PID 80025
RMA20120265

Part I – Application Forms

Resource Management Act 1991 – Form 18 – Hastings District Council

NOTICE OF REQUIREMENT BY LOCAL AUTHORITY FOR DESIGNATION UNDER SECTION 168 OF THE RESOURCE MANAGEMENT ACT 1991

TO: The Chief Executive
Hastings District Council
Private Bag 9002
Hastings

FROM: Hastings District Council
Private Bag 9002
Hastings

Attention: Tracey Gray, Strategic Planner

Hastings District Council gives Notice of Requirement for a designation for **road purposes** to establish a roundabout at the Henderson Road / Omahu Road intersection;

1. **The site to which this requirement applies is as follows:**

   The properties to which this designation applies are:

Address	Legal Description & CT
1189 Omahu Road	LOT 3 DP22884, LOT 2 DP342661, 175182

   The site is located within the Hastings District, and is indicated on the Designation Plan attached as Appendix 1 of Part II.

2. **The nature of the proposed work is:**

   The establishment, operation and maintenance of a roundabout at the Henderson Road / Omahu Road intersection to enable an efficient and effective roading network to be put in place to service the Omahu North Industrial zone proposed in Plan Change 57.

3. **The nature of the proposed restrictions that would apply are:**

   No restrictions are proposed.

4. **The effects that the project will have on the environment, and the ways in which any adverse effects will be mitigated, are:**

   Refer to Section 6.1 of Part II of this document for an assessment of the effects on the environment and the proposed mitigation measures.

5. **Alternative sites, routes and methods have been considered to the following extent:**

   Refer to Section 5 of Part II of this document, which outlines the alternatives considered to address the issues associated with the establishment of the proposed intersection improvements.

6. **The project and designation alteration are reasonably necessary for achieving the objectives of the requiring authority because:**

   The Hastings District Council seeks to establish a new industrial zone on the northern side of Omahu Road, Hastings. A key objective of this project is the efficient, effective and timely implementation of that physical infrastructure necessary to service the area. This includes the proposed intersection improvements.

A primary method for achieving these objectives is the protection of sufficient land (via designation) to enable the construction, operation and maintenance of these. The designation will assist in the achievement of the objectives of the project by:

- Protecting the site from future development which may preclude the construction of the proposed network;
- Allowing Council and/or its authorised agents to undertake the project or work in accordance with the designation, notwithstanding anything to the contrary in the Hastings District Plan;
- Clearly and accurately identifying and describing the use of the land in the Hastings District Plan; and
- Enabling the project or work to be undertaken in a comprehensive and integrated manner.

7. The following resource consents are needed for the proposed activity and have been applied for:

N/A. No resource consents have been sought.

8. The following consultation has been undertaken with parties that are likely to be affected:

Details of the consultation undertaken are outlined in Section 7 of Part II of this document.

9. Hastings District Council attaches the following information required to be included in this Notice of Requirement by the regional plan, district plan or any regulations made under the Resource Management Act 1991:

Refer to Part II of this document for all required information.

J Gray
.....
Signature of applicant
(or person authorised to sign on behalf of applicant)

27/9/2012
.....
Date

Address for service of applicant:

Hastings District Council
Private Bag 9002
Hastings

Attention:	Tracey Gray
Telephone:	(06) 871 5000
Email:	traceyg@hdc.govt.nz

RMA20120268
PID 54879

Resource Management Act 1991 – Form 18 – Hastings District Council

NOTICE OF REQUIREMENT BY LOCAL AUTHORITY FOR DESIGNATION UNDER SECTION 168 OF THE RESOURCE MANAGEMENT ACT 1991

TO: The Chief Executive
Hastings District Council
Private Bag 9002
Hastings

FROM: Hastings District Council
Private Bag 9002
Hastings

Attention: Tracey Gray, Strategic Planner

Hastings District Council gives Notice of Requirement for a designation for an **infrastructure corridor**. A reticulated stormwater network is to be established within the proposed infrastructure corridor. Piped water and wastewater systems may also be established within this corridor if these are required at some time in the future.

1. The site to which this requirement applies is as follows:

The properties to which this designation applies are:

Address	Legal Description & CT
1137 Omahu Road	LOT 2 DP 23611 BLK XV HERETAUNGA SD SUBJ TO INT IN EASEMENTS OVER ASST 20801, HBP4/1391
Ormond Road	Lot 1 DP 441123, 541123
1139 Omahu Road	LOT 2 DP15736 BLK XV HERETAUNGA SD, HBH3/7
Omahu Road	LOT 1 DP11542 BLK XV HERETAUNGA SD, HBC1/760
7 Raupare Road	LOT 1 DP22262 BLK XV HERETAUNGA SD, HBP1/1175
15 Raupare Road	LOT 2 DP 22262 BLK XV HERETAUNGA SD, HBP1/1176
1189 Omahu Road	LOT 3 DP22884, LOT 2 DP342661, 175182
1215 Omahu Road	LOT 2 DP22884 BLK XV HERETAUNGA SD, HBP3/617
1219 Omahu Road	LOT 2 DP377104, LOT 2 DP400858, LOT 2 DP329917, 401623
Omahu Road	LOT 2 DP8336, HB134/211
1241 Omahu Road	LOT 3 DP27351 SUBJ TO & INT IN EASEMENTS, HBW3/1071
Jarvis Road	LOT 2 DP419221, 478421
18 Jarvis Road	LOT 2 DP402958, 409725
1309 Omahu Road	LOT 2 DP24260 BLKS XIV XV HERETAUNGA SD, HBV2/377
1337 Omahu Road	PT LOT 1 DP4953 BLK X1V HERETAUNGA SD, HB142/105
55 Twyford Road	LOT 2 DP 425145, LOT 1 DP 418851, 499262
4 Twyford Road	LOT 1 DP2767 BLK XIV HERETAUNGA SD, HB58/91
1 Twyford Road	LOT 3 DP416250, LOT 1 DP 2209 BLK XIV HERETAUNGA SD, HB58/149 and 462993
1393 Omahu Road	LOT 2 DP416250, 532871
1447 Omahu Road	LOT 4 DP27873 HOME BLOCK, 529729
1199 Omahu Road	LOT 1 DP 392031, 369147

The site is located within the Hastings District, and is indicated on the Designation Plan attached as Appendix 1 of Part II.

2. **The nature of the proposed work is:**

The proposed work is a reticulated stormwater network. A series of swales (shallow drains) are to be established, operated and maintained within a 6.5m corridor which runs generally parallel with Omahu Road. Piped or open drain connections to the swale will be established within the narrower (5m) corridors that extend into the proposed zone. Combined these will direct stormwater generated from sites within the proposed zone into one of the three infiltration areas that are to be established.

The infrastructure corridor will also be available for piped water and wastewater systems, should a need for these be identified in the future.

3. **The nature of the proposed restrictions that would apply are:**

No restrictions are proposed.

4. **The effects that the project will have on the environment, and the ways in which any adverse effects will be mitigated, are:**

Refer to Section 6.2 of Part II of this document for an assessment of the effects on the environment and the proposed mitigation measures.

5. **Alternative sites, routes and methods have been considered to the following extent:**

Refer to Section 5 of Part II of this document, which outlines the alternative stormwater designs considered for Proposed Plan Change 57.

6. **The project and designation alteration are reasonably necessary for achieving the objectives of the requiring authority because:**

The Hastings District Council seeks to establish a new industrial zone on the northern side of Omahu Road, Hastings. A key objective of this project is the efficient, effective and timely implementation of that physical infrastructure necessary to service the area. This includes a reticulated stormwater network. A primary method for achieving these objectives is the protection of sufficient land (via designation) to enable the construction, operation and maintenance of these networks. The designation will assist in the achievement of the objectives of the project by:

- Protecting the site from future development which may preclude the construction of the proposed network;
- Allowing Council and/or its authorised agents to undertake the project or work in accordance with the designation, notwithstanding anything to the contrary in the Hastings District Plan;
- Clearly and accurately identifying and describing the use of the land in the Hastings District Plan; and
- Enabling the project or work to be undertaken in a comprehensive and integrated manner.

7. **The following resource consents are needed for the proposed activity and have been applied for:**

Discharge permits are required to be obtained for the disposal of stormwater to land and to water from the proposed reticulated system. Applications have been lodged for these consents with the Hawke's Bay Regional Council (HBRC Reference: DP120072L and DP120073W).

8. **The following consultation has been undertaken with parties that are likely to be affected:**

Details of the consultation undertaken are outlined in Section 7 of Part II of this document.

9. **Hastings District Council attaches the following information required to be included in this Notice of Requirement by the regional plan, district plan or any regulations made under the Resource Management Act 1991:**

Refer to Part II of this document for all required information.

T Gray
.....
Signature of applicant
(or person authorised to sign on behalf of applicant)

21/9/2012
.....
Date

Address for service of applicant:

Hastings District Council
Private Bag 9002
Hastings

Attention:	Tracey Gray
Telephone:	(06) 871 5000
Email:	traceyg@hdc.govt.nz

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**HBP4/1391**
Land Registration District	**Hawkes Bay**
Date Issued	14 September 1993

Prior References
HB110/188

Estate	Fee Simple
Area	1.5568 hectares more or less
Legal Description	Lot 2 Deposited Plan 23611

Proprietors
Christopher John Pask

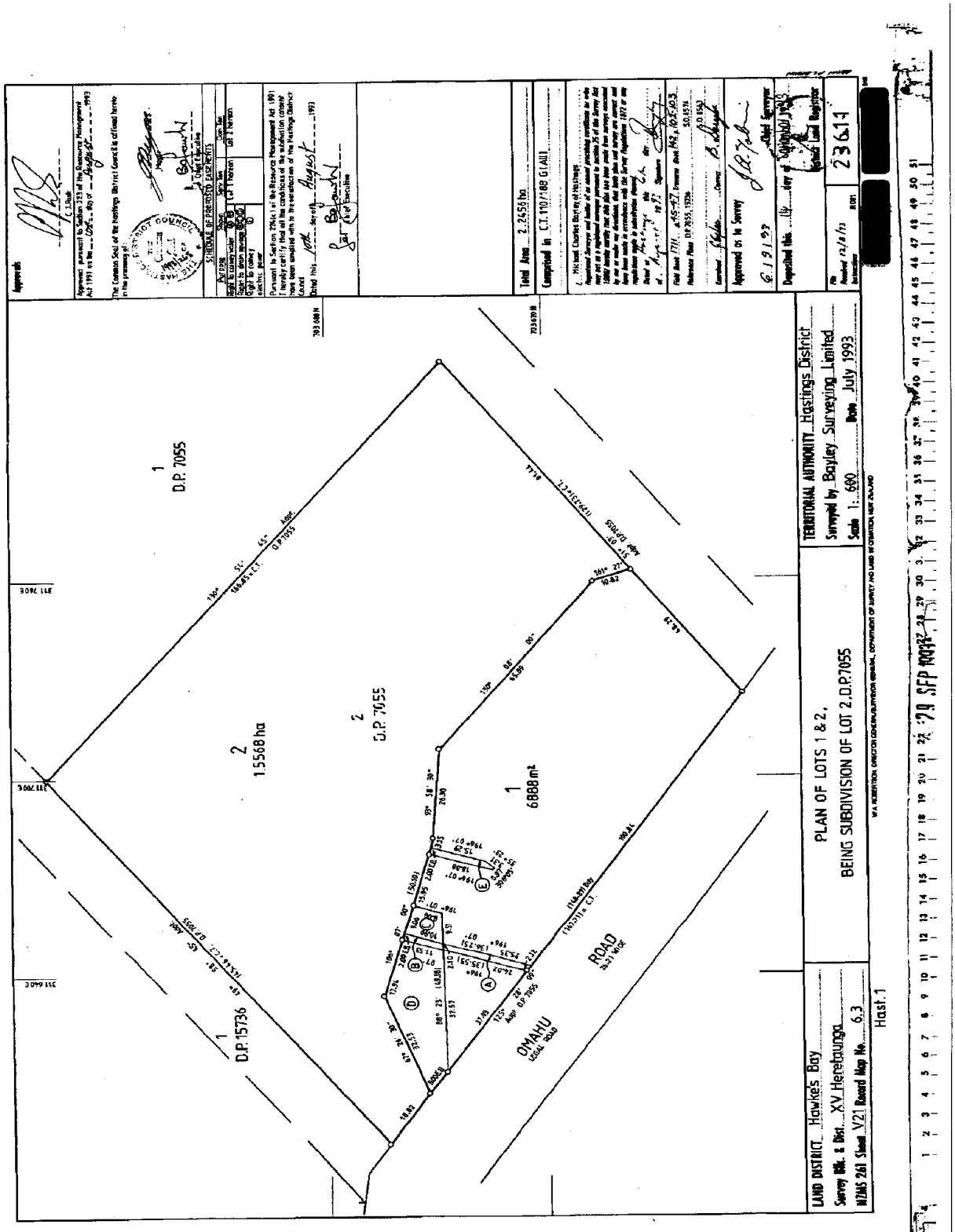
Interests

Appurtenant hereto are rights to convey water, drain sewage and convey electric power specified in Easement Certificate 595429.2 - 14.9.1993 at 12.15 pm

Appurtenant hereto are rights to convey electric power, water & telecommunications created by Transfer 685915.1 - 1.4.1999 at 9.01 am

Appurtenant hereto is a right of way created by Easement Instrument 6021334.1 - 27.5.2004 at 9:00 am

Identifier **HBP4/1391**



HASTINGS DISTRICT COUNCIL
207 Lyndon Road East
Hastings 4122
Private Bag 9002
Hastings 4156

Phone 06 871 5000
Fax 06 871 5100

Hastingsdc.govt.nz
customerservice@hdc.govt.nz

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

Identifier	**HBH3/7**
Land Registration District	**Hawkes Bay**
Date Issued	15 November 1979

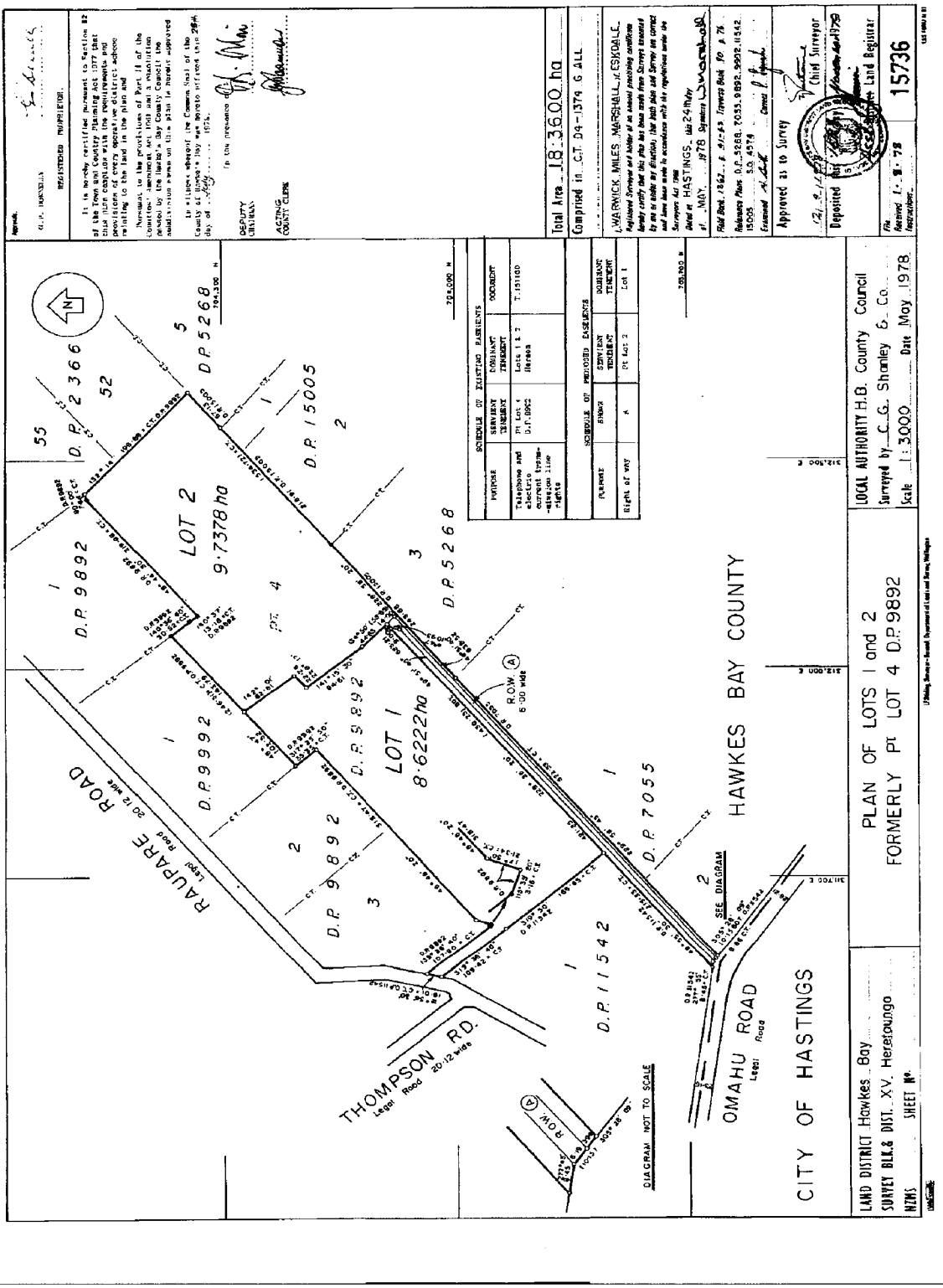
Prior References
HBD4/1374

Estate	Fee Simple
Area	9.7378 hectares more or less
Legal Description	Lot 2 Deposited Plan 15736

Proprietors
Charles Michael Patrick Donnelly, Margaret Dorothy Donnelly and Philip Bernard Kitchin

Interests
Appurtenant hereto are telephone and electric current transmission line rights created by Transfer 151160
592302.1 Mortgage to The National Bank of New Zealand Limited - 8.7.1993 at 11.21 am
617406.1 Variation of Mortgage 592302.1 - 6.12.1994 at 11.34 am

Identifier **HBH3/7**



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UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

Identifier	**HBC1/760**
Land Registration District	**Hawkes Bay**
Date Issued	23 June 1967

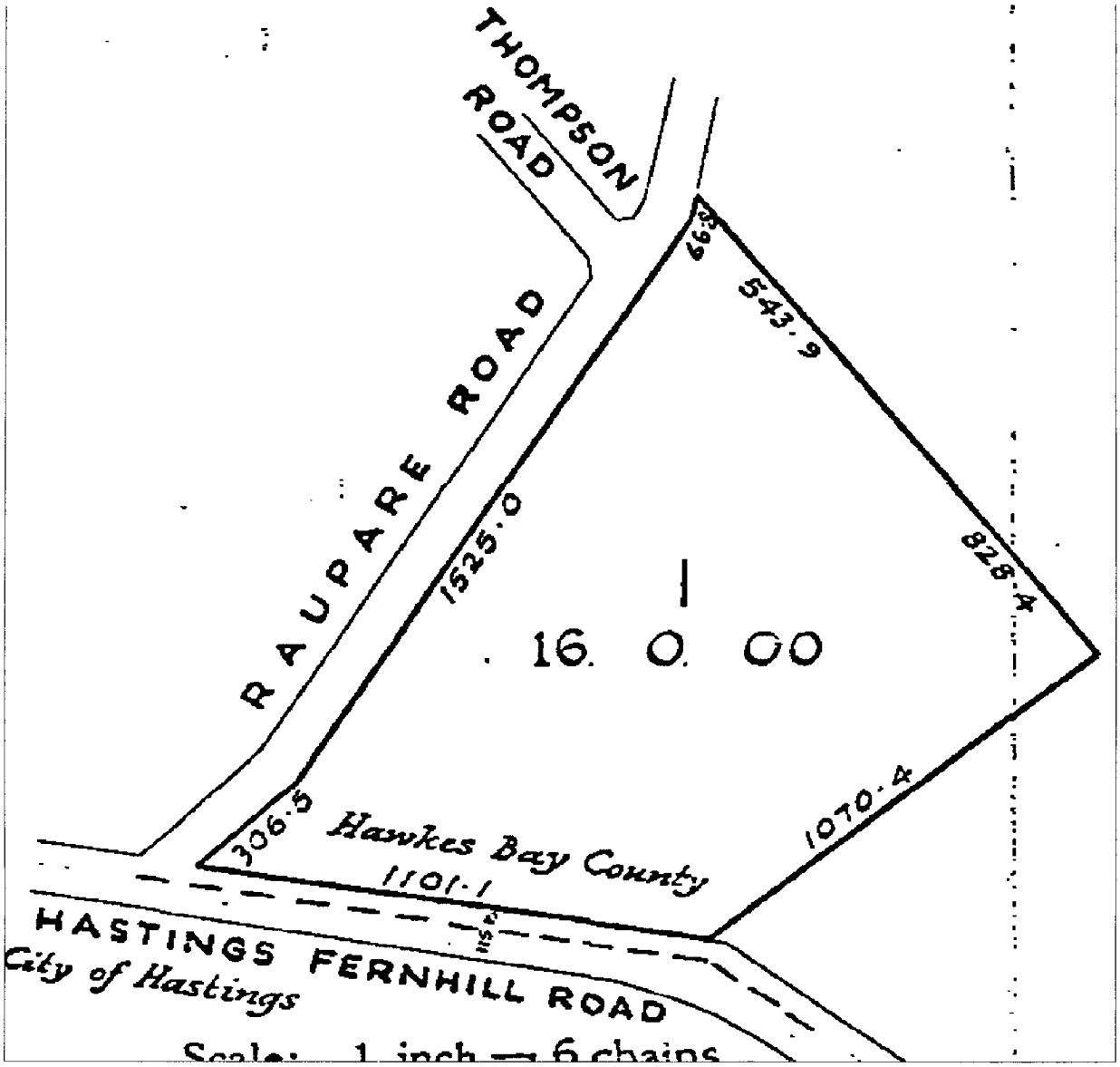
Prior References
HB179/97

Estate	Fee Simple
Area	6.4750 hectares more or less
Legal Description	Lot 1 Deposited Plan 11542

Proprietors
Noel Peter Vesty as to a 1/2 share
Maureen Elizabeth Vesty as to a 1/2 share

Interests
469059.1 Mortgage to The National Bank of New Zealand Limited - 30.10.1986 at 9.47 am
7492976.1 CAVEAT BY BEN MARSHALL SPEEDY - 7.8.2007 at 9:00 am

Identifier **HBC1/760**



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UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

Identifier	**HBP1/1175**
Land Registration District	**Hawkes Bay**
Date Issued	02 July 1991

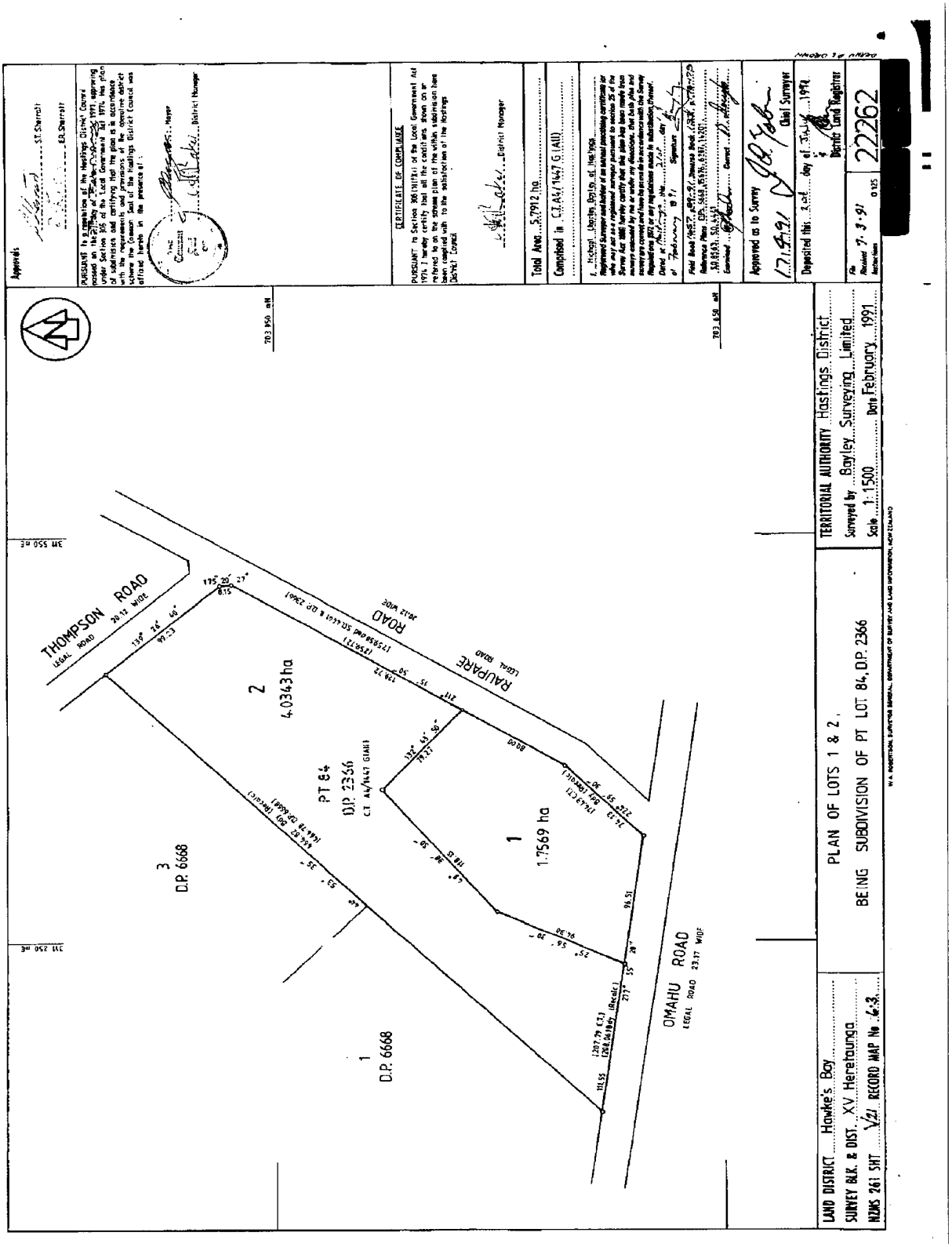
Prior References
HBA4/1447

Estate	Fee Simple
Area	1.7569 hectares more or less
Legal Description	Lot 1 Deposited Plan 22262

Proprietors
Sherratt Holdings Limited

Interests
6886541.5 Mortgage to ANZ National Bank Limited - 31.5.2006 at 9:00 am

Identifier **HBP1/1175**



COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

Identifier	**175182**
Land Registration District	**Hawkes Bay**
Date Issued	09 December 2004

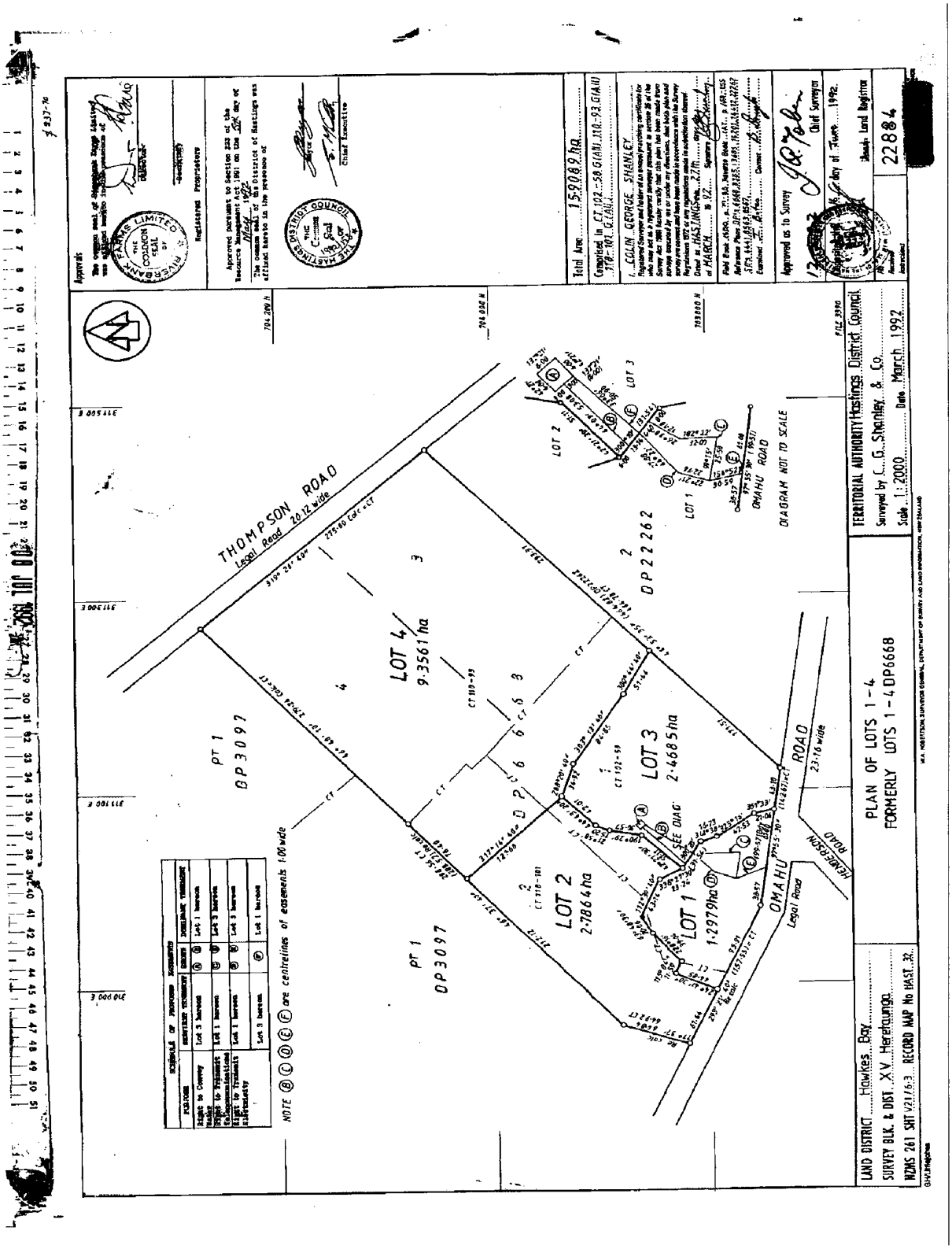
Prior References
HBP3/616 HBP3/618

Estate	Fee Simple
Area	2.9264 hectares more or less
Legal Description	Lot 2 Deposited Plan 342661 and Lot 3 Deposited Plan 22884

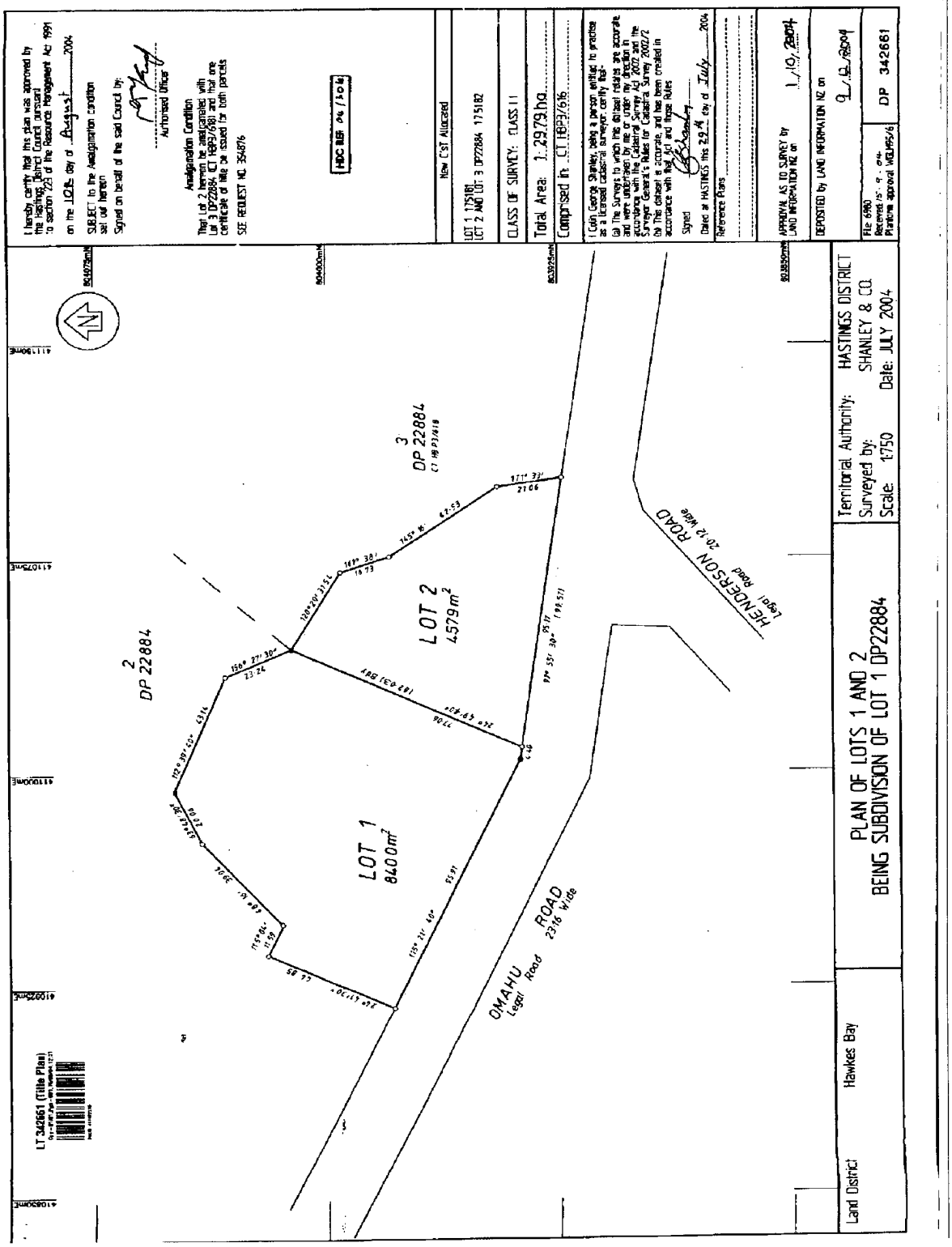
Proprietors
Josephine Anne Barley, Leighton Paul Curd and Stephen Alexander Greer

Interests
5653985.6 Mortgage to Bank of New Zealand - 11.7.2003 at 9:00 am (Affects Lot 3 DP 22884)
Subject to Section 241(2) and Sections 242(1) and (2) Resource Management Act 1991(affects DP 342661)

Identifier **175182**



Identifier **175182**



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UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

Identifier	**HBP3/617**
Land Registration District	**Hawkes Bay**
Date Issued	16 June 1992

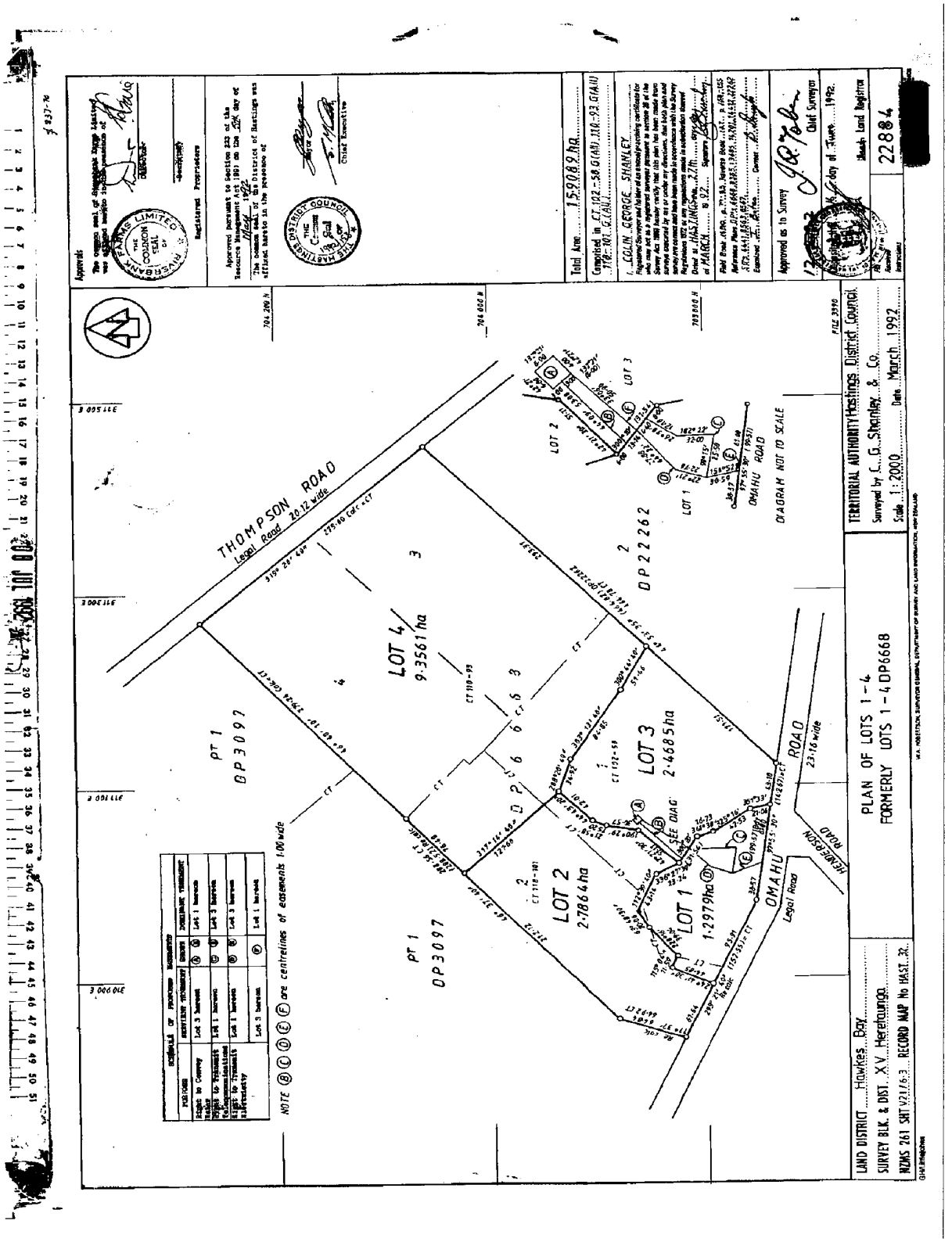
Prior References
HB102/58 HB118/101

Estate	Fee Simple
Area	2.7864 hectares more or less
Legal Description	Lot 2 Deposited Plan 22884

Proprietors
Rimu Hastings Limited

Interests
7102143.3 Mortgage to Bank of New Zealand - 31.1.2007 at 3:39 pm

Identifier **HBP3/617**



COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

Identifier	**401623**
Land Registration District	**Hawkes Bay**
Date Issued	22 October 2008

Prior References
122325 309866

Estate	Fee Simple
Area	14.0074 hectares more or less
Legal Description	Lot 2 Deposited Plan 400858 and Lot 2 Deposited Plan 329917 and Lot 2 Deposited Plan 377104

Proprietors
Totara Hastings Limited

Interests

Appurtenant to Lot 2 DP 329917 is a right to convey water created by Transfer 707403.1 - 21.9.2000 at 9.40 am

Subject to rights to convey water over part Lot 2 DP 400858 marked A and B and rights to convey electric power over part Lot 2 DP 400858 marked A and C all on DP 400858 created by Easement Instrument 5895834.6 - 11.2.2004 at 9:00 am

The easements created by Easement Instrument 5895834.6 are subject to Section 243 (a) Resource Management Act 1991

Subject to a right to convey water over part Lot 2 DP 329917 marked A on DP 329917 created by Easement Instrument 5895834.9 - 11.2.2004 at 9:00 am

The easement created by Easement Instrument 5895834.9 is subject to Section 243 (a) Resource Management Act 1991

Subject to a right of way over part Lot 2 DP 377104 marked C and a right to drain water over part Lot 2 DP 377104 marked B all on DP 377104 created by Easement Instrument 7396949.4 - 31.5.2007 at 9:00 am

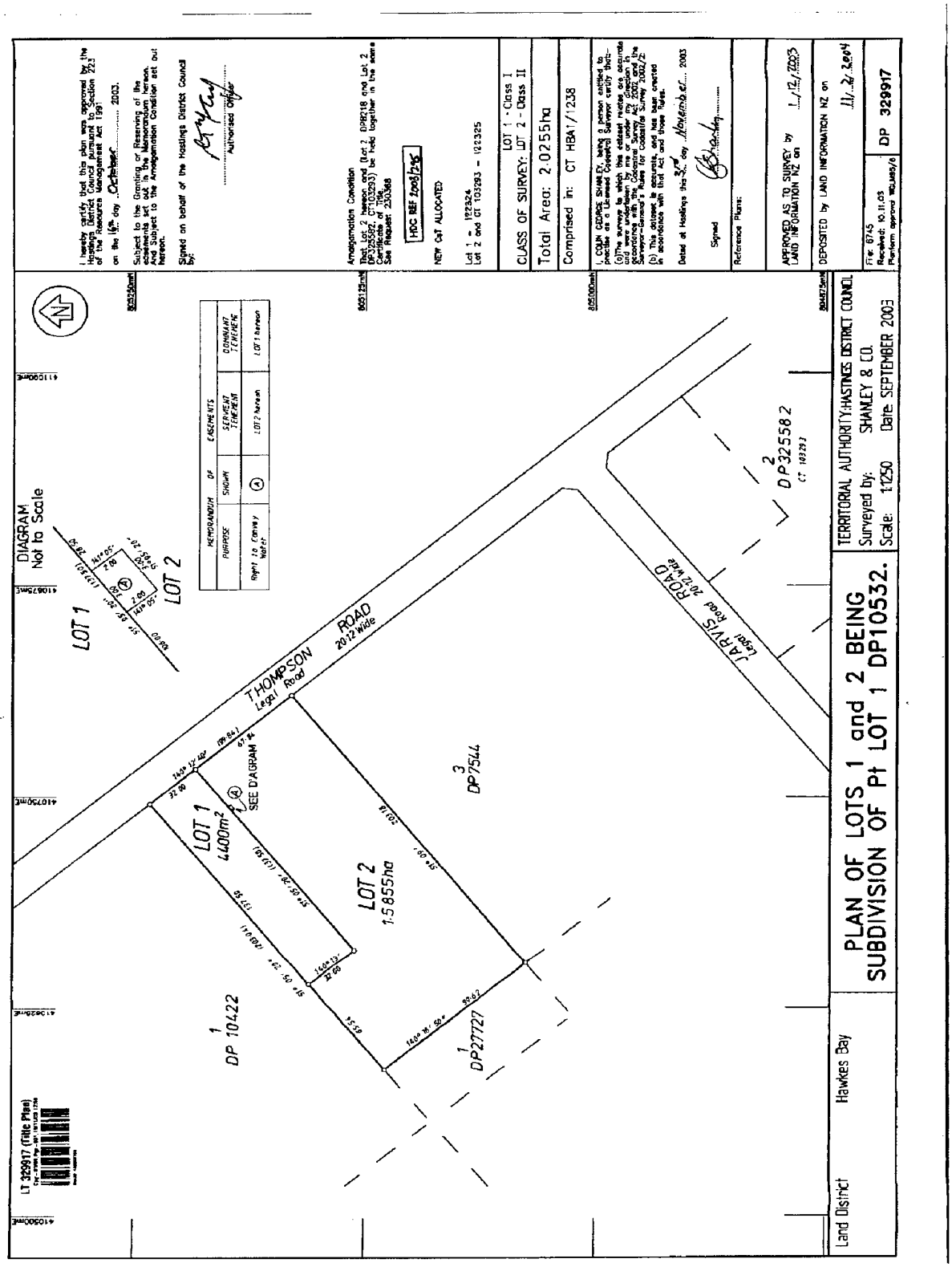
Appurtenant to Lot 2 DP 377104 are rights to drain water created by Easement Instrument 7396949.4 - 31.5.2007 at 9:00 am

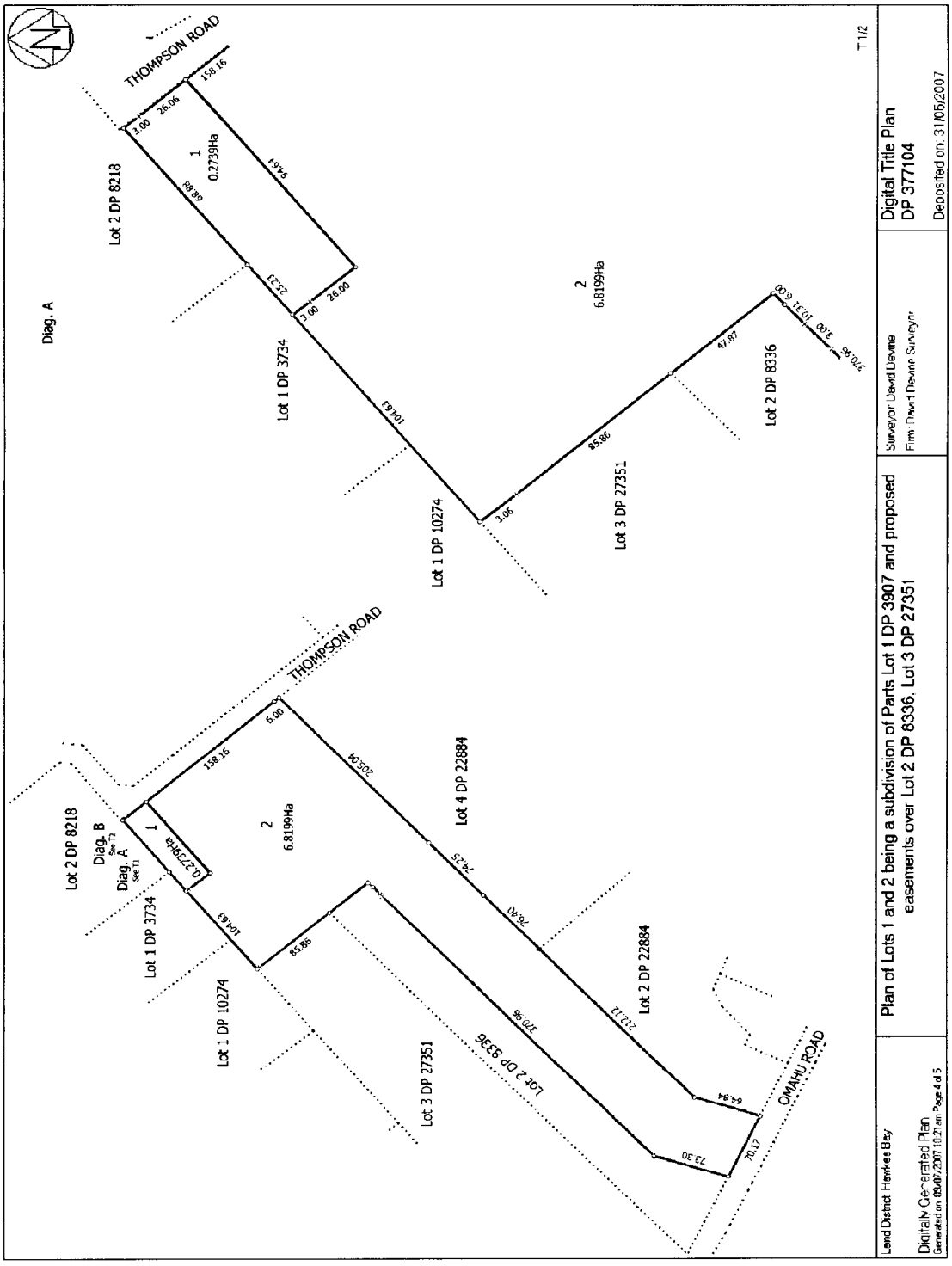
The right of way created by Easement Instrument 7396949.4 is subject to Section 243 (a) Resource Management Act 1991

Subject to Section 241(2) Resource Management Act 1991 (affects DP 400858)

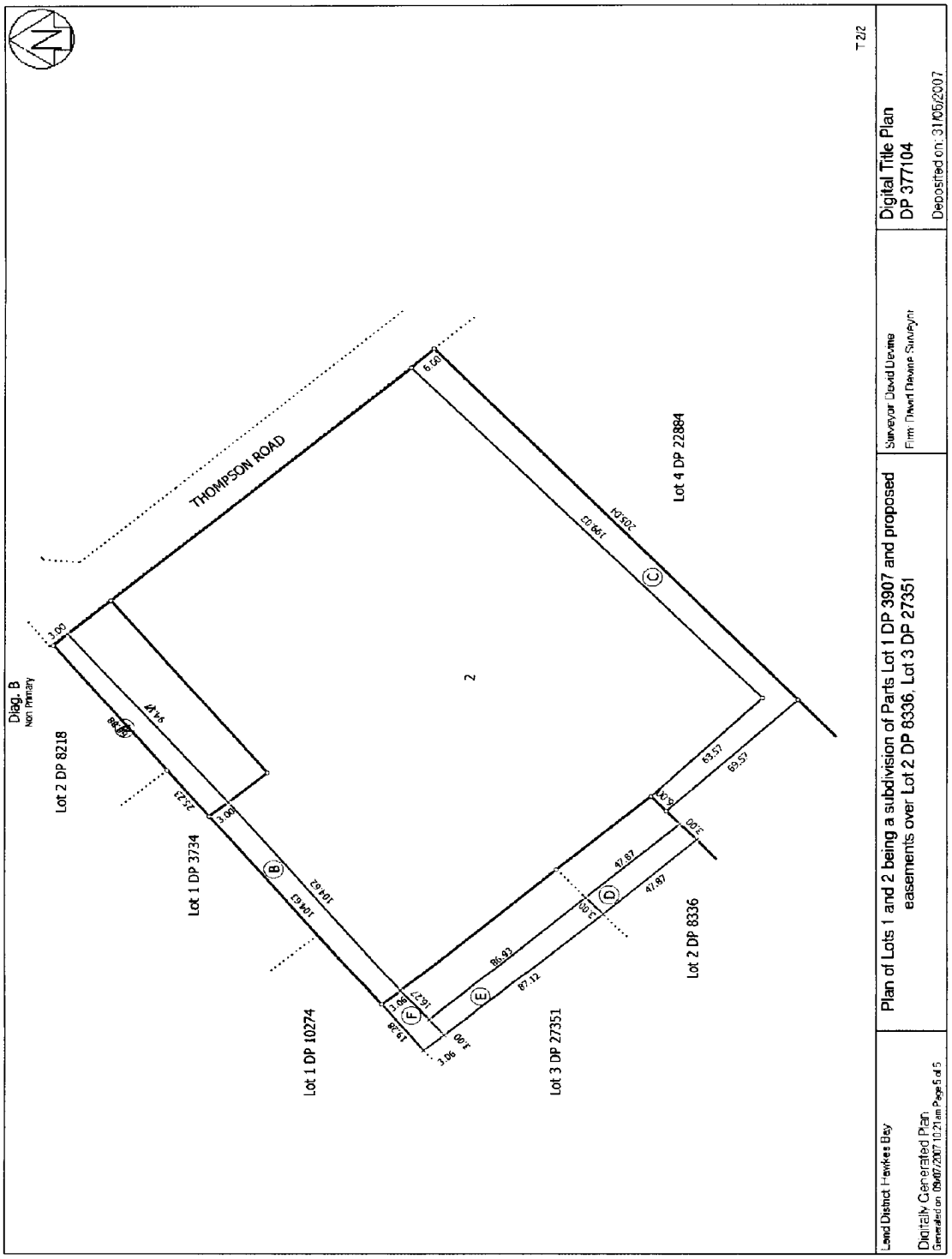
8112147.1 Mortgage to Bank of New Zealand - 24.3.2009 at 3:18 pm

Identifier **401623**




THOMPSON ROAD
Lot 2 DP 8218
Diag. A
1
0.2739Ha
2
6.8199Ha
Lot 1 DP 3734
Lot 1 DP 10274
Lot 3 DP 27351
Lot 2 DP 8336
Lot 4 DP 22884
Lot 2 DP 22884
Lot 2 DP 8336
OMAHU ROAD
Diag. B
Diag. A
Plan of Lots 1 and 2 being a subdivision of Parts Lot 1 DP 3907 and proposed easements over Lot 2 DP 8336, Lot 3 DP 27351
Digital Title Plan
DP 377104
Deposited on 31/05/2007
Land District Hawkes Bay
Digitally Generated Plan

Identifier **401623**



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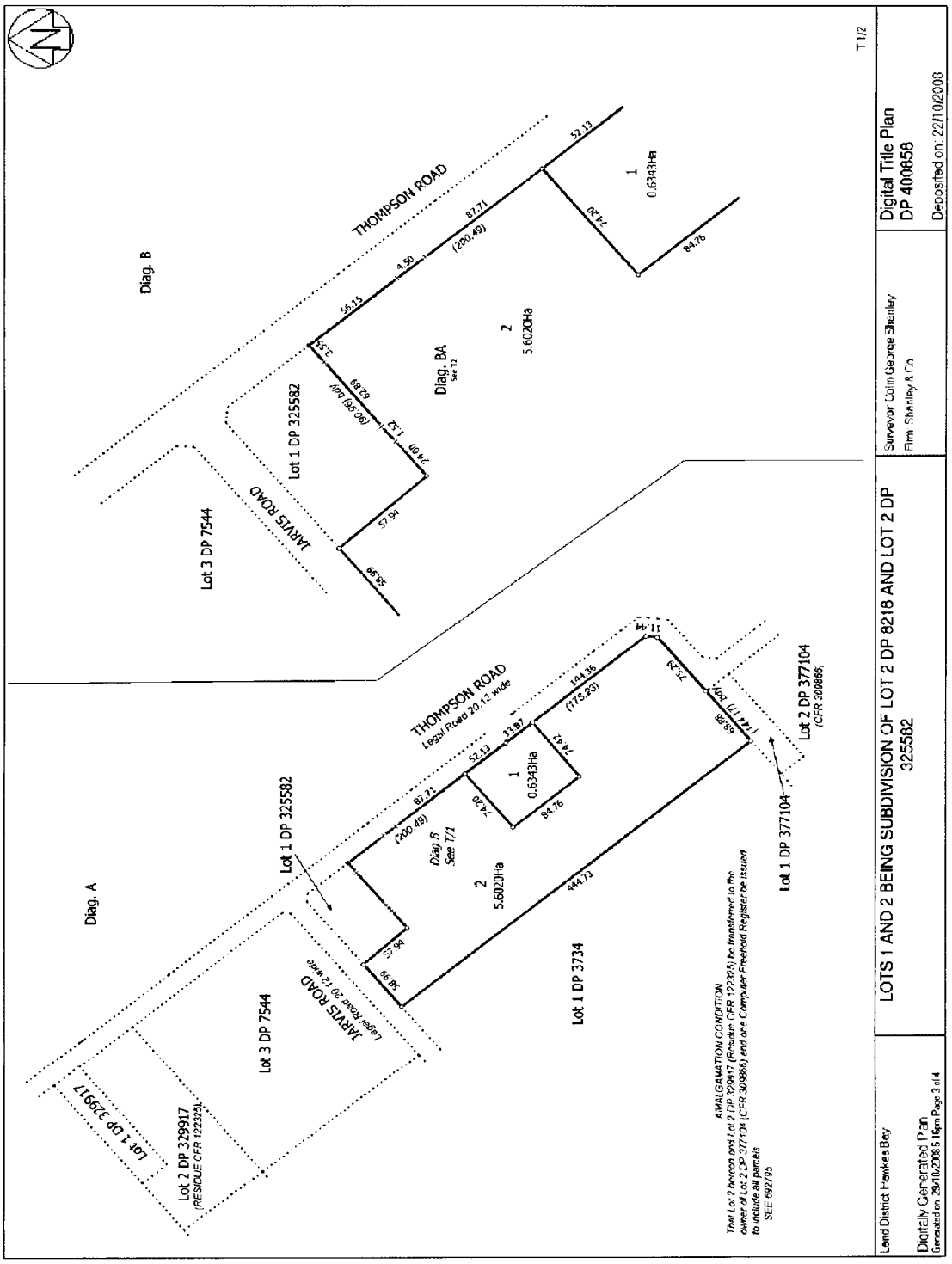
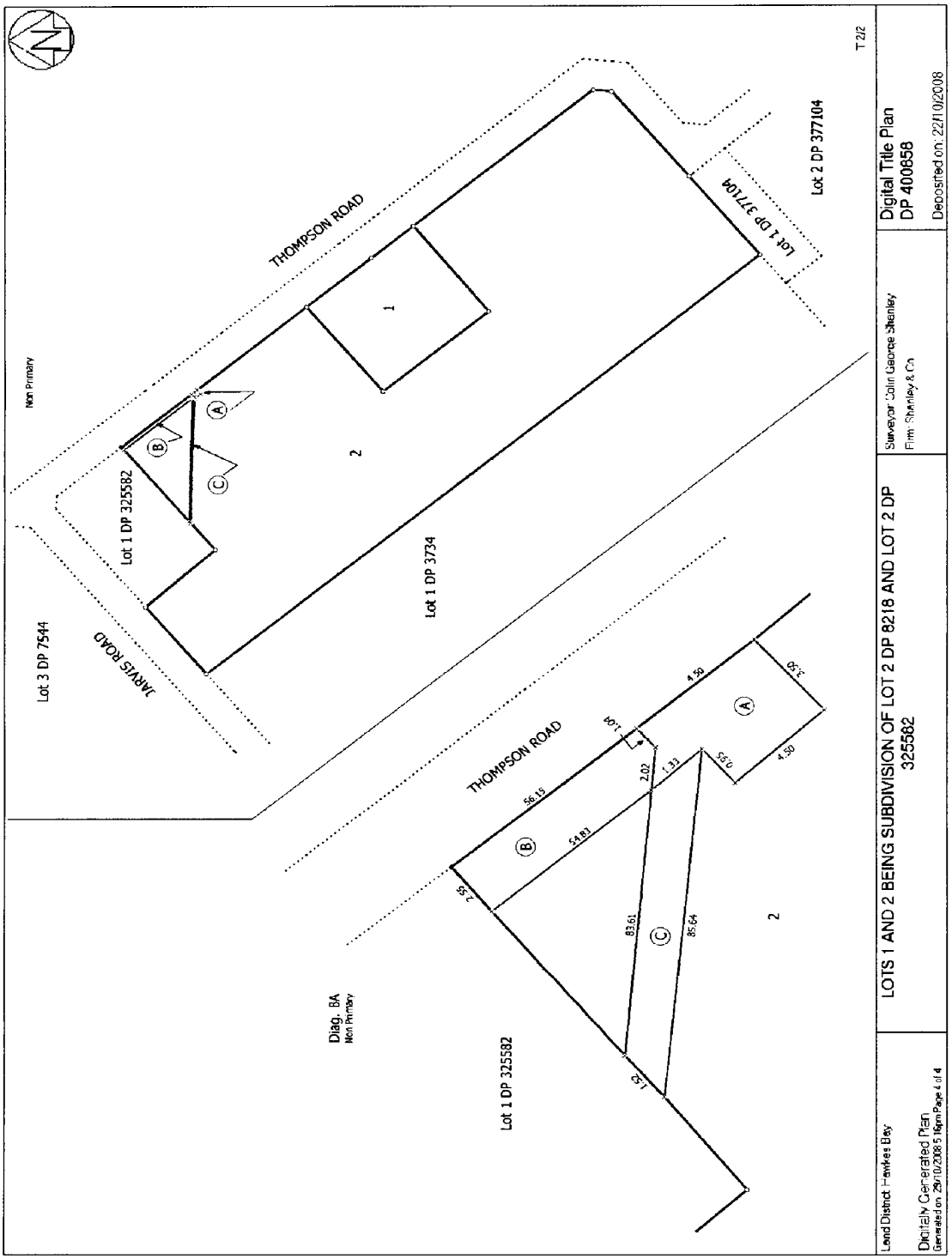


Identifier **401623**



COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**HB134/211**
Land Registration District	**Hawkes Bay**
Date Issued	06 March 1952

Estate	Fee Simple
Area	2.4281 hectares more or less
Legal Description	Lot 2 Deposited Plan 8336

Proprietors

Totara Hastings Limited

Interests

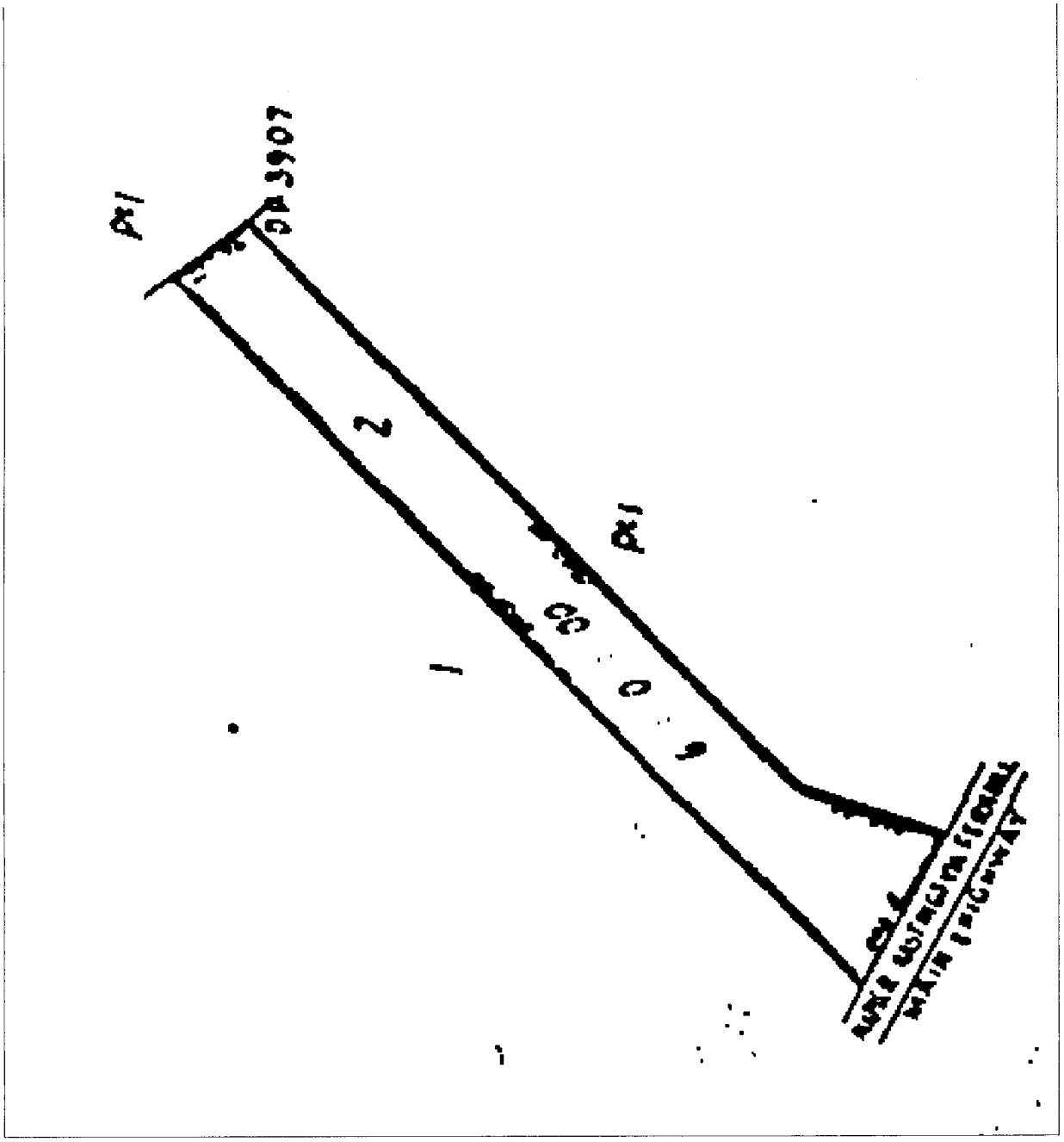
6676809.1 Mortgage to Bank of New Zealand - 5.12.2005 at 1:38 pm

Subject to a right to drain water over part marked D on DP 377104 created by Easement Instrument 7396949.4 - 31.5.2007 at 9:00 am

Appurtenant hereto is a right of way and rights to drain water created by Easement Instrument 7396949.4 - 31.5.2007 at 9:00 am

The right of way created by Easement Instrument 7396949.4 is subject to Section 243 (a) Resource Management Act 1991

Identifier **HB134/211**



COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

Identifier	**HBW3/1071**
Land Registration District	**Hawkes Bay**
Date Issued	11 December 1998

Prior References
HBV4/1093 HBV4/1094

Estate	Fee Simple
Area	9.7448 hectares more or less
Legal Description	Lot 3 Deposited Plan 27351

Proprietors
Totara Hastings Limited

Interests

5665985.2 Mortgage to Bank of New Zealand - 22.7.2003 at 9:00 am

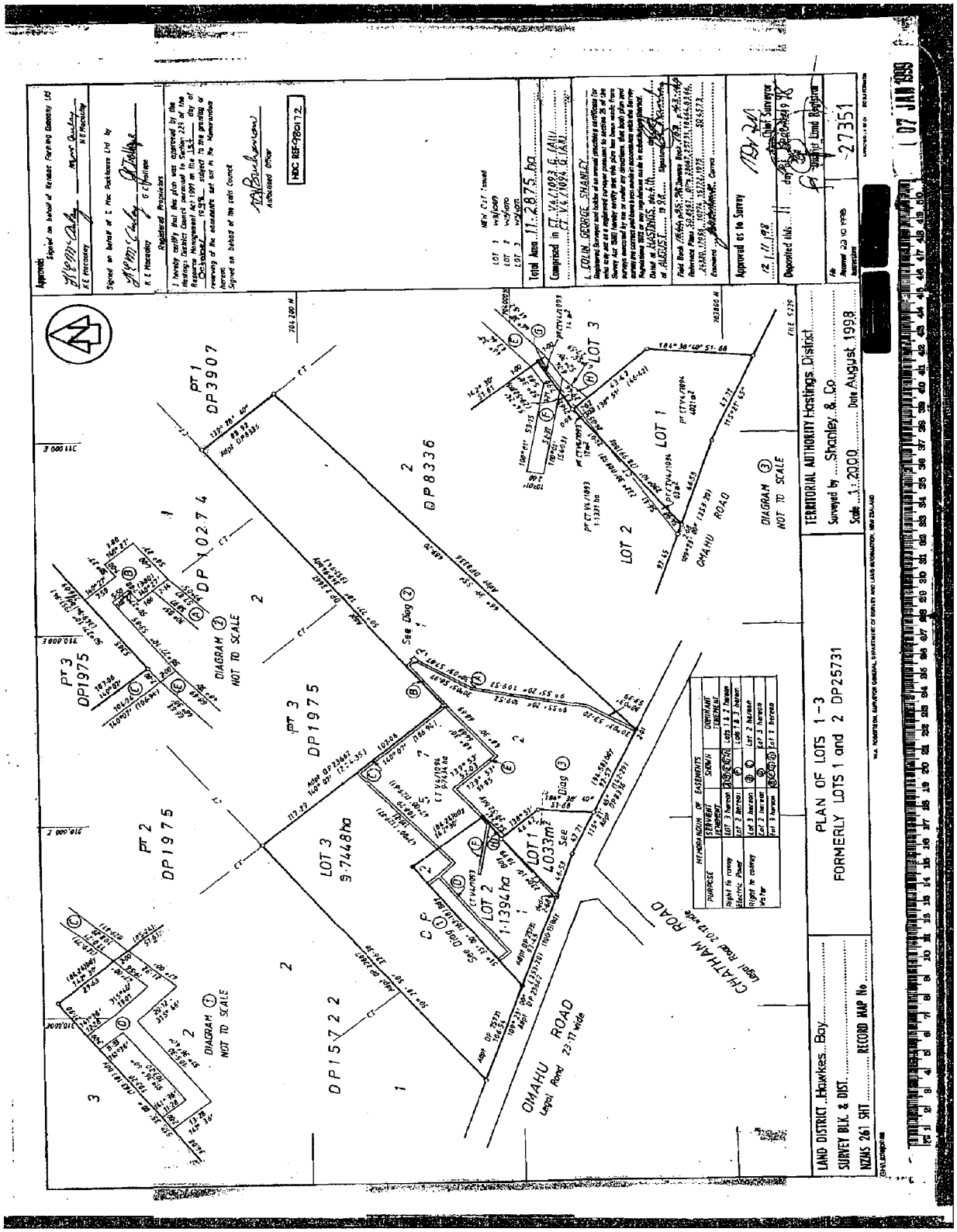
6642250.2 Variation of Mortgage 5665985.2 - 10.11.2005 at 9:00 am

Subject to a right to drain water over parts marked E and F on DP 377104 created by Easement Instrument 7396949.4 - 31.5.2007 at 9:00 am

Appurtenant hereto is a right of way and rights to drain water created by Easement Instrument 7396949.4 - 31.5.2007 at 9:00 am

The right of way created by Easement Instrument 7396949.4 is subject to Section 243 (a) Resource Management Act 1991

Identifier **HBW3/1071**



COMPUTER FREEHOLD REGISTER UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

Identifier	**478421**
Land Registration District	**Hawkes Bay**
Date Issued	06 October 2009

Prior References
447745 HB196/56

Estate	Fee Simple
Area	20.0082 hectares more or less
Legal Description	Lot 2 Deposited Plan 419221

Proprietors
Kevin Archie Bayley, Karen Judith Bayley and Graham Hunter Throp

Interests

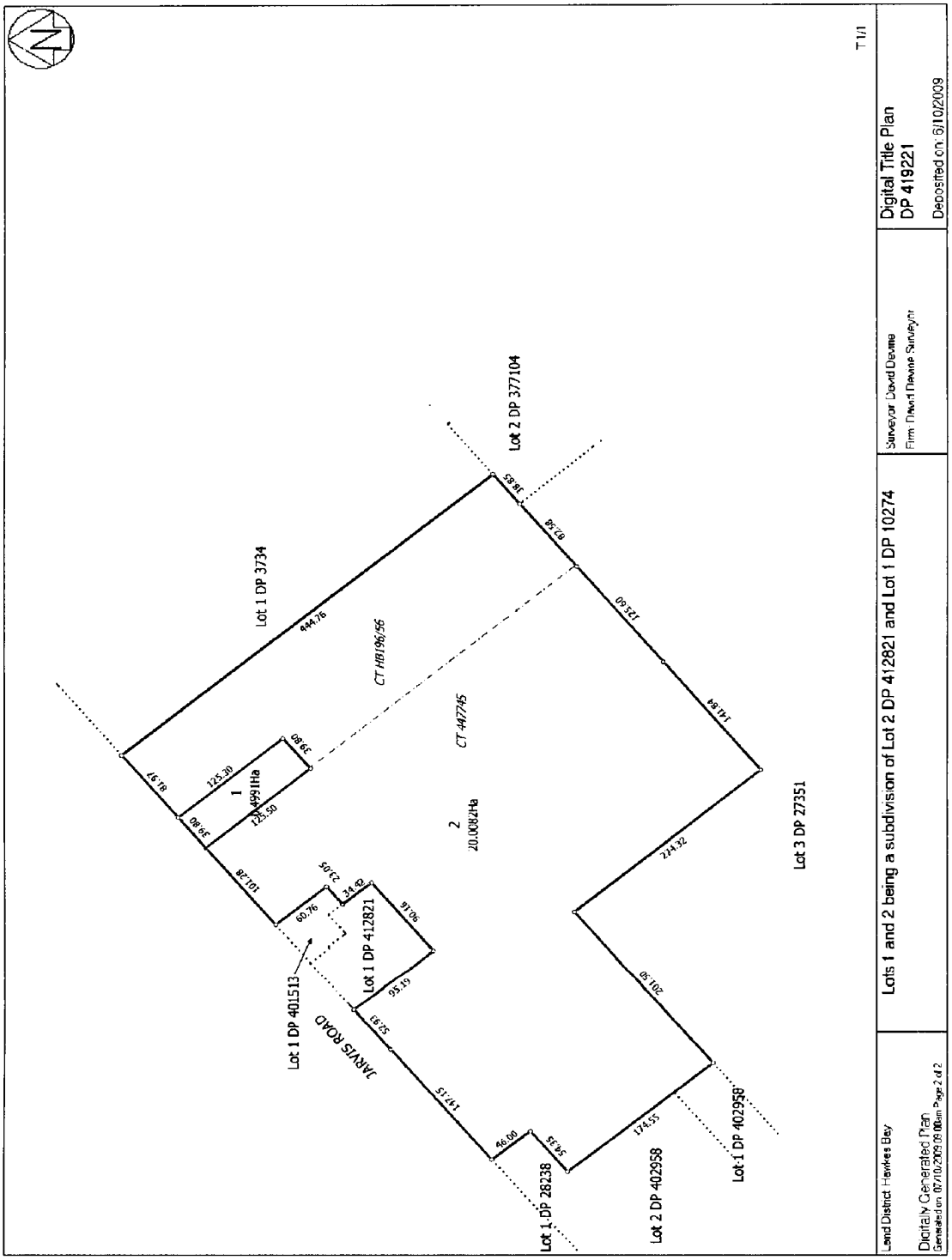
Appurtenant hereto are rights to drain water & to part herein formerly CT 447745 a right of way created by Easement Instrument 7396949.4 - 31.5.2007 at 9:00 am

The right of way created by Easement Instrument 7396949.4 is subject to Section 243 (a) Resource Management Act 1991

Appurtenant to part herein formerly CT 404034 are rights to convey water & electricity created by Easement Instrument 7811836.2 - 12.5.2008 at 9:00 am

8271123.5 Mortgage to Bank of New Zealand - 6.10.2009 at 9:33 am

Identifier **478421**



COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**409725**
Land Registration District	**Hawkes Bay**
Date Issued	15 April 2008

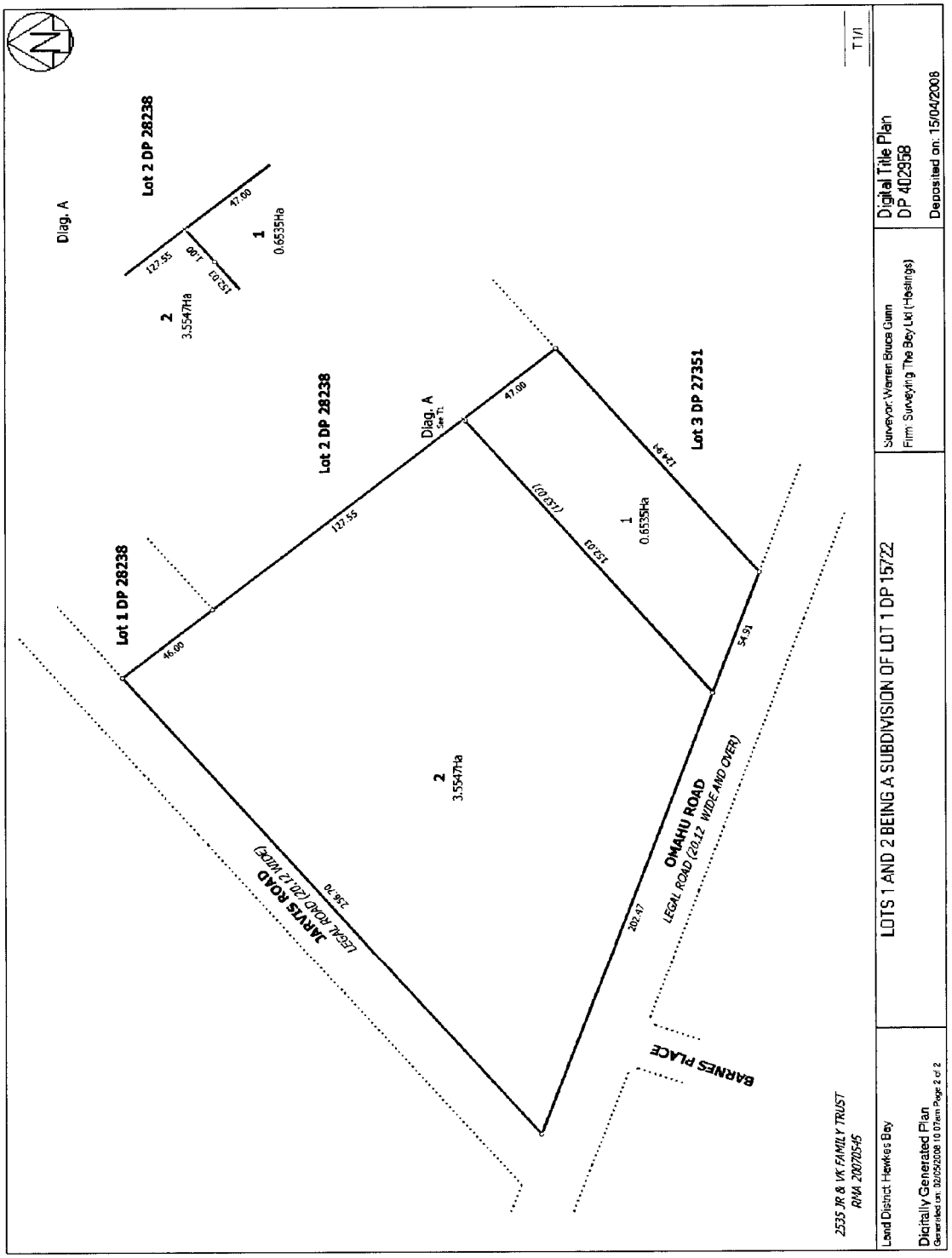
Prior References
HBH2/489

Estate	Fee Simple
Area	3.5547 hectares more or less
Legal Description	Lot 2 Deposited Plan 402958

Proprietors
James Robert Currie and Valerie Kathryn Currie as to a 1/2 share
Stephen Henry Currie and Denise Marjorie Currie as to a 1/2 share

Interests
6675365.1 Mortgage to Bank of New Zealand - 5.12.2005 at 9:58 am
7784344.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 15.4.2008 at 9:00 am

