Oakdale West Estate

BULK EARTHWORK SPECIFICATION
FILLING, CUTTING AND TESTING
(With Blended Topsoil Fill and Compacted Insitu "Topsoil")

PSM1541-126S REV 0 **November 2015**

CONTENTS

1. SCOPE

This specification details the requirements for the bulk earthworks to be undertaken at the proposed development for Goodman at the Oakdale West Estate. This includes areas where material is filled or cut to bulk excavation level (BEL) within the site.

Fill placed in accordance with this specification is denoted as Select Fill.

This specification does not address any environmental, contamination or erosion issues with respect to the fill material.

There is a **HOLD POINT** on placing fill in Section 2.4 of this Specification

2. FILLING WORKS

2.1. Subgrade Preparation

The condition of the subgrade should be assessed immediately prior to filling commencing.

All Select Fill is to be placed on one of the following five (5) materials:

1. Bedrock.
2. Natural insitu material of at least stiff consistency.
3. Compacted Insitu Topsoil as defined in Section 2.1.1 as approved by PSM.
4. Engineered compacted fill placed in accordance with this or other approved specifications for which the Geotechnical Inspection and Testing Authority (GITA) has a Level 1 certificate certifying compliance with that approved specification.
5. Other materials as approved by PSM.

Proof rolling shall only be undertaken under the direction of PSM. PSM may also direct a bridging layer of Select Fill be placed and compacted to a Dry or Hilf Density Ratio (Standard Compaction) of between 95% and 102%. Any such layer shall be a Lot under Clause 5.3.

The GITA should satisfy itself that the subgrade has not been desiccated, affected by rain or disturbed. If the GITA cannot so satisfy itself, then the subgrade should be moisture conditioned and compacted to be in accordance with Clauses 2.5 and 2.6 of this specification.

Select Fill shall be placed only on subgrade approved by the GITA as being in accordance with this specification.

2.1.1. Compacted Insitu Topsoil subgrade

Compacted Insitu Topsoil is defined as follows:

1. Where there is greater than 2 m of Select Fill to be placed over the existing subgrade, the following shall be adopted:
   (a) grub shrubs and trees, then
   (b) moisture condition and compact the grass and topsoil insitu.
2. Where there is between 1 m and 2 m of Select Fill to be placed over the existing subgrade, the following shall be adopted:
   (a) grub shrubs and trees,
   (b) strip grass and dispose, then
   (c) moisture condition and compact the topsoil insitu.

Where there is less than 1 m of Select Fill is to be placed over the existing subgrade, the following shall be adopted:

(a) grub shrubs and trees,
(b) strip all grass and topsoil, and
(c) assess the subgrade condition in accordance with the subgrade preparation requirements of Clause 2.1 of this specification prior to placement of fill material.

2.2. Base Geometry

The slope of any buried batter shall be less than 2H:1V unless otherwise directed by PSM.

The contractor shall remove or flatten any geometrical obstructions (e.g. protrusions or holes) such that subsequent Select Fill can be placed to achieve the requirements of this specification.

Select Fill shall be placed only on areas where the base geometry has been approved by the GITA and conforming to this specification.

2.3. Material

We understand that the bulk earthworks would comprise the following:

1. Cut to fill with site won natural insitu clay / shale.
2. Filling with imported fill.

Select Fill is to conform to one of the following definitions.

2.3.1. Site Won Natural Material

Site won natural material is to conform to one of the following definitions:

1. "Virgin excavated natural material" (**VENM**) as defined by the Protection of the Environment Operations Act 1997 No 156, Schedule 1, on Page 209:

   "Virgin excavated natural material (eg clay, gravel, sand, soil and rock) that is not mixed with any other waste and that:

   a) has been excavated from areas that are not contaminated, as a result of industrial, commercial, mining or agricultural activities, with manufactured chemicals and that does not contain sulphide ores or soils, or

   b) consists of excavated natural materials that meet such criteria as may be approved by the EPA".

