

Appendix K

Detailed Engineering Drawings



Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 6, Springfield Tower, 145 Sinnathamby Boulevard
Springfield Central QLD 4300
Tel: 07 3381 0111 Fax: 07 3470 1241
Web: www.cardno.com.au

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KALFRESH PTY LTD

SCENIC RIM

AGRICULTURAL INDUSTRIAL PRECINCT

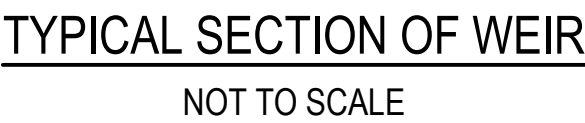
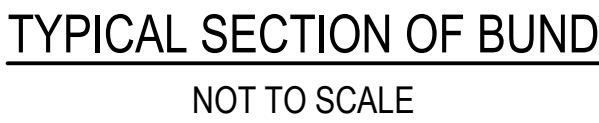


The map displays the Frazerview area, highlighting the proposed site location with a red polygon and the label 'SITE'. The site is situated near the intersection of Cunningham Highway (15) and Boonah Fassifern Road (90). Other labeled locations include Frazerview, Fassifern, Morwincha, and Aratula. The map also shows the Cunningham Highway (15) and Lake Moogerah Rd.

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		Checked S.W.	Date 20/02/2020	Project SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT				
		Designed M.D.	Date 20/01/2020	Title DRAWING SCHEDULE AND LOCALITY PLAN	Datum AHD	GRID AS SHOWN	Scale A1	Size A1
		Verified J.O.S.	Date 20/02/2020		Drawing Number 510357-008-CI-1001		Revision A	
		Approved RPEQ. 19706	Date 20/02/2020					

- G.1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCIES OR OMISSIONS SHALL BE IMMEDIATELY REFERRED TO THE SUPERINTENDENT FOR RESOLUTION.
- G.2. CONSTRUCTION FROM THESE DRAWINGS AND ASSOCIATED CONSULTANTS' DRAWINGS SHALL NOT COMMENCE UNTIL APPROVED BY THE DEPARTMENT OF INFRASTRUCTURE, LOCAL GOVERNMENT AND PLANNING (DILGP), ALL RELEVANT PROTECTED SPECIES, HERITAGE AND ENVIRONMENTAL MONITORING IS ESTABLISHED AND ALL RELEVANT CLEARING PERMITS ARE IN PLACE.
- G.3. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT AUSTRALIAN STANDARDS, IPWEA, WSA, NATSPEC/AUS-SPEC, THE BUILDING CODE OF AUSTRALIA AND WITH THE POLICIES, BY-LAWS, CODES AND SPECIFICATIONS OF THE RELEVANT LOCAL AUTHORITIES.
- G.4. WHERE PROVIDED, THE ACCOMPANYING BILLS OF QUANTITIES SHALL ONLY SERVE AS A SUPPLEMENT FOR PRICING PURPOSES. THE CONTRACTOR SHALL ALLOW FOR ALL WORKS REQUIRED TO COMPLY WITH THE DRAWINGS. THIS INCLUDES ANY TEMPORARY, INTERMEDIATE OR PROTECTIVE WORKS REQUIRED TO FACILITATE FINAL CONSTRUCTION.
- G.5. SERVICES SHOWN ON THESE PLANS ARE ONLY THOSE EVIDENT AT THE TIME OF SURVEY, FROM AS CONSTRUCTED SURVEY AND FROM 'DIAL BEFORE YOU DIG' SEARCHES. THERE MAY BE ADDITIONAL SERVICES WHICH ARE NOT SHOWN ON THESE DRAWINGS.
- G.6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE RELEVANT SERVICE UTILITY PROVIDERS TO CONFIRM THE LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORKS.
- G.7. ANY DAMAGE TO SERVICES SHALL BE REPAIRED BY THE CONTRACTOR OR THE RELEVANT AUTHORITY AT THE CONTRACTOR'S EXPENSE.
- G.8. THIS PROJECT HAS BEEN DESIGNED ON MAP GRID OF AUSTRALIA AS SUPPLIED BY RPS.
- G.9. ALL SETOUT DATA TO BE SUPPLIED ELECTRONICALLY.

