



Whakatu Arterial Link

Assessment of Environmental Effects

June 2014

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PREAMBLE

Hastings District Council (“HDC”) seeks confirmation of a Notice of Requirement (“NOR”) and the grant of resource consents under the Resource Management Act 1991 (“RMA”) to enable the construction, operation and maintenance of the Whakatu Arterial Link (“WAL”).

The WAL is proposed to provide a strategic roading link between State Highway 2 North (“SH2”) and Pakowhai Road in order to improve connections into and out of the Whakatu Industrial area and through to the Hawke’s Bay Expressway and Port of Napier. Key elements of the proposed WAL are:

- The WAL extends in a general southeast direction from Pakowhai Road near Rangitane Road (closed) through to State Highway 2 near the current intersection with Napier Road;
- The corridor of land is approximately 3,500 metres long, a maximum of 80 metres wide and an average of approximately 36 metres wide;
- The alignment crosses the Karamu Stream via a new bridge approximately 450 metres east of Pakowhai Road;
- Three new roundabouts are proposed where the Arterial will intersect with Pakowhai Road, Whakatu Road and State Highway 2; and
- A new level crossing on the Palmerston North – Gisborne Rail Line is required.

Main areas in which consents are sought

The NOR will enable construction and operation of the WAL in terms of the Hastings District Plan.

Resource consent applications are also required under the Hawke’s Bay Regional Resource Management Plan in relation to four key areas of the WAL as follows:

- Construction of the WAL and a bridge;
- Construction of stormwater outfall structures;
- Management of stormwater during construction activities; and
- Karamu Stream widening works being undertaken on behalf of Hawke’s Bay Regional Council (“HBRC”).

Actual or potential project effects

11 technical assessment reports have been prepared to consider the actual or potential effects of the WAL, which include:

- Changes in traffic flows;
- General construction effects including dust, noise, vibration and access restrictions;
- Impacts on agricultural, horticultural and industrial properties;
- Noise effects on dwellings in close proximity to the WAL;
- Risk of contaminants entering the Karamu Stream;

- Visual impacts, particularly dwellings in close proximity to the WAL; and
- Risk of uncovering archaeological remains.

Key project benefits

As the highest priority roading project in the region, the WAL enables a range of benefits to be achieved. The key benefits are considered to be:

- A high benefit cost ratio of 5.5;
- A more efficient transportation network, delivering vehicle operating costs savings and travel time savings;
- Improved safety for road users, including cyclists;
- Improved connectivity into and out of the Whakatu Industrial Area, supporting existing business and encouraging growth at this key industrial area;
- Reduced heavy vehicle traffic through the residential area of Whakatu;
- Reduced heavy vehicle traffic on SH2 and through to Marine Parade in Napier;
- Improved connectivity between the residential area of Havelock North and the Hawke’s Bay Expressway;
- Economic benefits from the WAL and associated new industry development have been assessed to provide an overall net value added gain in Hawke’s Bay of \$114 million in Net Present Value (“NPV”) terms over a 30-year period;
- Opportunities for the enhancement of the Karamu Stream and the Pakowhai Regional Park; and
- Opportunities for the enhancement of the cultural significant area of Pakiaka.

Application Suite

The WAL application documents comprise the following:

Part A - RMA Application Suite		
A1	Notice of Requirement	HDC 2014(a)
A2	Resource Consent Applications	HDC 2014(b)
A3	Assessment of Environmental Effects	HDC 2014(c)
A4	Proposed Conditions	HDC 2014(d)
Part B - Project Reference Reports		
B1	Project Description	GHD 2014(a)
B2	Planning Assessment	EMS 2014(a)
B3	Alternatives Assessment	EMS 2014(b)
Part C – Technical Assessment Reports		
C1	Transportation Assessment	GHD 2014(b)
C2	Economic Impact Assessment	Bevin 2014

C3	Productive Land Use Assessment	AgFirst 2014
C4	Noise Assessment	Hegley 2014
C5	Landscape and Visual Assessment	Isthmus 2014
C6	Natural Hazards Assessment	GHD 2014(d)
C7	Aquatic and Terrestrial Ecology Assessment	EAM 2014(a)
C8	Cultural Impact Assessment	Ipurangi Developments 2014
C9	Social Impact Assessment	GHD 2014(e)
C10	Contaminated Land Assessment	EAM 2014(b)
C11	Archaeological Assessment	Clough 2014
Part D – Management Plans		
D1	Stormwater Management Plan	GHD 2014(g)
D2	Erosion and Sediment Control Plan	GHD 2014(h)
D3	Draft Construction Environmental Management Plan	GHD 2014(i)
D4	Traffic Management Plan	GHD 2014(j)
D5	Accidental Discovery Protocol	HDC 2014(e)

1 INTRODUCTION

1.1 BACKGROUND

The Hawke’s Bay Regional Council (“HBRC”), New Zealand Transport Agency (“NZTA”), HDC and Napier City Council commissioned the Heretaunga Plains Transportation Study (“HPTS”) to update a similar transportation study undertaken in 2004. The aim of the HPTS was to:

“ensure that people and goods are moved to/from and within the study area with the least cost and for the most benefit to the region’s economy while enhancing its social and cultural fabric and environmental condition”.

The HPTS provided recommendations designed to achieve the following results in order of priority:

1. To support economic growth whilst providing a safe network which meets environmental and communities expectations
2. To maximise value for money
3. Move the region towards more sustainable transport
4. To implement initiatives in a staged manner based on timely reviews and investigations

On that basis, recommendations were provided for projects in the short term (2012 – 2017), medium term (2018 – 2026) and long term (2027 – 2046). Nine projects were recommended for implementation in the short term (2012 – 2017), with the investigation, design and construction of the WAL listed as the highest priority project.

While the purpose of the WAL was to connect SH2 with Pakowhai Road, the location of the connection was undetermined, other than the preliminary identification of general corridor location options in the HPTS. HDC embarked on an Enquiry by Design process to identify options for the location and route of the WAL, and to determine a preferred option that best integrated safe and efficient traffic flow objectives with economic, social, cultural and environmental considerations.

The WAL Enquiry by Design Working Group was formed with individuals from the Whakatu Community, wider Hastings District community, business community, mana whenua, industry, infrastructure and enterprise and environmental interest groups. The Working Group undertook a process of working with HDC staff and consultants to explore and test different design and development ideas and options to achieve the objectives of the WAL, based on a comprehensive understanding of local issues, opportunities and constraints.

This process resulted in the identification of a preferred location and route alignment for the WAL, which subsequently was refined through detailed design, consultation, and technical assessments. A full description of the process taken to identify and confirm the WAL location and route alignment is outlined in the Alternatives Assessment (EMS 2014b).

1.2 STRUCTURE OF RMA APPLICATIONS

1.2.1 RMA Application Suite

The WAL RMA Application Suite, forming Part A of the application, is outlined in Table 1

Table 1: Whakatu Arterial Link RMA Applications Documents

Ref. No.	Document	Short Reference
Part A - RMA Application Suite		
A1	Notice of Requirement	HDC 2014(a)
A2	Resource Consent Applications	HDC 2014(b)
A3	Assessment of Environmental Effects	HDC 2014(c)
A4	Proposed Conditions	HDC 2014(d)

The NOR being lodged for the WAL is contained in *Part A1 – Notice of Requirement*. It falls within the administrative jurisdiction of HDC and covers the proposed road corridor.

In addition to matters covered by the NOR, resource consent applications are required under the Hawke’s Bay Regional Resource Management Plan in relation to four key areas as follows:

- Construction of the WAL and bridge;
- Construction of stormwater outfall structures;
- Management of stormwater during construction activities; and
- Karamu Stream widening works being undertaken on behalf of HBRC.

The resource consent applications being lodged with HBRC are contained in *Part A2 – Resource Consent Applications*.

This Assessment of Environmental Effects document forms *Part A3* of the RMA Application Suite. It has been produced to cover both the NOR and resource consent related aspects of the project.

HDC has prepared a suite of proposed conditions to accompany the applications which are contained within *Part A4 – Proposed Conditions*.

1.2.2 Project Reference Reports

Three reports have been prepared as key project reference reports. These are listed in Table 2.

Table 2: Whakatu Arterial Link Project Reference Reports

Ref. No.	Document	Short Reference
Part B - Project Reference Reports		
B1	Project Description	GHD 2014(a)
B2	Planning Assessment	EMS 2014(a)
B3	Alternatives Assessment	EMS 2014(b)

Part B1 – Project Description provides detailed design and construction information on the WAL project. A summary of this document is provided in Section 3 of this report. The Project Description has been used as the basis for all technical assessment reports.

Part B2 - Planning Assessment identifies the various resource consents that are required for the WAL, outlines the approach taken in terms of the manner in which approval under the RMA is to be sought, and provides a planning analysis of the WAL in relation to the relevant policy and planning documents prepared under the RMA that need to be considered as part of the assessment of the NOR and resource consent applications. The Planning Assessment also includes an assessment under s 168A(3)(c) RMA as to whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought.

Part B3 – Alternatives Assessment outlines the process taken to identify the preferred option for the WAL, and in doing so describes how HDC has met the requirements of s. 168A(3)(b) of the RMA which requires that adequate consideration is given to alternative sites, routes, or methods of undertaking the work for which a designation is sought.

1.2.3 Technical Assessments Undertaken

A number of technical assessment reports have been commissioned to investigate and report on environmental effects of the WAL. These are listed in Table 3.

Table 3: Whakatu Arterial Link Technical Assessment Reports

Ref. No.	Document	Short Reference
Part C – Technical Assessment Reports		
C1	Transportation Assessment	GHD 2014(b)
C2	Economic Impact Assessment	Bevin 2014
C3	Productive Land Use Assessment	AgFirst 2014
C4	Noise Assessment	Hegley 2014
C5	Landscape and Visual Assessment	Isthmus 2014
C6	Natural Hazards Assessment	GHD 2014(d)
C7	Aquatic and Terrestrial Ecology Assessment	EAM 2014(a)
C8	Cultural Impact Assessment	Ipurangi Developments 2014
C9	Social Impact Assessment	GHD 2014(e)
C10	Contaminated Land Assessment	EAM 2014(b)
C11	Archaeological Assessment	Clough 2014

The investigations undertaken have provided a comprehensive analysis of the environmental issues associated with the proposed WAL. The reports are summarised in this document and form part of the Assessment of Environmental Effects for the purposes of the RMA applications.

1.2.4 Management Plan Approach

A number of Management Plans are proposed to govern both the construction and future operation of the WAL. These are listed in Table 4.

Table 4: Whakatu Arterial Link Management Plans

Ref. No.	Document	Short Reference
Part D – Management Plans		
D1	Stormwater Management Plan	GHD 2014(g)
D2	Erosion and Sediment Control Plan	GHD 2014(h)
D3	Draft Construction Environmental Management Plan	GHD 2014(i)
D4	Traffic Management Plan	GHD 2014(j)
D5	Accidental Discovery Protocol	HDC 2014(e)

Part D1 Stormwater Management Plan (“SMP”) outlines an approach for the management of the effects of stormwater runoff during the operational phase of the WAL.

Part D2 - Erosion and Sediment Control Plan (“ESCP”) outlines an approach for the management of the effects of stormwater runoff during the construction phase of the WAL.

Part D3 – Draft Construction Environmental Management Plan (“CEMP”) sets out the environmental management and monitoring measures to be put in place during construction of the WAL. The CEMP will be finalised once the main contractors are appointed prior to construction commencing. The finalisation process will likely mean that matters of detail in the draft CEMP change, but the objectives and performance standards cannot change.

Part D4 – Traffic Management Plan (“TMP”) ensures that traffic disruption is minimised through the construction phase of the project

Part D5 - Accidental Discovery Protocol (“ADP”) guides the response to any archaeological remains being uncovered during construction.

All of these Management Plans are incorporated in *Part A4 – Proposed Conditions*. The proposed conditions require each plan to be finalised prior to construction and, where appropriate, certified by the relevant consent authorities against objectives, performance standards and matters to be addressed.

1.3 CONSENT CONDITIONS

This Assessment of Environmental Effects and the supporting technical reports need to be read together with the Proposed Conditions (HDC 2014d).

The proposed conditions are set out in three parts, as follows:

1. General conditions that relate to both the designation and resource consents;
2. Conditions that relate to the designation; and
3. Conditions that relate to the resource consents.

1.4 AEE REPORT STRUCTURE

The structure of this Assessment of Environmental Effects (AEE) is as follows:

- Section 1 provides background information on the WAL, the approach taken to seeking approvals under the RMA, lists the technical studies undertaken which are relevant to the applications and the management plans that have been developed for the project;
- Section 2 describes the existing environment so as to form a basis for subsequent effects assessment in Sections 6 to 16;
- Section 3 describes the road and associated infrastructure that will be constructed as the basis for the effects assessment in Sections 6 to 16;
- Section 4 discusses the Resource Management Act 1991 framework for this application;
- Section 5 describes the assessment methodology used in the AEE;
- Sections 6-16 assess potential environmental effects associated with the project by reference to the Technical Assessment Reports, and describes suggested approaches, including mitigation measures for those effects identified;
- Section 17 provides an overview of consultation undertaken; and
- Section 18 provides a conclusion.

2 THE EXISTING ENVIRONMENT

This Section provides an overview of the existing environment against which the NOR and resource consents associated with the WAL have to be assessed. Some aspects of the existing environment are discussed in more detail in the Technical Assessment Reports.

2.1 LAND USE

The proposed WAL is located within the Hastings District. It extends between Pakowhai Road and SH2 North, northeast of Hastings and south of the Whakatu Industrial Area. The surrounding area is shown in Figure 1. Whakatu is near the centre, with the Port of Napier visible to the north.

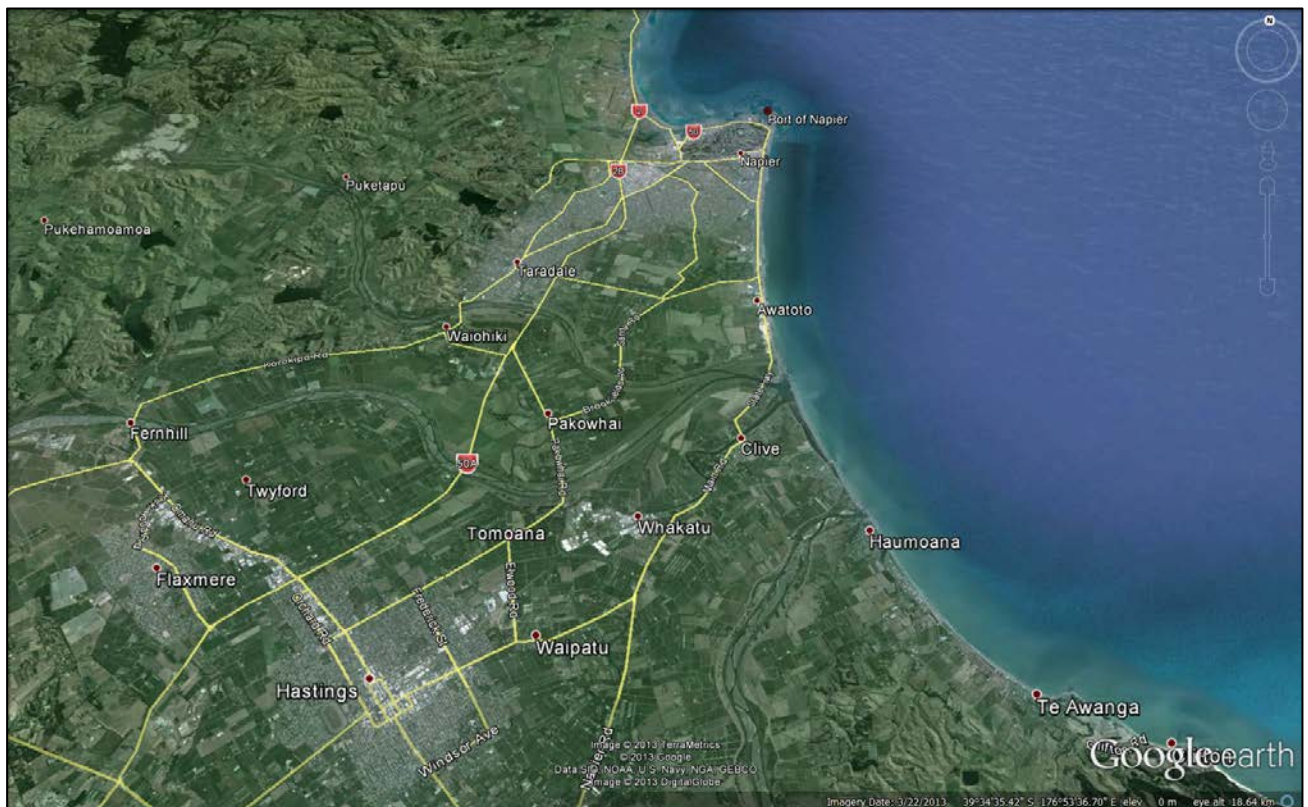


Figure 1: Whakatu and surrounding area

In Figure 2 the large warehousing and industrial buildings that constitute the Whakatu Industrial Area can be seen, with the Whakatu residential area visible as the cluster of houses to the east. The Karamu Stream is labeled.



Figure 2: Whakatu Industrial Area and surrounds

Figure 3 identifies Industrial 1 Zone (blue), General Residential Zone (tan) and Plains Zone (green) areas in and around Whakatu, as identified in the Operative Hastings District Plan.



Figure 3: Whakatu Area Zoning (Operative District Plan)

Figure 4 shows the zoning identified in the Proposed Hastings District Plan (as notified) with General Industrial Zone (blue), Clive-Whakatu Residential Zone (yellow) and Plains Zone (green) areas in and around Whakatu. The respective areas of Industrial, Residential and Plains zoning has not changed from the Operative District Plan.



Figure 4: Whakatu Area Zoning (Proposed District Plan)

The WAL will traverse both Plains Zone and Industrial Zone land. In total, including the road footprint and a setback to accommodate new headland areas, it will remove approximately 20 hectares of land currently used for horticultural or agricultural purposes. Of those 20 hectares, approximately 13.6 hectares is Plains Zone land, with the remaining 6.4 hectares zoned for industrial use but currently used for horticultural or agricultural purposes.

2.2 SOILS

The soil type in the location of the WAL is predominately 4, Oamaru Sandy loam, which is a versatile free draining soil well suited to tree crops such as apples. The proposed Pilcher Road diversion crosses a small sliver of 14, Hastings silt loam, but the majority is 71, Mangateretere silt loam on clay. Both these are high quality soils once well drained, and are suited to a wide range of crops as well as orcharding.

2.3 EXISTING TRAFFIC CONDITIONS

2.3.1 Whakatu Area

Whakatu lies to the north east of Hastings and consists of a large industrial area with a smaller residential area to the south-east, bordering SH2. The settlement lies within the District of Hastings.

The main residential streets of Whakatu are:

- Railway Road;
- Station Street East; and
- Buckingham Street.

Railway Road provides access to a mixture of residential and industrial activities and it forms a convenient route for Heavy Commercial Vehicle (“HCV”) traffic travelling from the Whakatu Industrial Area to the Port of Napier via SH2. There are therefore safety (particularly for children) and amenity issues associated with HCV traffic driving through a residential area.

To the north-west of the residential area is the main industrial area served by the following roads:

- Anderson Road
- Johnston Way;
- Rangitane Road;
- Railway Road (mixed residential); and
- Whakatu Road.

