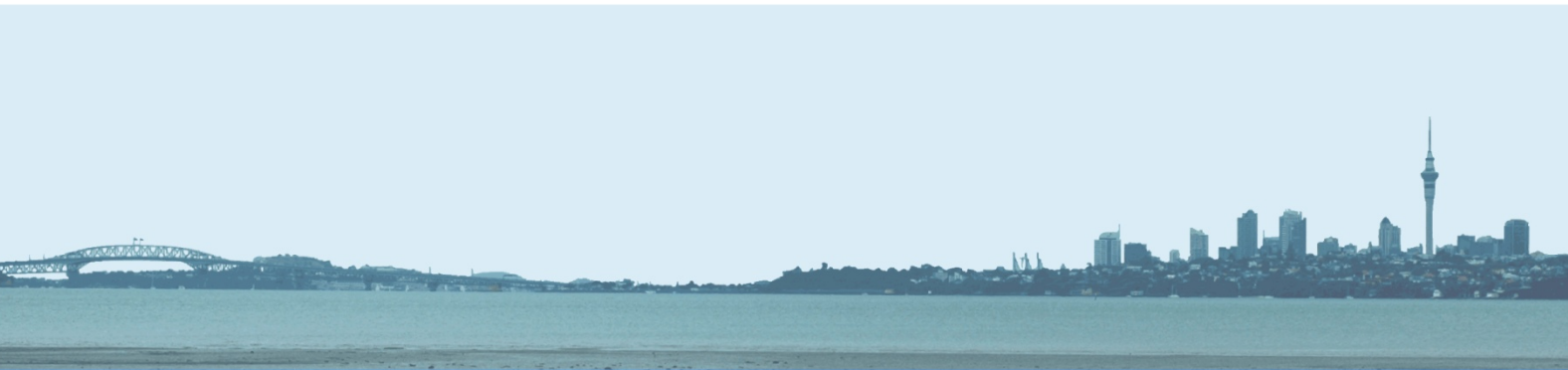


CAUSEWAY ALLIANCE
working for our **thriving** city



SH16 CAUSEWAY UPGRADE PROJECT



Monthly Environmental Report

April 2014

Document history and status

| Revision | Date issued | Written By | Reviewed by | Approved by | Revision Status |
|----------|-------------|------------|--|-------------|-----------------|
| A | 29.05.2014 | K Stevens | R Purdy/Brigitte Dunbar/ Elizabeth Collins | | For REVIEW |
| B | | K Stevens | S Jenkins | | For APPROVAL |
| C | | K Stevens | | S Jenkins | FINAL |
| | | | | | |

Distribution of copies

| Revision | Purpose | Issued to |
|----------|----------------------|------------------------------|
| A | For review | R Purdy, B Dunbar, E Collins |
| B | For approval/release | M Evans |
| C | FINAL | Auckland Council |
| | | |
| | | |
| | | |

| | |
|-------------------------------|---|
| Printed: | 06/06/2014 12:31 |
| Last saved: | 06/06/2014 12:31 |
| File name: | K:\EN Environment\EN51 Construction\04 Council Reporting\Monthly Report\2014 Environmental Reports\2014 04 Report\April_2014_Causeway_Upgrade_Project_Monthly_Environmental_Report_Rev_C.docx |
| Author: | Kevin Stevens |
| Environmental Manager: | Steve Jenkins |
| Name of organisation: | Causeway Alliance |
| Name of project: | SH16 Causeway Upgrade Project |
| Document version: | Revision C |

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 | Construction | 7 |
| 3.0 | MEETINGS, INSPECTIONS AND EVENTS | 8 |
| 4.0 | ENVIRONMENTAL MONITORING | 8 |
| 4.1 | EARTHWORKS COMPLIANCE | 8 |
| 4.2 | CONSTRUCTION NOISE AND VIBRATION | 8 |
| 4.3 | AIR QUALITY | 8 |
| 4.4 | CONTAMINATED SOIL | 8 |
| 4.5 | EROSION AND SEDIMENT CONTROL | 9 |
| 4.6 | ARCHAEOLOGICAL | 9 |
| 4.7 | COASTAL MONITORING | 9 |
| 4.8 | MARINE MONITORING | 9 |
| 4.9 | ECOLOGICAL | 9 |
| 5.0 | CORRESPONDENCE ON CONSENT CONDITIONS AND PLANS | 10 |
| 6.0 | WORKS PROPOSED FOR MAY, JUNE AND JULY 2014 | 10 |

