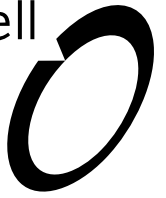


Boffa Miskell



Amberfield S92 Response

Landscape / Visual Effects / Open Space
Prepared for Weston Lea Ltd

17 August 2018



Document Quality Assurance

Bibliographic reference for citation: Boffa Miskell Limited 2018. <i>Amberfield S92 Response: Landscape / Visual Effects / Open Space</i> . Report prepared by Boffa Miskell Limited for Weston Lea Ltd.		
Prepared by:	Rachel de Lambert Partner / Landscape Architect Boffa Miskell Limited	
Reviewed by:	Ben Clark Associate Principal / Urban Designer Boffa Miskell Limited	
Status: Final	Revision / version: [0]	Issue date: 17 August 2018
Use and Reliance This report has been prepared by Boffa Miskell Limited on the specific instructions of our Client. It is solely for our Client's use for the purpose for which it is intended in accordance with the agreed scope of work. Boffa Miskell does not accept any liability or responsibility in relation to the use of this report contrary to the above, or to any person other than the Client. Any use or reliance by a third party is at that party's own risk. Where information has been supplied by the Client or obtained from other external sources, it has been assumed that it is accurate, without independent verification, unless otherwise indicated. No liability or responsibility is accepted by Boffa Miskell Limited for any errors or omissions to the extent that they arise from inaccurate information provided by the Client or any external source.		

Template revision: 20180621 0000

File ref: A17134_LVE_S92_Response_20180814.docx

CONTENTS

1.0	Landscape Visual Effects	1
1.1	Identification of the extent of visual catchment and analysis of the range of affects within	1
1.2	Item 54: Zone of Visual Influence Analysis	1
1.3	Item 55: Cross Sections	10
2.0	Open Space / Recreational Areas	12
2.1	Item 58: Viewshaft Analysis from Knoll	12
2.2	Item 60: Realignment of Boardwalk in Knoll Park and Realignment of Boundary of Lot 25	12
2.3	Item 62: Fencing Height Restrictions on Interfaces between Residential lots and Open Space	13
2.4	Item 63: Shared Paths within the Waikato River Bank and Gully Hazard Area in the District Plan	13

Figures:

Figure A:	Visibility of the Proposed Landform
Figure B:	Visibility of the Low Points in the Northern Part
Figure C:	Visibility of the Proposed Landform (Without the Knoll)
Figure D:	Viewing Audience Sub-Catchments
Figure E:	Landscape Cross Sections Location Plan
Figure F:	Landscape Cross Sections
Figure G:	Landscape Cross Sections
Figure H:	Knoll Park Cross Sections Location Plan
Figure I:	Knoll Park Cross Sections
Figure J:	Knoll Park Cross Sections
Figure K:	Ground Level and Top of Roof Recommended Height Restrictions
Figure L:	Knoll Park Landscape Concept
Figure M:	Fence Height Restrictions on Residential Lots Adjacent to Open Spaces

Appendices:

Harrison and Grierson Figures

141842-SK301	Earthworks overlay Plan Sheet 1 of 6
141842-SK302	Earthworks overlay Plan Sheet 2 of 6
141842-SK303	Earthworks overlay Plan Sheet 3 of 6
141842-SK304	Earthworks overlay Plan Sheet 4 of 6
141842-SK305	Earthworks overlay Plan Sheet 5 of 6
141842-SK306	Earthworks overlay Plan Sheet 6 of 6

1.0 Landscape Visual Effects

1.1 Item 54: Identification of the extent of visual catchment and analysis of the range of affects within

The peer reviewer has requested a more detailed description and analysis of the spatial extent of the potentially affected visual catchment and more detail in respect of the rating of effects.

In order to address the matters identified by the reviewer the following additional information has been prepared to further document the expert opinion set out in the original assessment:

- i. Zone of Visual Influence (ZVI) mapping has been prepared based on LiDAR surface contour data secured from Waikato District Council, (refer to separate attachment setting out data sources and technical methodology).
- ii. A smart PDF has been prepared that enables the viewer to move around the 3D model contours of the proposed subdivision with the master plan subdivision layout overlaid and the surrounding landscape context included.
- iii. A series of east / west cross sections at the site at approximately 200m intervals have been prepared to illustrate the existing and proposed landform contours. This along with the 3D model enables further understanding of the proposed landform modification.
- iv. H&G have provided additional detail in respect of the cut and fill drawings illustrating the existing and proposed contours.

It is noted that the reviewer stated that: *"it is strongly recommended that photomontages (or a digital model) that show the changes that will occur from representative vantage points on the other side of the Waikato River (north and east of the application site) are also prepared."* This point was discussed with the reviewer by phone and the option of preparing a digital model agreed to be appropriate and sufficient to fulfil the visualisation need identified, indeed it is of greater benefit as the model is not limited to the static viewpoints selected for any photomontages. Screen shots from the model are included in the text below and the model available as a 'smart' pdf which can be manipulated to observe the proposal in its 360degree landscape context.

In addition to the above, the following further written explanation is provided.

It is noted that the additional analysis and evidential material provided has not led to any alteration of the conclusions arrived at in the original assessment, these have instead been further affirmed.

1.2 Item 54: Zone of Visual Influence Analysis

Maps illustrating the ZVI in respect of the proposed landform are attached, (refer Figures A, B and C). These illustrate firstly, Figure A, the entire proposed landform and the extent of the visibility or visual catchment of the site as a whole. Figure B tests the visibility of the lower lying land in the north east of the site only and Figure C tests the extent to which the retention of the more elevated knoll landform is influencing the extent of visibility of the site.

Firstly, addressing Figure C this analysis has shown that the extent of visibility is not greatly influenced by the retention of this natural high point of the site.

The ZVI analysis, Figure A, has confirmed that the extent of visibility of the proposed development is limited to a relatively narrow corridor of land on the opposing banks of the Waikato River and only isolated pockets of more elevated rural land to the west of Peacocke Road and in the south of the site.

Within this relatively contained visual catchment four sub-catchment areas can be identified, these are illustrated in Figure D attached, they comprise:

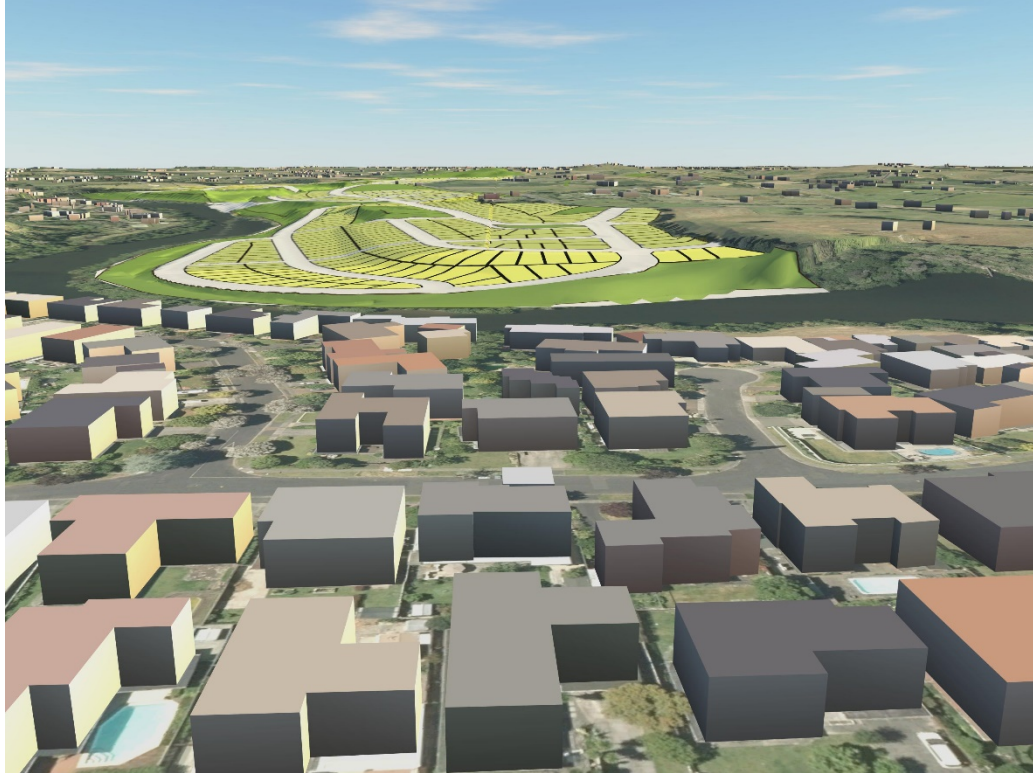
- i. The suburban residential catchment of Riverlea in Hamilton City to the north across the Waikato River from Amberfield.
- ii. The industrial precinct of Riverlea in Hamilton City to the west across the Waikato River from Amberfield.
- iii. The rural lifestyle catchment in Waikato District across the Waikato River to the west / south west.
- iv. Pockets of elevated land to the west of Peacocke Road and to the south of Amberfield also within the Peacock Structure Plan area.

These are the same visual catchment areas identified in the original assessment although they were grouped in the assessment of effects evaluation. Further description in respect of the potential effects of the proposed development is set out below. Reference can also be made to the Smart PDF landform model with the subdivision layout draped over the proposed landform to further visualise the relationship of each visual catchment to the proposed development. See screenshot of the extent of the 3D model below.



Visual effects in respect of the visual sub-catchment areas is set out below:

- a. People within the suburban sub-catchment of Riverlea across the river to the north. These viewers are located to the north of the proposed Amberfield subdivision, they look south across the corridor of the Waikato River to the top northern 'end' of the development, as such they look along the site. Refer screen shot 'A' from the 3D Model below.



Model view A above.

As evidenced in the photographs attached to the original assessment, (refer photographs 1 and 3 original assessment as copied below)



Photographs 1 and 3 copied from original Landscape and Visual Effects Assessment.

and affirmed by the ZVI the viewing audience in this sub-catchment primarily comprises the closest immediate property across the river, located at closest some 100m to 200m and more distant across the river. Many of these properties, accessed off Silvia and Balfour Crescents, will also have the potential to view along the open space corridor of

the Waikato River as well as across with a more westerly aspect toward the top of the Amberfield site. The presence of ground level vegetation including along the eastern and western sides of the river mean that the majority of clear views will be from upper level windows rather than from ground inside or outside on these 'front row' properties.

The original LVEA identified low adverse visual effects resulting for this visual catchment. This scale of effect in respect of the established suburban residential properties immediately across the river is affirmed. Low adverse effects are assessed to arise due to:

- The physical separation of these properties across the river corridor and the open space qualities of that separation including in some places retained views to the river corridor. Where these presently exist, they will not be impacted by the proposed development which forms the background to such views.
- The retention of all existing vegetation along the eastern boundary of the Amberfield site adjacent to the Waikato River.
- The generally upper level nature of the available views of the site meaning that the change to the landscape and context and visual character of these existing properties will only be affected in some views from parts of each property.
- The 'like by like' amenity of the development, that is the proposed residential subdivision is of the same general form of that of the viewing audience hence there is no disjunct between the two areas, such as exists between the Riverlea suburban residential neighbourhood and that of its established industrial precinct to the south.

In summary therefore, **the low adverse visual effects** of the proposed development in respect of the established residential properties in Riverlea to the north is affirmed.

It is also noted that the intention for such change was signalled at the time of the plan change for the Peacocke Structure Plan and the future urban nature of this part of southern Hamilton.

- b. The industrial pocket of development in Riverlea is somewhat in contrast to its suburban residential area to the north and to the rural lifestyle development in Waikato District to the south. This area is however physically and visually separated from these adjoining areas by the well vegetated gully system containing this established pocket of industrial land use. Potential viewers in the small number of industrial properties that adjoin the Waikato River corridor and have the potential to view across to the proposed Amberfield subdivision comprise workers accessing the open space surrounding the largely internalised workplaces including car parking areas. Refer 3D Model screen shot, view 'B' below.



Screen shot View B

These potential viewers are considered to have a low sensitivity to the nature of land use change proposed. As such given again the visual and physical separation involved potential **adverse visual effects are assessed to be very low to benign**.

