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## SH16 CAUSEWAY UPGRADE PROJECT



Monthly Environmental Report  
September 2013

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# Contents

1.0	INTRODUCTION	7
1.1	PURPOSE OF THE REPORT	7
2.0	OVERVIEW of ACTIVITIES UNDERTAKEN	7
2.1	Environmental	7
2.2	Communications and Stakeholder Management	7
2.3	Key Stakeholder Milestones	7
2.4	Construction	8
3.0	MEETINGS, INSPECTIONS & EVENTS	8
4.0	ENVIRONMENTAL MONITORING	8
4.1	EARTHWORKS COMPLIANCE	8
4.2	CONSTRUCTION NOISE & VIBRATION	8
4.3	AIR QUALITY	9
4.4	CONTAMINATED SOIL	9
4.5	EROSION AND SEDIMENT CONTROL	9
4.6	ARCHAEOLOGICAL	9
4.7	COASTAL MONITORING	9
4.8	MARINE MONITORING	9
4.9	ECOLOGICAL	10
5.0	CORRESPONDENCE ON CONSENT CONDITIONS AND PLANS	10
6.0	WORKS PROPOSED FOR OCTOBER 2013	10

**Appendix A:** SH16 Causeway Alliance Construction Zone Plan

**Appendix B:** SH16 Causeway Imported and Exported Material Summary

**Appendix C:** Coastal Bird Monitoring at Te Atatu Pony Club (Quarterly Report # 2)

## **1.0 INTRODUCTION**

### **1.1 PURPOSE OF THE REPORT**

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To provide Auckland Council with a monthly overview of construction progress and compliance activity on the SH16 Causeway Upgrade project.

This report describes and details activities during the month of September 2013.

## **2.0 OVERVIEW of ACTIVITIES UNDERTAKEN**

### **2.1 Environmental**

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Regular contact is continuing with Auckland Council compliance team.

Response provided back on comments on draft Urban Design and Landscape Plan by Auckland Council and Auckland Transport staff.

Consultation with Council staff and DOC on a proposed extension of the reclamation at the Rosebank off ramp for the shared path, instead of upgrading the existing timber board walk.

### **2.2 Communications and Stakeholder Management**

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A meeting was held on 10 September with Iwi and Council's urban designer to identify possible cultural and heritage opportunities along the shared path which could be considered as an additional 'legacy' of the project. Further meetings are planned in October to develop proposed sites and design ideas.

Meetings with Department of Conservation and Auckland Council staff on the proposed shared path reclamation under Rosebank Road westbound off-ramp.

### **2.3 Key Stakeholder Milestones**

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- Produced fortnightly Causeway News project updates to stakeholders, project neighbours and wider community
- Meeting with Iwi to understand opportunities to incorporate features which recognise cultural and heritage features in the area.
- Presented information at a Western Ring Route project Open day on 7 September at Waterview

Positive feedback and no complaints were received from residents, local or regional stakeholders.

## **2.4 Construction**

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- Alwyn Ave - no progress on earthworks for creating access to Whau Bridge (south-west side) due to wet weather.
- Whau River bridge (both north-west and north-east sides) – earthworks for working platform and ground improvements using vibro cement columns. Materials and equipment delivery for installing temporary staging units.
- Rosebank Domain – vegetation clearing continuing alongside motorway
- Zone 1 Causeway (North Traherne Island in an easterly direction) – continue installing drainage layer, wick drains, ground monitoring instrumentation and advancing the working platform in the coastal marine area.
- South Traherne Island – commence removal of organic material and earthworks for the working platform
- Great North Road Interchange (GNRI) - westbound on-ramp towards Causeway Bridge – continue with earthworks and rock lining of Oakley Creek channel.
- GNRI - Causeway Bridge towards eastbound off-ramp – services protection and site clearance works
- Trial embankment – removal of redundant structure.

## **3.0 MEETINGS, INSPECTIONS & EVENTS**

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9 September 2013 - Coastal works Compliance (Auckland Council / Causeway Alliance)

19 September 2013 - Earthworks Compliance Inspection (Auckland Council / Causeway Alliance)

## **4.0 ENVIRONMENTAL MONITORING**

### **4.1 EARTHWORKS COMPLIANCE**

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A Compliance Inspection was completed by Auckland Council officers on the 19 September 2013 and recorded a compliance score of 1 (Full Compliance).

### **4.2 CONSTRUCTION NOISE & VIBRATION**

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No Site Specific Noise Management Plans were submitted or approved in September 2013.

Noise monitoring was undertaken in Alwyn Avenue during September.

### **4.3 AIR QUALITY**

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No air quality complaints or issues were received during the period.

Causeway Alliance Daily Site Reports did not indicate any air quality issues.

### **4.4 CONTAMINATED SOIL**

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The Fill Material Sampling Strategy was submitted and approved by Council in September.

A summary of imported material sources and exported material disposal locations, classifications sample methods and quantities at various site locations during September is included in Appendix B.

