# CIVIL GEOTECHNICAL SERVICES
## ABN 26 474 013 724
## PO Box 678 Croydon Vic 3136
## Telephone: 9723 0744 Facsimile: 9723 0799


28 June 2024

Our Reference: 23954:PJF2977

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3051

Dear Sirs,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
UNITY PARK ESTATE, TARNEIT - STAGE 11

Please find attached the results of the compaction testing that relate to the field density testing that was conducted within the filled areas of the above development. The inspection and testing duties, which were performed by experienced geotechnical engineers and geotechnicians from this office, were undertaken in accordance with the Level 1 guidelines presented in AS 3798 - Guidelines on earthworks for commercial and residential developments (2007). The testing was performed to the relevant Australian Standards and the accompanying test reports carry NATA endorsement.

Site preparation works initially commenced in early January 2023 and fill placement commenced soon after. The fill works continued on an hoc basis and were finalised in mid May 2024. Prior to fill placement, the stripped surfaces were inspected to ensure that a firm foundation free of organic matter and the like was achieved. Any soft spots and unstable areas and the like that were identified were removed down to a firm base and replaced with suitably compacted materials.

The fill materials during the recent construction phase were initially spread by both a dozer and a grader and then compacted in 0.3 to 0.35 metre (loose) lifts using a vibrating pad foot roller and a compacter. A truck mounted water cart was available to assist with moisture conditioning of the fill materials on an as required basis. Compaction testing of the fill materials was performed at regular intervals (both vertically and laterally) during fill placement to confirm that the method of fill placement was appropriate. Any areas that were deemed unsatisfactory were re-worked, removed or given extra rolling to ensure that the compaction criteria were met.

The purpose of performing Level 1 inspection and testing duties is to ensure the quality of the as constructed fill pad(s) and to both minimise the costs of extensive testing and eliminate any unnecessary time delays arising from the testing process. Hence, the provision of Level 1 duties allows the contractor to undertake the filling operation whilst the testing authority monitors the quality control process of the operation. As part of this latter process, the testing authority monitors the compaction methodology on a visual basis and undertakes a number of randomly placed spot checks (ie field density and associated compaction tests) to confirm that the adopted methodology is appropriate.

The attached compaction results, which were located randomly throughout the depth and breadth of the fill areas, are considered to be representative of the bulk fill materials that were placed within the development by Winslow Constructors Pty Ltd during the recent construction period. The locations of the actual field density test sites are shown on the accompanying drawings.

We are of the view that the bulk fill materials that have been placed across the filled areas by Winslow Constructors Pty Ltd (who were contracted to undertake the bulk filling works) can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort). Accordingly, the fill materials would be deemed to comply with both the structural fill requirements of Clause 1.2.13 of AS 3798 and the controlled fill requirements of Clause 1.8.13 AS 2870 – Residential slabs and footings (2011).

In summary, we are satisfied that the fill materials have been placed and compacted in accordance with the requirements of the Level 1 criteria outlined in AS 3798. Accordingly, we are also of the opinion that the fill materials have been compacted to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Yours faithfully,

Civil Geotechnical Services

Peter Fry

Attachments Report Nos 23954/R001 to 23954/R008


| Issue | Description | DR | CH | VE | Date |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | HP | SE | SE | 15.09.22 |
| 02 | ISSUED TO COUNCIL FOR APPROVAL | HP | SE | SE | 08.07.22 |
| 01 | ISSUED FOR TENDER | HP | SE | SE | 24.06.22 |

Scales

0 10 20 30 40 50m

1 : 500

100mm on Original

Client

HB Land
A member of Ho Bee Land

Status
FOR CONSTRUCTION



| Original Issue Signatures | | | |
|---|---|---|---|
| Drawn | H.PALOMIQUE | Original Size | A1 |
| Designed | S.HARMANIS | Height Datum | AHD |
| Project Manager | S.EISEL | Grid | MGA |
| Verified | S.EISEL | | |