- c. Moving south down the river corridor into the Waikato District and the rural lifestyle properties within the visual catchment of the proposed development it is noted that these properties look west across the river corridor toward the longer frontage of the proposed development to the river. As noted in the original LVEA these viewers comprise the more sensitive viewing audience for the proposal. The LVEA identified **low to moderate-low adverse visual effects** for this viewing audience.

As with the more suburban residential area to the north and as illustrated in photographs 4, 5, 6 and 9 included in the original assessment and copied below it is primarily the first property adjacent to the river on the opposing bank that has the potential to look across to the proposed Amberfield subdivision.





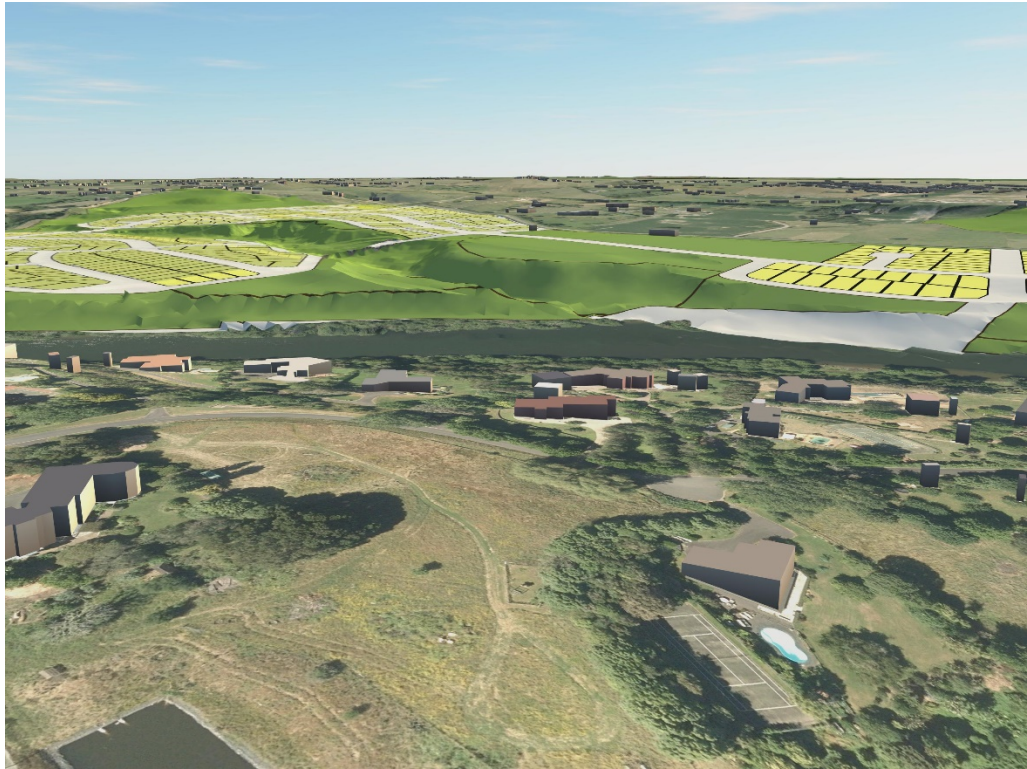
Photographs 4, 5, 6 & 9 copied from original Landscape & Visual Effects Assessment.

The scale of the river corridor which separates the two sides of the river is illustrated in photograph a) below.



Photograph a) the width of the Waikato River corridor and its associated vegetation.

Furthermore, the form of the proposed subdivision layout in the area opposite to the rural lifestyle visual sub-catchment is such that large areas of open space are retained adjoining the river corridor. These can be observed in the Smart PDF 3D Model as illustrated in the screen shot below:



Screen shot 3D model view C

Photograph b) below illustrates the scale of the central lower terrace which will be retained as open space adjacent to the river corridor with the proposed roadway and housing set back behind this wide, open space corridor. This open space adjoins the open mouth of the gully that separates 'the island' from the main area of development.



Photograph b) showing the extent of the lower riverside terrace which will be retained as open space opposite rural lifestyle properties in the Waikato District across the River. The extent of riverside vegetation, which will be retained is also evident.

Further south on 'the island' a wide, open space buffer is retained along the river adjoining the already established esplanade reserve, this includes a widened area comprising the archaeological reserve and the southern 0.9 ha promontory Amenity Park which adjoins the southern end of the gully, refer screen shots below:



Screen shot views D and E

Proposed subdivision and residential development is therefore generously set back from the opposing rural lifestyle development across the river in Waikato District.

The scale of the lifestyle properties and their individual on site amenity also enables management of views and strategic planting to further ameliorate the interface with the urbanisation of the visual catchment across the river, the intended nature of that change having been signalled at the time of the Peacocke Structure Plan and Plan Change.

In summary therefore, **low to moderate-low adverse visual effects** are expected in relation to this viewing audience given in particular:

- The generous physical separation between development proposed on the western side of the river in Amberfield and rural lifestyle properties to the east across the river.
- The retention of substantial areas of land Along the Amberfield frontage to the river as recreational open space that will substantially widen the esplanade reserve and the amenity that this will provide in the foreground of future residential development as viewed from the east.
- Retention of existing established vegetation along the river corridor.
- The maintenance of a landward backdrop beyond the current area for development which also lies within the Peacocke Structure Plan area.

Finally, in respect of the small pockets of more elevated rural land to the south and west, these lie within the Peacocke Structure Plan area and are identified to be within the Future Urban Area. Furthermore, the land to the south and the central pocket in the west lie within the area owned by the applicant company.

As illustrated in the ZVI analysis the extent of visibility to the west of the site is very small with topography meaning that much of the proposed subdivision will not be in view.

In the north there is a pocket of land to the west of the site which in part overlooks the northern part of the proposed subdivision, this adjoining land is more elevated than the development site of Amberfield. Some intermittent middle ground views toward the proposed subdivision will be available from this adjoining area which comprises a well treed area of lifestyle rural residential lots. As identified in the LVEA a low adverse visual effect is likely to result for these properties due to:

- The separation distance with the foreground of properties remaining rural as illustrated in the 3D model views.
- The generally well vegetated nature of existing houses within this pocket of rural lifestyle development and the spaciousness of those properties.
- The not unexpected nature of the land use change given the presence of the Peacocke Structure Plan and associated Future Urban Zoning.

There is a single smaller lot on the east side of Peacocke Road that will adjoin proposed residential lots on three of its boundaries, the fourth being Peacocke Road. This property is well treed and has the ability to substantially buffer itself from the future adjoining development. Nevertheless, this property is likely to experience a greater change to its context with **moderate adverse visual effects**. The Structure Plan has long signalled this change as has the provision for the future widening of Peacocke Road which affects this property.

In overall summary therefore, it is considered that the further detailed analysis including the ZVI and 3D model with context demonstrates the limited extent and low impact of the proposed subdivision with its associated earthworks.

1.3 Item 55: Cross Sections and Cut & Fill Contours

To further illustrate the way in which the existing landform will be modified to enable suburban residential development, as foreshadowed by the Peacocke Structure Plan and Future Urban Zone, a series of cross sections have been prepared, these are attached as Figures E (the plan showing the location of cross sections) through to Figure G. In addition, cross sections showing the interfaces with the knoll reserve, where unmodified landform will be retained, are illustrated in Figures H to J. It is also noted that earthworks do not extend beyond the existing fence-line along the river edge thereby retaining the existing landform and all vegetation within the river corridor.

The series of cross sections (cross reference can also be made with the 3D model Smart PDF) illustrate the existing and proposed land contour and show the location of proposed north / south oriented roads across the site.

The subdivision design has sought to minimise the volume of earthworks and as noted in the LVEA at 600m³ per lot is at the lower end of the typical range of greenfield subdivision earthworks (the typical range being 800m³ to 1,500m³). The approach has also been to minimise the need for retaining walls as part of the bulk earthworks with lot dimensions designed to enable slope change between lots rather than at the street interface. This integrated earthworks design / urban design / masterplanning co-ordination is evident in the creation of deep lots where desired to accommodate slope change. This arrangement has the further urban form benefit of enabling the upper level property to look out over the lower adjoining lot reflecting both the original terraced landform but also providing the benefit of views or an open aspect. Particularly in the north of the site, the main terrace will fall at the intersection between lots creating the opportunity for high side / low side housing with the level change accommodated in the rear of the lots with a batter slope.

The primary driver in respect of landform modification has been Council's roading standards with the natural terracing being too steep for the grading of roads directly up / down the slope thereby forcing landform modification.

Section 4-4¹ shows the retained knoll landform with a cut on the eastern side to establish the road and a flat access onto the residential lot which adjoins the knoll reserve. This layout, as further illustrated in Section C-C¹ Figure 1, locates a retaining wall set into the lot which would relate to a step in the building platform.

Sections 8 through 10 (Figure G) illustrates that the main area of cut and some associated fill is contained on 'the island' with an existing high point along the western side of the island cut down reducing the depth to the gully, facilitating the bridge crossing and enabling the use of good sand material in this part of the site for earthworks construction purposes. The extent of cut will make housing less prominent on the island and enable efficient conversion to the residential land use. At the same time the main landform diversity including the distinct island landform and a generally wide area adjacent to the river corridor with an unmodified topography will be retained. This is reinforced by the 1.6ha Archaeological Reserve which will protect the current landform of this significant area adjoining the river corridor comprising both a natural terraced topography and anthropocentrically derived pits or depressions resulting from the 'borrowing' of soils.

Cross section 9-9¹ illustrate the southern edge of the portion of the site within the 'Hills' (as opposed to the majority of the site which is in the 'Terrace') landform typology of the Peacocke Structure Plan. As illustrated in the cross sections this portion of the site is not particularly hilly and is relatively consistent with the Terrace area landform of the site.

The additional H&G Cut and Fill drawings; 141842-SK301 to SK306, now clearly showing the existing and proposed contours, show the general smoothing off of the landform consistent with earthworks to enable urban development, the grading to achieve street gradients / connections and the proposed terracing of the site. As already noted the greatest level of modification is to 'The Island' landform which will remain strongly defined by the gully system to the west and river corridor to the east retaining the separate identity of this part of the overall site topography.

In respect of the Objectives and Policy set out in the District Plan, and in particular the Peacocke Structure Plan provisions, the urban masterplan for Amberfield has been directly shaped by the natural landforms within this part of the wider structure plan area. First and foremost, the urban pattern of development is responsive to the River with an ecological and public open space / recreational corridor maintained along the River. The road network is designed with long sinuous, curving streets aligned north / south with the river and short east / west streets oriented toward the River (the pattern of street network responds to policy 3.4.1.2b). In this way the Amberfield urban form is directly responsive to the natural landscape. This urban structure is well aligned to the indicative diagram Figure 3.4.2a – *street pattern that encourages increased accessibility to the Waikato River Esplanade*. Set out under the Terrace Area provisions at 3.4.2.1 Natural Character Areas.

Policy 3.4.1.3b states: *Large-scale earthworks and modifications to landforms should be avoided to ensure development responds positively to the landscape and enables the creation of a distinctive urban form*. The subject portion of the Peacocke Structure Plan comprises primarily the flatter 'terrace' portion of the wider structure plan area much of which is highly constrained by topography and steep, deeply incised gullies.

The key landform elements within the Amberfield area comprise the Waikato River corridor, the gully landform separating 'The Island' portion of the site, the small localised landform feature of the high point 'knoll' and the generally terraced landform stepping down toward the River which is then itself deeply incised. The proposed subdivision layout for Amberfield has retained (and indeed celebrated) each of these landform elements and characteristics albeit with an extent of modification to enable efficient use of the land resource for urban development. The urban form of Amberfield will be particularly distinctive, related directly to the site's topography and landform features. Neighbourhoods will be defined by their association with landform features and the open space components that have been specifically located to give emphasis to the natural landscape and amenity of the site. Furthermore, these elements will remain apparent to the public by virtue of the proposed road, shared path and open space layout which maintains public access to the River and gully edges (these components of the proposal meet policies 3.4.1.2c and 3.4.1.7a).