### **4.5 EROSION AND SEDIMENT CONTROL**

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CESCP No. 12 for Causeway West was approved on 13 September.

CESCP No. 13 and No. 14 for Causeway East were approved on 11 and 23 September respectively.

CESCP No. 15 for Whau River North Staging and Piles was approved 18 September.

CESCP No. 4 (Rev B) for Construction Yard 2 (Rosebank Domain) to Whau Bridge (southern side) was approved on 23 September.

### **4.6 ARCHAEOLOGICAL**

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Inspections of archaeological sites were completed during the period at the GNRI eastbound ramp site (old Stone Wall) and at South Traherne Island.

### **4.7 COASTAL MONITORING**

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A coastal monitoring inspection was completed by Auckland Council on 9 September and recorded a compliance score of 1 (Full Compliance).

### **4.8 MARINE MONITORING**

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No marine monitoring was undertaken during the period.

## **4.9 ECOLOGICAL**

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Inspections of Significant and Valued vegetation were undertaken during the period at Traherne Island and between Whau River bridge (north-eastern corner) and Patiki off-ramp and at the Rosebank Domain.

An investigation was undertaken into the over clearance of vegetation (approximately 350m<sup>2</sup>) and tracking an excavator across of flax and cabbage trees on South Traherne Island (approximately 400m<sup>2</sup>), outside the designation, followed by a response to Council on 18 September. A replanting plan has been developed and is being reviewed by Council, DOC, NZTA and AMA, including replanting the area using a range of species raised from seeds obtained from Traherne Island.

Monthly assessment of avian roosting locations was undertaken in Zone 3 (Harbourview-Orangihina). A Quarterly report (June to September 2013) is included as Appendix C).

Planning continues for the installation of two temporary bird roost sites (floating pontoons) south of Causeway Bridge.

An Animal Pest Management Plan is being reviewed prior to implementation. This includes pest control on the coastal marine area frontage as required by BOI Condition A.6 (west of Traherne Island).

## **5.0 CORRESPONDENCE ON CONSENT CONDITIONS AND PLANS**

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Letter dated 2 September from Council approving the 95% Design Report for the Causeway Upgrade.

Letter dated 18 September to Council advising details of the accidental over clearance and damage of vegetation beyond the designation at Traherne Island South in late August.

## **6.0 WORKS PROPOSED FOR OCTOBER 2013**

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Refer Appendix A for Construction Zone Plan.

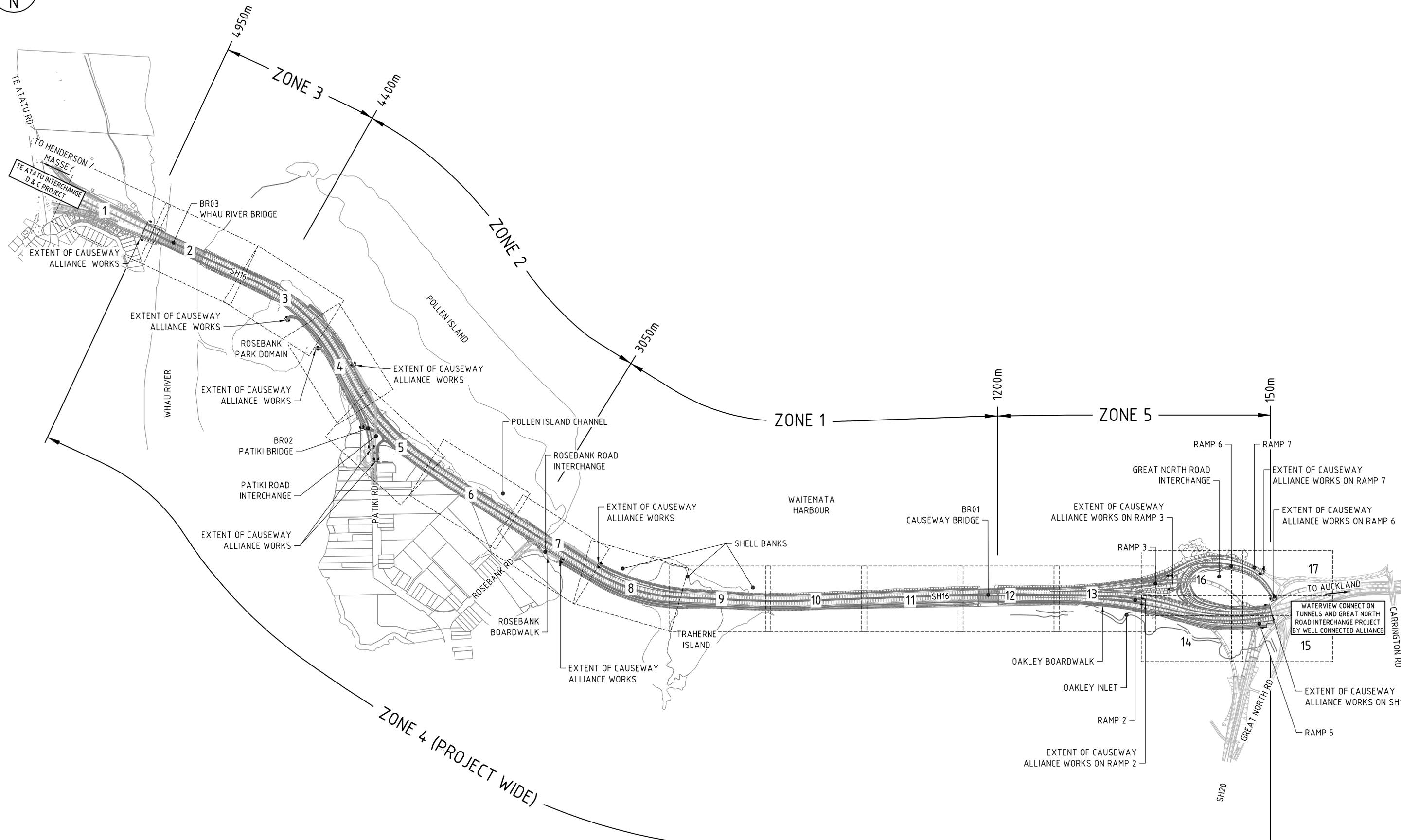
Zone 1 Causeway - continue installing the working platform, drainage blanket, wick drains, coffer dam and reclamation in the coastal area east of Traherne Island. Site clearing, establish access and working platform on south Traherne Island.

