owners.

[1306] NZTA has included the proposed suite of amended conditions in the latest version of draft conditions of consent lodged at the time its counsel delivered her Reply.

13.8 Unitec Institute of Technology

[1307] Unitec is a tertiary education institute which occupies approximately 55ha of land in the vicinity of sectors 5 and 7 of the Proposal, and is the largest educational and community facility in the vicinity. It delivers tertiary education to almost 20,000 students a day.

[1308] The Unitec campus also provides student accommodation for nearly 300 students in a residential village (elsewhere referred to as a “hostel”) located at 1510 Great North Road, and 4 other buildings immediately on the other (eastern) side of Oakley Creek.

[1309] Unitec lodged a submission generally in support of the Proposal, conditional on a number of issues being addressed. Discussions have been held with NZTA and an agreement entered into, largely resolving matters between the parties.

[1310] Counsel for Unitec, Ms MN Batistich, provided a brief presentation. The chief financial officer of Unitec, Mr P Conder lodged evidence (prior to the agreement being arrived at) and was called to answer questions from parties and the Board.

[1311] The agreement addressed a number of issues;

- Creation of a draft condition of consent requiring the maintenance of pedestrian accessways to all open space available for public use during construction and education facilities where access is affected by the works. Draft condition OS.13 is the condition agreed.
- Amendment to the internal noise criteria for educational facilities regarding construction noise effects on teaching areas, which has become proposed construction noise condition CNV.2(d).
- Early provision of building modification measures at Unitec to mitigate operational noise, implemented through proposed construction noise condition CNV.1(xiv) and a related change to proposed operation noise condition ON.10.
- Relocation of students from the hostel at 1510 Great North Road, upon 4 week's notice, but not during examination time, and provision of transport to the temporary location – through proposed construction noise conditions CNV.10, 11 and 12.
- “Precautionary” inclusion of various Unitec buildings in the list of “at risk” buildings (despite NZTA’s expert assessment that the buildings are not at risk of damage from settlement), such that the owners will be supplied pre and post construction buildings surveys, and with NZTA undertaking repairing any damage attributed to the Project.
- Dispute resolution, through amended condition PI.4

[1312] All agreed conditions have been included by NZTA in the 25 March version of draft conditions of consent. We approve of the draft conditions.

13.9 Student Residential Hostel at 1510 Great North Road

[1313] Submissions were lodged on behalf of Apartments Limited, Townscape Securities Auckland Limited, Body Corporate 212138, GTL Brown, R Ford, Hellen Limited, J & R Family Trust, CT Kwang and LS Yeoh, Stewart Holdings Limited, and LH Tech. These submitters are all owners of units in the hostel block at 1510 Great North Road. The submissions relate, in summary, to NZTA’s proposals to acquire a “below-ground”

interest beneath the property for the tunnels, and to impose restrictions on the use of parts of the surface property.

[1314] Mr AFJ Gallen appeared for the submitters, and called the evidence of Mr DA Tauber, who was assisted on the day by Mr G Richardson. These gentlemen are involved as officers of some of the submitters. Apartments Limited, and Townscape Securities in particular, but speaking on behalf of all unit title owners in the block.

[1315] The multi-storey building was purpose built for student accommodation, and contains 35 strata-title units.

[1316] Some of the property is also required on a temporary basis for construction works, and the tunnels are intended to be constructed under part of it. We heard expressions of concern about noise, dust, vibration, lighting, settlement, and altered water tables, which the witnesses feared would make the premises unsuitable for accommodation purposes. The owners were not satisfied with the level of agreement reached between Unitec and NZTA, asserting that the problems would pose “virtually insurmountable difficulties for ... the owners.” They nevertheless acknowledged that they were not in a position to oppose the notices of requirement and applications for resource consent outright, requiring as that would, a degree of expertise beyond the resources available to the body corporate. Hence, they did not oppose the SH20 proposal as such, but offered the representation by Mr Gallen, and the non-expert statements instead.

[1317] Expressions of concern about alleged interference with stormwater drainage from the property, and risks of settlement and damage, in particular, manifested themselves in an assertion that the owners might have rights in s185 RMA in an application to the Environment Court for an order directing NZTA to take the whole property under the Public Works Act 1991. Mr Gallen noted that the owners have been endeavouring unsuccessfully to sell the property for some time, and asserted that they meet the qualifying tests of s185. We do not have such jurisdiction in the present proceedings, and of course we are not sitting as the Environment Court.

[1318] Mention was also made of s18(1)(a) of the Public Works Act under which NZTA is said to have issued notice of its desire to acquire limited interests in the land. Mr Gallen foreshadowed a possible objection to the Environment Court under s23. However, once again, that is outside of our jurisdiction.

[1319] NZTA has offered an amendment to draft Condition CEMP.16 on the subject of service relocations necessitated by the Project, to include those of private property owners. The amendment has found its way into the 25 March version of the draft conditions, and it appears to answer the point raised by these submitters about the stormwater drainage system.

[1320] Mr Tauber, assisted by Mr Richardson, told us that the students are mostly young and from overseas, with English not being their first language. Unfortunately, there were two aspects of their evidence that made it difficult for us to readily accept what they were saying. First, they did not have expertise in specific environment effects that they talked about, being noise, dust, vibration, physical damage, egress/access and security. Secondly, we found their claims that they would be “*morally negligent, possibly criminally negligent, to permit occupation during critical periods of construction*”, and “*visions of the Pyrmont Tunnel in Sydney, Cave Creek, and Pike River are examples too fresh in the minds of people to contemplate the risk of people to stay in the building while critical construction takes place*”, to be long on rhetoric and short on facts.

[1321] The only evidence that we received about potential extent of physical damage to the building was to the effect that it was unlikely to need scheduling for particular monitoring of effects during construction. This was because NZTA’s witness Mr G Alexander did not consider the buildings to be within his risk contours for building damage. Possibly however responding indirectly to expressions of concern by the Board about mapping of those contours, NZTA in the Reply of its counsel at the end of its hearing, recorded that it “*recognises the unique foundations of these buildings and has taken a precautionary approach of identifying the hostel within the ‘damage category 2’ classification, for the purposes of monitoring effects during construction.*” This brings the hostel within the survey, monitoring and management response process of Ground Settlement Conditions S.7 – S.13. We note that 1510 Great North Road has been included on the list of buildings in S.7 (albeit mis-described as “Great South Road” which must be amended).

[1322] In delivering her Reply, Ms Janissen drew our attention specifically to evidence in chief of Mr Walter, evidence in chief and rebuttal evidence of Ms Wilkening, evidence in chief and rebuttal evidence of Mr Millar, Ms Linzey’s third supplementary evidence, evidence in chief of Mr Gottler, Ms Williams’ rebuttal evidence, Mr Alexander’s evidence in chief and rebuttal, Mr T Fisher’s rebuttal evidence, Dr Black’s rebuttal evidence, Mr

Waller's evidence in chief and rebuttal evidence, and Mr S Brown's rebuttal evidence, to demonstrate proposals to mitigate this property against establishment of operation of construction yard 7. The draft conditions of consent that afford protection are OS.13; CNV.2; CNV.4; CNV.10; CNV.12; TT.2; TT.8, G.1 to G.6, and G.8 and G.9; S.10 to S.12; CEMP.16; AQ.1, AQ.4, AQ.10, AQ.18; CNV.9; L.2; CEMP.6, CEMP.7; and LV.10.

[1323] In the absence of any technical evidence to the contrary, we consider that the identification of those statements of evidence and draft conditions of consent are appropriate, and that the draft conditions, enhanced as they have been through the agreement with Unitec, will adequately serve the purpose of the Act in respect of this property.

13.10 Transpower

[1324] In a hearing statement dated 13 December 2010, Transpower advised that its earlier submission would be met by conditions proffered by NZTA, namely CEMP.4(m) [now .3(m)] and CEMP.14 [now .15]. Its concerns had related to compatibility of the Project with Transpower assets. We approve of the draft conditions.

14 MATTERS UNDER PART 2 RMA, AND CONCLUSIONS

[1325] In section 5 of this Decision we set out the purpose of the Act in full. We also provided a summary of the parts of s6, 7 and 8 (the balance of matters in part 2) that had arisen for consideration in the context of all inputs in the case.

[1326] It is fair to say that a multitude of matters arose under section 5, but that a major focus of the case was probably about avoiding, remedying or mitigating adverse effects of the proposed activities on the environment. Allied to that, issues arose about enabling people and communities to provide for their social, economic and cultural wellbeing and for their health and safety, while sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations, and the safeguarding of the life supporting capacity of air, water, soil and ecosystems.

[1327] NZTA claimed quite resolutely that the fact of the motorway being tunnelled under relevant suburbs and communities was an effective and expensive form of mitigation. We

have held instead that it amounts to avoidance of certain adverse effects on the environment, as to which it has much to commend it, all the while begging the question of whether consent could have been granted to a surface motorway through sector 8.

[1328] In various sections of this decision we have undertaken extensive analysis and evaluation of evidence and representations put before us on a multitude of regional and Project-wide effects, including traffic and transport, economics, social effects, effects on open space and public reserves (in a general sense, and on individual items of open space and reserves, and in relation to networks and connectivity between them and the communities involved), effects on marine ecology, coastal effects, navigation, fresh water ecology, vegetation, certain fauna, stormwater, groundwater and ground settlement, avian ecology, air quality, noise and vibration.

[1329] The parties, and in particular many expert witnesses and lay representatives of parties, worked diligently on a key feature of this case, the adequacy or otherwise of mitigation of these many effects. A good deal was accomplished by the caucusing of expert witnesses, but many issues remained for determination by us after hearing evidence and representations. Many parties maintained an extremely constructive approach throughout the hearing, offering detailed participation in these matters of mitigation, even while maintaining general outright opposition to the Project in the general sense.

[1330] As matters have evolved, that approach has proved to be appropriate, even though we have needed to pay close attention to further refinement of the draft conditions of consent lodged by NZTA in several iterations, and debated by many parties.

[1331] Virtually every aspect of sections 5 and 6 came in for consideration during the course of the case. Some, however, in far greater measure than others. For instance, while economic matters were mentioned, they were not debated in a manner which offered testing of detailed work and sworn evidence of NZTA experts in the area.

[1332] Cultural wellbeing and the provisions of section 8, including evidence about important Maori heritage places, the principle of good faith between the Crown and tangata whenua, and quality of consultation, proved adequately addressed to the point where the parties interested in those issues adopted a low key and very constructive approach to the proposals.

[1333] Social issues, particularly those surrounding adverse effects likely to befall open spaces and reserves, schools, a kindergarten, a tertiary institution, residential activities (many houses to be removed and the occupants of many others to suffer adverse effects), played a considerable part amongst the issues in the case. Ultimately, mitigation (not betterment as it was described in some instances by NZTA), augmented by further mitigation required by us, provide the answer in the case that consent can be granted subject to numerous conditions. Equally, the safeguarding of the life supporting capacity of air, water, soil and ecosystems can be ensured by the imposition of appropriate conditions.

[1334] Ultimately, a multitude of natural and physical resources can be used, developed, and protected as necessary, in appropriate ways and rates that meet the requirements of section 5.

[1335] NZTA acknowledged that all matters of national importance in section 6 were at play in the case, illustrating again the range, extent and complexity of the issues before us. Ecological issues arose extensively in connection with the natural character of the coastal environment (including the Coastal Marine Area), wetlands, streams, and their margins. We have come to decisions that recognise and provide for those matters, and protect them from inappropriate use and development, again by the imposition of a suite of quite extensive and sophisticated conditions of consent, assisted by the advice of numbers of highly qualified witnesses, and intelligent and constructive input from lay representatives of a number of parties who were active in the case.

[1336] We had to recognise and appropriately provide for some areas described in the Auckland Regional Plan: Coastal 2004 as outstanding landscapes, the Whau River, Traherne Island and Rosebank Reserve, albeit that they are recognised in the Plan as having the context of an environment already heavily modified.

[1337] Likewise we have needed to address to the same standard the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna. A small number of rare native plant species was the subject of evidence, and a native lizard. We were required to evaluate evidence about many different bird species, plant life at the coastal edge, and native (and exotic) vegetation, including significant and in some cases heritage species of trees. Once again, with the assistance of the experts and some lay

participants, matters have been satisfactorily dealt with to the standard required by section 6, by way of appropriate conditions of consent.

[1338] The maintenance and enhancement of public access to and along the coastal marine area adjacent to SH16, and to and along streams, attained a high level of importance in the case. Walkways and cycleways along the coastal edge through the SH16 corridor, and along the Oakley Creek and around the mouth of its inlet, were the subject of detailed evidence and debate. Some pressure arose to allow public access to the marine reserve on Traherne Island, but we were satisfied by the inputs of parties advocating conservation interests that that would be counter-productive to the quite important ecological qualities and issues.

