

VEGETATION MANAGEMENT PLAN

60 STAPYLTON JACOBS WELL ROAD, 82
CHRISTENSEN ROD

LOT 1 on RP6882, Lot 240 on W31320

Balance of Earthworks

PREPARED FOR: KS8 Pty. Ltd.

March 2018



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development
perspectives

project coordination
urban + regional planning
landscape + urban design
environmental management
visualisation + spatial services
surveying services
advisory services

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Revision / Checking History

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V1.0	Brian Gassman	Director		28/03/2018

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Gold Coast City Council	1 electronic copy

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1. Introduction

1.1. Background

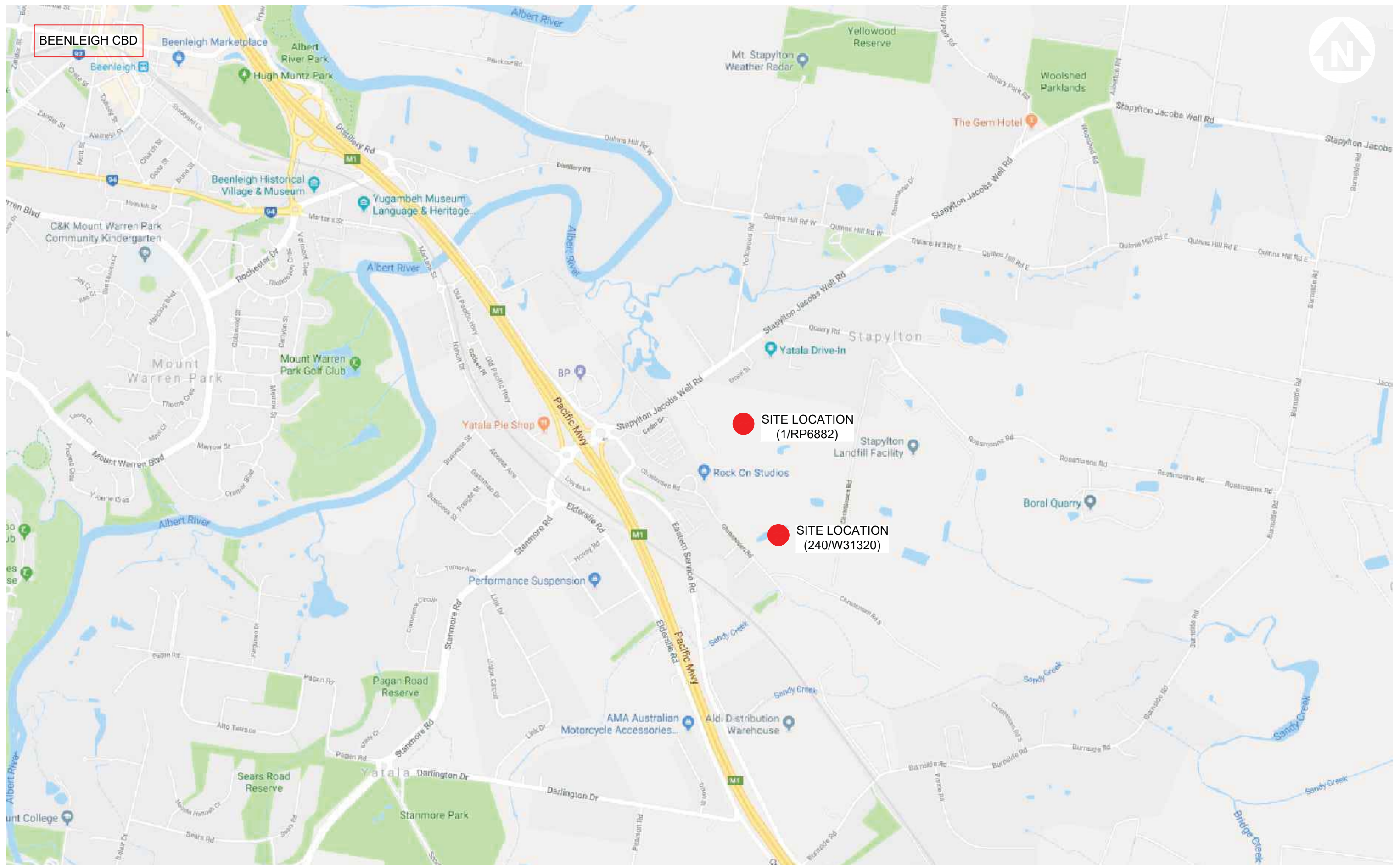
This Vegetation Management Plan (VMP) has been produced by Gassman Development Perspectives in support of proposed vegetation clearing works to facilitate a large scale industrial subdivision. It prescribes the methods in which vegetation should be removed from the subject site in support of the required earthworks to facilitate the proposed industrial development.

This VMP focuses on land occurring over Lot 1 on RP6882 and Lot 240 on W31320, Stapylton. The proposed vegetation clearing is required on Lots 1 on RP6882 and 240 on W31320 to facilitate the remaining balance of earthworks required for the proposed industrial subdivision. Stage 1 of the required vegetation clearing and earthworks has been addressed under a separate application and VMP (GCCC ref. ROL201800079)

The subject site is located approximately 400m to the east of the Pacific Motorway (Figure 1 and 2). The site is currently a mixture of improved pasture in the lower and flatter parts of the site, and low and tall open remnant forests in the north eastern and south eastern corners of the site.

Details of individual trees recorded on the subject site include the species, trunk diameter, height, canopy spread and fauna use.

Trees were recorded using survey equipment and methods. This information has been used for the best practice management strategies for managing clearing on the site. The records of these trees are included in Appendix 1 to this report.



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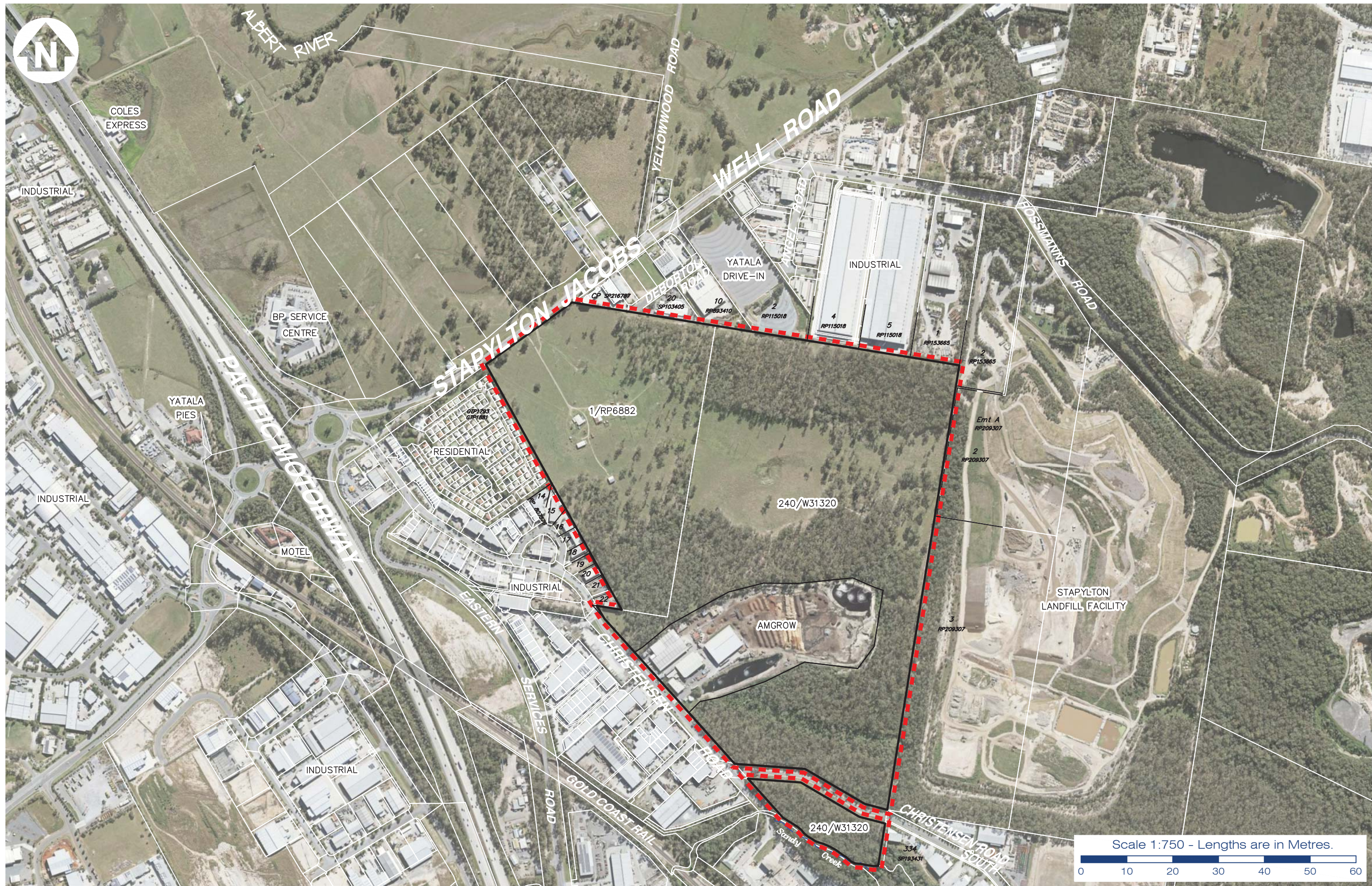
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balance figure 1 - locality

stapyhton-jacobs well road, stapyhton
KS8 Pty. Ltd.

date: 09-04-18
scale: NTS
design: RM/KT
plan: 5738 E VMP B FIG 1



2. Purpose

The principle intention of this VMP is to appropriately reflect the current tree species on the site, their location, management and treatment in relation to removal, retention, protection, relocation, propagation and enhancement.

Because of the size of the site, only the trees within the more open areas of the site were individually surveyed. The remaining vegetation subject to this VMP has been identified in vegetation groups. In the more open areas, trees over 40cm in diameter at 1.3 above the ground, or over 4m in height, were individually recorded.

A total of 187 trees were individually surveyed within this Balance of Earthworks Stage, and 12 additional vegetation groups identified. All of the trees, including those too small to be individually surveyed, and vegetation groups within this balance of earthworks stage on Lots 1 on RP6882 and 240 on W31320 will require removal as part of the proposed development. Of the individually surveyed trees, 82 trees were observed to contain habitat values, with all of these proposed for removal. Notes have been included in the Tree Survey Plan identifying habitat values associated with individually surveyed trees. There is also expected to be similar habitat values associated within the areas surveyed as vegetation groups. Consequently, a qualified fauna spotter/catcher should be engaged to be present during all clearing operations.

3. VMP Provisions

This VMP has been structured in a manner to incorporate the following provisions:

- The location and extents of the proposed construction areas in which the vegetation will be removed and areas that will be protected;
- Particulars of the vegetation occurring on site (Appendix 1);
- A statement of the reasons for the damage and associated factors;
- A vegetation management plan which details the procedures on the following;
 - o Vegetation protection
 - o Vegetation to be removed
 - o Corrective action
 - o Reuse of felled Vegetation
 - o Stockpiles
 - o Habitat Trees
 - o Ecological role of the vegetation to be removed
 - o Invasive weed species
 - o Summary of performance indicators

4. VMP Objectives

4.1. Vegetation Protection

As the required vegetation clearing is for a staged industrial subdivision, no vegetation within the extent of the balance earthworks as shown in Appendix 1 on Lots 1 on RP6882 and 240 on W31320 is proposed to be retained. However, a buffer of vegetation to Sandy Creek is proposed to be retained in the portion of Lot 240 on W31320 south of Christensen Rd.

The limit to the proposed clearing for the balance of earthworks stage is identified in the Tree Survey Plans provided in Appendix 1, and includes all necessary clearing, including drainage lines, sediment basins and access for construction plant.

As no vegetation is proposed to be retained within the balance of earthworks stage on Lots 1 on RP6882 and 240 on W31320, no individual tree protection measures are considered necessary within the balance of earthworks as indicated in Appendix 1.

However, the area of 240 on W31320 to the south of Christensen Road will require protection for the vegetation to be retained within the required buffer area to Sandy Creek. Because of the scale of the clearing, hard standing steel fence (Figure 3) as per Australian Standard AS 4970-2009 (Protection of Trees on Development Sites) is not a feasible option for protecting retained vegetation. Instead, orange mesh fencing between steel pickets and supported by a continuous wire will be utilised to clearly mark the extent of clearing associated with this balance of earthworks VMP.

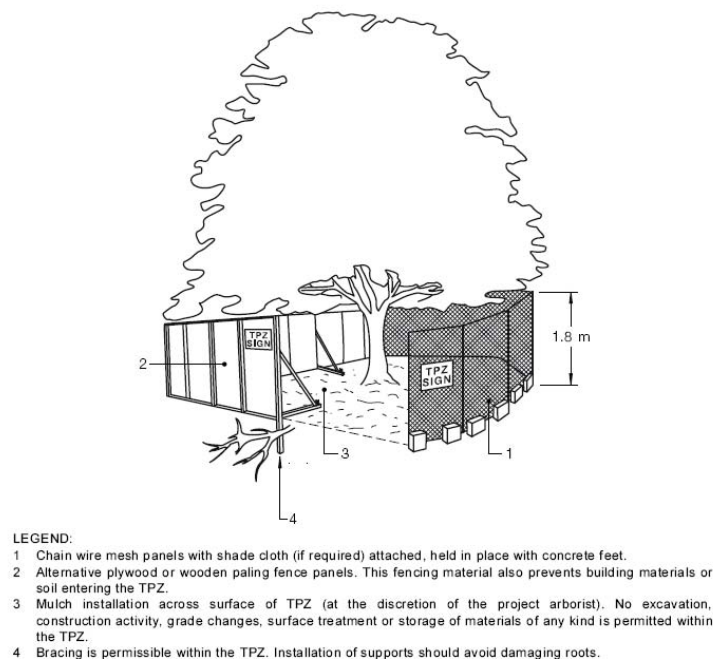


Figure 3: Individual Tree Protection

The following measures will ensure vegetation outside of the balance of earthworks extent is retained in accordance with this VMP;

- 1) The limit of the balance of earthworks extent in the portion of Lot 240 W31320 south of Christensen Rd will be clearly demarcated with orange mesh fencing between steel pickets and supported by a continuous wire
- 2) All machine operators conducting the tree clearing process are to have a copy of the approved Tree Clearing Plan;
- 3) No site sheds, parking areas or buildings are located within the retained vegetation outside of the balance of earthworks clearing extent, or under its drip line;
- 4) The area surrounding the trees for removal is clear of any hazards and maintains adequate room to safely conduct the removal;
- 5) The vegetation removal process has focused on providing environmentally sensitive and sustainable practices including:

- Fauna removal if required;
 - Direction of clearance and felling; and
 - Reuse of felled material for on site use
- 6) The following activities are prohibited to occur within the vegetation protection zones or drip-lines of retained vegetation outside of the balance of earthworks extent:
- Machinery or vehicle parking;
 - Disposal of liquids of any type;
 - Repairs or refuelling;
 - Earthworks;
 - Temporary sheds; and
 - Stockpiling (Refer to section 4.5).

