

Certificate of controlled fill

Site: Lot 2252 Hamilton Court
Job No: 274804- S52672 Blefari Stage 5, MOUNT BARKER, SA 5251
Date: 19/01/2022
Revision No: A

Site earthworks

Site preparation within the area certified as being 'controlled fill' [the extent of which is defined by the area hatched in red on Greenhill Drawing No. 20-2458-002 Rev 0, and fill was placed and compacted under the supervision of FMG Research between 30/03/2021 and 8/10/2021.

The topsoil, vegetation, and any existing 'uncontrolled fill' was removed. The surface was confirmed to be 'natural ground' then proof rolled to verify a firm stable base prior to filling.

The level of subgrade was recorded prior to fill commencing. The Filling (consisting of Sandy Gravelly Clay/ Sandy Clay won from the site) was placed, compacted and tested under the supervision of FMG Research in accordance with the requirements for Level 1 Supervision set out in AS3798 'Guidelines on Earthworks for Commercial and Residential Developments'.

Field density tests have been carried out with test locations selected randomly, and have reached a minimum compacted density of 95% in accordance with AS1289 5.1.1 (Standard Compaction). The final fill level was recorded.

Certification

The filling placed and compacted within the area [the extent of which is defined by the area hatched in red on Greenhill Drawing No. 20-2458-002 Rev 0 in our opinion can be considered as 'controlled fill' meeting the requirements of AS2870 'Residential Slabs and Footings' for the purpose of footing design. This certification is not applicable for structures that imply loading outside the scope of AS2870.

The certificate applies to fill placed from the recorded subgrade level up to the final fill level as recorded on the plans attached and held at FMG Research. Any filling discovered outside the defined area or to a depth significantly greater than shown on the plan(s) and any topsoil/ landscaping fill placed is not included in this certification.

Retaining wall and fill batter note

Any filling on the high side of a retaining wall within a zone of width equal to the height of the retaining wall shall not be considered controlled fill. Design of footings and structures in this zone needs to be considered by the footing designer considering the fill as uncontrolled.

Any fill within an angle of 30° degrees from the base of a fill batter shall not be considered controlled fill. *Note the actual angle depends on soil type and should be confirmed by the engineer if footings are proposed to be within or adjacent to this zone.

Important notes regarding this certificate

This certification is based on the supervision and testing undertaken during our engagement and at the time of the certification. Any subsequent site works may impact on this certification. FMG Research is an experienced geotechnical inspection and testing authority (GITA) and all due care has been taken when assessing and defining 'natural' ground. Should conditions encountered on site be markedly different from those anticipated and described in this report then FMG Engineering should be notified immediately.



