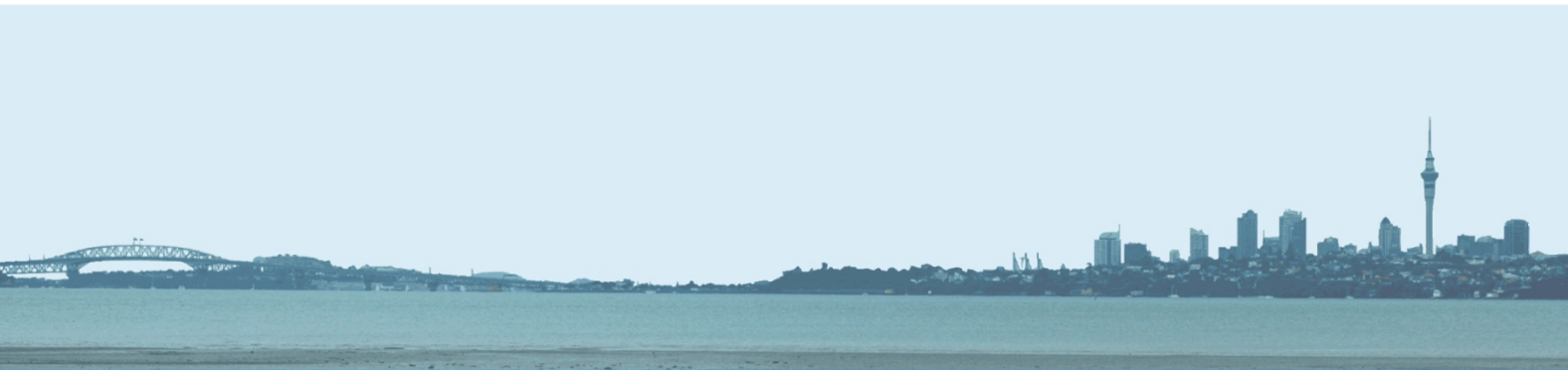


**CAUSEWAY ALLIANCE**  
working for our **thriving** city



## SH16 CAUSEWAY UPGRADE PROJECT



Monthly Environmental Report

March 2014

## Document history and status

Revision	Date issued	Written By	Reviewed by	Approved by	Revision Status
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**Appendix C:** Quarterly Avian Report (January - March 2014)

## **1.0 INTRODUCTION**

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

---

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 March 2014.

## **2.0 OVERVIEW of ACTIVITIES UNDERTAKEN**

### **2.1 Environmental**

---

Regular contact is continuing with the Auckland Council compliance team.

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

---

- Produced monthly Causeway News project updates to stakeholders, project neighbours and wider community.
- Letters sent to local residents in Point Chevalier in advance of night works and lane closures occurring at Great North Road Interchange in March/April.
- Communications for the Great North Road westbound on-ramp closure of 28-31 March were rolled out as planned to all print, radio and social media, emergency services, National Road Carriers and Auckland Transport stakeholders. Real-time updates were provided to key stakeholders during the closure and positive feedback on them was received.
- A neighbour in Montrose Street, Point Chevalier provided feedback about noise at night coming from sub-contractor's voices and a drill. The resident was advised that further steps will be taken to manage this noise in the future.
- A neighbour in Alwyn Ave, Te Atatu South provided feedback about noise relating to transporting a crane through the neighbourhood at night. The project team will avoid undertaking similar operations in the future. The resident was contacted with an apology.
- Positive feedback received from stakeholders receiving the Causeway News and cyclists using the temporary cycleway arrangements.

### **2.3 Construction**

---

- Alwyn Ave (Whau River bridge south-west) - temporary staging for widening the southern side of the Whau River Bridge.
- Whau River Bridge (northern side) – completion of permanent bridge piling/crossheads for eastbound bridge widening, with beam installation scheduled for April.

- Patiki to Whau (westbound, around Rosebank Park Domain) – site clearance and earthworks along batter slope continuing in Rosebank Park Domain, reclamation and earthworks continuing in the Coastal Marine Area.
- Whau to Rosebank (eastbound) – site clearing complete, reclamation work underway (under Patiki Road off ramp), retaining wall works continuing (including rock revetment)
- Causeway (from North Traherne Island eastbound direction) – continue installation of the preload fill layer (surcharge) up to full height, further east continue coffer dam/stability berm, working platform, wick drain and drainage blanket installation. Remedial works required to embankment slumps before further earthworks proceeds in these areas.
- Causeway (South Traherne Island) – earthworks, wick drain and drainage layer installation (towards Rosebank Road westbound off-ramp) continuing.
- Great North Road Interchange (GNRI) (northern side, eastbound from Causeway Bridge) – stability berm slump area being stabilised with timber piles. Filling further east of Causeway Bridge continuing.
- GNRI (southern side, westbound towards Causeway Bridge) – westbound on-ramp final pavement completed and commissioned, with traffic now using new on-ramp. Work is not proceeding where embankment slumped into channel of Oakley Creek until remedial works are agreed with Council.