4.2. Vegetation to be Removed

All vegetation within the identified balance of earthworks extent on Lots 1 on RP6882 and 240 on W31320 is proposed to be removed. The vegetation groups and individual habitat bearing trees are clearly indicated in the plan contained within Appendix 1.

Small trees, re-growth, understorey or groundcover species that also occur within the allocated clearance areas have not been individually identified, but are also proposed to be removed. Only individual trees in more open areas have been individually surveyed in Appendix 1, with the remaining vegetation proposed to be removed identified in vegetation groups.

4.2.1. Reasons for Vegetation Removal

The vegetation present on the subject site requires removal for several reasons relating to the proposed development including:

- To facilitate the approved Bulk Earthworks and ultimate construction of proposed industrial subdivision;
- Site access, roads and driveways;
- Necessary drainage and sediment basin infrastructure; and

- Safety for future industrial uses over the property.

4.2.2. Tree Clearing Process

The manner by which the vegetation should be removed from the subject site is outlined in the following section:

- 1) A pre-start meeting with an environmental officer from Gold Coast City Council prior to commencement shall be scheduled.
- 2) Locate and fence the extent of clearing to ensure the trees outside the clearing extent of the balance of earthworks have been protected in accordance with the procedures outlined in Section 4.1 of this report, specifically to ensure the retention of the vegetation within the buffer area to Sandy Creek, south of Christensen Rd on Lot 240 on W31320.
- 3) Fell the allocated vegetation; where practical ensure that clearing occurs in the recommended clearance direction (Figure 4) or in accordance with Fauna Spotter Catcher directions, in order to direct fauna towards retained vegetation and away from adjacent roads.
- 5) Woodchip the felled vegetation on site.
- 6) Stockpile the wood-chipped vegetation in areas which are adequately set back from the retained vegetation.
- 7) Stump grind remains or remove from ground with excavator.



Legend

- Balance Stage Earthworks Extent_20180326
- Stage 1 Earthworks Extent_20180110
- Recommended Clearance Direction_Balance Stage
- Clearing Phase 1
- Clearing Phase 2
- Clearing Phase 3
- Subject Site
- DCDB_clipped_20170920
- Google Satellite

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia (GDA)
Grid: Map Grid of Australia GDA94
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Figure 4 - Clearing Direction

KS8 Pty. Ltd.
Vegetation Management Plan

4.3. Corrective Actions

If vegetation not identified for removal is disturbed during the bulk earthworks process, then discussions with Council environmental officers will be required to identify any needs for additional rehabilitation to compensate the tree damage or removal.

If a retained tree shows signs of ill health, then the causes are to be identified and amelioration methods are to be discussed with council.

4.4. Reuse of Felled Vegetation

Any wood chipped vegetation should be reused on the site in any future landscape and site stabilisation where appropriate. If a surplus of mulch is produced, it may be transported off site for alternative uses elsewhere. To achieve satisfactory mulch, material pasteurisation is the minimum process required to achieve weed and pathogen free mulch from the chipping process.

4.5. Stockpiles

Stockpiles of felled vegetation should be managed with the following considerations:

- Stockpiles are not to be located within 30 meters from significant stands of vegetation.
- Stockpiles are not to be located in areas allocated for road constructions.
- Stockpiles are not to be located in areas with difficult access or on steep slopes.
- Stockpiles are not to exceed 1000mm in height.
- Stockpiles are to be covered with appropriate plastic and fixed securely.
- Stockpiles left for longer than 8 hours should be inspected by a spotter catcher prior to mulching

5. Fauna Inspection

Individual trees observed to contain fauna values, or trees that are large (>40cm DBH) and have potential fauna values are identified in Appendix 1. Additional fauna values will also be present throughout the vegetation groups identified in Appendix 1.

A fauna spotter catcher is required to be present prior to works commencing and inspect the site to ensure identification of any wildlife or habitat features (e.g. nest, tree hollows) prior to clearing. Clearing is not to commence until the fauna spotter has certified that the site has been fully inspected and any necessary fauna protection measures or relocation procedures implemented. A brief letter from the fauna spotter/catcher will be supplied directly to the council ecologist to demonstrate compliance with this condition.

A fauna Spotter Catcher should be on site for the removal of all vegetation. The spotter catcher should hold a current permit with the Department of Environment and Heritage Protection (EHP). Captured fauna should be relocated directly into vegetation outside of the clearing extent immediately adjacent to the clearance area in an appropriate manner. This information can be expanded upon more thoroughly in a Fauna Management Plan conditioned by council if considered necessary.

A pre-start meeting is to be arranged with a Gold Coast City Council Environmental Officer prior to the commencement of vegetation clearing. The ecologist will inspect the tree protection measures. The fauna spotter catcher and consulting ecologist shall be present during the pre-start meeting. The fauna spotter/catcher will submit a letter to Council following the clearing reporting on the details of any fauna rescued, relocated or otherwise.

6. Sediment Control

Sediment control onsite once the clearing process begins should include sediment fencing around the clearance area to reduce the risks of erosion and subsequent sediment entrainment resulting from rain events which may impact upon the adjacent retained vegetation. These measures should be installed once clearing and reshaping of the site begin until completion and the site is re-stabilised.

Sediment and erosion control measures will be put in place in accordance with the approved Sediment and Erosion Control Plan.

7. Summary of Performance Indicators

1. Tree removal was restricted to allocated and approved areas;
2. Trees that remain in protected areas are in a healthy condition;
3. The spotter catcher was present for all clearing activities;
4. Fauna was relocated to suitable recommended locations;
5. Clearing occurred in the recommended direction;
7. No increased erosion or sediment loss occurred from site as a result of the tree clearing;
and
8. Felled vegetation has been wood-chipped and stockpiled.

8. Conclusion

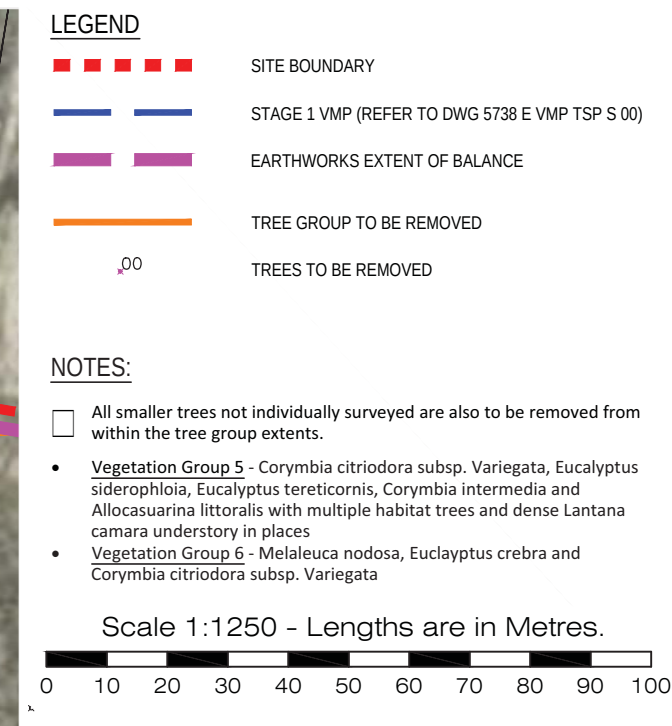
A total of 187 trees were individually surveyed on site, and 12 additional vegetation groups identified. Of the individually surveyed trees, 82 trees contained habitat values. Habitat values are expected to also be present within the surveyed vegetation groups. All of the trees and vegetation groups within the balance extent of earthworks extent on Lots 1 on RP6882 and 240 on W31320 are proposed to be removed.

Due to the structure of the vegetation to be removed and its current habitat values, a suitably qualified fauna spotter/catcher will need to be present during all clearing operations.

Specific methodologies have been prescribed which are to be adhered to at all times during the clearing process to ensure that best practice is achieved at all times, and the ecological impacts of the proposed works are minimised as far as practicable.

The above specifications and management plans have been included with the graphic plans to provide the necessary information for council officers to enable it to make a reasonable assessment of the proposed actions. This report has outlined procedures in relation to the vegetation management and clearing procedures to be undertaken as an operational works component for the facilitation of the reconfiguring a lot application currently over the subject site.

Appendix 1 – Tree Survey Plan



Drawing No: 5738 E VMP TSP B 00 Rev. No:

Drawing No: 5738 E VMP TSP B 00 Rev. No:



Client:
KS8 Pty. Ltd.

Site Address:
Stapylton-Jacobs Well Road, Stapylton

RPD:
Lot: 1 RP6882
Plan: 240 W31320
Parish:
County:
Local Authority: Gold Coast City Council
Level Datum:
Meridian:
Contour Interval:
PSM:
RL:

Associated Consultants:

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Date: 09-04-18
Design:
Drawn: RGM
Checked: KT
Drawing Title:

TREE SURVEY PLAN
BALANCE
SHEET 02 OF 06

Drawing No: 5738 E VMP TSP B 00
Rev. No:



Client:
KS8 Pty. Ltd.

Site Address:
Stapylton-Jacobs Well Road, Stapylton

RPD:
Lot: 1 RP6882
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TREE SURVEY PLAN
BALANCE
SHEET 03 OF 06

Drawing No: 5738 E VMP TSP B 00
Rev. No:



KS8 Pty. Ltd.

Stapylton-Jacobs Well
Road, Stapylton

Lot: 1 RP6882
Plan: 240 W31320
Parish:
County:
Local Authority: Gold Coast City Council

Level Datum:
Meridian:
Contour Interval:
PSM:
RL:

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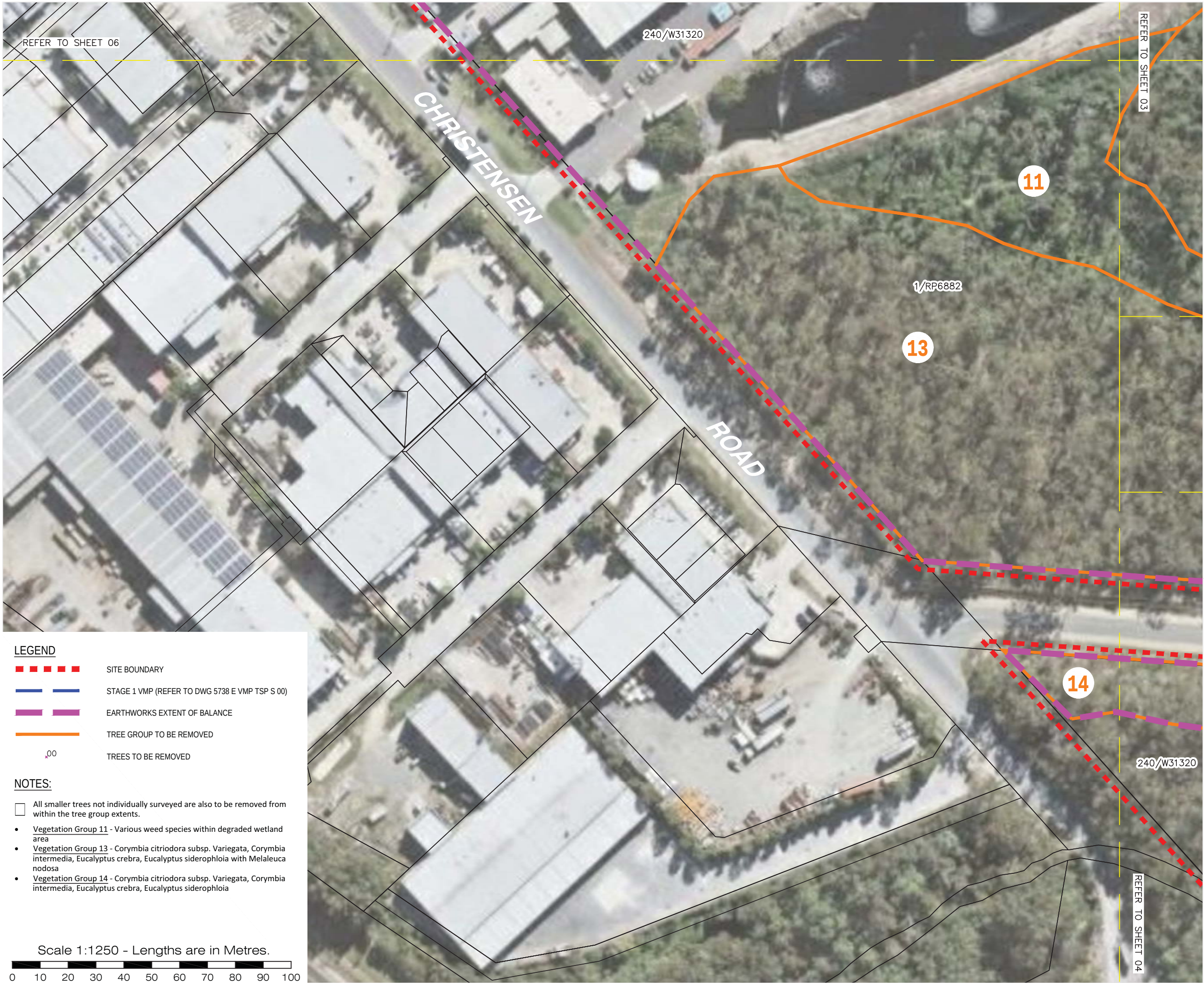
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TREE SURVEY PLAN

BALANCE

SHEET 04 OF 06

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Client:

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Site Address:

Stapylton-Jacobs Well Road, Stapylton

RPD:

Lot: 1 RP6882

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TREE SURVEY PLAN

BALANCE

SHEET 05 OF 06

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Associated Consultants:

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Drawn: _____ RGM

Checked: KT

Drawing Title:

TREE SURVEY PLAN

BALANCE

SHEET 06 OF 06

Drawing No: 5738 E VMP TSP B 00 Rev. No:

TREE No	SPECIES	TRUNK DIAMETER (m)	HEIGHT (m)	CANOPY (M)	NOTES
756.	Eucalyptus crebra	0.7	20	8	Hollows
759.	Corymbia citriodora subsp. Variegata	0.8	22	14	
760.	Corymbia citriodora subsp. Variegata	0.6	16	18	Hollows
761.	Corymbia citriodora subsp. Variegata	0.6	20	12	
762.	Corymbia citriodora subsp. Variegata	0.7	18	12	Hollows
763.	Corymbia citriodora subsp. Variegata	0.4	12	8	Hollows
764.	Corymbia citriodora subsp. Variegata	0.4	16	8	
765.	Eucalyptus siderophloia	0.7	16	16	Hollows, termite nest
766.	Corymbia citriodora subsp. Variegata	0.75	20	12	Hollows
767.	Corymbia citriodora subsp. Variegata	0.3	16	8	
768.	Corymbia citriodora subsp. Variegata	0.7	18	16	Hollows
769.	Eucalyptus siderophloia	0.4	20	10	Hollows, termite nest
770.	DEAD	0.4	6	DEAD	Hollows
771.	Eucalyptus siderophloia	0.6	22	10	Hollows
772.	Corymbia intermedia	0.5	10	10	Hollows, termite nest
773.	Corymbia citriodora subsp. Variegata	0.4	16	6	
774.	Eucalyptus siderophloia	0.6	24	12	Hollows
775.	Corymbia citriodora subsp. Variegata	0.4	18	12	
776.	Corymbia citriodora subsp. Variegata	0.6	22	12	
777.	Corymbia citriodora subsp. Variegata	0.5	20	18	