- EW.1. EARTHWORKS SHALL BE IN ACCORDANCE WITH JOB SPECIFICATIONS (INCLUDING MRTS SPECIFICATIONS) AND AS 3798-2007 ('GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS').
- EW.2. FILL SHALL BE PLACED AND COMPACTED TO THE FOLLOWING STANDARDS:
 - (I) COHESIVE MATERIALS:- ALLOTMENT FILL SHALL ACHIEVE A MINIMUM DRY DENSITY RATIO (M.D.D.R.) OF 95% STANDARD. COMMERCIAL ALLOTMENT FILL SHALL ACHIEVE A 98% STANDARD. DENSITY RATIO (M.D.D.R.)
 - ROAD EMBANKMENTS SHALL ACHIEVE THE FOLLOWING MINIMUM STANDARDS.
 - (A) GREATER THAN OR EQUAL TO 0.3m BELOW PAVEMENT SUBGRADE: 95% STD. M.D.D.R.
 - (B) LESS THAN 0.3m BELOW PAVEMENT SUBGRADE: 100% STD. M.D.D.R.
 - (II) NON COHESIVE MATERIALS:- FILL SHALL ACHIEVE A MINIMUM DENSITY INDEX RATIO OF 75%.
- EW.3. GEOTECHNICAL CERTIFICATION SHALL BE 'LEVEL 1' AS PER AS.3798.
- EW.4. EXCESS SPOIL TO BE TRANSPORTED TO A LOCATION CONFIRMED BY SUPERINTENDENT.
- EW.5. PRELIMINARY INVESTIGATION INTO ROAD CORRIDORS. TEST PIT EXCAVATION WITHIN NEW ROAD CARRIAGEWAYS SHALL BE UNDERTAKEN TO INVESTIGATE SUBGRADE MATERIALS, PRIOR TO IMPORT OF ANY FILL TO IDENTIFY. OPPORTUNITY TO EXCAVATE AND REPLACE POOR SUBGRADE WITH IMPORTED MATERIAL AND USE EXCAVATED MATERIAL AS FILL ON ALLOTMENTS.



B	14/04/2020	FISH MITIGATION MEASURES ADDED		B.J.F.	B.W.	J.O.S.
A	20/02/2020	ISSUE FOR APPROVAL		M.D.	B.W.	J.O.S.
Rev.	Date	Description		Des.	Verif.	Appd.

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Drawn C.V.	Date 21/01/2020	Client KALFRESH PTY LTD				
Checked B.W.	Date 20/02/2020	Project SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT	Status NOT TO BE USED FOR CONSTRUCTION PURPOSES	FOR APPROVAL		
Designed M.D.	Date 20/01/2020					
Verified J.O.S.	Date 20/02/2020					
Approved RPEQ. 19706		Title GENERAL NOTES AND TYPICAL SECTIONS	Datum AHD		Scale AS SHOWN	Size A1
	Date 14/04/2020		Drawing Number 510357-008-CI-1002		Revision B	



LEGEND

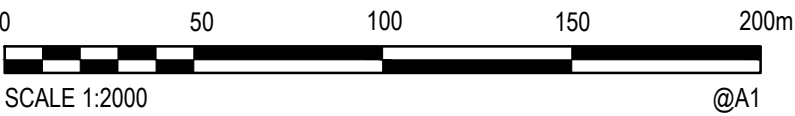
- PROPERTY BOUNDARY
- EXISTING CONTOURS (1m)

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES HAVE BEEN INTERPOLATED FROM GIS DATA OR KNOWN POSITIONS OF VALVES, MANHOLES ETC. OR INFORMATION SUPPLIED BY SERVICE AUTHORITIES. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF THE INTERPOLATED INFORMATION SUPPLIED. ENSURE ALL SERVICES ARE ACCURATELY LOCATED PRIOR TO COMMENCEMENT OF WORK

BENCHMARK TABLE

No.	EASTING	NORTHING	LEVEL	DESCRIPTION
35	458463.147	6907403.028	86.999	SOUTH-WEST OF SITE ALONG CUNNINGHAM HIGHWAY
166005	458121.215	6907500.599	84.958	PSM - SOUTH OF SITE

EXISTING FEATURES
SCALE 1:2000



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Drawn C.V. 21/01/2020
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Designed M.D. 20/01/2020
Verified J.O.S. 20/02/2020
Approved RPEQ. 19706