Identifier **409725**



COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

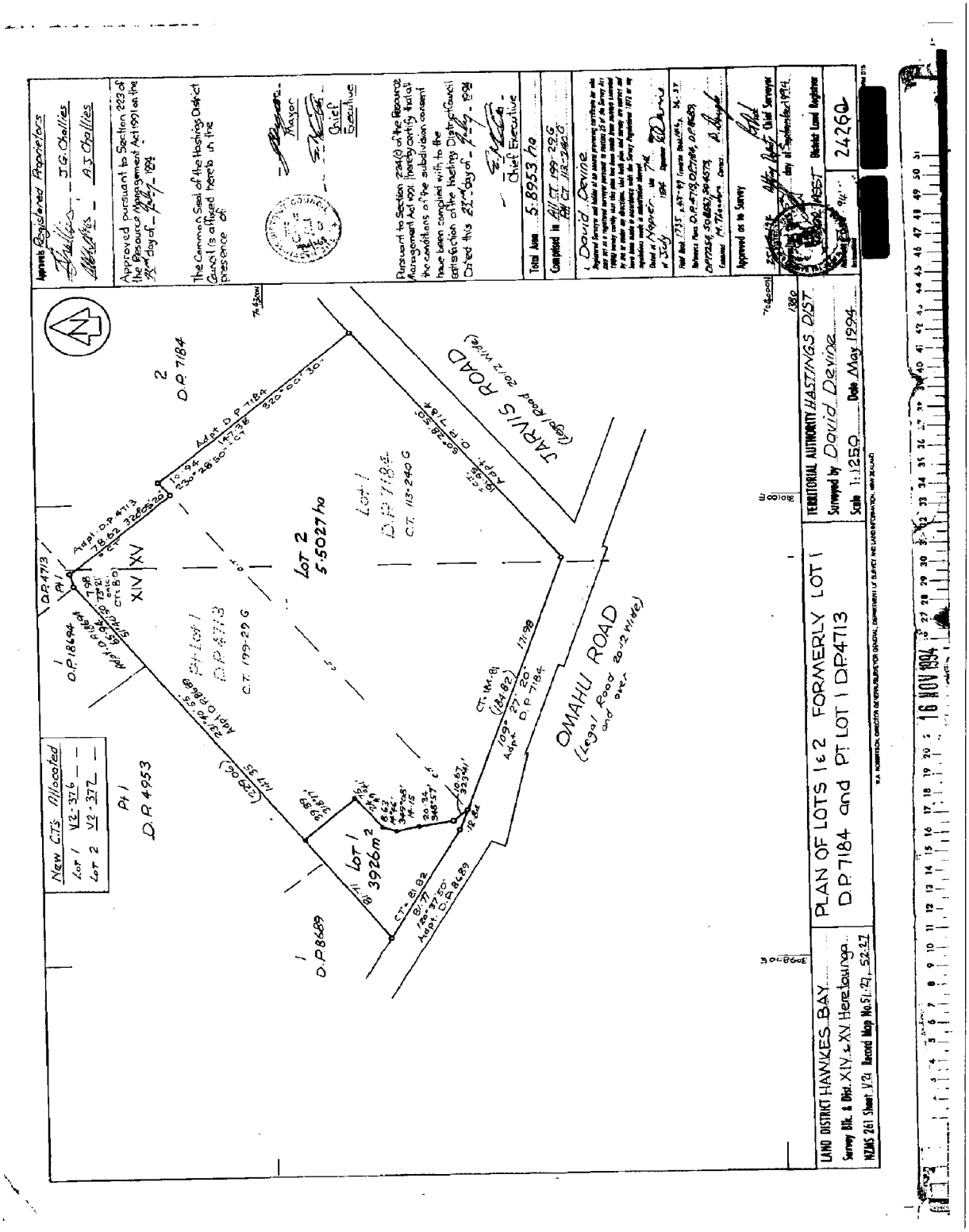
Identifier	**HBV2/377**
Land Registration District	**Hawkes Bay**
Date Issued	05 September 1994

Prior References
HB113/240 HB199/29

Estate	Fee Simple
Area	5.5027 hectares more or less
Legal Description	Lot 2 Deposited Plan 24260

Proprietors
Kauri Hastings Limited

Interests


PLAN OF LOTS 1 & 2 FORMERLY LOT 1 DP 7184 and PT LOT 1 DP 4713
LAND DISTRICT HAWKES BAY
TERRITORIAL AUTHORITY HASTINGS DIST
Surveyed by David Devine
Scale 1:1250 Date May 1994
Approved as to Survey
Total Area 5.8953 ha
Completed in All CT 199-29G Pt CT 113-240G
I David Devine
Approved pursuant to Section 223 of the Resource Management Act 1991 at the ... day of ... 1994
The Common Seal of the Hastings District Council is affixed hereto in the presence of
Mayor
Chief Executive
Pursuant to Section 224(c) of the Resource Management Act 1991 I hereby certify that all the conditions of the subdivision consent have been complied with to the satisfaction of the Hastings District Council Dated this 23rd day of ... 1994
Chief Executive
Approved by ... 1994
Dated at Napier this 7th day of July 1994
District Land Registrar
24260
OMAHU ROAD
(Legal Road 20.12 Wide)
and over
TARVIS ROAD
(Legal Road 20.12 Wide)
LOT 2 5.5027 ha
LOT 1 3926 m²
Lot 1 DP 7184 C.T. 113-240 G
Pt Lot 1 DP 4713 C.T. 199-29 G
DP 4953
DP 8689
DP 18694
DP 4713
New CTS Allocated
Lot 1 V2-376
Lot 2 V2-377
NZMS 261 Sheet 1/24 Record Map No. 51-24-52-27

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

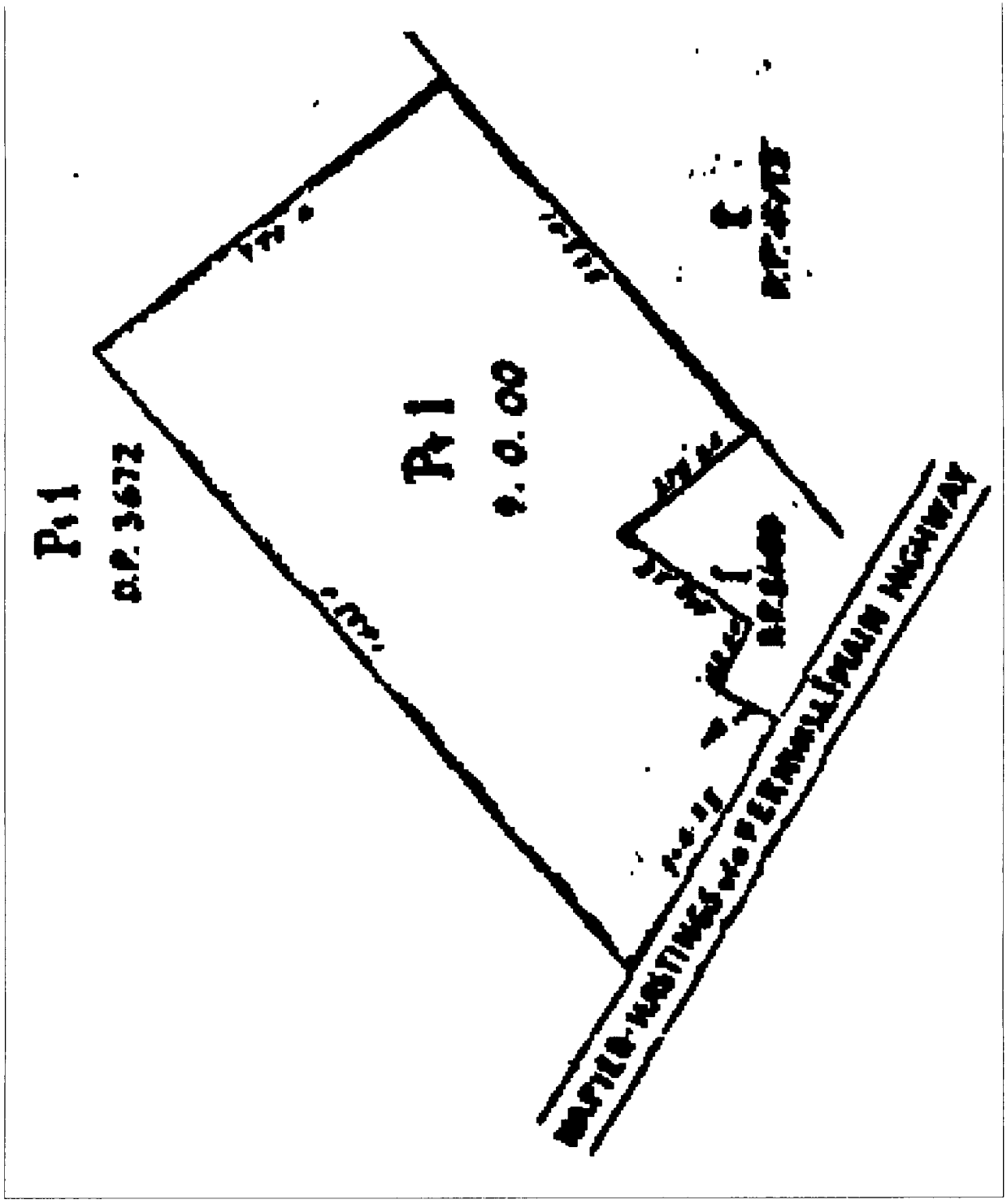
Identifier	**HB142/105**
Land Registration District	**Hawkes Bay**
Date Issued	03 September 1953

Estate	Fee Simple
Area	3.6422 hectares more or less
Legal Description	Part Lot 1 Deposited Plan 4953
Proprietors	
EJAE Co. Limited	

Interests

7676131.3 Mortgage to Rabobank New Zealand Limited - 14.1.2008 at 3:27 pm

Identifier **HB142/105**



COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

Identifier **499262**
Land Registration District **Hawkes Bay**
Date Issued 29 April 2010

Prior References
472277 HBL1/1074

Estate	Fee Simple
Area	47.1989 hectares more or less
Legal Description	Lot 2 Deposited Plan 10520 and Lot 2 Deposited Plan 328509 and Lot 1 Deposited Plan 418851 and Lot 2 Deposited Plan 425145

Proprietors
Crasborn ERL Limited

Interests

Appurtenant to Lot 2 DP 10520 herein are water and subsidiary rights created by Transfer 17401

Appurtenant to Lot 2 DP 10520 herein are water and subsidiary rights created by Transfer 17642

Appurtenant to part Lot 1 DP 418851 herein formerly Lot 2 DP 332864 are certain water rights in respect of the an Artesian Well, Windmill, Tank, Pipe-line and Trough and water rights in respect of new pipe-line from the said well created by Transfer 63348 - 7.3.1935

Subject to water and pipeline rights over part Lot 2 DP 328509 marked D on DP 328509 and over part Lot 2 DP 425145 marked F on DP 425145 created by Transfer 69330 - 26.10.1939 at 2:25 pm

Subject to rights to convey water over part Lot 2 DP 328509 marked C and drain sewerage over part Lot 2 DP 328509 marked B on DP 328509 specified in Easement Certificate 709822.5 - 24.11.2000 at 9.00 am

Appurtenant to part Lot 2 DP 328509 herein formerly Lot 2 DP 28477 is a right of way specified in Easement Certificate 709822.5 - 24.11.2000 at 9.00 am

The easements specified in Easement Certificate 709822.5 are subject to Section 243 (a) Resource Management Act 1991

Subject to Section 242(1) Resource Management Act 1991(affects DP 328509)

Appurtenant to Lot 1 DP 418851 is a right to convey electricity created by Easement Instrument 5961771.5 - 7.4.2004 at 9:00 am

Subject to a right to convey electricity and water over part Lot 2 DP 328509 herein marked A on DP 392292 created by Easement Instrument 7916366.2 - 25.8.2008 at 9:00 am

Subject to Section 241(2) Resource Management Act 1991 (affects DP 418851)

Appurtenant to Lot 1 DP 418851 is a right to convey electricity and water created by Easement Instrument 8140827.7 - 5.6.2009 at 10:33 am

The easements created by Easement Instrument 8140827.7 are subject to Section 243 (a) Resource Management Act 1991

Subject to a right to convey electricity, telecommunications and computer media over part Lot 1 DP 418851 marked A on DP 418851 and a right to drain water over part Lot 1 DP 418851 marked E on DP 418851 created by Easement Instrument 8140827.8 - 5.6.2009 at 10:33 am

Some of the easements created by Easement Instrument 8140827.8 are subject to Section 243 (a) Resource Management Act 1991

Subject to Section 241(2) and Sections 242(1) and (2) Resource Management Act 1991(affects DP 425145)

Appurtenant hereto is a right to convey electricity and water created by Easement Instrument 8418255.10 - 29.4.2010 at 9:14 am

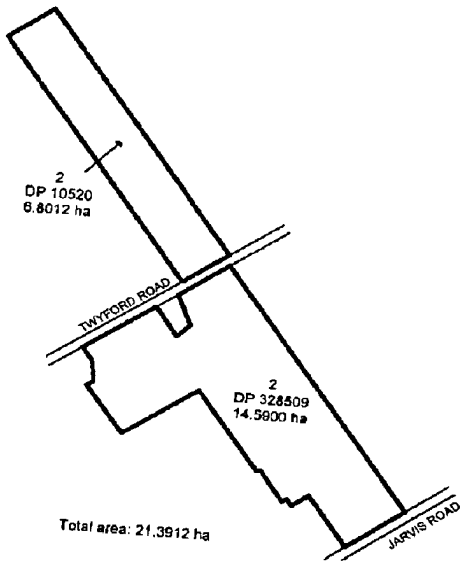
Identifier **499262**

8830725.6 Mortgage to Bank of New Zealand - 31.8.2011 at 2:10 pm

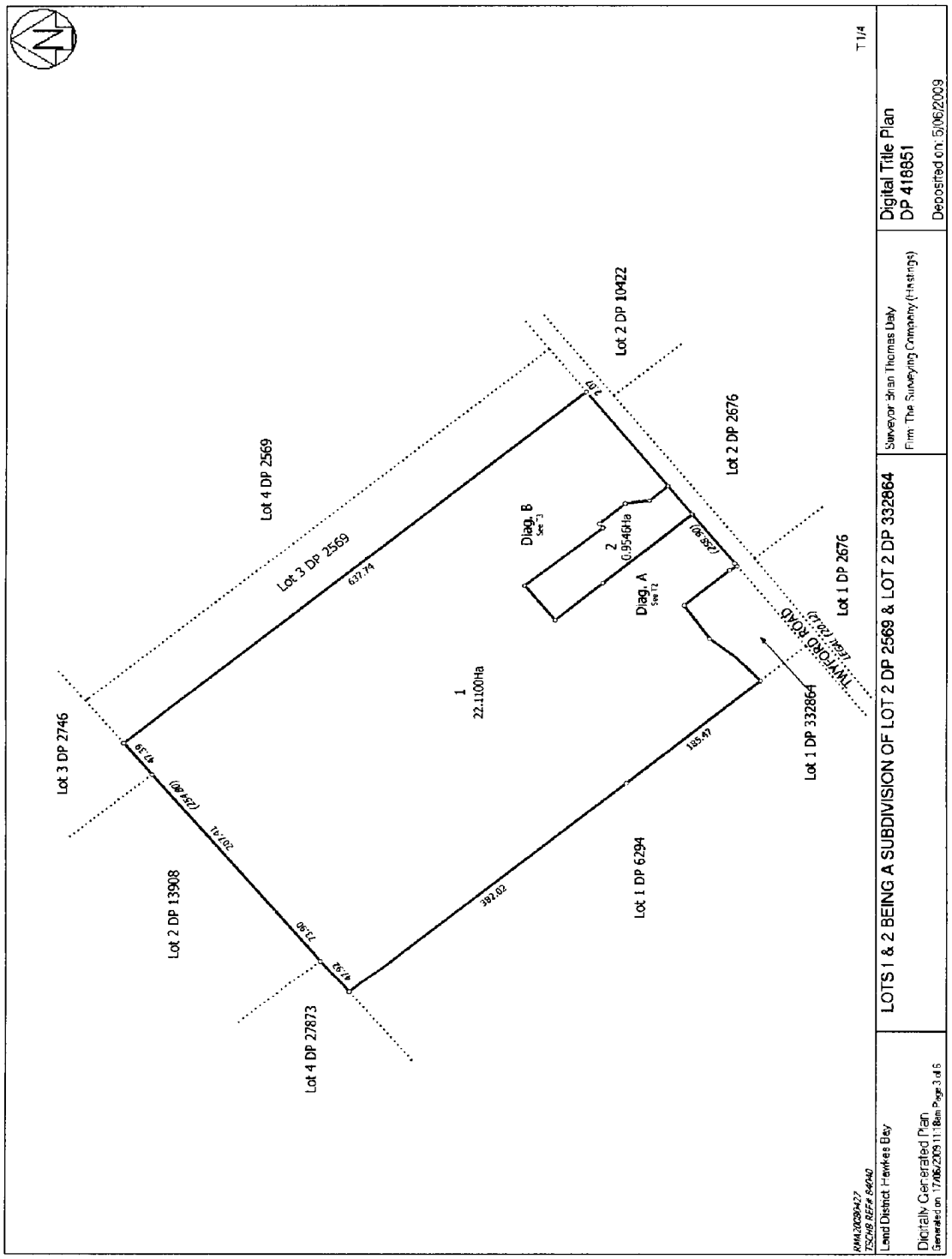
8830725.7 Mortgage to Geoffrey Wayne Nicoll, Christine Cecil Nicol and Bramwell Grossman Trustees Limited - 31.8.2011 at 2:10 pm

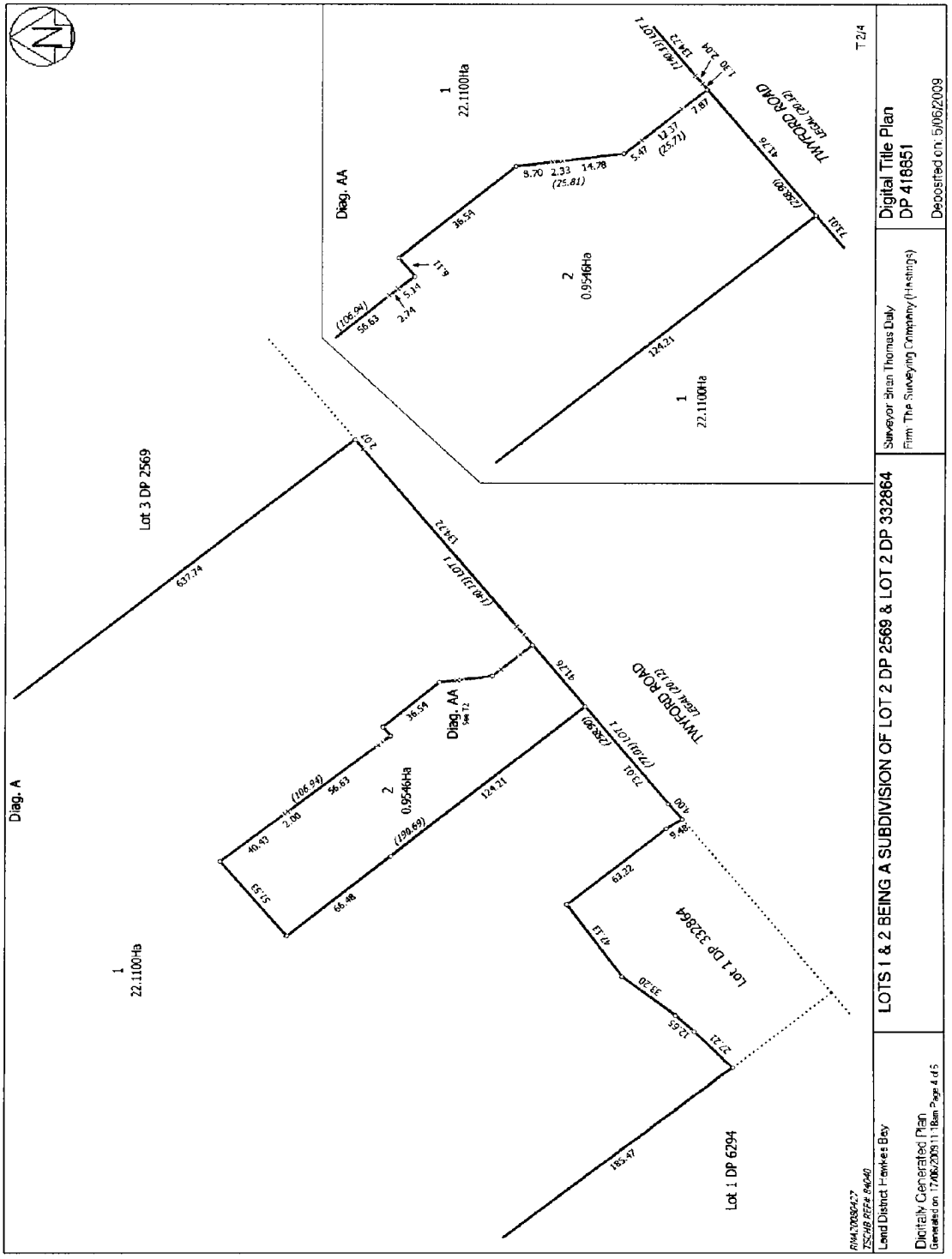
Identifier **499262**

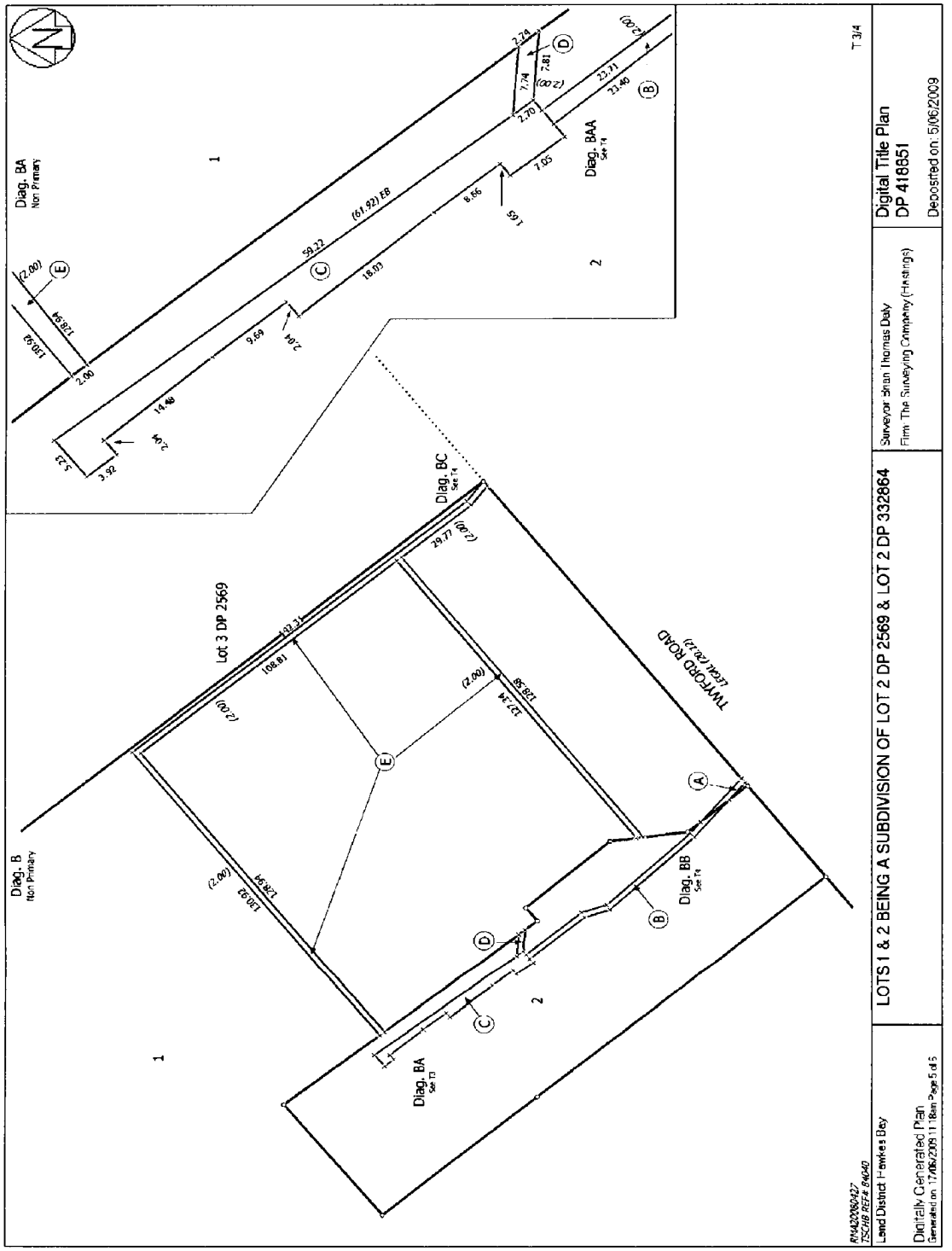
Title Diagram CT 116380
Cpy – 01/01, Pgs – 001, 08/04/04, 09:56
DocID: 410976842



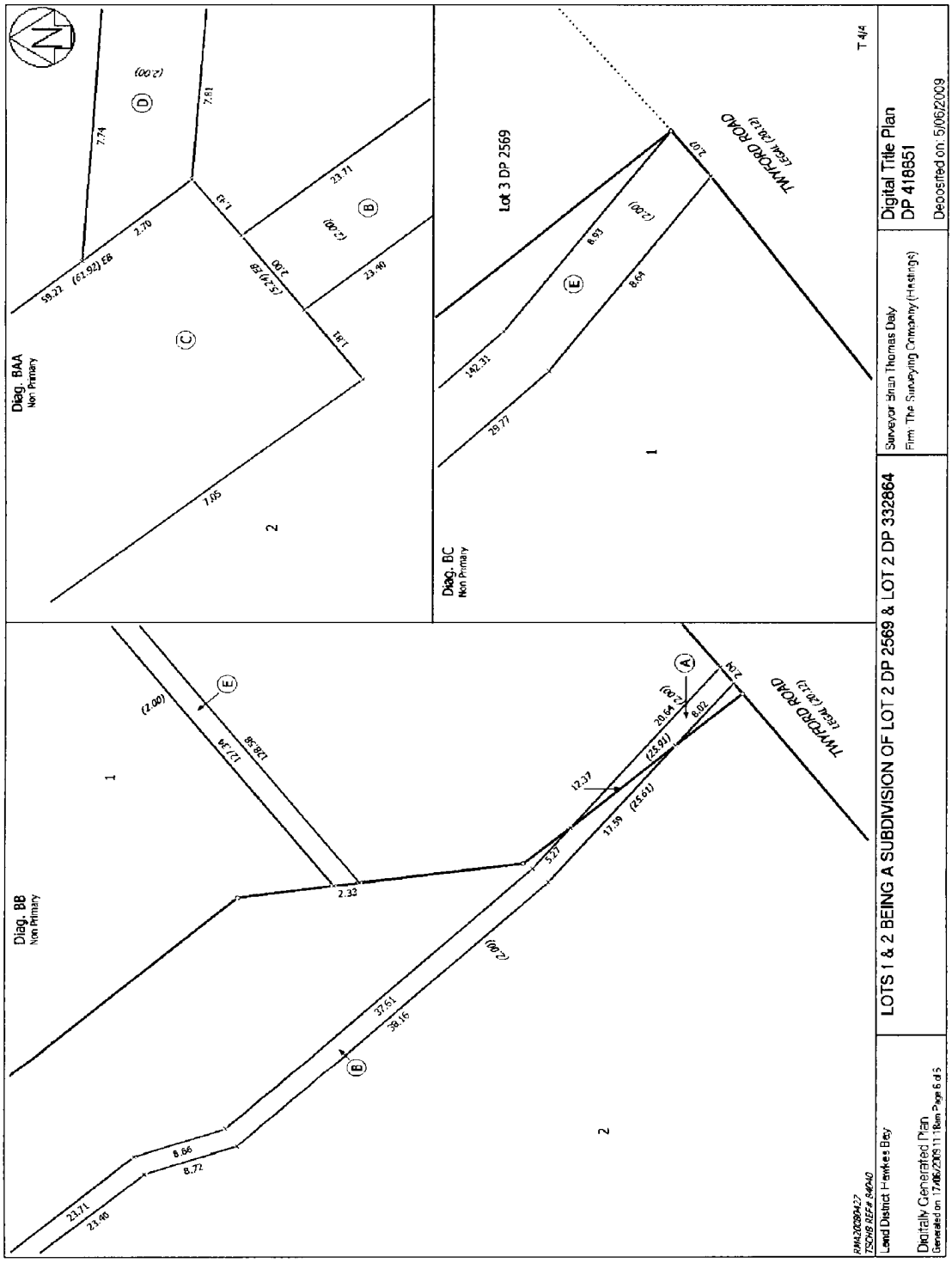
Identifier **499262**

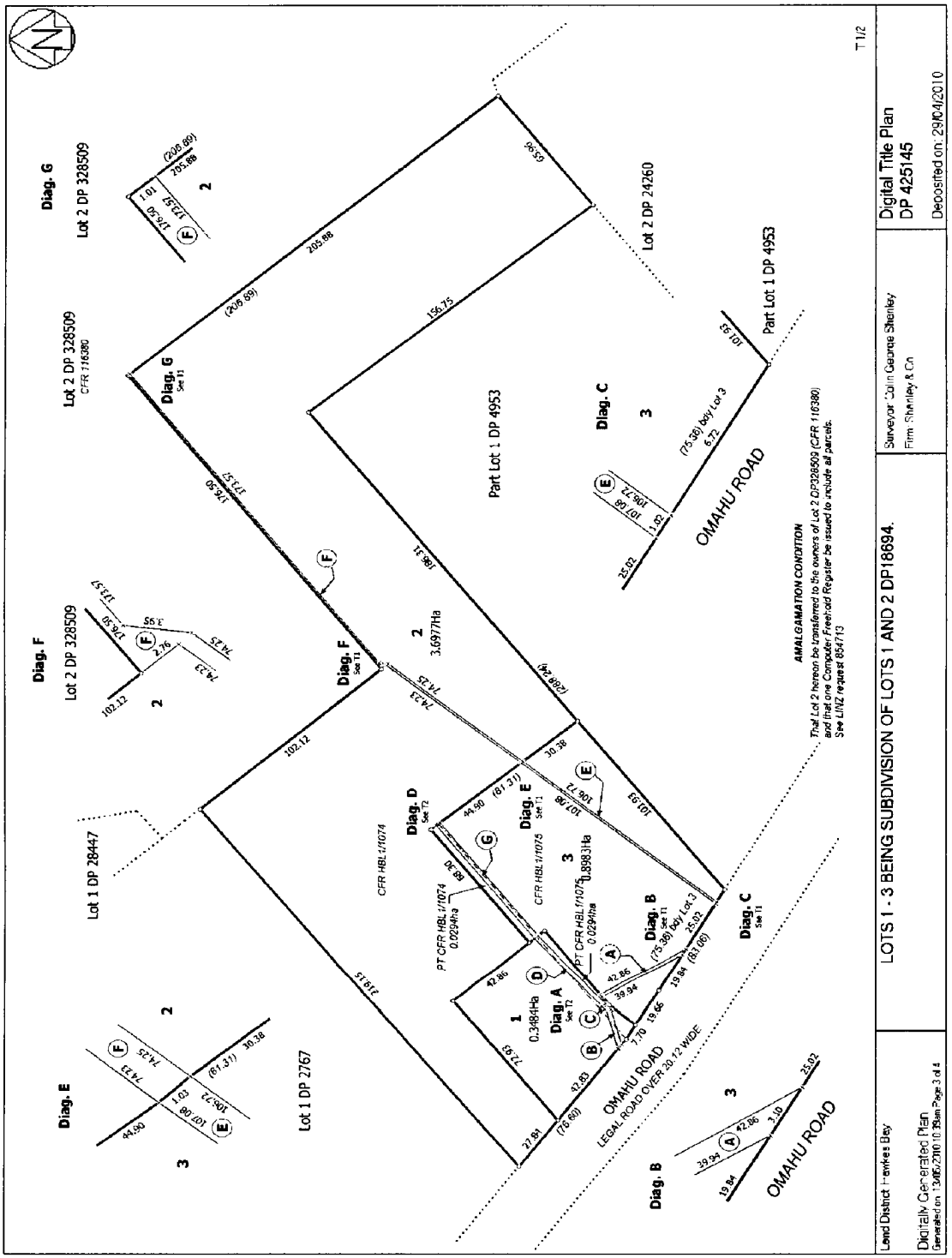


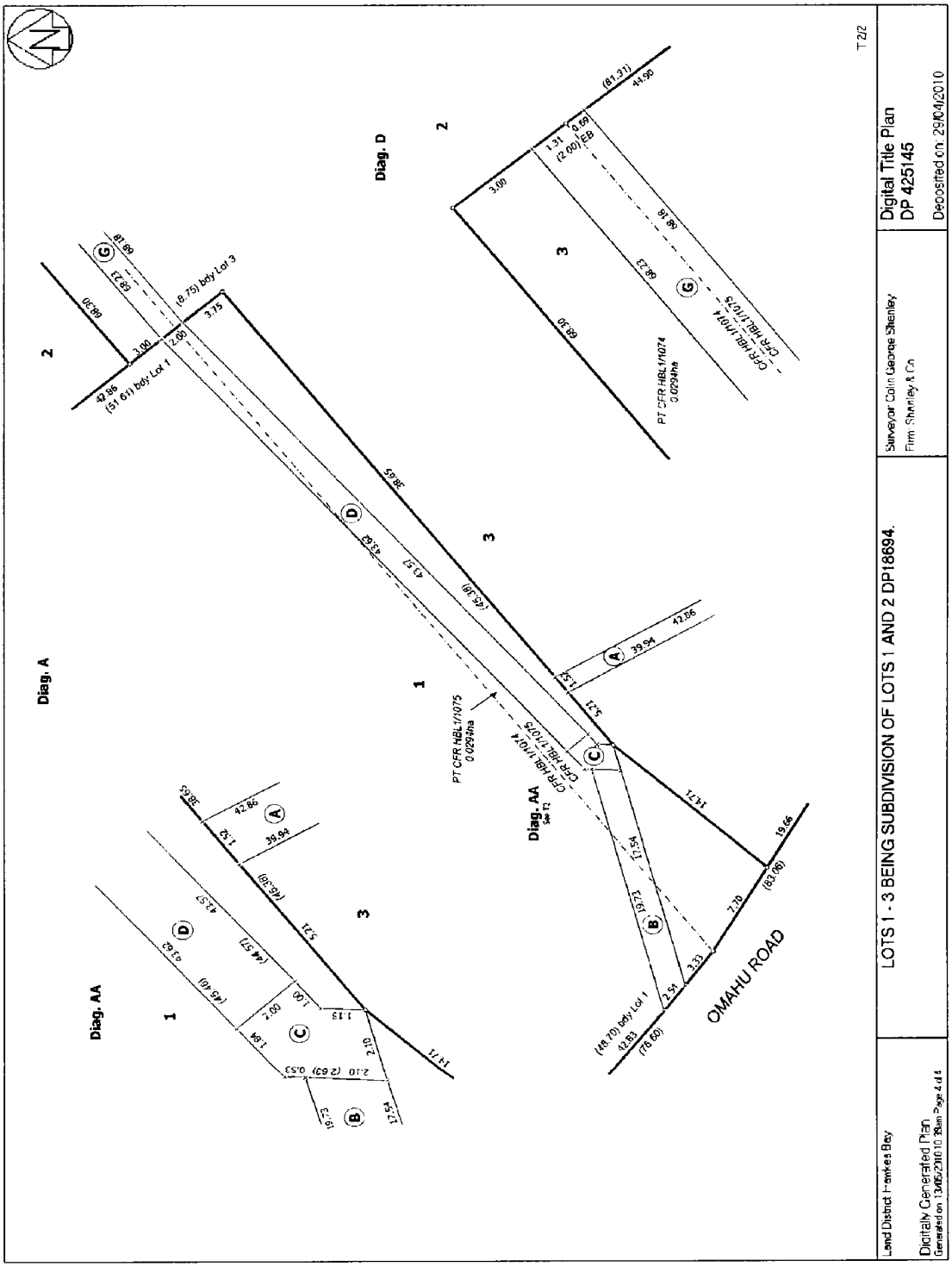

LOTS 1 & 2 BEING A SUBDIVISION OF LOT 2 DP 2569 & LOT 2 DP 332864
Digital Title Plan
DP 418851
Deposited on: 5/06/2009
Surveyor Brian Thomas Daly
Firm: The Surveying Company (Hastings)
Land District Hawkes Bay
Digitally Generated Plan
Generated on 17/06/2009 11:18am Page 4 of 5
Lot 3 DP 2569
Lot 1 DP 6294
Lot 1 DP 332864
Diag. A
Diag. AA
TWYFORD ROAD
Local (20.12)
1
22.1100Ha
2
0.9546Ha
637.74
124.21
185.47
T 2/4


Diag. BA
Non Primary
Diag. BAA
See T4
Diag. BC
See T4
Diag. BB
See T4
Diag. BA
See T3
Diag. B
Non Primary
Lot 3 DP 2569
TWYFORD ROAD
LOTS 1 & 2 BEING A SUBDIVISION OF LOT 2 DP 2569 & LOT 2 DP 332864
Digital Title Plan
DP 418851
Deposited on: 5/06/2009
Surveyor: Brian Thomas Daly
Firm: The Surveying Company (Hastings)
Land District: Hawkes Bay
Digitally Generated Plan
T 3/4

Identifier **499262**




LOTS 1 - 3 BEING SUBDIVISION OF LOTS 1 AND 2 DP18694.
Digital Title Plan
DP 425145
Deposited on: 29/04/2010
Land District: Hawkes Bay
Digitally Generated Plan
Surveyor: Colin George Shenley
Firm: Shenley & Co
AMALGAMATION CONDITION
That Lot 2 hereon be transferred to the owners of Lot 2 DP328509 (CFR 116380) and that one Computer Freehold Register be issued to include all parcels.
See LINZ request 854713
Lot 2 DP 328509
Lot 2 DP 328509 CFR 116380
Lot 2 DP 24260
Part Lot 1 DP 4953
Part Lot 1 DP 4953
Lot 1 DP 28447
Lot 1 DP 2767
OMAHU ROAD
OMAHU ROAD
LEGAL ROAD OVER 20.12 WIDE
CFR HBL1/1074
CFR HBL1/1075
PT CFR HBL1/1074 0.0294Ha
PT CFR HBL1/1075 0.0294Ha
Diag. A
Diag. B
Diag. C
Diag. D
Diag. E
Diag. F
Diag. G
1 0.3484Ha
2 3.6997Ha
3 0.8983Ha


T 2/2
LOTS 1 - 3 BEING SUBDIVISION OF LOTS 1 AND 2 DP18694.
Digital Title Plan
DP 425145
Deposited on 29/04/2010
Surveyor Colin George Shenley
Firm Shenley & Co
Land District Hawkes Bay
Digitally Generated Plan
Generated on 13/05/2010 10:38am Page 4 of 4
Diag. A
Diag. AA
Diag. D
OMAHU ROAD
PT CFR HBL1/1075
0.0294ha
CFR HBL1/1074
CFR HBL1/1075
(48.70) bdy Lot 1
42.83
(76.60)
(83.08)
(81.31)
44.90
(2.00) EB
(8.75) bdy Lot 3
(51.61) bdy Lot 1
42.86
38.65
59.86
68.30
68.23
81.88
19.66
14.71
5.21
3.33
2.54
7.78
17.54
19.72
2.10 (2.63) 0.53
1.84
1.00
1.15
2.12
19.72
2.54
1.31
3.00
3.75
2.60
1.32
39.94
42.86
(45.30)
(44.57)
43.62
(45.60)
42.57
(76.30)
43.62
42.57

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**HB58/91**
Land Registration District	**Hawkes Bay**
Date Issued	03 March 1933

Estate	Fee Simple
Area	2.2177 hectares more or less
Legal Description	Lot 1 Deposited Plan 2767

Proprietors

Karl Hansen and Ailsa Naomi Hansen

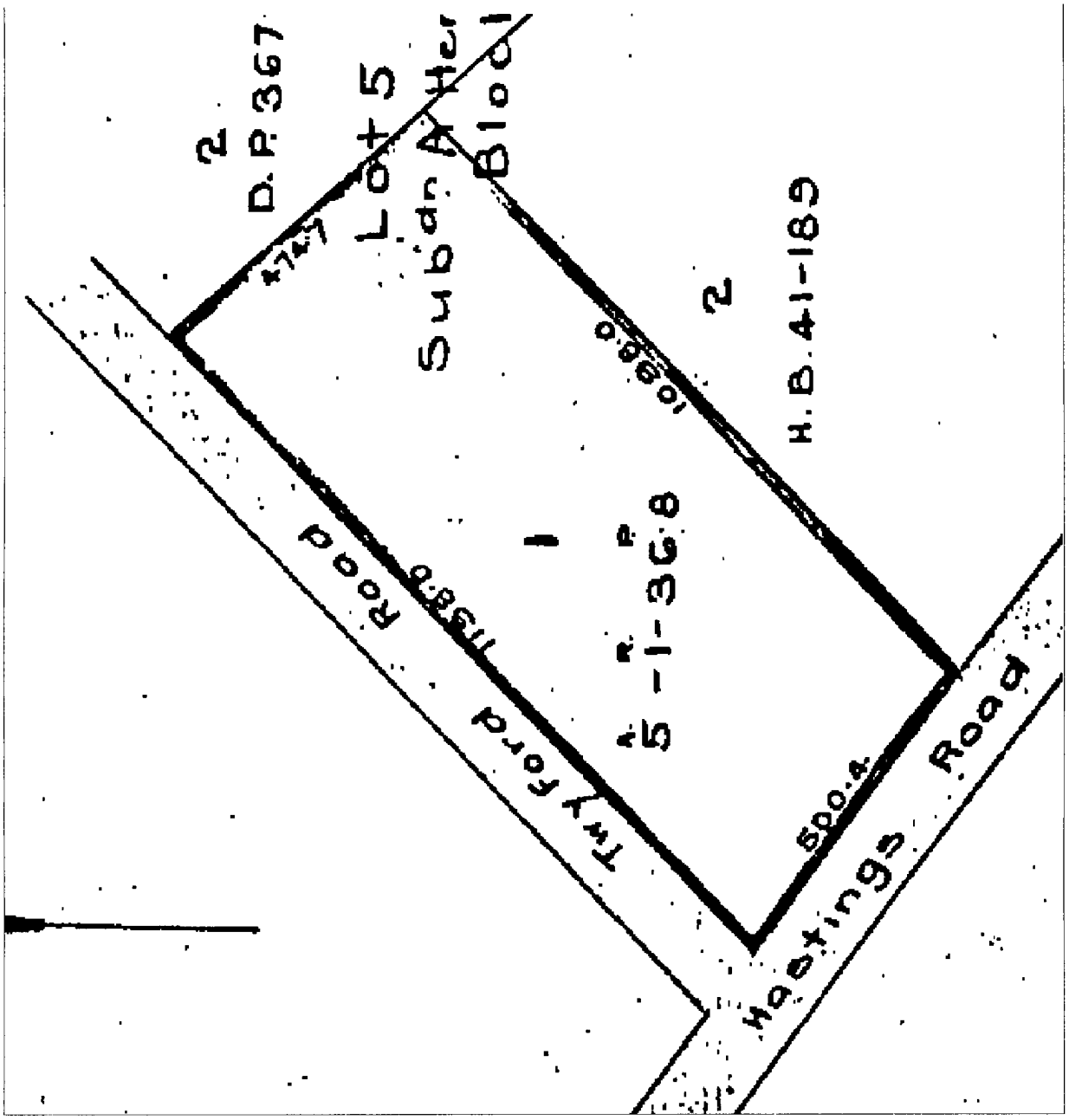
Interests

This is an INTERIM Certificate of Title

This certificate has by effluxion of time become CONCLUSIVE as defined by Section 2 of the Land Transfer (Hawke's Bay) Act 1931 as to all matters EXCEPT the description and delineation of the land

427161.3 Mortgage to (now) Westpac New Zealand Limited - 3.11.1983 at 10.33 am

Identifier **HB58/91**



COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**HB58/149**
Land Registration District	**Hawkes Bay**
Date Issued	19 April 1933

Estate	Fee Simple
Area	4.0469 hectares more or less
Legal Description	Lot 1 Deposited Plan 2209

Proprietors

Hamish Gregory Campbell as to a 1/2 share

Lynne Stephanie Teixeira as to a 1/2 share

Interests

This is an Interim Certificate of Title

This Certificate is now conclusive as to all estates and interests evidenced hereby but not as to the desription and delineation of the land - 27th day of June 1936

"Conclusive" is defined by Section 2 of the Land Transfer (Hawke's Bay) Act, 1931

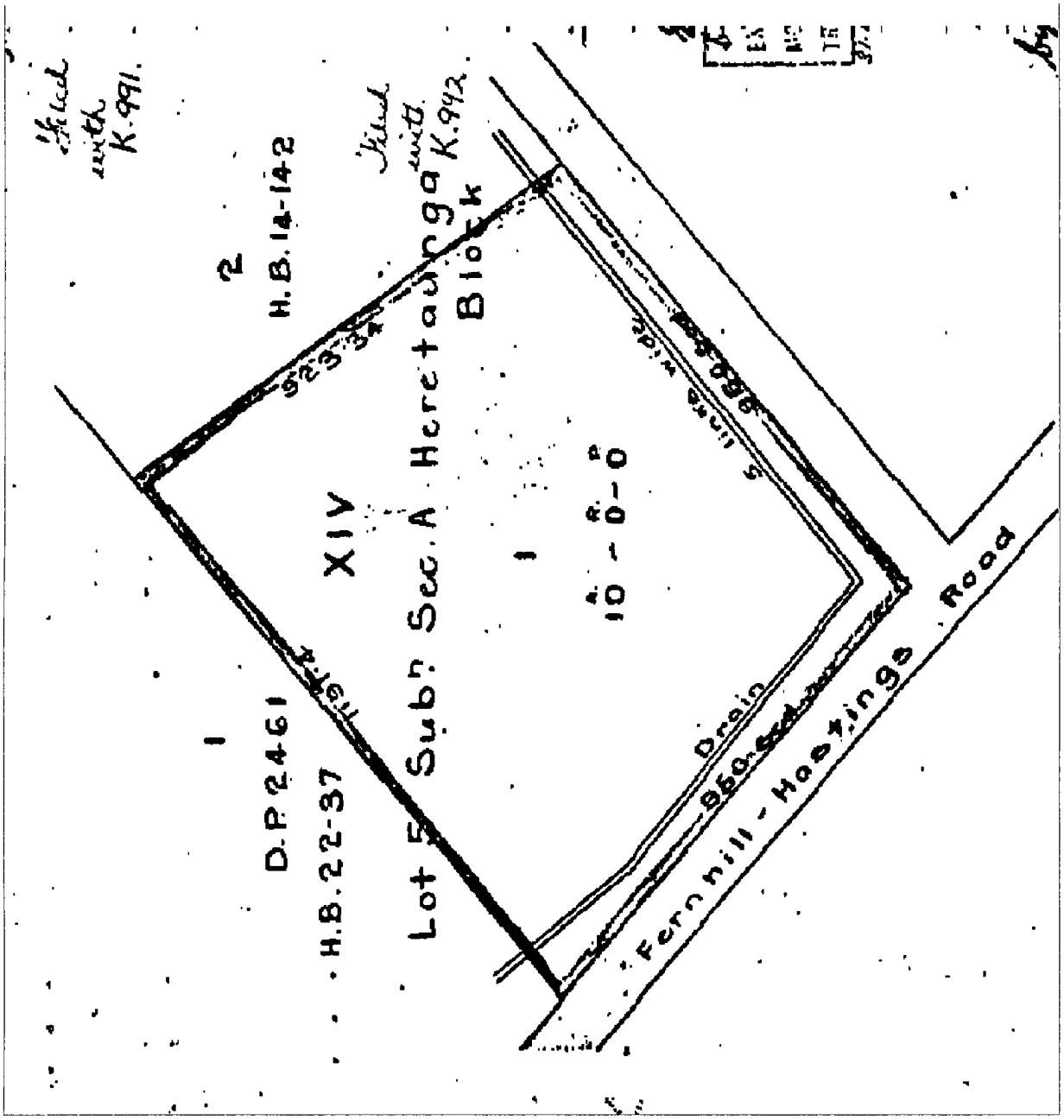
5237235.3 Mortgage to (now) Westpac New Zealand Limited - 31.5.2002 at 9:00 am

6947249.1 Variation of Mortgage 5237235.3 - 14.7.2006 at 9:00 am

8239336.5 COVENANT UNDER SECTION 240 RESOURCE MANAGEMENT ACT 1991 (ALSO AFFECTS 462993) - 24.8.2009 at 3:09 pm

8242708.1 Variation of Mortgage 5237235.3 - 28.8.2009 at 12:18 pm

Identifier **HB58/149**



COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

Identifier	**462993**
Land Registration District	**Hawkes Bay**
Date Issued	24 August 2009

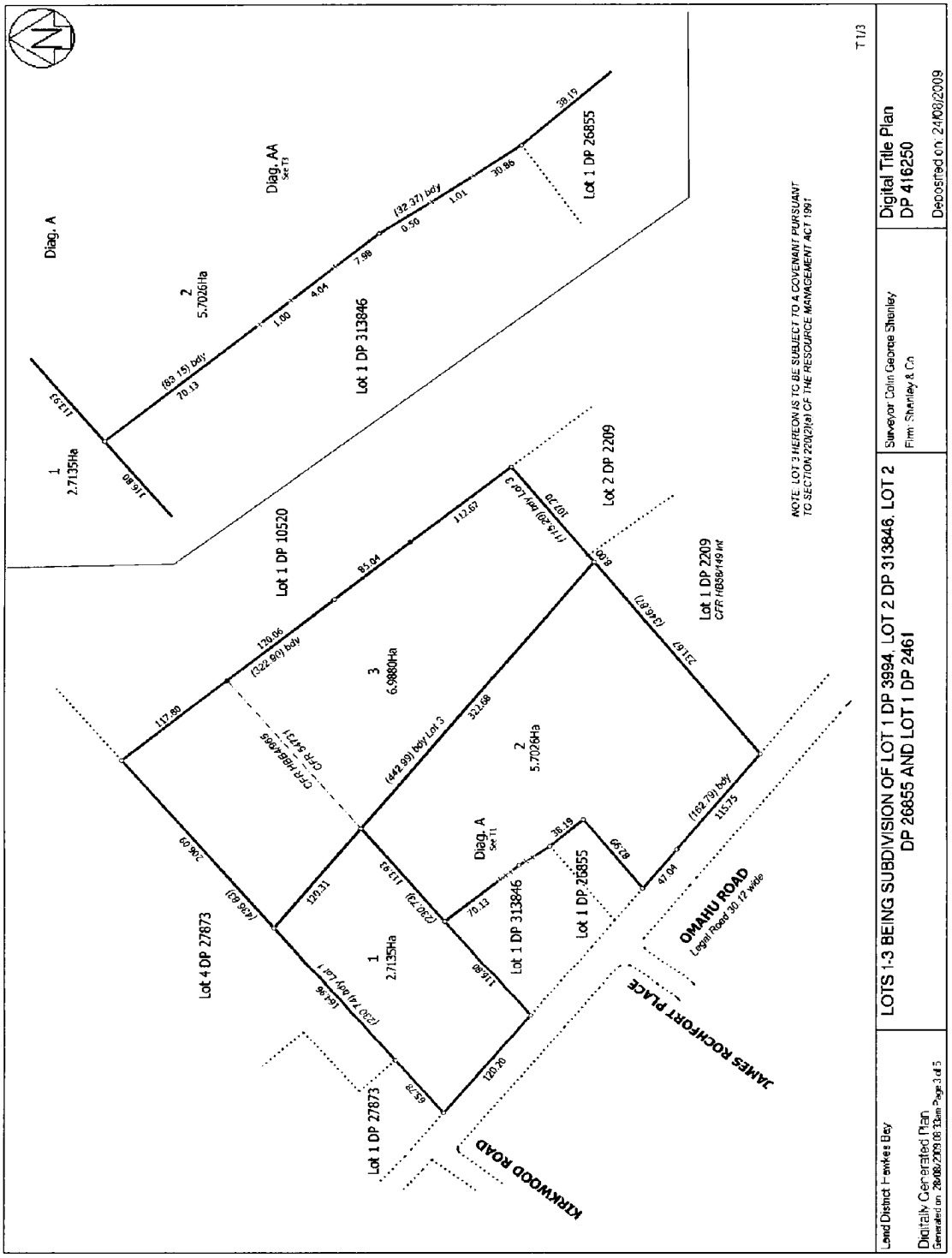
Prior References
54731 HBB4/965

Estate	Fee Simple
Area	6.9880 hectares more or less
Legal Description	Lot 3 Deposited Plan 416250

Proprietors
Hamish Gregory Campbell as to a 1/2 share
Lynne Stephanie Teixeira as to a 1/2 share

Interests
Appurtenant hereto is a right to convey electric power created by Easement Instrument 7388616.3 - 25.5.2007 at 9:00 am (affects formerly Lot 2 DP 313846, Lot 1 DP 2461 and Lot 2 DP 26855)
8239336.5 COVENANT UNDER SECTION 240 RESOURCE MANAGEMENT ACT 1991 (ALSO AFFECTS HB58/149) - 24.8.2009 at 3:09 pm
8239336.6 Mortgage to Westpac New Zealand Limited - 24.8.2009 at 3:09 pm

Identifier **462993**



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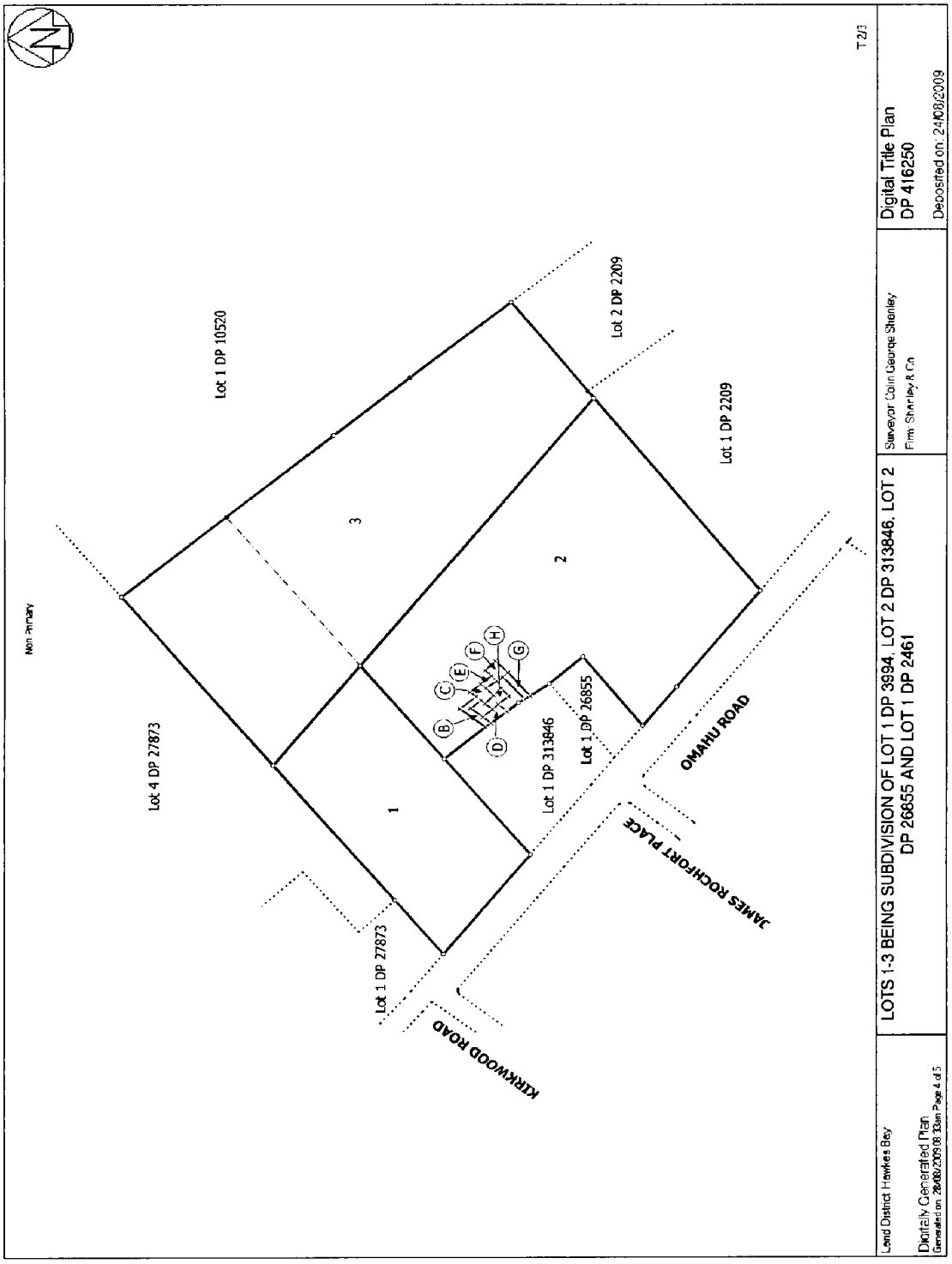

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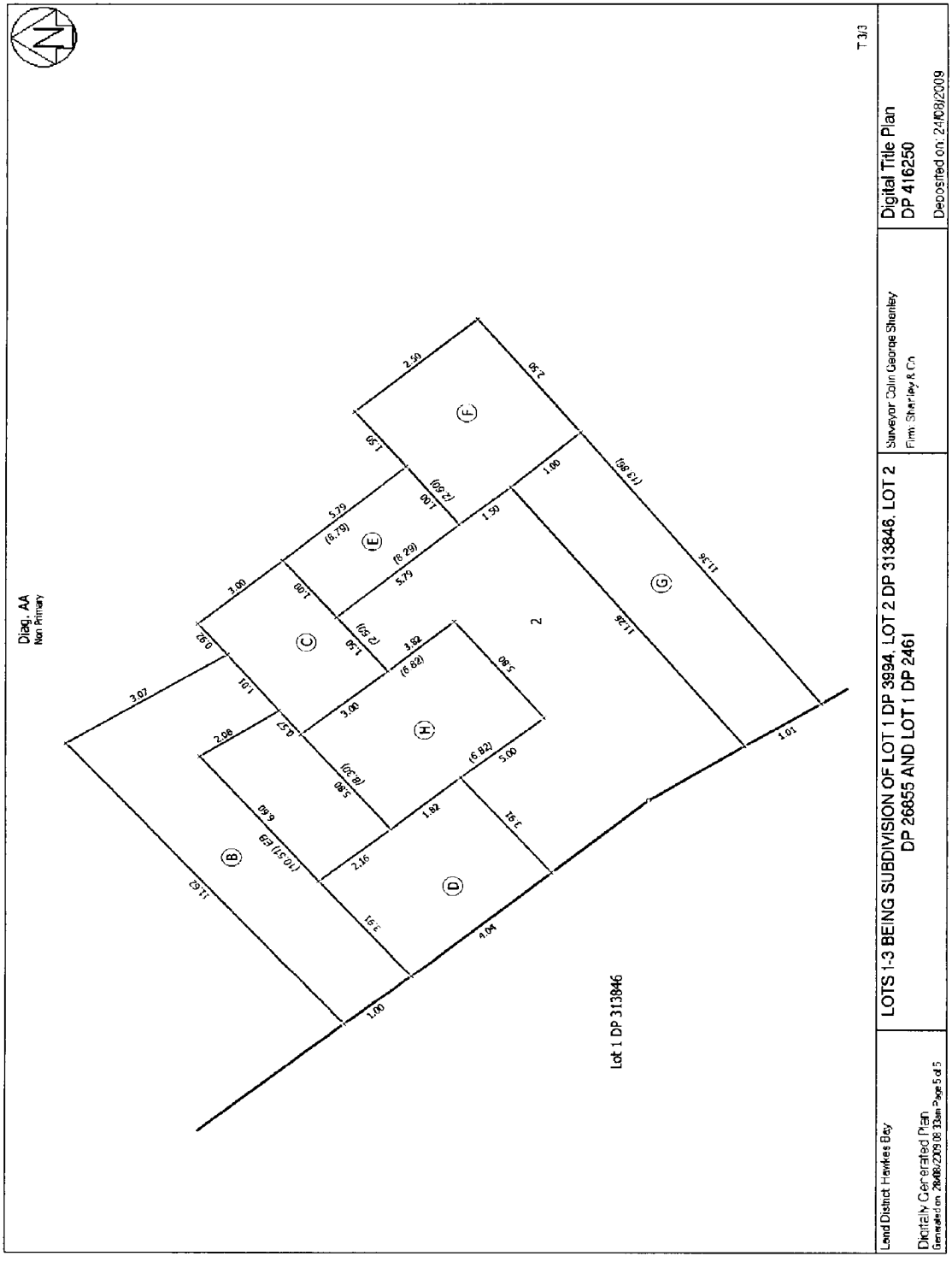

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Historical Search Copy

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Registrar-General
of Land

Cancelled

Identifier	**532871**
Land Registration District	**Hawkes Bay**
Date Issued	20 September 2010

Prior References
462991 462992

Estate	Fee Simple
Area	7.9161 hectares more or less
Legal Description	Lot 2 Deposited Plan 416250 and Lot 2 Deposited Plan 435466

Original Proprietors
Orchard Trustee Company Limited

Interests

8253109.2 Mortgage to Rabobank New Zealand Limited - 12.10.2009 at 9:33 am

Subject to a right to convey water over part Lot 2 DP 416250 marked D & H and right to convey electric power over part Lot 2 DP 416250 marked B, C, D, E, F, G & H on DP 416250 created by Easement Instrument 7388616.3 - 25.5.2007 at 9:00 am

Appurtenant to Lot 2 DP 416250 herein is a right to convey electric power created by Easement Instrument 7388616.3 - 25.5.2007 at 9:00 am

Some of the easements created by Easement Instrument 7388616.3 are subject to Section 243 (a) Resource Management Act 1991

Subject to Section 241(2) Resource Management Act 1991 (affects DP 435466)

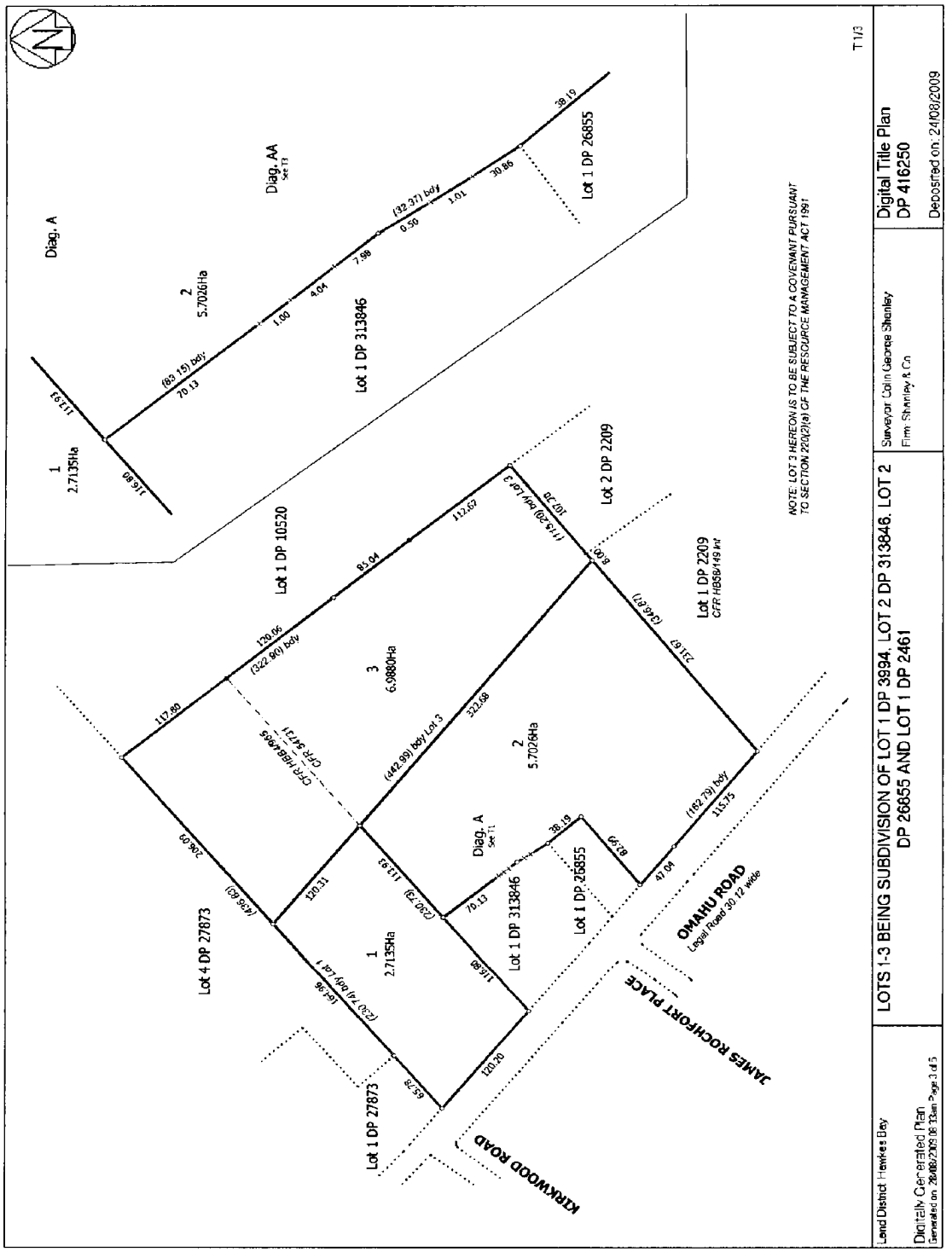
8820244.1 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 20.7.2011 at 4:02 pm(Affects Lots 1- 2 DP 440763)

8820244.2 CTs issued - 20.7.2011 at 4:02 pm

Legal Description	**Title**
Lot 1 Deposited Plan 440763	548234
Lot 2 Deposited Plan 440763 and Lot 2 Deposited Plan 416250	548235

CANCELLED
CANCELLED

Identifier **532871**



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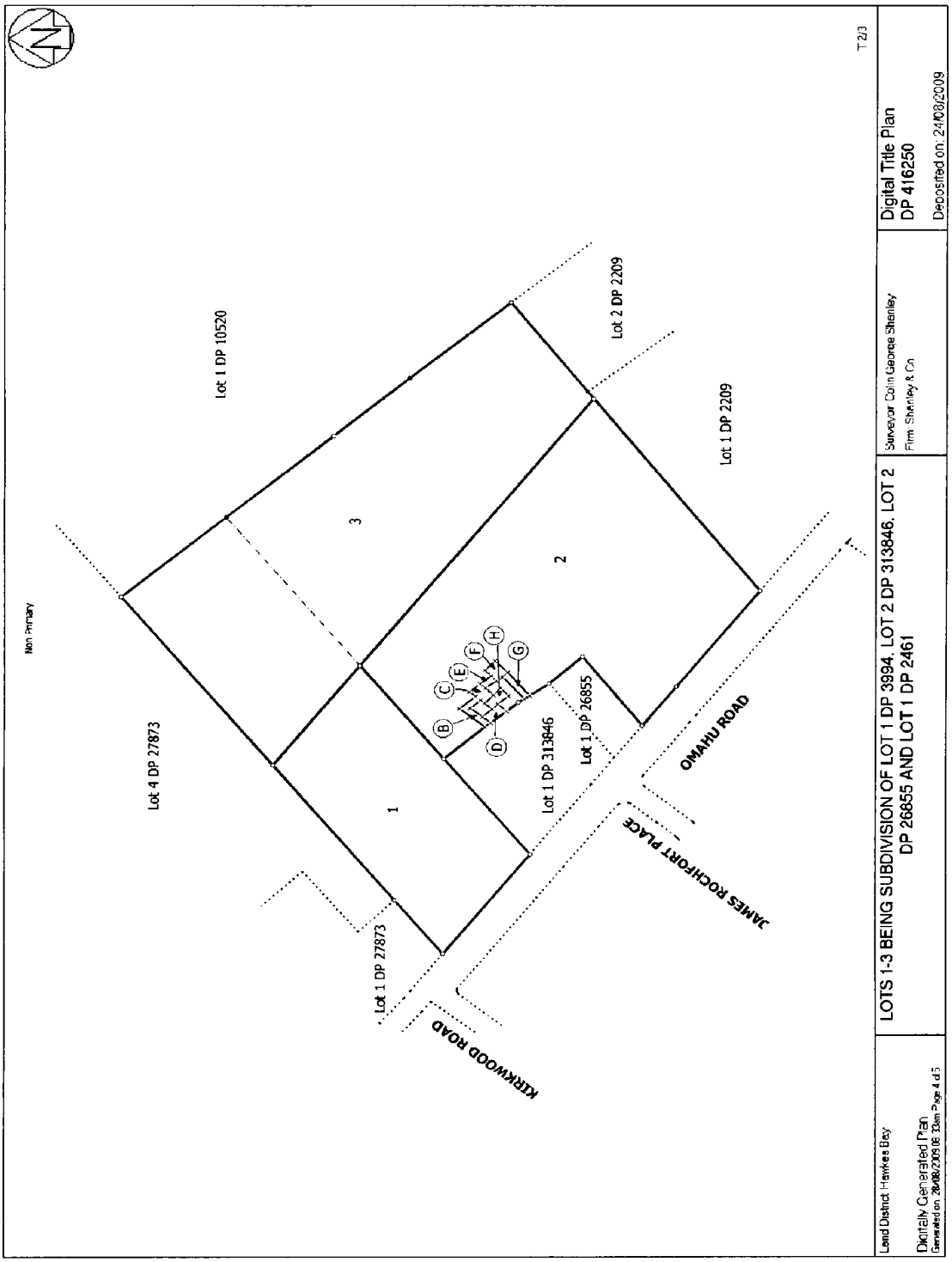

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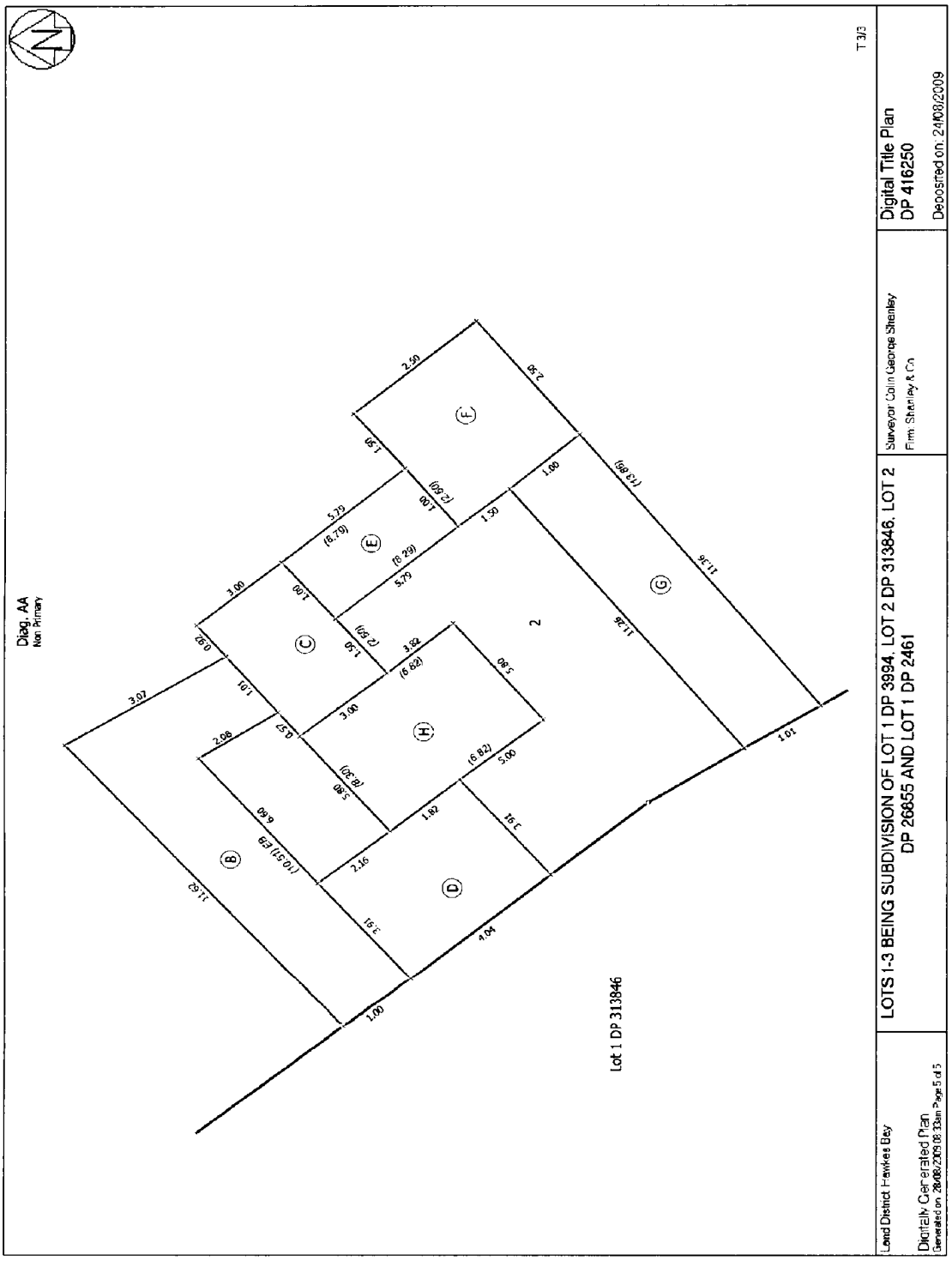

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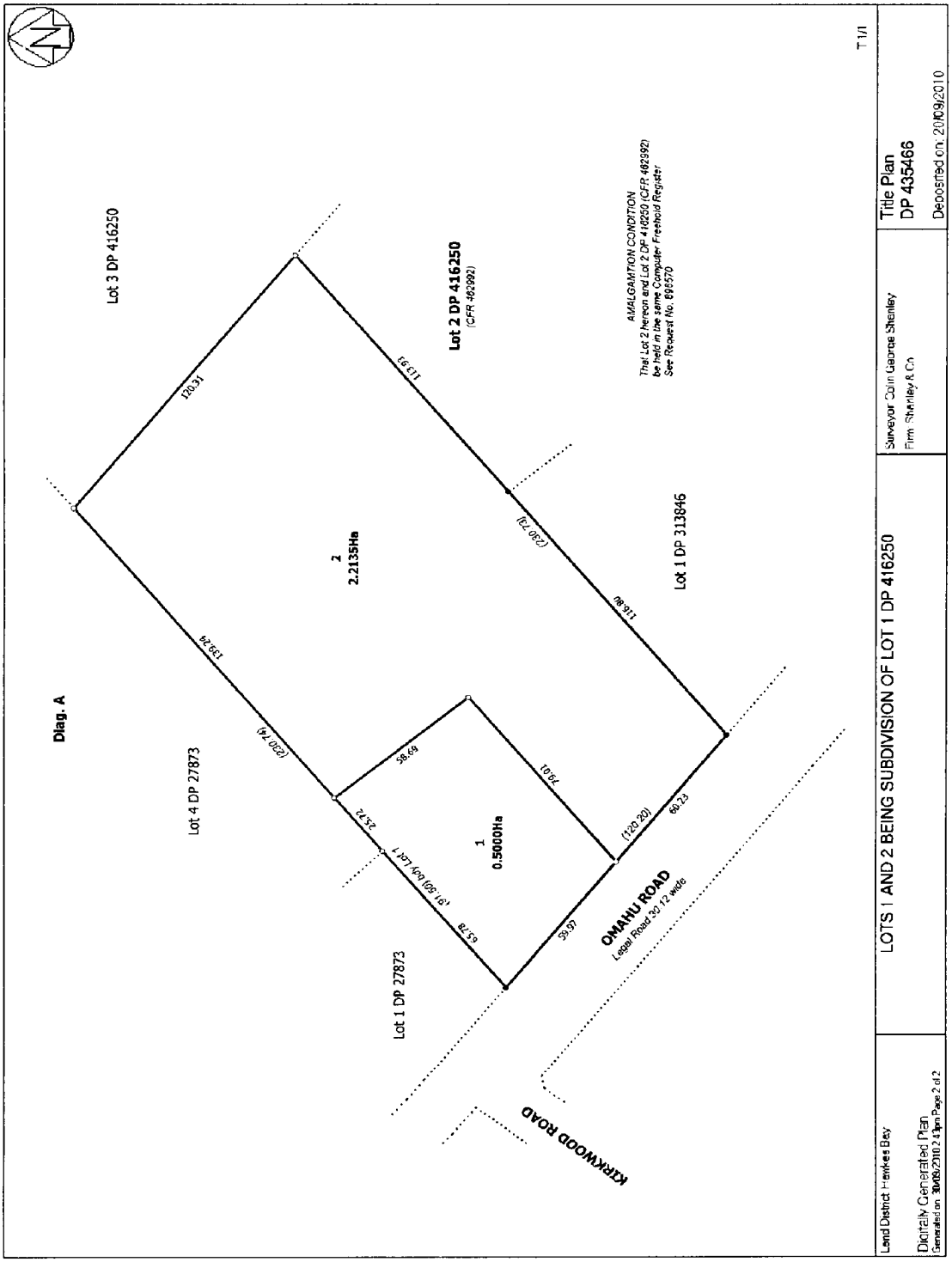


COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**529729**
Land Registration District	**Hawkes Bay**
Date Issued	19 November 2010

Prior References
HBG1/1070 HBW4/1024

Estate	Fee Simple
Area	53.0796 hectares more or less
Legal Description	Lot 2 Deposited Plan 434282 and Lot 4 Deposited Plan 27873

Proprietors
Agrilasia Farms Limited

Interests

Subject to water and pipe line rights over part marked A on DP 434282 created by Transfer 317973.3 - 25.9.1975

8641677.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 19.11.2010 at 4:48 pm

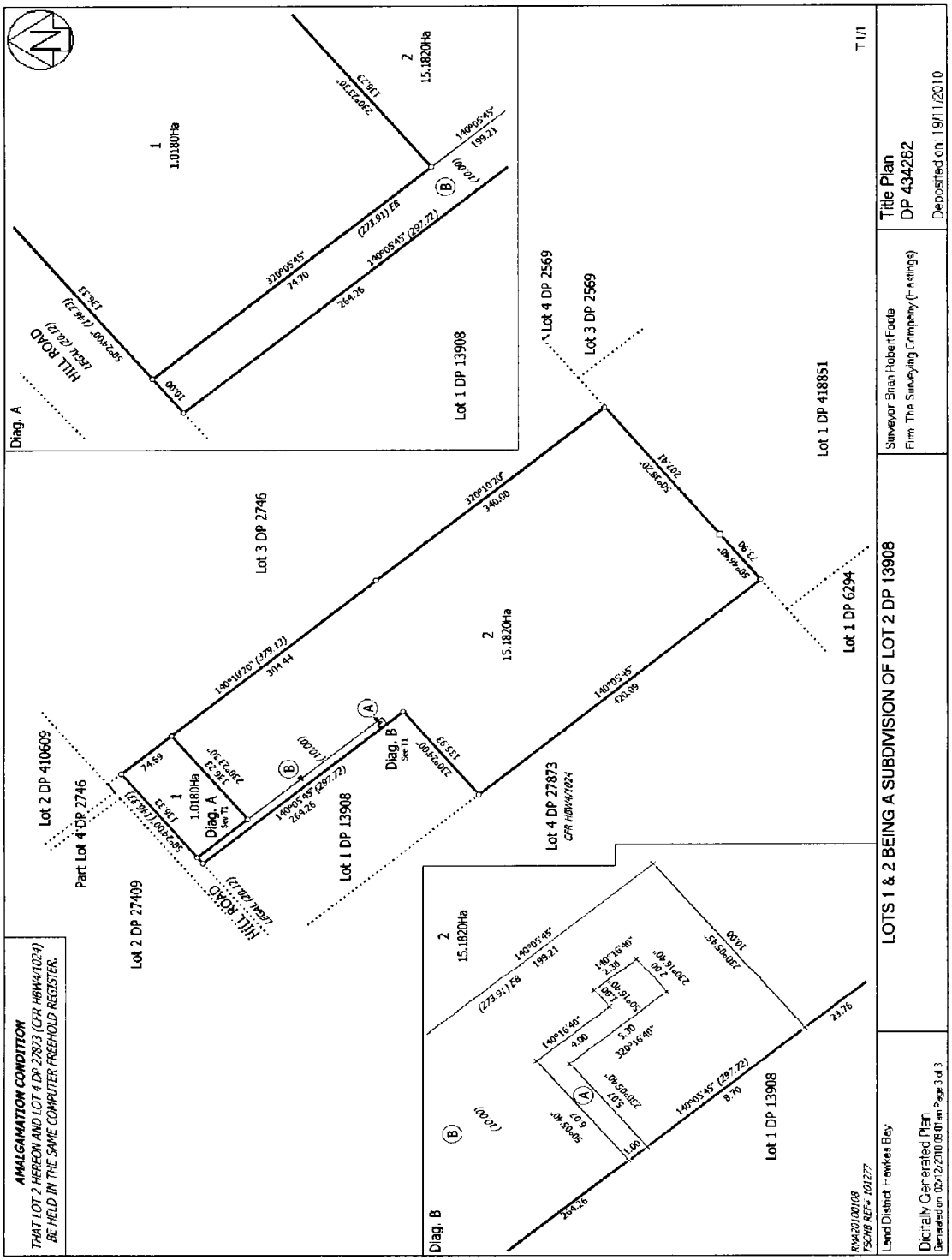
Subject to Section 241(2) Resource Management Act 1991 (affects DP 434282)

Subject to a right to convey water and electricity over part Lot 2 DP 434282 marked A and B on DP 434282 created by Easement Instrument 8641677.4 - 19.11.2010 at 4:48 pm

The easements created by Easement Instrument 8641677.4 are subject to Section 243 (a) Resource Management Act 1991

8672667.4 Mortgage to Bank of New Zealand - 14.1.2011 at 11:43 am

Identifier **529729**



COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**369147**
Land Registration District	**Hawkes Bay**
Date Issued	11 September 2007

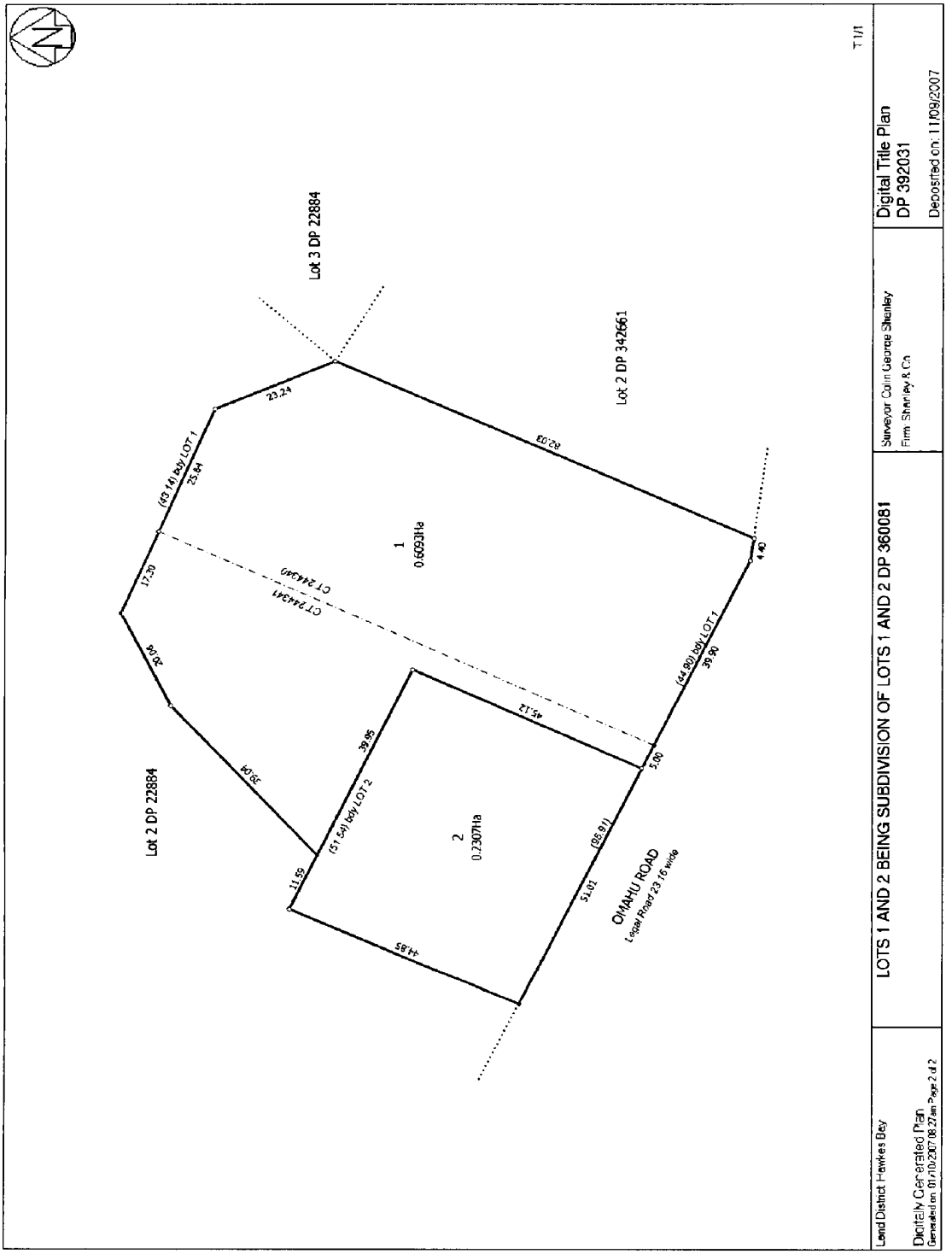
Prior References
244340 244341

Estate	Fee Simple
Area	6093 square metres more or less
Legal Description	Lot 1 Deposited Plan 392031

Proprietors
CB Norwood Distributors Limited

Interests
Fencing Covenant in Transfer 6278508.1 - 17.1.2005 at 9:00 am
6670754.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 1.12.2005 at 9:00 am
6670754.3 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 1.12.2005 at 9:00 am
6670754.4 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 1.12.2005 at 9:00 am(affects part)

Identifier **369147**



CUSTOMER SERVICES
27 SEP 2012
RECEIVED
15.10pm.