[1339] Concerning matters under section 7, the issue of kaitiakitanga relates fairly closely (at least in terms of the evidence we heard) to the cultural matters in section 5, and Treaty of Waitangi matters in section 8. The other matters in section 7 tend also substantially to cross over with those other matters and/or to be addressed elsewhere in this decision in relation to statutory and non-statutory instruments, and the key area of effects on the environment. It would not be efficient to set out those matters, and the extensive representations and evidence about them, again in this section.

[1340] Once more, they are capable of being addressed to an appropriate extent to meet the requirements of the section, by devising appropriate conditions of consent. That is where the main energy in the case ultimately went. In particular, shortly before the issue of the draft decision, we issued a comprehensive set of directions requiring the expert witnesses in relation to the various topics in the case, to caucus further, to redraft many of the conditions to achieve certain stated outcomes. We have since reviewed the results of that work, applied some necessary further amendments, and the result is the set of conditions attached to the draft decision.

[1341] In very much summary form, key findings in this decision are identified as follows.

[1342] In considering the purpose of the Act, it is important to note the project objectives to upgrade and complete a critical part of the strategic transport network in the Auckland region, and the substantial regional transportation and traffic benefits arising from this.

[1343] It is also important to recall the objective of NZTA in the Land Transport Management Act 2003, which is to “...*undertake its functions in a way that contributes to an affordable, integrated, safe, and sustainable land transport system...*”.

[1344] The case has been notable for the extent to which it has been necessary to consider the balance required between the demonstrated economic benefits of the proposal at the national and regional level, against the disruptive construction and longer term operational effects on the local community.

[1345] It has also been notable, as we have said elsewhere in this decision, for the need to weigh tensions between various aspects of Part 2 of the Act, and the need for great care to be taken in the course of deciding whether to grant consent (and if so, on what terms) to a project as large and complex as this one, based on utilising complex management plans and a conceptual design framework.

[1346] Post construction we have identified strong net social benefits in roading, connection improvements, and economic growth.

[1347] Access to open spaces and public reserves occupied a very significant part of the case. Anticipated effects of the project on the communities’ access to these has been found to be more than minor and in some cases very significant. Substantial mitigation was offered but was held to be inadequate. Indeed, without further mitigation being undertaken, we were concerned that our ability to grant consents in Sectors 5, 7 and 9 might have been called into question. Considerable further work has been applied to this aspect, and the purpose of the Act will be met if the further mitigation ordered by us is applied. This involves a conditional obligation requiring NZTA to provide a financial contribution of \$8 million. This financial contribution is to be used (subject to land being acquired and resource consents gained) to build what has been referred to as the “Alford” and “Soljak” Bridges and for the development of a cycle and pedestrian way between Alan Wood Reserve and Unitec (Sector 8), to ensure connection of passive open space amongst the Waterview and the Owairaka/New Windsor communities, where the inadequately mitigated effects had been found. In addition, we have directed a contingency payment (to be spent in connection with the just mentioned pedestrian and cycleway), should part of a property at 6 Barrymore Road not be made available for reserve.

[1348] It is acknowledged there will be unavoidable adverse visual and amenity effects on heritage areas located in close proximity to and within the project area. However, after fairly significant attention to conditions of consent, there will be suitable mitigation of the heritage impacts. Likewise, NZTA has worked closely with the relevant parties regarding cultural effects and proposed conditions for ongoing liaison between the parties have been provided for.

[1349] As regards coastal processes we find that, subject to mitigation measures incorporated in the proposal, the short and long term effects will be no more than minor. Effects on marine ecology (other than the additional permanent occupation of space in the CMA) are found to be minor to moderate and can be suitably mitigated and monitored through consent conditions.

[1350] Many submissions were received about permanent occupation of the CMA and the consequential reduction of area and habitat loss in the Motu Manawa Marine Reserve. While the effects are significant, it is not within our power to direct an expansion of the reserve in other directions, and we have reached the conclusion that the draft conditions of consent are appropriate for the purpose of avoidance, remedial action, and mitigation of these matters.

[1351] We are in agreement with the outcome of the experts in caucus that freshwater ecology effects can be mitigated to appropriate levels such that the overall ecological effects on freshwater ecosystems would be no more than minor.

[1352] As to vegetation issues, an important aspect (amongst a number) was that the Board directed a condition of consent requiring the preparation of a weed and pest management strategy for Traherne Island. In other areas, we direct further attention be given to relevant consent conditions for areas currently exhibiting blends of exotic and native species, stream-side vegetation, and other matters.

[1353] The proposed Lizard Management Plan and associated proposed conditions of consent are found suitable as regards herpetofauna issues.

[1354] Subject to amendments to proposed conditions, we accept the suitability of the stormwater management and treatment proposed during the construction phase. Concerning operational impacts, potential flooding effects in the Oakley Creek catchment

required additional attention through amendments to conditions of consent. The s42A report concluded that post construction the basalt stone-lined Oakley Creek habitat will be materially improved by the measures proposed by NZTA, and in general we agree. Riparian planting and the additional section of esplanade reserve are also positive.

[1355] Following agreement amongst the relevant experts we are ultimately satisfied with the proposed draft conditions for ground settlement. Likewise it is agreed that contaminated land conditions are adequate to manage the discharge of contaminants.

[1356] Following the considerable work undertaken by the experts, response to directions by the Board, and with some further minor changes by us, we now consider that effects on air quality and potential health effects are suitably mitigated.

[1357] Considerable effort has been undertaken to provide suitable conditions of consent on construction noise and vibration to mitigate matters for parties living close to the proposed motorway and construction yards. Amended conditions were provided in response to our direction regarding predicted operational noise levels. We note that even with the conditions and mitigation proposed, outdoor living spaces for people near the motorway will be affected to more than a minor degree.

[1358] Landscape and visual effects resulted in many submissions from parties and discussion during the hearing. Significant effects include short term construction effects and the permanent visual impacts of the proposed tunnel ventilation stacks and buildings. Acknowledging this, NZTA has agreed to subject the final design of the buildings and stacks to the Outline Plan of Works process.

[1359] Following considerable assessment we held that there would be potentially severe adverse effects resulting from the proposed (“as lodged”) location of the northern ventilation stack. Mitigation of this effect is to occur by a new location on the eastern side of Great North Road. The support buildings will remain in the originally proposed lodged location on the western side of Great North Road, but are to be constructed in a significantly modified form, with some housing reinstated on the affected section of the Great North Road frontage.

[1360] A need to protect open space, and concern about visual and amenity effects, has promoted the need to move the southern ventilation building, stack and control buildings a further 70-80 metres to the south east side of the originally proposed location.

[1361] Considerable work has been done by parties on mitigation of what would otherwise have been severe adverse effects on the Waterview School and Waterview Kindergarten, and moderate adverse effects on other institutions in the subject communities. A number of institutional and corporate parties, and NZTA, are to be commended for ultimately producing detailed agreements ensuring significant avoidance, remediation and mitigation of adverse effects.

[1362] Section 15 of this Decision directs some further refinement of certain conditions of consent be lodged no later than 2 weeks from the date this Decision is reached.

[1363] Based on the findings in this report the Board therefore considers the application for notices of requirement and resource consents to the EPA (as outlined in section 2.4) may be granted subject to the attached proposed conditions of consent in Volume 2 of this draft Decision, and the satisfactory completion of re-drafting described in the following section.

[1364] Pursuant to s176A(2)(c) the Board waives the requirement for Outline Plans of Works in relation to the Project, except concerning the Northern Ventilation Buildings and Stack and the Southern Ventilation Buildings and Stack, as previously recorded.

[1365] This draft Decision is subject to modification or amendment in light of any comments received under s149Q(5) of the Act. Our final Decision under s149R will then be produced.

15 PROPOSED CONDITIONS OF CONSENT

[1366] As we have recorded elsewhere in this Decision, there were numbers of parties who were completely opposed to the granting of consent, but who nevertheless joined with others during the course of the hearing in participating closely concerning the content of conditions, against the possibility that consent might be granted.

[1367] When the application documents were lodged with the EPA in August 2010, they included a suite of proposed conditions (Appendix E.1 of the AEE). This was updated in Appendix 9 of Technical Report G.31, just prior to public notification in September 2010. Perhaps partly as a result of the constructive approach by many of the parties concerning the issue of conditions, promulgation of them by NZTA has taken on a significantly iterative approach. Several sets have come into being and been considered by parties and the Board, since original lodgement.

[1368] The next set of amendments came about after NZTA and its expert witnesses considered issues raised by submitters, and was attached to the third Statement of Evidence of Ms Linzey (Annexure B), on 14 November 2010.

[1369] Following review of the submitters' evidence exchanged in December 2010, further amendments were proposed, and at the commencement of the hearing we were presented with a further updated set attached to the rebuttal evidence of Ms Linzey as Annexure A. That version of draft conditions featured strongly in Ms Janissen's opening submissions on behalf of NZTA. She also indicated at that stage that "a final set [would] be presented with the NZTA's Reply so as to establish that the effects of the Project will be appropriately mitigated".

[1370] In fact, things moved forward and changed significantly, more often than Ms Janissen predicted, because the "Opening" set was updated and replaced by another on 10 February 2011, followed by another considerably more detailed set presented on 1 March.

[1371] Yet another was lodged at the time Ms Janissen delivered the Reply on behalf of NZTA, on 25 March.

[1372] Then, as anticipated in consultation between the Board and parties during the hearing, a further set was lodged dated 13 May.

[1373] It is fair to record that not only did this process come about by reason of constructive involvement by many parties, it also indicated a cooperative and professional approach to the process on the part of NZTA.

[1374] We concluded our hearing on 25 March, reiterating an arrangement made earlier in the hearing with the parties. That was, that after deliberating amongst ourselves for a

period, and if we then foresaw the possibility of granting consent, to introduce a new procedural step into the process. That suggested step was that the Board would communicate with the parties setting out some outcomes that would need to be achieved through the redrafting of conditions of consent, and for the parties to have their groups of experts undertake that redrafting, without prejudice to the ultimate overall decision, or our decision about individual conditions of consent.

[1375] Accordingly, on 6 May we issued a minute to the parties recording that we had undertaken deliberations, and attached a Direction which sought further assistance with drafting of conditions by groups of experts. We stressed at that stage that the possibility of consent being granted was not to be inferred, however that if the more significant of certain matters could be cured to our satisfaction, then the responses from the experts could inform possible consent. We stressed that we would not at that stage receive submissions, representations, or evidence disputing any of the outcomes in respect of which we were making directions.

[1376] On 7 May we updated our Directions about conditions that needed further work.

[1377] Having regard to the timeframe under which the whole of this process has been conducted, we could allow no more than a week for the responses to be lodged. They were lodged on time, we understand after a considerable amount of work by certain of the experts. We are grateful for that, and believe that our ability to deliver our decisions in a timely fashion has been greatly assisted by their input.

[1378] The contents of the further redrafted conditions were not, we warned, to be regarded as being set in stone in any sense just because the experts agreed on them. We stressed that we retained our decision-making role, with a full range of outcomes remaining available in the case.

[1379] Rather than describe at length the matters that we required to be attended to, it will be more convenient for us to attach to this decision a copy of our directions to the experts, and a copy of a Memorandum of Ms Janissen attaching the redrafted book of conditions (13 May 2011), describing the steps taken by the experts pursuant to our directions.

[1380] As previously noted we have attached as **Annexure C** the “Schedule of Work required on Draft Conditions of Consent and Other Documents”, and as **Annexure D** the

13 May Memorandum of Ms Janissen headed “Response to the Board of Inquiry’s 7 May 2011 Schedule of Work Required on Draft Conditions of Consent and Other Documents”.

[1381] Annexures C and D might not in themselves be particularly informative pointers as to the outcome in the case overall, but the picture should emerge that, subject to further consideration by us of the conditions, consent will be forthcoming. The Directions and the Responses need to be read in the context of the many findings that we have made during the course of this Decision, along with those in the Conclusions section.

[1382] We have carefully considered the 13 May redrafted set, and have made our own further changes as necessary. Much of what was lodged was acceptable to us, but some of the agreed redrafted conditions were not to our satisfaction, and a small number were not initially agreed at all, principally concerning mitigation of adverse effects on open spaces and reserves.

[1383] The conditions as further redrafted by us in some respects are promulgated as Volume 2 of this Decision, as our indication of the basis upon which, subject now to input from parties on minor or technical matters (s149Q(4)), we would propose that consent be granted.