The main distributor roads to the Industrial Area are Anderson Road and Whakatu Road which lead to Ruahapia Road, from where the Expressway can be reached via Pakowhai Road.

2.3.2 Routes between Whakatu and Port of Napier

There are two routes from the Whakatu Industrial Area to the Port of Napier along either:

- Railway Road and onto SH2 via Clive and Napier’s Marine Parade; or
- Ruahapia Road then Pakowhai Road and the Expressway.

2.3.3 Railway Road and SH2 Route

As mentioned above, Railway Road in Whakatu is a mix of residential and industrial properties and the routing of HCVs past residential areas presents safety and amenity issues. This has been raised as a key concern by residents of Whakatu in a number of forums, including through the Enquiry by Design process.

Further east, SH2 passes through Clive which has a number of residential properties along with leisure facilities (swimming pool and sports grounds) fronting it.

Within Napier, the route HCVs take to reach the Port of Napier is along Marine Parade which is one of the main residential and tourist streets of Napier. Key features of Marine Parade include:

- Information Centre which is a major center for tourist activity, particularly in association with cruise ship visits;
- Tourist and family attractions including the sound shell, gardens, mini-golf, the National Aquarium, Hawke’s Bay Museum, Theatre and Gallery, skate park, play grounds, junior bike track, pump track and others.
- Visitor accommodation

- Shopping and residential areas.

The use of Marine Parade by HCV traffic is incompatible with this environment.

2.3.4 Pakowhai Road and Expressway Route

The route from Whakatu to the Expressway is predominantly through agricultural and horticultural land, although there is sporadic residential development on the route. These residential sections are much more spacious and less dense than the more tightly spaced sections in Whakatu.

Pakowhai Road is identified in the Operative Hastings District Plan as a 'District Arterial'. District Arterial Roads are described as roads which are:

- of strategic importance, and
- a significant element in the local economy.

The route via Ruahapia Road and Pakowhai Road requires the negotiation of two priority controlled intersections where giving way to the priority route is required in addition to the traffic signal intersection at the Expressway. Whilst the Level of Service (LOS) at these routes is generally acceptable during the day time the combination of a series of delays (i.e. giving way to other traffic) discourages HCVs from using this route.

During peak periods however there are traffic delays turning into Ruahapia Road and Pakowhai Road which further discourages HCV drivers from using this route.

2.3.5 Traffic Flows

Traffic flows for 2009 and a design year of 2026 have been modelled as part of the HPTS.

Pakowhai Road North of WAL

The opening of the Expressway south of Pakowhai Road in the late 1990's led to a significant reduction of traffic on Pakowhai Road. Traffic count data showing traffic flows on Pakowhai Road north of Farndon Road before completion of the Expressway and after opening together with current traffic flows are shown in Table 5.

Table 5: Pakowhai Road North East of WAL – Traffic Flow Trends (ADT)

Description.	Count Date	ADT (vpd)
Before Expressway completed	20/11/1993	12,801
After completion of Expressway	20/09/1999	9,000
Current Traffic Flow	15/07/2013	8,475

The recorded 12,801 vehicles per day along Pakowhai Road in 1993 dropped to 9,000 vehicles a day after the opening of the Expressway. Recent traffic counts in July show that traffic flows have not increased.

2.4 COMMUNITY PROFILE

Within the study area comprising the Twyford, Pakowhai, Clive, Whakatu and Karamu CAUs, the Census usually resident population in 2006 was 5,043; the Census usually resident population in 2013 was 5,667.

The median age in each of the CAUs apart from Twyford tend to be below the regional median age of 40.6. Within Whakatu itself, certain meshblocks have a median age of 21, suggesting a greater proportion of younger families, and infant to school age children.

Median personal incomes across the CAUs also tend to be above the regional median total personal income of \$26,100.

The key statistics by CAU are shown in Table 6.

Table 6: Employment by Industry 2013

Census Area Unit	2013 Usually Resident Population	Median Age	Median Total Personal Income (\$)
Twyford	1,065	41	24,500
Karamu	1,404	36	27,500
Whakatu	825	34	27,200
Clive	1,764	37	29,300
Pakowhai	609	37	26,900
TOTAL	5,148		

In 2006 there were 2,694 people over the age of 15 normally resident within the study area in employment. Of these, 19% were engaged in the Primary sector, in agriculture, forestry or fishing. The second largest employer was manufacturing (including primary product processing) at 11.7%, followed by property and business services, the retail sector, and construction.

In 2013 there were 2,862 people over the age of 15 normally residing within the study area in employment. Of these, 15% were engaged in agriculture, forestry or fishing. The second largest employer was manufacturing (including primary product processing) at 12%.

However, by contrast when considering the employment by industry based on workplace address, it becomes clear that the study area represents a major employment destination for two key industries; agriculture (including pastoral farming, horticulture, pip fruit, and viticulture) and manufacturing (dominated by primary product processing).

In 2006, out of a total of 3,600 jobs, the study area provided 1,026 jobs in the primary sector, and 1,074 jobs in manufacturing. Of those manufacturing jobs, 1,000 were provided within the Whakatu and Twyford CAUs, essentially representing the Whakatu and Tomoana industrial hubs. The next most significant employer was the business and property sector at 240 jobs, followed by 190 in the wholesale sector, 180 in construction and 159 in transport.

In 2013, out of a total of 4,269 jobs, the study area provided 684 jobs in the primary sector, and 1,215 in manufacturing. The next most significant was the administrative and support services with 345 jobs, followed by 270 in transport, postal and warehousing, 261 in construction and 255 in the wholesale sector.

These broad social parameters have remained largely unchanged between the 2006 and 2013 census, at least in proportional terms.

There are two marae in the immediate vicinity of the proposed WAL, being Kohupatiki Marae located north east of Whakatu on the opposite side of the Clive River, and Ruahapia Marae located south west of Whakatu on the opposite side of the Karamu Stream. Waipatu Marae and Matahiwi Marae are also in the broader area.

The Mangateretere School (primary) fronts on to SH2 opposite Pilcher Road and near the proposed WAL intersection.

2.5 ECONOMIC PROFILE

The Whakatu area is one of Hastings District’s key business and employment nodes. Statistics New Zealand industry employment information for 2013¹ indicates that Whakatu is the third largest employment node in the district after the ‘Central Hastings’ and combined Camberley/Woolwich (including the Regional Hospital complex and Omahu Rd industrial area) CAUs. Total full and part-time employment in the Whakatu CAU in February 2013 was recorded at 3,990 or 10% of total industry employment in Hastings District.

Table 7 below provides industry employment details for the Whakatu CAU in February 2013.

Table 7: Whakatu Area Industry Employment 2013

Industry	Total Employment	% of Total
Primary Production and Related Services	870	21.8
Food and Textile Processing	760	19.0
Other Manufacturing	90	2.3
Transport/Storage/Warehousing	330	8.3
Employment Services	710	17.8
Packaging and Labelling Services	990	24.8
Other Services	240	6.0
TOTAL	3,990	-

The leading industry employers are, in order: packaging and labelling services, primary production (in particular fruit-growing and agricultural support services), food and textile processing, and employment services. It is understood from Statistics New Zealand that the latter primarily covers the management and administration of contract/seasonal staff employed in primary sector processing and storage/distribution activities.

Statistics New Zealand information indicates a significant number of enterprises based in the Whakatu area, with a total of 145 individual business operations recorded for February 2013. The leading industry categories in terms of the number of operations are primary production, rental and hiring services, construction, processing-manufacturing and wholesaling services.

Within the industrial zone component of the wider Whakatu CAU area, the range of known significant individual firms and their business focus include Amcor Packaging, Apollo Apples (apple pack-house and cool-store), Bidvest (cool/dry food storage and distribution), Bird Concrete Pumping (concrete equipment), Carter Holt Harvey (handling/packaging of building products), Cedenco Foods

¹ Note that the Statistics New Zealand industry employment information for 2013 is a different data set to that provided by the New Zealand census and discussed in Section 2.4 of this report.

(food processing and packing), David Trubridge (urban design and showrooms), Diamond Apparel Master (factory and dry-cleaning shop), Etika Dairy (production of bottled milk and juice products), Fruit Packers Hawke's Bay Cooperative (fruit packing), Halls International (refrigerated transport), Hawke's Bay Towing, Mipenco Holdings Ltd (provision of office space), Mr Apple New Zealand (apple packing and exporting), NH Packing (packing squash and pumpkins), Nimons Bus Depot (bus operation, vehicle workshop and truck fuelling facility), Number One Shoes (warehouse and distribution centre), Orchard View Trust light industrial factory, Orton Trading (food services), Patton Engineering Ltd (engineering services), Ray Withers Contractors Ltd (earthmoving services), Silver Fern Farms Ltd (meat processing and marketing), Scales Property Development (property services), 'Spec' Industrial Building (provision of business space), Total Lubricants (oil and related vehicle/equipment lubricants), Transpower New Zealand Ltd (electricity substation), Turners and Growers International (horticultural product storage), Unison Contracting, Whakatu Coldstores Ltd (cold storage services), Whakatu Industrial Park Ltd (provision of business space/facilities) and Whakatu Wool Scour Ltd (wool scouring).

The Whakatu industrial area thus contains a diverse range of individual commercial activity, with a number of the firms based there also making an important contribution to Hawke's Bay's export performance. The Whakatu catchment area's share of total Hastings District GDP is currently estimated at approximately \$198.1 million or 9.1%.

Information provided by the Hastings District Council indicates that at the present time, approximately 26% of the total Whakatu industrial zone site area is still available for development.

2.6 TERRESTRIAL ECOLOGY AND VEGETATION

The Aquatic and Terrestrial Ecology Assessment (EAM 2014a) notes that the WAL project area is highly modified with surrounding landuse dominated by agricultural and horticultural activities. The riparian margins of the Karamu Stream in the area of the WAL have been severely compromised and the stream itself is dominated by introduced macrophytes.

The Aquatic and Terrestrial Ecology Assessment has identified the following three main ecological units in the WAL area:

- Production land
- Riparian margins
- Aquatic system

These ecological units are described below.

2.6.1 Production Land

The production land is predominantly covered in fruit orchards with the typically associated Sheoak (*Cassurina spp*) dominant shelter belts providing only a limited amount of habitat to typically cosmopolitan bird species, including several native species such as Pukeko (*Porphyrio porphyria*) which are common in the area, Fantail (*Rhipidura fuliginosa*), Grey warbler (*Gerygone igata*) and Silver eye (*Zosterops lateralis*).

These species are highly adaptable and well distributed in the Hawke's Bay landscape. Less common species such as Shining Cuckoo (*Chrysococcyx lucidu*) are also known to be occasional inhabitants on a seasonable and infrequent basis.

Exotic bird species are well represented in the area with larger species such as Pheasant (*Phasianus colchicus*) and Californian Quail (*Callipepla californica*) being notable, but many other smaller introduced passerines are present.

Introduced mammalian pests are established in this area. Larger species such as rabbits and possums typically managed through trapping and shooting, but species such as rats, cats, hedgehogs and mustelids are generally not controlled.

2.6.2 Riparian Margins

The riparian margins are more diverse in the species mix as the ecotone between the terrestrial and aquatic environments. The aforementioned bird species are all found in the riparian area but in addition Black Shag (*Phalacrocorax carbo novaezealandiae*), White Faced Heron (*Sterna striata*), Pukeko (*Porphyrio porphyria*) and Australasian Harrier (*Cirus approximans*) are frequent users of this area. Tui (*Prosthemadera novaeseelandiae*) are occasionally present in isolated areas specifically where suitable food sources are present, namely Harakeke (*Phormium tenax*). Mallard ducks are common as well as Muschovy cross ducks and occasional feral geese.

Indigenous plants are largely absent along the riparian margin with the dominant species type based around rank pasture grasses, primarily Tall Fescue and ephemeral weeds such as Hemlock, Fennel, Dock and a variety of thistles. An exception to this is a relatively new area of riparian enhancement plantings carried out by HBRC. This enhancement is identified in Figure 4.

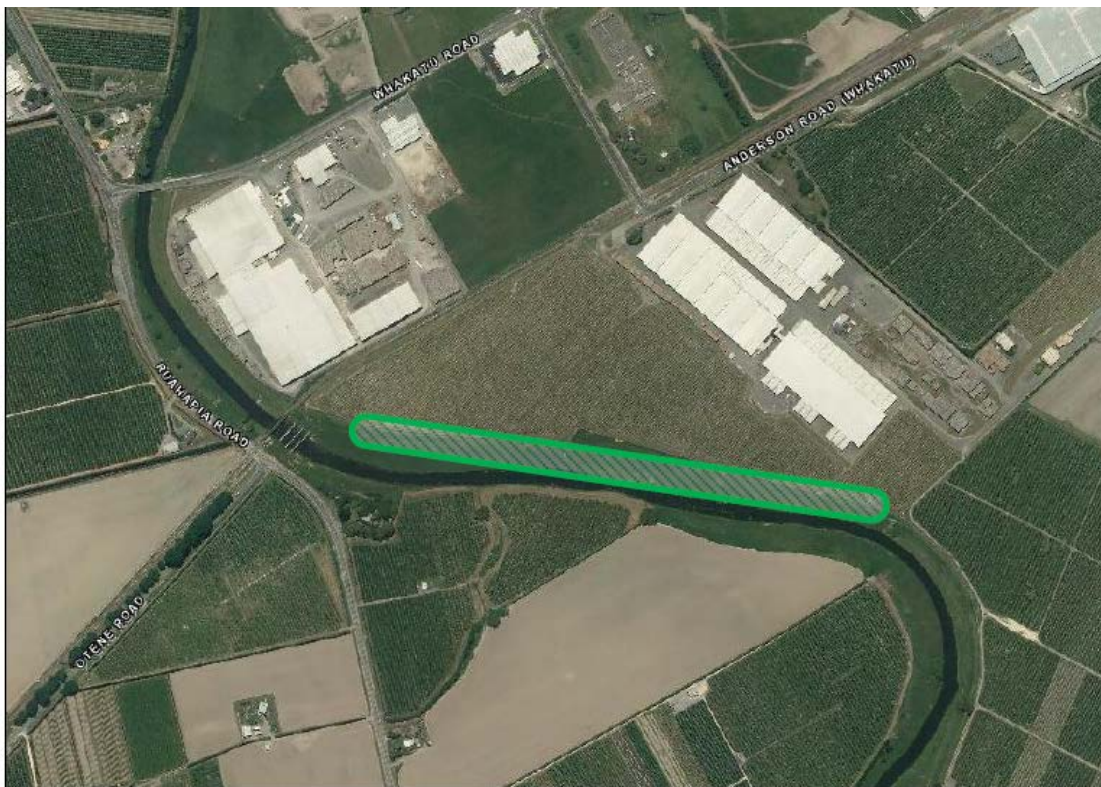


Figure 5: General Area of HBRC Riparian Enhancement on Karamu Stream True Right Bank near Whakatu

Trailing weeds such as wandering dew can be found, particularly under cover afforded by either the shelterbelts adjoining the riparian edges or willows (*Salix spp*). In the area nearer the cool stores

(Apollo) and rail bridge the banks have had a long history of grazing and vegetation is typically low grasses.

2.6.3 Aquatic System

The aquatic system is heavily dominated by introduced macrophytes and extensive growths of filamentous green algae. This species mix is typical of highly eutrophic streams and this limits the habitat availability for many species.

In spite of the degraded nature of the waterway the proximity to the coast allows for a wide variety of fish species, including those more typically of an estuarine environment, such as Yellow eyed and Grey mullet, and Black Flounder. Inanga, Shortfin and Longfin eel are also relatively common, as are Koura. Common bullies are also present where macrophyte cover is diminished but these are generally sparse patches.

2.7 LANDSCAPE

The Landscape and Visual Assessment (Isthmus 2014) notes that the general landscape and amenity features of the area around the route include:

- The defined channels of the rivers and streams, accentuated by stopbanks and river corridor stabilisation planting;
- Rural /Open space amenity, including productive agriculture, horticulture, viticulture, and open spaces;
- Sense of spaciousness from flat terrain and open sky;
- The openness and amenity of the Pakowhai Regional Park;
- Associated elements of productive land including patterns, fences, shelterbelts, trees and crops;
- Relative quietness, punctuated by traffic, trains and rural noises - existing speed limits in the rural area of 80 km/h with 50km/h through the Whakatu urban area and the Palmerston North-Gisborne railway line through site;
- Scattered clusters of buildings including houses, sheds, rural service structures and industrial buildings;
- Linearity of roads, streams and railway, including associated trails;
- Absence of signage and urban clutter.

The assessment identifies four landscape character areas, based on land use, land cover and landscape features. These are described below.

Pakowhai Character Area

This character area comprises the area around the intersection of the WAL with Pakowhai Road and the length of the WAL up to the Karamu Stream. The landscape character of the area is influenced by the surrounding land use, notably the orchards either side of the southern part of the character area, the low lying land adjacent to the Raupare Stream to the east (proposed as future parkland), and the existing Pakowhai Regional Park at the confluence of the Clive River, Karamu Stream and Raupare Stream. The Ngaruroro River is to the north of the Pakowhai Regional Park. Stop banks in the area

create some topographical and visual separation between the Ngaruroro River, the Clive River and the surrounding plains landscape.

Whakatu Character Area

This area lies between the WAL Karamu Stream bridge and the boundary between the Plains and Industrial zones. The WAL passes through established industrial areas, orchards, and an area susceptible to flooding (at the northwest end). This area is predominantly flat, with the exception of the stream corridor, which cuts a line into the plains. The WAL in this area includes a roundabout at Whakatu Road, and the route crosses the Palmerston North – Gisborne railway line and the Hastings-Clive cycleway. As the WAL crosses between Whakatu Road and the Palmerston North – Gisborne Railway it is located between existing industrial buildings.

A key characteristic of this area, other than the flat topography and stream corridor, is the industrial typology with large utilitarian buildings and areas of hardstand used for outdoor storage. Interspersed are remnant orchards, while established residential areas are close by to the northeast.

Mangateretere Character Area

This area is characterised by the adjacent stream corridor and the orchard properties through which the WAL passes. With the exception of the stop banks, the land is predominantly flat and the road will be raised for most of its length (up to 2 metres). Some parts also have steep banks at a grade of 1 in 3.

Napier Road Character Area

This character area includes the new roundabout and intersection in the vicinity of Napier Road and State Highway 2. This area is characterised by strong visual enclosure and residential development along the western side of the road corridor, and open expansive farmland to the east.

Large tree plantings line property boundaries and fence lines and shelter belts compartmentalise the orchards and other horticultural activities.

2.8 NATURAL HAZARDS

The Natural Hazards Assessment (GHD 2014d) details natural hazards in the WAL area that have the potential to either affect the safe operation of the WAL or result in the WAL leading to a worsening of the effects of the natural event on adjacent properties. The following natural hazards have been identified as having the potential to result in such adverse effects:

- Seismic Activity;
- Volcanic Activity;
- Flooding from weather events;
- Flooding and wave action due to tsunamis; and
- Snow and ice.

These hazards are described below.

2.9 SEISMIC ACTIVITY

The Hastings area is considered to be one of the higher seismic areas in New Zealand. In addition to the NZTA Research Report 355A, New Zealand Standard NZS 1170.5.2004, Table 3.3 shows Hastings

to have a seismic hazard factor (Z) of 0.39 which puts Hastings among the more seismic hazardous areas of New Zealand.