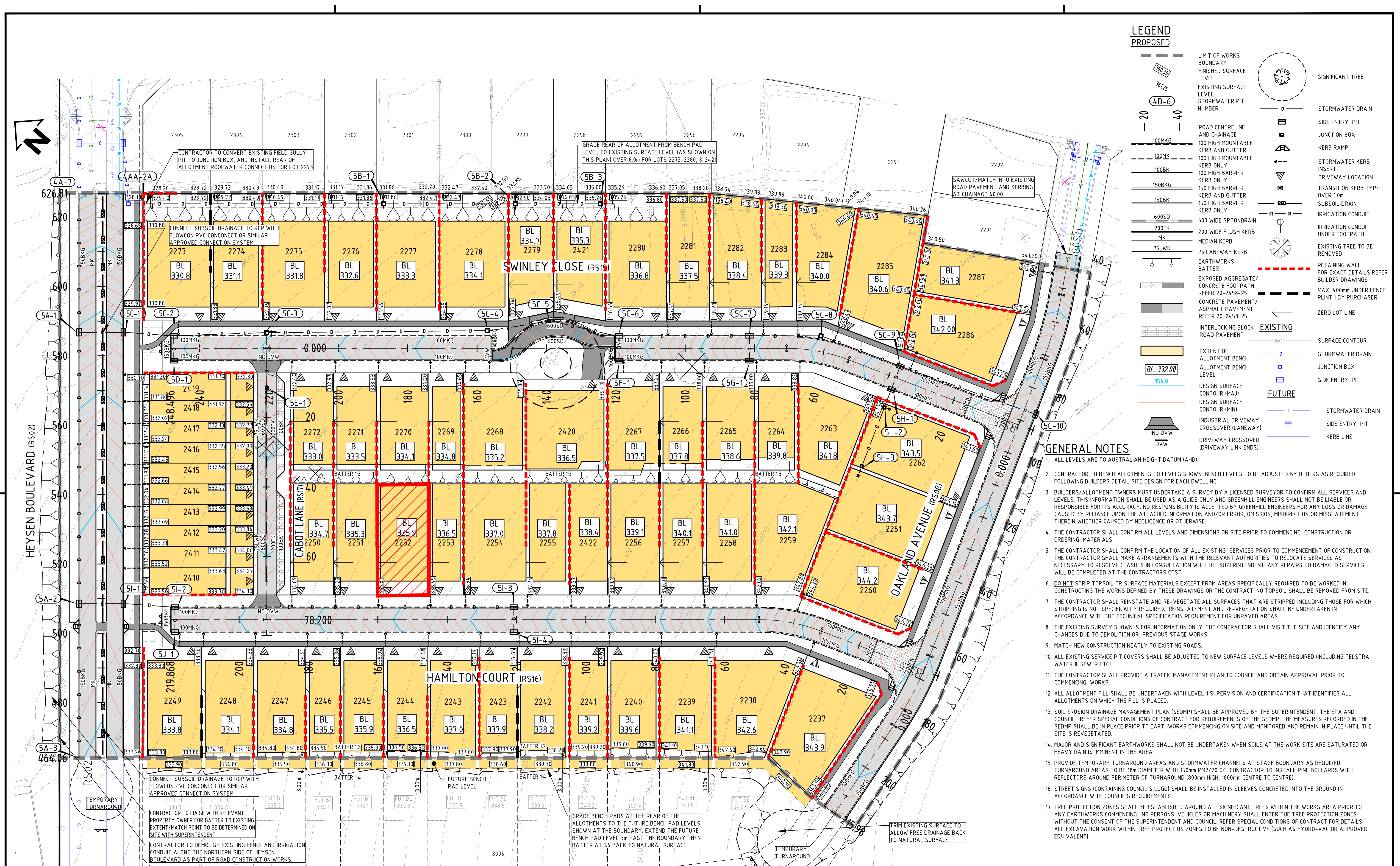
Jeff Zanker

BEng (Civil & Water) (Hons) BAppSc (EnvMgt) GradCertPavtTech CPEng NER,
Senior Civil Engineer, FMG Engineering

Attached:

1. Greenhill Drawing No. 20-2458-002 Rev 0
2. Alexander Symonds Drawing No. 21A0723.C0005 Topsoil Strip Levels Rev 0 Sheet 1 of 4
3. Alexander Symonds Drawing No. 21A0723.C0005 Topsoil Strip Levels Rev 0 Sheet 2 of 4
4. Alexander Symonds Drawing No. 21A0723.C0005 Post Fill Levels Rev 0 Sheet 1 of 4
5. Alexander Symonds Drawing No. 21A0723.C0005 Post Fill Levels Rev 0 Sheet 2 of 4

The work carried out in the preparation of this report has been performed in accordance with the requirements of FMG Engineering's Quality Management System which is certified by BSI Group ANZ Pty Limited to comply with the requirements of ISO9001: 2015. This report is copyright to FMG Engineering. This report was prepared specifically for the client named and for the purposes described in the Introduction or scope. No part of this report including the whole of same shall be used for any other purpose nor by any third party without the prior written consent of FMG Engineering.



LEGEND

PROPOSED

360.30

361.25

40.00

20

40

100MKG

100MKG

100BK

150BK

150BK

600SD

200FK

75LWK

100MKG

100MKG

100BK

150BK

150BK

600SD

200FK

75LWK

LIMIT OF WORKS BOUNDARY

FINISHED SURFACE LEVEL

EXISTING SURFACE LEVEL

STORMWATER PIT NUMBER

ROAD CENTRELINE AND CHAINAGE

100 HIGH MOUNTABLE KERB AND GUTTER

100 HIGH MOUNTABLE KERB ONLY

150 HIGH BARRIER KERB AND GUTTER

150 HIGH BARRIER KERB ONLY

600 WIDE SPOON DRAIN

200 WIDE FLUSH KERB

75 LANEWAY KERB

EARTHWORKS BATTER

EXPOSED AGGREGATE/ CONCRETE FOOTPATH REFER 20-2458-25

CONCRETE PAVEMENT/ ASPHALT PAVEMENT REFER 20-2458-25

INTERLOCKING BLOCK ROAD PAVEMENT

EXTENT OF ALLOTMENT BENCH

ALLOTMENT BENCH LEVEL

DESIGN SURFACE CONTOUR (MAJ)

DESIGN SURFACE CONTOUR (MIN)

INDUSTRIAL DRIVEWAY CROSSOVER (LANEWAY)

