Date 16 May 2021

To Greymouth Council

From Austin and Annette Adams

Subject No long term plan for sewer connection for Rapahoe

No mention is made in the council's ten year forward plan for any sewer connection for the Rapahoe community. Such a proposal existed in the council's plan two decades ago. We were denied installation of a septic tank system by the Regional Council when we built our house in 2008-2009, ostensibly because of the Greymouth Council's plan for sewer installation. Our waste system was subsequently designed for sewer connection at some near future date. Currently (at a past cost to us of approximately twenty thousand dollars for sewage removal) we are very disturbed to see there is no plan for a sewer connection to Rapahoe.

We consider that in the long term it is inevitable that some community sewage sysem is installed in Rapahoe. Unless radical new sewage technologies are developed, the costs of installation are steadily increasing. We urge the council to plan for the installation of a Rapahoe sewage system before the costs of such an installation become too much of a burden on Rapahoe ratepayers.

Austin Adams

A. J. Adams.

Annette Adams

2 May 2008

Austin Adams
Auchenheath
Falconer Road
Guyra
NSW 2365

WADA0.01

Dear Austin

**9 Stewart Street – Ground Investigation**

Further to our Offer of Service of 21 April 2008, we are pleased to provide our Engineer's Report for the above named property, located in Rapahoe and legally described as Section 9, BLK 3, Town of Rapahoe.

**Site Investigations**

On the 1st of May, Opus carried out four scala penetrometer tests (SC1-4) and two test pits (TP1 and TP2). The complete factual logs of this investigation are appended, along with a marked plan indicating the location of each test.

**Investigation Findings**

There is 0.4 - 0.5m of topsoil and fill overlying medium dense, fine sand that was saturated from about 0.8m depth. Test pit 2 (TP1) also confirmed soft clay with some roots, from 2.2m depth, with a pocket of water sitting on the top of the clay layer.

Ground water was observed rising rapidly in both test pits.

Scala penetrometer results were relatively consistent at each of the 4 sites tested, with soft / loose ground to a depth of 0.5 - 0.9m, and then improving dramatically as the sand layer was encountered.

There has been 'hump and hollowing' on the property which has moved most of the surface water into the side drains. It was noted that water was standing in the north-eastern side drain. This should be cleared and improved to keep the water away from the dwelling.

The property is grassed with no other vegetation cover.

**Fill / Earthworks**

The site has been 'hump and hollowed' which has resulted in fill including rubbish and stumps being buried in the apex of the hump. This fill may be encountered when founding the footings and must be removed / replaced over the footprint of the dwelling.



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**Surrounding Environment or Structures**

There are numerous neighbouring houses of both piled and concrete slab foundations which appear to be performing sufficiently.

**Discharge of Treated Effluent**

We classify the fine sand soil type as Category 1 according to Table 4.2 of AS/NZS 1547:2000 – "On-Site Domestic Waste-Water Management". The clay layer would be category 6.

The waste water treatment system shall be a tertiary treatment system and should be specifically designed to account for saturated ground conditions and high water table.

Specific design, installation and maintenance of waste water treatment systems could be undertaken by companies such as Oasis Clearwater (Ross Heveldt – 03 344 0262), or Hynds Environmental (Mike Strickett – 03 344 1370).

**Conclusions**

The drains should be cleared out to improve drainage and help keep the site dry, especially the north-eastern drain.

According to Clause 7.5.2.1 of NZS3604:1999 "Timber Framed Buildings" the floor level of the dwelling must be set a minimum of 225mm above surrounding ground level. Given the presence of standing water and the poor drainage on the site, we recommend that the floor level also be set such that it is a minimum of 100mm above the highest point of the highway adjacent to the property.

The topsoil / fill layer must be removed down to the sand layer encountered (0.5 – 0.9m approx). Then it will have to be backfilled and compacted. It is expected that water will fill the excavation created and drainage will need to be installed if this happens to maintain relatively dry fill.

An engineer will need to be present on site to approve the fill material and compaction methodology.

Opus would be happy to provide an offer of service to specify and supervise placement of the fill to provide certification of the construction to building control.

Notwithstanding these recommendations, the site is generally suitable for the construction of a timber framed building in accordance with NZS3604:1999 "Timber Framed Buildings".

