



Win Constructions (Qld) Pty Ltd
P O Box 3380
HERVEY BAY QLD 4655

PRELIMINARY REPORT

Proposed Villas for Win Constructions (Qld) Pty Ltd at
Units 1 & 2 (#1) Links Court, Urraween

The investigation was authorised by Malcolm Lemmon of Win Constructions (Qld) Pty Ltd for site testing and class evaluation for the Proposed Villas at Units 1 & 2 (#1) Links Court, Urraween. Testing was carried out on the 11 September 2019.

SITE

The proposed site is situated on a rectangular shaped allotment which backs onto the mobility corridor and has an internal road access off Links Court. The site has a steep to gradual slope down towards the mobility corridor as shown on the enclosed plan. The vegetation consists of natural overgrown grasses. Please refer to the notes in this report for site recommendations. **Note: With reference to the attached bulk earthworks plan with proposed fill from approximately 0.5m to 1.5m in height. This is to be compacted and tested under Level 1 Supervision. The report is only prelim at this stage due to the bulk earthworks yet to be done.**

The site has been classified in accordance with Australian Standard "Residential Slabs & Footings" **AS2870 – 2011**, which has a classification based on a range of "predicted surface movement", or Y_s .

This report is based on the extent of the soil investigation undertaken. If during any phase of the building ground profile conditions revealed differ or vary from those described in this report, our office or suitably qualified personnel should be contacted. However, the Y_s value may be re-evaluated if the site is to be cut/filled or if a controlled fill is to be placed over the site.

SITE CLASSIFICATION

Classification of sites where ground movement is predominantly due to soil reactivity under normal moisture conditions shall be classified based on the expected level of ground movement as nominated in the table below:

GENERAL DEFINITIONS OF SITE CLASSES

CLASS	FOUNDATIONS	Characteristic surface movement (Y_s) mm
A	Most sand and rock sites with little or no ground movement from moisture changes	
S	Slightly reactive clay sites which may experience only slight ground movement from moisture changes	$0 < y_s \leq 20$
M	Moderately reactive clay or silt sites which may experience moderate ground movement from moisture changes	$20 < y_s \leq 40$
H1	Highly reactive clay sites which may experience high ground movement from moisture changes	$40 < y_s \leq 60$
H2	Highly reactive clay sites which may experience very high ground movement from moisture changes	$60 < y_s \leq 75$
E	Extremely reactive sites which may experience extreme ground movement from moisture changes	$y_s > 75$

Notes:

- Where controlled fill has been used, the site may be classified A to E according to the type of fill used.
- Filled sites. Class P is used for sites which include soft fills, such as clay or silt or loose sands; landslip; mine subsidence; collapsing soils; soil subject to erosion; reactive sites subject to abnormal moisture conditions or sites which cannot be classified otherwise.
- Where deep-seated moisture changes exist on sites at depths of 3m or greater, further classification is needed for Classes M to E (M-D, H1-D, H2-D and E-D).



Proposed Villas for Win Constructions (Qld) Pty Ltd at Units 1 & 2 (#1) Links Court, Urraween

SITE CLASSIFICATION - CLASS 'H1/P'

(In accordance with AS2870)

A sample (our sample No 50151) as obtained and laboratory tested in accordance with AS1289. The results are as follows:

Liquid Limit	=	61.0%
Plastic Limit	=	25.0%
Plastic Index	=	36.0%
Linear Shrinkage	=	18.0%
Swell test (ϵ_{sw})	=	2.2 %
Shrinkage test (ϵ_{sh})	=	4.5 %
Iss (Swell/Shrink Index)	=	3.1 %
Y_s	=	45 - 50 mm

Note: The Y_s value for above is based on the current site conditions when site investigation was conducted.

Notes: (a) **Note: Please refer to the corresponding notes on the following page for further site recommendations.**

(b) **As this site has been classified 'H1/P' it is recommended that you seek your engineers advice.**

Note:1	✓	Note:2	✓	Note:3	✓	Note:4		Note:5	
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FOUNDATION PERFORMANCE & MAINTENANCE

Ongoing foundation maintenance is always essential for the durability and stability of the footings and foundation and the appropriate required maintenance is described in AS2870 "Residential Slabs and Footings". The design methods given in this Standard are based on the performance criteria of Clause 1.3. Importantly, significant damage may be avoided provided the foundation site conditions are properly maintained. This will require attention to:

- * Drainage of the site
- * Limitations on gardens
- * Restrictions on trees and shrubs, and
- * Repair of leaks.

