
Volume 4

Appendix A

Notes About this Report

Drawings

About this Report

Douglas Partners



Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

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Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;

- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

About this Report

Site Anomalies

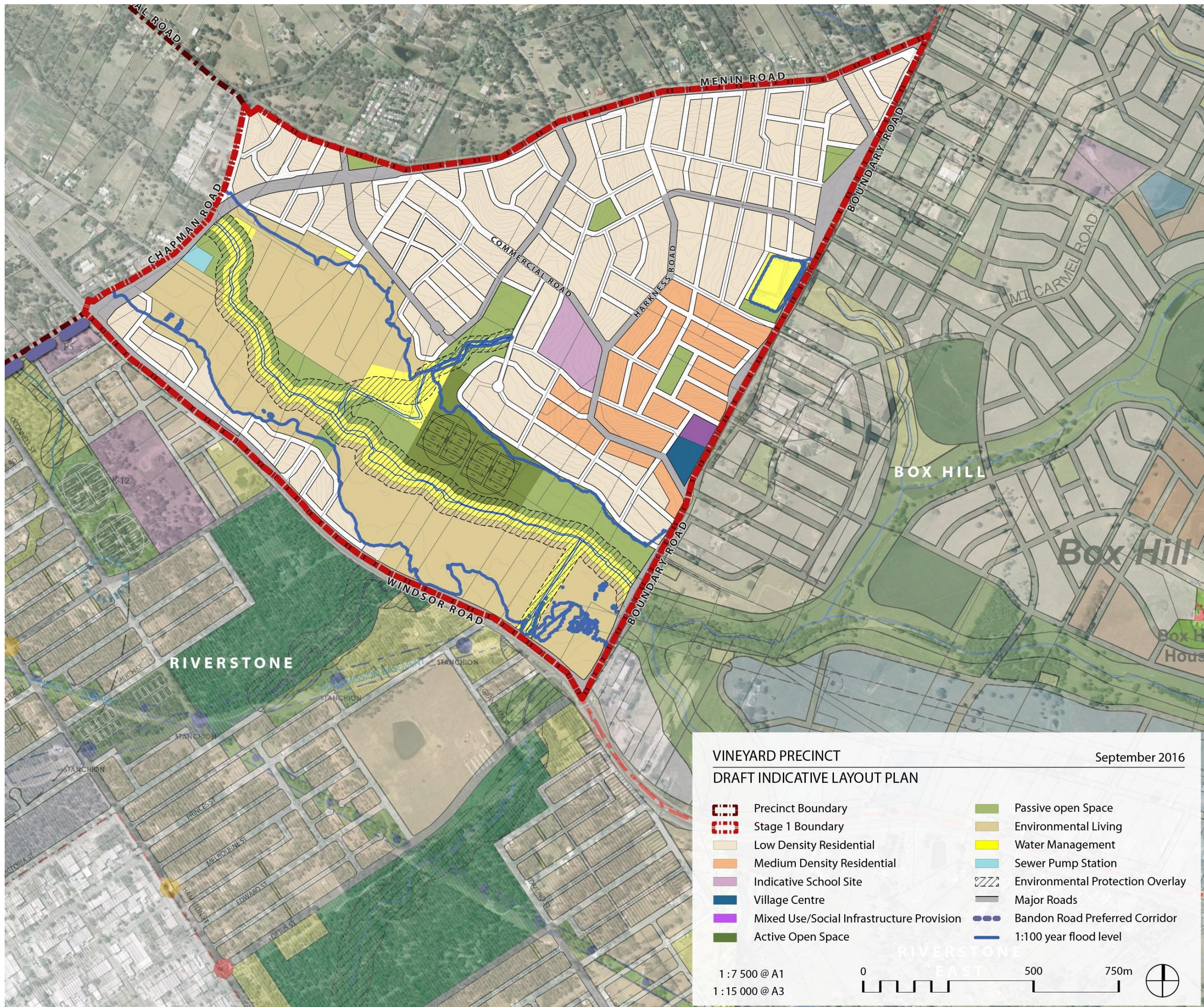
In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

















The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.



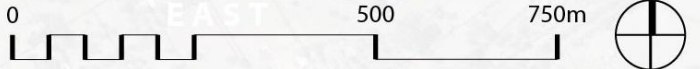
VINEYARD PRECINCT

September 2016

DRAFT INDICATIVE LAYOUT PLAN

- | | | | |
|---|---|---|----------------------------------|
|  | Precinct Boundary |  | Passive open Space |
|  | Stage 1 Boundary |  | Environmental Living |
|  | Low Density Residential |  | Water Management |
|  | Medium Density Residential |  | Sewer Pump Station |
|  | Indicative School Site |  | Environmental Protection Overlay |
|  | Village Centre |  | Major Roads |
|  | Mixed Use/Social Infrastructure Provision |  | Bandon Road Preferred Corridor |
|  | Active Open Space |  | 1:100 year flood level |