[1384] In the course of making our findings on substantive matters throughout this decision, we have referred in some detail to a number of the responses that feature in what is now our Annexure D above. There were some other responses on general matters, which appeared in Part 20 of that document, under the heading (unsurprisingly) “General”. We comment on some of those here.

[1385] During the course of the hearing there was debate as to whether it would be lawful for us to impose review conditions on the designations along the lines of those that can be imposed on resource consents under s128 RMA. In opening Ms Janissen strongly argued that it would not be permissible, but in her Reply she carefully conceded that a lesser type of condition could be imposed allowing for “further assessment and requirement of further mitigation” if monitoring showed there to be breaches of requirements of conditions attaching to a designation. She accepted that the Environment Court’s decision in *Villages of NZ Ltd v Auckland City Council*¹⁹³ had imposed such a condition. In our 7 May directions we required the preparation of such a condition to attach to the designations in

¹⁹³ Decision No. A023/2009, Environment Court Auckland

this case. The parties have responded with a new condition DC.12, which substantially meets our direction. However we have added to it to broaden the situations in which monitoring might identify a problem, as the circumstances put forward in that regard by the parties were too narrow. The version we now direct will be seen to be closer in form to that finally imposed in *Villages of NZ*, drawing from the Final Decision in that litigation (Condition 5D there).¹⁹⁴

[1386] In paragraph 20.5 of each of Annexures C and D, an issue of major importance in the case is raised by us and addressed by the parties. We referred to Schedule B as it then stood in the “Red Book” of conditions, describing it as necessary and useful, listing as it purports to, all the consents and conditions. We commented, however, that it offered a form of extreme shorthand because nowhere in the book of conditions can it readily be seen what conditions attach to which resource consent or to which designation. Acknowledging that there are general topics likely to be applicable across the board, such as the general designation conditions (DC) and resource consent conditions (RC), it then becomes something of a minefield, particularly, one would imagine, for the consent authority undertaking its monitoring, approval, and enforcement functions, to ascertain what conditions apply to what consents.

[1387] Indeed, we recall that the matter was raised by Ms Richmond, the Council’s planning witness, and responded to positively by Ms Linzey in her rebuttal, but with a qualification that the time was not yet right. That time has well and truly come. Indeed, as will be seen following, it has come uncomfortably late. We told the parties in our 7 May directions that this was a problem that needed be solved now, and offered some tentative thoughts about how.

[1388] The parties responded that the completion of Schedule B will indeed be a very important and necessary component of the Project, however they were unable to meet our wishes in the week that we had given them to respond to our 7 May directions. All parties except the Council agreed with the Board’s suggestion that there should be a general condition requiring the cross-referencing of conditions to designations and consents to be done before any construction activity could be commenced, to the satisfaction of Auckland Council. In terms of that agreement, those parties inserted new conditions DC.1A and RC.3, in relation to future completion of Schedule B. The Council, however, indicated that it would prefer that this work be done as part of the Board’s Decision,

¹⁹⁴ Decision No. A 056/2009

suggesting that the parties could commence the work as part of their response under s149Q(4) RMA.

[1389] We doubt that undertaking that whole exercise will be an appropriate use of the time leading up to the issuing of the final consent. Neither do we think it would be efficient. Frankly, it should have been done quite a long time ago. However we recognise it would have resulted in an enormous amount of documentation comprising 60 conditions of consent (6 designations, 54 resource consents). What we are now directing is that an extra column be added to Schedule B, listing by number which conditions attach to each of the consents there listed. We wish to have that lodged no later than 2 weeks after this decision is issued. In the meantime we have made qualifications to conditions DC.1A and RC.3, reflecting this arrangement. In particular the assembling of conditions against each of the 60 consents is to be undertaken to the satisfaction of the Council.

[1390] In our 7 May Directions we recorded at paragraph 2.5 that there appeared to be a problem with references to the F series drawings in many of the rows in Schedule A. We recorded that the Board had not yet been able to check every last item, but as far as it had at that time it had found 20 errors. We set out three examples. We recorded that the issue had the potential to cause grave problems. We directed that the parties check off all references against drawings and documents, including those found attached to rebuttals, supplementary evidence, and the like. We also noted that for ease of future enforcement, it will be better if NZTA listed the drawings in numerical order in each of the rows, rather than grouping them by revision, even if in some cases some extra rows are needed due to single pages being updated.

[1391] The latter part of the exercise would appear at first sight to have been done, however rigorous checking by members of the Board has revealed yet further inaccuracies, to the point where we do not feel that it would be appropriate or safe for us to use the parties' latest material to carry out amendments ourselves to Schedule A. We are therefore issuing a further direction to the parties requiring that this exercise be undertaken rigorously and with complete accuracy by them, along with a schedule the Board has prepared for their assistance in that regard. , A new draft Schedule A is to be lodged within 2 weeks of our issuing this draft decision. We reiterate that it is vital that this task be done properly and well, because it goes to the heart of the whole of the process that will pertain during the construction years and beyond.

[1392] While on the subject of Schedule A, we noted a suggestion in paragraph 7 of Ms Janissen's 13 May memorandum about Construction Yard 7 that Row 6 of Schedule A could perhaps record the drawings that she had submitted as Schedule B to that memorandum. We agree, and direct that that be done in the same timeframe as the previous task. We have added an advice note to CEMP.1 to ensure that the care needed in development and operation of this yard at the various stages is kept "top of mind" for all concerned.

[1393] A further matter that needs attention by the parties between the draft Decision and the Final is the matter of a general dispute resolution clause. In the context of a concern we had at the time, we directed the parties on 7 May to provide one. The particular context that grew out of concerned financial payments in lieu over certain reserves and open spaces. Unfortunately when responding the parties overlooked the general issue, advising that, given that the Council had resolved its position concerning a particular financial payment in lieu, the experts considered that there was no need to further amend CEMP.14.

[1394] Our direction had recorded that CEMP.14 did not appear to go far enough, and that there should probably be some new and general dispute resolution clauses in the DC and RC sections. That has not occurred. We remain of the same view, and direct that drafts be lodged for consideration by us within 2 weeks of the issue of this draft Decision.

DATED at AUCKLAND this *23rd* day of *May* 2011

For the Board of Inquiry:



Environment Judge L J Newhook
Chairman

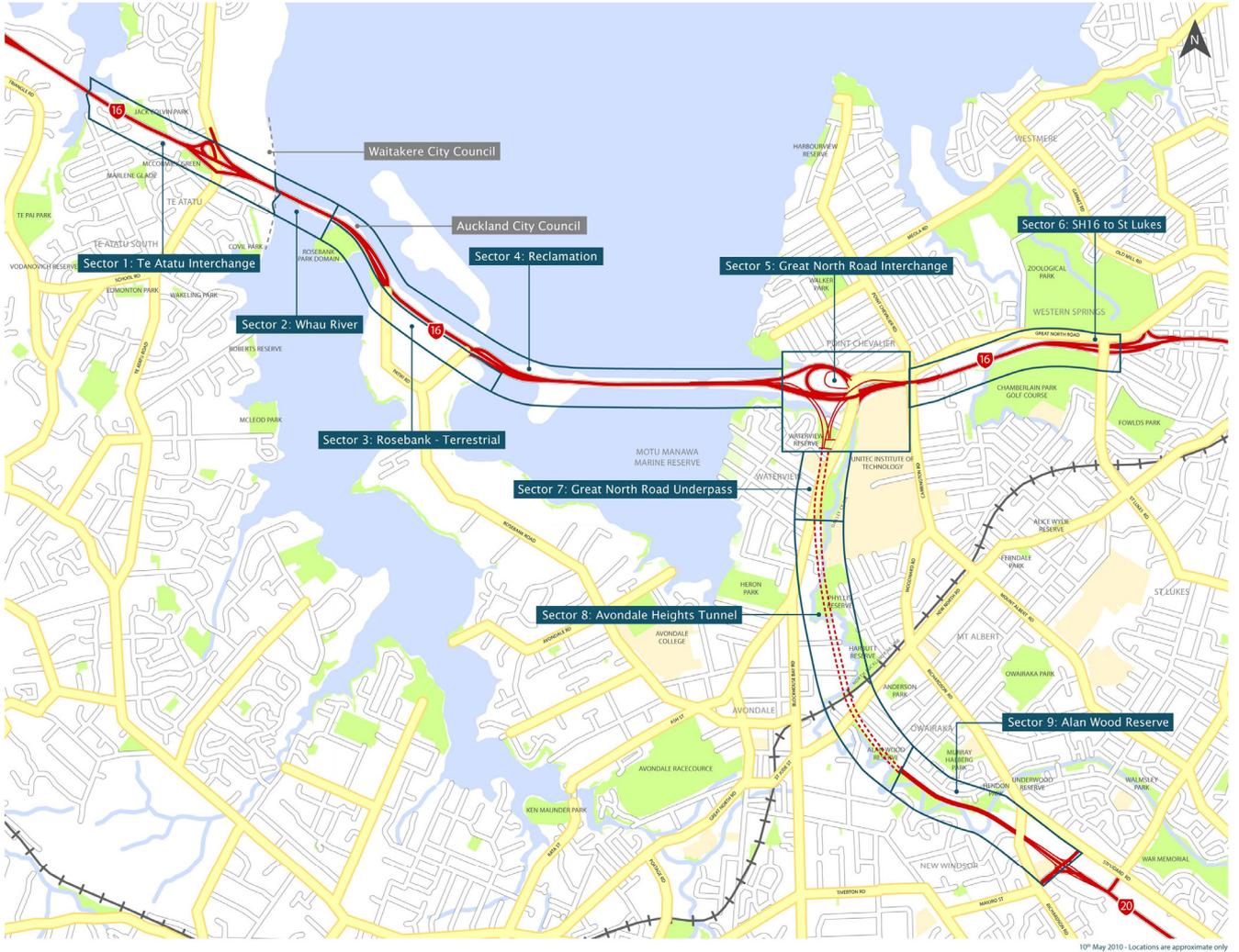
ANNEXURE A – HEARING APPEARANCES

S Janissen and C Law for New Zealand Transport Agency
G Lanning for Auckland Council
G Houghton for Department of Conservation
M Batistich for Unitec Institute of Technology
L de Latour for KiwiRail
B Vipond for Vipond Family Trust
P Turei for Te Kawerau a Maki Iwi Authority
M Phillips in person
C Kirman for The National Trading Company
C Kirman for Housing NZ Corporation
B McNatty for NZ Forest & Bird Motu Manawa Restoration Group
D Allan for Living Communities (Auckland) Incorporated, North Western Community Association Incorporated, Sir Harold Marshall and Mt Albert Residents Association
H Grueger for Springleigh Residents Association
K Brown on behalf of Waterview Environmental Society
S Upton in person
T Hazledine in person
Dr J Wu in person
R Richards in person
S Lambourne for NZ Automobile Association
Dr A Towns in person
C Farmer in person
A Wardle in person and for Piers Monaghan
R MacLennan in person
H Docherty for Friends of Oakley Creek
S Chand and R Chand in person and for R & U Chand and S & S Chand)
F & C Higgins in person
B Mehaffy in person
C Jordan in person
D Maddock in person
W D McKenzie in person
L Haines for The Tree Council
Dr P Cullen in person and for Dr Ry Tweedie-Cullen
M Riley in person
L Waterfield in person

A Bridges in person and on behalf of F Bridges
L Taylor & W Aldworth in person
L Hayes in person
R Devine for Albert Eden Local Board
C Pitches for The Campaign for Better Transport
M Percy for Pollen Island Care Group
L & J Lewis for JR & LE Lewis; Lindsay Jarvis and Waitakere Trustees Limited.
J Gallen for Apartments Limited; Body Corporate 212138, Townscape Securities, Hallen Limited, J & R Family Trust, R Fond, Dr GTL Brown, C Kwan & L Yeoh, Stewart Holdings (1970) Limited and L Teck
M Tritt in person
S Hart in person
B Cuthbert for Cycle Action Auckland
P & K Davie in person
G Easte in person
M Atherton in person
J Spring in person
S J Challis in person
D Shearer MP in person
K Ace in person and for E. Guttenbeil
D Clendon in person and for G Hughes & K Hague
D Carter in person and for K Ennis
C Tunnicliffe in person
P Perriam in person
I Gotteli for Watercare Services Limited
A B Woolf in person
S Woodfield in person
M Roberts in person
D Parker for Metro Mt Albert Sports Club (Football Div.)
R Black in person
K Fraser for Waterview Primary School Board of Trustees and Ministry of Education
S Ryan for Auckland Kindergarten Association
V Dostine for NZ Horse and Recreation
G Wood for West Auckland Pony Club
B McBride for Te Atatu Pony Club
P McCurdy for Star Mills Preservation Group

ANNEXURE B – WATERVIEW CONNECTION PROJECT SECTOR DIAGRAM

Western Ring Route: Waterview Connection (SH16-20) - Sector Diagram



10th May 2010 - Locations are approximate only

ANNEXURE C – SCHEDULE OF WORK REQUIRED ON DRAFT CONDITIONS OF CONSENT (7 MAY 2011)

1. Traffic and Transport

- 1.1 Draft condition OT.1 at p. 28 of the Red Book, concerns the preparation of a Network Integration Plan (“NIP”) in collaboration with Auckland Transport, particularly as to relationships with existing local road network and future improvements and such matters as pedestrian and cycleways etc.