DRIVEWAY CROSSOVER (DRIVEWAY LINK ENDS)

SIGNIFICANT TREE

STORMWATER DRAIN

SIDE ENTRY PIT

JUNCTION BOX

KERB RAMP

STORMWATER KERB INSERT

DRIVEWAY LOCATION

TRANSITION KERB TYPE OVER 1.0m

SUBSOIL DRAIN

IRRIGATION CONDUIT

IRRIGATION CONDUIT UNDER FOOTPATH

EXISTING TREE TO BE REMOVED

RETAINING WALL FOR EXACT DETAILS REFER BUILDER DRAWINGS

MAX. 4.00m UNDER FENCE PLINTH BY PURCHASER

ZERO LOT LINE

SURFACE CONTOUR

STORMWATER DRAIN

JUNCTION BOX

SIDE ENTRY PIT

KERB LINE

EXISTING

FUTURE

STORMWATER DRAIN

SIDE ENTRY PIT

KERB LINE

GENERAL NOTES

1. ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).

2. CONTRACTOR TO BENCH ALLOTMENTS TO LEVELS SHOWN. BENCH LEVELS TO BE ADJUSTED BY OTHERS AS REQUIRED FOLLOWING BUILDERS DETAIL SITE DESIGN FOR EACH DWELLING.

3. BUILDERS/ALLOTMENT OWNERS MUST UNDERTAKE A SURVEY BY A LICENSED SURVEYOR TO CONFIRM ALL SERVICES AND LEVELS. THIS INFORMATION SHALL BE USED AS A GUIDE ONLY AND GREENHILL ENGINEERS SHALL NOT BE LIABLE OR RESPONSIBLE FOR ITS ACCURACY. NO RESPONSIBILITY IS ACCEPTED BY GREENHILL ENGINEERS FOR ANY LOSS OR DAMAGE CAUSED BY RELIANCE UPON THE ATTACHED INFORMATION AND/OR ERROR, OMISSION, MISDIRECTION OR MISSTATEMENT THEREIN WHETHER CAUSED BY NEGLIGENCE OR OTHERWISE.

4. THE CONTRACTOR SHALL CONFIRM ALL LEVELS AND DIMENSIONS ON SITE PRIOR TO COMMENCING CONSTRUCTION OR ORDERING MATERIALS.

5. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE RELEVANT AUTHORITIES TO RELOCATE SERVICES AS NECESSARY TO RESOLVE CLASHES IN CONSULTATION WITH THE SUPERINTENDENT. ANY REPAIRS TO DAMAGED SERVICES WILL BE COMPLETED AT THE CONTRACTORS COST.

6. DO NOT STRIP TOPSOIL OR SURFACE MATERIALS EXCEPT FROM AREAS SPECIFICALLY REQUIRED TO BE WORKED IN CONSTRUCTING THE WORKS DEFINED BY THESE DRAWINGS OR THE CONTRACT. NO TOPSOIL SHALL BE REMOVED FROM SITE.

7. THE CONTRACTOR SHALL REINSTATE AND RE-VEGETATE ALL SURFACES THAT ARE STRIPPED INCLUDING THOSE FOR WHICH STRIPPING IS NOT SPECIFICALLY REQUIRED. REINSTATEMENT AND RE-VEGETATION SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION REQUIREMENT FOR UNPAVED AREAS.

8. THE EXISTING SURVEY SHOWN IS FOR INFORMATION ONLY. THE CONTRACTOR SHALL VISIT THE SITE AND IDENTIFY ANY CHANGES DUE TO DEMOLITION OR PREVIOUS STAGE WORKS.

9. MATCH NEW CONSTRUCTION NEATLY TO EXISTING ROADS.

10. ALL EXISTING SERVICE PIT COVERS SHALL BE ADJUSTED TO NEW SURFACE LEVELS WHERE REQUIRED (INCLUDING TELSTRA, WATER & SEWER ETC).

11. THE CONTRACTOR SHALL PROVIDE A TRAFFIC MANAGEMENT PLAN TO COUNCIL AND OBTAIN APPROVAL PRIOR TO COMMENCING WORKS.

12. ALL ALLOTMENT FILL SHALL BE UNDERTAKEN WITH LEVEL 1 SUPERVISION AND CERTIFICATION THAT IDENTIFIES ALL ALLOTMENTS ON WHICH THE FILL IS PLACED.