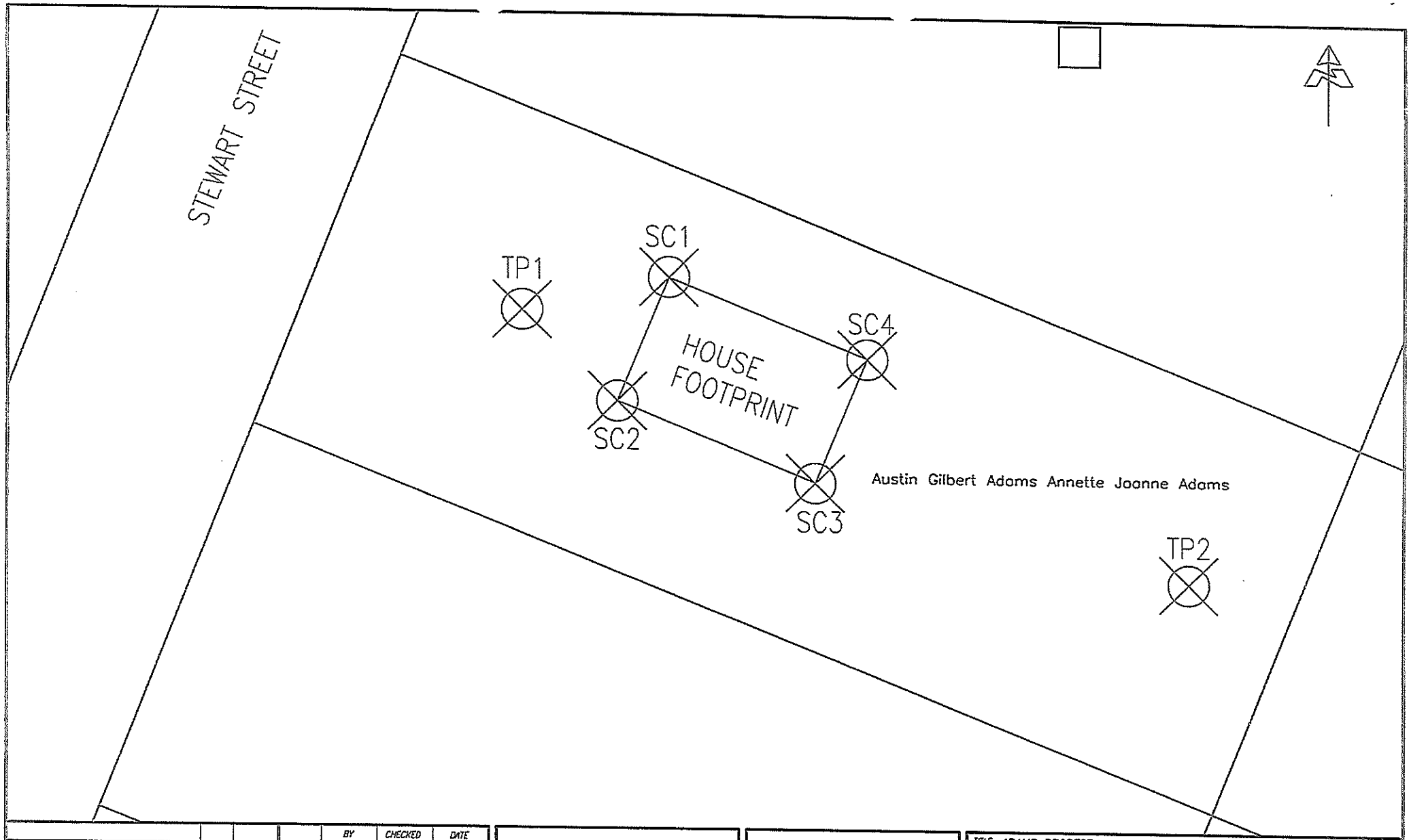
Yours faithfully

Lee Paterson
Geotechnical Engineer

Report Released

Mark Healey
Principal Projects Engineer
ME (Nat Res), MIPENZ (Civil & Environ), CPEng [171989]

Encl.
Site Plan and Investigation Logs




| AMENDMENT | APP'D | DATE |
|---|---|---|
| | | |

| | BY | CHECKED | DATE |
|---|---|---|---|
| DESIGN | WAS | MGH | |
| DRAWN | WAS | MGH | |
| | | | |
| APPROVED | | | |



GRAPHIC SCALES 150 mm 100 50 0 10 mm

AUSTIN ADAMS

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OPUS
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TITLE ADAMS PROPERTY
GROUND INVESTIGATION