The Hastings District Plan (Section 12.3) shows the WAL as being in an area of high risk of liquefaction. During liquefaction the pore water pressure in sands and gravels increases until the water is ejected to the surface and the ground settles.

2.9.1 Volcanic Activity

The WAL lies approximately 100 kilometres from the nearest volcanic region of Mt Ruapehu and Mt Tongariro. Mt Ruapehu erupts approximately every 50 years, with the last major eruption occurring in 1995. The last major eruption event of Mt Tongariro occurred in 2012, and before then in 1896. The effects of these eruptions on Hastings District have been limited to ash fallout and have not had any significant effect on infrastructure in the district.

There is evidence of the Taupo, Okataina and Taranaki volcanic areas having a significant impact on the Hastings area within the last 20,000 years. The WAL is too distant from these volcanic regions and volcanoes for near source effects, such as lava flows, to be a risk. The fallout of volcanic ash in the event of a major eruption is, however, expected.

The scale and probability or frequency of ash fall out on the Hastings District from the surrounding volcanic regions is given in Table 8 below.

Table 8: Volcanic Activity, Ash Depths and Return Periods

Ash Depth	Return Period
1 millimetre	20 years
1 – 5 millimetres	100 years
50 – 100 millimetres	1,000 years

Source: Hawke's Bay Emergency Management Group Website (2013)

2.9.2 Tsunami Risk

Tsunamis caused either by near or far-away off-shore earthquakes have the potential to cause considerable damage and destroy infrastructure, such as road embankments and bridges. The most damage occurs on flat low lying coastal areas.

The WAL lies on relatively flat low lying ground approximately 6 kilometres from the sea shore. A return period of a major tsunami causing significant damage is expected once in every 900 years for the Hawke's Bay Region. The last tsunami in the area causing damage occurred in 1960.

The alignment of the road is outside the edge of the expected extent of a (worst case) 10 metre tsunami wave triggered by a local earthquake, as shown on the Hawke's Bay Regional Council's Tsunami Hazard Maps. Waves triggered by earthquakes further afield in South America are less severe and hence also not expected to reach the road.

2.9.3 Flooding from Severe Storms or Prolonged Rainfall

The WAL lies within the Heretaunga Plains which in the past has served as a flood plain with frequent flooding. Cyclones are not uncommon to Hawke's Bay bringing strong winds and heavy rain that causes flooding. Irrigation and flood protection measures have however reduced the extent of

flooding in modern times. The existing river and flood control works protect the area from 1 in a 100 year storm (flood) events, with the exception of the Karamu Flood area at the northern end of the WAL which is expected to flood in a 1:50 year flood event; this area is shown to be subject to flooding during a 1 in 50 year flood event and as such building is restricted in this area, however there are no specific conditions relating to roading.

2.9.4 Snow and Ice

The WAL is not in an area of high risk for snow and ice causing disruption or damage to infrastructure. The road is in a coastal area and heavy snow falls and severe icing are not expected to occur. The road will be designed to ensure surface water is able to run off therefore reducing the risk of significant ice build-up in the winter months.

2.10 ARCHAEOLOGICAL SITES

The NZAA ArchSite database currently has no record of any archaeological sites within the project area, though there are sites in the general vicinity (ArchSite 2013). The location and distribution of archaeological sites often reflects the fact that settlement in pre-European times was largely concentrated in coastal areas, or adjacent to lakes and navigable rivers (Figure 5).

Pa sites are located near the old river path and include V21/315 (Karamu Pa) to the southwest and V21/68 and V21/202 to the northeast. The closest recorded site, V21/53 (Burial/waahi tapu) c.500 metres away, is also possibly the Te Ngaue pa site associated with Te Hapuku, who occupied it in 1857 (P. Parsons – see NZAA Site Record Form).

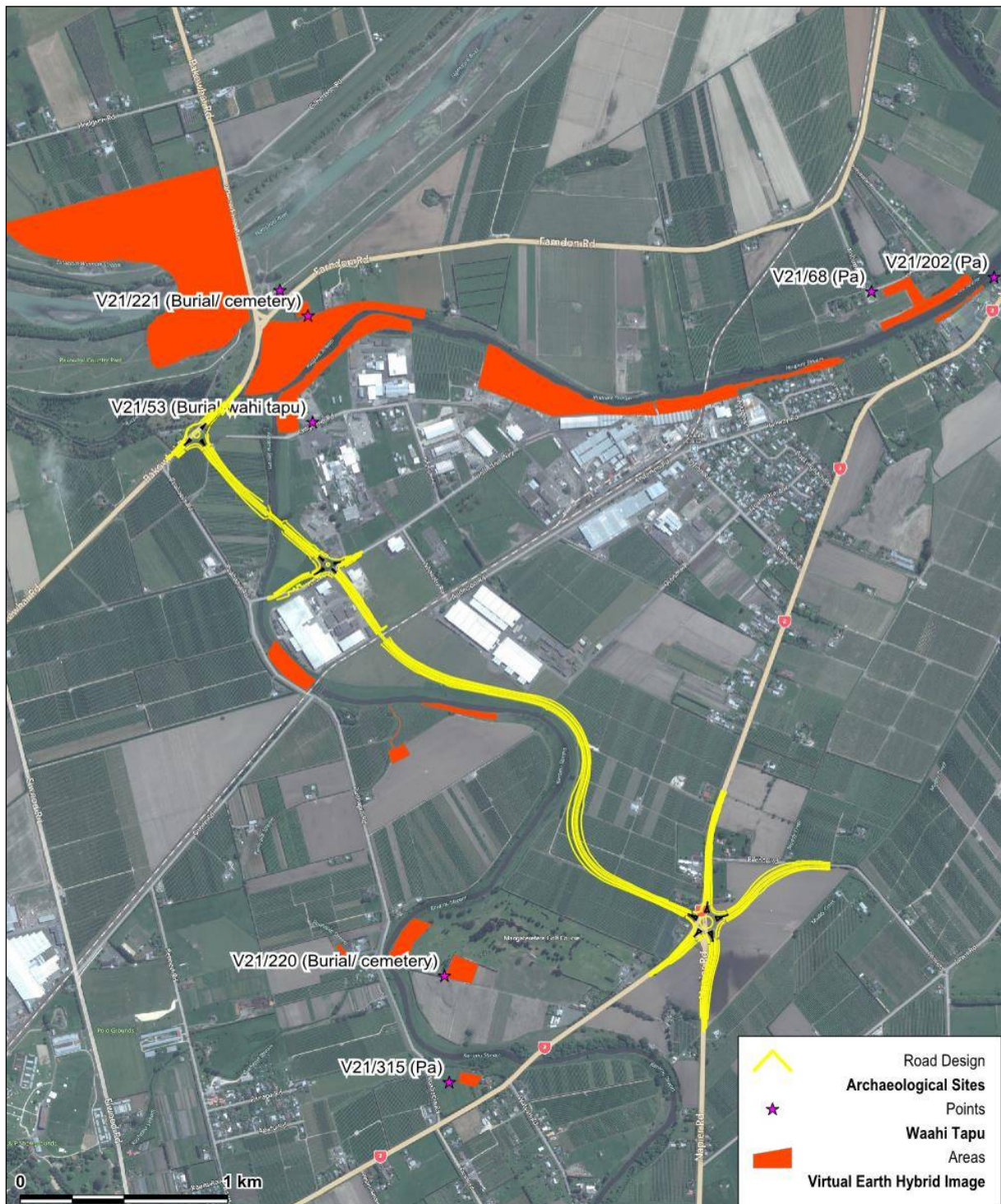


Figure 6: Recorded archaeological sites (NZAA ArchSite December 2012, shown as stars) and scheduled waahi tapu sites (Hastings District Plan, in red)

3 PROJECT DESCRIPTION SUMMARY

The Project Description (GHD 2014a) provides detailed information on the design of the WAL. The following provides a summary of the key features of the WAL.

3.1 PROJECT OVERVIEW

Key elements of the proposed WAL are:

- The WAL extends in a general southeast direction from Pakowhai Road near Rangitane Road (closed) through to State Highway 2 near the current intersection with Napier Road;
- The corridor of land is approximately 3,500 metres long, a maximum of 80 metres wide and an average of approximately 36 metres wide;
- The alignment crosses the Karamu Stream via a new bridge approximately 450 metres east of Pakowhai Road;
- Three new roundabouts are proposed where the Arterial will intersect with Pakowhai Road, Whakatu Road and State Highway 2; and
- A new level crossing on the Palmerston North – Gisborne Rail Line is required.

Figure 6 shows the proposed location and alignment of the WAL.



Figure 7: Location and alignment of WAL

3.2 KEY DESIGN ELEMENTS

3.2.1 Pakowhai Road Intersection

The WAL intersection with Pakowhai Road is a proposed three leg roundabout. A small amount of land in the Pakowhai Regional Park will be affected, including park access and internal pathways. The Proposed Conditions (HDC 2014d) include a requirement to mitigate the effects of the roundabout on the Park, including such matters as impacts on access and parking. A concept plan to achieving appropriate mitigation of these impacts has been developed in consultation with HBRC and forms part of the Proposed Conditions.

3.2.2 Bridge

In accordance with recommendations from the Cultural Impact Assessment (Ipurangi Developments 2014) and feedback from HBRC, the new bridge over the Karamu Stream has been designed to avoid disturbance of the wet stream bed; no piers and no construction activities will occur within the wet stream bed. This bridge is a two lane design that incorporates a footway/cycleway on the northern side.

3.2.3 Rail Crossings

The WAL requires a new crossing of the Palmerston North – Gisborne line. As discussed in Section 18.5, KiwiRail policy requires that the WAL result in no net increase in the rail crossings in the Whakatu area. The Ruahapia Road level crossing will be closed to achieve this requirement.

3.2.4 Ruahapia Road Closure

To achieve the closing of the Ruahapia Road level crossing discussed above, access to the section of Ruahapia Road west of the level crossing and through to Pakowhai Road will be restricted. Access to Pakowhai Road will also be closed completely. Primary access for properties on this section of Ruahapia Road will be provided by a connection to the WAL utilising the existing Whakatu Road Bridge. A full description of the process taken in considering the part-closure of Ruahapia Road is discussed in the Alternatives Assessment (EMS 2014b).

3.2.5 SH2 Intersection

The proposed WAL Intersection with Napier Road, SH2, and Pilcher Road is a dual lane, five leg roundabout. The location and design of the roundabout has been given careful consideration through a multi criteria analysis process undertaken by a panel of invited experts, as described in the Alternatives Assessment (EMS 2014b).

3.2.6 Stormwater Management

The proposed approach to stormwater management is outlined in the Stormwater Management Plan (GHD 2014g) and Erosion and Sediment Control Plan (GHD 2014i). In summary, a low impact design that utilises swales drains on both sides of the road to collect, treat and convey the stormwater runoff is proposed. The swales discharge into the existing roadside drains at the tie-ins with the existing road network and into the Karamu Stream at seven discharge points where the WAL is in close proximity to the stream. The stormwater system is designed for a 1 in 10 year rainfall event

3.2.7 Pavement Design

The road has been designed to function as a District Arterial Road based on HDC District Plan classification criteria and comprises of the following components:

- 1.5 metre wide shoulder; and
- Two x 3.5 metre wide traffic lanes.

The design speed for the new arterial has been set at 80 km/h.

3.2.8 Pedestrian / Cycleway Link

The Hastings / Clive cycleway crosses the WAL near the Palmerston North – Gisborne rail line. An underpass will be constructed to provide a safe crossing of the WAL and to connect with the existing cycle / pedestrian bridge over the Karamu Stream.

3.2.9 Pilcher Road

The Enquiry by Design process provided a recommendation to consider the Pilcher Road / SH2 intersection as a key safety issue, particularly around the Mangateretere School. In response, Pilcher road will be closed at the current intersection with StH2 and realigned to connect with the WAL / SH2 intersection.

3.2.10 Farndon Road

While not part of the WAL project itself, proposed improvements to the Farndon Road / Pakowhai Road intersection are noted here for completeness. Within the existing road corridor, safety improvements will be installed, principally aimed at providing safe merging for left turning traffic and preventing right turn out movements. These improvements are being carried out in response to a recommendation by the Enquiry by Design Working Group and are not required for the efficient operation of the WAL.

4 RESOURCE MANAGEMENT ACT FRAMEWORK

4.1 INTRODUCTION

This section provides a summary of the RMA planning and regulatory framework, including the identification of the RMA status of the activities associated with the construction, operation and maintenance of the WAL. More detail in relation to these matters is presented in the Planning Assessment report (EMS 2014a).

The following sets out the key aspects of the Planning Assessment.

4.2 CONSENTING APPROACH

Approval for the WAL under the RMA is to be sought as follows:

- A NOR will be lodged with HDC for the proposed road corridor to authorize the land use components of the WAL; and
- Resource consent applications will be lodged with the Hawke’s Bay Regional Council (“HBRC”) for all other aspects of the WAL that are not permitted activities.

4.3 RMA CONSENT AUTHORITIES

The area in which the WAL is located is administered under the RMA by the following consent authorities:

- Hastings District Council; and
- Hawke’s Bay Regional Council

4.3.1 Hastings District Council

The WAL is located entirely within the Hastings District. Under the RMA, the HDC has jurisdiction for the control of land uses; the RMA status of land uses associated with the WAL is determined by reference to the Hastings District Plan (“HDP”) that was made operative on 10 June 2003.

HDC are currently undertaking a District Plan review process, and the Proposed Hastings District Plan (“PHDP”) was notified on 9 November 2013. The further submissions process closed on Friday 9 May, 2014. Some provisions of the PHDP took legal effect upon notification under s. 86B(3) of the RMA; however the majority of provisions will not have legal effect until notification of decisions on submissions.

On the basis that a NOR is being lodged under s. 168A, no land use resource consents under the Hastings District Plan are required from HDC.

4.3.2 Hawkes’ Bay Regional Council

The activities associated with the WAL are located entirely within the Hawke’s Bay Region.

Under the RMA, HBRC has jurisdiction for the management of the discharge of water and contaminants to water, land and air within the Hawke’s Bay Region. HBRC also controls land uses

such as land disturbance and the clearance of vegetation near water bodies, the erection of structures in, on, under or over the beds of rivers, and the disturbance of river beds.

The RMA status of the activities associated with the WAL is determined by reference to the Hawke’s Bay Regional Resource Management Plan (“RRMP”) made operative in August 2006. The status of the proposed activities under the RRMP is summarised in Table 9 below.

Table 9: RMA Activity Status of Activities under the RRMP

Activity	Relevant Regional Plan Rule(s)	Activity Status
<ul style="list-style-type: none"> ▪ Vegetation clearance and soil disturbance associated with earthworks to construct the bridge, stormwater discharge structures and widening of the Karamu Stream where: <ul style="list-style-type: none"> ➢ Vegetation clearance is within 5 metres of a permanently flowing river, or any other river with a bed width in excess of 2 metres. 	Rule 8	Restricted Discretionary
<ul style="list-style-type: none"> ▪ Diversion and discharge of stormwater to the Karamu Stream. 	Rule 42	Permitted
<ul style="list-style-type: none"> ▪ Discharge of solid contaminants to land, including clean fill, that will not enter water, associated with the construction, operation and maintenance of the WAL, including the bridge, where: <ul style="list-style-type: none"> ➢ Discharges are within 20 m of a surface water body (Karamu Stream). 	Rule 52	Discretionary
<ul style="list-style-type: none"> ▪ Discharges to land that may enter water associated with use of the sediment retention ponds during construction where: <ul style="list-style-type: none"> ➢ Surface ponding will occur in the area of discharge 	Rule 52	Discretionary
<ul style="list-style-type: none"> ▪ Use of the WAL Karamu Bridge the following construction. 	Rule 63	Permitted
<ul style="list-style-type: none"> ▪ Maintenance of the WAL Karamu Bridge following construction, including associated disturbance, discharges of sediment and diversions. 	Rule 64	Permitted
<ul style="list-style-type: none"> ▪ Erection of the WAL Karamu Bridge over the bed of a river and the construction of six stormwater outfall structures where the catchment size is greater than 150 ha, or the structure occupies an area exceeding 10 m². 	Rule 69	Discretionary
<ul style="list-style-type: none"> ▪ Activities affecting river control and drainage schemes including the construction of the WAL Karamu Bridge and associated earthworks, stormwater discharge structures and widening of the Karamu Stream. 	Rule 71	Discretionary

Summary of consent requirements under the RRMP:

➤ **Discretionary activity resource consent is required for:**

- Discharge of solid contaminants to land (clean fill) associated with the construction of the WAL where clean fill is deposited within 20 m of the Karamu Stream;
- Discharge of stormwater to the sediment retention ponds during construction activities;
- The construction of the Karamu Stream bridge;
- The construction and maintenance of stormwater outfall structures in the Karamu Stream; and
- Stream widening works undertaken on behalf of the Hawke's Bay Regional Council.

➤ **Restricted discretionary activity resource consent is required for:**

- All soil disturbance (earthworks) or vegetation clearance within 5 metres of the Karamu Stream.

➤ All other aspects of the WAL are permitted activities under the rules of the RRMP.

4.4 TERM OF CONSENTS AND LAPSE PERIODS

In accordance with normal practice, no term of consent is proposed for the NOR or land use consents being sought as part of the WAL.

Given the nature of the proposal, its strategic importance to the region and the scale of investment, a term of 35 years is sought in relation to all other resource consents being sought.

A lapse period of 10 years is sought in relation to the NOR and resource consents, on the basis that:

- The Project Description (GHD 2014a) specifies a construction period for the WAL of approximately 18 months;
- There will be a lead-in period prior to construction commencing associated with completing land owner negotiations and agreements, contract management and the finalisation of the various management plans required by the proposed conditions (HDC 2014d);
- It is appropriate to provide for an allowance for delays at any stage of the land acquisition and construction phase; and
- For similar reasons, a 10 year lapse period (or longer) is typically applied to other large scale infrastructure projects of a similar nature to the WAL.

4.5 APPLICATIONS AND OTHER MATTERS TO BE ADDRESSED AT A LATER DATE

A range of other applications and matters will be addressed should the designation for the WAL be confirmed. These are being advanced at a later date principally for reasons associated with timing and staging. These matters are:

- **Resource Management Act 1991:**
 - Applications for regional consent(s) for the reinstatement of infrastructure (irrigation wells);
 - Applications for regional consents for changes in irrigable areas associated with existing water permits; and
 - Application for a district consent for the relocation of a building disrupted by the WAL.
 - Application for a district consent under the NES (if required)
- **Heritage New Zealand Pouhere Taonga Act 2014:**
 - Application to Heritage New Zealand Pouhere Taonga (formally the New Zealand Historic Places Trust) for a general authority to be able to modify any archaeological site(s) that may be discovered during construction activities.
- **Local Government Act 1974:**
 - Proposal to stop the road at the Ruahapia Road rail crossing
- **Public Works Act 1981:**
 - Request that Ruahapia Road and Pilcher Road be stopped.

4.6 STATUTORY ASSESSMENT

Section 168A of the RMA applies as HDC is issuing a NOR for a designation for a public work within the Hastings District for which HDC has financial responsibility.

