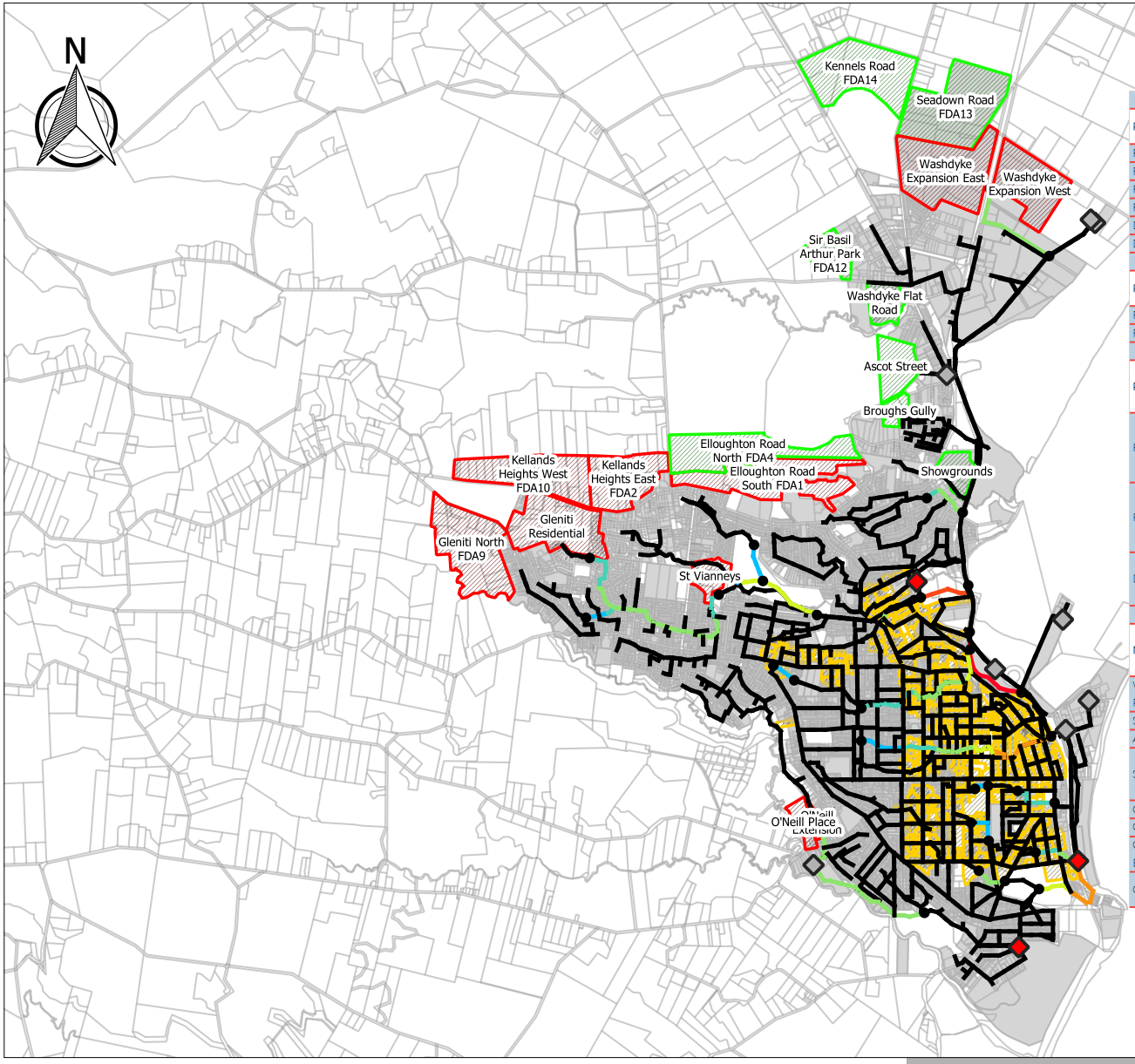



| RESIDENTIAL | | | | | |
|---|---|---|---|---|---|
| REF | NAME | TYPE | AREA (HA) | NO. OF LOTS | MODELLED POPULATION |
| FDA1 | Elloughton Road South | Future | 49.8 | 598 | 1374 |
| FDA2 | Kellands Heights East | Future | 36.7 | 440 | 1013 |
| FDA4 | Elloughton Road North | Future | 45.2 | 542 | 1248 |
| FDA14 | Kennels Road | Future | 53.8 | 646 | 1485 |
| DEV1 | Broughs Gully | Confirmed | 28.2 | 200 | 460 |
| DEV2 | Cleniti Residential | Consented | 96.3 | 700 | 1610 |
| RURAL RESIDENTIAL | | | | | |
| REF | NAME | TYPE | AREA (HA) | NO. OF LOTS | MODELLED POPULATION |
| FDA9 | Cleniti North | Future | 51.2 | 102 | 236 |
| FDA10 | Kellands Heights West | Future | 44.1 | 88 | 203 |
| COMMERICAL | | | | | |
| REF | NAME | TYPE | AREA (HA) | USE | MODELLED TRADE FLOW (L/S) |
| FDA12 | Sir Basil Arthur Park | Future | 13.3 | Light, with potential for wet industries (Medium flow values used) | 7 |
| FDA13 | Seadown Road | Future | 61 | Light, with potential for wet industries (Medium flow values used) | 32 |
| DEV3 | Washdyke Expansion | Confirmed | 56.1<br>36.7 | East – heavy industry<br>West – light industry only | 55<br>11 |
| COMMITTED DEVELOPMENT | | | | | |
| NAME | TYPE | AREA (HA) | MODELLED TRADE FLOW (L/S) | NO. OF LOTS | MODELLED POPULATION |
| Washdyke Flat Road | Light Industrial | 12.5 | 41.3 | - | - |
| Showgrounds | Light Industrial | 12.1 | 41.2 | | |
| Ascot Street | Rural Residential | 19.2 | - | 160 | 368 |
| St. Vianneys | Residential | 10.7 | - | 90 | 207212 |
| Grey Road | Residential | 1.4 | - | 48 | 110 |
| O'Neill Place | Residential | 4 | - | 84 | 193 |
| O'Neill Place Extension | Residential | 7 | - | 48 | 110 |
| College Road | Medium Density Residential | 2.5 | - | 45 | 104 |

Proposed pump station upgrades
Existing pump station
Existing pipe

Proposed pipe upgrade size
225
300
375
475
500
600
700
1200

Existing subcatchments
No capacity for growth
Some capacity for growth
Full capacity for growth

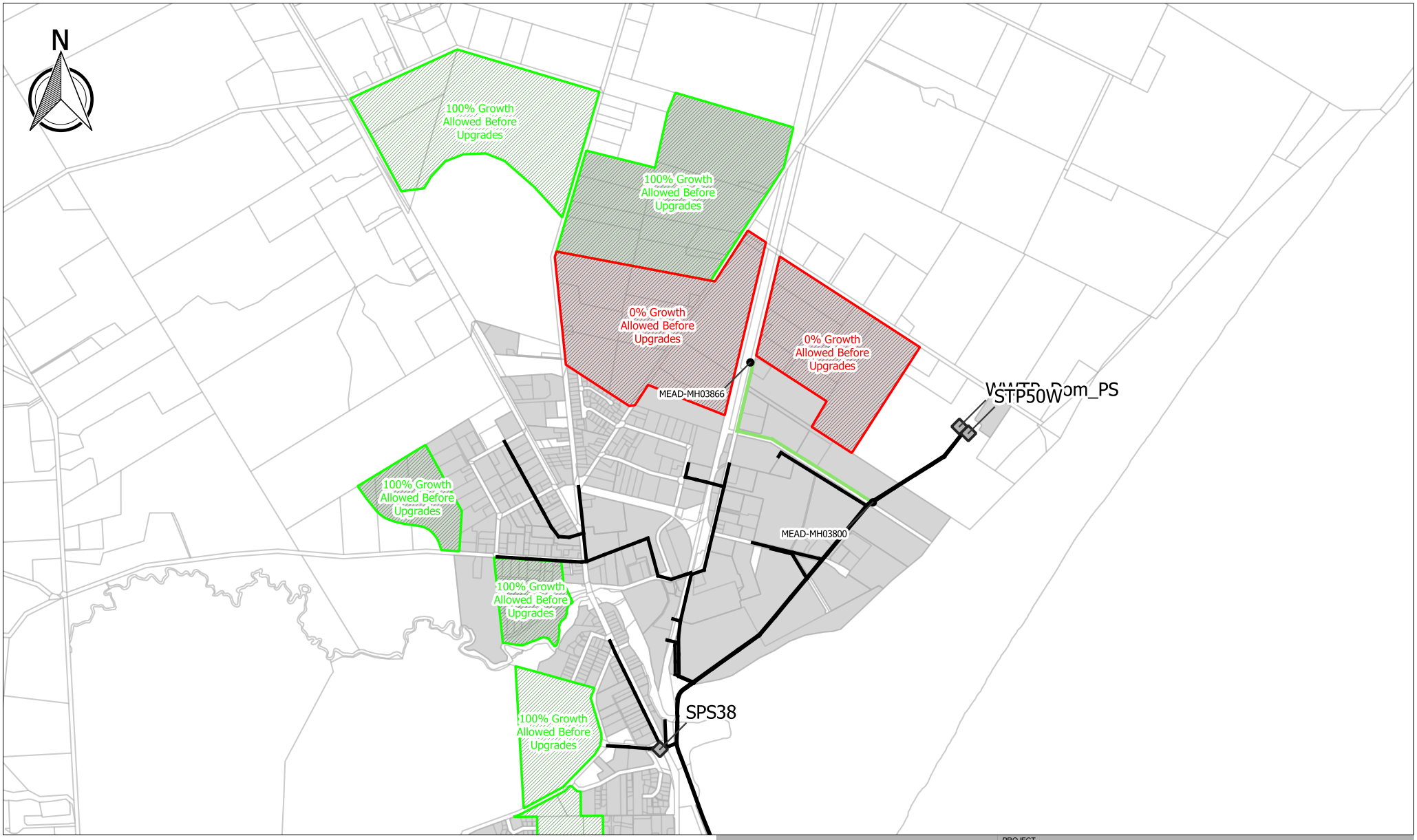

Christchurch Water
+64 3 363 5400
PO Box 1482
Christchurch 8140
New Zealand


PROJECT
Timaru District Council
2 King George Place, Timaru 7910
Timaru & Temuka Growth Capacity Assessment

SHEET
Timaru Development Phasing Overall

| DRAWN | APPROVED | | | |
|---|---|---|---|---|
| K. VAN DER SCHYFF | C. MILLS | | | |
| SHEET NUMBER | SCALE | PROJECT NUMBER | REVISION DATE | REVISION |
| 1 of 1 | 1:46,000 | 3-C2419.20 | 20/10/2023 | R0 |


Original Sheet Size: A4 [W = 297, H = 210]
Plot Date: 2023-10-25 14:30:58 by van der Schyff, Kelsey (NZKV31136)
File Ref: U:\ProjectsNZ\3c\3-C2419.20 Timaru & Temuka Growth Capacity Assessme\Home\03_Tech_Docs\02_Tech_Out\01_WIP\WW\01_Working




Proposed pump station upgrades
Existing pump station
Existing pipe

Proposed pipe upgrade size
225
300
375
475
500
600
700
1200

Existing subcatchments
No capacity for growth
Some capacity for growth
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New Zealand


PROJECT
Timaru District Council
2 King George Place, Timaru 7910
Timaru & Temuka Growth Capacity Assessment

SHEET
Timaru Development Phasing North

| DRAWN | APPROVED | | | |
|---|---|---|---|---|
| K. VAN DER SCHYFF | C. MILLS | | | |
| SHEET NUMBER | SCALE | PROJECT NUMBER | REVISION DATE | REVISION |
| 1 of 1 | 1:46,000 | 3-C2419.20 | 20/10/2023 | R0 |


Original Sheet Size: A4 [W = 297, H = 210]
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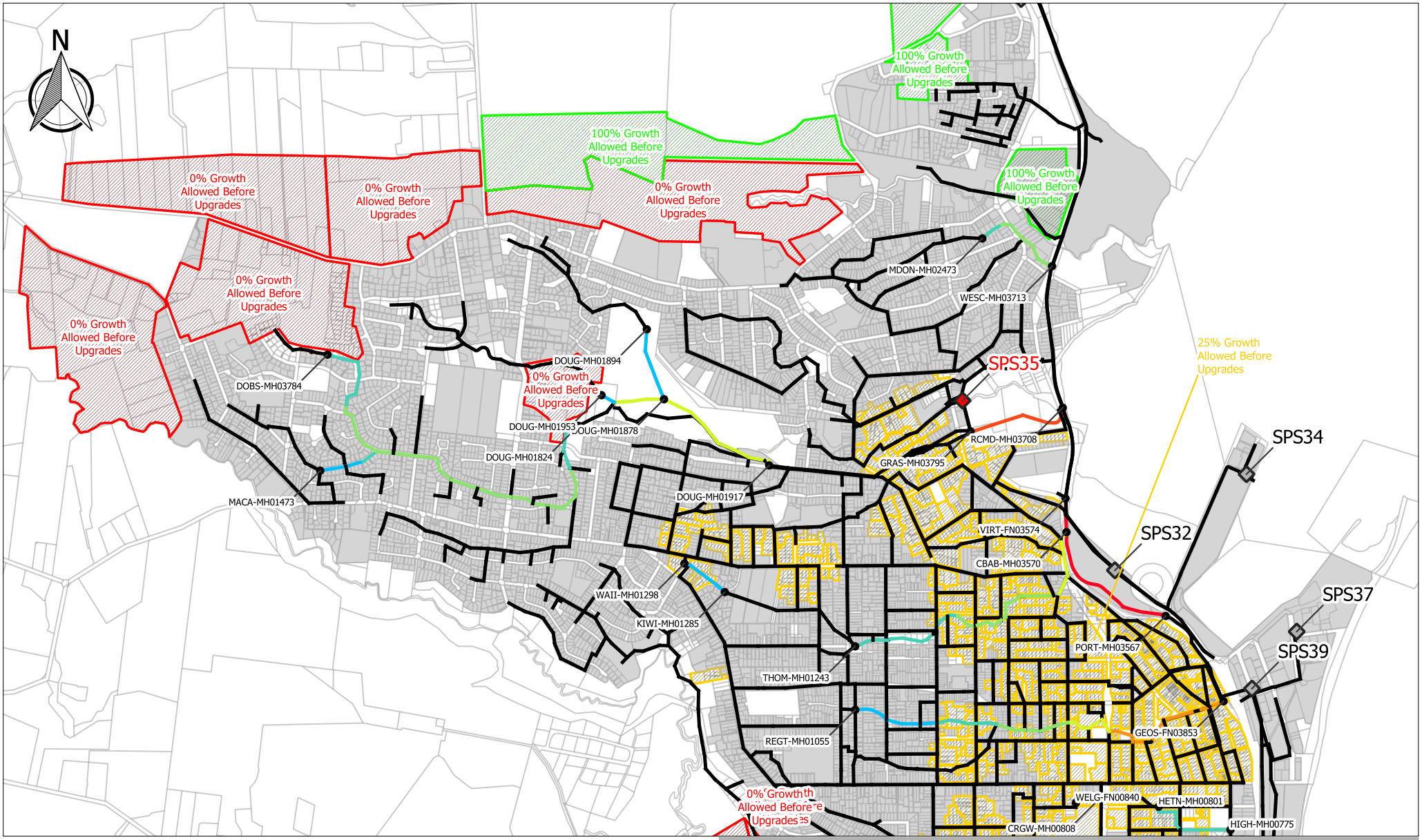