TEST LOCATION PLAN

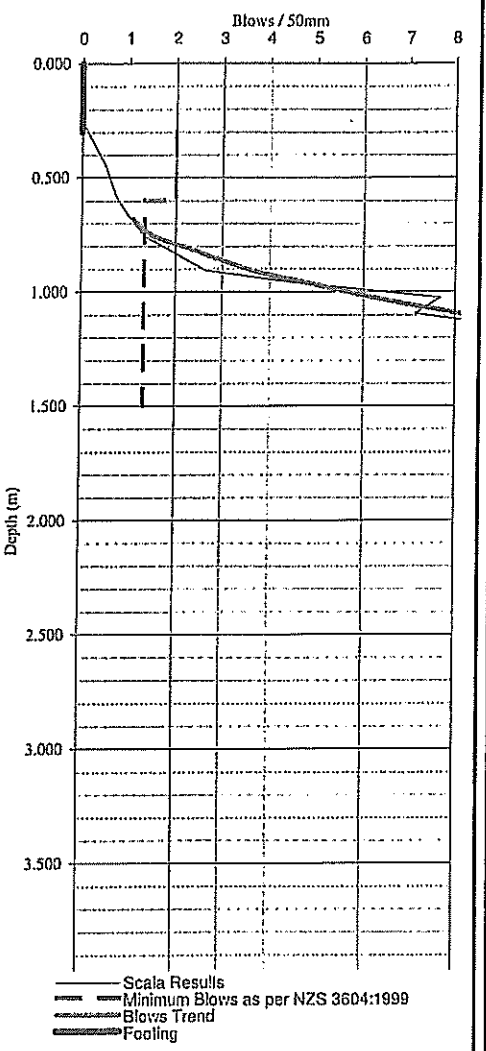
| STATUS | | FILE | | | |
|---|---|---|---|---|---|
| INFORMATION | | 6-WADA0.01 | | | |
| SCALE | PLOT DATE | FEATURE IDENTIFIER | CODE | SHEET | REVISION |
| 1:400 | 02/05/08 | | | 1 | |

# TEST PIT / SCALA PENETROMETER TEST REPORT

Project : Adams Ground Investigation
Location : Section 9, Stewart Street, Rapahoe
Client : Austin Adams
Test number : Scala 4. NE corner
Water level : N/A
Reduced level : N/A

**Project No : 6-WADA0.01/016GG**

## Scala Penetrometer




## Test Results

| Depth (m) | Soil Description |
|---|---|
| | |

**Test Methods**

| | |
|---|---|
| Determination of Penetration Resistance of a Soil, NZS 4402 : 1988, Test 6.5.2 | Field Descriptions of Soils and Rocks by NZ Geotechnical Society Dec 2005 |

Date tested : 01/05/08
Date reported : 01/05/08

Approved by

Designation : *Senior Civil Engineer*
Date : 01/05/08

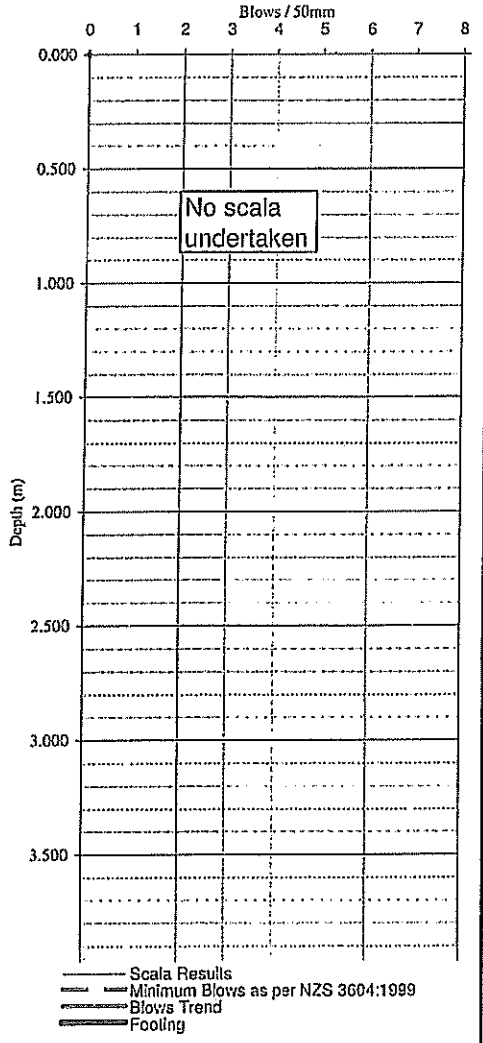
Notes:
Blows Trend = Centred five point moving average (to smooth raw Scala Results)
Footing depth = 0.300 m
Footing width = 0.300 m

# TEST PIT / SCALA PENETROMETER TEST REPORT

Project : Adams Ground Investigation
Location : Section 9, Stewart Street, Rapahoe
Client : Austin Adams
Test number : Test Pit 1. W of Dwelling
Water level : N/A
Reduced level : N/A