Appendix A: Causeway Alliance Construction Zone Plan

Appendix B: SH16 Causeway Imported and Exported Material Summary

-

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 April 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.
- Feedback from a resident in Montrose Street, Pt Chevalier concerning the night works in the GNRI area relating to staff voices, and work activities in early April. As a result we will ask staff to ensure they do not shout to each other (and instead use their radios) and eliminate the banging of steel. Unfortunately we cannot reduce the whirring noise of the drilling of the existing road to install securing pins. The noise being generated is below our allowable limit as we have recorded it previously, and we can use baffles/ply sheets to deflect the noise in future. The resident mentioned it's not the magnitude of the noise but more the whirring sound which is irritating and that is something we are unable to eliminate, unfortunately.
- Positive feedback received from stakeholders receiving the Causeway News and cyclists using the temporary cycleway arrangements.
- Submitted a draft Open Space Restoration Plan for the Rosebank Park Domain to Council and to wider stakeholders for review by 30 May.

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) –earthworks along batter slope ceased along Rosebank Park Domain when asbestos identified, reclamation and earthworks continuing in the Coastal Marine Area and piling at Whau Bridge embankment.

- Whau to Rosebank (eastbound) – earthworks and rock revetment continuing. Retaining wall works completed (including rock revetment)
- Causeway (from North Traherne Island eastbound direction) – continue installation of the preload fill layer (surcharge) up to full height and coffer dam/stability (reclamation completed). Completed wick drain and drainage blanket installation. Remedial works required to embankment slumps before further earthworks proceeds in these areas. Commenced piles at Causeway Bridge approach
- Causeway (South Traherne Island, westbound) – wick drains completed, continue earthworks and preloading, final vegetation clearance (towards Rosebank Road westbound off-ramp).
- 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) – continue earthworks, utility trenching, timber piling at basalt transition, Oakley slip area remedial works on hold.

3.0 MEETINGS, INSPECTIONS AND EVENTS

3 April, 17 April (2 visits) – Auckland Council’s earthworks compliance inspections

14 April – Auckland Council’s coastal compliance inspection

4.0 ENVIRONMENTAL MONITORING

4.1 EARTHWORKS COMPLIANCE

Compliance Inspections were completed by Auckland Council officers on the 3 April and 17 April 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 April for the installation of the concrete beams at north-east Whau River Bridge 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 April is included in Appendix B.

Asbestos was identified in small pieces of old broken, building materials in the soils excavated for the batter slope around the edge of the Rosebank Domain. The processes in the Contaminated Soils Management Plan have been followed. Further testing is required to ascertain the extent of

the material and a specialist disposal method. The air quality testing around the site has not shown any particles of asbestos present. The methodology for further testing and assessment has been discussed and agreed with Council's Contaminated Soil Specialist.

4.5 EROSION AND SEDIMENT CONTROL

One site specific Erosion and Sediment Control Plan was submitted and approved in April for the earthworks at GNRI (areas 6 and 10).

4.6 ARCHAEOLOGICAL

There were no inspections of the works undertaken in April.

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. A remedial works plan was discussed and agreed with Council in April. This plan involves removing rocks on the southern mud bank and any loose rocks from the channel could remain, as they are not causing any impacts and their removal would create a larger impact by disturbing marine sediments

The further slips which occurred on the northern side of the Causeway works on 11 March and 2 April are continued to be monitored, surveyed and analysed to determine the 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

The winter 2014 marine benthic monitoring will be undertaken during June/July/August 2014.

4.9 ECOLOGICAL

An inspection of Significant and Valued vegetation was undertaken on 16 April at Traherne Island (Zone 1), Patiki Road/Rosebank Domain/Causeway (Zone 2), Whau River Bridge (Zone 3) and at GNRI (Zone 5).

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 April 2014 was 76 birds compared to the pre-establishment baseline count in April 2011 of 77 birds. Three coastal birds were observed to use the temporary bird roost sites (floating pontoons) installed south of Causeway Bridge, which is consistent with the low level of current adjacent construction activity.

5.0 CORRESPONDENCE ON CONSENT CONDITIONS AND PLANS

Obtained Council approval for undertaking earthworks past 30 April (winter works approval).

Submitted a request to Council for approval of a minor change to the coastal consents for the area of reclamation and permanent occupation of the Coastal Marine Area for the Rosebank Fill Embankment.

6.0 WORKS PROPOSED FOR MAY, JUNE AND JULY 2014

Refer Appendix A for Construction Zone Plan.