Proposed pump station upgrades
Existing pump station
Existing pipe

Proposed pipe upgrade size
225
300
375
475
500
600
700
1200

Existing subcatchments
No capacity for growth
Some capacity for growth
Full capacity for growth


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Christchurch 8140
New Zealand


PROJECT
Timaru District Council
2 King George Place, Timaru 7910
Timaru & Temuka Growth Capacity Assessment

SHEET
Timaru Development Phasing Centre

| DRAWN | APPROVED | | | |
|---|---|---|---|---|
| K. VAN DER SCHYFF | C. MILLS | | | |
| SHEET NUMBER | SCALE | PROJECT NUMBER | REVISION DATE | REVISION |
| 1 of 1 | 1:46,000 | 3-C2419.20 | 20/10/2023 | R0 |


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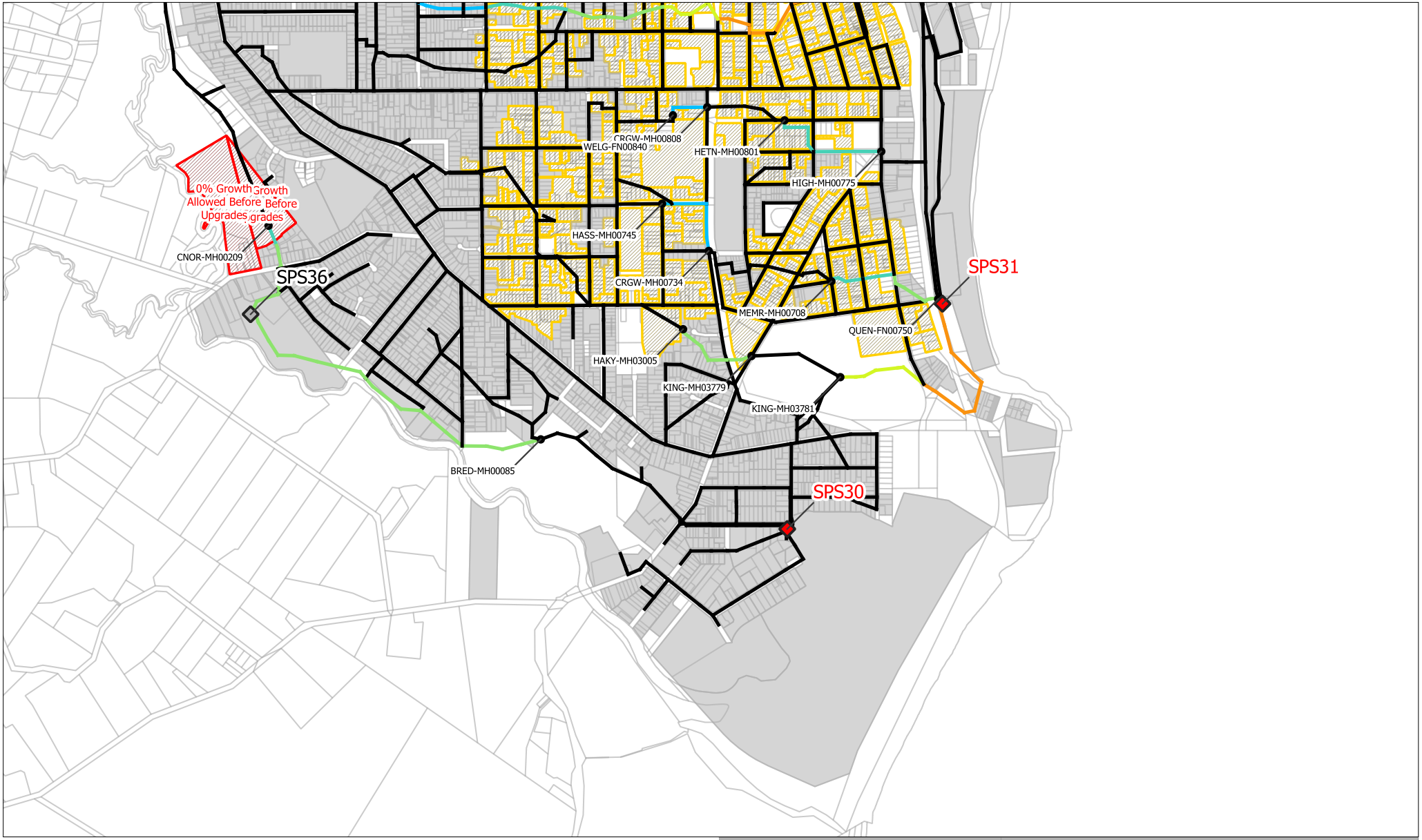


Proposed pump station upgrades
Existing pump station
Existing pipe

Proposed pipe upgrade size
225
300
375
475
500
600
700
1200

Existing subcatchments
No capacity for growth
Some capacity for growth
Full capacity for growth


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SHEET
Timaru Development Phasing South

| DRAWN | APPROVED | | | |
|---|---|---|---|---|
| K. VAN DER SCHYFF | C. MILLS | | | |
| SHEET NUMBER | SCALE | PROJECT NUMBER | REVISION DATE | REVISION |
| 1 of 1 | 1:46,000 | 3-C2419.20 | 20/10/2023 | R0 |

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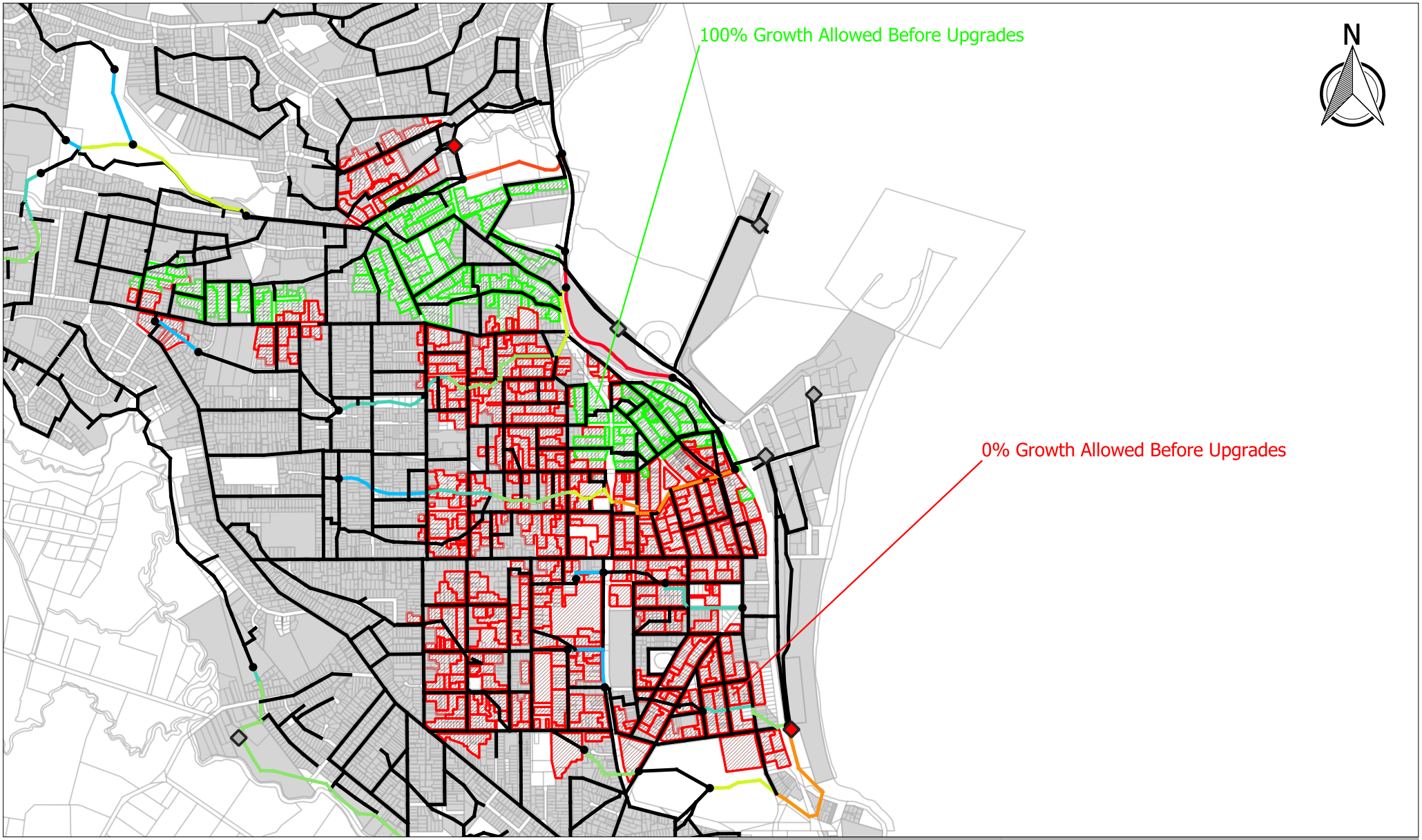
File Ref: U:\ProjectsNZ\3c\3-C2419.20 Timaru & Temuka Growth Capacity Assessme\Home\03_Tech_Docs\02_Tech_Out\01_WIP\WW\01_Working

# APPENDIX C

## DEVELOPMENT PHASING – TIMARU INTENSIFICATION




Proposed pump station upgrades
Existing pump station
Existing pipe

Proposed pipe upgrade size
225
300
375
475
500
600
700
1200

Existing subcatchments
No capacity for growth
Some capacity for growth
Full capacity for growth

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SHEET
Timaru Intensification Development Phasing

| DRAWN | APPROVED | | | |
|---|---|---|---|---|
| K. VAN DER SCHYFF | C. MILLS | | | |
| SHEET NUMBER | SCALE | PROJECT NUMBER | REVISION DATE | REVISION |
| 1 of 1 | 1:46,000 | 3-C2419.20 | 20/10/2023 | R0 |

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# APPENDIX D

## DEVELOPMENT PHASING – TIMARU PIPE UPGRADES

| MODEL REFERENCE | ASSET ID | ORIGINAL WIDTH (mm) | UPGRADE WIDTH (mm) |
|---|---|---|---|
| ALBT-MH01154.1 | 159406 | 225 | 375 |
| ARTR-FN00948.1 | 6786 | 300 | 600 |
| ARTR-MH00946.1 | 6789 | 300 | 600 |
| ARTR-MH00951.1 | 6783 | 300 | 600 |
| ARTR-MH00975.1 | 6748 | 300 | 475 |
| ARTR-MH00978.1 | 6745 | 300 | 475 |
| ARTR-MH00992.1 | 6720 | 300 | 375 |
| AVEN-FN01046.1 | 6550 | 150 | 225 |
| AVEN-FN01047.1 | 6551 | 150 | 225 |
| AVEN-MH01042.1 | 31263 | 150 | 225 |
| AVEN-MH01044.1 | 6594 | 150 | 225 |
| AVEN-MH01045.1 | 6549 | 150 | 225 |
| AVEN-MH01048.1 | 6552 | 150 | 225 |
| AVEN-MH01222.1 | 5767 | 225 | 300 |
| AVEN-MH01223.1 | 5765 | 225 | 300 |
| BANK-MH00952.1 | 6771 | 300 | 600 |
| BENM-MH01571.1 | 31459 | 225 | 375 |
| BENM-MH01658.1 | 31507 | 225 | 375 |
| BENM-MH01661.1 | 31523 | 225 | 375 |
| BENM-MH01662.1 | 31551 | 225 | 375 |
| BENM-MH01666.1 | 31589 | 225 | 375 |
| BENM-MH01673.1 | 31592 | 225 | 375 |
| BENM-MH01679.1 | 31594 | 225 | 375 |
| BENM-MH01681.1 | 31595 | 225 | 375 |
| BENM-MH01683.1 | 31597 | 225 | 375 |
| BOTG-MH00415.1 | 5497 | 375 | 475 |
| BOTG-MH00416.1 | 5499 | 375 | 475 |
| BOTG-MH00417.1 | 5500 | 375 | 475 |