Section 168A (1A), (2A), (3) and (4) specify the relevant statutory considerations, as follows:

168A Notice of Requirement by a Territorial Authority

- (1A) *The territorial authority must decide whether to notify the notice of requirement under sections 95A to 95G (but without the time limit specified by section 95), which apply with all necessary modifications and as if—*
- (a) a reference to a resource consent were a reference to the requirement; and*
 - (b) a reference to an applicant or a consent authority were a reference to the territorial authority; and*
 - (c) a reference to an application for a resource consent were a reference to the notice of requirement; and*
 - (d) a reference to an activity were a reference to the designation.*
- (2A) *When considering a requirement and any submissions received, a territorial authority must not have regard to trade competition or the effects of trade competition.*
- (3) *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 work; 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 a decision on the requirement.*
- (4) *The territorial authority may decide to—*
- (a) *confirm the requirement;*
 - (b) *modify the requirement;*
 - (c) *impose conditions;*
 - (d) *withdraw the requirement.*

In terms of section 168A(3), this document and the technical assessment reports that it summarises presents a comprehensive Assessment of Environmental Effects.

The policy and planning documents listed in section 168A(3)(a) are summarised below and are addressed in more detail in the Planning Assessment (EMS 2014a).

The matters in section 168A(3)(b) are addressed in the Alternatives Assessment (EMS 2014b). Principally this assessment revolved around a community-led Enquiry by Design process which, using multi-criteria analysis, recommended a preferred location and route for the WAL. This process is fully described in the Alternatives Assessment, which includes as an appendix the Enquiry by Design Working Group Report.

The matters in section 168A(3)(c) are considered in the Planning Assessment (EMS 2013a). In summary, the work is considered reasonably necessary to achieve the objectives of the Requiring Authority based on the HPTS, the RLTS and the outcomes the proposed design of the WAL will achieve, including significant safety and transportation efficiency benefits. The designation is considered reasonably necessary because it is considered that there is no alternative method that would ensure the objectives could be achieved.

There are a number of additional matters that are relevant under section 168A(3)(d), including the Heretaunga Plains Transportation Strategy and the Hawke's Bay Regional Transport Strategy. These are discussed below and outlined in more detail in the Planning Assessment (EMS 2013a).

4.7 POLICY CONTEXT

The Planning Assessment provides a planning analysis of the WAL in relation to the relevant policy and planning documents prepared under the RMA that need to be considered as part of the assessment of the NOR and resource consent applications in accordance with 168A(3)(a) and 104(1)(b) of the RMA respectively.

The WAL has been assessed in relation to the relevant aspects of the statutory instruments summarised in Table 10.

Table 10: Policy and Planning Documents Relevant to the Whakatu Arterial Link

Statutory Instrument	Relevant Document(s)	Status
National Policy Statement	National Policy Statement for Freshwater Management	In effect from 1 July, 2011
National Environmental Standard	National Environmental Standards for Air Quality	In effect from 8 October, 2004
	National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health	In effect from 1 January, 2012
	National Environmental Standard for Sources of Human Drinking Water	In effect from 20 June, 2008
Regional Policy Statement	Hawke’s Bay Regional Resource Management Plan	Operative 28 August, 2006
Regional Plan	Hawke’s Bay Regional Resource Management Plan	Operative 28 August, 2006
District Plan	Operative Hastings District Plan	Operative 10 June, 2003
	Proposed Hastings District Plan	Notified 9 November, 2013. Submissions period closes 14 February, 2014

In addition to the above, the WAL has also been assessed in relation to a number of other non-statutory resource management documents (discussed in the Planning Assessment).

The following provides a brief summary and the key conclusions presented in the Planning Assessment in relation statutory instruments listed above.

4.7.1 National Policy Statements

The National Policy Statement for Freshwater Management (NPS Freshwater Management) is relevant to the WAL given interactions between the project and the Karamu Stream.

The major thrust of the NPS Freshwater Management is the setting of limits on both water quality and quantity that reflect national and local values. Accordingly, it introduces a number of objectives and accompanying policies relating to water quality and water quantity.

There are no new water takes associated with the WAL, and all discharges relate to the diversion of stormwater. Therefore the relevant objectives in the NPS Freshwater Management with respect to the WAL are those relating to water quality

HBRC have given effect to the NPS Freshwater Management through various additions to the RRMP including, for example, the general provisions of Policy 72A (in terms of surface water quality) and Policy 80A (in terms of water permits). More specifically, Plan Change 6 to the RRMP has recently been notified, and is intended to implement and give specific effect to the NPS Freshwater Management in the Tukituki catchment. The WAL is located outside of this area and is not subject to

the provisions of Plan Change 6. The WAL has therefore been assessed against the NPS Freshwater Management in terms of the various related policies in the RRMP.

4.7.2 National Environmental Standards / Regulations

The WAL will be consistent with all relevant National Environmental Standards / Regulations. None of the resource consent applications associated with the WAL are triggered by National Environmental Standards / Regulations.

4.7.3 Regional Policy and Planning Documents

The RRMP is a combined regional policy statement (“RPS”) and a regional plan. It sets out a wide range of objectives, policies and methods (mainly rules) in relation to the management of natural and physical resources within the jurisdiction of the HBRC.

The relevant objectives and policies in the RPS part of the RRMP (Chapter 3) and Regional Plan part of the RRMP (Chapter 5) have been assessed against the WAL. It has been determined that the WAL is generally consistent with the relevant objectives and policies of the RRMP.

RRMP Change 4 – Managing the Built Environment (“PC4”) has recently been made operative by HBRC and it is a relevant consideration. The WAL is entirely consistent with, and supported by, the objectives, policies and outcomes sought by PC4.

RRMP Proposed Plan Change 5 – Land Use and Freshwater Management (“PC5”) is currently under appeal to the Environment Court. While appeals are unresolved and the provisions are not yet operative, PC5 is a relevant consideration. In general, given the low impact stormwater and runoff management practices being adopted for the WAL, it is considered that the WAL is not inconsistent with PC5 as notified and amended by decisions.

RRMP Proposed Change 6 is not relevant to the WAL.

4.7.4 District Plans

The proposed WAL has been assessed against the relevant objectives and policies of both the Hastings District Plan and the Proposed Hastings District Plan. While the WAL is not consistent with all relevant objectives and policies (particularly those that relate to the Plains / Plains Production Zone), overall it has been determined that the WAL is generally consistent with objectives and policies.

4.7.5 Part 2 of the RMA

A detailed assessment of the WAL has been undertaken in relation to Part 2 of the RMA. The conclusion of the Planning Assessment was expressed in the following terms:

The purpose of the RMA as set out in section 5(1) of the RMA, which is:

To promote the sustainable management of natural and physical resources.

Section 5(2) of the RMA defines sustainable management as:

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.*

The promotion of sustainable management requires an overall broad judgement of whether a proposal will meet the requirements of section 5(2) of the RMA. The approach recognises that the RMA has a single purpose – sustainable management. Such a judgement allows for the comparison of conflicting considerations and the scale or degree of them and their relative significance or proportion in the final outcome.

The proposed WAL will enable people and communities to provide for their social and economic well-being and for their health and safety through the increased transportation efficiency and traffic safety provided by the WAL. In addition, the WAL will enable a range of parties to provide for their social, economic, and cultural well-being through the creation of employment and associated economic activity.

Through the Enquiry by Design process, a range of adverse effects were avoided by the route option adopted. This includes adverse effects on waahi tapu and Maori land and adverse effects on the Mangateretere School.

The Proposed Conditions (HDC 2014d) put forward a range of mitigation measures to address adverse effects that cannot be avoided through design, including impacts on the Pakowhai Regional Park, potential impacts on water quality, noise effects and landscape and visual effects.

The WAL will remove some 13.6 hectares of Plains Zone land from productive use. While various design decisions have been taken to minimise this effect, it cannot be completely avoided given that the WAL must traverse rural land to be effective, and there are limited mitigation options available. This adverse effect needs to be considered as part of the overall broad judgement approach of the RMA. On that basis it is considered that this loss is favourably balanced by the benefits afforded by the WAL, particularly the benefits associated with supporting the primary production industry by improving connections into and out of the food processing area of Whakatu (e.g. Silver Fern Farms, ENZA, Apollo etc.).

Overall, the conclusion reached in the Planning Assessment is that the WAL is consistent with the purpose and principles of the RMA and would promote the overall sustainable management purpose.

5 EFFECTS ASSESSMENT METHODOLOGY

5.1 ASSESSMENT METHODOLOGY

This AEE is based on a comprehensive suite of studies that HDC has commissioned to consider the environmental effects of the WAL (referenced in Table 3 in Section 1.2.3 this AEE).

The effects assessment reports follow a structured assessment methodology, which addresses the following matters:

- Potential environmental effects;
- Assessments undertaken;
- Results of assessments; and
- Suggested approach for effects identified.

The results outlined in each of the assessment sections that follow are the executive summaries of the Technical Reports prepared for this AEE. It is important to note that for consistency and accuracy the key findings of each of the Technical Reports are set out in the words of the respective authors, and have not been adapted or paraphrased in the AEE, except where minor tense and wording changes have been needed to assist readability. The Technical Reports form part of this AEE.

In addition, each of the following summaries includes a heading “Response” which outlines how HDC has responded to the recommendations of each author, either through a proposed condition(s) or other mechanism.

For more detail on the various assessment areas readers are directed to each of the specific reports provided with the applications.

6 TRANSPORTATION EFFECTS

An assessment of transportation effects was undertaken and is discussed in a report prepared by GHD (*Whakatu Arterial Link Transportation Assessment, GHD 2014b*).

The Transportation Assessment describes how the proposed Whakatu Arterial Link (WAL) aligns with transport policy, its effects on the roading network and road users, and access arrangements to properties. An overview of the process of selection of the proposed alignment and the results of an economic evaluation to determine the economic viability of the WAL are also covered.

The Heretaunga Plains Transportation Study identified the need to provide a link between Whakatu and Pakowhai Road and remove HCVs from the SH2 route to the Port of Napier along Napier's Marine Parade. The study identified three options and the preferred option was developed through an Enquiry by Design process to the current design.

The WAL is to be a two lane single carriageway road from a new roundabout on State Highway 2 at its intersection with Napier Road to a new roundabout on Pakowhai Road to the north east of its intersection with Ruahapia Road. The new road will roughly follow the Karamu Stream. Pilcher Road is to be diverted to the proposed roundabout intersection of SH2 and the WAL. The WAL will cross the railway line at a new level crossing which has necessitated the need to close the existing railway crossing at Ruahapia Road splitting the road in to two sections.

The WAL aligns with Government policy on assisting economic development and improving the efficiency of movement of freight. The scheme is in the Hawke's Bay Regional Council's Regional Land Transport Programme for 2012-2015 as a priority scheme.

6.1 POTENTIAL ENVIRONMENTAL EFFECTS

The WAL will remove a significant volume of traffic, including HCVs from residential roads in Whakatu and Clive transferring this on to Pakowhai Road which is predominantly rural in nature. Without the WAL the existing intersections of Ruahapia Road and Pakowhai Road, SH2 and Pakowhai Road, Pilcher Road and SH2 and Station Road East onto SH2 will experience deteriorating Levels of Service (LoS). By 2025 these LoS are expected to drop to E, E, D and F respectively in the evening peak hour. The provision of the WAL will result in LoS of A and B at these intersections. The closure of Ruahapia Road will necessitate detours of up to 2.6km for residents and business users on the southern end of Ruahapia Road if they wish to travel towards Napier using Pakowhai Road.

6.2 ASSESSMENTS UNDERTAKEN

The Heretaunga Plains Traffic Model has been used to model and determine deficiencies in the current roading network and to identify options for the WAL route that can resolve those deficiencies. The modelling work is based on 2006 Census data.

The existing crash rates have been obtained from the national CAS crash data base and traffic models from the NZ Transport Agency's Economic Evaluation Manual were used to predict the expected crash rate for the WAL.

6.3 RESULTS OF ASSESSMENT

The Transportation Assessment has shown the WAL meets the strategies of the regional and local councils to encourage the use of the Hawke's Bay Expressway and remove heavy vehicles from Marine Parade. The WAL aligns with national and regional policy on promoting economic growth and improving road safety.

Results of traffic modelling have shown that the WAL will reduce traffic on SH2 by up to 3,750 vehicles per day in 2026. The level of service on the network will rise from a range of A to F to one of A to B as congestion will be relieved by the WAL.

The WAL will be designed to current standards and will provide for cyclists. The WAL will directly and indirectly address safety issues at 3 of New Zealand's top 100 high risk intersections. The crash rate is expected to fall by around 2.8 crashes per year on the wider roading network that will be affected by the WAL.

For local residents and businesses to the west of the WAL route the closure of the Ruahapia Road level railway crossing will result in a detour length of up to 2.6 km if they wish to travel towards Napier using Pakowhai Road but as the WAL will remove peak hour delays this will result in shorter overall peak hour journey times. Pedestrians and cyclists will be able to use the existing cycleway bridge over the Karamu Stream to the WAL as an alternative route.

Traffic modelling and economic evaluation work has shown the WAL to have a BCR of 5.5 for a construction start in 2014.

6.4 SUGGESTED APPROACH FOR EFFECTS IDENTIFIED

The Transportation Assessment has identified positive effects and recommends the construction of the WAL to reduce road crashes and improve the environment for residents and tourists along Railway Road, SH2 and Napier's Marine Parade, in addition to providing an efficient link for freight to the Port of Napier. The project will however result in detours of up to 2.6 kilometres for a number of properties to the west of Ruahapia Road due to the proposed closing of a level railway crossing on Ruahapia Road. This is not expected to increase travel time unduly.

6.5 RESPONSE

As the assessment has identified positive effects, no mitigation responses are proposed, however one of the proposed conditions is relevant, as included in the Proposed Conditions (HDC 2014d) and summarised below:

- Condition G8 which requires that the project to be undertaken in accordance with the final CEMP and supporting management plans including the Traffic Management Plan (GHD 2014j).

7 ECONOMIC EFFECTS

An assessment of economic effects was undertaken and is discussed in a report prepared by Economic Solutions Ltd (*Whakatu Arterial Link Local and Regional External Economic Effects Assessment - Bevin 2014*).

The Economic Impacts Assessment provides a local and regional external economic effects assessment for the Hawke's Bay region, of the proposed Whakatu Arterial Link (WAL). The specific matters covered in the report include the current economic profile of the Whakatu area, the strategic economic/transport context for the WAL, the assessed Hastings district and wider Hawke's Bay region potential economic impact gains of the development, other economic benefits of the WAL, adverse economic effects and an overall assessment of the potential economic effects of the WAL.

7.1 POTENTIAL ENVIRONMENTAL EFFECTS

The potential external Hastings District and wider Hawke's Bay Region economic effects addressed in the report include:

- i) The linkage between the WAL and the economic and business growth dynamics of the Whakatu and wider Hastings District areas;
- ii) The importance of the proposed new road to future economic, industry, trade and Port of Napier growth and development in the Hawke's Bay Region;
- iii) The positive economic impact gains potentially accruing from the construction and ongoing operation/maintenance of the WAL and from the new industry activity potentially developing in the Whakatu business area directly as a result of the road;
- iv) Other external economic benefits potentially arising from the WAL; and
- v) Potential adverse local and regional economic effects of the WAL on existing business and horticultural production activity based in the Whakatu area.

7.2 ASSESSMENTS UNDERTAKEN

The specific economic assessments undertaken and presented in the report include:

- i) An analysis of the historical, current and forecast profile of the Whakatu area economy;
- ii) An analysis of the strategic Hastings District and Hawke's Bay Region economic development context for the WAL;
- iii) A detailed modelling assessment of the local and regional multiplied economic impact gains over a 30-year period (in both present dollar and Net Present Value (NPV) terms), of the construction and operation of the WAL, as well as new industry development in the Whakatu area potentially resulting from the new link;

- iv) An analysis of other potential economic benefits arising locally and regionally from the WAL;
- v) A modelling analysis (as per Section iii above) of the potential adverse economic impacts of the proposed road for horticultural production activity affected by the proposed development; and
- vi) An overall assessment of the potential external economic effects of the proposed WAL for the Hastings District and wider Hawke's Bay Region.

7.3 RESULTS OF ASSESSMENT

The main results of the above assessments are as follows:

- i) The Whakatu area is an important Hastings District and Hawke's Bay Region industry/business zone; the base for a number of major food and other 'wet' production/distribution/exporting industries; has grown its business numbers significantly over the past decade; is well located (although not well connected) with respect to the key freight transport route (Hawkes Bay Expressway) to the Port of Napier; and has capacity (particularly in association with the Tomoana business area) to accommodate significant additional business development;
- ii) The WAL is consistent with both the need for and profile of significantly increased regional/industry development in Hawke's Bay, as well as the further improvements required in the region's freight transport network in support of this objective;
- iii) The construction of the new road is estimated to increase overall economic activity/GDP in Hastings District by \$13.7 million and in the full Hawke's Bay region by \$17.1 million, taking into account both direct and flow-on spending impacts, over an 18 month period. Ongoing maintenance and renewal work on the new road over a forecast 30-year period could potentially add up to \$1.64 million to the Hastings economy and \$2.07 million to the regional economy, depending on the extent to which Council funding for the work is sourced from existing budgets or from new budgetary allocations. The above figures are in current dollar terms, as are the figures referred to in part iv) below;
- iv) Assuming 5% annual average GDP growth (compared with the longer-term historical growth rate of 4% per annum) in the Whakatu area over the forecast period and 40% of this GDP growth coming from industrial activity new to the Hawke's Bay Region, the total Value Added/GDP gain (including flow-on/multiplied impacts) with the new road over 30 years is estimated at \$565 million (annual average of approximately \$19 million) for Hastings District and \$748 million (annual average GDP gain of approximately \$25 million) for the wider Hawke's Bay Region. This excludes the possible development in the medium to longer-term of a specialised freight distribution centre in the Whakatu area, which will add to the new road's overall economic impact;
- v) Other potential economic benefits of the proposed WAL include increased transport-operating efficiencies for local businesses, increased overall business appeal of the Whakatu area, further business development and utilisation of the available land resource in the area,

strengthening of the export industry base in the area with flow-on benefits to the Port of Napier operations and tourism advantages in respect of reduced commercial vehicle use of Napier’s key Marine Parade tourism precinct;

- vi) Construction period issues potentially facing horticultural and other firms in the Whakatu area include dust, odour, noise, vibration, access to some business premises, heavy construction vehicle and traffic delay impacts. These issues will need to be addressed during both planning for the construction stage for the new road and also in the course of the actual construction work itself.
- vii) Over a 30-year period, the potential value of ‘lost’ horticultural (pip-fruit/cropping) production in the Whakatu area due to the new road’s current alignment is estimated at \$41.3 million. The adverse total Value Added/GDP impact of this is estimated at \$34.4 million for Hastings District and \$42.1 million at the Hawke’s Bay Region level, in present dollar terms.
- VIII) In order to establish the overall or net external Hawke’s Bay Region economic impact of the new road, the total Value Added/GDP results for the 30-year period for the different aspects of the project assessed, have been recalculated in Net Present Value terms. The results are indicated in Table A below. Assuming public and private discount rates of 5% and 8% respectively, the WAL on its own potentially almost doubles the regional Value Added/GDP impact of the road in NPV terms over the period, with the possible development of a major specialised freight distribution centre in the medium to longer-term further increasing the regional Value Added/GDP impact of the road to a significant degree.