### **3.0 MEETINGS, INSPECTIONS AND EVENTS**

---

6 March, 20 March – Auckland Council’s earthworks compliance inspections

6 March – Auckland Council’s contaminated soils inspection

13 March – Meeting with a Whau Local Board representative and Council Parks officer on items to be considered in the Rosebank Domain Open Space Restoration Plan

14 March – Auckland Council’s coastal compliance inspection

### **4.0 ENVIRONMENTAL MONITORING**

#### **4.1 EARTHWORKS COMPLIANCE**

---

Compliance Inspections were completed by Auckland Council officers on the 6 and 20 March and recorded a compliance score of 1 (Full Compliance).

#### **4.2 CONSTRUCTION NOISE AND VIBRATION**

---

Two Site Specific Noise Management Plans submitted and approved in March for the installation of the pier protection walls (in centre median) and on-ramp surfacing works at the GNRI.

#### **4.3 AIR QUALITY**

---

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

#### **4.4 CONTAMINATED SOIL**

---

A summary of exported material disposal locations, along with material classifications, sample methods and quantities at various site locations along the alignment during March is included in Appendix B.

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

---

There were no Erosion and Sediment Control Plans submitted or approved in March.

#### **4.6 ARCHAEOLOGICAL**

---

There was an inspection of the deconstruction of 20m of the dry stone wall (site R11/2213) at GNRI on 13 March. The works were undertaken in accordance with the Council approved methodology.

#### **4.7 COASTAL MONITORING**

---

Compliance Inspection was completed by Auckland Council officers on the 14 March and recorded a compliance score of 1.

An assessment of effects of the Oakley Creek slump (which occurred on 28 February and transported rock armouring across to the other side of the main channel) concluded that the disturbance in the creek meander is not having any negative ecological or marine life impacts. The depth of water flows across the rocks in the channel can accommodate fish passage and the rocks are providing good habitat for marine life. The slump is currently stable and a remedial works plan will be discussed and agreed with Council in April.

The further slips which occurred on the northern side of the Causeway works on 11 March and 2 April indicate pockets of softer/weaker soils. These are being surveyed and analysed to determine their cause and appropriate remedial work. Increased instrumentation and frequency of monitoring is part of the mitigation plan to provide additional data for early intervention.

#### **4.8 MARINE MONITORING**

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The summer 2014 marine benthic monitoring was completed during low tide periods at the same 12 sites as the pre-construction baseline monitoring undertaken in February/March 2012.

#### **4.9 ECOLOGICAL**

---

An inspection of Significant and Valued vegetation was undertaken on 31 March at Traherne Island (Zone 1), Patiki Road/Rosebank Domain/Causeway (Zone 2), Whau River Bridge (Zone 3) and at GNRI (Zone 5).

Weed mapping has taken place along the project corridor as part of preparing the landscape planting management plan.

Monthly assessment of avian roosting locations was undertaken at Harbourview-Orangihina (Pony Club) and the temporary roosting rafts at the Causeway Bridge. The monthly avian count at Harbourview – Orangihina for March 2014 was 305 birds compared to the pre-establishment

baseline count in March 2011 of 306 birds. No coastal birds were observed to use the two temporary bird roost sites (floating pontoons) installed south of Causeway Bridge, as there was no construction activity affecting roosting sites. The Quarterly Avian Report for January – March is included in Appendix C.

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

---

Email received from Council (A Gysberts) on 11 March confirming the methodology for clearing vegetation and repair of the dry stone wall at GNRI is in compliance with BoI condition ARCH.7(c).

A review has commenced on the initially approved CEMP and sub-plans in accordance with a prioritised programme, agreed with Council (M Parker-Bevin), and the reviewed documents will be progressively submitted to Council for comment over the next four to five months.

## **6.0 WORKS PROPOSED FOR APRIL, MAY AND JUNE 2014**

---

Refer Appendix A for Construction Zone Plan.

### **Zone 1 Causeway**

- Eastbound: Continue installing the timber piles and Continuous Flight Auger piles at Causeway Bridge transitions, working platform, preload fill (surcharge), drainage blanket layer, wick drains, coffer dam and reclamation in the coastal area.
- Westbound: Divert cycleway onto closed bus lane westbound from Causeway Bridge to Traherne Island South, complete wick drain and preload in Traherne Island South.

### **Zone 2 / Zone 3 Whau to Rosebank**

- Eastbound: Installing new Whau Bridge spans. Continue earthworks and construction of retaining wall (midway between Patiki and Rosebank ramps).
- Westbound: Continue temporary and permanent piling for Whau Bridge widening, continue and complete earthworks between Whau River Bridge and Patiki Road (including reclamation and works on Rosebank Park Domain batter slope). Commence works for Patiki Road on-ramp widening, including culvert extension/outfalls.