1 : 7 500 @ A1
1 : 15 000 @ A3



RIVERSTONE

EAST

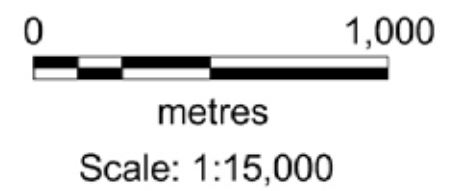
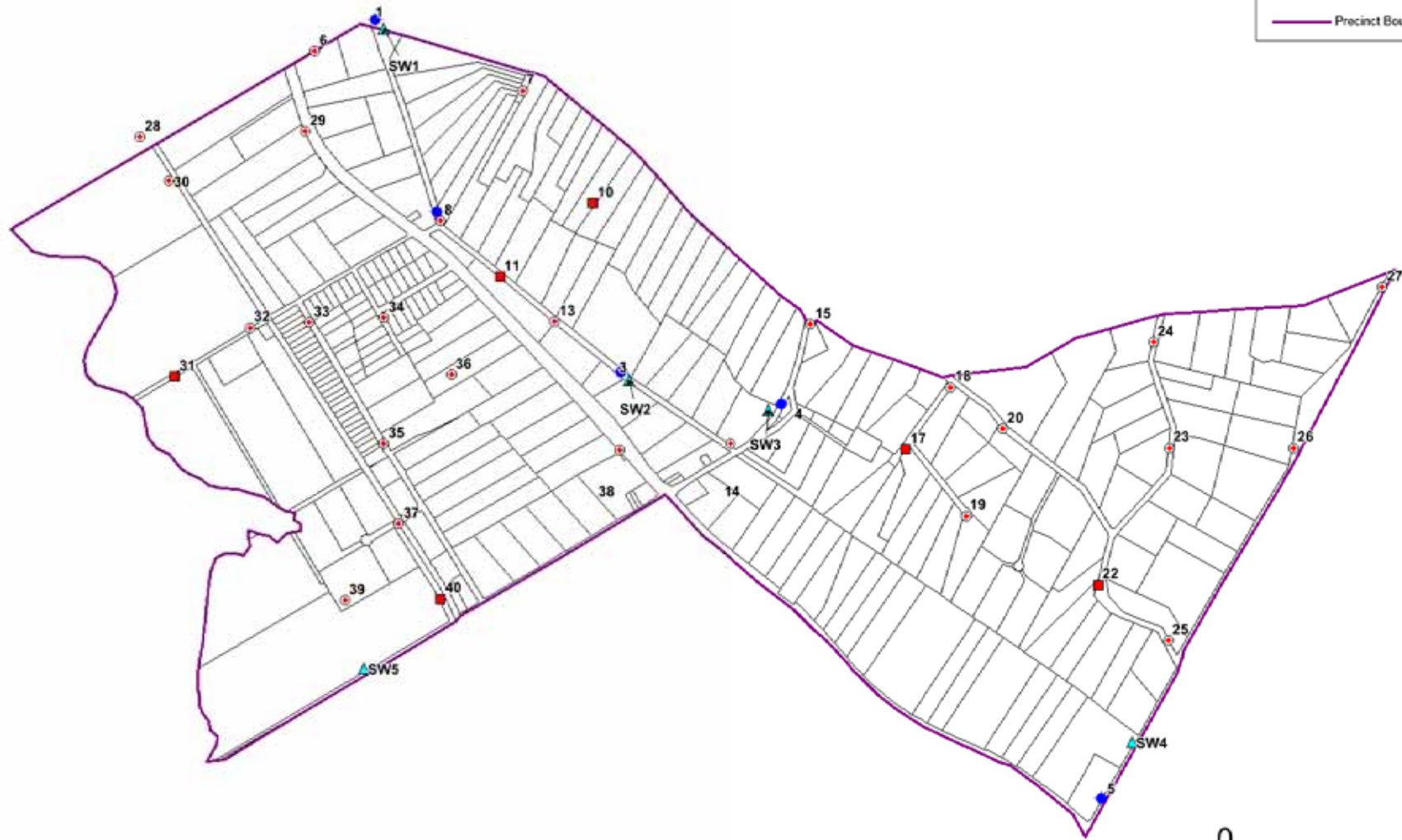
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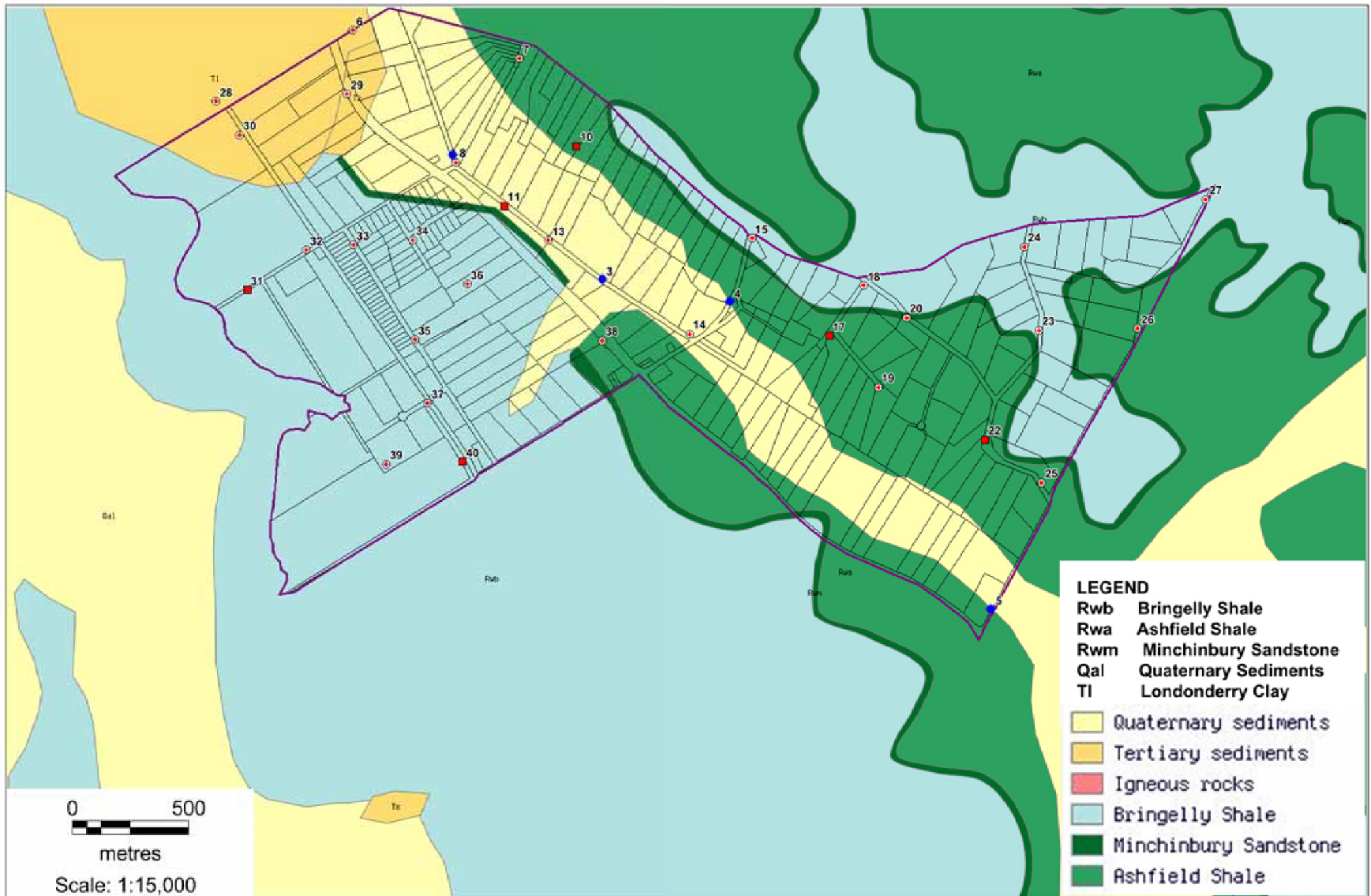
750m



Legend

-  Borehole/ Groundwater Well
-  Test Pit
-  Borehole
-  Surface Water Test Location
-  Precinct Boundary





LEGEND

- Rwb Bringelly Shale
- Rwa Ashfield Shale
- Rwm Minchinbury Sandstone
- Qal Quaternary Sediments
- Tl Londonderry Clay

- Quaternary sediments
- Tertiary sediments
- Igneous rocks
- Bringelly Shale
- Minchinbury Sandstone
- Ashfield Shale

0 500
metres
Scale: 1:15,000



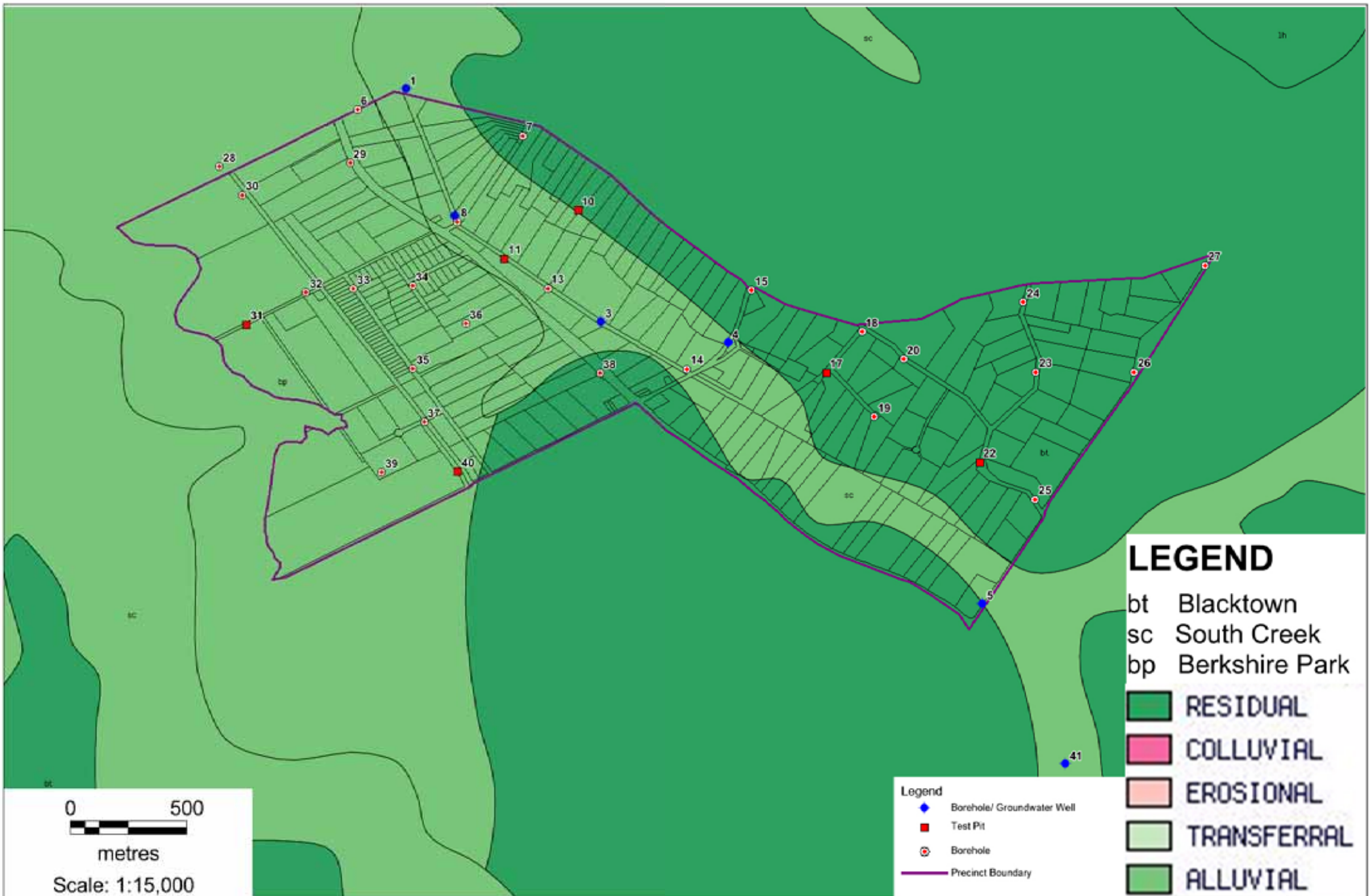
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OFFICE: Sydney
SCALE: As shown

DRAWN BY: NLE
DATE: 1.09.2014

TITLE: **Regional Geology**
Land Capability, Salinity and Contamination
Vineyard Precinct