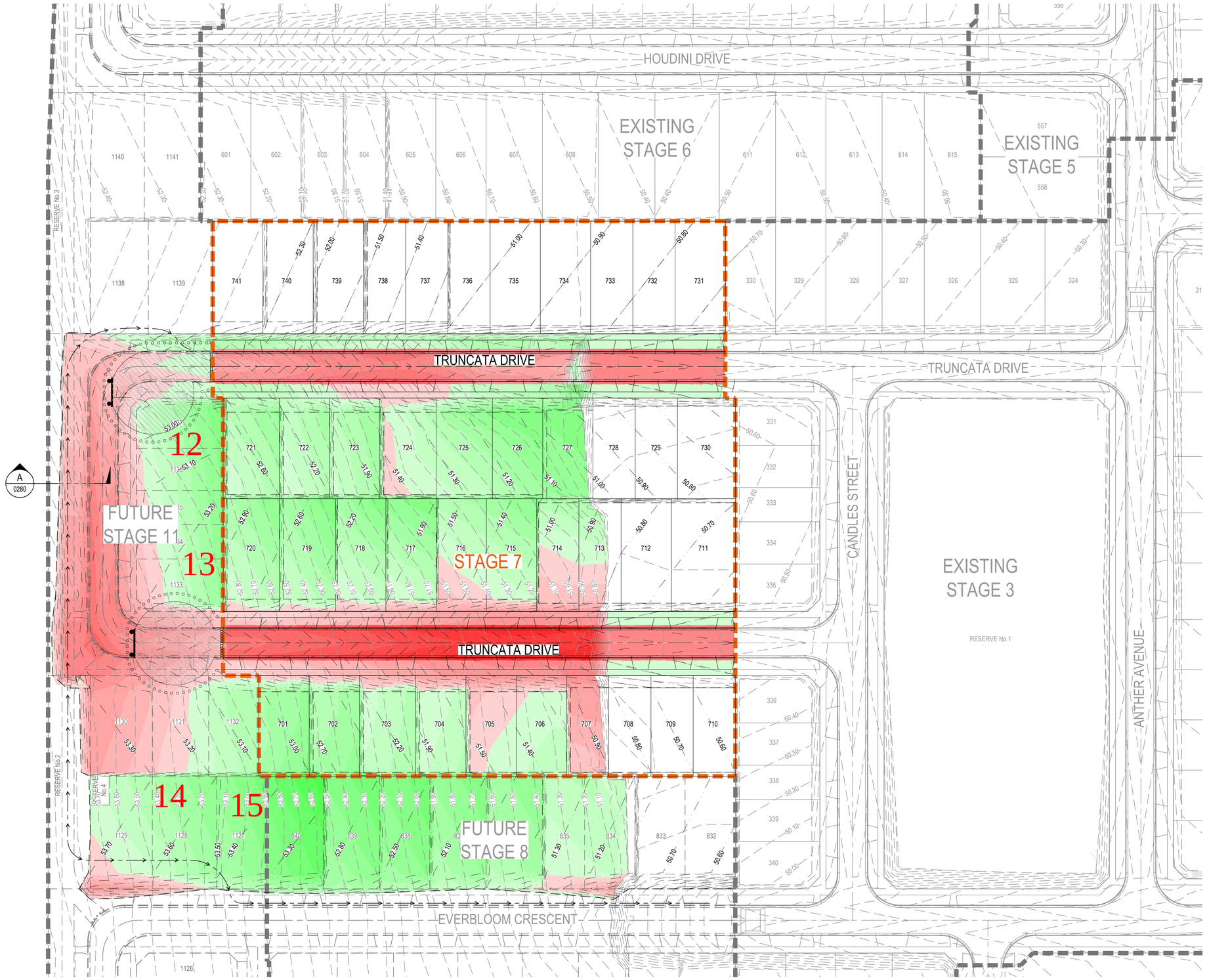
Project
UNITY PARK
STAGE 6
WYNDHAM CITY COUNCIL

Title
EARTHWORKS LAYOUT PLAN

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 18, Queen & Collins Tower
376-390 Collins Street
Melbourne VIC 3000
ABN 76 104 485 289
Tel No: +61 3 8623 4000
www.arcadis.com/au

| Project No. | Originator | Zone \| Stage \| Phase | Discipline | Type | Drawing No. | Issue |
|---|---|---|---|---|---|---|
| 30063302 | AAP | AA06DD | CV | DRG | 0100 | A |

Date Plotted: 15 Sep 2022 - 09:26pm File Name: C:\Users\palomiqh6754\ACCDocs\Arcadis\A-AU-30063302-Leakes Road Estate\Project Files\01_WORK IN PROGRESS\01_Civil_CV\Stage6\Drawings\30063302-AAP-AA06DD-CV-DRG-0100-Earthworks.dwg V1




## LEGEND

- PROPOSED STAGE BOUNDARY
- 5.0 PROPOSED DESIGN CONTOURS
- 5.0 EXISTING SURFACE CONTOURS
- PROPOSED KERB & CHANNEL
- PROPOSED RIDGE LINE

## NOTE:

FOR GENERAL NOTES, REFER TO DRAWING No. 30063302-AAP-AA07DD-CV-DRG-0002.

## CUT FILL DEPTH RANGE

| Lower Value | | Upper Value | | Colour |
|---|---|---|---|---|
| -999.00 | to | -1.40 | m | |
| -1.40 | to | -1.30 | m | |
| -1.30 | to | -1.20 | m | |
| -1.20 | to | -1.10 | m | |
| -1.10 | to | -1.00 | m | |
| -1.00 | to | -0.90 | m | |
| -0.90 | to | -0.80 | m | |
| -0.80 | to | -0.70 | m | |
| -0.70 | to | -0.60 | m | |
| -0.60 | to | -0.50 | m | |
| -0.50 | to | -0.40 | m | |
| -0.40 | to | -0.30 | m | |
| -0.30 | to | -0.20 | m | |
| -0.20 | to | -0.10 | m | |
| -0.10 | to | 0.00 | m | |
| 0.00 | to | 0.10 | m | |
| 0.10 | to | 0.20 | m | |
| 0.20 | to | 0.30 | m | |
| 0.30 | to | 0.40 | m | |
| 0.40 | to | 0.50 | m | |
| 0.50 | to | 0.60 | m | |
| 0.60 | to | 0.70 | m | |
| 0.70 | to | 0.80 | m | |
| 0.80 | to | 0.90 | m | |
| 0.90 | to | 1.00 | m | |
| 1.00 | to | 1.10 | m | |
| 1.10 | to | 1.20 | m | |
| 1.20 | to | 1.30 | m | |
| 1.30 | to | 1.40 | m | |
| 1.40 | to | 999.00 | m | |

| Issue | Description | DR | CH | VE | Date |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | HP | SD | SE | 09.02.23 |
| 01 | ISSUED TO COUNCIL FOR APPROVAL | HP | SD | SE | 10.08.22 |

Scales

0 10 20 30 40 50m

1 : 500

100mm on Original

Client

HB Land
A member of Ho Bee Land

Status: FOR CONSTRUCTION



| Original Issue Signatures | | | |
|---|---|---|---|
| Drawn | H.PALOMIQUE | Original Size | A1 |
| Designed | S.HARMANIS | Height Datum | AHD |
| Project Manager | S.EISEL | Grid | MGA |
| Verified | S.DUNSTONE | | |