### **Zone 5 GNRI**

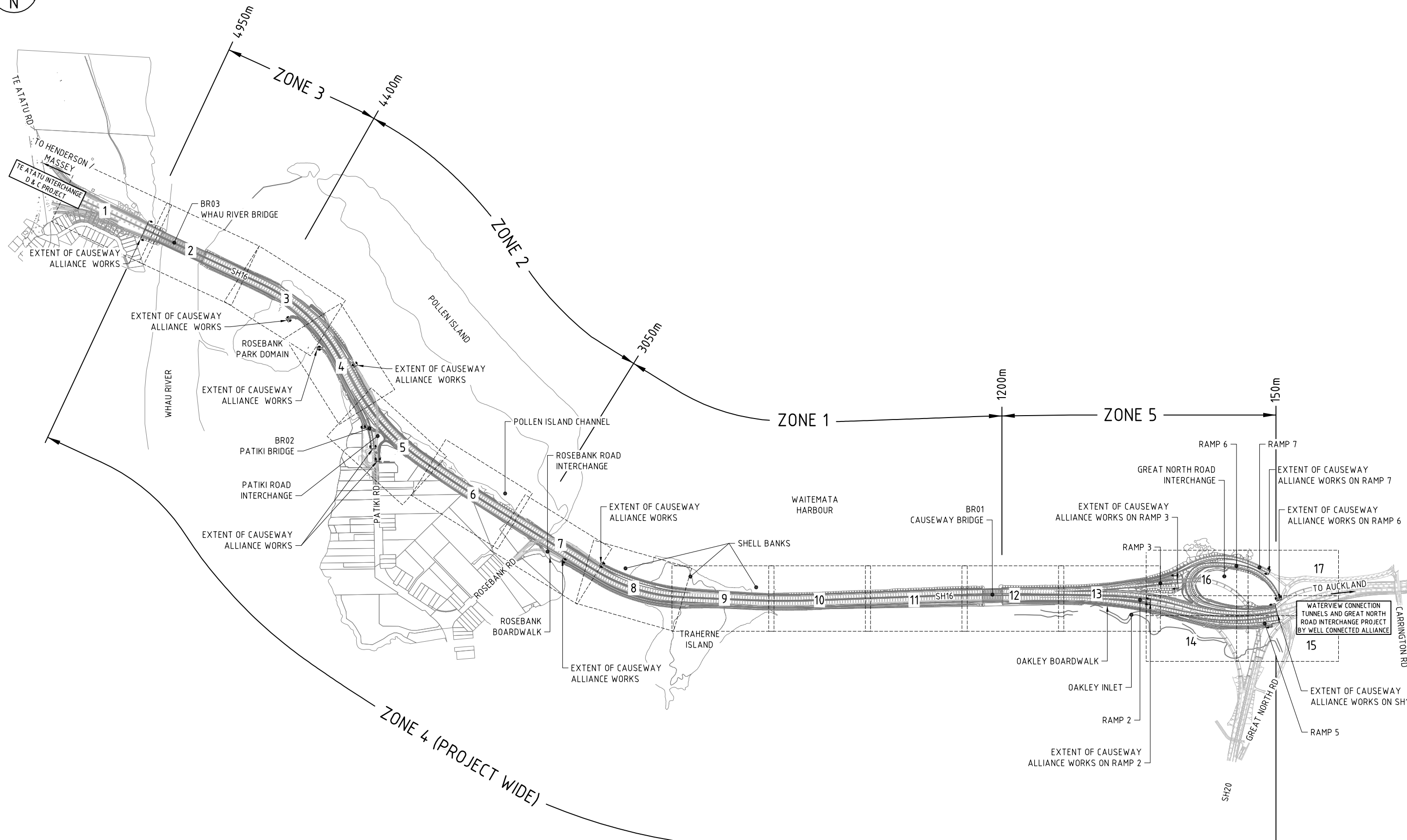
- East bound: Continue earthworks to widen the embankment in an easterly direction alongside Great North Road east-bound off-ramp.
- Westbound: Discuss remedial plan for Oakley Creek slump with Council. Remediate slump and continue with embankment filling.

The environmental focus for April will continue to be on inspections prior to and during vegetation removal, monitoring material movements, management of replanted area at Traherne Island and ground clearance to ensure ecological and archaeological stand over requirements are

met. The establishment and monitoring of sediment and erosion controls and monitoring slumps will also continue. Proposed remedial works for slumps will be discussed with Council.