PROJECT No: 73895
DRAWING No: G1
REVISION: B

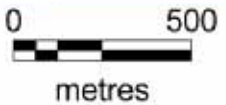


LEGEND

bt Blacktown
 sc South Creek
 bp Berkshire Park

- RESIDUAL
- COLLUVIAL
- EROSIONAL
- TRANSFERRAL
- ALLUVIAL

- Legend
- Borehole/ Groundwater Well
 - Test Pit
 - Borehole
 - Precinct Boundary



Scale: 1:15,000



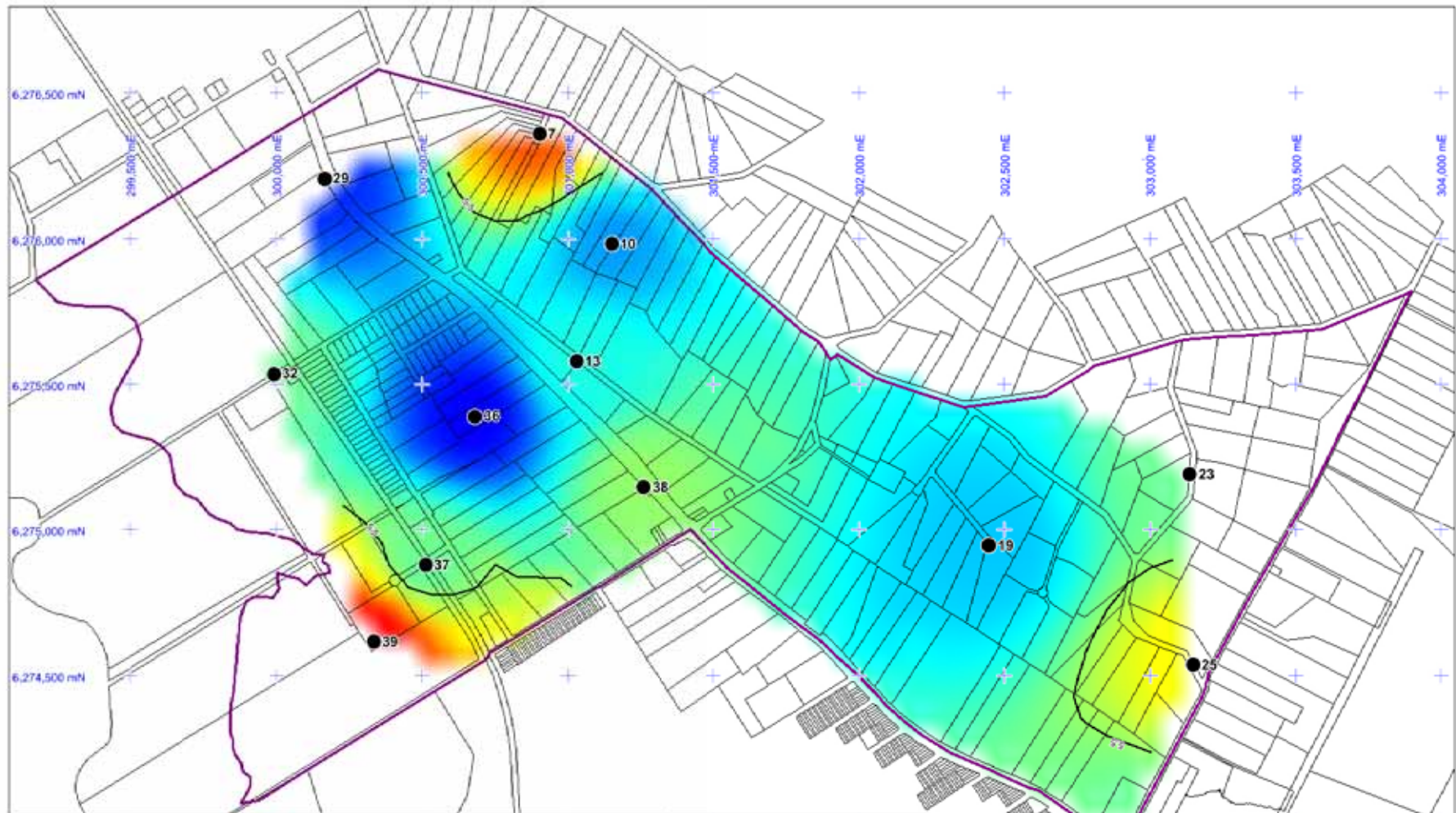
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DRAWN BY: NLE
 DATE: 5.09.2014

TITLE: **Soil Associations**
Land Capability, Salinity and Contamination
Vineyard Precinct

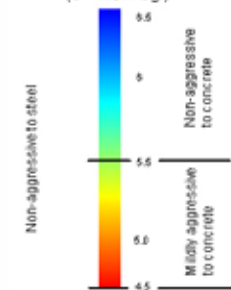


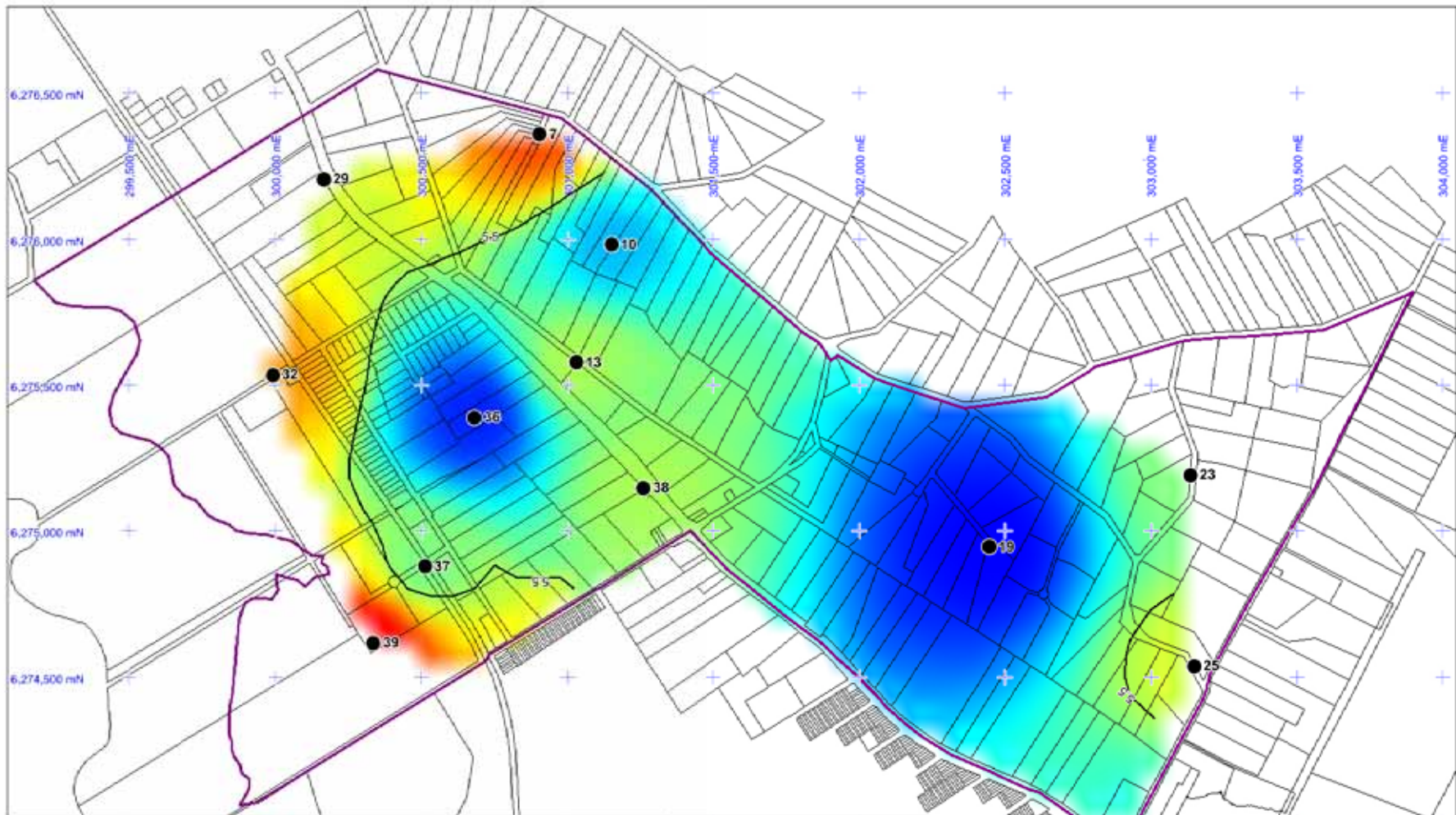
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 DRAWING No: G2
 REVISION: B