A more extensive discussion of the material is contained in the CSIRO pamphlet Builders Technology File 18 'Foundation maintenance and footing performance: A homeowner's guide' and its recommendations should be followed. (Please refer to current CSIRO Information).

Any site/earthworks following the date of this report must comply with the requirements of AS3798 "Guidelines on Earthworks for Commercial and Residential Developments" to validate the site classification.

Thank you for the opportunity to be of service and should you require any further assistance, please contact our office.

Yours faithfully

LEX T HEWITT AMIE Aust
(Institute of Engineers, Aust. No. 774321)
(QBCC Site Classifier Lic. No. 1001730)
C.c Evan Shaw – Engineers Plus



FOOTING NOTES/RECOMMENDATIONS

(1) EXISTING BUILDINGS OR TREES TO BE REMOVED FROM SITE/OR HAVE BEEN REMOVED:

Note: With the event of the existing buildings/trees being removed from this site, it is suggested that 'footing/support piers' be designed by your engineer for the appropriate footing system.

Note: A reported depth of footing/support piers is to be determined on site via DCP tests.

Note: Should the DCP tests have adequate bearing (ie 100kPa min) then a certificate will be issued that the proposed deep footing/support piers can be eliminated if you wish.

Note: Due to the history of trees, this site may have the following footing movement due to:

- Abnormal site and moisture conditions.
- Trees too close to footings.

(2) BEARING NOTE

Note: It is recommended that dynamic cone penetrometer tests (DCP) be conducted in the bottom of the footings, prior to the pouring of concrete, to ensure adequate bearing.

(3) P SITES

Note: Class 'P' sites include soft or unstable foundations such as soft clay or silt or loose sands, landslip, mine subsidence, collapsing soils and soils subject to erosion, reactive sites subject to abnormal moisture conditions and sites that cannot be classified in accordance with Clause 2.1.2.

A site shall be classified a Class 'P' if:

- (a) the bearing strength is less than that specified in Clause 2.4.5;
- (b) excessive foundation settlement may occur due to loading on the foundation;
- (c) the site contains uncontrolled or controlled fill as identified in Clause 2.5.3;
- (d) the sites may be subject to mine subsidence, landslip, collapse activity or coastal erosion;
- (e) the site may be subject to moisture change due to site conditions more severe than the normal site conditions described in Clause 1.3.2; or
- (f) the site may be subject to other factors resulting in foundation movement beyond the reactive soil movements resulting from moisture changes due to the normal site conditions described in Clause 1.3.2.

'The basis for classification shall be recorded on the site classification report together with recommendations for further geotechnical investigation.'

(4) FOOTER FOR CERTIFICATION OF BULK EARTHWORKS

Note: The validity of this certification applies to the duration of this projects earthworks placement and compaction and is only relevant up to the project's completion date. Verification of this fill at the time of the individual lot site classification investigation, is required.

(5) ROCK SITE

Note: The depth of rock may vary over the site.



13 September 2019

SITE: Units 1 & 2 (#1) Links Court, Urraween

Tested: 11/09/19

BH NO. 1 LOCATION: Refer to site sketch				BH NO.2 LOCATION: Refer to site sketch			
DEPT H mm	DESCRIPTION RESIDENCE:	Fi ll	Dcp	Depth mm	DESCRIPTION RESIDENCE:	Fill	Dcp
100	Brown silty sandy topsoil. Moist. Firm.			100	/		
200	Brown silty sandy clay. Medium plasticity. Moist. Firm to stiff.			200			
300				300			
400				400			
500				500			
600				600			
700				700			
800				800			
900				900			
1000	White silty sandy clay. Medium to high plasticity. Moist. Stiff to very stiff. DS 0.9m.			1000			
1100				1100			
1200				1200			
1300				1300			
1400				1400			
1500				1500			
1600				1600			
1700				1700			
1800				1800			
1900				1900			
2000	ROCK REFUSAL END OF HOLE – DRILL RIG			2000	END OF HOLE – DRILL RIG		

Legend: DCP=dynamic cone penetrometer PP=pocket penetrometer UTP=unable to penetrate.
Refer AS1726 - 1993 Clause A2.4 for classifying soils.