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



TE ATATU INTERCHANGE  
D & C PROJECT

TO HENDERSON / MASSEY

EXTENT OF CAUSEWAY ALLIANCE WORKS

BR03  
WHAU RIVER BRIDGE

EXTENT OF CAUSEWAY ALLIANCE WORKS

ROSEBANK PARK DOMAIN

EXTENT OF CAUSEWAY ALLIANCE WORKS

WHAU RIVER

BR02  
PATIKI BRIDGE

PATIKI ROAD INTERCHANGE

EXTENT OF CAUSEWAY ALLIANCE WORKS

ZONE 4 (PROJECT WIDE)

ZONE 3

4950m

4400m

ZONE 2

3050m

ZONE 1

1200m

ZONE 5

150m

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH16

SH20

POLLEN ISLAND

POLLEN ISLAND CHANNEL

ROSEBANK ROAD INTERCHANGE

WAITEMATA HARBOUR

SHELL BANKS

TRAHERNE ISLAND

ROSEBANK BOARDWALK

OAKLEY BOARDWALK

OAKLEY INLET

RAMP 2

EXTENT OF CAUSEWAY ALLIANCE WORKS ON RAMP 2

RAMP 3

EXTENT OF CAUSEWAY ALLIANCE WORKS ON RAMP 3

BR01  
CAUSEWAY BRIDGE

RAMP 6

GREAT NORTH ROAD INTERCHANGE

RAMP 7

EXTENT OF CAUSEWAY ALLIANCE WORKS ON RAMP 7

EXTENT OF CAUSEWAY ALLIANCE WORKS ON RAMP 6

WATERVIEW CONNECTION TUNNELS AND GREAT NORTH ROAD INTERCHANGE PROJECT BY WELL CONNECTED ALLIANCE

EXTENT OF CAUSEWAY ALLIANCE WORKS ON SH16

RAMP 5

EXTENT OF CAUSEWAY ALLIANCE WORKS ON RAMP 5

CARRINGTON RD

TO AUCKLAND

SH20

GREAT NORTH RD

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







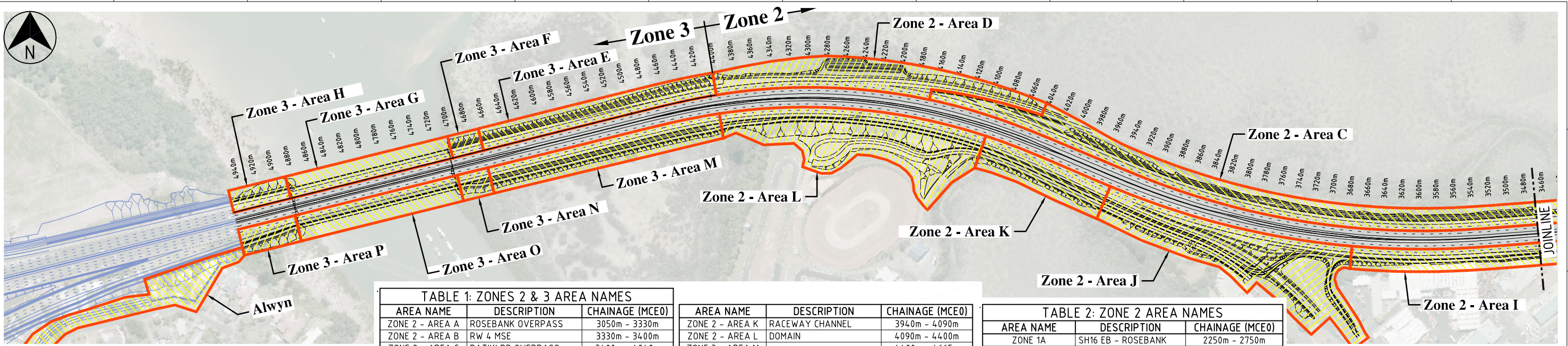


TABLE 1: ZONES 2 & 3 AREA NAMES

AREA NAME	DESCRIPTION	CHAINAGE (MCE0)
ZONE 2 - AREA A	ROSEBANK OVERPASS	3050m - 3330m
ZONE 2 - AREA B	RW 4 MSE	3330m - 3400m
ZONE 2 - AREA C	PATIKI RD OVERPASS	3400m - 4040m
ZONE 2 - AREA D	PATIKI RD OFF-RAMP	4040m - 4400m
ZONE 3 - AREA E	-	4400m - 4665m
AREA NAME	DESCRIPTION	CHAINAGE (MCE0)
ZONE 3 - AREA F	WHAU RIVER NE	4665m - 4700m
ZONE 3 - AREA G	WHAU RIVER BRIDGE EB	4700m - 4885m
ZONE 3 - AREA H	WHAU RIVER NW	4885m - 4950m
ZONE 2 - AREA I	ROSEBANK RD	3050m - 3670m
ZONE 2 - AREA J	PATIKI RD	3670m - 3940m

AREA NAME	DESCRIPTION	CHAINAGE (MCE0)
ZONE 2 - AREA K	RACEWAY CHANNEL	3940m - 4090m
ZONE 2 - AREA L	DOMAIN	4090m - 4400m
ZONE 3 - AREA M	-	4400m - 4665m
ZONE 3 - AREA N	WHAU RIVER SE	4665m - 4700m
ZONE 3 - AREA O	WHAU RIVER BRIDGE WB	4700m - 4885m