778.	Eucalyptus siderophloia	0.5	18	12	Hollows
779.	Corymbia citriodora subsp. Variegata	0.7	20	12	Hollows
780.	Eucalyptus crebra	0.4	14	DEAD	Hollows
781.	Corymbia intermedia	0.9	18	16	Hollows
782.	Corymbia intermedia	0.4	16	14	
783.	Corymbia intermedia	0.6	20	14	Hollows, termite nest
784.	Eucalyptus crebra	0.8	28	14	Hollows
785.	Eucalyptus siderophloia	0.7	24	14	Hollows
786.	Eucalyptus tereticornis	0.6	28	10	
787.	Eucalyptus tereticornis	0.6	26	12	
788.	Corymbia citriodora subsp. Variegata	0.6	22	14	
789.	Eucalyptus tereticornis	0.6	26	14	Hollows
790.	Eucalyptus tereticornis	0.4	14	10	Hollows
791.	DEAD	0.7	10	DEAD	
792.	Eucalyptus tereticornis	0.6	28	14	Hollows
793.	Eucalyptus tereticornis	0.8	28	12	Hollows
794.	Eucalyptus tereticornis	0.8	26	18	Hollows
795.	Eucalyptus tereticornis	0.5	22	10	Hollows
796.	Eucalyptus tereticornis	0.5	18	10	Hollows
797.	Corymbia intermedia	0.6	18	18	Hollows
798.	Corymbia intermedia	0.5	18	18	Hollows
799.	Eucalyptus tereticornis	0.5	18	12	Hollows
800.	Corymbia intermedia	0.4	16	12	Termite nest
801.	Eucalyptus siderophloia	0.5	18	8	Hollows
802.	Corymbia intermedia	0.5	18	14	Hollows
803.	Corymbia intermedia	0.3	16	10	
804.	Eucalyptus siderophloia	0.6	18	10	
805.	Eucalyptus siderophloia	0.6	18	8	
806.	DEAD	0.6	14	DEAD	Hollows
807.	Eucalyptus siderophloia	0.6	14	8	Termite nest, hollows
808.	Eucalyptus siderophloia	0.7	18	6	Hollows
809.	Corymbia intermedia	0.4	14	10	Hollows
810.	Eucalyptus tereticornis	0.4	20	8	

811.	Eucalyptus siderophloia	0.4	20	10	Termite nest
812.	Eucalyptus siderophloia	0.4	24	10	Hollows
813.	Eucalyptus tereticornis	0.4	18	10	
814.	Eucalyptus siderophloia	0.5	24	12	Hollows
815.	Corymbia intermedia	0.4	16	10	
816.	Eucalyptus microcorys	0.4	12	8	
817.	Eucalyptus siderophloia	0.8	24	12	Termite nest, hollows
818.	Corymbia intermedia	0.6	22	14	Hollows
819.	Corymbia intermedia	0.4	22	12	
820.	Corymbia citriodora subsp. Variegata	0.7	30	16	Hollows
821.	Eucalyptus siderophloia	0.5	24	14	
822.	Eucalyptus siderophloia	0.8	24	14	Hollows
823.	Corymbia citriodora subsp. Variegata	0.7	28	12	
824.	Eucalyptus microcorys	0.7	20	14	
825.	Eucalyptus fibrosa	0.5	22	12	
826.	Corymbia intermedia	0.2	10	8	
827.	Corymbia intermedia	0.4	18	10	
828.	Corymbia intermedia	0.3	10	8	
829.	Corymbia intermedia	0.4	22	10	
830.	Eucalyptus tereticornis	0.7	24	18	
831.	Eucalyptus siderophloia	0.4	24	14	
832.	DEAD	0.5	18	DEAD	Hollows
833.	DEAD	0.4	10	DEAD	
834.	DEAD	0.4	18	DEAD	Hollows
835.	DEAD	0.6	22	DEAD	Hollows
836.	Eucalyptus tereticornis	0.6	28	18	
837.	Eucalyptus tereticornis	0.5	26	18	
838.	Eucalyptus tereticornis	0.5	26	16	
839.	Eucalyptus siderophloia	0.5	26	12	Hollows
840.	DEAD	0.3	16	DEAD	
841.	Eucalyptus siderophloia	0.5	16	12	
842.	Eucalyptus siderophloia	0.35	10	DEAD	
843.	Eucalyptus tereticornis	0.7	18	14	

844.	Eucalyptus siderophloia	0.6	18	14	
845.	DEAD	0.4	18	12 - DEAD	Hollows
846.	Eucalyptus siderophloia	0.6	18	DEAD	Hollows
847.	Eucalyptus tereticornis	0.45	18	12	Hollows
848.	Eucalyptus tereticornis	0.6	18	14	Hollows
849.	Eucalyptus tereticornis	0.65	18	12	Hollows
850.	Eucalyptus tereticornis	0.6	18	10	Hollows
851.	Eucalyptus siderophloia	0.6	18	12	
852.	Eucalyptus tereticornis	0.6	18	14	
853.	Eucalyptus tereticornis	0.8	18	14	Hollows
854.	Eucalyptus tereticornis	0.8	18	14	Hollows
855.	Eucalyptus tereticornis	0.6	18	14	Hollows
856.	Corymbia citriodora subsp. Variegata	0.9	20	18	Hollows
857.	Eucalyptus siderophloia	0.75	18	DEAD	Hollows
858.	DEAD	0.35	14	DEAD	
859.	Corymbia citriodora subsp. Variegata	0.45	14	12	
860.	DEAD	0.5	14	DEAD	
861.	Eucalyptus siderophloia	0.7	20	12	
862.	Corymbia intermedia	0.5	16	16	
863.	Eucalyptus siderophloia	0.5	16	14	Hollows
864.	Corymbia citriodora subsp. Variegata	0.9	20	14	
865.	Corymbia citriodora subsp. Variegata	0.4	10	DEAD	
866.	Eucalyptus crebra	0.75	12	10	Hollows
867.	Corymbia citriodora subsp. Variegata	0.35	18	10	
868.	DEAD	0.4	10	sDEAD	Hollows
869.	Corymbia citriodora subsp. Variegata	0.55	20	10	Hollows
870.	Corymbia citriodora subsp. Variegata	0.4	20	16	

871.	Corymbia citriodora subsp. Variegata	0.3	20	8	
872.	Corymbia citriodora subsp. Variegata	0.4	20	8	
873.	Corymbia intermedia	0.6	10	14	Hollow, termite nest
874.	Corymbia intermedia	0.4	18	10	
875.	Corymbia citriodora subsp. Variegata	0.4	20	12	
876.	Corymbia citriodora subsp. Variegata	0.4	18	12	
877.	Corymbia citriodora subsp. Variegata	0.3	14	8	
878.	Corymbia citriodora subsp. Variegata	0.4	16	10	
879.	Corymbia citriodora subsp. Variegata	0.4	16	10	
880.	Corymbia citriodora subsp. Variegata	0.45	12	12	Hollows
881.	Corymbia citriodora subsp. Variegata	0.3	12	8	
882.	Corymbia citriodora subsp. Variegata	0.4	14	6	
883.	Corymbia citriodora subsp. Variegata	0.5	16	12	Hollows
884.	Corymbia citriodora subsp. Variegata	0.4	16	14	
885.	Corymbia citriodora subsp. Variegata	0.5	16	12	
886.	Corymbia citriodora subsp. Variegata	0.4	16	12	
887.	Corymbia citriodora subsp. Variegata	0.4	14	12	
888.	Corymbia citriodora subsp. Variegata	0.35	14	14	
889.	Corymbia citriodora subsp. Variegata	0.35	14	8	

890.	Corymbia citriodora subsp. Variegata	0.6	14	8	
891.	Corymbia citriodora subsp. Variegata	0.4	16	14	
892.	Corymbia intermedia	0.4	14	10	
893.	Corymbia citriodora subsp. Variegata	0.6	18	12	
894.	Corymbia citriodora subsp. Variegata	0.7	18	12	
895.	Corymbia citriodora subsp. Variegata	0.5	16	10	
896.	Corymbia citriodora subsp. Variegata	0.45	16	10	
897.	Corymbia citriodora subsp. Variegata	0.4	14	6	
898.	Corymbia citriodora subsp. Variegata	0.5	14	10	
899.	Corymbia citriodora subsp. Variegata	0.45	12	10	
900.	Corymbia citriodora subsp. Variegata	0.4	14	8	
901.	Corymbia citriodora subsp. Variegata	0.4	14	8	Hollows
902.	Corymbia citriodora subsp. Variegata	0.45	16	10	
903.	Corymbia citriodora subsp. Variegata	0.4	16	8	
904.	DEAD	0.4	10	DEAD	
905.	Corymbia citriodora subsp. Variegata	0.35	14	12	
906.	Corymbia intermedia	0.4	12	10	
907.	Corymbia citriodora subsp. Variegata	0.45	14	8	
908.	Corymbia citriodora subsp. Variegata	0.8	14	10	
909.	Eucalyptus tereticornis	0.05	12	6	Hollows

910.	Corymbia citriodora subsp. Variegata	0.65	14	16	
911.	Corymbia intermedia	0.5	14	12	
912.	Corymbia intermedia	0.55	12	12	
913.	Eucalyptus siderophloia	0.45	14	12	
914.	Eucalyptus tereticornis	1	16	16	Hollows
915.	Eucalyptus tereticornis	0.6	14	10	
916.	Eucalyptus siderophloia	0.7	14	4	Hollows
917.	Corymbia intermedia	0.8	12	14	
918.	Eucalyptus crebra	0.6	14	10	Hollows
919.	Corymbia citriodora subsp. Variegata	0.35	12	10	
920.	Corymbia intermedia	0.6	12	12	
921.	Eucalyptus siderophloia	0.6	14	8	Hollows
922.	Eucalyptus tereticornis	0.65	14	12	Hollows
923.	Eucalyptus siderophloia	0.55	14	10	Hollows
924.	Corymbia intermedia	0.6	14	16	Hollows
925.	Eucalyptus siderophloia	0.5	16	10	
926.	Eucalyptus siderophloia	0.6	16	10	Hollows
927.	Eucalyptus crebra	0.6	16	12	Hollows
928.	Eucalyptus siderophloia	0.5	12	8	
929.	Corymbia intermedia	0.8	14	20	Hollows
930.	Eucalyptus siderophloia	0.45	14	10	
931.	Eucalyptus tereticornis	0.8	16	14	Hollows
932.	Eucalyptus siderophloia	0.6	12	12	Termite nest, hollows
933.	Eucalyptus siderophloia	0.4	14	12	
934.	Eucalyptus tereticornis	0.6	16	10	Hollows
935.	Eucalyptus tereticornis	0.8	16	16	Hollows
936.	Eucalyptus crebra	0.8	16	10	Hollows
937.	Corymbia citriodora subsp. Variegata	0.5	12	16	
938.	Corymbia citriodora subsp. Variegata	0.6	14	10	
939.	Eucalyptus tereticornis	0.4	14	12	
940.	Corymbia intermedia	0.45	12	12	

954.	Corymbia citriodora subsp. Variegata	0.65	16	12	
955.	Eucalyptus siderophloia	0.5	12	12	
956.	Corymbia intermedia	0.6	18	12	
957.	Corymbia citriodora subsp. Variegata	0.4	14	14	

City Plan code template

This code template supports the preparation of a development application against either the acceptable outcome(s) or performance outcome(s) contained in the code. Development assessment rules are outlined in **Section 5.3.3** of the City Plan.

Please note:

For assessment against the overall outcomes, refer to the appropriate code.

Note: The whole of the planning scheme is identified as the assessment benchmark for impact assessable development. This specifically includes assessment of impact assessable development against this strategic framework. The strategic framework may contain intentions and requirements that are additional to and not necessarily repeated in zone, overlay or other codes. In particular, the performance outcomes in zone codes address only a limited number of aspects, predominantly related to built form. Development that is impact assessable must also be assessed against the overall outcomes of the code as well as the strategic framework.

9.4.14 Vegetation management code

9.4.14.1 Application

This code applies to assessing material change of use, reconfiguring a lot or operational work for development where indicated within Part 5 Tables of assessment.

When using this code, reference should be made to Section 5.3.2 and, where applicable, Section 5.3.3, in Part 5.

The requirements for accepted development in Part A of this code provide guidance on what is considered acceptable damage to assessable vegetation before it becomes assessable development. Each required outcome in Part A will apply to a particular circumstance. The table below outlines the applicable provision relating to the type of damage.

Damage type	Provision(s)
Vegetation close to property boundaries	RO1 – RO2
Vegetation close to buildings	RO3
Vegetation close to pool fencing	RO4
Pest species vegetation	RO5
Threatening vegetation	RO6
Damage to vegetation for fire safety	RO7
Damage on agricultural land	RO8
Vegetation maintenance	RO9

Damage type	Provision(s)
All damage not described in the required outcomes	PO1

Note: The required outcomes in Part A of this code will not apply to vegetation that is identified under a vegetation protection order or planted as an approved landscape plan or condition of approval.

Note: For general guidance on pruning and managing the growth of vegetation refer to Australian Standards AS4373 – 2007 Pruning of Amenity Trees.

Note: Vegetation clearing must not result in harm to native wildlife. Where native wildlife is present it is recommended that a licensed wildlife spotter/catcher be employed to oversee works.

9.4.14.2 Purpose

- (1) The purpose of the Vegetation management code is to provide for the protection and management of assessable vegetation.
- (2) The purpose of the code will be achieved through the following overall outcomes:
 - (a) Vegetation of environmental, historical, cultural, visual and character significance is retained.
 - (b) Vegetation is retained to provide habitats for threatened flora and fauna, prevent erosion and ensure slope stabilisation.
 - (c) Damage to assessable vegetation is only undertaken if it directly obstructs approved development or is a threat to persons or property.
 - (d) Vegetation management plans are prepared for development which has the potential to cause damage to vegetation.
 - (e) Any potential damage caused to vegetation by development is extensively investigated and mitigated.

9.4.14.3 Specific benchmarks for assessment

Table 9.4.14-2: Vegetation management code – for assessable development

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome	Internal use
Vegetation management plan			
PO1 Damage to assessable vegetation does not occur where the vegetation: (a) provides habitats for threatened flora and fauna; (b) is of historical, cultural or visual significance; (c) provides erosion prevention and slope stabilisation; (d) is necessary to maintain the	AO1 A Vegetation Management Plan, prepared by a suitably qualified person, is submitted as part of an Operational Work (Vegetation Clearing) application to show compliance with the Performance outcome. This plan includes, but is not limited to: (a) the location of the existing or approved dwellings, building or structures;	COMPLIES WITH AO1 A detailed VMP has been prepared and accompanies this operation works application for vegetation clearing.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome	Internal use
character of the local area; or (e) assists in the conservation of the city's biodiversity. Note: A Vegetation Management Plan is the Council's preferred method of addressing the above outcome.	(b) the location of waterways, ridge tops and steep slopes (greater than 25%) on and adjacent to the site; (c) the location of the assessable vegetation to which the damage is proposed, and reasonable particulars of its vegetation type, including species, height and girth and whether it is: • habitat for threatened flora and fauna; • of historical, cultural, character or visual significance; • essential for erosion prevention and slope stabilisation, including within waterway buffers; • significant to the conservation of the city's biodiversity; • vegetation that contributes to waterway and wetland health. (d) a statement of the reasons for the damage and any relevant factors associated with the purpose of the proposed damage; (e) particulars of how vegetation to be retained will be protected during works in accordance with Australian Standard AS4970-2009 – <i>Protection of trees on development sites</i>; (f) particulars of how the vegetation is to be damaged and, if relevant, how the damaged material is to be removed or disposed of; (g) a plan indicating the location, size and species of replacement		

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome	Internal use
	vegetation to compensate for the loss of damaged vegetation; and (h) a staging plan for clearing greater than 4ha of vegetation. Note: To remove a single tree on residential premises only a basic Vegetation Management Plan is required to be submitted to Council. The Vegetation Management Plan can be prepared by the property owner and may only require limited details about the above elements.		