13. SOIL EROSION DRAINAGE MANAGEMENT PLAN (SEDMPP) SHALL BE APPROVED BY THE SUPERINTENDENT. THE EPA AND COUNCIL REFER SPECIAL CONDITIONS OF CONTRACT FOR REQUIREMENTS OF THE SEDMP. THE MEASURES RECORDED IN THE SEDMP SHALL BE IN PLACE PRIOR TO EARTHWORKS COMMENCING ON SITE AND MONITORED AND REMAIN IN PLACE UNTIL THE SITE IS REVEGETATED.

14. MAJOR AND SIGNIFICANT EARTHWORKS SHALL NOT BE UNDERTAKEN WHEN SOILS AT THE WORK SITE ARE SATURATED OR HEAVY RAIN IS IMMINENT IN THE AREA.

15. PROVIDE TEMPORARY TURNAROUND AREAS AND STORMWATER CHANNELS AT STAGE BOUNDARY AS REQUIRED. TURNAROUND AREAS TO BE 18m DIAMETER WITH 150mm PH2/20 GQ. CONTRACTOR TO INSTALL PINE BOLLARDS WITH REFLECTORS AROUND PERIMETER OF TURNAROUND (800mm HIGH, 1800mm CENTRE TO CENTRE).

16. STREET SIGNS (CONTAINING COUNCIL'S LOGO) SHALL BE INSTALLED IN SLEEVES CONCRETED INTO THE GROUND IN ACCORDANCE WITH COUNCIL'S REQUIREMENTS.

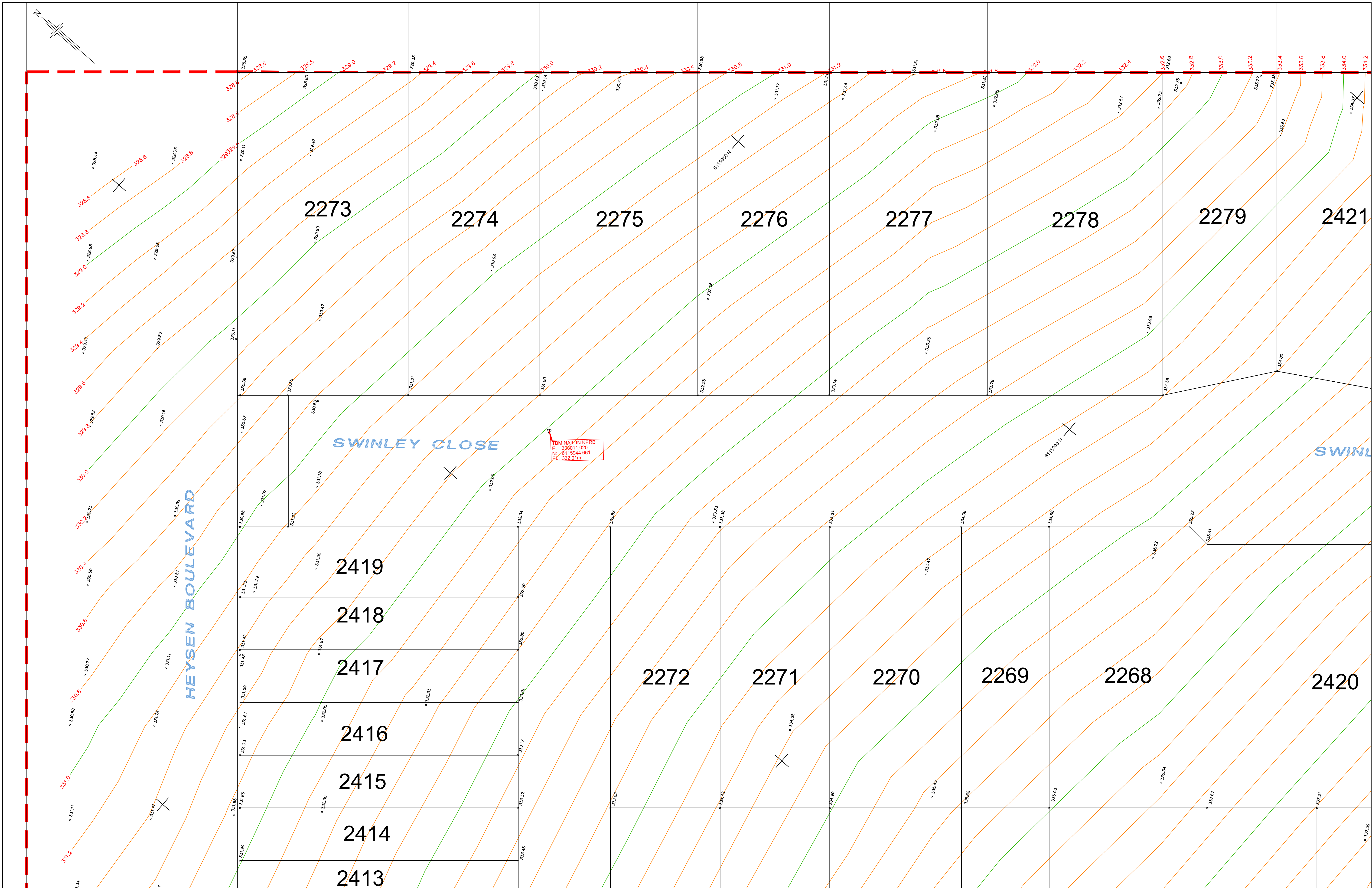
17. TREE PROTECTION ZONES SHALL BE ESTABLISHED AROUND ALL SIGNIFICANT TREES WITHIN THE WORKS AREA PRIOR TO ANY EARTHWORKS COMMENCING. NO PERSONS, VEHICLES OR MACHINERY SHALL ENTER THE TREE PROTECTION ZONES WITHOUT THE CONSENT OF THE SUPERINTENDENT AND COUNCIL. REFER SPECIAL CONDITIONS OF CONTRACT FOR DETAILS. ALL EXCAVATION WORK WITHIN TREE PROTECTION ZONES TO BE NON-DESTRUCTIVE (SUCH AS HYDRO-VAC OR APPROVED EQUIVALENT).