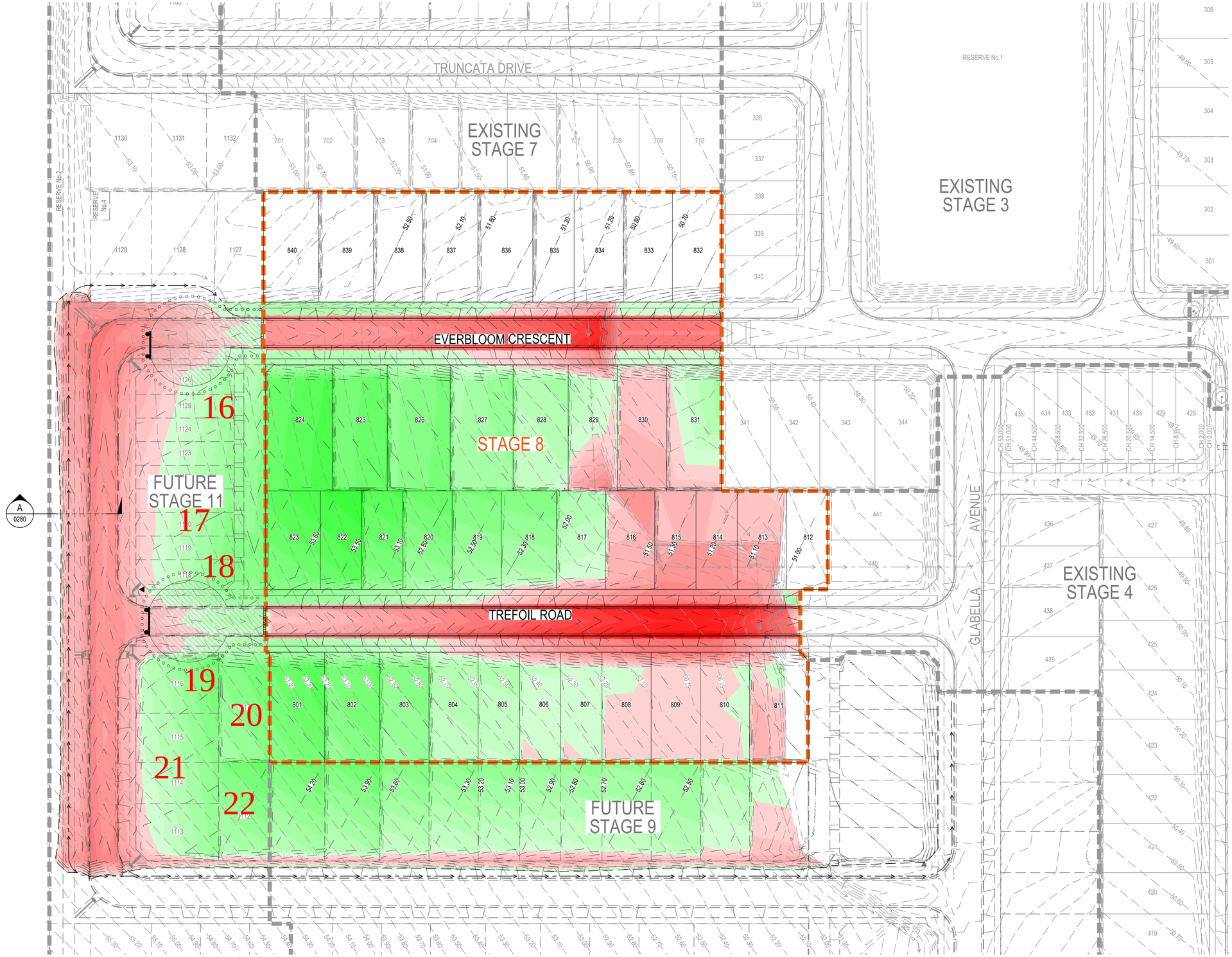
Project: UNITY PARK STAGE 7
WYNDHAM CITY COUNCIL

Title: EARTHWORKS LAYOUT PLAN

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 18, Queen & Collins Tower
376-390 Collins Street
Melbourne VIC 3000
ABN 76 104 485 289
Tel No: +61 3 8623 4000
www.arcadis.com/au

| Project No. | Originator | Zone \| Stage \| Phase | Discipline | Type | Drawing No. | Issue |
|---|---|---|---|---|---|---|
| 30063302 | AAP | AA07DD | CV | DRG | 0100 | A |

Date Plotted: 9 Feb 2023 - 05:30pm File Name: C:\Users\palomiqh6754\ACCDocs\Arcadis\A-AU-30063302-Leakes Road Estate\Project Files\01_WORK IN PROGRESS\01_Civil_CV\Stage7\Drawings\30063302-AAP-AA07DD-CV-DRG-0100-Earthworks.dwg V1




## LEGEND

- PROPOSED STAGE BOUNDARY
- 5.0 PROPOSED DESIGN CONTOURS
- 5.0 EXISTING SURFACE CONTOURS
- PROPOSED KERB & CHANNEL
- PROPOSED RIDGE LINE

## NOTE:

FOR GENERAL NOTES, REFER TO DRAWING No. 30063302-AAP-AA08DD-CV-DRG-0002.

## CUT FILL DEPTH RANGE

| Lower Value | | Upper Value | | Colour |
|---|---|---|---|---|
| -999.00 | to | -1.40 | m | |
| -1.40 | to | -1.30 | m | |
| -1.30 | to | -1.20 | m | |
| -1.20 | to | -1.10 | m | |
| -1.10 | to | -1.00 | m | |
| -1.00 | to | -0.90 | m | |
| -0.90 | to | -0.80 | m | |
| -0.80 | to | -0.70 | m | |
| -0.70 | to | -0.60 | m | |
| -0.60 | to | -0.50 | m | |
| -0.50 | to | -0.40 | m | |
| -0.40 | to | -0.30 | m | |
| -0.30 | to | -0.20 | m | |
| -0.20 | to | -0.10 | m | |
| -0.10 | to | 0.00 | m | |
| 0.00 | to | 0.10 | m | |
| 0.10 | to | 0.20 | m | |
| 0.20 | to | 0.30 | m | |
| 0.30 | to | 0.40 | m | |
| 0.40 | to | 0.50 | m | |
| 0.50 | to | 0.60 | m | |
| 0.60 | to | 0.70 | m | |
| 0.70 | to | 0.80 | m | |
| 0.80 | to | 0.90 | m | |
| 0.90 | to | 1.00 | m | |
| 1.00 | to | 1.10 | m | |
| 1.10 | to | 1.20 | m | |
| 1.20 | to | 1.30 | m | |
| 1.30 | to | 1.40 | m | |
| 1.40 | to | 999.00 | m | |

| Issue | Description | DR | CH | VE | Date |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | HP | SD | SE | 22.08.23 |
| 01 | ISSUED TO COUNCIL FOR APPROVAL | HP | SD | SE | 11.08.22 |