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5738 ENG BEB 001	DRAWING INDEX & LOCALITY PLAN			A											
5738 ENG BEB 002	GENERAL NOTES SHEET 1 OF 2			A											
5738 ENG BEB 003	GENERAL NOTES SHEET 2 OF 2			A											
5738 ENG BEB 004	LEGEND			A											
5738 ENG BEB 005	SEDIMENT AND EROSION TYPICAL DETAILS			A											
5738 ENG BEB 010	EXISTING FEATURES SURVEY PLAN			A											
5738 ENG BEB 020	SEDIMENT & EROSION CONTROL PLAN SHEET 1 OF 4			A											
5738 ENG BEB 021	SEDIMENT & EROSION CONTROL PLAN SHEET 2 OF 4			A											
5738 ENG BEB 022	SEDIMENT & EROSION CONTROL PLAN SHEET 3 OF 4			A											
5738 ENG BEB 023	SEDIMENT & EROSION CONTROL PLAN SHEET 4 OF 4			A											
5738 ENG BEB 024	CONSTRUCTION PHASE SEDIMENT BASIN A LAYOUT PLAN & DETAILS			A											

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CHANGE TO GROUND LEVEL M38 INDUSTRIAL PARK YATALA BALANCE OF SITE



DRAWING INDEX

DRAWING No	REV No	TITLE
5738 ENG BEB 001	A	DRAWING INDEX & LOCALITY PLAN
5738 ENG BEB 002	A	GENERAL NOTES SHEET 1 OF 2
5738 ENG BEB 003	A	GENERAL NOTES SHEET 2 OF 2
5738 ENG BEB 004	A	LEGEND
5738 ENG BEB 005	A	SEDIMENT AND EROSION TYPICAL DETAILS
5738 ENG BEB 010	A	EXISTING FEATURES SURVEY PLAN
5738 ENG BEB 020	A	SEDIMENT & EROSION CONTROL PLAN SHEET 1 OF 4
5738 ENG BEB 021	A	SEDIMENT & EROSION CONTROL PLAN SHEET 2 OF 4
5738 ENG BEB 022	A	SEDIMENT & EROSION CONTROL PLAN SHEET 3 OF 4
5738 ENG BEB 023	A	SEDIMENT & EROSION CONTROL PLAN SHEET 4 OF 4
5738 ENG BEB 024	A	CONSTRUCTION PHASE SEDIMENT BASIN A LAYOUT PLAN & DETAILS
5738 ENG BEB 025	A	CONSTRUCTION PHASE SEDIMENT BASIN B LAYOUT PLAN & DETAILS
5738 ENG BEB 026	A	CONSTRUCTION PHASE SEDIMENT BASIN C LAYOUT PLAN & DETAILS
5738 ENG BEB 027	A	SEDIMENT BASIN CATCHMENTS LAYOUT PLAN
5738 ENG BEB 050	A	BULK EARTHWORKS CUT & FILL LAYOUT PLAN SHEET 1 OF 4
5738 ENG BEB 051	A	BULK EARTHWORKS CUT & FILL LAYOUT PLAN SHEET 2 OF 4
5738 ENG BEB 052	A	BULK EARTHWORKS CUT & FILL LAYOUT PLAN SHEET 3 OF 4
5738 ENG BEB 053	A	BULK EARTHWORKS CUT & FILL LAYOUT PLAN SHEET 4 OF 4
5738 ENG BEB 100	A	FINISHED BULK EARTHWORKS SURFACE LEVEL PLAN SHEET 1 OF 4
5738 ENG BEB 101	A	FINISHED BULK EARTHWORKS SURFACE LEVEL PLAN SHEET 2 OF 4
5738 ENG BEB 102	A	FINISHED BULK EARTHWORKS SURFACE LEVEL PLAN SHEET 3 OF 4
5738 ENG BEB 103	A	FINISHED BULK EARTHWORKS SURFACE LEVEL PLAN SHEET 4 OF 4
5738 ENG BEB 150	A	FINISHED EARTHWORKS SURFACE CROSS-SECTION SHEET 1 OF 4
5738 ENG BEB 151	A	FINISHED EARTHWORKS SURFACE CROSS-SECTION SHEET 2 OF 4
5738 ENG BEB 152	A	FINISHED EARTHWORKS SURFACE CROSS-SECTION SHEET 3 OF 4
5738 ENG BEB 153	A	FINISHED EARTHWORKS SURFACE CROSS-SECTION SHEET 4 OF 4

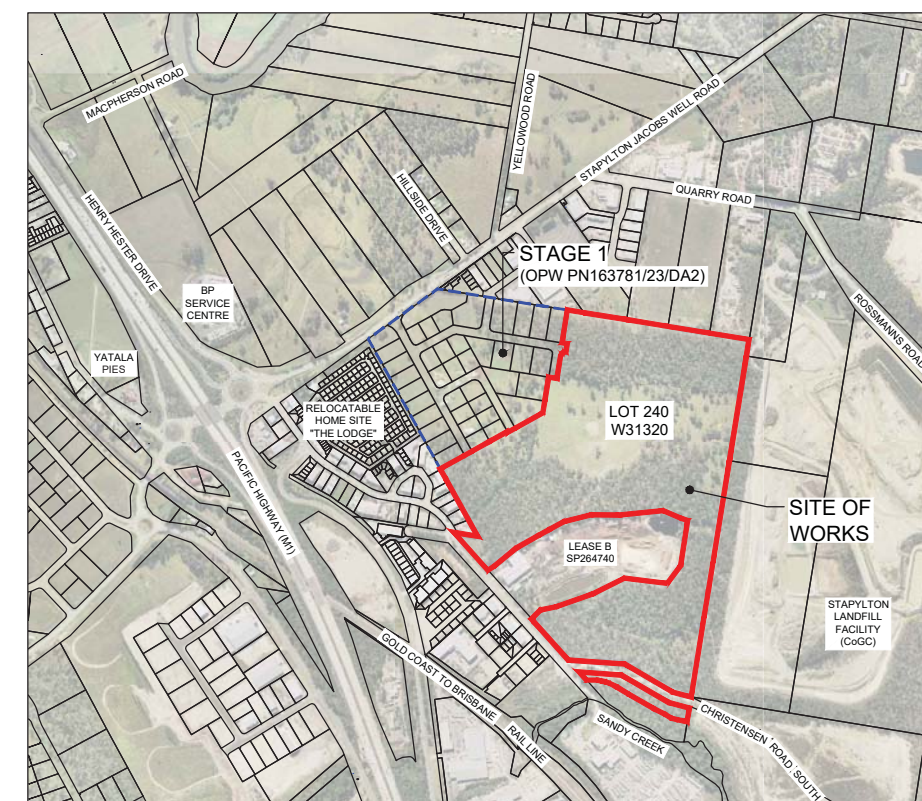
MAY 2018

CLIENT
KS8 Pty. Ltd.

SITE ADDRESS
LOT 1 on RP6882,
LOT 240 on W31320
60 STAPYLTON JACOBS WELL ROAD
STAPYLTON, QLD 4207

SURVEY CONTROL DETAILS

LEVEL DATUM	AHD
MERIDIAN	IS216853
PSM	-
PSM COORDINATES	LOCAL GRID
RL (m)	-



NOT TO SCALE

LOCALITY PLAN

AUTO DOSER

1. PROVIDED AS IFOD—FLOW OR APPROVED EQUIVALENT TO MANUFACTURERS SPECIFICATION.
2. DOSER AND SUPPLY OF FLOCCULANT TO BE PROVIDED ON LEVEL PAD 4mX4m WITHIN 10m OF DOSING POINT.
3. ALL—WEATHER ACCESS TRACK TO BE PROVIDED TO DOSER.
4. FLOCCULANT PROVIDED AS TURBICLEAR (ACH) OR APPROVED EQUIVALENT. IF ALTERNATIVE FLOCCULANT USED THEN THE BASIN SIZE IS TO BE INCREASED ACCORDING TO JAR SETTLEMENT TEST (REFER TO TABLE BELOW).

JAR SETTLEMENT AFTER 15 MINS	MULTIPLICATION FACTOR TO SETTLING ZONE
(mm)	VOLUME
50	x3
75	x2
100	x1.5
150	x1

MATERIALS

5. EARTH FILL: CLEAN SOIL WITH EMERSION CLASS 2(I), 3, 4 OR 5 AND FREE OF ROOTS, WOODY VEGETATION, ROCKS AND OTHER UNSUITABLE MATERIAL. SOIL WITH EMERSION CLASS 4 AND 5 MAY NOT BE SUITABLE DEPENDING ON PARTICLE SIZE DISTRIBUTION AND DEGREE OF DISPERSION. CLASS 2(I) SHOULD ONLY BE USED UPON RECOMMENDATION FROM GEOTECHNICAL SPECIALIST.
6. SPILLWAY ROCK: HARD, ANGULAR, DURABLE, WEATHER RESISTANT AND EVENLY GRADED ROCK WITH 50% BY WEIGHT LARGER THAN THE SPECIFIED NOMINAL (D50) ROCK SIZE. LARGE ROCK SHOULD DOMINATE, WITH SUFFICIENT SMALL ROCK TO FILL THE VOIDS BETWEEN LARGER ROCK. THE DIAMETER OF THE LARGEST ROCK SHOULD BE NO LARGER THAN 1.5 TIMES THE NOMINAL ROCK SIZE. THE SPECIFIC GRAVITY SHOULD BE AT LEAST 2.5.
7. GEOTEXTILE FABRIC: HEAVY DUTY, NEEDLE-PUNCHED, NON-WOVEN CLOTH, MINIMUM "A24" A24 OR EQUIVALENT.

8. NOTWITHSTANDING ANY DESCRIPTION CONTAINED WITH APPROVED PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SATISFYING THEMSELVES AS TO THE NATURE AND EXTENT OF THE WORK REQUIRED TO THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WHICH THE WORKS WILL BE CARRIED OUT. THIS SHALL INCLUDE MEANS OF ACCESS, EXTENT OF CLEARING, NATURE OF THE MATERIALS TO BE EXCAVATED, TYPE AND SIZE OF MECHANICAL PLANT REQUIRED, LOCATION AND SUITABILITY OF WATER SUPPLY FOR CONSTRUCTION AND TESTING PURPOSES, AND ANY OTHER LIKELY MATTERS AFFECTING THE CONSTRUCTION OF THE WORKS.

9. REFER TO APPROVED PLANS FOR LOCATION, DIMENSIONS, AND CONSTRUCTION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, DIMENSIONS, OR METHOD OF INSTALLATION, CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
10. BEFORE STARTING ANY CLEARING OR CONSTRUCTION, ENSURE ALL THE NECESSARY MATERIALS AND COMPONENTS ARE ON THE SITE TO AVOID DELAYS IN COMPLETING THE SEDIMENT BASIN ONCE WORKS BEGIN.
11. INSTALL REQUIRED SHORT TERM SEDIMENT CONTROL MEASURES DOWNSTREAM OF THE PROPOSED EARTHWORKS TO CONTROL SEDIMENT RUNOFF DURING CONSTRUCTION OF THE BASIN.
12. THE AREA TO BE COVERED BY THE EMBANKMENT, BORROW PITS AND INCIDENTAL WORKS, TOGETHER WITH AN AREA EXTENDING BEYOND THE LIMITS OF EACH FOR A DISTANCE NOT EXCEEDING FIVE (5) METRES ALL AROUND MUST BE CLEARED OF ALL TREES, SCRUB, STUMPS, ROOTS, DEAD TIMBER AND RUBBISH AND DISPOSED OF IN A SUITABLE MANNER. DELAY CLEARING THE MAIN BASIN AREA UNTIL THE EMBANKMENT IS COMPLETE.

13. ENSURE ALL HOLES MADE BY GRUBBING WITHIN THE EMBANKMENT FOOTPRINT ARE FILLED WITH SOUND MATERIAL, ADEQUATELY COMPACTED, AND FINISHED FLUSH WITH THE NATURAL SURFACE.

14. BEFORE CONSTRUCTION OF THE CUT-OFF TRENCH OR ANY ANCILLARY WORKS WITHIN THE EMBANKMENT FOOTPRINT, ALL GRASS GROWTH AND TOPSOIL MUST BE REMOVED FROM THE AREA TO BE OCCUPIED BY THE EMBANKMENT AND MUST BE DEPOSITED CLEAR OF THIS AREA AND RESERVED FOR TOPDRESSING THE COMPLETED EMBANKMENT.

15. EXCAVATE A CUT-OFF TRENCH ALONG THE CENTRE LINE OF THE EARTH FILL EMBANKMENT. CUT THE TRENCH TO STABLE SOIL MATERIAL, BUT IN NO CASE MAKE IT LESS THAN 600mm DEEP. THE CUT-OFF TRENCH MUST EXTEND INTO BOTH ABUTMENTS TO AT LEAST THE ELEVATION OF THE OUTLET SPILLWAY CREST. MAKE THE MINIMUM BOTTOM WIDTH WIDE ENOUGH TO PERMIT OPERATION OF THE EXCAVATION AND COMPACTION EQUIPMENT, BUT IN NO CASE LESS THAN 600mm. MAKE THE SIDE SLOPES OF THE TRENCH NO STEEPER THAN 1:2 (H:V).
16. ENSURE ALL WATER, LOOSE SOIL, AND ROCK ARE REMOVED FROM THE TRENCH BEFORE BACKFILLING COMMENCES. THE CUT-OFF TRENCH MUST BE BACKFILLED WITH SELECT EARTH-FILL OF THE TYPE SPECIFIED FOR THE EMBANKMENT, AND THIS SOIL MUST HAVE A MOISTURE CONTENT AND DEGREE OF COMPACTION THE SAME AS SPECIFIED FOR THE CORE ZONE.
17. MATERIAL EXCAVATED FROM THE CUT-OFF TRENCH MAY BE USED IN THE CONSTRUCTION OF THE EMBANKMENT PROVIDED IT IS SUITABLE AND IT IS PLACED IN THE CORRECT ZONE ACCORDING TO ITS CLASSIFICATION.

18. SCARIFY AREAS ON WHICH FILL IS TO BE PLACED BEFORE PLACING THE FILL.
19. ENSURE ALL FILL MATERIAL USED TO FORM THE EMBANKMENT MEETS THE SPECIFICATIONS CERTIFIED BY A SOIL SCIENTIST OF GEOTECHNICAL SPECIALIST.