Notices of Requirement

In support of Proposed Plan Change 57

Omahu North Industrial Area

Notices and Assessment of Effects on the Environment

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Appendix 1 Designation Plans and Land Areas

Appendix 2 Plan of the Proposed Roundabout

Appendix 3 Application for Resource Consent to Discharge Stormwater

Appendix 4 Summary of the Natural Hazards Assessment

Appendix 5 Summary of the consultation undertaken

Appendix 6 Certificates of Title

Part II – Supporting Information

1 Introduction

The Hastings District Council proposes (by way of Plan Change 57) to establish a new 36 hectare industrial zone on the northern side of Omahu Road, Hastings. A key objective of this project is the efficient, effective and timely implementation of that physical infrastructure necessary to service the area. As such it is proposed to establish, operate and maintain a reticulated stormwater network for the new zone. This is to consist of a series of swales (shallow drains) and three infiltration areas. The infrastructure corridor in which the stormwater swales are to be located is to be available for piped water and wastewater services, should a desire for these be identified in the future. It also proposes to establish, operate and maintain a roundabout at the intersection of Omahu Road and Henderson Road.

1.1 Background

The Hastings District Council („the Council") has been proceeding with the implementation of its Industrial Expansion Strategy since 2003. This strategy identified an area of land on the northern side of Omahu Road for industrial rezoning. The Council has now adopted Plan Change 57 for notification. This seeks to rezone 36ha of land for industrial purposes, in two stages. These designations are required to ensure that the proposed industrial area can be adequately serviced. It is hence anticipated that this Notice of Requirement will be heard concurrently with Plan Change 57.

The Council has also sought resource consent for the discharge of stormwater from the proposed zone from the Hawke's Bay Regional Council. That application (DP120072L and DP120073W) includes a detailed description of the proposed system and of the potential effects on the environment. Whilst, a decision has been made that the application will be assessed on a non-notified basis, a substantive decision is yet to be received on this application. It likewise anticipated that this hearing will occur after a decision has been received from HBRC on the Council's resource consent application. This will enable the commissioners to take account of this in their consideration of the proposed designations.

The preparation of both the Plan Change and the resource consent application have included the commissioning of specialist reports to further assess and evaluate the potential for adverse effects on the surrounding environment and confirm the feasibility of providing for the new industrial area, in particular in relation to essential infrastructure.

1.2 Supporting documents

The following documents provide support for Proposed Plan Change 57 and the designations sought within this NoR:

1. **Hastings District Council Industrial Site Selection Report**. Prepared by Hastings District Council (September 2003).
2. **Hastings District Council Industrial Demand Study Update**. Prepared by Frank Spencer, Logan Stone (June 2008).
3. **Omahu Road Plan Change Industrial Land Demand.** Prepared by Frank Spencer, Logan Stone (August 2012).
4. **Omahu Industrial Plan Change – Soils Quality and Impact Assessment.** Prepared by John Wilton, AgFirst (2012).
5. **Desktop Archaeological Assessment, Proposed Omahu Industrial Plan Change.** Prepared by Tracey Gray, Hastings District Council (June 2009).
6. **Omahu Industrial Plan Change Water and Wastewater Assessment.** Prepared by Dylan Stuijt and David James, Hastings District Council (2012).

7. **Omahu land Use Change, Traffic Impact Assessment.** Prepared by Aaron Campion, Hastings District Council (2012).
8. **The Hastings District Council Application to Discharge Stormwater,** Prepared by Hastings District Council and MWH Consultants.

2 Site Description

2.1 Wider Plan Change

The proposed new zone is located on the northern side of Omahu Road, immediately opposite and to the west of the existing Industrial 2 zone. The proposed zone is identified in ***Figure 1*** below. The zone consists of a long narrow strip of between 60m and 170m depth from Omahu Road. It has an approximate area of 36ha. The area is currently zoned „Plains" and is used for a variety of activities including: horticulture, pasture, residential, and commercial / industrial uses.

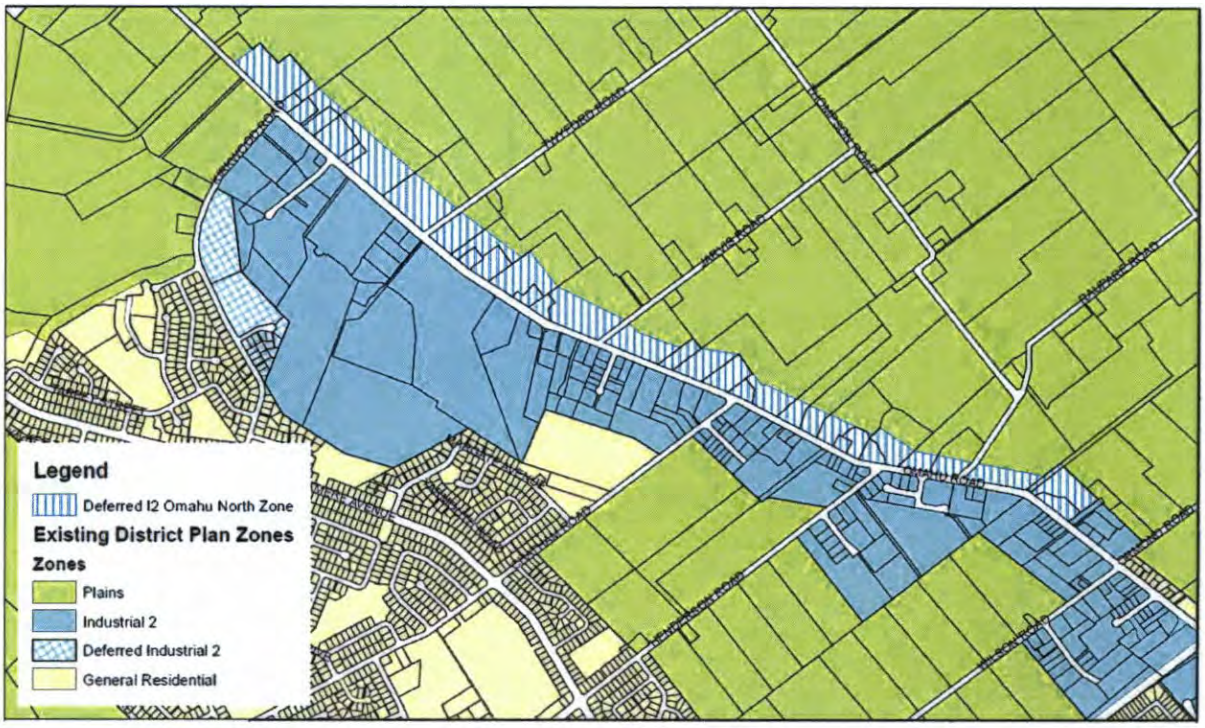

Figure 1 - Proposed new Omahu Road North Industrial Zone

2.2 Roundabout

The proposed roundabout is to be located at the intersection of Omahu Road and Henderson Road. The position of this roundabout is identified within the white circle on the Structure Plan in ***Figure 2*** below. There is a requirement for additional land on the northern side of Omahu Road to allow space for the incorporation of a roundabout into the road carriageway. The area of land required is indicated in red on ***Figure 2*** and on the plans attached as ***Appendix 1***.

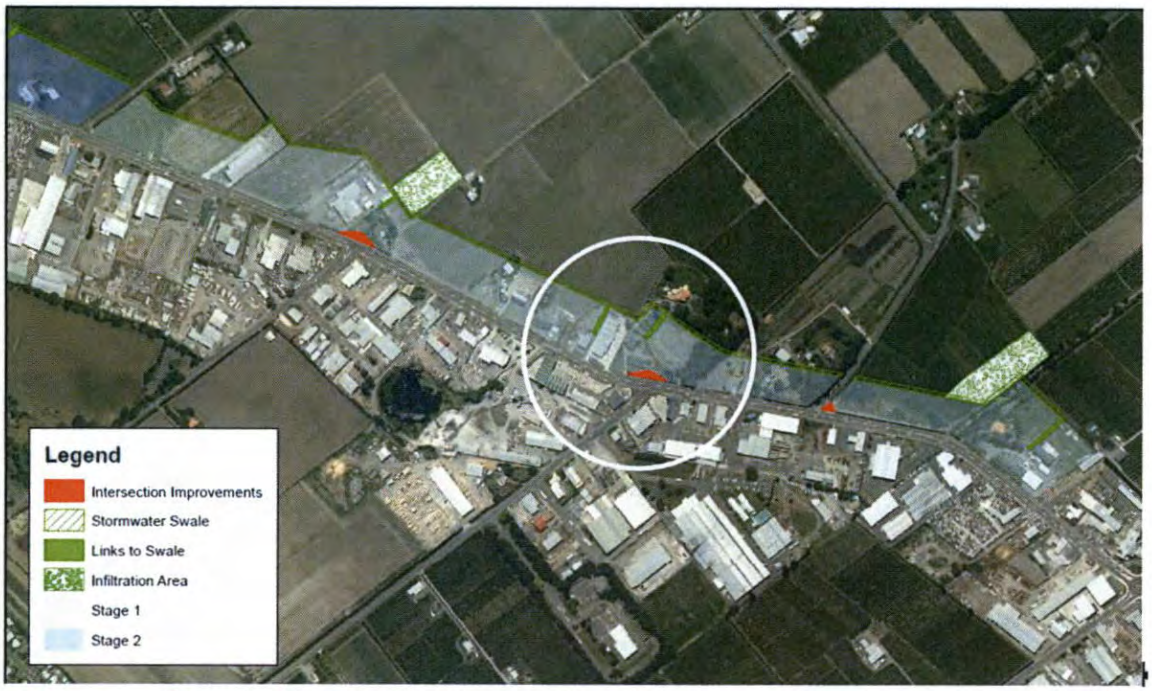

Figure 2 – Page 1 of the Structure Plan within Proposed Plan Change 57

2.3 Infrastructure Corridor

A 6.5m wide infrastructure corridor extends along the northern boundary of the proposed zone generally parallel with Omahu Road. Several 5m wide corridors extend generally south west through the proposed industrial zone. These ensure that each property within the zone is provided with legal and physical access to the swale. The area of land required for this corridor is indicated with green hatching on ***Figure 2*** above, ***Figure 3*** below and in the plans attached as ***Appendix 1***.

Figure 3 – Page 2 of the Structure Plan within Proposed Plan Change 57

2.4 Stormwater Infiltration Areas

Three stormwater infiltration areas are proposed. The proposed designations for these are indicated in white and green on ***Figure 2*** and ***Figure 3*** above and in the plans attached as ***Appendix 1***.

3 Project Description

The development of the Omahu North Industrial Area has been divided into two separate stages to allow the costs of the development to be staged and to ensure that the land is efficiently and effectively transferred from „Plains" use to „Industrial". ***Figure 2*** and ***Figure 3*** above show Stage 1 of the development in a lighter blue and Stage 2 of the development in a darker blue. Demand predictions indicate that the infrastructure for Stage 2 is likely to need to be implemented within 10 years. A ten year lapse period has hence been requested.

Scaled, close up plans of each of the designations on a title by title basis are provided in ***Appendix 1*** of this report.

3.1 Roundabout

A Traffic Impact Assessment („TIA") has been prepared in support of both Proposed Plan Change 57 and this NoR. This assesses the potential effects of the proposed zone on the transportation network both in terms of network capacity (Level of Service, travel time delays etc) and safety. A specific assessment was undertaken of the potential effects on each of the intersections in the immediate vicinity of the proposed zone. This included the Henderson Road Omahu / Road Intersection. Without any mitigation, the rezoning creates the potential adverse traffic (capacity and safety) effects. A number of recommendations are made within the TIA as to how these effects can be satisfactorily mitigated. These include the installation of a roundabout at the Henderson Road / Omahu Road Intersection.

An initial design of the roundabout proposed to be established has been prepared. This design is shown in ***Figure 4*** below and is attached as ***Appendix 2***.

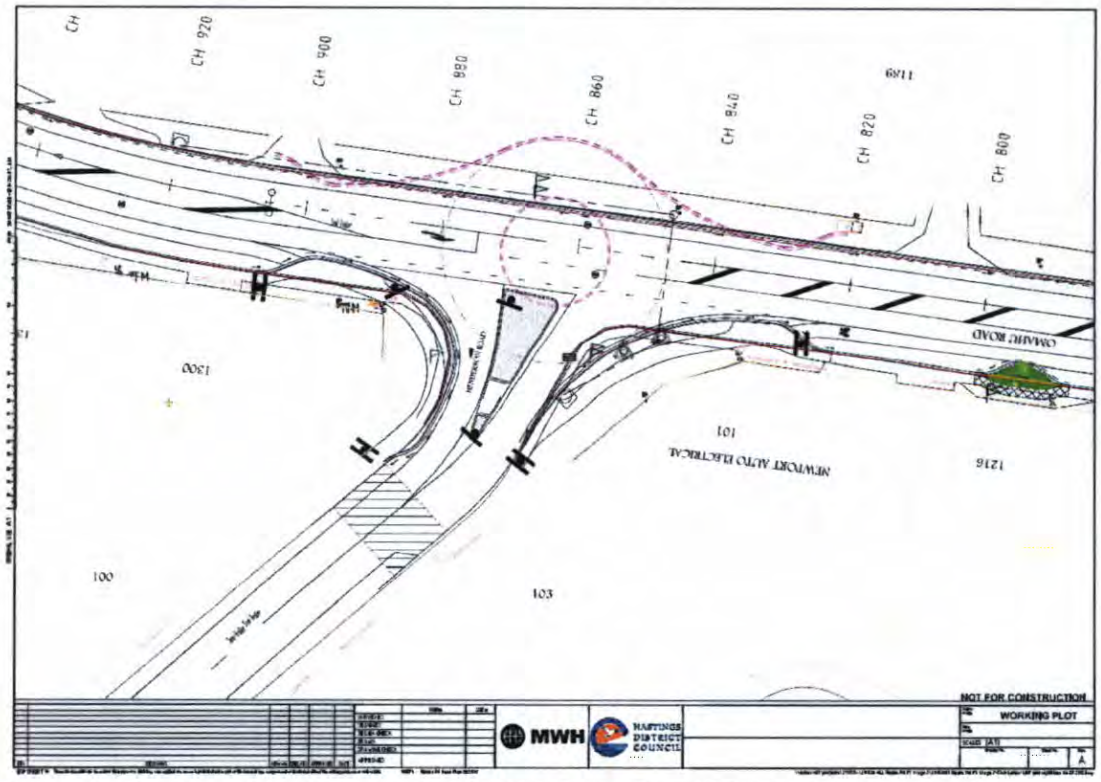

Figure 4 – The Roundabout proposed at the Henderson Road / Omahu Road intersection

The land required for this roundabout is detailed in table 3 and shown in red on ***Figure 5*** below and in ***Appendix 1***.

Table 3: Land ownership of land required for roundabout

Property owner	Legal Description & CT	Area required
JA Barley & LP Curd & 2 others	LOT 3 DP22884, LOT 2 DP342661, 175182	435m^2

Figure 5: Designation Plan Intersection of Henderson Road and Omahu Road

3.2 Infrastructure Corridor

The proposed infrastructure corridor is shown in blue hatching on ***Figure 6*** and ***Figure 7*** below. The main element within this is to be a series of stormwater swales. These are to service the land within the proposed new Omahu Road North Industrial Area.

Figure 6: Designation Plan – Stage 1 Infrastructure Corridor

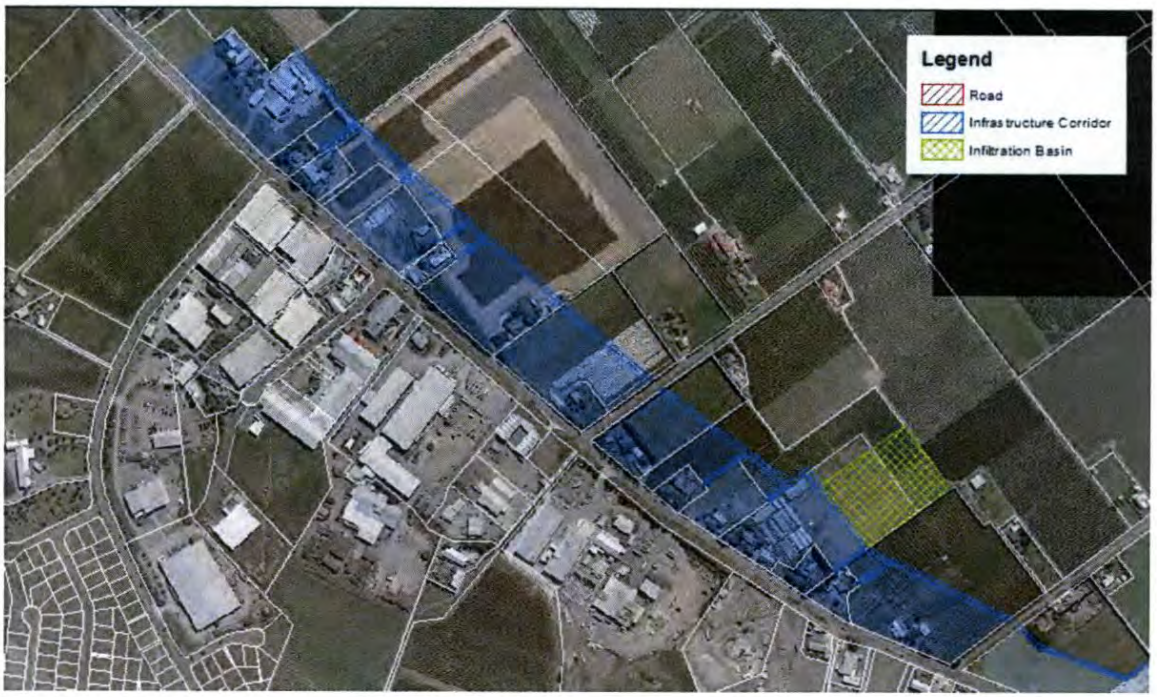

Figure 7: Designation Plan – Stage 2 Infrastructure Corridor

A cross section of the proposed stormwater swale is provided in ***Figure 8*** below. The swales have been designed to accommodate all stormwater generated within the proposed new zone in up to a 1 in 10 year ARI event. However, modelling suggests that (by utilising the freeboard provided within the 1 in 10 year design) all stormwater generated in the majority of 1 in 50 year ARI events will also be contained within the swales without them being overtopped.

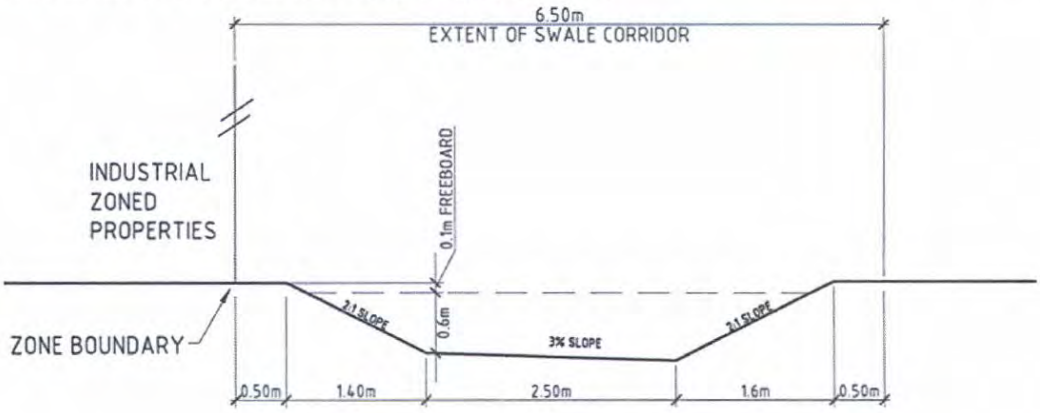

Figure 8: Maximum swale cross section[1]

Twelve 5m wide corridors extend generally south west from the swale into the proposed industrial zone. The corridors provide those properties not immediately abutting the swale legal and physical access to it. They have been positioned in manner intended to reduce as far as practical the impact on the development potential of the property on which they are located. It is however recognised that there will be an impact. Ultimately it would be preferable for the affected landowners to come to their own agreements over the best position for these connections and for an appropriate private easement to be established. The proposed designations are however necessary in the absence of such easements. Should easements be implemented that meant a designation was no longer required, the designation could be uplifted.

[1] Cross section immediately upstream of a basin – the corridor is anticipated to be narrower and potentially shallower further up the catchment.

It is anticipated that these will be piped connections. It is however possible that open drains / swales may be installed.

In addition to the above, it is proposed that the infrastructure corridor will be available for water and wastewater services. The Council has no intention of installing these services. It would however consider this option in the future if it were pursued by an adjacent land-owner.

3.3 Stormwater Infiltration Areas

Three stormwater infiltration areas are proposed. These are indicated in white and green on ***Figure 2*** and ***Figure 3*** above and in the plans attached as ***Appendix 1***.

The infiltration areas have been designed to accommodate, and dispose by way of infiltration to ground, all stormwater generated in 1 in 10 year ARI events. Stormwater may be discharged from the infiltration areas in some, larger, events of up to a 1 in 50 year ARI. Peak flows from the proposed industrial zone in these events are anticipated to be less than those which currently occur, ensuring the effects of an increased runoff from the anticipated increase in hard surfaces is mitigated.

The characteristics of each of the three stormwater infiltration areas and the proposed size of the three designations are shown in ***table 1*** and ***figure 9*** below.

Table 1 - Land Areas for the Infiltration Areas

	Basin Volume	Basin Depth	Land area required for the Basin	Proposed size of the Designation
Area 1	2,400m^3	1m	0.4ha	0.9 ha
Area 2	4,240m^3	1m	0.6 ha	0.6 ha
Area 3	10,750m^3	1m	1.4 ha	2.1 ha

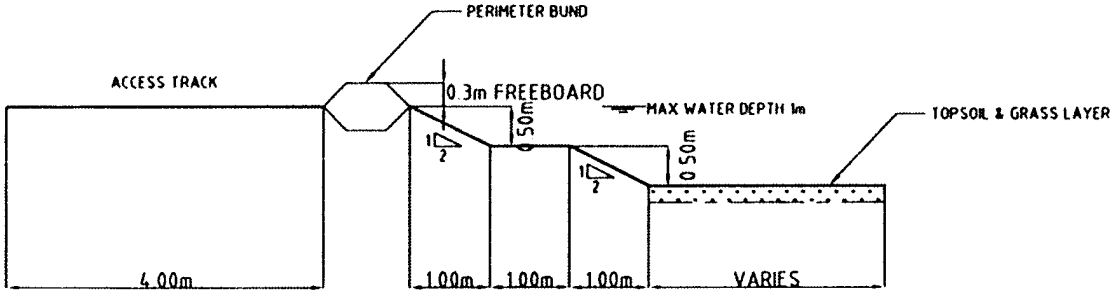

Figure 9 – Typical basin detail (cross section)

The area of each of the identified infiltration areas / designations is substantially larger than area identified as being required for the basins themselves. The proposed industrial zone is very long with a very shallow fall across it (generally north-east). The exact position of the proposed infiltration basins will not be able to be determined until the detailed design stage. The Council's preference is that these be located immediately adjacent to the proposed zone where the area of land utilised would be minimised. However, this may not be possible. Designations of the size, shape and position indicated are required in order to provide the flexibility necessary to ensure that the necessary gradients and effective storage capacities will be achieved.

Statutory Assessment

3.4 Notice of Requirement by Territorial Authority

A Notice of Requirement enables a requiring authority to establish a new designation over parcels of land that are directly affected by a proposal. This is a process where a recommendation is sought from the Council which is then accepted by the requiring authority (providing they agree with the recommendation), and in this case will provide a cost effect stormwater system and new roundabouts for Proposed Plan Change 57.

Section 168 (Notice of Requirement to territorial authority), RMA states:

(1) A Minister of the Crown who, or a local authority which, has financial responsibility for a public work, may at any time give notice in the prescribed form to a territorial authority of its requirement for a designation –
(a) For a public work; or
(b) In respect of any land, water, subsoil, or airspace where a restriction is necessary for the safe or efficient functioning or operation of a public work.

Section 168A (Notice of Requirement by territorial authority), RMA states:

(1) This section applies if a territorial authority decides to issue a notice of requirement for a designation—
(a) for a public work within its district and for which it has financial responsibility; or
(b) in respect of any land, water, subsoil, or airspace where a restriction is necessary for the safe or efficient functioning or operation of a public work.

(1A) The territorial authority must decide whether to notify the notice of requirement under sections 95A to 95F (but without the time limit specified by section 95), which apply with all necessary modifications and as if—
(a) a reference to a resource consent were a reference to the requirement; and
(b) a reference to an applicant or a consent authority were a reference to the territorial authority; and
(c) a reference to an application for a resource consent were a reference to the notice of requirement; and
(d) a reference to an activity were a reference to the designation.

(1B) Section 168 applies to the notice of requirement with all necessary modifications.

(2) Sections 96, 97, and 99 to 103 apply to the notice of requirement with the modifications described in subsection (1A).

(2A) When considering a requirement and any submissions received, a territorial authority must not have regard to trade competition or the effects of trade competition.

(3) When considering a requirement and any submissions received, a territorial authority must, subject to Part 2, consider the effects on the environment of allowing the requirement, having particular regard to—
(a) any relevant provisions of—
(i) a national policy statement:
(ii) a New Zealand coastal policy statement:
(iii) a regional policy statement or proposed regional policy statement:
(iv) a plan or proposed plan; and
(b) whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work if—
(i) the requiring authority does not have an interest in the land sufficient for undertaking the work; or
(ii) it is likely that the work will have a significant adverse effect on the environment; and

(c) whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought; and
(d) any other matter the territorial authority considers reasonably necessary in order to make a decision on the requirement.

(4) The territorial authority may decide to—
(a) confirm the requirement:
(b) modify the requirement:
(c) impose conditions:
(d) withdraw the requirement.

(5) Sections 173, 174, and 175 apply, with all necessary modifications, in respect of a decision made under subsection (4).

It is considered that the proposed designation is consistent with section 168(1). Although the Designations in their own right may not require public notification under 95A of the RMA, **notification is requested in conjunction with Plan Change 57** so both aspects can be considered simultaneously.

Section 6 of this report outlines the effects of the proposed designation on the environment, which are considered to be no more than minor, due to the consistent nature of the proposed public works with the existing road network and proposed industrial nature of this area.

3.5 Purpose and Principals of the RMA

The RMA has as its sole purpose the promotion of the sustainable management of natural and physical resources.

Part 2 sets out the purposes and principles of the RMA within sections 5 to 8.

Section 5 of the RMA incorporates the following description of sustainable management.

—. sustainable management' means managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well being and for their health and safety while –

a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

b) Safeguarding the life supporting capacity of air, water, soil and ecosystems; and

c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment."

As well as this stated purpose, people exercising powers and functions under the RMA must recognise and provide for a range of matters of national importance. These are set out in section 6 of the RMA and are (paraphrased):

a. Preserving the natural character of the coastal environment, wetlands, lakes, rivers and their margins and protecting them from inappropriate subdivision, use and development
b. Protecting outstanding natural features and landscapes from inappropriate subdivision, use and development
c. Protecting areas of significant indigenous vegetation and significant habitats of indigenous fauna
d. Maintaining and enhancing public access to and along the coastal edge, lakes and rivers
e. Recognising the relationship between Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga
f. Protecting historic heritage from inappropriate subdivision, use and development
g. Protecting recognised customary activities

Further matters to which particular regard must be had when exercising functions and powers are set out in section 7 and are:

a. Kaitiakitanga
aa. The ethic of stewardship
b. The efficient use and development of natural and physical resources
ba. The efficiency of the end use of energy
c. The maintenance and enhancement of amenity values (as defined in the RMA)
d. Intrinsic values of ecosystems
f. Maintenance and enhancement of the quality of the environment
g. Any finite characteristics of natural and physical resources
h. The protection of the habitat of trout and salmon
i. The effects of climate change
j. The benefits to be derived from the use and development of renewable energy

Section 8 of the RMA requires recognition of the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

All the above matters are directly relevant to a Notice of Requirement, as the mandatory considerations under section 171 of the RMA are "subject to Part 2".

While the RMA provides for district and regional plans to be prepared to guide use, protection and development, it also includes specific provisions which enable requiring authorities (i.e. central and local government and network utility operators who are approved as requiring authorities) to issue Notices of Requirement for designations. These follow processes similar to resource consent applications and, if approved by the requiring authority, become incorporated in district plans. As they address essentially land use matters, they do not replace the need to obtain any necessary consents from regional councils. These usually relate to water use, discharges, the coastal marine area, land disturbance, and air quality.

Part 2 of the RMA sets out specific processes and considerations for designations. These have been described as forming a "separate code", in recognition that designations often involve locally or even nationally important projects.

3.6 Requirement Considerations

Notices of Requirement are evaluated through the statutory process of the RMA in terms of a range of criteria set out under the RMA. Section 171 sets out the matters to be considered when a notice of requirement is being evaluated.

The considerations are, in summary:

- Matters set out in Part 2, including the RMA's purpose and the principles of sustainable management; matters of national importance (such as the protection of historic heritage from inappropriate subdivision and development); other matters to which decision makers must have regard (such as the efficient use and development of natural and physical resources, amenity values, environmental quality); and the principles of the Treaty of Waitangi (Te Tiriti o Waitangi);
- The effects on the environment of allowing the requirement;
- Provisions of any relevant national policy statement, and the New Zealand Coastal Policy Statement;
- Provisions of a relevant Regional Policy Statement;
- Objectives, policies or other provisions of relevant plans or proposed plans;
- Whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work (if the requiring authority does not have interest in the land, sufficient for undertaking the work, or the work is likely to have significant adverse effects);
- Whether the work and designation is reasonably necessary to achieve the objectives of the requiring authority for which the designation is sought; and
- Any other matters the territorial authority considers relevant and reasonably necessary in order to make a recommendation on the requirement.

These matters are all assessed in making an overall judgement as to whether a proposal promotes or is contrary to Part 2 of the RMA, and the conditions or restrictions that should apply.

3.7 Objectives for the Project

In considering and responding to a Notice of Requirement, particular regard must be had to:

> *Whether the designation is reasonably necessary for achieving the objectives of the ... project or work for which the designation is sought."* (section 171(3)(c) RMA)

The Hastings District Council seeks to establish a new industrial zone to the north of Omahu Road, Hastings. This objective has been expressed within both the 2003 Industrial Expansion Strategy and in HPUDS 2010. The Hastings District Council 2012/22 Long Term Plan also identifies the development of stage 1 of the Omahu North Industrial Area as a major capital project to be completed in the next 10 years (programmed for 2014-2016). Proposed Plan Change 57 to the Operative District Plan publically notified on 15 September 2012 also seeks to change the use of 36ha of land (to be serviced by the proposed infrastructure) from „Plains" to Industrial. The proposed Plan Change will not however be able to be given effect to unless the area can be adequately serviced.

A key objective of this project is the efficient, effective and timely implementation of that physical infrastructure necessary to service the area. Extensive studies carried out as part of the preparation of the proposed Plan Change identified the infrastructure necessary to appropriately avoid or mitigate the potential adverse effects of the proposed re-zoning. This included a new roundabout and stormwater infrastructure swales that could not be accommodated within existing Council owned land. A primary method for achieving this objective is hence the protection of sufficient land (via designation) to enable the construction, operation and maintenance of these.

The designations will assist in the achievement of the objectives of the project by:

- Protecting the site from future development which may preclude the construction of the proposed network;
- Allowing Council and/or its authorised agents to undertake the project or work in accordance with the designation, notwithstanding anything to the contrary in the Hastings District Plan;
- Clearly and accurately identifying and describing the use of the land in the Hastings District Plan; and
- Enabling the project or work to be undertaken in a comprehensive and integrated manner.

3.8 The Regional Policy Statement (part of the Hawke's Bay Regional Resource Management Plan)

The Hawke"s Bay Regional Policy statement („RPS") is incorporated into the Hawke"s Bay Regional Resource Management Plan (RRMP) as Chapter 2 of that document. It is intended to provide an overall framework for the management of natural and physical resources in Hawke"s Bay. The RPS identifies a number of significant resource management issues for the region. Those most pertinent to this proposal are:

- *The risk of contamination of groundwater arising from*
  - *(a) horticultural, agricultural and industrial land use practices*
  - *(b) discharges of contaminants, including the cumulative effects of domestic sewage discharges from unsewered communities*
  - *(c) spills particularly in the Heretaunga Plains and Ruataniwha Plains aquifer systems, and coastal aquifers.*
- *The susceptibility of the region to flooding, droughts, earthquakes, volcanic ash falls, and tsunami, and the potential impact of these on people's safety, property, and economic livelihood.*

The RPS identifies a number of objectives and policies to address these issues. Those of particular relevance to the proposed discharge are:

OBJ 1: To achieve the integrated sustainable management of the natural and physical resources of the Hawke's Bay region, while recognising the importance of resource use activity in Hawke's Bay, and its contribution to the development and prosperity of the region.

OBJ 2: To maximise certainty by providing clear environmental direction.

OBJ 3: To avoid the imposition of unnecessary costs of regulation on resource users and other people

OBJ 21 No degradation of existing groundwater quality in the Heretaunga Plains and Ruataniwha Plains aquifer systems.

OBJ 22 The maintenance or enhancement of groundwater quality in unconfined or semi-confined productive aquifers in order that it is suitable for human consumption and irrigation without treatment, or after treatment where this is necessary because of the natural water quality.

POL 15 To use non-regulatory methods, as set out in Chapter 4, in support of regulatory methods for avoiding adverse effects on groundwater quality, including:

(a) Liaison with territorial authorities - future development - Advocating that any future urban residential or urban industrial development in areas of high groundwater contamination vulnerability (particularly within the Heretaunga Plains unconfined aquifer system as shown in Schedule Va) should include reticulated water, sewerage and stormwater systems.

POL 17 To manage the effects of activities that may affect the quality of groundwater in accordance with the following approach:

(a) To ensure that all activities, particularly discharges of contaminants onto or into land, comply with the environmental guidelines for groundwater quality, and the associated implementation approach, set out in Policies 75 and 76.

(b) To encourage discharges of contaminants onto or into land where these are likely to have less adverse effect than discharges into water.

... ...

(d) To prevent or minimise spills or other breaches of resource consent conditions causing contamination of groundwater, particularly in those areas of high contamination vulnerability for the Heretaunga Plains aquifer system as shown in the DRASTIC map in Schedule V, by requiring the preparation and implementation of site management plans and spill contingency measures for relevant activities.

(e) To disallow any discharge activity which presents a significant risk of groundwater contamination in those areas of high contamination vulnerability for the Heretaunga Plains aquifer system as shown in the DRASTIC map in Schedule V.

OBJ 32 The ongoing operation, maintenance and development of physical infrastructure that supports the economic, social and/or cultural wellbeing of the region's people and communities and provides for their health and safety

3.9 The Hawke's Bay Regional Resource Management Plan

Chapter 3 of the RRMP outlines regionally significant issues, objectives and policies. Those that are considered to relate to these Notices for Requirement are listed below.

Effects of conflicting land use activities:

OBJ 16: For future activities, the avoidance or mitigation of nuisance effects arising from the location of conflicting land use activities.

This objective relates more specifically to the Plan Change itself than the designations which are considered to be a consequential change. As determined in the assessment of effects in section 6 of this report, any nuisance effects can be avoided or mitigated.

Land

OBJ 38: The sustainable management of the land resource so as to avoid compromising future use and water quality.

There is a demand for industrial land within the Hastings District. Prior to the development of Proposed Plan Change 57 an assessment of suitable locations in which to provide for that industrial demand was undertaken. It is considered that a planned development that has assessed the wider options to meet industrial demand is a suitable method to ensure the land resource is managed sustainably while providing for Industrial growth. The proposed Notices of Requirement are ancillary to the wider Plan Change. As part of the Plan Change proposal consideration has been given to the most efficient and effective methods of providing for the industrial growth. This process has identified the need for the Notices of Requirement for infrastructure, stormwater infiltration and road widening.

Groundwater Quality

OBJ 42 No degradation of existing groundwater quality in aquifers in the Heretaunga Plains and Ruataniwha Plains aquifer systems.

OBJ 43 The maintenance or enhancement of groundwater quality in unconfined or semi-confined productive aquifers in order that it is suitable for human consumption and irrigation without treatment, or after treatment where this is necessary because of the natural water quality.

POL 75 To manage the effects of activities affecting the quality of groundwater in accordance with the environmental guidelines set out in Table 10.

Table 10. Environmental Guidelines – Groundwater Quality

CONFINED, PRODUCTIVE AQUIFERS IN THE HERETAUNGA PLAINS AND RUATANIWHA PLAINS AQUIFER SYSTEMS (as shown in Schedule IV)	
1. No degradation	There should be no degradation of existing water quality.
OTHER PRODUCTIVE AQUIFERS	
1. Human consumption	The quality of groundwater should meet the "Drinking Water Quality Standards for New Zealand" (Ministry of Health, 1995) without treatment, or after treatment where this is necessary because of the natural water quality.
2. Irrigation	The quality of groundwater should meet the guidelines for irrigation water contained in the "Australian Water Quality Guidelines for Fresh and Marine Waters" (Australian and New Zealand Environment and Conservation Council, 1998) without treatment, or after filtration where this is necessary because of the natural water quality.

Designations are sought for the reticulated stormwater network which is proposed to service the new Omahu North Industrial Area. This is to discharge that stormwater to the ground via infiltration. The potential effects of the proposed stormwater discharge have been assessed in detail within the Council's resource consent application (HBRC Reference: DP120072L and DP120073W). The Council recognised that the urbanisation of the Omahu Road Strip would result in a change in the nature of the stormwater generated both in terms of quality and quantity. It however concluded:

- In terms of quantity that any effects on the Raupare Stream are anticipated to be minor (or indeed positive in most frequent events) and that any effects on the aquifer system downstream of this development are considered to be minor; and
- In terms of quality that the water quality in both the receiving aquifer system and the Raupare catchment will not be adversely affected.

This application is currently being considered by the HBRC. The conditions imposed on that consent will ensure that the water quality objectives of the RRMP will be met.

3.10 Hastings District Plan

The Hastings District Plan („the District Plan") manages the effects of the use, development and protection of the natural and physical resources of the Hastings District.

The Heretaunga Plains Unconfined Aquifer Resource Management Unit

The District Plan recognises the importance of the Heretaunga Plains Unconfined Aquifer to the sustainable management of the Heretaunga Plains through the inclusion of the following objective:

AQO1 To ensure that the life supporting capacity of the Heretaunga Plains Unconfined Aquifer Water Resource is not compromised by the effects of land use activities occurring above it.

The Heretaunga Plains Unconfined Aquifer Resource Management Unit was established to support the achievement of this objective. The extent of the Resource Management Unit, in relation to the proposed new zone, is shown on ***Figure 10*** below.

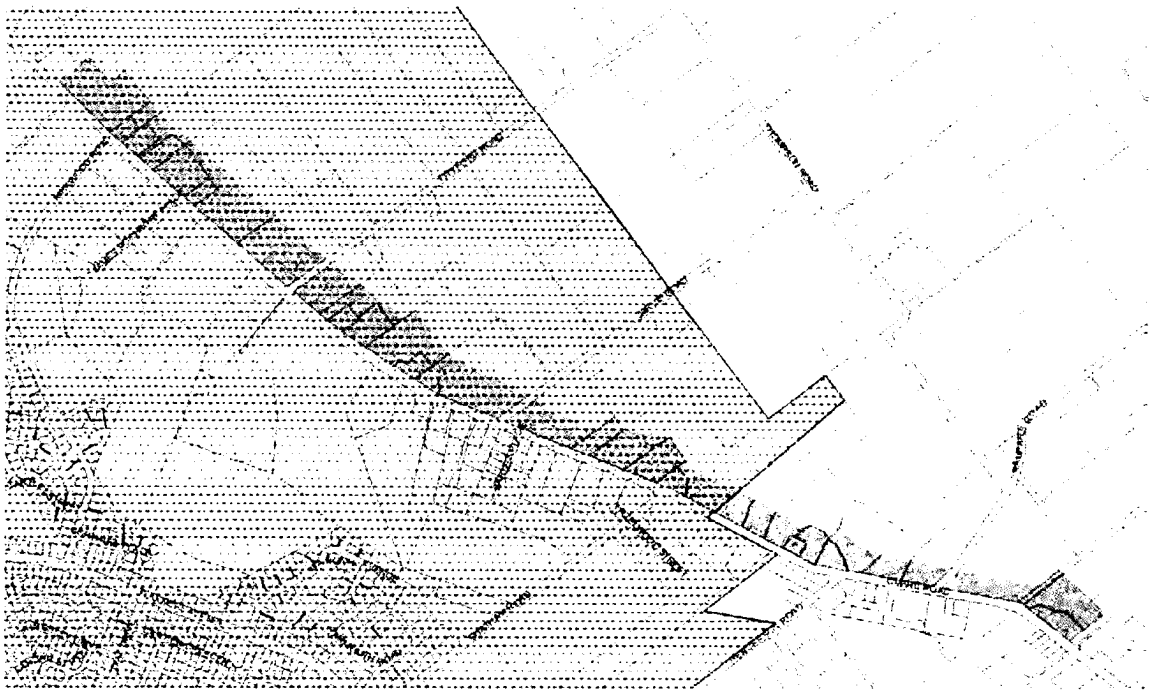

Figure 10 - Heretaunga Plains Unconfined Aquifer

Industrial Zones

Under the District Plan, the area affected by proposed Plan Change 57 is located within the Plains Zone. However, the Notices of Requirement and Proposed Plan Change 57 are to be heard simultaneously. The Notices for Requirement are only needed if the Proposed Industrial Plan Change proceeds, so it is relevant to consider the proposed Industrial 2(Omahu North) zoning when considering these Notices for Requirement.

With the exception of the new provisions for the proposed Irongate Industrial area, the majority of the Industrial Section of the District Plan was prepared in advance of the investigations undertaken for the preparation of the Council's 2003 Industrial Strategy. Some of the general observations made regarding the nature of industry in the district are hence considered somewhat dated.

The objectives and policies that are most pertinent to this application are:

IZO2 To ensure that adverse effects of industrial use, development or subdivision are avoided, remedied or mitigated.

IZO5 To enable the efficient and effective use of the District's resources by providing for the development of new industries.

IZP7 Protect the vital water resource contained in the unconfined aquifer from contamination risks from industrial uses and development.

3.11 Other Relevant Documents

3.11.1 The 2003 Industrial Strategy

The 2003 Industrial Strategy, and the subsequent Council decisions and directions on its implementation formalised in the 2009 LTCCP resolution, can be summarised as follows:

Industrial development to be progressed within ten years:

	The 2003 Strategy	*Subsequent Direction*
Omahu Road	*39ha*	*Stage 1 – 13ha*
Irongate	*11ha*	*Stage 1 – Up to 68ha*
Tomoana / Whakatu	*38ha*	*Nil*
Total	*88*	*81*

Irongate stage 1 is to be advanced in priority to Omahu Road stage 1.

Industrial development to be progressed beyond the ten year period:

	The 2003 Strategy	*Subsequent Direction*
Omahu Road	*Nil*	*Stage 2 - 16ha*
Irongate	*26ha*	*Stage 2 - Up to 42ha*
Tomoana / Whakatu	*60ha*	*25ha*
Total	*86ha*	*83ha*

3.11.2 2012 – 2022 Long Term Plan

The Long Term Plan (LTP) sets the Council's 10 year strategic direction. The following strategic objectives are of particular relevance to this project:

Moving Around
- *People move around safely*
- *Efficient movement of goods*

Our Economy
- *Responsive Council Services*

The financial strategy within this plan seeks to facilitate growth within the district. More specifically it seeks to respond to demand for new commercial, industrial and residential growth through the provision of funding for serviced land. "Major Industrial developments planned for the next 10 years include: Irongate and Omahu Road Industrial developments with further work to be completed in the Whakatu industrial area". The development of stage 1 of the Omahu North Industrial Area is in this respect identified as a major capital project to be completed in the next 10 years (programmed for 2014-2016).

Heretaunga Plains Urban Development Strategy

In August 2010 the Hastings District Council, Hawke's Bay Regional Council and Napier City Council adopted the Heretaunga Plains Urban Development Strategy ("HPUDS"). This strategy is intended to provide the strategic direction for the future urban development of the Plains area surrounding Napier and Hastings from 2015 until 2045. It promotes a compact settlement pattern as the preferred development scenario. The settlement pattern / provision of land proposed for industrial activities within HPUDS reflect the current industrial strategies for Napier and Hastings. The table below indicates the industrial areas, their capacity, timing and potential activities.

Business Land Staging 2010-2045

Location	Capacity (ha)		Timing	Potential Activities
Napier Business Park – north of Prebensen Drive and west of the Hawke's Bay Expressway		30	2009 - 2019	Technology

Napier – Redevelopment of existing sites and Awatoto area		36	2009-2029	Service Industry
Irongate Stage 1[1]	36		2010 -	Dry Industry
Omahu Road Stage 1[1]	13		2015 -	Service Industry
Irongate Stage 2		42	After Irongate 1	Dry Industry
Omahu Road Stage 2		16	After Omahu 1	Service Industry
Tomoana / Whakatu		60	After Whakatu full	Wet Industry
Total[2]		184 ha		

[1] *Zoned and available prior to 2015 Strategy commencement period*

3.12 Summary

In summary, the evaluation of the relevant statutory planning documents demonstrates that the proposed designations are consistent with the relevant objectives and policies of these documents. In particular, the proposed infrastructure will enable safe, efficient, and cost-effective servicing of the locally significant industrial area proposed in Plan Change 57.

4 Alternatives and Necessity

When considering an application for a Notice of Requirement and any submissions received a territorial authority must consider whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work if the requiring authority does not have an interest in the land sufficient for undertaking the work.

The territorial authority is also required to give consideration to whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought.

This assessment has been broken down into two sections based on the three notices of requirement.

4.1 Roundabout

The Traffic Impact Assessment undertaken for Plan Change 57 identified that a number of road improvements be required in order to avoid adverse traffic effects as a result of the proposed Omahu North Industrial Area. One of these improvements was a roundabout at the intersection of Henderson Road and Omahu Road.

Additional information was sought from the Council's Roading Engineer Aaron Campion in order to consider what might occur if a roundabout were not installed and hence whether there is a need for a roundabout. He advises the following in respect to this intersection:

—. ... whilst existing efficiency levels are considered acceptable, the intersection is experiencing a poor safety performance.

As a result of the proposed development and to a lesser degree general network growth, the level of service for efficiency and safety is predicted to deteriorate further should the intersection remain as a T configuration operating under give way controls.

... ...

In summary, significant delay will be incurred for vehicles attempting to exit from Henderson Road out on to Omahu Road. This is brought about by an increase in through flow movement on Omahu Road and an increase in vehicles entering into Henderson Road from Omahu".

Mr Campion further advises that:

~~It~~ is identified that should the installation of a roundabout be progressed, a more balanced flow arrangement will be introduced returning a higher level of priority to the Henderson Road leg and generally decreasing the level of delay being experienced.

Following the installation of the roundabout, it is anticipated that the intersection will again continue to perform at Level of Service C and above.

Furthermore the roundabout will increase the safety performance at this location by

- *The control of entry speeds through the roundabout on all legs*
- *Elimination of high angles of conflict*
- *Simplicity of decision making*
- *Reduced delay and frustration resulting in driver error"*

It is possible that traffic lights could be utilised to avoid the anticipated adverse safety effects at this intersection. The introduction of lights at this intersection is however likely to interfere with the flow of traffic and cause delays and inefficiencies on this regional arterial route.

4.2 Infrastructure Corridor and Infiltration Areas

Stormwater Infrastructure
The proposed infrastructure corridor and infiltration area designations are required to establish the reticulated stormwater network which is to collect and discharge stormwater generated within the Omahu North Industrial Area proposed to be established by way of proposed Plan Change 57.

A wide range of options for the disposal of stormwater from this area were considered by the Council between 2004 and 2008. At the completion of that work, a discharge into the Upper Southland Catchment was identified as the preferred option. This was primarily to avoid the flooding and water quality concerns about the Raupare catchment previously identified in the consideration of the options for the Lyndhurst residential development. However, following detailed analysis it became apparent that there were considerable practical difficulties with the depth of trenching required to proceed with that option. A decision was made in 2008 to reconsider the issues and options available.

Stormwater Issues and Options Report

A Stormwater Issues and Options Report was then prepared by MWH on the Council's behalf. This identified and assessed the following seven options:

Southland Drain Options:

1. Direct flows to the Upper Southland Drain with detention pond
2. Direct flows to Omahu South infiltration basin
3. Direct flows from zone rear to Upper Southland with detention pond
4. Direct flows from zone rear to Omahu South infiltration basin

Raupare Catchment Options:

5. Direct to infiltration basins alongside zone
6. Detention and slow release to Raupare Catchment
7. Direct to Thompson Road infiltration basin

A summary of the assessment of these options is provided in Appendix 4 of the Council's Resource Consent application (attached as ***Appendix 3***) . Options 1 and 2 were not considered technically feasible whilst Options 3 and 4 were considered so costly that their viability was compromised. All three of the Raupare Catchment Options (Options 5, 6 and 7) were considered to be simpler from a technical / network perspective. Issues and / or uncertainty were however identified with all of these

options as a result of the relative sensitivity of the Heretaunga Plains Unconfined Aquifer and the Raupare Catchment (in terms of quality) and the flooding issues within the Raupare Catchment that became apparent with the early Lyndhurst residential development stormwater proposals.

At this stage it was clear that the Raupare Options were the only ones which remained feasible.

Infiltration vs. a discharge to the Raupare Catchment

The Council considered those factors that would be paramount in determining which of the Raupare Options should be pursued. In doing so it undertook a detailed analysis of the on-site treatment, attenuation and discharge options available. A key component of this work was an analysis of the extent of quality treatment and quantity attenuation that could be achieved on-site by way of readily available „off the shelf" commercial systems.

Consideration was also given to the costs of implementing these systems (both in monetary terms and in terms of the use of the land) in comparison with a communal system. Amongst other things this assessment indicated that such on-site systems could achieve levels of treatment that would be „at least as good as residential". As such it was considered that a discharge to the ground from a Council system remained feasible. Accordingly, more detailed consideration was given to these options - refer to Table 2 for a summary of this assessment.

The preferred option was identified as one based upon infiltration to ground at locations adjacent to the zone.

Water and Wastewater Infrastructure

A range of options were considered for the supply of water for and the disposal of wastewater from the Omahu North Industrial Area. The preferred option, and that proposed to be implemented has this infrastructure located within the existing Omahu Road road reserve. This option provides a Level of Service appropriate to the proposed zone. It is however possible that the development of some sights may benefit from the location of these services within the proposed infrastructure corridor. Should a landowner wish to pursue this option, be prepared to fund it, and be able to demonstrate that the operation of the reticulated stormwater network will not be reduced, then this option may be appropriate.

5 Actual and Potential Effects on the Environment

When considering effects on the environment it is legitimate to consider the current state of the environment. The environment is formed by the existing environment that is physically present, but it is also legitimate to consider the environment that could be formed through permitted activities. As the designations will not proceed without the proposed Industrial zone proceeding it is considered valid to assess the designations against an environment that allows for industrial activities as a permitted activity, as this is the environment that will exist once the industrial plan change is operative and the deferment has been lifted.

5.1 Roundabout

5.1.1 Overall Positive Effects

The proposed designation will assist in enabling the Hastings Community to provide for their social, cultural and economic wellbeing by providing a quality safe road and service network with which to access the proposed new Industrial zone. This will provide for the economic well being of the area by assisting to facilitate industrial growth in the district, easing the potential for congestion and providing a more reliable and safer route from the area to other transport nodes and markets.

5.1.2 Construction Effects

Noise

Construction noise is exempt from normal District Plan requirements but must comply with NZS 6803:1984 "Measurement and Assessment of Noise from Construction, Maintenance and Demolition Work". The noise from construction may however have adverse effects on the activities within the vicinity. Construction activities will be managed to minimise effects of surrounding owners and occupiers through compliance with NZS 6803:1984 "Measurement and Assessment of Noise from Construction, Maintenance and Demolition Work". Given, the short duration of the construction works, these effects are considered to be minor.

Dust

Unmanaged dust may be an irritant to occupiers of adjacent properties. The effects are dependant on climatic conditions such as wind speed and direction and the dryness of the soils. During the construction phase a number of sources of dust will be generated from construction activities as a result of exposed soil surfaces during the earthworks.

During construction, appropriate dust control measures will be put in place though best practice construction management processes. All excavated surfaces will be carefully managed by applying water where required during excavation to minimise dust. Following completion of the works any exposed soil will be stabilised to mitigate the effects of dust and runoff.

Traffic

Omahu Road is a regional arterial road with a 50kph speed limit in the vicinity of the proposed roundabouts.

The construction phase will involve transport of materials and equipment onto the site and will involve intensive periods of vehicle movements during normal working hours. Temporary minor traffic disruption or delays during the construction period will be caused by works on or near the road. Construction effects on traffic flow will be short duration and will be managed to minimise any delays to motorists.

5.1.3 Traffic (Post-construction)

The estimated annual average daily traffic flows of 12,300 vehicles are experienced on this section of Omahu Road. The principal effect of the works on the traffic environment will be positive as it will lead to a safer more efficient intersection layout with improved visibility.

5.1.4 Landscape, Visual and Amenity Effects

The Hastings District Plan identifies both the outstanding natural features and significant landscapes within the District. This area is not identified as forming part of any of these.

The amenity values are predominantly determined by the visual qualities of the area and the nature of the noise, odour and general activity occur that occurs within it. The current amenity of this area is mixed. It is dominated by its rural character, the activity occurring within the adjacent Omahu industrial area and the traffic traversing Omahu Road. However, as the uptake of the vacant industrial land on the southern side of Omahu Road increases and as the proposed Omahu North Industrial area establishes the influence of the traffic utilising Omahu Road may also increase.

The proposed work is a roundabout at the intersection of Omahu Road and Henderson Road.

To assess the impact of the proposed roundabout on the area consideration needs to be given to the impact of establishment of the new industrial area on the northern side of Omahu Road. This will alter the natural and physical characteristics of the area that contribute to people"s appreciation of its pleasantness, aesthetic coherence and cultural and recreational attributes. The presence of industrial activities on both sides of Omahu Road is likely to result in people"s perception of the change from that of a mixed „urban fringe" area to that of an industrial area. . It is the activities enabled by the Plan

Change which in time are likely to change the physical qualities and characteristics of the area and thereby its character rather than the proposed roundabout.

The proposed roundabout is to be of a character consistent with both the existing recently upgraded road corridor and the works (car parking, cycle, pedestrian and berm areas) proposed to be installed on the northern side of the road. Roundabouts have been consistently used to manage safety and level of service at the major intersections along the length of the Omahu Road corridor and the proposed new roundabout is to be of a similar design to the existing ones. This change to the road layout is considered to be in keeping with the industrial area within which it is to be located.

The introduction of a roundabout will change the traffic patterns in the immediate vicinity as traffic travelling along Omahu Road must slow to negotiate it, where they currently proceed straight past. There is the potential for noise effects from traffic slowing and then accelerating away from the area, and for a general change in the activity in the area. The effects of this are likely to be minor when considered in association with the wider effects of the new industrial area.

5.1.5 Cultural

Early consultation undertaken with local and wider marae, the Maori Advisory Standing Committee and the Hastings District Council Maori Joint Committee did not result in any substantial issues being raised in relation to the proposed new industrial area. The site contains no sites identified as being of significance to Tangata Whenua. The desktop archaeological assessment undertaken for the proposed industrial area did not identify any archaeological sites. The potential for effects on sites of cultural or historic significance is considered to be low. No specific mitigation measures are hence proposed. However, a Section 12 Authority from the Historic Places Trust will be sought if an incidental discovery is made during the constructions works.

5.1.6 Ecology

The site of the proposed designations contains highly modified vegetation which offers little habitat value. The site is not within any of the RAP areas. No noticeable effects are anticipated from the proposed works on the ecological values of the area.

5.2 Infrastructure Corridor and Stormwater Infiltration Areas

5.2.1 Overall Positive Effects

The proposed designations will assist in enabling the Hastings Community to provide for their social, cultural and economic well being by providing for reticulated stormwater system for land within the proposed industrial zone. This will provide for the economic wellbeing of the area by assisting to facilitate industrial growth in the district.

5.2.2 Construction Effects

Noise
There will be noise generated from construction of the stormwater swales and infiltration areas, including construction traffic and earthworks. The noise from construction is likely to have minor potential effects on the residences within the immediate vicinity of the proposed works. The construction activities will be temporary in nature and will be managed to minimise effects of surrounding owners and occupiers through compliance with NZS 6803:1984 "Measurement and Assessment of Noise from Construction, Maintenance and Demolition Work".

Dust
The earthworks associated with the construction of the proposed swales and basins have the potential to generate dust, which may affect the surrounding environment. The construction phase will however be temporary in nature. Appropriate dust control measures will be put in place though best practice construction management processes. All excavated surfaces will be carefully managed

by applying water where required during excavation to minimise dust. Following completion of the works any exposed soil will be stabilised to mitigate the effects of dust.

5.2.3 Landscape, Visual and Amenity Effects

The Hastings District Plan identifies both the outstanding natural features and significant landscapes within the District. This area is not identified as forming part of any of these.

The amenity values are predominantly determined by the visual qualities of the area and the nature of the noise, odour and general activity occur that occurs within it. The current amenity of this area is mixed. It is dominated by both its rural character, the activity occurring within the adjacent Omahu industrial area and the traffic traversing Omahu Road. Should Plan Change 57 become operative the amenity values of the area will also be strongly influenced by the industrial activities within the proposed Omahu North Industrial area.

The proposed works are to consist of swales (shallow drains) and basins and potentially piped water and wastewater infrastructure. Except in and following rainfall event, the swales and drains will be dry. These grassed areas will not be out of keeping with the character of the surrounding area which, once the zone is established will be a highly modified environment on the urban – rural boundary.

Once the construction of the proposed works is complete, the only activity likely within the area will be periodic maintenance. The long term effects on amenity of this area are hence anticipated to be limited in nature. Construction effects have been assessed in section 5.2, these are to be mitigated by compliance with the New Zealand Standard for Noise and the use of best practice management protocols.

5.2.4 Cultural

Early consultation undertaken with local and wider marae, the Maori Advisory Standing Committee and the Hastings District Council Maori Joint Committee did not result in any substantial issues being raised in relation to the proposed new industrial area. The site contains no sites identified as being of significance to Tangata Whenua. The desktop archaeological assessment undertaken for the proposed industrial area did not identify any archaeological sites. The potential for effects on sites of cultural or historic significance is considered to be low. No specific mitigation measures are hence proposed. However, a Section 12 Authority from the Historic Places Trust will be sought if an incidental discovery is made during the constructions works.

5.2.5 Water Quality

The establishment of a new industrial zone creates the potential for adverse effects on water quality if stormwater discharges are not appropriately managed. The proposed swales and infiltration basins for which this NoR has been issued form part of a integrated stormwater management regime proposed for the Omahu North Industrial Area. This includes on-site infrastructure and practices in addition to the proposed swales and infiltration areas. The potential effects of the discharge of stormwater from the proposed swales and infiltration areas have been assessed in detail in the attached resource consent application. The Council's conclusion was that the water quality within both the receiving aquifers systems and downstream water bodies will be maintained. The proposed discharges will be subject to conditions imposed by the HBRC. These are anticipated to be sufficient to ensure that any adverse effects will be appropriately avoided.

5.2.6 Ecology

The site of the proposed designations contains highly modified vegetation which offers little habitat value. The site is not within any of the RAP areas. No noticeable effects are anticipated from the proposed works on the ecological values of the area.

5.2.7 Natural Hazards

A review has been undertaken of the Councils records regarding natural hazards to determine whether the susceptibility of this site to natural hazards and hence the potential that the establishment of the proposed stormwater infrastructure has the potential to create any adverse effects on the environment. A summary of this is attached as ***Appendix 4***.

Whilst the site is not identified within any area identified as being at risk of flooding, the establishment of a new industrial area with the consequential increase in sealed areas will concentrate the overland flows (stormwater) from the area. This generates the potential for downstream flooding. These effects have been assessed in detail in the attached resource consent application. The conclusion was that with the mitigation measures proposed these effects will be satisfactorily avoided. Conditions are anticipated to be imposed on this consent, when it is granted, that will ensure this is the case. Adverse flooding effects are hence not anticipated as a result of the proposed stormwater works.

The site is located in an area identified as having a moderate liquefaction susceptibility. Advice was sought from MWH consultants as to whether the establishment of the proposed stormwater infrastructure created any risks associated with liquefaction that should be further investigated. Their advice was *We do not consider a 0.6m deep swale warrants attention with regard to lateral spreading and liquefaction due to strong shaking, unless the following conditions are all present:*

- *High groundwater level i.e. within 1 m of surface – (area 1 only)*
- *Buildings or utilities are immediately next to the swale i.e. within a few metres – (not likely)*
- *The undercut channel carries water permanently (does not))*
- *The channel is cut into or just above liquefiable deposits (uncertain)*

As all the required conditions for significant liquefaction or lateral spreading are not present, it is considered that there is not a significant risk for the shallow swale from either liquefaction or lateral spreading".

6 Consultation

Ongoing consultation has been undertaken with respect to the development of the proposed Omahu North industrial area and the associated infrastructure. A summary of this consultation is attached in ***Appendix 5***.

7 Conclusion

Notices of Requirement have been issued for the following designations:

1. A designation for **road purposes** to establish a roundabout at the Henderson Road / Omahu Road intersection
2. A designation for an **infrastructure corridor** to establish a reticulated stormwater network. Piped water and wastewater infrastructure may also be established within this corridor should these be required at some time in the future.
3. A designation for **three stormwater infiltration areas** for the new Omahu Road North Industrial Area proposed in Plan Change 57

These designations cover those parts of the physical infrastructure necessary to service the proposed new Omahu North Industrial Area that are located on land that is not currently owned by the Council.

Given the need for the designations (should Proposed Plan Change 57 proceed); the limited potential for adverse effects; and the consistency of the proposal with the relevant planning documents, it is considered that the proposed designations satisfy Section 168A(3) of the RMA 1991. The Notices of

Requirement sought can therefore be confirmed without amendment pursuant to Section 168A(4)(a) of the Act.

Appendix 1 Designation Plans and Land Areas

Designation Type	Address	Legal Description & CT	Area (m^2)	Plan Ref
Infrastructure Corridor	1137 Omahu Road	LOT 2 DP 23611 BLK XV HERETAUNGA SD SUBJ TO INT IN EASEMENTS OVER ASST 20801, HBP4/1391	379	1
Infrastructure Corridor	Ormond Road	Lot 1 DP 441123, 541123	566	1
Infrastructure Corridor	1139 Omahu Road	LOT 2 DP15736 BLK XV HERETAUNGA SD, HBH3/7	106	2 & 3
Infiltration Area	Omahu Road	LOT 1 DP11542 BLK XV HERETAUNGA SD, HBC1/760	9077	2
Infrastructure Corridor	Omahu Road	LOT 1 DP11542 BLK XV HERETAUNGA SD, HBC1/760	2006	2
Infrastructure Corridor	7 Raupare Road	LOT 1 DP22262 BLK XV HERETAUNGA SD, HBP1/1175	792	3
Infrastructure Corridor	15 Raupare Road	LOT 2 DP22262 BLK XV HERETAUNGA SD, HBP1/1176	539	3
Infrastructure Corridor	1189 Omahu Road	LOT 3 DP22884, LOT 2 DP342661, 175182	1210	4
Infrastructure Corridor	1199 Omahu Road	LOT 1 DP392031, 369147	260	4
Road	1189 Omahu Road	LOT 3 DP22884, LOT 2 DP342661, 175182	435	4
Infrastructure Corridor	1215 Omahu Road	LOT 2 DP22884 BLK XV HERETAUNGA SD, HBP3/617	1276	4
Infrastructure Corridor	1219 Omahu Road	LOT 2 DP377104, LOT 2 DP400858, LOT 2 DP329917, 401623	496	5
Infrastructure Corridor	Omahu Road	LOT 2 DP8336, HB134/211	341	5
Infiltration Area	1241 Omahu Road	LOT 3 DP27351 SUBJ TO & INT IN EASEMENTS, HBW3/1071	6287	6
Infrastructure Corridor	1241 Omahu Road	LOT 3 DP27351 SUBJ TO & INT IN EASEMENTS, HBW3/1071	2752	6
Infrastructure Corridor	Jarvis Road	LOT 2 DP419221, 478421	351	7
Infrastructure Corridor	18 Jarvis Road	LOT 2 DP402958, 409725	1622	7
Infrastructure Corridor	1309 Omahu Road	LOT 2 DP24260 BLKS XIV XV HERETAUNGA SD, HBV2/377	1993	8
Infiltration Area	1337 Omahu Road	PT LOT 1 DP4953 BLK X1V HERETAUNGA SD, HB142/105	12919	9
Infrastructure Corridor	1337 Omahu Road	PT LOT 1 DP4953 BLK X1V HERETAUNGA SD, HB142/105	1318	9
Infiltration Area	55 Twyford Road	LOT 2 DP 425145, LOT 1 DP 418851, 499262	8178	9
Infrastructure Corridor	55 Twyford Road	LOT 2 DP 425145, LOT 1 DP 418851, 499262	1884	9 & 10
Infrastructure Corridor	4 Twyford Road	LOT 1 DP2767 BLK XIV HERETAUNGA SD, HB58/91	653	10
Infrastructure Corridor	1 Twyford Road	LOT 3 DP416250, LOT 1 DP 2209 BLK XIV HERETAUNGA SD, HB58/149 and 462993	1240	11
Infrastructure Corridor	1393 Omahu Road	LOT 2 DP416250, 532871	896	12 & 13
Infrastructure Corridor	1447 Omahu Road	LOT 4 DP27873 HOME BLOCK, 529729	1395	13

HASTINGS DISTRICT COUNCIL

Map Produced using ArcMap

Designation Plan 1

Scale 1:1,500

Projection: NZTM
Datum: D_NZGD_2000

10 5 0 10 20 30 40 Meters

Date: Monday, 17 September 2012

Original Size: A4

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Designation

HASTINGS DISTRICT COUNCIL

Map Produced using ArcMap

Designation Plan 2

Scale 1:1,500

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Designation

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Designation Plan 4

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Projection: NZTM
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Designation

HASTINGS DISTRICT COUNCIL

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Designation Plan 5

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Datum: D_NZGD_2000

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Designation

HASTINGS DISTRICT COUNCIL

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Designation Plan 6

Scale 1:1,500

Projection: NZTM
Datum: D_NZGD_2000

10 5 0 10 20 30 40 Meters

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Designation

HASTINGS DISTRICT COUNCIL

Map Produced using ArcMap

Designation Plan 7

Scale 1:1,500

Projection: NZTM
Datum: D_NZGD_2000

10 5 0 10 20 30 40
Meters

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Designation

HASTINGS DISTRICT COUNCIL

Map Produced using ArcMap

Designation Plan 8

Scale 1:1,500

Projection: NZTM
Datum: D_NZGD_2000

10 5 0 10 20 30 40 Meters

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Designation

HASTINGS DISTRICT COUNCIL

Map Produced using ArcMap

Designation Plan 9

Scale 1:1,500

Projection: NZTM
Datum: D_NZGD_2000

10 5 0 10 20 30 40 Meters

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tracey4

Designation

HASTINGS DISTRICT COUNCIL

Map Produced using ArcMap

Designation Plan 10

Scale 1:1,500

Projection: NZTM
Datum: D_NZGD_2000

10 5 0 10 20 30 40 Meters

Date: Monday, 17 September 2012

Original Size: A4

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Designation

HASTINGS DISTRICT COUNCIL

Map Produced using ArcMap

Designation Plan 11

Scale 1:1,500

Projection: NZTM
Datum: D_NZGD_2000

10 5 0 10 20 30 40 Meters

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Designation

HASTINGS DISTRICT COUNCIL

Map Produced using ArcMap

Designation Plan 12

Scale 1:1,500

Projection: NZTM
Datum: D_NZGD_2000

10 5 0 10 20 30 40
Meters

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Designation

HASTINGS DISTRICT COUNCIL

Map Produced using ArcMap

Designation Plan 13

Scale 1:1,500

Projection: NZTM
Datum: D_NZGD_2000

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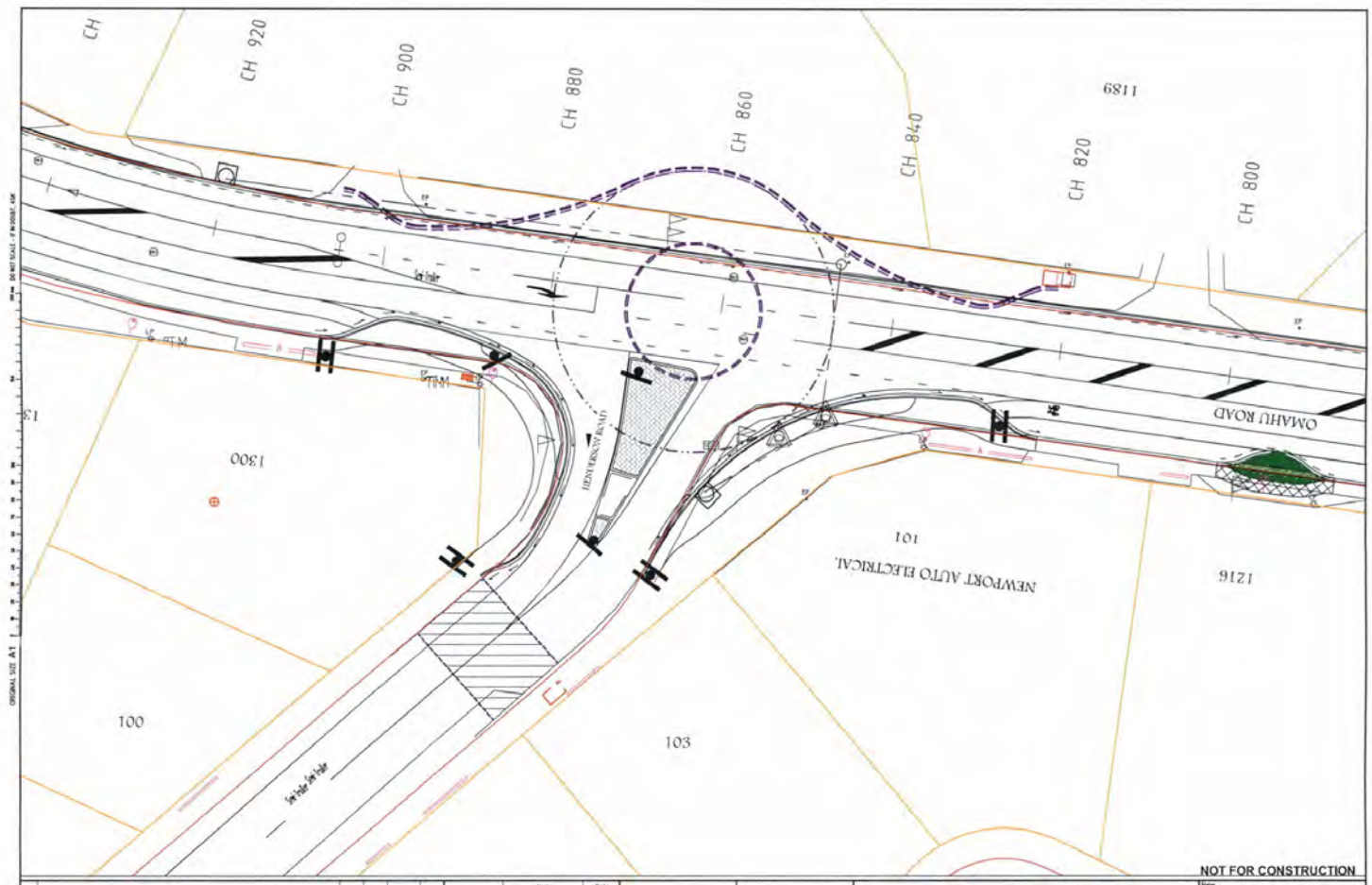
Designation

Appendix 2 Plan of the Proposed Roundabout



NOT FOR CONSTRUCTION

	Name	Date
SURVEYED		
DESIGNED		
DESIGN CHECK		
DRAWN		
DRAWING CHECK		
APPROVED		

MWH

HASTINGS DISTRICT COUNCIL

WORKING PLOT

SCALES (A1)

A

Appendix 3 Application for Resource Consent to Discharge Stormwater

PART ONE: APPLICATION FORM

Application for Resource Consent under Section 88 of the Resource Management Act 1991

To: Hawke's Bay Regional Council
Private Bag 6006
NAPIER 4140

The **Hastings District Council**, Private Bag 9002, Hastings, hereby applies for the resource consent described below.