Scales

0 10 20 30 40 50m

1 : 500

Client

HB Land
A member of Ho Bee Land

Status: FOR CONSTRUCTION



Original Issue Signatures

| | | | |
|---|---|---|---|
| Drawn | H.PALOMIQUE | Original Size | A1 |
| Designed | S.HARMANIS | Height Datum | AHD |
| Project Manager | S.EISEL | Grid | MGA |
| Verified | S.DUNSTONE | | |

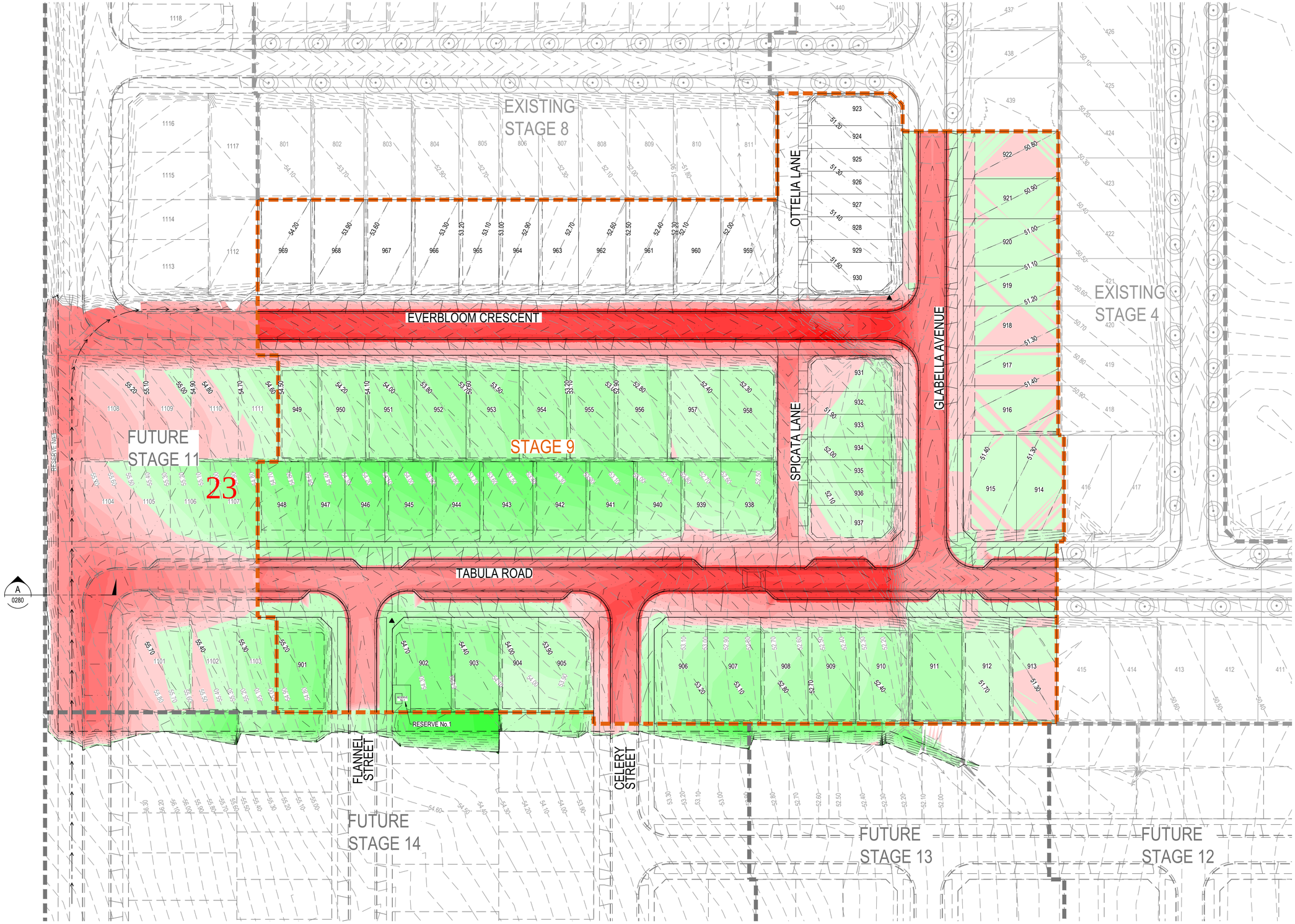
Project: UNITY PARK STAGE 8
WYNDHAM CITY COUNCIL

Title: EARTHWORKS LAYOUT PLAN

ARCADIS
Arcadis Australia Pacific Pty Limited
Level 18, Queen & Collins Tower
376-390 Collins Street
Melbourne VIC 3000
ABN 76 104 485 289
Tel No: +61 3 8623 4000
www.arcadis.com/au

| Project No. | Originator | Zone \| Stage \| Phase | Discipline | Type | Drawing No. | Issue |
|---|---|---|---|---|---|---|
| 30063302 | AAP | AA08DD | CV | DRG | 0100 | A |