Item (a) appears only to address the issue of bus priority measures northbound on Great North Road, being one of three matters addressed by NZTA to Auckland Transport in a letter, annexure B to the rebuttal evidence of Mr Parker, dated 17 December 2010. We recall from Mr Lanning’s Opening that the council is not pursuing the first of the 3 items (St Lukes Interchange). The third of them (Sector 8 cycle/pedestrian way) is dealt with below (see 2.11).
- 1.2 The Board is not happy with deletion of words in OT.1(a) agreed by the transport caucus concerning pedestrian and cycle infrastructure. This seems to us to be covered by the PT and Active Mode Transport drawings 109 and 113, refer DC.1(d) of the Red Book. OT.1(a) should cross reference to that condition and be made subject to consultation with Auckland Transport. The Board is not happy for room to be left for the work not to be done. In OT.1(a) the bus priority measure is to be provided on Great North Road. The reference to “where it can be achieved in the Project Designation” appears inappropriate, and we believe should be deleted.
- 1.3 Draft condition OT.2 provides for the creation of a Tunnel Traffic Operation Plan. It fails expressly to address the topic of operational safety, and it must. Then, particularly in that context, it is clearly inappropriate that such a plan should not be completed until sometime within three months of the date of practical completion of SH20. The requirement must be to have the plan completed, provided to Auckland

Transport and Auckland Council, and all testing of equipment etc completed before operational use of the motorway.

- 1.4 In TT.5, in the last line after “major construction” insert “or major traffic generating event”.
- 1.5 In TT.7, add a requirement for vehicle access, including for emergency service vehicles, be maintained to the Te Atatu Peninsula north of SH16 at all times.
- 1.6 In TT.3(h), there is reference to OS.13. The Board considers that OS.13 is (and must be) an unqualified commitment to maintain access to open space and education facilities. Sub-condition (h) should be reworded to make it clear that it doesn’t act as a qualification on OS.13 (the issue is not helped by an example being given in brackets, mid sentence).

2 *Open space*

- 2.1 The Board considers that there is a flaw in the audit trail concerning the preparation of Open Space Restoration Plans. It starts in draft conditions OS.2 and OS.3, which require such plans for the areas listed in schedule A, Row 30. Included in the list of drawings referred to in Row 30, is a set of drawings attached to the caucus statements of the joint open space and planning witnesses dated 21 March 2011, in particular plan 304. Condition OS.6 refers to the Open Space Restoration Plan for Alan Wood Reserve (Schedule A, Row 17) amongst which plan references is sheet 219 of the series attached to the Annexures A and B of the rebuttal evidence of Ms Hancock. The flaw is that while the latter sheet 219 depicts (confirmed by note 11) planting with low growing native species, sheet 304 shows no planting on much of the rail designation, contrary to the express agreement of the experts. Sheet 304 will need to be amended in that regard, and a new revision supplied to the Board and parties when the revised draft conditions of consent are lodged.
- 2.2 As noted by Ms Janissen in her Reply, the first Open Space Caucus Report recorded agreement that the improved cycleway and pedestrian paths etc are to be provided as shown on the PT and Active Mode

Transport Routes [28.1.11]. This is appropriately locked in by draft condition DC.1(d). The reference, however, in the fourth column of Row 22, of Schedule A [28.1.11], must be incorrect (so, too, the date referred to by Ms Janissen) because the plans were updated and a further set lodged with the Board of Inquiry after 25 February 2011. This can be seen from the revision table on many of the sheets, recording a revision date of 25 February 2011. Obviously the latest set is what must be referred to. (While on the subject, it does not seem to accord with good practice for some of the plans in the latest set to be described as being within revision D, while others are described as being within revision E. One would imagine that they would all be of the one revision set, be it D or E.)

Further, should there not be an OS condition that requires that where PT and Active Mode Transport Routes facilities are on reserve areas for which restoration plans are required, the latter are to incorporate such facilities to ensure design integration. But one example is drawing 220 of the F:16 UDL series, not showing what is on the PT and Active Mode Transport Routes drawings sheet 117. Yet another example is with UDL sheet 220 not showing the Hendon pedestrian bridge link to Methuen Road at number 174 of that street.

- 2.3 While draft condition OS.4 refers, in relation to certain reserves, to educational signs, directional signs, and artworks in a general way, the Board is reminded that it hasn't found a draft condition committing NZTA to decoration or artworks on its structures, for instance as recently as employed on new infrastructure in the "Spaghetti Junction" area, and as illustrated quite extensively in the ULDF.
- 2.4 Referring again to condition OS.4, the Open Space Restoration Plans are to be "in general accordance" with the relevant UDL drawings. We noted that Ms Hancock answered a question to the effect that this would ideally be determined by reference to the principles in the ULDF and Plans. On a related matter, she said that if there were management plans and proposals on the F:16 UDL drawings, which the Board considered should be secured as part of any consent, it might be appropriate to make those matters the subject of conditions. The ULDF was not previously a

lodged document, but came to the Board at its request. We have been considerably assisted by being able to refer to its contents from time to time during our deliberations. Our direction is that the following F:16 UDL Management Plan matters, are to be made subject to conditions of consent requiring their implementation:

- (xii) Sheet 210 M1 – M4
- (xiii) Sheet 211 M1 – M3
- (xiv) Sheet 212 M1, M11, M12 and M13
- (xv) Sheet 218 M1, M2, M4-5, M8-9
- (xvi) Sheet 219 M2
- (xvii) Sheet 220 M1-5
- (xviii) Sheet 221 M1-3, M7-10, M12, M13
- (xix) Sheet 222 M1-2, M4-6
- (xx) Sheet 223, M1, M3
- (xxi) Sheet 224 M1
- (xxii) Sheet 229 M1

2.5 There appears to be a problem with references to the F series drawings in many of the Rows in Schedule A. The Board has not yet been able to check every last item, but as far as it has, up to today, it has found 20 errors. Three examples are:

- Row 6 – in the first line the “C” we think should be “N”.
- Row 9 – in the first line we think there should be a “3” before “D”.
- Row 16 – we think there should be a reference to Revision B in the first line, not Revision A.

This issue has the potential to cause grave problems. We have not checked off all the references against drawings included in the Rebuttals,

or Ms Linzey's supplementary evidence and the like, and frankly should not have to. This issue must be sorted out. Further, and for ease of enforcement, it would be better if NZTA listed the drawings in numerical order in each of the rows, rather than grouping them by revision, even if in some cases some extra rows are needed due to single pages being updated.

- 2.6 The Board is not convinced that there should be the proposed playing field at Waterview Reserve (see OS.5), but instead favours the changes to the Phyllis Reserve sought by the Council. This will require changes at least in OS.5, if not the creation of a new condition.

While on the subject of changes, the Board does not favour the Council position relating to the Valonia Reserve, believing that the possibility of acquiring the 8 additional residential sections along Valonia Street is too speculative. Furthermore, the Board lacks jurisdiction over them in this case. The Board therefore requires that the conditions of consent provide for the layout proposed by the NZTA. Waterview Reserve should receive from NZTA, pursuant to appropriate condition of consent, a skatepark and BMX bike mountain track as suggested by local witnesses in addition to the items listed in OS.5 (iii) to (vi). While on the subject of a skatepark, there is to be one at Alan Wood Reserve as well. If there is a need to express these to be subject to a resource consent, that can be done.

- 2.7 OS.5(a)(i) and (ii) provide for a financial contribution in lieu of a permanent field at Waterview Reserve. Through counsel, the Council sought the financial contribution. In case that wasn't its last position, OS.5(a)(i) is to be amended to read:

(Or if the Council elects... .

The Board considers that it does not need to be concerned about lack of imprecision in the amount of financial contribution, because it will be referable to the contents of (i), must be done before construction commences, and there is a dispute resolution clause. (On reflection, CEMP.14 would not appear to go far enough to cover this. There should

probably be some new and more general dispute resolution clauses in the DC and RC sections).

- 2.8 Draft condition OS.10(d) refers to the payment of a financial contribution if certain arrangements cannot be made by way of land purchased to enable the proposed access. There is to be a mechanism for deciding the amount of financial contribution, because unlike the previous item, there is no description of alternative equivalent works. Also, it is to be clarified that “site clearance” means vacant possession clear of any existing improvements of whatever site is deemed suitable by the Council for the connection.
- 2.9 It is unclear to the Board what OS.11(a) means where it refers to “the pathway linkage north of Oakley Creek Esplanade Reserve...connecting to Oakley Creek”, bearing in mind that the creek is generally on a north-south axis at this point. We doubt that it would be a reference to the Great North Road-Unitec track, as this is dealt with in OS.13. (Is it Plan Note 6 on F:16 Sheet 229?)
- 2.10 In his evidence Mr Little discussed two properties on Hendon Avenue that he said were included in the Project as open space; however Ms Richmond and Mr Beer on behalf of Council rejected acquisition of spaces of that size as not being consistent with the Council’s approach on acquisition on open space. We cannot presently see reference to them in the draft conditions of consent, and perhaps they have already been excluded because of the attitude of the Council. If, however, they have been included, reference to them is to be deleted. We imagine at least however that Management Plan Note M6 on UDL 220, might need amending.
- 2.11 When the draft decision of the Board is issued in a few weeks time, it will be seen that the Board is concerned about unmitigated adverse effects on passive open space, particularly in Waterview, Owairaka, and New Windsor, both during the construction years, and longer term. Also, that the Board favours and is strongly persuaded by the policies in statutory and non-statutory instruments about connectivity and networking around open space and reserves. The Board would, if it could, direct the formation of pedestrian and cycle access between these

two locations (Waterview and Owairaka/New Windsor), inclusive of some of the bridges mentioned in evidence, in order to provide this mitigation (but not, of course, as mitigation of the sector 8 part of the Project, because that is underground). However, it cannot do that, on account of issues of land ownership and resource consenting. It is of the view, as a matter of law, and will be its finding should consent be forthcoming, that it will impose a condition requiring the payment of a financial contribution in mitigation of construction and long term adverse effects on open space and reserves, and will describe how it has gone about this.

Meantime, a condition is to be drafted requiring a financial contribution of \$8 million in total on this score. The condition is not to provide that the money simply be paid to Auckland Council. It is to be drawn in terms that it is payable when Auckland Council certifies to NZTA that it and Auckland Transport have acquired all necessary land, or obtained all necessary interests and/or landowner approvals on a permanent basis, sufficient to form a cycle and pedestrian way to AUSTRROADS Standards, between Alan Wood Reserve and Unitec; obtained all necessary resource consents; and resolved to proceed with that project. The bridges needed are what have been called the Soljak and Alford bridges. The Hendon bridge is to have a pathway extension as agreed by the experts in caucus.

- 2.12 A condition is to be prepared providing for the property of 1.9ha at 6 Barrymore Place to be transferred to Auckland Council for vesting as a reserve when construction yard 11 is decommissioned.
- 2.13 In OS.3, amend the schedule by adding (g) McCormick Green Restoration Plan (recognizing that it is proposed that the reserve host stormwater management devices during construction, which will create the need for restoration on their removal). Make consequential changes to OS.2 and Schedule A, Row 30 documentation.
- 2.14 In OS.5 add at the end of the Advice Note "... if it is all able to be acquired and consented".

- 2.15 In OS.7, add a (c) requiring contours to be reinstated in a manner that approximates to those shown on F:16, Sheet 229.
- 2.16 In OS.16, add “together with the footpath connections shown on PT and Active Mode Transport Route Sheet 9 to Berbridge Avenue, Alberta Street, and Montrose Street”.
- 2.17 LV.8 refers in the first line to “any landscaped areas within the designation”. It should simply say “any areas”.

3 *Cultural Impacts*

- 3.1 NZTA offered to Te Kawerau a Maki to liaise at the detailed design stage concerning how lighting effects might be mitigated without compromising traffic safety and breaching relevant standards, district plans and bylaws. A condition is to be drafted to that effect, we imagine in the SO section.