Zone 1 Causeway

- Eastbound: Continue installing the Continuous Flight Auger piles at Causeway Bridge approach/transitions, working platform, preload fill (surcharge).
- Westbound: Divert cycleway onto closed bus lane westbound from Causeway Bridge to Traherne Island South, complete earthworks and preload in Traherne Island South (and towards Rosebank Road off ramp). Earthworks and culvert works under Rosebank Road off ramp.

Zone 2 / Zone 3 Whau to Rosebank

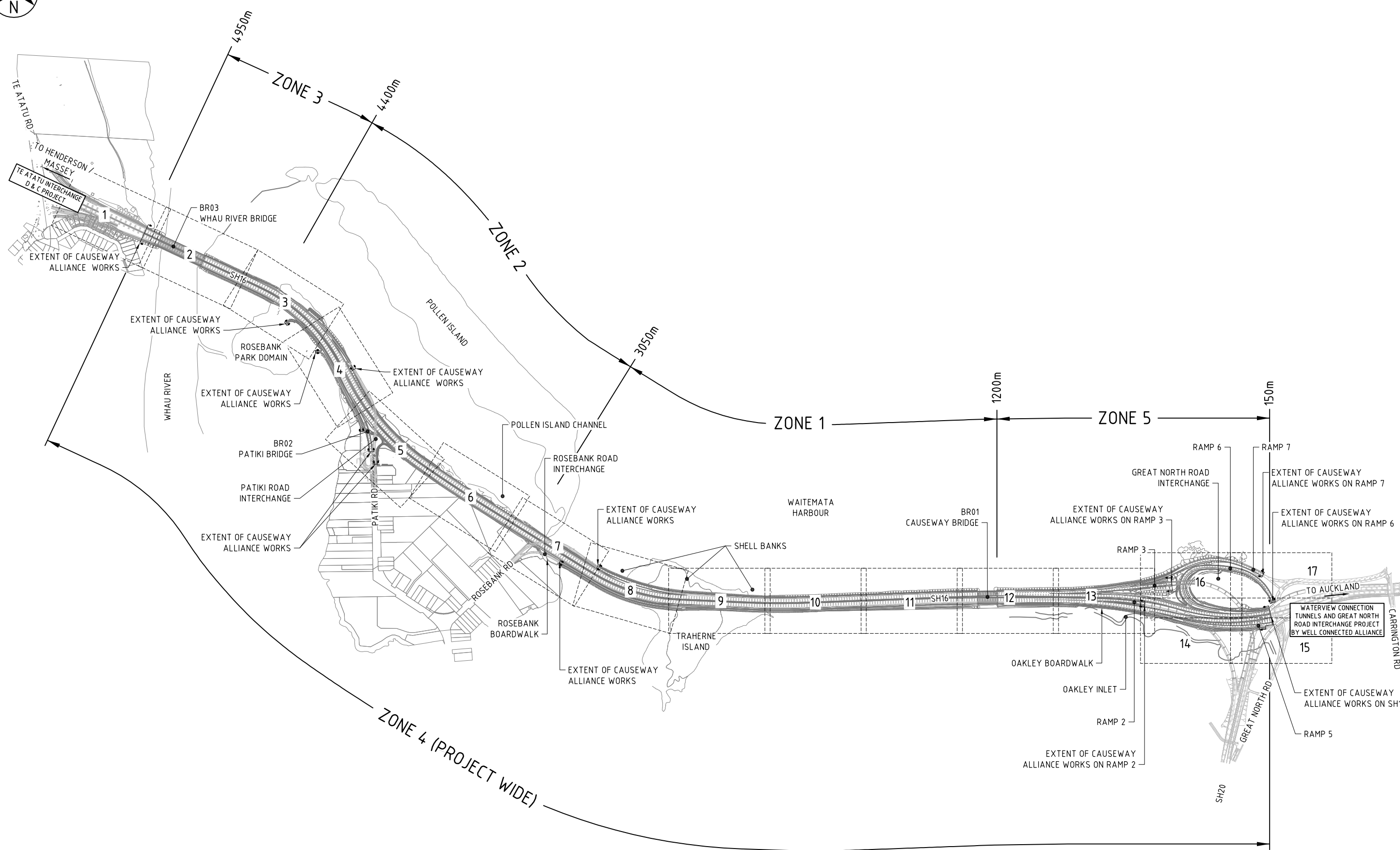
- Eastbound: Installing new Whau Bridge spans. Continue earthworks.
- Westbound: Continue temporary and permanent piling for Whau Bridge widening, continue and complete earthworks between Whau River Bridge and Patiki Road (including works on Rosebank Park Domain batter slope). Commence works for Patiki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

Zone 5 GNRI

- East bound: Continue earthworks for preload in an easterly direction alongside Great North Road east-bound off-ramp.
- Westbound: Commence piling to stabilise and then remedial work for Oakley Creek slump and continue with embankment filling.