100mm on Original




## LEGEND

- PROPOSED STAGE BOUNDARY
- 5.0 PROPOSED DESIGN CONTOURS
- 5.0 EXISTING SURFACE CONTOURS
- PROPOSED KERB & CHANNEL
- PROPOSED RIDGE LINE
- EXISTING TREES TO BE RETAINED

**NOTE:**
FOR GENERAL NOTES, REFER TO DRAWING No. 30063302-AAP-AA09DD-CV-DRG-0002.

## CUT FILL DEPTH RANGE

| Lower Value | | Upper Value | | Colour |
|---|---|---|---|---|
| -999.00 | to | -1.40 | m | |
| -1.40 | to | -1.30 | m | |
| -1.30 | to | -1.20 | m | |
| -1.20 | to | -1.10 | m | |
| -1.10 | to | -1.00 | m | |
| -1.00 | to | -0.90 | m | |
| -0.90 | to | -0.80 | m | |
| -0.80 | to | -0.70 | m | |
| -0.70 | to | -0.60 | m | |
| -0.60 | to | -0.50 | m | |
| -0.50 | to | -0.40 | m | |
| -0.40 | to | -0.30 | m | |
| -0.30 | to | -0.20 | m | |
| -0.20 | to | -0.10 | m | |
| -0.10 | to | 0.00 | m | |
| 0.00 | to | 0.10 | m | |
| 0.10 | to | 0.20 | m | |
| 0.20 | to | 0.30 | m | |
| 0.30 | to | 0.40 | m | |
| 0.40 | to | 0.50 | m | |
| 0.50 | to | 0.60 | m | |
| 0.60 | to | 0.70 | m | |
| 0.70 | to | 0.80 | m | |
| 0.80 | to | 0.90 | m | |
| 0.90 | to | 1.00 | m | |
| 1.00 | to | 1.10 | m | |
| 1.10 | to | 1.20 | m | |
| 1.20 | to | 1.30 | m | |
| 1.30 | to | 1.40 | m | |
| 1.40 | to | 999.00 | m | |

| Issue | Description | DR | CH | VE | Date |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | HP | SH | SG | 02.11.23 |
| 01 | ISSUED FOR APPROVAL | HP | SG | SE | 01.06.23 |

Scales

0 10 20 30 40 50m

1 : 500

100mm on Original

Client

HB Land
A member of Ho Bee Land

Status: FOR CONSTRUCTION



| Original Issue Signatures | | | |
|---|---|---|---|
| Drawn | H.PALOMIQUE | Original Size | A1 |
| Designed | S.HARMANIS | Height Datum | AHD |
| Project Manager | E.GAVILANEZ | Grid | MGA |
| Verified | S.GILBERT | | |

Project: UNITY PARK STAGE 9
WYNDHAM CITY COUNCIL

Title: EARTHWORKS LAYOUT PLAN

ARCADIS
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Level 18, Queen and Collins Tower
376-390 Collins Street
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ABN 76 104 485 289
Tel No: +61 3 8623 4000
www.arcadis.com/au

| Project No. | Originator | Zone \| Stage \| Phase | Discipline | Type | Drawing No. | Issue |
|---|---|---|---|---|---|---|
| 30063302 | AAP | AA09DD | CV | DRG | 0100 | A |

Date Plotted: 31 Oct 2023 - 10:14am File Name: C:\Users\palomiqh6754\DC\ACCDocs\Arcadis\A-AU-30063302-Leakes Road Estate\Project Files\01_WORK IN PROGRESS\01_Civil_CV\Stage9\Drawings\30063302-AAP-AA09DD-CV-DRG-0100-Earthworks.dwg V1

# COMPACTION ASSESSMENT


***CIVIL GEOTECHNICAL SERVICES***

*6 - 8 Rose Avenue, Croydon 3136*


| | | | |
|---|---|---|---|
| | | *Job No* | 23954 |
| | | *Report No* | 23954/R001 |
| | | *Date Issued* | 30/06/23 |
| *Client* | WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) | *Tested by* | JB |
| *Project* | UNITY PARK - STAGE 11 | *Date tested* | 11/01/23 |
| *Location* | TARNEIT | *Checked by* | JHF |

***Feature*** **EARTHWORKS** *Layer thickness* 200 mm *Time:* 14:10

*Test procedure AS 1289.2.1.1 & 5.8.1*

| ***Test No*** | | **1** | **2** | **-** | **-** | **-** | **-** |
|---|---|---|---|---|---|---|---|
| *Location* | | Refer to Drawing | Refer to Drawing | | | | |
| *Approximate depth below FSL* | | - | - | - | - | - | - |
| *Measurement depth* | *mm* | 175 | 175 | - | - | - | - |
| *Field wet density* | *t/m³* | 1.81 | 1.84 | - | - | - | - |
| *Field moisture content* | *%* | 29.7 | 30.2 | - | - | - | - |

*Test procedure AS 1289.5.7.1*

| *Test No* | | 1 | 2 | - | - | - | - |
|---|---|---|---|---|---|---|---|
| *Compactive effort* | | Standard | | | | | |
| *Oversize rock retained on sieve* | *mm* | 19.0 | 19.0 | - | - | - | - |
| *Percent of oversize material* | *wet* | 0 | 0 | - | - | - | - |
| *Peak Converted Wet Density* | *t/m³* | 1.87 | 1.86 | - | - | - | - |
| *Adjusted Peak Converted Wet Density* | *t/m³* | - | - | - | - | - | - |
| *Optimum Moisture Content* | *%* | 30.0 | 31.0 | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Moisture Variation From Optimum Moisture Content* | | 0.0% | 0.5% dry | - - | - - | - - | - - |

density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

| ***Density Ratio ( $R_{HD}$ )*** | *%* | **97.0** | **99.0** | **-** | **-** | **-** | **-** |
|---|---|---|---|---|---|---|---|