TABLE 2: ZONE 2 AREA NAMES

AREA NAME	DESCRIPTION	CHAINAGE (MCE0)
ZONE 1A	SH16 EB - ROSEBANK	2250m - 2750m
ZONE 1B	SH16 EB	1750m - 2250m
ZONE 1C	SH16 EB - CAUSEWAY	1330m - 1750m
ZONE 1D	SH16 EB - CAUSEWAY BR	1135m - 1330m
ZONE 1E	SH16 EB - CAUSEWAY	1000m - 1135m
ZONE 1F	SH16 WB - ROSEBANK	2000m - 3050m
ZONE 1G	SH16 WB - CAUSEWAY	1275m - 2000m
ZONE 1H	SH16 EB - CAUSEWAY	2650m - 3050m
ZONE 1J	SH16 WB - CAUSEWAY	2610m - 3050m

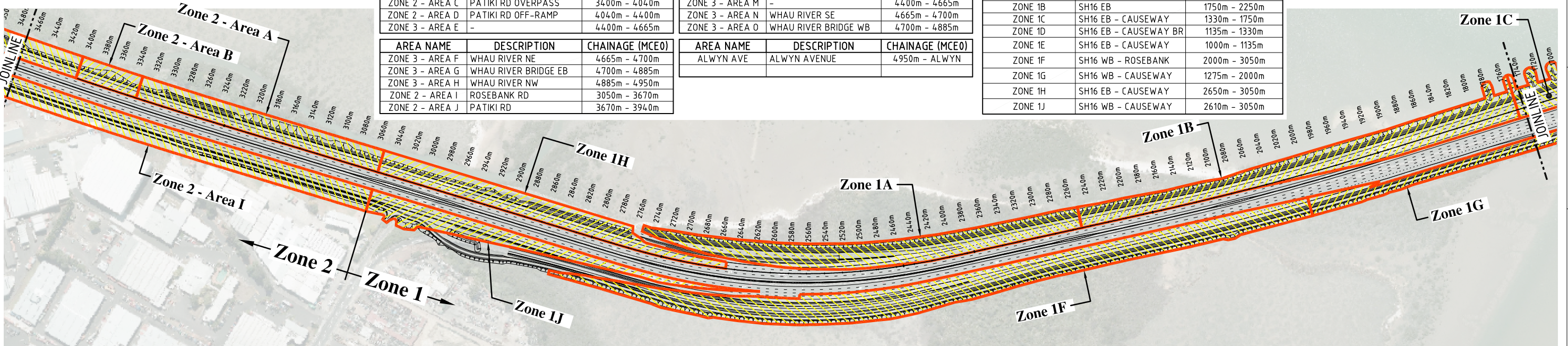


TABLE 3: ZONE 5 AREA NAMES

AREA NAME	DESCRIPTION	CHAINAGE (MCE0)
ZONE 5 - CAUSEWAY BR	CAUSEWAY BRIDGE	
ZONE 5 - AREA 1	RAMP 5 - WB ON-RAMP	150m - 0600m
ZONE 5 - AREA 2	SH16 WB	600m - 1200m
ZONE 5 - AREA 3	RAMP 7 - EB OFF-RAMP	635m - 1000m
ZONE 5 - OAKLEY BOARDWALK		
ZONE 5 - AREA 5	RAMP 3 - SH16 TO SH20	

AREA NAME	DESCRIPTION	CHAINAGE (MCE0)
ZONE 5 - AREA 6	SH16 EB	
ZONE 5 - AREA 7	MEDIAN BY WCA	
ZONE 5 - AREA 8	WB LANES	
ZONE 5 - AREA 9	MEDIAN BY WCA	
ZONE 5 - AREA 10	RAMP 6 - EB ON-RAMP	
ZONE 5 - AREA 11	SH16 WB	1000m - 1200m

ORIGINAL DRAWING IN COLOUR

UNCONTROLLED COPY  
DRAFT



STATUS: FOR REVIEW  
SCALE: NOT TO SCALE  
FILENAME: SH16-4-R-SK-0774.dwg

CLIENT: NEW ZEALAND TRANSPORT AGENCY  
PROJECT: SH16 CAUSEWAY UPGRADE PROJECT (NZTA CA3685)  
DRAFTER: R. Tauro  
DRAFTING CHECK: R. Tauro  
DESIGNER: R. Tauro  
DESIGN REVIEW: R. Tauro  
APPROVED: G. Houppapa

TITLE: GENERAL ARRANGEMENT ZONING AREAS  
DRAWING No: SH16-4-R-SK-0774  
REV: A



## **Appendix C: Quarterly Avian Report**

**CAUSEWAY ALLIANCE**

**COASTAL BIRD MONITORING AT THE  
TE ATATU PONY CLUB AND  
CAUSEWAY BRIDGE**

**QUARTERLY REPORT NO. 4  
JANUARY TO MARCH 2014**



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# **Causeway Alliance**

## **Coastal Bird Monitoring at the Te Atatu Pony Club and Causeway Bridge**

### **Quarterly Report No. 4 January to March 2014**

**MARCH 2014**

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

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## **1 INTRODUCTION**

This is the 4th 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 behaviour on the southern side of the Causeway Bridge; that has commenced with notes included herein.