20. THE FILL MATERIAL MUST CONTAIN SUFFICIENT MOISTURE SO IT CAN BE FORMED BY HAND INTO A BALL WITHOUT CRUMBLING. IF WATER CAN BE SQUEEZED OUT OF THE BALL, IT IS TOO WET FOR PROPER COMPACTION. PLACE FILL MATERIAL IN 150 TO 200mm CONTINUOUS LAYERS OVER THE ENTIRE LENGTH OF THE FILL AREA AND THEN COMPACT BEFORE PLACEMENT OF FURTHER FILL.
21. UNLESS SPECIFIED ON THE APPROVED PLANS, COMPACT THE SOIL AT ABOUT 1% TO 2% WET OPTIMUM AND TO 95% MODIFIED OR 100% STANDARD COMPACTION.
22. WHERE BOTH DISPERSIVE AND NON-DISPERSIVE CLASSIFIED EARTH-FILL MATERIALS ARE AVAILABLE, NON-DISPERSIVE EARTH-FILL MUST BE USED IN THE CORE ZONE. THE REMAINING CLASSIFIED EARTH-FILL MATERIALS MUST ONLY BE USED AS DIRECTED BY THE SITE SUPERINTENDENT.
23. WHERE SPECIFIED, CONSTRUCT THE EMBANKMENT TO AN ELEVATION 10% HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLING; OTHERWISE FINISHED DIMENSIONS OF THE EMBANKMENT AFTER SPREADING OF TOPSOIL MUST CONFORM TO THE DRAWING WITH A TOLERANCE OF 75mm FROM SPECIFIED DIMENSIONS.
24. ENSURE DEBRIS AND OTHER UNSUITABLE BUILDING WASTE IS NOT PLACED WITHIN THE EARTH EMBANKMENT.
25. AFTER COMPLETION OF THE EMBANKMENT ALL LOOSE UNCOMPACTED EARTH-FILL MATERIAL ON THE UPSTREAM AND DOWNSTREAM BATTER MUST BE REMOVED PRIOR TO SPREADING TOPSOIL.
26. TOPSOIL AND RE-VEGETATE /STABILISE ALL EXPOSED EARTH AS DIRECTED WITHIN THE APPROVED PLANS.

27. THE AREA TO BE COVERED BY THE STORED WATER OUTSIDE OF THE LIMITS OF THE BORROW PITS MUST BE CLEARED OF RUBBISH. TREES MUST BE CUT DOWN STUMP HIGH AND REMOVED FROM THE IMMEDIATE VICINITY OF THE WORK.

28. ESTABLISH ALL REQUIRED INFLOW CHUTES AND INLET BAFFLES IF SPECIFIED TO ENABLE WATER TO DISCHARGE INTO THE BASIN IN A MANNER THAT WILL NOT CAUSE SOIL EROSION OR THE RE-SUSPENSION OF SETTLED SEDIMENT.

29. INSTALL A SEDIMENT STORAGE LEVEL MARKER POST WITH A CROSS MEMBER SET JUST BELOW THE TOP OF THE SEDIMENT STORAGE ZONE (AS SPECIFIED ON THE APPROVED PLANS). USE AT LEAST A 75mm WIDE POST FIRMLY SET INTO THE BASIN FLOOR.

30. IF SPECIFIED, INSTALL INTERNAL SETTLING POND BAFFLES. ENSURE THE CREST OF THESE BAFFLES IS SET LEVEL WITH, OR JUST BELOW, THE ELEVATION OF THE EMERGENCY SPILLWAY.

31. INSTALL ALL APPROPRIATE MEASURES TO MINIMISE SAFETY RISK TO ON-SITE PERSONNEL AND THE PUBLIC CAUSED BY THE PRESENCE OF THE SETTLING POND. AVOID STEEP, SMOOTH INTERNAL SLOPES. APPROPRIATELY FENCE THE SETTLING POND AND POST WARNING SIGNS IF UNSUPERVISED PUBLIC ACCESS IS LIKELY OR THERE IS CONSIDERED TO BE AN UNACCEPTABLE RISK TO THE PUBLIC.

32. THE SPILLWAY MUST BE EXCAVATED AS SHOWN ON THE PLANS, AND THE EXCAVATED MATERIAL IF CLASSIFIED AS SUITABLE, MUST BE USED IN THE EMBANKMENT, AND IF NOT SUITABLE IT MUST BE DISPOSED OF INTO SPOIL HEAPS.

33. ENSURE EXCAVATED DIMENSIONS ALLOW ADEQUATE BOXING-OUT SUCH THAT THE SPECIFIED ELEVATIONS, GRADES, CHUTE WIDTH, AND ENTRANCE AND EXIT SLOPES FOR THE EMERGENCY SPILLWAY WILL BE ACHIEVED AFTER PLACEMENT OF THE ROCK OR OTHER SCOUR PROTECTION MEASURES AS SPECIFIED IN THE PLANS.

34. PLACE SPECIFIED SCOUR PROTECTION MEASURES ON THE EMERGENCY SPILLWAY. ENSURE THE FINISHED GRADE BLENDS WITH THE SURROUNDING AREA TO ALLOW A SMOOTH FLOW TRANSITION FROM SPILLWAY TO DOWNSTREAM CHANNEL.

35. IF A SYNTHETIC FILTER FABRIC UNDERLAY IS SPECIFIED, PLACE THE FABRIC DIRECTLY ON THE PREPARED FOUNDATION. IF MORE THAN 1 SHEET OF FILTER FABRIC IS REQUIRED, OVERLAP THE EDGES BY AT LEAST 300mm AND PLACE ANCHOR PINS AT MINIMUM 1m SPACING ALONG THE OVERLAP. BURY THE UPSTREAM END OF THE FILTER FABRIC A MINIMUM 300mm BEHIND THE WEIR AND WASH TRAIL. AT THE DOWNSTREAM END OF THE FABRIC OR OVER A MINIMUM 300mm OVER THE NEXT DOWNSTREAM SECTION AS REQUIRED, ENSURE THE FILTER FABRIC EXTENDS AT LEAST 1000mm UPSTREAM OF THE SPILLWAY CREST.

36. TAKE CARE NOT TO DAMAGE THE FABRIC DURING OR AFTER PLACEMENT. IF DAMAGE OCCURS, REMOVE THE ROCK AND REPAIR THE SHEET BY ADDING ANOTHER LAYER OF FABRIC WITH A MINIMUM OVERLAP OF 300mm AROUND THE DAMAGED AREA. IF EXTENSIVE DAMAGE IS SUSPECTED, REMOVE AND REPLACE THE ENTIRE SHEET.

37. WHERE LARGE ROCK IS USED, OR MACHINE PLACEMENT IS DIFFICULT, A MINIMUM 100mm LAYER OF FINE GRAVEL, AGGREGATE, OR SAND MAY BE NEEDED TO PROTECT THE FABRIC.

38. PLACEMENT OF ROCK SHOULD FOLLOW IMMEDIATELY AFTER PLACEMENT OF THE FILTER FABRIC. PLACE ROCK SO THAT IT FORMS A DENSE, WELL GRADED MASS OF ROCK WITH A MINIMUM OF VOIDS. THE DESIRED DISTRIBUTION OF ROCK THROUGHOUT THE MASS MAY BE OBTAINED BY SELECTIVE LOADING AT THE QUARRY AND CONTROLLED DUMPING DURING FINAL PLACEMENT.

39. THE FINISHED SLOPE SHOULD BE FREE OF POCKETS OF SMALL ROCK OR CLUSTERS OF LARGE ROCKS. HAND PLACING MAY BE NECESSARY TO ACHIEVE THE PROPER DISTRIBUTION OF ROCK SIZES TO PRODUCE A RELATIVELY SMOOTH, UNIFORM SURFACE. THE FINISHED GRADE OF THE ROCK SHOULD BLEND WITH THE SURROUNDING AREA. NO OVER FALL OR PROTRUSION OF ROCK SHOULD BE APPARENT.

40. ENSURE THAT THE FINAL ARRANGEMENT OF THE SPILLWAY CREST WILL NOT PROMOTE EXCESSIVE FLOW THROUGH THE ROCK SUCH THAT THE WATER CAN BE RETAINED WITHIN THE SETTLING BASIN AT THE ELEVATION NO LESS THAN 50mm ABOVE OF BELOW THE NOMINATED SPILLWAY CREST ELEVATION.

KS8 Pty. Ltd.

60 STAPLYTON JACOBS
WELL ROAD, STAPYLTON

Lot / Plan: 1 on RP6882
240 on W31320

Parish: Albert
County: Ward
Local Authority: City of Gold Coast
Council

Level Datum: AHD
Meridian: IS216853
Contour Interval: -
PSM:
RL:

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GENERAL NOTES
SHEET 2 OF 2

A	25-05-18	ORIGINAL ISSUE	GOP	MG
Issue	Date	Description	DRN	CHK

SCALE IN METRES

Scale at A1:

Designed:	IG
Drafted:	GCP
Approved:	MG
RPEQ:	16939
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Date:	25-05-18

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5738 ENG BEB 003	A



KS8 Pty. Ltd.

60 STAPLYTON JACOBS
WELL ROAD, STAPYLTON

Lot / Plan: 1 on RP6882
240 on W31320

Parish: Albert
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Council
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LEGEND

A	25-05-18	ORIGINAL ISSUE	GCP	MG
Issue	Date	Description	DRN	CHK

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Approved:	MG
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Signed:	
Date:	25-05-18

Drawing No:	Rev. No:
5738 ENG BEB 004	A

OVERLAND FLOW PATH/SWALE
CATCH DRAIN (NOT LINED)
SILT FENCE
PROPERTY LINE
PROPERTY LINE WITH FENCE
FACE OF KERB, FOOTPATHS
LIP AND BACK OF KERB
EXISTING KERB
EXISTING EDGE OF BITUMEN
FUTURE PROPERTY LINE
SITE BOUNDARY
EXISTING CONTOURS
DESIGN CONTOURS
EXTENT OF PAD
Q100 EXTENT LINE

 GRAVEL ROCK CHECK DAM
 MESH & GRAVEL INLET FILTER

VEHICLE SHAKEDOWN:
300mm THICK LAYER OF
75mm GRAVEL LAID ON
GEOTEXTILE, GRADED
TO DRAIN AWAY FROM
SHAKEDOWN. BARRIER
TO BE PLACED AROUND
SHAKEDOWN TO ENSURE
VEHICLES USE
SHAKEDOWN.

 TREES SCOUR PROTECTION

31.87 • PAD LEVEL

32.50 LOT NUMBER

KS8 Pty. Ltd.

60 STAPLYTON JACOBS
WELL ROAD, STAPYLTON

Lot / Plan: 1 on RP6882
240 on W31320

Parish:	Albert
County:	Ward
Local Authority:	City of Gold Coast Council
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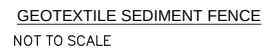
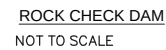
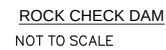
SEDIMENT AND EROSION TYPICAL DETAILS

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Issue	Date	Description	DRN	CHK

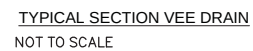
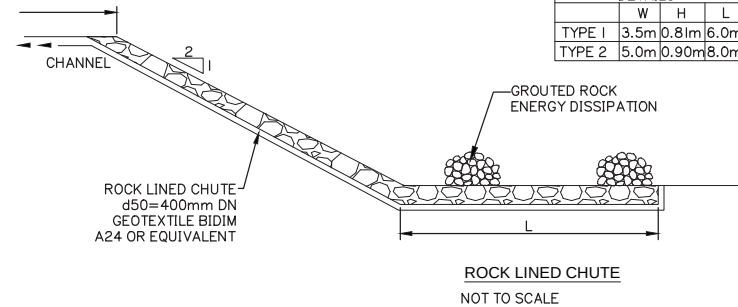
NOT TO SCALE

Date:	25-05-18
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Rev. No:
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ROCK LINED CHUTE DETAILS			
	W	H	L
TYPE 1	3.5m	0.81m	6.0m
TYPE 2	5.0m	0.90m	8.0m





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60 STAPLYTON JACOBS
WELL ROAD, STAPYLTON

Lot / Plan: 1 on RP6882
240 on W31320

Parish: Albert
County: Ward
Local Authority: City of Gold Coast Council
Level Datum: AHD
Meridian: IS216853
Contour Interval: -
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SEDIMENT AND EROSION
CONTROL PLAN
SHEET 2 OF 4