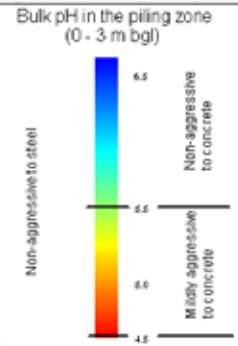
- LEGEND**
- + Grid GDA94/MGA94 (Zone 56)
 - Existing Lot boundaries
 - Precinct boundary
 - Test pit or push tube location
 - Contour of Bulk pH in the foundation zone

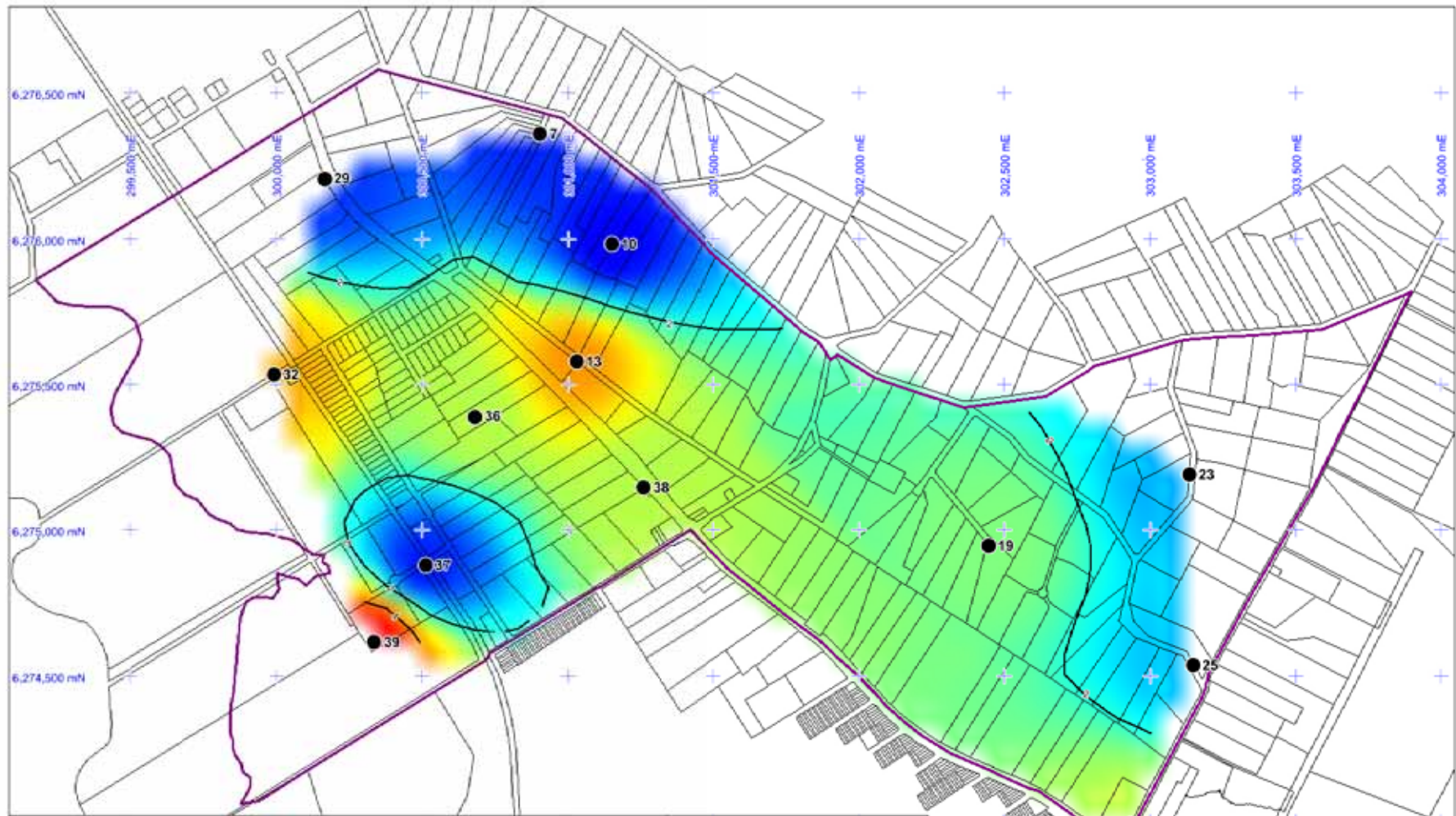
Bulk pH in foundation zone
(0 - 1.5m bgl)





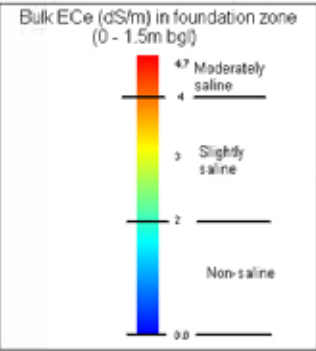
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- + Grid GDA94/MGA94 (Zone 56)
 - Existing Lot boundaries
 - Precinct boundary
 - Test pit or push tube location
 - Contour of Bulk pH in the piling zone

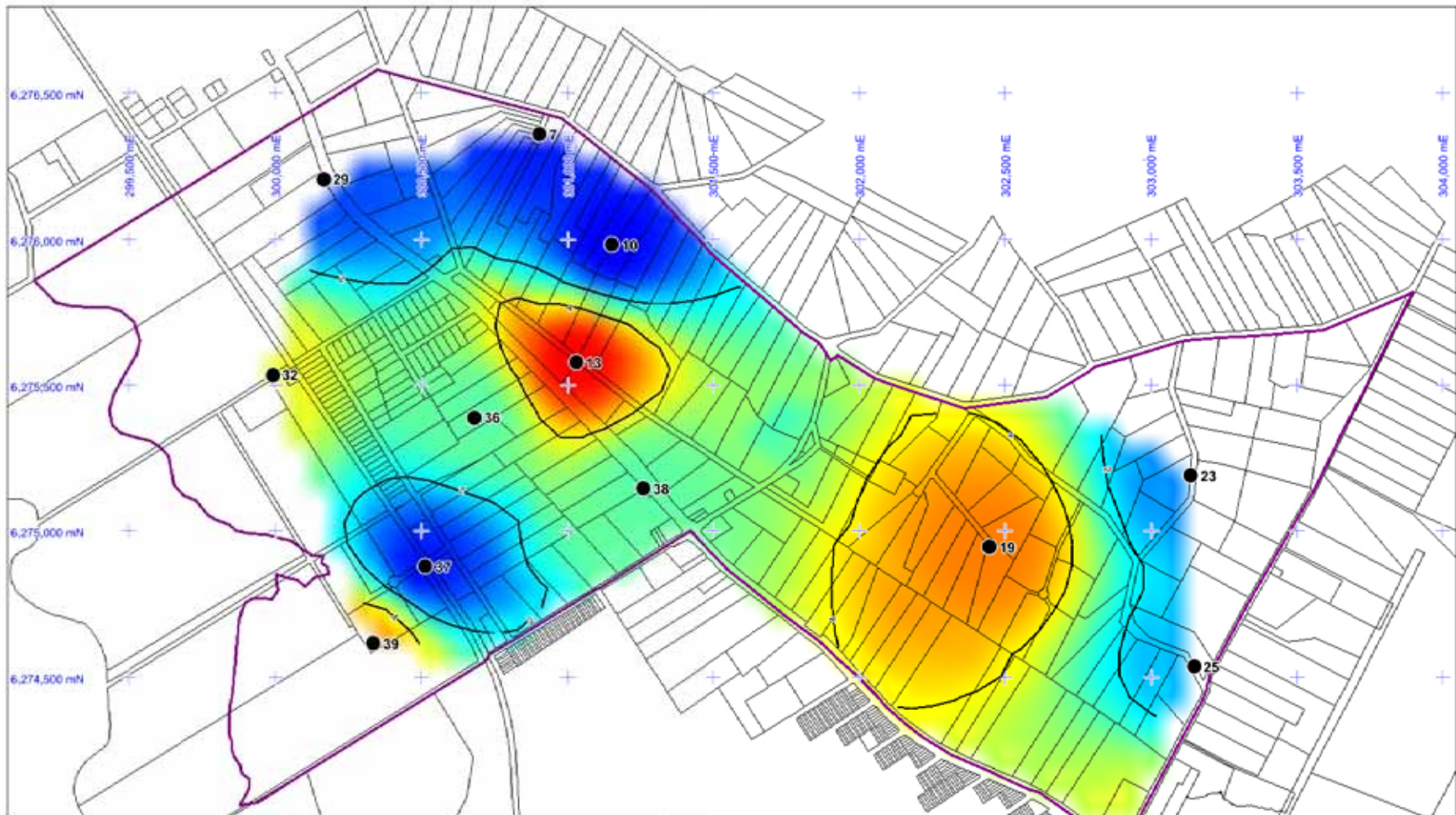




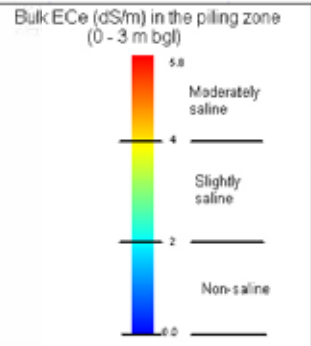
LEGEND









- + Grid GDA94/MGA94 (Zone 56)
- Existing Lot boundaries
- Precinct boundary
- Test pit or push tube location
- Contour of Bulk ECe (dS/m) in the foundation zone