---

1. Name and address of the owner and occupier (other than the applicant) of any land to which this application relates are as follows:

Please refer to the attached schedule for a complete list of the owners and known occupiers of the land to which this application relates.

2. The location to which this application relates is:

All those properties fronting the northern side of Omahu Road between the western end of the existing industrial zone (as defined in the Operative Hastings District Plan) and 1447 Omahu Road, Hastings.

Please refer to the attached schedule for a complete list of the properties to which this application relates.

3. The type of consents applied for are:

- A Discharge Permit for the discharge of stormwater to land in circumstances which may result in a contaminant entering water; and
- A Discharge Permit for the discharge of stormwater into water.

4. Duration of consent sought:

35 years.

5. Description of the activity to which this application relates:

Resource consents are sought for the discharge of stormwater from a new Hastings District Council swale and infiltration basin network.

The network is to service a proposed new 36ha Industrial Zone on the northern side of Omahu Road, Hastings. In events of up to a ten year ARI the stormwater entering the network is to be restricted to that generated from yard surfaces. In storms of a greater Annual Return Interval (ARI) stormwater from the roofs of buildings may also enter the network.

The primary points of discharge from the network will be three proposed infiltration basins.

The activity is described fully in Part 2 of this document.

6. Any other resource consents required in relation to this proposal:

- Discharge stormwater to land in circumstances which may result in a contaminant entering water

  The discharge of roofwater from on-site systems within the proposed zone does not form part of this application. These discharges are anticipated to comply with the standards in Rule 42 of the RRMP. Separate resource consents for discharges failing to comply with the applicable standards will need to be sought and obtained by the owner/occupier concerned.

- Water Take

  Hastings District Council holds a water permit for the Hastings metropolitan water supply. The maximum extraction rates allowed within that permit may not be sufficient to supply the proposed zone once it is fully developed. A separate application will be made by Hastings District Council in advance of any additional water being required.

7. Additional information included in the application:

The attached Assessment of Effects on the Environment contains all the information required to accompany resource consent applications as specified in the Hawke's Bay Regional Resource Management Plan.

Authorised and Signed on behalf of Hastings District Council

19/4/2012

Date

Address for Service:
Hastings District Council
Private Bag 9002
Hastings 4156

Attention: Tracey Gray

Email: traceyg@hdc.govt.nz
Telephone: 06 871 5000
Fax: 06 871 5100

Schedule of properties and land owners to which this application relates

Property	Address	Legal Description & CT	Owner	Occupier / Contact	Property contains
1	1137 Omahu Road	LOT 2 DP 23611 BLK XV HERETAUNGA SD SUBJ TO INT IN EASEMENTS OVER ASST 20801, HBP4/1391	CJ Pask PO Box 849 HASTINGS 4156		A stormwater connection/easement
2	Ormond Road	Lot 1 DP 441123, 541123	Kelston Orchards Limited C/O 1524 Pakowhai Road RD 2 Hastings 4172		A stormwater swale
3	1139 Omahu Road	LOT 2 DP15736 BLK XV HERETAUNGA SD, HBH3/7	JM Bostock Limited PO Box 2438 Stortford Lodge HASTINGS 4153		A stormwater swale / culvert
4	Omahu Road	LOT 1 DP11542 BLK XV HERETAUNGA SD, HBC1/760	N P Vesty 413 Wilson Road HASTINGS 4120		A stormwater swale, an infiltration basin and potentially an overland flow path
5	7 Raupare Road	LOT 1 DP22262 BLK XV HERETAUNGA SD, HBP1/1175	ST Sherratt & ER Sherratt 7 Raupare Road RD5 HASTINGS 4120		A stormwater swale
6	15 Raupare Road	LOT 2 DP 22262 BLK XV HERETAUNGA SD, HBP1/1176	J P Flynn & GJ Flynn PO Box 246 HASTINGS 4156	Raupare Gardens 1179 Omahu Road HASTINGS 4175	A stormwater swale
7	1189 Omahu Road	LOT 3 DP22884, LOT 2 DP342661, 175182	JA Barley & LP Curd & 2 others C/O Sainsbury Logan & Williams Attn: Stephen Greer		A stormwater swale and a stormwater connection/easement

Property	Address	Legal Description & CT	Owner	Occupier / Contact	Property contains
			PO Box 41 NAPIER 4140		
8	1215 Omahu Road	LOT 2 DP22884 BLK XV HERETAUNGA SD, HBP3/617	Rimu Hastings Limited C/O Mr K Bayley 16 Nicholl Road RD5 HASTINGS 4175	Kiwispan Hawke's Bay PO Box 2550 Hastings 4153	A stormwater swale
9	1219 Omahu Road	LOT 2 DP377104, LOT 2 DP400858, LOT 2 DP329917, 401623	Totara Holdings Limited C/O KA & KJ Bayley 16 Nicholl Road RD5 HASTINGS 4175		A stormwater swale
10	Omahu Road	LOT 2 DP8336, HB134/211	Totara Holdings Limited C/O KA & KJ Bayley 16 Nicholl Road RD5 HASTINGS 4175		A stormwater swale
11	1241 Omahu Road	LOT 3 DP27351 SUBJ TO & INT IN EASEMENTS, HBW3/1071	Totara Holdings Limited C/O KA & KJ Bayley 16 Nicholl Road RD5 HASTINGS 4175	Minibales Hawke's Bay 1241 Omahu Road HASTINGS 4175	A stormwater swale, a stormwater connection/easement, an infiltration basin and an overland flow path
12	Jarvis Road	LOT 2 DP419221, 478421	KA Bayley, KJ Bayley & 2 others 16 Nicholl Road RD5 HASTINGS 4175		A stormwater swale and potentially an overland flow path
13	18 Jarvis Road	LOT 2 DP402958, 409725	J & V Currie Family Trust & 5 others PO Box 2127		A stormwater swale

Property	Address	Legal Description & CT	Owner	Occupier / Contact	Property contains
			Stortford Lodge HASTINGS 4153		
14	1309 Omahu Road	LOT 2 DP24260 BLKS XIV XV HERETAUNGA SD, HBV2/377	Kauri Hastings Limited PO Box 2311 Stortford Lodge HASTINGS 4153		A stormwater swale and a stormwater connection/easement
15	1337 Omahu Road	PT LOT 1 DP4953 BLK X1V HERETAUNGA SD, HB142/105	EJAE Co Limited C/O Mr CBK & Mrs DM Ellingham 750 Ohiti Road RD9 HASTINGS 4179	Friends Organics 1337 Omahu Road HASTINGS 4175	A stormwater swale, a stormwater connection/easement and an infiltration basin
16	55 Twyford Road	LOT 2 DP 425145, LOT 1 DP 418851, 499262	EL, M Crasborn & 2 others C/O ELM Crasborn Omahu Road RD5 HASTINGS 4175		A stormwater swale, a stormwater connection/easement, an overland flow path and potentially an infiltration basin
17	4 Twyford Road	LOT 1 DP2767 BLK XIV HERETAUNGA SD, HB58/91	K Hansen & AN Hansen 1561 Omahu Road RD5 HASTINGS 4221		A stormwater swale
18	1 Twyford Road	LOT 3 DP416250, LOT 1 DP 2209 BLK XIV HERETAUNGA SD, HB58/149 and 462993	HG Campbell & LS Teixeira 1 Twyford Road RD5 HASTINGS 4175		A stormwater swale
19	1393 Omahu Road	LOT 2 DP416250, 532871	Orchard Trustee Company Limited C/O David Grant		A stormwater swale and stormwater connections/easements

Property	Address	Legal Description & CT	Owner	Occupier / Contact	Property contains
			Osbourne 1393 Omahu Road RD5 HASTINGS 4175		
20	1447 Omahu Road	LOT 4 DP27873 HOME BLOCK, 529729	Agrilasia Farms Limited 1460 Omahu Road HASTINGS 4120		A stormwater swale and a stormwater connection/easement
21	1199 Omahu Road	Lot 1 DP 392031, 369147	C B Norwood Distributors Limited PO Box 1265 Palmerston North Central PALMERSTON NORTH 4440		A stormwater connection/easement
22	1141 Omahu Road	Lot 1 DP 15736, HBH3/6	CMP & MD Donnelly PO Box 2318 Stortford Lodge HASTINGS 4153	J M Bostock Limited PO Box 2438 Stortford Lodge HASTINGS 4153	An overland Flow Path

Copies of the CTs are attached as ***Appendix 7***

Map of properties upon which the proposed infrastructure is located

PART 2 ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

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Appendix 1 Technical Report: Omahu Rezone Stormwater Management

Appendix 2 Existing and Proposed New District Plan Provisions

Appendix 3 Summary of the proposed Amendment to the Water Services By-law

Appendix 4 Omahu Industrial Rezone Project: Issues & Options Report 2008 - Table 6.1 - Omahu Re-Zone Stormwater Disposal Options

Appendix 5 Literature of review of the key documents pertaining to the Heretaunga Plains aquifers

Appendix 6: Summary of consultation undertaken

Appendix 7: Certificates of Title for the Properties Affected by the Proposed Infrastructure

1 Introduction

1.1 Background

The Hastings District Council ('the Council') proposes to establish a new 36ha industrial zone on the northern side of Omahu Road, Hastings.

Resource consents are sought from the Hawke's Bay Regional Council ('HBRC') for the discharge of stormwater from a swale and infiltration basin network at the rear of the zone. This is a **Controlled Activity** under the Regional Resource Management Plan ('RRMP') - see Section 3 for details.

This Assessment of Effects on the Environment ('AEE') has been prepared in accordance with Section 88 and the Fourth Schedule of the Resource Management Act 1991 ('RMA') and is intended to provide a full understanding of the proposal and any actual or potential effects that the proposal may have on the environment.

1.2 Purpose of the Application

The primary reason that the Hastings District Council ('the Council') is seeking these consents at this stage is to gain surety over the infrastructure required and costs associated with the disposal of stormwater from the proposed zone. This information is necessary for the Council to make an informed decision on whether to proceed with the proposed development / change to its District Plan. Without a consented and affordable stormwater solution the proposed rezoning will not be viable.

In order to make this application the Council has prepared a detailed proposal for consideration by the Hawke's Bay Regional Council. Whilst this proposal reflects the option currently preferred by the Council, it in no way pre-determines future decisions regarding the proposed zone. A decision is still to be made as to whether the Council will proceed with the public notification of a Plan Change. Should that occur, the Plan Change would be open to the public for submission, a hearing would be held, and due consideration given to the provisions of the Resource Management Act. Hence, the resulting zone may well have boundaries, stages, infrastructure designs, and rules that differ from those outlined in this application. The Council recognises that this may necessitate either a variation to this discharge consent or indeed a new one.

1.3 Report Outline

The remainder of this report is set out as follows:

- **Section 2 – The Proposed Omahu North Industrial Zone**

This section provides a description of the proposed new industrial zone. It describes the intended District Plan provisions, the stormwater management regime proposed for the zone, and the alternatives considered.

- **Section 3 - Description of Proposal**

This section provides a description of the stormwater discharge for which resource consents are sought.

- **Section 4 – Consent Requirements**

This Section provides a review of the consent requirements for the proposed activity. Those matters over which HBRC has reserved its control as a controlled activity are highlighted.

- **Section 5 – Planning Context**

This section highlights relevant strategies, objectives and policies for consideration in the AEE.

- **Section 6 – Existing Environment**

This section provides relevant details regarding the existing environment.

- **Section 7 – Assessment of Effects**

This section provides an assessment of the potential effects of the proposed discharge on the environment (with respect to those matters over which the HBRC has reserved control) and identifies the measures proposed to avoid, remedy, or mitigate potential adverse environmental effects.

- **Section 8 - Consultation**

This section describes the consultation undertaken for the proposed zone and stormwater discharge.

- **Section 9 – Planning Considerations**

This section assesses the proposed discharge in terms of the relevant statutory matters as required in Section 104 of the RMA.

- **Section 10 - Conclusion**

This section concludes with a summary of the extent and nature of the potential effects of the proposed stormwater discharge.

2 The Proposed Omahu Road North Industrial Zone

2.1 The Proposed Zone

The proposed new zone is located on the northern side of Omahu Road, immediately opposite and to the west of the existing Industrial 2 zone. The proposed zone is identified in ***Figure 1*** below. The zone consists of a long narrow strip of between 60m and 170m depth from Omahu Road. It has an approximate area of 36ha. The area is currently zoned 'Plains' and is used for a variety of activities including: horticulture, pasture, residential, and commercial / industrial uses.

Figure 1 - Proposed new Omahu Road North Industrial Zone

A new Industrial 2 (Omahu North) zone is proposed to be created for this area. Except where the environmental characteristics of the area necessitate otherwise, the objectives, policies and rules for this zone are proposed to be the same as those applicable to the existing Industrial 2 ('I2') zone. That zone covers the existing Omahu industrial area as well as those at Whakatu and Tomoana. This is a 'general industrial' zone which places few restrictions on the type of activities that can be undertaken or on the bulk and location of buildings that can be established.

To date a need has been identified for the following 'Omahu North' specific provisions:

- Policies and rules regarding the staging of the area
- A rule, similar to that recently implemented as a part of the Industrial 2 (Irongate) zone, requiring the use of inert roof materials and;
- Specific car parking access and sightline provisions;

Whilst the proposed provisions may appear liberal, other general District Plan provisions would also apply within the zone. Those most likely to influence the nature of stormwater generated and the potential for uncontrolled spills to occur are: the 'District Wide' provisions for hazardous substances and the Heretaunga Plains Unconfined Aquifer Resource Management Unit (within which

approximately 75% of the proposed zone is located). These provisions take precedence over the zoning provisions of the District Plan.

The existing and proposed new District Plan provisions for the area are set out in ***Appendix 2*** and summarised in section 5.5.

2.2 Stormwater Management

2.2.1 Philosophy

The management of the stormwater generated from the proposed zone has been identified as one of the primary issues likely to impact upon the feasibility of the proposed industrial zone. There are a number of 'environmental' and 'financial' reasons for coming to this conclusion.

Detailed investigations suggested that feasible options for the disposal of stormwater were limited to those which involved either:

- discharges to land over or in close proximity to the Heretaunga Unconfined Aquifer system; and/or
- discharges into a waterway/s within the Raupare Stream catchment.

Both of these receiving environments have characteristics which make them sensitive to the receipt of additional urban stormwater. The proposal will only be consistent with the achievement of the Council's strategic environmental objectives relating to the best use of water resources and the mitigation of adverse impacts on people, land and water if these issues can be satisfactorily addressed.

The resultant need to implement comprehensive treatment and storage systems, and the elongated shape of the zone, means that stormwater infrastructure is anticipated to be one of the greatest financial costs of the development. Should significant environmental mitigation measures be required as conditions of this consent, over and above those anticipated by the Council, the financial viability of the project may be called into question. Proceeding on that basis would not be consistent with the Council's strategic objective of providing affordable, high quality and responsive Council services.

It is imperative for Council that any stormwater solution implemented is not only affordable, but also environmentally and economically sustainable in the long term. For this reason, the Council has sought to satisfy itself that:

- any potential adverse effects on the environment will be satisfactorily avoided, remedied or mitigated;
- the land will be 'fit for use' (amongst other things this necessitates an appropriate level of flood / inundation protection);
- the risk of contamination associated with industrial activities will be adequately managed, and that;
- the proposal will be cost effective, efficient and affordable throughout the life of the development.

The Council has sought throughout to take a comprehensive, balanced and risk based approach to the assessment of the issues, options and alternatives available. Particular consideration has been given to the following principles / matters:

- the principle of Low Impact Design;

- the specific characteristics of the potential stormwater receiving environments;
- climate change;
- the HBRC Stormwater Guidelines;
- the Council's LTCCP, Engineering Code of Practice and Best Practice Design Guide for Subdivision and Development, and the;
- on-site Stormwater Management Guideline (NZWERF/MfE 2004).

2.2.2 Design Objectives

Having done this, the following key design objectives were identified and incorporated into the proposed methodologies:

- the minimisation of the extent (frequency and volume) of any discharge into the Raupare Stream catchment;
- the treatment, storage and disposal of stormwater as close to source as possible to reduce risks and minimise changes to the local shallow groundwater system;
- the effective management of the risks of contamination and spills and;
- the utilisation of distributed infiltration disposal basins to reduce concentration effects.

2.2.3 The Proposed Methodology

There are four major components to the proposed stormwater management regime:

1. ***On-site systems managed by individual owners / operators***

   Two separate stormwater disposal systems are to be implemented and operated within each industrial site/development:

   - a 'roof water' system designed to collect, treat (filter) and discharge stormwater from roof surfaces to the ground and;
   - a 'yard water' system designed to collect, attenuate (temporarily store) and treat yard stormwater before discharging it into the Council's swale.

2. ***A Hastings District Council Off-site System:***

   A system of swales and infiltration basins is to be implemented to the rear of the zone. This is to receive treated yard water and, in events greater than the 10 year ARI, over flows from the on-site roof water systems.

3. ***Monitoring and Maintenance***

   An annual maintenance and performance monitoring regime for on-site systems is to be implemented along with periodic monitoring and maintenance of the Council's swale and infiltration basins.

4. ***Regulation***

   A number of regulatory mechanisms exist and/or are proposed which, in combination, will manage the risks of contamination and spills and will ensure that the outlined standards / levels of service will be met in the long term.

The proposed stormwater management regime is detailed within the ***Technical Report: Omahu Rezone Stormwater Management*** attached as ***Appendix 1***.

2.2.4 The Proposed Stormwater Infrastructure

On-site

Figure 2 below shows the typical stormwater management system anticipated to be implemented on sites within the zone. This example was developed by the Council as a part of its assessment of the options available to avoid / mitigate stormwater effects from the proposed zone. In doing so the Council identified, as a primary objective, the need to ensure that the stormwater is treated to an appropriate standard before it leaves the site and enters the Council swale.

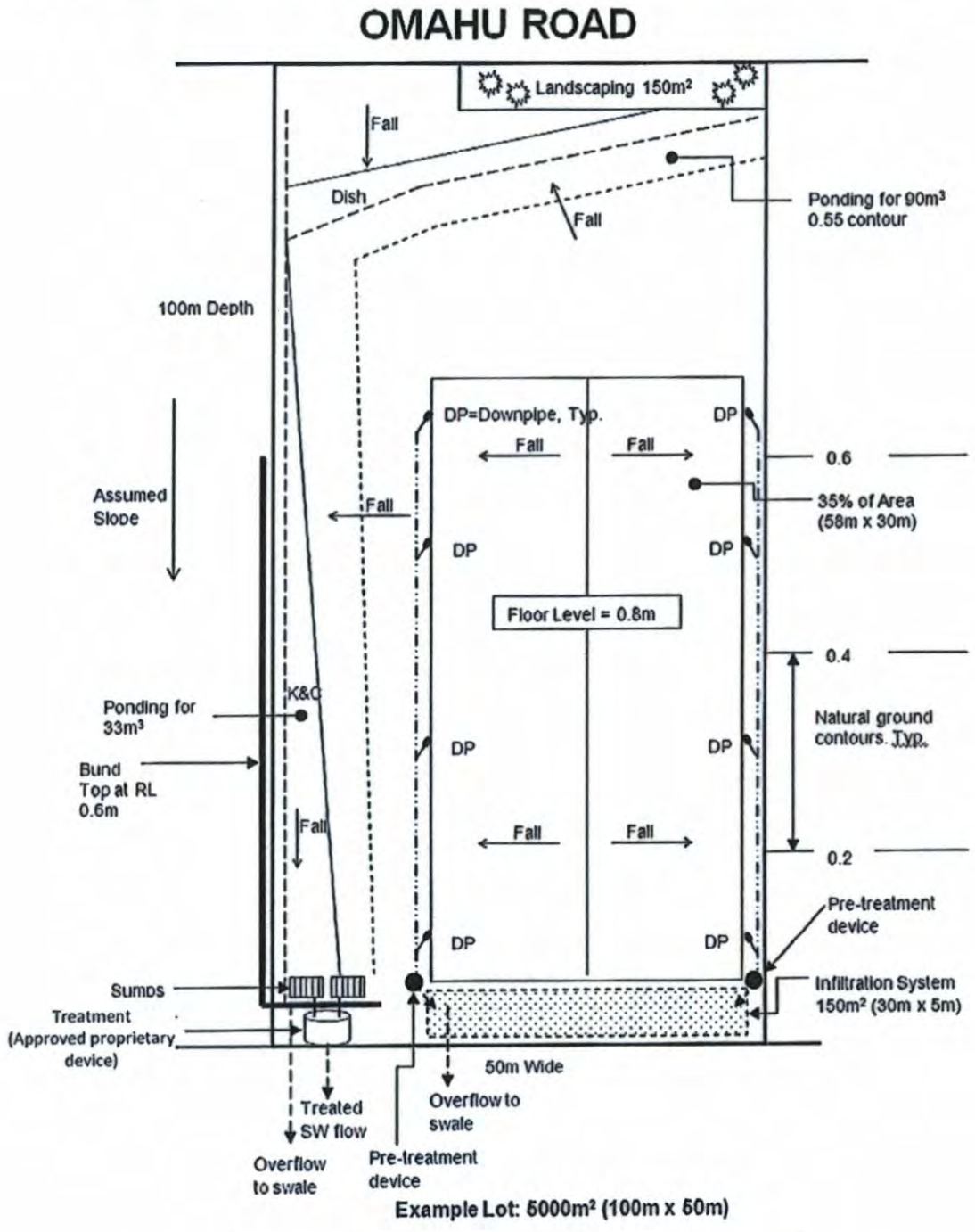

Figure 2 – A typical on-site stormwater management system

The example design provided utilises relatively conventional low cost, 'off the shelf' treatment systems to meet the standards proposed by the Council. The Council intends to utilise this design as a 'model solution' within an amendment to the existing Water Services By-law. Other (potentially more expensive) options, such as under pavement storage systems, may be utilised where there is a desire to maximise the utilisation of the site. Additional (HDC approved) containment structures and management practices would also be required to be implemented if substances utilised on the site create a higher than anticipated potential for contamination. Alternative uses and systems would require the prior approval of the Hastings District Council under the provisions of the proposed amendment to its Water Services By-law. A resource consent would also be required if the proposal was not in accordance with the District Plan and/or the RRMP.

The following are key aspects of the typical on-site stormwater management system:

- Sites will be shaped to slope down from Omahu Road towards the Council's swale (bunding will prevent direct runoff into the swale within the design storm event);
- All roof surfaces will be constructed from inert materials;
- Stormwater from roof surfaces will be directed to appropriately designed on-site infiltration disposal systems. Excess flows from over design events will be directed straight into the Council's swale;
- Stormwater generated from sealed yards will be collected, treated and attenuated on-site before being discharged into the Council swale at a controlled rate. Excess flows from over design events will enter the swale at the rear of the zone directly.

Off-site

For the purpose of the off-site management of stormwater, the proposed zone has been divided into the three catchments identified in ***Figure 3*** below. A single infiltration basin will serve each of these three catchments. All stormwater flowing from the zone will be directed to these basins via a swale to the rear of the zone.

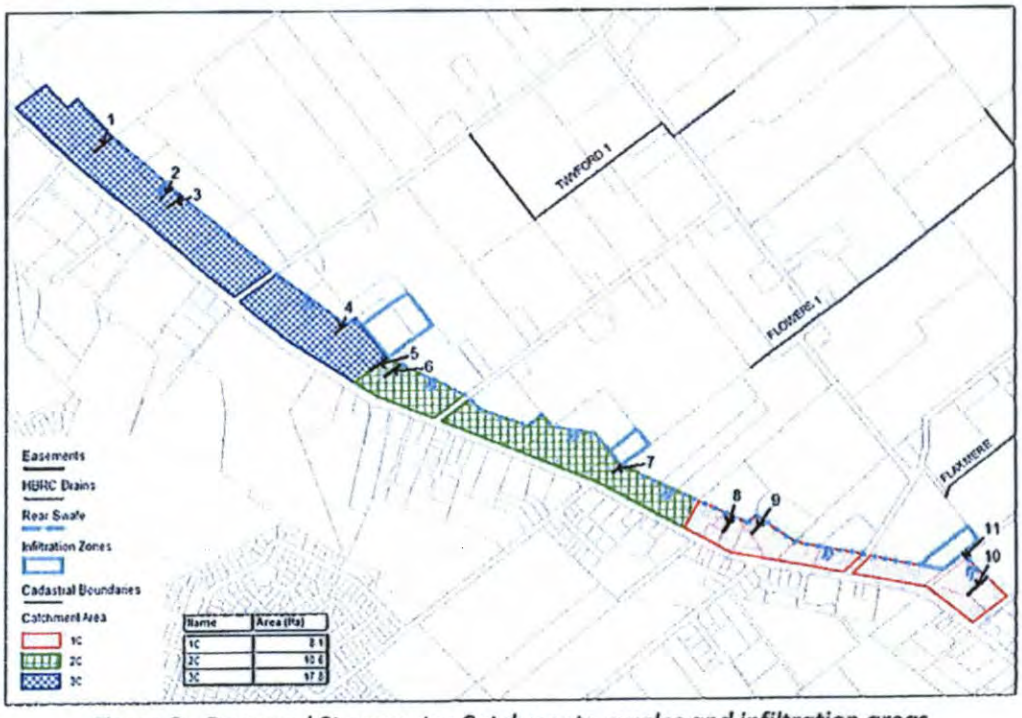

Figure 3 - Proposed Stormwater Catchments, swales and infiltration areas

The proposed swales will be located within a 6 to 7 metre corridor which the Council intends to designate and purchase. The swales are to have a maximum anticipated depth of 0.7m (0.6m plus 0.1m freeboard) and a longitudinal gradient of 1:200 to 1:600. The maximum anticipated cross section of a swale is provided in ***Figure 5*** below. A pipe and/or open drain link to the swale will be provided for those properties that do not immediately abut it.

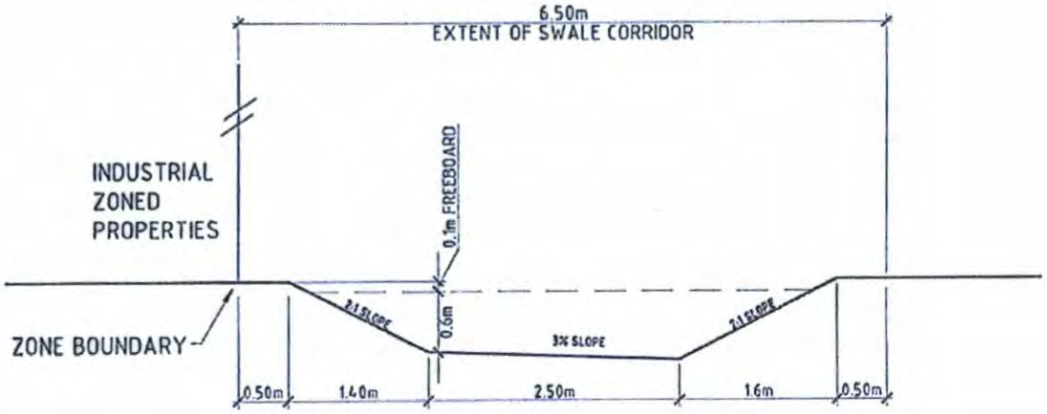

Figure 5 – Maximum swale cross section[1]

Three infiltration basin sites are proposed. The specific location of each infiltration basin has not been precisely defined. Rather, these are to be located in a position within the infiltration areas/zones identified on ***Figure 3*** above. This degree of flexibility will enable the best position to be determined once more detailed surveys of the gradient of the proposed swales have been undertaken. Discharges from the basins in over design events (> 50 year ARI) will be directed towards the HBRC network of drains.

The infiltration basins are to have the characteristics set out in ***Table 1*** and ***Figure 6*** below.

Table 1 – Infiltration Basin Characteristics

	Volume	Depth	Required Land Area
Basin 1	2,400m^3	1m	0.365ha
Basin 2	4,240m^3	1m	0.6ha
Basin 3	10,750m^3	1m	1.4ha

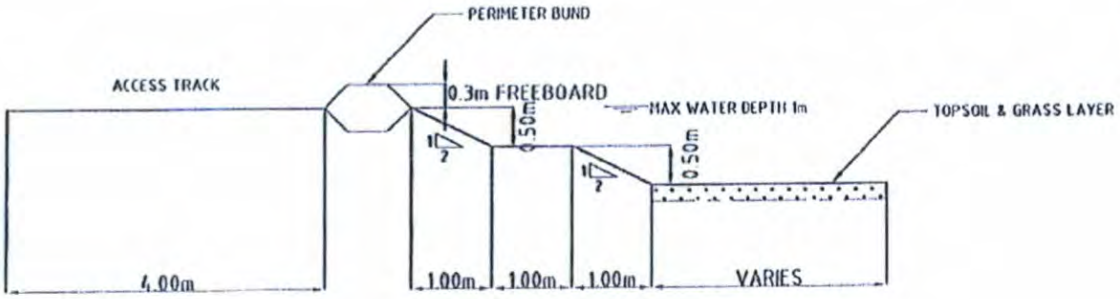

Figure 6 – Typical basin detail (cross section)

[1] Cross section immediately upstream of a basin – the corridor is anticipated to be narrower and potentially shallower further up the catchment.

2.2.5 Design Standards

In light of the design objectives set out in Section 2.2.6, the Council chose the following design standards for its off-site network:

- In events of up to the 10 year ARI: that all stormwater will be contained within the swales and disposed to ground in the infiltration basin with zero runoff to the downstream catchment;
- In events beyond a 10 year ARI and up to a 50 year ARI event: that any overflow discharge from the infiltration basins will not exceed the pre-existing greenfield flows from the catchment, and that;
- All stormwater entering the Council's swale system will be of a quality "at least as good as, if not better than, the Hastings Residential Baseline level".

The HIRDS V3 Rainfall model has been used as the basis for this design with a provision for climate change.

2.2.6 Level of Service to be provided

The Council's off-site stormwater network which is the subject of this application has been designed to serve the 36ha catchment of the proposed new Omahu Road North zone. No stormwater from the Omahu Road carriageway or indeed any other land is to enter this system.

The Council's network has been designed on the basis that the on-site system/s of the nature previously described will be implemented on each site and that these will be maintained in a manner that ensures their on-going performance.

The level of service provided to properties within the catchment is limited as follows:

1. Unless prior approval has been obtained, stormwater will only be accepted from 'clean'[2] sites
2. In events of up to a 10 year ARI:
   - no roofwater shall be accepted into the system;
   - the maximum peak flow entering the system shall not exceed 14l/s/ha

     This equates to the estimated pre-development greenfields peak runoff rate for a 2 year ARI storm (40 minute rainfall of 20mm/hr);
   - all stormwater water must have been treated by either :
     - Sumps and an approved proprietary stormwater treatment system (such as a 'humeceptor') or by way of
     - An alternative HDC pre-approved system capable of achieving quality standards at least as good as the Hastings residential baseline.

2.3 Extent of conservatism included within the proposed design

The Council believes that both the design of its proposed swale and infiltration system and the proposed requirements for the on-site systems are conservative. Major areas where conservatism has been introduced include:

- The assumption has been made that this zone will be a 100% impervious catchment.
  Refer to Appendix C of the technical report - even when the zone is fully developed this is very unlikely to be the case.

[2] Paraphrased for simplicity, refer to Appendix 3 for more detail

- The infiltration rates utilised for the infiltration basins is 50% of the minimum rate recorded in the field tests undertaken.
  This introduces a significant 'factor of safety' in the size of the basins.
- Very little infiltration from within the swales has been taken into account of in sizing the proposed basins.
  Only 10mm/hour has been taken account of whereas the lowest recorded rate in field tests for the proposed basins ranges from 30mm/hour to 2200mm/hour.
- The 'greenfield situation' has been assessed as if it the zone were in 'raw crops' (soil class of 2).
  A substantial proportion of the zone has been built on or is covered with impervious or highly compacted surfaces therefore the run off is higher than shown.
- The anticipated extra volume of stormwater created as a result of anticipated climate change out to 2090 has been accounted in the physical sizing of both the on-site and off-site systems proposed for the zone.

2.4 Alternatives Considered

A wide range of options for the disposal of stormwater from this area were considered by the Council between 2004 and 2008. At the completion of that work, a discharge into the Upper Southland Catchment was identified as the preferred option. This was primarily to avoid the flooding and water quality concerns about the Raupare catchment previously identified in the consideration of the options for the Lyndhurst residential development. However, following detailed analysis it became apparent that there were considerable practical difficulties with the depth of trenching required to proceed with that option. A decision was made in 2008 to reconsider the issues and options available.

2.4.1 Stormwater Issues and Options Report

A Stormwater Issues and Options Report was then prepared by MWH on the Council's behalf. This identified and assessed the following seven options:

Southland Drain Options:

1. Direct flows to the Upper Southland Drain with detention pond
2. Direct flows to Omahu South infiltration basin
3. Direct flows from zone rear to Upper Southland with detention pond
4. Direct flows from zone rear to Omahu South infiltration basin

Raupare Catchment Options:

5. Direct to infiltration basins alongside zone
6. Detention and slow release to Raupare Catchment
7. Direct to Thompson Road infiltration basin

A summary of the assessment of these options is provided in ***Appendix 4***. Options 1 and 2 were not considered technically feasible whilst Options 3 and 4 were considered so costly that their viability was compromised. All three of the Raupare Catchment Options (Options 5, 6 and 7) were considered to be simpler from a technical / network perspective. Issues and / or uncertainty were however identified with all of these options as a result of the relative sensitivity of the Heretaunga Plains Unconfined Aquifer and the Raupare Catchment (in terms of quality) and the flooding issues

within the Raupare Catchment that became apparent with the early Lyndhurst residential development stormwater proposals.

At this stage it was clear that the Raupare Options were the only ones which remained feasible.

2.4.2 Infiltration vs. a discharge to the Raupare Catchment

The Council considered those factors that would be paramount in determining which of the Raupare Options should be pursued. In doing so it undertook a detailed analysis of the on-site treatment, attenuation and discharge options available. A key component of this work was an analysis of the extent of quality treatment and quantity attenuation that could be achieved on-site by way of readily available 'off the shelf' commercial systems.

Consideration was also given to the costs of implementing these systems (both in monetary terms and in terms of the use of the land) in comparison with a communal system. Amongst other things this assessment indicated that such on-site systems could achieve levels of treatment that would be 'at least as good as residential'. As such it was considered that a discharge to the ground from a Council system remained feasible. Accordingly, more detailed consideration was given to these options - refer to Table 2 for a summary of this assessment.

The preferred option was identified as one based upon infiltration to ground at locations adjacent to the zone.

Table 2: Summary of the Assessment of the Issues and Options for Stormwater Disposal within the Raupare Catchment

Issue	Option		
	Infiltration to ground in & adjacent to the zone	**Infiltration to ground away from the zone**	**Detention and a discharge to the Raupare**
Flooding	Impacts upon flood levels and frequencies within the Raupare Stream catchment is an important consideration as there are known flood capacity issues within this catchment. However, the extent of such impacts is primarily determined by the storage volume provided in the system rather than by the disposal option chosen. All three options can avoid any flood related effects if sufficient storage volumes were provided within the system.		
	In this option the required storage is to be provided in locations adjacent to the proposed zone.	Pipes and/or channels would be required from the zone to the proposed basins. If pipes or sealed channels used, additional storage might also be required due to the speed at which the water would reach the basin. Substantial areas of additional land are hence likely to be required under this option. As some of this is quite removed from the proposed zone, the land owners are unlikely to obtain any benefit from the proposed zone. Additional costs are hence likely to be incurred. This would also be an inefficient use of productive land a scarce resource	This option is likely to necessitate both localised and downstream storage in a number of different locations. Many of the affected properties will be separated from, and will therefore receive little benefit from, the proposed zone. Both physical works (structures) and legal restrictions are likely to be placed on the use of a number of people's properties.
Contam - ination	Both the Heretaunga Plains Unconfined aquifer system and the waterways downstream in the Raupare catchment are widely utilised, highly valued water resources sensitive to the impacts of contamination by inappropriate discharges. Whilst more localised in nature, the same is also true of those confined aquifers in the vicinity of the proposed zone. Equal care and attention is therefore likely to be needed to avoid, remedy or mitigate the potential for contamination irrespective of the option chosen here.		
Ground - water Impacts	This option reduces the potential groundwater impacts to the greatest extent possible (whilst enabling the development of the zone) as a similar volume of water is anticipated to be infiltrated to ground within / or in close proximity to the proposed zone as currently is.	These options would result in all of the water falling on yard surfaces being collected and channelled away from the proposed zone. This creates the potential for some reduction in groundwater levels. The extent of such impact will, at least to some extent, be lessened by the disposal of that water falling on roof surfaces being discharged to the ground on-site.	
Infrastructure costs	Likely to be the least	Difficult to determine.	Difficult to determine. Likely to be the greatest
	Land will be the largest cost. Swales, basins culverts & short piped sections constructed.	Additional land is likely to be required for the basins. Pipes or sealed channels are likely to be more expensive to construct than swales.	Infrastructure requirements are difficult to determine without detailed investigations. The infrastructure required in close proximity to the zone is likely to be similar to that for the other options. However, additional works are anticipated to be needed in order to provide downstream storage.

	Option		
	Infiltration to ground in & adjacent to the zone	**Infiltration to ground away from the zone**	**Detention and a discharge to the Raupare**
Certainty, consenting risks & costs	Subject to the identification of a solution capable of ensuring that the quality of the stormwater being discharged is 'no worse than residential' Council is confident that the proposal would be a controlled activity for which a consent must be granted.	Subject to the identification of a solution capable of ensuring that the quality of the stormwater being discharged is 'no worse than residential' Council is confident that the proposal would be a controlled activity for which a consent must be granted. The increased number of land-owners from which land must be obtained and their separation from the zone raises the potential for greater difficulties in obtaining land from them.	The Council is conscious of the flood limitations within the Raupare Catchment, the public opposition that discharges into this catchment may raise, and the extent of technical information which may be required to address these concerns, and the potential for submissions / appeals. The increased number of land-owners from which land must be obtained and their separation from the zone raises the potential for greater difficulties in obtaining land from them.

3 Description of Proposal

3.1 Description of the Activity for which Consent is Sought

Resource consents are sought for the discharge of stormwater from a new Hastings District Council stormwater network. The network is to service a proposed new 36ha industrial zone on the northern side of Omahu Road, Hastings. The stormwater entering the Council's system is to be restricted to that generated from the yards of sites within the zone. In storms exceeding the ten year ARI design event stormwater from the roofs of buildings may also enter this network.

All stormwater entering the system in the ten year ARI design event will be retained within the system and discharged by infiltration to the ground. The primary points of discharge from the network will be three proposed infiltration basins. However, infiltration will also occur within the proposed swales.

In certain long duration storm events of greater than a 10 year ARI stormwater may also be discharged from the system into the nearby HBRC drains (Flaxmere, Flowers 1 and Twyford 1).

4 Consent Requirements

4.1 Regional Resource Management Plan

4.1.1 The discharge of Stormwater

The Rules:

The discharge of stormwater to land and/or water is controlled by Rules 42, 43 and 52 of the Regional Resource Management Plan.

The discharge of stormwater from open or piped systems is a Permitted Activity under Rule 42 provided that the system does not drain any industrial or trade premises that cover greater than 2ha and/or at which hazardous substances are stored. Discharges of stormwater failing to comply with Rule 42 are provided for as a Controlled Activity by Rule 43 provided the following Conditions / Standards / Terms are met:

a. *All reasonable measures are taken to ensure that the discharge is unlikely to give rise to all or any of the following effects in any receiving environment after reasonable mixing:*
    i. *The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials.*
    ii. *Any conspicuous change in the colour or visual clarity.*
    iii. *Any emission of objectionable odour.*
    iv. *The rendering of fresh water unsuitable for consumption by farm animals.*
    v. *Any significant adverse effects on aquatic life.*

HBRC has reserved control/discretion over the following matters:

a. *Location of the point of discharge including its catchment area.*
b. *Volume, rate, timing, and duration of the discharge, in relation to a specified design rainfall event.*
c. *Effects of the activity on downstream flooding.*
d. *Contingency measures in the event of pipe capacity exceedence.*
e. *Actual or likely adverse effects on fisheries, wildlife or amenity values.*
f. *Actual or likely adverse effects on the potability of any ground water.*

g. *Duration of consent.*

h. *A compliance monitoring programme.*

i. *A bond.*

j. *Administrative charges.*

Any discharge of stormwater failing to comply with the above Conditions / Standards / Terms is defined as a discretionary activity under rule 52.

The Status of the Proposed Discharge

The status of the discharges described in Section 3.1 is as follows:

- The discharge of the stormwater collected from within the proposed industrial zone to land within the Council's infiltration basins and/or swales is a **Controlled Activity** under Rule 43.
- The discharge of stormwater collected from within the proposed industrial zone into water within the Twyford 1, Flowers 1 and the Flaxmere Drains is a **Controlled Activity** under Rule 43.

4.1.2 Water Takes

The status of the water take for the water supply for the proposed zone

Advice has been sought from the Council's Water Supply Manager regarding the Council's ability to provide water to the proposed new industrial zone within the limits of its existing Water Permit.

Bearing in mind the Council's outstanding requirement to provide water for:

- the underdeveloped area of the existing Omahu Industrial area,
- the remainder of the residential development anticipated to occur at Lyndhurst;
- the Irongate Industrial Area; and
- the achievement of the Council's desired Levels of Service within portions of the existing network where this is not currently occurring

the Water Supply Manager advises that Council does not have sufficient capacity to cater for the peak extraction rates resulting from the proposed zone. The identified development/growth and proposed Level of Service improvements will however occur progressively over time. Sufficient capacity remains within the limits of the Council's Water Permit in the immediate future.

As the Council's water permit is due to lapse, it has already commenced the preparation of an application for a replacement water permit for the Hastings metropolitan water supply. That application will seek a water take sufficient to cater for the growth anticipated and areas of urban expansion identified within the Hastings Urban Development Strategy and the Heretaunga Plains Urban Development Strategy. This includes the proposed Omahu Road North Industrial Zone. On this basis, no water permit has been sought as a part of this application.

The necessary water take is anticipated to be a **Discretionary Activity** under Rule 55 of the RRMP.

4.2 Hastings District Plan

The subject land is zoned Plains in the Hastings District Plan. However, the Council will not take up any discharge consent granted as a result of this application unless it has successfully obtained both a plan change re-zoning the subject catchment industrial and a designation over all the land upon which stormwater infrastructure is proposed. As such, no resource consent would be required under the Hastings District Plan in relation to the activities for this discharge consent has been sought.

5 Planning Context

These sections are generally intended to provide the context for the deliberation on the environmental effects documented in Section 6 of this report.

5.1 The Resource Management Act ('The RMA')

Part II of the Resource Management Act

Part II of the Resource Management Act establishes the critical framework of the Act. The singular purpose of the Act is defined by Section 5: to promote the sustainable management of natural and physical resources. Sustainable management is further defined by Subsection 2 of Section 5, stating:

(2) In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while—

(a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and

(c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.

Thus in applying Section 5 an overall judgment of whether the project promotes the sustainable management of natural and physical resources is required.

Sections 6, 7, and 8 of the Act identify the matters considered to be of such importance to decision making under the Act, that further consideration must be given to them. Section 6 identifies matters of national importance that must be recognized and provided for. Of relevance to this application are:

(a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:

(e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.

Section 7 specifies other matters to which particular regard shall be had. Those matters relevant to this project include:

(a) Kaitiakitanga:
(aa) The ethic of stewardship:
(b) The efficient use and development of natural and physical resources:
(c) The maintenance and enhancement of amenity values:
(d) Intrinsic values of ecosystems:
(f) Maintenance and enhancement of the quality of the environment:
(g) Any finite characteristics of natural and physical resources:
(i) the effects of climate change:

Section 8 requires that *"In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and*

physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi)".

Sections 104 of the RMA

Section 104 of the RMA lists the matters that a consent authority must have regard to in the consideration of an application for resource consent:

(1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2, have regard to–

(a) any actual and potential effects on the environment of allowing the activity; and

(b) any relevant provisions of—

(i) a national environmental standard:

(ii) other regulations:

(iii) a national policy statement:

(iv) a New Zealand coastal policy statement:

(v) a regional policy statement or proposed regional policy statement:

(vi) a plan or proposed plan; and

(c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

(2) When forming an opinion for the purposes of subsection (1)(a), a consent authority may disregard an adverse effect of the activity on the environment if a national environmental standard or the plan permits an activity with that effect. ... ...

5.2 The Regional Policy Statement (part of the Hawke's Bay Regional Resource Management Plan)

The Regional Policy Statement ('RPS') identifies a number of significant resource management issues for the region. Those most pertinent to this proposal are:

- *The risk of contamination of groundwater arising from*
  - *(a) horticultural, agricultural and industrial land use practices*
  - *(b) discharges of contaminants, including the cumulative effects of domestic sewage discharges from unsewered communities*
  - *(c) spills particularly in the Heretaunga Plains and Ruataniwha Plains aquifer systems, and coastal aquifers.*
- *The susceptibility of the region to flooding, droughts, earthquakes, volcanic ash falls, and tsunami, and the potential impact of these on people's safety, property, and economic livelihood.*

The RPS identifies a number of objectives and policies to address these issues. Those of particular relevance to the proposed discharge are:

OBJ 21 No degradation of existing groundwater quality in the Heretaunga Plains and Ruataniwha Plains aquifer systems.

OBJ 22 The maintenance or enhancement of groundwater quality in unconfined or semi-confined productive aquifers in order that it is suitable for human consumption and irrigation without treatment, or after treatment where this is necessary because of the natural water quality.

POL 15 To use non-regulatory methods, as set out in Chapter 4, in support of regulatory methods for avoiding adverse effects on groundwater quality, including:

(a) *Liaison with territorial authorities - future development - Advocating that any future urban residential or urban industrial development in areas of high groundwater contamination vulnerability (particularly within the Heretaunga Plains unconfined aquifer system as shown in Schedule Va) should include reticulated water, sewerage and stormwater systems.*

POL 17 To manage the effects of activities that may affect the quality of groundwater in accordance with the following approach:

(a) *To ensure that all activities, particularly discharges of contaminants onto or into land, comply with the environmental guidelines for groundwater quality, and the associated implementation approach, set out in Policies 75 and 76.*

(b) *To encourage discharges of contaminants onto or into land where these are likely to have less adverse effect than discharges into water.*

... ...

(d) *To prevent or minimise spills or other breaches of resource consent conditions causing contamination of groundwater, particularly in those areas of high contamination vulnerability for the Heretaunga Plains aquifer system as shown in the DRASTIC map in Schedule V, by requiring the preparation and implementation of site management plans and spill contingency measures for relevant activities.*

(e) *To disallow any discharge activity which presents a significant risk of groundwater contamination in those areas of high contamination vulnerability for the Heretaunga Plains aquifer system as shown in the DRASTIC map in Schedule V.*

OBJ 32 The ongoing operation, maintenance and development of physical infrastructure that supports the economic, social and/or cultural wellbeing of the region's people and communities and provides for their health and safety

5.3 The National Environmental Standard for Sources of Human Drinking Water

Regulations 7 and 8 of the National Standard set out circumstances in which Regional Councils must not grant discharge permits. Regulation 12 sets out other circumstances in which a condition must be imposed on any resource consent granted requiring the consent holder to advise potentially affected drinking water provided of events such as spills.

5.4 The Hawke's Bay Regional Resource Management Plan

The Hawke's Bay Regional Resource Management Plan ('the RRMP') identifies a number of objectives and policies. Those of particular relevance to the proposed discharge are:

Groundwater Quality

OBJ 42 No degradation of existing groundwater quality in aquifers in the Heretaunga Plains and Ruataniwha Plains aquifer systems.

OBJ 43 The maintenance or enhancement of groundwater quality in unconfined or semi-confined productive aquifers in order that it is suitable for human consumption and irrigation without treatment, or after treatment where this is necessary because of the natural water quality.

POL 75 To manage the effects of activities affecting the quality of groundwater in accordance with the environmental guidelines set out in Table 10.

Table 10. Environmental Guidelines – Groundwater Quality

Issue	Guideline
CONFINED, PRODUCTIVE AQUIFERS IN THE HERETAUNGA PLAINS AND RUATANIWHA PLAINS AQUIFER SYSTEMS (as shown in Schedule IV)	
1. No degradation	There should be no degradation of existing water quality.
OTHER PRODUCTIVE AQUIFERS	
1. Human consumption	The quality of groundwater should meet the "Drinking Water Quality Standards for New Zealand" (Ministry of Health, 1995) without treatment, or after treatment where this is necessary because of the natural water quality.
2. Irrigation	The quality of groundwater should meet the guidelines for irrigation water contained in the "Australian Water Quality Guidelines for Fresh and Marine Waters" (Australian and New Zealand Environment and Conservation Council, 1998) without treatment, or after filtration where this is necessary because of the natural water quality.

5.5 Hastings District Plan

The Hastings District Plan ('the District Plan') manages the effects of the use, development and protection of the natural and physical resources of the Hastings District.

The Heretaunga Plains Unconfined Aquifer Resource Management Unit

The District Plan recognises the importance of the Heretaunga Plains Unconfined Aquifer to the sustainable management of the Heretaunga Plains through the inclusion of the following objective:

AQO1 To ensure that the life supporting capacity of the Heretaunga Plains Unconfined Aquifer Water Resource is not compromised by the effects of land use activities occurring above it.

The Heretaunga Plains Unconfined Aquifer Resource Management Unit was established to support the achievement of this objective. The policies, rules and performance standards for this area are attached in ***Appendix 2***. The extent of the Resource Management Unit, in relation to the proposed new zone, is shown on ***Figure 7*** below.

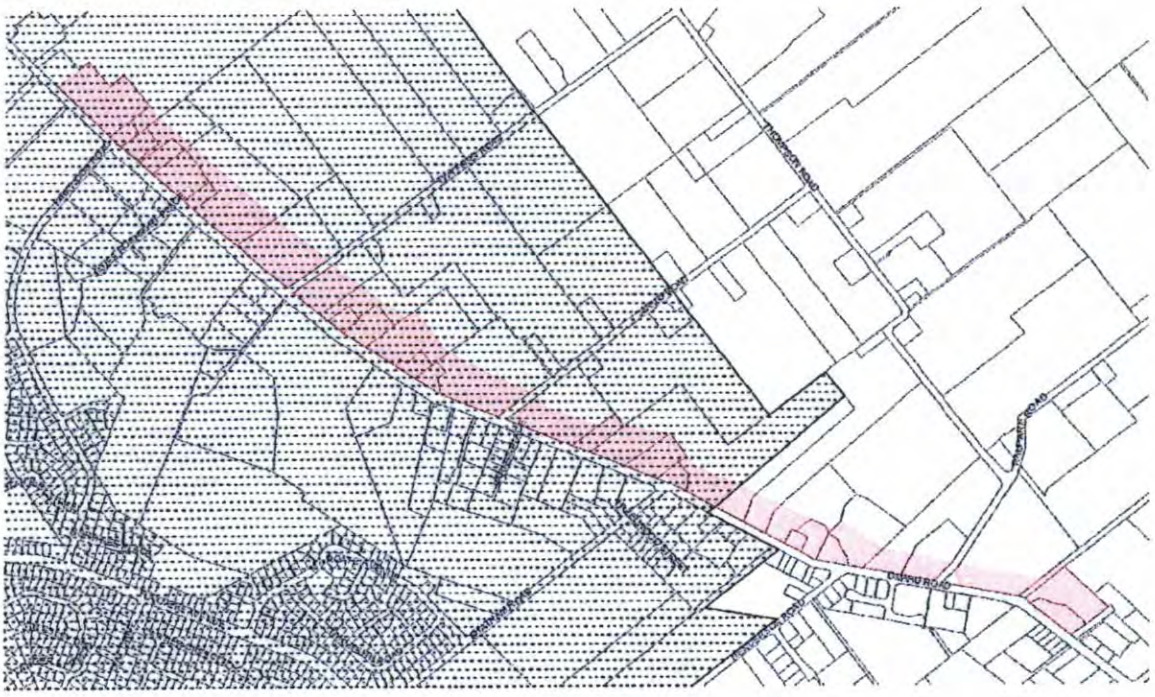

Figure 7 Heretaunga Plains Unconfined Aquifer

5.5.1 Hazardous Substances

The District Plan recognises the environmental issues associated with the storage and use of hazardous substances and identifies the following objectives and policies:

HSO1 *To avoid, remedy or mitigate adverse environmental effects and risks of hazardous facilities to people, ecosystems or the built environment.*

HSO2 *To enable activities to utilise hazardous substances where necessary for their operations.*

The policies, rules and performance standards for hazardous substances are attached in ***Appendix 2***.

5.5.2 Industrial Zones

With the exception of the new provisions for the proposed Irongate Industrial area, the majority of the Industrial Section of the District Plan was prepared in advance of the investigations undertaken for the preparation of the Council's 2003 Industrial Strategy. Some of the general observations made regarding the nature of industry in the district are hence considered somewhat dated.

The objectives and policies and that are most pertinent to this application are:

IZO2 *To ensure that adverse effects of industrial use, development or subdivision are avoided, remedied or mitigated.*

IZO5 *To enable the efficient and effective use of the District's resources by providing for the development of new industries.*

IZP7 *Protect the vital water resource contained in the unconfined aquifer from contamination risks from industrial uses and development.*

5.6 The Council's Strategic Direction

5.6.1 The 2003 Industrial Strategy

The 2003 Industrial Strategy, and the subsequent Council decisions and directions on its implementation formalised in the 2009 LTCCP resolution, can be summarised as follows:

Industrial development to be progressed within ten years:

	The 2003 Strategy	*Subsequent Direction*
Omahu Road	*39ha*	*Stage 1 – 13ha*
Irongate	*11ha*	*Stage 1 – Up to 68ha*
Tomoana / Whakatu	*38ha*	*Nil*
Total	*88*	*81*

Irongate stage 1 is to be advanced in priority to Omahu Road stage 1.

Industrial development to be progressed beyond the ten year period:

	The 2003 Strategy	*Subsequent Direction*
Omahu Road	*Nil*	*Stage 2 - 16ha*
Irongate	*26ha*	*Stage 2 - Up to 42ha*
Tomoana / Whakatu	*60ha*	*25ha*
Total	*86ha*	*83ha*

5.6.2 2009 – 2019 LTCCP – 10 year Plan

The LTCCP sets the Council's 10 year strategic direction. The following strategic objectives are of particular relevance to this project:

Environmental Wellbeing

- *Sustainable management of natural and physical resources through integrated land use management*
- *Healthy drinking water*
- *Best use of water resources*
- *Mitigation of adverse impacts on people, land and water*

Social and Cultural Wellbeing

- *Provide affordable, high quality Council services and facilities*

Economic Wellbeing

- *Responsive Council Services*

The completion of the industrial zone implementation described within the Council's Industrial Strategy (which is discussed in Section 5.6.2 below) is identified as an immediate action – to be undertaken in years 1 to 3 of the planning period (2009/10 – 2011/12). In support of this, the following funding was allocated to the establishment of the infrastructure necessary to achieve this. NB: The amount allocated for the "Omahu Industrial Development" is for Stage 1 of the proposed Omahu Road North zone. Stage 2 is anticipated to occur outside the 2009 to 2019 period.

***Key Projects** next ten years...* *(Note: Not all Council projects are detailed below - these figures exclude inflation)*

	09/10 $'000	10/11 $'000	11/12 $'000	12/13 $'000	13/14 $'000	14/15 $'000	15/16 $'000	16/17 $'000	17/18 $'000	18/19 $'000	TOTAL
Industrial Developments											
Irongate Industrial Development		4,716	4,266					500			9,482
Omahu Industrial Development		150	150	7,162	1,650						9,112
Whakatu Industrial Development			100	2,053						600	2,953
		4,866	4,516	9,216	1,650			500		600	21,548

The proposed Long Term Plan 2012-22 includes a similar growth strategy.

5.6.3 Heretaunga Plains Urban Development Strategy

In August 2010 the Hastings District Council, Hawke's Bay Regional Council and Napier City Council adopted the Heretaunga Plains Urban Development Strategy ('HPUDS'). This strategy is intended to provide the strategic direction for the future urban development of the Plains area surrounding Napier and Hastings from 2015 until 2045. It promotes a compact settlement pattern as the preferred development scenario. The settlement pattern / provision of land proposed for industrial activities within HPUDS reflect the current industrial strategies for Napier and Hastings. The table below indicates the industrial areas, their capacity, timing and potential activities.

Business Land Staging 2010-2045

Location	Capacity (ha)		Timing	Potential Activities
Napier Business Park – north of Prebensen Drive and west of the Hawke's Bay Expressway		30	2009 - 2019	Technology
Napier – Redevelopment of existing sites and Awatoto area		36	2009-2029	Service Industry
Irongate Stage 1[1]	36		2010 -	Dry Industry
Omahu Road Stage 1[1]	13		2015 -	Service Industry
Irongate Stage 2		42	After Irongate 1	Dry Industry
Omahu Road Stage 2		16	After Omahu 1	Service Industry
Tomoana / Whakatu		60	After Whakatu full	Wet Industry
Total[2]		184 ha		

[1] *Zoned and available prior to 2015 Strategy commencement period*

6 Description of the Existing Environment

6.1 General Location

The proposed new zone is located on the north-western fringe of the Hastings urban area. The development area is bounded to the south by Omahu Road and to the east by the existing Omahu industrial area. The land to the north is rural - see Figure 8 below.

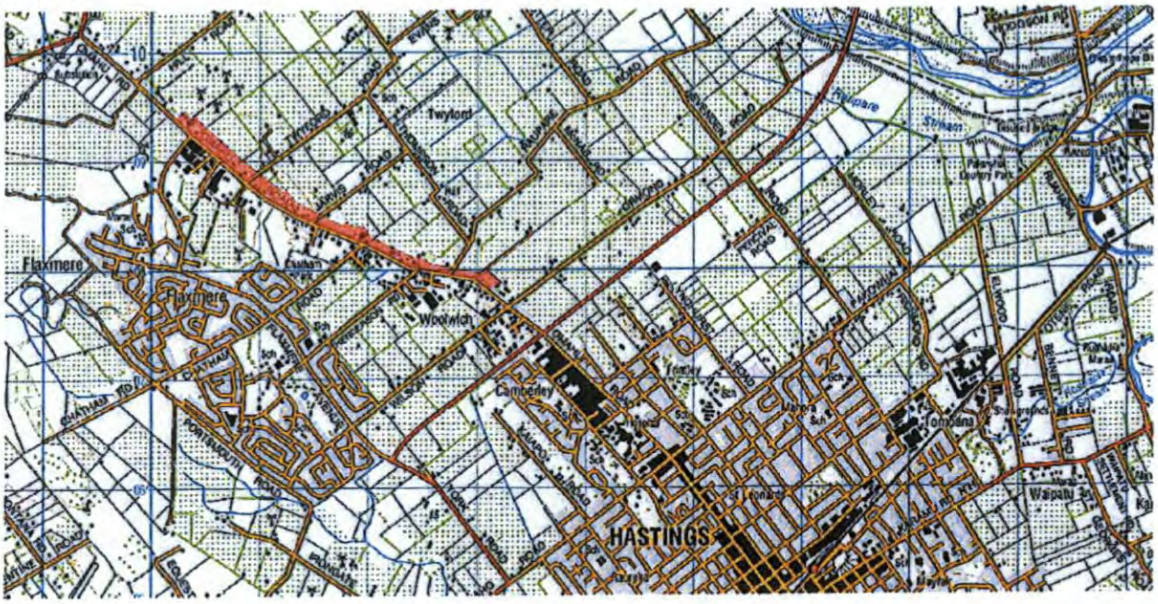

Figure 8 – Location Map

6.2 Existing Drainage Catchment

The proposed industrial zone and stormwater network is located within the Raupare – Twyford Catchment. The catchment covers some 2066ha, bounded in broad terms by Omahu Road to the west, the Ngaruroro Catchment to the south and east (to the confluence of the Clive River and Karamu Streams), and Pakowhai Road to the south. Downstream of the development area the urban area of the catchment (approximately 100ha) is drained by a reticulated system into either the Lyndhurst or Mahora open drains. The remainder of the catchment is predominantly rural with the main land use being horticultural production.

The rural catchment is drained by a network of open drains which generally drain in a north easterly direction and discharge into the Raupare Stream, which in turn flows southeast to join what becomes the Clive River at its confluence with the Karamu Stream. Both these water courses ultimately discharge into the Ngaruroro River, which has an outfall to the Pacific Ocean north-east of Clive.

Whilst the development area is located within this catchment, much of the stormwater from this area currently infiltrates into the course gravels lying under Omahu Road which comprise the old Ngaruroro River bed.

6.3 Development Area

6.3.1 Natural Features and Landscape

The proposed development area lies on the southern edge of an area with a characteristic 'plains landscape' dominant within the Heretaunga Plains. The level of modification and intensity of land-use within this area is such that there are very few 'natural' features remaining.

6.4 Land Use

The land uses within the proposed new zone are best described as mixed. Though predominantly pastoral and horticultural, approximately 6.3 hectares of the area has been intensely developed for as industrial / trade premises (Another 5.7ha site has also been approved for industrial use). In addition to this there are 16 dwellings and associated accessory buildings and also a variety of rural accessory buildings within the proposed catchment.

6.5 The Receiving Environment

A literature review of the key documents pertaining to the Heretaunga Plains Unconfined / Confined Aquifers was provided by the Council as a part of its application for the renewal of the discharge permit for the existing Omahu Road Industrial area on the southern side of Omahu Road. This provides a useful overview of the ground water receiving environment into which this discharge is proposed. This is attached to this assessment as ***Appendix 5***.

From an examination of this literature, it can be concluded:

- That the Omahu Industrial Zone is underlain by around 30m of post-glacial predominantly fine sediment with intermittent gravel beds. Within this sediment are the fine beds that act as a confining layer to the first confined aquifer.
- From the geological evidence available the shallow gravels are underlain by two buried land surfaces comprising fine sediment, the Pakipaki and Ngatarawa formations. These sediments can be expected to limit the vertical penetration of contaminants toward the aquiclude and the first confined aquifer, particularly those that readily adhere to fine particles.
- That the original hydro-geological grounds for permitting the expansion of Hastings westwards onto the perched groundwater part of the unconfined aquifer are still valid and the risk of contamination of the groundwater system, particularly the confined aquifer system, are low.

7 Assessment of Environmental Effects

The following assessment of environmental effects relates to the discharge for which consent is sought and is limited to the matters which the HBRC has reserved control over under Rule 43 of the Regional Resource Management Plan.

7.1 Conditions / Standards / Terms

The condition for Rule 43 requires that:

"a. All reasonable measures are taken to ensure that the discharge is unlikely to give rise to all or any of the following effects in any receiving environment after reasonable mixing:

i. The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials.

ii. Any conspicuous change in the colour or visual clarity.

iii. Any emission of objectionable odour.

iv. The rendering of fresh water unsuitable for consumption by farm animals.

v. Any significant adverse effects on aquatic life".

As described in detail in Section 2.2.2 of this report, the Council has identified the effective management of the risks of contamination and spills as one of its key design objectives for the proposed zone. Two primary regulatory tools are to be utilised to ensure the achievement of this - the District Plan and the Water Services By-law. Combined these provisions are considered more than sufficient to ensure that all reasonable measures will be undertaken to prevent any of the above effects from occurring.

The District Plan includes three District Wide Activity standards relating to the storage and use of Hazardous substances. These standards, listed on the next page, apply to every activity undertaken within Hastings District. They apply in conjunction with the comprehensive hazardous facility screening procedure set out in standard 13.8.8.1 (refer to ***Appendix 2*** for the details of this procedure). A restricted discretionary or discretionary activity resource consent is required to be obtained before any activity presenting a defined risk to the environment or the community can be established.

Any activity undertaken within the Heretaunga Plains Unconfined Aquifer RMU (Refer to figure 7) must also comply with the rules and standards for that area[3]. Rule 12.1.7.3 defines the storage, handling or use of arsenic as a prohibited activity. All other activities must either comply with the two standards or seek a restricted discretionary resource consent

[3] Activities undertaken within the HPUA RMU must comply with **both** the DWA Hazardous Substances standards and the HPUA RMU standards. The RMU standards however, have precedence in terms of status.

District Plan Standards - Hazard Mitigation

Hazardous Substances District Wide Activity Standards

13.8.8.2 SPILL CONTAINMENT

Any activity storing or using a hazardous substance shall ensure that the activity is designed, constructed and managed to prevent:

(a) The entry, discharge or unintentional release of the hazardous substance into the public sewerage system or public stormwater system.

(b) The contamination of any land and/or water (including groundwater and potable water supplies) in the event of a spill or other unintentional release of hazardous substances

Outcome
Hazardous substances will be contained within an area which is safe for their use.

13.8.8.3 CONTAMINATION OF STORMWATER

Any activity storing or using a hazardous substance shall ensure that the activity is designed, constructed and managed to prevent any stormwater originating on or collected on the site from contaminating:

(a) Any land and/or water (including groundwater and potable water supplies) by acting as a transport medium for hazardous substances unless permitted by a Regional Plan or a discharge consent.

(b) The stormwater drainage system or the public sewerage system unless permitted by the network utility operator responsible for that system.

Outcome
Hazardous substances will not be allowed to escape into the stormwater system and sewer system

13.8.8.4 WASHDOWN AREAS

Any activity using vehicles, equipment or containers that are or may have become contaminated with hazardous substances and are required to be washed down shall ensure that:

(a) Any area used is designed, constructed and managed so that process effluent from the washdown area is not discharged into the stormwater drainage system or the sewerage system unless permitted by the network utility operator responsible for that system.

(b) Any area used shall be designed, constructed and managed to limit discharge into or onto land/or water (including groundwater and potable water supplies) unless such discharge is permitted by the relevant Regional Plan or a discharge consent.

NB: Suitable means of compliance may include: sloped pavements, interceptor drains, contaminant and diversion valves, oil-water separators, sumps and similar systems

Outcome
Washdown areas shall be designed to contain hazardous substances from entering public stormwater and sewerage systems and water supplies.

Heretaunga Plains Unconfined Aquifer RMU Standards

12.1.8.1 ORGANIC MATTER, CHEMICAL, FERTILISER AND FUEL HANDLING AND/OR STORAGE

All organic matter, chemicals, fertilisers and fuels (including fuel operated machinery and vehicles) shall be stored and/or handled on areas which have impervious surfaces and where facilities are provided to prevent contaminants from being washed or spilled into natural ground or entering any piped stormwater systems or stormwater ground soakage

Outcome
The quality of the ground water in the Unconfined Aquifer will be protected from the accidental spillage of chemicals, fuels and fertilisers on to the land.

12.1.8.2 STORMWATER DISPOSAL

Stormwater disposal shall be to a suitable soakage mechanism or a reticulated system approved by Council. Discharge of stormwater to public roads or road reserve requires the prior consent of Council.

Outcome
The water in the unconfined aquifer will be protected from contaminants that may be carried in stormwater.

The Council is also able to impose controls within its Water Services By-laws which are intended to ensure that water entering its network is of a specified standard. The proposed Amendment (described in ***Appendix 3***) splits developments into two specific types – those which are the nature expected to be typical within the zone and those which are 'high risk'. Typical development would consist of an industrial / trade activity which: are undertaken predominantly indoors; do not involve the use or storage of hazardous substances; have outdoor parking and manoeuvring; and only includes the outdoor storage of 'inert materials'. A Building Code type regime is proposed for typical sites. A standard solution has been provided – which if implemented will enable the development to establish without further consideration. Alternative solutions may also be utilised these must however be assessed by the Council on an individual basis to ensure that they capable of achieving at least the same standard of treatment and attenuation as the standards solution.

A specific application will need to be made to the Council (under the By-law) for any high risk activity. No such permission is likely to be given unless the Council has satisfied itself that it will be able to comply with the conditions of its resource consent; and the applicant has already all necessary resource consents.

The proposed amendment includes a requirement for annual monitoring and maintenance of the on-site systems.

7.2 Matters over which control has been reserved

7.2.1 Location of the point of the diversion and discharge including its catchment area

The catchment of the proposed system is the proposed new 36ha industrial zone. The boundaries of this area have been chosen for a number of reasons including, but not limited to: the nature of the soils, the location and extent of existing industrial activities within the area, and the ability to service the land. Given the stage at which this proposal is at in the planning process it is quite possible that the boundary may be amended over time through the rezoning process. For the purposes of the management of stormwater the zone has been further split into three sub-catchments each of which is served by a single infiltration basin. The proposed catchment areas and infiltration areas for the discharge to ground are shown on ***Figure 4***.

A number of factors influenced the Council's decision to utilise a stormwater system based on discharges to ground (and into the aquifer system in the immediate vicinity of the zone). These have been discussed in detail in section 2.3 of this report. The choice of a swale system and three basin design at the rear of the zone reflects the gradient of the land and the catchments of the HBRC drains. The shallow gradients within this area are of note - particularly transversely along the zone. Survey investigations will be required at the time of the detailed design to determine the final detailed design of the system. For surety 'infiltration areas' have been identified for the required infiltration basins rather than specific locations. This is intended to enable slight adjustments to the location of the basins if this is found to be necessary to achieve the required grades.

The utilisation of three infiltration basins enables the 'spilling' of the water into the nearby Flaxmere, Flowers 1 and Twyford 1 HBRC Drains in those long duration events that will exceed the capacity of the basins. These three discharges are anticipated to more closely resemble the current Greenfield situation than a single point discharge would. The proposed discharge points into the HBRC Drains are shown on ***Figure 9***.

7.2.2 The volume, rate, timing, and duration of the discharge, in relation to a specified design rainfall event.

Detailed modelling has been undertaken of the extent of stormwater likely to be generated from the proposed zone in a range of rainfall events. As is detailed within the attached Technical Assessment, these were of durations of between 1 hour and 3 days for return periods of 1 in 10 years, 1 in 20 years and 1in 50 years. This range was chosen in order to determine the behaviour of different parts of the system (in particular the on-site systems, the swales and the basins) in both short duration high intensity events and those events of a longer duration. The anticipated peak flows and maximum volume of these discharges are provided in ***Appendix B of the Technical Report.***

Conscious of the HBRC stormwater guidelines and the Building Code requirements the Council chose the 1 in 10 year event as its primary 'design event' for this system. This is a larger storm event than the 1 in 5 year event that the Council's Engineering Code of Practice defines as the level of service for its piped stormwater network.

Specific consideration was also given to the limited flood capacity in the Raupare Catchment downstream of the proposed zone. In light of this, the Council chose to restrict any overflows from the proposed infiltration basins into this catchment to the pre-existing greenfield flows in storms up to the 50 year ARI.

The following four methods are to be utilised to ensure that this is the case.

On-site Roofwater Disposal

All roof water is to be disposed of to ground on-site by way of an independent / separate system with sufficient capacity to cater for 10 year ARI events (additional storage will have to be provided on-site if the infiltration system alone is unable to meet this standard)[4]. As a result the volume of stormwater leaving each industrial site will be reduced (by a volume proportional to the size of the building/s) from that which would have otherwise been the case. Not only does this assist the Council in the control/avoidance of overland flows from the site, but it has the benefit of retaining flows of stormwater from individual sites into the sub-surface aquifers which are understood to feed springs within Hastings.

The provision of on-site yard water attenuation & flow control

All water from sealed yards (other than approved discharges into the HDC Sewer) will be discharged via a controlled point/s capable of restricting the flow to 14l/s/ha in events up to the 10 year ARI. As this flow equates to the estimated pre-development greenfield peak runoff rate for a 2 year ARI storm (40 minute rainfall of 20mm/hr) a requirement for on-site attenuation (temporary storage) is created. The flow restriction however reduces the rate at which flows will enter the Council's system and hence the required size of the Council's system; and reduces the necessary capacity of the on-site treatment system.

The sizing of the proposed swales

The proposed swales have been designed to cater for the modelled maximum peak flow in a 10 year ARI storm with a 100mm freeboard. All necessary culverts under the intervening roads will likewise be designed and constructed to cater for these events.

The sizing of the proposed infiltration basins

[4] This discharge does not form part of this application

The proposed infiltration basins have been designed to ensure that any overflow discharge from them in up to a 50 year ARI event will be no more than that generated in the greenfield situation.

The required basin size was determined by:

- calculating the basin size required to contain all modelled events without any overflow occurring;
- reducing these sizes to allow for both a greenfield overflow and the anticipated infiltration;
- ensuring that reduced volume is sufficient to contain all the modelled 10 year ARI events without any overflow occurring.

For example: The maximum modelled volume of stormwater required to be stored from Area 1 is 2,600m^3 this occurs in a 6 hr duration 1 in 50 year event. The calculated greenfield flow and infiltration rates for basin 1 are 0.08l/s and 0.225mm/hr respectively. Taking these into account a basin volume of 2,400m^3 was calculated. As this volume is greater than the volume required for a zero overflow in a ten year event, it is proposed to proceed with a basin of this size.

The Greenfield flow for a 24hr event with 50 yr ARI was chosen as this is beyond the critical duration for the receiving Raupare catchment.

TABLE 4 – Infiltration Basin Volumes

	Volume required for zero overflow in all modelled events	Design Infiltration Rate	Greenfield Flows	Greenfield Volume Reduction	Proposed Basin Size	Volume required for zero overflow in a 10 year ARI Event
Area 1	2,600m^3 (1 in 50 year, 6 hr event)	0.225mm/hr	0.08l/s	200m^3	2,400m^3	1800m^3 (2 hr event)
Area 2	5,000m^3 (1 in 50 year, 6 hr event)	0.12mm/hr	0.053l/s	760m^3	4,240m^3	3000m^3 (6 hr event)
Area 3	12,200m^3 (1 in 50 year, 24 hr event)	0.03mm/hr	0.008l/s	1750m^3	10,450m^3	8200m^3 (24 hr event)

7.2.3 The effects of the activity on downstream flooding.

Events up to 10 year ARI:

All water entering the Council's system from 10 year ARI events is to be contained within the system and discharged by infiltration within the basins and swales. No overflow is to occur from the network in these events.

As the Greenfield flows will no longer enter the HBRC drains, this is anticipated to have a beneficial effect on the flood capacity within the catchment downstream on the development.

Events beyond the 10 year ARI:

The capacity of all the on-site stormwater systems is anticipated to be exceeded in some events of greater than 10 year ARI. Once this occurs all stormwater from the sites will flow directly into the Council's swale. The modelling undertaken anticipates that the peak flows from all 50 year ARI are able to be accommodated the 100mm freeboard within the proposed swales. This water will hence make its way to the proposed infiltration basins. In longer duration events the basins will become full and overtop. The design of the proposed basins is to be such that: the flows will be directed

towards the nearest HBRC drain; and the maximum peak flow of this discharge in events up to the 50 year ARI will not exceed the pre-existing greenfield one from the catchment.

Given the above, any flooding or inundation effect of the proposed discharge on the catchment is anticipated to be neutral, if not positive in comparison to the existing greenfield situation. This is because:

- the occurrence of any such discharge will be delayed as a result of the storage provided on both the individual sites and within the basins;
- the duration over which overland flows will occur will be shorter than they are presently as the discharge will cease soon after the rain ceases falling;
- the total volume of water discharged in the event will be less than the pre-existing greenfield discharge from the catchment;
- in all but very large events the impact will be more localised. Instead of occurring as sheet across the entire length of the zone flows will be directed through engineer routes to the nearest HBRC drain.

Once these flows have reached the HBRC drainage system the discharge is not anticipated to be able to be differentiated from the pre-existing Greenfield flows – except perhaps that the receipt of this water may be delayed and the total volumes slightly reduced.

7.2.4 Contingency measures in the event of pipe capacity exceedence.

No piped reticulated network is proposed as a part of this proposal. The infiltration basins are designed to provide for the stormwater run-off diverted from the industrial properties via Council swales.

Culverts will be required under the existing roads. The private connections from properties within the zone to the swale are also likely to be piped. The proposed zone is however at the top of the catchment - a location in which the catchment can readily defined and in which inundation from other sources is unlikely. Pipe exceedence within design event storms is hence also unlikely.

7.2.5 Actual or likely adverse effects on fisheries, wildlife or amenity values.

Discharges into the Raupare catchment will be infrequent and will only occur at times when the catchment as a whole is at or nearing its capacity and when all 'first flush' water from the proposed development area have been removed by the on-site treatment systems. Given the extent to which the catchment has been modified, no such adverse effects are anticipated.