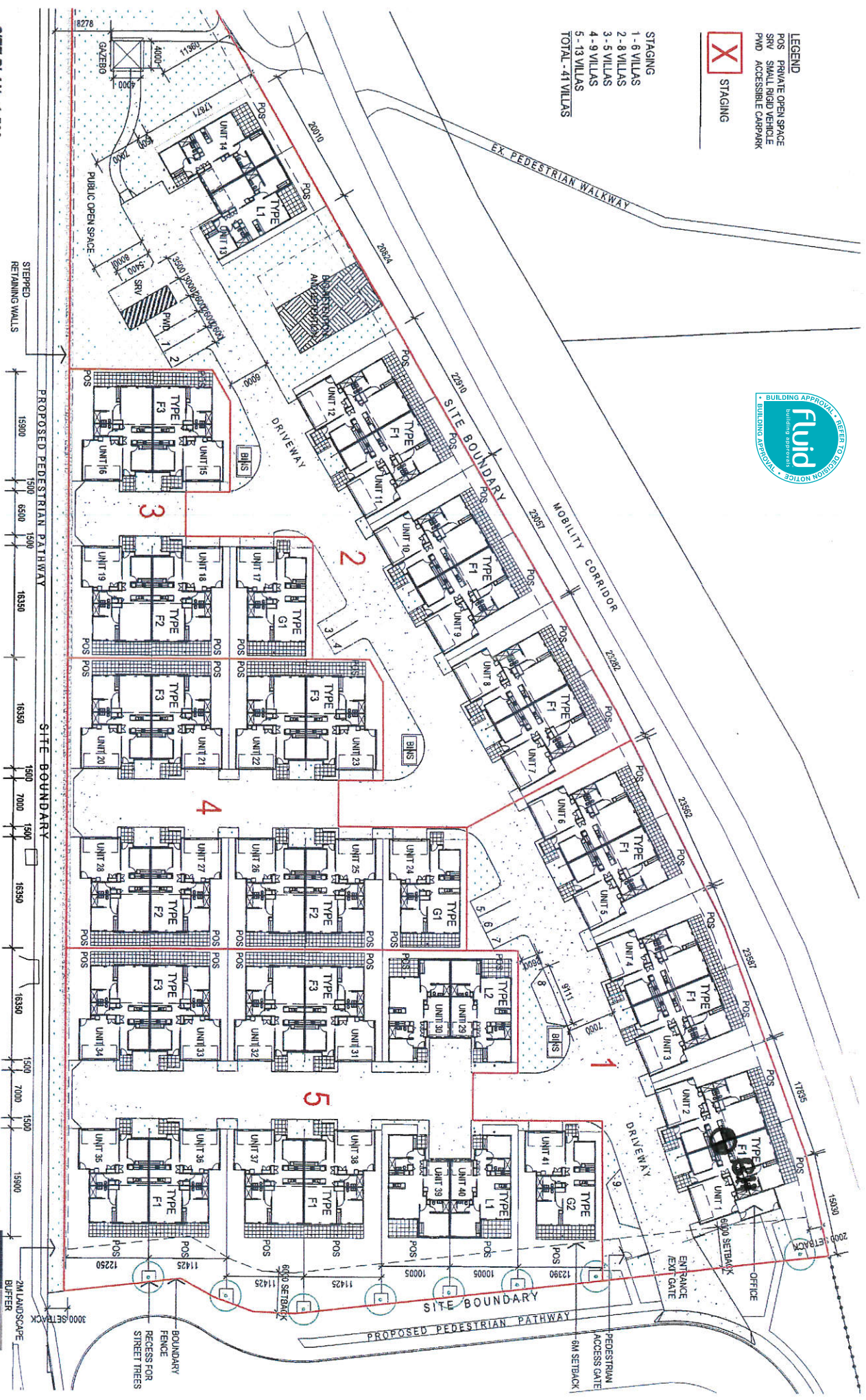
DEPT H mm	BH NO.3 DESCRIPTION RESIDENCE:	Fi ll	Dcp	Sketch - Not To Scale			
100	/			<u>REFER TO ATTACHED PLAN</u>			
200							
300							
400							
500							
600							
700							
800							
900							
1000							
1100							
1200							
1300							
1400							
1500							
1600							
1700							
1800							
	END OF HOLE – DRILL RIG						