A Issue	25-05-18 Date	ORIGINAL ISSUE Description	GCP DRN	MIG CHK

Frequency	Percentage
Daily	40%
Weekly	20%
Monthly	20%
Never	20%

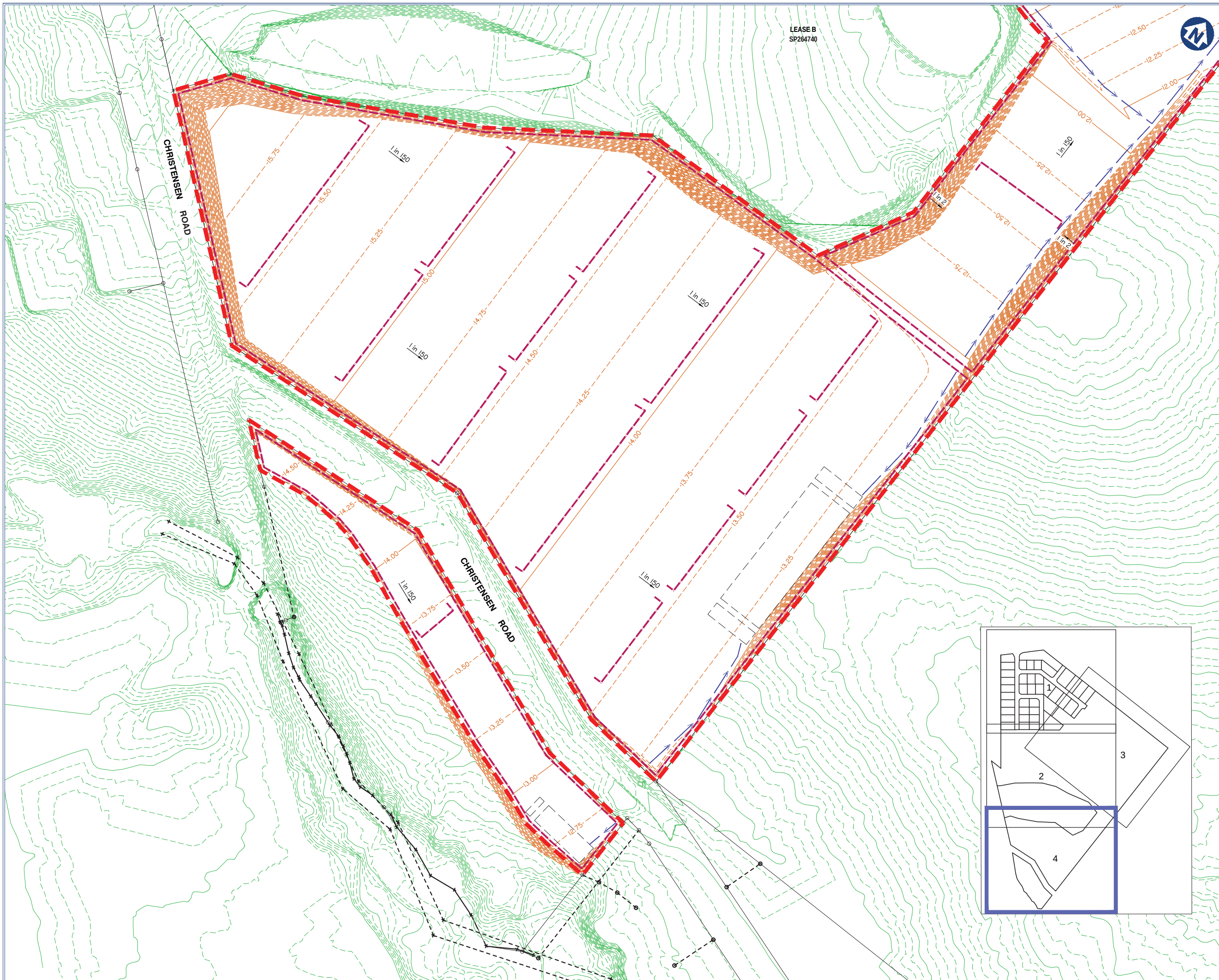
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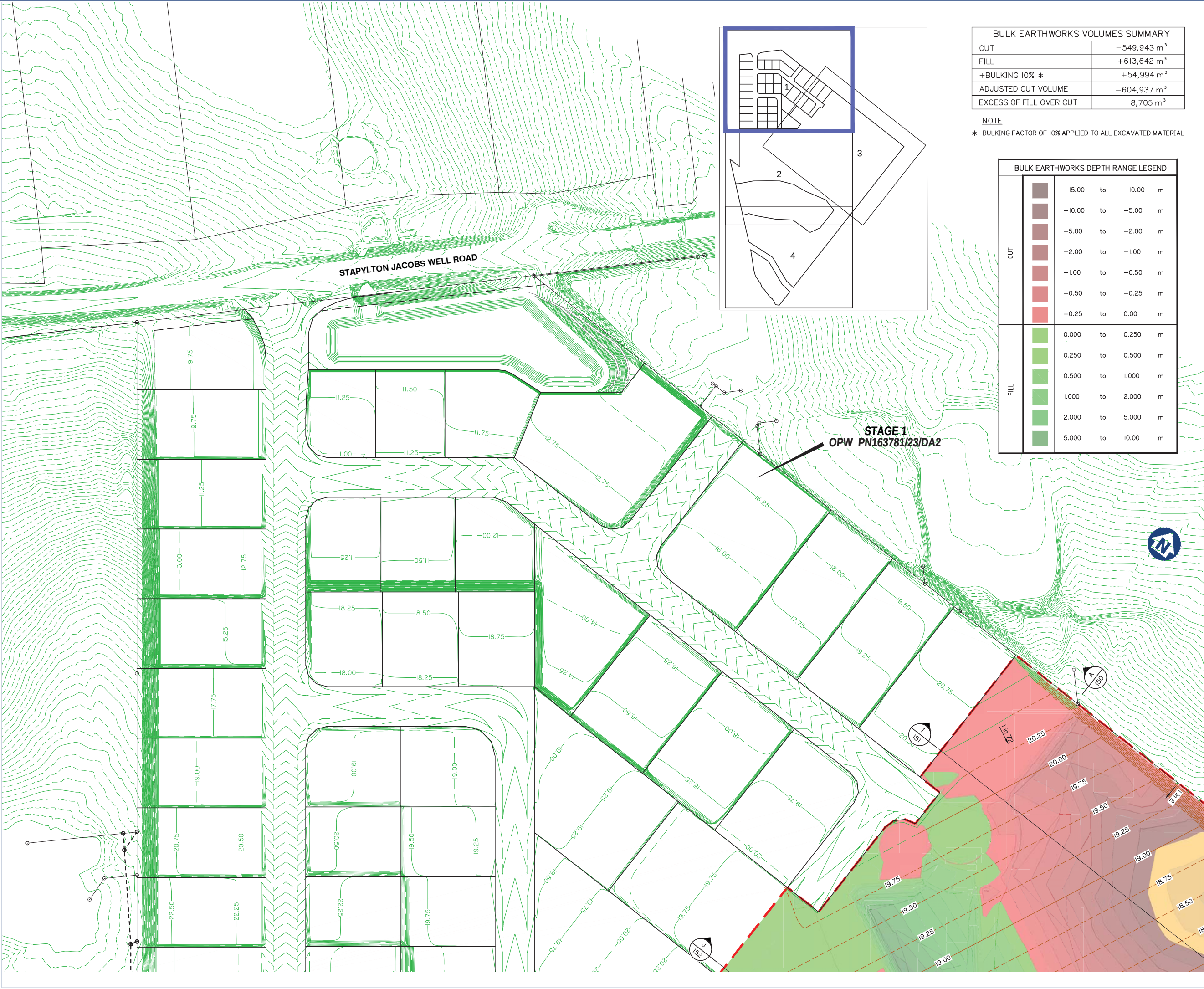
Designed:	IG
Drafted:	GCP
Approved:	MG
RPEQ:	16939
Signed:	
Date:	25-05-18

Drawing No:
5738 ENG BEB 021

Rev. No:
A



Drawing No:	Rev. No:
5738 ENG BEB 025	A



BULK EARTHWORKS VOLUMES SUMMARY	
CUT	-549,943 m ³
FILL	+613,642 m ³
+BULKING 10% *	+54,994 m ³
ADJUSTED CUT VOLUME	-604,937 m ³
EXCESS OF FILL OVER CUT	8,705 m ³

NOTE
* BULKING FACTOR OF 10% APPLIED TO ALL EXCAVATED MATERIAL

BULK EARTHWORKS DEPTH RANGE LEGEND			
CUT		-15.00	to -10.00 m
		-10.00	to -5.00 m
		-5.00	to -2.00 m
		-2.00	to -1.00 m
		-1.00	to -0.50 m
		-0.50	to -0.25 m
FILL		0.000	to 0.250 m
		0.250	to 0.500 m
		0.500	to 1.000 m
		1.000	to 2.000 m
		2.000	to 5.000 m
		5.000	to 10.00 m

Client:
KS8 Pty. Ltd.

Site Address:
60 STAPLYTON JACOBS
WELL ROAD, STAPLYTON

RPD:
Lot / Plan: 1 on RP6882
240 on W31320
Parish: Albert
County: Ward
Local Authority: City of Gold Coast
Council
Level Datum: AHD
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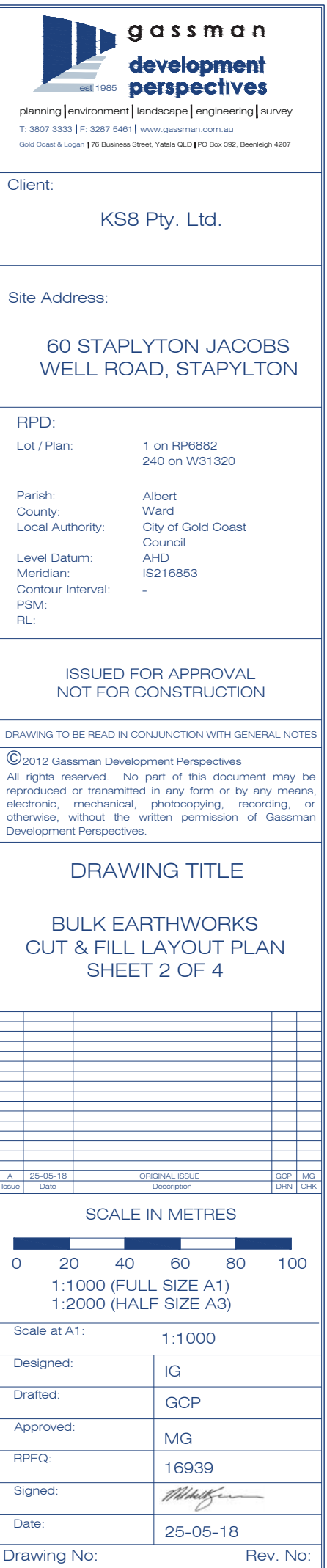
DRAWING TITLE
BULK EARTHWORKS
CUT & FILL LAYOUT PLAN
SHEET 1 OF 4

Issue	Date	Original Issue Description	GCP DRN	MG CHK
A	25-05-18			

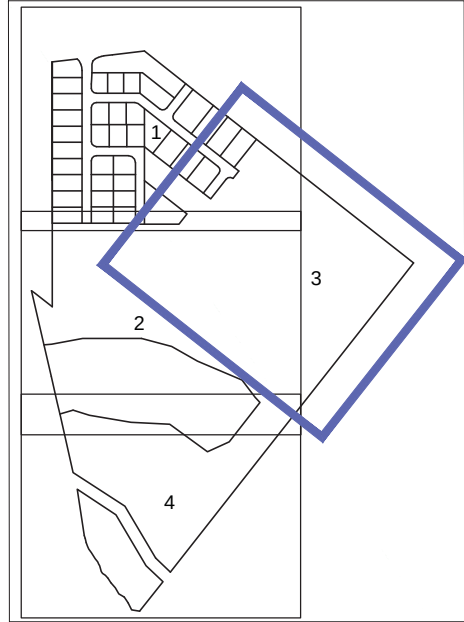
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1:2000 (HALF SIZE A3)

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Designed:	IG
Drafted:	GCP
Approved:	MG
RPEQ:	16939
Signed:	
Date:	25-05-18

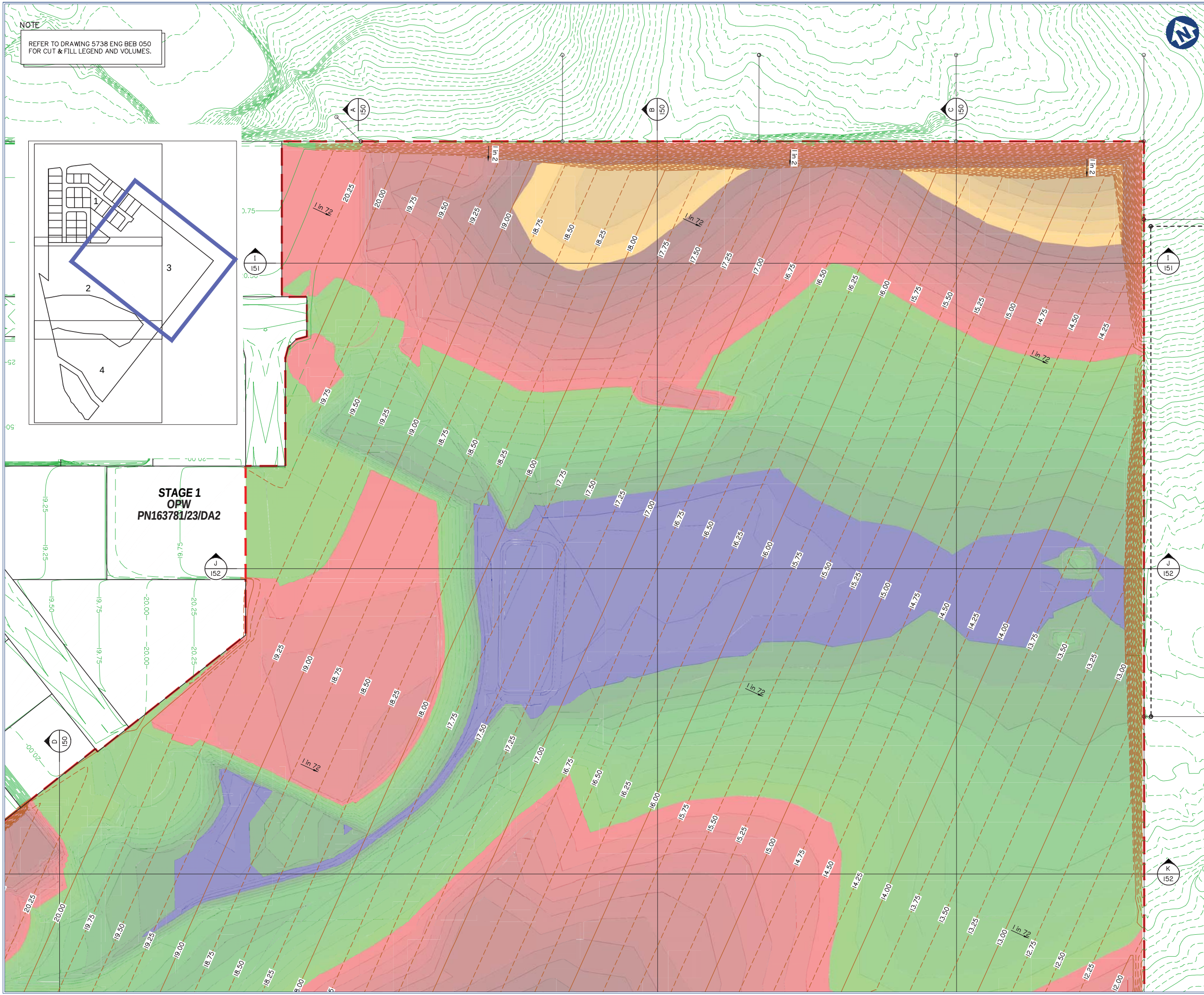
Drawing No: 5738 ENG BEB 050
Rev. No: A



REFER TO DRAWING 5738 ENG BEB 050
FOR CUT & FILL LEGEND AND VOLUMES.



STAGE 1
OPW
PN163781/23/DA2



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60 STAPLYTON JACOBS
WELL ROAD, STAPYLTON

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BULK EARTHWORKS
CUT & FILL LAYOUT PLAN
SHEET 3 OF 4

A	25-05-18	ORIGINAL ISSUE			GCP	MQ
Issue	Date	Description			DRN	CHK

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1:1000 (FULL SIZE A1)

1:2000 (HALF SIZE A3)

Scale at A1:	1:1000
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Designed:	IG
Drafted:	GCP
Approved:	MG
RPEQ:	16939
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Date:	25-05-18

Drawing No:	Rev. No:
5738 ENG BEB 052	A



Client: KS8 Pty. Ltd.