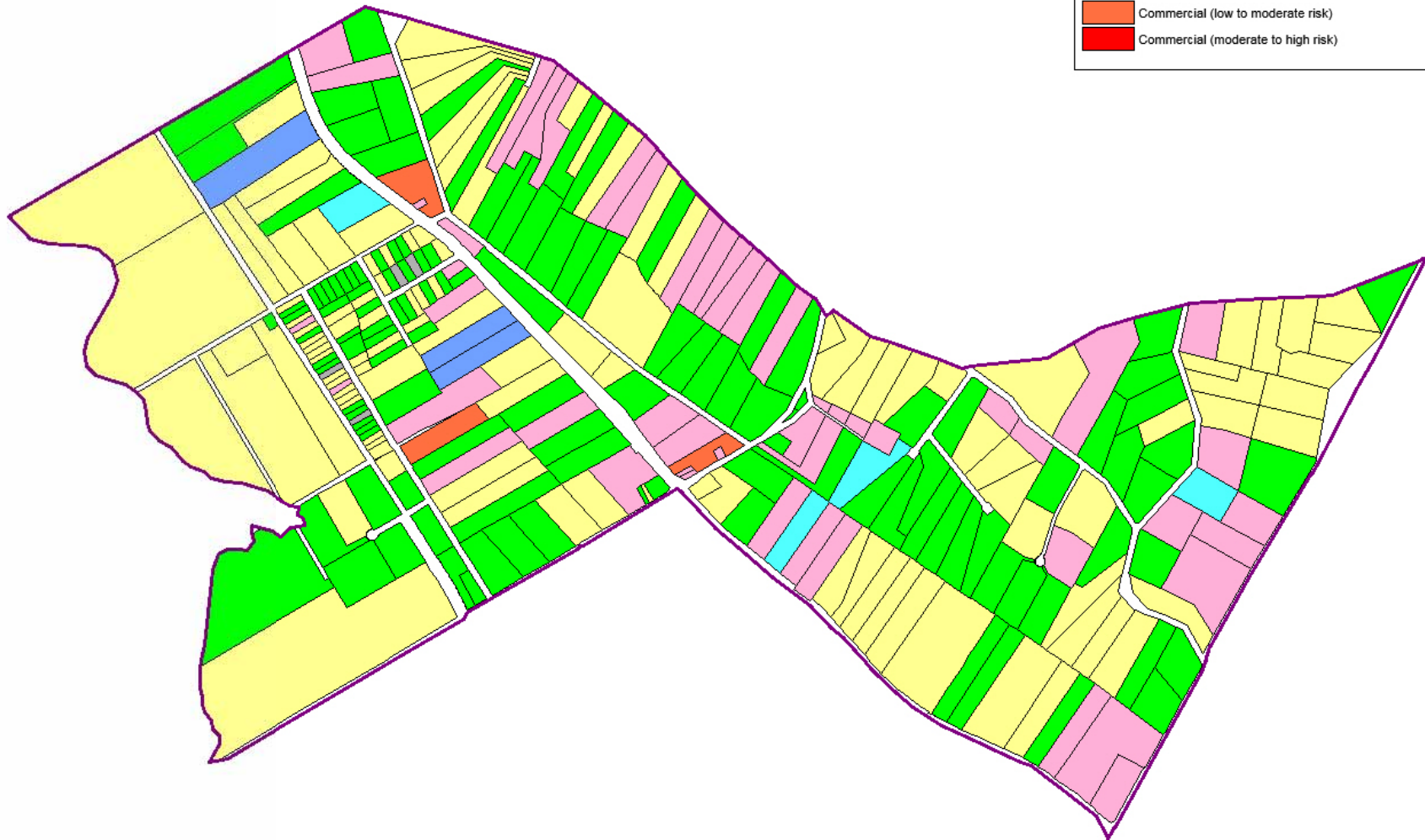




- LEGEND**
- + Grid: GDA94/MGA94 (Zone 56)
 - Existing Lot boundaries
 - Precinct boundary
 - Test pit or push tube location
 - Contour of Bulk ECe (dS/m) in the piling zone

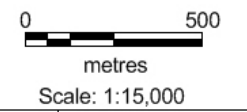
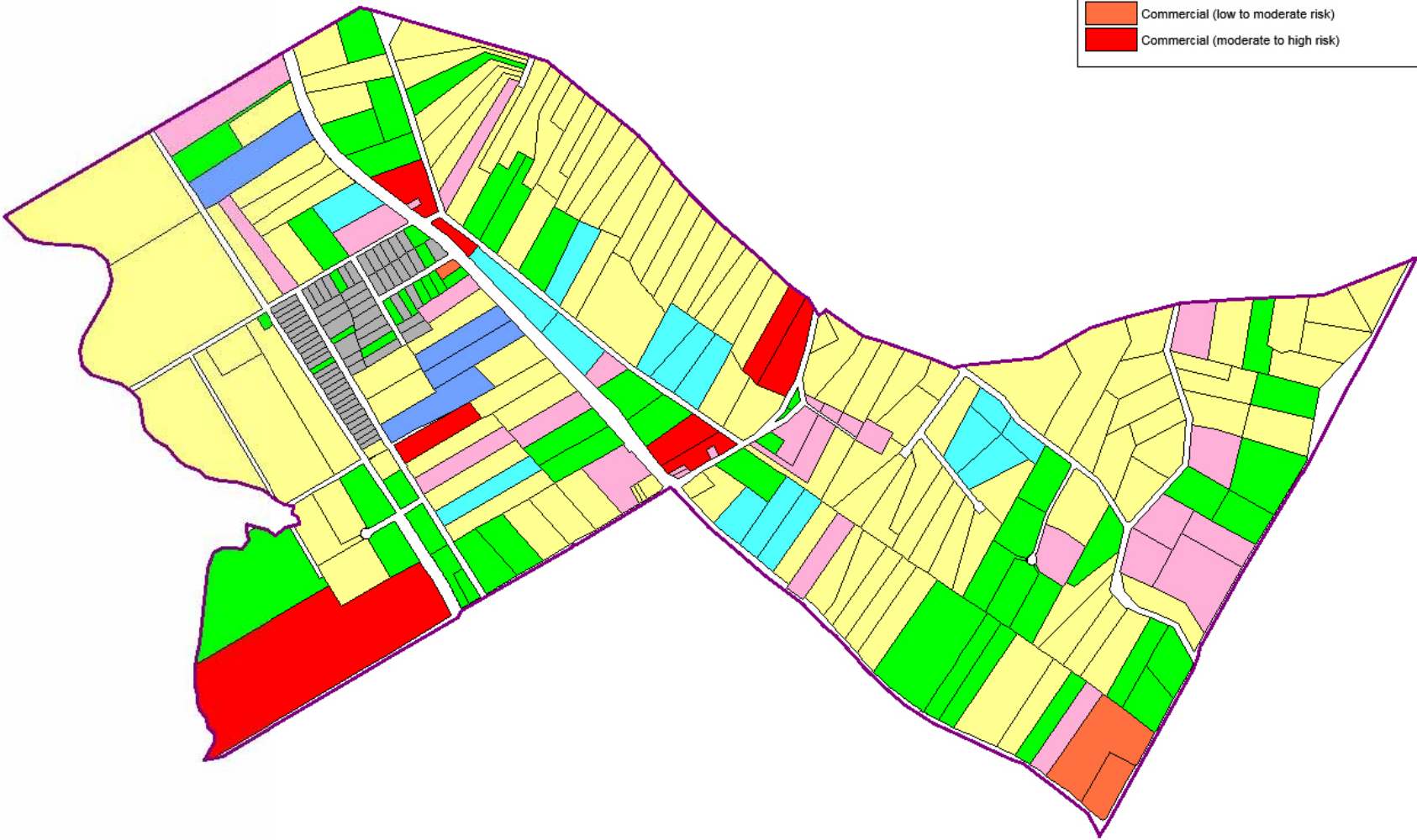