| MODEL REFERENCE | ASSET ID | ORIGINAL WIDTH (mm) | UPGRADE WIDTH (mm) |
|---|---|---|---|
| BOTG-MH00418.1 | 5502 | 375 | 475 |
| BOTG-MH03604.1 | 104630 | 375 | 475 |
| BRAD-MH00108.1 | 31296 | 300 | 375 |
| BRAD-MH00109.1 | 6401 | 300 | 375 |
| BRAD-MH00110.1 | 6400 | 300 | 375 |
| BRUN-MH03077.1 | 73974 | 300 | 375 |
| BRWE-MH00793.1 | 1336 | 225 | 300 |
| BRWE-MH02964.1 | 34797 | 225 | 300 |
| CAMR-FN01199.1 | 5856 | 225 | 300 |
| CAMR-FN03938.1 | 5854 | 225 | 300 |
| CAMR-MH01196.1 | 5861 | 225 | 375 |
| CAMR-MH01197.1 | 5858 | 225 | 375 |
| CAMR-MH01201.1 | 5855 | 225 | 300 |
| CBAB-MH03569.1 | 98699 | 940 | 1200 |
| CBAB-MH03570.1 | 98700 | 940 | 1200 |
| CLFT-FN02978.1 | 33442 | 150 | 225 |
| CNOR-MH00166.1 | 6192 | 300 | 375 |
| CNOR-MH00167.1 | 6193 | 300 | 375 |
| CNOR-MH00168.1 | 6194 | 300 | 375 |
| CNOR-MH00169.1 | 6195 | 300 | 375 |
| CNOR-MH00170.1 | 6202 | 300 | 375 |
| CNOR-MH00209.1 | 6152 | 225 | 300 |
| CNOR-MH00210.1 | 6153 | 225 | 375 |
| CNOR-MH00211.1 | 6155 | 225 | 375 |
| CNOR-MH00213.1 | 6163 | 225 | 375 |
| CNOR-MH00214.1 | 6190 | 225 | 375 |
| CNOR-MH03628.1 | 121059 | 225 | 375 |
| CRGW-MH00516.1 | 5620 | 300 | 375 |
| CRGW-MH00519.1 | 70544 | 300 | 375 |
| CRGW-MH00754.1 | 6850 | 150 | 225 |
| CRGW-MH00755.1 | 6851 | 150 | 225 |
| DEVN-MH00155.1 | 6209 | 300 | 375 |

| MODEL REFERENCE | ASSET ID | ORIGINAL WIDTH (mm) | UPGRADE WIDTH (mm) |
|---|---|---|---|
| DEVN-MH00156.1 | 6207 | 300 | 375 |
| DEVN-MH00157.1 | 6205 | 300 | 375 |
| DEVN-MH00158.1 | 6204 | 300 | 375 |
| DEVN-MH00159.1 | 6203 | 300 | 375 |
| DEVN-MH00165.1 | 6191 | 300 | 375 |
| DOBS-EC03542.1 | 96389 | 225 | 300 |
| DOBS-MH03539.1 | 96394 | 225 | 300 |
| DOBS-MH03540.1 | 96392 | 225 | 300 |
| DOBS-MH03541.1 | 96391 | 225 | 300 |
| DOBS-MH03784.1 | 149287 | 225 | 300 |
| DOUG-FN03145.1 | 35574 | 300 | 475 |
| DOUG-FN03146.1 | 35575 | 300 | 475 |
| DOUG-MH01828.1 | 35573 | 300 | 475 |
| DOUG-MH01876.1 | 35579 | 300 | 475 |
| DOUG-MH01877.1 | 35252 | 300 | 475 |
| DOUG-MH01878.1 | 35250 | 300 | 475 |
| DOUG-MH01879.1 | 35248 | 300 | 475 |
| DOUG-MH01880.1 | 35246 | 300 | 475 |
| DOUG-MH01881.1 | 35244 | 300 | 475 |
| DOUG-MH01882.1 | 33466 | 300 | 475 |
| DOUG-MH01885.1 | 33521 | 300 | 475 |
| DOUG-MH01887.1 | 33523 | 300 | 475 |
| DOUG-MH01889.1 | 33525 | 300 | 475 |
| DOUG-MH01891.1 | 35271 | 150 | 225 |
| DOUG-MH01892.1 | 35283 | 150 | 225 |
| DOUG-MH01893.1 | 35393 | 150 | 225 |
| DOUG-MH01894.1 | 35394 | 150 | 225 |
| DOUG-MH01953.1 | 35608 | 150 | 225 |
| EDWD-MH00696.1 | 6926 | 225 | 300 |
| EDWD-MH00717.1 | 6925 | 225 | 300 |
| EVAN-FN01371.1 | 98707 | 352 | 475 |
| EVAN-MH01363.1 | 6337 | 450 | 475 |

| MODEL REFERENCE | ASSET ID | ORIGINAL WIDTH (mm) | UPGRADE WIDTH (mm) |
|---|---|---|---|
| EVAN-MH01370.1 | 6338 | 375 | 475 |
| EVAN-MH02412.1 | 1292 | 225 | 375 |
| EVAN-MH02479.1 | 36312 | 225 | 375 |
| EVAN-MH02480.1 | 36313 | 225 | 375 |
| EVAN-MH02481.1 | 36315 | 225 | 375 |
| EVAN-MH02960.1 | 36988 | 225 | 375 |
| EVAN-MH02961.1 | 36316 | 225 | 375 |
| EVER-MH02485.1 | 36989 | 225 | 375 |
| EVER-MH02515.1 | 36990 | 225 | 375 |
| EVER-MH02803.1 | 36991 | 225 | 375 |
| GEOS-FN03854.1 | 140945 | 375 | 600 |
| GEOS-MH00923.1 | 36942 | 300 | 600 |
| GEOS-MH00926.1 | 6808 | 300 | 600 |
| GEOS-MH03562.1 | 158575 | 375 | 600 |
| GIBS-MH00920.1 | 6715 | 300 | 375 |
| GLWD-MH01762.1 | 32433 | 225 | 375 |
| GLWD-MH01770.1 | 32441 | 225 | 375 |
| GRAS-MH02171.1 | 34105 | 300 | 375 |
| GRAS-MH02176.1 | 153253 | 300 | 375 |
| GRAS-MH03790.1 | 153261 | 554 | 700 |
| GRAS-MH03795.1 | 153262 | 554 | 700 |
| GRAS-MH03796.1 | 153260 | 554 | 700 |
| GRAS-MH03797.1 | 153263 | 554 | 700 |
| GREY-MH00979.1 | 6744 | 300 | 475 |
| GREY-MH00980.1 | 6738 | 300 | 475 |
| GREY-MH03378.1 | 81261 | 300 | 475 |
| GUTH-MH01225.1 | 5692 | 225 | 300 |
| GUTH-MH01226.1 | 5693 | 225 | 300 |
| GUTH-MH01227.1 | 5691 | 225 | 300 |
| HAKY-MH00511.1 | 5612 | 300 | 375 |
| HAKY-MH00512.1 | 5618 | 300 | 375 |
| HAKY-MH03005.1 | 31600 | 300 | 375 |

| MODEL REFERENCE | ASSET ID | ORIGINAL WIDTH (mm) | UPGRADE WIDTH (mm) |
|---|---|---|---|
| HASS-MH00745.1 | 6839 | 150 | 225 |
| HASS-MH00752.1 | 6848 | 150 | 225 |
| HAVE-MH03538.1 | 96395 | 225 | 300 |
| HAVE-MH03546.1 | 96396 | 225 | 300 |
| HAWE-MH01777.1 | 32443 | 225 | 300 |
| HDDR-MH03643.1 | 121267 | 225 | 300 |
| HETN-MH00798.1 | 34807 | 225 | 300 |
| HETN-MH00801.1 | 34801 | 225 | 300 |
| HEWL-MH01153.1 | 36813 | 300 | 475 |
| HEWL-MH03204.1 | 6248 | 300 | 475 |
| HIGH-FN00411.1 | 5485 | 450 | 600 |
| HIGH-MH00407.1 | 31107 | 450 | 600 |
| HIGH-MH00408.1 | 5484 | 450 | 600 |
| HIGH-MH00412.1 | 5493 | 450 | 600 |
| HIGH-MH00686.1 | 6938 | 225 | 375 |
| HIGH-MH00687.1 | 6937 | 225 | 375 |
| HIGH-MH00688.1 | 6930 | 225 | 375 |
| KEGP-MH00930.1 | 6802 | 300 | 600 |
| KING-MH03301.1 | 70545 | 300 | 375 |
| KING-MH03781.1 | 5503 | 375 | 475 |
| KIWI-MH01286.1 | 5559 | 150 | 225 |
| KIWI-MH01287.1 | 5561 | 150 | 225 |
| LCRN-MH01016.1 | 94113 | 225 | 300 |
| LCRN-MH01020.1 | 94112 | 150 | 300 |
| LCRN-MH01190.1 | 175294 | 225 | 375 |
| LCRN-MH01192.1 | 5883 | 225 | 375 |
| LCRN-MH03931.1 | 6003 | 225 | 375 |
| LIVS-FN03533.1 | 94095 | 150 | 225 |
| LIVS-MH01038.1 | 94109 | 150 | 225 |
| LOUG-MH01211.1 | 5852 | 225 | 300 |
| LOUG-MH01213.1 | 5776 | 225 | 300 |
| LOUG-MH01214.1 | 5774 | 225 | 300 |

| MODEL REFERENCE | ASSET ID | ORIGINAL WIDTH (mm) | UPGRADE WIDTH (mm) |
|---|---|---|---|
| LOUG-MH01220.1 | 5772 | 225 | 300 |
| LOUG-MH01221.1 | 5770 | 225 | 300 |
| MACA-MH01473.1 | 7501 | 150 | 225 |
| MACA-MH01476.1 | 35232 | 150 | 225 |
| MACA-MH01490.1 | 7502 | 150 | 225 |
| MACA-MH01500.1 | 7504 | 150 | 225 |
| MACA-MH01502.1 | 31087 | 150 | 300 |
| MDON-MH02473.1 | 36310 | 225 | 300 |
| MDON-MH02476.1 | 36311 | 225 | 300 |
| MEAD-MH03801.1 | 152283 | 225 | 375 |
| MEAD-MH03802.1 | 152284 | 225 | 375 |
| MEAD-MH03803.1 | 152285 | 225 | 375 |
| MEAD-MH03804.1 | 152286 | 225 | 375 |
| MEAD-MH03805.1 | 152287 | 225 | 375 |
| MEAD-MH03806.1 | 152288 | 225 | 375 |
| MEAD-MH03862.1 | 158660 | 225 | 375 |
| MEAD-MH03863.1 | 158659 | 225 | 375 |
| MEAD-MH03864.1 | 158658 | 225 | 375 |
| MEAD-MH03865.1 | 158657 | 225 | 375 |
| MEAD-MH03866.1 | 158656 | 225 | 375 |
| MEMR-MH00705.1 | 6919 | 225 | 300 |
| MEMR-MH00706.1 | 6918 | 225 | 300 |
| MEMR-MH00707.1 | 6917 | 225 | 300 |
| MEMR-MH00708.1 | 6916 | 225 | 300 |
| METN-MH00129.1 | 6322 | 300 | 375 |
| METN-MH00130.1 | 6304 | 300 | 375 |
| METN-MH00133.1 | 6303 | 300 | 375 |
| METN-MH00137.1 | 6299 | 300 | 375 |
| METN-MH00138.1 | 6298 | 300 | 375 |
| METN-MH00139.1 | 6297 | 300 | 375 |
| METN-MH00154.1 | 6295 | 300 | 375 |
| MORG-MH01687.1 | 33045 | 225 | 375 |

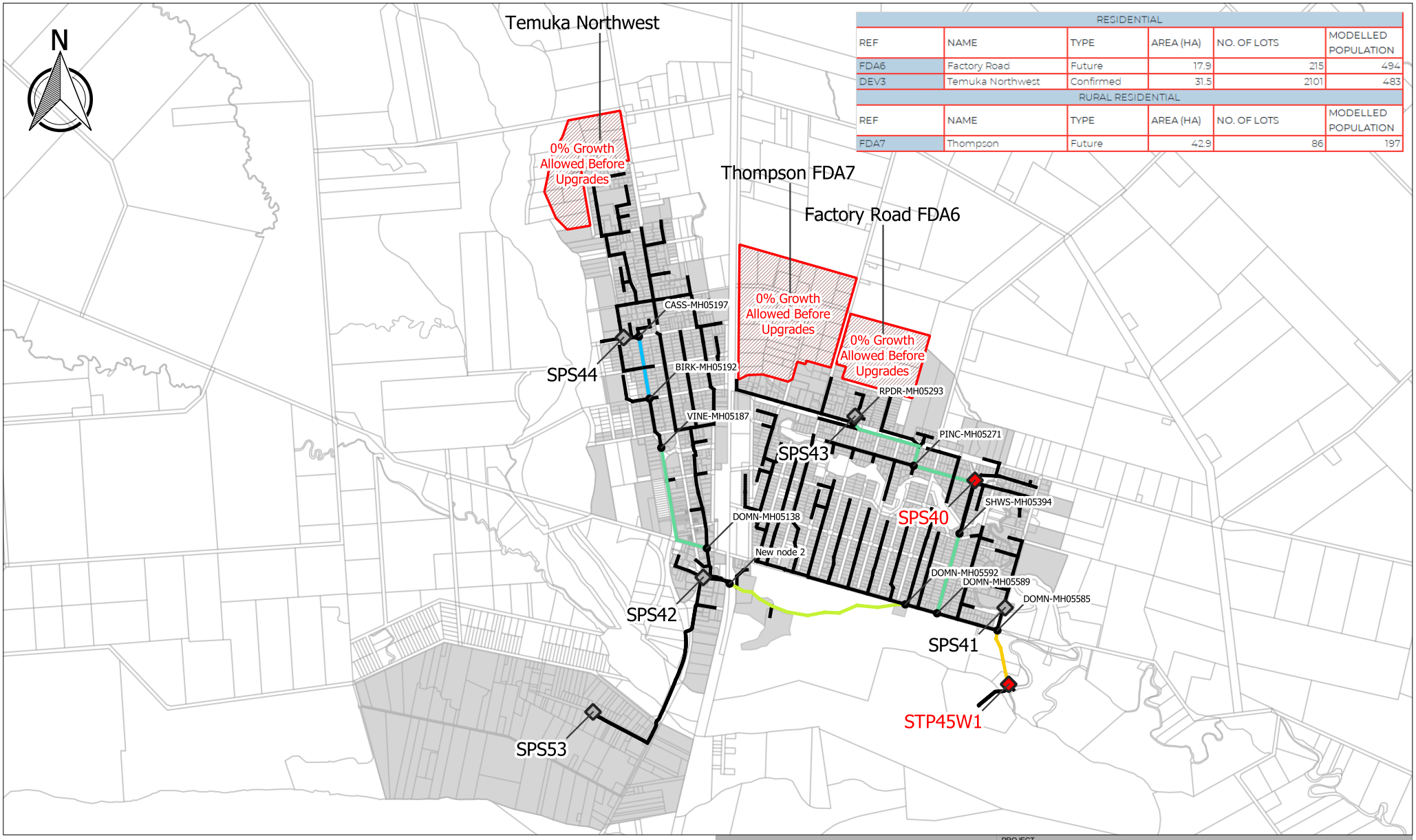
| MODEL REFERENCE | ASSET ID | ORIGINAL WIDTH (mm) | UPGRADE WIDTH (mm) |
|---|---|---|---|
| MORW-MH01686.1 | 33093 | 225 | 375 |
| MOUV-MH01563.1 | 31101 | 225 | 375 |
| MOWB-MH00111.1 | 6399 | 300 | 375 |
| MRST-MH00518.1 | 5623 | 300 | 375 |
| MTDA-MH00991.1 | 6729 | 300 | 375 |
| MURC-MH01515.1 | 31089 | 225 | 375 |
| MURC-MH01516.1 | 35191 | 225 | 375 |
| MURC-MH01517.1 | 36656 | 225 | 375 |
| MURC-MH01518.1 | 36480 | 225 | 375 |
| MURC-MH01519.1 | 81266 | 225 | 375 |
| MURC-MH01520.1 | 31088 | 225 | 375 |
| MURC-MH01521.1 | 31093 | 225 | 375 |
| MURC-MH01525.1 | 31095 | 225 | 375 |
| MURC-MH01537.1 | 31098 | 225 | 375 |
| MURC-MH01560.1 | 31099 | 225 | 375 |
| MURC-MH01561.1 | 31100 | 225 | 375 |
| NAPR-FN00836.1 | 34625 | 150 | 225 |
| NAPR-MH00835.1 | 34626 | 150 | 225 |
| NAPR-MH00837.1 | 34624 | 150 | 225 |
| NAPR-MH03289.1 | 70512 | 150 | 225 |
| NELS-MH01181.1 | 6164 | 225 | 375 |
| NELS-MH01182.1 | 6137 | 300 | 375 |
| ORBL-MH01785.1 | 33025 | 225 | 300 |
| ORBL-MH01786.1 | 35552 | 225 | 300 |
| PORT-MH03567.1 | 98697 | 940 | 1200 |
| PORT-MH03568.1 | 98698 | 940 | 1200 |
| PUKI-MH01726.1 | 33010 | 225 | 375 |
| PUKI-MH01738.1 | 33009 | 225 | 375 |
| PUKI-MH01748.1 | 32998 | 225 | 375 |
| PUKI-MH01752.1 | 32999 | 225 | 375 |
| QUEN-MH00683.1 | 88483 | 225 | 375 |
| QUEN-MH00684.1 | 6943 | 225 | 375 |