Zone 2 / Zone 3 – Access track from Alwyn Ave to Whau River Bridge (south-west) to commence after lizard relocation and environmental controls installed. Commence installing temporary staging units on the north-east side of Whau River Bridge. Install rock protection under Whau River bridge (western abutment).

Zone 5 - Installing the rock revetment on Oakley Creek bends and earthworks to widen the embankment in the vicinity of Oakley Creek at Great North Road Interchange Area. Commence site clearing alongside Great North Road east-bound off-ramp.

The environmental focus for October will continue to be on inspections prior to and during vegetation removal and ground clearance to ensure ecological and archaeological stand over requirements are met. The establishment and monitoring of sediment and erosion controls will also continue.

## **Appendix A: SH16 Causeway Alliance Construction Zone Plan**



## **Appendix B: SH16 Causeway Imported and Exported Material Summary**

Date	Transport Subcontractor	Docket #	Source	From Area	Gate	From Description	To Area	Sample ID	Lab Report ID	Classification	Acceptable Disposal Facilities	Conformance	To Description	To Change	Material Type	Type of work	Task code	Truck Type	Driver	Truck Rego	Load Count	Truck Volume (T)	Total Volume (T)	Total Volume (m <sup>3</sup> ) (conversion factor of 1.6)	Sample Rate	
Friday, 6 September 2013	G&C	GC29006		Causeway - Zone 1B	N/A	Cut to Waste	Puketutu Island	BH429, BH665, W5664, W5661 (BECA Sampling)	Refer to G9 report for Beca results	Cleanfill	Greenmount Cleanfill, Ridge Road Cleanfill, (Puketutu Island Cleanfill)	Yes - AECOM reviewed Beca's cleanfill classification for W5664 and W5661 and found it acceptable (note sample depths were 0.8 m and 1.3 m respectively). Beca had classed BH429 and BH665 as managed fill, however upon review AECOM determined both samples met the acceptance criteria for Puketutu (note sample depths were 0.5 m and 1.2-1.3 m respectively).	Cut to waste		Waste / Topsoil			Truck & Trailer			4	28.8	115.2	184.32	Total volume disposed to date 1106 m <sup>3</sup> (includes 737 m <sup>3</sup> disposed of in August). Four samples relate to Zone 1B. The current sample rate is one sample per 276 m <sup>3</sup> . This meets the minimum sampling requirements of 1 sample per 1,000 m <sup>3</sup> .	
Friday, 6 September 2013	G&C	GC294932		Causeway - Zone 1B	N/A	Cut to Waste	Puketutu Island						Cut to waste		Waste / Topsoil			Truck & Trailer			4	28.8	115.2	184.32		
Thursday, 19 September 2013	G&C			Shear Key / Undercut NW Whau			Area 3	CA16, 0.05-0.2, CA16, 1.0-1.2, CA17, 0.05-0.2, CA17, 1.0-1.2	1175713	Cleanfill		Kept onsite	Taupuni Stockpile		Cut to Waste			6 Wheeler	Mike Davies	56	2				Total likely cut volume 300m <sup>3</sup>	Material kept onsite. Causeway Alliance advises total likely cut volume for NW Whau River Bridge area is to be 300 m <sup>3</sup> . Four samples relate to NW Whau River Bridge and based on the total likely cut volume the sample rate is one sample per 75 m <sup>3</sup> . This meets the minimum sampling requirements of 1 sample per 1,000 m <sup>3</sup> .
Thursday, 19 September 2013	G&C			Shear Key / Undercut NW Whau			Area 3	CA16, 0.05-0.2, CA16, 1.0-1.2, CA17, 0.05-0.2, CA17, 1.0-1.2	1175713	Cleanfill		Kept onsite	Taupuni Stockpile		Cut to Waste			6 Wheeler		51	8					
Thursday, 19 September 2013	G&C	GC 297771		Causeway - Zone 1B	N/A	Cut to Waste	Puketutu Island	BH429, BH665, W5664, W5661 (BECA Sampling)	Refer to G9 report for Beca results	Cleanfill	Greenmount Cleanfill, Ridge Road Cleanfill, (Puketutu Island Cleanfill)	Yes - AECOM reviewed Beca's cleanfill classification for W5664 and W5661 and found it acceptable (note sample depths were 0.8 m and 1.3 m respectively). Beca had classed BH429 and BH665 as managed fill, however upon review AECOM determined both samples met the acceptance criteria for Puketutu (note sample depths were 0.5 m and 1.2-1.3 m respectively).	Cut to waste		Waste / Topsoil			Truck & Trailer			3	28.8	86.4	138.24	Total volume disposed to date 1336 m <sup>3</sup> (includes 737 m <sup>3</sup> disposed of in August and 369 m <sup>3</sup> already disposed in September). Four samples relate to Zone 1B. The current sample rate is one sample per 334 m <sup>3</sup> . This meets the minimum sampling requirements of 1 sample per 1,000 m <sup>3</sup> .	
Thursday, 19 September 2013	G&C	GC 307102		Causeway - Zone 1B	N/A	Cut to Waste	Puketutu Island						Cut to waste		Waste / Topsoil			Truck & Trailer			2	28.8	57.6	92.16		
Monday, 23 September 2013	G&C			Shear Key / Undercut NW Whau		Cut to Waste	Area 3	CA16, 0.05-0.2, CA16, 1.0-1.2, CA17, 0.05-0.2, CA17, 1.0-1.2	1175713	Cleanfill		Kept onsite	Taupuni Stockpile					6 Wheeler			20	6				
Monday, 23 September 2013	G&C			Shear Key / Undercut NW Whau		Cut to Waste	Area 3	CA16, 0.05-0.2, CA16, 1.0-1.2, CA17, 0.05-0.2, CA17, 1.0-1.2	1175713	Cleanfill		Kept onsite	Taupuni Stockpile					6 Wheeler			51	4				
Monday, 23 September 2013	G&C	GC297508	Yard 2			Dump Material to waste	Greenmount								Managed Fill			Truck & Trailer	Brvan	30	2		64.34			