4 *Coastal Processes*

- 4.1 Draft condition ARCH.6 (a) is to have words added that expressly call for its design, in particular its height above water, to accommodate the passage of kayaks.
- 4.2 (See now 17.1 following).

5 *Vegetation*

- 5.1 Condition M.3 provides for certain monitoring to be undertaken every six months but M.8 provides that the monitoring results shall be compiled and a report provided to Auckland Council only annually. The latter should also be six monthly.
- 5.2 Draft conditions V.11 and V.17 refer to an existing Traherne Island Natural Heritage Restoration Plan (2009-2014), as the basis for weed and pest control on that island. In counsel’s Reply, NZTA offered to extend the purview of that plan to 2020. The Board considers that the weed and pest control function should extend for the life of the designation, based on the evidence. The Board notes from the introductory words to that Plan, the basis of concerns by knowledgeable

people leading to the need for its creation. It also notes that NZTA has developed the Plan in consultation with others including DOC and ARC, apparently by reference to the statutory Auckland Regional Pest Management Strategy. The latter is a document presently extending only to 2012, and is of quite patchy provision in relation to, for instance, the control of weed species. The Board is concerned that neither document adequately deals with the special circumstances of Traherne Island. A condition is to be drafted expressly requiring the preparation of a pest and weed management plan for Traherne Island, with condition V.17 being redrafted to provide for the preparation of the same in consultation with DOC and for approval of the Council, before construction works commence.

- 5.3 A difference has emerged between V.14 as recommended by the caucus experts, and V.14 in the Red Book. The approach recommended by the experts, being approval by Auckland Council, is to be put back into the condition in place of the suggested words about confirmation of consistency.

6 *Freshwater Ecology*

- 6.1 Similar to the issue in 5.1 above, draft condition F.6 is to be changed to six-monthly.
- 6.2 In F5, insert “six monthly” after the word “review”, and add that review findings are to be reported to the Council six monthly. Also in F.5, after the words “are identified” in the third line, words should be added: “including through review of the G.10 monitoring results by the hydrologist and freshwater ecologist required by G.12,...”.
- 6.3 F.3 has some words missing in (b). The words “end of the” should be added before “earthworks season” at the end.

7 *Stormwater and Streamworks*

- 7.1 While the Board considers that draft conditions SW.11-SW.23 in the Red Book are appropriate for the purpose of avoiding, remedying and mitigating the likely adverse effects of stormwater treatment during the

operation phase of the Project, it directs the addition of another condition of consent along the following lines:

Operational runoff and/or water collected at the northern SH20 portal that is not suitable for treatment within the Project, shall be collected by the consent holder and transferred for treatment and disposal off site in accordance with any necessary council approvals or consents.

- 7.3 The design philosophy statement about “mimicking the existing hydrologic regime” contained in Technical Report G.27, needs to be included in condition SW.13 as an outcome, and without the “best practicability” qualifier.
- 7.4 STW.20, the word in the first line “review” is to be replaced by “approval”. In the third line, “confirm it is consistent” is to be replaced by “gives effect to”.
- 7.5 SW.3(b) is to have words added, “swales and overland flow paths”.
- 7.6 Amend STW.27 by inserting after “shall be” the words “in accordance with the final design of the operational stormwater system approved by the Council [SW.13] and be undertaken ...”.

8 Ground Settlement, Groundwater and Streamworks

- 8.1 The proposed conditions are generally satisfactory. Note, however, that sub clause (d) of G.1 repeats (c) in part, and should be removed. Also, the second paragraph in condition S.1 could be more happily worded by adding: “... are greater than those allowed for in Figure E.14 (...” Also, we consider that there should be another sub-heading “Differential Settlement”, before S.17.
- 8.2 T.13 is an example (there are others) of a water-take resource consent condition sitting in the topic called Groundwater. This is but one example of how in future it could be challenging for the consent authority to monitor, approve and enforce conditions of consent if conditions are not referenced to one or more of the consents listed in Schedule B. We will have more to say about this (it is part of a major issue) in the General section at the end of this Schedule. (see paragraph 20.5).

- 8.3 In ST.5(a) delete the word “any” before “fresh water”. There must be habitat improvement and riparian measures undertaken in accordance with the guidelines, particularly at STW.1 and STW.20(d).
- 8.4 NZTA and the Council should at this time discuss and agree what will happen to the basalt blocks that are removed from the creek sections that are being re-aligned, and present an appropriate condition of consent. See G.6 Appendix C:Oakley Creek Realignment and Rehabilitation Guideline, for example Sections 3.1 [34] and 3.6.
- 8.5 STW.31 should probably have reference to “sea level change”.
- 8.6 Condition G.1 has been amended in the Red Book by removing words recommended by the caucusing experts requiring “written approval of the Manager”. This has been replaced by provision for certification that certain things were included. The provision for written approval is to be restored.

9 *Air Quality*

- 9.1 The matters in the AQ section relating to odour, dust, and visible emissions, as described in paragraph 28 of the 25 February s42A Update Report, are, despite the evidence in response by Mr Fisher, to be elevated to conditions.
- 9.2 Referring to draft condition OA.1, we confirm that emissions from the vent stacks are to be discharged at a height of 15 metres above ground. Not more. Not less. The Board directs that a ground level definition be built into the condition, along the lines of definition of ground level in part 13 of the Operative District Plan (Isthmus Section), and bearing in mind the definition of height in the same plan. While on the subject of the so-called “vertical efflux velocity value”, should not more be said about what it is and what precise value should attach ?
- 9.3 Under questioning, Dr Black essentially made an offer to NZTA and the Board of Inquiry to provide advice on an individual basis to people who hold concerns about what comes out of the stacks. This should be imported into a condition, perhaps the PI set. For obvious reasons it should not be

personalized to Dr Black, but should make reference to a person holding equivalent or similar qualifications to him.

- 9.4 In AQ.17, second line, substitute 10 working days.
- 9.5 In OA.5, the Board queries whether it might not be appropriate to specify both the “relevant air quality standards” and the document within which the Regional Air Quality Targets reside. That is, does the relationship between these general performance measures and the quantified control in OA.7 require clarification recognizing that OA.2 and .5 are concerned with the “ventilation system from the tunnels” and OA.7 with the portal emissions.

10 Construction Noise and Vibration

- 10.1 In CNV.1(xi), first bullet point, the 35 metres is to be expressed in terms of the horizontal dimension. In the second bullet point, the affected residents are to be identified or a clear means of identifying them, expressed. We note that the experts agreed that maps would be incorporated into the CNVMP showing the extent of dwellings requiring night-time notification, and annexed to their agreement is a set of seven coloured sheets showing those details, being drawings number GIS-3814238-42-1 to 7, on which the relevant dwellings in the aerial photography base are coloured gold. A tightening up of matters as between the condition and the CNVMP, may serve the purpose. In the third bullet point, the word “so” is missing between “be” and “notified”.
- 10.2 In draft condition CNV.7, in the last sentence, there should be words added after the word “implemented”, “*prior to noise-generating construction works*”. Provision should also be made setting out who decides that the long term mitigation is not practicable on such occasions and as to what the temporary mitigation measures should be; and there should be some reasonable control over these issues by the Council.
- 10.3 CNV.9 needs to be extended to refer as well to rock crushing plants. Furthermore, concrete batch plants and rock crushing plants must also have their loading bays and conveyers enclosed. Those things must be specified in the condition.

- 10.4 On 17 March the noise experts lodged a further caucus report, and one of the matters they said that they were reporting on was “greater certainty around the process for construction noise management; in particular the conditions had been revised to reflect the process illustrated and proposed to be included in the further draft CNVMP attached to Ms Wilkening’s supplementary statement of 28 February.” Annexure B to that statement contains additional sections rather than a new CNVMP per se. Be that as it may, we don’t see the additional contents listed in Conditions Schedule A, but think they should be, probably together with Annexure C (flow chart) from the same statement.
- 10.5 In CNV.13 add a new sentence at the end as follows, or to the same effect: *“If monitoring shows that levels specified in a SSNMP are being exceeded, work shall stop and not recommence until further mitigation is implemented in accordance with an amended SSNMP prepared in consultation with the Council.”*

11 Explosives

- 11.1 A prescriptive sentence should be added to condition CEMP.10, expressly precluding the storage of explosives on-site. (See 20.17 following).

12 Operational Noise

- 12.1 The draft decision will reveal that the Board did not accept the final (voluntary) caucus statement of the noise experts regarding mitigation for houses in categories A to C, and in some measure preferred the earlier evidence of Mr Hegley. Essentially, all the dwellings mapped as categories A, B and C are to be treated as was proposed in connection with category C. The conditions are to be redrafted to provide as follows:
- (a) NZTA to identify all PFFs located 100m or less from the motorways with habitable space likely to receive in excess of $40\text{dB}_{L_{Aeq}(24\text{hr})}$ from motorway operational noise with windows closed, in the design year.
 - (b) That NZTA apprise the owners of such properties of its assessment and seek the opportunity to inspect the properties to establish a method for providing the properties’ habitable space with building

mitigation so that that noise level is not exceeded in those spaces. Mitigation may include forced ventilation and may require windows to remain closed.

- (c) NZTA is to advise the owners of affected buildings of the mitigation measures identified by it as necessary to achieve the indoor noise level above.
- (d) If the building owner elects, NZTA shall install the building mitigation described above at its own cost in all things prior to completion of construction of the project. Workmanship, materials and equipment shall be specified to a standard agreed by the Council.
- (e) If the opportunity for NZTA to make an assessment is denied by the building owner, NZTA need take the matter no further.
- (f) Work on the preceding and all other noise related matters shall be undertaken on NZTA's behalf by a suitably qualified and experienced acoustic engineer approved by the Council.

These directions do not affect any voluntary agreement entered into on noise mitigation matters between parties.

- 12.2 In ON.6, (and this may apply to other conditions as well), the reference to a specialist shall be to a "suitably qualified and experienced acoustic specialist approved by the Council".
- 12.3 The words "to the extent practicable" are to be deleted in ON.12
- 12.4 Condition ON.12 is not to be limited until the design year, but for the life of the consent.

13 *Location of Construction Yard 1 and Pony Club*

- 13.1 The Board has considered the recent communications from the Henderson-Massey Local Board, and the correspondence of NZTA and the Pony Club interests. If consent were to be granted, we agree with NZTA that SO.11 should be amended so that it applies unless the Club is granted an

extension of its lease to both areas A and B, that covers the life of the project.

- 13.2 SO.8 should also be amended to convert the advice note about pro-rating compensation for the cost of feed, subject to the forage on that pasture being suitable for food for horses, to bring the advice note into the condition itself (on the same “unders or overs” basis). The condition should be along the lines that NZTA would provide financial support to the Club over the period of development, occupation and restoration of construction yard 1 for additional feed supplement required as a consequence of the area of lost grazing; and support paid on receipt of proof of purchase up to a maximum of \$12,000.00 per year. Provided that the land is made available to the Pony club and the feed value of pasture on the additional grazing land (areas A and B from the Board minutes) is suitable for horses then the amount payable by NZTA to the Pony Club to be pro-rated based on shortfall in area from the pre-construction lease area only.

SO.10: NZTA to construct a raceway on the alignment shown on Drawing “Te Atatu Interchange”: Construction Yard 1A and modified Yard 1. (See Ms McBride’s representation Appendix 2 and NZTA letter 21 March [4.3]. The raceway not to be less than 5 metres wide, and enclosed on both sides by timber rail fencing.

A new construction yard 1 drawing is to be prepared that deals with the council the consent recently granted. Conditions of project consent must be aligned as between the original project consent documentation, the Council consent, and the TAPC agreement. We expect that the latter will necessitate an additional condition.

14 *Impacts on Cultural and Historic Areas*

- 14.1 The Parties will recall the keenness of Mr McCurdy for heritage boat builder interests to have Robinia wood for boat building if not already allowed for. That should be placed into the conditions, probably in the ARCH series. Star Mills Preservation Group is to be expressly identified in condition PI.5.