2. "Excavated natural material" (**ENM**) as defined by the Protection of the Environment Operations (Waste) Regulation 2005 – General Exemption Under Part 6, Clause 51 and 51A, the excavated natural material exemption 2012:

   "Excavated natural material is naturally occurring rock and soil (including but not limited to materials such as sandstone, shale, clay and soil) that has:

   a) been excavated from the ground, and

   b) contains at least 98% (by weight) natural material, and

   c) does not meet the definition of Virgin Excavated Natural Material in the Act.

   Excavated Natural Material does not include material that has been located in a hotspot; that has been processed; or that contains asbestos, Acid Sulphate Soils (ASS), Potential Acid Sulphate soils (PASS) or sulfidic ores."

   and which meets the requirements of this exemption.

2.3.2. Imported Fill

Imported Select Fill is to conform to the definition of VENM or ENM as defined in Clause 2.3.1 of this specification.

2.3.3. Blended Topsoil

Blended Topsoil is to comprise existing stockpiled topsoil or topsoil stripped from the works blended with materials defined by Clause 2.3.1 or Clause 2.3.2 above. Blended Topsoil shall:

- not include grass and / or organic material
- be blended at a maximum ratio of 1 part topsoil to 8 parts VENM or ENM
- be thoroughly mixed and homogenous

The GITA shall assess the above criteria and approve the material as suitable for use as Engineered Fill.

Blended Topsoil shall not be placed within 1.0 m of the final Bulk Earthworks Level (BEL).

2.3.4. All Fill

The Select Fill shall be approved by the GITA as suitable for use in a structural fill.

Select Fill shall not comprise unsuitable material as defined by Clause 4.2 of AS3798-2007 “Guidelines on earthworks for commercial and residential developments" as:

a) *“organic soils, such as many topsoils, severely root-affected subsoils and peat;*

b) *materials contaminated through past site usage which may contain toxic substances or soluble compounds harmful to water supply or agriculture;*

c) *materials containing substances which can be dissolved or leached out in the presence of moisture (eg: gypsum), or which undergo volume change or loss of strength when disturbed and exposed to moisture (eg: some shales and sandstones), unless these matters are specifically addressed in the design;*

d) *silts, or materials that have the deleterious engineering properties of silt;*

e) *other materials with properties that are unsuitable for the forming of structural fill; and*

f) *fill that contains wood, metal, plastic, boulders or other deleterious material, in sufficient proportions to affect the required performance of the fill."*

All Select Fill particles shall be able to be incorporated within a single layer. Further, less than 30% of particles shall be retained on the 37.5 mm sieve. The proportion of particles retained on the 37.5 mm sieve shall be assessed using the rock correction method in AS1289.5.4.1 and AS1289.5.7.1.

Select Fill shall be able to be tested in accordance with the Standard Compaction method (AS1289.5.4.1) or Hilf test method (AS1289.5.7.1). These methods require less than 20% retained on the 37.5 mm sieve. Where between 20% and 30% of particles are retained on the 37.5 mm sieve the above test methods shall still be adopted and test reports annotated appropriately.

These requirements should be met by the material after placement and compaction.

The GITA shall assess that the proportion of deleterious material in each Lot is not greater than 0.25% by weight and that all particles of deleterious material have a maximum dimension smaller than 300 mm.

Deleterious material is defined by Table 3015.3 of the RTA QA Specification 3051 (Edition 5 June 1998) as:

> *"Type III: Rubber, Plastic, Bitumen, Paper, Cloth, Paint, Wood and Other Vegetable Matter"*

If the GITA is not able to visually assess the above criterion, the GITA shall arrange appropriate testing. The owner may elect to undertake its own audit testing of the fill for deleterious material content. Should this testing indicate that the quantity of deleterious is higher than 0.25% the Contractor shall be required to remove and replace the fill at its own cost.

The Contractor shall ensure that the quantity of deleterious material placed in the fill is kept to a minimum by:

1. Identifying and rejecting loads with identifiable deleterious material.
2. Removing deleterious material where it is observed at the tipping location prior to spreading.
3. Removing observable deleterious material once the material has been spread and rolled into layers.