Monday, 23 September 2013	G&C	GC300793	Yard 2			Dump Material to waste	Greenmount								Managed Fill			Truck & Trailer	JC	64	3		88.74			
Monday, 23 September 2013	G&C	GC298162	Yard 2			Dump Material to waste	Greenmount								Managed Fill			Truck & Trailer	Brvan	37	3		94.68			
Monday, 23 September 2013	G&C	GC298768	Yard 2			Dump Material to waste	Greenmount								Managed Fill			Truck & Trailer	James	19	2		65.36			
Monday, 23 September 2013	G&C		Area 2	Area 2	Gate A		To Atatu Yard Stockpile	CA05, W5652, BH406, W5651, BH403 (Becca Sampling)	1162411. Refer to G9 report for Becca results	Cleanfill	Kept on site	CA05 had copper, lead and nickel concentrations slightly above Auckland background ranges, though under the acceptance criteria for all three cleanfill disposal sites. Becca classified samples BH406, W5651 and BH403 as cleanfill. AECOM reviewed this classification and found it acceptable (note sample depths were 0.5 m, 0.5-0.6 m, 0.5 & 0.9 m respectively). Becca classified sample W5652 as managed fill, however upon review AECOM determined the sample met the acceptance criteria for all three cleanfill disposal sites (note sample depths were 0.3-0.5 m & 2.55-2.85 m).	Zone 5 - Cut to waste		Clay	Permanent	30.505	6 wheeler	mats					20	32	Total volume disposed to date 32 m <sup>3</sup> (no material was disposed of in August). Five samples relate to Zone 1B. The current sample rate is one sample per 6.4 m <sup>3</sup> . This meets the minimum sampling requirements of 1 sample per 1,000 m <sup>3</sup> . (this material was kept onsite as a stockpile in GMRI - Area1).
Tuesday, 24 September 2013	G&C	GC300706	Yard 2	Yard 2		Dump Material to Waste	Greenmount								Managed Fill			Truck & Trailer	JC	64	1		26.46			
Tuesday, 24 September 2013	G&C	GC297677	Yard 2	Yard 2		Dump Material to Waste	Greenmount								Managed Fill			Truck & Trailer	Brvan	30	2		55.59			
Tuesday, 24 September 2013	G&C	GC298767	Yard 2	Yard 2		Dump Material to Waste	Greenmount								Managed Fill			Truck & Trailer	James	19	3		82.66			
Tuesday, 24 September 2013	G&C	GC299194	Yard 2	Yard 2		Dump Material to Waste	Greenmount								Managed Fill			Truck & Trailer	Brvan	37	2		61.7			
Thursday, 26 September 2013	G&C	1443198	Zone 1B	Puketutu Island			Greenmount	BH429, BH665, W5664, W5661 (BECA Sampling)	Refer to G9 report for Becca results	Cleanfill	Greenmount Cleanfill, Ridge Road Cleanfill, (Puketutu Island Cleanfill)	Material was incorrectly sent to Puketutu and was subsequently rejected. Material was then taken to Greenmount. Refer to emails from Dwayne Maki and Bruce Bowie			Topsoil / Unsuitables			Truck & Trailer						27.06		
Thursday, 26 September 2013	G&C	1443246	Zone 1B	Puketutu Island			Greenmount								Topsoil / Unsuitables			Truck & Trailer						30.12		
Thursday, 26 September 2013	G&C	1443293	Zone 1B	Puketutu Island			Greenmount								Topsoil / Unsuitables			Truck & Trailer						29.22		
Thursday, 26 September 2013	G&C	GC298422	Yard 2	Yard 2			Greenmount								Managed Fill			Truck & Trailer						32.26		
Friday, 27 September 2013	G&C	1443386	Zone 1B	Puketutu Island			Greenmount	BH429, BH665, W5664, W5661 (BECA Sampling)	Refer to G9 report for Becca results	Cleanfill	Greenmount Cleanfill, Ridge Road Cleanfill, (Puketutu Island Cleanfill)	Material was incorrectly sent to Puketutu and was subsequently rejected. Material was then taken to Greenmount. Refer to emails from Dwayne Maki and Bruce Bowie			Topsoil / Unsuitables			Truck & Trailer						24.38		
Friday, 27 September 2013	G&C	1443427	Zone 1B	Puketutu Island			Greenmount								Topsoil / Unsuitables			Truck & Trailer						28.08		
Friday, 27 September 2013	G&C	1443463	Zone 1B	Puketutu Island			Greenmount								Topsoil / Unsuitables			Truck & Trailer						16.64		
Friday, 27 September 2013	G&C			Shear Key / Undercut NW Whau			Taupuni Yard	CA16, 0.05-0.2, CA16, 1.0-1.2, CA17, 0.05-0.2, CA17, 1.0-1.2	1175713	Cleanfill		Kept onsite	Taupuni Stockpile		Cut to Waste			6 Wheeler		34	3				Total likely cut volume 300m <sup>3</sup>	Material kept onsite. Causeway Alliance advises total likely cut volume for NW Whau River Bridge area is to be 300 m <sup>3</sup> . Four samples relate to NW Whau River Bridge and based on the total likely cut volume the sample rate is one sample per 75 m <sup>3</sup> . This meets the minimum sampling requirements of 1 sample per 1,000 m <sup>3</sup> .
Monday, 30 September 2013	G&C			Shear Key / Undercut NW Whau			Taupuni Yard	CA16, 0.05-0.2, CA16, 1.0-1.2, CA17, 0.05-0.2, CA17, 1.0-1.2	1175713	Cleanfill		Kept onsite	Taupuni Stockpile		Cut to Waste			6 Wheeler		15	5				Total likely cut volume 300m <sup>3</sup>	Material kept onsite. Causeway Alliance advises total likely cut volume for NW Whau River Bridge area is to be 300 m <sup>3</sup> . Four samples relate to NW Whau River Bridge and based on the total likely cut volume the sample rate is one sample per 75 m <sup>3</sup> . This meets the minimum sampling requirements of 1 sample per 1,000 m <sup>3</sup> .
Monday, 30 September 2013	G&C			Shear Key / Undercut NW Whau			Taupuni Yard						Taupuni Stockpile		Cut to Waste			6 Wheeler		34	5					