*Material description*

No 1 - 2 Clay Fill





Approved Signatory : Justin Fry

# COMPACTION ASSESSMENT


***CIVIL GEOTECHNICAL SERVICES***

*6 - 8 Rose Avenue, Croydon 3136*


| | | | |
|---|---|---|---|
| | | *Job No* | 23954 |
| | | *Report No* | 23954/R002 |
| | | *Date Issued* | 30/06/23 |
| *Client* | WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) | *Tested by* | JB |
| *Project* | UNITY PARK - STAGE 11 | *Date tested* | 12/01/23 |
| *Location* | TARNEIT | *Checked by* | JHF |

***Feature*** **EARTHWORKS** *Layer thickness* 200 mm *Time:* 13:35

*Test procedure AS 1289.2.1.1 & 5.8.1*

| ***Test No*** | | **3** | **4** | **5** | **-** | **-** | **-** |
|---|---|---|---|---|---|---|---|
| *Location* | | Refer to Drawing | Refer to Drawing | Refer to Drawing | | | |
| *Approximate depth below FSL* | | - | - | - | - | - | - |
| *Measurement depth* | *mm* | 175 | 175 | 175 | - | - | - |
| *Field wet density* | *t/m³* | 1.80 | 1.78 | 1.83 | - | - | - |
| *Field moisture content* | *%* | 28.9 | 27.8 | 27.6 | - | - | - |

*Test procedure AS 1289.5.7.1*

| *Test No* | | 3 | 4 | 5 | - | - | - |
|---|---|---|---|---|---|---|---|
| *Compactive effort* | | Standard | | | | | |
| *Oversize rock retained on sieve* | *mm* | 19.0 | 19.0 | 19.0 | - | - | - |
| *Percent of oversize material* | *wet* | 0 | 0 | 0 | - | - | - |
| *Peak Converted Wet Density* | *t/m³* | 1.84 | 1.87 | 1.88 | - | - | - |
| *Adjusted Peak Converted Wet Density* | *t/m³* | - | - | - | - | - | - |
| *Optimum Moisture Content* | *%* | 28.5 | 28.5 | 27.0 | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| *Moisture Variation From Optimum Moisture Content* | 0.5% wet | 0.5% dry | 0.5% wet | - - | - - | - - |

density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

| ***Density Ratio ( $R_{HD}$ )*** | *%* | **98.0** | **95.5** | **97.5** | **-** | **-** | **-** |
|---|---|---|---|---|---|---|---|

*Material description*

No 3 - 5 Clay Fill





Approved Signatory : Justin Fry

# COMPACTION ASSESSMENT


***CIVIL GEOTECHNICAL SERVICES***

*6 - 8 Rose Avenue, Croydon 3136*


| | | | |
|---|---|---|---|
| | | *Job No* | 23954 |
| | | *Report No* | 23954/R003 |
| | | *Date Issued* | 30/06/23 |
| *Client* | WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) | *Tested by* | JB |
| *Project* | UNITY PARK - STAGE 11 | *Date tested* | 16/01/23 |
| *Location* | TARNEIT | *Checked by* | JHF |

***Feature*** **EARTHWORKS** *Layer thickness* 200 mm *Time:* 11:05

*Test procedure AS 1289.2.1.1 & 5.8.1*

| ***Test No*** | | **6** | **7** | **8** | **-** | **-** | **-** |
|---|---|---|---|---|---|---|---|
| *Location* | | Refer to Drawing | Refer to Drawing | Refer to Drawing | | | |
| *Approximate depth below FSL* | | - | - | - | - | - | - |
| *Measurement depth* | *mm* | 175 | 175 | 175 | - | - | - |
| *Field wet density* | *t/m³* | 1.83 | 1.82 | 1.83 | - | - | - |
| *Field moisture content* | *%* | 27.2 | 28.5 | 27.2 | - | - | - |

*Test procedure AS 1289.5.7.1*

| *Test No* | | 6 | 7 | 8 | - | - | - |
|---|---|---|---|---|---|---|---|
| *Compactive effort* | | Standard | | | | | |
| *Oversize rock retained on sieve* | *mm* | 19.0 | 19.0 | 19.0 | - | - | - |
| *Percent of oversize material* | *wet* | 0 | 0 | 0 | - | - | - |
| *Peak Converted Wet Density* | *t/m³* | 1.84 | 1.84 | 1.89 | - | - | - |
| *Adjusted Peak Converted Wet Density* | *t/m³* | - | - | - | - | - | - |
| *Optimum Moisture Content* | *%* | 29.0 | 29.5 | 26.5 | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| *Moisture Variation From Optimum Moisture Content* | 1.5% dry | 1.0% dry | 0.5% wet | - - | - - | - - |

density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

| ***Density Ratio ( $R_{HD}$ )*** | *%* | **99.0** | **99.0** | **96.5** | **-** | **-** | **-** |
|---|---|---|---|---|---|---|---|

*Material description*

No 6 - 8 Clay Fill



NATA Accredited Laboratory No 9909
Accredited for compliance with
ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry

# COMPACTION ASSESSMENT


***CIVIL GEOTECHNICAL SERVICES***

*6 - 8 Rose Avenue, Croydon 3136*


| | | | |
|---|---|---|---|
| | | *Job No* | 23954 |
| | | *Report No* | 23954/R004 |
| | | *Date Issued* | 30/06/23 |
| *Client* | WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) | *Tested by* | JB |
| *Project* | UNITY PARK - STAGE 11 | *Date tested* | 17/01/23 |
| *Location* | TARNEIT | *Checked by* | JHF |