## **2 METHODS**

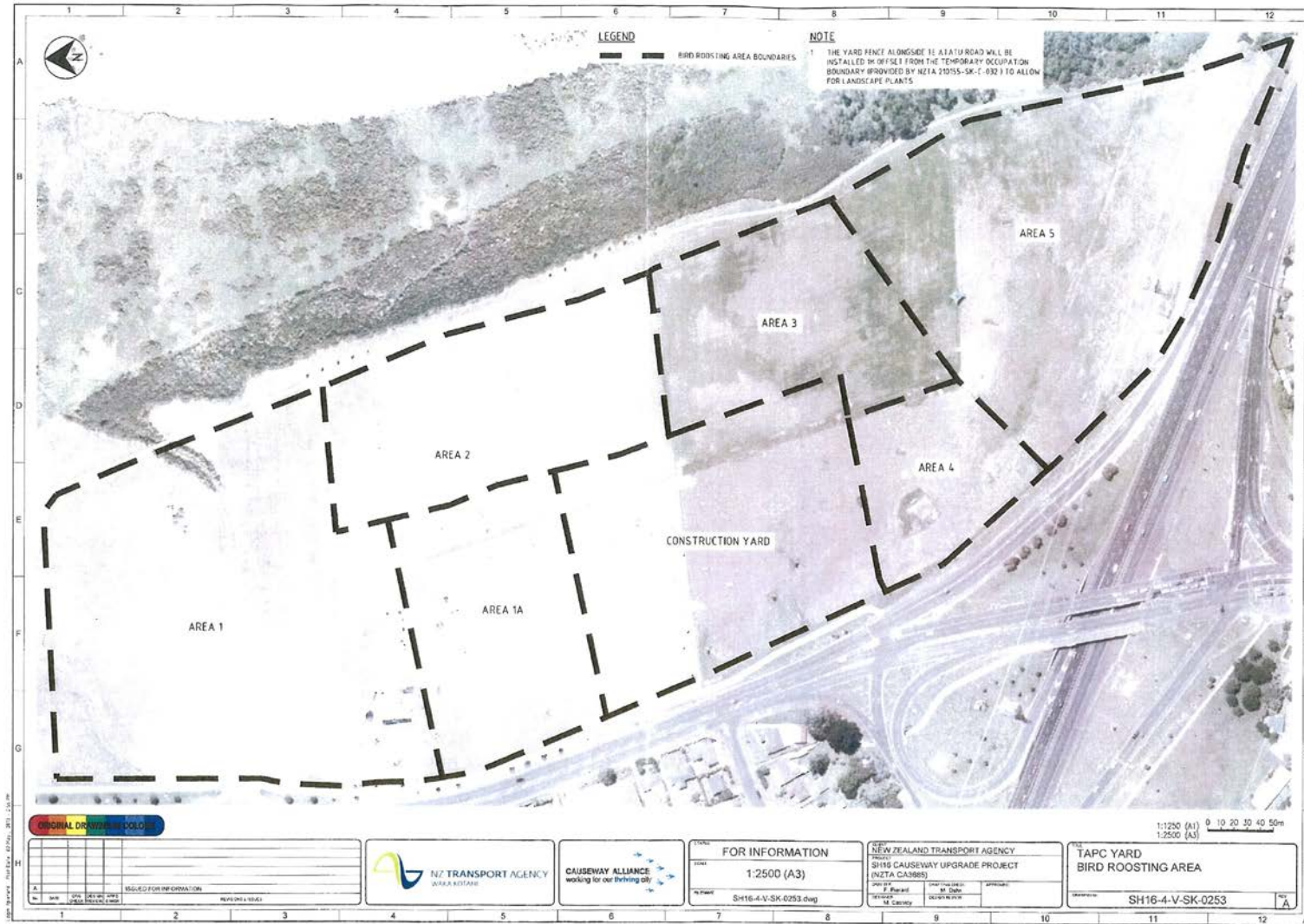
### **2.1 Te Atatu Pony Club and Construction Yard No. 1**

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.

### **2.2 Causeway Bridge**

Observations of coastal birds, but especially shags, using both the constructed roosting rafts and natural features for roosting are made at about half tide and high tide. The former provides information on the pattern of non-high tide resting and roosting. The latter monitors use of the high tide roosting structures (rafts) that are aimed at compensating for the disruption to rock rubble high tide roosting sites beside the Bridge during construction.