**Appendix C: Coastal Bird Monitoring at Te Atatu Pony Club (Quarterly Report # 2)**

**CAUSEWAY ALLIANCE  
CONSTRUCTION YARD NO. 1**

**COASTAL BIRD MONITORING AT THE  
TE ATATU PONY CLUB**

**QUARTERLY REPORT NO. 2  
JULY TO SEPTEMBER 2013**



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**Causeway Alliance  
Construction Yard No. 1**

**Coastal Bird Monitoring at the  
Te Atatu Pony Club**

**Quarterly Report No. 2  
July to September 2013**

**SEPTEMBER 2013**

**FOR: CAUSEWAY ALLIANCE**  
**BY: BIORESEARCHES GROUP LIMITED**  
**G L Don, M.Sc (Hons)**

# CONTENTS

	<b>Page No.</b>
<b>1 INTRODUCTION.....</b>	<b>1</b>
<b>2 METHODS .....</b>	<b>1</b>
<b>3 RESULTS.....</b>	<b>1</b>
<b>4 CONCLUSION.....</b>	<b>4</b>
<b>5 APPENDICES .....</b>	<b>5</b>
Appendix 5.1 Field Sheets .....	6
Appendix 5.2. Te Atatu Pony Club Coastal Bird Count Summary.....	10
Appendix 5.3. Baseline Coastal Bird Data.....	12

## **1**     **INTRODUCTION**

This is the second quarterly report on the coastal bird monitoring within the Te Atatu Pony Club adjacent to Construction Yard No. 1 as required by BOI Avian Condition A3 (a).