Client KALFRESH PTY LTD
Project SCENIC RIM
AGRICULTURAL INDUSTRIAL PRECINCT
Title
Date 20/02/2020
EXISTING FEATURES PLAN

Status **FOR APPROVAL**
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Datum AHD
Scale AS SHOWN
Size A1
Drawing Number 510357-008-CI-1003
Revision A

Rev.	Date	Description	M.D.	B.W.	J.O.S.
A	20/02/2020	ISSUE FOR APPROVAL			

1. THE EROSION AND SEDIMENT CONTROL MEASURES IMPLEMENTED ON SITE SHOULD BE INSTALLED AND UTILISED IN ACCORDANCE WITH THE INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) AUSTRALASIA 'BEST PRACTICE EROSION AND SEDIMENT CONTROL (NOVEMBER 2008)' GUIDELINES, WITH DETAILS SHOWN ON THE STANDARD DRAWINGS NOTED, AND AS REQUIRED FOR COMPLIANCE WITH THE REQUIREMENTS OF THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN.
2. THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THESE PLANS HAVE BEEN BASED ON A CONSTRUCTION PERIOD OF UP TO 12 MONTHS. SHOULD THE CONSTRUCTION PERIOD EXTEND BEYOND 12 MONTHS THEN THE CONTROL MEASURES PROVIDED SHOULD BE REVIEWED TO CONFIRM IF THE DEVICES REMAIN ADEQUATE.
3. THE CONTROL MEASURES NOTED IN THIS PLAN REPRESENT THE MINIMUM ANTICIPATED STANDARDS OF EROSION AND SEDIMENT CONTROL FOR THE CONSTRUCTION PHASE. ALL MEASURES ARE TO BE SUPPLEMENTED WITH MONITORING AND MAINTENANCE ON SITE. ADDITIONAL CONTROLS OR MODIFICATIONS TO WORK PRACTICES MAY BE REQUIRED TO SUIT THE SITE CONDITIONS OR CONSTRUCTION SEQUENCING AS IDENTIFIED THROUGH ON-SITE MONITORING.
4. SHOULD IT BE DEEMED NECESSARY FROM MONITORING OR WHERE DIRECTED BY THE SUPERINTENDENT, THE CONTRACTOR SHALL INSTALL ADDITIONAL MEASURES TO MINIMISE THE IMPACT OF CONSTRUCTION ACTIVITIES ON THE SURROUNDING ENVIRONMENT.
5. PUBLIC AND WORKPLACE SAFETY ISSUES MUST BE CONSIDERED AND MONITORED FOR EACH DEVICE TO THE SATISFACTION OF LOCAL AUTHORITIES AND INDUSTRY STANDARDS.
6. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING EROSION AND SEDIMENT CONTROL DEVICES TO ACCOMMODATE EARTHWORKS AS REQUIRED. THE LOCATION OF THE EROSION AND SEDIMENT CONTROL DEVICES SHOWN ARE INDICATIVE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SPECIFICALLY LOCATE THE CONTROL DEVICES, AND MINIMISE SEDIMENT TRANSPORT DOWNSTREAM DURING ALL STAGES OF CONSTRUCTION, INCLUDING THE MAINTENANCE PERIOD. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THE INTENTS OF THESE PLANS AND ANY CONSENT AUTHORITY COMPLIANCE RECOMMENDATIONS ARE COMPLIED WITH.
7. WHERE PRACTICAL ALL AREAS OF THE SITE NOT SUBJECT TO EROSION, CONTAMINATION OR DISTURBANCE MUST HAVE PROVISION FOR ALL RUN-OFF TO BE DIVERTED AWAY FROM THE NOMINATED EROSION AND SEDIMENT CONTROL MEASURES AND FACILITIES, IN A MANNER, WHICH DOES NOT CAUSE SCOURING, OR EROSION.
8. WHERE INDICATED CONTAMINATED RUN-OFF MUST BE DIRECTED TOWARDS A TEMPORARY SEDIMENT CONTROL DEVICE DURING BOTH THE BULK EARTHWORKS PHASE AND CIVIL WORKS PHASE UNTIL 80% OF THE CONTRIBUTING SITE IS ADEQUATELY STABILISED.
9. ALL EROSION AND SEDIMENT CONTROL MEASURES INSTALLED DURING BULK EARTHWORKS ARE TO BE MAINTAINED IN EFFECTIVE OPERATIONAL CONDITION UNTIL THE SITE IS ADEQUATELY STABILISED. THIS INCLUDES MONITORING, REPAIRS AND CLEANING OUT AT REGULAR INTERVALS, AFTER STORM EVENTS, DISTURBANCE BY CONSTRUCTION AND AS DIRECTED BY SUPERINTENDENT ON SITE. THESE STRUCTURES MUST NOT BE ALLOWED TO ACCUMULATE SEDIMENT VOLUMES IN EXCESS OF FORTY PER CENT (40%) SEDIMENT STORAGE DESIGN CAPACITY. WHERE SEDIMENT BASINS ARE USED A MARKER SHALL BE PLACED WITHIN THE BASIN TO SHOW THE LEVEL ABOVE WHICH THE SEDIMENT STORAGE DESIGN CAPACITY OCCURS. MATERIALS REMOVED FROM SEDIMENT RETENTION DEVICES MUST BE DISPOSED OF IN A MANNER APPROVED BY THE CONSENT AUTHORITY THAT DOES NOT CAUSE POLLUTION.
10. WHERE WATER STORAGE IS PROPOSED FOR CONSTRUCTION PURPOSES, IT SHOULD BE PROVIDED OVER AND ABOVE THE MINIMUM NOTED SEDIMENT BASIN SETTLING ZONE AND STORAGE ZONE VOLUMES. WATER LEVELS SHOULD NOT EXTEND INTO THE SETTLING ZONE VOLUME TO ALLOW FOR THIS VOLUME TO BE AVAILABLE FOR THE NEXT RAINFALL EVENT.
11. ACCESS TO THE SITE MUST BE RESTRICTED TO THE NOMINATED STABILISED CONSTRUCTION ENTRANCE / EXITS. ROCK PAD ACCESS POINTS SHALL BE PROVIDED TO HELP SHAKE MUD FROM VEHICLE TYRES. THE NUMBER OF CONSTRUCTION ACCESS POINTS TO BE LIMITED. ADDITIONAL MEASURES TO BE PROVIDED IF EVIDENCE OF SEDIMENT BEING TRANSPORTED ONTO ROADWAYS.
12. ANY DIRT / MATERIALS SPLIT OR TRACKED ONTO TMR, COUNCIL OR OTHER EXTERNAL ROADS IS TO BE BROOMED UP AND COLLECTED - NOT WASHED INTO STORMWATER DRAINS OR WATERWAYS.
13. THE CONTRACTOR SHALL ENSURE THE STABILISED SITE ACCESS IS MAINTAINED AND CLEANED OUT REGULARLY AND AS DIRECTED BY THE SUPERINTENDENT ON SITE.
14. RUNOFF RETAINED WITHIN THE SEDIMENT BASINS IS NOT TO BE RELEASED TO THE RECEIVING ENVIRONMENT UNTIL THE SUSPENDED SOLIDS CONCENTRATIONS ARE LESS THAN 50 MILLIGRAMS PER LITRE, AND THE pH OF THE WATER WITHIN THE BASIN IS WITHIN THE 6.5-8.5 RANGE. TESTING OF SUSPENDED SOLIDS AND pH WITHIN ANY TEMPORARY SEDIMENT BASIN IS TO