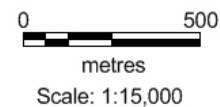
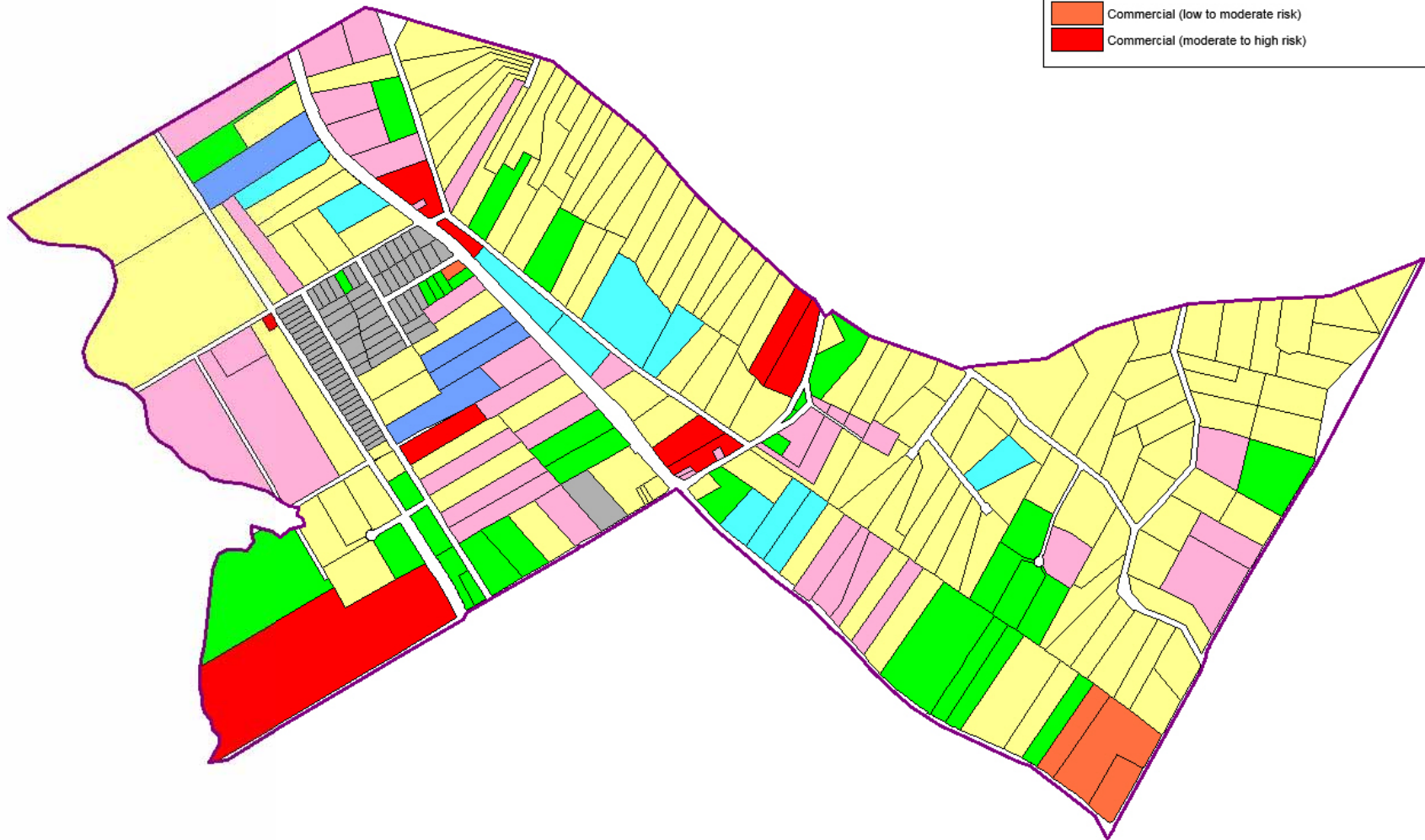
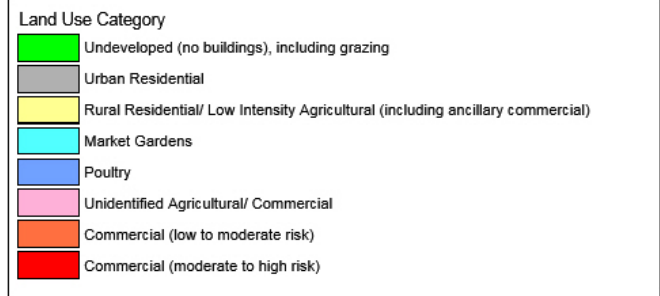
Land Use Category	
	Undeveloped (no buildings), including grazing
	Urban Residential
	Rural Residential/ Low Intensity Agricultural (including ancillary commercial)
	Market Gardens
	Poultry
	Unidentified Agricultural/ Commercial
	Commercial (low to moderate risk)
	Commercial (moderate to high risk)

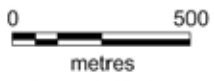
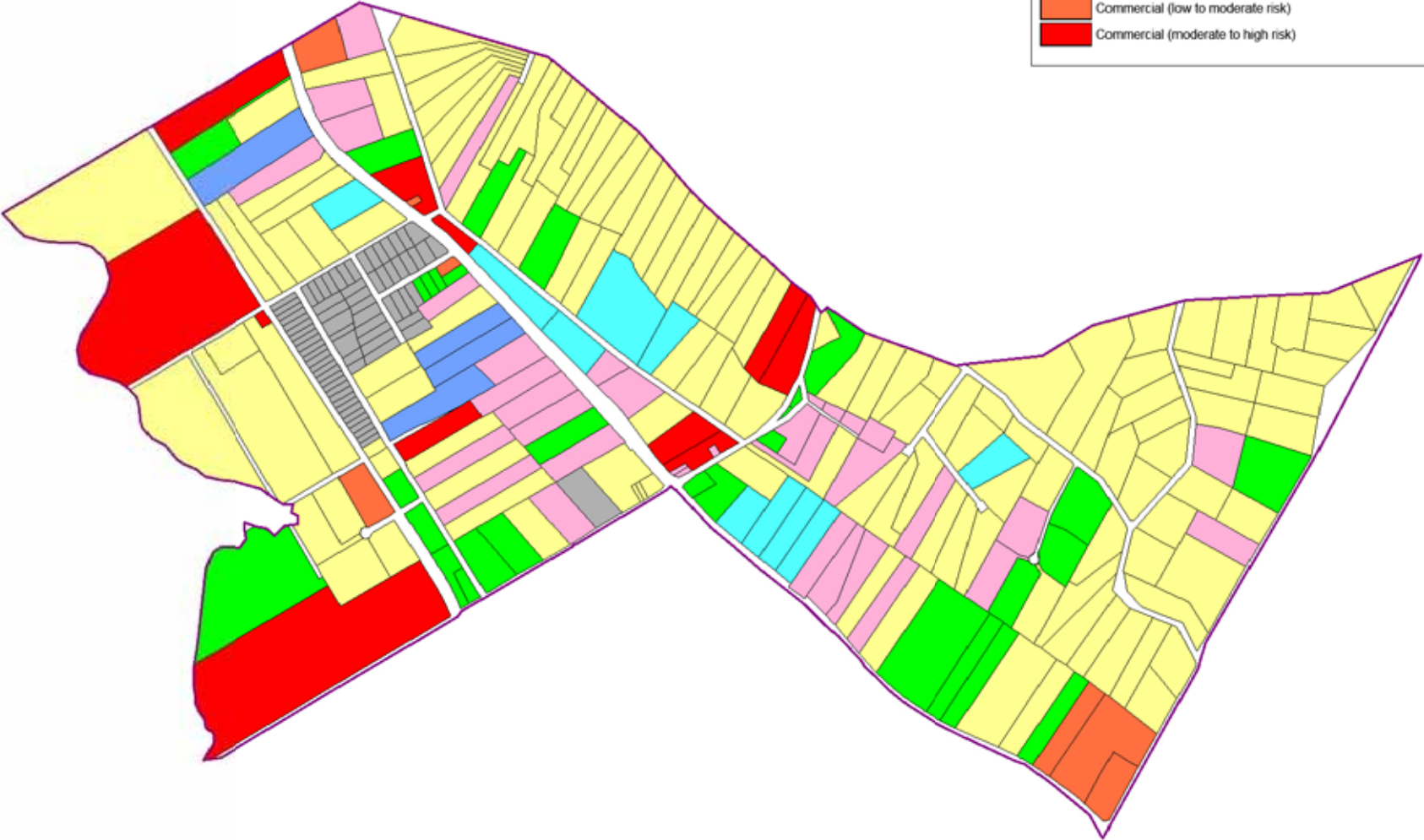
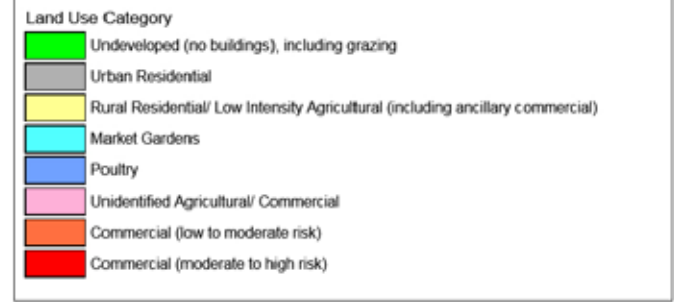