15 Northern Portal Stack, and Buildings

- 15.1 The northern stack is to be moved across Great North Road to a position close to option 1, but within the jurisdiction of the designation footprint. Changes will be required to the DC conditions, in particular DC.8, to require that the stack be moved to the location marked “Alternative Vent” on Exhibit 8, with scope for its precise location to be determined by NZTA in consultation with the Community Liaison Group described in condition PI.5 and Council. For instance, there may be advantages in moving the location slightly north-east into the grassed area visible on Exhibit 8 at a slightly lower elevation removed from the road frontage. The change is to be recorded as well in Schedule A to the conditions as appropriate. Provision for planting at the base of the stack to be incorporated into and undertaken as part of the Oakley Creek Esplanade (Waterview Glades) Restoration Plan (conditions OS.3 and .7). Provision is also to be made for retention of as much existing vegetation as possible in any direction from the stack. Design of the stack is to be determined in accordance with the Outline Plan of Works process (DC.8) and condition OA.1 as to height. The Plan DC.A – OPW 1, Northern Ventilation Buildings and Stack, at P.8 of the Red Book, will need the area subject to OPW added to on the eastern side of Great North Road.
- 15.2 DC.8(d) should expressly record that the design of the northern ventilation buildings (west side of Great North Road) and the stack on the east side, is to avoid an industrial character.
- 15.3 Condition DC.8(h) concerns maintenance of opportunities for residential development at “1145 and 1449 Great North Road”. The first number should clearly be 1445.
- 15.4 The Operational Scheme Plans in the F2 series will need modification to reflect the amended stack location.
- 15.5 Condition DC.9 could usefully have a sub-clause equivalent to that imposed on the buildings in DC.8(i), both in relation to the buildings on the western side of Great North Road and the stack on the eastern.

- 15.6 DC.8 (a) is too loose. The full title of F:8 should be given, and reference made as well to Schedule A, Row 9, specifying which of the Construct drawings in Annexure A (1 to 15) are relevant. We consider that this may include drawing 8 showing building modules above ground, and drawing 9 showing below ground component. The same comments will apply in relation to DC.9.
- 15.7 DC.8(g) should now reflect that the stack is to be 15m. While on the subject, we understand that there may be more than one stack, perhaps a group of slender stacks. But they cannot be of variable height, given that they have to discharge at 15m.

DC.1(j) is to provide that the matters provided are all to be in accordance with D.C1(d).

16 Southern Portal Building

- 16.1 The conditions are to be amended to give effect to moving the southern ventilation building, stack, and control building a distance of between 70 and 80 m to the south-east of the position shown in the consent documentation. The extent of the shift as between 70-80m is to be determined by the consent holder in consultation with the Council and groups in PI.5. This will require amendment to condition DC.9 to require that these structures be relocated to the extent indicated, from the location shown in the AEE Part 5: Part 2 Operational Scheme Plans (sheet 117). The revised location of the facilities, relating to access, parking and maneuvering areas to be as shown in the rebuttal evidence of Mr Walter in Annexure J: Drawings of Vent South 003 and 003A. The stack height is to be as determined in the condition OA.1 as directed to be amended. Design to be determined in accordance with the DC.9 concerning Outline Plan of Works, and again any industrial appearance to be avoided. AEE Part F: 26 UDL Plans (sheets 219 and 220) as notified and subsequently amended in the rebuttal evidence of Ms Hancock, Annexure B, to be revised to provide for the preceding changes and to be submitted to the Council as part of the OPW procedure in DC.9. AEE Part F: 2 Operation Scheme Plan (Sheet 17) and any other components of the consent documentation showing the notified location of the southern ventilation building, stack, control

buildings and southern portal, be amended to reflect these directions. The changes to be recorded in Schedule A to the conditions. Consequential change to Figure DC.B-OPW2 to be made to incorporate the site of the relocated structures and access within the area subject to OPW.

The conditions are expressly to preclude the inclusion or attachment of equipment for any activity unrelated to the north and south stacks.

- 16.2 The Operational Scheme Plans in the F2 series will need modification to reflect the amended southern portal buildings and structures.

17 *Whau River Navigation*

- 17.1 Condition C.11(a) needs to relate not only to the construction period, but the long term as well.

18 *Waterview Primary School, Ministry of Education and Kindergarten*

- 18.1 Conditions of consent to reflect, with complete accuracy, the terms of the now finalised agreements.

19 *Unitec*

- 19.1 NZTA and Unitec agreed on a number of items of mitigation being undertaken by the former. An important one that does not seem to have found its way into the draft conditions of consent is the early provision of building modification measures at Unitec to mitigate operational noise. This was to be implemented through the vehicle of proposed condition CNV.1(xiv) and a related change to proposed condition ON.10.

20 *General*

- 20.1 The Board acknowledges NZTA's proffering of the S128 review condition in C.2. We also note Ms Janissen's careful acceptance of the decision of the Environment Court in the *Villages of New Zealand* decision, about wording to be employed around reconsideration of conditions of consent on designations. In the DC set of conditions, there should be, in like fashion to RC.2, a new condition about "further assessment" with suitable

explanation about undertaking monitoring and, if issues result, the provision of further appropriate mitigation.

- 20.2 On the page i of the Red Book (“Explanation”), the fourth paragraph should list all the documents in DC.1 Introductory paragraph, and (a) to (d), or at least cross reference to that provision.
- 20.3 In connection with the operation of DC.1(d), we direct amendment of Schedule A, Row 22, to refer to up to date revisions:

20.1.11-3-D-N-903-100 Rev E

20.1.11-3-D-N-909-101 to 119 Rev D

These references are as provided in Annexure A of Ms Linzey’s second supplementary evidence dated 26 February.

- 20.4 Again on page i, sixth paragraph should read “the community will have the opportunity to be ...”.
- 20.5 The Red Line addition on lines 8 and 9 on page ii, referring to Schedule B, raises a matter of major importance. Clearly, Schedule B, as it stands is necessary and useful. However, it offers a form of extreme shorthand because nowhere in the book of conditions can it readily be seen what conditions attach to which resource consent or to which designation. Acknowledging that there are general topics likely to be applicable across the board, such as the general designations (DC) and resource consent conditions (RC), it then becomes something of a minefield, particularly one imagines for the consent authority undertaking its monitoring, approval, and enforcement functions, to ascertain what conditions apply to what consents. This is a problem that must be solved now. A suggestion that we tentatively put forward is that there could be an additional column on every page, recording which designations and resource consents are subject to each and every listed condition. Then, at some point, comprehensive sets of conditions should be attached to each consent for ease of reference, monitoring, approval, and enforcement activities. If that is not to be done at the present juncture, there should at least be a general condition (both in relation to designations and resource consents) requiring that it be done

before any construction activity can commence, to the satisfaction of the Council.

- 20.6 On a slightly related matter, there should be a general condition both in relation to the resource consents and the designation, requiring NZTA to lodge with Council a full set of the application and consent documents, updated by inclusion of all Schedule A material. Otherwise it could be very difficult in years to come for Council to source rebuttal evidence and caucus notes and updated drawings.
- 20.7 The Table of Contents will need to be updated to take account of the workings of the amendments directed in the last two points.
- 20.8 In DC.10 it will be noted by way of example that the designation will need to come off 6 Barrymore Place after construction works are completed, and Council apply the appropriate open space zoning thereafter.
- 20.9 DC.10 is to be amended to require the action (alteration of designation footprint to match operational requirements) to be taken within six months of the motorway becoming operational.
- 20.10 CEMP.1 requires that the CEMP be updated and finalised to ensure compliance with the consent and designation conditions. DC.1(c)(xxi) secures that for the designations. Where relevant, every resource consent will need a condition requiring compliance with the CEMP and any other relevant management plans. Item (vi) is an example of how this can be done. NZTA and the Council should confirm that the proposed “consenting scheme” is secured for every relevant topic and consent.
- 20.11 CEMP.2 – the “certification process” should first and foremost confirm that the CEMP gives effect to the relevant consent conditions (refer CEMP.1 Advice Note).
- 20.12 CEMP.5 needs revision to acknowledge that more than one construction site is intended and that more than a single copy is required.
- 20.13 CEMP.3 lists the suite of management plans. Somewhere between CEMP.1, 2, and .3, it must be spelled out that all of the plans in the suite are in effect part of the CEMP, and are subject to the approval, review and

certification procedures. Also, that construction work is not to occur until the certification is obtained. If there is any concern about the potential for the Council's certification process to delay commencement of construction, there should be an express provision for dealing with that. (CEMP.14 could be expanded to that effect).

- 20.14 In CEMP.6, item (i) requires better definition of "immediate vicinity" by adding a distance, for instance 400m. It might also be necessary as a related action for certain works, for instance on the Whau River, to post a Notice to Mariners, and any relevant organizations, in this instance the Te Atatu Boating Club.
- 20.15 Although CEMP.6(m) requires that the CEMP address worker parking, this will be in a general fashion. CEMP.7, which requires individual construction yard layout plans, should be amended by adding an item (f) "location of workers and Project vehicle parking".
- 20.16 In the fifth line of CEMP.7, the word confirmation is to be changed to certification.
- 20.17 CEMP.10 requires a Hazardous Substances Management Plan. This might be the condition into which to place the restriction on storage of explosives discussed in section 11 of this schedule, above.
- 20.18 In CEMP.12, the last sentence is to be amended to allow for the annual review summary to be served on Council each year and for related data to be available to Council on request. (PI.4(c) and (f) are acknowledged).
- 20.19 In CEMP.16, amend Advice Note (a) by expressly applying its provisions to both network utility operators and any affected landowner.
- 20.20 Amend condition PI.5(f) to read "Iwi groups with Mana Whenua".

ANNEXURE D – RESPONSE TO THE BOARD OF INQUIRY’S 7 MAY 2011 SCHEDULE OF WORK REQUIRED ON DRAFT CONDITIONS OF CONSENT AND OTHER DOCUMENTS

This document confirms, very briefly, all the changes made to the NZTA’s proposed set of conditions pursuant to the Board’s 6 and 7 May 2011 Directions.¹⁹⁵ Where further comment is required (e.g. if there is any variance from the Board’s directions), that is noted and explained.

The parties have complied with the Board’s directions without commenting on the necessity for or appropriateness of the revised conditions as directed, and without prejudice to their ability to make comments under s149Q of the RMA once the Draft Board Report is released and/or to pursue any appeal under s149V of the RMA once the Final Report and Decision is released.

For ease of reference, this document follows exactly the same number order as the 7 May 2011 Schedule from the BOI.

2. Traffic and Transport

1.1 Nothing required.

2.2 OT.1 – New subclause (b) added to require that works the NZTA is already committed to (i.e. pedestrian/cycleway on Great North Road between Oakley Avenue and the Great North Road Interchange (northbound) and the existing pedestrian/cycle bridge over Great North Road), as shown in the PT and Active Mode Transport Routes drawings (Schedule A, Row 33), will be integrated with wider transport network.

Auckland Council’s submission only sought bus priority measures on a portion of Great North Road potentially impacted by the Project (Great North Road is considerably longer than that). The experts understand that the following amended OT.1(a) will give effect to the Board’s direction and provide more clarity on the section of Great North Road affected:

¹⁹⁵ The new set of conditions, both a clean copy and a copy showing (in purple) the changes made in compliance with the Board’s directions, is contained in **Annexures B1** and **B2** (separately bound).

“... the NIP will address:

- (a) The commitment of the NZTA to progress bus priority measures northbound on Great North Road as part of the reinstatement of Great North Road, as proposed by Auckland Transport and indicated on plans ‘Great North Road Option 1 Proposed Road Marking’ (Schedule A, Row 33), subject to the agreement with Auckland Transport.”

In the review of the conditions against the caucusing reports (specifically the transport caucusing report), an omission to Condition OT.1 has been identified and a new sub-clause (g) added as follows:

“As part of detailed design, whether or not improvements to the cycle connections (such as underpasses or overbridges) would be feasible to reduce the number of signalised cycle crossings at the Te Atatu Interchange.”

1.3 OT.2 – changes made.

2.4 TT.5 – change made.

2.5 TT.7 – change made.

2.6 TT3(h) – change made.

3 *Open space*

2.1 The intent of the Open Space Restoration Plans (of which Plan 304 is one) is to show the land subject to the Open Space Restoration Plan process defined in the OS Conditions. These areas will (in the main) become reserve administered by the Auckland Council, following withdrawal of the Designation, as per condition DC.10. On this basis, these plans exclude other land areas, such as the future rail corridor as this will not be returned as open space. However, this is not intended to remove the landscaping proposed in this area, which is indicated in the Urban Design and Landscaping Plans for the Project (of which Sheet 219 is one).

In response to the Board’s comments, the following has been added to the Advice Note to Condition OS.4 for clarification: “*It is also noted*

that the UDL Plans identify landscaping, planting and other works beyond the Open Space Restoration Plans (refer Conditions LV.1-LV.6, LV.9 and LV.10).”

- 2.2 Schedule A, Row 22, fourth column – change made (Rev E has been included).