7.2.6 Actual or likely adverse effects on the potability of any ground water.

As is discussed in detail in section 2.2.2, it is proposed to amend the Council's water services By-law to require a system capable of treating yard water to a standard that is 'at least as good as residential' to be installed on each site. These systems will be required to manage all flows of stormwater from off yards areas in all 10 year ARI events. While stormwater from over design events may by-pass this treatment system - all 'first flush' water, with all the associated contaminants, will have already passed through the treatment system.

Stormwater from roof surfaces will not reach the Council's system in 10 year ARI events. In over-design events the additional roofwater will flow directly into the Council's swale. As all roof surfaces

will be required to be constructed of inert materials, this water is not anticipated to contain contaminants.

An annual monitoring program of the on-site stormwater systems, audited by the Council, is also proposed to be implemented in association with the amended By-law. As such it is anticipated that this standard will continue to be maintained over the life of the Council's consent.

Once the water enters the Council system some additional treatment will occur as the water traverses the swale and as it infiltrates through the basin (or swale).

For the above mentioned reasons, the water entering the Council's system is anticipated to be of sufficient quality to avoid the potential for adverse effects on ground water quality.

Consent is not sought for any discharge resulting from an accidental or negligent spill on any site located within the proposed zone. The potential for these to occur, and the resultant potential for adverse effects, is recognised. A number of mechanisms to avoid, remedy or mitigate these have been implemented within the zone proposal. These have been discussed in detail in Section 7.1. Combined, these are considered the best practical option to avoid the likelihood that contamination from any such spill would reach a receiving environment.

Impact of Stormwater Discharge on Registered Drinking Water Supplies

The Resource Management National Environment Standards for Sources of Human Drinking Water sets in place a stringent new framework for discharge permits and the need to specifically address discharge activities that may significantly adversely affect a registered drinking water supply.

The registered drinking water supplies in the vicinity of the stormwater discharges at in the Omahu Road industrial rezone are shown in the following map:

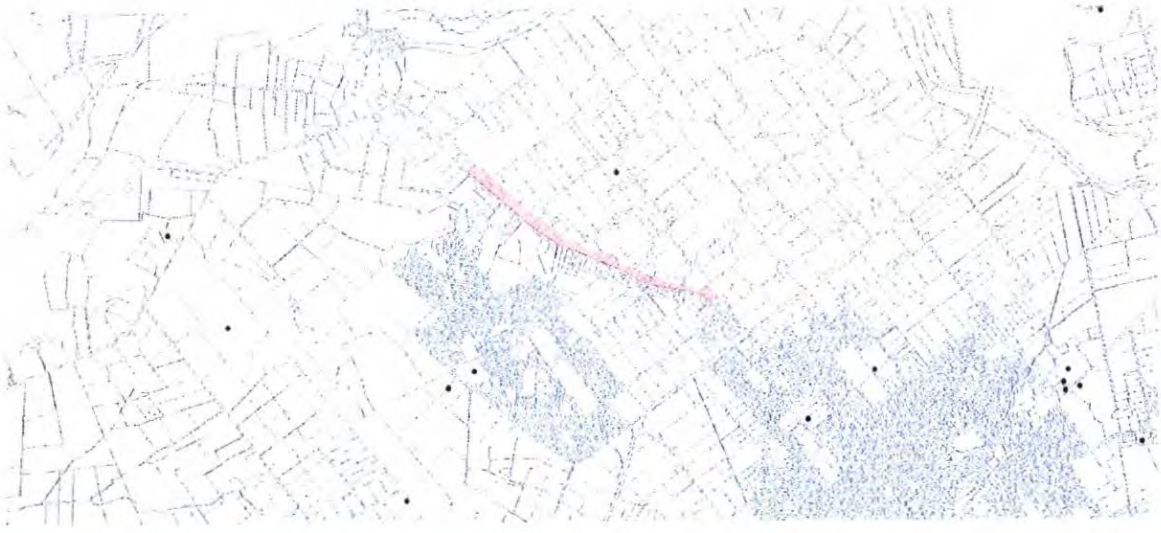

Figure 7-1 : Registered drinking water supplies

Overall it is considered that the stormwater discharge activities would not adversely affect the Hastings registered drinking water supply. As with other discharge permits currently consented by the Regional Council, the stormwater inputs from the Omahu Road industrial rezone will be no more than minor.

- The nearest supply "downstream" to the three infiltration discharge points is Twyford School.

- Regional Council data identifies this supply as being drawn from the unconfined aquifer.
- There is no well log available for the well so there is some uncertainty on the source aquifer.
- The well log database identifies other wells in the immediate vicinity as drawing water from the confined aquifer.
- The inferred flow path for the discharges is along the Makirikiri channel not toward the Twyford School Well.
- The inferred flow path for water in the first confined aquifer is north of the Twyford School well however this is based on assumptions of uniform aquifer properties and extent.
- The risk of contamination of the shallow unconfined aquifer along the bed of the Makirikiri channel by the Council stormwater discharges to land at the infiltration basins is low.
- The risk of contamination of the confined aquifer system by the Council stormwater discharges to land at the infiltration basins is extremely low.

Based on the above knowledge of the Heretaunga Plains unconfined aquifer systems, the discharge of stormwater and its potential adverse effects from the Council stormwater systems at the location of the infiltration basins poses no significant risk to registered potable water supplies.

7.2.7 Duration of consent.

A duration of 35 years is sought for this consent. Given the compliance and monitoring programme proposed, no adverse effects are anticipated as a result of this.

7.2.8 A compliance monitoring programme.

Refer to ***Appendix 3*** for a copy of the compliance monitoring programme to be included with the proposed amendment to the Water Services By-law.

7.2.9 A bond.

No bond is proposed or considered necessary to avoid, remedy or mitigate adverse effects.

7.2.10 Administrative charges.

The Council will pay all those administrative fees liable under the conditions of the consent issued and in accordance with the HBRC Schedule of Fees.

8 Consultation

8.1 Introduction

The Council has undertaken extensive consultation over a number of years regarding the proposed industrial rezoning and more recently the disposal of stormwater from the proposed zone. This consultation has occurred on a number of levels. The Council undertook initial broad level consultation in 2003 as a part of its industrial site selection assessment and in its preparation a strategy for the provision of that land. In 2007 the Council prepared a draft structure plan for the Omahu zone and undertook extensive public consultation on this. More recently the Council circulated a summary of the proposed plan change and provided an opportunity for consultation with any parties seeking this. Ongoing consultation has occurred throughout with HBRC, Network Utilities as well as with other interested parties.

Hapu and whanau representatives from throughout the district were invited to a hui in April 2003 regarding the Council's industrial site selection assessment. Twelve representatives attended the hui. The issues that arose with relevance to the Omahu area were:

- A suggestion that a cultural audit be undertaken of the potential industrial zones;
- That social and cultural factors should taken into account as well as environmental ones;
- That conflicts between residential and industrial uses should be avoided;
- The value of the Heretaunga Plains soils;
- Concerns over wastewater disposal; and
- Queries regarding district plan rules and the long term demand for industrial land.

An offer was made to all the above parties in June 2007 to either hold a hui on the proposed zone or to meet the individual marae/organisations. These offers were not taken up. The Hastings District Council Maori Joint Committee was also consulted in July 2007 regarding both the Irongate and Omahu Road draft Structure Plans/zones. No issues or concerns were raised with respect to Omahu.

In 2010 advice was sought from Hastings District Council's Strategic Advisor - Culture and Heritage regarding the need for additional consultation with Iwi on the proposed discharge consent. Subsequent to that a hui was arranged. Invitations were sent to all marae and Maori groups in the area. Only one person attended. No significant concerns were raised. No further consultation was specifically undertaken with Iwi. However, all the above groups were provided with updates on the project and offers of additional consultation, as a part of our wider public consultation.

A full summary of the consultation undertaken is summarised in ***Appendix 6***.

9 Planning Considerations

9.1 Deliberations under Section 104 of the Act

Section 104 sets out the matters which a Consent Authority must, subject to Part II, have regard to. Section 104(1)(a) requires consideration of any actual or potential effects on the environment resulting from the activity and these have been discussed in section 7 of this report. Section 5 of this report identifies the relevant planning considerations that a Consent Authority must have regard to in consideration of an application for resource consent. The remainder of this section addresses the remaining provisions of Section 104(1).

9.1.1 RMA – Part II

The following table provides a summary of particular consideration of Part II matters of the RMA.

Summary of Assessment of Part II Matters

Matter for consideration	Comment
Promotion of the sustainable management of natural and physical resources (s 5)	The development of Omahu North for urban expansion has been identified through the 2003 Hastings Industrial Strategy as an appropriate growth area for the district. This was reinforced through HPUDS 2010 and the proposed amendment to the RPS. The development of the proposed stormwater network as proposed has been designed in order to ensure that the potential adverse effects resulting from the change from rural to industrial land use is sustainable in terms of natural and physical impacts.
The preservation of the natural character of rivers and their margins and the protection of them from in appropriate subdivision, use and development (s 6(1)(a))	The assessment of effects concludes that there will be negligible effects on the quality and flows of the Raupare Stream and consequentially on the Ngaruroro River. Given the infrequency of discharges to this catchment, and the extent to which it has been modified, it is concluded that the proposed discharge will not impact upon the natural character of these rivers.
The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.	Concerns regarding stormwater discharges to waterways are acknowledged. The impacts of the proposed stormwater discharge on the receiving environments are however for the above reasons anticipated to be minor.
Kaitiakitanga	Acknowledgement of the guardianship by the tangata whenua of the area has been made through the consultation process.
The ethic of stewardship	Acknowledgement of the ethic of stewardship held by groups in the community and local landowners has been provided for through the consultation process.
The efficient use and development of natural and physical resources	The assessment of effects concludes that there will only be negligible effects on the receiving environment. The proposed stormwater disposal system has taken into account the principles of low impact design, the risks associated with industrial processes and the HBRC stormwater guidelines and are considered to be an efficient use of resources (For example the use of land for the zone and stormwater swales and basins).

The maintenance and enhancement of amenity values	The project has taken particular account of the importance of the maintenance of the quality of water within the receiving environment and no more than minor effects are anticipated. The need to mitigate impacts resulting from inundation and flooding (a physical characteristic that is considered to contribute to people's appreciation of their environment) has also been recognized. Negligible adverse effects are anticipated. Indeed improvements over the existing situation have been achieved in many instances.
Intrinsic values of ecosystems	
Maintenance and enhancement of the quality of the environment	
Any finite characteristics of natural and physical resources:	

9.1.2 Regional Policy Statement

Section 5.2 identifies policies of the RPS relevant to this project. The following table summarises how these matters have been considered and addressed with respect to this project.

Summary of Assessment of RPS Matters

Matter for consideration	Comment or Cross reference to section of this report
Objectives 21and 22	Section 7.2.6
Policy 15	Reticulated water sewer and stormwater systems are proposed for the proposed Omahu Road North industrial area.
Policy 17	Section 2.2
Objective 32	This application seeks consent for the discharge from a proposed new reticulated stormwater system intended to service a development area identified by the Council in its 2003 industrial strategy. The development of this area was adopted as a part of HPIDS 2010.

9.1.3 Regional Resource Management Plan

Section 5.4 identifies policies of the RPS relevant to this project. The following table summarises how these matters have been considered and addressed with respect to this project.

Summary of Assessment of RRMP Matters

Matter for consideration	Comment or Cross reference to section of this report
Objective 43	Section 2.2
Objective 43 & Policy 75	Section 7.2.6, Section 3.5 of the Technical Assessment

9.1.4 Hastings District Plan

Section 5.5 identifies objectives and policies of the District Plan relevant to this project. The following table summarises how these matters have been considered and addressed with respect to this project.

Summary of Assessment of District Plan Matters

Matter for consideration	Comment or Cross reference to section of this report
AQ01, HS01 & O2, IZO2, IZP7	Section 2.2, Section 7.2.6, and Section 3.5 of the Technical Assessment
IZO5	This application seeks consent for the discharge from a proposed new reticulated stormwater system intended to service a development area identified by the Council in its 2003 industrial strategy. The development of this area was adopted as a part of HPUDS 2010.

9.1.5 Matters of Restricted Discretion / Reserved Control

A Consent Authority is required to identify those matters over which it has reserved its control for applications for controlled activity consents. Those matters are in this case:

a. *Location of the point of discharge including its catchment area.*

b. *Volume, rate, timing, and duration of the discharge, in relation to a specified design rainfall event.*

c. *Effects of the activity on downstream flooding.*

d. *Contingency measures in the event of pipe capacity exceedence.*

e. *Actual or likely adverse effects on fisheries, wildlife or amenity values.*

f. *Actual or likely adverse effects on the potability of any ground water.*

g. *Duration of consent.*

h. *A compliance monitoring programme.*

A detailed assessment of these has been provided in section 7.2 of this report.

10 Conclusion

The urbanisation of the Omahu Road Strip will result in increased stormwater run-off from the area as well as a change in the nature of this stormwater (i.e. from a rural to an urban discharge).

A model was developed to predict the likely volume and flow of discharge from the area, to assess the potential effects and propose mitigation works. With these measures in place the volume of stormwater entering the Raupare Stream Catchment, a catchment known to have existing flood capacity issues will be reduced. In the design storm event for the (10 year ARI) the discharge has been reduced to nil as the stormwater is to be discharged to ground. Discharges into this catchment will occur in larger events. However, for events of up to a 50 year ARI this will only occur in long duration events. These discharges will not exceed the current 'greenfield' discharge.

Overflow discharges in events of greater than a 50 year ARI overflow discharges into the downstream catchment will occur. These will only commence when the capacity of the basin has been exceeded and will cease soon after the rainfall does. Such discharges are unlikely to be detected as the downstream catchment which will already be waterlogged. The effects of the proposed discharge on the Raupare Stream catchment are anticipated to be minor, or indeed positive in the most frequent events.

Traditional forms of urbanisation; in which stormwater is collected and conveyed to a single, sometimes distant discharge point, remove water from the catchment which would otherwise have entered the immediate aquifer system. The stormwater solution for the proposed zone differs from this 'traditional model' in that all stormwater generated within this development is to be discharged to ground within or in the immediate vicinity of the development site. This will ensure any impact upon the surrounding aquifer systems will be reduced as far as is reasonably possible. Any effects on the aquifer system downstream of this development are hence considered to be minor.

The quality of the stormwater discharged from the Omahu Road Strip is predicted to change, with an increase in urban contaminants such as vehicular / tire contaminants and a corresponding decrease in rural contaminants including silts and agrichemicals. However, on balance it is concluded that the scale of this change is minor and water quality, both in the receiving aquifer system and the Raupare catchment, will not be adversely affected.

Appendix 1
Technical Report: Omahu Rezone Stormwater Management

MWH

BUILDING A BETTER WORLD

Technical Report

Omahu Rezone Stormwater Management

Prepared for Hastings District Council

12 April 2012

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REVISION SCHEDULE

Rev No	Date	Description	Prepared By	Checked By	Reviewed By	Approved By
1	12-04-11	Revision – MWH review and Client initial comments	R van Bentum	W Hodson	A Leahy	R van Bentum
2	10-05-11	Final – HDC Client Comments	R van Bentum	W Hodson	A Leahy	R van Bentum
3	14-02-12	Final – HBRC HDC Comments	R van Bentum	W Hodson	A Leahy	R van Bentum
4	27-02-12	Final – HBRC comments	R van Bentum	W Hodson	A Leahy	R van Bentum
5	21-03-12	Final – M Kneebone comments	R van Bentum	W Hodson	A Leahy	R van Bentum
6	12-04-12	Final – HDC Planning Comments	R van Bentum	W Hodson	A Leahy	R van Bentum

Hastings District Council

Omahu Rezone Stormwater Management

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1 Introduction

1.1 Report Scope

Hastings District Council (HDC) is applying for consents to discharge stormwater as part of the proposed re-zoning to light industrial use of a strip of land along Omahu Road. The area of the proposed re-zone is outlined in Figure 1.

This report has been prepared as a technical report in support of the consent application and AEE. The report sets out the overall approach or strategy to be followed, along with detail of the generic design for the key elements of the system.

This report outlines the concept, assumptions and proposed design of the stormwater system for the proposed development. The design for the on-site system is generic and site specific design of the systems for each lot development will be required. The stormwater management approach includes a range of strategies to mitigate both stormwater quality and quantity effects arising from the development at two levels namely:

On-site - within the boundary of the privately owned lots and
Off- site - outside the privately owned land on areas to be owned and managed by HDC

Further information regarding the approach, preliminary design basis and expected performance of these mitigation strategies is provided in the following sections of this report.

1.2 Re-Zone Area

The re-zone area extends on the north-eastern side of Omahu Road from north of Ormond Road to just north of Kirkwood Road. The depth of the zone, i.e. the distance from the back of the zone to Omahu road varies from 50 to 150m.

For the purpose of this assessment, the zone has been divided into three off-site catchments (refer figure 1). Stormwater from each of the sub-catchments drains to one of three infiltration basin locations:

- Basin 1 Catchment (area = 8.1 ha)
- Basin 2 Catchment (area = 10.6 ha)
- Basin 3 Catchment (area = 17.8 ha)

The road reserve along the Omahu Road frontage of the rezone area currently drains to existing systems on the south of Omahu Road. It has been assumed that this will continue to be the case. Stormwater runoff from the upgraded Omahu Road formation will be managed and discharged to the south side of the road.

Figure 1 illustrates the zone extent, the approximate extent of swale drains to be provided at the rear of the re-zone area and the areas within which the proposed infiltration ponds will be located as well as the sub-catchments discharging to each infiltration area. The anticipated routes of designations / easement strips to enable individual properties to connect to the swale are also indicated. The stormwater system is designed to provide for gravity connections where these are practical and possible, however some areas may require to pump.

For clarity, it should be noted that the corridor for the proposed swale is located outside the proposed zone – refer to the cross section in Figure 6, Section 5.3.

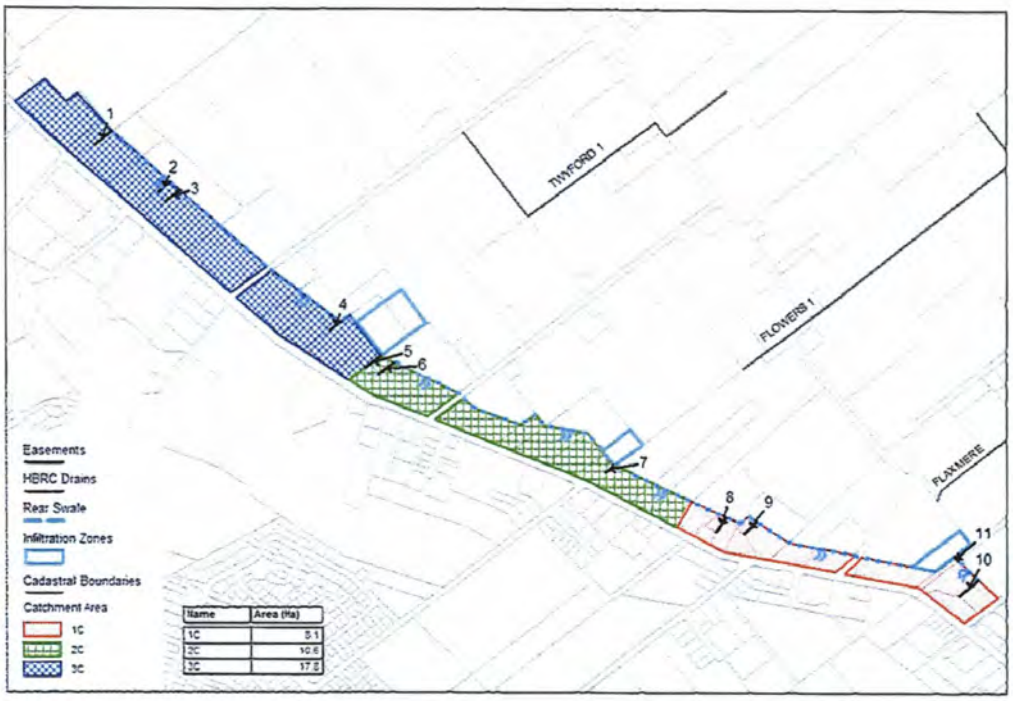


Figure 1 : Layout Plan of the Proposed Rezone Area

2 Stormwater Management Approach

2.1 Stormwater Management Philosophy

The Council wishes to implement a stormwater management strategy that:

- provides land that is 'fit for use' (which necessitates an appropriate level of flood / inundation protection);
- satisfactorily avoids, remedies or mitigates any potential adverse effects on the environment;
- ensures that the risk of contamination associated with industrial activities is adequately managed; and
- is cost effective, efficient and affordable throughout the life of the development.

Particular consideration has been given to the following principles / matters:

- The principals of Low Impact Urban Design;
- The specific characteristics of the potential stormwater receiving environments;
- Climate change
- The HBRC Stormwater Guidelines;
- The objectives of the Council's LTCCP, the Council's Engineering Code of Practice and Subdivision and Development Best Practice Design Guide; and
- On-site Stormwater Management Guideline (NZWERF/MfE 2004).

Having undertaken a comprehensive 'risk based' assessment of the issues and options available, the following key design objectives were identified:

- the minimisation of the extent (frequency and volume) of any discharge into the Raupare Stream catchment;
- the treatment, storage and disposal of stormwater as close to source as possible to reduce risks and minimise changes to the local shallow groundwater system;
- the utilisation of distributed infiltration disposal basins to reduce concentration effects; and
- the effective management of the risks of contamination and spills

2.2 Quality and Quantity Mitigation Strategy

The strategy proposed has the following four major components:

1. ***The use of on-site systems managed by individual owners / operators***
   The emphasis for the on-site systems is on providing primary treatment, quality control and flow mitigation for short duration / high frequency events. The use of on-site detention (near to source) also reduces the required size of downstream swales and ponds.
   Key mitigation methodologies:
   - The use of inert roof materials
   - The bunding of those areas within which stormwater is anticipated to become contaminated and the discharge of this water to the HDC sewer
   - The disposal of roof stormwater to ground on-site
   - The treatment of stormwater falling on hardstand areas prior to this being discharged into the off-site system
   - The attenuation of stormwater flows on-site prior to their discharge into the off-site system

2. ***The implementation of a Hastings District Council Off-site System***
   The off-site system, with its infiltration basins, will provide additional treatment protection and quantity mitigation for longer duration / low frequency rain events.
   Key mitigation methodologies:
   - Ensuring that overflows from the off-site system do not occur in events of up to 10yr ARI and are less than or indistinguishable from Greenfield ones in greater events

3. ***Monitoring and Maintenance***
   On-site systems are to be monitored / maintained on an annual basis. The HDC system of swales and basins is to be monitored on a periodic basis – refer to the draft conditions in the attached application for more detail.

4. ***Regulatory Mechanisms***
   A series of existing and new District Plan and By-law standards will be adopted and implemented to manage stormwater – refer to the attached application for more detail.

   Key mitigation methodologies:
   - The identification and control of those activities which, if not appropriately controlled, may generate unacceptable risks from accidental or negligent spills
   - The requirement for stormwater systems, capable of achieving the identified level of service, to be installed and maintained on-site;
   - The implementation of a regime for the monitoring and auditing of the maintenance and / or performance of on-site systems

A summary of the strategies and their specific contribution to mitigating quality and quantity effects in the off-site and on-site system is provided in Table 2-1 below:

Table 2-1 : Specific Impacts of Quality and Quantity Mitigation Strategies

System Component	Quality Management Strategy	Mitigation Impact
On-site – building roofs	All roofs to be constructed from inert materials e.g. colourSteel Pre-treatment to remove grit and detritus prior to discharge to infiltration to maintain soakage efficiency	Significantly reduced metal contaminant loads in roof runoff – predominantly zinc
On-site – yard areas	All areas where spillage of contaminants may occur to be bunded with stormwater directed to the HDC sanitary sewer.	Reduced risk of accidental contamination of stormwater runoff
	Stage 1 Sump treatment for flows up to 1 in 10 year ARI	Reduction in sediment and settleable solids loads.
	Stage 2 Humeceptor or similar device with bypass for peak flows	Potential reduction in TPH and gross solids loads
Off-site - system – swale	Filtration by grass swales provided adequate detention time	Further sediment removal particularly during minor rain events, when evaporation and infiltration are more significant
Off-site system – pond	Maintenance regime will be established to keep the surface from clogging.	Further sediment and contaminant removal prior to infiltration
	Quantity Management Strategy	
On-site – building roofs	Roof water for all event durations with 10 year ARI captured and disposed to on-site ground soakage. Optional tank storage with some re-use as a complementary strategy.	Zero discharge in frequent rain events. Assists with hydrologic neutrality with recharge of groundwater dispersed along the development
On-site – yard areas	Yard water for all rain event durations with 10 year ARI detained either in shallow above	Flow limited discharge in all normal (frequent) rain events.

	grounding ponding or shallow below ground detention with controlled discharge to the swale system	
Off-site - system – swale	Runoff flows and volumes conveyed to infiltration basins for events up to 1 in 10 year ARI	Flows contained within swale within the acceptable freeboard such that there is no uncontrolled overland flow for events up to a 1 in 10 yr ARI
Off-site – system – pond	Runoff volumes contained and disposed of to ground within one of three infiltration basins. Larger events overflow from basins to local drainage network.	Zero discharge for frequent rain events resulting in reduced flows to the Raupare in all events up to 1 in 50 yr ARI

STORMWATER SYSTEM DIAGRAM

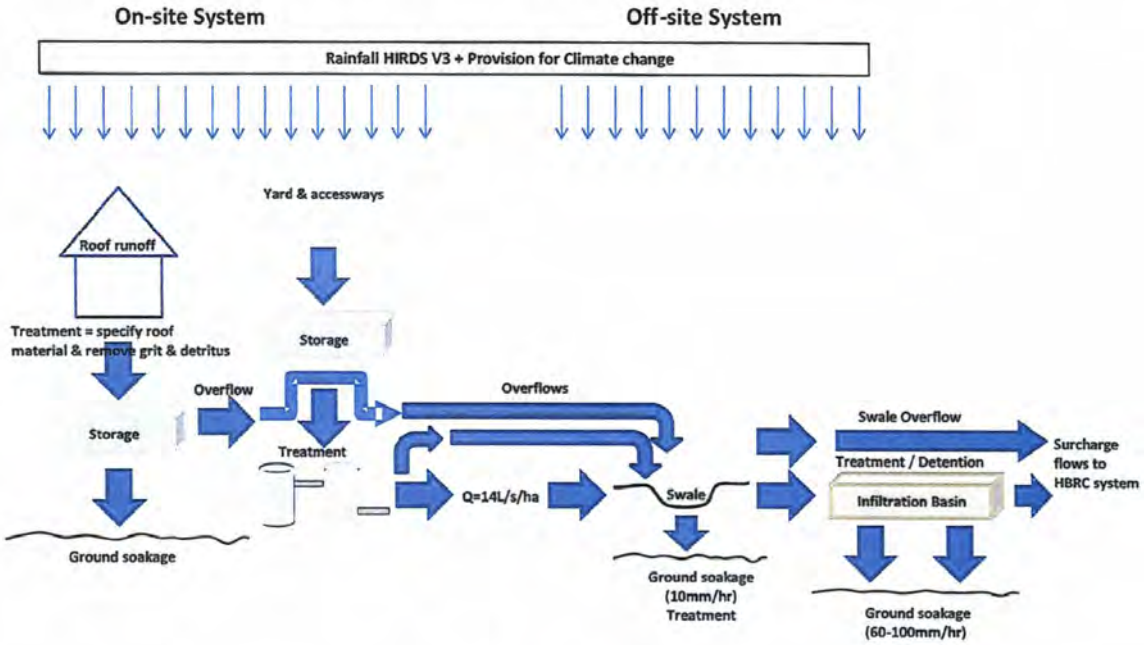


Figure 2 : Stormwater System Diagram

2.3 On-Site System Level of Service

As with all stormwater management systems, it is not possible to design the primary system for all rainfall events. This system has been designed with specific levels of service chosen for each part of the system. The on-site system is key in ensuring adequate treatment of stormwater as well as reducing the cost of mitigating the impacts of additional stormwater runoff volumes in the off-site system.

Quantity
The level of on-site stormwater runoff control is in accordance with the Hawke's Bay Regional Council (HBRC) stormwater guidelines (Hawkes Bay Waterways Guidelines – Stormwater Management – May 2009) for control of 2 year and 10 year ARI storm events.

The on-site system is designed to manage flows from all events up to a 1 in 10 yr ARI, with excess flows passed forward to the off-site system. This is achieved by managing roof runoff via on-site pre-treatment and then infiltration with storage system. Yard runoff is managed by shallow detention storage to limit runoff for all storms up to a 10 year ARI standard to 14 l/s//ha. This equates to the estimated pre-development greenfield peak runoff rate for a 2 year ARI storm (40 minute rainfall of 20mm/hr).

Quality
The level of on-site stormwater treatment control is in accordance with the Hawke's Bay Regional Council (HBRC) stormwater guidelines (Hawke's Bay Waterway Guidelines – Stormwater Management). The level of service criteria for stormwater treatment has been defined as the residential baseline for the Hastings urban area. Therefore the proposed systems have been selected on the basis that they ensure stormwater quality is at least as good as if not better than the Hastings Residential Baseline level (refer Table 3-7.

The intended level of service for the treatment, attenuation and disposal elements of the on-site system is set out in table 2.2 below.

Table 2-2 : Level of Service for On-Site System

Surface	Level of Service	Stormwater Quality Management	Stormwater Quantity Management
Roof areas (Average 35% coverage)	Up to 1 in 10 yr ARI	Specify roof material and treatment via pre-treatment device and filtration in on-site soakage system.	On-site disposal to ground.
	> 1 in 10 yr ARI	Water quality volume treated in on-site soakage system with excess flows to off-site system	Excess flows discharged directly to off-site system via piped or swale connection
Yard areas (Average 65% coverage)	Up to 1 in 10 yr ARI	All flows through sumps and water quality volume to a Humeceptor type device.	Off-site system receives discharge at a controlled rate (14 l/s/ha) after attenuation.
	> 1 in 10 yr ARI	Water quality volume to on-site treatment and additional flows to off-site system	Off-site system via an overflow weir.

2.4 Off-Site System

The off-site system has been designed to meet a level of service based on mitigating the quantity impact of the stormwater runoff on the downstream Raupare catchment as well as providing some additional quality protection where stormwater is to be disposed of by infiltration to the groundwater system.

Quantity

The off-site system has been designed to ensure that flows from all events up to a 1 in 10 yr ARI are contained within the swales with a minimum freeboard of 0.1m. For all events up to in a 1 in 10 yr ARI, all stormwater will be disposed to ground in the infiltration basin with zero runoff to the downstream catchment.

Figure 3 indicates likely locations for swale overflows as well as the routes for surcharge flows from the infiltration basins to the head of nearby HBRC drains within the Ruapare catchment. These flows are anticipated to be indistinguishable from the current greenfield flows and would be occurring at a time during which the catchment is already inundated.

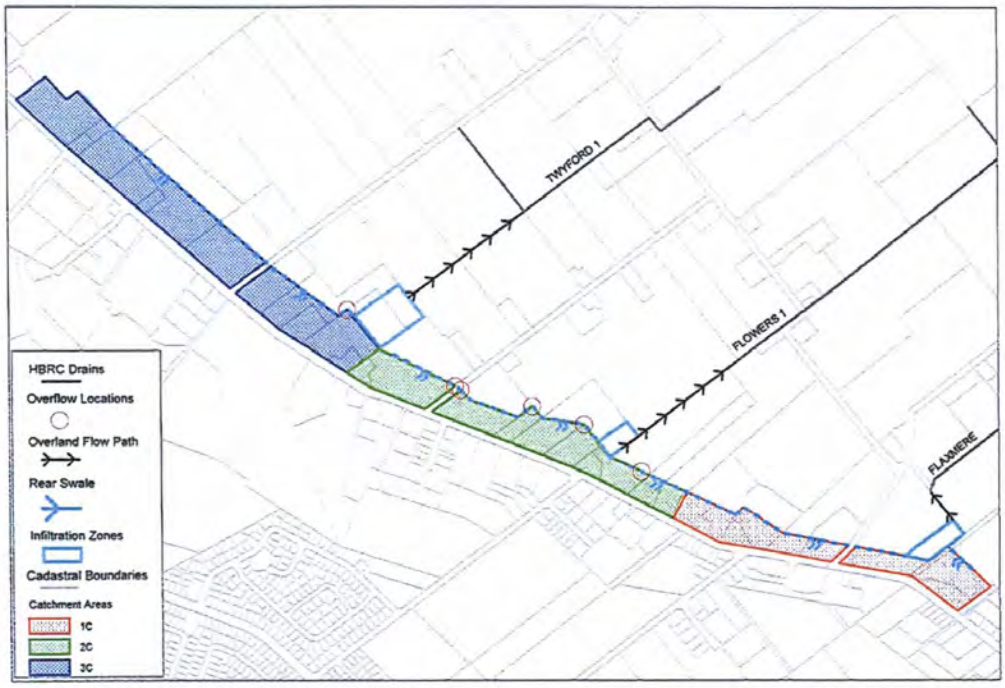


Figure 3 :Overflow Locations and Routes for Surcharge Events

Quality
Some treatment over and above that provided by on-site systems will be provided by the swale and unsaturated zone in the infiltration basin and will enhance protection of the groundwater from contamination.

The intended level of service for the swale and infiltration basin components of the off-site system is set out in Table 2-3 below.

Table 2-3 : Level of Service for Off-Site System

Surface	Level of Service	Stormwater Quality Management	Stormwater Quantity Management
Swale	Up to 1 in 10 yr ARI	Some limited sediment and hydrocarbon removal by vegetation in the swales.	Controlled All flows conveyed within the swale with freeboard of 100mm, based on 14 l/s/ha design capacity.
	> 1 in 10 yr ARI	Some limited sediment and hydrocarbon removal by vegetation in the swales.	Majority of flows retained in swale up to 50 yr ARI with zero freeboard.
Infiltration Basin	Up to 1 in 10 yr ARI	All stormwater will be filtered through the unsaturated soil zone beneath the basin.	All flows retained within the basin and disposed to ground.
	> 1 in 10 yr ARI	Additional sediment removal in fore-bay and some polishing treatment through filtration through the unsaturated soil zone beneath the basin	Flows attenuated in infiltration basin, surcharge flows for long duration events > 50 yr ARI discharged to downstream HBRC drains.

3 Design Assumptions

3.1 Rainfall and Storm Duration

3.1.1 Rainfall Data

The rainfall data used for design and modeling assessment of the capacity of the stormwater management devices was HIRDSv3 (High Intensity Rainfall Design System, developed by NIWA) with the chosen location being the junction of Twyford Road and Omahu Road. Design rainfall totals were extracted from this to represent the current rainfall (Table 3-1) and that expected in 2090 due to the predicted effects of climate change (Table 3-2). Provision for climate change can be made in two ways - built in at initial construction or with upgrade capability designed in. For the purposes of modeling we have assumed the former case.

Table 3-1 : Rainfall (mm depth) – Current Rainfall Data

ARI	10m	20m	30m	60m	2h	6h	12h	24h	48h	72h
2 Year	5.8	8.7	11.1	16.8	23.4	39	54	74.4	86.4	93.6
10 Year	9.9	15.1	19.3	29.4	39.5	63.1	84.8	113.9	134.4	148.1
20 Year	12.2	18.4	23.5	35.5	47.2	75	99.6	132	153.6	172.8
50 Year	16.0	24.4	31.2	47.5	62.1	95.1	124.5	162.8	192.2	211.8

A predicted mean annual temperature increase of 2.1 degrees Celsius was the basis for the 2090 rainfall totals. The temperature increase of 2.1 degrees is tabled as the mid-range estimate in the MfE document *Climate Change Effects and Impacts Assessment: A Guidance Manual for Local Government in New Zealand* (2008). The expected 2090 rainfall depths shown in Table 3-2 represent increases ranging from 16.2 % for the short duration storms down to a 12.5% increase for the long duration events (e.g. 24 hour).

Table 3-2 : Rainfall (mm depth) – 2090 Rainfall Adjusted for Climate Change

ARI	10m	20m	30m	60m	2h	6h	12h	24h	48h	72h
2 Year	6.8	10.1	12.8	19.2	26.4	43.2	60	81.6	96	100.8
10 Year	11.6	17.5	22.1	33.3	44.8	71.4	96	129.6	148.8	165.6
20 Year	14.2	21.5	27.3	41.2	54.8	86.4	115.2	153.6	177.6	194.4
50 Year	18.7	28.1	35.9	54.1	71.2	109.8	145.2	189.6	220.8	244.8

3.1.2 Storm Duration

The stormwater assessment has looked at storms of duration from 1 hour to 3 days for return periods of 1 in 10 years, 1 in 20 and 1 in 50 years. This was undertaken in order to understand the behavior of different parts of the proposed system such as the on-site detention system, swales and infiltration basins.

3.2 Stormwater Runoff Modeling

In order to assess stormwater flows and runoff volumes, a model of the proposed system was created in Infoworks Collection Systems (IWCS). Key assumptions and features of the model are described in the following sections.

3.2.1 Catchment Areas

As described in section 1.2 the rezone area has been divided into 3 catchments. A model was developed to assess the runoff flows from each of the three catchments. The original model had assigned the following areas:
Basin 1 = 7.2 ha, Basin 2 = 12.4 ha, Basin 3 = 17.9 ha; Total = 37.5 ha

Subsequent changes to the boundaries between the areas and exclusion of road runoff areas resulted in some changes to the final catchment areas which are reflected in figure 1:

Basin 1 = 8.1 ha, Basin 2 = 10.6 ha, Basin 3 = 17.8 ha; Total = 36.5 ha

As the final arrangement of the catchments and areas has still to be confirmed through the plan change process, the modelling work which used the earlier area split has been retained on the basis that while flows and volumes may change slightly these do not materially affect the conclusions of the work. A revised model run can be undertaken once the final area split and stormwater management strategy is confirmed.

3.2.2 Onsite System

Some of key assumptions used in modelling the stormwater runoff flows are described below. A more detailed list of key model assumptions is included in Appendix A.

Generic On-site Lot
Based on a review of similar light commercial development land within the Hastings area, the following have been used for a generic lot:

- Generic lot size of 5000 m^2 (50m x 100m)
- Building roof area of 35% or 1250 m^2
- Yard area of 65% or 3750 m^2
- Conservative assumption of 100% hard surface

Refer to Appendix C for an assessment of the site coverage and impervious surfaces investigations completed within Hasting Industrial areas.

Detention and Infiltration
- On-site infiltration is based on 400mm/hour (allowing for 1.5 safety factor reduction from assessed 600mm/hr infiltration capacity)
- Yard discharge to swale limited to 14 l/s/ha up to 1 in 10 ARI

3.2.3 Swales and Pipes

- Swale locations are expected to be along the rear boundaries of the properties as shown in Figure 1.
- Infiltration in the swale is assumed to be 10 mm/hour over the wetted area of the swale, once the swale is mature. The roughness for the swale capacity is based on a Mannings coefficient of 0.04, based on a trapezoidal section as shown in Figure 5 with short grass cover. Final design of the swale will include assessment of a range of roughness values to reflect the likely maintenance regime.
- Invert levels and grades are nominal at this stage and will need to be revised at final design once a final route is confirmed
- Swale reserve is based on a minimum 6m wide reserve with reserve increasing with swale capacity.
- Provision of at least 100mm freeboard on flow depth in swales for all Q10 events.

3.3 Model Results

Peak flows arriving at each of the three infiltration basin locations (refer figure 1) for the three return periods of 1 in 10, 1 in 20 and 1 in 50 years were calculated and results are tabulated in Table 3-3. Key findings:

- Peak flows during all events up to 1 in 10 ARI are less than 14 l/s/ha because of swale attenuation and infiltration e.g. Area 3 peak flow is 224 l/s rather than 17.9 ha x 14 l/s/ha = 250 l/s.
- In all three catchments the peak flows occur during the 6hr event at the 1 in 50 year ARI (see underlined values).
- The proposed swale cross-section with a 3 m bottom width (figure 5) has the potential to convey the majority of runoff from rainfall events up to 1 in 50 yr ARI allowing for zero freeboard

Table 3-3 : Peak Discharge for each Sub-Catchment Including Climate Change Allowance m^3/s

ARI	1hr	2h	6h	12h	24h	48h	72h
Area 3 / Pond 3							
10 Year	0.224	0.224	0.224	0.224	0.224	0.146	0.103
20 Year	0.327	0.348	0.224	0.224	0.224	0.176	0.125
50 Year	0.611	0.662	0.819	0.471	0.224	0.222	0.159
Area 2 / Pond 2							
10 Year	0.146	0.146	0.146	0.146	0.146	0.095	0.067
20 Year	0.254	0.248	0.146	0.146	0.146	0.114	0.082
50 Year	0.485	0.462	0.591	0.327	0.146	0.144	0.103
Area 1 / Pond 1							
10 Year	0.104	0.104	0.104	0.104	0.104	0.0679	0.047
20 Year	0.165	0.158	0.104	0.104	0.104	0.082	0.058
50 Year	0.28	0.313	0.377	0.219	0.104	0.103	0.74

3.4 Infiltration Rates

3.4.1 On-site Soakage Systems

While the surface soils of the re-zone area are largely described as Twyford (silty loam or sandy loam), there is significant variability in soil texture. A narrow strip of land immediately adjacent to Omahu Road is mapped as Omahu soils being an extension of the soils found along the western side of Omahu Road. Soil investigation work to measure in-situ infiltration rates in the proposed locations for the infiltration basins has found coarser textured sands and gravels occur more frequently in the south-eastern parts of the re-zone development. This is confirmed by historical borehole logs which confirm the presence of coarse sands and gravels at shallow depth.

Infiltration rates in the Omahu soils are described as very rapid, while rates in the Twyford soils are described as very good. Work completed on surface infiltration rates for surface soils across Hastings is included in the report '*Hastings District Council: Soils of Hastings City and their Infiltration Rates and Permeabilities by* Landcare Research, October 2006. The report describes a measurement of infiltration rate at St Leonards Park of in excess of 288mm/hr. The soils are described as being in the Omahu soil series,

Soil infiltration tests were also conducted in the Irongate area in soils ranging in texture from silt to coarse gravel. Infiltration measurements ranged from 240mm/hr for silts to as much as 1800 mm/hr for sand and medium gravel.

On the basis of the bore hole logs and existing soil mapping, estimates of infiltration are based on the following assumptions:

- Well-drained sands and gravels are readily accessible, i.e. reasonably shallow soakage systems can be located within the majority of the lots to take advantage of more permeable material.
- The groundwater table is at least 1.5m below ground level
- Soakage disposal can be achieved by infiltration chambers using manufactured plastic modules such as the Humes "RainSmart" module system and wrapped with geo-textile. The chamber combines storage volume with soakage area and is able to be installed beneath the yard pavement.

Based on the range of infiltration tests undertaken within the re-zone area and the assumptions outlined above, a rate of 400mm/hr was selected for assessing generic soakage system design. This is equivalent to 65% of the lowest of the 4 tests completed in sand or gravel soils in the Irongate zone (refer Table 4-1).

Table 3-4 : Summary of Soil Soakage Tests Results for Irongate

Soakage Test No.	General Description of Predominant Soil Type	Results (mm/hour)
1	Sandy fine to coarse GRAVEL	600 – very rapid
2	Fine SAND with occasional medium gravel	1,800 – very rapid
3	Gravely (fine to very coarse) fine SAND	1,050 – very rapid
4	Gravely (fine to coarse) fine to medium SAND	600 – very rapid
5	SILT	240 – rapid

Given the variability in soil texture and infiltration rate across the re-zone area it is expected that infiltration rates specific to individual development areas would need to be determined by investigation when undertaking detailed design. In some cases on-site soakage systems may need to be located closer to the Omahu Road frontage, which will require alternative design of overflow systems to drain excess flows to the swale at the rear of the lots.

3.4.2 Off-Site Infiltration Ponds

The areas or zones in which the the stormwater infiltration basins are to be located (as shown in figure 1) have been chosen in line with the following considerations:

- Areas are located outside the re-zone area to keep land acquisition costs to a minimum and ensure the majority of the re-zone area is available for development
- Areas are down slope of the swale to enable gravity stormwater servicing for the majority of the re-zone area, with swale alignment based on preliminary design using LIDAR data for the zone. Some areas at the south-eastern end of the re-zone area may require low lift pumping.
- The re-zone area has been divided into three to enable cost effective sizing of the swale network delivering stormwater to the basins and to provide for distributed infiltration to reduce impacts of concentrated disposal of stormwater,

In the light of the wide variation in both soil texture and infiltration rates reported from regional studies and tests in other locations, specific field assessment work was undertaken to provide greater confidence in respect of the in-situ soil characteristics and infiltration rates for sizing of basins in the three proposed locations. General findings from this assessment include:

- The measured infiltration rates are in general lower than the values reported in the Landcare Research report.
- Measured infiltration rates vary significantly over relatively short distances (10's of metres) and therefore may vary from one side of an infiltration basin to another and in line with changes in the texture of the sub-soils
- Infiltration rates increase with movement in a south-easterly direction from location 3 towards location 1 and in a southerly direction from the zone boundary towards Omahu Road. This increase in

infiltration rate coincides with an increase in the occurrence near the surface of coarser sand and gravel layers.

Locations of soil sampling are summarised in Table 3-5 and shown on figure 4. Test pits are referenced to each of the re-zone and infiltration areas (1, 2 and 3).

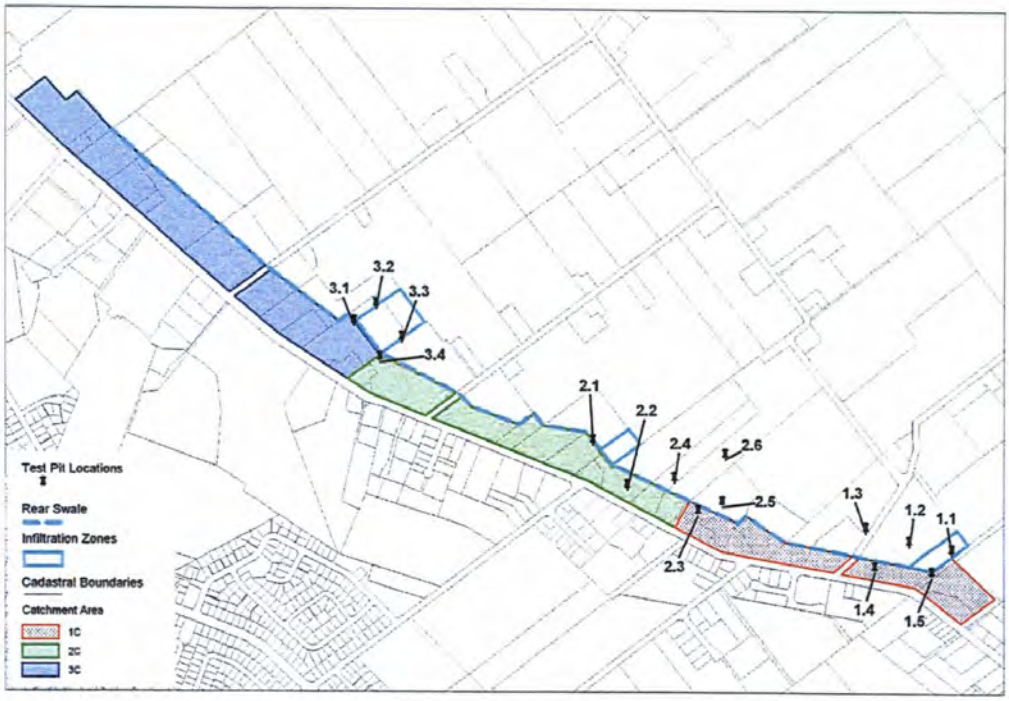


Figure 4 : Locations of Test Pits and Infiltration Assessments

Table 3-5 : Key Soil Features in Proposed Infiltration Zones

Infiltration Zone	Test Locations	Soil Texture Description	Water Table
1	1.1 and 1.5	Brown silts with small blue grey pockets at 1.6m. Small areas of shallow gravel 5-20mm size.	Water table encountered at 2 m below surface
2	2.1	Brown silts with blue grey sandy-silt from 1.8m	Water table at 2.7 m below surface
2	2.4	Brown silts over shallow gravel	Water table at 2.6 m below surface
3	3.1, 3.2, 3.3 and 3.4	Brown silts down to 3 m with small lenses of blue/grey sandy silt from 2 m depth	No water table encountered within 3 m of surface

For each basin area a small number of field infiltration tests were completed. The tests included pre-wetting and represent steady state measurements of infiltration in small confined excavations. The range in measured infiltration rates correlate with local variation in the texture of the sub-soil material. The following principles have been applied to select an infiltration rate for basin design sizing:

- The minimum measured infiltration rate over all the tests for a particular location has been used
- To allow for differences between measured and long term saturated infiltration rate as well as some decline in infiltration rate over time, a design rate of 50% of the minimum measured rate has been assumed (refer Table 3-6).

While the field assessment for basin 1 identified a design infiltration rate of 0.45 m /hr, a maximum rate of 0.225 m/hr has been assumed on the basis that the basin will be lined with a topsoil filter layer which will reduce the long term infiltration rate.

Table 3-6 : Infiltration Rate Measurements in Infiltration Zones

	Infiltration Field Assessments				
Basin Location	No of test	Max Rate (m/hr)	Min Rate (m/hr)	50% of min	Design Rate (m/hr)
1	2	2.2	0.9	0.45	0.23
2	2	6	0.24	0.12	0.12
3	4	0.3	0.06	0.03	0.03

3.5 Quality Management

In respect of the assessment of stormwater quality it has been assumed that the effectiveness of stormwater treatment measures can be assessed by using the Auckland Regional Council (May 2006) contaminant load model.

3.5.1 Residential Baseline

Based on the key level of service criteria being achievement of better than residential baseline stormwater quality, the composition of the typical Hastings residential site has been based on the following drawn from a review of two sample areas of existing residential development in Hastings.

- 40% of grass and gardens (4000 m^2 per ha – including reserves)
- 15% roads (900 m^2 < 1000 vpd, and 600 m^2 of 1000 – 5000 vpd)

- 20% paved surface (2000 m^2 concrete)
- 25% roofs (2500 m2 comprising a mix of various materials, but with a majority of colour-steel, and smaller areas of painted galvanised and clay or tile products)

The resulting contaminant load from the baseline residential area is summarised in Table 3-7.

Table 3-7 : Residential Contaminant Loads – 60% Impervious

Bottom of Site out-fall Loads (kg a^{-1})				Average yields TSS	Zn	Cu	TPH
TSS	Zn	Cu	TPH	kg ha^{-1} a^{-1}	g ha^{-1} a^{-1}	g ha^{-1} a^{-1}	g ha^{-1} a^{-1}
214.1	0.6	0.1	0.4	214	597	50	419

3.5.2 Treatment Assumptions

For the purpose of assessing contaminant loads for the typical lot within the re-zone area the following was assumed as regards surfaces and treatment devices:

- 35% roof area 1750 m^2 constructed from colour steel or equivalent material
- 65% yard area 3750 m^2 assumed to be equivalent to < 1000 vpd roading reflecting goods and staff and customer parking

Specific on-site treatment comprises the following:

- Roof runoff – first management option – stabilised roof materials
- Roof runoff – second management option – some form of pre-treatment prior to the ground soakage system
- Yard runoff – first management option – sumps cleaned 2 times per year
- Yard runoff – second management option – Humes interceptor or similar device

4 On-site System Design

4.1 Design Approach for Example Lot

The requirements for on-site stormwater management have been assessed by considering an example site with an area of 5000 m^2. Key assumptions and features of the example lot include:

- Site area is 50m x 100m, comprising a 50m frontage along Omahu Road and a depth of 100m.
- Building will be a typical portal framed structure with a central ridge and downpipes along each side.
- The building will sit in one corner and have dimensions of 30 m along the frontage and 58 m depth to give an area of 0.175 ha.
- Terrain is assumed to fall at a grade of 1% from the frontage so that the rear of the site is 1m lower than the frontage.
- Building floor level is assumed to be 0.2m lower than the frontage, but 0.8 m higher than the existing level at the rear of the site.
- To form the site and establish the floor level, the rear of the site will need to be filled by an average of 0.5m and the front of the building excavated by 0.3m.
- The yard area around the building will fall from the floor level.

A plan of the example lot follows as Figure 5.

Stormwater Runoff
Stormwater runoff from both the roof and yard areas will drain to separate systems.

Roof runoff will be piped to a storage and ground soakage system located on the site. While a below ground storage and soakage system has been proposed other options may be used including above ground tank storage with infiltration beds or basins. It is expected most developments will look to locate the soakage system in the paved area. The location of the soakage system may vary depending on:
- Fall across the site
- Location of suitable high infiltration rates soils
- Building and hard stand configuration on the lot

Low impact design including the use of landscaped areas as rain gardens and detention/soakage systems is possible but will be at the discretion of the lot developer and owner. Given the high value of the land, the consent is based on 100% hard surface with engineered stormwater management.

Roof stormwater in excess of the capacity of the on-site soakage system will be discharged directly to the Council off-site swale system by a pipe or open channel connection.

Yard water will drain by means of a shallow dishing of the pavement across the front of the building leading to a kerb and channel along the side of the lot. Stormwater will be directed through two treatment devices in series before discharge to the swale section of the off-site system. Excess flows will pass over a weir to the swale drain at the rear of the zone. Some lots may need to pipe their overflow via separate easements, while some low lying areas may need to use low level pumping.

It has been assumed that earthworks will ensure that there is sufficient fall to allow for the operation of a proprietary treatment device.

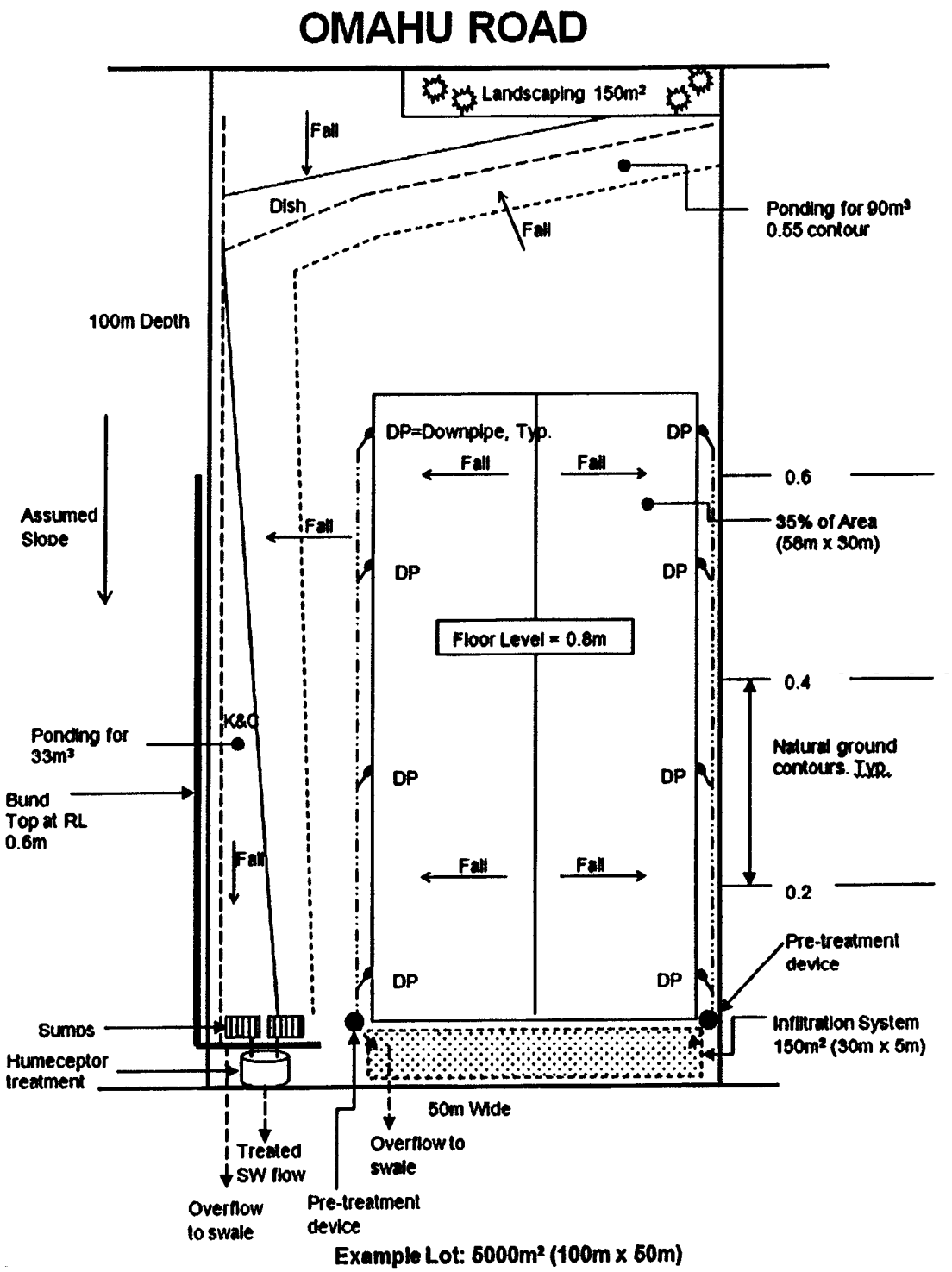


Figure 5 : Example On-site Lot

4.2 Roof-water Storage and Soakage System Design

In line with the design criteria, the system is designed to cope with all runoff from any event with a 10 year ARI, using an assumed infiltration rate of 400 mm/hr.

Downpipes along each side of the building connect to a drain along each side, both of which run to an infiltration chamber located within the lot boundary and sized for a 10 year event. Larger flows will overflow from the infiltration chamber to discharge separately to the offsite system.

The design of the infiltration system is based on a balance of the volume of storage and infiltration or soakage area. The required storage is the difference between the runoff volume and the volume soaking into the soil during the particular event. It has been assumed that storage should be no more than 1 m deep and preferably around 0.5 m deep to minimise construction costs. A range of disposal areas were assessed to arrive at an acceptable design.

In Table 4-1, the amount of storage volume is determined for an assumed soakage area of 50m^2. The assumed infiltration rate of 400mm/hr means the disposal through soakage will be 20m^3/hr. The rainfall depths are from HIRDSV3 for 2090. Rainfall depths are multiplied by 1750m^2 to give the volume of runoff for each rainfall event duration. The volume of soakage is then shown and subtracted to give the storage volume which is needed.

Table 4-1 : Soakage Area and Storage Volume for 10 Year Event

ARI	10m	20m	30m	60m	2h	6h	12h	24h	48h	72h
Rainfall 2090	11.6	17.5	22.1	33.3	44.8	71.4	96	129.6	148.8	165.6
Runoff Vol m^3	20.3	30.6	38.7	58.3	78.4	125.0	168.0	226.8	260.4	289.8
Soakage Vol m^3	3.3	6.6	10.0	20.0	40.0	120.0	240.0	480.0	960.0	1440.0
To Storage m^3	17.0	24.0	28.7	38.3	38.4	5.0	0.0	0.0	0.0	0.0

The required storage volume is the highest value shown, i.e. 38.4. A figure of 40m^3 has been adopted.

A similar calculation for a 50 year event shows that the 40m^3 storage would be filled by the peak 15 minute event. As a factor of safety, it is proposed to allow for an infiltration area of 1.5 times the calculated requirement, i.e. 75 m^2. This would allow for some reduction or variability in long-term sustainable infiltration capacity. With an area of 75 m^2 and a volume of 40m^3, the required effective storage depth will be 533 mm. This indicates that it should be possible to provide storage which is above the water table at all times.

4.3 Yard System Storage and Detention Design

The system has been designed to the following criteria:

- All stormwater falling in an event with a frequency of 1 in 10 years event will be detained and discharged, via treatment devices, to the off-site Council system at a rate no greater than 14 l/s/ha.
- Any runoff in excess of that stored for the peak 1 in 10 year event will spill directly without treatment to the off-site swale (NB: the initial first flush runoff containing the majority of the storm contaminant load will have passed through the treatment train before this occurs).

The sizing of the ponding system is based on a balance of the volume of storage and outflow to the swale system. The required storage is the difference between the runoff volume and the volume discharging at the maximum rate of 14 l/s/ha or 7 l/s for the example lot.

In Table 4-2, the amount of storage volume is determined for a discharge rate of 7 l/s from the 0.5 ha lot. The rainfall depths are from HIRDSV3 for 2090 so include a climate change allowance and are multiplied

by 3250m^2 to give the volume of yard runoff for each duration. The volume of discharge to the swale is then shown and subtracted to give the storage volume which is needed.

Table 4-2 : Yard Storage Volume for 10 Year Event

ARI	10m	20m	30m	60m	2h	6h	12h	24h	48h	72h
Rainfall 2090	11.6	17.5	22.1	33.3	44.8	71.4	96	129.6	148.8	165.6
Runoff Vol m^3	37.7	56.9	71.8	108.2	145.6	232.1	312.0	421.2	483.6	538.2
Discharge Vol m^3	4.2	8.4	12.6	25.2	50.4	151.2	302.4	604.8	1209.6	1814.4
To Storage m^3	33.5	48.5	59.2	83.0	95.2	80.9	9.6	0.0	0.0	0.0

Storage is available by ponding in the area alongside the building. The maximum volume of 95m^3 is available by ponding within the yard area of the lot. One scenario proposed comprises a combination of water ponding in the bottom corner to a depth of up to 0.35 m with an elongate area of 7m x 80m in area to a depth of 0.2 m. If depths are impractical the dished pavement could be replaced with a slot drain.

To achieve this ponded volume a wall or bund will be required to be formed across the low end of the storage. The lowest point in the corner is at existing ground level. Moving toward Omahu Road, the drainage invert would be cut below the existing ground and the wall or bund will have to extend roughly 60m along the side boundary.

Other design solutions can be developed to provide the required 95 m^3 of ponding on-site.

Assessment of the runoff flows during a 1 in 50 year event, indicates that the 95 m^3 of storage will provide for an event of just less than 30 min. For longer events, the additional flow and volume will spill to the off-site swale.

4.4 On-site System Stormwater Treatment Analysis

In line with the assumptions outlined in section 3.6, an assessment of the effectiveness of the proposed treatment in the on-site system and the swale system has been completed, using the ARC Contaminant Load Model. To understand the influence of various parameters a number of scenarios were assessed including:

- Scenario 1. Both roof and yard stormwater treated via a two stage treatment train before discharge to the off-site swale (65% yard: 35% roof)
- Scenario 2. Only yard water being treated via a two stage treatment train with all roof water going to ground soakage (65% yard: 35% roof)
- Scenario 3. Scenario 2 allowing for additional treatment of the yard water discharge in the off-site swale system (65% yard: 35% roof)
- Scenario 4: Scenario 3 with 75% yard and 25% roof coverage
- Scenario 5: Scenario 3 with 55% yard and 45% roof coverage

Scenarios 4 and 5 provide an assessment of the sensitivity of the treatment performance to altered ratio's in yard and roof area on the site. The final contaminant loads are presented in Table 4-3 in terms of average yields per hectare per year for the full lot area.

Table 4-3 : Final Contaminant Loads – Various Scenarios

Scenarios	Average yields TSS	Zn	Cu	TPH
	kg ha^{-1} a^{-1}	g ha^{-1} a^{-1}	g ha^{-1} a^{-1}	g ha^{-1} a^{-1}
Hastings residential baseline – 80% impervious	**185**	**741**	**85**	**805**
Scenario 1 . Yard and roof treated prior to discharge	**23**	**215**	**22**	**447**
Scenario 2. Yard water treated and roof water to on-site soakage	**5.2**	**75.4**	**19.5**	**446**
Scenario 3. Scenario 2 with allowance for swale treatment	**3.9**	**67.6**	**16.3**	**380**
Scenario 4. Scenario 3 with 75% yard and 25% roof	**4.5**	**78**	**18.8**	**438**
Scenario 5: Scenario 3 with 55% yard and 45% roof	**3.3**	**57.2**	**13.8**	**321**

Key findings include:

- For all scenarios the average yields of suspended solids, metals and TPH are reduced by treatment to levels significantly below that of the Hastings Residential Baseline.
- The sensitivity analysis to assess the impact of yard coverage varying by ± 10% from 65% to 55 or 75% indicates relatively small changes of ± 15% in contaminant loads.
- The swale provides a measureable improvement in treatment for all four indicator parameters
- The treatment provided is considered more than adequate to achieve the required level of service and provide an additional level of protection for the aquifer underneath the off-site infiltration basin.

5 Off-site System Design and Assessment

5.1 Design Approach

As outlined in sections 2.2 and 2.3 the key level of service criteria for the off-site system includes:

- All flows for events up to 10 year ARI (2090 rainfall) are contained within the swales and disposed to ground in the infiltration basin with zero runoff to the downstream catchment
- For events from 10 year ARI to 50 year ARI (2090 rainfall) the majority of flows can be accommodated within the swale allowing for zero freeboard and some discharge of greenfield runoff to the local drainage network at very high flows
- For events from 10 year ARI to 50 year ARI, the infiltration basins are sized to contain the maximum volume in any 10 year ARI. Once the volume stored reaches the maximum level then a fixed discharge equivalent to the greenfield flow (current 2010) from the design event would be permitted
- For events beyond a 1 in 10 ARI overflows may occur from the swales and the infiltration basins, although these are not likely to be significant until events exceed a 1 in 50 year ARI. Figure 2 indicates likely routes for swale overflows and surcharge flows from the infiltration basins.

The strip along Omahu Road has been divided into three catchments with flows from each directed to a specific infiltration area as indicated in Figure 1. Stormwater runoff from road reserve along Omahu Road is assumed to discharge elsewhere and is not included in the stormwater assessment.

5.2 Off-Site System Modeling

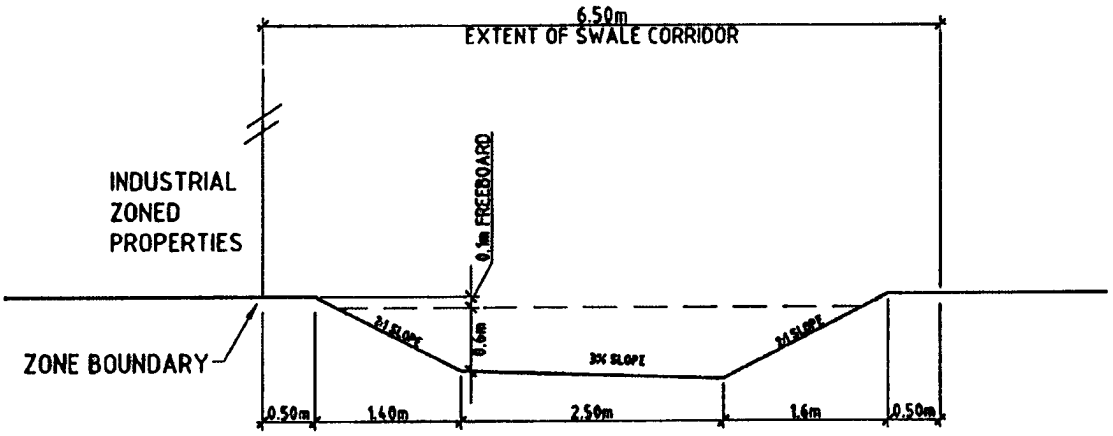
Table 5-1 below summarises the modeled peak flows and total volume of stormwater for each of the three catchments identified in figure 1. Both the current Greenfield runoff (without an allowance for climate change) and the anticipated developed situations (with an allowance for climate change) have been modeled. Results for the 10, 20 and 50 yr ARI events of different durations are provided in Table A1 in Appendix B.

Key findings include:

- Events when swale flows exceed the on-site peak discharges of 14l/s/ha are highlighted in blue and typically peak for the 2 hr 20 yr and 6hr 50 yr ARI events.
- Runoff volumes peak during the 2 day storm events.

5.3 Swales

A typical detail for the swale is show below in Figure 6. This represents the maximum size for the swale (5.5 m) just prior to discharge to the infiltration basin. For much of the swale extent a swale width of less than 6 m will be adequate. The preferred design comprises a traditional trapezoidal section, with shallow slopes such that mowing of the bed and sides can be achieved from within the swale. Screening requirements in respect of planting of a shelter belt have yet to be confirmed.



PROPOSED SWALE DETAIL
SCALE 1 : 70

Figure 6 : Preferred Swale Design Option

Key assumptions in respect of the swale system design include:

- Infiltration in swale is 10 mm/hour over wetted area of swale
- Mannings roughness coefficient assumed to be 0.04
- Invert levels/Grades: A maximum water depth of 0.7 m has been assumed, with grades ranging from 1 in 200 to 1 in 600. Some sections of the swale will need to be incised while others will require banking. Detailed inverts and grades will need to be revised once a final route is confirmed.
- Swales are assumed to be located in a strip of land beyond the boundary of the proposed rezone area.

Steeper grades will be possible (1 in 200 to 1 in 300) at the rear of area 3, while flatter grades (1 in 500 to 1 in 600) are likely in the lower parts of the development at the rear of areas 1 and 2.

A brief assessment of the flow capacity of the proposed swale cross-section for the maximum design depth of 0.6 m (0.7m with freeboard of 0.1 m) is summarised in Table 5-1 for a range of available grades.

Table 5-1 : Flow and Velocity for Range of Swale Grades at Maximum Depth

Gradient	1 in 200	1 in 300	1 in 400	1 in 500	1 in 600
Velocity of Flow m/s	**0.87**	**0.71**	**0.62**	**0.55**	**0.50**
Flow Rate m^3/s	**1.16**	**0.94**	**0.82**	**0.73**	**0.67**

Key findings

- The proposed standard swale has adequate capacity for the modelled peak flows arriving at the swale for all events up to a 10 year ARI with 0.1 m freeboard, and the majority of events up to a 1 in 50 year ARI with zero freeboard. The maximum flow arises in area 3 during the 6 hr 50 year ARI event.
- There is some limited opportunity to reduce the swale section and easement width in the upper sections of the each sub-catchment, however access and maintenance considerations require a minimum easement width.
- Overflows, up to greenfield rates, to road side drains for events between 20 and 50 yr ARI could be provided by way of side exit weirs just upstream of road crossing culverts however these have not been modelled

5.4 Infiltration Basins

An assessment of the design infiltration pond areas based on a maximum water level of 1 m under a range of level of service scenarios was completed. Maximum volumes of storage were calculated for each of the three sub-catchment areas based on the following assumed infiltration rates. The calculation of maximum basin storage volumes using the outputs from the model, are summarised in Appendix B in Table A2.

Swale infiltration rate – 10mm/hr

Basin 3	depth 1 m	infiltration rate 30 mm/hr
Basin 2	depth 1 m	infiltration rate 120 mm/hr
Basin 1	depth 1 m	infiltration rate 225 mm/hr

Two scenarios were considered:

- pond sizes were determined at each of 10 year, 20 yr and 50 yr ARI based on providing for zero discharge to the downstream catchment (refer table 5-2)
- pond sizes for the 50 year ARI with zero discharge were modified to account for allowable greenfield discharges for events beyond a 1 in 10 year frequency (refer table 5-3)

Final pond location has yet to be determined, however infiltration zones have been identified within which specific infiltration ponds will be constructed. Final pond position will be determined following detailed swale design to ensure the majority of lots can discharge stormwater by gravity and consultation with landowners.

Key features of the proposed infiltration basin or dry pond include:

- graded swale entry with rip-rap protection and fore-bay to capture swale sediment load
- side slopes of 2 horizontal to 1 vertical
- maximum pond water depth of 1 m
- intermediate bench of 1m width at 0.5 depth as a safety and management aid
- grass and soil invert cover to basin floor to control rapid drainage (relevant for basins 1 and 2)
- pipe outlet for surcharge flows and permitted greenfield discharge
- small perimeter bund to provide for a 0.3 m freeboard

A general bank cross-section for the proposed infiltration basin / dry pond is shown in Figure 7.

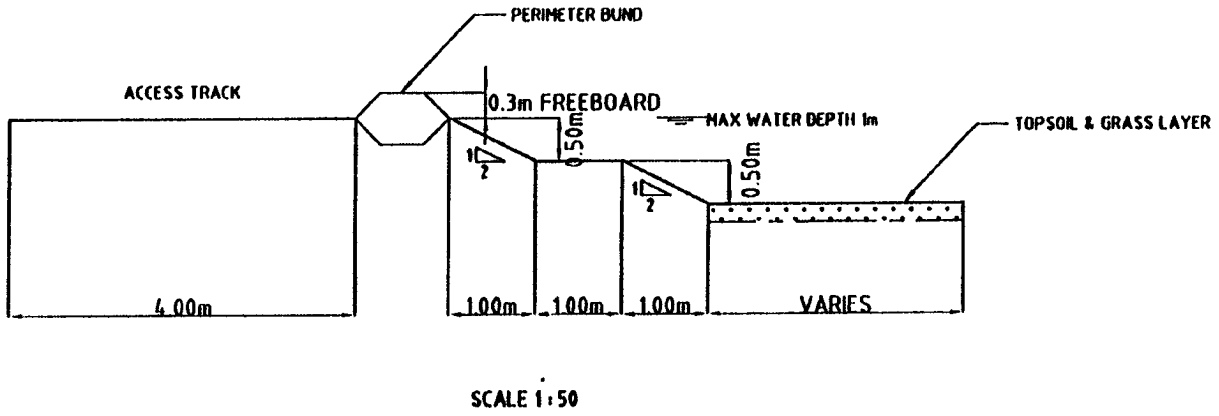


Figure 7 : Infiltration Basin or Dry Pond Typical Bank Cross-Section

Table 5-2 : Infiltration Basin Sizing with Zero Discharge

	Level of Service	Pond Volume (m3)	Critical Event
Area 3	1 in 10 year	8200	24 hr
	1 in 20 year	10000	24 hr
	1 in 50 year	12200	24 hr
Area 2	1 in 10 year	3000	6 hr
	1 in 20 year	3700	12 hr
	1 in 50 year	5000	6 hr
Area 1	1 in 10 year	1800	2 hr
	1 in 20 year	2050	2 hr
	1 in 50 year	2600	6 hr

Adjusting Infiltration Pond Sizing Allowing Greenfields Discharge

The possible impact of adjusting the pond sizing to account for discharge of typical greenfield flows for events greater than a 1 in 10 year event has been assessed on the following basis:

- No greenfield discharge is allowed from any basin until the stored volume reaches the maximum modeled for a 10 ARI event e.g. 8200 m^3 for Area 3 in a 6 hour event.
- Once the peak volume is reached a fixed discharge would be permitted equivalent to the greenfield flow for the critical 50 year ARI event which determines the maximum storage capacity e.g. Greenfield Flow = 0.08 m^3/s for Area 3 during a 1 day event. The Greenfield flow for a 24hr event with 50 yr ARI was chosen as this is beyond the critical duration for the receiving Raupare catchment.

The effective reduction in storage volume for a 1 in 50 year event depends on the time taken to reach the 10 year ARI stored volume during the higher frequency event. The minimum storage volume reductions are listed in table 5-3 and are based on 6 hours discharge in a 24 hour event for area 3 and 4 hours discharge during a 6 hour event for areas 1 and 2. The area for each infiltration basin includes an allowance for any minor embankment and an access strip around the outside of the basin for maintenance access of a minimum 7 m.

Table 5-3 : Infiltration Basin Sizing with Greenfield Flow Discharge

Sub-Catchment	Maximum Pond Volume (m^3)	Greenfield Flow * (m^3/s)	Greenfield Volume Reduction (m^3)	Reduced Pond Volume (m^3)	Land Area (ha)
Area 3	12,200	0.08	1,750	10,450	1.4
Area 2	5,000	0.053	760	4,240	0.6
Area 1	2,600	0.038	200	2,400	0.365

*Greenfield flow is that occurring during a 24 hr duration event with a 50 year ARI

Any greenfield discharge or surcharge flow will be directed to the existing HBRC drains as shown in figure 3. This differs from the current greenfield runoff which is a spread or distributed discharge. However it is considered that the discharges for events of less than 50 yr ARI are modest and should have little impact in the receiving HBRC drains.

At this stage a decision on how the surcharge flows from the ponds will be conveyed to the HBRC drains has not been made.

Appendix A Model Assumptions

Roof Area

- Assessment is based on a 1750m^2 of roof area for a 0.5 ha lot (35%)
- Infiltration Chamber: 0.6m deep, 40m^3 storage for 75m^2 of floor area.
- Overflow to off-site swale based on a 225mm overflow pipe of 10m length with a slope of 0.01 m/m.

Yard Area

- Assessment is based on a 3250m^2 of paved area for a 0.5 ha lot (65%)
- Outlet comprises a paved area flowing through a treatment system limited to 14 l/s
- Outlet pipe is 150mm diameter and 10m length at a depth of 0.6m
- Storage area allows for 15% of the paved lot (475m^2) to be inundated to a depth of 200mm providing 95m^3 storage
- Overflow weir 3 m wide
- Overflow level 200mm above ground level (no slope assumed for paved catchment)

Greenfield Situation

- Slopes: Areas 1 and 3 assumed to have zero slope: Area 2 has slope of 0.003
- The surface is classed as "row crops" with a soil class of "2".
- Soil class 2 is a low runoff class (1 is very low, 5 is very high) with a water holding capacity index of 0.30.
- 0 mm initial loss
- Majority of rainfall is directed into the soil store until is reaches capacity when all rainfall then becomes runoff.

Swales and Pipes

- Roughness for swales based on Manning coefficient of 0.04
- Invert levels and grades are nominal at this stage and will need to be revised at final design once a final route is confirmed
- Swale reserve is based on a minimum 6m wide reserve with reserve increasing with swale capacity
- Roughness for pipes is based on 1.5mm Colebrook White
- Headloss inferred by IWCS (Infoworks Collection Systems – name of modeling software)

Runoff Model Parameters

- Model fast response and New (UK)
- Road Surface (10) Runoff routing of 1, fixed runoff volume, impervious, 0m slope, 0.000071m initial loss, 1 fixed coefficient and initial Loss of 1mm
- Roof Surface (20) Runoff routing of 1, fixed runoff volume, impervious, 0.5m slope, 0.000071m initial loss, 1 fixed coefficient and initial Loss of 1mm
- Grass Surface (21) Runoff routing of 4, new UK runoff volume, pervious, 0m slope, 0.002m initial loss and initial Loss of 1mm

Design Thresholds

- Provision of a minimum 100mm freeboard on flow depth in swales for all Q10 events
- Evaporation was not taken into account
- Local UCWI (Urban Catchment Wetness Index) was not taken into account since the runoff is predominantly fast response.
- Local antecedent depth not taken into account. (This is the rainfall that has fallen prior to the storm event).