0	01.03.21	ISSUED FOR CONSTRUCTION	MS	MS	AF
F	17.02.21	ISSUED FOR APPROVAL	MS	MS	
E	12.02.21	ISSUED FOR APPROVAL	MS	MS	
D	18.12.20	ISSUED FOR TENDER / APPROVAL	MS	MS	
C	18.11.20	ISSUED FOR TENDER / APPROVAL	MS	MS	
B	16.11.20	LOT LAYOUT CHANGE	MS	MS	
A	30.10.20	FOR CLIENT REVIEW	MS	MS	
REVISION	DATE	DESCRIPTION	DESIGN	DRAWN	APPROVED
REVISION HISTORY					

DESIGN	MS	DESIGN CHECK	BJC
DRAWN	MS	DRAFTING CHECK	BJC
APPROVED	AF	DATE	01.03.21
CAD FILE: 20-2458-002			
A1			
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LANSER COMMUNITIES BLEFARI STAGE 5 MOUNT BARKER GENERAL CONSTRUCTION AND STORMWATER LAYOUT	
DRAWING NUMBER	REVISION
20-2458-002	0



0	22.12.2021	INITIAL RELEASE	AS	NM
REV	DATE	DESCRIPTION	CALC	FIELD
ADDITIONS, AMENDMENTS AND APPROVALS				

47.51 NATURAL SURFACE POINTS

LEGEND

COORDINATE SYSTEM	
VERTICAL:	AHD
HORIZONTAL:	GROUND PLANE ORIENTED
	TO: MGA 94 ZONE 54
SCALE: GROUND	(CSF = 1.0000021)
ADOPTED STATION & AUTHORITY	
PSM 6627/14226	RL: 350.142 SDB
PSM 6627/14226	E: 307216.149 SDB
	N: 6114638.370 SDB
SDB denotes SA Government survey data base values (Dated: / / 2015)	

Notes:
Property boundaries and easements shown hereon have been compiled from government records and show discrepancies to Certificate of Title dimensions. Boundaries have not been verified by field survey. Construction or design on or near boundaries or easements will require additional survey work.

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GRID INT:	50m	CONTOUR INTERVAL:	MAJ:1.0m & MIN:0.2m
SURVEY:	NM	23.03.2021	
DRAWN:	AS	22.12.2021	
CHECKED:	RES	22.12.2021	