Table A: Hawke’s Bay Region Total Value Added Impacts of Proposed New Whakatu Arterial Link in Discounted Net Present Value Terms over a 30 Year Period

Total Value Added Impact Over 30 Years in Discounted Net Present Value (NPV) Terms In \$M	Activity					Increase in Net Value-Added Impact
	Road Construction	Ongoing Road Maintenance	New Industry Development	Lost Pipfruit Production	Net Impact	
1. Without The New Road	-	-	118.00	-	118.00	-
2. With the new WAL road and associated steady industry development. (But excluding a major new freight distribution centre operating in the Whakatu industrial area)	17.08	1.11	231.10	17.06	232.23	114.23
3. As in Point 2 above but also including the establishment of a major new freight distribution centre in Whakatu	17.08	1.11	483.04	17.06	484.17	251.94

7.4 SUGGESTED APPROACH FOR EFFECTS IDENTIFIED

The following recommendation is made in respect of the identified potential issues facing horticultural and other businesses in the Whakatu area during the actual construction period for the WAL:

That prior to construction of the WAL commencing, the Hastings District Council establishes an ongoing project information provision and business consultation process for the Whakatu area, and also implements suitable policies and procedures to directly address issues associated with the construction of the WAL that potentially could have adverse economic effects on properties and businesses in the Whakatu area.

7.5 RESPONSE

A range of conditions are proposed in response to the above assessment. These are outlined in the Proposed Conditions (HDC 2014d) and summarised below:

- Condition G1 which requires the appointment of a Community Liaison Officer
- Condition G2 to G3 which requires the preparation and implementation of a Communications Plan.
- Conditions G4 to G7 which requires the establishment of a Community Liaison Group.
- Condition G21 – G23 which requires the maintenance of a register of public or stakeholder feedback received during construction and outlines a process for responding to feedback and/or incidents of non-compliance.

8 PRODUCTIVE LAND USE IMPACTS

An assessment of effects on productive land was undertaken and is discussed in a report prepared by AgFirst Consultants NZ Ltd (*Whakatu Arterial Link Productive Land Use Impact Assessment – AgFirst 2014*).

The Productive Land Use Impacts Assessment describes the impact the Whakatu Arterial Link road (WAL) and its construction will have on adjacent horticultural and agricultural properties through which it passes. Possible mitigation measures are discussed.

It is noted that the report focuses on the impacts on those horticultural and agricultural properties directly impacted by the WAL. The broader economic impacts and benefits associated with the WAL are considered in the Economic Assessment (Bevin, 2014).

8.1 POTENTIAL EFFECTS

The WAL will result in the loss of approximately 20 hectares of land currently used for horticultural or agricultural purposes. This figure includes the road footprint and an additional set back from the WAL required for the provision of new headlands. 13.6 hectares of this total number is located within the Planes Zone, with the remaining 6.4 hectares located within the Industrial Zone but currently used for horticultural or agricultural purposes. In addition, there are severance effects where severed blocks may no longer be useful for productive purposes. It is noted that potential severance losses are not factored into the calculation of total direct losses, as future intended use of the severance areas is unknown.

Soil types crossed are largely the free draining Oamaru Sandy Loam.

The main impacts on the land owners are:

- Severance effects
- Property access during construction of the road.
- Spray application – spray drift issues.
- Increased orchard working costs.
- Damage to orchard infrastructure:
 - Wells and irrigation systems.
 - Omahuri Orchard cherry cage.
 - Tree support trellises.
 - Orchard buildings.
 - Drainage systems.
- Possible increased vulnerability to frost and wind injury to crops.
- Loss of valuable crop impacting on packhouse throughput.
- Potential dust hazards during construction.
- Property security during and after construction.

8.2 ASSESSMENTS UNDERTAKEN

Site visits were made to determine the nature of horticultural businesses being impacted. Detailed measurements of areas involved were obtained from GHD Whakatu Arterial Project Land Requirement Plan Drawings (provided as Schedule One to the Notice of Requirement application, HDC 2014a).

Soil maps of the Heretaunga Plains Plan No 2683 Sheet Numbers 3 and 5 were consulted to determine the soil types crossed by the WAL.

8.3 RESULTS OF ASSESSMENTS

The WAL will impact adversely on all properties it touches.

Potential effects for all horticultural or agricultural properties include loss of security; reverse sensitivity effects associated with spray drift affecting road users; dust during constructing affecting crops and equipment; impacts on infrastructure such as wells, irrigation lines and other structures; and exacerbation of adverse effects at certain times of the year due to the seasonal nature of operations.

Specific effects on the following properties are noted:

Wedd properties (Plains Zone) – 3.87 hectares of cropping land lost, plus isolation of 2.82 hectares from the remainder of their land.

Omahuri Orchards (Plains Zone) – very significant infrastructure disruption including cherry cage, irrigation well and main lines, and orchard access. Loss of 1.395 hectares of productive orchard.

Mr Apple New Zealand (Plains Zone) – removal of some 4.14 hectares of orchard from production including 1.47 hectares which will be isolated by the WAL without access from the main block.

ENZA Group Services Ltd (Industrial Zone) – significant infrastructure disruption including trellis support end assemblies, irrigation main lines and relocation of a frost machine. Loss of about 4 hectares of highly productive modern intensive orchard area. Isolation of 3.2 hectares of orchard on the other side of the WAL in need of access.

Apollo Pack Ltd (Industrial Zone) – traffic movement relating to inward bins, and gatehouse will need to be reconfigured on the site, as will bin storage and parking.

Dillon (Plains Zone) – WAL runs along the north side of the property, 0.96 hectares lost.

Lucknow Holdings Ltd (Plains Zone) – Significant infrastructure disruption including orchard shedding, irrigation well and main lines. WAL dissects property, 1.8 hectares lost and remaining portions of the property become marginal in size. Access will likely be required from the WAL for the severance block.

8.4 SUGGESTED APPROACH FOR EFFECTS IDENTIFIED

Property infrastructure disrupted by the WAL construction will need to be restored to working order in time to avoid any adverse effects on orchard performance.

Solutions to potential spray drift problems onto the WAL will need to be worked through with the affected property owners or their lessees. A number of possible solutions are suggested in this report, with the establishment of live shelterbelts considered the best option.

Solutions to property access and the timeframes required also need to involve affected property owners or their lessees.

Title amalgamation or the provision of access onto the WAL may solve some severance effects. Two severance areas (Lucknow Holdings Ltd and small part Dillon) appear to no longer be appropriate for horticultural use. A further severance area of orchard (ENZA) within the Industrial Zone is likely to be developed for industrial purposes rather than continue as a productive use.

Some loss of productivity from recently planted intensive orchards could be mitigated by transplanting the trees to new orchard sites.

Orchard husbandry practices are seasonal in nature. Least disruption would occur if disruption of their infrastructure and repair were carried out over the April to August period.

During construction, dust hazard management will be critical within four to six weeks of crop harvest.

8.5 RESPONSE

From the earliest stages of design, a key goal of the WAL has been to reduce impacts on productive land and key design decisions have been taken to achieve this. However, there is an unavoidable impact associated with constructing a new road in a rural area.

A range of conditions are proposed in response to the above assessment. These are outlined in the Proposed Conditions (HDC 2014d) and summarised below:

- Condition G1 which requires the appointment of a Community Liaison Officer
- Condition G2 to G3 which requires the preparation and implementation of a Communications Plan.
- Conditions G4 to G7 which requires the establishment of a Community Liaison Group.
- Condition G21 – G23 which requires the maintenance of a register of public or stakeholder feedback received during construction and outlines a process for responding to feedback and/or incidents of non-compliance.
- Conditions D6 to D11 which require the development and certification of a Dust Control Management Plan.
- Conditions D29 to D31 which requires the development and implementation of an Infrastructure Reinstatement Plan.
- Conditions D32 to D37 which require the implementation of agreed measures to address the effects of spray drift and any security concerns.

9 NOISE AND VIBRATION EFFECTS

An assessment of noise and vibration effects was undertaken and is discussed in a report prepared by Hegley Acoustic Consultants (*Whakatu Arterial Project Assessment of Noise and Vibration Effects – Hegley 2014*).

The Noise Assessment provides an assessment of the noise and vibration effects from the construction of, and subsequent traffic using, the WAL.

9.1 POTENTIAL ENVIRONMENTAL EFFECTS

The Whakatu Arterial Link ('WAL') is a new road project that will pass relatively close to a number of existing dwellings. These dwellings will experience noise from both the construction of the WAL and the subsequent traffic movements. There is the potential for both activities to result in adverse noise and vibration effects, which are the subject of this assessment.

9.2 ASSESSMENTS UNDERTAKEN

An assessment of operational road traffic noise was undertaken in accordance with NZS6806:2010 'Acoustics – Road –Traffic Noise – New and Altered Roads'. This document provides operational noise limits for road traffic noise to comply with at a selected future design year. To supplement NZS 6806, the existing ambient sound levels at selected sites were also recorded.

Road traffic noise was predicted for the surrounding noise sensitive activities using the TNM computer prediction software which was specifically developed for the prediction of traffic noise. Using TNM, mitigation methods were developed that achieved the criteria of NZS 6806 and, through consultation with the design team, a preferred choice that represents the best practicable option for the WAL was selected.

The noise from the construction of the WAL was assessed against the criteria of NZS 6803:1999 'Acoustics - Construction Noise'. Given that the construction plant and construction activities are as yet undetermined, the assessment relied upon measurements of typical construction activities to predict the expected noise levels to the surrounding houses.

Construction vibration has been assessed against specific criteria for road construction.

9.3 RESULTS OF ASSESSMENT

The analysis of operational road traffic noise showed that mitigation will be necessary for the most exposed dwellings in order to control road traffic noise levels to within the criteria of NZS 6806. Further analysis developed road surface and barrier mitigation options from which the road surface mitigation option was selected. This option will ensure that the criteria of NZS 6806 will be met at all surrounding noise sensitive properties. Based on this, and with reference to the measurements of the existing ambient sound, it was concluded that the adverse effects of road traffic noise will be acceptable.

Predictions of construction noise showed that, at the closer houses, there is the potential for construction activities to exceed the assessment criteria. This is not unusual for construction activities, which are inherently noisy.

Analysis showed that while vibration from construction activities was likely to be noticeable at the closer houses, it is unlikely to cause annoyance and is not expected to cause cosmetic building damage. Given the proposal will include the resurfacing of roads adjacent to the closest houses the vibration from traffic on the road network is expected to be acceptable.

9.4 SUGGESTED APPROACH FOR EFFECTS IDENTIFIED

The design solution put forward to control operational noise is to use an asphalt road surface on the following sections:

- WAL between station 2550 and the SH2 roundabout;
- SH2 between station 125 and the SH2 roundabout; and
- SH2 between the SH2 roundabout and station 800.

The most practicable method of controlling construction noise and vibration is through the preparation of a Construction Noise and Vibration Management Plan. Options available to the contractor include:

- Use smaller, quieter plant;
- Limit the use of some noisier equipment to the most exposed houses;
- The use of screens to control noise.

9.5 RESPONSE

A range of conditions are proposed in response to the above assessment. These are outlined in the Proposed Conditions (HDC 2014d) and summarised below:

- Condition D4 which requires that all noise from construction activities complies with NZS6803:1999 Acoustics - Construction Noise.
- Condition D5 which requires that vibration from construction activities complies with criteria in DIB 4150-3:1999.
- Conditions D6 to D11 which require the preparation and certification of a Construction Noise and Vibration Management Plan prior to construction commencing.
- Condition D38 which requires the use of asphalt road surfacing on specified sections of the WAL.

10 LANDSCAPE AND VISUAL EFFECTS

An assessment of landscape and visual effects was undertaken and is discussed in a report prepared by Isthmus Group Limited (*Whakatu Arterial Link, Hastings – Landscape and Visual Assessment – Isthmus 2014*).

The Landscape and Visual Assessment identifies the potential landscape and visual effects of the WAL, and where possible recommends measures to mitigate adverse effects. This landscape and visual assessment report considers the proposed WAL in relation to three groups of effects;

- Biophysical and landscape quality;
- Visual amenity; and
- Landscape character.

1.1 POTENTIAL ENVIRONMENT EFFECTS

The potential landscape and visual effects of the WAL project on the local environment have been identified as:

- Biophysical effects;
- Landscape Character effects; and
- Visual Amenity effects.

The potential landscape and visual effects relate to section 6(a), 6(b), 7(c) and 7(f) of the resource Management Act (1991).

1.2 ASSESSMENTS UNDERTAKEN

The following key methods and assessments have been undertaken in relation to the project:

- Familiarisation with the environment including site visits, a desk top analysis of plan provisions, and a review of existing reports, statutory documents, project drawings and information to help provide an understanding of the landscape and visual components of the project;
- Analysis of the existing landscape provided an understanding of landscape character of the site and the surrounding environment and resulted in the project area being categorised into four landscape character areas;
- Analysis of the viewing audience and visibility of the proposal from indicative viewing locations, in particular, potential views from public roads and nearby residences were considered. A number of local properties were visited;
- An assessment of the potential landscape and visual effects of the proposal on the site and surrounding area, including roads and private properties;
- Recommendations of any appropriate measures identified as necessary to mitigate potential landscape and visual effects; and,
- Preparation of a Graphic Supplement, including maps, plans and site photographs to support and illustrate the assessment report.

1.3 RESULTS OF THE ASSESSMENT

The results of the assessment process outlined above have been summarised in relation to the potential landscape and visual effects identified within the four landscape character areas across the project area:

Summary of Bio-physical effects:

<i>Character Area</i>	<i>Magnitude</i>	<i>Effect</i>	<i>Mitigation</i>	<i>Effects following mitigation</i>
<i>Pakowhai</i>	<i>Moderate</i>	Changes to landform and loss of some parkland and orchards.	Tree protection, new planting and <i>integration with the Park</i>	<i>Low</i>
<i>Whakatu</i>	<i>Very Low</i>	<i>Predominantly industrial area of low amenity</i>	<i>Amenity and screen planting, integration with existing infrastructure</i>	<i>Very Low</i>
<i>Mangateretere</i>	<i>Moderate</i>	Changes to landform and orchards.	Amenity and screen planting; Benefits to Karamu Stream corridor <i>through planting.</i>	<i>Low</i>
<i>Napier Road</i>	<i>Moderate</i>	Changes limited with little effect on landform or <i>vegetation.</i>	<i>Tree protection and planting edges of orchard to 're-seal' blocks.</i>	<i>Very Low</i>

Summary of Landscape Character Effects:

<i>Character Area</i>	<i>Magnitude</i>	<i>Effect</i>	<i>Mitigation</i>	<i>Effects following mitigation</i>
<i>Pakowhai</i>	<i>Moderate</i>	Alteration to Pakowhai Regional Park features and attributes; raised embankment at approach to <i>Karamu stream.</i>	New planting; proposed condition for works within the Park with potential for integration through redesign of the park entry; <i>attention to earthworks and design around bridge.</i>	<i>Low</i>
<i>Whakatu</i>	<i>Very Low</i>	No alteration to key elements features or <i>attributes.</i>	<i>New planting, improved transport connectivity.</i>	<i>Very Low</i>
<i>Mangateretere</i>	<i>Low</i>	Small amount of change to underlying character and composition; some level differences require careful treatment.	New planting; attention to earthworks, particularly next to the stream corridor.	<i>Low</i>
<i>Napier Road</i>	<i>Very Low</i>	Slight change to landscape <i>character.</i>	<i>Proposed new planting</i>	<i>Very Low</i>

Summary of Visual Amenity effects on Landscape Character areas:

<i>Character Area</i>	<i>Magnitude</i>	<i>Effect</i>	<i>Mitigation</i>	<i>Effects following mitigation</i>
<i>Pakowhai</i>	<i>High</i>	Proposal forms a prominent part of available views from the Pakowhai Country Park.	Proposed condition for works within the Park <i>with redesign of the park entry and new planting to redirect views.</i>	<i>Low</i>
<i>Whakatu</i>	<i>Low</i>	Proposal will be a limited component of available views.	<i>Amenity and screen planting</i>	<i>Low</i>
<i>Mangateretere</i>	<i>Very Low</i>	Proposal will be mainly screened by existing orchards.	Amenity and screen planting.	<i>Very Low</i>
<i>Napier Road</i>	<i>Very High</i>	Three houses (Omahuri Orchards Ltd, Haley, Ward) are in close proximity to proposed roads.	<i>Fencing and screen planting</i>	<i>Low</i>

Summary of Visual Amenity Effects on Private Properties:

<i>Property</i>	<i>Magnitude</i>	<i>Mitigation</i>	<i>Effects following mitigation</i>
<i>Ward</i>	<i>Moderate-high</i>	<i>Tree/screen planting within property</i>	<i>Low</i>
<i>Haley</i>	<i>High</i>	<i>Planting within and on the boundary of the property</i>	<i>Low</i>
<i>Omahuri Orchards Limited</i>	<i>Moderate</i>	<i>Either shelterbelt/screen planting within designation or amenity/ screen planting within property</i>	<i>Low</i>
<i>Dillon</i>	<i>Low</i>	<i>Bank planting on road</i>	<i>Low</i>
<i>Edwards</i>	<i>Low</i>	<i>Bank planting on road</i>	<i>Low</i>

1.4 SUGGESTED APPROACH FOR THE EFFECTS IDENTIFIED

The avoidance and management of landscape and visual effects has largely been undertaken throughout the process for the selection of the route and the design of the road and associated earthworks and structures. There will, however, be some potential adverse and landscape effects as a result of the proposal. These effects will be managed through the implement of the Landscape Concept Plan which includes the following outcomes:

- Assistance with the implementation of the Pakowhai Regional Park Concepts, including planting.
- Shelter belt planting on the boundary of the Dillon property to re-define and ‘seal’ the edge of the property, reducing the potential visibility towards the bridge and the new road.
- Re-vegetation planting on the edges of the Karamu Stream.
- Shelter belt or small tree planting on the boundary of the Edwards property to reduce potential visibility of the road.
- Shelter belt planting on the boundary of the Mr Apple property.
- Shelter belt planting on the boundary of the Omahuri orchard Ltd property.

- Garden or small shelter belt planting within and on the boundary of the Haley property.
- Garden or small tree planting on the boundary of the Ward property.
- Planting within the roundabout and at key intersection with Pakowhai Road, Whakatu Road and Napier Road, to be undertaken in consultation with the Hastings District Council to ensure consistency with other Council amenity and road planting.

10.1 RESPONSE

A range of conditions are proposed in response to the above assessment. These are outlined in the Proposed Conditions (HDC 2014d) and summarised below:

- Conditions D12 to D13 which requires a final Landscape Mitigation Plan to be submitted and certified prior to construction commencing
- Conditions D14 to D20 which outline a process for providing landscape mitigation on private land
- Condition D21 which requires the development and implementation of a riparian planting plan.
- Condition D22 which requires the Requiring Authority to support initiatives relating to the enhancement and beautification of the Pakiaka/Pakowhai area.
- Condition D23 to D24 that require the integration of the Pakowhai Regional Park with the WAL in accordance with an attached concept plan and a contribution towards additional enhancement works for the park entrance area.

11 NATURAL HAZARDS

An assessment of natural hazards was undertaken and is discussed in a report prepared by GHD (*Whakatu Arterial Road, Natural Hazards Assessment – GHD 2014d*).

The Natural Hazards Assessment describes the natural hazards that could potentially affect the operation of the WAL and the potential for the WAL to exacerbate the effects of natural hazards on surrounding properties and the environment.

11.1 POTENTIAL ENVIRONMENTAL EFFECTS

The potential effects of natural hazards are severe damage to the WAL resulting in either short or long term closure of the route whilst clearance or reconstruction works are undertaken. New roading construction such as the WAL also has the potential to increase or prolong the effects from natural hazards such as flooding on surrounding properties if these are not managed in the design.