With respect to the Board’s concern about plans within the same set having different revisions, it is noted that good Quality Assurance (QA) practice for engineering drawings is to issue drawing sets by purpose (in this case 'Issued for Approval', being the national consenting process). Therefore any status of the drawing only changes when the purpose of that drawing has changed (e.g. if it were to be issued for tender or for construction). The revision number of a Plan only changes if the content or detail shown on that particular drawing changes. If there is information being changed on plans which will affect the entire series of drawings then the whole series will change revision number. Otherwise only the relevant individual drawings will change revision number. This helps to track any changes made on the drawings and is considered general QA practice.

That is the QA process which the NZTA’s consultants have followed in this case. Because of this, the revisions of drawing sets are not necessarily all amended at once, as only those plans where there is evidence of change are updated.

In response to the Board’s related comment in direction 2.5, the NZTA has now listed the drawings in numerical order in each of the Rows in Schedule A.

Open Space condition (OS.4(e)) has been amended to ensure that all Open Space Restoration Plans incorporate the relevant contents of the PT and Active Mode Transport Routes.

- 2.3 Landscape and Visual condition LV.2(j) has been added to more specifically require the UDL Plans to include *“details of artworks or art through design of structures within the Project (e.g. design detailing of median barriers, bridge railings or safety barriers)”*.

- 2.18 The Board has directed that the various F:16 UDL Management Plan matters are to be made subject to conditions of consent requiring their implementation.

The “Management Plan Approach” items shown on the UDL Plans were *“conceptual [items] only, shown for reference for discussion and agreement with Council through the management plan process (including future cost share arrangements).”* Many of these elements are located either outside the NZTA Project designation or in areas where Auckland Council is the ultimate asset owner. As a result, where now included in conditions, the experts consider that the implementation of those elements must necessarily be made subject to obtaining relevant landowner approval and/or resource consents.

With respect to each of the Sheets the Board has identified, a note is made below of the specific conditions where these additional matters have been included:

- (xxiii) Sheet 210 M1 – M4 (see Condition OS.5(b)(vii)).
- (xxiv) Sheet 211 M1 – M3 (see comments below re Notes M1 and M2. It is considered that Note M3 is sufficiently provided for in the PT and Active Mode Transport Routes Plans and in Condition OT.1(f) in particular).
- (xxv) Sheet 212 M1, M11, M12 and M13 (see Condition OS.5(b)(vii) in relation to M1 and M11, OS.5(b)(v) in relation to M12, and OS.5(b)(vi) in relation to M13)
- (xxvi) Sheet 218 M1, M2, M4-5, M8-9 (see Condition OS.6(b)(v)).
- (xxvii) Sheet 219 M2 (see Condition OS.6(b)(v)).
- (xxviii) Sheet 220 M1-5 (see Condition OS.6(b)(vi)).
- (xxix) Sheet 221 M1-3, M7-10, M12, M13 (see Condition OS.6(b)(vi)).
- (xxx) Sheet 222 M1-2, M4-6 (see Condition OS.6(b)(vi). Note, M5 is already provided for through the SEV conditions (STW.20 and STW.21).

(xxxix) Sheet 223, M1, M3 (see Condition OS.6(b)(vii)).

(xxxix) Sheet 224 M1 (see Condition OS.5(b)(vii)).

(xxxix) Sheet 229 M1 (see condition OS.7(b)).

In respect of inclusion of the Management Plan Notes, specifically on Sheet 211 Notes M1 and M2, the following comments are made:

Notes M1 and M2 have not currently been included in the revised Proposed Conditions (13 May 2011) because the pathways proposed do not link to any existing pathways within Eric Armishaw Park.

If the Board is of a mind that the NZTA should undertake both the works of Notes M1 and M2 on Plan 211 and further work within Eric Armishaw Park to complete the walkway or boardwalk linkage, a further revision to Condition OS.16 would be required, and the following is put forward as possible wording:

“The NZTA shall:

- (a) Subject to obtaining necessary resource consents and Auckland Council landowner approval, provide a 3m all-weather shared cycle/pedestrian path with boardwalks as required, to provide a continuous shared cycle/pedestrian path from the Great North Road Interchange through into Eric Armishaw Park. The works shall be sufficient to connect this path to the existing walkways and paths within Eric Armishaw Park (e.g. to the playground or the entrance to Eric Armishaw Park at Walker Road); and
- (b) Provide the pedestrian connections to Berridge Avenue, Albert Street and Montrose Street as shown on the PT and Active Mode Transport Routes (Sheet 109) (Refer Schedule A, Row 22),

once these areas are no longer required for construction.”

- 2.19 The reference numbers to all the drawings in Schedule A have been checked and corrected.

The BOI noted that *“for ease of enforcement, it would be better if NZTA listed the drawings [in Schedule A] in numerical order in each of the rows, rather than grouping them by revision, even if in some cases some extra rows are needed due to single pages being updated”*. That has now been done.

- 2.20 OS.5(a) – change made to delete provision of a playing field at Waterview Reserve. With respect to provision of such a field at Phyllis Reserve, the Auckland Council confirms that it seeks an equivalent financial payment in lieu,¹⁹⁶ as now provided for in amended Condition OS.5(b). (Phyllis Reserve is owned by Council and is not designated by the NZTA.) The condition has been worded accordingly.

OS.6 – change made to provide for the layout at Valonia Reserve as proposed by the NZTA.

OS.5(c) – addition made to include reference to provision of a skate park, BMX bike track and a mountain bike track in Waterview Reserve, subject to obtaining any resource consents required and landowner (Auckland Council) approval. The parties understand that a BMX bike track is different to a mountain bike track. It is not clear if the Board would like one or both tracks. Both have been referred to in the condition for the Board’s consideration.

OS.6(b)(iv) – addition made to include reference to provision of a skate park in Alan Wood Reserve, subject to obtaining any resource consents required and landowner approval.

- 2.21 Auckland Council confirms that it wishes to receive an equivalent financial payment in lieu of a permanent field at Waterview Reserve. Condition OS.5 has been amended accordingly (in conjunction with direction 2.6 above).

Given the Council’s confirmed position in relation to this financial payment in lieu, the experts consider that there is no need to further amend CEMP.14.

¹⁹⁶ Legal counsel for Auckland Council/Transport, Albert Eden Local Board, Living Communities et al and the NZTA submit that it would be more appropriate and legally accurate for the references to “financial contribution” in the OS set of conditions to be replaced by the words “financial payment in lieu”. Those changes have been made.

- 2.22 OS.10(d) – changes made.
- 2.23 OS.11(a) – clarification made.
- 2.24 The NZTA confirms that the NZTA has not included the two referenced properties on Hendon Avenue as part of the Project. (Note M6 Plan on UDL Plan 220 need not be amended.)
- 2.25 The Board’s direction reads:

“When the draft decision of the Board is issued in a few weeks time, it will be seen that the Board is concerned about unmitigated adverse effects on passive open space, particularly in Waterview, Owairaka, and New Windsor, both during the construction years, and longer term. Also, that the Board favours and is strongly persuaded by the policies in statutory and non-statutory instruments about connectivity and networking around open space and reserves. The Board would, if it could, direct the formation of pedestrian and cycle access between these two locations (Waterview and Owairaka/New Windsor), inclusive of some of the bridges mentioned in evidence, in order to provide this mitigation (but not, of course, as mitigation of the sector 8 part of the Project, because that is underground). However, it cannot do that, on account of issues of land ownership and resource consenting. It is of the view, as a matter of law, and will be ~~is~~ its finding should consent be forthcoming, that it will impose a condition requiring the payment of a financial contribution in mitigation of construction and long term adverse effects on open space and reserves, and will describe how it has gone about this.

Meantime, a condition is to be drafted requiring a financial contribution of \$8 million in total on this score. The condition is not to provide that the money simply be paid to Auckland Council. It is to be drawn in terms that it is payable when Auckland Council certifies to NZTA that it and Auckland Transport have acquired all necessary land, or obtained all necessary interests and/or landowner approvals on a permanent basis, sufficient to form a cycle and pedestrian way to AUSTROADS Standards, between Alan Wood Reserve and Unitec; obtained all necessary resource consents; and resolved to proceed with that project.

The bridges needed are what have been called the Soljak and Alford bridges. The Hendon bridge is to have a pathway extension as agreed by the experts in caucus.”

Parties other than the NZTA have suggested the following wording:

“The NZTA shall provide a financial contribution of \$8 million to Auckland Council to mitigate adverse effects on passive open space and reserves, both during the construction years and longer term, particularly in the Waterview, Owairaka and New Windsor communities. The financial contribution will be used for the construction of a pedestrian and cycleway between Waterview and Owairaka/New Windsor (as generally indicated as Option 3 shown on drawing labelled as "Potential SH20 – SH16 Concept Options for Cycle Route" (refer to Schedule A, Row 39)),¹⁹⁷ the Soljak and Alford bridges and a pathway extension to the Hendon bridge. (The pedestrian and cycleway is in addition to the cycling and pedestrian facilities required by the other conditions.) The financial contribution shall be payable to Auckland Council once the NZTA has received certification from Auckland Council that Auckland Council and Auckland Transport have:

- (a) Acquired all necessary land, or obtained all necessary interests and/or landowner approvals on a permanent basis; and
- (b) Sufficient land to form a cycle and pedestrian way to AUSTRROADS standards between Alan Wood Reserve and Unitec; and
- (c) Obtained all necessary resource consents required for construction and operation of these facilities; and
- (d) Resolved to proceed with the project (i.e. the cycleway, bridges and pathway extension noted above).”

The parties (including the NZTA) wish to indicate that this draft condition is likely to require further refinement to address issues

¹⁹⁷ See **Annexure D** to this Response.

including the timing of when Auckland Council/Transport need to complete (a) to (d) and the description of the actual cycleway and pedestrian route.

While the NZTA accepts what the Board's intention is with respect to the mitigation required, the NZTA remains concerned if a condition is imposed in the form above because, in order to comply with it, that condition may require the NZTA to breach its obligations under the LTMA. The NZTA is currently working on developing a form of condition wording that will achieve the intention of the Board but avoid any LTMA implications.

While that work is ongoing, the NZTA advises that it is considering wording along the following lines:

“Construction of a pedestrian and cycleway between Waterview and Owairaka/New Windsor, the Soljak and Alford bridges and a pathway extension to the Hendon bridge (as generally indicated as Option 3 shown on drawing labelled as "Potential SH20 – SH16 Concept Options for Cycle Route" (refer to Schedule A, Row 39) is required to mitigate adverse effects on passive open space and reserves, particularly in the Waterview, Owairaka and New Windsor communities, both during the construction years and longer term. Once the NZTA has received certification from Auckland Council that Auckland Council and Auckland Transport have:

- (a) Acquired all necessary land, or obtained all necessary interests and/or landowner approvals on a permanent basis; and*
- (b) Sufficient land to form a cycle and pedestrian way to AUSTROADS standards between Alan Wood Reserve and Unitec; and*
- (c) Obtained all necessary resource consents required for construction and operation of these facilities; and*

(d) *Resolved to proceed with the project (i.e. the cycleway, bridges and pathway extension noted above),*

then the NZTA will take all reasonable steps to secure the necessary funding approval under the Land Transport Management Act 2003 for the mitigation works described above and, once funding approval is secured, will transfer \$8 million to Auckland Council forthwith for construction of those works (unless agreed with Auckland Council and Auckland Transport that it shall undertake the works on their behalf.) This condition will have no legal effect from [date].”

- 2.26 The Board has directed that a *“condition is to be prepared providing for the property of 1.9ha at 6 Barrymore Place to be transferred to Auckland Council for vesting as a reserve when construction yard 11 is decommissioned.”*

Land held for public works is owned by the Crown, so 6 Barrymore Road is owned by the Crown rather than the NZTA. If Crown land is surplus to the public work for which it was acquired, it can be transferred to another Crown Agency with its own requirement for the land (including the Council); but that transfer is subject to the land disposal procedures of the Public Works Act 1981. Land Information New Zealand (LINZ), rather than the NZTA has the statutory responsibility of managing that process. Further, some of the land within the 6 Barrymore Road title will be needed in perpetuity for either the operational motorway or the future rail corridor.

A new condition OS.17 has been added to address the Board’s direction, while taking into account the above points.

- 2.27 The experts propose, as a preferred alternative to preparing a separate Open Space Restoration Plan for McCormick Green, the inclusion of a new condition LV.11 as follows:

“The UDL Plans shall make provision for the rehabilitation of McCormick Green at the completion of the SH16 construction works and removal of the construction stormwater pond. Works will be in general accordance with the UDL Plan [XX] (refer

Schedule A, Row 17), providing for replacement Amenity Tree planting in accordance with Condition LV.10 above.”