The associated Condition A3 (b) involves monitoring of roosting structures on the southern side of the Causeway and will commence when the structures are installed prior to works commencing in that area.

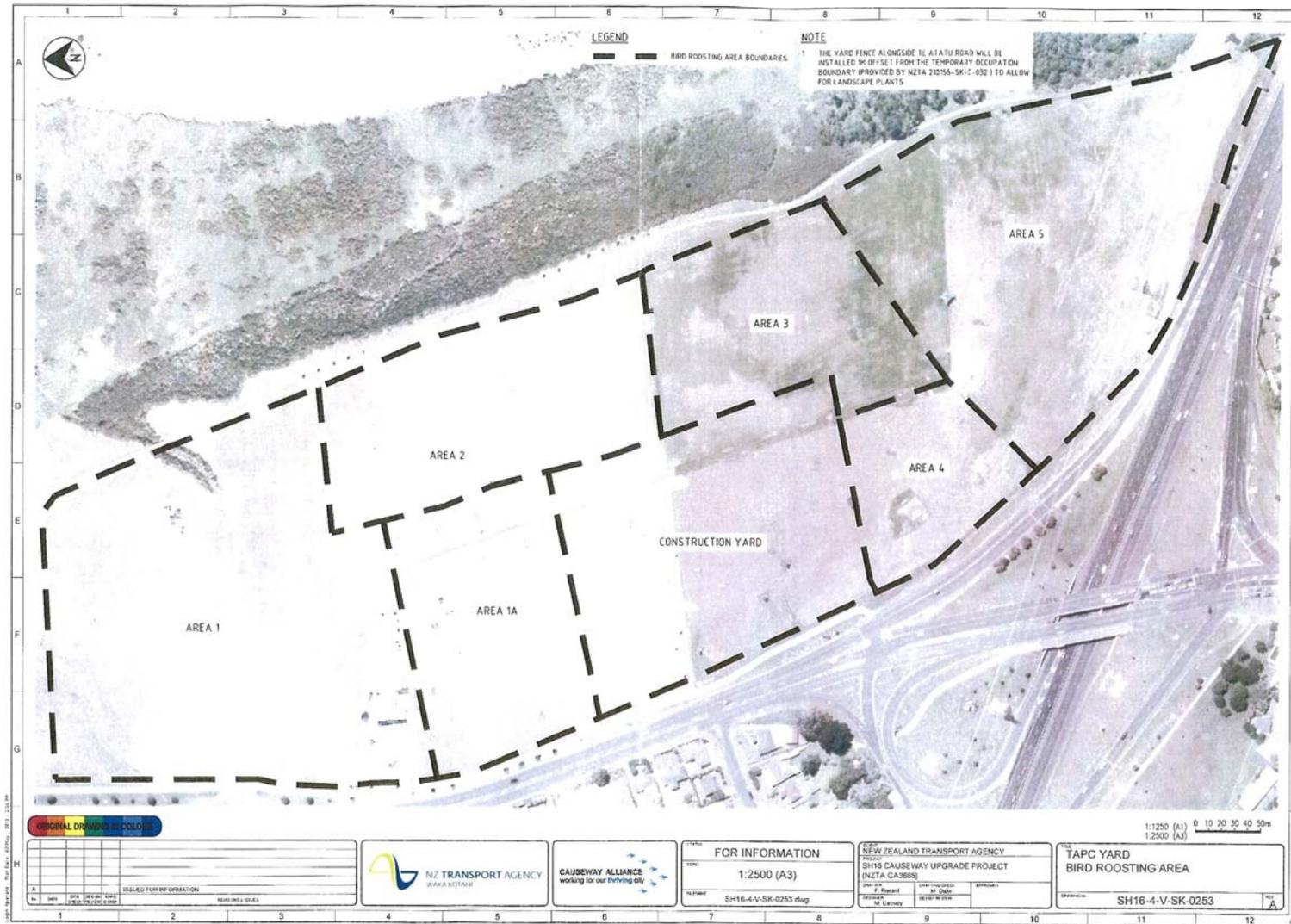
## **2**     **METHODS**

All areas adjacent to the Construction Yard are inspected on foot at high tide. All coastal birds present in the areas shown on Figure 1 are identified and counted.