Appendix B Tabulated Model Results

Table A1 Modelling Results for Off-Site Runoff Flows and Volumes
Table A2 Tabulated Results for Infiltration Pond Sizing

Table A1 : Modelling Results for Off-Site Runoff Flows and Volumes

		Area 3/Pond 3		Area 2/Pond 2		Area 1/Pond 1	
	Rainfall Used	(HIRDS)	HIRDS +CC	(HIRDS)	HIRDS +CC	(HIRDS)	HIRDS +CC
10 Year		Green	Develop	Green	Develop	Green	Develop
60 min	max flow (m3/s)	0.34	0.224	0.226	0.146	0.16	0.104
	flow vol (m3)		3635		2369		1687
2 hr	max flow (m3/s)	0.229	0.224	0.152	0.146	0.108	0.104
	flow vol (m3)		4878		3177		22634
6 hr	max flow (m3/s)	0.123	0.224	0.082	0.146	0.058	0.104
	flow vol (m3)		7884		5132		3661
12 hr	max flow (m3/s)	0.083	0.224	0.055	0.146	0.039	0.104
	flow vol (m3)		10574		6881		4909
24 hr	max flow (m3/s)	0.055	0.224	0.037	0.146	0.026	0.104
	flow vol (m3)		14037		9136		6503
2 days	max flow (m3/s)	0.033	0.146	0.022	0.095	0.016	0.067
	flow vol (m3)		15143		9897		6978
3 days	max flow (m3/s)	0.024	0.103	0.016	0.067	0.011	0.047
	flow vol (m3)		9914		6531		4539

		Area 3/Pond 3		Area 2/Pond 2		Area 1/Pond 1	
	Rainfall Used	(HIRDS)	HIRDS +CC	(HIRDS)	HIRDS +CC	(HIRDS)	HIRDS +CC
20 Years							
60 min	max flow (m3/s)	0.418	0.327	0.278	0.254	0.197	0.165
	flow vol (m3)		4784		3137		2204
2 hr	max flow (m3/s)	0.279	0.348	0.185	0.248	0.131	0.158
	flow vol (m3)		6386		4177		2946
6 hr	max flow (m3/s)	0.146	0.224	0.097	0.146	0.069	0.104
	flow vol (m3)		9558		6220		4439
12 hr	max flow (m3/s)	0.098	0.224	0.065	0.146	0.046	0.104
	flow vol (m3)		12743		8921		5918
24 hr	max flow (m3/s)	0.065	0.224	0.043	0.146	0.031	0.104
	flow vol (m3)		16900		10995		7842
2 days	max flow (m3/s)	0.038	0.176	0.025	0.114	0.018	0.082
	flow vol (m3)		18442		12041		8529
3 days	max flow (m3/s)	0.028	0.125	0.019	0.082	0.013	0.058
	flow vol (m3)		12221		8032		5627

50 Years							
60 min	max flow (m3/s)	*0.547*	**0.611**	*0.363*	**0.485**	*0.257*	**0.28**
	flow vol (m3)		6882		4539		3144
2 hr	max flow (m3/s)	*0.359*	**0.662**	*0.239*	**0.462**	*0.169*	**0.313**
	flow vol (m3)		9032		5950		3127
6 hr	max flow (m3/s)	*0.185*	**0.819**	*0.123*	**0.591**	*0.087*	**0.377**
	flow vol (m3)		12958		8491		5962
12 hr	max flow (m3/s)	*0.122*	**0.471**	*0.081*	**0.327**	*0.057*	**0.219**
	flow vol (m3)		16148		10511		7493
24 hr	max flow (m3/s)	*0.08*	0.224	*0.053*	0.146	*0.038*	0.104
	flow vol (m3)		21140		13751		9817
2 days	max flow (m3/s)	*0.047*	0.222	*0.031*	0.144	*0.022*	0.103
	flow vol (m3)		23457		15302		10884
3 days	max flow (m3/s)	*0.034*	0.159	*0.023*	0.103	*0.016*	0.074
	flow vol (m3)		15688		10289		7263

Table A2 – Tabulated Analysis for Infiltration Pond Sizing

Key assumptions:
- Swale infiltration 10mm/hr
- Rainfall depths – HIRD v3 with climate change allowance to 2090

		Design Pond Area		12200			5000			2600
		Area 3/Pond 3			Area 2/Pond 2			Area 1/Pond 1		
		Greenfields			*Greenfields*			*Greenfields*		
	Rainfall Used	*(HIRDS)*	HIRDS +CC	Pond vol - zero discharge HIRDs + CC	*(HIRDS)*	HIRDS +CC	Pond vol - zero discharge HIRDs + CC	*(HIRDS)*	HIRDS +CC	Pond vol - zero discharge HIRDs + CC
10 Year										
60	max flow (m3/s)	*0.34*	0.224		*0.226*	0.146		*0.16*	0.104	
	flow vol (m3)		3635	3260		2369	1769		1687	1102
120	max flow (m3/s)	*0.229*	0.224		*0.152*	0.146		*0.108*	0.104	
	flow vol (m3)		4878	4128		3177	1977		2263.4	1093.4
360	max flow (m3/s)	*0.123*	0.224		*0.082*	0.146		*0.058*	0.104	
	flow vol (m3)		7884	5634		5132	1532		3661	151
720	max flow (m3/s)	*0.083*	0.224		*0.055*	0.146		*0.039*	0.104	
	flow vol (m3)		10574	6074		6881	-319		4909	-2111
1440	max flow (m3/s)	*0.055*	0.224		*0.037*	0.146		*0.026*	0.104	
	flow vol (m3)		14037	5037		9136	-5264		6503	-7537
2880	max flow (m3/s)	*0.033*	0.146		*0.022*	0.095		*0.016*	0.067	
	flow vol (m3)		15143	-2857		9897	-18903		6978	-21102
4320	max flow (m3/s)	*0.024*	0.103		*0.016*	0.067		*0.011*	0.047	
	flow vol (m3)		9914	-17086		6531	-36669		4539	-37581

		Design Pond Area		12200			5000			2600
		Area 3/Pond 3			Area 2/Pond 2			Area 1/Pond 1		
		Greenfields			*Greenfields*			*Greenfields*		
	Rainfall Used	*(HIRDS)*	HIRDS +CC	Pond vol - zero discharge HIRDs + CC	*(HIRDS)*	HIRDS +CC	Pond vol - zero discharge HIRDs + CC	*(HIRDS)*	HIRDS +CC	Pond vol - zero discharge HIRDs + CC
20 Year										
60	max flow (m3/s)	*0.418*	0.327		*0.278*	0.254		*0.197*	0.165	
	flow vol (m3)		4784	4409		3137	2537		2204	1619
120	max flow (m3/s)	*0.279*	0.348		*0.185*	0.248		*0.131*	0.158	
	flow vol (m3)		6386	5636		4177	2977		2946	1776
360	max flow (m3/s)	*0.146*	0.224		*0.097*	0.146		*0.069*	0.104	
	flow vol (m3)		9558	7308		6220	2620		4439	929
720	max flow (m3/s)	*0.098*	0.224		*0.065*	0.146		*0.046*	0.104	
	flow vol (m3)		12743	8243		8921	1721		5918	-1102
1440	max flow (m3/s)	*0.065*	0.224		*0.043*	0.146		*0.031*	0.104	
	flow vol (m3)		16900	7900		10995	-3405		7842	-6198
2880	max flow (m3/s)	*0.038*	0.176		*0.025*	0.114		*0.018*	0.082	
	flow vol (m3)		18442	442		12041	-16759		8529	-19551
4320	max flow (m3/s)	*0.028*	0.125		*0.019*	0.082		*0.013*	0.058	
	flow vol (m3)		12221	-14779		8032	-35168		5627	-36493

		Design Pond Area		12200			5000			2600
		Area 3/Pond 3			Area 2/Pond 2			Area 1/Pond 1		
		Greenfields			*Greenfields*			*Greenfields*		
	Rainfall Used	*(HIRDS)*	HIRDS +CC	Pond vol - zero discharge HIRDs + CC	*(HIRDS)*	HIRDS +CC	Pond vol - zero discharge HIRDs + CC	*(HIRDS)*	HIRDS +CC	Pond vol - zero discharge HIRDs + CC
50 Year										
60	max flow (m3/s)	*0.547*	0.611		*0.363*	0.485		*0.257*	0.28	
	flow vol (m3)		6882	6507		4539	3939		3144	2559
120	max flow (m3/s)	*0.359*	0.662		*0.239*	0.462		*0.169*	0.313	
	flow vol (m3)		9032	8282		5950	4750		3127	1957
360	max flow (m3/s)	*0.185*	0.819		*0.123*	0.591		*0.087*	0.377	
	flow vol (m3)		12958	10708		8491	4891		5962	2452
720	max flow (m3/s)	*0.122*	0.471		*0.081*	0.327		*0.057*	0.219	
	flow vol (m3)		16148	11648		10511	3311		7493	473
1440	max flow (m3/s)	*0.08*	0.224		*0.053*	0.146		*0.038*	0.104	
	flow vol (m3)		21140	12140		13751	-649		9817	-4223
2880	max flow (m3/s)	*0.047*	0.222		*0.031*	0.144		*0.022*	0.103	
	flow vol (m3)		23457	5457		15302	-13498		10884	-17196
4320	max flow (m3/s)	*0.034*	0.159		*0.023*	0.103		*0.016*	0.074	
	flow vol (m3)		15688	-11312		10289	-32911		7263	-34857

Appendix C Site Coverage and Impervious Surfaces Investigations

Building Coverage
A survey has been undertaken of the extent of building coverage on sites within the General Industrial (I2) zone. This review was of developed sites of 5000m^2 in area or less. The review was undertaken on the 2009 Aerial photographs – the most recent urban series that the Council has. A comparison was made with the 2006 aerial photographs for those sites fronting Omahu Road.

The primary conclusion from this was that a 35% building coverage is an appropriate assumption for the proposed zone. The 50% assumption that was utilised at the commencement of our assessment was considered substantially too high.

The data indicates that:

1. The average building coverage for sites within the I2 zone is 35%. The average building coverage for sites within the Omahu zone is likewise 35%. Refer to ***Table 1*** below.
2. The average building coverage for sites of 1000m2 to 5000m2 within the I2 zone is 35%. The average building coverage for the same site size range within the Omahu zone is 34%. Refer to ***Table 2*** below.
   NB: Sites of less than 1000m^2 are no longer permitted as of right within the I2 zone. Nor are they proposed to be permitted within the new zone.
3. The average building coverage on those I2 zone sites fronting Omahu Road (developed / substantially redeveloped since 2006) is 35%. Refer to ***Table 3*** below.
   This was considered as there are indications that there has been a tendency towards a more efficient use of land over time. Advice received by the Council is that this trend is likely to continue over time.
4. Building coverage tends to be greater on smaller sites. Refer to ***Tables 4 to 6*** below:

Table 1
Building Coverage - Industrial 2 zone - Sites <=5000m^2

	Land Area (m^2)	Building Area (m^2)	No. of Sites	Average Coverage
Omahu	253982	88887	131	35%
Whakatu	10798	2967	5	27%
Tomoana	8267	4150	3	50%
Hastings	Nil	Nil	0	Nil
Total	273047	96004	139	35%

Table 2
Building coverage - Industrial 2 zone - Sites =>1000m2<=5000m2

	Land Area (m^2)	Building Area (m^2)	No. of Sites	Average Coverage
Omahu	235462	80743	106	34%
Whakatu	8479	2463	2	29%
Tomoana	8267	4150	3	50%
Hastings	Nil	Nil	0	Nil
Total	252208	87356	111	35%

Table 3
Building coverage - Industrial 2 zone sites fronting Omahu Road- post 2006

	Land Area (m^2)	Building Area (m^2)	No. of Sites	Average Coverage
Omahu	11832	4167	7	35%
In proposed Zone*	26915	5352	4	20%
Total	38747	9519	11	25%

Table 4				
Building coverage - Sites <=1000m²				
	Land Area (m²)	Building Area (m²)	No. of Sites	Average Coverage
Omahu	18520	8144	25	44%
Whakatu	2319	504	3	22%
Tomoana	Nil	Nil	0	Nil
Hastings	Nil	Nil	0	Nil
Total	20839	8648	28	41%

Table 5				
Building coverage - Sites =>1000m²<=2000m²				
	Land Area (m²)	Building Area (m²)	No. of Sites	Average Coverage
Omahu	79497	29872	55	38%
Whakatu	Nil	Nil	0	Nil
Tomoana	Nil	Nil	0	Nil
Hastings	Nil	Nil	0	Nil
Total	79497	29872	55	38%

Table 6				
Building coverage - Sites =>2000m2<=5000m2				
	Land Area (m²)	Building Area (m²)	No. of Sites	Average Coverage
Omahu	155965	50871	51	33%
Whakatu	8479	2463	2	29%
Tomoana	8267	4150	3	50%
Hastings	Nil	Nil	0	Nil
Total	172711	57484	56	33%

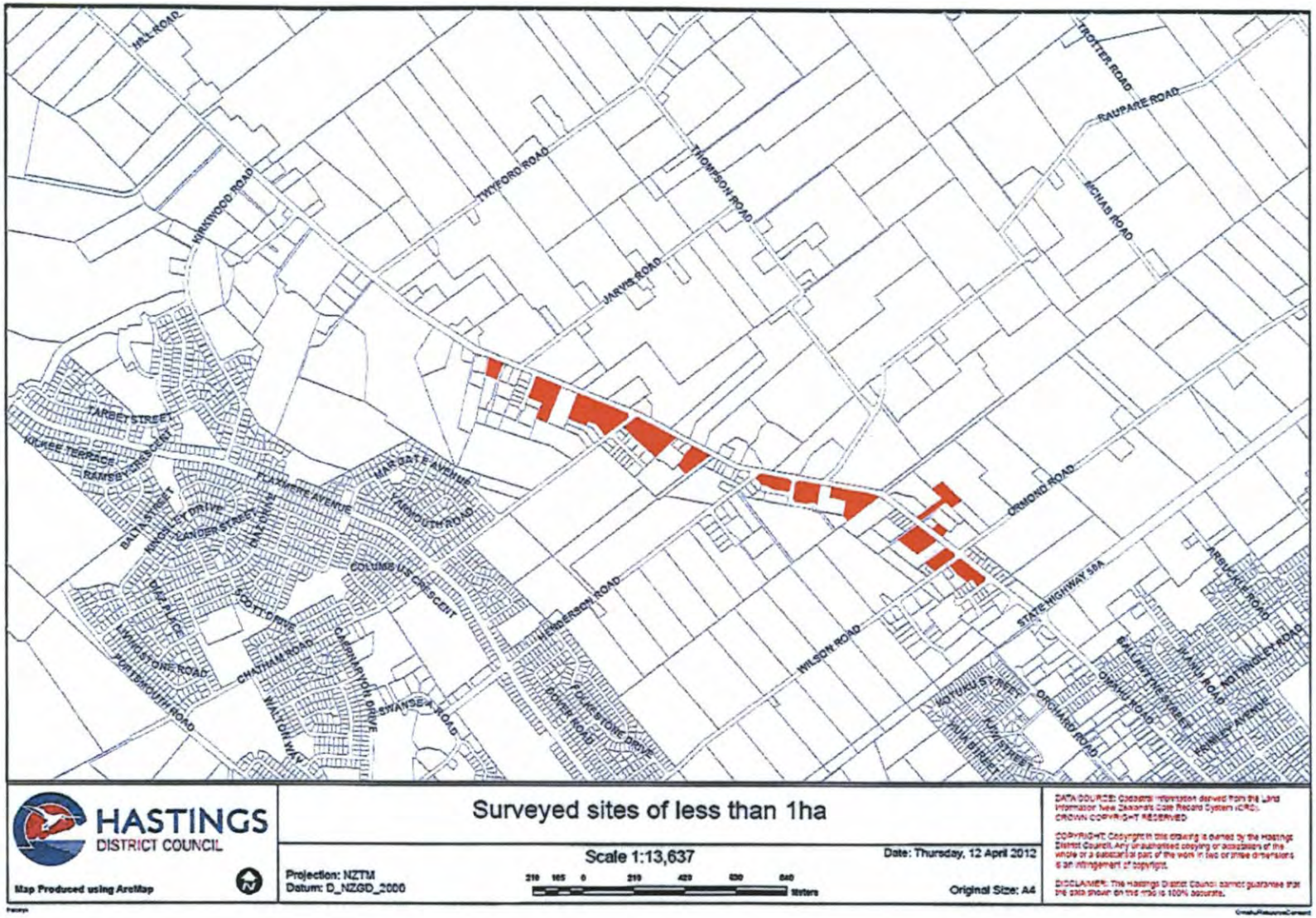
Notes:
Table 2 reflects the site sizes to be permitted within the proposed zone
Table 3 was considered to see if there is a recent trend on Omahu Road
Table 4 includes only sites <1000m2 which are not anticipated to be permitted
Table 5 includes only smaller sites anticipated to be infrequently developed
Table 6 includes the sites size anticipated to be most frequently developed

Impervious Surfaces
The Industrial 2 zone standards do not include a pervious surface requirement for the Industrial 2 zone – except by way of a 2m wide front yard - ½ of which must be landscaped. Were these rules applied to the proposed new zone, this equates to somewhere in the vicinity of 0.8% (2888m2) of the zone being landscaped/pervious. Historically these landscape areas were often only informally created and tended to become compacted or even sealed over time. The Council's monitoring of these standards has increased substantially over time. As a consequence these landscape areas are now more consistently formed (curbed & channelled) and maintained.

A survey of the 2009 Aerial Photographs indicates that the average extent of impervious surfaces on I2 zoned sites fronting Omahu Road with an area of less than 1ha is 94%.

A survey of the 2009 Aerial Photographs indicates that the average extent of impervious surfaces on the six sites already developed for intensive industrial use within the proposed zone is 93%.

Author: vanbenrj, Error! Unknown document property name., Hastings District Council
Date: 12 April 2012



HASTINGS DISTRICT COUNCIL

Map Produced using ArcMap

Surveyed sites of less than 1ha

Scale 1:13,637

Projection: NZTM
Datum: D_NZGD_2000

210 105 0 210 420 630 840 Meters

Date: Thursday, 12 April 2012

Original Size: A4

DATA SOURCE: Cadastral information derived from the Land Information New Zealand's Core Record System (CRS).
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DISCLAIMER: The Hastings District Council cannot guarantee that the data shown on this map is 100% accurate.

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INFRASTRUCTURE AND ENVIRONMENT EXPERTS

SGS

Appendix 4
Summary of the
Natural Hazards Assessment

HASTINGS DISTRICT COUNCIL

File Ref: STR-9-6-10-72

File Note: Tracey Gray, Strategic Planner

Date: 19 September 2012

Subject: **Summary of the Natural Hazard Assessment**
Proposed Omahu North Industrial Area

A check of the Council's GIS system has not identified any natural hazards of specific concern to the preparation of a structure plan and Plan Change for the proposed Industrial Expansion Area. Maps from the GIS are attached as Appendix 1.

Rowan Little, the Environmental Policy Planner responsible for the review of the District Plan's Natural Hazards provisions currently underway, has confirmed that:
The layers which I have checked for hazards are the appropriate ones to be considered;
That it is understood that HBRC may have more up to date flood information layer in our GIS. The potential flood effects of the proposed zone have however be considered in detail in the preparation of the proposed Plan Change and the subject area has not been identified as subject to any significant flood risk. The potential downstream effects of the proposed stormwater discharge have also been considered in detail within the Council's application for a discharge consent. It was concluded that any such effects would be minor; and that
A review of the property files should be undertaken to identify any known site specific concerns.

A review of the files for the properties located within the proposed expansion area has not identified any site specific natural hazard features / concerns.

Conclusion:
There are no natural hazard features that should be shown on the structure plan for the proposed area or that should be given further consideration in the assessment of a Plan Change.

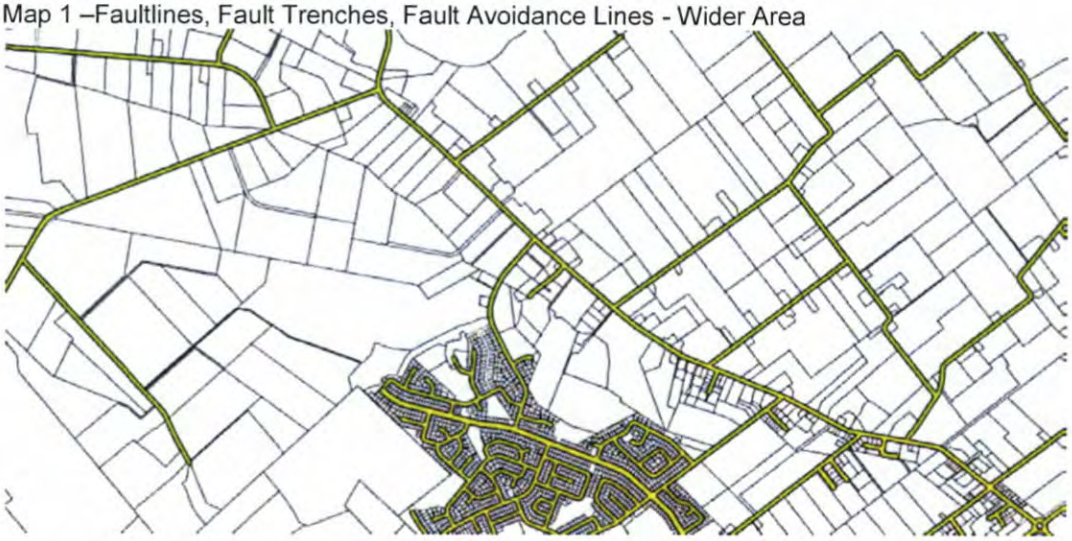
Tracey Gray

Strategic Planner

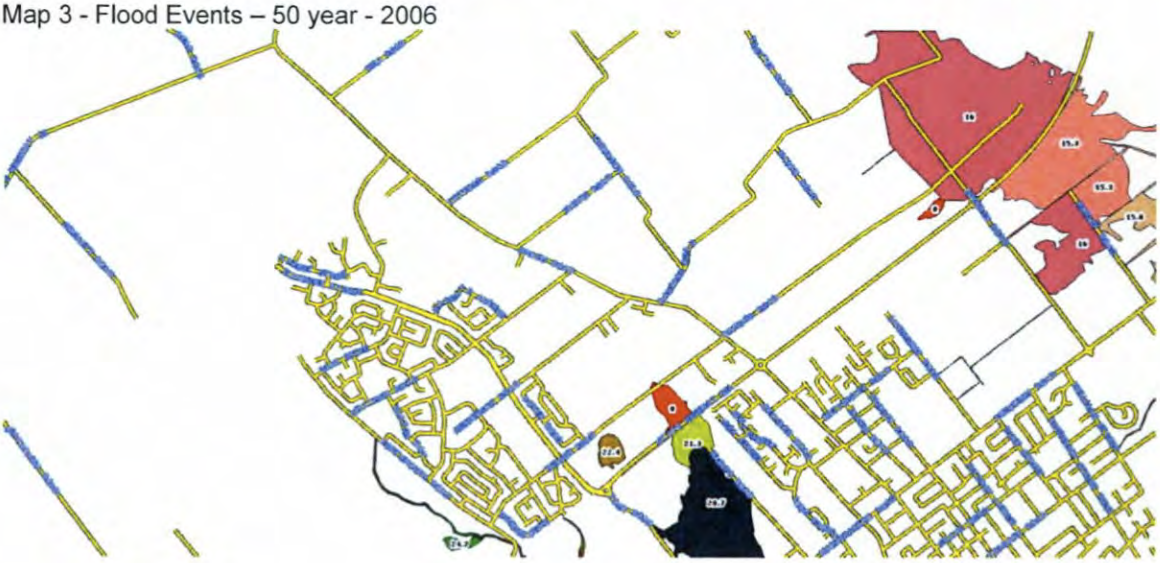
traceyk@hdc.govt.nz

• APPENDIX 1

Map 1 –Faultlines, Fault Trenches, Fault Avoidance Lines - Wider Area



Map 3 - Flood Events – 50 year - 2006



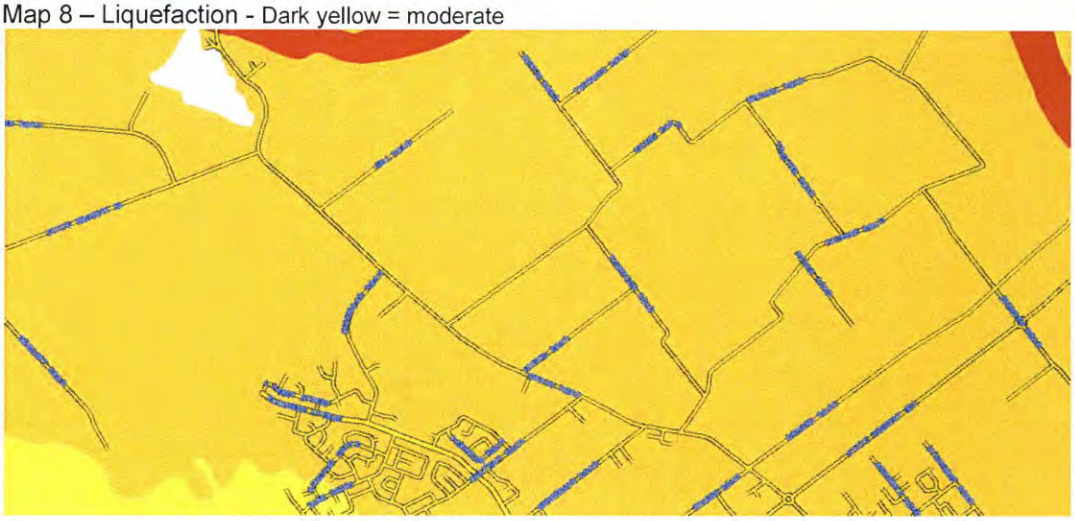
Map 4 – Areas Subject to Ponding – Wider Area

Map 5 - Areas Subject to Ponding – Identified Sites

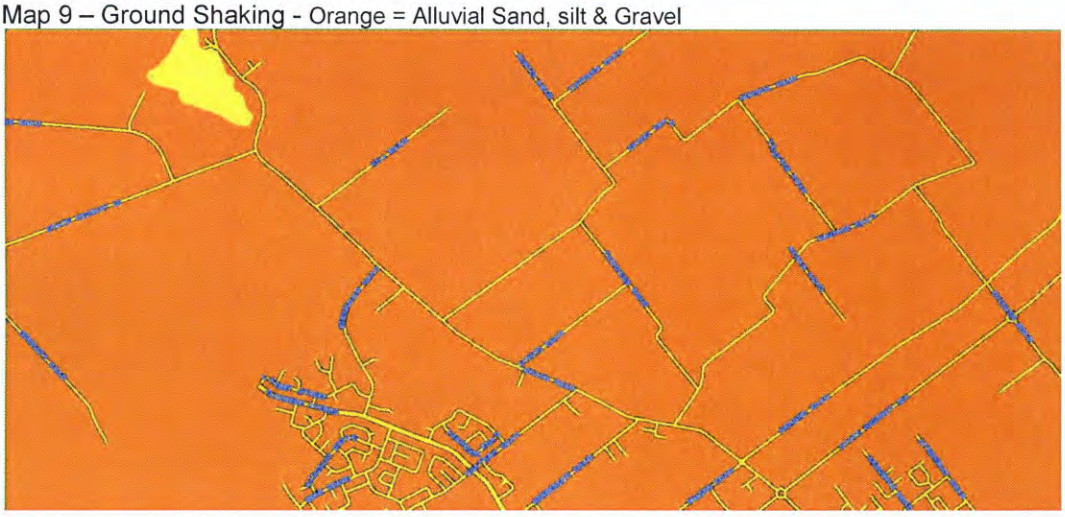
Map 6 – Suspected Fill Areas – Wider Area

Map 7 – Suspected Fill Areas – identified sites

Map 8 – Liquefaction - Dark yellow = moderate



Map 9 – Ground Shaking - Orange = Alluvial Sand, silt & Gravel



Map 10 – Instability Hazard Areas – none indicated

Map 11 – District Plan Flooding Areas- 50 years

Appendix 5 Summary of the consultation undertaken

Land Owners

2011/12 - Detailed Stormwater Consultation	
Crasborn Group Ltd (Lee Arlidge) Various Properties. In particular 55 Twyford Road.	The property known as 55 Twyford road includes land identified for use as a swale, part of the infiltration zone for basin 3, and the overland flow path between the proposed basin and the Twyford 1 Drain. A general discussion was held surrounding the nature of the proposed zone and the stormwater solution. The discussion then moved on to the proposed infiltration basin and overland flow path. It was noted that the required volume of basin 3 had increased as a result of the infiltration tests results. This and the Council's desire to identify an infiltration zone rather than a specific infiltration basin meant that the basin could potentially be located within 55 Twyford Road. Mr Arlidge advised that he would have anticipated far higher infiltration rates as the area is extremely gravelly and water does not settle there. A summary of the anticipated effects of the system in different storm events was provided to Mr Arlidge and the options for an overland flow path discussed. As were the Resource Consent, Plan Change, Designation and Land negotiation / purchase processes. Options for the fencing and for the continued cropping of the area of the property on the Omahu Road side of the swale were also discussed. Mr Arlidge did not raise any specific concerns. Rather, he advised that he would report to the Company's Board and come back to us if necessary. Mr Arlidge advised the Crasborn Group also had an interest in the property at the far western end of the proposed zone.
EJAE Co Limited Bruce Ellingham 1337 Omahu Road (On Site Meeting)	1337 Omahu Road includes land identified for use as a swale and for infiltration basin 3. Discussions have been held with Mr Ellingham over a number of years. Hence the discussion focused upon the specific details of the stormwater solution to be included within the application and the processes going forward. It was noted that the required volume of basin 3 had increased due to the infiltration test results. It was also noted that for surety an infiltration zone is now proposed rather than a specific basin. Mr Ellingham advised that water does not settle within the area. A summary of the anticipated effects of the system in different storm events was provided to Mr Ellingham. No specific concerns were raised regarding the proposed stormwater solution.
Totara Holdings Limited Kevin Bayley Various - including 1241 Omahu Road (On Site Meeting)	1241 Omahu Road includes land identified for use as a swale and the entire zone identified for infiltration basin 2. On-going discussions have been held with Mr Ellingham over a number of years. Hence the focus of this meeting was on the details of the stormwater solution to be included within the application and the processes going forward. It was noted that the required volume of basin 3 had increased due to the infiltration test results and that for surety an infiltration zone is now proposed rather than a specific basin. No specific concerns were raised in this respect. A summary of the anticipated effects of the system in different storm events was provided to Mr Bayley. Discussions were then held regarding the overland flow path. Mr Bayley advised that he had in recent years piped that portion of the Flowers 1 Drain which flows through his property. He did this in most part for OSH reasons. Several options for the creation of an overland flow path for those long duration events when the basin overtops were discussed. Mr Bayley expressed a definite preference for an extension to his existing pipe to the Flowers Drain. Advice was provided about the need for additional survey and engineering investigations. The anticipated future opportunities for discussions / submissions were discussed along with the Resource Consent, Plan Change, Designation and Land negotiation / purchase processes.

N P Vesty Vesty family members Cnr Omahu & Twyford Rds (On Site Meeting)	This property includes land identified for use as a swale, the entire infiltration zone for basin 1, and depending upon the final location of the basin an overland flow path. On-going discussions have been held with the Mr Vesty and his family over a number of years. Hence, the focus of this meeting was on the details of the stormwater solution to be included within the resource consent application and the processes going forward. It was noted that the required volume of basin 3 had increased due to the infiltration test results and that for surety an infiltration zone is now proposed rather than a specific basin. No specific concerns were raised in this respect. The Vesty's desire for the zone to be enlarged and both the zone and the basin to be 'squared up' was reiterated. A summary of the anticipated effects of the system in different storm events was provided. Options for the creation of an overland flow path for those long duration events when the basin overtops were discussed. The suggestion was made that the basin should be moved entirely - to adjacent to Twyford Road. This would remove the need for a flow path over private land. Were the basin to remain in the same position, a preference was stated for a piped solution through their property. Advice was provided about the need for additional surveys and engineering investigations, the anticipated opportunities for further discussions and the Resource Consent, Plan Change, Designation and Land purchase processes.
CMP & MD Donnelly 1141 Omahu Road (On Site Meeting)	1141 Omahu Road includes the overland flow path between basin 1 and the Flaxmere Drain. A general discussion was held surrounding the nature of the proposed zone and the stormwater solution. The remainder of the meeting focused on the details of the stormwater solution to be included within the resource consent application and the processes going forward. A summary of the anticipated effects of the system in different storm events was provided. Discussions were then held regarding the options available for the overland flow path for those long duration events when the basin overtops. Mr Donnelly raised concern over the level of water in the drain in the proximity of this house. He advised that he had only seen the drain full on one occasion since he had been there (approx 30 years). He felt that the basin should be moved and the Twyford Road reserve utilised as the overland flow path – negating the need for a flow path through private property. If the basin to stay in the same position a preference was expressed by Mr Donnelly for a piped solution through their property. Advice was provided about the flat gradients along the length of Omahu Road and the need for additional surveys and engineering investigations before a final design can be confirmed. Also regarding the anticipated opportunities for further discussions and the Resource Consent, Plan Change, Designation and Land purchase processes.
2010	
November/December	
Letters were sent to all Land Owners in the vicinity.	An update with a draft Structure Plan, a summary of the proposed Plan Change and a description of the proposed stormwater system. An offer was made to meet with individually with all parties. The consultation resulting from this offer is discussed below.
JM Bostock Limited Tony Fraser and Neil Chittock 1139 Omahu Road	The discussion commenced with an explanation of the proposed new zone. However, the questions / concerns raised were primarily about the existing Kirkwood Road Deferred Industrial zone. The logic of proceeding with the proposed new zone Industrial 2 zone was questioned when the existing deferred zone is still in place. It was suggested that the Kirkwood Road deferment should be uplifted in advance of or at the same time of the proposed new re-zoning. Correspondence was then exchanged regarding the future of the deferred industrial zone on Kirkwood Road.

R and A Bastin 1327 Omahu Road (On Site Meeting)	Robyn and Andrew Bastin expressed concern at the proposed zone in its entirety. They consider that this will negatively impact upon them both in terms of physical effects but also in terms of land values. They considered that they should be compensated for this loss. They expressed concern regarding the value of the Councils public consultation and submissions processes. A detailed conversation was held regarding the proposed zone, servicing and staging. The removal of the requirement for a shelterbelt was questioned, as was the increased width of the zone. It was explained that the previously proposed shelterbelt was around the edge of the zone, not around individual sites within the zone. The deepening of the zone behind their site and the introduction of an infiltration basin were noted. The Bastin's also considered that: 1) the expanded zone would further 'hem in' their property and 2) that the basin would create nuisances. The Bastin's view that the value of their property for residential purposes would be severely impaired was unaltered.
David Osborne and Hamish Campbell	David Osborne and Hamish Campbell expressed their continued support for the proposed zone. They expressed no concerns regarding potential negative impacts on their properties – even on the residence on the Campbell property. A desire was however stated for the zone boundary to return to that of the previous structure plan - as a boundary adjustment subdivision was undertaken using that boundary.
Hustler Hydraulics 18 Jarvis Road	General support was expressed for the rezoning. Following a discussion of the potential development options for their site a desire was expressed for the zone to be wider.
N P Vesty Vesty family members Cnr Omahu & Twyford Rds (On Site Meeting)	After expressing support for an industrial rezoning, the Vesty family took the opportunity to show the layout of their orchard and the levels of the site. They felt that the boundaries of the zone and the position of the basin should be squared off to facilitate the orcharding on the remainder of the site. They sought the overall width of the zone to be larger.
Oak Glen Ltd 45 Ormond Road (Oak Avenue)	General support was expressed for the rezoning. The expansion of the zone to include part of their property was however suggested in light of the subdivision proposal which was before the Council.
April	
A letter / update were sent to all potentially interested parties.	Updates were provided with an offer for additional consultation. The consultation arising from this mainly consisted of queries regarding the timing of the project.
2007	
December	
Newsletter	An update was provided.
June - July	

Structure Plan Letter Public Meetings Landowners Meeting Open Day Submissions	A summary was provided, along with an invitation for further consultation, to lodge a written submission, and to attend a public meeting and/or open day	A number of submissions were made re the Omahu Structure Plan and other feedback provided. Site specific comments made within submissions are summarised below. General issues included: limited storage in the Upper Kaiapo Rd stormwater detention basin; traffic safety, noise, the impact on dwellings in the surrounding area, that commercial service activities be allowed, and boundary plantings
Robyn Bastin 1319 Omahu Road	Do not support any industrial zoning of their or surrounding properties. Believe that this would devalue their house (1929). Can't see any mitigation measures that could alleviate situation. Concern re noise and look of industrial development. More traffic will be dangerous for children who bike to school.	
Oak Glen Ltd 45 Ormond Road (Oak Avenue)	Suggests a larger zone, including part of their property.	
K&K Bayley Various	Support zone. A greater mix of commercial activities should be allowed.	
Peter and Maureen Vesty 1139 Omahu Road	Supports an industrial re zoning. Would like a larger area zoned. Would like the area currently used for road formalised as such & to retain entrance on Omahu Road as access lot to property.	
Como Orchards (Previous Owner) 1447 Omahu Road Tui Dwight (Previous Owner) 1437 Omahu Road	Sought the inclusion of their property within the zone	
B&W Meade 1347 Omahu Road	Supports the re-zoning.	
Karl Hansen Twyford Road	Concerned about the split zoning of properties	
David Osbourne 1411 & 1393 Omahu Road, HG Campbell 1 Twyford Road E Lingan (Previous owner) 1431 Omahu Road	Supports the re-zoning. Suggests that the land within the proposed is of poor quality, has a soil disease and is not productive.	
Steele Ltd (Previous owner)	Supports the re-zoning. A greater mix of commercial activities should be allowed.	

1203 Omahu Road		
John Winters(Previous owner) 1337 Omahu Road	Supports the re-zoning. Include a number of other properties.	
J & S Currie 18 Jarvis Road	Supports the re-zoning. Extend the boundary north.	
Omahu Land Trust (G&C Honor)	Supports the re-zoning. Questions use of shelterbelt plantings.	
M & M Donnelly 1141 Omahu Road	Opposed rezoning as it is adhoc and will affect their property.	
2003 - Industrial Site Selection / Initial Industrial Strategy		
Various correspondence and meetings	All affected and adjacent Land Owners were written to in February & November 2003.Other meetings & discussions were held as requested.	Comments were requested and consultation invited on the potential industrial expansion areas. The majority of directly affected landowners who responded supported the strategy. Landowners who opposed the strategy were concerned with the potential decline in amenity values, character and property values in the area. There had been a great deal of interest from industrial type businesses wanting to locate to this area. The extent of zone and effect on surrounding rural residential and orcharding properties and enterprises is also of concern. The protection of historic buildings and trees in this area and their possible future value was also an issue that was raised.

Mana Whenua

2010		
November		
Letters were sent to all potentially interested parties.	An update with a draft Structure Plan, a summary of the proposed Plan Change and a description of the proposed stormwater system. An offer was made to meet with individually with all parties. No issues were raised.	
June		
Hui	Letter sent to the following marae: Omahu; Ruahapia; Waipatu; Kohupatiki; Mangaroa Korongata; Waiohiki and other Manu Whenua organisations inviting them to a hui to discuss the stormwater issues & options for the proposed zone.	The only attendee was Peter Paku. No significant issues were raised. The presentation was provided to Mr Paku for dissemination to other interested parties.
April		
A letter / update were sent to all potentially interested parties.	Updates were provided with an offer for additional consultation. The consultation arising from this mainly consisted of queries regarding the timing of the project.	
2007		
Letter	Te Taiwhenua o Heretaunga, Ngati Kahungungu Iwi Inc, Taraia Marae, Waimarama Maori Committee, Omahu Marae, Waiohiki Marae, Mihiroa Marae, Runanga Marae, Korogata Marae, Mangaroa Marae, Houngarea Marae, Matahiwi Marae, Te Awhina Marae, Waipatu Marae, Ruahapia Marae	Summary, invitation / request for consultation, & an invitation to the open day
HDC Maori Advisory Standing Committee	Update & request for feedback	Allow for Servicing of nearby Maori communities, consider reverse sensitivity, and notify owners of that land not to be included in the proposed new areas post the 2003 strategy decision.
Hui / Meetings	July 9 – 13 was scheduled for the holding of hui / meetings as requested.	No requests were made for any such meetings.
2003		
February		
HDC Maori Advisory Standing Committee	Advice sought on appropriate consultation for the Industrial project and on the Industrial Strategy	To undertake consultation at marae level with all marae in the district
Meeting	Monty & Peter Paku	No concerns with Omahu

April		
Hui	Specific invitations sent out to: Ngati Kahungungu Iwi Inc; Te Taiwhenua o Heretaunga; Te Taiwhenua o Whanganui o Rotu; Ahuriri Maori Executive; Heretaunga Maori Executive; Marae Committees in Hastings District; Maori Committees in Hastings District; Whakatu Community Trust; MASC Members; HDC Councillors	12 representatives of local marae and Maori landowners attended. Advised need to exclude land under treaty claims, should undertake a cultural audit of land identified, and should avoid conflicts between residential and industrial uses. Raised questions about the impacts on property values if rezoning occurs.
HDC Maori Advisory Standing Committee	An update was provided on the Hui	
June		
Letter	Sent to all who were invited to / attended the Hui requesting comments & offering individual meetings. No such consultation was sought with respect to Omahu.	

Stakeholders / Interested Parties

2010		
November		
Letters were sent to all Land Owners and interested parties.	An update with a draft Structure Plan, a summary of the proposed Plan Change and a description of the proposed stormwater system. An offer was made to meet with individually with all parties. The consultation resulting from this offer is discussed below.	
April		
A letter / update were sent to all potentially interested parties.	Updates were provided with an offer for additional consultation. The consultation arising from this mainly consisted of queries regarding the timing of the project.	
June -July 2008		
Correspondence and discussions	NZ Fire Service	The water supply necessary to comply with SNZ PAS 4509:2003
Correspondence	NZ Archaeological Society	No sites within the area
June & July 2007		
Structure Plan Letter Stakeholder Meetings Open Day Submissions	DoC, Napier CC, HBDHB, NZHPT, Sustaining Hawke's Bay Trust, Bay Watch Environmental Group, Royal Forest & Bird Protection Society, Fish & Game New Zealand, NZ Fire Service, HB Fruit growers Association, HB Wine Growers, HB Federated Farmers, NZ Pip Fruit, Horticulture New Zealand	A letter summarising the structure plan & inviting further consultation, & inviting all to stakeholder meetings and an open day was sent. Submission received from: David Renouf, Hastings; Baywatch HB; and the HB Fruit growers Assn. The issues raised included: low quality / low productivity values of the land; protection of the right to farm adjoining properties; the potential for industrial creep; and pedestrian& cycle links.
June 2006		
Correspondence and discussions	NZ Fire Service	Proposals for fire fighting water supplies
2003		
Industrial Site Selection / Initial Industrial Strategy: Various correspondence and meetings and focus group interviews	Napier CC, NZHPT, NZ Fire Service, Land user groups such as: New Zealand Fruit Growers Federation and Hawke's Bay Grape Growers Association, Federated Farmers, and an 'Industry Leaders Consultative Group'	The initial consultation undertaken by the Council in 2003 was intended to assist in the identification of the most appropriate sites for industrial zoning within the district. The HB Fruit Growers Assn wishes the poorest quality land to be used first in order to protect prime land. They support an Omahu option provided consideration was given to the ability for orchardists to continue their normal practices without hindrance.

Network Utilities

2010		
Various meetings / correspondence	Unison	Detailed discussion re proposed road layouts, asset relocations and the potential for undergrounding.
November 2008		
Various meetings / correspondence	Unison - Will equipment need to be moved?; No limits on supply to the zone; Undergrounding would be the last option location Seimens NZ Ltd - No gas supply in the area	
2007		
Meeting	HDC Works Committee	Requirements for the setback of shelterbelts, the undergrounding of services, use of Low Impact Design options
Stakeholder Meetings Submissions Open Day	No submissions were received from any Network utility. Nor was HDC aware that any network utility attended the open day.	
2004		
Various correspondence / Meetings	Transit / NZTA expressed no concerns re the Omahu Area. Unison asked Council to bear in mind undergrounding with street tree options. Telecom provided a plan locating all Telecom services.	
2003		
Various correspondence, discussions & Meetings	All Network were provided a Description of the preferred sites / proposed strategy and consultation was offered. Transit / NZTA had no particular comment re Omahu Road. Telecom supported the proposed industrial re-zonings. Transrail preferred Omahu, Irongate & Tomoana / Whakatu. Unison foresaw no particular concerns with proposed areas	

HBRC

2009 -2012		
Various meetings, discussions and correspondence regarding the assessment of the options for the management of stormwater		
2007 & 2007		
Consultation on the publicly circulated structure plan	Feedback was provided on the servicing options & assessment. Questions were raised regarding the assumptions within the assessment of the effects of the Upper Southland Drain option.	
2005		
Various correspondence	Stormwater Management	Models / options were provided by HBRC for consideration
2004		
Meeting Various correspondence	Structure Plans Flood Hazards / stormwater	The servicing of the areas was discussed. Major issues were identified with the capacity of the Upper Southland Drain to accept stormwater also with the discharge of stormwater over the unconfined aquifer. Updated flood maps were provided & potential quality effects raised
2003		
Various meetings and correspondence	The industrial expansion opportunities within the district, including Omahu.	Any stormwater entering the Raupare Stream Catchment would need to meet high quality standards. The on-going maintenance of on-site stormwater systems was queried. A need to consider best practice options was identified. Concern was expressed re industrial activity above the unconfined part of the aquifer and its possible effects on the aquifer.

Appendix 6 Certificates of Title

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

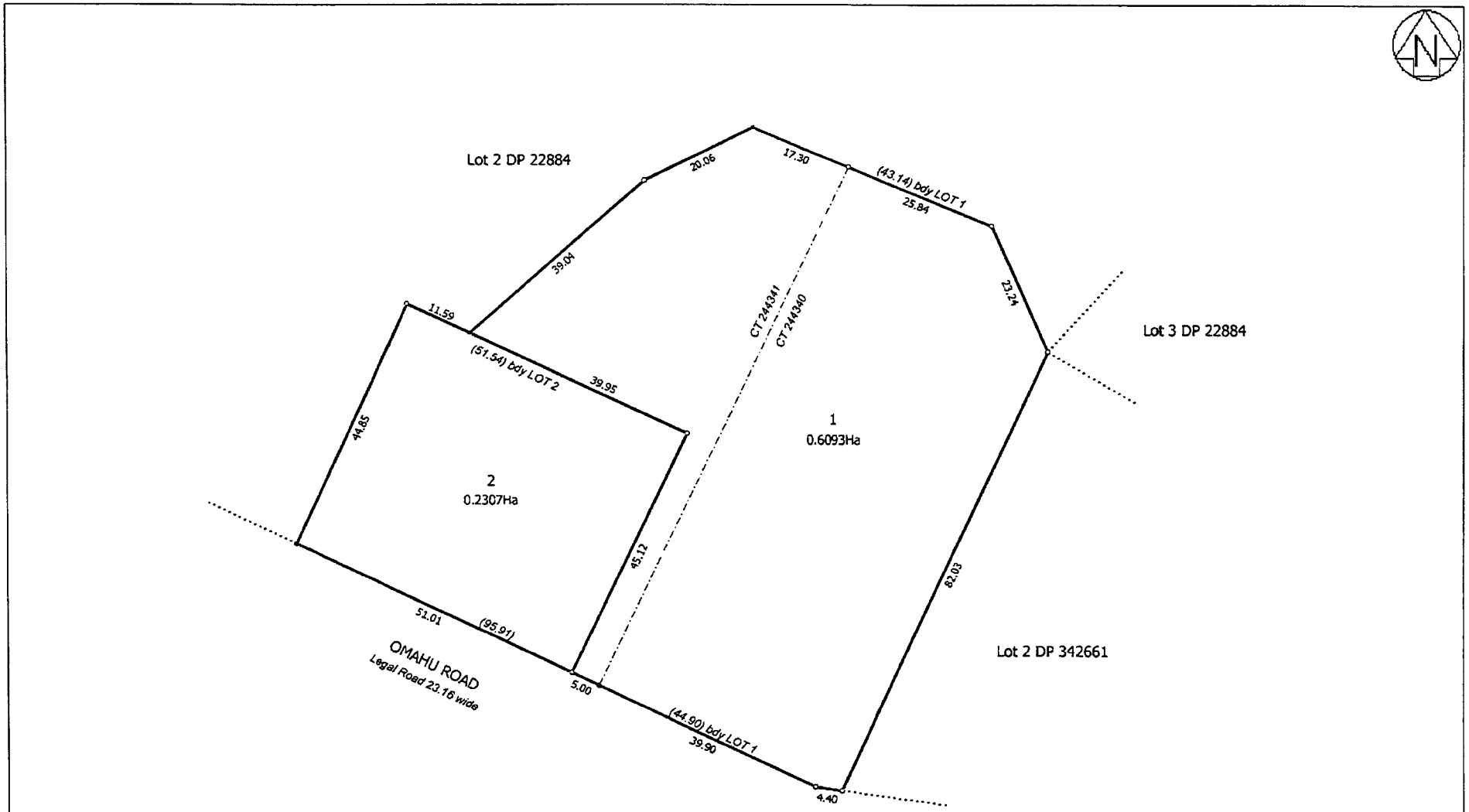
Identifier	**369147**
Land Registration District	**Hawkes Bay**
Date Issued	11 September 2007

Prior References
244340 244341

Estate	Fee Simple
Area	6093 square metres more or less
Legal Description	Lot 1 Deposited Plan 392031

Proprietors
CB Norwood Distributors Limited

Interests
Fencing Covenant in Transfer 6278508.1 - 17.1.2005 at 9:00 am
6670754.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 1.12.2005 at 9:00 am
6670754.3 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 1.12.2005 at 9:00 am
6670754.4 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 1.12.2005 at 9:00 am(affects part)



T1/1

Land District: Hawkes Bay Digitally Generated Plan Generated on: 01/10/2007 08:27am Page 2 of 2	LOTS 1 AND 2 BEING SUBDIVISION OF LOTS 1 AND 2 DP 360081	Surveyor: Colin George Shanley Firm: Shanley & Co	Digital Title Plan DP 392031 Deposited on: 11/09/2007

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

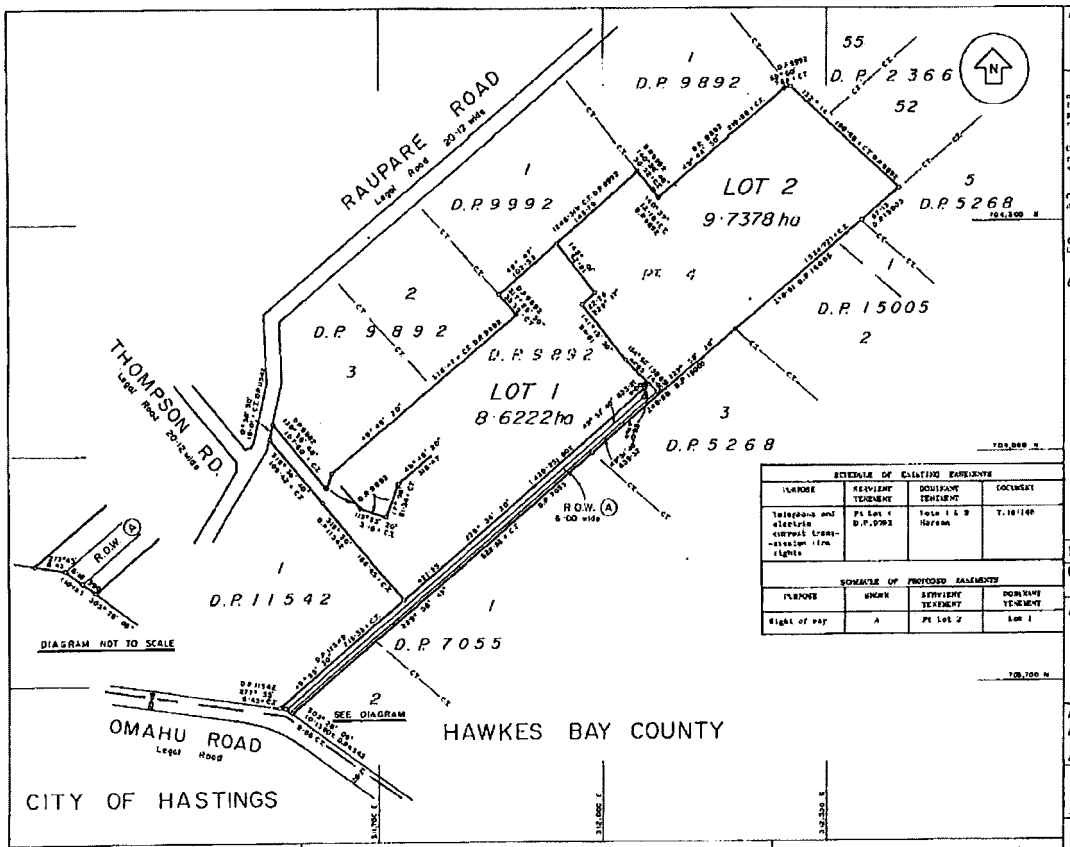
Identifier	**HBH3/6**
Land Registration District	**Hawkes Bay**
Date Issued	15 November 1979

Prior References
HBD4/1374

Estate	Fee Simple
Area	8.6222 hectares more or less
Legal Description	Lot 1 Deposited Plan 15736

Proprietors
Charles Michael Patrick Donnelly as to a 1/2 share
Margaret Dorothy Donnelly as to a 1/2 share

Interests
Appurtenant hereto are telephone and electric current transmission line rights created by Transfer 151160
381139.1 Mortgage to The National Bank of New Zealand Limited - 30.7.1980 at 11.30 am
639509.1 Variation of Mortgage 381139.1 - 18.4.1996 at 12.03 pm



SCHEDULE OF EXISTING EASEMENTS			
PURPOSE	SERVIENT TENEMENT	DOMINANT TENEMENT	DOCUMENT
Telephone and electric current transmission firm rights	Pt Lot 4 D.P.9992	Lots 1 & 2 Harem	T.16/140

SCHEDULE OF PROPOSED EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
Right of way	A	Pt Lot 2	Lot 1

Approved

H.P. HOSKEN

REGISTERED PROFESSIONAL

It is hereby certified pursuant to Section 62 of the Town and Country Planning Act 1977 that this plan complies with the requirements and provisions of every operative district concern relating to the land in the plan and

Pursuant to the provisions of Part II of the Counties' Assistant Act 1961 and a resolution passed by the Hawke's Bay County Council the subdivision shown on this plan is hereby approved

In witness whereof the Common Seal of the County of Hawke's Bay was hereto affixed this 24th day of May 1978.

In the presence of

DEPUTY CHAIRMAN

ACTING COUNTY CLERK

Total Area 18·3600 ha

Comprised in C.T. 04-1374 G ALL

WARWICK MILES MARSHALL of ESKDALE

Registered Surveyor and holder of an annual practising certificate hereby certify that this plan has been made from Surveys executed by me or under my direction; that both plan and Survey are correct and have been made in accordance with the regulations under the Surveyors Act 1966

Dated at HASTINGS this 24th day of MAY 1978 Signed W Marshall

Field Book 1462 p. 42-43, Traverse Book 80 p 76

Reference Plans D.P. 5268, 7055, 9892, 9992, 11542, 15005 S.O. 4574

Examined

Approved as to Survey

Chief Surveyor

Deposited this 24th day of November 1979

Assistant Land Registrar

File Received 1-8-78 Instructions

15736

LAND DISTRICT Hawkes Bay
SURVEY BLK.& DIST. XV Herefaungo
NZMS SHEET No.

PLAN OF LOTS 1 and 2
FORMERLY Pt LOT 4 D.P. 9892

LOCAL AUTHORITY H.B. County Council
Surveyed by C.G. Shanley & Co.
Scale 1:3000 Date May 1978

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**HBP4/1391**
Land Registration District	**Hawkes Bay**
Date Issued	14 September 1993

Prior References
HB110/188

Estate	Fee Simple
Area	1.5568 hectares more or less
Legal Description	Lot 2 Deposited Plan 23611

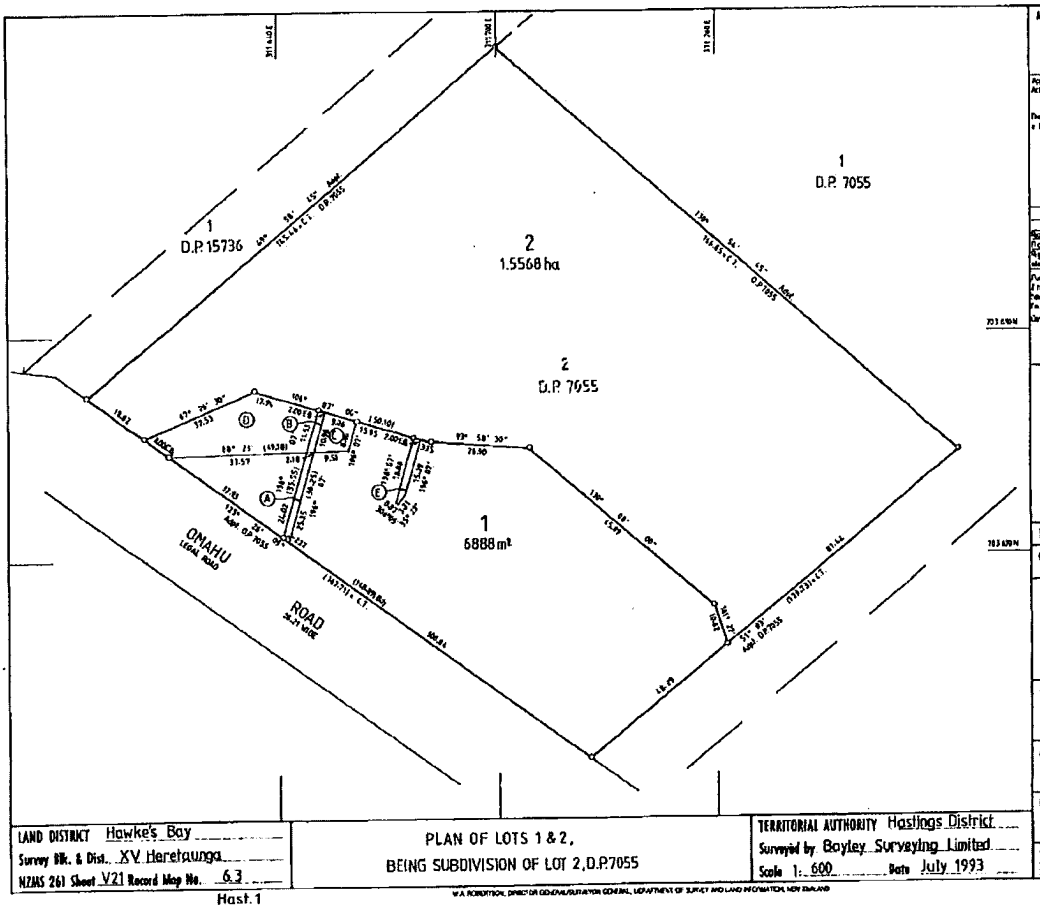
Proprietors
Christopher John Pask

Interests

Appurtenant hereto are rights to convey water, drain sewage and convey electric power specified in Easement Certificate 595429.2 - 14.9.1993 at 12.15 pm

Appurtenant hereto are rights to convey electric power, water & telecommunications created by Transfer 685915.1 - 1.4.1999 at 9.01 am

Appurtenant hereto is a right of way created by Easement Instrument 6021334.1 - 27.5.2004 at 9:00 am



Approved:

Approved pursuant to Section 223 of the Resource Management Act 1991 on the 10th day of August 1993

The Common Seal of the Hastings District Council is affixed hereto in the presence of:

Mayor

Chief Executive

SCHEDULE OF PROPOSED EASEMENTS

Purpose	Shown	Servitor	Dom Ten
Right to convey water		Lot 1 Tarrant	Lot 2 Tarrant
Right to drain sewage			
Right to convey electric power			

Pursuant to Section 224(c) of the Resource Management Act 1991 I hereby certify that all the conditions of the subdivision consent have been complied with to the satisfaction of the Hastings District Council

Dated this 10th day of August 1993

Chief Executive

Total Area 2.2456 ha

Comprised in C.T. 110/188 G(AK)

Michael Charles Bayley of Hastings

Registered Surveyor and holder of an annual practising certificate for who may act as a registered surveyor pursuant to section 25 of the Survey Act 1986 hereby certify that this plan has been made from surveys conducted by me or under my directions that both plan and survey are correct and have been made in accordance with the Survey Regulations 1972 or any regulations made in substitution thereof.

Dated at Hastings this 6th day of August 1993 Signature

Field Book 1711 p 45-47 Reference Book 147, p 103-103

Reference Plans D.P. 7055, 15736 S.C. 4574 D.P. 8563

Examined Checked Correct

Approved as to Survey

6.12.93

Chief Surveyor

Deposited this 14th day of October 1993

District Land Registrar

File Received 12/4/93 Instructions

23611

LAND DISTRICT Hawke's Bay

Survey Blk. & Dist. XV Heretaunga

NZMS 261 Sheet V21 Record Map No. 63

Hast. 1

PLAN OF LOTS 1 & 2,

BEING SUBDIVISION OF LOT 2, D.P.7055

TERRITORIAL AUTHORITY Hastings District

Surveyed by Bayley Surveying Limited

Scale 1: 600 Date July 1993

W.A. ROBERTSON, DIRECTOR GENERAL/SURVEYOR GENERAL, DEPARTMENT OF SURVEY AND LAND INFORMATION, NEW ZEALAND

29 SEP 1993

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**548922**
Land Registration District	**Hawkes Bay**
Date Issued	20 May 2011

Prior References
530332

Estate	Fee Simple
Area	6.0740 hectares more or less
Legal Description	Lot 1 Deposited Plan 441123

Proprietors
Kelston Orchards Limited

Interests

Appurtenant to part formerly Lot 2 DP 28889 is a right of way and rights to convey water, electric power and telephone communications created by Easement Instrument 6104027.3 - 4.8.2004 at 9:00 am

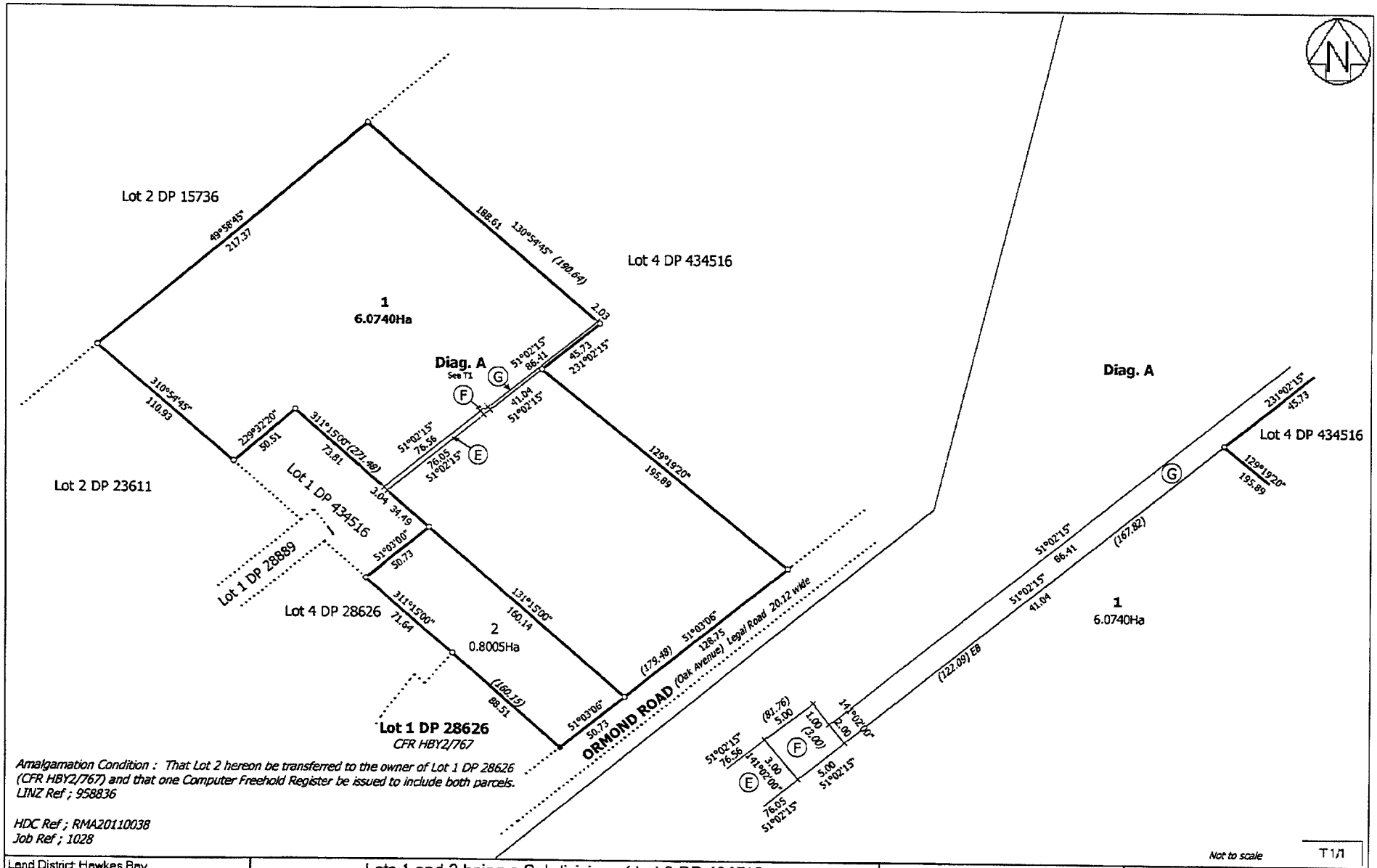
The easements created by Easement Instrument 6104027.3 are subject to Section 243 (a) Resource Management Act 1991

8695132.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 10.2.2011 at 5:14 pm

Subject to a right to convey electricity over parts marked E and F, to drain water over parts marked E, F and G and to convey water over parts marked F and G all on DP 441123 created by Easement Instrument 8695132.3 - 10.2.2011 at 5:14 pm

Appurtenant hereto is a right of way created by Easement Instrument 8695132.3 - 10.2.2011 at 5:14 pm

8780256.3 Mortgage to ANZ National Bank Limited - 10.6.2011 at 3:32 pm



Amalgamation Condition : That Lot 2 hereon be transferred to the owner of Lot 1 DP 28626 (CFR HBY2/767) and that one Computer Freehold Register be issued to include both parcels.
LINZ Ref ; 958836

HDC Ref ; RMA20110038
Job Ref ; 1028

Not to scale T1/1

Land District: Hawkes Bay Digitally Generated Plan Generated on: 02/06/2011 1:09pm Page 3 of 3	Lots 1 and 2 being a Subdivision of Lot 3 DP 434516	Surveyor: Warwick Miles Marshall Firm: W M Marshall	Title Plan DP 441123 Deposited on: 20/05/2011

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**529729**
Land Registration District	**Hawkes Bay**
Date Issued	19 November 2010

Prior References
HBG1/1070 HBW4/1024

Estate	Fee Simple
Area	53.0796 hectares more or less
Legal Description	Lot 2 Deposited Plan 434282 and Lot 4 Deposited Plan 27873

Proprietors
Agrilasia Farms Limited

Interests

Subject to water and pipe line rights over part marked A on DP 434282 created by Transfer 317973.3 - 25.9.1975

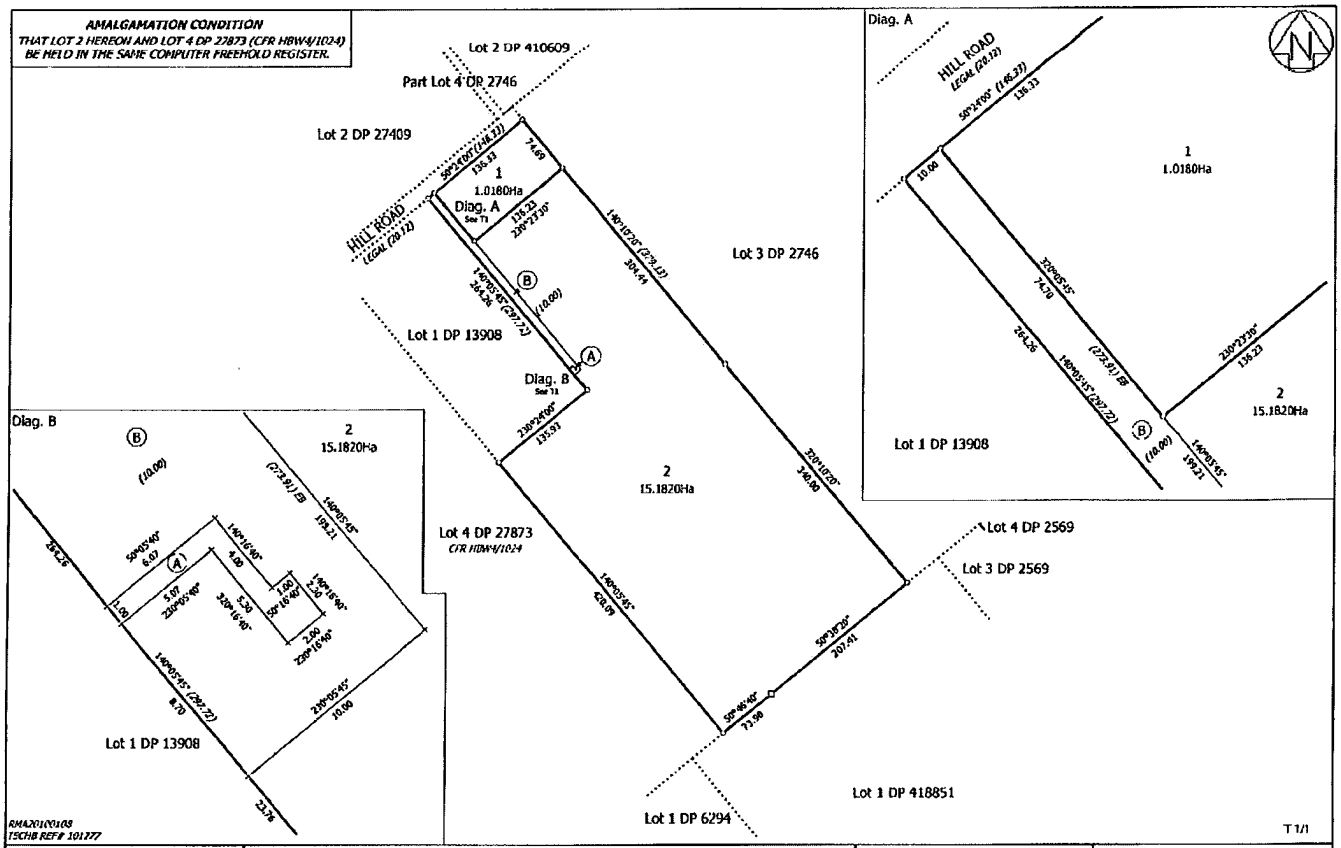
8641677.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 19.11.2010 at 4:48 pm

Subject to Section 241(2) Resource Management Act 1991 (affects DP 434282)

Subject to a right to convey water and electricity over part Lot 2 DP 434282 marked A and B on DP 434282 created by Easement Instrument 8641677.4 - 19.11.2010 at 4:48 pm

The easements created by Easement Instrument 8641677.4 are subject to Section 243 (a) Resource Management Act 1991

8672667.4 Mortgage to Bank of New Zealand - 14.1.2011 at 11:43 am


AMALGAMATION CONDITION
THAT LOT 2 HEREON AND LOT 4 DP 27873 (CFR HBW4/1024) BE HELD IN THE SAME COMPUTER FREEHOLD REGISTER.
Lot 2 DP 410609
Part Lot 4 DP 2746
Lot 2 DP 27409
HILL ROAD
LEGAL (20.12)
1
1.0180Ha
Diag. A
Lot 3 DP 2746
Lot 1 DP 13908
Diag. B
2
15.1820Ha
Lot 4 DP 27873
CFR HBW4/1024
Lot 4 DP 2569
Lot 3 DP 2569
Lot 1 DP 418851
Lot 1 DP 6294
RMA20100108
TSCHB REF# 101277
T1/1
Land District Hawkes Bay
Digitally Generated Plan
Generated on: 02/12/2010 03:01 am Page 3 of 3
LOTS 1 & 2 BEING A SUBDIVISION OF LOT 2 DP 13908
Surveyor: Brian Robert Poole
Firm: The Surveying Company (Hastings)
Title Plan
DP 434282
Deposited on: 19/11/2010

View Instrument Details

Instrument No.	8641677.2
Status	Registered
Date & Time Lodged	19 Nov 2010 16:48
Lodged By	Iremonger, Shirley Anne
Instrument Type	Consent Notice under s221(4)(a) Resource Management Act 1991

Affected Computer Registers	Land District
529728	Hawkes Bay
529729	Hawkes Bay
HBG1/1070	Hawkes Bay

Annexure Schedule: Contains 1 Page.

Signature

Signed by John Baird Campbell as Territorial Authority Representative on 19/11/2010 11:21 AM

***** End of Report *****

© Copyright: Land Information New Zealand

If calling ask for Simon Hill
TRIM/File Ref 54870#0023
Our Ref: RMA 20100108

HASTINGS DISTRICT COUNCIL

20 August 2010

CONSENT NOTICE PURSUANT TO SECTION 221 OF THE RESOURCE MANAGEMENT ACT 1991

IN THE MATTER OF LT 434282

AND

IN THE MATTER OF Consent Notice pursuant to Section 221 of the Resource Management Act 1991.

I hereby certify that under delegated authority the Hastings District Council, in approving LT 434282 imposed a Condition on Lot 2 and Lot 4 DP 27873, pursuant to Section 221 of the Resource Management Act 1991.

CONDITION:

Subdivision to create this site and the lifestyle site from Lot 2 DP 13908 (CT HBG1/1070) was a non-complying activity and was only granted on the grounds that there would be no more than 3, complying Plains Zone sites created from this balance site.

Any proposal to create 4, complying Plains Zone sites from this property would undermine the rationale behind that decision and shall not be allowed.

DATED AT HASTINGS this 20th day of August 2010.