11.2 ASSESSMENTS UNDERTAKEN

A review of existing reports and assessments of natural hazards in and around the Whakatu area was undertaken. NZTA Research Report 355A identifies five key natural hazards with a potential to result in significant disruption to the operation of the roading network, these being:

- Seismic Activity;
- Volcanic Activity;
- Flooding from weather events;
- Flooding and wave action due to tsunami; and
- Snow and ice.

Historical evidence has been used in the assessment of the likelihood and effects of these potential hazards on the Whakatu area.

11.3 RESULTS OF ASSESSMENT

There is a high risk of seismic activity and the design of the arterial road complies with current design practice to ensure the bridge and embankments can withstand the expected horizontal and vertical accelerations of a design seismic event.

Volcanic activity affecting the WAL is expected, however due to its distance from the volcanic areas the impact is limited to ash fall events of between 1 to 5 mm occurring within the next 100 years. Research has shown that whilst tsunamis have occurred in the area, the last significant one being in 1960, the extent of the water inundation is not expected to reach as far as the alignment of the WAL. Storm events are expected and the WAL stormwater drainage management system, consisting of swales, soakaways and positive drainage has been designed to safely discharge the effects of a predicted 1 in 100 year flood event without exacerbating the effects of the flood event on neighbouring properties, including horticultural plantations.

Due to the climate of the Hawke's Bay snow and ice are unlikely to be a problem.

11.4 SUGGESTED APPROACH FOR EFFECTS IDENTIFIED

The WAL has been designed to withstand the expected natural hazard events of seismic activity and flooding in accordance with the design requirements of, amongst others:

- NZ Transport Agency's Bridge Design Manual 2013;
- New Zealand Standards NZS 1170.5.2004; and
- Hastings District Plan including the requirements of the Council's Natural Hazard Resource Units.

Overall, best practice road design has been adopted such the potential impacts of natural hazards have been taken into account. Further, the effects of natural hazards on adjacent properties will not be prolonged or exacerbated as a result of the construction of the road.

11.5 RESPONSE

The assessment concludes that consideration for natural hazards is provided for in road design. No additional mitigation responses are proposed.

12 AQUATIC AND TERRESTRIAL ECOLOGY EFFECTS

An assessment of aquatic and terrestrial ecology effects was undertaken and is discussed in a report prepared by EAM NZ Ltd (*Aquatic and Terrestrial Ecology Assessment - Whakatu Arterial Link, Hastings, Hawke's Bay – EAM 2014a*).

The Aquatic and Terrestrial Ecology Assessments provides an aquatic and terrestrial ecology assessment with regards to possible effects associated with the pre and post construction of the WAL. The report summarises the results of an ecological survey and habitat assessment undertaken during October-November 2013 along the proposed route of the WAL.

12.1 POTENTIAL ENVIRONMENTAL EFFECTS

The WAL is to be a two lane carriageway of approximately 3.5 kilometres in length with a construction footprint width averaging 36 metres and up to eighty metres. The link road will run parallel to the Karamu Stream for much of its length.

Additionally the proposed WAL is to include the construction of a seventy two metre long prefabricated bridge that will span a section of the Karamu Stream. The bridge has been designed so that no pillars are required within the wet stream bed of the Karamu Stream.

Stormwater during construction and from the finished roadway will eventually drain to the Karamu Stream. Ultimately there are planned to be seven stormwater outlets to the Karamu Stream and another eight outlets to existing road side open drains.

Potential effects during the pre and post construction phases of the WAL were identified as the loss of important terrestrial habitat and existing flora and fauna through proposed significant earthworks as well as the possible reduction of water quality and associated effects to aquatic flora and fauna in the Karamu Stream due to stormwater/sediment runoff.

12.2 ASSESSMENTS UNDERTAKEN

A survey of the proposed WAL footprint was undertaken to establish existing biodiversity values of the area. This included the recording of dominant avifauna, herpetofauna, mammals, fish species and terrestrial and aquatic flora.

Aquatic macroinvertebrate and water quality sampling was not carried out as historical data supplied by the HBRC was deemed sufficient.

12.3 RESULTS OF ASSESSMENT

From this assessment it is apparent that area within and surrounding the WAL route is highly modified and currently exhibits very little in relation to its pre human state with surrounding land use dominated by agricultural and horticultural activities.

Terrestrial vegetation is dominated by exotic trees and shrubs, and sprawling weedy vines while the riparian margins of the Karamu Stream in this area have been severely compromised by both biotic

and abiotic factors. In particular the riparian areas are severely impacted through the continual grazing of livestock.

Indigenous plants are largely absent along the riparian margin with the dominant species being rank pasture grasses and ephemeral weeds. An exception to this is a relatively new area of riparian enhancement plantings carried out by the HBRC.

As the WAL does not specifically encroach on this area, the loss of terrestrial flora as a result of the proposed WAL is considered to be no more than minor.

The Karamu Stream is heavily dominated by introduced macrophytes and extensive growths of filamentous green algae and there were no important aquatic plant species noted during this assessment. As such effects on aquatic plant species as a result of the proposed WAL are considered to be no more than minor.

The potential effects on terrestrial ecological values will be most significant during the construction phase of the WAL with the two main impacts on terrestrial ecology considered to be:

1. The loss of habitat through clearance and earthworks; and
2. Disturbance, displacement, injury and mortality.

Habitat loss will also result in a minor loss of connectivity or ecological functionality at a local level. However this habitat loss is considered to be minor given the similarity of nearby habitats, wide ecological tolerances and adaptability of identified bird species. Furthermore, lizards and frogs were not recorded during this assessment with lizards in particular unlikely to be present due to a lack of suitable habitat.

Displacement of resident bird populations is likely to lead to an increased amount of competition between displaced individuals and resident populations in adjoining areas. The effects of competition may lead to some low-scale mortality. This is considered to be of low-scale due to the large area of similar habitat that exists beyond the WAL footprint and wide habitat preferences of the identified species. Therefore the adaptability of the affected species is noted.

The on-going effects on terrestrial ecology from the operation phase of the WAL are relatively limited and considered to be minor. The potential and actual effects are likely to be limited to the direct impacts on terrestrial fauna from the road and vehicular traffic.

Pukeko and introduced mammals are most vulnerable to being injured or killed by vehicles using the WAL. Pukeko territories are generally restricted to within 50 metres of a water body or wetland. The presence of the nearby Karamu Stream therefore suggests that the potential risk to Pukeko is high as they may traverse the WAL in search of seasonally favoured areas of pasture. Proposed riparian plantings in areas where the WAL nears the Karamu Stream riparian boundary will help to deter their movements.

Aquatic macroinvertebrate data for the Karamu Stream is indicative of a soft bottomed system of poor habitat quality with moderate tolerances to organic enrichment.

Similarly water quality data highlights relatively poor water quality currently occurring in the Karamu Stream. With recorded concentration consistently above ANZECC (2000) default trigger values for both total phosphorus and soluble reactive phosphorus.

With no significant works occurring within the wetted area of the Karamu Stream the main potential effects to aquatic ecology and water quality as a result of construction and on-going operation of the WAL is considered to be largely through sedimentation and contamination via stormwater.

Stormwater runoff or accidental spills may also contain a range of contaminants including nutrients, heavy metals and hydrocarbons, which can also negatively impact the aquatic ecosystem. To mitigate sediments and other contaminants entering the Karamu Stream GHD has developed comprehensive Erosion and Sediment Control (GHD 2014h) and Stormwater Management (GHD 2014g) Plans. Within these plans are well set out environmental performance standards that must be met including:

- The concentration of suspended solids in any discharge from the site shall not exceed 100 grams per cubic metre of water;
- The concentration of suspended solids in the Karamu Stream shall not increase by more than 10% as a result of any discharges from site. The point at which compliance with the standard is measured will not be more than 60 metres downstream from the point of discharge; and
- The stormwater discharge from the WAL shall not contain concentrations of hazardous substances that may cause significant adverse effects on aquatic life.

If the proposed treatment measures and performance standards are carried out as described to ensure that sediment and erosion and stormwater runoff is managed so as little as possible enters the Karamu Stream then significant contamination from this source is considered unlikely and effects to aquatic ecosystems and water quality are considered to be minor.

12.4 SUGGESTED APPROACH FOR EFFECTS IDENTIFIED

There is significant latitude for enhancement of the WAL site following development which could be achieved at minimal expense.

Due to the highly modified nature of the WAL corridor and the lack of suitable riparian cover there is significant potential for the roadway to offer an improvement in the habitat for both indigenous and desirable introduced species.

A well developed riparian margin will not only provide good cover for instream life and habitat for terrestrial species it will also provide a valuable ecological corridor between the Pakowhai Country Park and the Havelock North Hills area.

The connectivity of habitats in the Heretaunga Plains is very poor and the development of this area with suitable native tree and shrub species will effectively extend the Pakowhai Country Park area and carrying capacity.

Where areas of concentrated stormwater runoff from the roadway are created which have the potential to enter the water these should be directed into thickly vegetated swales with species such as *Carex geminata*. This *Carex* forms dense swards which will provide invaluable interception and filtering of the run off before entering the water.

The creation of shallow scrapes and swales is recommended. These areas could be planted with a range of low to medium tier species such as *Purei*, *Carex secta*, *Toetoe* (*Cortaderia toetoe*) and *Harakeke*/ *Swamp Flax* (*Phormium tenax*). These scrapes and swales will offer services in the form of water quality and increasing available habitat. All of the above mentioned species naturally occur in the Heretaunga Ecological District.

It is the opinion of the author(s) that there will be no significant ecological effects on the environment to the progressing of this proposal if best management practices and proposed mitigation measures are followed.

12.5 RESPONSE

A range of conditions are proposed in response to the above assessment. These are outlined in the Proposed Conditions (HDC 2014d) and summarised below:

- Condition G8 which requires that the project to be undertaken in accordance with the final CEMP and supporting management plans including the Stormwater Management Plan (GHD 2014g) and the Erosion and Sediment Control Plan (GHD 2014g).
- Condition D21 which requires the development and implementation of a riparian planting plan.
- Condition RC10 which requires practicable measures to limit the amount of sediment and prevent contaminants from entering water bodies during construction.
- Condition RC11 and RC12 which requires a Spill Management Plan to be submitted and certified prior to construction commencing.
- Condition RC13 which requires a response should certain contaminants escape to water
- Condition RC13 which requires the revegetation of exposed areas.
- Conditions RC14 to RC17 which provide water quality protection measures.
- Condition RC18 which requires the stormwater discharge outlet structures to not cause any long-term scour or erosion in the Karamu Stream.

13 CULTURAL EFFECTS

An assessment of cultural effects was undertaken and is discussed in a report prepared by Ipurangi Developments Limited (*Whakatu Arterial Cultural Impact Assessment – Ipurangi Developments Ltd 2014*).

The Cultural Impact Assessment is built on the issues identified during the Enquiry by Design process, a review of detailed design information presented in the Whakatu Arterial Project Description prepared by GHD (GHD 2014a), hui held as part of project consultation at Ruahapia and Kohupatiki Marae and interviews and hui undertaken by the author with whanau / hapu. The report identifies further cultural impacts that need to be considered as part of this project.

13.1 POTENTIAL ENVIRONMENTAL EFFECTS

- The impact on Māori Land
- The impact on Waahi tapu
- The impact on streams/ fauna and flora
- The impact on mahinga kai/ food gathering areas

13.2 ASSESSMENTS UNDERTAKEN

- Review of Whakatu Arterial Project Description (GHD 2014a)
- Review of HDC operative District Plan Waahi Tapu section
- Face to face discussion/ interviews with affected whānau/ hapū
- Walk over the land to identify potential issues

13.3 RESULTS OF ASSESSMENT

There was generally a good wairua/ response from mana whenua regarding the proposed Whakatu Arterial. I feel this has been for a number of reasons: firstly, mana whenua have been involved in the process from the outset (EBD); secondly, the recommendation that no Māori land or any waahi tapu is compromised has been upheld; and thirdly, mana whenua have been given information and participated in face to face discussion regarding the development.

13.4 SUGGESTED APPROACH FOR EFFECTS IDENTIFIED

The results of the assessments identified a number of recommendations that would mitigate potential cultural effects. These are:

1. That all Māori land and waahi tapu sites continue to be avoided through the detailed design and construction phases.
2. That established mana whenua relationships continue to support and advise future project development stages to ensure cultural values are maintained and enhanced.
3. That HDC, in partnership with mana whenua and the Hawke's Bay Regional Council (HBRC), develop and implement a concept plan for the enhancement and beautification of the Pakiaka/ Pākōwhai area to enhance the cultural heritage and values this area has to Māori and the wider community
4. That any storm water discharge from the arterial must adhere to best practice and minimise negative impacts on cultural heritage through relevant marginal planting and swales.

5. That the proposed bridge is designed in a way that does not obstruct the mauri/ flow of the Karamu stream.
6. That HDC continue to consult with mana whenua with a view to identifying where possible/ feasible strategies that will mitigate concerns mana whenua have with the proposed closing of the Ruahapia Road Rail crossing.
7. That the draft Accidental Discovery Protocol (HDC 2014e) is finalised in partnership with mana whenua and that HDC support mana whenua capacity to provide guidance/ expertise during the construction phase of the project to ensure cultural values are protected.

13.5 RESPONSE

A range of conditions are proposed in response to the above assessment. These are outlined in the Proposed Conditions (HDC 2014d) and summarised below:

- Conditions G4 to G7 which requires the establishment of a Community Liaison Group.
- Condition G8 which requires that the project to be undertaken in accordance with the final CEMP and supporting management plans including the Stormwater Management Plan (GHD 2014g) and the Erosion and Sediment Control Plan (GHD 2014g).
- Conditions G18 and G19 which require the finalisation of the Archaeological Discovery Protocol (HDC 4014e).
- Condition D1 which requires the WAL to be undertaken in general accordance with the information submitted in applications, including the Plan Set, which shows the avoidance of Māori land and waahi tapu sites.
- Condition D21 which requires the development and implementation of a riparian planting plan.
- Condition D22 which requires the Requiring Authority to support initiatives relating to the enhancement and beautification of the Pakiaka/Pakowhai area.
- Condition RC10 which requires practicable measures to limit the amount of sediment and prevent contaminants from entering water bodies during construction.

In addition, bridge design as outlined in the Project Description (GHD 2014a), has incorporated feedback from this assessment such that no piers and no construction activities will occur within the wet stream bed.

14 SOCIAL EFFECTS

An assessment of social effects was undertaken and is discussed in a report prepared by GHD (*Whakatu Arterial Link Social Impact Assessment – GHD 2014e*).

The Social Impact Assessment has built on the issues identified in the Enquiry by Design process and identifies further social impacts that need to be considered as part of the consenting of the WAL.

14.1 POTENTIAL ENVIRONMENTAL EFFECTS

The actual or potential positive social effects are generally felt at the regional and sub-regional level, and are related to the economic and employment growth that is anticipated to arise from the unlocking of the development potential of the Whakatu Industrial Area. These effects are anticipated to be significant.

These effects are offset, to a small degree, at the local level by losses in economic terms through reduced agricultural and horticultural output.

There are also likely to be benefits in the local community and at the sub-regional area associated with the re-direction of heavy commercial vehicle traffic off SH2 and onto the Hawke's Bay Expressway. This has benefits for local community and recreational facilities and for communities such as Whakatu and Clive.

The balance of the actual or potential adverse social effects is likely to be experienced at the local level. During the construction phase these are likely to be:

- Temporary effects on accessibility and connectivity;
- Temporary effects on public transport services and on modal choice;
- Effects on adjacent properties to the WAL from noise and discharges to air;
- Effects on personal safety and the adoption of averting behaviours in response to perceptions of risk; and
- Effects associated with uncertainty and construction timing, and direct effects on private property, business operations and viability.

During the operational phase the actual or potential adverse social effects are also likely to be experienced at the local level. These include;

- Longer term effects on accessibility and connectivity (which are expected to diminish over time);
- Effects on community cohesion related to the degree to which the WAL will result in potential dislocation of families and businesses, and induced relocation as businesses or families seek to avoid the cumulative effects of the WAL;
- Effects on personal safety and a sense of security for activities lying immediately adjacent to WAL; and
- Effects on public safety and risk associated with the redirection of traffic via the WAL, and as a result of an increase in growth at Whakatu Industrial Park, particularly risks to those living within Whakatu itself and adjacent to Pakowhai Road.

14.2 ASSESSMENTS UNDERTAKEN

The assessment process has consisted of:

- Profiling of communities within the study area to establish an existing social baseline.
- Impact identification, which included review of the outcomes of the community engagement and consultation process from a social perspective and the social effects identified through consultation;
- Effect assessment, which included evaluation of the positive and adverse social effects from the Project, based on the likelihood, consequence and magnitude of effects and applying a rating scale to determine the significance of each effect;
- Mitigation and management, which included identification of potential avoidance, remediation or mitigation options in relation to adverse social effects; and
- Identification of any future work required from a social perspective, to address issues of risk or uncertainty during the construction and operational phases.

14.3 RESULTS OF ASSESSMENT

At the regional and sub-regional level the overall actual and potential social effects of the WAL are moderately to significantly positive based on:

- Anticipated effects on regional and sub-regional economic and employment growth;
- Anticipated effects on the redistribution of heavy commercial vehicle traffic from SH2 to the Hawkes' Bay Expressway, and general improvements in connectivity and accessibility at the regional and sub-regional level.

At the local community level, the positive social effects are expected to be moderately to significantly positive primarily due to the same economic and employment growth factors, offset to a small degree by losses in horticultural and agricultural output in areas directly affected by the alignment of the WAL.

The temporary effects at the local community level identified above are expected to be moderately to minor adverse effects that can be mitigated by the use of construction traffic and environmental management plans, and by a robust on-going consultation and engagement process during construction.

The operational phase effects at the local community level identified above are likely to range for moderately positive to minor adverse, depending on the specific effect. For example, it is anticipated that the community will gradually adapt to the new road network, and the benefits that it brings in terms of connectivity, reduction in heavy commercial vehicle movements through key communities and the potential to enhance community facilities and the natural and physical environment immediately adjacent to the WAL and the Karamu Stream.

There may be some minor residual adverse effects felt by those residents and properties immediately adjacent to the WAL who will need to adapt over time to the proximity of the WAL, and to traffic noise and the gradual mitigation over time of visual effects as the mitigation measures, such as planting, become established. There will also be the short term effects during the operational phase of adjusting orcharding operations to new orchard and infrastructure layouts.

There is also likely to be residual concern within the Whakatu community about the longer term consequences of growth on their community, and the need to look at further network improvements to provide a higher level of public safety as growth occurs.

14.4 SUGGESTED APPROACH FOR EFFECTS IDENTIFIED

During the construction phase, the use of construction traffic and environmental management plans is expected to adequately mitigate the adverse social effects of the WAL. This will need to be augmented by a robust community consultation and engagement process, to remove uncertainty and to provide an avenue for the community to participate in the monitoring of the construction process and its effects on them.

During the operational phase, the community will adapt to the new roading layout. It will be important to monitor the effects of the WAL in the first three to five years of the operational phase, to verify the outcomes in terms of the anticipated benefits, and to highlight any wider community effects that justify an adaptive approach. It is noted that the Council is reviewing the Whakatu Community Plan and as part of that review and future reviews additional measures such as local area traffic management plans could be considered.