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

### **3 RESULTS**

The results for January, February and March 2014 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.

#### **3.1 Te Atatu Pony Club and Construction Yard No. 1**

Comments on the January, February and March 2014 avifauna are as follows –

- 3.1.1. There has been no general displacement of coastal birds as a result of the Construction Yard and general bird behaviour is similar to that observed in the baseline survey.
- 3.1.2. The total number of birds increased steadily through the quarter as birds returned from breeding locations (especially S.I. pied oystercatcher, banded dotterel and wrybill from the South Island and lower North Island).
- 3.1.3. The comparative total numbers are summarised below.

	<b>2011 (max.)</b>	<b>2014</b>
<b>January</b>	47	38
<b>February</b>	296	147
<b>March</b>	306	305
<b>average</b>	216.3	163.3

January and March counts were similar between 2011 and 2014 but the count in February 2014 was lower than in February 2011 mainly due to a later influx of S.I. pied oystercatchers. The quarterly average for 2014 was also significantly lower as a result (chi-squared = 7.39;  $p < 0.01$ ).

- 3.1.4. In March 2014, 101 banded dotterel were recorded; a maximum of 99 was recorded in March 2011.

- 3.1.5 Wrybill were recorded in February (2) and March (3); they were also recorded in February 2011 and in March 2010 and 2011.
- 3.1.6. NZ dotterel were relatively sparse with a maximum of 7 compared with a maximum of 15 in February 2011 and 20 in March 2010.
- 3.1.7. Seven species of coastal birds were recorded in 2014; additional species recorded in the baseline survey were black-backed gull, red-billed gull and caspian tern.

## **3.2 Causeway Bridge Roosting**

### **3.2.1 January 2014**

**Date :** 8.1.14  
**Time :** 1415 hours  
**Tide time :** HW 1356; 3.3 m

- no roosting on rafts.
- no construction activity.

**Date :** 10.1.14  
**Time :** 1035 hours  
**Tide time :** LW 0924; 0.9 m

- c.12 shags roosting “beach”.

### **3.2.2 February 2014**

**Date :** 13.2.14  
**Time :** 1545 hours  
**Tide time :** LW 1323; 1.0 m

- 2 shags roosting “beach”; 12 shags roosting at Whau Creek mouth – eastern side.

**Date :** 18.2.14  
**Time :** 0820 – 0930 hours  
**Tide time :** HW 1038; 3.2 m

- 0820 – machines operating on SE side of Bridge.
- 0830 – roosting on “beach” remnant : 55 pied stilt; 1 variable oystercatcher; 1 caspian tern.
  - no shags feeding under Bridge.

- 0846 – 48 pied stilt vacated the “beach” and flew towards the north – destination unsighted.
- 0855 – 6 pied stilt vacated “beach” and flew towards north.
  - no shags roosting abutment rocks.
  - no shags (or other birds) roosting on the rafts.
  - 2 pied shags feeding under bridge.
- 0930 – no birds on rafts.
  - no shags present.

### 3.2.3 March 2014

**Date :** 19.3.14  
**Time :** 0800 – 0930 hours  
**Tide time :** HW 1010; 3.2 m

- 0820 – at “beach” roosting : 3 pied shag; 4 spur-winged plover; 1 white-faced heron; 22 pied stilt.
  - adjacent Bridge feeding : 3 white-fronted tern.
- 0818 – “beach” inundated and vacated.
- 0819 – 1 white-fronted tern feeding near eastern raft.
- 0819 to 0830 – 1 pied shag feeding adjacent SW abutment.
- 0845 to 0930 – no birds roosting on either raft
  - no birds roosting on southern abutments.
- 1045 – shags roosting on new rubble at the water’s edge on the NE side of Bridge.

### Comments

Pied shag and white-fronted tern in particular continue to feed beneath the Bridge and immediately adjacent to the SE works area. Most works are still on the northern side. The “beach” is utilised for midtide roosting until it is inundated as previously and shags and pied stilt in particular roosted on the new rubble and fill areas on the northern side.

Use of the rafts was very low but that may change as birds acclimate to their presence. The western raft is probably too far west and too close to the public walkway/cycleway to be attractive for roosting.

Overall there were fewer pied shags present on the southern side at high water than in the 2007 baseline survey i.e. 17 pied shag 12.3.07; 10 pied shag 27.3.07 (high water counts). That may reflect disruption by the works but no works were occurring on the SW abutment and it is likely that the provision of new, attractive roosting areas on the northern side is also a factor.



#### 4 CONCLUSION

High tide roosting in the Pony Club is similar to the baseline in terms of numbers, diversity and behaviour. Oystercatchers, dotterels and wrybill roost immediately adjacent to the Construction Yard fence on occasions so that structure has not had an adverse effect.