SIGNED BY:

Murray Arnold
AUTHORISED OFFICER
TEAM LEADER ENVIRONMENTAL CONSENTS
PLANNING AND REGULATORY SERVICES

HASTINGS
HEART OF HAWKE'S BAY

PLANNING AND REGULATORY SERVICES

Private Bag 9002, HASTINGS 4156
DX MA75020
Phone 06 878 0500 Fax 06 878 0515
www.hastingsdc.govt.nz

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**532871**
Land Registration District	**Hawkes Bay**
Date Issued	20 September 2010

Prior References
462991 462992

Estate	Fee Simple
Area	7.9161 hectares more or less
Legal Description	Lot 2 Deposited Plan 416250 and Lot 2 Deposited Plan 435466

Proprietors
Orchard Trustee Company Limited

Interests

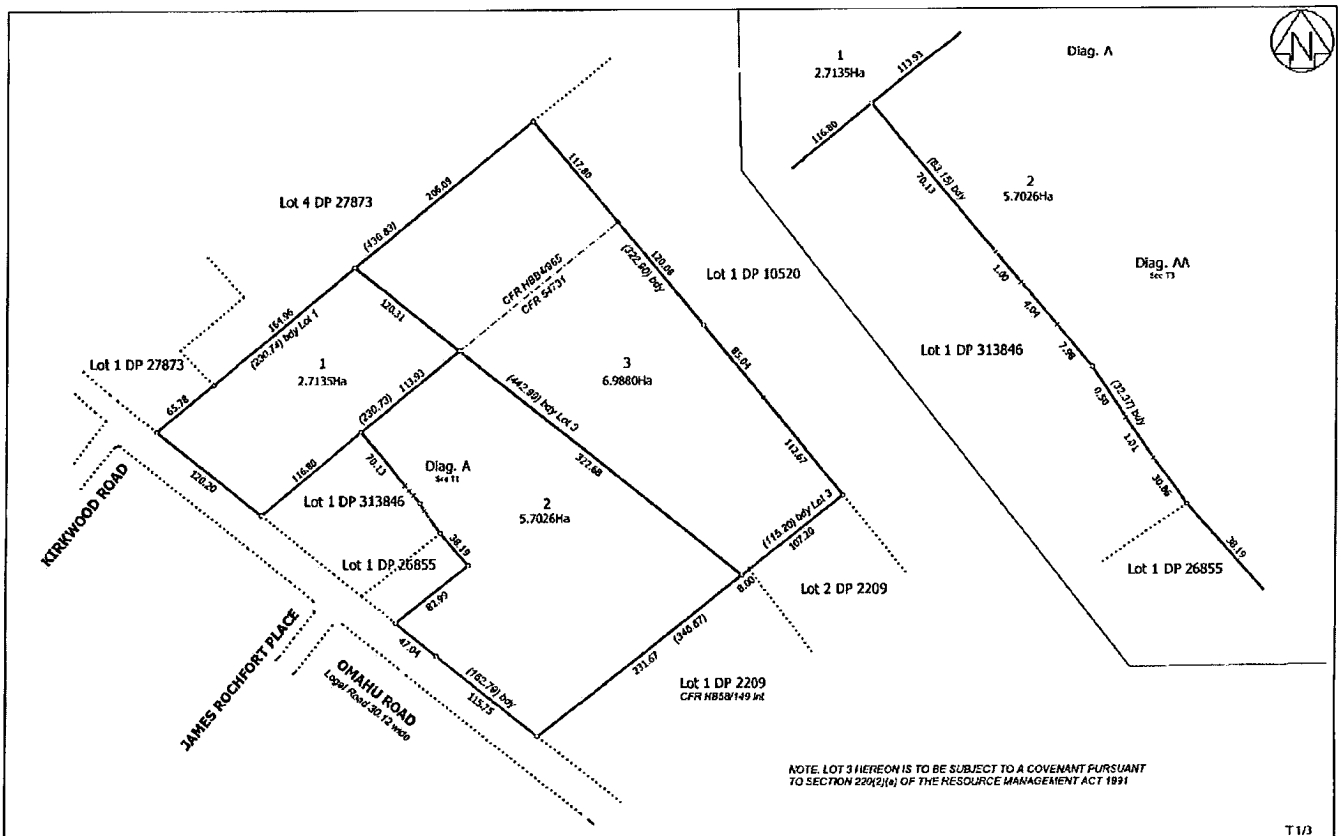
Subject to a right to convey water over part Lot 2 DP 416250 marked D & H and right to convey electric power over part Lot 2 DP 416250 marked B, C, D, E, F, G & H on DP 416250 created by Easement Instrument 7388616.3 - 25.5.2007 at 9:00 am

Appurtenant to Lot 2 DP 416250 herein is a right to convey electric power created by Easement Instrument 7388616.3 - 25.5.2007 at 9:00 am

Some of the easements created by Easement Instrument 7388616.3 are subject to Section 243 (a) Resource Management Act 1991

8253109.2 Mortgage to Rabobank New Zealand Limited - 12.10.2009 at 9:33 am

Subject to Section 241(2) Resource Management Act 1991 (affects DP 435466)



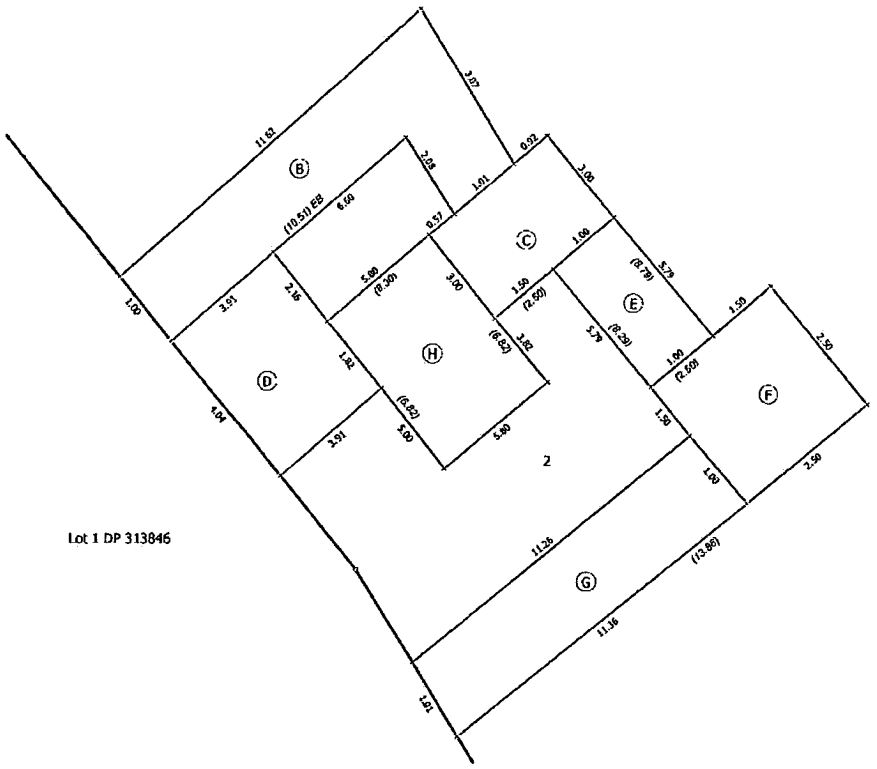
Land District Hawkes Bay Digitally Generated Plan Generated on: 26/08/2009 09:33:ns Page 3 of 5	LOTS 1-3 BEING SUBDIVISION OF LOT 1 DP 3994, LOT 2 DP 313846, LOT 2 DP 26855 AND LOT 1 DP 2461	Surveyor: Colin George Shanley Firm: Shanley & Co	Digital Title Plan DP 416250 Deposited on: 24/08/2009

Non Primary

T2/3

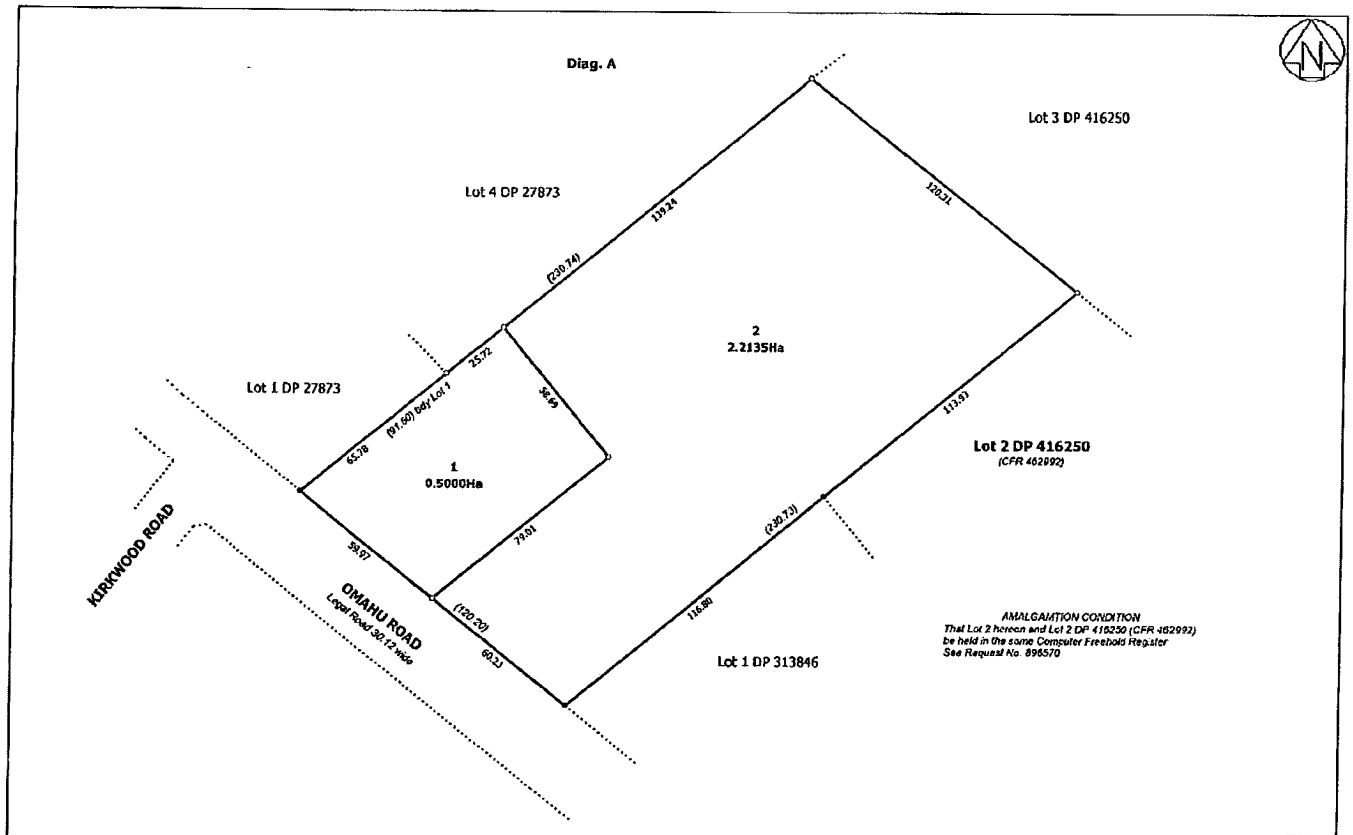
Land District Hawkes Bay Digitally Generated Plan Generated on: 28/08/2009 09:33am Page 4 of 5	LOTS 1-3 BEING SUBDIVISION OF LOT 1 DP 3994, LOT 2 DP 313846, LOT 2 DP 26855 AND LOT 1 DP 2461	Surveyor: Colin George Shanley Firm: Shanley & Co	Digital Title Plan DP 416250 Deposited on: 24/08/2009

Diag. AA
Non Primary



T 3/3

Land District Hawkes Bay Digitally Generated Plan Generated on: 28/08/2009 03:33 pm Page 5 of 5	LOTS 1-3 BEING SUBDIVISION OF LOT 1 DP 3994, LOT 2 DP 313846, LOT 2 DP 26855 AND LOT 1 DP 2461	Surveyor: Colin George Shanley Firm: Shanley & Co	Digital Title Plan DP 416250 Deposited on: 24/08/2009



T1/1

Land District Hawkes Bay Digitally Generated Plan Generated on: 20/09/2010 2:43pm Page 2 of 2	LOTS 1 AND 2 BEING SUBDIVISION OF LOT 1 DP 416250	Surveyor: Colin George Shanley Firm: Shanley & Co	Title Plan DP 435466 Deposited on: 20/09/2010

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

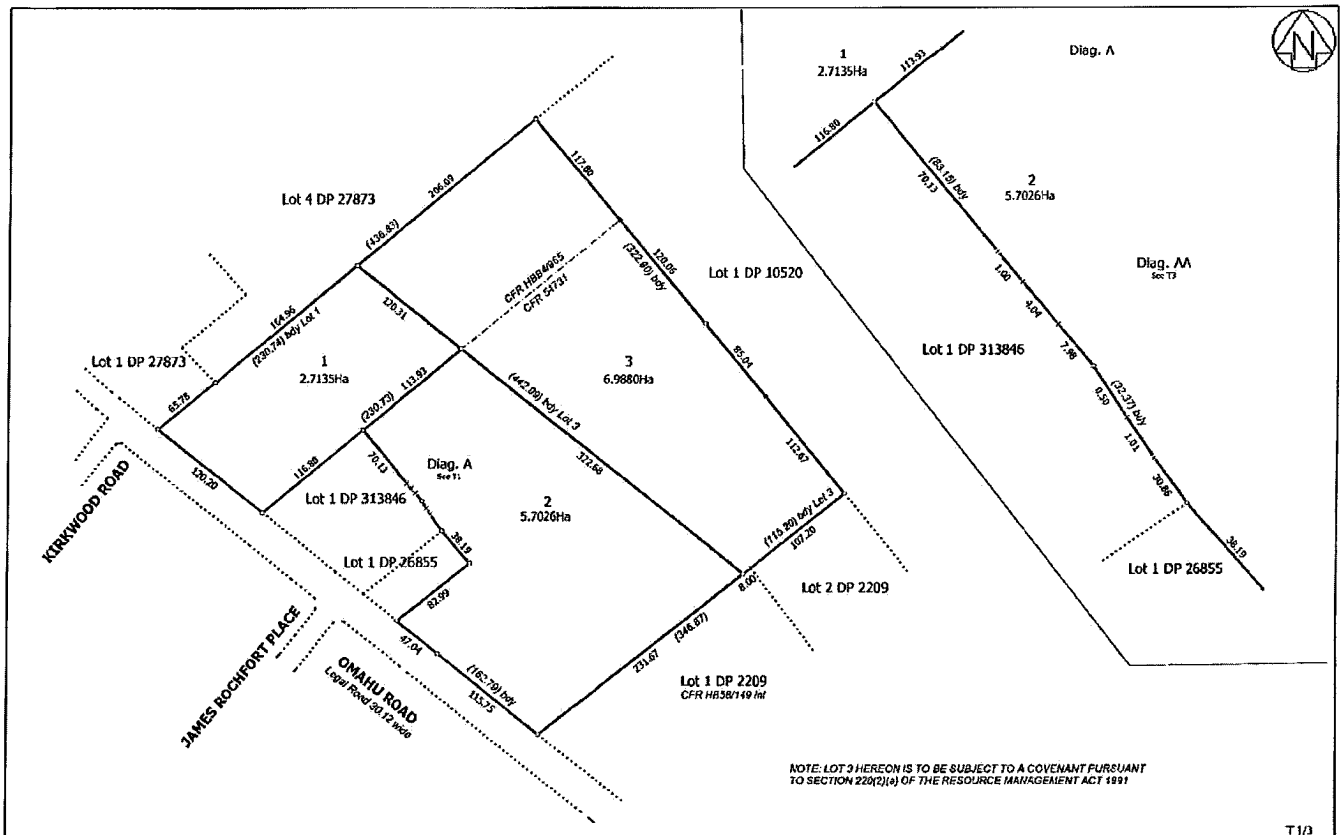
Identifier	**462993**
Land Registration District	**Hawkes Bay**
Date Issued	24 August 2009

Prior References
54731 HBB4/965

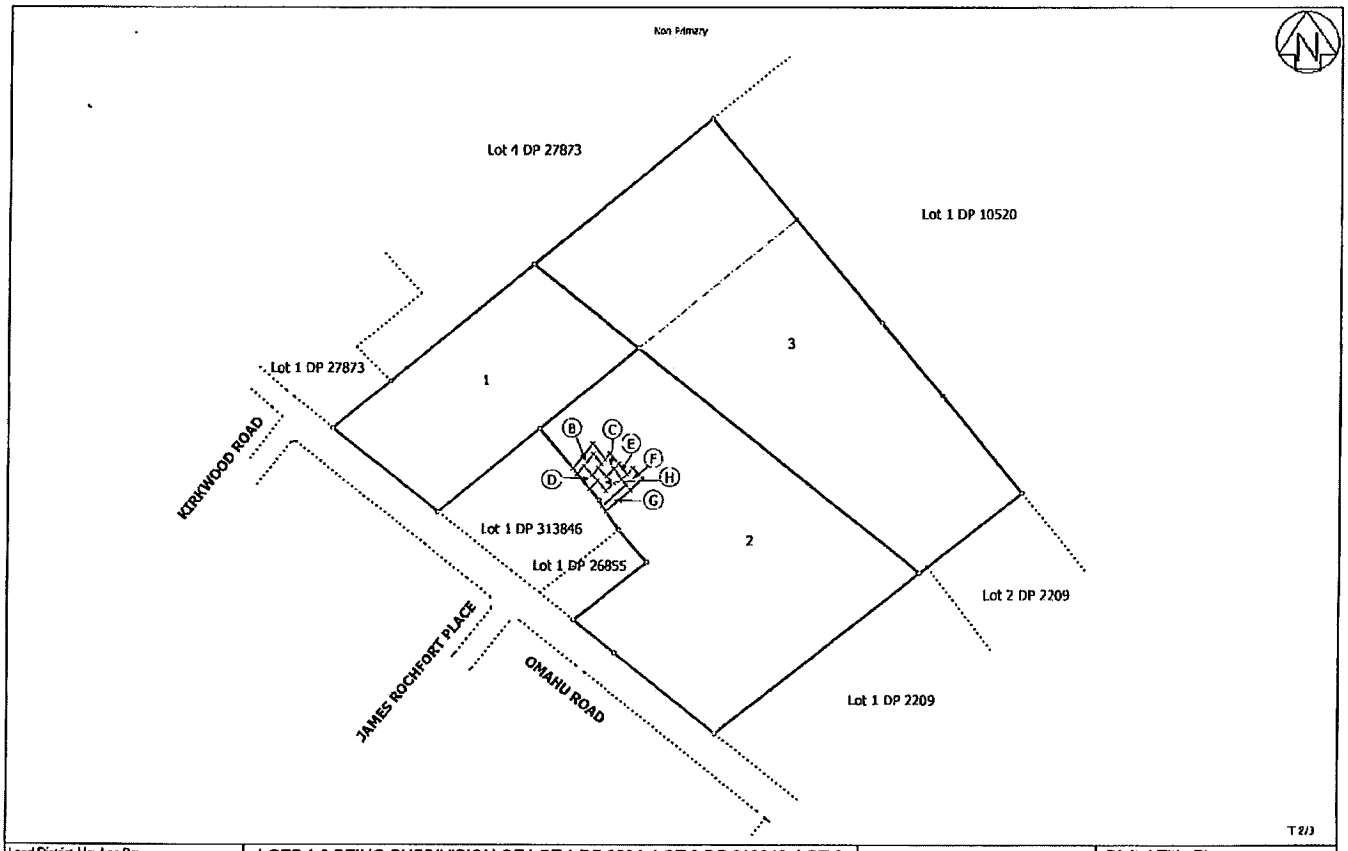
Estate	Fee Simple
Area	6.9880 hectares more or less
Legal Description	Lot 3 Deposited Plan 416250

Proprietors
Hamish Gregory Campbell as to a 1/2 share
Lynne Stephanie Teixeira as to a 1/2 share

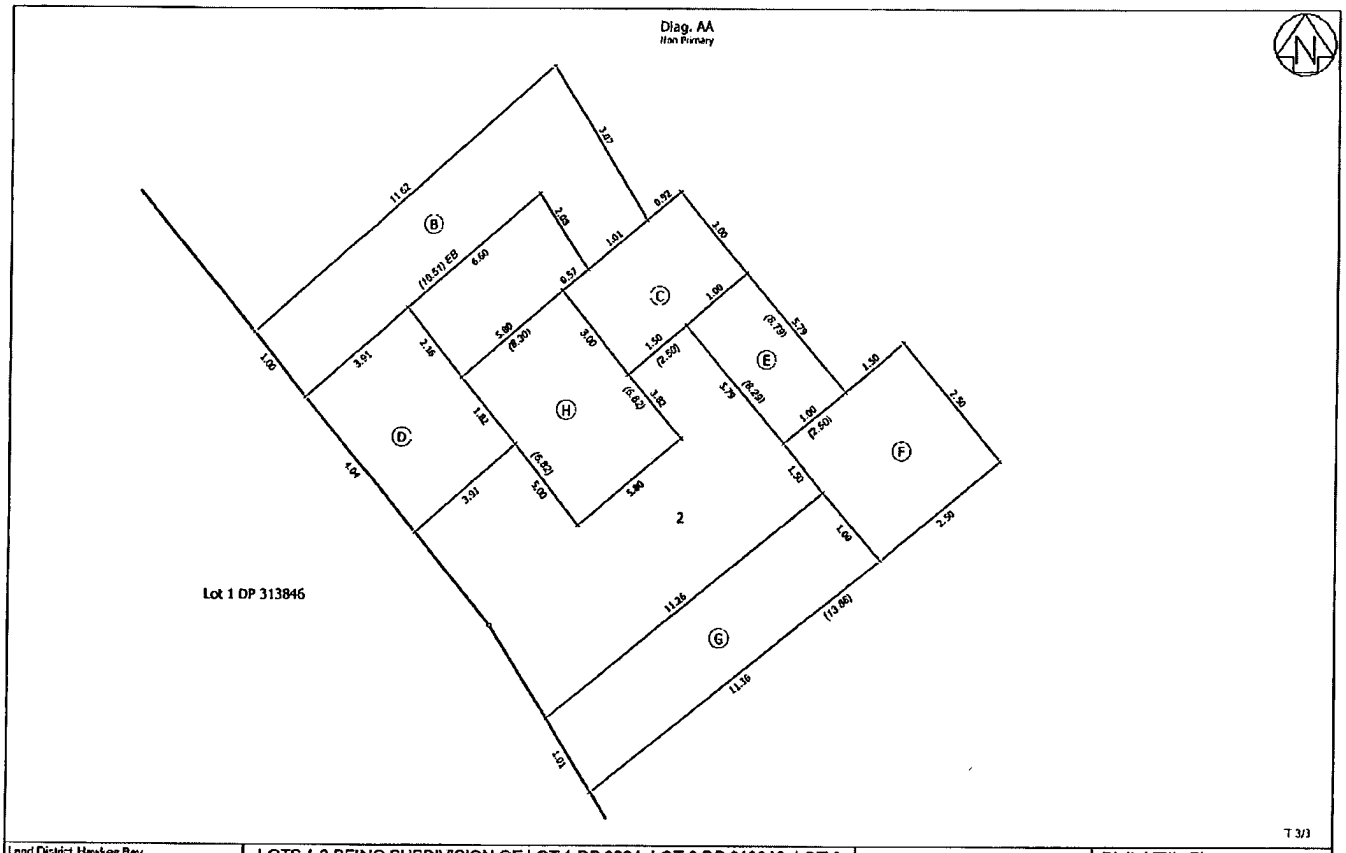
Interests
Appurtenant hereto is a right to convey electric power created by Easement Instrument 7388616.3 - 25.5.2007 at 9:00 am (affects formerly Lot 2 DP 313846, Lot 1 DP 2461 and Lot 2 DP 26855)
8239336.5 COVENANT UNDER SECTION 240 RESOURCE MANAGEMENT ACT 1991 (ALSO AFFECTS HB58/149) - 24.8.2009 at 3:09 pm
8239336.6 Mortgage to Westpac New Zealand Limited - 24.8.2009 at 3:09 pm



Land District | Hawkes Bay Digitally Generated Plan Generated on: 26/08/2009 08:33am Page 3 of 5	LOTS 1-3 BEING SUBDIVISION OF LOT 1 DP 3994, LOT 2 DP 313846, LOT 2 DP 26855 AND LOT 1 DP 2461	Surveyor: Colin George Shanley Firm: Shanley & Co	Digital Title Plan DP 416250 Deposited on: 24/08/2009



Land District Hawkes Bay Digitally Generated Plan Generated on: 26/08/2009 08:33am Page 4 of 5	LOTS 1-3 BEING SUBDIVISION OF LOT 1 DP 3994, LOT 2 DP 313846, LOT 2 DP 26855 AND LOT 1 DP 2461	Surveyor: Colin George Shanley Firm: Shanley & Co	Digital Title Plan DP 416250 Deposited on: 24/08/2009



Land District Hawkes Bay Digitally Generated Plan Generated on: 28/08/2009 08:33am Page 5 of 5	LOTS 1-3 BEING SUBDIVISION OF LOT 1 DP 3994, LOT 2 DP 313846, LOT 2 DP 26855 AND LOT 1 DP 2461	Surveyor: Colin George Shanley Firm: Shanley & Co	Digital Title Plan DP 416250 Deposited on: 24/08/2009

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**HB58/149**
Land Registration District	**Hawkes Bay**
Date Issued	19 April 1933

Estate	Fee Simple
Area	4.0469 hectares more or less
Legal Description	Lot 1 Deposited Plan 2209

Proprietors

Hamish Gregory Campbell as to a 1/2 share

Lynne Stephanie Teixeira as to a 1/2 share

Interests

This is an Interim Certificate of Title

This Certificate is now conclusive as to all estates and interests evidenced hereby but not as to the desription and delineation of the land - 27th day of June 1936

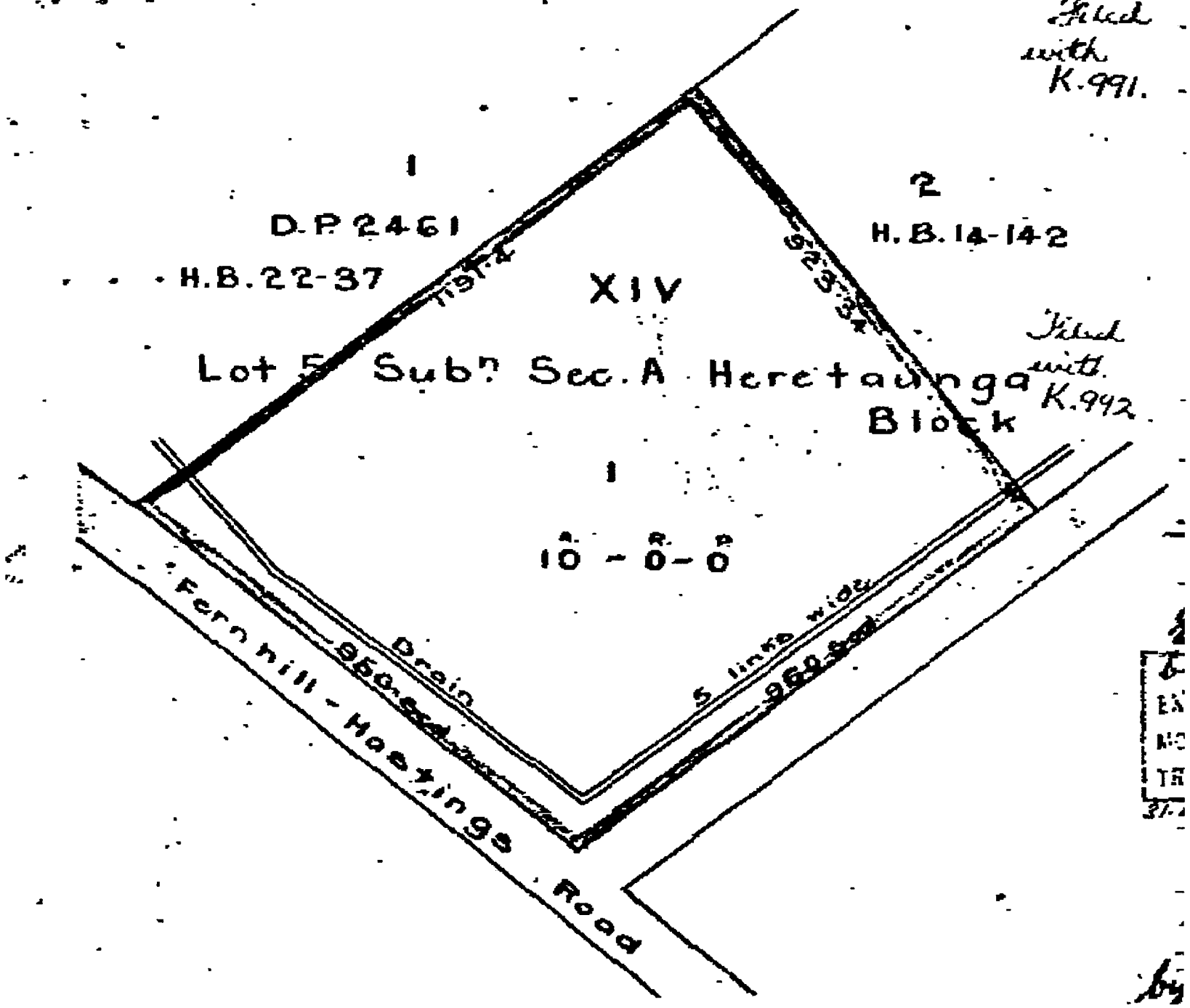
"Conclusive" is defined by Section 2 of the Land Transfer (Hawke's Bay) Act, 1931

5237235.3 Mortgage to (now) Westpac New Zealand Limited - 31.5.2002 at 9:00 am

6947249.1 Variation of Mortgage 5237235.3 - 14.7.2006 at 9:00 am

8239336.5 COVENANT UNDER SECTION 240 RESOURCE MANAGEMENT ACT 1991 (ALSO AFFECTS 462993) - 24.8.2009 at 3:09 pm

8242708.1 Variation of Mortgage 5237235.3 - 28.8.2009 at 12:18 pm


Filed with K.991.
1
D.P 2461
H.B.22-37
2
H.B.14-142
XIV
Lot 5 Sub? Sec. A Heretaunga Block
Filed with K.992
1
10 - 0 - 0
Drain
5 links wide
Fernhill - Hastings Road

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**HB58/91**
Land Registration District	**Hawkes Bay**
Date Issued	03 March 1933

Estate	Fee Simple
Area	2.2177 hectares more or less
Legal Description	Lot 1 Deposited Plan 2767

Proprietors

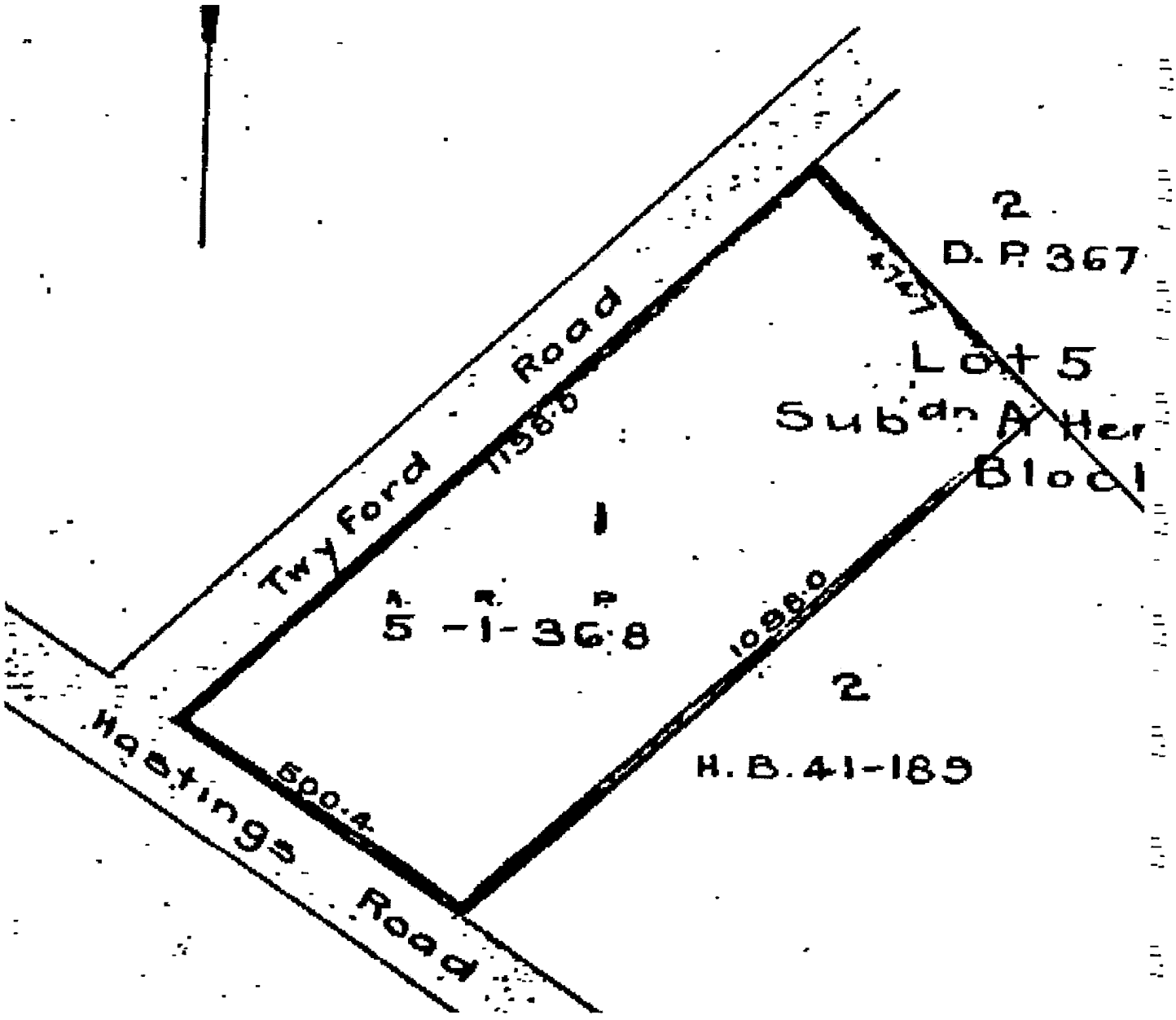
Karl Hansen and Ailsa Naomi Hansen

Interests

This is an INTERIM Certificate of Title

This certificate has by effluxion of time become CONCLUSIVE as defined by Section 2 of the Land Transfer (Hawke's Bay) Act 1931 as to all matters EXCEPT the description and delineation of the land

427161.3 Mortgage to (now) Westpac New Zealand Limited - 3.11.1983 at 10.33 am


2
D. P. 367
Lot 5
Subdn A Her
Block
Twyford Road
1158.0
1
5 - 1 - 36.8
1098.0
2
H. B. 41-189
500.4
Hastings Road

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**499262**
Land Registration District	**Hawkes Bay**
Date Issued	29 April 2010

Prior References
472277 HBL1/1074

Estate	Fee Simple
Area	47.1989 hectares more or less
Legal Description	Lot 2 Deposited Plan 10520 and Lot 2 Deposited Plan 328509 and Lot 1 Deposited Plan 418851 and Lot 2 Deposited Plan 425145

Proprietors
Crasborn Brothers Limited

Interests

Appurtenant to Lot 2 DP 10520 herein are water and subsidiary rights created by Transfer 17401

Appurtenant to Lot 2 DP 10520 herein are water and subsidiary rights created by Transfer 17642

Appurtenant to part Lot 1 DP 418851 herein formerly Lot 2 DP 332864 are certain water rights in respect of the an Artesian Well, Windmill, Tank, Pipe-line and Trough and water rights in respect of new pipe-line from the said well created by Transfer 63348 - 7.3.1935

Subject to water and pipeline rights over part Lot 2 DP 328509 marked D on DP 328509 and over part Lot 2 DP 425145 marked F on DP 425145 created by Transfer 69330 - 26.10.1939 at 2:25 pm

Subject to rights to convey water over part Lot 2 DP 328509 marked C and drain sewerage over part Lot 2 DP 328509 marked B on DP 328509 specified in Easement Certificate 709822.5 - 24.11.2000 at 9.00 am

Appurtenant to part Lot 2 DP 328509 herein formerly Lot 2 DP 28477 is a right of way specified in Easement Certificate 709822.5 - 24.11.2000 at 9.00 am

The easements specified in Easement Certificate 709822.5 are subject to Section 243 (a) Resource Management Act 1991

Subject to Section 242(1) Resource Management Act 1991(affects DP 328509)

Appurtenant to Lot 1 DP 418851 is a right to convey electricity created by Easement Instrument 5961771.5 - 7.4.2004 at 9:00 am

Subject to a right to convey electricity and water over part Lot 2 DP 328509 herein marked A on DP 392292 created by Easement Instrument 7916366.2 - 25.8.2008 at 9:00 am

Subject to Section 241(2) Resource Management Act 1991 (affects DP 418851)

Appurtenant to Lot 1 DP 418851 is a right to convey electricity and water created by Easement Instrument 8140827.7 - 5.6.2009 at 10:33 am

The easements created by Easement Instrument 8140827.7 are subject to Section 243 (a) Resource Management Act 1991

Subject to a right to convey electricity, telecommunications and computer media over part Lot 1 DP 418851 marked A on DP 418851 and a right to drain water over part Lot 1 DP 418851 marked E on DP 418851 created by Easement Instrument 8140827.8 - 5.6.2009 at 10:33 am

Some of the easements created by Easement Instrument 8140827.8 are subject to Section 243 (a) Resource Management Act 1991

8140827.10 Mortgage to (now) Geoffrey Wayne Nicoll, Christine Cecile Nicoll and Bramwell Grossman Trustees Limited - 5.6.2009 at 10:33 am (Affects Lot 2 DP 10520, Lot 2 DP 328509 & Lot 1 DP 418851)

Identifier **499262**

Subject to Section 241(2) and Sections 242(1) and (2) Resource Management Act 1991(affects DP 425145)

Appurtenant hereto is a right to convey electricity and water created by Easement Instrument 8418255.10 - 29.4.2010 at 9:14 am

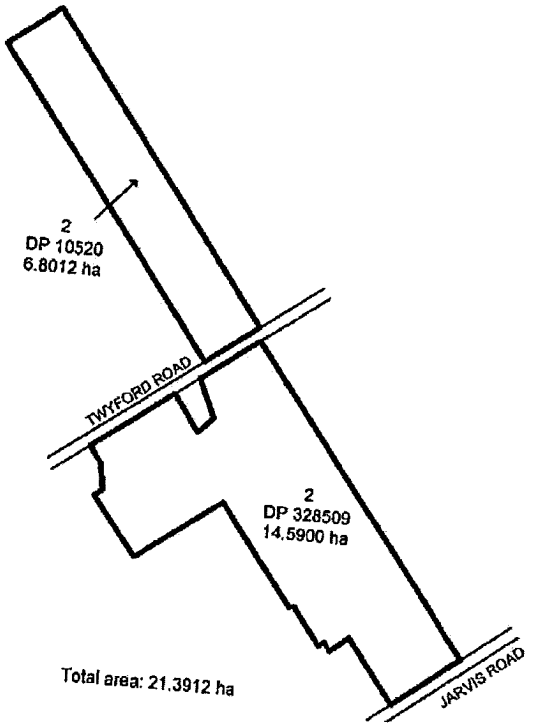
8612673.3 Mortgage to Bank of New Zealand - 19.10.2010 at 10:46 am

8612673.4 Mortgage Priority Instrument making Mortgage 8612673.3 first priority and Mortgage 8140827.10 second priority - 19.10.2010 at 10:46 am

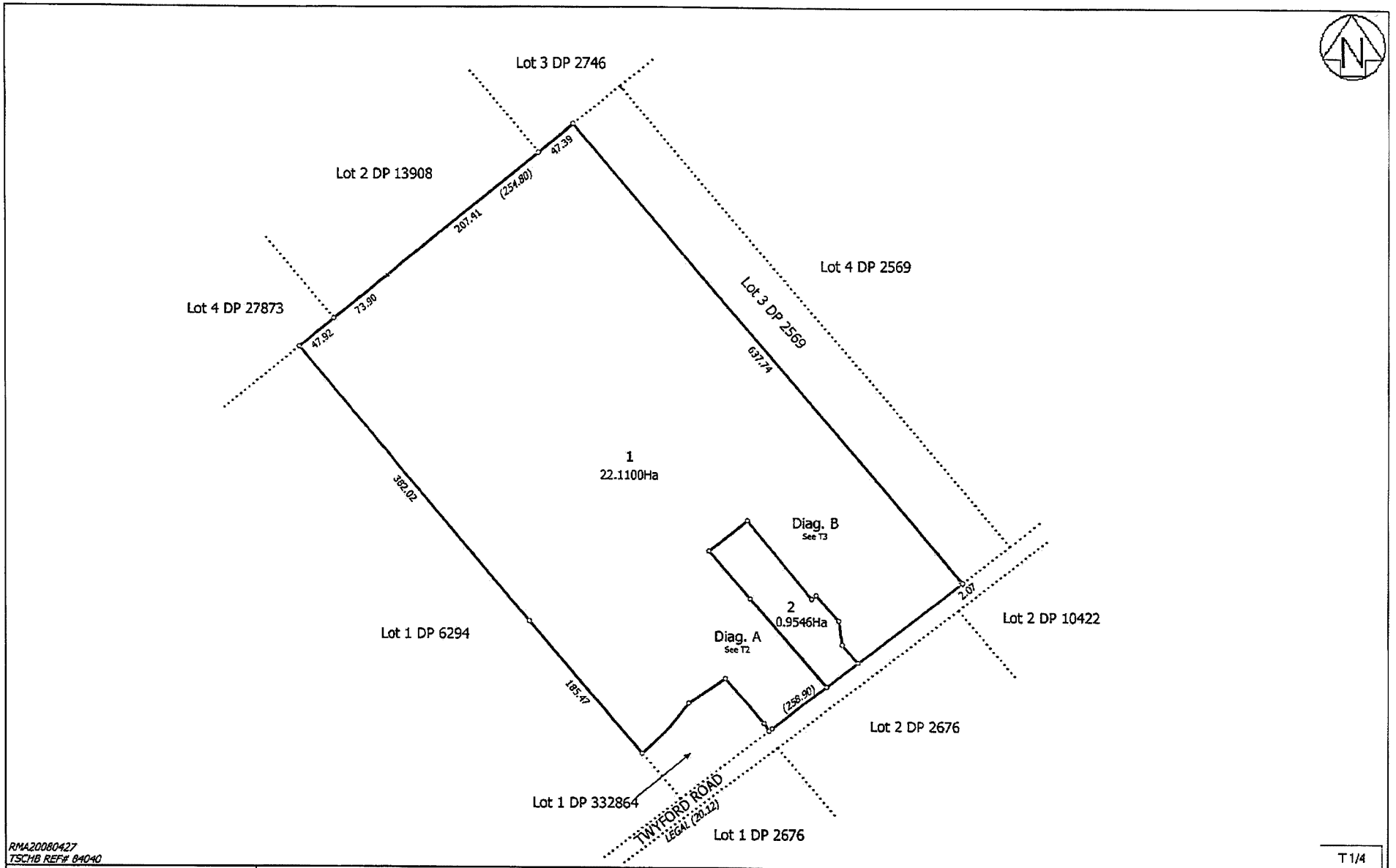
Title Diagram CT 116380

Cpy – 01/01, Pgs – 001, 08/04/04, 09:56

DocID: 410975883



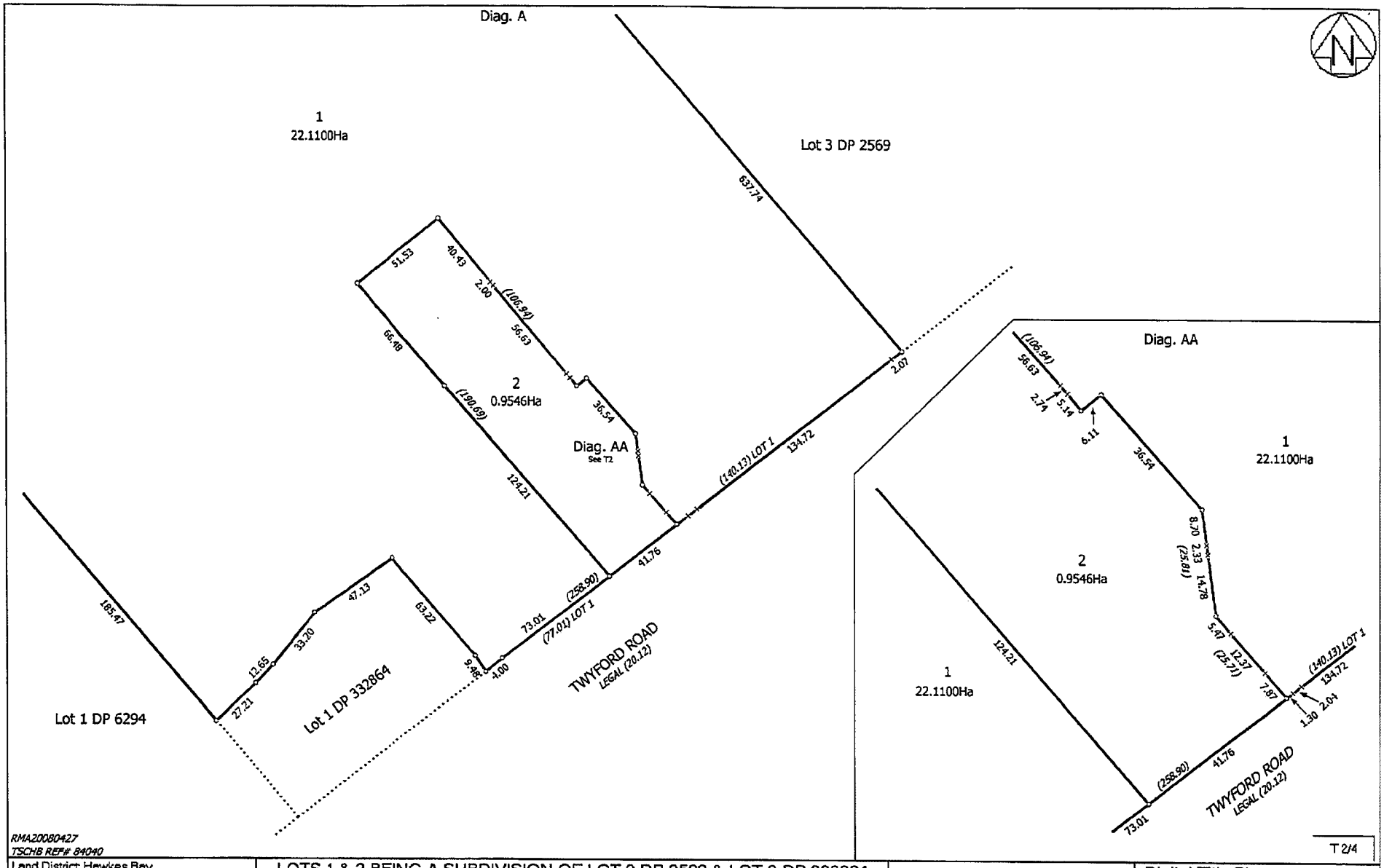
Total area: 21.3912 ha



RMA20080427
TSCHB REF# 84040

T 1/4

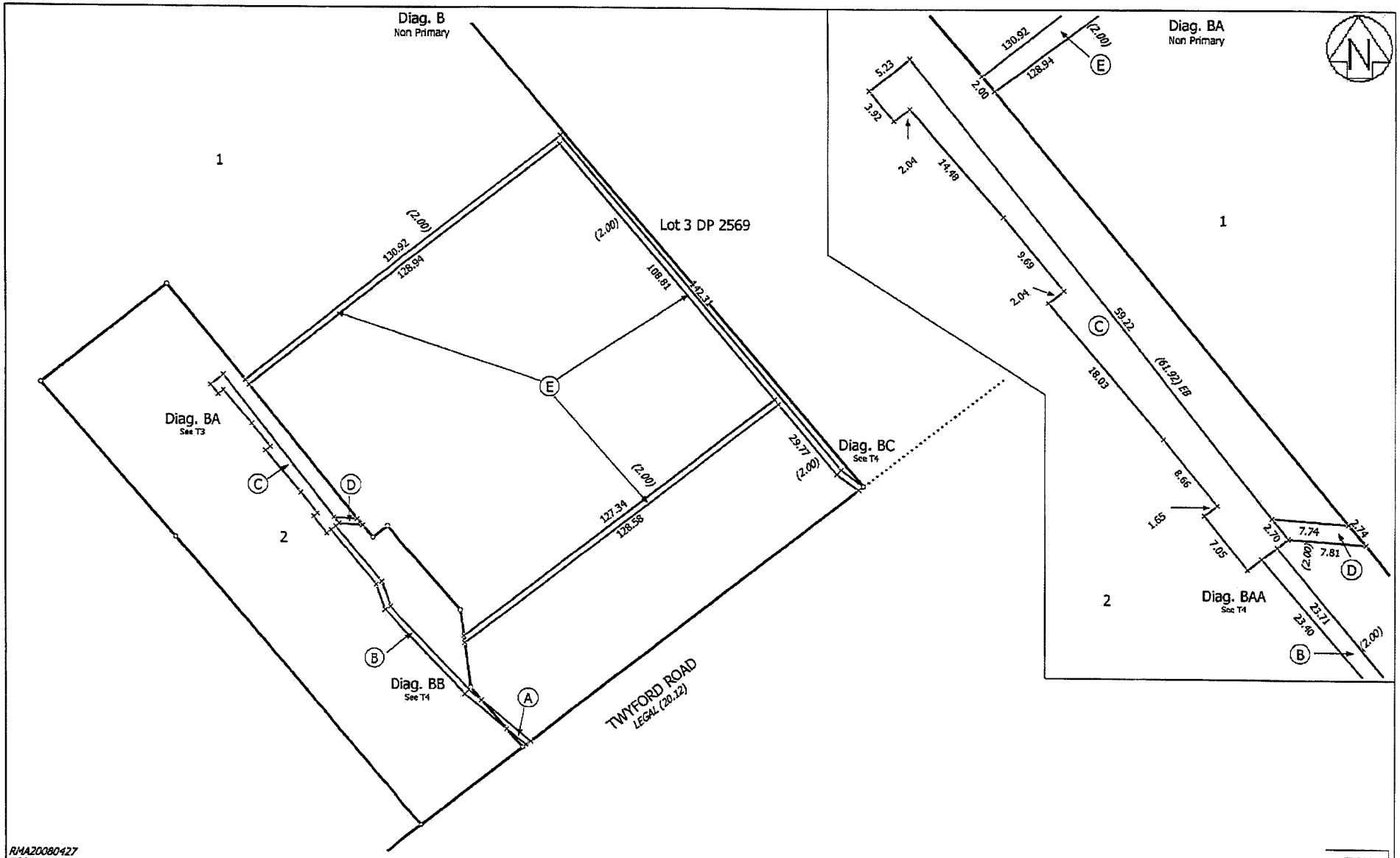
Land District: Hawkes Bay Digitally Generated Plan Generated on: 17/06/2009 11:18am Page 3 of 6	LOTS 1 & 2 BEING A SUBDIVISION OF LOT 2 DP 2569 & LOT 2 DP 332864	Surveyor: Brian Thomas Daly Firm: The Surveying Company (Hastings)	Digital Title Plan DP 418851 Deposited on: 5/06/2009



RMA20080427
TSCHB REF# 84040

T 2/4

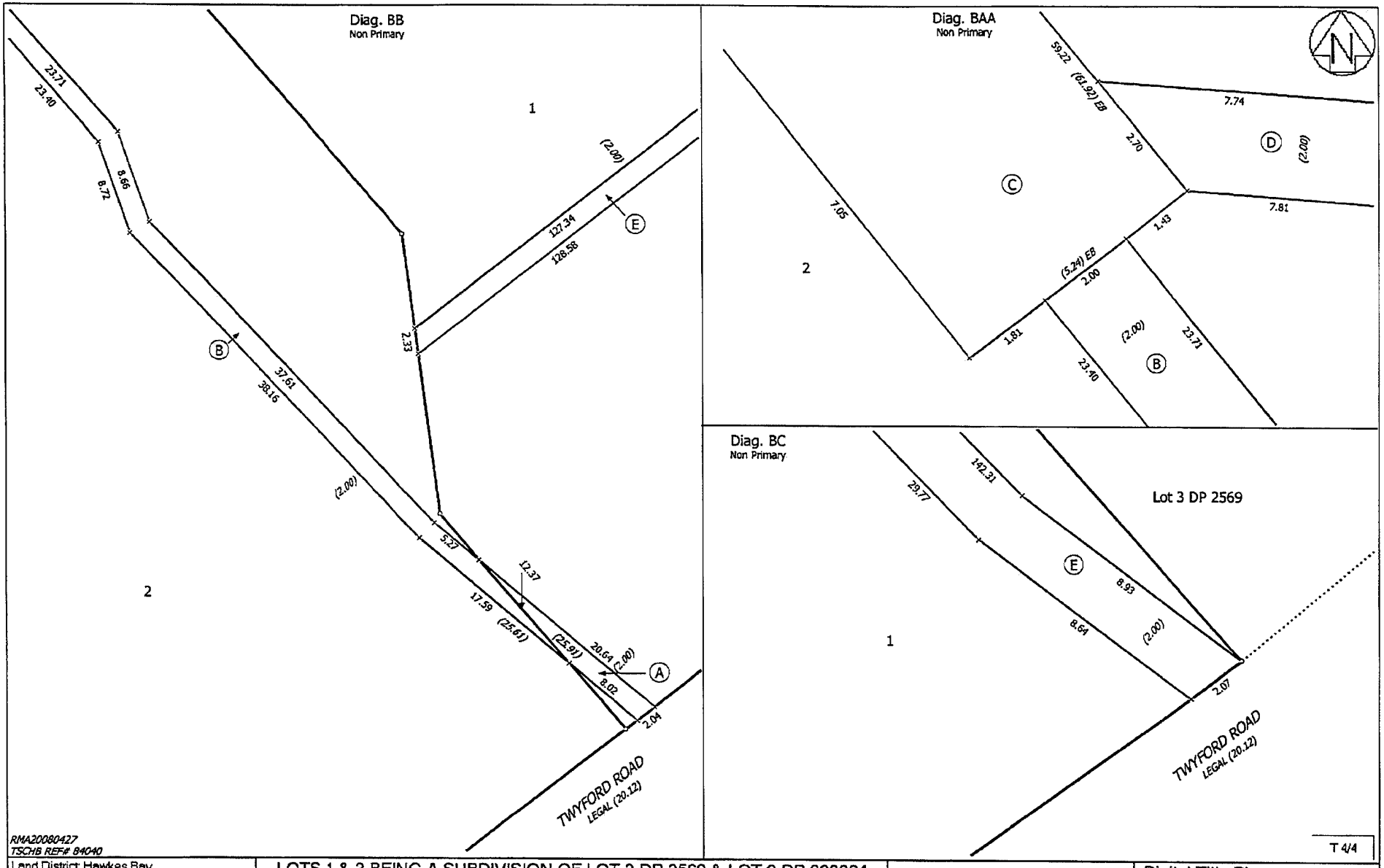
Land District: Hawkes Bay Digitally Generated Plan Generated on: 17/06/2009 11:18am Page 4 of 6	LOTS 1 & 2 BEING A SUBDIVISION OF LOT 2 DP 2569 & LOT 2 DP 332864	Surveyor: Brian Thomas Daly Firm: The Surveying Company (Hastings)	Digital Title Plan DP 418851 Deposited on: 5/06/2009



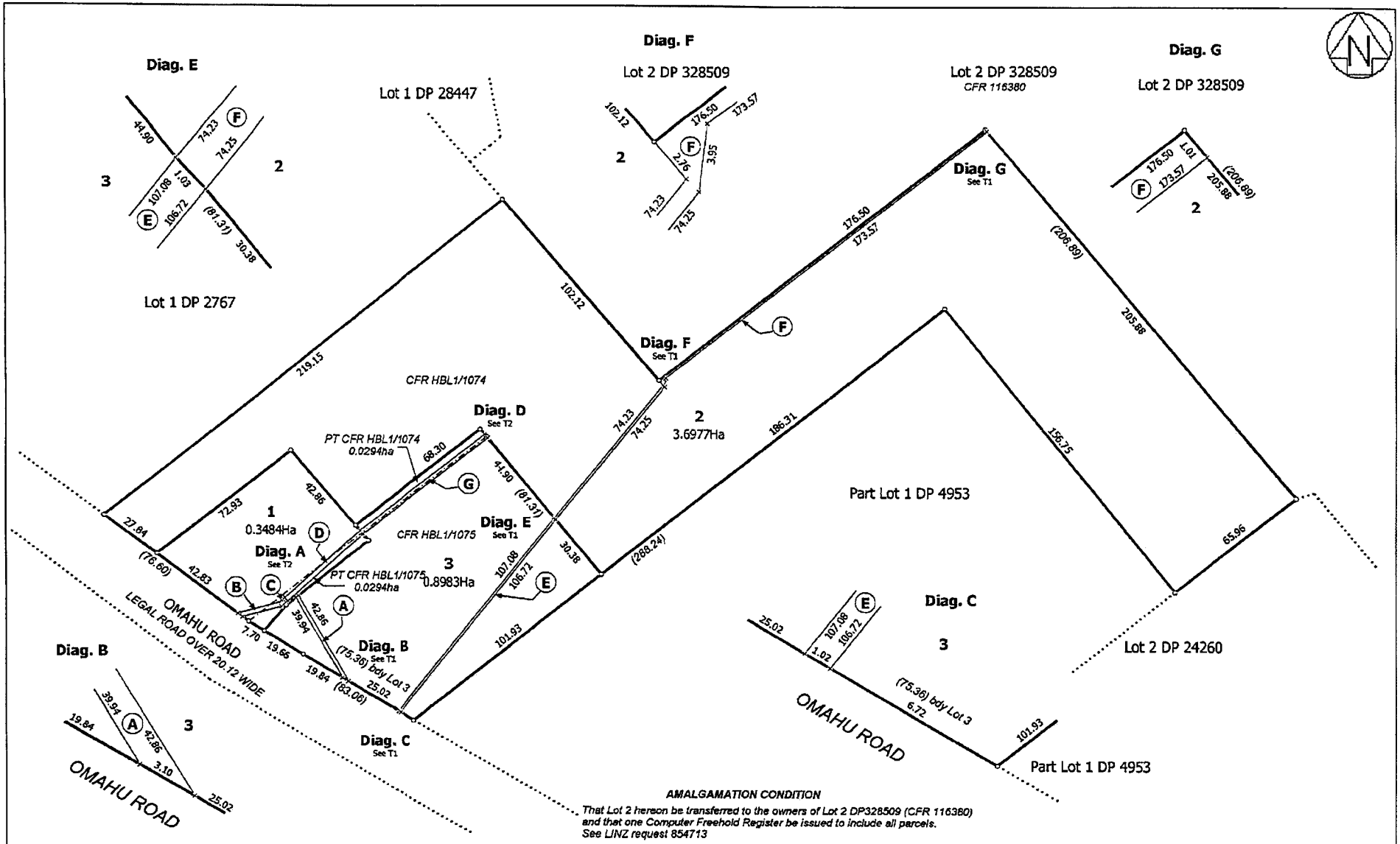
RMA20080427
TSCHB REF# 84040

T 3/4

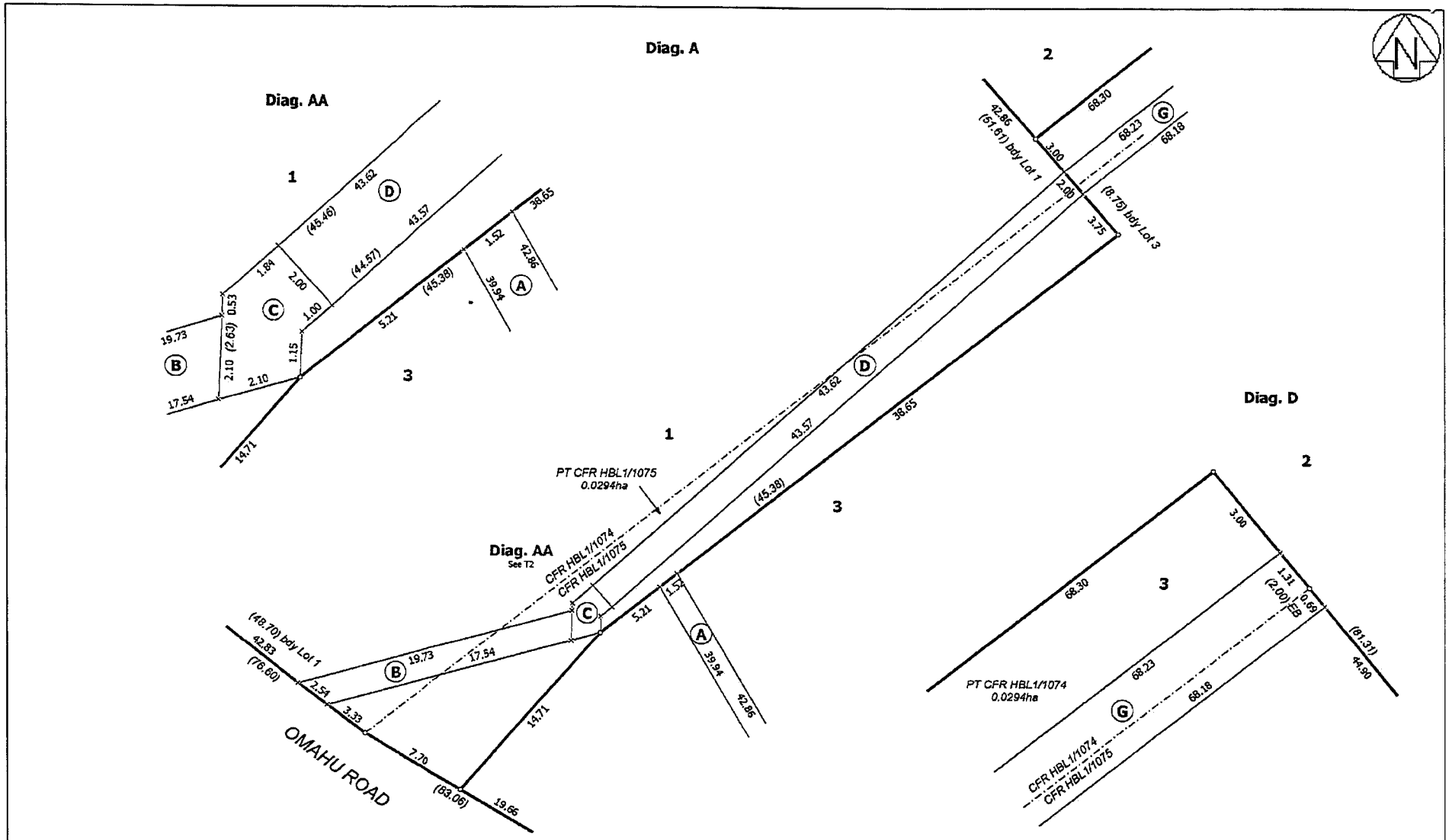
Land District: Hawkes Bay Digitally Generated Plan Generated on: 17/06/2009 11:18am Page 5 of 6	LOTS 1 & 2 BEING A SUBDIVISION OF LOT 2 DP 2569 & LOT 2 DP 332864	Surveyor: Brian Thomas Daly Firm: The Surveying Company (Hastings)	Digital Title Plan DP 418851 Deposited on: 5/06/2009



Land District: Hawkes Bay Digitally Generated Plan Generated on: 17/06/2009 11:18am Page 6 of 6	LOTS 1 & 2 BEING A SUBDIVISION OF LOT 2 DP 2569 & LOT 2 DP 332864	Surveyor: Brian Thomas Daly Firm: The Surveying Company (Hastings)	Digital Title Plan DP 418851 Deposited on: 5/06/2009



Land District: Hawkes Bay Digitally Generated Plan Generated on: 13/05/2010 10:39am Page 3 of 4	LOTS 1 - 3 BEING SUBDIVISION OF LOTS 1 AND 2 DP18694.	Surveyor: Colin George Shanley Firm: Shanley & Co	Digital Title Plan DP 425145 Deposited on: 29/04/2010



T 2/2

Land District: Hawkes Bay Digitally Generated Plan Generated on: 13/05/2010 10:39am Page 4 of 4	LOTS 1 - 3 BEING SUBDIVISION OF LOTS 1 AND 2 DP18694.	Surveyor: Colin George Shanley Firm: Shanley & Co	Digital Title Plan DP 425145 Deposited on: 29/04/2010

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

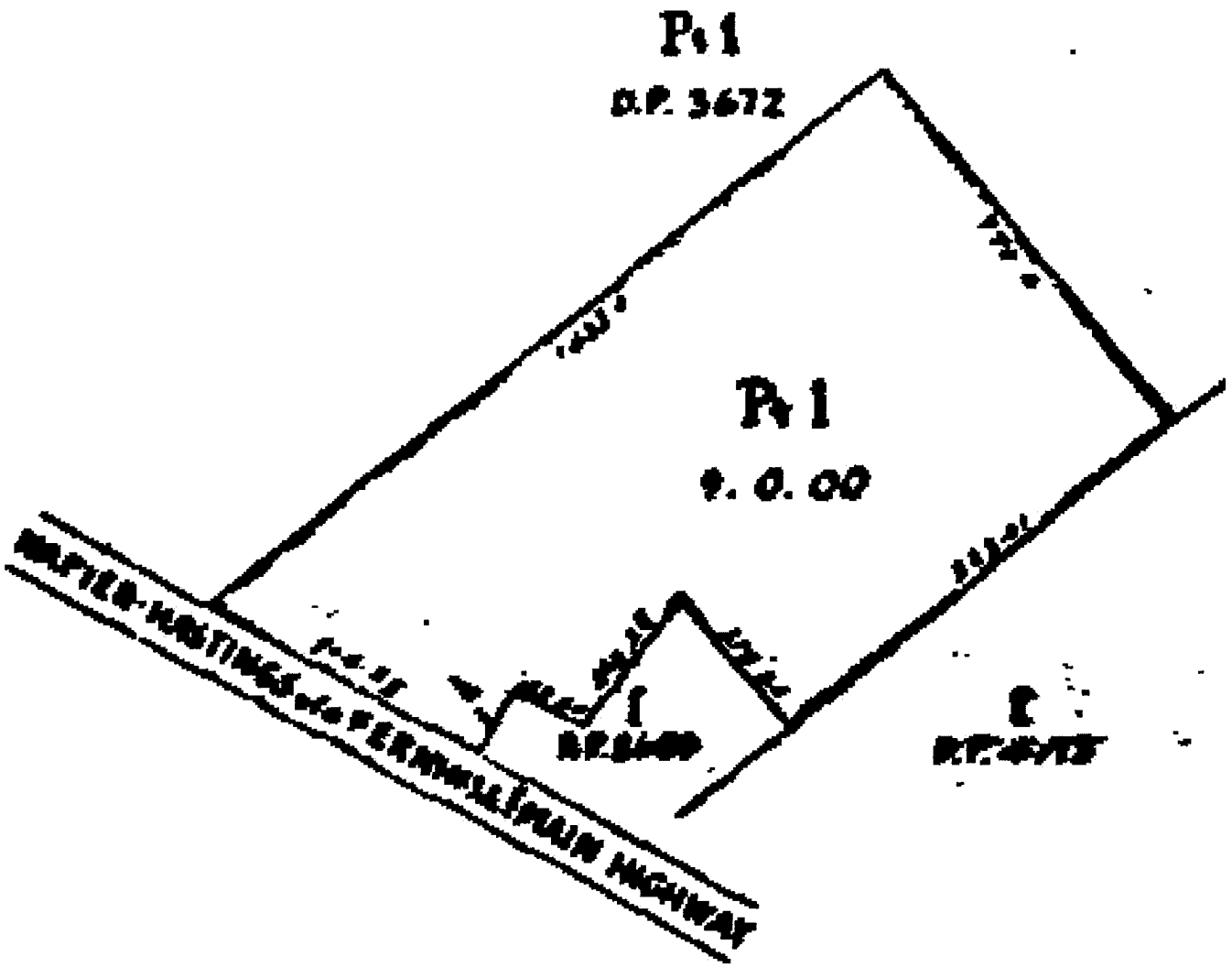
R.W. Muir
Registrar-General
of Land

Identifier	**HB142/105**
Land Registration District	**Hawkes Bay**
Date Issued	03 September 1953

Estate	Fee Simple
Area	3.6422 hectares more or less
Legal Description	Part Lot 1 Deposited Plan 4953
Proprietors	
EJAE Co. Limited	

Interests

7676131.3 Mortgage to Rabobank New Zealand Limited - 14.1.2008 at 3:27 pm


Pt 1
D.P. 3672
Pt 1
0. 0. 00
1
2

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

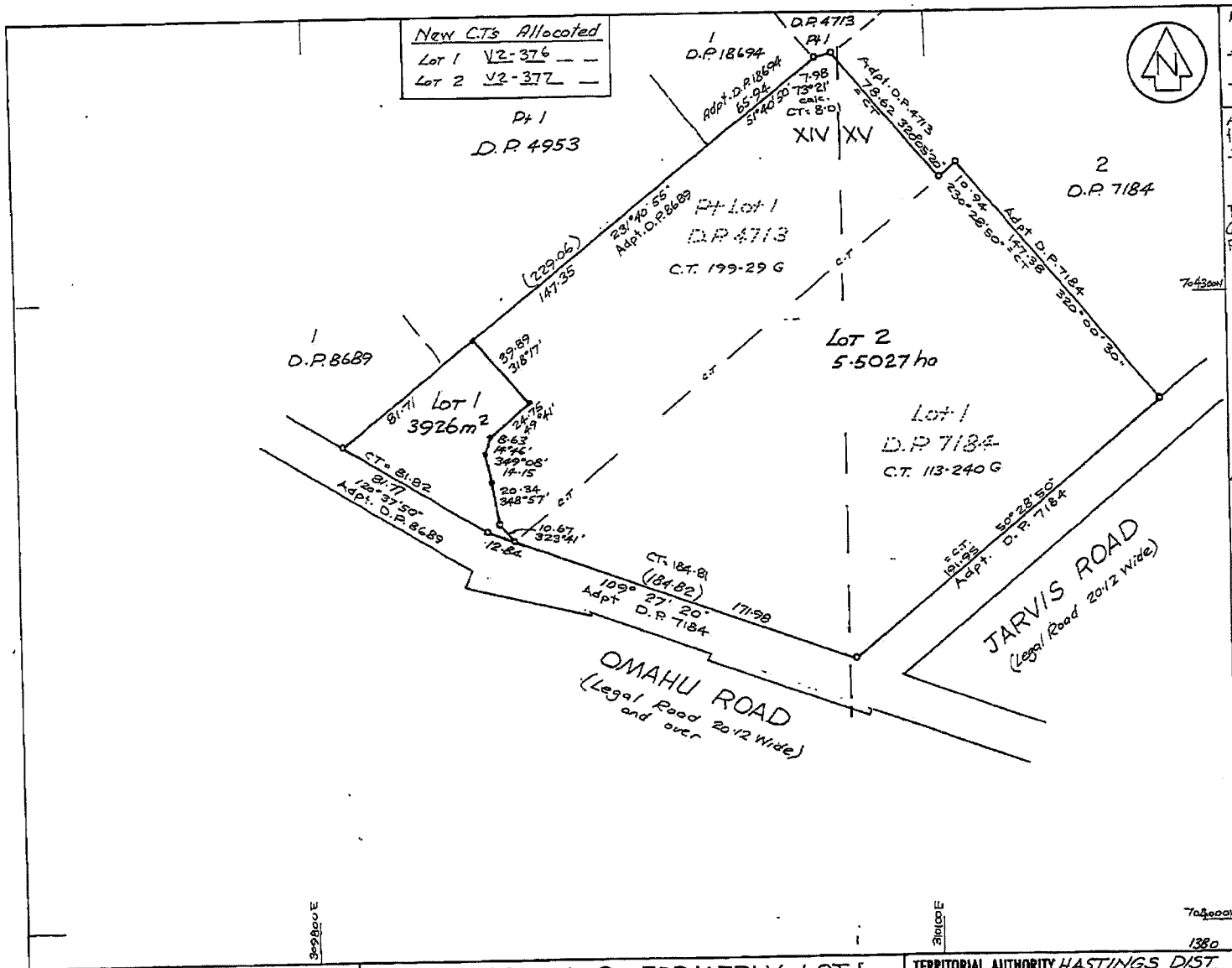
Identifier	**HBV2/377**
Land Registration District	**Hawkes Bay**
Date Issued	05 September 1994

Prior References
HB113/240 HB199/29

Estate	Fee Simple
Area	5.5027 hectares more or less
Legal Description	Lot 2 Deposited Plan 24260

Proprietors
Kauri Hastings Limited

Interests



Approvals Registered Proprietors

J.G. Challies

A.J. Challies

Approved pursuant to Section 223 of the Resource Management Act 1991 on the 23rd day of July 1994

The Common Seal of the Hastings District Council is affixed hereto in the presence of

Mayor

Chief Executive

Pursuant to Section 224(c) of the Resource Management Act 1991. I hereby certify that all the conditions of the subdivision consent have been complied with to the satisfaction of the Hastings District Council Dated this 23rd day of July 1994

Chief Executive

Total Area 5.8953 ha

Comprised in All CT 199-29 G
All CT 113-240 G

I, David Devine

Registered Surveyor and holder of an annual practising certificate (or who may act as a registered surveyor pursuant to section 25 of the Survey Act 1986) hereby certify that this plan has been made from surveys executed by me or under my directions, that both plan and survey are correct and have been made in accordance with the Survey Regulations 1972 or any regulations made in substitution thereof.

Dated at Napier this 7th day of July 1994 Signature

Field Book 1735 p. 48-49 Traverse Book 1416 p. 36-37

Reference Plans D.P. 4713, D.P. 7184, D.P. 8689, D.P. 17254, 50.8567, 304573,

Examined M. Theodore Correct

Approved as to Survey

Acting Deputy Chief Surveyor

Deposited this day of September 1994

District Land Registrar

Received 24260

Instructions

LAND DISTRICT HAWKES BAY

Survey Blk. & Dist. XIV & XV Heretaunga

NZMS 261 Sheet V21 Record Map No. 51-27, 52-27

PLAN OF LOTS 1 & 2 FORMERLY LOT 1 D.P. 7184 and PT LOT 1 D.P. 4713

TERRITORIAL AUTHORITY HASTINGS DIST

Surveyed by David Devine

Scale 1:1250 Date May 1994

W.A. ROBERTSON, DIRECTOR GENERAL/SURVEYOR GENERAL, DEPARTMENT OF SURVEY AND LAND INFORMATION, NEW ZEALAND

16 NOV 1994

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

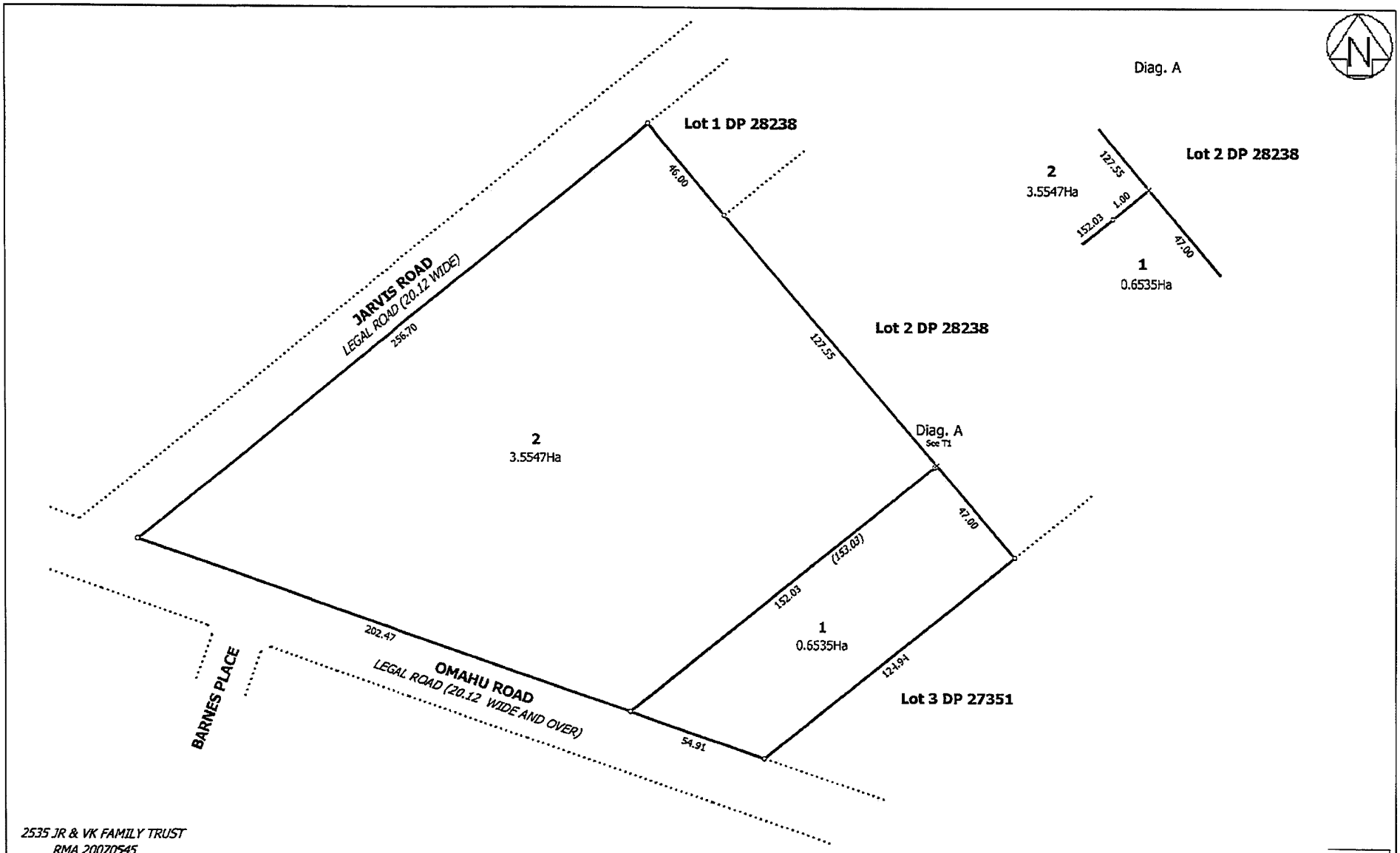
Identifier	**409725**
Land Registration District	**Hawkes Bay**
Date Issued	15 April 2008

Prior References
HBH2/489

Estate	Fee Simple
Area	3.5547 hectares more or less
Legal Description	Lot 2 Deposited Plan 402958

Proprietors
James Robert Currie and Valerie Kathryn Currie as to a 1/2 share
Stephen Henry Currie and Denise Marjorie Currie as to a 1/2 share

Interests
6675365.1 Mortgage to Bank of New Zealand - 5.12.2005 at 9:58 am
7784344.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 15.4.2008 at 9:00 am



T1/1

Land District Hawkes Bay Digitally Generated Plan Generated on: 02/05/2008 10:07am Page 2 of 2	LOTS 1 AND 2 BEING A SUBDIVISION OF LOT 1 DP 15722	Surveyor: Warren Bruce Gunn Firm: Surveying The Bay Ltd (Hastings)	Digital Title Plan DP 402958 Deposited on: 15/04/2008

If calling ask for Helen Gellatly

TRIM/File Ref 54966#0062
Our Ref: RMA 20070545

3 April 2008

CONO 7784344.2 Cons
Cpy - 01/01, Pgs - 001, 14/04/08, 14:57
DocID: 212172334

HASTINGS DISTRICT COUNCIL

HASTINGS, THE LIFESTYLE OF CHOICE.
A PLACE OF OPPORTUNITIES

CONSENT NOTICE PURSUANT TO SECTION 221 OF THE RESOURCE MANAGEMENT ACT 1991

IN THE MATTER OF LT 402958 Hawke's Bay Land District

AND

IN THE MATTER OF Consent Notice pursuant to Section 221 of the Resource Management Act 1991.

I hereby certify that under delegated authority the **Hastings District Council**, in approving the subdivision of Lot 1 DP 15722 imposed a Condition on Lot 2, pursuant to Section 221 of the Resource Management Act 1991.

CONDITION: 3

Lot 2 is not currently served by either a water, sewer or stormwater connection to Hastings District Council reticulated services

DATED AT HASTINGS this 11th day of April 2008.