1. DURING CONSTRUCTION, STOCKPILES AND AREAS OF BARE SOIL OR EARTH THAT ARE LIKELY TO BECOME ERODED MUST BE ADEQUATELY PROTECTED – BY UPSLOPE SURFACE WATER DIVERSION, DOWNSLOPE SEDIMENT CONTROLS AND TEMPORARY SURFACE COVERINGS.
16. TOPSOIL STOCKPILES ARE TO BE MULCHED OR TEMPORARILY VEGETATED IF THEY ARE TO REMAIN FOR MORE THAN 10 DAYS.
17. MAXIMUM LENGTH OF EXPOSED SLOPE TO BE LIMITED TO 50m BY THE USE OF THE EROSION AND SEDIMENT DEVICES SHOWN.
18. CLEAN WATER DIVERSION DRAINS TO BE TURFED IF LONGITUDINAL GRADE <10% AND 2 YR ARI VELOCITY IS LESS THAN 1.5m/s, OTHERWISE THEY ARE TO BE ROCK LINED.
19. THE OUTLETS OF ALL DIVERSION DRAINS TO HAVE ROCK SCOUR PROTECTION INSTALLED TO ACT AS AN OUTLET DISCHARGE ENERGY DISSIPATER.
20. VELOCITY CONTROLS AND / OR CHANNEL LININGS TO BE UTILISED WITHIN EARTH LINED CATCH DRAINS WITH FLOW VELOCITIES >0.6m/s.
21. FOR MANAGEMENT OF DISPERSIVE SOILS REFER TO IECA 'BEST PRACTICE EROSION AND SEDIMENT CONTROL (NOVEMBER,2008)' GUIDELINES AND IPSWICH CITY COUNCILS 'IMPLEMENTATION GUIDELINE No. 28 - DISPERSIVE SOIL MANAGEMENT' FOR FURTHER GUIDANCE.
22. FOR IDENTIFIED DISPERSIVE SOILS AREAS, FLOW DIVERSION BUNDS/BANKS SHOULD BE ADOPTED OVER CUT IN CATCH DRAINS. WHERE CUT IN DRAINS ARE NECESSARY WITHIN DISPERSIVE SOIL AREAS, THESE CATCH DRAINS SHOULD BE ADEQUATELY LINED WITH A MINIMUM OF 150mm OF NON-DISPERSIVE MATERIAL PRIOR TO THE INSTALLATION OF OTHER TEMPORARY CHANNEL LININGS OR CHECK DAMS.
23. ALL DISTURBED SURFACES OTHER THAN CHANNEL WORKS AREAS TO BE EITHER ADEQUATELY SEALED, STABILISED OR VEGETATED TO THE DESIGN REQUIREMENTS WITHIN 20 DAYS OF COMPLETION OF SITE WORKS FOR MODERATE EROSION RISK AREAS, AND WITHIN 10 DAYS FOR HIGH EROSION RISK AREAS.
24. CHANNEL WORKS AREAS TO BE ADEQUATELY STABILISED OR VEGETATED TO THE DESIGN REQUIREMENTS WITHIN 10 DAYS OF COMPLETION OF WORKS FOR MODERATE EROSION RISK AREAS, AND WITHIN 5 DAYS FOR HIGH EROSION RISK AREAS.