***Feature*** **EARTHWORKS** *Layer thickness* 200 mm *Time:* 09:45

*Test procedure AS 1289.2.1.1 & 5.8.1*

| ***Test No*** | | **9** | **10** | **11** | **-** | **-** | **-** |
|---|---|---|---|---|---|---|---|
| *Location* | | Refer to Drawing | Refer to Drawing | Refer to Drawing | | | |
| *Approximate depth below FSL* | | - | - | - | - | - | - |
| *Measurement depth* | *mm* | 175 | 175 | 175 | - | - | - |
| *Field wet density* | *t/m³* | 1.82 | 1.80 | 1.78 | - | - | - |
| *Field moisture content* | *%* | 28.7 | 28.4 | 28.7 | - | - | - |

*Test procedure AS 1289.5.7.1*

| *Test No* | | 9 | 10 | 11 | - | - | - |
|---|---|---|---|---|---|---|---|
| *Compactive effort* | | Standard | | | | | |
| *Oversize rock retained on sieve* | *mm* | 19.0 | 19.0 | 19.0 | - | - | - |
| *Percent of oversize material* | *wet* | 0 | 0 | 0 | - | - | - |
| *Peak Converted Wet Density* | *t/m³* | 1.86 | 1.86 | 1.82 | - | - | - |
| *Adjusted Peak Converted Wet Density* | *t/m³* | - | - | - | - | - | - |
| *Optimum Moisture Content* | *%* | 29.5 | 29.0 | 29.0 | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Moisture Variation From* | | 0.5% | 0.5% | 0.5% | - | - | - |
| *Optimum Moisture Content* | | dry | dry | dry | - | - | - |

density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

| ***Density Ratio ( $R_{HD}$ )*** | *%* | **98.0** | **96.5** | **97.5** | **-** | **-** | **-** |
|---|---|---|---|---|---|---|---|

*Material description*

No 9 - 11 Clay Fill



NATA Accredited Laboratory No 9909
Accredited for compliance with
ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry

# COMPACTION ASSESSMENT


***CIVIL GEOTECHNICAL SERVICES***

*6 - 8 Rose Avenue, Croydon 3136*


| | | | |
|---|---|---|---|
| | | *Job No* | 23954 |
| | | *Report No* | 23954/R005 |
| | | *Date Issued* | 30/06/23 |
| *Client* | WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) | *Tested by* | JB |
| *Project* | UNITY PARK - STAGE 11 | *Date tested* | 23/02/23 |
| *Location* | TARNEIT | *Checked by* | JHF |

***Feature*** **EARTHWORKS** *Layer thickness* 200 mm *Time:* 10:55

*Test procedure AS 1289.2.1.1 & 5.8.1*

| ***Test No*** | | **12** | **13** | **14** | **15** | **-** | **-** |
|---|---|---|---|---|---|---|---|
| *Location* | | Refer to Drawing | Refer to Drawing | Refer to Drawing | Refer to Drawing | | |
| *Approximate depth below FSL* | | - | - | - | - | - | - |
| *Measurement depth* | *mm* | 175 | 175 | 175 | 175 | - | - |
| *Field wet density* | *t/m³* | 1.76 | 1.77 | 1.76 | 1.78 | - | - |
| *Field moisture content* | *%* | 23.0 | 24.3 | 23.4 | 21.9 | - | - |

*Test procedure AS 1289.5.7.1*

| *Test No* | | 12 | 13 | 14 | 15 | - | - |
|---|---|---|---|---|---|---|---|
| *Compactive effort* | | Standard | | | | | |
| *Oversize rock retained on sieve* | *mm* | 19.0 | 19.0 | 19.0 | 19.0 | - | - |
| *Percent of oversize material* | *wet* | 0 | 0 | 0 | 0 | - | - |
| *Peak Converted Wet Density* | *t/m³* | 1.85 | 1.83 | 1.82 | 1.81 | - | - |
| *Adjusted Peak Converted Wet Density* | *t/m³* | - | - | - | - | - | - |
| *Optimum Moisture Content* | *%* | 24.0 | 24.5 | 23.0 | 22.5 | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| *Moisture Variation From Optimum Moisture Content* | 1.0% dry | 0.0% | 0.5% wet | 1.0% dry | - - | - - |

density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

| ***Density Ratio ( $R_{HD}$ )*** | *%* | **95.5** | **97.0** | **96.5** | **98.5** | **-** | **-** |
|---|---|---|---|---|---|---|---|

*Material description*

No 12 - 15 Clay Fill

*AVRLOT HILF V1.10 MAR 13*

NATA Accredited Laboratory No 9909
Accredited for compliance with
ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry

# COMPACTION ASSESSMENT


***CIVIL GEOTECHNICAL SERVICES***

*6 - 8 Rose Avenue, Croydon 3136*


| | | | |
|---|---|---|---|
| | | *Job No* | 23954 |
| | | *Report No* | 23954/R006 |
| | | *Date Issued* | 30/09/23 |
| *Client* | WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) | *Tested by* | JB |
| *Project* | UNITY PARK - STAGE 11 | *Date tested* | 05/09/23 |
| *Location* | TARNEIT | *Checked by* | JHF |

***Feature*** **EARTHWORKS** *Layer thickness* 200 mm *Time:* 09:10

*Test procedure AS 1289.2.1.1 & 5.8.1*

| ***Test No*** | | **16** | **17** | **18** | **-** | **-** | **-** |
|---|---|---|---|---|---|---|---|
| *Location* | | Refer to Drawing | Refer to Drawing | Refer to Drawing | | | |
| *Approximate depth below FSL* | | - | - | - | - | - | - |
| *Measurement depth* | *mm* | 175 | 175 | 175 | - | - | - |
| *Field wet density* | *t/m³* | 1.87 | 1.85 | 1.88 | - | - | - |
| *Field moisture content* | *%* | 26.5 | 27.4 | 28.9 | - | - | - |