The environmental focus for May will continue to be on inspections prior to and during vegetation removal, monitoring material movements 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.

Appendix A: SH16 Causeway Alliance Construction Zone Plan



Appendix B: SH16 Causeway Imported and Exported Material Summary

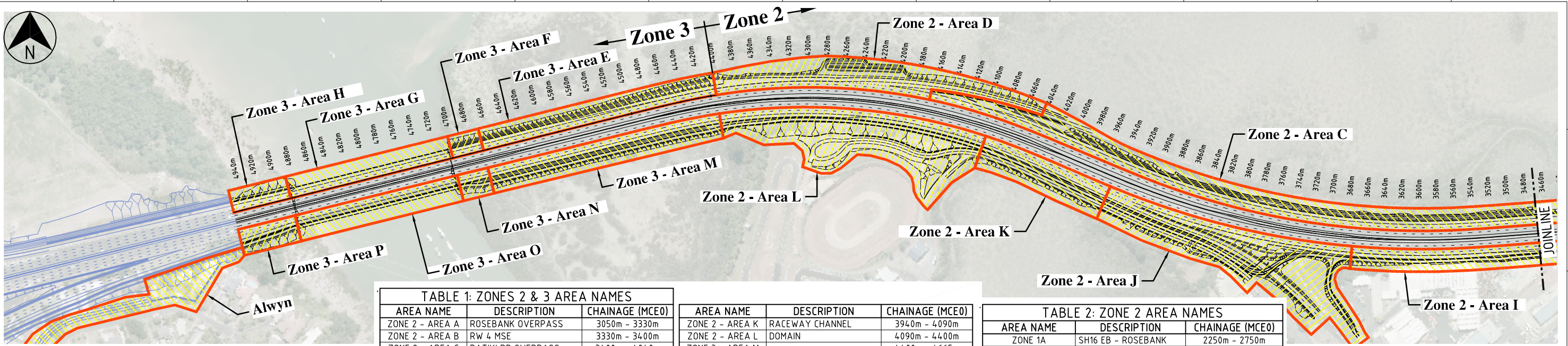


TABLE 1: ZONES 2 & 3 AREA NAMES

| 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 |

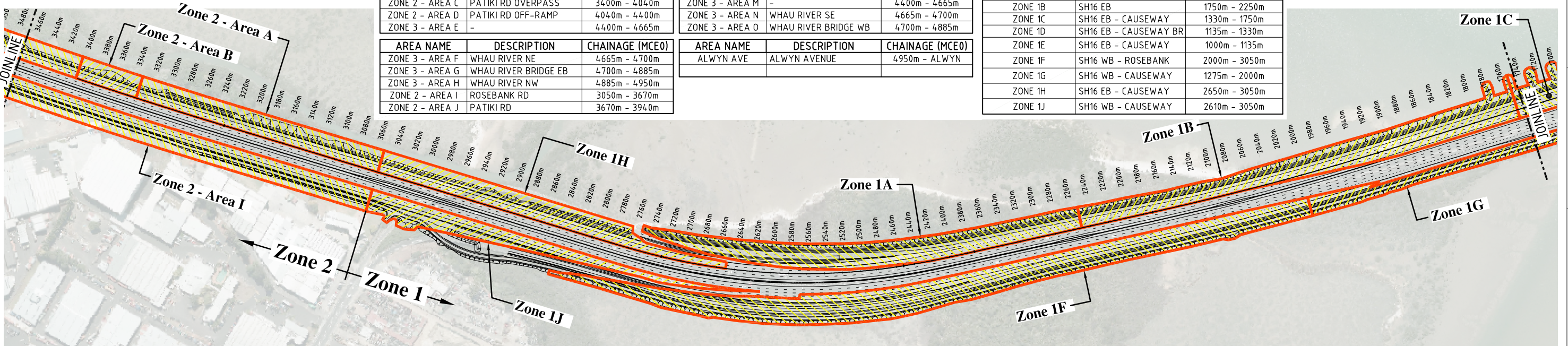


TABLE 3: ZONE 5 AREA NAMES

| 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
APPROVED: G. Houppapa

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

SH16 Causeway Upgrade - April 2014 Materials Tally
On Site Materials Movement and Disposal to Landfill