The GITA shall confirm that the steps 2 and 3 of the above are undertaken on site.

Only material approved by the GITA shall be placed as Select Fill.

2.4. Fill Zonation and Placement

HOLD POINT

PROCESS HELD	PLACING OF FILL
Submission detail	The Contractor / GITA submit to PSM a Weekly Certificate as defined in Clause 6.2.1 of this Specification for the earthworks completed to the previous Saturday no later than 5 pm of the subsequent Wednesday.
Release of Hold Point	PSM to confirm receipt of Weekly Certificate and release Hold Point if initial assessment of the Weekly Certificate indicates it complies with requirements of this Specification.

Select Fill shall be placed in accordance with the following requirements:

1. In near horizontal, laterally extensive layers of uniform material and thickness, deposited systematically across the work area as determined by the GITA.
2. The compacted thickness of each layer shall be equal to or less than 300 mm.

3. Where Select Fill is placed on a subgrade comprising of Compacted Insitu Topsoil, the compacted thickness of the first layer shall be equal to or less than 150 mm.

Select Fill shall only be placed on subgrade in accordance with this specification and approved by the GITA.

2.5. Compaction

Select Fill shall be placed and compacted to a Dry or Hilf Density Ratio (Standard Compaction) of between 98% and 102%.

The insitu density shall be measured over the full depth of each layer placed.

2.6. Moisture Control

The placement moisture variation or Hilf moisture variation shall be controlled to be between 2% dry of optimum and 2% wet of optimum.

Placement moisture content of the Select Fill shall be measured.

3. CUTTING

3.1. Subgrade Condition

The subgrade is to comprise one of the following materials:

1. Bedrock.
2. Natural insitu material of at least stiff consistency.
3. Other materials as approved by PSM.

Proof rolling shall only be undertaken under the direction of PSM.

The GITA should satisfy itself that the subgrade has not been desiccated, affected by rain or disturbed. If the GITA cannot so satisfy itself, then the subgrade should be excavated and filled to the BEL in accordance with this specification.

4. SURVEY

4.1. Filling areas

The survey requirements are as follows:

1. Any approved subgrade shall be surveyed prior to first filling such that subgrade levels are established to within ± 0.1 m. The area subject to approval shall be assessed and shown on a plan drawing to an accuracy of at least +/- 5 m in plan. Areas subject to Clause 2.1.1 shall be clearly identified on this survey.

2. The Lot boundaries shall be surveyed and shown on a plan drawing to an accuracy of at least +/- 5 m in plan.

3. The location of the field density tests shall be surveyed and shown on the Lot boundary plan drawing to an accuracy of at least +/-5 m in plan.

4. The elevation of the field density tests shall be surveyed to an accuracy of +/-0.05 m.

The plan drawing shall show at the boundaries of the site and other identifiable site features, so as to allow the location of the lots and the test to be recoverable.

4.2. Cutting areas

Any approved subgrade for cut areas shall be surveyed such that subgrade levels are established to within ± 0.1 m.

5. INSPECTION AND TESTING

5.1. Role of the GITA

The Geotechnical Inspection and Testing Authority (GITA) shall be contracted to document and certify that the works undertaken by the contractor has been completed in accordance with the relevant design and specifications.

5.2. Level 1 Control

The GITA shall adopt Level 1 responsibility as described in Section 8.2 of AS 3798-2007 "Guidelines on earthworks for commercial and residential developments":

> *"The primary objective of Level 1 Inspection and Testing is for the geotechnical inspection and testing authority (GITA) to be able to express an opinion on the compliance of the work. The GITA is responsible for ensuring that the inspection and testing are sufficient for this purpose.*
>
> *The geotechnical inspection and testing authority needs to have competent personnel on site at all times while earthwork operations are undertaken. Such operations include:*
>
> - *Completion of removal of top soil*
> - *Placing of imported or cut material*
> - *Compaction and adding/removal of moisture*
> - *Trenching and backfilling*
> - *Test rolling*
> - *Testing*
>
> *The superintendent should agree a suitable inspection and testing plan prior to commencement of the works.*
>
> *On completion of the earthworks, the GITA will usually be required to provide a report setting out the inspections, sampling and testing it has carried out, and the*

locations and results thereof. Unless very unusual conditions apply, the GITA should also be able to express an opinion that the works (as far as it has been able to determine) comply with the requirements of the specification and drawings."