Whilst part of the site is identified to comprise the 'Hill Area' typology the actual landform in this part of the site is not as undulating as that to the west of Peacocke Road. This portion of the site is also the area indicatively identified for sports fields in the Peacocke Structure Plan, reinforcing the reality that the area is not particularly steep. No specific additional earthworks related provisions are required in this part of the site.

2.0 Open Space / Recreational Areas

2.1 Item 58: Viewshaft Analysis from Knoll

An assessment of potential building platform heights directly to the east and south of the Knoll Reserve has been undertaken to determine the potential impact of future dwellings on these Lots on public views from the Knoll - including desired views to the river corridor and wider site.

Lots 144-150 and Lot 155 have been assessed. A diagram of the proposed extent of the cone of view is provided in Figure K appended to this report. Lots 151 – 154 and Lots 156-158 which lie directly south of the Knoll will not impact on the protected cone of view and hence no height restrictions are proposed on those Lots.

The ground level of the Knoll within the reserve at its highest point is surveyed at an RL of 44.5m. An infringement on this height plane, resulting from any future dwellings within the cone of view, would impact the desired public view from the knoll within the reserve.

The Hamilton City Operative District Plan rules set a maximum building height for front, corner and through sites at 12m and 12.5m for rear sites in the Peacocke Character Zone Terrace Area. (Rule 5.4.4, Table 5.4.4b). There is one rear lot being assessed, Lot 155, with the remainder being either front, corner or through lots.

The anticipated building platform heights (GL RL) of the subject Lots is noted on the attached plan (Figure K) with a 'top of roof' RL also prescribed for each Lot. It is considered that these 'top of roof' RLs are best utilised to control maximum dwelling height while maintaining flexibility with regards to the form of the future roof and the number of storeys a dwelling can be constructed to within the specified RL height. For Lots 144 through 150 and Lot 155 (8 lots in total) a small reduction to the potential 12 or 12.5m maximum permitted heights are proposed through the 'top of roof' RL limitations. The most restricted Lot is Lot 155 where a 6m building height is provided enabling two storey, flat roof development. On all other lots generous two and three storey heights are maintained.

2.2 Item 60: Realignment of Boardwalk in Knoll Park and Realignment of Boundary of Lot 25

In response to the suggestion from the council reviewer, the boundary of Lot 25 has been amended. The new boundary alignment establishes a 3m wide (minimum) portion of flat land between the Lot boundary and the top of the bank. This will enable the formation of a pedestrian pathway at grade connecting the two parts of the neighbourhood reserve removing the need for a boardwalk traversing over the relatively steep bank to the east. Please refer to Figure L attached for Boffa Miskell amended Knoll Park Concept Plan and Harrison Grierson scheme plan for new Lot 25 boundary alignment.

2.3 Item 62: Fencing Height Restrictions on Interfaces between Residential lots and Open Space

Locations where residential lots share a boundary with open space reserves are as follows:

- Walkways
- Entry Space
- Knoll Park

Please refer to Figure M for map identifying these boundaries.

It is considered that a 1.2m fence height restriction would be appropriate to apply to Lot 25 (the proposed café / sales office Lot) which sits surrounded on 3 sides by the Knoll Park, the front fences of Lots 155 – 158 which are rear lane accessed lots fronting Knoll Park and the side boundaries of all residential Lots where a fence is adjacent to the front yard and side of dwelling. In all other instances the Hamilton City Council District Plan Rule 15.4.6 would apply to the boundaries i.e. where rear yards are adjacent to reserves and walkways. A copy of this rule is referenced below.

(15.4.6) Fences and Walls

Boundary fences and walls shall have a maximum height of 1.8m, except as provided below:

- a) The following design and dimensions shall apply to fences on boundaries adjoining a Transport Corridor, Residential or Special Character Zone.
 - i. Designed and constructed for less than 50% see-through visibility (e.g. close paling, masonry, or other opaque material) 1.2m maximum height
 - ii. Materials with 50% or more see-through visibility 1.8m maximum height

2.4 Item 63: Shared Paths within the Waikato River Bank and Gully Hazard Area in the District Plan

Shared paths located within the River Bank and Gully Hazard Area are largely to be constructed at grade. These have been designed to follow natural topography and / or to utilise the previously formed, existing farm track / stock races.

All shared paths are located outside of the river esplanade vegetation corridor which is defined as east of the existing farm fence line. The section of shared path on the plan OFS 05 – Walking and Cycling Strategy that appears to encroach on vegetation is located at the northern tip of the island. This route has been walked by Boffa Miskell Landscape Architects and Ecologist and provides a benched clear route wide enough for a shared path through the existing vegetation within the river corridor and trees adjacent to this area. Please refer to photographs attached.



Photograph 1 facing south at bench for shared path adjacent to river vegetation corridor



Photograph 2 facing south on existing farm track / race adjacent to river vegetation corridor



Photograph 3 facing south on existing farm track / race adjacent to river vegetation corridor

Situations where the creation of the shared path will require earthworks are located where the path will transition to join the proposed road network; these earthworks are expected to be minimal and localised and will be detailed at the Detailed Design stage.

This graphic has been prepared by Boffa Miskell Limited on the specific instructions of our Client. It is solely for our Clients use in accordance with the agreed scope of work. Any use or reliance by a third party is at that party's own risk. Where information has been supplied by the Client or obtained from other external sources, it has been assumed that it is accurate. No liability or responsibility is accepted by Boffa Miskell Limited for any errors or omissions to the extent that they arise from inaccurate information provided by the Client or any external source.



0 0.25 0.5 km
1:20,000 @ A3

Data Sources: LINZ Data Service (Aerials), Boffa Miskell,
WDC LiDAR Data
Projection: NZGD 2000 New Zealand Transverse Mercator

Legend

-  Proposed Lot Boundaries
-  Site Boundary
- Visibility
- 
High Low

Figure A: Visibility of the Proposed Landform

This graphic has been prepared by Boffa Miskell Limited on the specific instructions of our Client. It is solely for our Clients use in accordance with the agreed scope of work. Any use or reliance by a third party is at that party's own risk. Where information has been supplied by the Client or obtained from other external sources, it has been assumed that it is accurate. No liability or responsibility is accepted by Boffa Miskell Limited for any errors or omissions to the extent that they arise from inaccurate information provided by the Client or any external source.



0 0.25 0.5 km
1:20,000 @ A3

Data Sources: LINZ Data Service (Aerials), Boffa Miskell,
WDC LiDAR Data
Projection: NZGD 2000 New Zealand Transverse Mercator

Legend

- Observable Points
- ▭ Site Boundary

Visibility



- ▭ Proposed Lot Boundaries

A17134 AMBERFIELD

Figure B: Visibility of the Low Points in the Northern Part

Date: 31 July 2018 | Revision: 0
Plan Prepared by Boffa Miskell Limited

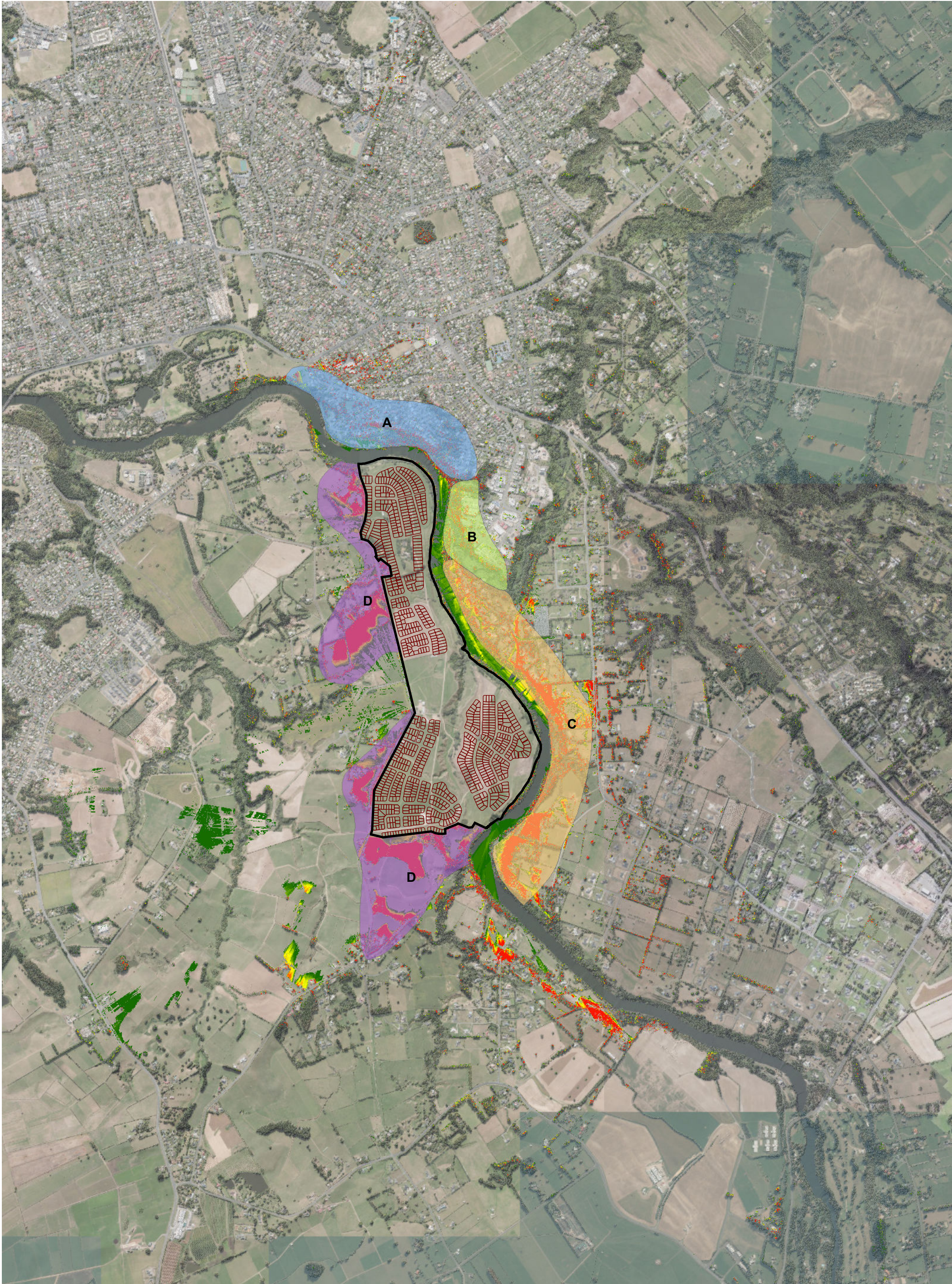
Project Manager: Rachel.deLambert@boffamiskell.co.nz | Drawn: SGa | Checked: RDI