Site Address:

60 STAPLYTON JACOBS
WELL ROAD, STAPYLTON

RPD:

Lot / Plan: 1 on RP6882
240 on W31320

Parish: Albert

County: Ward

Local Authority: City of Gold Coast
Council

Level Datum: AHD

Meridian: IS216853

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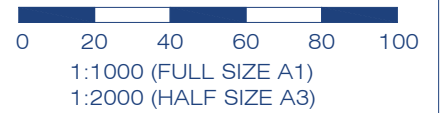
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DRAWING TITLE

BULK EARTHWORKS
CUT & FILL LAYOUT PLAN
SHEET 4 OF 4

A	25-05-18	ORIGINAL ISSUE	GCP	MG
Issue	Date	Description	DRN	CHK

SCALE IN METRES



Scale at A1: 1:1000

Designed:	IG
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Drafted:	GCP
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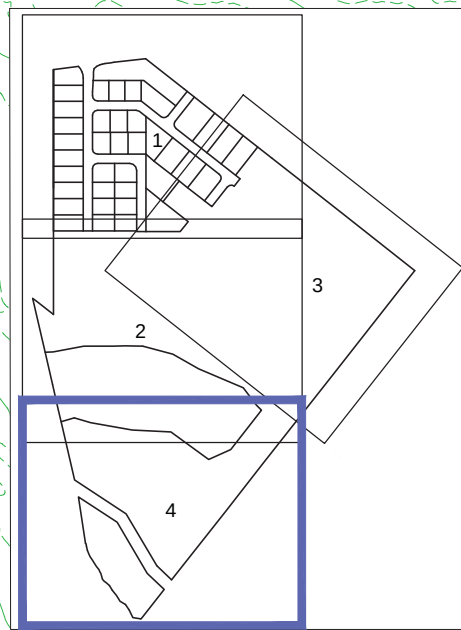
Approved:	MG
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RPEQ:	16939
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Signed:	
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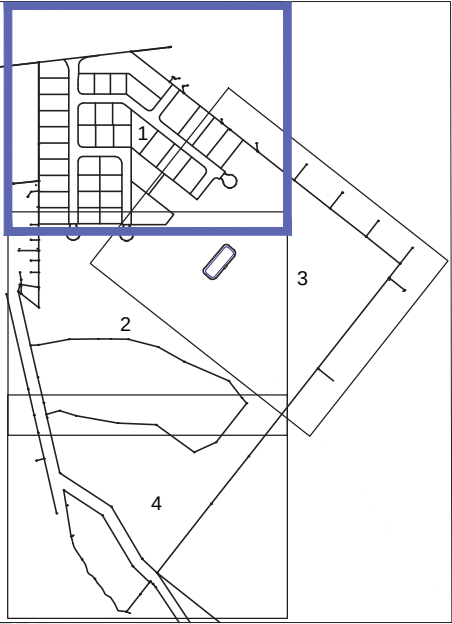
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Drawing No:	Rev. No:
5738 ENG BEB 053	A

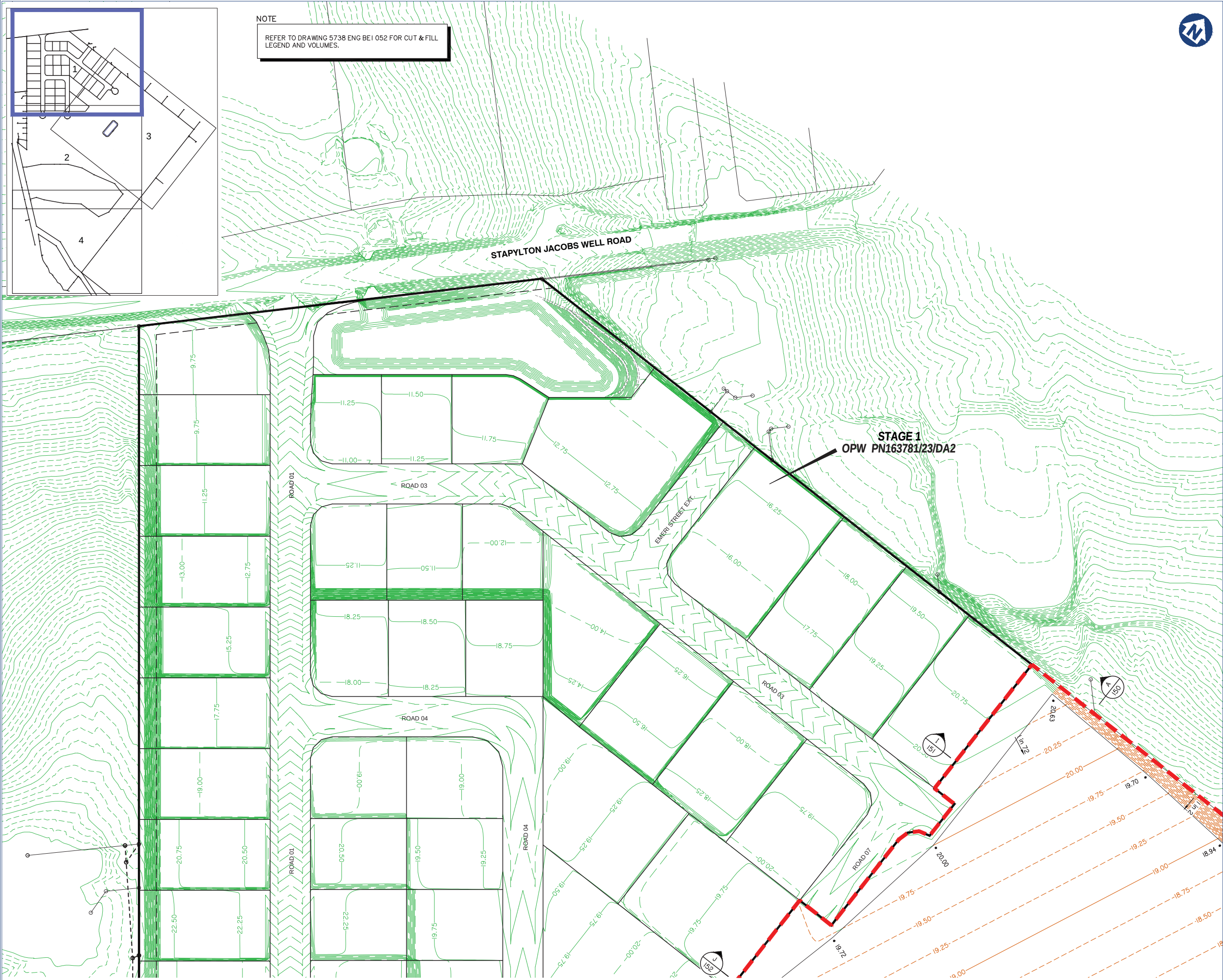


NOTE

REFER TO DRAWING 5738 ENG BEB 050
FOR CUT & FILL LEGEND AND VOLUMES.



NOTE
REFER TO DRAWING 5738 ENG BE1 052 FOR CUT & FILL
LEGEND AND VOLUMES.



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Client:
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Site Address:
60 STAPYLTON JACOBS
WELL ROAD, STAPYLTON

RPD:
Lot / Plan: 1 on RP6882
240 on W31320
Parish: Albert
County: Ward
Local Authority: City of Gold Coast
Council
Level Datum: AHD
Meridian: IS216853
Contour Interval: -
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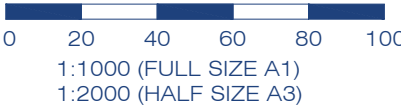
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DRAWING TITLE
FINISHED BULK
EARTHWORKS SURFACE
LEVEL PLAN
SHEET 1 OF 4

Issue	Date	Original Issue Description	GCP DRN	MG CHK
A	25-05-18			

SCALE IN METRES



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Signed:	
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Rev. No: A



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60 STAPLYTON JACOBS
WELL ROAD, STAPYLTON

Lot / Plan: 1 on RP6882
240 on W31320

Parish: Albert
County: Ward
Local Authority: City of Gold Coast Council
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Meridian: IS216853
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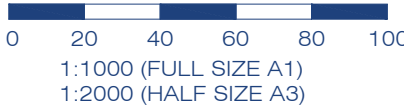
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DRAWING TITLE

FINISHED BULK
EARTHWORKS SURFACE
LEVEL PLAN
SHEET 2 OF 4

A Issue	25-05-18 Date	ORIGINAL ISSUE Description	GCP DRN	MG CHK

SCALE IN METRES



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Date:	25-05-18

Drawing No:	Rev. No:
5738 ENG BEB 101	A



KS8 Pty. Ltd.

60 STAPLYTON JACOBS
WELL ROAD, STAPYLTON

Lot / Plan: 1 on RP6882
240 on W31320

Parish: Albert
County: Ward
Local Authority: City of Gold Coast Council

Level Datum: AHD
Meridian: IS216853
Contour Interval: -
PSM:
RL:

ISSUED FOR APPROVAL
NOT FOR CONSTRUCTION

DRAWING TO BE READ IN CONJUNCTION WITH GENERAL NOTES

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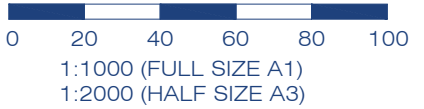
DRAWING TITLE

FINISHED BULK
EARTHWORKS SURFACE
LEVEL PLAN
SHEET 4 OF 4

[illegible]

A	25-05-18	ORIGINAL ISSUE	GCP	MG
Issue	Date	Description	DRN	CHK

SCALE IN METRES



Scale at A1: 1:1000

Designed:	IG
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Drafted:	GCP
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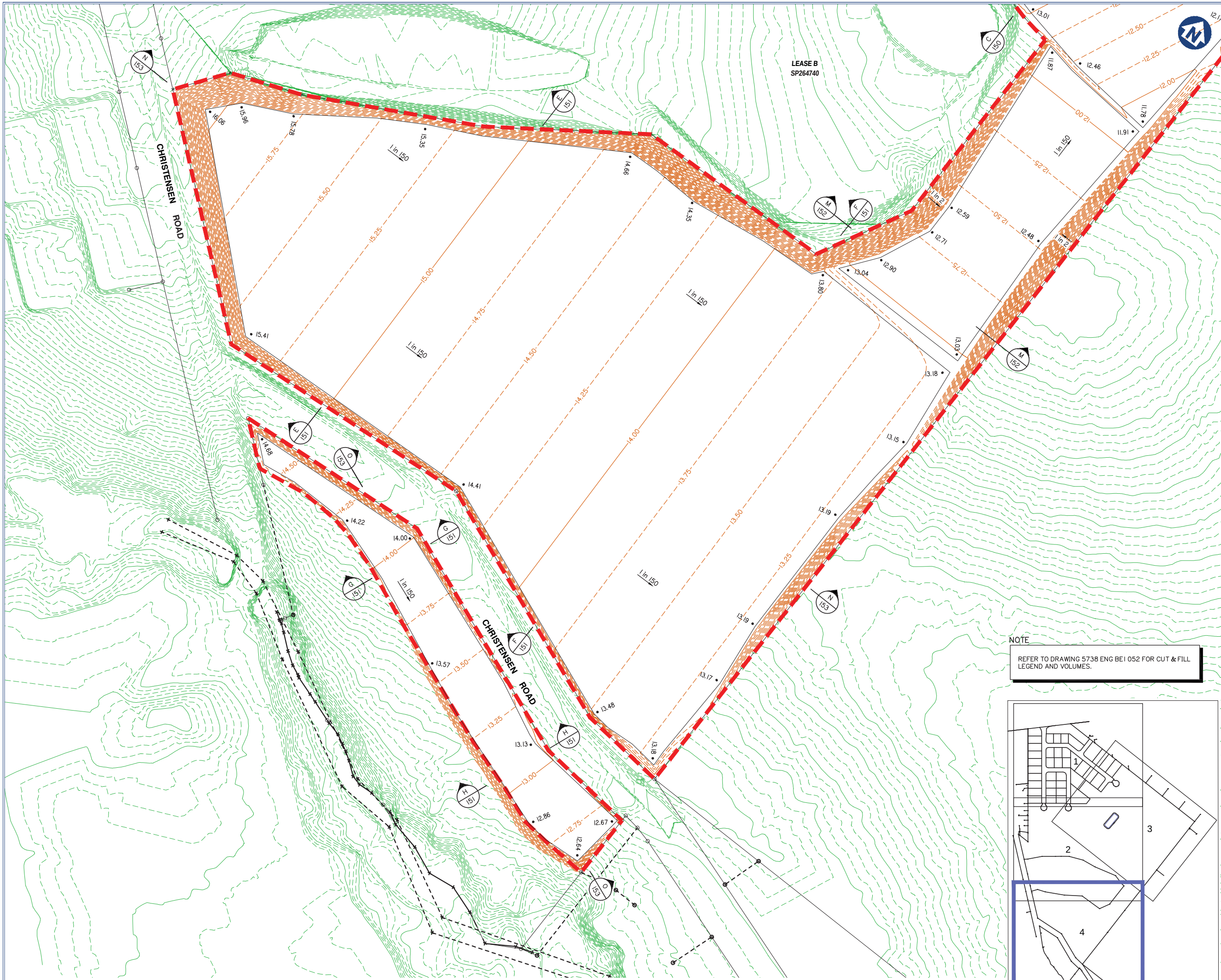
Approved:	MG
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RPEQ:	1693
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Signed: 

Date:	25-05-18
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Drawing No: 5738 ENG BEB 103 Rev. No: A



FINISHED BULK EARTHWORKS SURFACE LEVEL PLAN SHEET 4 OF 4



KS8 Pty. Ltd.

60 STAPLYTON JACOBS
WELL ROAD, STAPYLTON

Parish: Albert
County: Ward
Local Authority: City of Gold Coast Council
Level Datum: AHD
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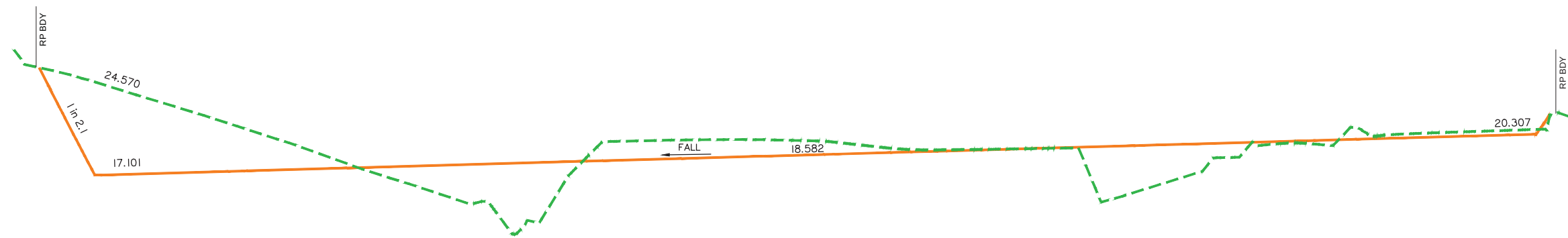
FINISHED EARTHWORKS
SURFACE CROSS-SECTION
SHEET 1 OF 4

A	25-05-18	ORIGINAL ISSUE	GCP	MG
Issue	Date	Description	DRN	CHK

Scale at A1: 1:1000 HORIZ. 1:200 VERT.