For this particular contract, Level 1 responsibility includes:

1. Lot testing as per Clause 5.3 of this specification.
2. A frequency of testing not less than that specified in Clause 5.4 of this specification.
3. The GITA documenting and reporting its activity in the terms required by Clause 6 of this specification.
4. The GITA undertaking adequate inspections and testing to comply with the above requirements and to be able to certify the fill in the terms required by Clause 6 of this specification.

5.3. Lot Testing

This specification requires lot testing to be undertaken.

A Lot is defined as a single layer of Select Fill consisting of uniform material which has undergone similar treatment.

Lot testing comprises the following:

1. A Lot shall be identified by the Contractor or the GITA with a Lot Number and presented for testing.
2. A Lot shall be deemed to be in accordance with the specification if all the tests undertaken within the Lot are in accordance with the specification, i.e. "a none to fail basis".
3. If any one test undertaken within a Lot fails, the whole of the Lot shall be reworked and retested.

Any portion of the placed Select Fill must be part of a single lot and all Lots will require approval by the GITA.

5.4. Testing Frequency

The frequency of compaction testing for each lot shall not be less than the greater of:

- 1 test per 300 m^3 of material placed as Blended Topsoil as defined in Clause 2.3.3 of this specification.
- 1 test per 500 m^3 of material placed.
- 3 tests per lot.

A laboratory moisture content test shall be undertaken for each field density test.

5.5. Proof Rolling and Plate Load Testing

Proof rolling, together with minor boxing out and refilling, of the upper surface of the bulk earthworks will be undertaken as directed by PSM. The plant to be adopted depends upon the design loads adopted by the structural engineers for each portion of the site.

Plate load testing shall be undertaken at the direction of PSM at the following stages:

1. Prior to placement of Select Fill where the subgrade comprise Compacted Insitu Topsoil.
2. Following placement and compaction of the first two (2) layers of Blended Topsoil and subsequently as directed by PSM. Expected test frequency is 1 test per 5000 m^3 of Blended Topsoil.
3. At final bulk earthworks level (BEL). Expected test frequency is approximately a day of testing for each building pad.

The contractor is to make a suitable reaction (eg 20 tonne excavator) available for the tests.

5.6. Inspection, Testing and Survey

The GITA shall at least undertake the following tasks:

Cut areas

1. For cut areas, identify the subgrade as one of the three (3) subgrade types listed in Clause 3.1 of this specification and assess that the subgrade condition of cut areas is in accordance with the subgrade condition requirements of Clause 3.1 of this specification. If the cut subgrade has been approved by PSM, the GITA will be required to reference the approval in its weekly report.
2. Should Select Fill be required to fill overcut areas, assess that filling has been placed in accordance with this specification.

Fill areas

3. For fill areas, identify the subgrade as one of the five (5) subgrade types listed in Clause 2.1 of this specification and assess that the subgrade condition of any area prior to placement of fill material is in accordance with the subgrade preparation requirements of Clause 2.1 of this specification. For the following subgrade types, GITA needs to include / refer to PSM approval in its weekly report.
   (a) Compacted Insitu Topsoil as defined in Section 2.1.1 as approved by PSM.
   (b) Other materials as approved by PSM.
4. Assess that the base geometry of any area prior to placement of fill material is in accordance with the base geometry requirements of Clause 2.2 of this specification.

5. For each Lot, identify the material as either Site Won, Imported or Blended Topsoil as defined in Clause 2.3 of this specification and assess that the material placed is in accordance with the fill material requirements of Clause 2.3 of this specification.

6. Assess that Blended Topsoil placed is in accordance with the requirements of Clause 2.3.3 of this specification.

7. Assess the proportion of deleterious material for each Lot is in accordance with Clause 2.3.4 of this specification.

8. Assess that the Select Fill has been placed in accordance with the requirements for fill zonation and placement of Clause 2.4 of this specification.