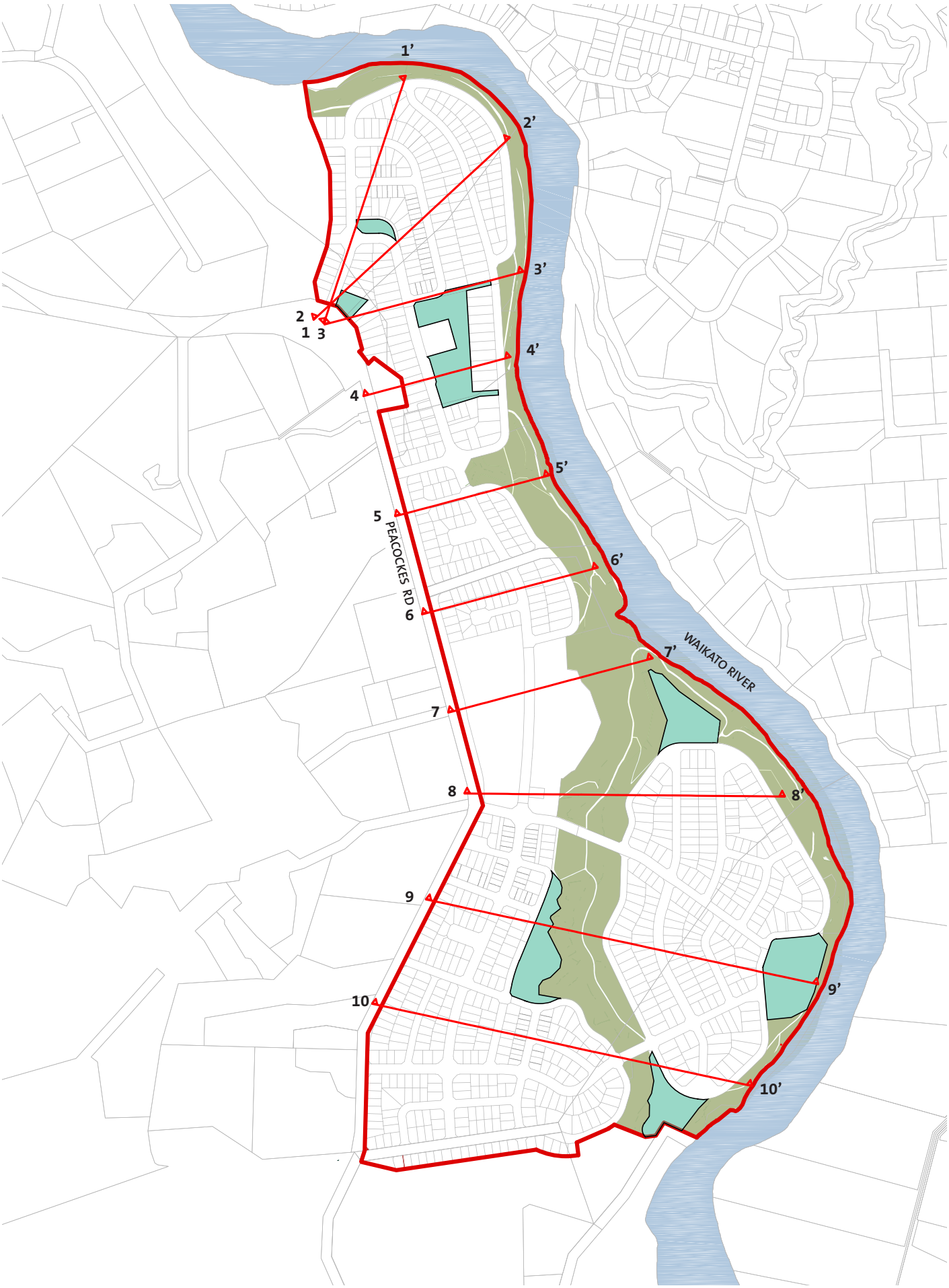
This graphic has been prepared by Boffa Miskell Limited on the specific instructions of our Client. It is solely for our Clients use in accordance with the agreed scope of work. Any use or reliance by a third party is at that party's own risk. Where information has been supplied by the Client or obtained from other external sources, it has been assumed that it is accurate. No liability or responsibility is accepted by Boffa Miskell Limited for any errors or omissions to the extent that they arise from inaccurate information provided by the Client or any external source.

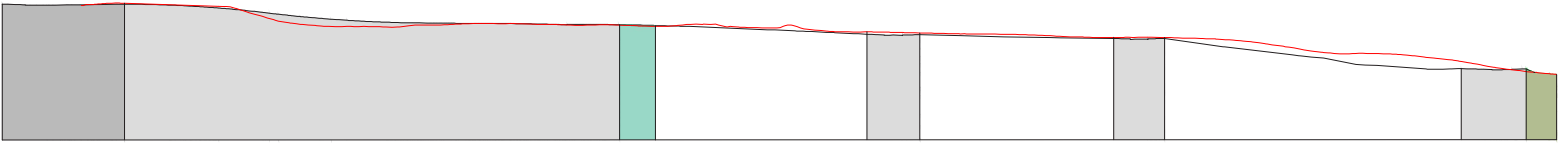


Legend

This graphic has been prepared by Boffa Miskell Limited on the specific instructions of our Client. It is solely for our Clients use in accordance with the agreed scope of work. Any use or reliance by a third party is at that party's own risk. Where information has been supplied by the Client or obtained from other external sources, it has been assumed that it is accurate. No liability or responsibility is accepted by Boffa Miskell Limited for any errors or omissions to the extent that they arise from inaccurate information provided by the Client or any external source.







Section 1-1'

0 75m

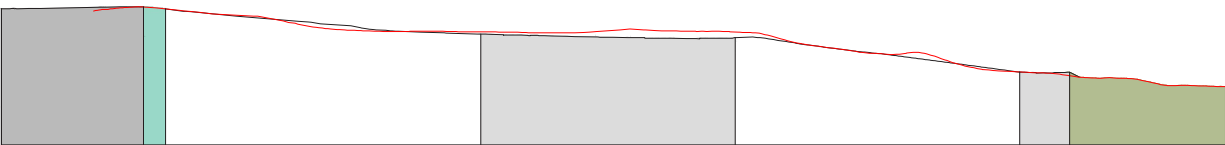
1:2,500 @ A3



Section 2-2'

0 75m

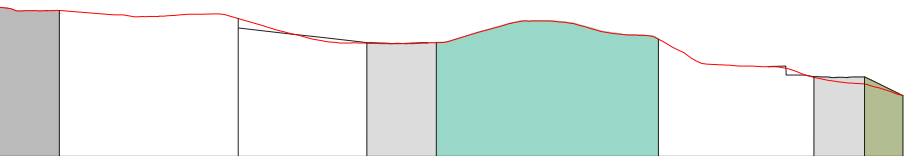
1:2,500 @ A3



Section 3-3'

0 75m

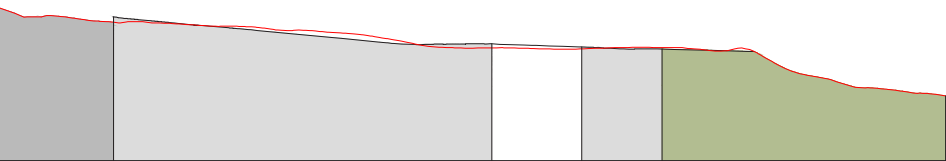
1:2,500 @ A3



Section 4-4'

0 75m

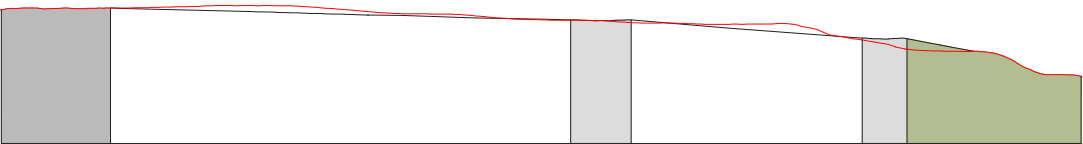
1:2,500 @ A3



Section 5-5'

0 75m

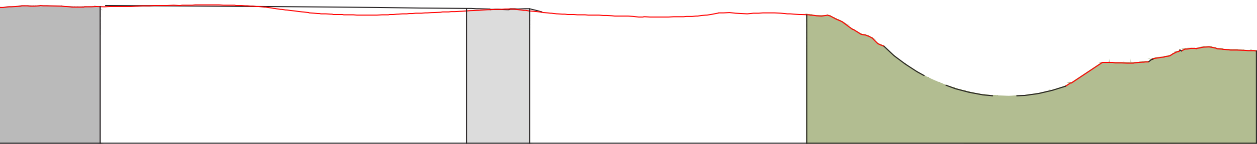
1:2,500 @ A3



Section 6-6'

0 75m

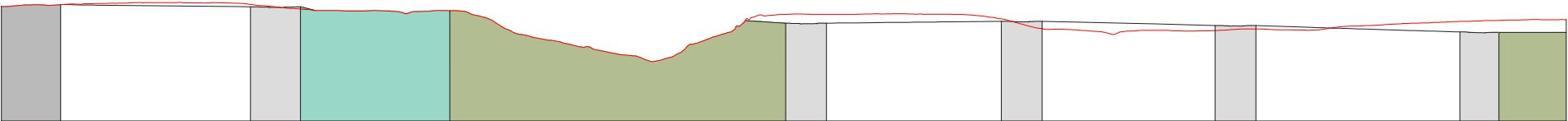
1:2,500 @ A3



Section 7-7'

0 75m

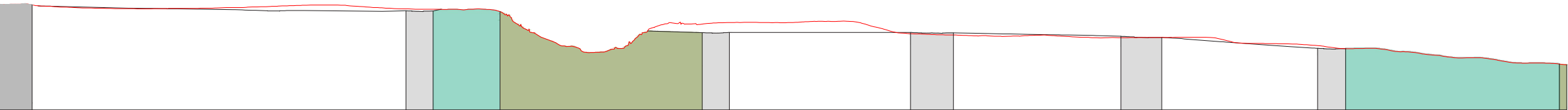
1:2,500 @ A3



Section 8-8'

0 75m

1:2,500 @ A3



Section 9-9'

0 75m

1:2,500 @ A3



Section 10-10'

0 75m

1:2,500 @ A3

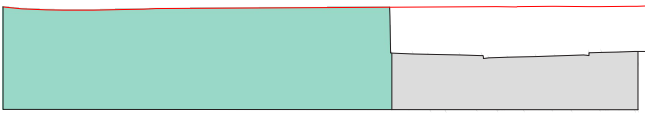


KEY

- Indicative Site Boundary
- Knoll Park
- Proposed Retaining Wall



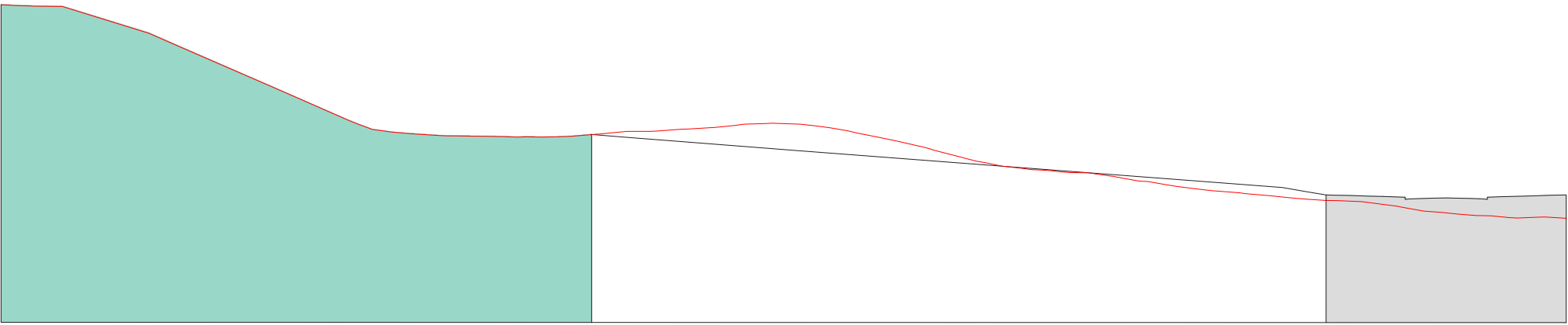
LOCATION PLAN



Section A-A'

0 10m

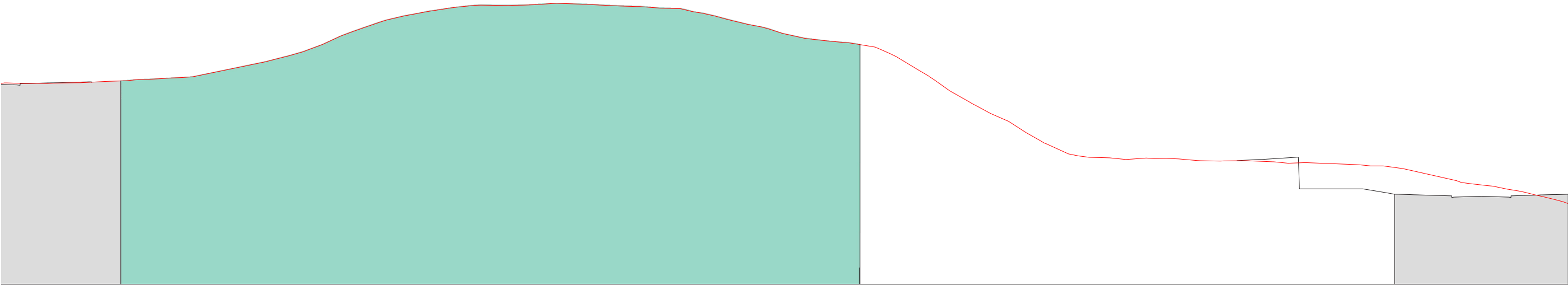
1:400 @ A3



Section B-B'

0 10m

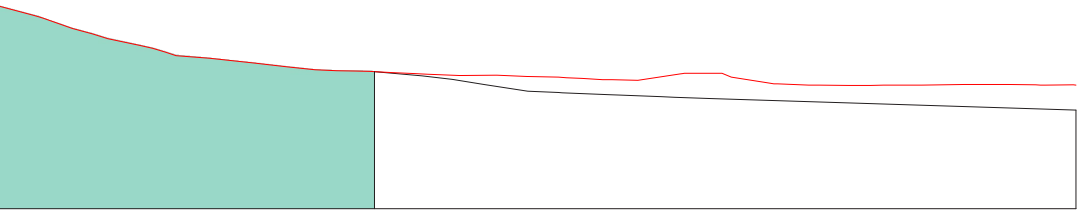
1:400 @ A3



Section C-C'

0 10m

1:400 @ A3



Section D-D'



Section E-E'



- Existing Ground Level
- Proposed Ground Level
- Residential
- Reserve
- Road

Ground level heights taken from top and base of retaining wall where applicable. In all other instances ground level heights taken from centre of Lot.