Land Use Category

- Undeveloped (no buildings), including grazing
- Urban Residential
- Rural Residential/ Low Intensity Agricultural (including ancillary commercial)
- Market Gardens
- Poultry
- Unidentified Agricultural/ Commercial
- Commercial (low to moderate risk)
- Commercial (moderate to high risk)







Scale: 1:15,010











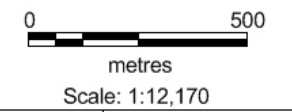
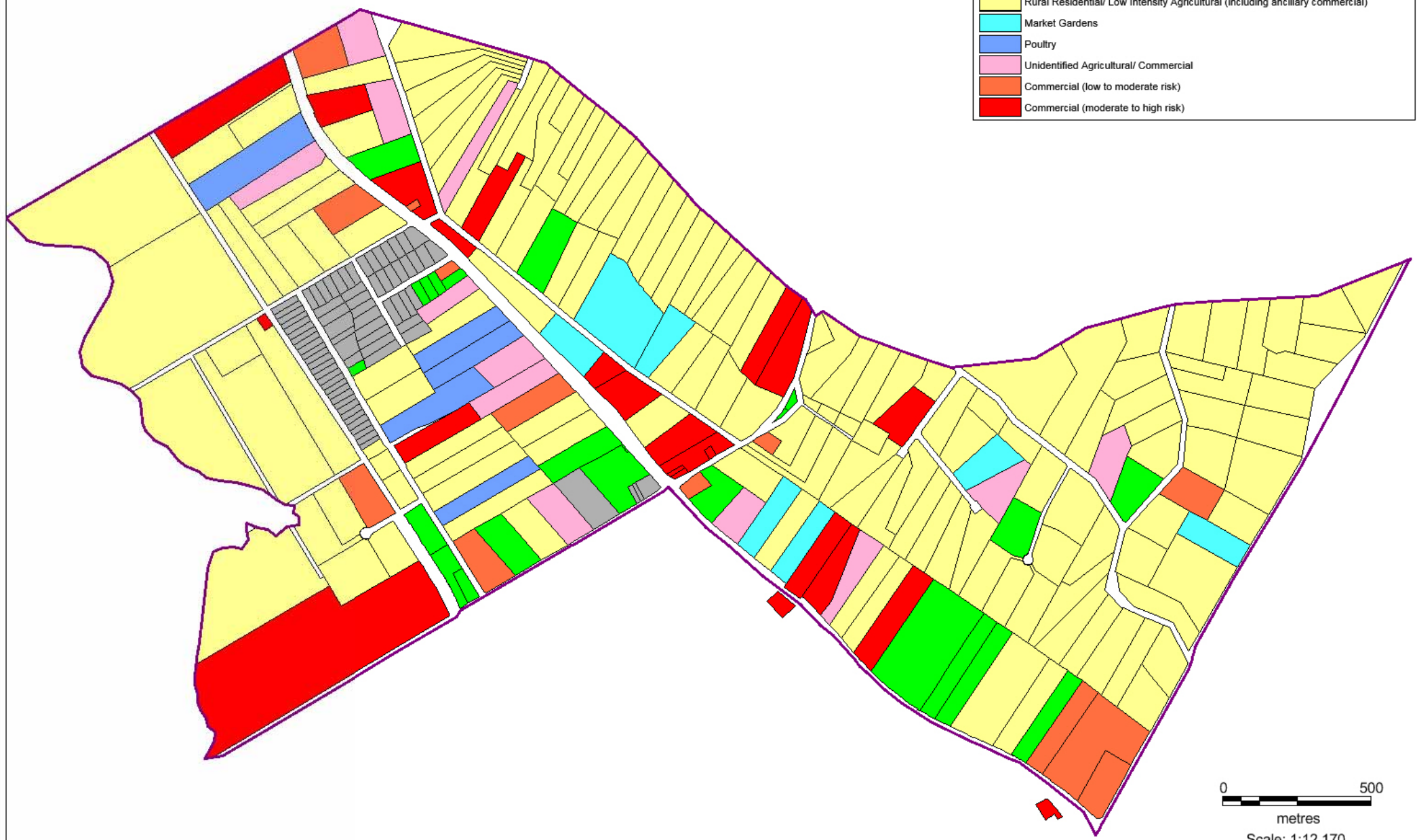
CLIENT: Mott MacDonald Australia Pty Ltd
 OFFICE: Sydney DRAWN BY: NLE
 SCALE: As shown DATE: 1.09.2014

TITLE: Land Use 2002
 Land Capability, Salinity and Contamination
 Vineyard Precinct



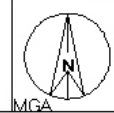
PROJECT No: 73895
 DRAWING No: C4
 REVISION: B

Land Use Category	
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	Urban Residential
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	Market Gardens
	Poultry
	Unidentified Agricultural/ Commercial
	Commercial (low to moderate risk)
	Commercial (moderate to high risk)

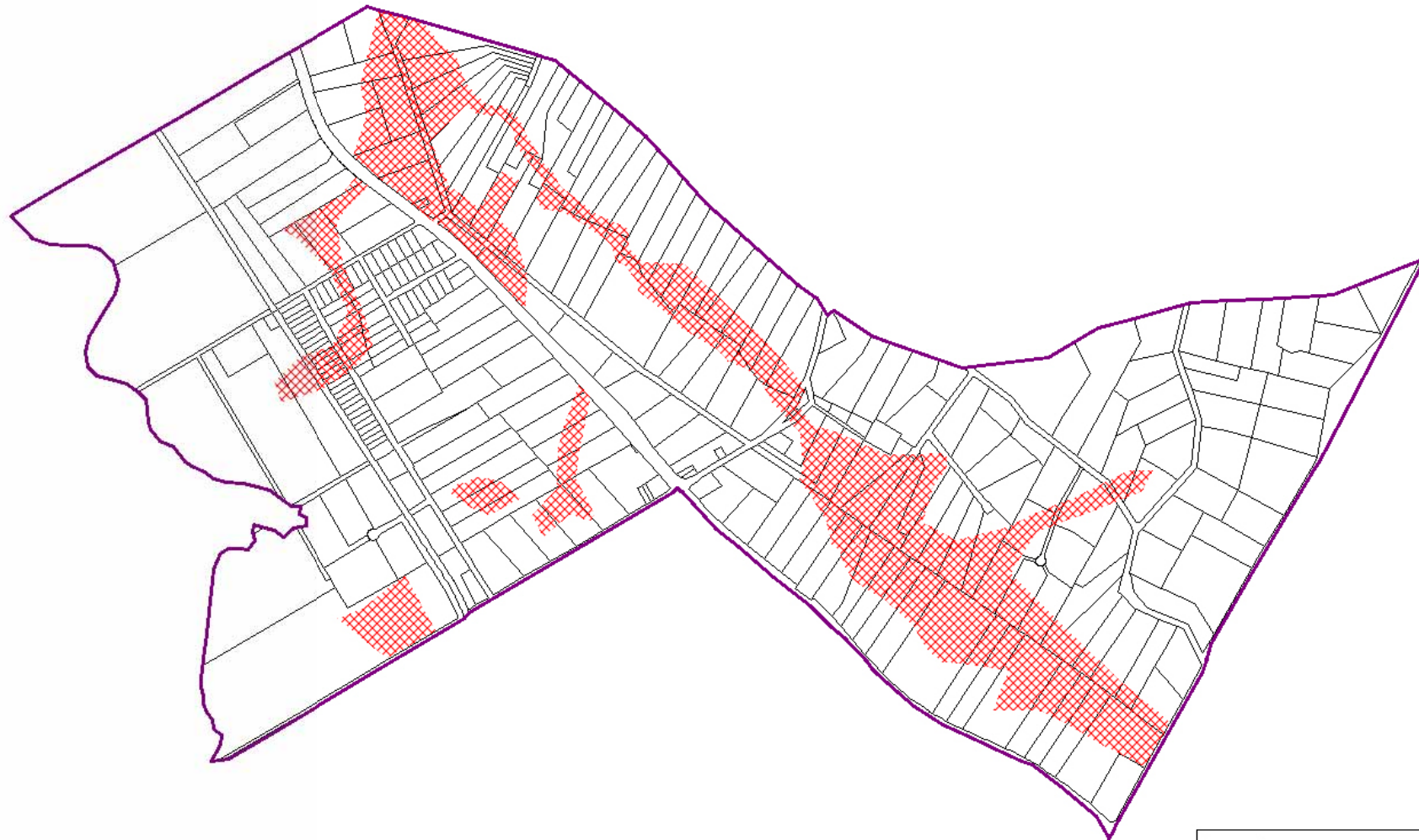


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OFFICE: Sydney	DRAWN BY: NLE
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TITLE: **Land Use 2014**
Land Capability, Salinity and Contamination
Vineyard Precinct