| MODEL REFERENCE | ASSET ID | ORIGINAL WIDTH (mm) | UPGRADE WIDTH (mm) |
|---|---|---|---|
| QUEN-MH00747.1 | 34312 | 450 | 600 |
| QUEN-MH00748.1 | 6945 | 450 | 600 |
| QUEN-MH00749.1 | 6946 | 450 | 600 |
| QUEN-MH03427.1 | 88484 | 225 | 375 |
| REGT-MH01055.1 | 6556 | 150 | 225 |
| SEAV-MH01173.1 | 6134 | 300 | 375 |
| SEAV-MH01174.1 | 6135 | 300 | 375 |
| SEAV-MH01176.1 | 6136 | 300 | 375 |
| SEFT-MH01167.1 | 6129 | 225 | 375 |
| SEFT-MH01169.1 | 6132 | 300 | 375 |
| SEFT-MH01170.1 | 6131 | 300 | 375 |
| SEFT-MH01172.1 | 6133 | 300 | 375 |
| SEFT-MH01188.1 | 34904 | 225 | 375 |
| SEFT-MH01189.1 | 6009 | 225 | 375 |
| SEFT-MH03105.1 | 34905 | 225 | 375 |
| SELW-MH02170.1 | 34103 | 300 | 375 |
| SFFD-FN03231.1 | 36943_1 | 300 | 600 |
| SFFD-MH00921.1 | 36944 | 375 | 600 |
| SFFD-MH00922.1 | 36943_2 | 300 | 600 |
| SFFD-MH01137.1 | 6334 | 300 | 475 |
| SOUT-MH00404.1 | 5467 | 450 | 600 |
| SOUT-MH00406.1 | 34301 | 450 | 600 |
| SOUT-MH02917.1 | 34302 | 450 | 600 |
| SOUT-MH02918.1 | 34303 | 450 | 600 |
| SOUT-MH02919.1 | 34304 | 450 | 600 |
| STGE-MH00153.1 | 6296 | 300 | 375 |
| SUTT-MH00981.1 | 6733 | 300 | 375 |
| SUTT-MH01000.1 | 6730 | 300 | 375 |
| TEKA-MH01725.1 | 33043 | 225 | 375 |
| TEMP-MH03347.1 | 81177 | 225 | 300 |
| THEO-MH00955.1 | 6769 | 300 | 600 |
| THEO-MH00956.1 | 6767 | 300 | 600 |

| MODEL REFERENCE | ASSET ID | ORIGINAL WIDTH (mm) | UPGRADE WIDTH (mm) |
|---|---|---|---|
| THEO-MH00970.1 | 6760 | 300 | 475 |
| THOM-MH01242.1 | 5690 | 225 | 300 |
| THOM-MH01243.1 | 5667 | 225 | 300 |
| VICT-MH00796.1 | 34812 | 225 | 300 |
| VICT-MH00797.1 | 34808 | 225 | 300 |
| VIRT-MH03571.1 | 98701 | 940 | 1200 |
| VIRT-MH03572.1 | 98702 | 940 | 1200 |
| WAII-MH01297.1 | 5555 | 150 | 225 |
| WAII-MH01298.1 | 5554 | 150 | 225 |
| WAII-MH01335.1 | 6335 | 300 | 475 |
| WELG-FN00840.1 | 34620 | 150 | 225 |
| WSOS-MH01025.1 | 94111 | 150 | 300 |
| WSOS-MH01028.1 | 6640 | 150 | 300 |
| YORK-MH00996.1 | 6718 | 300 | 375 |
| YORK-MH00999.1 | 6717 | 300 | 375 |

# APPENDIX E

## DEVELOPMENT PHASING – TEMUKA




| RESIDENTIAL | | | | | |
|---|---|---|---|---|---|
| REF | NAME | TYPE | AREA (HA) | NO. OF LOTS | MODELLED POPULATION |
| FDA6 | Factory Road | Future | 17.9 | 215 | 494 |
| DEV3 | Temuka Northwest | Confirmed | 31.5 | 2101 | 483 |
| RURAL RESIDENTIAL | | | | | |
| REF | NAME | TYPE | AREA (HA) | NO. OF LOTS | MODELLED POPULATION |
| FDA7 | Thompson | Future | 42.9 | 86 | 197 |

Proposed pump station upgrades

Existing pump station

Existing pipes

Proposed pipe upgrade size

225

300

375

475

500

600

Existing subcatchments

No capacity for growth

Some capacity for growth

Full capacity for growth


Christchurch Water
+64 3 363 5400
PO Box 1482
Christchurch 8140
New Zealand


PROJECT

Timaru District Council
2 King George Place, Timaru 7910
Timaru & Temuka Growth Capacity Assessment

SHEET

Temuka Development Phasing

| DRAWN | APPROVED | | | |
|---|---|---|---|---|
| K. VAN DER SCHYFF | C. MILLS | | | |
| SHEET NUMBER | SCALE | PROJECT NUMBER | REVISION DATE | REVISION |
| 1 of 1 | 1:46,000 | 3-C2419.20 | 18/10/2023 | R0 |


Original Sheet Size: A4 [W = 297, H = 210] Plot Date: 2023-10-20 17:22:41 by van der Schyff, Kelsey (NZKV31136) File Ref: U:\ProjectsNZ\3c\3-C2419.20 Timaru & Temuka Growth Capacity Assessme\Home\03_Tech_Docs\02_Tech_Out\01_WIP\WW\01_Working

# APPENDIX F

## DEVELOPMENT PHASING – TEMUKA PIPE UPGRADES

| MODEL REFERENCE | ASSET ID | ORIGINAL WIDTH (mm) | UPGRADE WIDTH (mm) |
|---|---|---|---|
| DOMN-MH05120.1 | 33690 | 300 | 375 |
| DOMN-MH05123.1 | 33677 | 300 | 375 |
| PINC-MH05270.1 | 1007 | 150 | 300 |
| PINC-MH05271.1 | 1008 | 150 | 300 |
| PINC-MH05269.1 | 1048 | 150 | 300 |
| PINC-MH05268.1 | 33829 | 150 | 300 |
| RPDR-MH05292.1 | 1069 | 150 | 300 |
| RPDR-MH05293.1 | 1072 | 150 | 300 |
| SHWS-MH05394.1 | 81463 | 225 | 300 |
| PINC-MH05267.1 | 33830 | 150 | 450 |
| VINE-MH05185.1 | 34043 | 225 | 300 |
| VINE-MH05184.1 | 34044 | 225 | 300 |
| VINE-MH05183.1 | 34045 | 225 | 300 |
| WTEM-MH05182.1 | 34046 | 225 | 300 |
| DOMN-MH05510.1 | 132129 | 225 | 300 |
| WTEM-MH05181.1 | 34047 | 225 | 300 |
| RPDR-MH05289.1 | 1083 | 150 | 300 |
| RPDR-MH05291.1 | 1070 | 150 | 300 |
| RPDR-MH05290.1 | 1071 | 150 | 300 |
| VINE-MH05187.1 | 34041 | 225 | 300 |
| VINE-MH05186.1 | 34042 | 225 | 300 |
| BIRK-MH05195.1 | 33984 | 150 | 225 |
| BIRK-MH05193.1 | 33988 | 150 | 225 |
| BIRK-MH05196.1 | 33973 | 150 | 225 |
| BIRK-MH05194.1 | 89917 | 150 | 225 |
| CASS-MH05197.1 | 33972 | 150 | 225 |
| DOMN-MH05118.1 | 33692 | 300 | 375 |

| MODEL REFERENCE | ASSET ID | ORIGINAL WIDTH (mm) | UPGRADE WIDTH (mm) |
|---|---|---|---|
| DOMN-MH05117.1 | 33693 | 300 | 375 |
| DOMN-MH05121.1 | 33681 | 300 | 375 |
| DOMN-MH05129.1 | 33673 | 300 | 375 |
| DOMN-MH05128.1 | 33674 | 300 | 375 |
| DOMN-MH05127.1 | 33675 | 300 | 375 |
| DOMN-MH05124.1 | 33676 | 300 | 375 |
| DOMN-MH05122.1 | 33678 | 300 | 375 |
| DOMN-MH05116.1 | 33696 | 300 | 375 |
| SHWS-MH05032.1 | 71955 | 225 | 300 |
| SHWS-MH05030.1 | 33754 | 225 | 300 |
| SHWS-FN05395.1 | 33738 | 225 | 300 |
| SHWS-MH05033.1 | 33741 | 225 | 300 |
| DOMN-MH05581.3 | 174750 | 375 | 475 |
| DOMN-MH05582.1 | 174751 | 375 | 475 |
| DOMN-MH05583.1 | 174753 | 375 | 475 |
| DOMN-MH05584.1 | 174754 | 375 | 475 |
| DOMN-MH05585.1 | 174755 | 375 | 475 |
| DOMN-FN05611.1 | 175693 | 225 | 300 |
| New node.1 | 33673_1 | 300 | 375 |
| New node 2.1 | 34061_1 | 300 | 375 |

# REFERENCES


Jackson, N. O. (August 2014). *Timaru District Council – Population and Household Projections 2013-2063. Report Commissioned by Timaru District Council. August 2014.* Natalie Jackson Demographics Ltd as a sub-contract to the National Institute of Demographic and Economic Analysis (NIDEA), University of Waikato: https://www.timaru.govt.nz/__data/assets/pdf_file/0005/34673/898320-Timaru-District-Population-and-Household-Projections-2013-63-Final-Natalie-Jackson-September-2014.pdf.

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Timaru District Council. (23 April 2019). *High Intensity Rainfall Design for Timaru District.* https://www.timaru.govt.nz/__data/assets/pdf_file/0020/52670/1241999-High-Intensity-Rainfall-Design-for-Timaru-District-V3.pdf: Timaru District Council.

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WSP. (October 2021). *Timaru Wastewater Model: Model Build, Calibration and System Performance Report.* WSP Project Number: 3-C2006.10.

File No.: 45949

24 June 2025

Davis Ogilvie (Aoraki) Ltd.
12 The Terrace
**TIMARU 7910**

**Attention: Sonia Dolan**

Email: sonia.dolan@do.nz

Dear Sonia,

[redacted]

[redacted]

Davis Ogilvie and Partners Ltd. (Davis Ogilvie) has prepared this geotechnical desktop study for the site located at 26 Factory Road and 52 Factory Road in Temuka, legally described as Lot 1 and Lot 2 DP 377989 and Lot 39 DP 6860, respectively.

The site comprises three adjacent Lots with a combined total area of 17.93 hectares. Access to the site is via Factory Road, which forms the western boundary. Family residences are present on two of the Lots on the western part of the site with the balance land used for agriculture. A creek and a surface drainage feature (water race) flow in a generally south-southeasterly direction near the northeastern corner of the site.

At the time of writing, it is understood that the proposed development of the site will include 140 to 240 residential Lots[1] and associated infrastructure including a stormwater management area and a naturalised open space[2].

[1] Davis Ogilvie (Aoraki) Ltd. Memorandum: PTDP – Hearing G – Response to RFI. 20 February 2025.
[2] Indicative Outline Development Plan (Davis Ogilvie (Aoraki) Ltd, DWG PL01-A, 06/2025)

Davis Ogilvie has completed a geotechnical desktop study review of available published resources and a preliminary natural hazard assessment for the site. A summary of pertinent information as it relates to the site, the surrounding area, and proposed development is presented in Table 1 and Table 2.