SIGNED BY:

Tracey Kendall
AUTHORISED OFFICER
SENIOR PLANNER ENVIRONMENTAL (CONSENTS)
RESOURCE MANAGEMENT

RESOURCE MANAGEMENT

Private Bag 9002, HASTINGS 4156
DX MA75020
Phone 06 878 0500 Fax 06 878 0515
www.hastingsdc.govt.nz

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**478421**
Land Registration District	**Hawkes Bay**
Date Issued	06 October 2009

Prior References
447745 HB196/56

Estate	Fee Simple
Area	20.0082 hectares more or less
Legal Description	Lot 2 Deposited Plan 419221

Proprietors
Kevin Archie Bayley, Karen Judith Bayley and Graham Hunter Throp

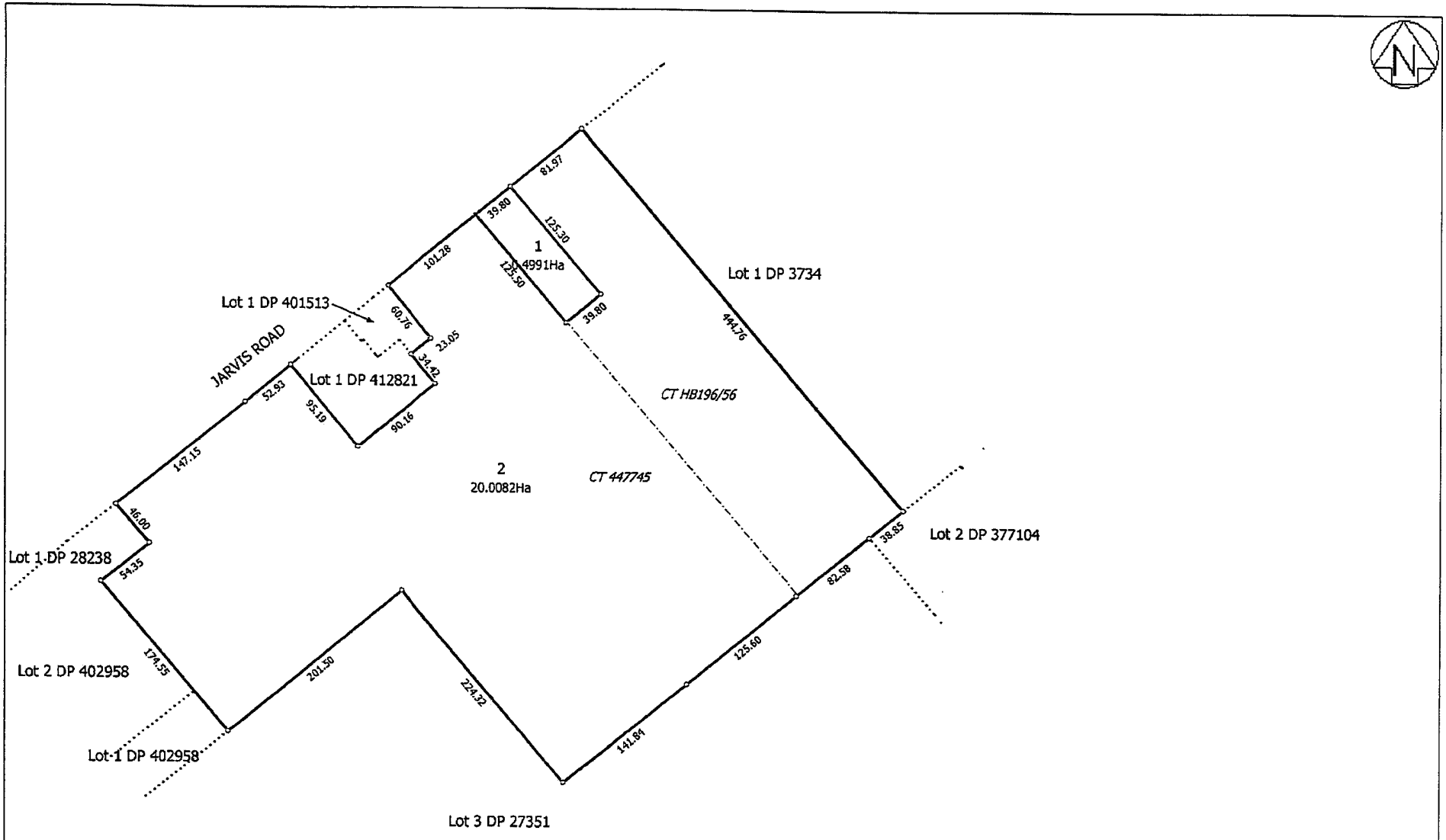
Interests

Appurtenant hereto are rights to drain water & to part herein formerly CT 447745 a right of way created by Easement Instrument 7396949.4 - 31.5.2007 at 9:00 am

The right of way created by Easement Instrument 7396949.4 is subject to Section 243 (a) Resource Management Act 1991

Appurtenant to part herein formerly CT 404034 are rights to convey water & electricity created by Easement Instrument 7811836.2 - 12.5.2008 at 9:00 am

8271123.5 Mortgage to Bank of New Zealand - 6.10.2009 at 9:33 am



T1/1

Land District: Hawkes Bay Digitally Generated Plan Generated on: 07/10/2009 09:00am Page 2 of 2	Lots 1 and 2 being a subdivision of Lot 2 DP 412821 and Lot 1 DP 10274	Surveyor: David Devine Firm: David Devine Surveyor	Digital Title Plan DP 419221 Deposited on: 6/10/2009

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**HB134/211**
Land Registration District	**Hawkes Bay**
Date Issued	06 March 1952

Estate	Fee Simple
Area	2.4281 hectares more or less
Legal Description	Lot 2 Deposited Plan 8336

Proprietors

Totara Hastings Limited

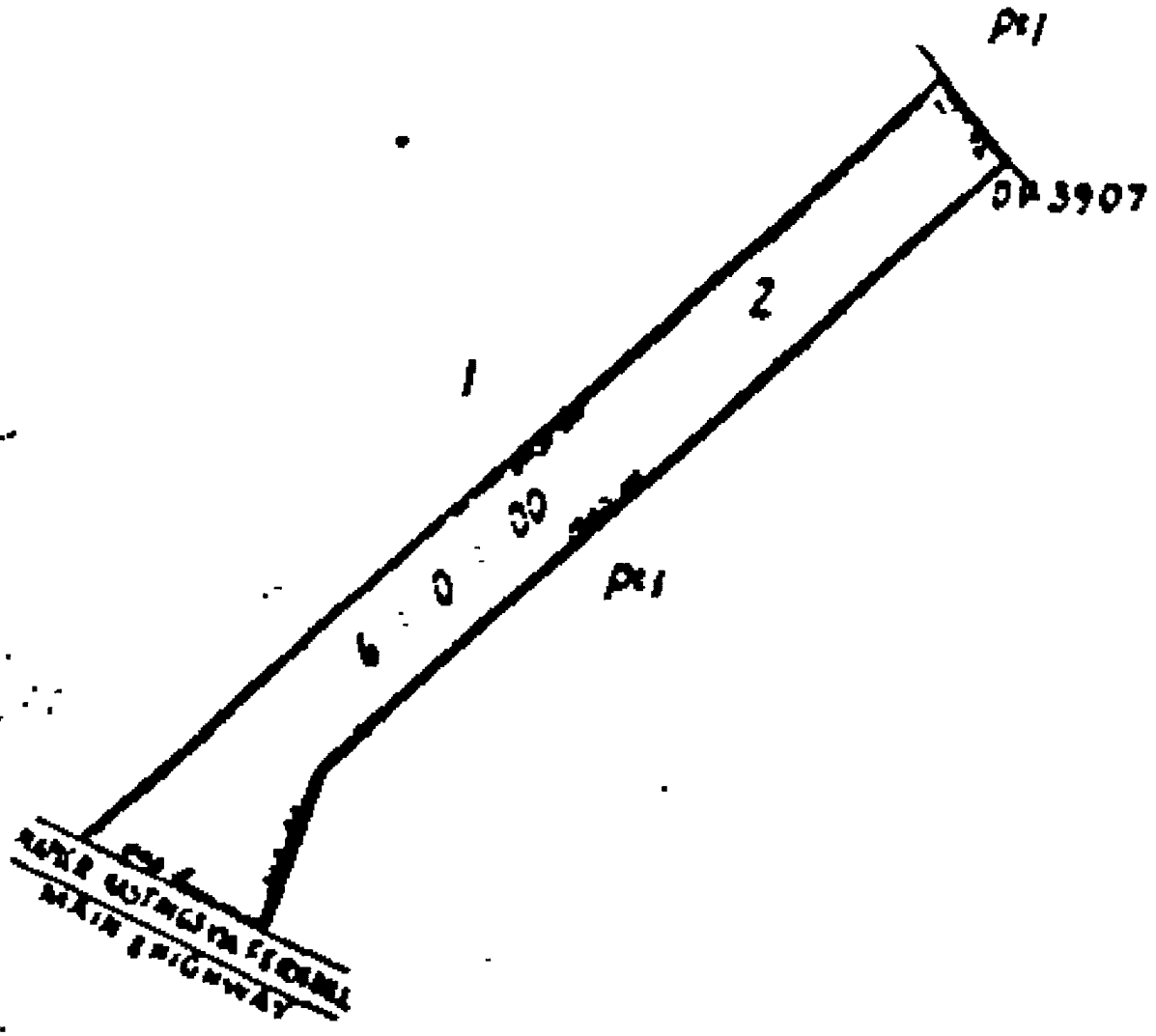
Interests

6676809.1 Mortgage to Bank of New Zealand - 5.12.2005 at 1:38 pm

Subject to a right to drain water over part marked D on DP 377104 created by Easement Instrument 7396949.4 - 31.5.2007 at 9:00 am

Appurtenant hereto is a right of way and rights to drain water created by Easement Instrument 7396949.4 - 31.5.2007 at 9:00 am

The right of way created by Easement Instrument 7396949.4 is subject to Section 243 (a) Resource Management Act 1991


Pt 1
DP 3907
2
1
30
Pt 1

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**HBW3/1071**
Land Registration District	**Hawkes Bay**
Date Issued	11 December 1998

Prior References
HBV4/1093 HBV4/1094

Estate	Fee Simple
Area	9.7448 hectares more or less
Legal Description	Lot 3 Deposited Plan 27351

Proprietors
Totara Hastings Limited

Interests

Subject to a right to convey electric power over parts marked A, B, E, G and H and a right to convey water over parts marked B, C, E, G and H on DP 27351 specified in Easement Certificate 680764.10 - 11.12.1998 at 12.04 pm

Appurtenant hereto is a right to convey electric power and convey water specified in Easement Certificate 680764.10 - 11.12.1998 at 12.04 pm

The easements specified in Easement Certificate 680764.10 are subject to Section 243 (a) Resource Management Act 1991

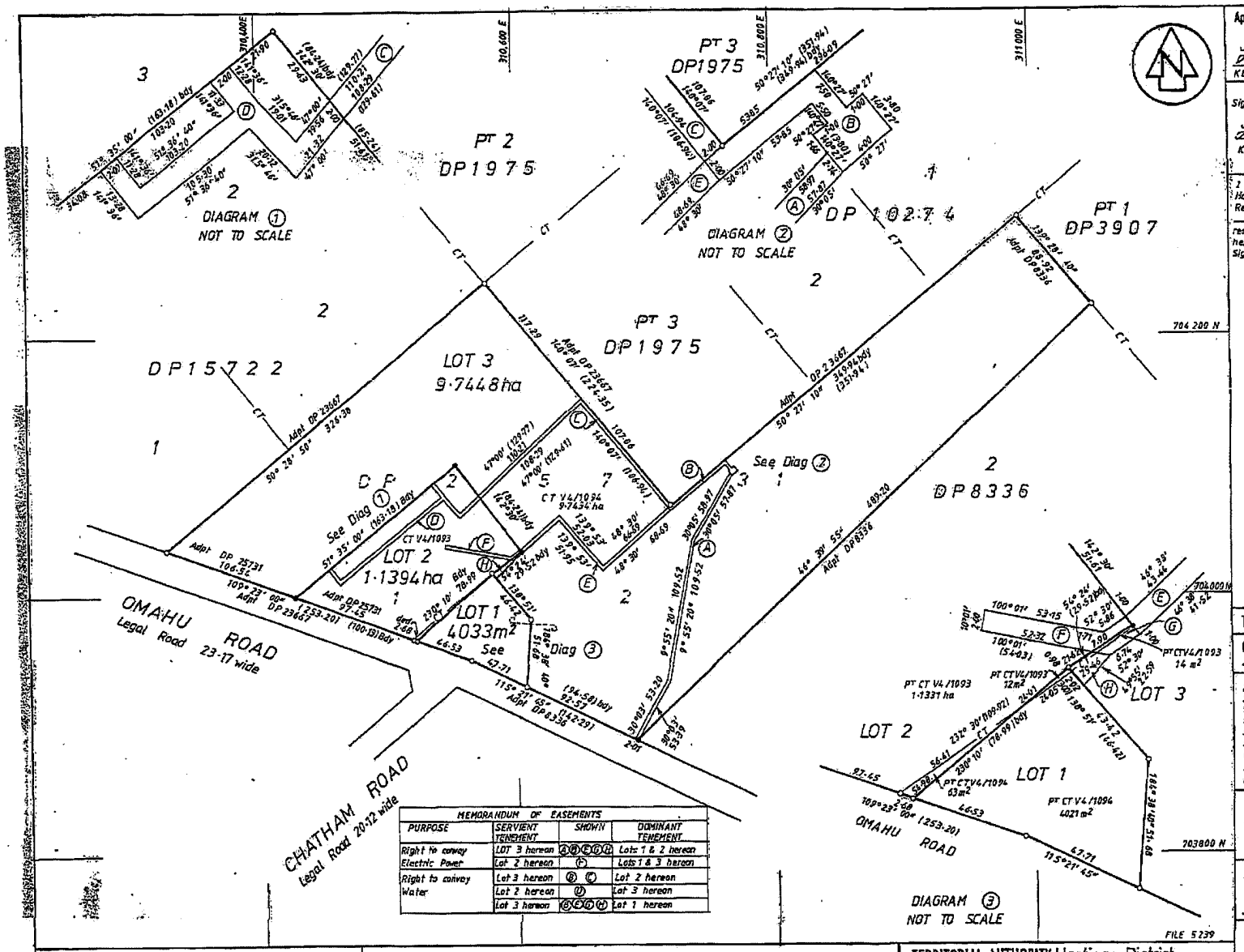
5665985.2 Mortgage to Bank of New Zealand - 22.7.2003 at 9:00 am

6642250.2 Variation of Mortgage 5665985.2 - 10.11.2005 at 9:00 am

Subject to a right to drain water over parts marked E and F on DP 377104 created by Easement Instrument 7396949.4 - 31.5.2007 at 9:00 am

Appurtenant hereto is a right of way and rights to drain water created by Easement Instrument 7396949.4 - 31.5.2007 at 9:00 am

The right of way created by Easement Instrument 7396949.4 is subject to Section 243 (a) Resource Management Act 1991



MEMORANDUM OF EASEMENTS			
PURPOSE	SERVIENT TENEMENT	SHOWN	DOMINANT TENEMENT
Right to convey Electric Power	LOT 3 hereon	Ⓐ Ⓑ Ⓔ Ⓖ Ⓗ	Lots 1 & 2 hereon
	Lot 2 hereon	Ⓕ	Lots 1 & 3 hereon
Right to convey Water	Lot 3 hereon	Ⓑ Ⓒ	Lot 2 hereon
	Lot 2 hereon	Ⓓ	Lot 3 hereon
	Lot 3 hereon	Ⓑ Ⓔ Ⓖ Ⓗ	Lot 1 hereon

Approvals

Signed on behalf of Kermac Farming Company Ltd

K E McAulay — N E McAulay

Signed on behalf of T. Mac Packhouse Ltd by

K E McAulay — G C Trollope

Registered Proprietors

I hereby certify that this plan was approved by the Hastings District Council pursuant to Section 223 of the Resource Management Act 1991 on the 1st day of October 1998 subject to the granting or reserving of the easements set out in the Memorandum hereon

Signed on behalf of the said Council

Authorised Officer

HDC REF 980172

NEW CsT Issued

LOT 1 W3/1069
LOT 2 W3/1070
LOT 3 W3/1071

Total Area 11·2875 ha

Comprised in CT V4/1093 G (All)
CT V4/1094 G (All)

I, COLIN GEORGE SHANLEY

Registered Surveyor and holder of an annual practising certificate (or who may act as a registered surveyor pursuant to section 25 of the Survey Act 1986) hereby certify that this plan has been made from surveys executed by me or under my directions, that both plan and survey are correct and have been made in accordance with the Survey Regulations 1972 or any regulations made in substitution thereof.

Dated at HASTINGS this 4th day of AUGUST 1998 Signature

Field Book 1844 p 25-28 Traverse Book 763 p 143-144
Reference Plans SO 8567, DP's 23667, 25731, 18464, 8366, 24330, 17956, 10274, 15722, 1975, SO 4573
Examined Correct

Approved as to Survey

12/11/98 Chief Surveyor

Deposited this 11 day of December 1998

District Land Registrar

File Received 22.10.1998 Instructions

-27351

LAND DISTRICT Hawkes Bay
SURVEY BLK. & DIST.
NZMS 261 SHT RECORD MAP No

PLAN OF LOTS 1-3
FORMERLY LOTS 1 and 2 DP25731

TERRITORIAL AUTHORITY Hastings District
Surveyed by Shanley & Co
Scale 1:2000 Date August 1998

GH/Littlejohns

W.A. ROBERTSON, SURVEYOR GENERAL, DEPARTMENT OF SURVEY AND LAND INFORMATION, NEW ZEALAND

07 JAN 1999

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**401623**
Land Registration District	**Hawkes Bay**
Date Issued	22 October 2008

Prior References
122325 309866

Estate	Fee Simple
Area	14.0074 hectares more or less
Legal Description	Lot 2 Deposited Plan 400858 and Lot 2 Deposited Plan 329917 and Lot 2 Deposited Plan 377104

Proprietors
Totara Hastings Limited

Interests

Appurtenant to Lot 2 DP 329917 is a right to convey water created by Transfer 707403.1 - 21.9.2000 at 9.40 am

Subject to rights to convey water over part Lot 2 DP 400858 marked A and B and rights to convey electric power over part Lot 2 DP 400858 marked A and C all on DP 400858 created by Easement Instrument 5895834.6 - 11.2.2004 at 9:00 am

The easements created by Easement Instrument 5895834.6 are subject to Section 243 (a) Resource Management Act 1991

Subject to a right to convey water over part Lot 2 DP 329917 marked A on DP 329917 created by Easement Instrument 5895834.9 - 11.2.2004 at 9:00 am

The easement created by Easement Instrument 5895834.9 is subject to Section 243 (a) Resource Management Act 1991

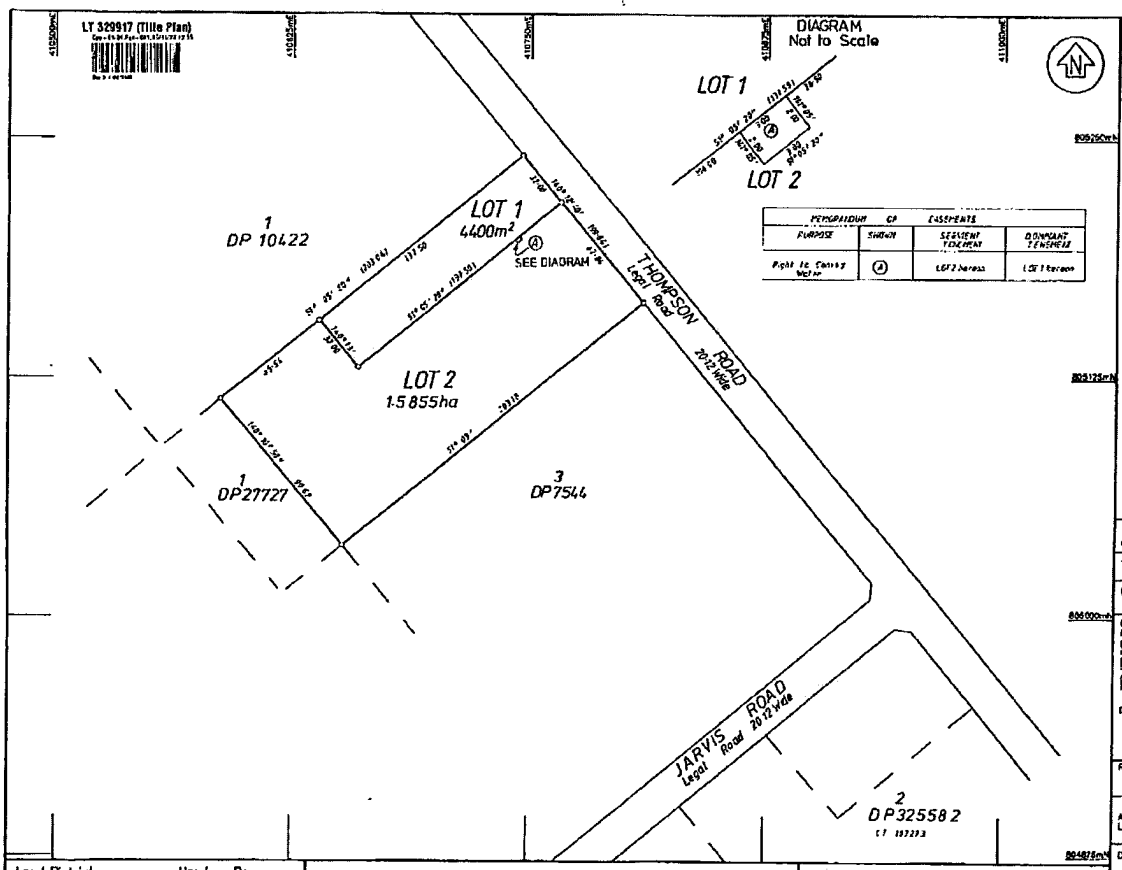
Subject to a right of way over part Lot 2 DP 377104 marked C and a right to drain water over part Lot 2 DP 377104 marked B all on DP 377104 created by Easement Instrument 7396949.4 - 31.5.2007 at 9:00 am

Appurtenant to Lot 2 DP 377104 are rights to drain water created by Easement Instrument 7396949.4 - 31.5.2007 at 9:00 am

The right of way created by Easement Instrument 7396949.4 is subject to Section 243 (a) Resource Management Act 1991

Subject to Section 241(2) Resource Management Act 1991 (affects DP 400858)

8112147.1 Mortgage to Bank of New Zealand - 24.3.2009 at 3:18 pm



I hereby certify that this plan was approved by the Hastings District Council pursuant to Section 223 of the Resource Management Act 1991

on the 16th day October 2003.

Subject to the Granting or Reserving of the easements set out in the Memorandum hereon. And Subject to the Amalgamation Condition set out hereon.

Signed on behalf of the Hastings District Council by:

Authorised Officer

Amalgamation Condition

That Lot 2 hereon and (Lot 2 DP8218 and Lot 2 DP325582, CT103293) be held together in the same Certificate of Title.
See Request 230368

HDC REF 2003/295

NEW CsT ALLOCATED

Lot 1 – 122324
Lot 2 and CT 103293 – 122325

CLASS OF SURVEY: LOT 1 - Class I
LOT 2 - Class II

Total Area: 2.0255ha

Comprised in: CT HBA1/1238

I, COLIN GEORGE SHANLEY, being a person entitled to practise as a Licensed Cadastral Surveyor certify that:-

(a) The surveys to which this dataset relates are accurate and were undertaken by me or under my direction in accordance with the Cadastral Survey Act 2002 and the Surveyor-General's Rules for Cadastral Survey 2002/2;

(b) This dataset is accurate, and has been created in accordance with that Act and those Rules.

Dated at Hastings this 3rd day November 2003

Signed

Reference Plans:

APPROVED AS TO SURVEY by LAND INFORMATION NZ on 1/12/2003

DEPOSITED by LAND INFORMATION NZ on 11/2/2004

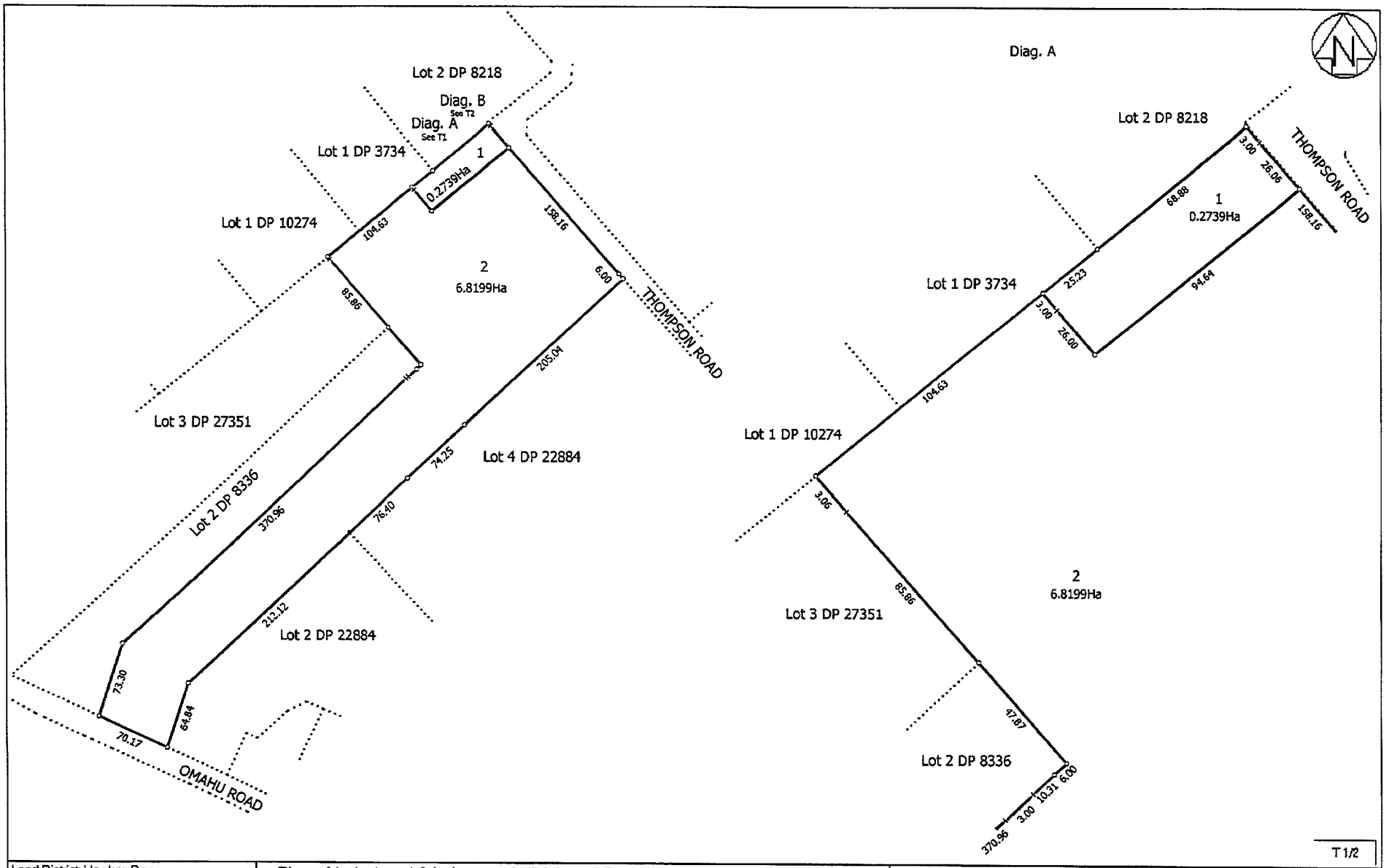
File: 6745
Received: 10.11.03
Plan/Form approval WGLM95/6

DP 329917

Land District Hawkes Bay

PLAN OF LOTS 1 and 2 BEING SUBDIVISION OF Pt LOT 1 DP10532.

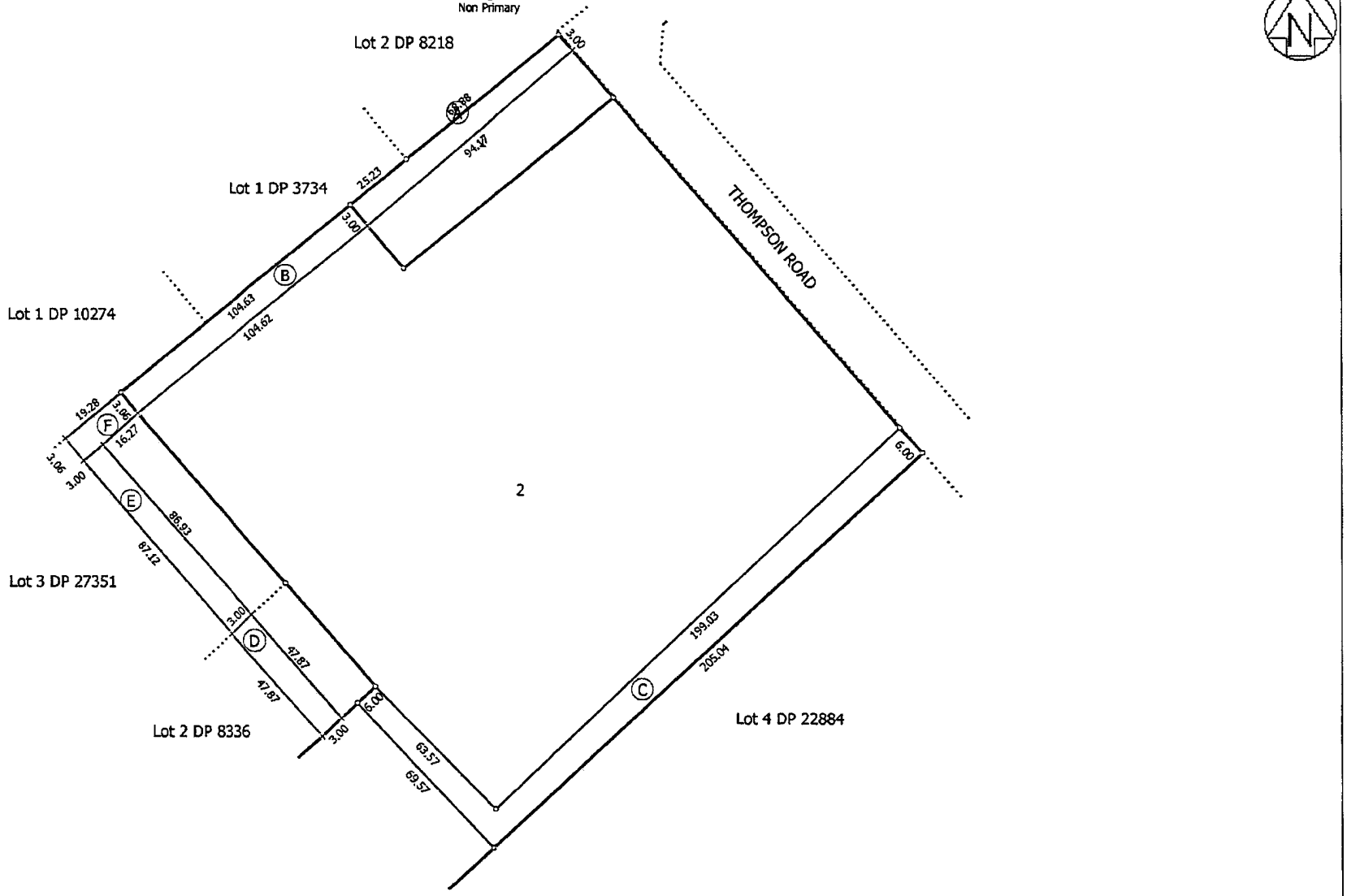
TERRITORIAL AUTHORITY: HASTINGS DISTRICT COUNCIL
Surveyed by: SHANLEY & CO.
Scale: 1:1250 Date: SEPTEMBER 2003



T1/2

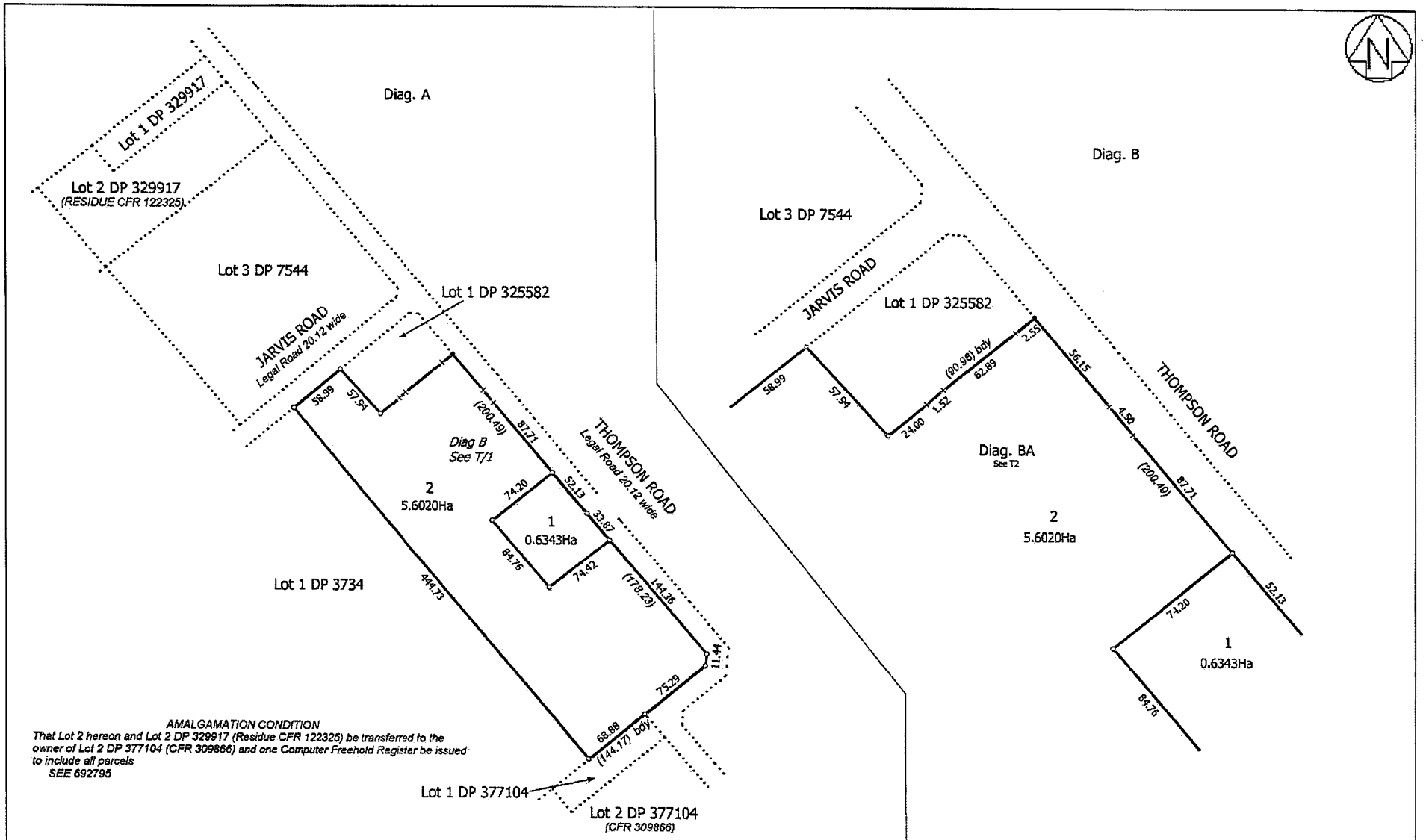
Land District: Hawkes Bay Digitally Generated Plan Generated on: 09/07/2007 10:21 am Page 4 of 5	Plan of Lots 1 and 2 being a subdivision of Parts Lot 1 DP 3907 and proposed easements over Lot 2 DP 8336, Lot 3 DP 27351	Surveyor: David Devine Firm: David Devine Surveyor	Digital Title Plan DP 377104 Deposited on: 31/05/2007

Diag. B
Non Primary

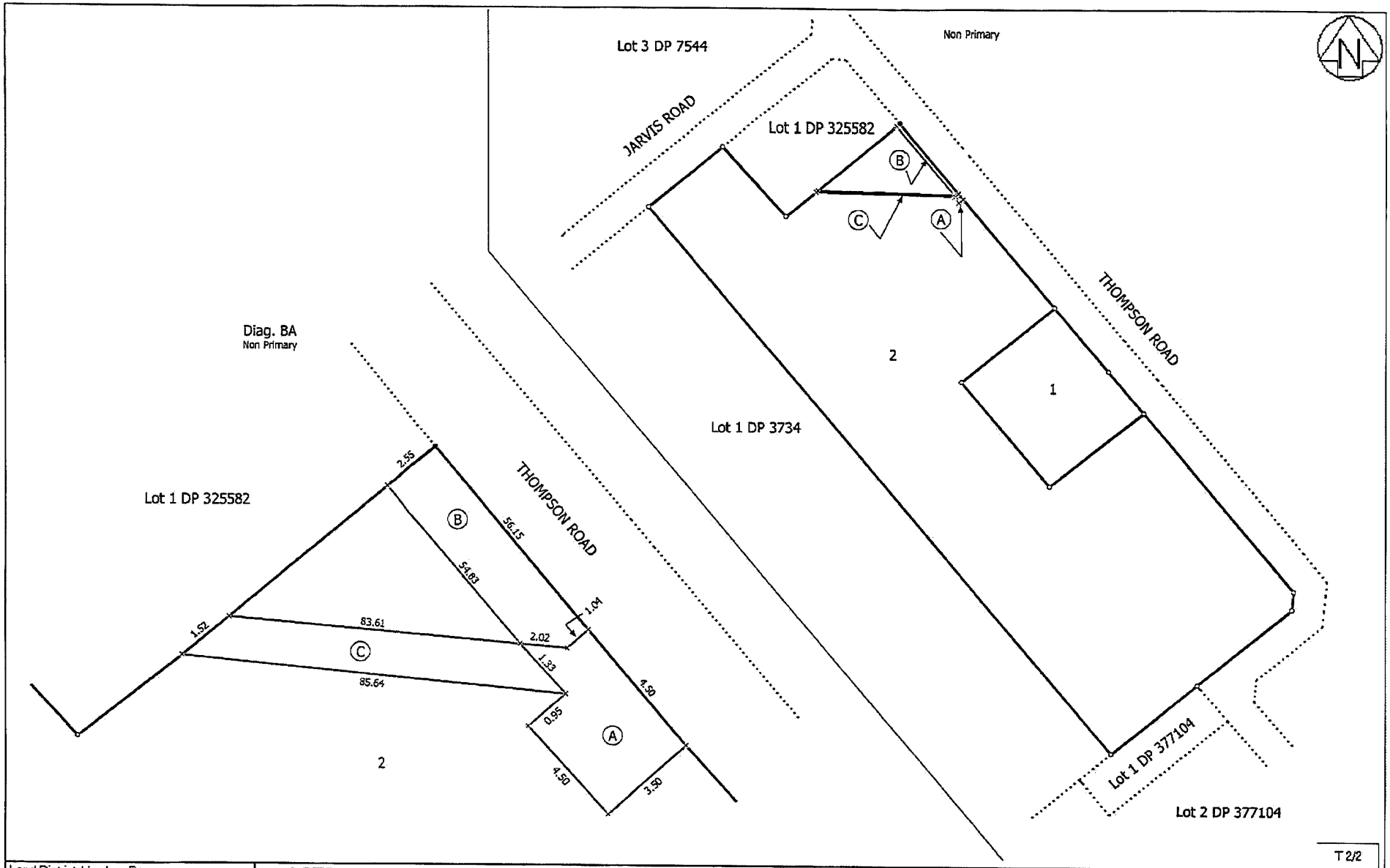


T 2/2

Land District: Hawkes Bay Digitally Generated Plan Generated on: 09/07/2007 10:21 am Page 5 of 5	Plan of Lots 1 and 2 being a subdivision of Parts Lot 1 DP 3907 and proposed easements over Lot 2 DP 8336, Lot 3 DP 27351	Surveyor: David Devine Firm: David Devine Surveyor	Digital Title Plan DP 377104 Deposited on: 31/05/2007



Land District: Hawkes Bay Digitally Generated Plan Generated on: 29/10/2008 5:16pm Page 3 of 4	LOTS 1 AND 2 BEING SUBDIVISION OF LOT 2 DP 8218 AND LOT 2 DP 325582	Surveyor: Colin George Shanley Firm: Shanley & Co	Digital Title Plan DP 400858 Deposited on: 22/10/2008



Land District: Hawkes Bay Digitally Generated Plan Generated on: 29/10/2008 5:16pm Page 4 of 4	LOTS 1 AND 2 BEING SUBDIVISION OF LOT 2 DP 8218 AND LOT 2 DP 325582	Surveyor: Colin George Shanley Firm: Shanley & Co	Digital Title Plan DP 400858 Deposited on: 22/10/2008

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**HBP3/617**
Land Registration District	**Hawkes Bay**
Date Issued	16 June 1992

Prior References
HB102/58 HB118/101

Estate	Fee Simple
Area	2.7864 hectares more or less
Legal Description	Lot 2 Deposited Plan 22884

Proprietors
Rimu Hastings Limited

Interests
7102143.3 Mortgage to Bank of New Zealand - 31.1.2007 at 3:39 pm

08 JUL 1992

3837.70

SCHEDULE OF PROPOSED EASEMENTS			
PURPOSE	SERVIENT TENEMENT	SHOWN	DOMINANT TENEMENT
Right to Convey Water	Lot 3 hereon	(A) (B)	Lot 1 hereon
Right to Transmit Tel/Communications	Lot 1 hereon	(C) (E)	Lot 3 hereon
Right to Transmit Electricity	Lot 1 hereon	(D) (E)	Lot 3 hereon
	Lot 3 hereon	(F)	Lot 1 hereon

NOTE (B) (C) (D) (E) (F) are centrelines of easements 1·00 wide

310 900 E
311 100 E
311 300 E
311 500 E
704 200 N
704 000 N
703 800 N

PT 1 DP 3097

THOMPSON ROAD
Legal Road 20·12 wide

LOT 4
9·3561 ha
CT 110-93

LOT 2
2·7864 ha
CT 118-101

LOT 3
2·4685 ha
CT 102-58

LOT 1
1·2979 ha

SEE DIAG

DP 6668

DP 22262

OMAHU ROAD
Legal Road

HENDERSON ROAD

ROAD
23·16 wide

DIAGRAM NOT TO SCALE

FILE 3390

Approvals

The common seal of Riverbank Farms Limited was affixed hereto in the presence of

Director

Secretary

Registered Proprietors

Approved pursuant to Section 223 of the Resource Management Act 1991 on the 5th day of May 1992

The common seal of the District of Hastings was affixed hereto in the presence of

Mayor

Chief Executive

Total Area 15·9089 ha

Comprised in CT 102-58 G(AU) 110-93 G(AU) 118-101 G(AU)

I, COLIN GEORGE SHANLEY

Registered Surveyor and holder of an annual practising certificate (or who may act as a registered surveyor pursuant to section 25 of the Survey Act 1986) hereby certify that this plan has been made from surveys executed by me or under my directions, that both plan and survey are correct and have been made in accordance with the Survey Regulations 1972 or any regulations made in substitution thereof.

Dated at HASTINGS this 27th day of MARCH 19 92 Signature

Field Book (SBG) p. 79-83 Traverse Book 132 p. 133-135

Reference Plans DP's 6668 8385, 13686, 15201, 16670, 22262 SO's 6441, 8563, 8567

Examined Correct

Approved as to Survey 12 6 92 Chief Surveyor

Deposited this 16th day of June 1992

Land Registrar

For Land Registrar's Instructions

22884

LAND DISTRICT Hawkes Bay
SURVEY BLK. & DIST. XV Heretaunga
NZMS 261 SHT V21/6-3 RECORD MAP No HAST. 32.

PLAN OF LOTS 1-4
FORMERLY LOTS 1-4 DP6668

TERRITORIAL AUTHORITY Hastings District Council
Surveyed by C. G. Shanley & Co.
Scale 1:2000 Date March 1992

GH/Littlejohns

W.A. ROBERTSON, SURVEYOR GENERAL, DEPARTMENT OF SURVEY AND LAND INFORMATION, NEW ZEALAND

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**175182**
Land Registration District	**Hawkes Bay**
Date Issued	09 December 2004

Prior References
HBP3/616 HBP3/618

Estate	Fee Simple
Area	2.9264 hectares more or less
Legal Description	Lot 2 Deposited Plan 342661 and Lot 3 Deposited Plan 22884

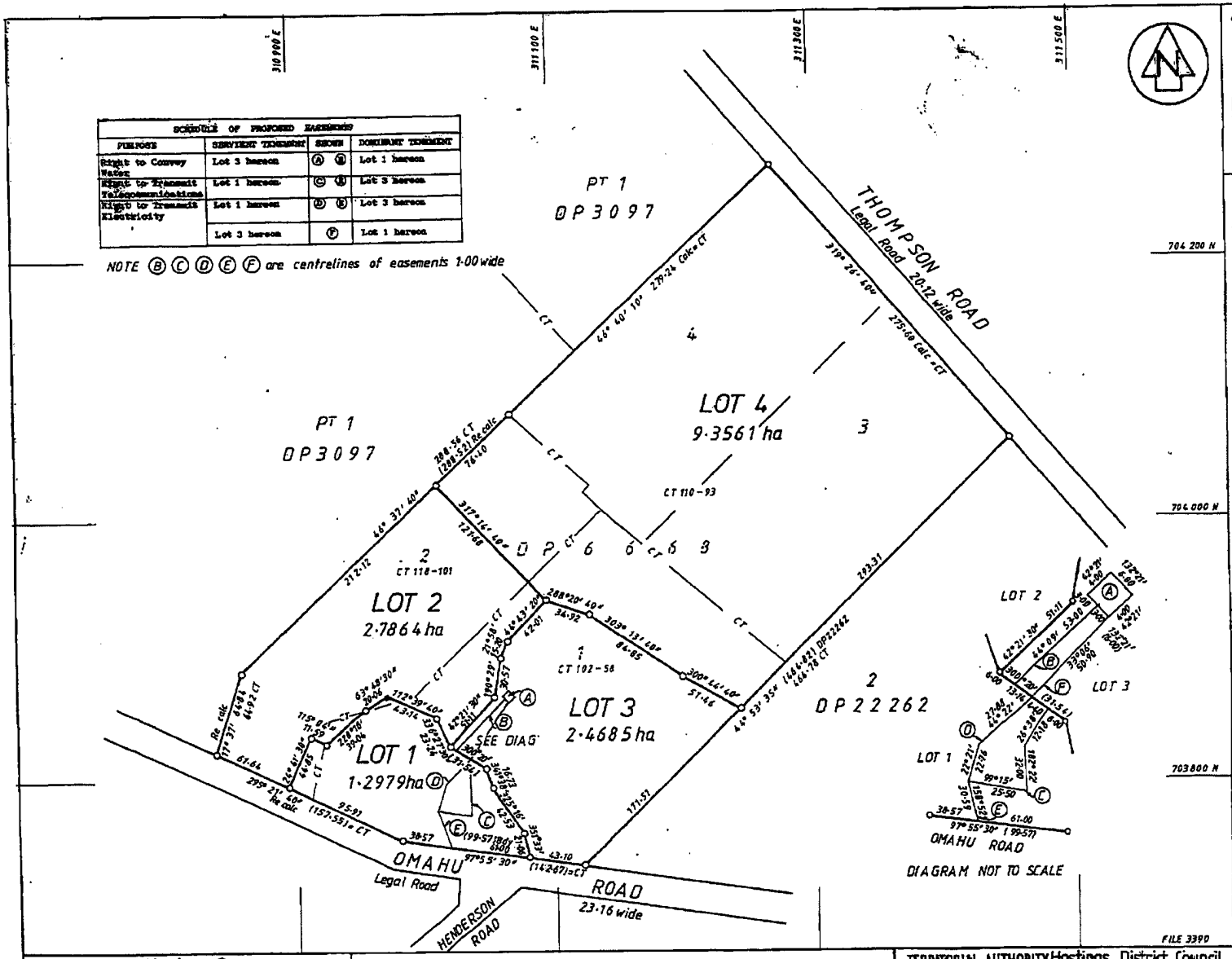
Proprietors
Josephine Anne Barley, Leighton Paul Curd and Stephen Alexander Greer

Interests
5653985.6 Mortgage to Bank of New Zealand - 11.7.2003 at 9:00 am (Affects Lot 3 DP 22884)
Subject to Section 241(2) and Sections 242(1) and (2) Resource Management Act 1991(affects DP 342661)

$ 837·70

SCHEDULE OF PROPOSED EASEMENTS			
PURPOSE	SERVIENT TENEMENT	SHOWN	DOMINANT TENEMENT
Right to Convey Water	Lot 3 hereon	Ⓐ Ⓑ	Lot 1 hereon
Right to Transmit Telecommunications	Lot 1 hereon	Ⓒ Ⓔ	Lot 3 hereon
Right to Transmit Electricity	Lot 1 hereon	Ⓓ Ⓔ	Lot 3 hereon
	Lot 3 hereon	Ⓕ	Lot 1 hereon

NOTE Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ are centrelines of easements 1·00 wide



Approvals

The common seal of Riverbank Farms Limited was affixed hereto in the presence of

Director

Secretary

Registered Proprietors

Approved pursuant to Section 223 of the Resource Management Act 1991 on the 5th day of May 1992

The common seal of the District of Hastings was affixed hereto in the presence of

Mayor

Chief Executive

Total Area 15·9089 ha

Comprised in CT 102-58 G(All) 110-93 G(All) 118-101 G(All)

I, COLIN GEORGE SHANLEY

Registered Surveyor and holder of an annual practising certificate (or who may act as a registered surveyor pursuant to section 25 of the Survey Act 1986) hereby certify that this plan has been made from surveys executed by me or under my directions, that both plan and survey are correct and have been made in accordance with the Survey Regulations 1972 or any regulations made in substitution thereof.

Dated at HASTINGS this 27th day of MARCH 19 92 Signature

Field Book 1680 p. 79-83, Traverse Book 132 p. 153-155

Reference Plans DP's 6668, 8385, 13686, 14201, 14412, 22262

SO's 4441, 8563, 8567

Examined I. Bates Correct

Approved as to Survey

12 [illegible] 92

Chief Surveyor

Deposited this 16 day of June 1992.

Land Registrar

File Received Instructions

22884

LAND DISTRICT Hawkes Bay

SURVEY BLK. & DIST. XV Heretaunga

NZMS 261 SHT V21/6·3 RECORD MAP No HAST. 32

PLAN OF LOTS 1-4

FORMERLY LOTS 1-4 DP6668

TERRITORIAL AUTHORITY Hastings District Council

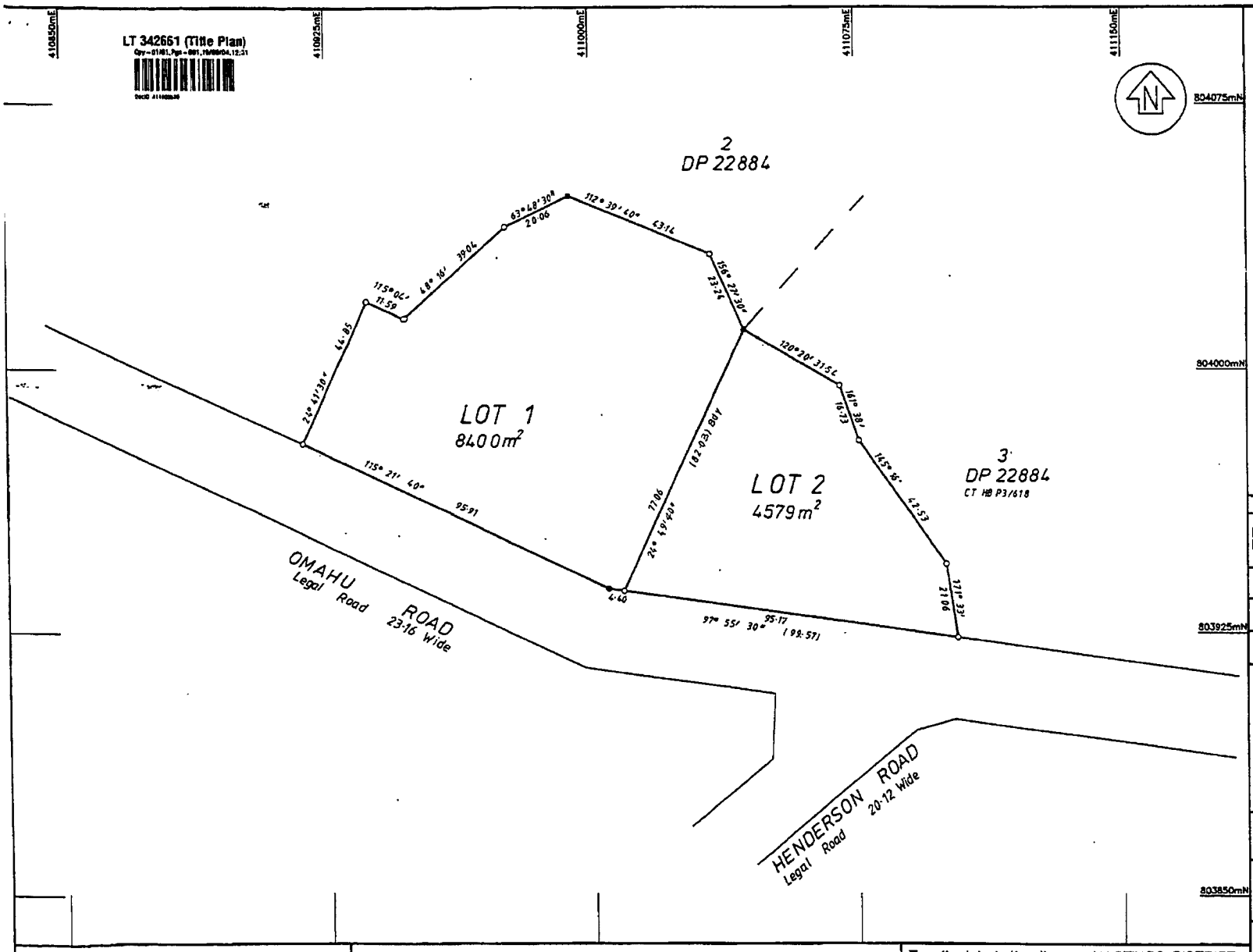
Surveyed by C. G. Shanley & Co.

Scale 1:2000 Date March 1992

GH/Littlejohns

W.A. ROBERTSON, SURVEYOR GENERAL, DEPARTMENT OF SURVEY AND LAND INFORMATION, NEW ZEALAND

LT 342661 (Title Plan)



I hereby certify that this plan was approved by the Hastings District Council pursuant to section 229 of the Resource Management Act 1991 on the 10th day of August 2004

SUBJECT to the Amalgamation condition set out hereon

Signed on behalf of the said Council by:

Authorised Officer

Amalgamation Condition

That Lot 2 hereon be amalgamated with Lot 3 DP22884 (CT HBP3/618) and that one certificate of title be issued for both parcels

SEE REQUEST NO. 354876

HDC REF: 04/204

New C'sT Allocated

LOT 1 175181
LOT 2 AND LOT 3 DP22884 175182

CLASS OF SURVEY: CLASS I I

Total Area: 1·2979 ha

Comprised in: CT HBP3/616

I Colin George Shanley, being a person entitled to practise as a licensed cadastral surveyor, certify that-

(a) The Surveys to which this dataset relates are accurate, and were undertaken by me or under my direction in accordance with the Cadastral Survey Act 2002 and the Surveyor General's Rules for Cadastral Survey 2002/2

(b) This dataset is accurate, and has been created in accordance with that Act and those Rules

Signed

Dated at HASTINGS this 29th day of July 2004

Reference Plans

APPROVAL AS TO SURVEY by LAND INFORMATION NZ on 1/10/2004

DEPOSITED by LAND INFORMATION NZ on 9/12/2004

File: 6980
Received: 15·9·04
Planform approval WGLM95/6

DP 342661

Land District Hawkes Bay

PLAN OF LOTS 1 AND 2 BEING SUBDIVISION OF LOT 1 DP22884

Territorial Authority: HASTINGS DISTRICT
Surveyed by: SHANLEY & CO.
Scale: 1:750 Date: JULY 2004

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

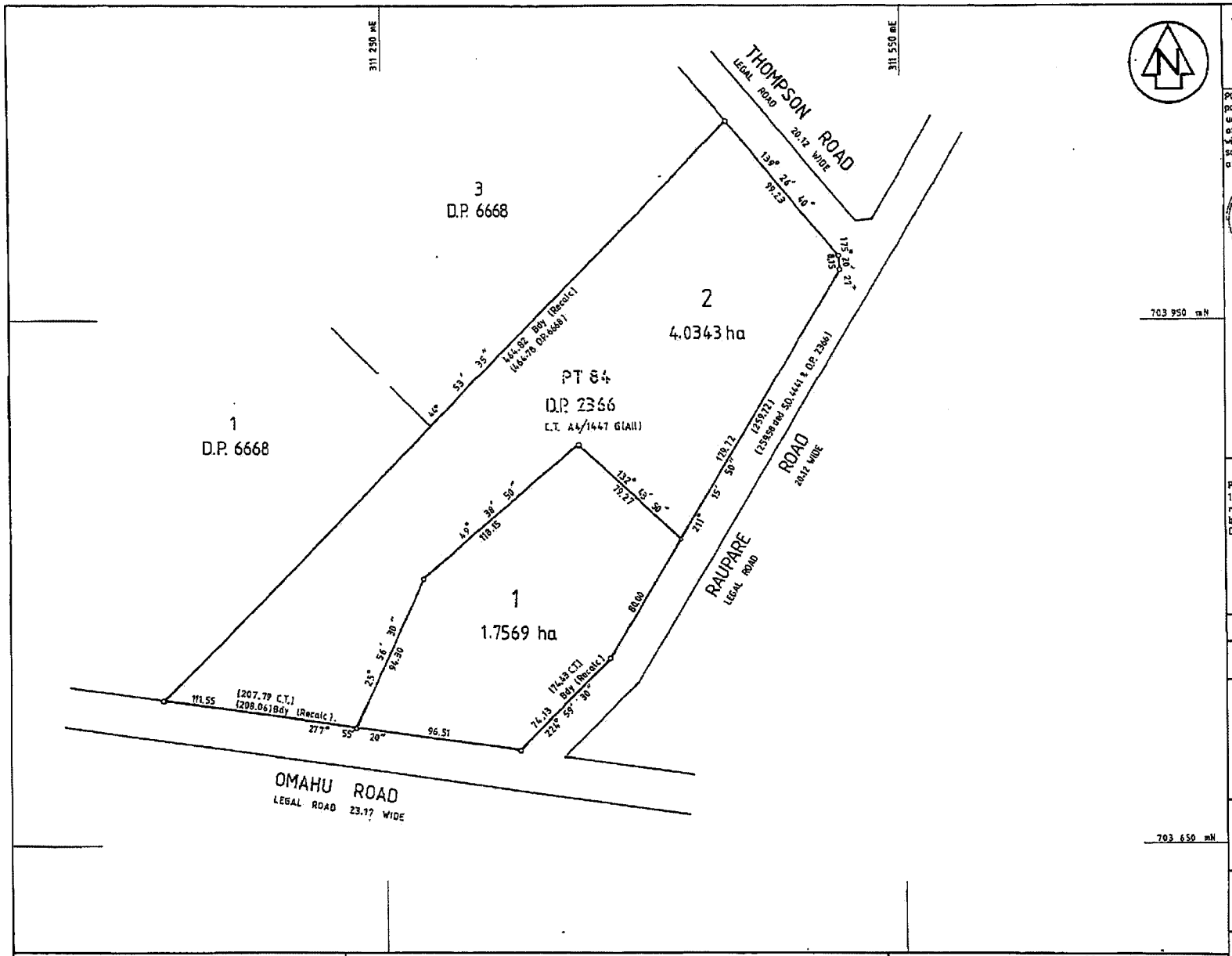
Identifier	**HBP1/1176**
Land Registration District	**Hawkes Bay**
Date Issued	02 July 1991

Prior References
HBA4/1447

Estate	Fee Simple
Area	4.0343 hectares more or less
Legal Description	Lot 2 Deposited Plan 22262

Proprietors
John Paul Flynn and Gretta Jane Flynn

Interests
6250952.2 Mortgage to ANZ National Bank Limited - 14.12.2004 at 9:00 am



Approvals

S.T. Sherratt

E.R. Sherratt

PURSUANT to a resolution of the Hastings District Council passed on the 27th day of September 1991, approving under Section 305 of the Local Government Act 1974 this plan of subdivision and certifying that the plan is in accordance with the requirements and provisions of the operative district scheme the Common Seal of the Hastings District Council was affixed hereto in the presence of :

Mayor

District Manager

CERTIFICATE OF COMPLIANCE

PURSUANT to Section 306 (1)(f)(i) of the Local Government Act 1974 I hereby certify that all the conditions shown on or referred to on the scheme plan of the within subdivision have been complied with to the satisfaction of the Hastings District Council

District Manager

Total Area 5.7912 ha

Comprised in C.T.A4/1447 G (All)

I, Michael Charles Bayley of Hastings

Registered Surveyor and holder of an annual practising certificate (or who may act as a registered surveyor pursuant to section 25 of the Survey Act 1986) hereby certify that this plan has been made from surveys executed by me or under my directions, that both plan and survey are correct and have been made in accordance with the Survey Regulations 1972 or any regulations made in substitution thereof.

Dated at Hastings this 21st day of February 1991 *Signature*

Field Book 1457, 89-91 *Traverse Book* 134, p. 1-3, 79

Reference Plans DPs. 6668, 15476, 6207, 14201, SO.8563, SO.4441

Examined ... *Correct* ...

Approved as to Survey 17.4.91

Chief Surveyor

Deposited this 3rd day of July 1992.

District Land Registrar

File *Received* 7-3-91 *Instructions* 0 125

22262

LAND DISTRICT Hawke's Bay

SURVEY BLK. & DIST. XV Heretaunga

NZMS 261 SHT V21 RECORD MAP No 6:3

PLAN OF LOTS 1 & 2,

BEING SUBDIVISION OF PT LOT 84, D.P. 2366

TERRITORIAL AUTHORITY Hastings District

Surveyed by Bayley Surveying Limited

Scale 1:1500 Date February 1991

W.A. ROBERTSON, SURVEYOR GENERAL, DEPARTMENT OF SURVEY AND LAND INFORMATION, NEW ZEALAND

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

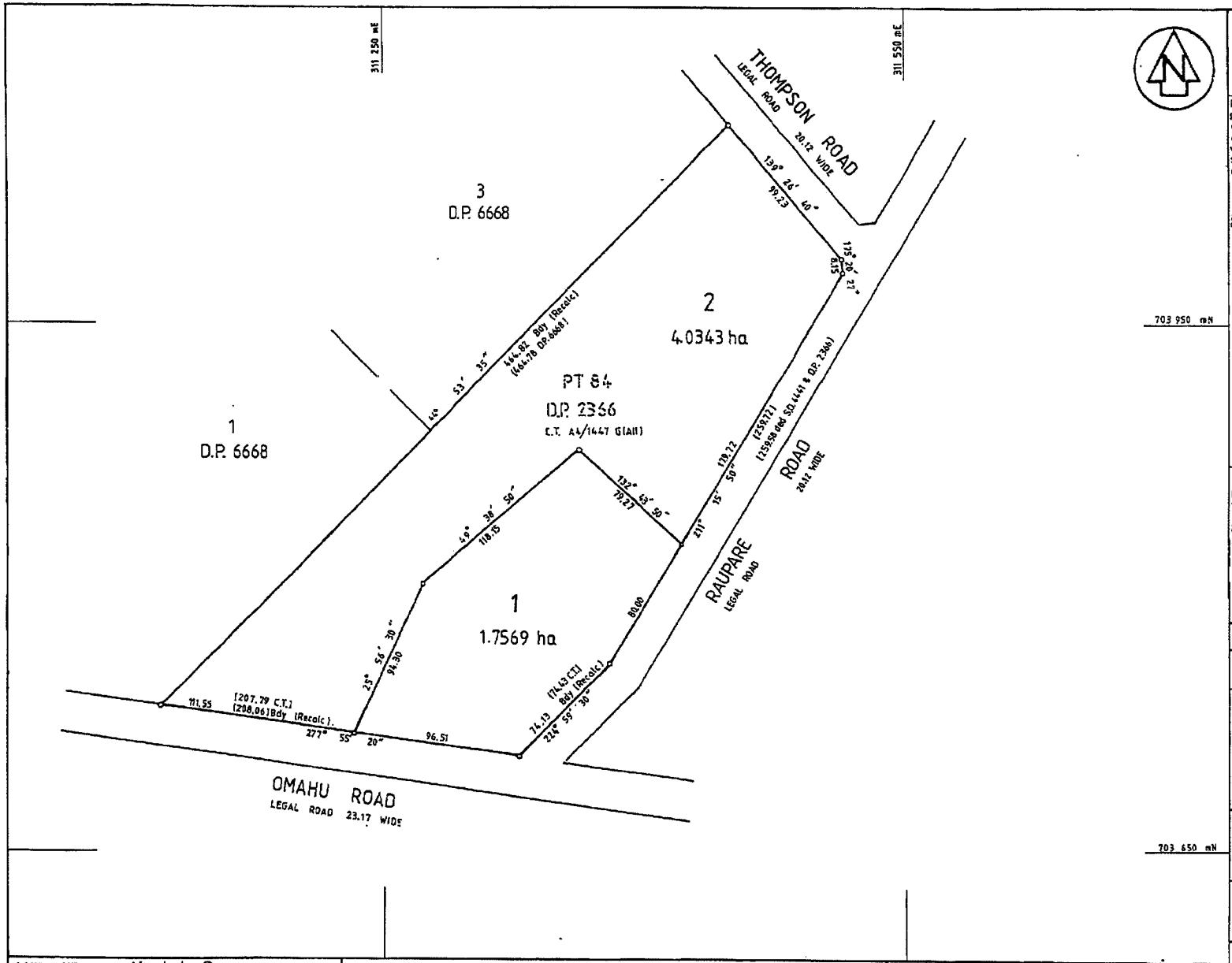
Identifier	**HBP1/1175**
Land Registration District	**Hawkes Bay**
Date Issued	02 July 1991

Prior References
HBA4/1447

Estate	Fee Simple
Area	1.7569 hectares more or less
Legal Description	Lot 1 Deposited Plan 22262

Proprietors
Sherratt Holdings Limited

Interests
6886541.5 Mortgage to ANZ National Bank Limited - 31.5.2006 at 9:00 am



Approvals

S.T. Sherratt

E.R. Sherratt

PURSUANT to a resolution of the Hastings District Council passed on the 27th day of February 1991, approving under Section 305 of the Local Government Act 1974 this plan of subdivision and certifying that the plan is in accordance with the requirements and provisions of the operative district scheme the Common Seal of the Hastings District Council was affixed hereto in the presence of :

Mayor

District Manager

CERTIFICATE OF COMPLIANCE

PURSUANT to Section 306(1)(f)(i) of the Local Government Act 1974 I hereby certify that all the conditions shown on or referred to on the scheme plan of the within subdivision have been complied with to the satisfaction of the Hastings District Council

District Manager

Total Area 5.7912 ha

Comprised in C.T. A4/1447 G (All)

I Michael Charles Bayley of Hastings

Registered Surveyor and holder of an annual practising certificate (or who may act as a registered surveyor pursuant to section 25 of the Survey Act 1986) hereby certify that this plan has been made from surveys executed by me or under my directions, that both plan and survey are correct and have been made in accordance with the Survey Regulations 1972 or any regulations made in substitution thereof.

Dated at Hastings this 21st day of February 1991 Signature

Field Book 1657 p.89-91 Traverse Book 133 p.178-179

Reference Plans DPs. 6668, 15676, 6207, 14201, SO.8563, SO.4441

Examined Correct

Approved as to Survey

17.4.91 Chief Surveyor

Deposited this 2nd day of July 1991.

District Land Registrar

File Received 7.3.91 Instructions 0 125

22262

LAND DISTRICT Hawke's Bay

SURVEY BLK. & DIST. XV Heretaunga

NZMS 261 SHT V21 RECORD MAP No 63

PLAN OF LOTS 1 & 2,

BEING SUBDIVISION OF PT LOT 84, D.P. 2366

TERRITORIAL AUTHORITY Hastings District

Surveyed by Bayley Surveying Limited

Scale 1:1500 Date February 1991

W.A. ROBERTSON, SURVEYOR GENERAL, DEPARTMENT OF SURVEY AND LAND INFORMATION, NEW ZEALAND

ORAIN P.L. DROWN

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

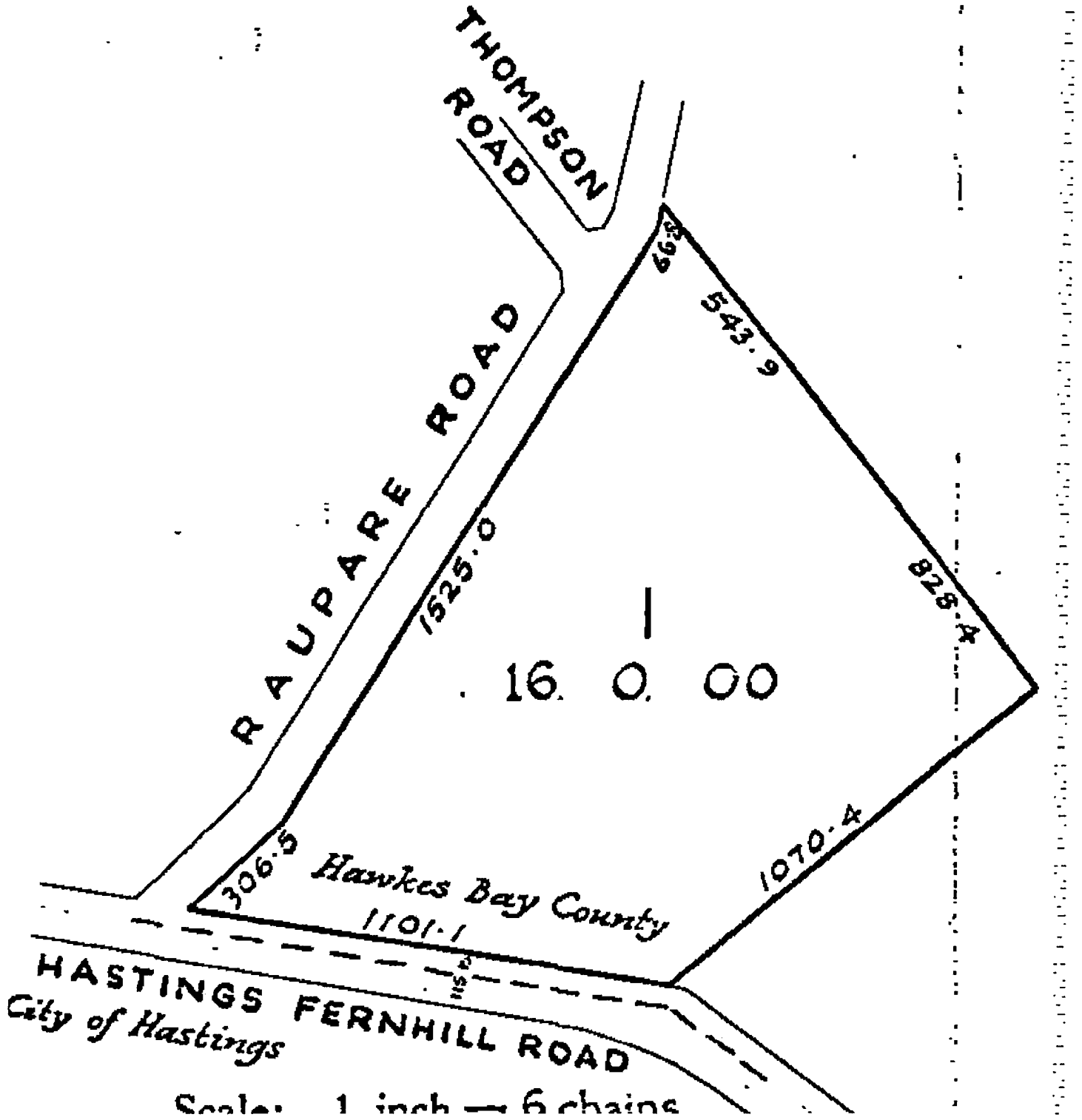
Identifier	**HBC1/760**
Land Registration District	**Hawkes Bay**
Date Issued	23 June 1967

Prior References
HB179/97

Estate	Fee Simple
Area	6.4750 hectares more or less
Legal Description	Lot 1 Deposited Plan 11542

Proprietors
Noel Peter Vesty as to a 1/2 share
Maureen Elizabeth Vesty as to a 1/2 share

Interests
469059.1 Mortgage to The National Bank of New Zealand Limited - 30.10.1986 at 9.47 am
7492976.1 CAVEAT BY BEN MARSHALL SPEEDY - 7.8.2007 at 9:00 am


THOMPSON ROAD
RAUPARE ROAD
66.8
543.9
1525.0
828.4
16. 0. 00
306.5
Hawkes Bay County
1101.1
1070.4
HASTINGS FERNHILL ROAD
City of Hastings
Scale: 1 inch = 6 chains

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

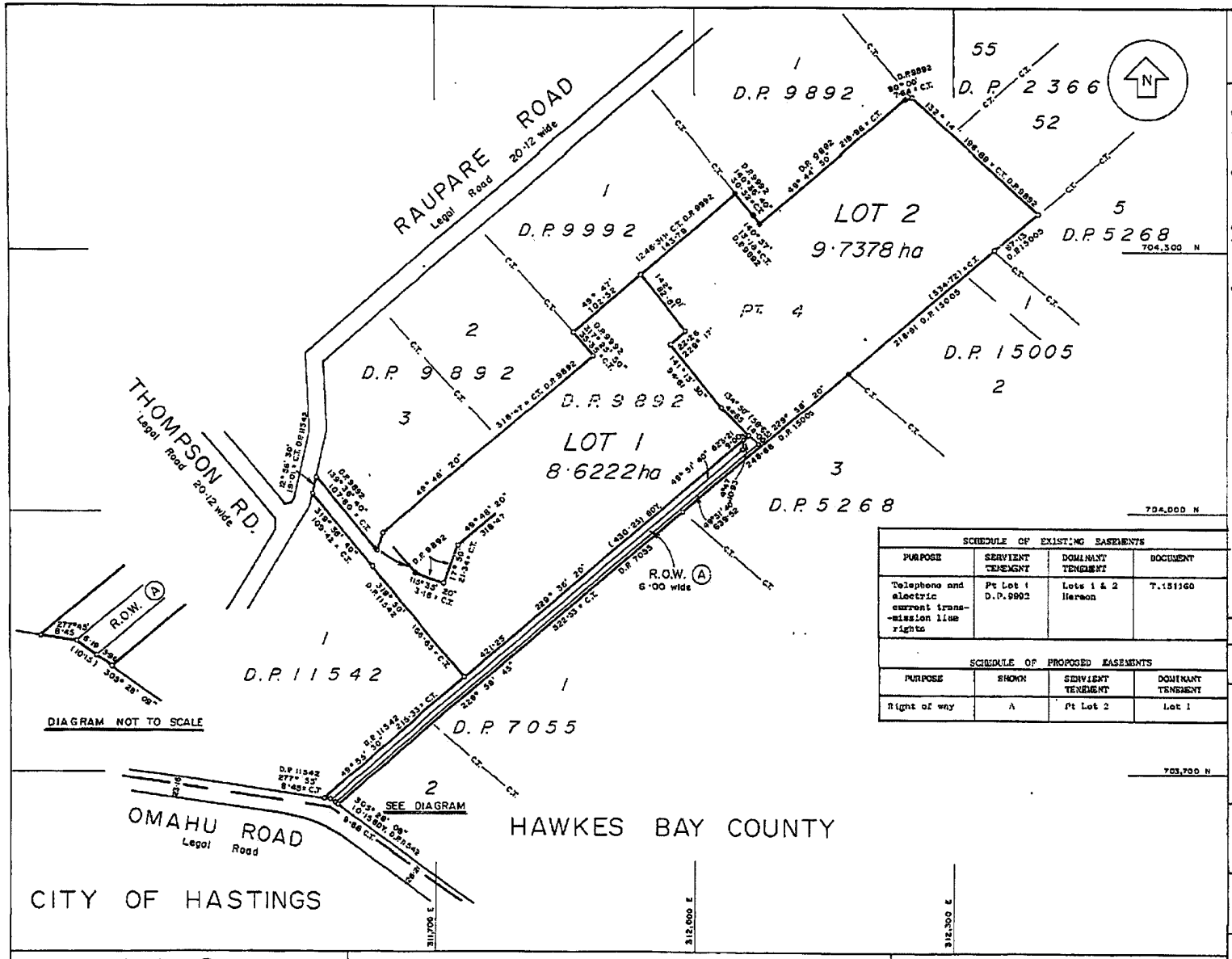
Identifier	**HBH3/7**
Land Registration District	**Hawkes Bay**
Date Issued	15 November 1979

Prior References
HBD4/1374

Estate	Fee Simple
Area	9.7378 hectares more or less
Legal Description	Lot 2 Deposited Plan 15736

Proprietors
Charles Michael Patrick Donnelly, Margaret Dorothy Donnelly and Philip Bernard Kitchin

Interests
Appurtenant hereto are telephone and electric current transmission line rights created by Transfer 151160
592302.1 Mortgage to The National Bank of New Zealand Limited - 8.7.1993 at 11.21 am
617406.1 Variation of Mortgage 592302.1 - 6.12.1994 at 11.34 am



SCHEDULE OF EXISTING EASEMENTS			
PURPOSE	SERVIENT TENEMENT	DOMINANT TENEMENT	DOCUMENT
Telephone and electric current trans-mission line rights	Pt Lot 1 D.P. 9992	Lots 1 & 2 Hereon	T.151160

SCHEDULE OF PROPOSED EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
Right of way	A	Pt Lot 2	Lot 1

Approvals.

G.P. HONNELLY .....

REGISTERED PROPRIETOR.

It is hereby certified pursuant to Section 62 of the Town and Country Planning Act 1977 that this plan complies with the requirements and provisions of every operative district scheme relating to the land in the plan and

Pursuant to the provisions of Part II of the Counties' Amendment Act 1961 and a resolution passed by the Hawke's Bay County Council the subdivision shown on this plan is hereby approved

In witness whereof the Common Seal of the County of Hawke's Bay was hereto affixed this 28th day of July 1978.

In the presence of

DEPUTY CHAIRMAN .....

ACTING COUNTY CLERK .....

Total Area 18·3600 ha

Comprised in C.T. D4-1374 G ALL

I, WARWICK MILES MARSHALL of ESKDALE

Registered Surveyor and holder of an annual practising certificate hereby certify that this plan has been made from Surveys executed by me or under my direction; that both plan and Survey are correct and have been made in accordance with the regulations under the Surveyors Act 1968

Dated at HASTINGS *this* 24th *day of* MAY 1978 *Signature* W. Marshall

Field Book 1262 *p.* 41-43 *Traverse Book* 90 *p.* 76

Reference Plans D.P. 5268, 7055, 9892, 9992, 11542, 15005 S.O. 4574

Examined N. Sill *Correct* P. Synch

Approved as to Survey

12/8/1978 Chief Surveyor

Deposited this 15th day November 1979

District Land Registrar

File

Received 1·8·78

Instructions

15736

LAND DISTRICT Hawkes Bay

SURVEY BLK.& DIST. XV Heretaunga

NZMS ..... SHEET No. .....

PLAN OF LOTS 1 and 2
FORMERLY Pt LOT 4 D.P. 9892

LOCAL AUTHORITY H.B. County Council

Surveyed by C.G. Shanley & Co.

Scale 1:3000 Date May 1978

Whitcombe

I.F. Stirling, Surveyor-General, Department of Lands and Survey, Wellington

LBS FORM N 83