14.5 RESPONSE

A range of conditions are proposed in response to the above assessment. These are outlined in the Proposed Conditions (HDC 2014d) and summarised below:

- Condition G1 which requires the appointment of a Community Liaison Officer
- Condition G2 to G3 which requires the preparation and implementation of a Communications Plan.
- Conditions G4 to G7 which requires the establishment of a Community Liaison Group.
- Condition G21 – G23 which requires the maintenance of a register of public or stakeholder feedback received during construction and outlines a process for responding to feedback and/or incidents of non-compliance.

15 CONTAMINATED LAND

An assessment of contaminated land was undertaken and is discussed in a report prepared by EAM NZ Ltd (*Contaminated Land Assessment with National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health, Proposed Whakatu Arterial Link, Hastings, Hawke's Bay – EAM 2014b*).

The Contaminated Land Assessment provides an assessment in line with the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES) which became effective 1 January 2012 with regards to pre and post construction of a WAL.

15.1 POTENTIAL ENVIRONMENTAL EFFECTS

As the area of land within the WAL footprint is dominated by orchard and agricultural activities it was identified that the NES will be triggered by the proposed WAL as there will be significant earthworks through land that has been identified as having, currently or in the past, an activity undertaken on it that is listed on the Hazardous Activities or Industrial List (HAIL).

The identified soil contaminants of concern to human health are the metals arsenic, lead and copper as well as Organo-Chlorine Pesticide compounds (OCPs) such as DDT all of which (historically) were common constituents in orchard pesticide sprays.

Of particular concern in this project is the safety of site workers as well as the wider public through airborne dusts generated during construction activities.

15.2 ASSESSMENTS UNDERTAKEN

On 6th and 13th November 2013, EAM NZ Ltd collected surface (0-150 mm) samples from 12 sample sites along the WAL corridor. This manner of sampling was designed to provide an understanding of the likely average soil concentrations of identified contaminants across the WAL construction site.

At each sample site a total of ten 150mm cores (as this represents the predominant topsoil depth at this site) were collected around a central point to ensure good coverage of each area.

Once collected, samples were stored in a chilly bin and then despatched to Hill Laboratories Ltd in Hamilton.

15.3 RESULTS OF ASSESSMENT

Preliminary laboratory results of analysis found soil concentrations of arsenic, lead and copper were well below even the strictest NES land use scenario of rural residential lifestyle block (25% produce). Similarly, Organo-Chlorine Pesticides concentrations were either below method detection limits or at trace levels only.

These results suggest that adverse effects on human health as a result of the development proposed are considered unlikely and that the soils are compliant with the NES. As such no further site investigation/remediation works are required.

During the site sampling exercise two sheds with bore/well heads were identified in/near the WAL route. These sheds appear to be areas used for the storage and preparation of agricultural/horticultural sprays and as such should be considered as likely hotspots with regards to soil contamination. These would require more detailed sampling to determine the extent of contamination (if any) should the WAL construction works encompass these sites.

15.4 SUGGESTED APPROACH FOR EFFECTS IDENTIFIED

Although the results of this assessment indicate compliance with the NES it should be noted that these results are based on broad scale sampling and analysis and therefore only provide the likely average contaminant concentrations over the site.

As such, should soils be removed from the site for use as general topsoil it is recommended that they are further sampled and analysed to confirm contaminant levels prior to removal. This will ensure that they are suitable for their identified end use with regards to NES land use scenarios.

It is further recommended that sampling of the two shed areas be carried out prior to the start of construction of the WAL. Initial sampling would likely involve collecting individual soil samples from around the sheds as well as under the concrete pads.

The results of this sampling would determine whether or not a more detailed assessment and/or soil remediation is required. Should elevated contaminant concentrations be found in the soils around the sheds a Remediation Action Plan (RAP) and appropriate resource consent under the NES will be required.

Depending on the levels of contaminants found (if any) it is highly likely that on-site soil mixing will be a viable remediation option considering the large volume of soil available during the construction phase of the WAL.

15.5 RESPONSE

As the NES is complied with, no mitigation responses are proposed, however the following condition is proposed to ensure continued compliance:

- Condition D26 which requires the sampling of soil at the identified sheds prior to earth disturbance activities commencing.
- Condition D27 and D28 which requires sampling of any soil that is to be removed to land located outside the designation and for records to be kept.

16 ARCHAEOLOGICAL EFFECTS

An assessment of archaeological effects was undertaken and is discussed in a report prepared by Clough & Associates Ltd (*Whakatu Arterial Link, Hawke's Bay: Archaeological Assessment – Clough 2014*).

The Archaeological Assessment considers whether the WAL is likely to impact on any known archaeological values. It is based on a desktop study, examining aerials and plans as well as any information on recorded archaeological sites, to determine the archaeological constraints on the project; and a field survey of the proposed route undertaken on 27 November 2013.

16.1 POTENTIAL ENVIRONMENTAL EFFECTS

- There is limited potential to expose archaeological features within the project area. The areas that are more likely to encounter such features include:
 - The area just south of Rangitane Road along the eastern bank of the Karamu Stream, which may have been the location of a 19th century Maori village;
 - Areas near the Stream Bank where earthworks might be undertaken.

16.2 ASSESSMENTS UNDERTAKEN

- This report is based on a study of archaeological databases and reports, the Operative Hastings District Plan schedules, historic maps and aerials as well as field survey, to determine the potential effects of the WAL on archaeological values. It does not include an assessment of effects on Maori cultural values.

16.3 RESULTS OF ASSESSMENT

- No pre-1900 archaeological sites along the proposed route would be affected, although there are archaeological sites and waahi tapu identified in the general vicinity. Effects on unrecorded archaeology are always possible but the potential appears to be limited based on the information gathered.

16.4 SUGGESTED APPROACH FOR EFFECTS IDENTIFIED

- Earthworks should if possible avoid the area on the eastern bank of the Karamu Stream and up to 100m south of the Rangitane Road crossing of the Stream, south of Pakowhai Road, in order to reduce the risk of impacting on any remains of the 19th century Whakatu Village.
- At the construction stage provision should be made for the possibility of unrecorded archaeology being exposed during earthworks by developing comprehensive accidental discovery protocols in consultation between the Council, the Heritage New Zealand (HNZ formerly NZHPT) and tangata whenua. These would ensure that if koiwi tangata (human remains), taonga (Maori artefacts) or subsurface archaeological evidence is uncovered during construction, work would cease in the immediate vicinity of the remains so that appropriate action can be taken.
- Consideration should be given to applying to the HNZ for an authority prior to construction as a precaution, to avoid delays in the event that archaeological sites are discovered.

16.5 RESPONSE

Three conditions are proposed in response to the above assessment. These are outlined in the Proposed Conditions (HDC 2014d) and summarised below:

- Conditions G18 and G19 which require the finalisation of the Archaeological Discovery Protocol (HDC 4014e) prior to construction commencing.
- Condition G20 which requires, where practicable, the avoidance of earthworks that may adversely affect any remains of the 19th century Whakatu Village

In addition, as noted in the Planning Assessment (EMS 2014a), an application to Heritage New Zealand for a general authority under the Heritage New Zealand Pouhere Taonga Act 2014 will be made at a later stage.

17 CONSULTATION

A key feature of the WAL is the early and continued engagement and consultation processes that occurred from the very earliest stages of project development.

The strategic importance and value of the WAL as a means to improve access for freight from the growing industrial area at Whakatu along the Hawke’s Bay Expressway to the Port of Napier has been tested and proved through the HPTS (discussed in Section 1 of this report). However, the exact location and route of the WAL was undetermined.

On the premise that there were potentially multiple route options that could achieve the objectives of the WAL, and that different options may vary significantly in terms of environmental, social and cultural impacts, HDC’s approach was to adopt a consultation process that resulted in the community-led selection of a preferred route. This was achieved through the Enquiry by Design Process.

In support of this core process, engagement and consultation occurred with key stakeholders and affected parties, including affected landowners, the Whakatu Community, mana whenua, the broader Hastings District community, interest groups and agencies. These consultation processes are outlined below.

17.1 ENQUIRY BY DESIGN PROCESS

The Enquiry by Design process is more fully explained in the Alternatives Assessment (EMS 2014b) which includes as an appendix the Enquiry by Design Working Group Report.

By way of summary, Enquiry by Design process involved individuals from the Whakatu Community, wider Hastings District community, business community, mana whenua, industry, infrastructure and enterprise and environmental interest groups who formed a Working Group to explore and test different design and development ideas and options to achieve the objectives of the WAL.

The Working Group were supported by HDC staff and consultants who assisted with the provision of expertise and technical information in order for the Working Group to make an informed assessment of options and ultimately identify a preferred location and route for the WAL. This process occurred through a series of 8 workshops as summarised in Table 11.

Table 11: Summary of Enquiry by Design Process

Workshop	Date	Key Outcomes
One	27 March, 2012	Terms of Reference developed and confirmed. Key constraints, issues and opportunities identified.
Two	3 April, 2012	8 possible route options for the WAL identified based on agreed criteria
Three	14 April, 2012	Site visit to Whakatu area for discussion on route options
Four	17 April, 2012	Refinement process to select 4 route options for further analysis
Five	8 May, 2012	Presentation of further detailed information requested by the Working Group to inform route option analysis

Six	16 May, 2012	Application of multi-criteria assessment process to rank options and identify preferred option
Seven	29 May, 2012	Further detailed information requested by the Working Group presented. Working group reviewed, refined and approved Working Party Report.
Eight	17 July, 2012	Report back to Working Group following landowner consultation and public meetings held to present the preferred route. Further information was also presented on a previously unidentified waahi tapu area. Working Group agreed to a slightly amended route to avoid this site.

As an example of how the Enquiry by Design process was able to incorporate a broad range of interests and concerns into the earliest stages of the design, in Workshop Two the Enquiry by Design Working Group were tasked with developing their own route selection criteria. These criteria were then applied to the development of an initial set of route options. The criteria developed are listed below. Note that as this list is a compilation of criteria developed by four breakout groups, in some cases more than one group have identified the same or similar criterion.

- *Exclude Maori Land*
- *Straight as possible corridor*
- *Effective links with industrial areas – must be mutually compatible*
- *Minimise impact on residential areas*
- *Effective links with other main roads*
- *Maximising existing capital improvements*
- *Utilisation of side railings (rail)*
- *Best use of land boundaries – minimise effect on horticultural land*
- *Best fit with Ruahapia – utilise where possible*
- *Allow for cube containers*
- *Provide a Havelock North link*
- *Limit traffic through Whakatu Residential area*
- *Preserve Maori land/Waahi Tapu/ Urupa*
- *Take traffic away from Ruahapia Marae*
- *Avoid Mangateretere School*
- *Provide as straight a corridor as possible*
- *Efficient linkage for South bound traffic*
- *Efficient use of established routes*
- *Easier/safer entrance onto Pakowhai Road*
- *Improve safety of entry and exit on Farndon Road*
- *Slow traffic on Chesterhope Bridge*
- *Fix what's required ASAP- i.e. the Ruahapia/Pakowhai, Whakatu /Ruahapia, Karamu/Ruahapia intersections on Ruahapia Rd. At Otene Road, possibly look at the feasibility of a bridge across Karamu to link up Station Rd, as iWay are intending to go over there.*
- *We didn't get time to consider the SH2/Napier intersection but agree a radical upgrade is required there.*
- *Efficiency of utilising (both time, money and traffic flow) a straight-line approach*
- *Minimising encroachment onto existing horticultural agribusiness and versatile land – alignment to HPUDs*
- *Minimising adverse effects (landscape and noise) on existing residential community*
- *Avoiding sacred land*
- *Targeting bare land sites where appropriate*
- *Attractiveness to Whakatu community and with road itself – green space, environmental aspects minimised*
- *Arterial Placement that forces the Whakatu industrial estate to be tidied up and become a lot more presentable, and encourages trucking to use new roading*

- *Arterial Placement that helps confine industrial activity to the planned estate zones.*
- *Minimising additional bridges, railway crossings*
- *Safety*
- *Away from the communities*
- *Follow approximates around where current roading systems flow*
- *Protect industry areas and potential development areas*
- *Follow title lines where possible*
- *Realign the Napier Road/Karamu Road roundabout system moving it backwards into the land triangle closer to Havelock/Hastings.*
- *Maximise the use of unusable land holdings such as near rivers where flood zones have been.*
- *Stay away from Maori land holdings and historical sites*
- *Recognise the necessity for future links of Tomoana Industrial to Whakatu Industrial and motorway with the use of Otene road.*
- *Keep the motorway as straight as possible for shorter travel times*
- *Less impact on total community.*

Subsequent to the 8 workshops outlined above, and at the conclusion of detailed design on the preferred alignment, the Enquiry by Design Working Group was reconvened as summarised in Table 12.

Table 12: Summary of Additional Consultation with Enquiry by Design Working Group

Date	Location	Purpose of Meeting	Key messages	Outcomes
20 November 2013	Hastings District Council Chambers	<ul style="list-style-type: none"> • Report back on the outcome of detailed design; • Report back on initial findings from technical environmental assessments; and • Provide a final opportunity prior to public notification for additional input or feedback 	<ul style="list-style-type: none"> • Require confidence that stormwater outfall would be up to standard • Noted possibility of unearthing artifacts of archaeological significance • Suggested that a joint hearing be held (HDC / HBRC) 	<ul style="list-style-type: none"> • Confirmed that accident discovery protocol is part of RMA applications • Joint hearing has been discussed with the consent authorities
7 April, 2014	Hastings District Council Landmarks Room	<ul style="list-style-type: none"> • Report back on design refinements; • Report back on Ruahapia Road closure decision and process; and • Outline programme from here and next steps. 	<ul style="list-style-type: none"> • Need to ensure that consultative approach continues. 	<ul style="list-style-type: none"> • Proceed to community meeting as next step in reporting on updates and design refinements

17.2 WHAKATU COMMUNITY

The Whakatu Community is a key stakeholder in the WAL. The WAL is intended to support the WAL industrial area, whilst also reducing heavy traffic through the residential area of Whakatu.

Whakatu community members were part of the Enquiry by Design Working Group. In addition to this direct involvement in the design process, three meetings were held for the Whakatu community as summarised in Table 13.

Table 13: Summary of Consultation with Whakatu Community

Date	Location	Purpose of Meeting	Key messages	Outcomes
29 February 2012	Whakatu Community Hall	<ul style="list-style-type: none"> • Provide clear and accurate information on the Whakatu Arterial Project; • Present the process (Enquiry by Design) the Council is adopting to develop a preferred route for the proposed arterial link; • Receive feedback and answer any questions; • Invite expressions of interest from people wishing to volunteer to be involved in the Enquiry by Design process. 	<ul style="list-style-type: none"> • Buffer industrial activity from residential areas • Keep industrial traffic out of residential area • Maximise the use of the rail system. • Need information to understand impacts on waahi tapu • Concern around stormwater runoff • Consider impacts on school, safety for school children • Support for the process but timeframe is tight 	<ul style="list-style-type: none"> • Volunteers identified for participation in Enquiry by Design Process • Recording of key messages for input to Enquiry by Design process
27 November, 2013	Whakatu Community Hall	<ul style="list-style-type: none"> • Report back on the outcome of detailed design; • Report back on initial findings from technical environmental assessments; and • Provide a final opportunity prior to public notification for additional input or feedback 	<ul style="list-style-type: none"> • Questions raised over sources of funding for the project • Concerns of the measurement and management of noise – request to not just meet NZ standard, but exceed • Concerns over impacts of additional traffic on Pakowhai Road residents 	<ul style="list-style-type: none"> • Clarify provided on funding sources • Agreement to consider options to exceed NZS 6806 • Transportation Assessment to consider impacts on Pakowhai Road
5 May, 2014	Whakatu Community Hall	<ul style="list-style-type: none"> • Report back on design refinements; • Report back on Ruahapia Road closure decision and process; and • Outline programme from here and next steps. 	<ul style="list-style-type: none"> • Concerns over impacts of additional traffic on Pakowhai Road residents • Concerns raised on potential bridge weight limit restrictions on Farndon Road • Questions raised on process for archaeological discoveries • Concern expressed from Ruahapia Maree members on proposed road closures 	<ul style="list-style-type: none"> • Proceed to RMA process

17.3 MANA WHENUA

The Whakatu area has a rich history of Māori use and occupation. The WAL project has sought to engage with mana whenua early and comprehensively to provide for kaitiakitanga and to identify cultural impacts and appropriate responses.

The Enquiry by Design Working Group included a number of mana whenua representatives and was supported by a kaumatua. In addition to this direct involvement in the design process, three hui were held on marae and a number of interviews were conducted in support of the Cultural Impact Assessment (Ipurangi Developments 2014) as summarised in Table 14.