**Table 1: Summary of Published Geotechnical Information**

| | |
|---|---|
| **Timaru District Plan Zone** [3,4] | The site straddles two Rural Zones, Rural 1 and Rural 2, and is identified as Highly Productive Land [Land Use Capability (LUC) Class 2].<br>The site is in *'FDA6 – Factory Road Future Development Area – Residential Development'*. |
| **Geology & Hydrogeology** [5,6,7,8] | *"Light brownish grey river gravel, sand and silt within abandoned outwash plains or low to mid-level terraces"* (Pleistocene alluvial deposits).<br>There is no relevant geotechnical information within 900 m of the site recorded on the New Zealand Geotechnical Database (NZGD).<br>The nearest Environment Canterbury (ECan) well (K38/2381) is approximately 150 m west of the site and indicates 4.0 m of clay underlain by loose gravel to 6.5 m depth and claybound gravel to 9.0 m below ground level. At ECan well BZ19/0207, located approximately 480 m northwest of the site, gravel with variable clay, silt and sand content characterised the soil profile from 0.2 m to 11.5 m below ground level.<br>Groundwater in the site area: 0.5 m to 2.5 m below ground level. |
| **Site History** [1] **(Historic Aerial Photographs)** | 1935-1939: The site was used primarily for agricultural purposes, with a dwelling (on Lot 1) and farm building(s)/shed(s) present.<br>1995-1999: A residential dwelling was constructed on 26 Factory Road.<br>2015-2019: The dwelling on Lot 1 was demolished and the Lot left vacant. A new dwelling and detached building were constructed on 52 Factory Road. |
| **Seismicity** [9] | There are no active faults mapped on the site. The nearest active fault, the Peel Forest Fault, is located approx. 25 km north-northwest. |
| **Liquefaction Vulnerability** [3] | The site is in a mapped area where *"liquefaction damage is unlikely"*. |
| **Flood Hazard** [10,11] | ECan flood modelling shows the site is in an area in which <0.2 m to <1.0 m of surface water flooding is modelled in a 500-year event. Localised surface water flooding greater than 1.5 m is modelled along the creek in the northeastern part of the site.<br>ECan carried out a Flood Hazard Assessment for the site and determined:<br>1. During the March 1986 flood event, localised inundation occurred on the eastern part of the site.<br>2. The site is likely to be affected by a 100-year Average Recurrence Interval (ARI) flood and greater.<br>3. In a 200-year flood, the site can expect widespread runoff flooding according to stormwater modelling carried out by WSP Ltd. Water depths are expected to range from 100 mm to 400 mm across most of the site, with deeper flooding in parts of the site.<br>4. In a 500-year event, the entire site is expected to be flooded, with depths exceeding 500 mm across most of the site.<br>5. Alterations and earthworks associated with the development may alter the pattern and behaviour of flooding in the area. |
| **Sites and Areas of Significance to Māori** [4] | The site area is a Wāhi Tūpuna (a place important to Māori for its ancestral significance and associated cultural and traditional values). |

[3] Canterbury Maps Viewer, https://canterburymaps.govt.nz/help/map-viewer/, accessed 23 June 2025.
[4] Proposed Timaru District Plan - He Po. He Ao. Ka Awatea., https://timaru.isoplan.co.nz/eplan, accessed 23 June 2025.
[5] Cox, S.C.; Barrell, D.J.A. (compilers) 2007. Geology of the Aoraki area. Institute of Geological & Nuclear Sciences 1:250 000 geological map 15. 1 sheet + 71 p. Lower Hutt, New Zealand. GNS Science.
[6] https://rogierwesterhoff.users.earthengine.app/view/nzwatertable, accessed 23 June 2025.
[7] New Zealand Geotechnical Database, https://nzgd.org.nz, accessed 23 June 2025.
[8] Environment Canterbury (ECan) Regional Council, https://www.ecan.govt.nz/data/well-search, accessed 23 June 2025. Borelog for well K38/2381 and BZ19/0207 reviewed.
[9] GNS Science. New Zealand Active Fault Dataset, https://data.gns.cri.nz/af/, accessed 23 June 2025.
[10] Environment Canterbury, https://apps.canterburymaps.govt.nz/FloodModelResults/, accessed June 2025.
[11] ECan Flood Hazard Assessment, Valuation No. 24690-142-03, dated 14 February 2025.

| Table 2: Preliminary Natural Hazard Assessment | |
|---|---|
| **Seismicity** | The risk of fault rupture on the site is considered low.<br>The site is at risk of damage due to earthquake-induced ground shaking. |
| **Subsidence** | Liquefaction: The risk of liquefaction is considered low, subject to site-specific geotechnical testing. |
| **Erosion** | The potential for erosion associated with the creek must be assessed. |
| **Falling Debris & Slippage** | The site is located on generally level ground, and has no potential to create, or be affected by, falling debris or slippage. The risk is therefore considered low. |
| **Inundation** | According to ECan's Flood Hazard Assessment, the site is in an area in which 100 mm to 400 mm is predicted for a 200-year flood event. Deeper flooding may occur in other parts of the site, particularly near the creek; it is noted on the Indicative Outline Development Plan that the area of deeper flooding is proposed to be a stormwater management area. |

Based on this preliminary geotechnical desktop study, floodwater inundation is considered the most significant natural hazard to potentially affect the site. Timaru District Council (TDC) would need to be contacted for future finished floor level (FFL) requirements.

The site is considered geotechnically suitable for the proposed development subject to site-specific geotechnical testing. This is likely to comprise mechanically excavated Test Pits, Dynamic Cone Penetrometers (DCPs), and soil infiltration testing. The investigation should include a detailed assessment against Section 106 Natural Hazards of the Resource Management Act (1991).

For preliminary design purposes, NZS 3604:2011 foundations are likely to be suitable for residential development where 'Good Ground' is achieved, subject to Finish Floor Level (FFL) requirements set by TDC based on the most recent flood modelling data held by ECan. Alternatively, specific engineering design will be required.

Should you have any queries regarding this report or wish to discuss the next step in terms of geotechnical investigations for the proposed subdivision, please contact the undersigned.

Yours faithfully

**DAVIS OGILVIE & PARTNERS LTD.**

Prepared By:
**RUSSELL MOLYNEUX**
Senior Engineering Geologist
BSc (Hons), MSc, MEngNZ

Email: russm@do.nz

Reviewed By:
**SAMANTHA WEBB**
Engineering Geologist – Technical Director
BSc (Hons), MSc, MEngNZ

Email: samantha@do.nz

**Enclosed:**

Indicative Outline Development Plan (Davis Ogilvie (Aoraki) Ltd, DWG PL01-A, 06/2025).

**Limitations**

Davis Ogilvie did not complete an assessment of all possible conditions or circumstances that may exist at the site. The report and findings are based on readily available published resources and the information provided by the client. Conditions may exist which were not included in the resources. Variations in ground conditions may occur, and there may be conditions on site which have not been revealed or taken into account in this report. No warranty is included - either expressed or implied - that the actual conditions will conform to the assessments contained in this report.

This report has been prepared solely for the purposes of Davis Ogilvie (Aoraki) Ltd. and their client. The information contained herein is confidential and shall not be passed on to any third party without prior written permission of Davis Ogilvie. No responsibility is accepted for any use outside the scope of this report.

Contractor to locate all existing services & verify all dimensions before commencing work

| Issue | Date | Reason | Approved |
|---|---|---|---|
| A | 06-25 | FOR DISCUSSION | GPM |

NORTH

Lot 38
DP 6860

Potential for future connection to the north.

FDA-6

Indicative Stormwater Management

Lot 1
DP 4894

Creek

Lot 39
DP 6860

Lot 2
DP 377989

Lot 2
DP 377989

FACTORY ROAD

Part RS 3153

Opihi College

Part RS 3153

Part RS 3153

SEDDON STREET

New road to connect to the end of Seddon Street

Notes:

- All dimensions in metres unless shown otherwise;
- Existing boundaries adopted from LINZ online database;
- Aerial Photography: Sourced from LINZ Database under Creative Commons Attribution 4.0 International;
- LiDAR: 1m DEM Sourced from LINZ Database under Creative Commons Attribution 4.0 International;
- Major contours shown at 1.0m intervals
- Minor contours shown at 0.2m intervals
- This plan is in terms of NZGD2000 Timaru Circuit;
- Use of this plan for other purposes or its reproduction in part or full is not permitted without the prior consent of Davis Ogilvie (Aoraki) Ltd;
- All dimensions and areas are subject to final legal survey;
- Services are sourced from Canterbury Maps and are indicative only;

Key:

- Existing Ground Contour (Major)
- Existing Ground Contour (Minor)
- Proposed Future Development Area
- Indicative Stormwater Management Area
- Naturalised Open Space
- Waterway
- Main Road (20m Wide)
- Road Network Connection
- Minor Road (16m Wide)
- Multi-Modal Route (Walking/Cycling)

**FOR DISCUSSION ONLY**
**NOT FOR CONSENT**

CAD ref: C:\12ds\data\DO-TIMARU\30623 TM - 26 Factory Road, Temuka_1069\06 CADD\Dwg\DOA-30623-Concept Layout Plan.dwg

DAVIS OGILVIE
Davis Ogilvie (Aoraki) & Partners Ltd
Engineers - Surveyors - Planners
12 The Terrace, Timaru 7940
P.O. Box 359 Timaru, NZ
Ph. 03 688 8350 / 0800 888 350
Also - Nelson, Christchurch, Greymouth

**AITKEN (SUBMITTER No. 237)**
**26 FACTORY ROAD, TEMUKA**

**INDICATIVE OUTLINE DEVELOPMENT PLAN**

| Design | Drawn | QA Check | DWG | Issue |
|---|---|---|---|---|
| GM | TH | GM | PL01 | A |
| Scale @ A3 | Date | File | | |
| 1:2000 | 06-25 | 30623 | | |

Environment Canterbury
Regional Council
Kaunihera Taiao ki Waitaha

Customer Services
P. 03 353 9007 or 0800 324 636

PO Box 345
Christchurch 8140

P. 03 365 3828
F. 03 365 3194
E. ecinfo@ecan.govt.nz

www.ecan.govt.nz

Dear Sir/Madam

Thank you for submitting your property enquiry from our Listed Land Use Register (LLUR). The LLUR holds information about sites that have been used or are currently used for activities which have the potential to cause contamination.

The LLUR statement shows the land parcel(s) you enquired about and provides information regarding any potential LLUR sites within a specified radius.

Please note that if a property is not currently registered on the LLUR, it does not mean that an activity with the potential to cause contamination has never occurred, or is not currently occurring there. The LLUR database is not complete, and new sites are regularly being added as we receive information and conduct our own investigations into current and historic land uses.

The LLUR only contains information held by Environment Canterbury in relation to contaminated or potentially contaminated land; additional relevant information may be held in other files (for example consent and enforcement files).

Please contact Environment Canterbury if you wish to discuss the contents of this property statement.

Yours sincerely

**Contaminated Sites Team**

# Property Statement
# from the Listed Land Use Register

Visit ecan.govt.nz/HAIL for more information or
contact Customer Services at ecan.govt.nz/contact/ and quote ENQ419502

**Date generated:** 24 June 2025
**Land parcels:** Lot 39 DP 6860


The information presented in this map is specific to the property you have selected. Information on nearby properties may not be shown on this map, even if the property is visible.

## Sites at a glance

**Sites within enquiry area**

There are no sites associated with the area of enquiry.

## More detail about the sites

There are no sites associated with the area of enquiry.

## Disclaimer

The enclosed information is derived from Environment Canterbury's Listed Land Use Register and is made available to you under the Local Government Official Information and Meetings Act 1987.

The information contained in this report reflects the current records held by Environment Canterbury regarding the activities undertaken on the site, its possible contamination and based on that information, the categorisation of the site. Environment Canterbury has not verified the

accuracy or completeness of this information. It is released only as a copy of Environment Canterbury's records and is not intended to provide a full, complete or totally accurate assessment of the site. It is provided on the basis that Environment Canterbury makes no warranty or representation regarding the reliability, accuracy or completeness of the information provided or the level of contamination (if any) at the relevant site or that the site is suitable or otherwise for any particular purpose. Environment Canterbury accepts no responsibility for any loss, cost, damage or expense any person may incur as a result of the use, reference to or reliance on the information contained in this report.

Any person receiving and using this information is bound by the provisions of the Privacy Act 1993.

Environment Canterbury Regional Council
*Kaunihera Taiao ki Waitaha*

# Listed Land Use Register

## What you need to know

*Everything is connected*

## What is the Listed Land Use Register (LLUR)?

The LLUR is a database that Environment Canterbury uses to manage information about land that is, or has been, associated with the use, storage or disposal of hazardous substances.

## Why do we need the LLUR?

Some activities and industries are hazardous and can potentially contaminate land or water. We need the LLUR to help us manage information about land which could pose a risk to your health and the environment because of its current or former land use.

Section 30 of the Resource Management Act (RMA, 1991) requires Environment Canterbury to investigate, identify and monitor contaminated land. To do this we follow national guidelines and use the LLUR to help us manage the information.

The information we collect also helps your local district or city council to fulfil its functions under the RMA. One of these is implementing the National Environmental Standard (NES) for Assessing and Managing Contaminants in Soil, which came into effect on 1 January 2012.

For information on the NES, contact your city or district council.

## How does Environment Canterbury identify sites to be included on the LLUR?

We identify sites to be included on the LLUR based on a list of land uses produced by the Ministry for the Environment (MfE). This is called the Hazardous Activities and Industries List (HAIL)[1]. The HAIL has 53 different activities, and includes land uses such as fuel storage sites, orchards, timber treatment yards, landfills, sheep dips and any other activities where hazardous substances could cause land and water contamination.

***We have two main ways of identifying HAIL sites:***

- We are actively identifying sites in each district using historic records and aerial photographs. This project started in 2008 and is ongoing.
- We also receive information from other sources, such as environmental site investigation reports submitted to us as a requirement of the Regional Plan, and in resource consent applications.

[1] The Hazardous Activities and Industries List (HAIL) can be downloaded from MfE's website www.mfe.govt.nz, keyword search HAIL

## How does Environment Canterbury classify sites on the LLUR?

Where we have identified a HAIL land use, we review all the available information, which may include investigation reports if we have them. We then assign the site a category on the LLUR. The category is intended to best describe what we know about the land use and potential contamination at the site and is signed off by a senior staff member.

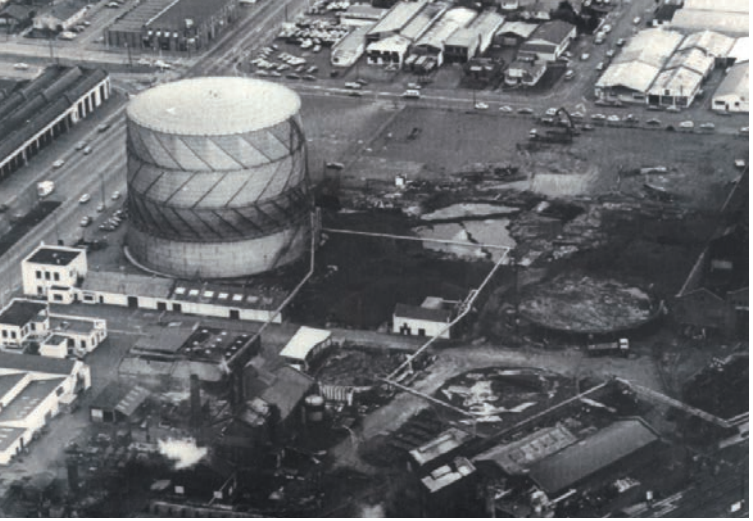
Please refer to the Site Categories and Definitions factsheet for further information.