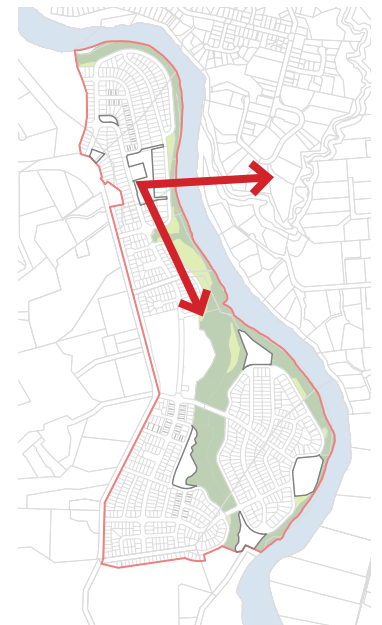


Figure K: Ground Level and Top of Roof Recommended Height Restrictions

DRAWING NUMBER A17134_057

Plan prepared for Weston Lea Ltd
by Boffa Miskell Limited

Project Manager: **Rachel.deLambert**
@boffamiskell.co.nz

Drawn: BCI | Checked: RdL

This plan has been prepared by Boffa Miskell Limited on the specific instructions of our Client. It is solely for our Client's use in accordance with the agreed scope of work. Any use or reliance by a third party is at that party's own risk. Where information has been supplied by the Client or obtained from other external sources, it has been assumed that it is accurate. No liability or responsibility is accepted by Boffa Miskell Limited for any errors or omissions to the extent that they arise from inaccurate information provided by the Client or any external source.

Boffa Miskell



www.boffamiskell.co.nz



- KEY**
- Reserve Boundary**
Area 1.52Ha
 - Footpath**
In-situ Concrete
Colour - 8% Black Oxide
Finish - Exposed agg
13mm greywacke chip
 - Hoggin**
GAP7 Compacted aggregate
Colour - TBC
 - Lawn**
Useable grass area
 - Soft Fall**
Woodchip play surface
300mm deep
 - Boardwalk**
Timber
 - Amenity Garden Beds**
Low planting native and exotic
Comply with CPTED principles
Low maintenance
 - Shade Gardens**
woodland leaf litter and mulch. No
specific groundcovers, but potential
for daffidols.
 - Specimen Tree - Large**
Exotic and deciduous
Note - cross denotes existing
 - Specimen Tree - Medium**
Exotic and deciduous
Note - cross denotes existing
 - Bench Seats (x6)**
Timber and steel
 - Picnic Tables (x2)**
Exotic and deciduous
 - Bollards**
Timber

- Basketball Court**
Existing tennis court converted into
basketball court
Concrete
- Petanque**
small chip suitable for petanque'
Timber edge
- Playground 1 Hub**
Playground for play elements,
refer materials page for suggested
elements
- Playground 2 Hub**
Includes gym equipment such
as pull up bars in the form of a
sculptural peice, or peices, to add to
the playground 2 hub.
- Concrete Informal Steps**
Concrete beams embedded in slope
2000mm(w) x 200(d), with 4No
4000mm wide
- Concrete Steps with 'Pull out's'**
2000mmx350x150 steps, with
5000mm pullouts including timber
seat tops
- Road**
Refer Road Heirarchy
A17134_200
- Sales Office and Cafe**
Area 0.36Ha
Land to be retained by Weston Lea
Ltd for Show Room / Cafe Function
- Kick a Ball Space**
Flat grass area for informal play

NOTES

For reference to streetscape design,
refer A17134_200 to A17134_231

Contours shown at 0.5m intervals



LOCATION PLAN

0 30m
1:1000 @ A3



AMBERFIELD
PEACOCKE STRUCTURE PLAN

Figure L -Knoll Park
Landscape Concept

DRAWING NUMBER A17134_130

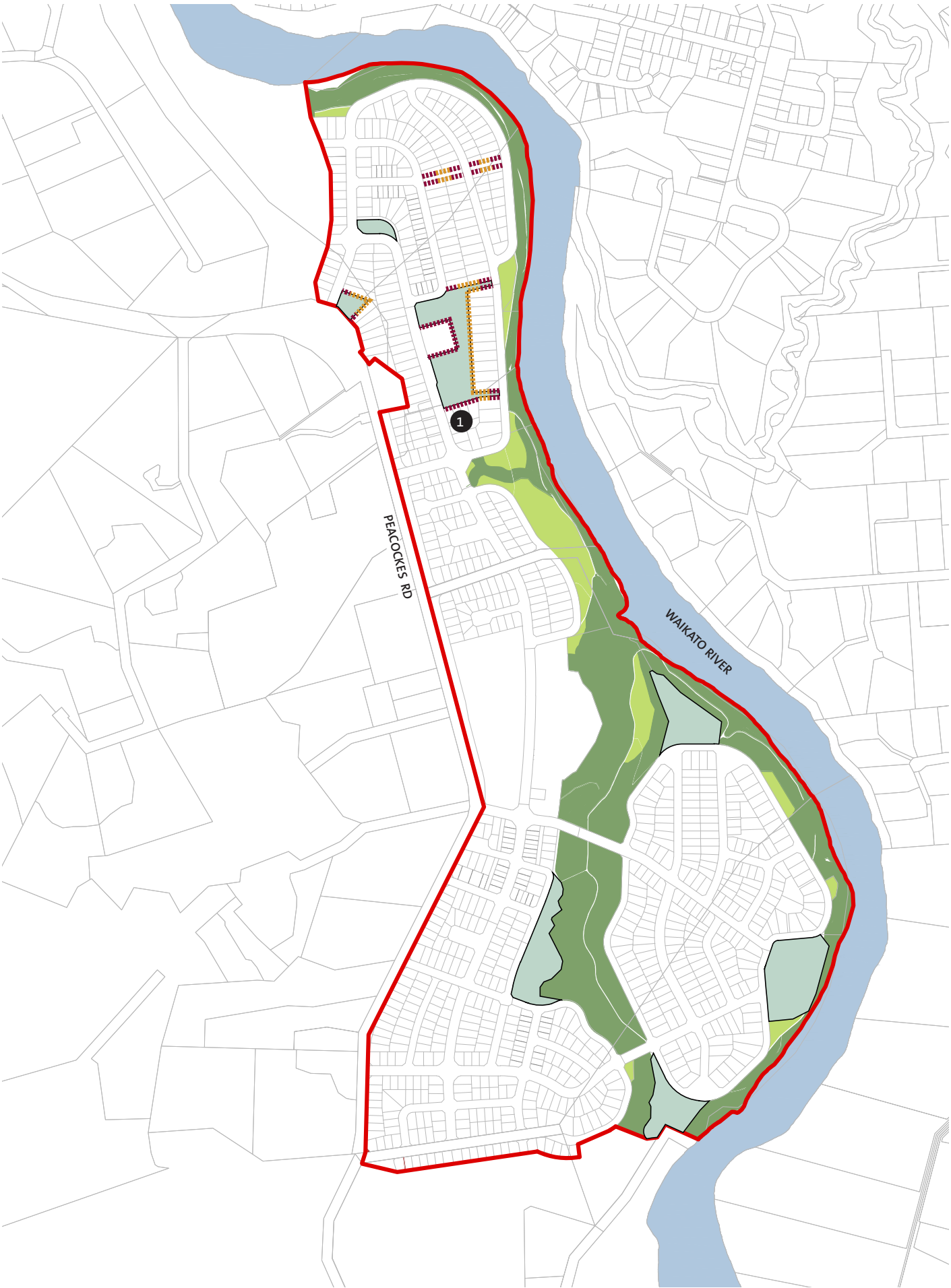
Date: 14 August 2018
Revision: D

Plan prepared for Weston Lea Ltd
by Boffa Miskell Limited

Project Manager: **Rachel.deLambert**
@boffamiskell.co.nz

Drawn: MPE | Checked: JPo

This plan has been prepared by Boffa Miskell Limited on the specific instructions of our Client. It is solely for our Client's use in accordance with the agreed scope of work. Any use or reliance by a third party is at that party's own risk. Where information has been supplied by the Client or obtained from other external sources, it has been assumed that it is accurate. No liability or responsibility is accepted by Boffa Miskell Limited for any errors or omissions to the extent that they arise from inaccurate information provided by the Client or any external source.



KEY

- Indicative Site Boundary
- Reserves
- Areas of Usable Grass Space
- Gully and Esplanade Planting

Fences

- 1.2m high fence
- 1.2m high fence designed and constructed for less than 50% see-through visibility OR maximum 1.8m high fence constructed of materials with 50% or more see-through visibility (Refer Hamilton City Council District Plan Rules 15.4.6 Fences and Walls)

- 1 Lots on southern boundary of Knoll Park are rear lane access and front the reserve

NOTES

Fencing between a dwelling's front or side elevation and a reserve or walkway designed and constructed to 1.2m in height. Where boundary is adjacent to a rear yard a maximum of 1.8m can be constructed as per Hamilton City Council District Plan Rules 15.4.6 Fences and Walls



AMBERFIELD
PEACOCKE STRUCTURE PLAN
Figure M: Fence
Height Restrictions on
Residential Lots Adjacent
to Open Spaces