2.28 OS.5 – change made to Advice Note.

2.29 OS.7(c) – addition made.

2.30 OS.16 – addition of (b) made.

2.31 LV.8 – change made.

3 *Cultural Impacts*

3.1 SO.6 – amended to include a new (e).

4 *Coastal Processes*

4.1 ARCH.6(a) – change made.

4.2 See direction 17.1 below.

5 *Vegetation*

5.1 M.8 – change made.

5.2 Condition V.17 – redrafted as directed with consequent new V.18.

5.3 V.14 – change made regarding approval.

6 *Freshwater Ecology*

6.1 F.6 – change made.

6.2 F.5 – changes made.

6.3 F.3 – change made.

7 *Stormwater and Streamworks*

7.1 A new stormwater condition has been added, being SW.24.

7.3 SW.13 – change made.

7.4 STW.20 – changes made.

7.5 SW.3(b) – change made.

- 7.6 STW.27 – changes made. The stormwater experts note that the appropriate cross references should be to STW.5 and STW.29 (instead of SW.13), and they have been included accordingly.

8 *Ground Settlement, Groundwater and Streamworks*

- 8.1 G.1(d) – deleted. S.1 – change made. Heading before S.17 added.
- 8.2 Nothing required.
- 8.3 STW.5(a) – change made.
- 8.4 The parties suggest that a new condition STW.20(g) be added to read:
 “How the basalt blocks from sections of the existing Oakley Creek channel that are to be realigned will be reused, with preference given to use within the channel realignment works and within other works identified in the Alan Wood Open Space Restoration Plan. Options for reuse shall take into account, but not be limited to:
- The heritage (cultural) values of the basalt blocks in the channel walls, insitu basalt e.g. at the Stoddard Confluence and the basalt columnar blocks; and
 - The ecological values of the basalt block substrates with terrestrial and aquatic vegetation (e.g. endangered moss *Fissidens berteroi*).”
- 8.5 STW.31 – change made. (It is noted that the design of flood defences to provide for “sea level change” at the southern portal should not be required given that the works are more than 30m RL.)
- 8.6 G.1 – change made.

9 *Air Quality*

- 9.1 New Air Quality conditions added as AQ.5-AQ.8.
- 9.2 OA.1 – 15m height retained in the condition. An appropriate ground level definition has been included and the “vertical efflux velocity” has been defined.
- 9.3 PI.2(e) – change made to include reference to a specialist in Environmental and Occupational Medicine, to be appointed pursuant to new Condition SO.13. The experts agreed it was appropriate that the condition should run

for the duration of the air quality monitoring period and should be available to residents of Owairaka/New Windsor and Waterview/Point Chevalier.

- 9.4 AQ.17 – change made (now AQ.20).
- 9.5 OA.5 – changes made to specify both the relevant air quality standards and the document within which the Regional Air Quality Targets reside. In addition, Advice Note added to OA.7 (now OA.8) to clarify that the standard set out in OA.7 is consistent with the National Environmental Standard referred to in conditions OA.2 and OA.5.

10 Construction Noise and Vibration

- 10.1 CNV.1(xi) – changes made to 1st, 2nd and 3rd bullet points. The seven coloured sheets (being GIS-3814238-42-1) are now referred to in the condition and included in Schedule A, Row 35. This provides a draft identification of properties within 100m of the construction footprint (which is to be reviewed, finalized and included in the Final CNVMP).
It is noted that the change to the 35m measurement has been made notwithstanding that the noise experts (including Mr Hunt) advise this was not the intent of the requirement.
- 10.2 CNV.7 – change made to last sentence. In addition, CNV.1 has been amended to address other matters noted by the Board (as a new CNV.1(xiv)).
- 10.3 CNV.9 – changes made.
- 10.4 Schedule A – new Rows 36 and 37 now include reference to the contents of (final) Annexures B and C of Ms Wilkening’s supplementary evidence dated 28 February 2011. (Note, amended Annexure B became Hearing Exhibit 10.)
- 10.5 CNV.13 – new sentence added to the end as directed by the Board, with the addition of the words (shown in bold below) to clarify that only the work generating the exceedance is required to stop (i.e., not all works):
If monitoring shows that levels specified in a SSNMP are being exceeded, work **generating the exceedance** shall stop and not recommence until further mitigation is implemented in accordance with an amended SSNMP prepared in consultation with the Council.

11 Explosives

- 11.1 CEMP.10 – change made.

12 Operational Noise

- 12.1 Changes made to Conditions ON.6 to ON.11. (Amendments to ON.10 reflect that building modifications meeting the standards required in Section 8.3 of NZS 6806:2010 will be appropriate to meet the satisfaction of Council.)
- 12.2 ON.6 – change made (in addition to conditions ON.3 and ON.14).
- 12.3 ON.12 – change made.
- 12.4 ON.12 – condition reworded to read “*The NZTA shall manage and maintain the Detailed Mitigation Options to ensure that these mitigation works are maintained to retain their noise attenuation*”. While the Board referred to maintaining the Options for the “life of the consent”, the designation has no duration (unlike a resource consent). To avoid confusion, the experts submit that the condition be reworded as above.

13 Location of Construction Yard 1 and Pony Club

- 13.1 The experts understand that the Board’s reference to “that covers the life of the project” is intended to mean “that covers the life of the construction works affecting the Pony Club”. Condition SO.11 has been amended to add an exception clause should the Pony Club be granted an extension of its lease.
- 13.2 SO.8 – amended to convert the Advice Note into part of the condition, and amended to provide the wording directed by the Board.

SO.10 – changes made (with correct Drawing name provided). The experts note that this drawing shows an altered designation boundary. Assuming that this altered boundary was confirmed, then some of the works proposed by the NZTA to address Pony Club concerns would be outside the NZTA designation and would likely require consent and landowner (Council) approval. SO.10 and SO.12 have been drafted to reflect this.

A new Construction Yard 1 plan is/has been prepared (formalizing the hand annotations of the Plan provided in the NZTA letter of 21 March 2011) and is submitted to the Board (see **Annexure C**).

The proposed conditions have been updated to ensure consistency with the 21 March 2011 letter agreement between the NZTA and the Pony Club, which has required a new Condition SO.12.

14 *Impacts on Cultural and Historic Areas*

- 14.1 SO.7 has been amended to make express reference to making Robinia wood available for heritage boat building purposes, and reference to this condition has been in Condition PI.6. PI.5(c) – change made.

15 *Northern Portal Stack, and Buildings*

- 15.1 Various changes made to Figure DC.1A and Condition DC.8.
- 15.2 DC.8(d) – change made (now DC.8(e)).
- 15.3 DC.8(h) – change made (now DC.8(i)).
- 15.4 New condition DC.1A added to ensure that all the Operational Scheme Plans in the F2 series will be modified both to reflect the amended northern stack location and more generally to reflect the final conditions of designations/consents. Such modified Plans to be lodged with Auckland Council within 3 months of the designations for the Project being confirmed (DC.1A) or resource consent commencing (RC.3), or at least 1 month prior to any Council approvals or certificates required by the conditions, whichever is the earlier.
- 15.5 DC.9 – change made.
- 15.6 DC.8(a) – change made (also to DC.9(a)).
- 15.7 DC.8(q) – new clause added to specify the 15m height of the ventilation stack. Reference to “subdivision” of stack in (now) DC.8(h) has been deleted as varying heights no longer possible and slender criteria unable to be achieved.
DC.1(j) – change made.

16 *Southern Portal Building*

- 16.1 Various changes made to Figure DC.B and Condition DC.9.
The Board’s direction noted that “*The conditions are expressly to preclude the inclusion or attachment of equipment for any activity unrelated to the north and south stacks.*” The parties understand the Board intended to

preclude the addition of equipment for activities unrelated to the tunnel operations and its ventilation systems (rather than the stacks).

- 16.2 New condition DC.1A added to ensure that all the Operational Scheme Plans in the F2 series will be modified both to reflect the amended southern portal buildings and location and more generally to reflect the final conditions of designations/consents. Such modified Plans to be lodged with Auckland Council within 3 months of the designations for the Project being confirmed (DC.1A) or resource consent commencing (RC.3), or at least 1 month prior to any Council approvals or certificates required by the conditions, whichever is the earlier.

17 Whau River Navigation

- 17.1 C.11 – change made to (a) and new (b) added.

18 Waterview Primary School, Ministry of Education and Kindergarten

- 18.1 The Board has directed that “*Conditions of consent to reflect, with complete accuracy, the terms of the now finalised agreements*”. This refers to the signed Project Agreement between the NZTA, Ministry of Education (MoE) and Waterview Primary School Board of Trustees dated April 2011, and the (yet to be) signed Project Agreement between the NZTA, MoE and Auckland Kindergarten Association (AKA).

It is considered that legal difficulties will arise with the blanket inclusion of all terms of the Project Agreements in the conditions of NZTA’s designations, given that those Agreements also involve 3rd party obligations or require 3rd party decisions/input (e.g. the negotiation still to occur between the School Board, Ministry of Education and the Auckland Kindergarten Association as to the expansion of the kindergarten or the requirement on the School Board to sign off the Master Plan by a specified date). New conditions SO.3 and SO.5A have therefore been drafted which require the NZTA to meet its obligations under both Project Agreements, subject to the provision of such approvals, agreements or other inputs required of the other parties. (It is noted that the requirement to maintain the School and Kindergarten rolls are not among the agreement clauses specified in SO.3 or SO.5A because conditions SO.4 and SO.5 already reflect those obligations).

19 *Unitec*

- 19.1 Conditions CNV.1(xiv) and ON.10 already contain requirements in relation to *“the early provision of building modification measures at Unitec to mitigate operational noise”*. No further amendment is required, although a specific reference to Unitec has been added to Condition CNV.1(xiv) to avoid any doubt.

20 *General*

- 20.1 New General Designation Condition DC.12 added to read:

“Unless otherwise provided for by Condition RC.2, if any monitoring required by the designation conditions indicates non-compliance with any designation condition, the NZTA must give written notice to the Auckland Council stating the following:

- (a) A description of the non-compliance; and
- (b) The proposed measures to address the non-compliance, including any additional mitigation measures.

Subject to the Council’s approval, the NZTA must implement the proposed measures to address the non-compliance.”

- 20.2 Explanation – change made, on page i, fourth paragraph.
- 20.3 Schedule A, Row 22 – change made.
- 20.4 Explanation – change made on page i, sixth paragraph.
- 20.5 As noted in footnote 5 to the “Red book” set of conditions (page 126), *“This Schedule [B] is intentionally blank and it is anticipated it would be completed in the final issue of the conditions of designation and resource consents (as confirmed in the Planning Caucusing Report, 5 March 2011).”* The parties accept that completion of Schedule B will be a very important and necessary component of the Project. However, it is not possible to include all the requisite cross-referencing now (i.e. by 13 May), nor is there time this week to provide the “additional column on every page” of the conditions as suggested by the Board. Parties except the Council agree with the Board’s suggestion that there be a general condition requiring that the cross-referencing of conditions to designations and consents be done before any construction activity can commence, to the

satisfaction of Auckland Council. Accordingly new conditions DC.1A and RC.3 have been added in relation to future completion of Schedule B.

The Council would prefer that this work be done as part of the Board's decision (suggesting that the parties can do the work as part of the response under section 149Q(4) of the RMA).

- 20.6 New conditions added as DC.1A and RC.3.
- 20.7 The Table of Contents has been automatically updated with each condition set revision.
- 20.8 DC.10 – addition made to the Note under DC10(a) to include reference to 6 Barrymore Road. (Note that 6 Barrymore Road already has an Open Space zoning under the Operative Auckland City District Plan.)
- 20.9 DC.10 – change made.
- 20.10 A new Condition RC.1 has been added.
- 20.11 CEMP.2 – change made.
- 20.12 CEMP.5 – change made.
- 20.13 CEMP – changes made in CEMP.2, CEMP.3 and CEMP.14.
- 20.14 CEMP.6(h) – definition of immediate vicinity and additional wording provided in clause (h).
- 20.15 CEMP.7 – clause (f) added.
- 20.16 CEMP.7 – change made.
- 20.17 CEMP.10 – change made.
- 20.18 CEMP.12 – change made.
- 20.19 CEMP.16, Advice Note (a) – change made.
- 20.20 PI.5(f) – change made.

Further CEMP Condition

In reviewing the CEMP conditions, the Auckland Council/ Auckland Transport and the NZTA have concluded that a further CEMP condition is required to make specific provision for a site specific CEMP for the trial embankment works as those works will occur well in advance of the other Causeway or project works. As a result those parties request the inclusion of a new Condition CEMP.1A.