9. Assess that each Lot as presented for approval by the contractor is in accordance with the requirements for Lot definition of Clause 5.3 of this specification.

10. Ensure that the survey requirements in Clause 4 of this specification have been completed.

11. Estimate the approximate volume of Select Fill placed in each Lot presented for approval.

12. Conduct Lot testing in accordance with the construction control testing requirements of Clauses 5.3 and 5.4 of this specification.

13. Assess that the compaction of each Lot is in accordance with the requirements of Clause 2.5 of this specification. The GITA shall select a depth of insitu density tests that allows the density of the full layer to be assessed.

14. Assess that the moisture variation of each Lot is in accordance with the requirements for moisture control in Clause 2.6 of this specification.

15. Conduct material property testing in accordance with the material testing requirements in this specification (eg Deleterious material testing if required).

6. REPORTING AND CERTIFICATION

6.1. Reporting

The GITA shall produce at least the following reports:

1. *VENM / ENM Validation Reports.* Such a report shall transmit the VENM or ENM validation certificates for the fill imported to site.

2. *Subgrade Approval Reports* (a sample is attached). Such a report shall:

   - Document assessments undertaken for tasks 1 and 3 of Clause 5.6 including reporting the subgrade type.
   - Document the subgrade survey that has been undertaken.
   - Approve or reject the subgrade condition for cut areas based on task 1 of Clause 5.6.

- Approve or reject the subgrade condition and base geometry for filling, based on tasks 3 and 4 of Clause 5.6.

3. *Lot Approval Reports (a sample is attached).* Such a report shall:

   - Document assessments, testing and survey undertaken for tasks 5 to 15 of Clause 5.6.
   - Report material identification undertaken for task 5 of Clause 5.6.
   - Report the assessed proportion of deleterious material for task 7 of Clause 5.6.
   - Report the results of testing undertaken for task 12 of Clause 5.6.
   - Approve or reject lots based on tasks 13 and 14 of Clause 5.6.

4. *Material Testing Reports.* Such a report shall:

   - Report the results of material property testing undertaken for task 15 of Clause 5.6.

5. *Daily Reports (a sample is attached).* Such a report shall be completed daily and shall:

   - Document time spent on site by the GITA personnel.
   - List subgrade assessments and approvals undertaken each day with reference to relevant Subgrade Approval Report(s).
   - List Lots presented, accepted and approved or rejected each day, with reference to relevant Lot Approval Report(s).
   - List survey undertaken each day as for task 10 of Clause 5.6 and not already documented in the Subgrade or Lot Approval Reports.
   - Document other relevant activities undertaken on site that day (site instructions, breakdowns, compaction equipment used, etc.)

6. *Chain of Custody Certificates.* These certificates shall include the following information:

   (a) Receipt for delivery of the landfill material.

   (b) Copy of the truck driver's log book showing evidence of the delivery.

   (c) Statutory Declaration by the person responsible for transfer of the landfill material stating:

      i. Dates when landfill material was picked up and delivered.

      ii. Who picked up and delivered the landfill material (full names and addresses of individual companies must be provided).

      iii. Quantity of landfill material transferred (tones/cubic metres)

      iv. Location where material was picked up and delivered to.

6.2. Certification

6.2.1. Weekly Certificates

The GITA shall produce a Weekly Certificate for any week in which earthworks are undertaken in accordance with this specification. The Weekly Certificate will cover all works from the previous Weekly Certificate until the end of work on a Saturday.

The Weekly Certificate shall transmit the following:

- Copy or reference to the complete specification document(s).
- Subgrade Approval Reports.
- Lot Approval Reports.
- Material property testing reports.
- Daily Reports.
- Survey of subgrade geometry prior to filling or in cut areas.
- Plan survey drawing showing lot boundaries and location of density tests.
- Survey documenting filling undertaken to date and showing location of testing.
- VENM/ENM validation reports.
- Chain of custody certificates.