Counts are undertaken with Nikon Monarch 10 x 42 binoculars and a Vixen Geoma 80-A tripod-mounted spotting scope (60 times zoom). Before each count the air temperature is measured using a quartz digi-thermo (-10 to +110°C) thermometer; wind speed and barometric pressure are measured with a Silva Alba Windwatch or obtained from MetService and general weather conditions are also recorded. All data are entered on pre-prepared, waterproof record sheets.

## **3**     **RESULTS**

The results for July, August and September 2013 are shown in Appendix 5.1 as the individual field sheets and an overall summary, that will be extended as the surveys progress, is shown in Appendix 5.2. The baseline results for the period 25 March 2010 to 23 March 2011 are reproduced in Appendix 5.3 for convenience.



**FIGURE 1 AREAS REFERRED TO ON THE DATA SHEETS**

Comments on the three sets of results are as follows:

- 3.1.** There has been no displacement of coastal birds as a result of the Construction Yard.
- 3.2.** The total number of birds is typically low from about September to December inclusive as most species move away to breed.
- 3.3.** The comparative total numbers of coastal birds relative to the baseline are as follows:

	<b>2010 (max.)</b>	<b>2013</b>
<b>July</b>	481	342
<b>August</b>	86	57
<b>September</b>	42*	8

[\* 9.9.2010; 14.9.2010 total number = 9]

- 3.4.** Overall, the 2013 total numbers were similar to the baseline results recorded towards the ends of the respective months (minimum two surveys per month in baseline).
- 3.5.** The main difference in the April to September period in 2013 compared with 2010 was the use of the area by wrybill from April to August inclusive. That is a positive change and enhances the value of the Pony Club as a high tidal roosting area within the context of the upper Waitemata Harbour.
- 3.6.** Three nationally “threatened” and two nationally “at risk” species were recorded in this quarter.

#### 4 CONCLUSION

There is no indication that the presence of or activities within the Construction Yard have adversely affected the use of the Pony Club for roosting by coastal birds.

GD\1338 REPORT NO. 2 JULY TO SEPTEMBER 2013  
24 SEPTEMBER 2013

5 **APPENDICES**

**Appendix 5.1 Field Sheets**

**CAUSEWAY ALLIANCE - COASTAL BIRD COUNTS  
CONSTRUCTION YARD NO. 1**

DATE: 26.7.13

TIME (hrs) : 1000

IDAL STATE : c. HW

TIDE TIME; HEIGHT : HW 0955; 3.4 m

AIR TEMP (°C) : 15.7

BARO. PRESSURE (kPa) : 102.2

WIND (knots) : W to 4 kts

WEATHER : dry, cloudy.

	AREA					
	1	1A	2	3	4	5
banded dotterel		83				
bar-tailed godwit						
black-backed gull						
mallard						
NZ dotterel	2					2
paradise shelduck						
pieb stilt						
red-billed gull						
S.I. pied oystercatcher	78	126				
spur-winged plover				1	1	
variable oystercatcher	3	6				
white-faced heron						
wrybill		40				

**TOTAL NUMBER = 342**

**CAUSEWAY ALLIANCE - COASTAL BIRD COUNTS  
CONSTRUCTION YARD NO. 1**

DATE: 23.8.13

TIME (hrs) : 0845

TIDAL STATE : c. HW

TIDE TIME; HEIGHT : HW 0844; 3.4 m

AIR TEMP (°C) : 13.3

BARO. PRESSURE (kPa) : 101.5

WIND (knots) : nil

WEATHER : showers, overcast.

	AREA					
	1	1A	2	3	4	5
banded dotterel			2			
bar-tailed godwit						
black-backed gull						
mallard						
NZ dotterel		3	2	2		
paradise shelduck						
pieb stilt						
red-billed gull						
S.I. pied oystercatcher		9				
spur-winged plover	1				2	
variable oystercatcher						
white-faced heron			1	1		
wrybill			34			

**TOTAL NUMBER = 57**

**CAUSEWAY ALLIANCE - COASTAL BIRD COUNTS  
CONSTRUCTION YARD NO. 1**

DATE:23.9.13

TIME (hrs) : 1000

TIDAL STATE : c. HW

TIDE TIME; HEIGHT : HW 0953; 3.3 m

AIR TEMP (°C) : 19.4

BARO. PRESSURE (kPa) : 101.8

WIND (knots) : NW to 4 kts

WEATHER : cloudy; sunny intervals; occ. scattered light showers.