DRAWING NUMBER A17134_057

Date: 14 August 2018
Revision: B

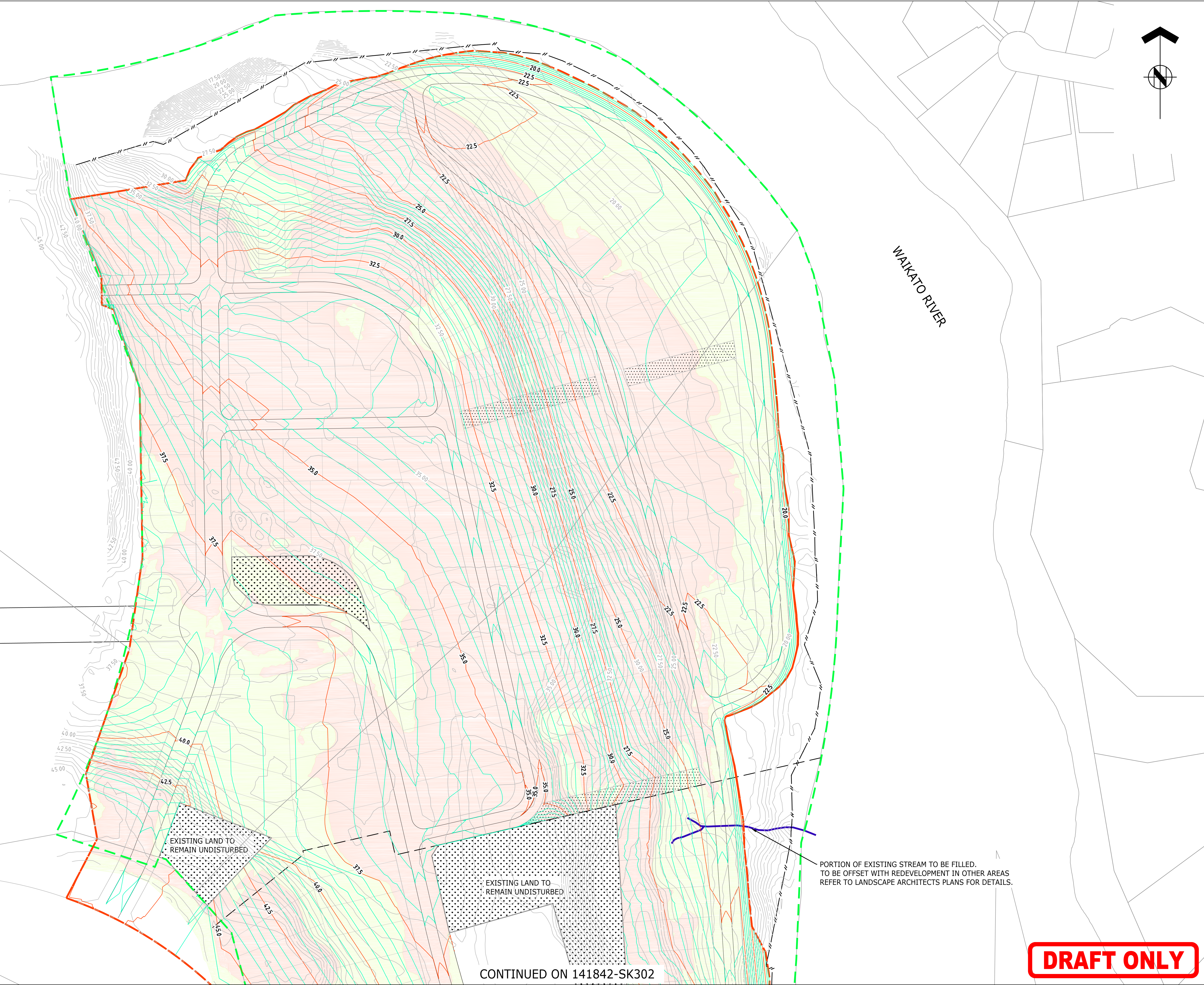
Plan prepared for Weston Lea Ltd
by Boffa Miskell Limited

Project Manager: Rachel deLambert
@boffamiskell.co.nz

Drawn: BCI | Checked: RdL

This plan has been prepared by Boffa Miskell Limited on the specific instructions of our Client. It is solely for our Client's use in accordance with the agreed scope of work. Any use or reliance by a third party is at that party's own risk. Where information has been supplied by the Client or obtained from other external sources, it has been assumed that it is accurate. No liability or responsibility is accepted by Boffa Miskell Limited for any errors or omissions to the extent that they arise from inaccurate information provided by the Client or any external source.

Appendix 1: Harrison Grierson Figures





ASSOCIATION OF CONSULTING
ENGINEERS NEW ZEALAND

ISO 9001
QUALITY
ASSURED

THIS DRAWING AND DESIGN REMAINS THE PROPERTY OF, AND MAY NOT BE REPRODUCED OR ALTERED, WITHOUT THE WRITTEN PERMISSION OF HARRISON GRIERSON CONSULTANTS LIMITED. NO LIABILITY SHALL BE ACCEPTED FOR UNAUTHORISED USE OF THIS DRAWING.

NOTES:

1. FOR REFERENCE PURPOSES ONLY, TO ASSIST IN SEC 92 - ITEM 55

LEGEND:

AREAS OF CUT

AREAS OF FILL

EXISTING CONTOURS SHOWN AT 0.5m INTERVALS

PROPOSED CONTOURS SHOWN AT 0.5m INTERVALS

EXTENT OF EARTHWORKS

STAGE BOUNDARY

EXISTING OPEN DRAINAGE CHANNEL / WATERCOURSE TO BE FILLED WITHIN EARTHWORKS FOOTPRINT

EXISTING FENCE

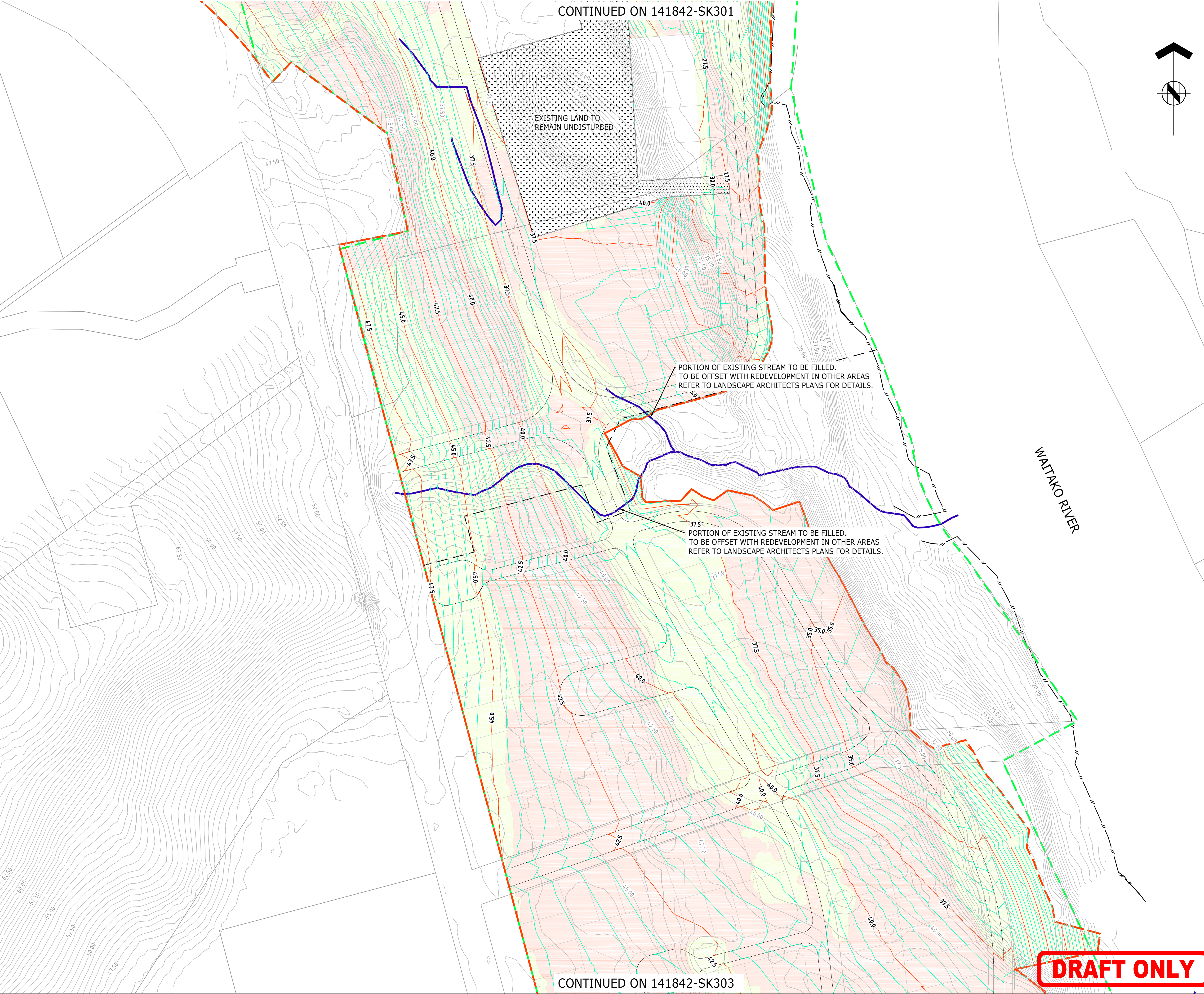


AUCKLAND OFFICE
DILWORTH HOUSE 71 GREAT SOUTH ROAD
NEWMARKET AUCKLAND 1051
T +64 9 917 5000
W www.harrisingrierson.com

1	FOR INFORMATION	KRW	06.08.18
REF	REVISIONS	BY	DATE
PROJECT:			
WESTON LEA LTD AMBERFIELD PEACOCKE RD HAMILTON			
TITLE:			
EARTHWORKS OVERLAY PLAN SHEET 1 OF 6			
ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
SWK	06.08.18		AJP
DRAWN:	DATE:	SIGNED:	PLOT DATE:
AJP	06.08.18		06.08.18
CHECKED:	DATE:	SIGNED:	SURVEY BY:
KRW	06.08.18		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
KRW	06.08.18		----
ISSUE STATUS:			
FOR INFORMATION			
PROJECT No:	SCALES:		A1
9820-141842-01	1:1000 - A1 1:2000 - A3		
DRAWING No:		REV	
141842-SK301			1

DRAFT ONLY

CONTINUED ON 141842-SK302





ASSOCIATION OF CONSULTING
ENGINEERS NEW ZEALAND

ISO 9001
QUALITY
ASSURED

THIS DRAWING AND DESIGN REMAINS THE PROPERTY OF, AND MAY NOT BE REPRODUCED OR ALTERED, WITHOUT THE WRITTEN PERMISSION OF HARRISON GRIERSON CONSULTANTS LIMITED. NO LIABILITY SHALL BE ACCEPTED FOR UNAUTHORISED USE OF THIS DRAWING.

NOTES:

1. FOR REFERENCE PURPOSES ONLY, TO ASSIST IN
SEC 92 - ITEM 55

LEGEND:

AREAS OF CUT

AREAS OF FILL

EXISTING CONTOURS SHOWN AT
0.5m INTERVALS

PROPOSED CONTOURS SHOWN AT
0.5m INTERVALS

EXTENT OF EARTHWORKS

STAGE BOUNDARY

EXISTING OPEN DRAINAGE CHANNEL /
WATERCOURSE TO BE FILLED WITHIN
EARTHWORKS FOOTPRINT

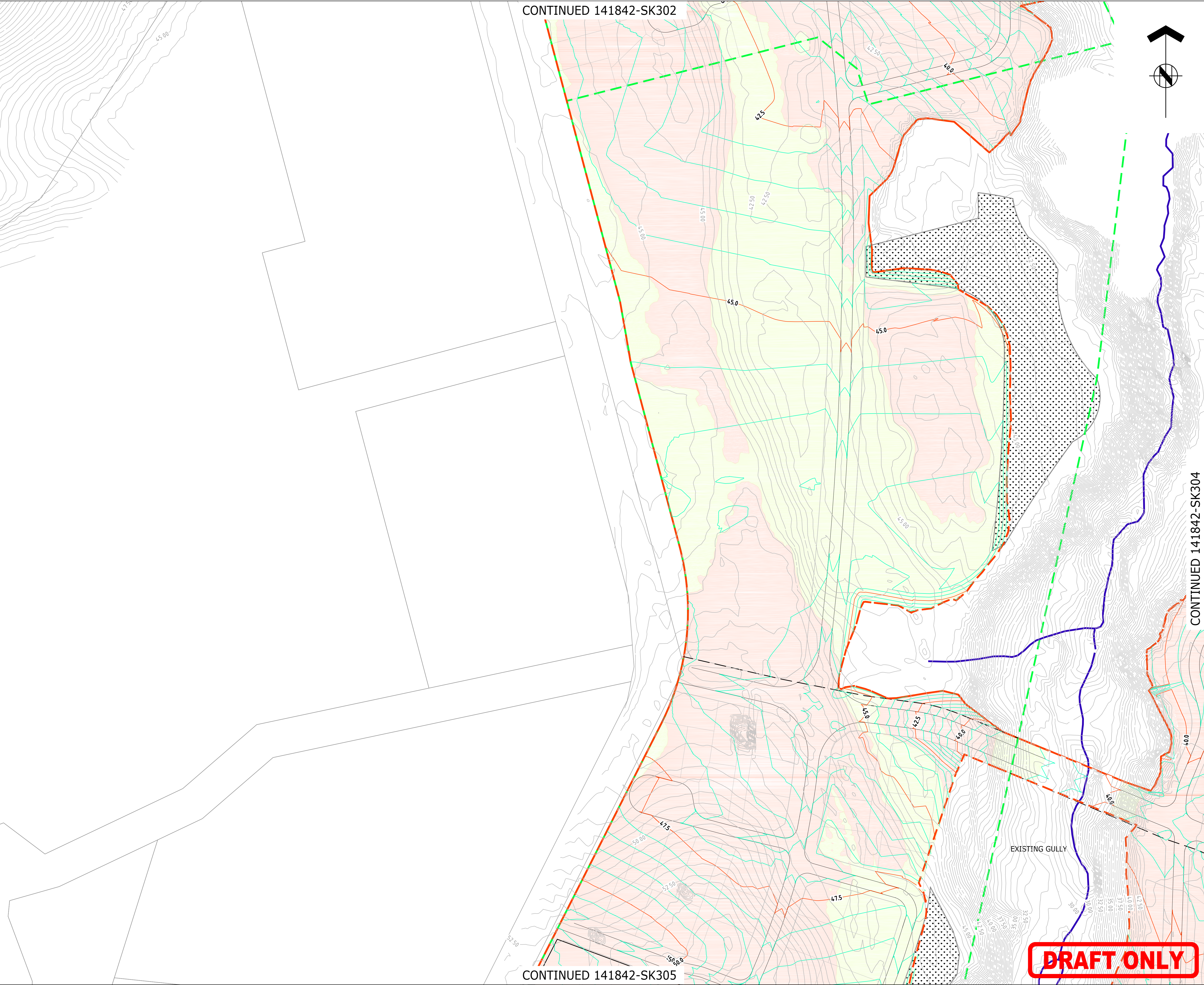
EXISTING FENCE



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

1	FOR INFORMATION	KRW	06.08.18
REF	REVISIONS	BY	DATE
PROJECT:			
WESTON LEA LTD AMBERFIELD PEACOCKE RD HAMILTON			
TITLE:			
EARTHWORKS OVERLAY PLAN SHEET 2 OF 6			
ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
SWK	06.08.18		AJP
DRAWN:	DATE:	SIGNED:	PLOT DATE:
AJP	06.08.18		06.08.18
CHECKED:	DATE:	SIGNED:	SURVEY BY:
KRW	06.08.18		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
KRW	06.08.18		----
ISSUE STATUS:			
FOR INFORMATION			
PROJECT No:	SCALES:		A1
9820-141842-01	1:1000 - A1 1:2000 - A3		
DRAWING No:			REV
141842-SK302			1

DRAFT ONLY





ASSOCIATION OF CONSULTING
ENGINEERS NEW ZEALAND

ISO 9001
QUALITY
ASSURED

THIS DRAWING AND DESIGN REMAINS THE PROPERTY OF, AND MAY NOT BE REPRODUCED OR ALTERED, WITHOUT THE WRITTEN PERMISSION OF HARRISON GRIERSON CONSULTANTS LIMITED. NO LIABILITY SHALL BE ACCEPTED FOR UNAUTHORISED USE OF THIS DRAWING.

NOTES:

1. FOR REFERENCE PURPOSES ONLY, TO ASSIST IN
SEC 92 - ITEM 55

LEGEND:

AREAS OF CUT

AREAS OF FILL

EXISTING CONTOURS SHOWN AT
0.5m INTERVALS

PROPOSED CONTOURS SHOWN AT
0.5m INTERVALS

EXTENT OF EARTHWORKS

STAGE BOUNDARY

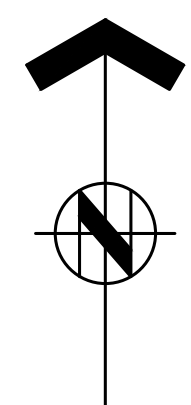
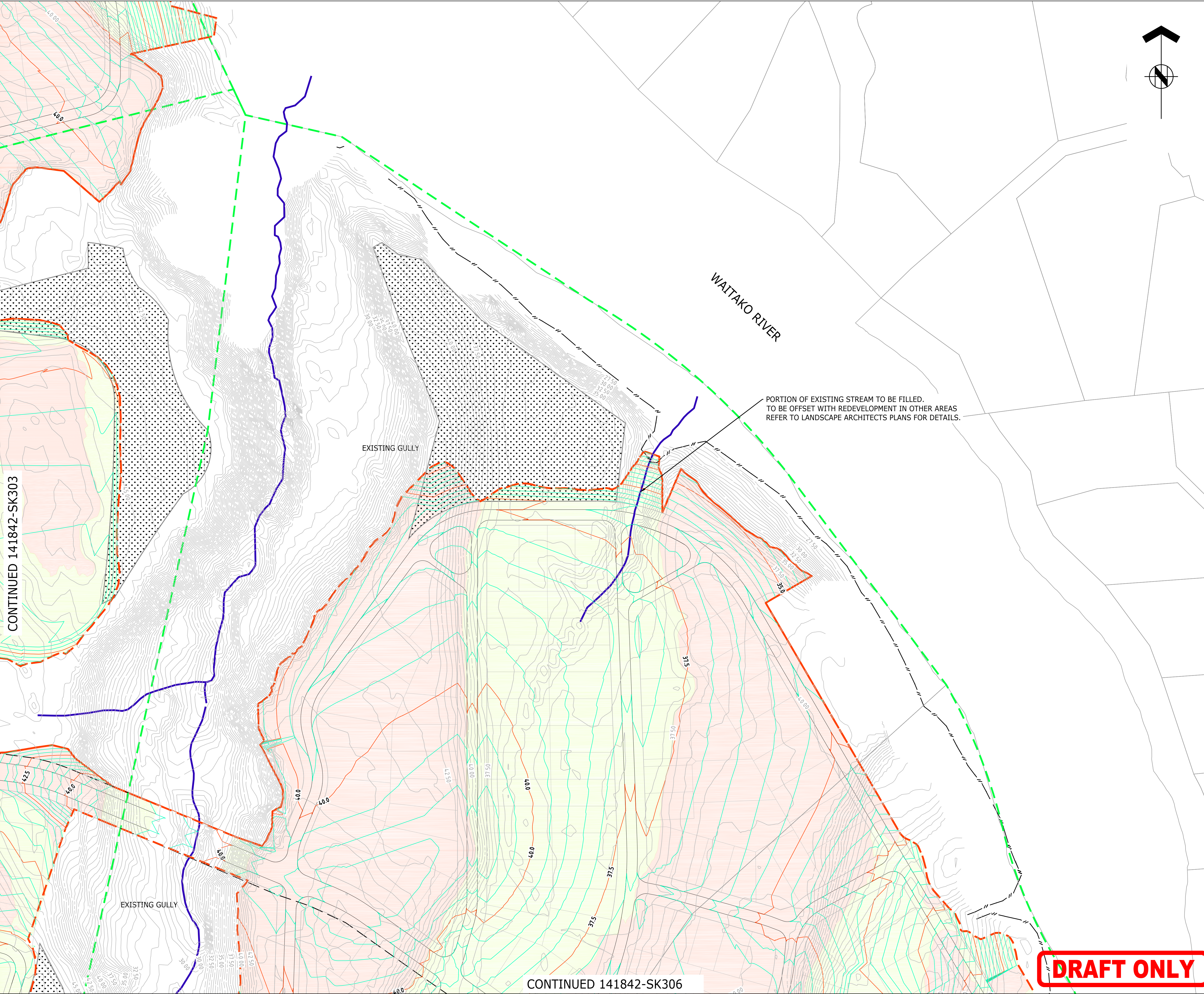
EXISTING OPEN DRAINAGE CHANNEL /
WATERCOURSE TO BE FILLED WITHIN
EARTHWORKS FOOTPRINT

EXISTING FENCE



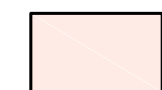
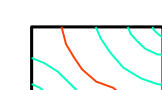
AUCKLAND OFFICE
DILWORTH HOUSE 71 GREAT SOUTH ROAD
NEWMARKET AUCKLAND 1051
T +64 9 917 5000
W www.harrisongrierson.com

1	FOR INFORMATION	KRW	06.08.18
REF	REVISIONS	BY	DATE
PROJECT:			
WESTON LEA LTD AMBERFIELD PEACOCKE RD HAMILTON			
TITLE:			
EARTHWORKS OVERLAY PLAN SHEET 3 OF 6			
ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
SWK	06.08.18		AJP
DRAWN:	DATE:	SIGNED:	PLOT DATE:
AJP	06.08.18		06.08.18
CHECKED:	DATE:	SIGNED:	SURVEY BY:
KRW	06.08.18		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
KRW	06.08.18		----
ISSUE STATUS:			
FOR INFORMATION			
PROJECT No:	SCALES:		A1
9820-141842-01	1:1000 - A1 1:2000 - A3		
DRAWING No:			REV
141842-SK303			1



THIS DRAWING AND DESIGN REMAINS THE PROPERTY OF, AND MAY NOT BE REPRODUCED OR ALTERED, WITHOUT THE WRITTEN PERMISSION OF HARRISON GRIERSON CONSULTANTS LIMITED. NO LIABILITY SHALL BE ACCEPTED FOR UNAUTHORISED USE OF THIS DRAWING.

- NOTES:
- FOR REFERENCE PURPOSES ONLY, TO ASSIST IN SEC 92 - ITEM 55

- LEGEND:
-  AREAS OF CUT
 -  AREAS OF FILL
 -  EXISTING CONTOURS SHOWN AT 0.5m INTERVALS
 -  PROPOSED CONTOURS SHOWN AT 0.5m INTERVALS
 -  EXTENT OF EARTHWORKS
 -  STAGE BOUNDARY
 -  EXISTING OPEN DRAINAGE CHANNEL / WATERCOURSE TO BE FILLED WITHIN EARTHWORKS FOOTPRINT
 -  EXISTING FENCE

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

1	FOR INFORMATION	KRW	06.08.18
REF	REVISIONS	BY	DATE

PROJECT:

WESTON LEA LTD
AMBERFIELD
PEACOCKE RD HAMILTON

TITLE:

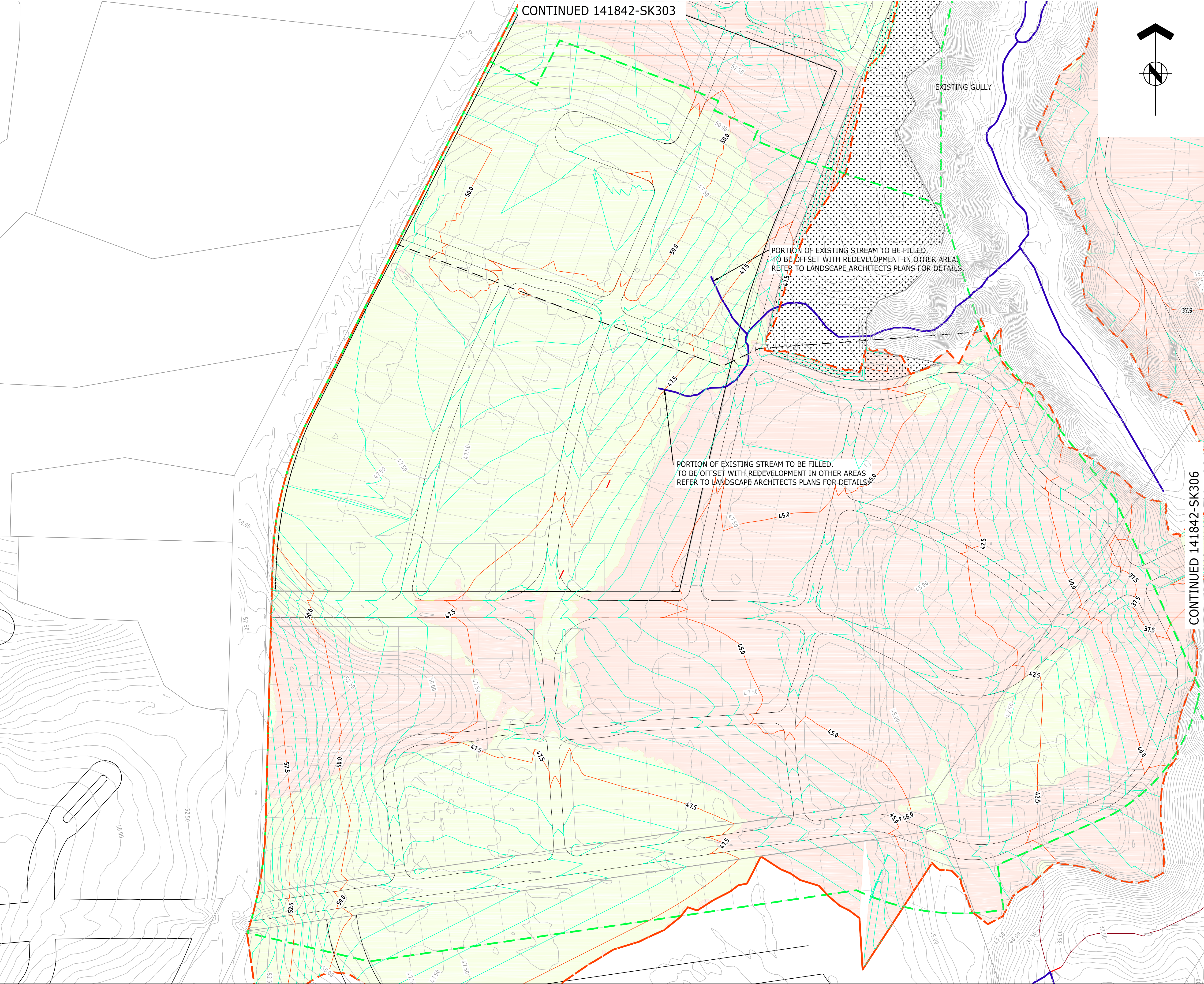
EARTHWORKS OVERLAY PLAN
SHEET 4 OF 6

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
SWK	06.08.18		AJP
DRAWN:	DATE:	SIGNED:	PLOT DATE:
AJP	06.08.18		06.08.18
CHECKED:	DATE:	SIGNED:	SURVEY BY:
KRW	06.08.18		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
KRW	06.08.18		----

ISSUE STATUS:

FOR INFORMATION

PROJECT No:	SCALES:	A1
9820-141842-01	1:1000 - A1 1:2000 - A3	
DRAWING No:		REV
141842-SK304		1





ASSOCIATION OF CONSULTING
ENGINEERS NEW ZEALAND

ISO 9001
QUALITY
ASSURED

THIS DRAWING AND DESIGN REMAINS THE PROPERTY OF, AND MAY NOT BE REPRODUCED OR ALTERED, WITHOUT THE WRITTEN PERMISSION OF HARRISON GRIERSON CONSULTANTS LIMITED. NO LIABILITY SHALL BE ACCEPTED FOR UNAUTHORISED USE OF THIS DRAWING.

NOTES:

1. FOR REFERENCE PURPOSES ONLY, TO ASSIST IN
SEC 92 - ITEM 55

LEGEND:

AREAS OF CUT

AREAS OF FILL

EXISTING CONTOURS SHOWN AT
0.5m INTERVALS

PROPOSED CONTOURS SHOWN AT
0.5m INTERVALS

EXTENT OF EARTHWORKS

STAGE BOUNDARY

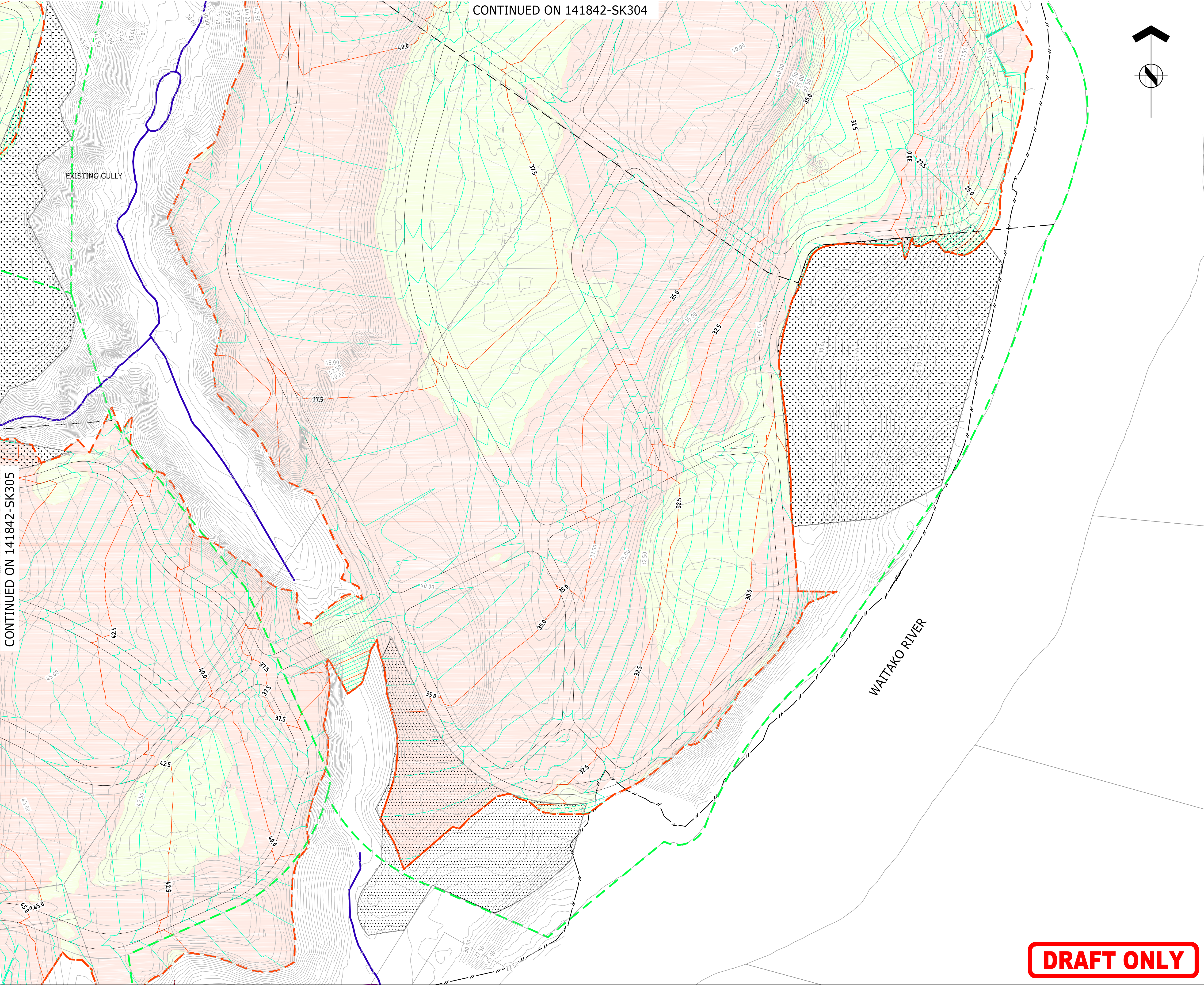
EXISTING OPEN DRAINAGE CHANNEL /
WATERCOURSE TO BE FILLED WITHIN
EARTHWORKS FOOTPRINT

EXISTING FENCE



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

1	FOR INFORMATION	KRW	06.08.18
REF	REVISIONS	BY	DATE
PROJECT:			
WESTON LEA LTD AMBERFIELD PEACOCKE RD HAMILTON			
TITLE:			
EARTHWORKS OVERLAY PLAN SHEET 5 OF 6			
ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
SWK	06.08.18		AJP
DRAWN:	DATE:	SIGNED:	PLOT DATE:
AJP	06.08.18		06.08.18
CHECKED:	DATE:	SIGNED:	SURVEY BY:
KRW	06.08.18		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
KRW	06.08.18		----
ISSUE STATUS:			
FOR INFORMATION			
PROJECT No:	SCALES:		A1
9820-141842-01	1:1000 - A1 1:2000 - A3		REV
DRAWING No:			1
141842-SK305			



DRAFT ONLY



ASSOCIATION OF CONSULTING
ENGINEERS NEW ZEALAND

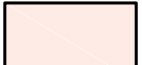
ISO 9001
QUALITY
ASSURED

THIS DRAWING AND DESIGN REMAINS THE PROPERTY OF, AND MAY NOT BE REPRODUCED OR ALTERED, WITHOUT THE WRITTEN PERMISSION OF HARRISON GRIERSON CONSULTANTS LIMITED. NO LIABILITY SHALL BE ACCEPTED FOR UNAUTHORISED USE OF THIS DRAWING.

NOTES:

1. FOR REFERENCE PURPOSES ONLY, TO ASSIST IN
SEC 92 - ITEM 55

LEGEND:



AREAS OF CUT



AREAS OF FILL



EXISTING CONTOURS SHOWN AT
0.5m INTERVALS



PROPOSED CONTOURS SHOWN AT
0.5m INTERVALS



EXTENT OF EARTHWORKS



STAGE BOUNDARY



EXISTING OPEN DRAINAGE CHANNEL /
WATERCOURSE TO BE FILLED WITHIN
EARTHWORKS FOOTPRINT



EXISTING FENCE



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

1	FOR INFORMATION	KRW	06.08.18
REF	REVISIONS	BY	DATE
PROJECT:			
WESTON LEA LTD AMBERFIELD PEACOCKE RD HAMILTON			
TITLE:			
EARTHWORKS OVERLAY PLAN SHEET 6 OF 6			
ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
SWK	06.08.18		AJP
DRAWN:	DATE:	SIGNED:	PLOT DATE:
AJP	06.08.18		06.08.18
CHECKED:	DATE:	SIGNED:	SURVEY BY:
KRW	06.08.18		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
KRW	06.08.18		----
ISSUE STATUS:			
FOR INFORMATION			
PROJECT No:	SCALES:		A1
9820-141842-01	1:1000 - A1 1:2000 - A3		REV
DRAWING No:			1
141842-SK306			

Memorandum

Boffa Miskell
Level 3, IBM Centre, 82 Wyndham Street, Auckland
PO Box 91250, Auckland 1142
Telephone: +64 9 358 2526



Attention:	Rachel de Lambert
Company:	Boffa Miskell
Date:	21-08-2018
From:	Sandeep Gangar – Senior GIS Specialist and Ben Clark – Urban Designer and Landscape Architect
Message Ref:	Amberfield – Hamilton City Council s92 Response Item 54: ZVI Data Sources and Methodology
Project No:	A17134

1.0 Introduction

The purpose of this memo is to provide information on data sources and nature of the data used in the Zone of Visual Influence (ZVI) maps that accompanied the Section 92 Request for additional information. This relates particularly to Item 54 – Landscape Visual Effects: Identification of the extent of visual catchment and analysis of the range of affects within.

2.0 Data for the Analysis

The visibility analysis at Amberfield was done using the LiDAR data received from Waikato Regional Council (WRC) in point cloud format. This LiDAR data was captured by WRC during the 2007-2008 flying season. The ground and above-ground data was received as several tiles which were processed and stitched together to create a seamless above-ground Digital Surface Model (DSM). The screening effects of the existing vegetation and built structures were modelled in the above-ground DSM for areas outside the 'Site Boundary'. The proposed land form of the development was obtained from the 3D model of the site prepared by Harrison Grierson.

3.0 Performing the Visibility Analysis

The visibility of the proposed landform was assessed by creating a grid of 50m x 50m across the site. The points thus created represented the variation in terrain of the proposed landform within the site. The 'Viewshed Analysis' tool used in ArcGIS identifies the cells in an input raster that can be seen from one or more observation locations. This process allowed us to determine the visibility of the proposed landform for the Amberfield site and classify the results as; highly visible, represented by the red end of the scale to, barely visible, represented by the green end of the scale.