And certify that:

"All the earthworks undertaken and the subgrade condition in the cut areas [in the stated period] are documented in the above reports and have been undertaken in accordance with the Specification (Ref. PSM1541-126S Rev XX dated XXXX)."

6.2.2. Interim or Final Filling Certificate

At the completion of the bulk earthworks, or as requested by the Client, the GITA shall provide an Interim or Final Filling Certificate which shall:

1. Transmit a reference list of the Weekly Certificates.
2. Provide an Excel spreadsheet presenting the results of all the acceptance testing completed by the GITA.
3. Certify that *"All the earthworks undertaken and the subgrade condition in the cut areas [in the stated period] are documented in the above reports and have been undertaken in accordance with the Specification (Ref. PSM1541-126S RevXX dated XXXX)."*

NOTES

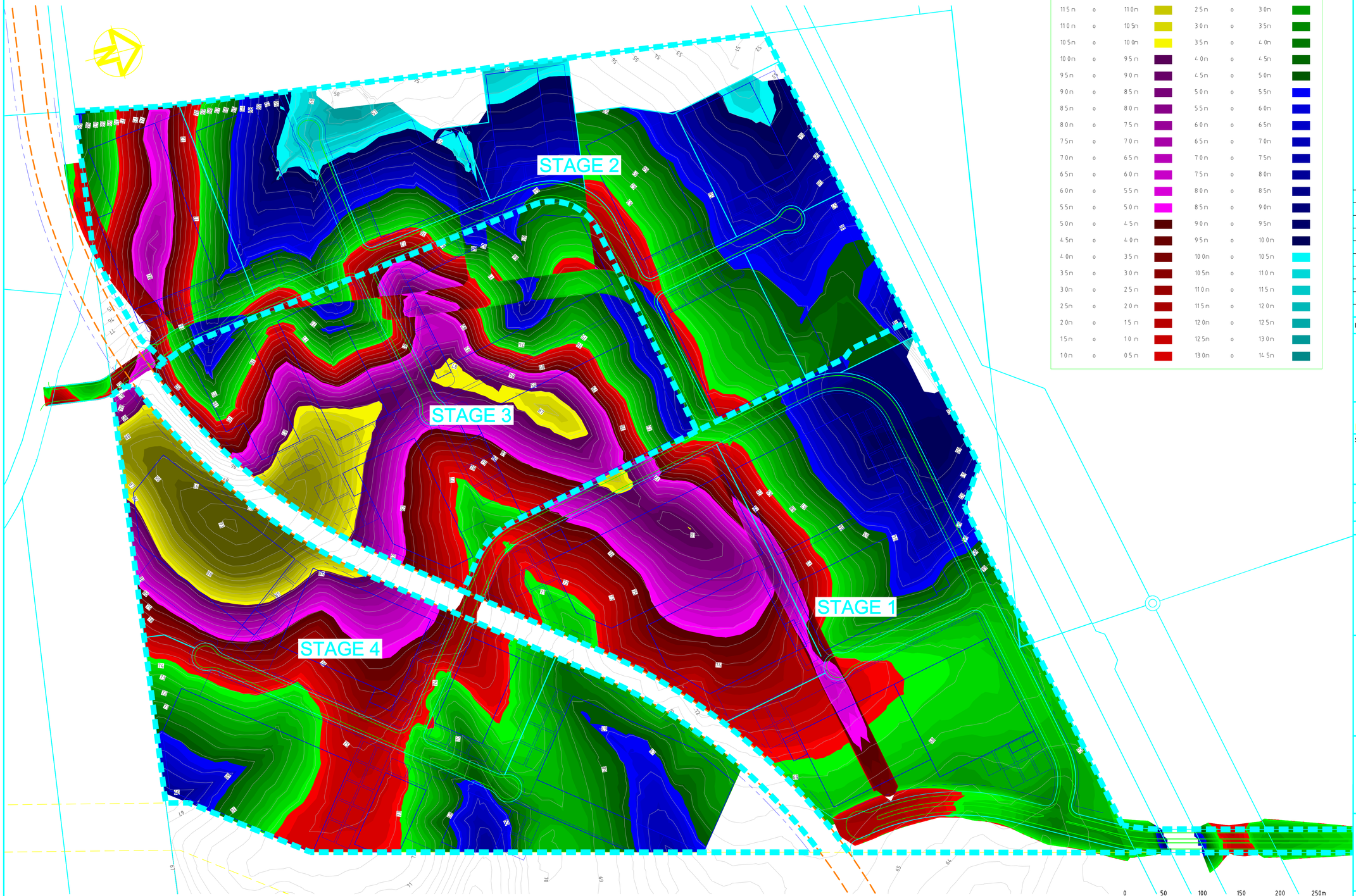
1. TOTAL PAD AREA EXCLUDES BATTERS.
2. PROPOSED BATTER SLOPE IS 1 (V) IN 3(H).
3. EARTHWORKS VOLUMES DENOTED ARE APPROXIMATE ONLY AND HAVE BEEN CALCULATED BETWEEN THE EARTHWORKS SURFACE LEVEL AND THE EXISTING SURFACE LEVEL. THE VOLUMES DO NOT TAKE INTO ACCOUNT THE FOLLOWING :–
   - STRIPPING AND STOCKPILING OF EXISTING TOP SOIL
   - BULKING FACTORS OF REMOVED CUT
   - REMOVAL OF EXISTING BUILDING SLABS AND PAVEMENTS
   - REMOVAL AND\OR REMEDIATION OF ANY EXISTING UNCONTROLLED FILL
   - PROPOSED LANDSCAPING
   - STORMWATER AND UTILITIES TRENCHING
   - EXISTING DAMS OR WATER BODIES WHERE BY THE BASE HAS NOT BEEN SURVEYED DUE TO THE PRESENCE OF WATER AT TIME OF SURVEY