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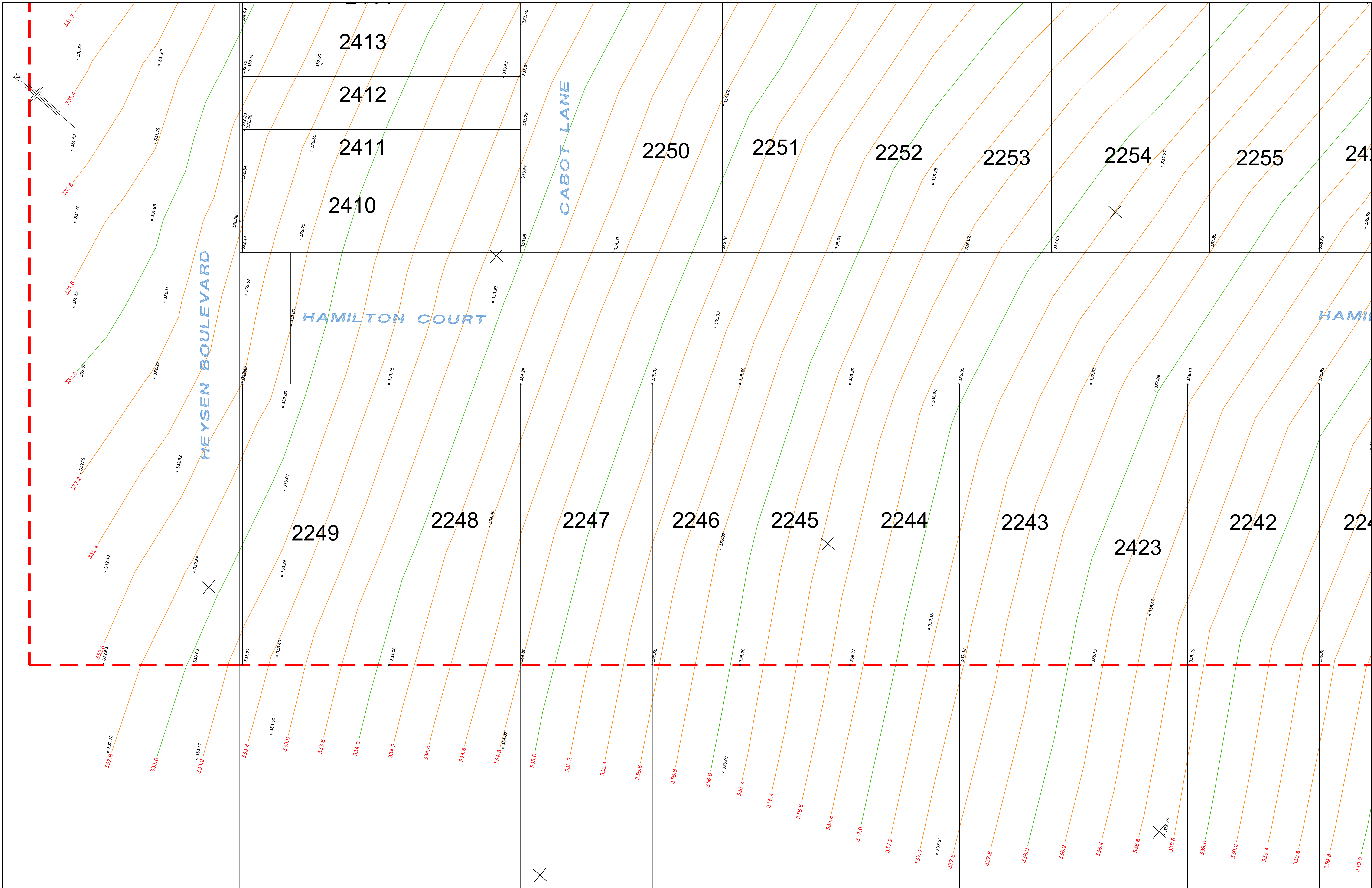
POST TOPSOIL STRIP SURVEY
STAGE 5 - BLEFARI
MOUNT BARKER