Units 1a2 - 11.9.19

- LEGEND**
- POS PRIVATE OPEN SPACE
 - SRV SMALL RIGID VEHICLE
 - PMD ACCESSIBLE CARPARK



- STAGING**
- 1-6 VILLAS
 - 2-8 VILLAS
 - 3-5 VILLAS
 - 4-9 VILLAS
 - 5-13 VILLAS
 - TOTAL - 41 VILLAS



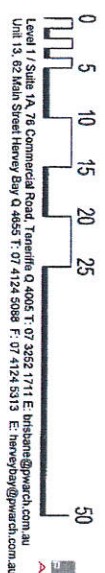
SITE PLAN - 1:500

PROPOSED VILLAS - 1 LINKS COURT, URRAWEEN

QCP

20190006 SD07

08/06/2019



Level 1: Suite 1A, 76 Commercial Road, Turrella, Q 4005 T: 07 3252 1711 E: brins@architect.com.au
Unit 13, 62 Main Street, Harvey, SA 5065 T: 07 4124 5008 F: 07 4124 5313 E: harvey@architect.com.au



LEGEND

- EXISTING OVERHEAD ELECTRICITY
- EXISTING UNDERGROUND ELECTRICITY
- EXISTING TELECOMMUNICATIONS
- EXISTING OPTIC FIBRE
- EXISTING WATER
- EXISTING SEWER
- EXISTING STORMWATER DRAINAGE
- EXISTING KERB AND CHANNEL
- EXISTING ROAD CENTRELINE
- EXISTING FENCE
- EXISTING CONCRETE
- EXISTING SIGN
- EXISTING TREE / VEGETATION
- EXISTING TOE OF BANK
- EXISTING TABLE DRAIN
- EXISTING PROPERTY BOUNDARY
- EXISTING EDGE OF BITUMEN
- PROPOSED RETAINING WALL
- FUTURE RETAINING WALL
- PROPOSED SANDSTONE RETAINING WALL
- PROPOSED UNIT PAD
- PROPOSED BOTTOM OF BANK
- PROPOSED SILT FENCE
- PROPOSED OPEN SWALE DRAIN
- FUTURE ROAD CENTRELINE
- FUTURE CONCRETE ACCESS
- FINISHED SURFACE CONTOURS (0.5m INTERVALS)

CUT & FILL LEGEND

PROPOSED EARTHWORKS DEPTHS SHOWN HAVE BEEN DERIVED FROM EXISTING SURFACE TO BULK EARTHWORKS SURFACE PROFILE.

- FILL >3m DEEP
- FILL 2.5m TO 3m DEEP
- FILL 2m TO 2.5m DEEP
- FILL 1.5m TO 2m DEEP
- FILL 1m TO 1.5m DEEP
- FILL 0.5m TO 1m DEEP
- FILL 0.05m TO 0.5m DEEP
- CUT 0.05m TO 0.5m DEEP
- CUT 0.5m TO 1m DEEP
- CUT 1m TO 1.5m DEEP
- CUT 1.5m TO 2m DEEP
- CUT 2m TO 2.5m DEEP
- CUT 2.5m TO 3m DEEP
- CUT >3m DEEP