	AREA					
	1	1A	2	3	4	5
<b>banded dotterel</b>						
<b>bar-tailed godwit</b>						
<b>black-backed gull</b>						
<b>mallard</b>						
<b>NZ dotterel</b>				2		
<b>paradise shelduck</b>						
<b>pied stilt</b>					1	
<b>red-billed gull</b>						
<b>S.I. pied oystercatcher</b>		1				
<b>spur-winged plover</b>	2			2		
<b>variable oystercatcher</b>						
<b>white-faced heron</b>						
<b>wrybill</b>						

**TOTAL NUMBER = 8**

**Appendix 5.2. Te Atatu Pony Club Coastal Bird Count Summary**

	29.4.13	29.5.13	10.6.13	26.7.13	23.8.13	23.9.13
<b>banded dotterel *</b>	3	42	44	83	2	—
<b>bar-tailed godwit</b>	—	—	1	—	—	—
<b>black-backed gull</b>	—	—	—	—	—	—
<b>mallard</b>	—	—	—	—	—	—
<b>NZ dotterel *</b>	5●	4	—	4	7	2
<b>paradise shelduck</b>	—	—	—	—	—	1
<b>pied stilt</b>	—	—	—	—	—	—
<b>red-billed gull *</b>	—	6	—	—	—	—
<b>S.I. pied oystercatcher ●</b>	330	351	323	204	9	1
<b>spur-winged plover</b>	6	2	3	2	3	4
<b>variable oystercatcher ●</b>	6	2	6	9	—	—
<b>white-faced heron</b>	2	—	3	—	2	—
<b>wrybill *</b>	35	207	210	40	34	—
<b>TOTAL</b>	<b>387</b>	<b>614</b>	<b>590</b>	<b>342</b>	<b>57</b>	<b>8</b>

\* threatened species

● at risk species

**Appendix 5.3. Baseline Coastal Bird Data**

**ANNEXURE B – Waterview - Final Te Atatu Pony Club bird data (25.3.10 – 23.3.11)**

Common Name	25.3.10	30.3.10	15.4.10	19.4.10	20.4.10	30.4.10	14.5.10	20.5.10	15.6.10	29.6.10	15.7.10	29.7.10	26.8.10	27.8.10
banded dotterel, tuturiwhatu*	54	77	2	–	–	89	81	81	75	102	117	110	12	8
black-backed gull, karoro	–	–	–	–	–	–	–	–	–	2	2	–	–	–
caspiantern *	–	–	–	–	–	–	–	–	–	–	–	–	–	–
N.Z. dotterel, tuturiwhatu*	20	14	16	9	7	11	10	6	5	11	3	11	–	3
paradise shelduck, putangitangi	–	–	–	–	–	–	–	–	–	–	–	–	–	–
red-billed gull, tarapunga*	–	–	–	–	–	–	–	–	8	10	–	–	–	–
South Island pied oystercatcher, torea†	–	–	–	121	69	48	–	186	270	329	351	164	46	71
spur-winged plover	–	–	2	2	–	2	5	2	2	6	1	1	2	2
variable oystercatcher, toreapango†	–	–	–	–	–	–	–	–	4	10	7	–	–	2
white-faced heron	–	–	1	–	1	1	–	1	6	–	–	–	1	–
wrybill, ngutuparore*	–	9	–	–	–	–	–	–	–	–	–	–	–	–
<b>Total</b>	<b>74</b>	<b>100</b>	<b>20</b>	<b>132</b>	<b>77</b>	<b>151</b>	<b>96</b>	<b>276</b>	<b>458</b>	<b>474</b>	<b>481</b>	<b>300</b>	<b>61</b>	<b>86</b>

Common Name	9.9.10	14.9.10	26.10.10	27.10.10	8.11.10	24.11.10	9.12.10	23.12.10	6.1.11	20.1.11	4.2.11	21.2.11	8.3.11	23.3.11
banded dotterel, tuturiwhatu*	-	-	-	-	-	-	-	-	31	38	65	68	99	72
black-backed gull, karoro	1	1	-	-	-	-	-	-	-	1	-	-	1	-
caspian tern *	-	-	-	-	-	-	-	-	-	-	-	-	-	1
N.Z. dotterel, tuturiwhatu*	-	-	-	-	3	2	-	3	1	4	15	10	10	9
paradise shelduck, putangitangi	-	-	2 + 7 J	2 + 7 J	2 + 8 J	-	2 + 4 J	2 + 4 J	6 (a)	-	-	-	-	-
red-billed gull, tarapunga*	-	-	-	-	-	-	-	-	-	-	-	-	1	-
South Island pied oystercatcher, torea†	36	5	-	-	-	-	-	-	-	-	-	197	54	221
spur-winged plover	5	3	-	2	1	3	2	-	4	2	7	4	8	-
variable oystercatcher, toreapango†	-	-	-	-	-	-	-	-	-	-	-	3	-	2
white-faced heron	-	-	-	-	-	-	-	1	-	2	5	7	3	1
wrybill, ngutuparore*	-	-	-	-	-	-	-	-	-	-	-	7	4	-
<b>Total</b>	<b>42</b>	<b>9</b>	<b>9</b>	<b>11</b>	<b>14</b>	<b>5</b>	<b>8</b>	<b>10</b>	<b>42</b>	<b>47</b>	<b>92</b>	<b>296</b>	<b>180</b>	<b>306</b>

\* threatened species † at risk species J juvenile (a) four offspring - all males

All results at high tide (3.0 – 3.4 m)