## What does Environment Canterbury do with the information on the LLUR?

The LLUR is available online at www.llur.ecan.govt.nz. We mainly receive enquiries from potential property buyers and environmental consultants or engineers working on sites. An inquirer would typically receive a summary of any information we hold, including the category assigned to the site and a list of any investigation reports.

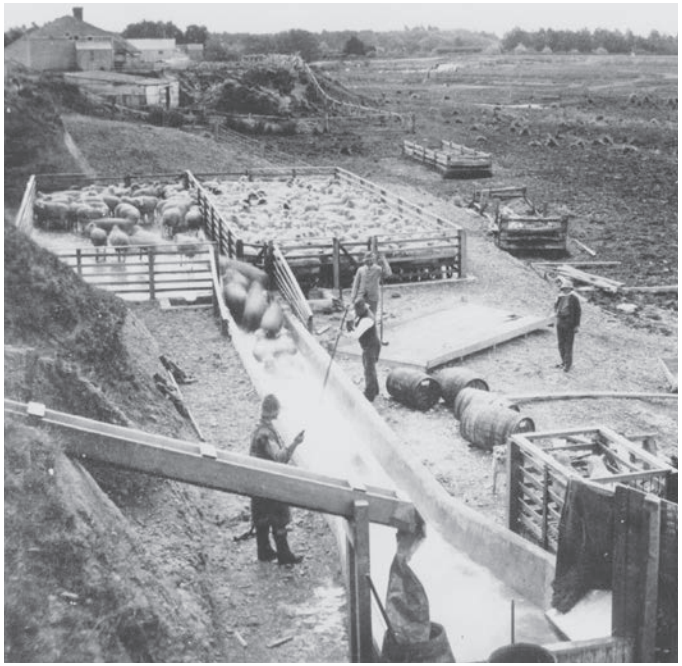
We may also use the information to prioritise sites for further investigation, remediation and management, to aid with planning, and to help assess resource consent applications. These are some of our other responsibilities under the RMA.

If you are conducting an environmental investigation or removing an underground storage tank at your property, you will need to comply with the rules in the Regional Plan and send us a copy of the report. This means we can keep our records accurate and up-to-date, and we can assign your property an appropriate category on the LLUR. To find out more, visit www.ecan.govt.nz/HAIL.



## IMPORTANT!

The LLUR is an online database which we are continually updating. A property may not currently be registered on the LLUR, but this does not necessarily mean that it hasn't had a HAIL use in the past.



*Sheep dipping (ABOVE) and gas works (TOP) are among the former land uses that have been identified as potentially hazardous. (Photo above by Wheeler & Son in 1987, courtesy of Canterbury Museum.)*

## My land is on the LLUR – what should I do now?

**IMPORTANT!** Just because your property has a land use that is deemed hazardous or is on the LLUR, it doesn't necessarily mean it's contaminated. The only way to know if land is contaminated is by carrying out a detailed site investigation, which involves collecting and testing soil samples.

You do not need to do anything if your land is on the LLUR and you have no plans to alter it in any way. It is important that you let a tenant or buyer know your land is on the Listed Land Use Register if you intend to rent or sell your property. If you are not sure what you need to tell the other party, you should seek legal advice.

You may choose to have your property further investigated for your own peace of mind, or because you want to do one of the activities covered by the National Environmental Standard for Assessing and Managing Contaminants in Soil. Your district or city council will provide further information.

If you wish to engage a suitably qualified experienced practitioner to undertake a detailed site investigation, there are criteria for choosing a practitioner on www.ecan.govt.nz/HAIL.

## I think my site category is incorrect – how can I change it?

If you have an environmental investigation undertaken at your site, you must send us the report and we will review the LLUR category based on the information you provide. Similarly, if you have information that clearly shows your site has not been associated with HAIL activities (eg. a preliminary site investigation), or if other HAIL activities have occurred which we have not listed, we need to know about it so that our records are accurate.

If we have incorrectly identified that a HAIL activity has occurred at a site, it will be not be removed from the LLUR but categorised as Verified Non-HAIL. This helps us to ensure that the same site is not re-identified in the future.

# Contact us

Property owners have the right to look at all the information Environment Canterbury holds about their properties.

It is free to check the information on the LLUR, online at www.llur.ecan.govt.nz.

If you don't have access to the internet, you can enquire about a specific site by phoning us on (03) 353 9007 or toll free on 0800 EC INFO (32 4636) during business hours.


**Contact Environment Canterbury:**

**Email:** ecinfo@ecan.govt.nz

**Phone:**
**Calling from Christchurch:** (03) 353 9007
**Calling from any other area:** 0800 EC INFO (32 4636)



Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

*Everything is connected*

*Promoting quality of life through balanced resource management.*

**www.ecan.govt.nz** E13/101

# Listed Land Use Register

## Site categories and definitions

When Environment Canterbury identifies a Hazardous Activities and Industries List (HAIL) land use, we review the available information and assign the site a category on the Listed Land Use Register. The category is intended to best describe what we know about the land use.

If a site is categorised as **Unverified** it means it has been reported or identified as one that appears on the HAIL, but the land use has not been confirmed with the property owner.

### If the land use has been confirmed but analytical information from the collection of samples is not available, and the presence or absence of contamination has therefore not been determined, the site is registered as:

**Not investigated:**

- A site whose past or present use has been reported and verified as one that appears on the HAIL.
- The site has not been investigated, which might typically include sampling and analysis of site soil, water and/or ambient air, and assessment of the associated analytical data.
- There is insufficient information to characterise any risks to human health or the environment from those activities undertaken on the site. Contamination may have occurred, but should not be assumed to have occurred.

### If analytical information from the collection of samples is available, the site can be registered in one of six ways:

**At or below background concentrations:**

The site has been investigated or remediated. The investigation or post remediation validation results confirm there are no hazardous substances above local background concentrations other than those that occur naturally in the area. The investigation or validation sampling has been sufficiently detailed to characterise the site.

**Below guideline values for:**

The site has been investigated. Results show that there are hazardous substances present at the site but indicate that any adverse effects or risks to people and/or the environment are considered to be so low as to be acceptable. The site may have been remediated to reduce contamination to this level, and samples taken after remediation confirm this.

Environment Canterbury Regional Council
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**Managed for:**

The site has been investigated. Results show that there are hazardous substances present at the site in concentrations that have the potential to cause adverse effects or risks to people and/or the environment. However, those risks are considered managed because:

- the nature of the use of the site prevents human and/or ecological exposure to the risks; and/or
- the land has been altered in some way and/or restrictions have been placed on the way it is used which prevent human and/or ecological exposure to the risks.

**Partially investigated:**

The site has been partially investigated. Results:

- demonstrate there are hazardous substances present at the site; however, there is insufficient information to quantify any adverse effects or risks to people or the environment; or
- do not adequately verify the presence or absence of contamination associated with all HAIL activities that are and/or have been undertaken on the site.

**Significant adverse environmental effects:**

The site has been investigated. Results show that sediment, groundwater or surface water contains hazardous substances that:

- have significant adverse effects on the environment; or
- are reasonably likely to have significant adverse effects on the environment.

**Contaminated:**

The site has been investigated. Results show that the land has a hazardous substance in or on it that:

- has significant adverse effects on human health and/or the environment; and/or
- is reasonably likely to have significant adverse effects on human health and/or the environment.

## If a site has been included incorrectly on the Listed Land Use Register as having a HAIL, it will not be removed but will be registered as:

**Verified non-HAIL:**

Information shows that this site has never been associated with any of the specific activities or industries on the HAIL.

Please contact Environment Canterbury for further information:

(03) 353 9007 or toll free
on 0800 EC INFO (32 4636)
email ecinfo@ecan.govt.nz

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

E13/102

Environment Canterbury
Regional Council
Kaunihera Taiao ki Waitaha

Customer Services
P. 03 353 9007 or 0800 324 636

PO Box 345
Christchurch 8140

P. 03 365 3828
F. 03 365 3194
E. ecinfo@ecan.govt.nz

www.ecan.govt.nz

Dear Sir/Madam

Thank you for submitting your property enquiry from our Listed Land Use Register (LLUR). The LLUR holds information about sites that have been used or are currently used for activities which have the potential to cause contamination.

The LLUR statement shows the land parcel(s) you enquired about and provides information regarding any potential LLUR sites within a specified radius.

Please note that if a property is not currently registered on the LLUR, it does not mean that an activity with the potential to cause contamination has never occurred, or is not currently occurring there. The LLUR database is not complete, and new sites are regularly being added as we receive information and conduct our own investigations into current and historic land uses.

The LLUR only contains information held by Environment Canterbury in relation to contaminated or potentially contaminated land; additional relevant information may be held in other files (for example consent and enforcement files).

Please contact Environment Canterbury if you wish to discuss the contents of this property statement.

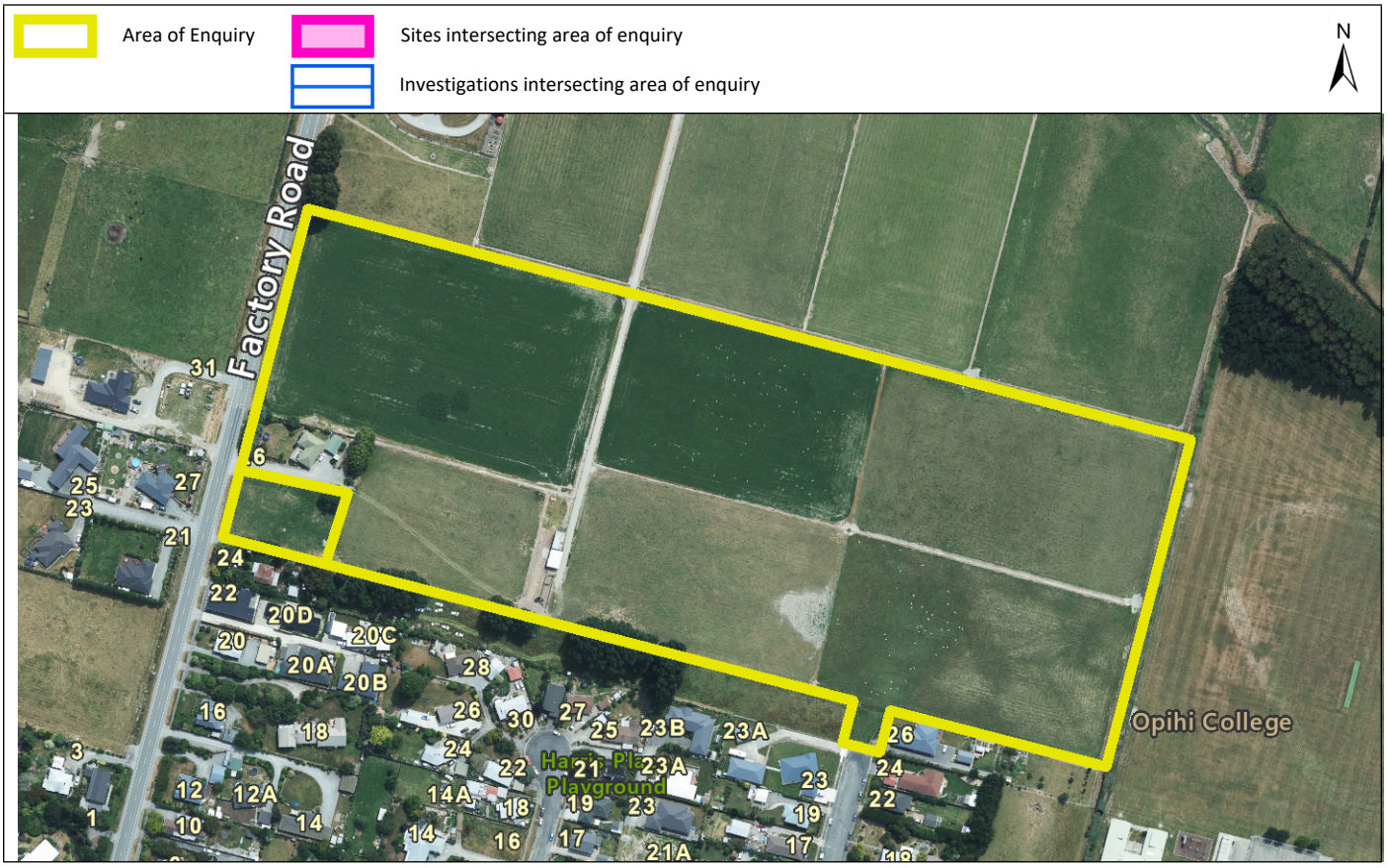
Yours sincerely

**Contaminated Sites Team**

# Property Statement
# from the Listed Land Use Register

Visit ecan.govt.nz/HAIL for more information or
contact Customer Services at ecan.govt.nz/contact/ and quote ENQ419501

**Date generated:** 24 June 2025
**Land parcels:** Lot 2 DP 377989
Lot 1 DP 377989




The information presented in this map is specific to the property you have selected. Information on nearby properties may not be shown on this map, even if the property is visible.

## Sites at a glance

**Sites within enquiry area**

There are no sites associated with the area of enquiry.

## More detail about the sites

There are no sites associated with the area of enquiry.

## Disclaimer

The enclosed information is derived from Environment Canterbury's Listed Land Use Register and is made available to you under the Local Government Official Information and Meetings Act 1987.

The information contained in this report reflects the current records held by Environment Canterbury regarding the activities undertaken on the site, its possible contamination and based on that information, the categorisation of the site. Environment Canterbury has not verified the accuracy or completeness of this information. It is released only as a copy of Environment Canterbury's records and is not intended to provide a full, complete or totally accurate assessment of the site. It is provided on the basis that Environment Canterbury makes no warranty or representation regarding the reliability, accuracy or completeness of the information provided or the level of contamination (if any) at the relevant site or that the site is suitable or otherwise for any particular purpose. Environment Canterbury accepts no responsibility for any loss, cost, damage or expense any person may incur as a result of the use, reference to or reliance on the information contained in this report.