DRAWING No. SHEET 1 OF 4

21A0723.C0005 Topsoil Strip Levels Rev 0

REVISION

0



0	22.12.2021	INITIAL RELEASE	AS	NM
REV	DATE	DESCRIPTION	CALC	FIELD
ADDITIONS, AMENDMENTS AND APPROVALS				

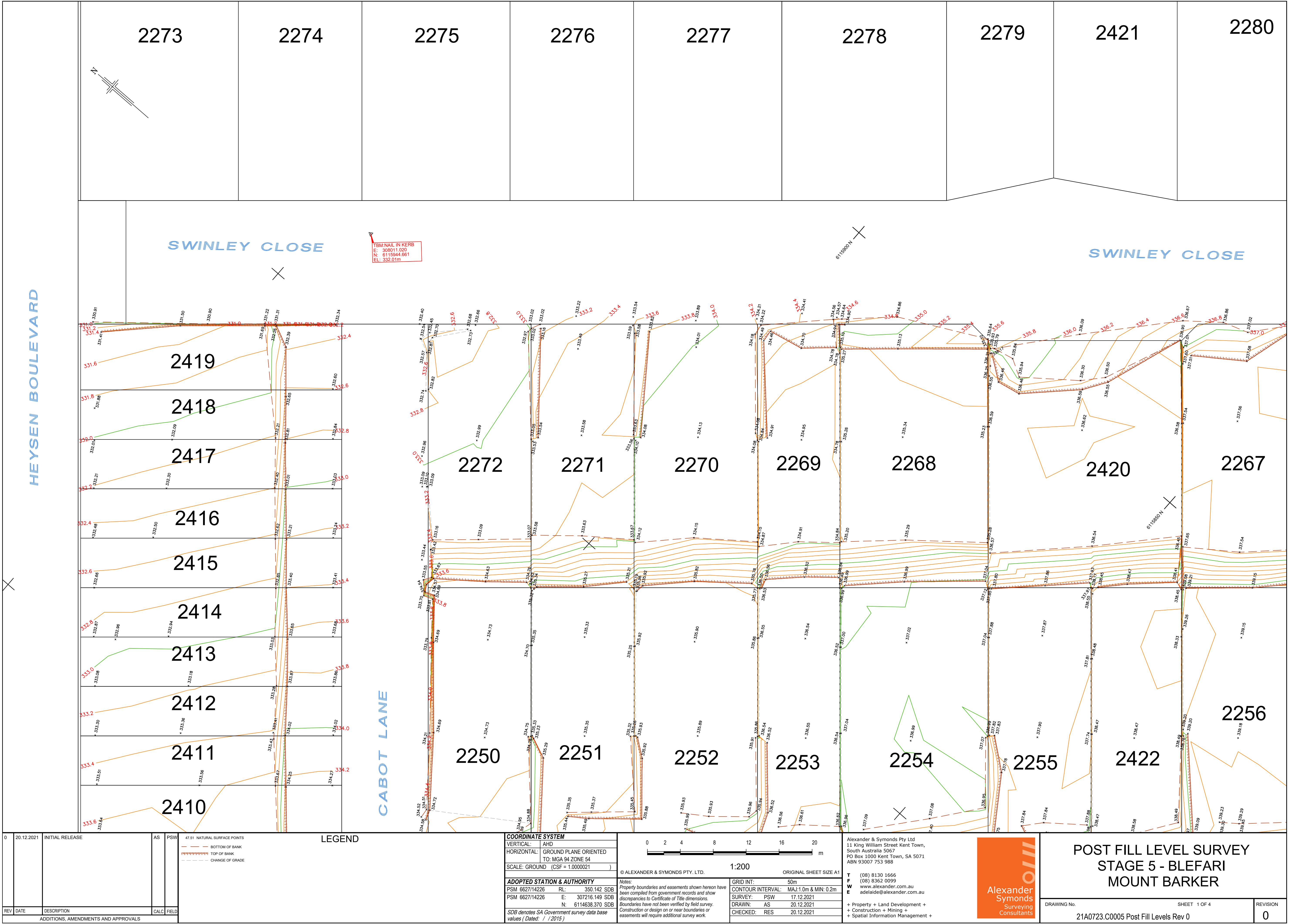
47.51 NATURAL SURFACE POINTS	LEGEND
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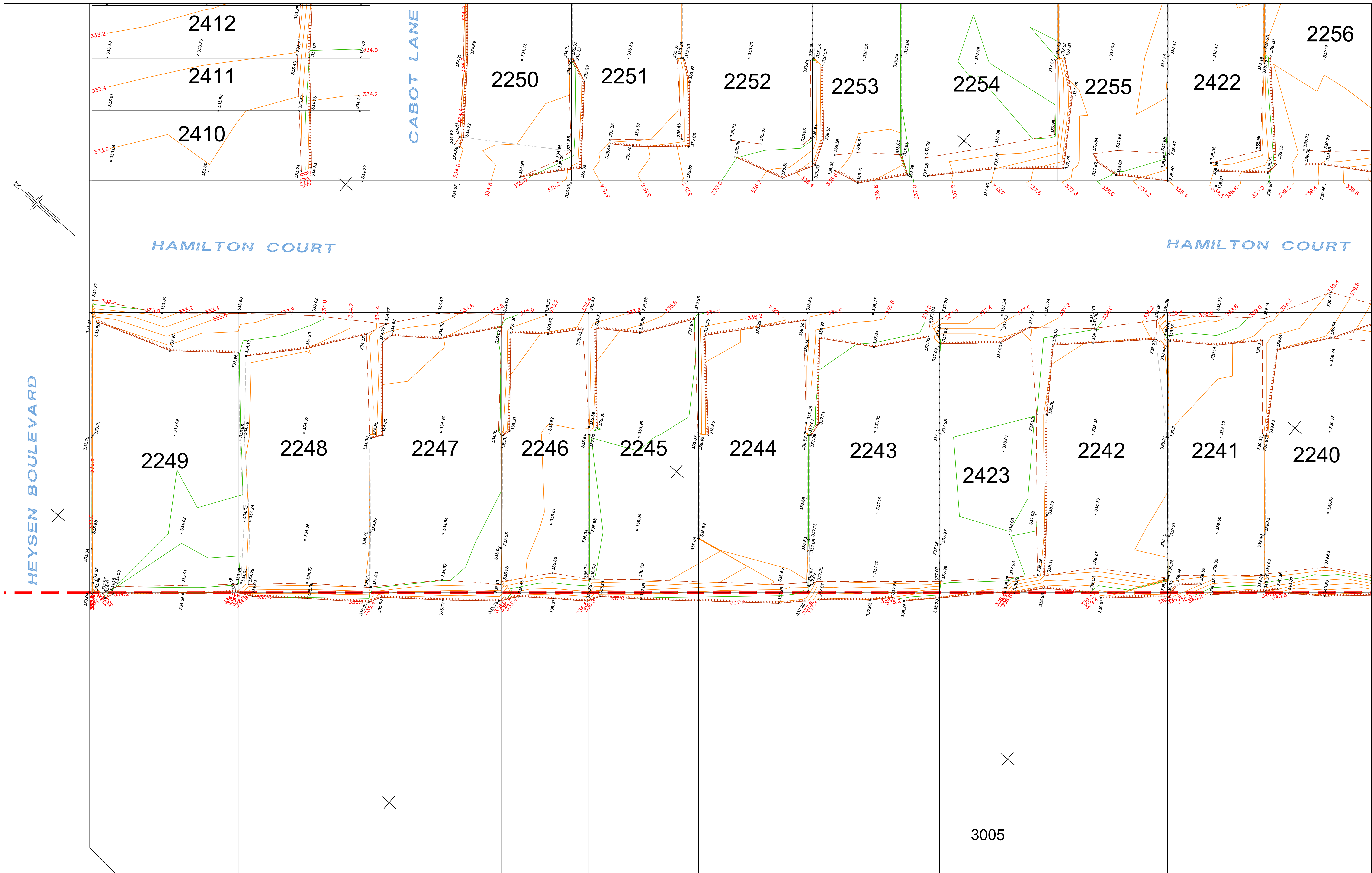
COORDINATE SYSTEM	
VERTICAL:	AHD
HORIZONTAL:	GROUND PLANE ORIENTED
	TO: MGA 94 ZONE 54
SCALE: GROUND	(CSF = 1.0000021)
ADOPTED STATION & AUTHORITY	
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0	2	4	8	12	16	20	m
1:200							ORIGINAL SHEET SIZE A1
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CONTOUR INTERVAL:				MAJ:1.0m & MIN:0.2m			
SURVEY:				NM 23.03.2021			
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CHECKED:				RES 22.12.2021			