LEGEND

STAGE BOUNDARY

EARTHWORKS
CUT/FILL LEGEND

LOWER VALUE		UPPER VALUE	COLOUR	LOWER VALUE		UPPER VALUE	COLOUR
15.5m	o	14.0m		0.5m	o	0m	
14.0m	o	14.5m		0m	o	0.5m	
14.5m	o	13.0m		0.5m	o	1.0m	
13.0m	o	12.5m		1.0m	o	1.5m	
12.5m	o	12.0m		1.5m	o	2.0m	
12.0m	o	11.5m		2.0m	o	2.5m	
11.5m	o	11.0m		2.5m	o	3.0m	
11.0m	o	10.5m		3.0m	o	3.5m	
10.5m	o	10.0m		3.5m	o	4.0m	
10.0m	o	9.5m		4.0m	o	4.5m	
9.5m	o	9.0m		4.5m	o	5.0m	
9.0m	o	8.5m		5.0m	o	5.5m	
8.5m	o	8.0m		5.5m	o	6.0m	
8.0m	o	7.5m		6.0m	o	6.5m	
7.5m	o	7.0m		6.5m	o	7.0m	
7.0m	o	6.5m		7.0m	o	7.5m	
6.5m	o	6.0m		7.5m	o	8.0m	
6.0m	o	5.5m		8.0m	o	8.5m	
5.5m	o	5.0m		8.5m	o	9.0m	
5.0m	o	4.5m		9.0m	o	9.5m	
4.5m	o	4.0m		9.5m	o	10.0m	
4.0m	o	3.5m		10.0m	o	10.5m	
3.5m	o	3.0m		10.5m	o	11.0m	
3.0m	o	2.5m		11.0m	o	11.5m	
2.5m	o	2.0m		11.5m	o	12.0m	
2.0m	o	1.5m		12.0m	o	12.5m	
1.5m	o	1.0m		12.5m	o	13.0m	
1.0m	o	0.5m		13.0m	o	14.5m	