FOR APPROVAL

REV	DESCRIPTION	APPD	DATE
B	FOR APPROVAL		16.08.19
A	PRELIMINARY FOR APPROVAL		30.07.19

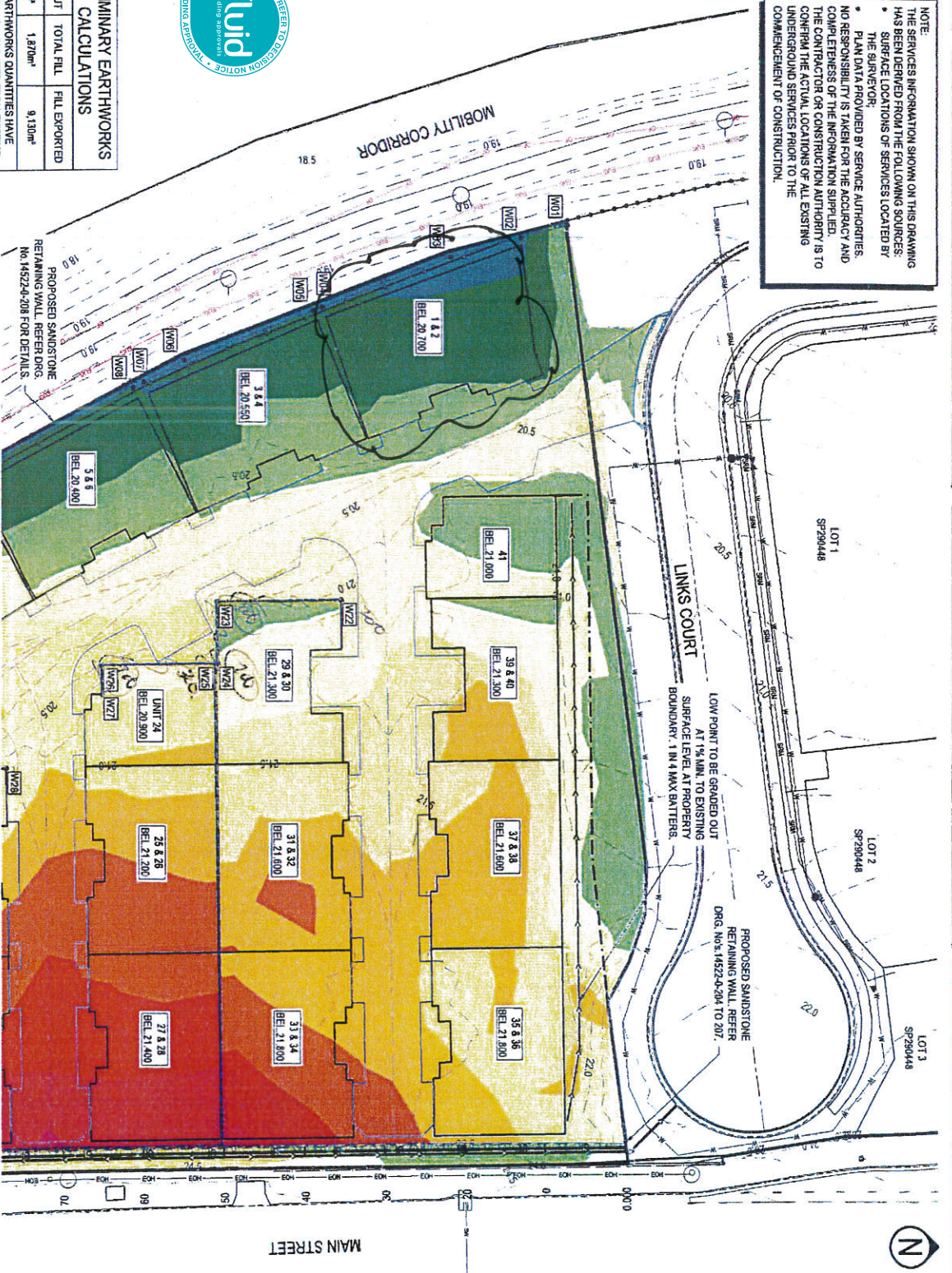
NOTE:
THE SERVICES INFORMATION SHOWN ON THIS DRAWING HAS BEEN DERIVED FROM THE FOLLOWING SOURCES:
• SURFACE LOCATIONS OF SERVICES LOCATED BY THE SURVEYOR;
• PLAN DATA PROVIDED BY SERVICE AUTHORITIES.
NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY AND COMPLETENESS OF THE INFORMATION SUPPLIED. THE CONTRACTOR OR CONSTRUCTION AUTHORITY IS TO CONFIRM THE ACTUAL LOCATIONS OF ALL EXISTING UNDERGROUND SERVICES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.



PRELIMINARY EARTHWORKS CALCULATIONS

TOTAL CUT	TOTAL FILL	FILL EXPORTED
11,000m³	1,870m³	9,130m³

NOTE: EARTHWORKS QUANTITIES HAVE BEEN CALCULATED FROM EXISTING SURFACE TO FINISHED BULK EARTHWORKS SURFACE PROFILE.



JOINS DRAWING No. 14522-0-202

0 5 10 15m
1:500 (A3)

DESIGNED	WIRE	CLIENT
DRAWN	WIRE	ACP at THE 235 TORQUAY TERRACE UNIT TRUST
CHECKED	A GREVE	RECD No. 7772
APPROVED	K MACGEOY	DATE JULY 2019

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PROJECT
LINKS COURT AND MAIN STREET, URRAWAEN
PROPOSED COMMERCIAL SUBDIVISION
BULK EARTHWORKS (LOT 4 on SP290448)
EARTHWORKS LAYOUT PLAN - SHEET 1 OF 3

ENGINEERS PLUS REFERENCE No.	14522
DRAWING No.	A3
14522-0-201	B
REVISION	