



Addendum to Geotechnical Investigation Report

Peacockes Road

Hamilton

Submitted to:

Weston Lea Limited
c/- Harrison Grierson Limited

ENGEO Limited

8 Greydene Place, Takapuna, Auckland 0622
PO Box 33-1527, Takapuna, Auckland 0740
Tel +64 9 972 2205 Fax +64 3 328 9013
www.engeo.co.nz

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Appendices

Appendix 1: Harrison Grierson Stormwater Detail Plan Sheets 1 & 2

ENGEO Document Control:

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20/02/2019	Issued to Client	DF	PF	CW

1 Introduction

ENGEO Limited was requested by Weston Lea Limited to prepare an addendum to the Geotechnical Investigation Report (GIR), for the Amberfield Development at Peacockes Road, Hamilton.

This addendum is required as the proposed subdivision layout within the north-eastern area of the Amberfield Residential Subdivision has changed since the preparation of the original GIR.

This addendum report addresses the geotechnical aspects of the changes made from the original development plan.

2 Historical Geotechnical Reporting

ENGEO has previously prepared the following reports for this site:

- Preliminary Investigation Report – Peacockes Road dated 22/09/2017, reference 14280.000.000_08.
- Geotechnical Investigation Report – Amberfield Development dated 16/05/2018, reference 14280.000.000_19.
- Request for Further Information - Amberfield Development dated 17/08/18, reference 14280.000.000_21.

This addendum report should be read in conjunction with the findings of these previous geotechnical reports.

3 Changes to the Development Plan

While the majority of the proposed development remains unchanged, mitigation of potential effects on local bat populations has led to the north-eastern portion of the development being drawn back from the northern and eastern boundary of the site.

This has necessitated a number of changes to site contours, as well as the lot layout.

- Site contours still fall from Peacockes Road in the west to the steep bush clad slopes, which lead down to the Waikato River adjacent to the northern and eastern boundaries of the site. Contours have been adjusted to allow for the majority of the lots to be graded at a consistent slope angle of 1V:10H or ten degrees, with occasional steepened sections of the overall slope which will recline at slope angles of up to 1V:3H or 18.4 degrees. These steepened sections are of relatively low height (1.0 to 2.0 m high) and of limited lateral extent.
- In one area to the east of the Knoll Reserve, road level constraints have resulted in a 1V:2H slope downslope of Road 2. This slope may require reinforcing with geogrid to aid long term slope stability. This will be determined as part of detailed design.
- Site contours downslope of Road 2 within the northern portion of the site have been adjusted to fit with the new layout of this road and creation of a vegetated buffer downslope of the road. This has typically resulted in a relatively gently sloping area downslope of Road 2.

- Cuts and fills are substantially similar in nature to the previous proposal. However, fill placement adjacent to the steeper slopes (adjacent to the Waikato River) within the northern and eastern portion of the site has typically been reduced in height and pulled back westward further into the site.

4 Other Changes to Original Development Proposal

Previous requests for further information received from Hamilton City Council, as part of the Resource Consent process, resulted in minor changes to the original development proposal.

These changes have been addressed in previous responses to Section 92 queries raised by Council and involve the deletion of a number of localised stormwater soakage devices within the development and the creation of communal stormwater rain-garden basins. As part of the proposed changes to the north-eastern area of the site, a stormwater rain-garden basin is now proposed to be located to the east of the revised alignment of Road 2.

Minor changes to the extent of additional counterfort drainage required on site have also been incorporated into the revised site model. See Harrison Grierson (HG) Stormwater Detail Plan Sheets 1 and 2, reference 141842-2002 Rev 4 dated 08/02/2019 attached.

5 Effect of Recent Changes to Site Profiles

As a result of our review of the revised drawing set (Rev 4), provided by Harrison Grierson Consultants Limited, we are satisfied that the revised earthworks proposal will generally reduce the height of filling proposed adjacent to the eastern boundary of the site and will generally improve site stability over the original development proposal.

The requirement for specific geotechnical design of some portions of the site that fall inside Specific Design Zones identified in the ENGEO GIR still stands. This work will be undertaken prior to commencement of earthworks on site.

The requirement for additional drainage within two areas in the north-eastern portion of the site (as previously noted within the GIR) remains. The revised extent of these drains is shown in the HG Stormwater Detail Plan Sheets appended.

We trust that this information meets your current requirements. Please do not hesitate to contact the undersigned on (09) 972 2205 if you require any further information.