Use of the habitat on the southern side of the Causeway Bridge and beneath the Bridge itself for feeding and mid/low tide resting was unchanged from the baseline. The only change appears to be a decrease in the number of pied shags utilising the area, especially at high tide. That may relate to construction activities, the availability of new roosting areas on the northern side or a combination. To date, the use of the rafts for roosting has been very low, however, additional roosting areas, provided by the works on the northern side, are being utilised by a variety of birds including pied shags. For that reason the relatively low use of the rafts is not considered to be a significant issue at this time.

5 **APPENDICES**

**Appendix 5.1 Field Sheets**

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

DATE: 8.1.14

TIME (hrs) : 1330 – 1400

TIDAL STATE : c. HW

TIDE TIME; HEIGHT : HW 1356; 3.3m

AIR TEMP (°C) : 23.1

BARO. PRESSURE (hPa) : 1007

WIND (knots) : SW to 16 kts

WEATHER : dry, cloudy.

	AREA					
	1	1A	2	3	4	5
banded dotterel			28			
bar-tailed godwit						
black-backed gull						
mallard						
NZ dotterel			7			
paradise shelduck						
pied stilt						
red-billed gull						
S.I. pied oystercatcher						
spur-winged plover			3			
variable oystercatcher						
white-faced heron						
wrybill						

**TOTAL NUMBER = 38**

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

DATE: 18.2.14

TIME (hrs) : 1000 - 1030

TIDAL STATE : c. HW

TIDE TIME; HEIGHT : HW 1038; 3.2 m

AIR TEMP (°C) : 24.9

BARO. PRESSURE (hPa) : 1019

WIND (knots) : NE to 5 kts

WEATHER : dry, sunny with cloud.

	AREA					
	1	1A	2	3	4	5
banded dotterel		69	1			
bar-tailed godwit						
black-backed gull						
mallard						
NZ dotterel		1				
paradise shelduck						
pied stilt						
red-billed gull						
S.I. pied oystercatcher		48				
spur-winged plover		2			4	1
variable oystercatcher		3				
white-faced heron	1					15
wrybill		2				

**TOTAL NUMBER = 147**

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

DATE: 19.3.14

TIME (hrs) : 1000 – 1030

TIDAL STATE : c. HW

TIDE TIME; HEIGHT : HW1010; 3.2 m

AIR TEMP (°C) : 22.7

BARO. PRESSURE (hPa) : 1024

WIND (knots) : SW to 2 kts

WEATHER : dry, sunny with cloud.

	AREA					
	1	1A	2	3	4	5
banded dotterel				101		
bar-tailed godwit						
black-backed gull						
mallard						
NZ dotterel						
paradise shelduck						
pied stilt						
red-billed gull						
S.I. pied oystercatcher		185				
spur-winged plover	3			4	1	1
variable oystercatcher		2				
white-faced heron						5
wrybill				3		

**TOTAL NUMBER = 305**

**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	7.10.13	5.11.13	6.12.13	8.1.14	18.2.14	19.3.14
<b>banded dotterel *</b>	3	42	44	83	2	羊	羊	羊	羊	28	70	101
<b>bar-tailed godwit ●</b>	–	–	1	羊	羊	羊	羊	羊	羊	羊	羊	羊
<b>black-backed gull</b>	–	–	–	羊	羊	羊	羊	羊	羊	羊	羊	羊
<b>mallard</b>	–	–	–	羊	羊	羊	羊	羊	羊	羊	羊	羊
<b>NZ dotterel *</b>	5	4	–	4	7	2	4	3	3	7	1	羊
<b>paradise shelduck</b>	–	–	–	羊	羊	1	羊	羊	2	羊	羊	羊
<b>pieb stilt ●</b>	–	–	–	羊	羊	羊	羊	羊	羊	羊	羊	羊
<b>red-billed gull *</b>	–	6	–	羊	羊	羊	羊	羊	羊	羊	羊	羊
<b>S.I. pied oystercatcher ●</b>	330	351	323	204	9	1	羊	羊	羊	羊	48	185
<b>spur-winged plover</b>	6	2	3	2	3	4	7	6	5	3	7	9
<b>variable oystercatcher ●</b>	6	2	6	9	羊	羊	1	1	1	羊	3	2
<b>white-faced heron</b>	2	–	3	羊	2	羊	羊	1	羊	羊	16	5
<b>wrybill *</b>	35	207	210	40	34	羊	羊	羊	羊	羊	2	3
<b>TOTAL</b>	<b>387</b>	<b>614</b>	<b>590</b>	<b>342</b>	<b>57</b>	<b>8</b>	<b>12</b>	<b>11</b>	<b>11</b>	<b>38</b>	<b>147</b>	<b>305</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	–	–	–
caspiant tern *	–	–	–	–	–	–	–	–	–	–	–	–	–	–
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, toeapango†	-	-	-	-	-	-	-	-	-	-	-	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)