Issue	Description	Date
P1	ISSUED FOR INFORMATION	2-06-15

Status: PRELIMINARY ONLY
NOT TO BE USED FOR CONSTRUCTION

A1

Scales	1:2500	Drawn	JB
		Designed	JB
Height Datum	AHD	Checked	
Grid	MGA	Approved	

File: SKC051 - OPTIMISED MASTER PLAN CUT TO FILL PLAN.dwg

Client: Goodman

Civil Engineers and Project Managers
at&l
Suite 702, 154 Pacific Hwy
St Leonards NSW 2065
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9460 8413
www.atl.net.au
info@atl.net.au

Project: OAKDALE WEST

Title: OPTIMISED MASTER PLAN CUT TO FILL PLAN

Drawing No.	Project No.	Issue
SKC051	15-272	P1

ATTACHMENT 1

SUBGRADE APPROVAL REPORT (SAMPLE ONLY)

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

NATA accreditation number

SUBGRADE APPROVAL REPORT

Client:	Contractor:
Job number:	Report number:
Project:	Technician:

Subgrade areas assessed:

Area ID	Date	Approximate extent	Subgrade description	Geometry summary	Specification reference	Compliance (Pass/Fail)	Survey reference	Approved (Yes/No)

COMMENTS:

Signed: Date:

ATTACHMENT 2

LOT APPROVAL REPORT (SAMPLE ONLY)

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

NATA accreditation number

LOT APPROVAL REPORT

Client:	Report number:
Job number:	Report date:
Project:	Technician:
Contractor:	Test methods:

LOT ID: Sheet of

Retest (Yes/No) Original test report number:

Specification reference

Location:

Lot boundary survey reference:cation:

Materials description: *(MATERIAL TYPE, colour, minor components, maximum particle size)*

Layer thickness:

Accepted as Lot: (Yes/No) Date:

Approximate volume (m3) Number of tests required:

Test ID No.				
Test soil description				
Date tested:				
Grid reference				
Surveyed test locations (RL,E,N)				
Test depth (mm)				
Max size (mm)				
% Oversize material (wet)				
Field wet density (t/m^3)				
Field moisture content (%)				
PWCD (t/m^3)				
Compactive effort				
Moisture variation (%)				
HILF density ratio (%)				
TEST (Pass/Fail)				

LOT APPROVAL (Pass/Fail) Signed: Date:

ATTACHMENT 3

DAILY REPORT (SAMPLE ONLY)

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

NATA accreditation number

DAILY REPORT

Client:	Report number:
Job number:	Report date:
Project:	
Location:	Level of testing: Level 1
Contractor	Technician:

Time on site:
Time off site:

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of survey	Survey undertaken by:	Reference

4. Instructions received on site

5. Instructions given on site

COMMENTS:

Signed: Date:

ATTACHMENT 4

CERTIFICATION LETTER (SAMPLE ONLY)

SAMPLE INTERIM (OR FINAL) FILLING CERTIFICATE

Letter Ref:
Date:

Addressed to GOODMAN
ATTENTION: GOODMAN REPRESENTATIVE

Dear Sir

RE: INTERIM (OR FINAL) FILLING CERTIFICATE
OAKDALE WEST PRECINCT
CERTIFICATION OF EARTHWORKS
BETWEEN [DATE OF COMMENCEMENT] AND [DATE OF COMPLETION]

In the period between [date start] and [date finish] the contractor has undertaken earthworks in areas XXX and XXX.

During the above period:

- The GITA has prepared the following Subgrade Approval Reports:
  1. Subgrade Approval Report No 1
  2. ……
- The GTA has prepared the following Lot Approval Reports:
  1. Lot Approval Report No 1
  2. …..
- The GTA has prepared the following Daily Reports:
  1. Daily Report No 1…….
  2. ……
- The following subgrade survey was undertaken:
  1. Subgrade Survey reference……
  2. ……
- The following weekly survey was undertaken:
  1. Weekly survey of week ending …….reference……..
  2. ……

Copies of all the above documents are attached.

The GITA certifies that all the earthworks undertaken in the above stated period are documented in the above reports and have been undertaken in accordance with the Specification (ref. PSM1541-126S RevXX dated xxx) a copy of which is attached, with the exception of:

1. List outstanding issues (not approved subgrade, lots, unsuitable material etc.)
2. ……..

Signed

GITA