Any person receiving and using this information is bound by the provisions of the Privacy Act 1993.

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*Kaunihera Taiao ki Waitaha*

# Listed Land Use Register

## What you need to know

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## What is the Listed Land Use Register (LLUR)?

The LLUR is a database that Environment Canterbury uses to manage information about land that is, or has been, associated with the use, storage or disposal of hazardous substances.

## Why do we need the LLUR?

Some activities and industries are hazardous and can potentially contaminate land or water. We need the LLUR to help us manage information about land which could pose a risk to your health and the environment because of its current or former land use.

Section 30 of the Resource Management Act (RMA, 1991) requires Environment Canterbury to investigate, identify and monitor contaminated land. To do this we follow national guidelines and use the LLUR to help us manage the information.

The information we collect also helps your local district or city council to fulfil its functions under the RMA. One of these is implementing the National Environmental Standard (NES) for Assessing and Managing Contaminants in Soil, which came into effect on 1 January 2012.

For information on the NES, contact your city or district council.

## How does Environment Canterbury identify sites to be included on the LLUR?

We identify sites to be included on the LLUR based on a list of land uses produced by the Ministry for the Environment (MfE). This is called the Hazardous Activities and Industries List (HAIL)[1]. The HAIL has 53 different activities, and includes land uses such as fuel storage sites, orchards, timber treatment yards, landfills, sheep dips and any other activities where hazardous substances could cause land and water contamination.

***We have two main ways of identifying HAIL sites:***

- We are actively identifying sites in each district using historic records and aerial photographs. This project started in 2008 and is ongoing.
- We also receive information from other sources, such as environmental site investigation reports submitted to us as a requirement of the Regional Plan, and in resource consent applications.

[1] The Hazardous Activities and Industries List (HAIL) can be downloaded from MfE's website www.mfe.govt.nz, keyword search HAIL

## How does Environment Canterbury classify sites on the LLUR?

Where we have identified a HAIL land use, we review all the available information, which may include investigation reports if we have them. We then assign the site a category on the LLUR. The category is intended to best describe what we know about the land use and potential contamination at the site and is signed off by a senior staff member.

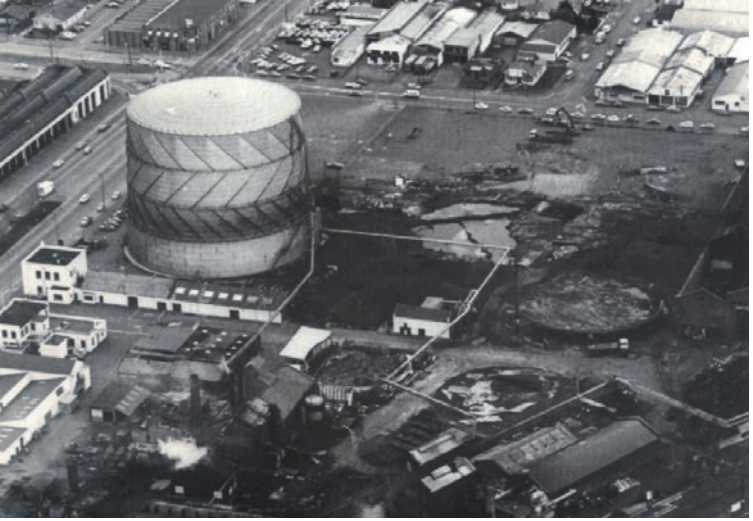
Please refer to the Site Categories and Definitions factsheet for further information.

## What does Environment Canterbury do with the information on the LLUR?

The LLUR is available online at www.llur.ecan.govt.nz. We mainly receive enquiries from potential property buyers and environmental consultants or engineers working on sites. An inquirer would typically receive a summary of any information we hold, including the category assigned to the site and a list of any investigation reports.

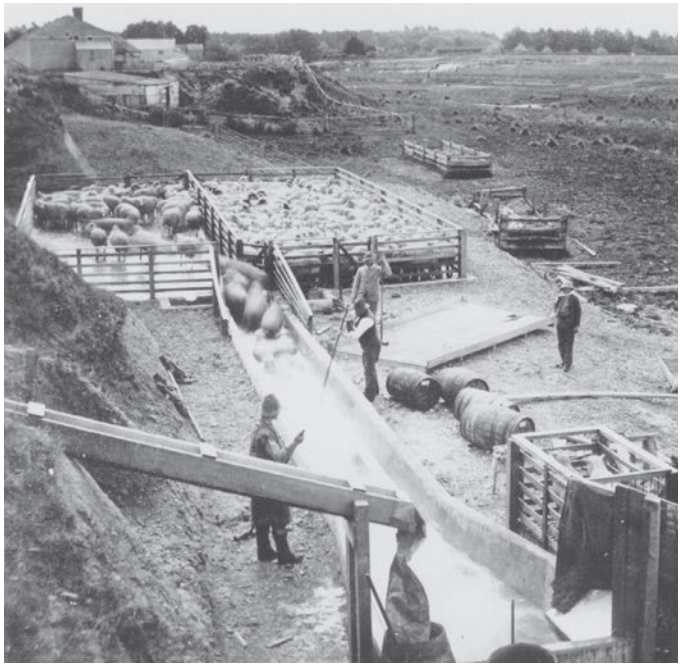
We may also use the information to prioritise sites for further investigation, remediation and management, to aid with planning, and to help assess resource consent applications. These are some of our other responsibilities under the RMA.

If you are conducting an environmental investigation or removing an underground storage tank at your property, you will need to comply with the rules in the Regional Plan and send us a copy of the report. This means we can keep our records accurate and up-to-date, and we can assign your property an appropriate category on the LLUR. To find out more, visit www.ecan.govt.nz/HAIL.



## IMPORTANT!

The LLUR is an online database which we are continually updating. A property may not currently be registered on the LLUR, but this does not necessarily mean that it hasn't had a HAIL use in the past.



*Sheep dipping (ABOVE) and gas works (TOP) are among the former land uses that have been identified as potentially hazardous. (Photo above by Wheeler & Son in 1987, courtesy of Canterbury Museum.)*

## My land is on the LLUR – what should I do now?

**IMPORTANT!** Just because your property has a land use that is deemed hazardous or is on the LLUR, it doesn't necessarily mean it's contaminated. The only way to know if land is contaminated is by carrying out a detailed site investigation, which involves collecting and testing soil samples.

You do not need to do anything if your land is on the LLUR and you have no plans to alter it in any way. It is important that you let a tenant or buyer know your land is on the Listed Land Use Register if you intend to rent or sell your property. If you are not sure what you need to tell the other party, you should seek legal advice.

You may choose to have your property further investigated for your own peace of mind, or because you want to do one of the activities covered by the National Environmental Standard for Assessing and Managing Contaminants in Soil. Your district or city council will provide further information.

If you wish to engage a suitably qualified experienced practitioner to undertake a detailed site investigation, there are criteria for choosing a practitioner on www.ecan.govt.nz/HAIL.

## I think my site category is incorrect – how can I change it?

If you have an environmental investigation undertaken at your site, you must send us the report and we will review the LLUR category based on the information you provide. Similarly, if you have information that clearly shows your site has not been associated with HAIL activities (eg. a preliminary site investigation), or if other HAIL activities have occurred which we have not listed, we need to know about it so that our records are accurate.

If we have incorrectly identified that a HAIL activity has occurred at a site, it will be not be removed from the LLUR but categorised as Verified Non-HAIL. This helps us to ensure that the same site is not re-identified in the future.

# Contact us

Property owners have the right to look at all the information Environment Canterbury holds about their properties.

It is free to check the information on the LLUR, online at www.llur.ecan.govt.nz.

If you don't have access to the internet, you can enquire about a specific site by phoning us on (03) 353 9007 or toll free on 0800 EC INFO (32 4636) during business hours.


**Contact Environment Canterbury:**

**Email:** ecinfo@ecan.govt.nz

**Phone:**
**Calling from Christchurch:** (03) 353 9007
**Calling from any other area:** 0800 EC INFO (32 4636)



Environment Canterbury Regional Council
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Environment Canterbury Regional Council
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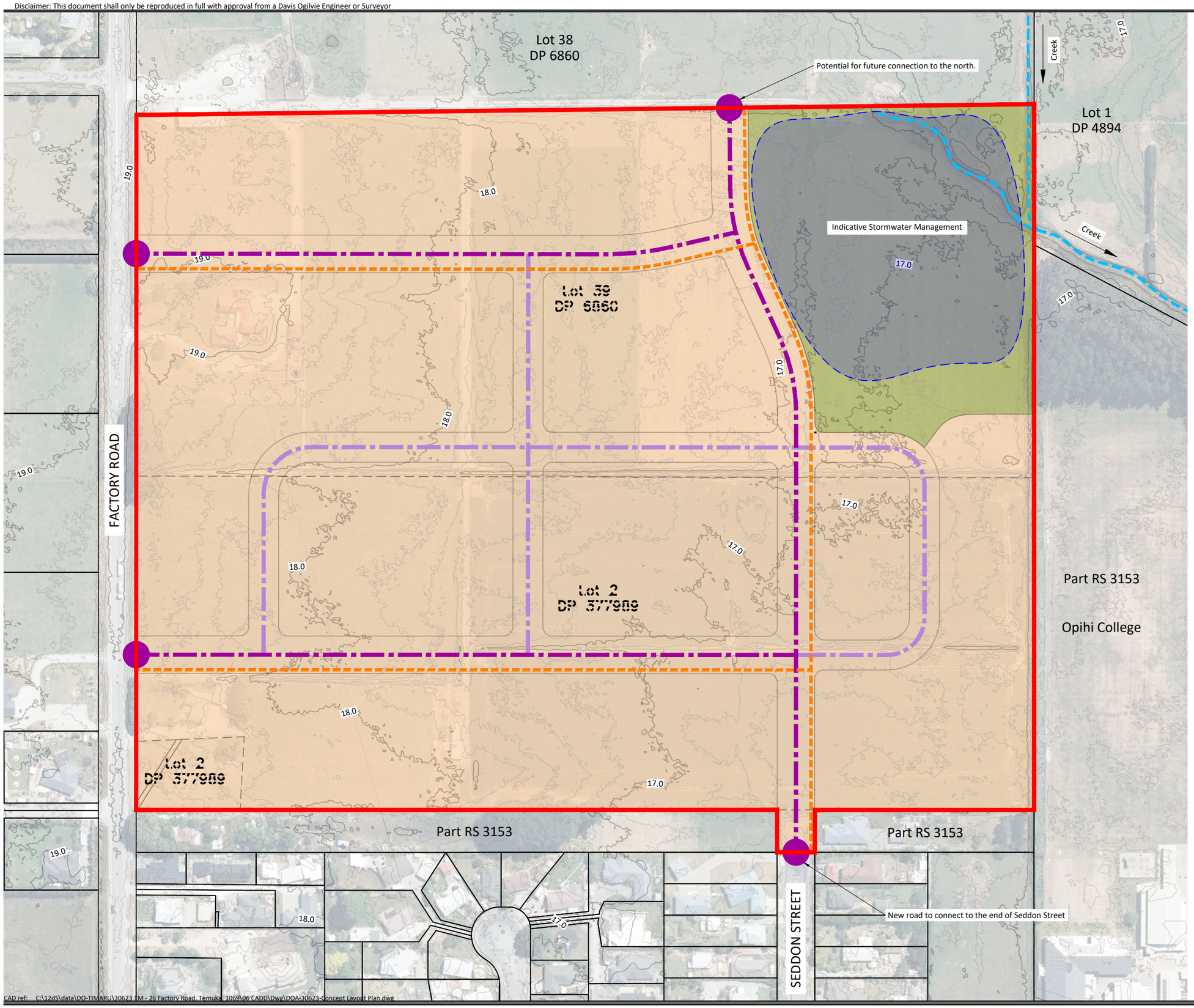
E13/102

**APPENDIX C**

Outline Development Plan (ODP)

Contractor to locate all existing services & verify all dimensions before commencing work




NORTH

| Issue | Date | Reason | Approved |
|---|---|---|---|
| A | 06-25 | FOR DISCUSSION | GPM |

Notes:

- All dimensions in metres unless shown otherwise;
- Existing boundaries adopted from LINZ online database;
- Aerial Photography: Sourced from LINZ Database under Creative Commons Attribution 4.0 International;
- LiDAR: 1m DEM Sourced from LINZ Database under Creative Commons Attribution 4.0 International;
- Major contours shown at 1.0m intervals
- Minor contours shown at 0.2m intervals
- This plan is in terms of NZGD2000 Timaru Circuit;
- Use of this plan for other purposes or its reproduction in part or full is not permitted without the prior consent of Davis Ogilvie (Aoraki) Ltd;
- All dimensions and areas are subject to final legal survey;
- Services are sourced from Canterbury Maps and are indicative only;

Key:

- Existing Ground Contour (Major)
- Existing Ground Contour (Minor)
- Proposed Development Area
- Indicative Stormwater Management Area
- Naturalised Open Space
- Waterway
- Main Road (20m Wide)
- Road Network Connection
- Minor Road (16m Wide)
- Multi-Modal Route (Walking/Cycling)

**FOR DISCUSSION ONLY**
**NOT FOR CONSENT**

CAD ref: C:\12ds\data\DO-TIMARU\30623 TM - 26 Factory Road, Temuka 1069\06 CADD\Dwg\DOA-30623-Concept Layout Plan.dwg

DAVIS OGILVIE
Davis Ogilvie (Aoraki) & Partners Ltd
Engineers - Surveyors - Planners
12 The Terrace, Timaru 7940
P.O. Box 359 Timaru, NZ
Ph. 03 688 8350 / 0800 888 350
Also - Nelson, Christchurch, Greymouth

**AITKEN (SUBMITTER No. 237)**
**26 FACTORY ROAD, TEMUKA**

**INDICATIVE OUTLINE DEVELOPMENT PLAN**

| Design | Drawn | QA Check |
|---|---|---|
| GM | TH | GM |
| Scale @ A3 | Date | File |
| 1:2000 | 06-25 | 30623 |

DWG PL01 Issue A

**APPENDIX D**

Transport Memo – Antoni Facey (Avanzar)

# Memo

To: Glen McLachlan

From: Antoni Facey

CC:

Date: 27/6/2025

Re: **Transport Assessment – Aitken (237)**

---

You have asked for my high level assessment of the traffic and transportation effects of the proposal for rezoning of 26 Factory Road, Temuka to allow for urban subdivision on the site.