*Test procedure AS 1289.5.7.1*

| *Test No* | | 16 | 17 | 18 | - | - | - |
|---|---|---|---|---|---|---|---|
| *Compactive effort* | | Standard | | | | | |
| *Oversize rock retained on sieve* | *mm* | 19.0 | 19.0 | 19.0 | - | - | - |
| *Percent of oversize material* | *wet* | 0 | 0 | 0 | - | - | - |
| *Peak Converted Wet Density* | *t/m³* | 1.92 | 1.89 | 1.89 | - | - | - |
| *Adjusted Peak Converted Wet Density* | *t/m³* | - | - | - | - | - | - |
| *Optimum Moisture Content* | *%* | 26.5 | 28.0 | 29.5 | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Moisture Variation From Optimum Moisture Content* | | 0.0% | 0.5% dry | 0.5% dry | - - | - - | - - |

density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

| ***Density Ratio ( $R_{HD}$ )*** | *%* | **97.0** | **98.0** | **99.5** | **-** | **-** | **-** |
|---|---|---|---|---|---|---|---|

*Material description*

No 16 - 18 Clay Fill

*AVRLOT HILF V1.10 MAR 13*

NATA Accredited Laboratory No 9909
Accredited for compliance with
ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry

# COMPACTION ASSESSMENT


***CIVIL GEOTECHNICAL SERVICES***

*6 - 8 Rose Avenue, Croydon 3136*


| | | | |
|---|---|---|---|
| | | *Job No* | 23954 |
| | | *Report No* | 23954/R007 |
| | | *Date Issued* | 30/09/23 |
| *Client* | WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) | *Tested by* | JB |
| *Project* | UNITY PARK - STAGE 11 | *Date tested* | 06/09/23 |
| *Location* | TARNEIT | *Checked by* | JHF |

***Feature*** **EARTHWORKS** *Layer thickness* 200 mm *Time:* 12:15

*Test procedure AS 1289.2.1.1 & 5.8.1*

| ***Test No*** | | **19** | **20** | **21** | **22** | **-** | **-** |
|---|---|---|---|---|---|---|---|
| *Location* | | Refer to Drawing | Refer to Drawing | Refer to Drawing | Refer to Drawing | | |
| *Approximate depth below FSL* | | - | - | - | - | - | - |
| *Measurement depth* | *mm* | 175 | 175 | 175 | 175 | - | - |
| *Field wet density* | *t/m³* | 1.85 | 1.86 | 1.88 | 1.89 | - | - |
| *Field moisture content* | *%* | 25.6 | 27.6 | 26.7 | 27.2 | - | - |

*Test procedure AS 1289.5.7.1*

| *Test No* | | 19 | 20 | 21 | 22 | - | - |
|---|---|---|---|---|---|---|---|
| *Compactive effort* | | Standard | | | | | |
| *Oversize rock retained on sieve* | *mm* | 19.0 | 19.0 | 19.0 | 19.0 | - | - |
| *Percent of oversize material* | *wet* | 0 | 0 | 0 | 0 | - | - |
| *Peak Converted Wet Density* | *t/m³* | 1.91 | 1.90 | 1.91 | 1.90 | - | - |
| *Adjusted Peak Converted Wet Density* | *t/m³* | - | - | - | - | - | - |
| *Optimum Moisture Content* | *%* | 25.5 | 27.0 | 27.5 | 27.5 | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| *Moisture Variation From Optimum Moisture Content* | 0.0% | 0.5% wet | 0.5% dry | 0.0% | - - | - - |

density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

| ***Density Ratio ( $R_{HD}$ )*** | *%* | **97.0** | **98.0** | **99.0** | **99.5** | **-** | **-** |
|---|---|---|---|---|---|---|---|

*Material description*

No 19 - 22 Clay Fill





Approved Signatory : Justin Fry

# COMPACTION ASSESSMENT


***CIVIL GEOTECHNICAL SERVICES***

*6 - 8 Rose Avenue, Croydon 3136*


| | | | |
|---|---|---|---|
| | | *Job No* | 23954 |
| | | *Report No* | 23954/R008 |
| | | *Date Issued* | 28/06/24 |
| *Client* | WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) | *Tested by* | JB |
| *Project* | UNITY PARK - STAGE 11 | *Date tested* | 17/05/24 |
| *Location* | TARNEIT | *Checked by* | JHF |

***Feature*** **EARTHWORKS** *Layer thickness* 200 mm *Time:* 10:55

*Test procedure AS 1289.2.1.1 & 5.8.1*

| ***Test No*** | | **23** | - | - | - | - | - |
|---|---|---|---|---|---|---|---|
| *Location* | | Refer to Drawing | | | | | |
| *Approximate depth below FSL* | | - | - | - | - | - | - |
| *Measurement depth* | *mm* | 175 | - | - | - | - | - |
| *Field wet density* | *t/m³* | 1.99 | - | - | - | - | - |
| *Field moisture content* | *%* | 24.3 | - | - | - | - | - |

*Test procedure AS 1289.5.7.1*

| *Test No* | | 23 | - | - | - | - | - |
|---|---|---|---|---|---|---|---|
| *Compactive effort* | | Standard | | | | | |
| *Oversize rock retained on sieve* | *mm* | 19.0 | - | - | - | - | - |
| *Percent of oversize material* | *wet* | 0 | - | - | - | - | - |
| *Peak Converted Wet Density* | *t/m³* | 2.04 | - | - | - | - | - |
| *Adjusted Peak Converted Wet Density* | *t/m³* | - | - | - | - | - | - |
| *Optimum Moisture Content* | *%* | 24.5 | - | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Moisture Variation From Optimum Moisture Content* | | 0.0% | - - | - - | - - | - - | - - |

density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

| ***Density Ratio ( $R_{HD}$ )*** | *%* | **97.5** | - | - | - | - | - |
|---|---|---|---|---|---|---|---|

*Material description*

No 23 Clay Fill

*AVRLOT HILF V1.10 MAR 13*

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Approved Signatory : Justin Fry