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POST TOPSOIL STRIP SURVEY STAGE 5 - BLEFARI MOUNT BARKER	
DRAWING No.	SHEET 2 OF 4
21A0723.C0005 Topsoil Strip Levels Rev 0	
REVISION	0





0	20.12.2021	INITIAL RELEASE	AS	PSW
REV	DATE	DESCRIPTION	CALC	FIELD
ADDITIONS, AMENDMENTS AND APPROVALS				

47.51 NATURAL SURFACE POINTS
— BOTTOM OF BANK
— TOP OF BANK
— CHANGE OF GRADE

LEGEND

COORDINATE SYSTEM	
VERTICAL:	AHD
HORIZONTAL:	GROUND PLANE ORIENTED TO: MGA 94 ZONE 54
SCALE: GROUND (CSF = 1.00000021)	
ADOPTED STATION & AUTHORITY	
PSM 6627/14226	RL: 350.142 SDB
PSM 6627/14226	E: 307216.149 SDB
N: 6114638.370 SDB	
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1:200

ORIGINAL SHEET SIZE A1

GRID INT:	50m
CONTOUR INTERVAL:	MAJ:1.0m & MIN: 0.2m
SURVEY:	PSW 17.12.2021
DRAWN:	AS 20.12.2021
CHECKED:	RES 20.12.2021

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POST FILL LEVEL SURVEY
STAGE 5 - BLEFARI
MOUNT BARKER

DRAWING No. SHEET 2 OF 4
21A0723.C0005 Post Fill Levels Rev 0

REVISION
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