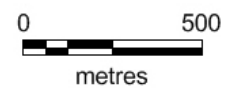


PROJECT No:	73895
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REVISION:	A



Legend

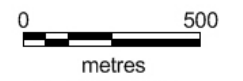
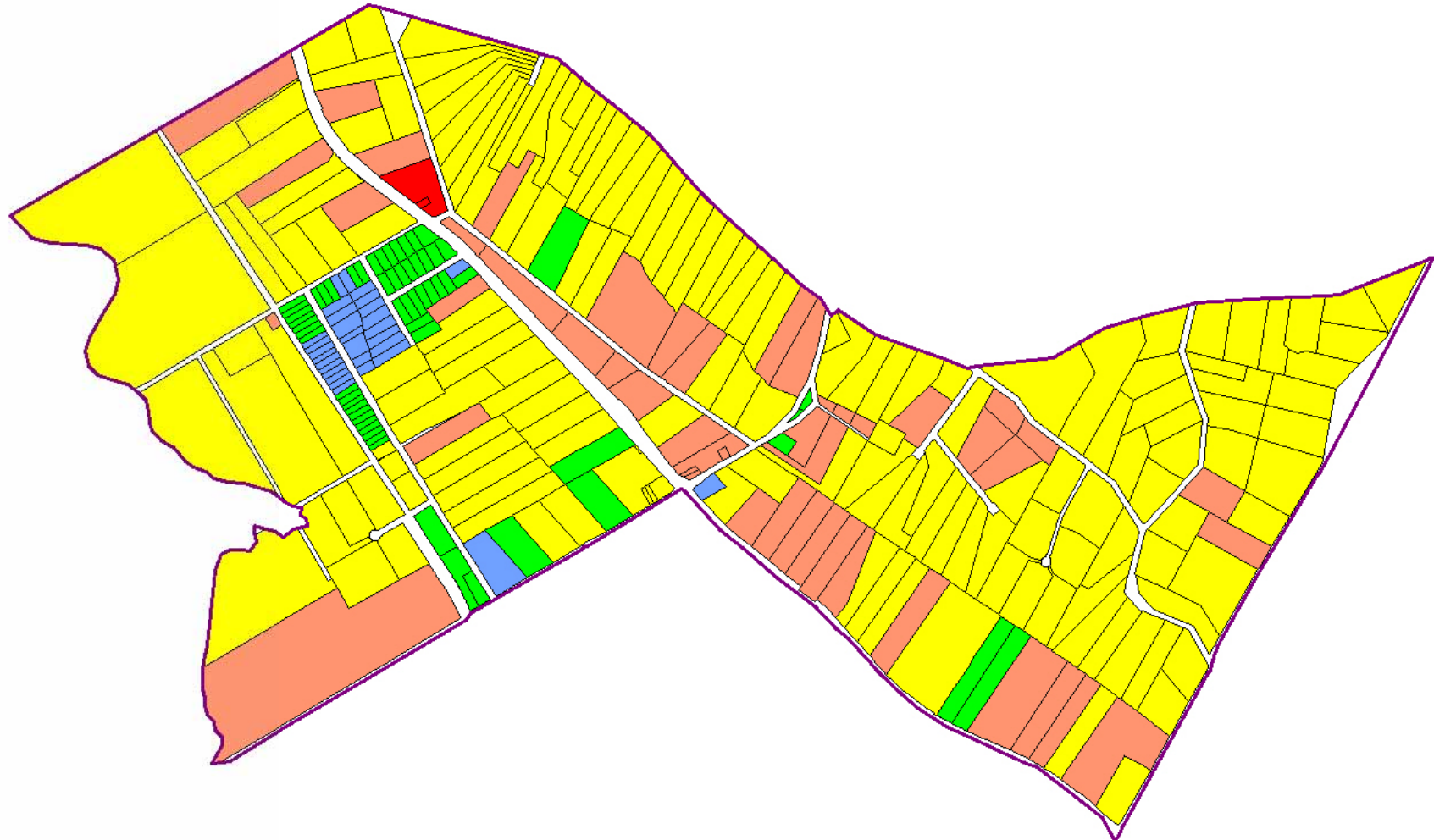
-  Areas with Elevated Risk of Extensive Filling
-  Precinct Boundary



Scale: 1:15,000

Recommended Assessment Category

- 1 Site inspection
- 2 PSI
- 3 PSI with limited sampling
- 4 DSI
- 5 DSI and Site Audit

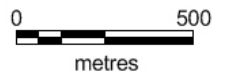
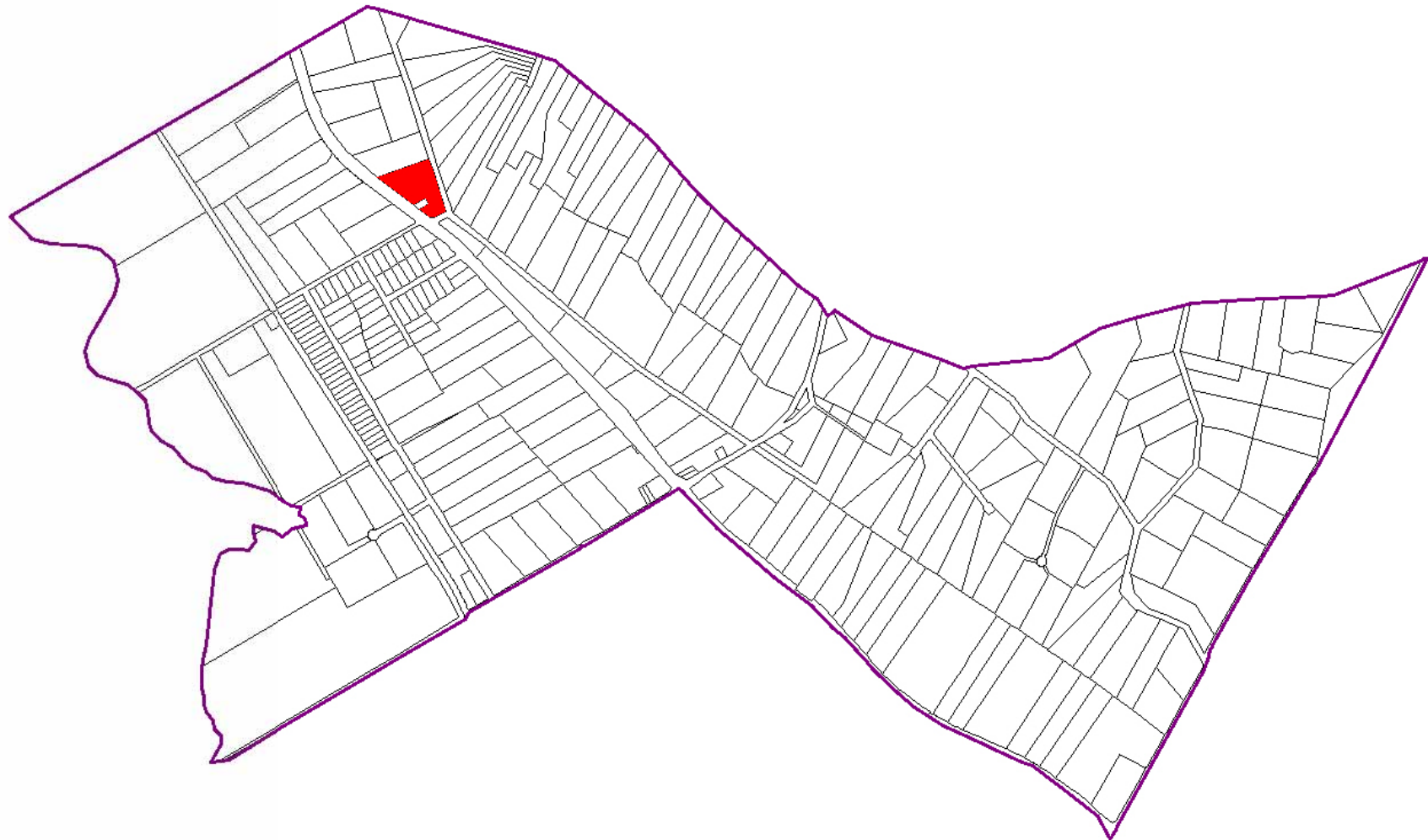


Scale: 1:15,000

Legend

Precinct Boundary

Properties with Potential for Significant Constraint for Residential Land



Scale: 1:15,000