Project No : 6-WADA0.01/016GG

## Scala Penetrometer




## Test Results

| Depth (m) | Soil Description |
|---|---|
| 0.40 | Topsoil and fill<br>Water pocket hit 0.3m down |
| 1.60 | Dark brown fine SAND<br><br>Ground water saturation point |
| | End of test pit |

**Test Methods**

| | |
|---|---|
| Determination of Penetration Resistance of a Soil, NZS 4402 : 1988, Test 6.5.2 | Field Descriptions of Soils and Rocks by NZ Geotechnical Society Dec 2005 |

Date tested : 01/05/08
Date reported : 01/05/08

Approved by

Designation : *Senior Civil Engineer*
Date : 01/05/08

Notes:
Blows Trend = Centred five point moving average (to smooth raw Scala Results)
Footing depth = 0.000 m
Footing width = 0.000 m

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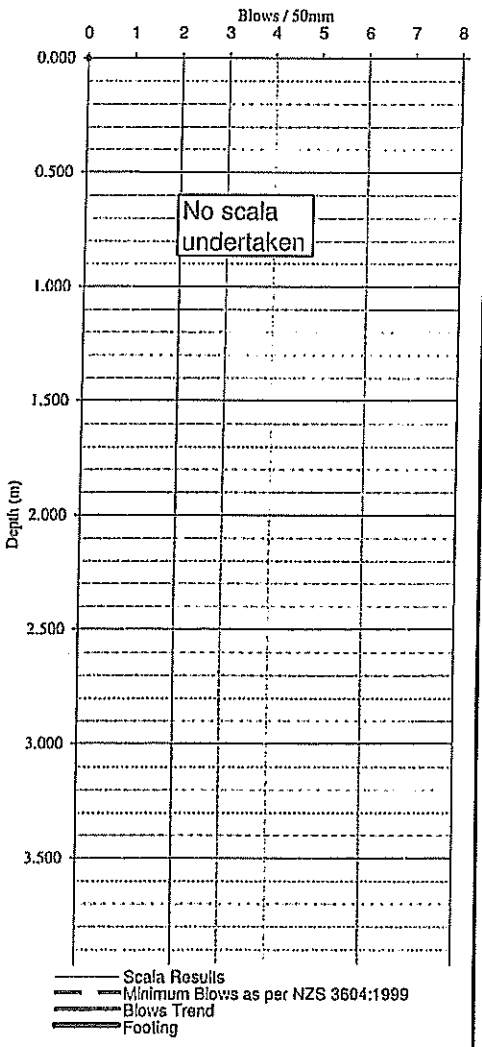
# TEST PIT / SCALA PENETROMETER TEST REPORT

Project : Adams Ground Investigation
Location : Section 9, Stewart Street, Rapahoe
Client : Austin Adams
Test number : Test Pit 2. At Eastern Boundary
Water level : N/A
Reduced level : N/A

Project No : 6-WADA0.01/016GG

## Scala Penetrometer




## Test Results

| Depth (m) | Soil Description |
|---|---|
| | Topsoil and fill (stumps)<br>Water pocket hit 0.3m down |
| 0.50 | |
| | Dark brown fine SAND with trace of roots (20mm max) and trace of cobbles; wet-saturated<br><br>Ground water saturation point |
| 2.20 | Water standing on top of clay layer |
| | Clay with some roots (40mm max); highly plastic; moist-wet; soft |
| 2.60 | |
| | End of test pit |

## Test Methods

| | |
|---|---|
| Determination of Penetration Resistance of a Soil, NZS 4402 : 1988, Test 6.5.2 | Field Descriptions of Soils and Rocks by NZ Geotechnical Society Dec 2005 |

Date tested : 01/05/08
Date reported : 01/05/08

Approved by

Designation : *Senior Civil Engineer*
Date : 01/05/08

Notes:
Blows Trend = Centred five point moving average (to smooth raw Scala Results)
Footing depth = 0.000 m
Footing width = 0.000 m

Gladstone, Australia. "we had a storm ------- it was beautiful to watch and listen to"

Fareham, UK. "had a lovely walk on the beach at sunset"

Joshua B. (no address) "one of the best kept secrets on the west coast"

Melbourne, Australia. "a wide beach and a small country pub which served excellent pub grub"

thegreypanther, UK. "We absolutely love this place"

Blenheim, NZ "a great beach to walk along with stunning views"

Morrinsville, NZ. "fantastic sunset in paradise"

Waimate, NZ. "Rapahoe is perfect for exploring the Point Wlizabeth walkway"

Colorado, USA. "Well worth staying here, positioned nicely for west coast trips"

Gold Coast, Australia. "a great place for a base to visit west