Table 14: Summary of Consultation with Mana Whenua

Date	Location	Purpose of Meeting	Key messages	Outcomes
6 March 2012	Kohupatiki Marae	<ul style="list-style-type: none"> • Provide clear and accurate information on the Whakatu Arterial Project; • Present the process (Enquiry by Design) the Council is adopting to develop a preferred route for the proposed arterial link; • Receive feedback and answer any questions; • Invite expressions of interest from people wishing to volunteer to be involved in the Enquiry by Design process. 	<ul style="list-style-type: none"> • Maximise use of rail • Need to get a sense of where the road may be to identify waahi tapu constraints • Taking of any Māori land not supported • Dramatic change in increased traffic noticed over the years • Don't need new roads, need improved flow on existing roads • Safety concerns with existing roading network highlighted • Need to ensure also consult with Ngāti Hori and Ngāti Hawea 	<ul style="list-style-type: none"> • Volunteers identified for participation in Enquiry by Design Process • Recording of key messages for input to Enquiry by Design process
7 August 2013	<u>CIA Process</u> Attendees: Aki Paipper and Des Ratima. (Whakatu residents)	Hīkoi over waahi tapu sites	<ul style="list-style-type: none"> • Development of the Pakiaka, Pākōwhai area as a memorial to the Pā is supported. Discussions already with HBRC • Does not have issue with new bridge location. 	<ul style="list-style-type: none"> • Reflected in Cultural Impact Assessment • Pakiaka enhancement included in proposed conditions
14 August 2013	<u>CIA Process</u> Attendees: Margie McGuire (Kohupātiki Marae Trustee)	Interview	<ul style="list-style-type: none"> • Expressed concern that the area known as Whakatu Pā would be impacted. This pā was located around the Pakiaka urupā area. Flood risk if Rangitāne gates removed. Concerns if turned into a walkway that privacy at urupā would be an issue. 	<ul style="list-style-type: none"> • Reflected in Cultural Impact Assessment

20 August 2013	<u>CIA Process</u> Attendees: Des and Evelyn Ratima (Whakatu residents)	Interview	<ul style="list-style-type: none"> Discussed some of the history related to Tāonoke marae, that it used to be a thriving community. He had been asked to give karakia at homes that located near waahi tapu due to wairua visitations. 	<ul style="list-style-type: none"> Reflected in Cultural Impact Assessment
20 August 2013	<u>CIA Process</u> Attendees: Peter Paku, Pōhatu Paku, Mārei Apatu, Tom Mulligan, Jenny Mauger, Matt Otene, Maria, Otene, Riria August (Hapū members)	Meeting at Ruahāpia Marae	<p>Support removal of flood gates as they impede flow and mauri of Karamu</p> <p>Oppose the closing of the Otene Rd. crossing</p> <p>Support the restoration of the Pakiaka/ Pākōwhai waahi tapu</p> <p>Remove the sewer pipes or put below stream</p> <p>Tāonoke Pā was the papakāinga of the Otene whānau</p>	<ul style="list-style-type: none"> Reflected in Cultural Impact Assessment Pakiaka enhancement included in proposed conditions
22 August 2013	<u>CIA Process</u> Attendees: Adele Whyte, (Ruahāpia)	Meeting with NKII	<ul style="list-style-type: none"> NKII did not participate in process but are supportive of the process thus far. Happy no Māori land or waahi tapu was encroached. Supports the reduction of traffic/ increased safety on Ruahāpia Rd. 	<ul style="list-style-type: none"> Reflected in Cultural Impact Assessment
23 September 2013	<u>CIA Process</u> Attendees: Gary Clode	Meeting with HBRC	<ul style="list-style-type: none"> HBRC have proposed a restoration of the Pakiaka area for some time. Urupā trustees have concern about flooding. HBRC can mitigate mana whenua concerns and has a desire to make it happen. Wants to work closely with HDC to support mana whenua aspirations for Pakiaka. 	<ul style="list-style-type: none"> Reflected in Cultural Impact Assessment Pakiaka enhancement included in proposed conditions
26 November, 2013	Kohupatiki Marae	<ul style="list-style-type: none"> Report back on the outcome of detailed design; Report back on initial findings from technical environmental assessments; and Provide a final opportunity prior to public notification for additional input or feedback 	<ul style="list-style-type: none"> Important historic locations around the river that the proposed route may impact A cultural monitor should be on site during construction to support accidental discovery protocol and ensure protocols are followed should artifacts or koiwi be uncovered Returning to Kohupatiki is positive but should also hold a meeting at Ruahapia Marae Some other Māori place names have been identified 	<ul style="list-style-type: none"> Agreed that additional meeting would be held at Ruahapia Marae to discuss in more detail provision for cultural monitor, potential impacts on unrecorded waahi tapu site and impacts on

			<p>along the arterial corridor, namely Iwikohea, Piringaiti, Upokoorua and Whakawhitinga.</p> <ul style="list-style-type: none"> • Need to consult with Pakiaka Urupā Trust around proposed developments at Pākōwhai. • Policy for discovery of kōiwi/tāonga to be developed that is culturally responsive • Mana whenua to be a key part of discovery policy development and implementation 	<p>Ruahapia marae</p> <ul style="list-style-type: none"> • Pakiaka enhancement included in proposed conditions
11 December 2013	Ruahapia Marae	<ul style="list-style-type: none"> • Report back on the outcome of detailed design; • Discuss in particular the potential closure of Ruahapia Road • Report back on initial findings from technical environmental assessments; and • Provide a final opportunity prior to public notification for additional input or feedback 	<ul style="list-style-type: none"> • Strong opposition to potential road closures from some, others noted that that the reduction in traffic would be good for the safety of the community. • Swales, riparian planting and rain gardens would help to manage storm water • Recreational opportunities for the Karamu Stream should be considered – e.g. kayak haul out area, removal of sewer pipes 	<ul style="list-style-type: none"> • Additional work required to scope the potential Ruahapia Road closures²
5 May, 2014	Whakatu Community Hall	<ul style="list-style-type: none"> • See comments in 17.2 Whakatu Community 	<ul style="list-style-type: none"> • See comments in 17.2 Whakatu Community 	<ul style="list-style-type: none"> • See comments in 17.2 Whakatu Community

17.4 AFFECTED LANDOWNERS

Engagement with affected landowners commenced following the Enquiry by Design process and after initial detailed design work on the identified preferred WAL route such that directly affected landowners could be identified.

The WAL directly impacts the following landowners summarised in Table 15.

² Note the additional consultation process undertaken in relation to the proposed Ruahapia Road closures is outlined in the Alternatives Assessment Report (EMS 2014b)

Table 15: Summary of Affected Landowners

Owner	Plan Reference No.	Address
Margaret Ruth Wedd & Dianne Rebecca Ward & Robin Joseph Bell	2	555 Napier Road, Mangateretere, Hastings
Margaret Ruth Wedd & Dianne Rebecca Ward & Robin Joseph Bell	3	Pilcher Road, Mangateretere, Hastings
Margaret Ruth Wedd & Dianne Rebecca Ward & Robin Joseph Bell	4	297 State Highway 2, Mangateretere, Hastings
Margaret Ruth Wedd & Dianne Rebecca Ward & Robin Joseph Bell	5	582 Napier Road, Mangateretere, Hastings
Omahuri Orchards Limited	6	280 State Highway 2, Mangateretere, Hastings
Mr Apple New Zealand Limited	7	324 State Highway 2, Mangateretere, Hastings
Michael Joseph Haley, Gabrielle Maureen Haley and Independent Trust Company (2006) Limited	8	296 State Highway 2, Mangateretere, Hastings
Mr Apple New Zealand Limited	9	324 State Highway 2, Mangateretere, Hastings
ENZA Group Services Limited	10	2 Anderson Road, Whakatu, Hastings
Crown (KiwiRail)	N/A	Palmerston North to Gisborne Railway
Apollo Pac Limited	12	32 Whakatu Road, Whakatu, Hastings
Lucknow Holdings Limited	13	39 Whakatu Road, Whakatu, Hastings
Hawke's Bay Regional Council	14, 15, 17, 18	Soil Conservation and River Control Reserves beside the Karamu Stream.
Crown	16	Karamu Stream Bed
Andrew Bryan Dillon and CDT 11 Limited	19	238 Ruahapia Road, Whakatu, Hastings
Lucknow Holdings Limited	20	262 Ruahapia Road, Whakatu, Hastings
<i>Daniel Joseph Bearsley, Marilyn Celia Bearsley and Napier Independent Trustees Limited*</i>	21	<i>38 Whakatu Road, Whakatu, Hastings</i>
Hawke's Bay Regional Council	22	Soil Conservation and River Control Reserve beside Pakowhai Road
Hastings District Council	23	Country Park, Pakowhai Road, Hastings
Hawke's Bay Regional Council	24	Ngaruroro River Stopbank, Pakowhai Road, Hastings
Silver Fern Farms Limited	25	97 Rangitane Road, Whakatu, Hastings
Road Reserve (Hastings District Council)	26	Whakatu Road

* There is no land requirement in respect of this property; however the property's existing vehicle access onto Whakatu Road is required to be relocated due to its proximity to the proposed roundabout connecting Whakatu Road with the Whakatu Arterial Link.

Initial consultation occurred with all landowners to confirm the outcome of the Enquiry by Design process and the resulting predicted impacts on their properties. Specific feedback from these initial meetings assisted with the confirmation of final design elements.

HDC also secured land entry agreements with each landowner to enable technical assessments to be carried out in support of detailed engineering design and environmental effects assessments.

Some of the key issues raised during consultation with landowners include:

- Mitigation of impacts from the road e.g. access, noise, loss of land, etc.
- How to address severance effects.
- Issues around future land negotiations required to secure land necessary for the WAL.

Landowner consultation is an ongoing process. Should RMA approvals be secured for the WAL, additional consultation is required prior to construction commencing. In particular, the purchase of land required for the WAL and the management of severance effects through purchases, transfers, amalgamations and other processes will in parallel with, and after, the processing of the NOR and resource consents. In addition, some of the proposed mitigation approaches require additional consultation with specific landowners, such as those associated with noise and loss of amenity. Requirements for the latter are included in the Proposed Conditions (HDC 2014d)

17.5 REQUIRING AUTHORITIES

There are two requiring authorities with designations that will be affected by the WAL.

The WAL will necessitate a new railway crossing on the Palmerston North to Gisborne Railway line in Whakatu. The line is designated in the Hastings District Plan for “railway purposes” and is managed on behalf of the Crown by KiwiRail.

KiwiRail were provided with an opportunity to include a representative in the Enquiry by Design Process and there has been ongoing discussion since this time.

In addition to confirming some technical details associated with the construction of the new rail crossing and reinstatement of the track, the key issue raised by KiwiRail is a requirement that there be no net increase in the number of rail crossing in the area. This resulted in a decision to seek the closure of the Ruahapia Road rail crossing, as outlined in the Alternatives Assessment (EMS 2014b).

KiwiRail have agreed to this approach in principle and have provided a conditional agreement under s 177(1)(a) RMA that approval will be provided if certain conditions are adhered to (refer to Appendix B of the Planning Assessment, EMS 2014a).

The WAL also interacts with SH2 which is part of the state highway network and therefore falls under the responsibility of NZTA. NZTA have planned the construction of a new roundabout at the Napier Road / SH2 intersection to address safety issues. An area has been designated to provide the land required to construct this roundabout. As part of the WAL, a new roundabout will be constructed in this location. It will achieve the objectives of the NZTA programmed works. On that basis, NZTA have

provided written approval under section 177(1)(a) of the RMA (refer to Appendix B of the Planning Assessment, EMS 2014a).

17.6 HASTINGS DISTRICT COMMUNITY

The broader Hastings District community were kept informed through the Whakatu Arterial Project Newsletter and updates in the Community Link Newsletter.

The Enquiry by Design Working Group included members from the broader community. In addition to this direct involvement in the design process, Table 16 summarises the consultation meetings that took place.

Table 16: Summary of Additional Consultation with the Hastings District Community

Date	Location	Purpose of Meeting	Key messages	Outcomes
13 March, 2012	Hawke's Bay Opera House	<ul style="list-style-type: none"> • Provide clear and accurate information on the Whakatu Arterial Project; • Present the process (Enquiry by Design) the Council is adopting to develop a preferred route for the proposed arterial link; • Receive feedback and answer any questions; • Invite expressions of interest from people wishing to volunteer to be involved in the Enquiry by Design process. 	<ul style="list-style-type: none"> • Confirmation of project feasibility sought • Concern expressed about the current state of the transportation network – particularly Ruahapia and Farndon Roads • Concern expressed around the impacts of industrial activity in Whakatu 	<ul style="list-style-type: none"> • Volunteers identified for participation in Enquiry by Design Process • Recording of key messages for input to Enquiry by Design process
27 November, 2013	Whakatu Community Hall	<ul style="list-style-type: none"> • See comments in 17.2 Whakatu Community 	<ul style="list-style-type: none"> • See comments in 17.2 Whakatu Community 	<ul style="list-style-type: none"> • See comments in 17.2 Whakatu Community
5 May, 2014	Whakatu Community Hall	<ul style="list-style-type: none"> • See comments in 17.2 Whakatu Community 	<ul style="list-style-type: none"> • See comments in 17.2 Whakatu Community 	<ul style="list-style-type: none"> • See comments in 17.2 Whakatu Community

17.7 INTEREST GROUPS

Recognising that the WAL affected a broad range of stakeholders, HDC sought to engage interest groups with a likely interest in the WAL. These were:

- Business community
- Environmental Groups
- Industry, Horticulture, Transport, Infrastructure and Enterprise

The Enquiry by Design Working Group included members from these interest groups. In addition to this direct involvement in the design process, Table 17 summarises the consultation meetings that took place.

Table 17: Summary of Additional Consultation with Interest Groups

Date	Location	Purpose of Meeting	Key messages	Outcomes
2 March, 2012 / 13 March 2012 (reconvened)	Hawke's Bay Chamber of Commerce	<p><u>Business Community</u></p> <ul style="list-style-type: none"> • Provide clear and accurate information on the Whakatu Arterial Project; • Present the process (Enquiry by Design) the Council is adopting to develop a preferred route for the proposed arterial link; • Receive feedback and answer any questions; • Invite expressions of interest from people wishing to volunteer to be involved in the Enquiry by Design process. 	<ul style="list-style-type: none"> • Freight movement during apple season serious detriment to family wellbeing in Whakatu • The route to port facilitates the speed at which trucks can drop off containers and move to the next job • Trucks use SH2 as its currently the quickest way, therefore more boxes moved per day • Rail sidings are a key opportunity to account for • Project is important for the economy 	<ul style="list-style-type: none"> • Volunteers identified for participation in Enquiry by Design Process • Recording of key messages for input to Enquiry by Design process
8 March 2012	Hawke's Bay Regional Council Chambers	<p><u>Environmental Groups</u></p> <ul style="list-style-type: none"> • Provide clear and accurate information on the Whakatu Arterial Project; • Present the process (Enquiry by Design) the Council is adopting to develop a preferred route for the proposed arterial link; • Receive feedback and answer any questions; • Invite expressions of interest from people wishing to volunteer to be involved in the Enquiry by Design process. 	<ul style="list-style-type: none"> • Runoff should be treated before going into the waterways • Bridge should have gutters to take water and treat before it enters waterways • Ensure there are no problems with any heritage sites • Concern about environmental impact of new river crossings • Concern that another intersection be located close to Ruahapia and Farndon Roads • Get people engaged in a discussion prior to a decision being made – provides an opportunity to have a say • A positive for Clive is that heavy traffic 	<ul style="list-style-type: none"> • Volunteers identified for participation in Enquiry by Design Process • Recording of key messages for input to Enquiry by Design process

			<p>would be diverted to the Expressway</p> <ul style="list-style-type: none"> • Good opportunity to link Havelock North with Expressway • Very few wet industrial areas left in the North Island that are similar to Whakatu – not fully utilised 	
14 March 2012	Whakatu Community Hall	<p><u>Industry, Horticulture, Transport, Infrastructure and Enterprise</u></p> <ul style="list-style-type: none"> • Provide clear and accurate information on the Whakatu Arterial Project; • Present the process (Enquiry by Design) the Council is adopting to develop a preferred route for the proposed arterial link; • Receive feedback and answer any questions; • Invite expressions of interest from people wishing to volunteer to be involved in the Enquiry by Design process. 	<ul style="list-style-type: none"> • Existing transport routes are not efficient or economic • Chesterhope Bridge is narrow and we already have issues with agricultural vehicles and cyclists – should reduce speed and add clip on for cyclists • Would like to see railway used as a hub to the port • How do you reconcile increased industry with the settlement (Whakatu)? • A new arterial will benefit Whakatu community by taking heavy traffic out • Would like to see guaranteed work for Whakatu Community (15%-20%) as part of the project • Confirmation that normal RMA consultation (public notification) would occur • Ruahapia Rd right turns – traffic jams are an issue – plus right turns from Pakowhai Road onto Expressway • Would be disappointed if gardens and swales were not used to treat stormwater 	<ul style="list-style-type: none"> • Volunteers identified for participation in Enquiry by Design Process • Recording of key messages for input to Enquiry by Design process

			<ul style="list-style-type: none"> Interested in consultation about sustainability for horticultural activity 	
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17.8 HAWKES BAY REGIONAL COUNCIL

HBRC are a key stakeholder in terms of impacts on the Karamu Stream and flood protection works and impacts on the Pakowhai Regional Park. Ongoing consultation has occurred, with the following key outcomes:

- Confirmation and agreement on process regarding land requirements for the WAL;
- Input into key bridge design details;
- An agreement for the WAL project to carry out planned Karamu Stream widening on behalf of HBRC as an environmentally sound solution to sourcing fill required for construction works;
- The development of an agreed concept plan for the reinstatement of elements of the Pakowhai Regional Park affected by the WAL and an associated set of proposed conditions.

18 CONCLUSIONS

In order to implement the HPTS and RLTS, the Hastings District Council is seeking approval for the WAL under the RMA. Approvals are to be sought as follows:

- A NOR will be lodged with HDC for the proposed road corridor; and
- Resource consent applications will be lodged with HBRC for all other aspects of the WAL that are not permitted activities.

Key elements of the proposed WAL are:

- The WAL extends in a general southeast direction from Pakowhai Road near Rangitane Road (closed) through to State Highway 2 near the current intersection with Napier Road;
- The corridor of land is approximately 3,500 metres long, a maximum of 80 metres wide and an average of approximately 36 metres wide;
- The alignment crosses the Karamu Stream via a new bridge approximately 450 metres east of Pakowhai Road;
- Three new roundabouts are proposed where the Arterial will intersect with Pakowhai Road, Whakatu Road and State Highway 2; and
- A new level crossing on the Palmerston North – Gisborne Rail Line is required.

This AEE summarises 11 technical assessment reports that have been prepared to consider the actual or potential effects of the WAL. These reports are:

1. Transportation Assessment
2. Economic Impact Assessment
3. Productive Land Use Assessment
4. Noise Assessment
5. Landscape and Visual Assessment
6. Natural Hazards Assessment
7. Aquatic and Terrestrial Ecology Assessment
8. Cultural Impact Assessment
9. Social Impact Assessment
10. Contaminated Land Assessment
11. Archaeological Assessment

The technical assessment reports identify a number of benefits associated with the WAL, including:

- A high benefit cost ratio of 5.5;
- A more efficient transportation network, delivering vehicle operating costs savings and travel time savings;
- Improved safety for road users, including cyclists;
- Improved connectivity into and out of the Whakatu Industrial Area, supporting existing business and encouraging growth at this key industrial area;
- Reduced heavy vehicle traffic through the residential area of Whakatu;
- Reduced heavy vehicle traffic on SH2 and through to Marine Parade in Napier;
- Improved connectivity between the residential area of Havelock North and the Hawke's Bay Expressway;
- Economic benefits from the WAL and associated new industry development have been assessed to provide an overall net value added gain in Hawke's Bay of \$114 million in Net Present Value ("NPV") terms over a 30-year period;
- Opportunities for the enhancement of the Karamu Stream and the Pakowhai Regional Park; and
- Opportunities for the enhancement of the cultural significant area of Pakiaka.

The reports also identify a range of actual or potential adverse effects associated with the construction and operation of the WAL, including:

- Changes in traffic flows;
- General construction effects including dust, noise, vibration and access restrictions;
- Impacts on agricultural, horticultural and industrial properties;
- Noise effects on dwellings in close proximity to the WAL;
- Risk of contaminants entering the Karamu Stream;
- Visual impacts, particularly dwellings in close proximity to the WAL; and
- Risk of uncovering archaeological remains.

In response, a series of conditions are proposed to apply to the designation and/or resource consents (if granted). These conditions are put forward in the Proposed Conditions (HDC 2014d) that form part of the RMA applications for the WAL.

In addition, a series of management plans have been drafted and provided as part of the RMA applications for the WAL. These are:

- Stormwater Management Plan
- Erosion and Sediment Control Plan

- Construction Environmental Management Plan
- Traffic Management Plan
- Accidental Discovery Protocol

These management plans set out the approach for the management of particular aspects of the construction and operation of the WAL. While these plans will be finalised once required information is available, the final plans must be certified by the appropriate consent authority prior to construction commencing, and must be generally in accordance with the draft plans as submitted.

The majority of actual or potential effects have either been avoided through the route selection process adopted by the Enquiry by Design Working Group, or can be successfully avoided or mitigated through measures identified in the Proposed Conditions and management plans. However, the WAL will result in the loss of some 13.6 hectares of Plains Zone land from productive use. While various design decisions have been taken to minimise this effect, it cannot be completely avoided given that the WAL must traverse rural land to be effective.

It is acknowledged that Plains Zone land is of critical importance to Hawke's Bay and its protection from inappropriate use and development is a key strategic objective for HDC and HBRC.

This adverse effect needs to be considered as part of the overall broad judgement approach of the RMA. On that basis, it is considered that this loss is outweighed by the benefits afforded by the WAL, particularly the benefits associated with supporting the primary production industry by improving connections into and out of the food processing area of Whakatu.