| Date | Transport Sub-Contractor | Ordering Zone | Docket # | Material Source | From Area | Gate | From Description Non-Import Only | To Area | To Description | Specification Description | Material Type | Sample ID | Lab Report ID | Classification | Final Disposal Facility | Conformance | Truck Type | Load Count | Truck Volume (T) | Total Volume (m ³) | Total Volume (m ³) Conversion factor of 1.6 (1.1 - 10.6) | Total Volume (m ³) for April | Sample Rate |
|------------|--------------------------|---------------|----------|-----------------|-----------------|------|----------------------------------|------------------------|----------------|---------------------------|-----------------------------|--|---|----------------|--------------------------------------|------------------------|-----------------|------------|------------------|--------------------------------|--|--|---|
| 15/04/2014 | G&C | Zone 2 | 307720 | Site | Zone 2 - Area J | C6 | Cut to waste - Double Handle | Zone 2 - Area L | Stockpile | Cut to Waste | Clean Fill | CA18: CA19- CA20: CA75: BH459 (0.9 m): DH460 | 1174303: 1224072 (Refer to G9 report for BECA results). | Cleanfill | Stockpiled onsite at Zone 2 - Area L | Yes | 6 wheeler | 9 | 8 | 72 | 45 | 45 | Total volume of material displaced from Zone 2J: 45 m ³ . Six analysed samples relate to Zone 2J. The current sample rate is one sample per 8 m ³ . This meets the minimum sampling requirements of one sample per 1000 m ³ for cleanfill. |
| 10/04/2014 | G&C | Zone 2 | 308361 | Site | Zone 2 - Area L | C6 | Domain Cut to waste | Ridge Road Landfill | Cut to Waste | Cut to Waste | Topsoil & Clay - Unsuitable | | | | | | Truck & Trailer | 2 | 59 | 37 | | | |
| 10/04/2014 | G&C | Zone 2 | 313500 | Site | Zone 2 - Area L | C6 | Domain Cut to waste | Ridge Road Landfill | Cut to Waste | Cut to Waste | Topsoil & Clay - Unsuitable | | | | | | Truck & Trailer | 3 | 88.5 | 55 | | | |
| 30/04/2014 | G&C | Zone 2 | 307699 | Site | Zone 2 - Area L | C6 | Domain Cut to waste | Ridge Road Landfill | Cut to Waste | Cut to Waste | Topsoil & Clay - Unsuitable | | | | Ridge Road managed fill | Pending investigation. | | | | | | | |
| 30/04/2014 | G&C | Zone 2 | 317433 | Site | Zone 2 - Area L | C6 | Domain Cut to waste | Ridge Road Landfill | Cut to Waste | Cut to Waste | Topsoil & Clay - Unsuitable | | | | Ridge Road managed fill | Pending investigation. | | | | | | | |
| 10/04/2014 | G&C | Zone 2 | 31704 | Site | Zone 2 - Area L | C6 | Domain Cut to waste | Ridge Road Landfill | Cut to Waste | Cut to Waste | Refuse Waste | | | | Ridge Road refuse | Pending investigation | Artic | 1 | 11 | 7 | | | |
| 10/04/2014 | G&C | Zone 2 | 31309 | Site | Zone 2 - Area L | C6 | Domain Cut to waste | Ridge Road Landfill | Cut to Waste | Cut to Waste | Topsoil & Clay - Unsuitable | | | | Ridge Road cleanfill | Pending investigation | Truck & Trailer | 3 | 88.5 | 55 | | | |
| 11/04/2014 | G&C | Zone 2 | 311856 | Site | Zone 2 - Area L | C6 | Domain Cut to waste | Hampton Downs Landfill | Cut to Waste | Cut to Waste | Refuse Waste | | | | Hampton Downs | Yes | Truck & Trailer | 1 | 19.5 | 12 | | | |
| 11/04/2014 | G&C | Zone 2 | 31855 | Site | Zone 2 - Area L | C6 | Domain Cut to waste | Ridge Road Landfill | Cut to Waste | Cut to Waste | Refuse Waste | | | | Ridge Road refuse | Pending investigation | Truck & Trailer | 1 | 19.5 | 12 | | | |

Currently under investigation. Material classified as cleanfill and managed fill, however some fragments of asbestos was discovered during excavation and the works are currently on hold pending closure of this investigation. Ridge Road facility and Waikato Regional Council was notified and disposal location recorded by Ridge Road.

4869

Total volume of material displaced from Zone 2L: 7062 m³ (includes 2193 m³ displaced in March 2014). 41 analysed samples relate to Zone 2L. The current sample rate is one sample per 172 m³. This meets the minimum sampling requirements of one sample per 500 m³ for managed fill and one sample per 1000 m³ for cleanfill.