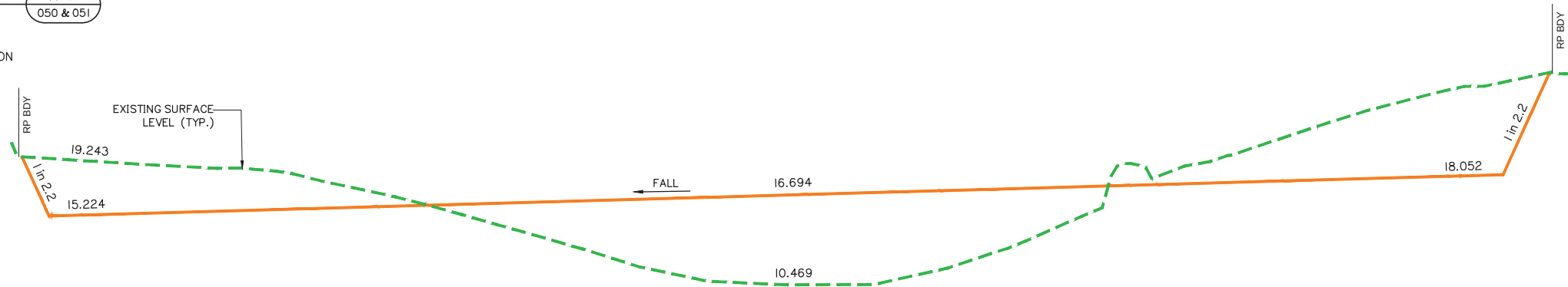
Designed:	IG
Drafted:	GCP
Approved:	MG
RPEQ:	16939
Signed:	
Date:	25-05-18

Drawing No:	Rev. No:
5738 ENG BEB 150	A



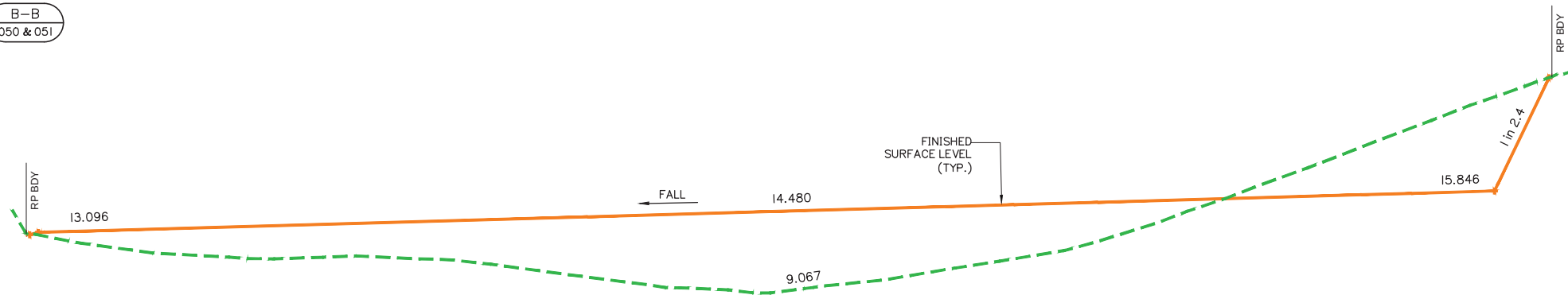
A-A
050 & 051

SCALE:
1: 1000 HOR.
1: 200 VERT.
5: 1 DISTORTION



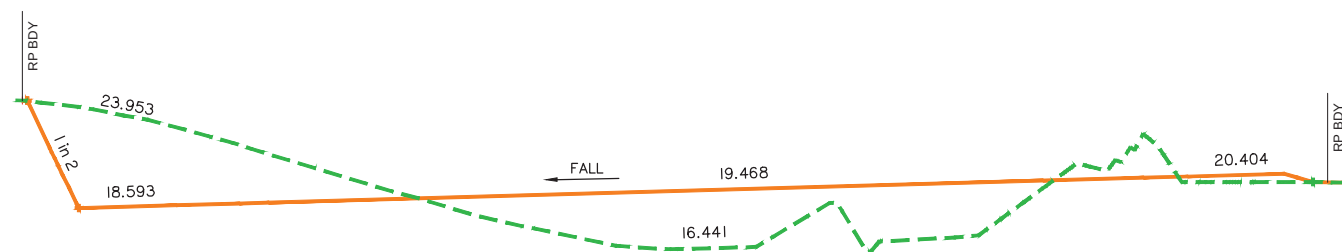
B-B
050 & 051

SCALE:
1: 1000 HOR.
1: 200 VERT.
5: 1 DISTORTION



C-C
050 & 051

SCALE:
I: 1000 HOR.
I: 200 VERT.
5: 1 DISTORTION



D-D
050 & 051

SCALE:
1: 1000 HOR.
1: 200 VERT.
5: 1 DISTORTION

FINISHED EARTHWORKS SURFACE CROSS SECTION



Client:

KS8 Pty. Ltd.

Site Address:

60 STAPLYTON JACOBS
WELL ROAD, STAPYLTON

RPD:

Lot / Plan: 1 on RP6882
240 on W31320

Parish: Albert
County: Ward
Local Authority: City of Gold Coast Council
Level Datum: AHD
Meridian: IS216853
Contour Interval: -
PSM:
RL:

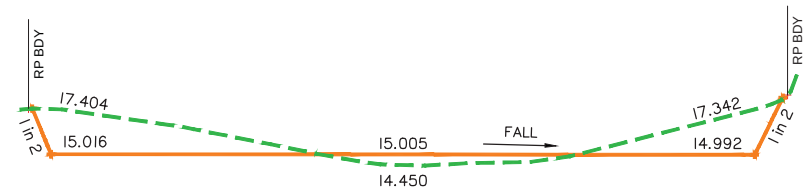
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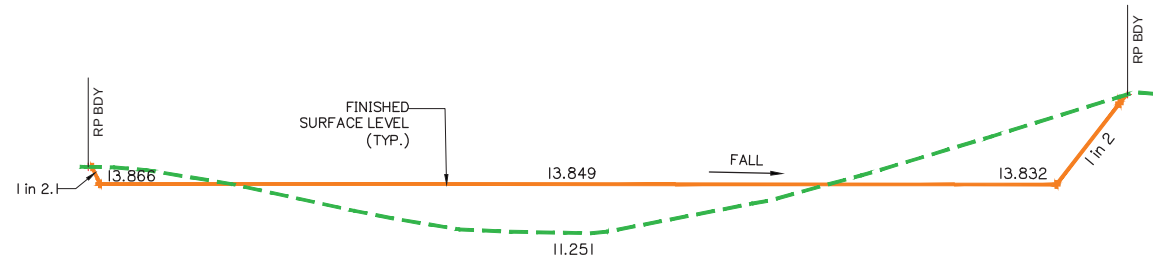
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DRAWING TITLE

FINISHED EARTHWORKS
SURFACE CROSS-SECTION
SHEET 2 OF 4



SECTION _____
 SCALE:
 1: 1000 HOR.
 1: 200 VERT.
 5: 1 DISTORTION



SECTION _____

SCALE:
 1: 1000 HOR.
 1: 200 VERT.
 5: 1 DISTORTION



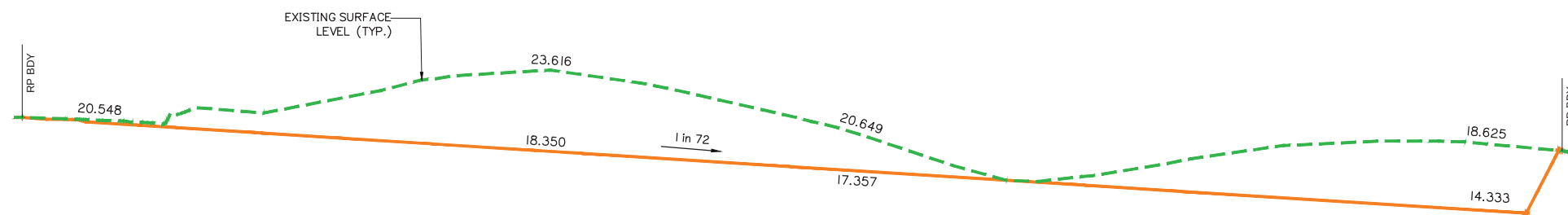
SECTION _____

SCALE:
1: 250 HOR.
1: 50 VERT.

G-G
053



SECTION _____ H-H
SCALE: 053
1: 250 HOR.
1: 50 VERT.

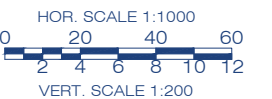


SECTION
SCALE:
I: 1000 HOR.
I: 200 VERT.
5: I DISTORTION

FINISHED EARTHWORKS SURFACE CROSS SECTION

A	25-05-18	ORIGINAL ISSUE						GCP	MQ
Issue	Date	Description						DRN	CHK

SCALE IN METRES



Scale at A1: 1:1000 HORIZ. 1:200 VERT.

Designed:	IG
Drafted:	GOP
Approved:	MG
RPEQ:	16939
Signed:	
Date:	25-05-18

Drawing No:	Rev. No:
5738 ENG BEB 151	A



KS8 Pty. Ltd.

60 STAPLYTON JACOBS
WELL ROAD, STAPYLTON

Lot / Plan:	1 on RP6882 240 on W31320
Parish:	Albert
County:	Ward
Local Authority:	City of Gold Coast Council
Level Datum:	AHD
Meridian:	IS216853
Contour Interval:	-
PSM:	
RL:	

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FINISHED EARTHWORKS
SURFACE CROSS-SECTION
SHEET 3 OF 4

A Issue	25-05-18 Date	ORIGINAL ISSUE Description	GOP DRN	MG CH-K

HOR. SCALE 1:1000

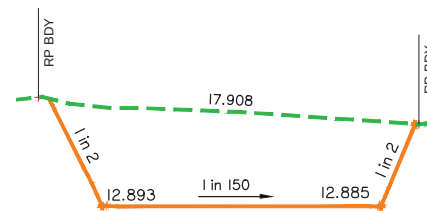
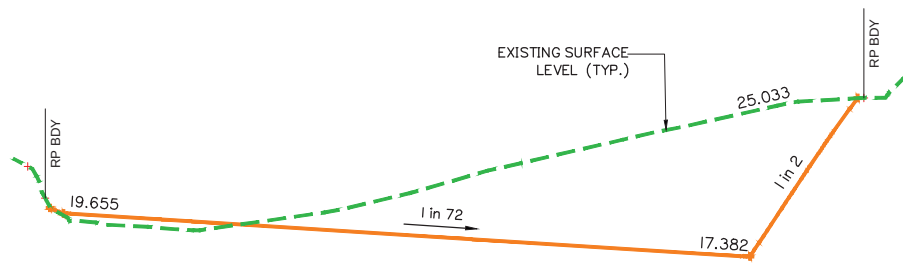
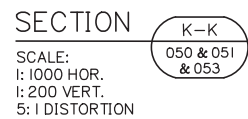
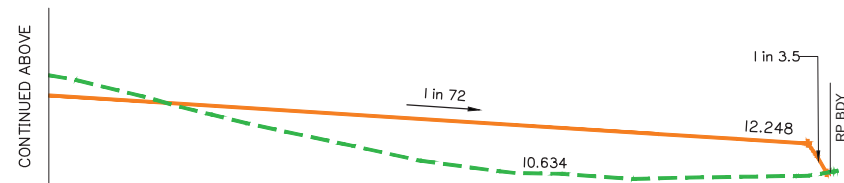
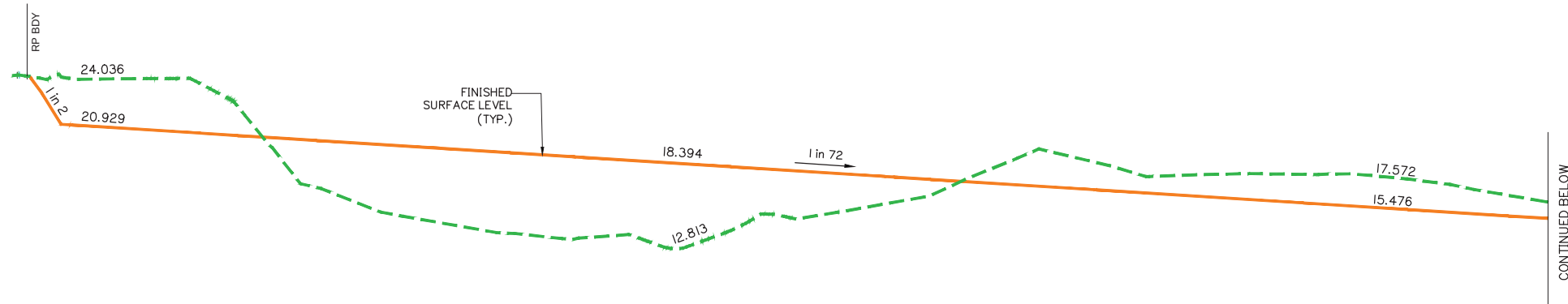
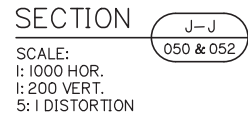
0 20 40 60

2 4 6 8 10 12

VERT. SCALE 1:200

Designed:	IG
Drafted:	GCP
Approved:	MG
RPEQ:	16939
Signed:	
Date:	25-05-18

Drawing No:	Rev. No:
5738 ENG BEB 152	A



FINISHED EARTHWORKS SURFACE CROSS SECTION



Client:

KS8 Pty. Ltd.

Site Address:

60 STAPLYTON JACOBS
WELL ROAD, STAPYLTON

RPD:

Lot / Plan: 1 on RP6882
240 on W31320

Parish:	Albert
County:	Ward
Local Authority:	City of Gold Coast Council
Level Datum:	AHD
Meridian:	IS216853
Contour Interval:	-
PSM:	
RL:	

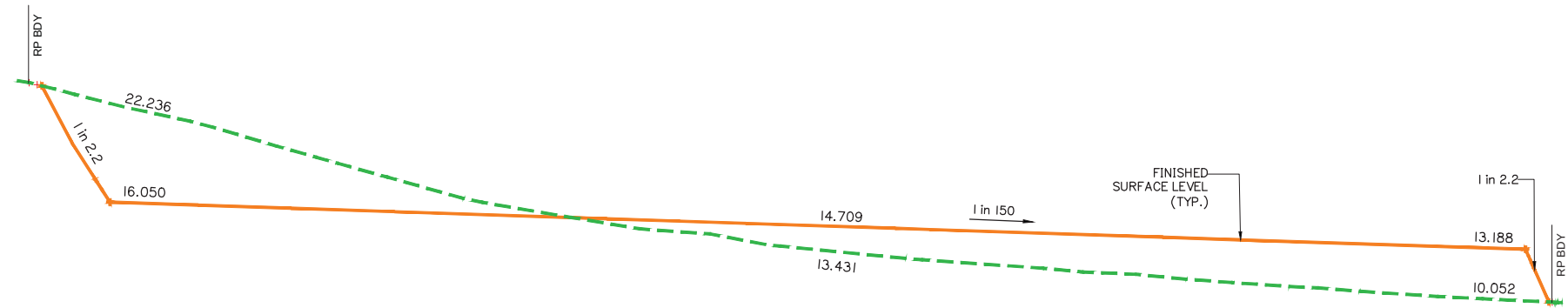
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DRAWING TITLE

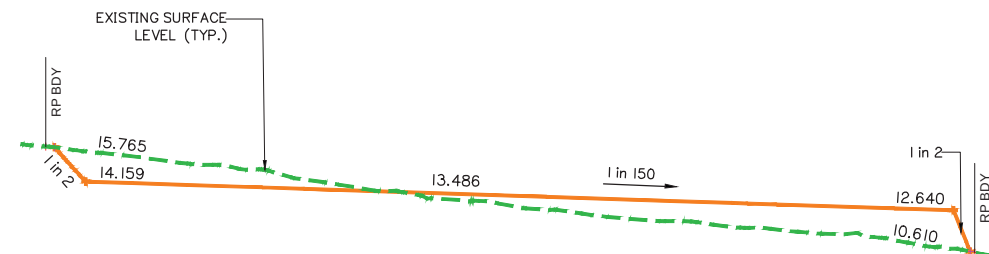
FINISHED EARTHWORKS
SURFACE CROSS-SECTION
SHEET 4 OF 4



SECTION

SCALE:
1: 1000 HOR.
1: 200 VERT.
5: 1 DISTORTION

N-N
053

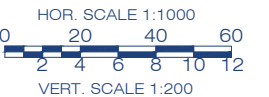


SECTION

SCALE:
1: 1000 HOR.
1: 200 VERT.
5: 1 DISTORTION

$$\begin{array}{r} 0-0 \\ \hline 053 \end{array}$$

SCALE IN METRES



Scale at A1: 1:1000 HORIZ. 1:200 VERT.

Designed:	IG
Drafted:	GCP
Approved:	MG
RPEQ:	16939
Signed:	
Date:	25-05-18

Drawing No:	Rev. No:
5738 ENG BEB 153	A

FINISHED EARTHWORKS SURFACE CROSS SECTION