**Introduction**

My full name is Antoni Peter Facey. I am the Director of Avanzar Consulting Ltd and work as Traffic and Transportation Engineer and Planner. Following graduation from Auckland University in 1987, I have worked for a number of local authorities, Land Transport Safety Authority and consulting firms as well as my own company. I have assessed numerous subdivisions of a similar size to the proposed subdivsion of 26 Factory Road. My current qualifications and memberships are BE (Civil), CMEngNZ, IntPE(NZ) and APEC Engineer.

**Scope of report**

My report considers the high level Traffic and Transport Planning issues associated with the rezoning.

**Current zoning**

The site is currently zoned Rural in the Operative District Plan. In the Proposed District Plan, the site is zoned General Rural but has a Future Development Area (FDA6-Factory Road Future) underlay. This means that the zoning could be changed to urban in more than 10 years from now.

The FDA also includes 52 Factory Road, the neighbour to the north of the site.

**Roading network**

The site fronts Factory Road and Seddon Street.

Factory Road is a Regional Arterial Road in the Proposed DP. This is primarily due to its function as a main road to the Clandeboye Dairy Factory used by dairy tankers.

The road is a two lane, two way road with full urban development on the eastern side of the road (the same side as the applicant) from the applicants site south to Richard Pearse Drive. The road reserve width is 20 metres and the carriageway at the applicants site is about 6 metres wide with sealed shoulders of about 1 metre width.

Mobileroads notes that the traffic volume on Factory Road near the site is estimated to be 2269 vpd. Considering the site is beyond the urban area, it is likely that the traffic volume will be less than this.

The speed limit reduces from 100 km/hr to 50 km/hr at the northern end of the applicants site and remains at 50 km/hr past the applicants site to Richard Pearse Drive.

The Factory Road/Richard Pearse Drive intersection is controlled by a single lane roundabout.

Seddon Street is a cul-de-sac from Richard Pearse Drive to the boundary of the applicants site. The road reserve width is 20 metres and the carriageway is 13 metres wide.

**Proposed DP Objectives**

Objective TRAN-01 – "Safe, efficient, integrated and sustainable land transport infrastructure" provides a set of objectives that apply to new infrastructure. The infrastructure must be:

| |
|---|
| "Land transport infrastructure that is well-connected, integrated and accessible, and which: |
| |

1. is safe, efficient and sustainable for all transport modes;
2. meets and is responsive to current and future needs, including projected population growth;

3. aligns and integrates with the timing and location of urban development;
4. promotes multi-modal transport options, including the use of active transport and public transport, and reduces dependency on private motor vehicles;
5. supports consolidated, well designed and sustainable growth in and around existing urban areas;
6. encourages sustainable economic development; and
7. provides parking opportunities in an efficient, functional and sustainable manner and to avoid adverse effects on the environment."

This proposal meets the objectives, particularly for supporting consolidated and sustainable growth around existing urban areas.

**ODP**

A draft ODP has been prepared that shows the developed site with two intersections on Factory Road and a connection to extend the Seddon Street cul-de-sac into the subdivision.

It is noted that the FDA requires development within an FDA to progress in sequence suggesting that the first area to be released will include 26 Factory Road to allow 52 Factory to then be developed creating a logical expansion of the urban area of Temuka. The ODP provides for a connection to the neighbouring property to the north to allow for a connection to a future development to the north as the FDA is progressed.

The ODP could provide for up to 280 Lots and this is used as the potential yield for considering the high level effects on the local roading network.

**Traffic Generation and Distribution**

Trip generation from residential areas varies based on many different factors but is typically considered to be between 6.3 and 8.2 trips per day per dwelling and 0.9 trips per peak hour per dwelling for standalone single dwellings. The higher figure will be used for this assessment.

Assuming the yield of 280 Lots and 8.2 trips per day per dwelling, the total traffic generation from the site will be 2296 vpd and 252 vph in the peak hour. In the morning peak hour, typically 60% of traffic leaves a residential subdivision and 40% enters.

About 1/3 of the area of the site is most conveniently served by Seddon Street so it is assumed that about 30% of the traffic will be distributed to Seddon Street with the remaining 70% shared equally between the two Factory Road intersections.

In this case, the traffic is most likely to be generated towards Temuka township and beyond to Timaru with a lesser amount generated towards the Clandeboye dairy factory which is a major local employer.

The AUSTROADS Guide to Traffic Management Part 3: "Traffic Studies and Analysis" provides guidance as to when capacity analysis is unnecessary and traffic is considered to operate under free flow conditions. The table is reproduced below.

Table 6.1: Intersection volumes below which capacity analysis is unnecessary

| Type of road | Light cross and turning volumes maximum design hour volumes vehicles per hour (two way) | | |
|---|---|---|---|
| Two-lane major road | 400 | 500 | 650 |
| Cross road | 250 | 200 | 100 |
| Four-lane major road | 1000 | 1500 | 2000 |
| Cross road | 100 | 50 | 25 |

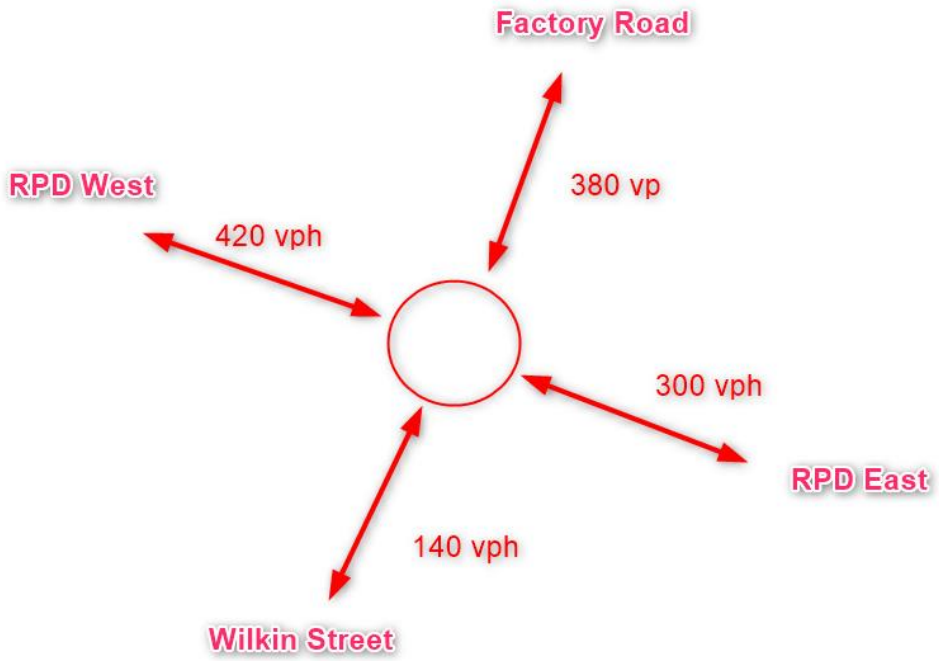
Assuming the traffic volume on Factory Road is 2269 vpd, the peak hour traffic volume is typically 10% of this volume, or 230 vph. 10% is likely to be a high estimate in this instance due to Clandeboye operating 24 hours per day generating more traffic movements overnight than usual.

Each intersection from the subdivision on Factory Road is likely to generate 88 vph (70%/2*252).

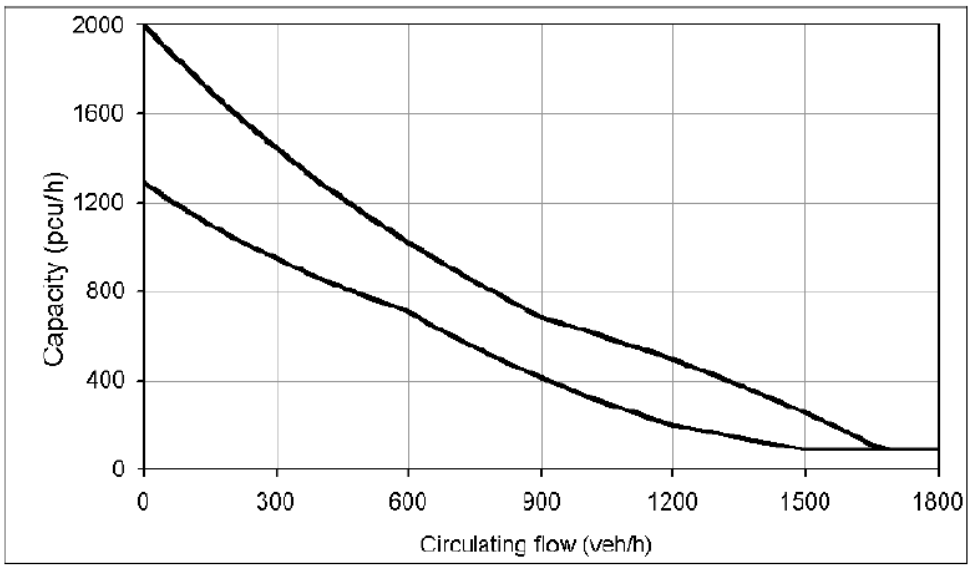
Table 6.1 suggests that for 400 vph on a main road (Factory Road), a peak hour traffic volume of less than 250 vph on the side road would be considered free flow. In this case, both factors are well below the specified volumes so Factory Road is considered to operate under free flow conditions after the subdivision is completed.

The factors for Seddon Street are lower still so the Seddon Street/Richard Pearse Drive intersection will similarly operate under free flow conditions.

The roundabout at the Factory Road/Richard Pearse Drive intersection will be the destination of most of the generated traffic. A potential peak hour traffic volume after completion of the subdivision is shown below.




The graph below is also reproduced from AUSTROADS Part 3. It can be seen that any possible combination of the traffic volumes approaching the roundabout will be in the lower left area of the graph. Therefore, there will be ample spare capacity in the roundabout to accommodate the traffic generated by the subdivision.




Note: output from SIDRA INTERSECTION.

**Figure 6.7: Upper and lower bound capacity estimates for roundabout (inscribed diameter 40 m, entry lane width 4 m)**

Based on the above assessment, it is clear that the subdivision will have minimal effect on the capacity or functioning of the local road network. A more detailed assessment would be required at the time of the subdivision application.

**Infrastructure extension**

It is expected that the current urban cross section of Factory Road would need to be extended along the road frontage of 26 Factory Road. The road is straight and flat and could easily accommodate the same cross section being extended.

Particular attention would need to be paid to the intersections created by the new subdivision. It is likely that seal widening would be required on the western side of the road to allow vehicles to pass stationary vehicle turning right into the intersection from Factory Road. However, there appears to be sufficient space in the road reserve to allow for suitable intersections to be designed.

**Proposed DP Compliance**

Factory Road is straight and flat with a typical road reserve width for a road of this type and function. As a result, there are no obvious reasons that the internal roads and the Factory Road intersections could not comply with the Rules of the Proposed DP.

**Conclusion**

It is my opinion that a modern subdivision generally compliant with the Proposed District Plan Transport Rules could be constructed on 26 Factory Road with minimal effects on the local road network. A more detailed assessment at subdivision application stage will demonstrate this.

Antoni Facey

BE (Civil), CMEngNZ, IntPE(NZ), APEC Engineer

**APPENDIX E**

NPS-HPL Assessment – AgriBusiness Group

# Assessment of land at 26 & 52 Factory Road, Temuka for its potential to be rezoned by meeting the requirements of Clause 3.6 of the NPS-HPL

## 1 Background

The AgriBusiness Group has been requested to prepare an assessment of whether the rezoning of titles at 26 & 52 Factory Road, Temuka (the site) meets the requirements of section 3.6 (1) (c) of the National Policy Statement on Highly Productive Land (NPS-HPL).

This assessment is under the NPS-HPL Clause 3.6 Restricting urban rezoning of highly productive land.

Under sub clause (1)(c) this requires that "*the environmental, social, cultural and economic benefits of rezoning outweigh the long-term environmental, social, cultural and economic costs associated with the loss of highly productive land for land-based primary production, taking into account both tangible and intangible values.*"

In the guide to implementation[1] it states that "*Clause 3.6(1)(c) requires an assessment of the benefits and costs of rezoning. It is intended to ensure a more robust assessment of benefits and costs across the four wellbeing's (environment, economic, social, cultural) is undertaken for all urban rezoning proposals on HPL and that this specifically considers long-term benefits and costs and tangible and intangible values*." And that "*Intangible values of HPL that should be considered as part of this assessment include:*

- *its value to future generations*
- *its finite characteristics and limited supply*
- *its ability to support community resilience*
- *the limited ability of other land to produce certain products*."

This requires that the site should be evaluated to provide the full range of benefits of the proposed subdivision of land that can be weighed up against the full range of costs of the loss of HPL.

The range of both tangible and non-tangible costs and benefits that have been used in this assessment have been taken from the Cost Benefit Analysis[2] carried out on the NPS-HPL. They are as displayed in Table 1.

I am of the opinion that I have the expertise to carry out a qualitative assessment of the benefits of the proposed development as well as the costs of the loss of HPL land. In doing so, I have drawn on my professional experience, that of my colleagues who are environmental consultants.

[1] MFE (2023): National Policy Statement for Highly Productive Land: Guide to implementation.
[2] Market Economics (2020): National Policy Statement – Highly Productive Land. Cost-Benefit Analysis

**Table 1: Costs and Benefits both tangible and non-tangible assessed in this exercise.**

| Category |
|---|
| **Environmental** |
| Carbon sequestration |
| Support habitat |
| Water filtration |
| Flood mitigation |
| Nutrient |
| Climate regulation |
| Air and water quality |
| Biodiversity conservation |
| **Social / Cultural** |
| Sense of belonging and place |
| Social fabric |
| Food security |
| Spiritual value |
| **Economic** |
| Income |
| Employment |
| Flow on impacts to the wider community |

## 1.1 Description of the Site

The site consists of approximately 28 ha on the outskirts of Temuka township (Figure 1). Pastoral Farmland surrounds the site to the North. Lifestyle blocks are the predominant land use to the East and West of the site with some larger scale pastoral grazing. Temuka township is to the South of the site, with residential housing at the direct southern boundary of the site. The site has partial irrigation capability with 19 ha of the site having an irrigation consent.