Report prepared by



Paul Fletcher, CMEngNZ (CPEng)

Associate Geotechnical Engineer

Report reviewed by



Craig Wright, CMEngNZ (PEngGeol)

Associate Engineering Geologist

APPENDIX 1:

Harrison Grierson Stormwater Detail Plan Sheets 1 & 2




























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NOTES:

1. ALL RCRRR PIPE (STORMWATER) SHALL BE CLASS 2 UNLESS OTHERWISE NOTED.
2. SINGLE CESSPIT LEADS SHALL BE DN 225 RCRRR CLASS 4.
3. DOUBLE CESSPIT LEADS SHALL BE DN 300 RCRRR CLASS 4.
4. HEADWALL LOCATIONS ARE INDICATIVE ONLY AND TO BE CONFIRMED WITH LANDSCAPE ARCHITECT AT DETAILED DESIGN STAGE TO PROTECT EXISTING VEGETATION.

LEGEND:

- | | |
|---|--|
|  | STAGE BOUNDARY |
|  | EXISTING MANHOLE
EXISTING CATCHPIT |
|  | EXISTING STORMWATER LINE |
|  | EXISTING WATERMAIN |
|  | EXISTING WASTE WATER NETWORK |
|  | PROPOSED STORMWATER LINE
(2 YEAR/CONSTRUCTION NETWORK) |
|  | PROPOSED STORMWATER LINE
(10 YEAR/CONSTRUCTION NETWORK) |
|  | PROPOSED STORMWATER MANHOLE |
|  | PROPOSED (PUBLIC) CESSPIT |
|  | PROPOSED (PUBLIC) RAINGARDEN |
|  | PROPOSED (PRIVATE) CESSPIT |
|  | PROPOSED SCRUFFY DOME |
|  | PROPOSED INSPECTION RISER |
|  | PROPOSED SW LOT CONNECTION |
|  | PROPOSED SUBSOIL DRAIN |
|  | EXISTING WATERCOURSE |
|  | OVERLAND FLOW PATH |
|  | PROPOSED (PRIVATE) SOAK HOLE |
|  | POSSIBLE DRIVEWAY LOCATION |
|  | PROPOSED CAR PARK LOCATION |
| | <u>PROPOSED BIO-RETENTION DEVICES:</u> |
|  | FOR LOCAL ROAD 20m WIDE |
|  | FOR LOCAL ROAD WITH CYCLEWAY |
|  | FOR LOCAL ROAD LOW VOLUME |
|  | FOR LOCAL ROAD WITH PARK EDGE |
|  | FOR PEACOCKS ROAD |



AUCKLAND OFFICE
DILWORTH HOUSE 71 GREAT SOUTH ROAD
NEWMARKET AUCKLAND 1051
T +64 9 917 5000
W www.harrisongrierson.com

4	FOR CLIENT REVIEW	SDK	08.02.19
3	ISSUED FOR RESOURCE CONSENT	KRW	18.05.18
2	ISSUED FOR CONSENT	KRW	27.04.18
1	FOR CLIENT REVIEW	KRW	26.03.18
REF	REVISIONS	BY	DATE

REF	REV
PROJECT:	

WESTON LEA LTD
AMBERFIELD
PEACOCKE RD HAMILTON

TITLE:

STORMWATER DETAIL PLAN
SHEET 1 OF 6

ORIGINATOR: AJL	DATE: 13.03.18	SIGNED:	PLOT BY: MB
DRAWN: AJP	DATE: 25.01.18	SIGNED:	PLOT DATE: 08.02.18
CHECKED: KRW	DATE: 23.03.18	SIGNED:	SURVEY BY:
APPROVED: STM	DATE: 17.03.18	SIGNED:	SURVEY DATE:

ISSUE STATUS:

FOR RESOURCE CONSENT

PROJECT No: 9820-141842-01	SCALES: 1:500 - A1 1:1000 - A3	A1
DRAWING No:		REV

CONTINUED ON DRAWING 2001

WAIKATO RIVER

PEACOCKS ROAD

RD002

RD012

RD013

RD014

RD008

RD009

RD010

RD006

PROPOSED END CAP FOR FUTURE CONNECTION TO UPGRADED PEACOCKS ROAD

PROPOSED COUNTERFORT GEOTECHNICAL SUB-SURFACE DRAINING LOCATION & SIZE TO BE CONFIRMED ON SITE WITH GEO-TECH ENGINEER, TYP.

SUBSOIL PIPES TO BE PIPE DRILLED / THRUSTED FROM TOP SIDE OF RIVERBANK TO TOE OF EMBANKMENT. SUBSOIL STRUCTURE MATERIALS WILL BE BARGED IN AND CONSTRUCTED FROM KIDNESIDE TO MINIMISE DISTURBANCE TO VEGETATION.

PROPOSED SUBSOIL OUTLET LOCATION TO DAYLIGHT DOWN BANK AND AVOID VEGETATION TO BE CONFIRMED AT DETAILED DESIGN STAGE

REFER TO DRG 141842-2201 FOR OUTLET DETAILS

REFER TO DRG 141842-2201 FOR OUTLET DETAILS

PROPOSED 1500 UPVC INSPECTION CHAMBER, TYP.

PROPOSED 1500 UPVC INSPECTION CHAMBER, TYP.

CONTINUED ON DRAWING 2004