1. SEDIMENT BASIN CUT/FILL BATTERS TO BE CONSTRUCTED TO TIE IN WITH THE EXISTING GROUND.
2. DEWATERING AND SPILLWAY OUTLET LOCATIONS TO BE SPECIFIED ON SITE BY THE CONTRACTOR'S ENVIRONMENTAL MANAGER AND CONFIRMED BY THE SUPERINTENDENT.
3. WHERE ROCK IS ENCOUNTERED, THE CUT BATTER OF THE SEDIMENT BASIN MAY BE CONSTRUCTED WITH A NOMINAL BATTER SLOPE OF 1(V) : 1(H). FOR OTHER SOILS, THE CUT BATTER SLOPE SHALL BE CONSTRUCTED WITH A NOMINAL BATTER SLOPE OF 1(V) : 2(H) OR FLATTER IF IT IS CONSIDERED THAT THE 1(V) : 2(H) SLOPE IS NOT SUFFICIENTLY STABLE FOR THE SOILS ENCOUNTERED. APPROPRIATE BASIN BATTER SLOPES FOR THE ON SITE CONDITIONS ENCOUNTERED TO BE CONFIRMED BY GEOTECHNICAL ENGINEER.
4. EARTH EMBANKMENTS IN EXCESS OF 1m IN HEIGHT SHOULD BE CERTIFIED BY GEOTECHNICAL ENGINEER.
5. IF BATTER SLOPES STEEPER THAN 1(V) : 4(H) ARE USED AROUND EDGE OF SEDIMENT BASIN, THEN SAFETY FENCING IS TO BE SUPPLIED TO THE FULL PERIMETER FOR THE DURATION OF THE BASIN'S OPERATION.
6. TO INCREASE THE EFFECTIVE TREATMENT OF THE SEDIMENT BASINS, REFER TO SEDIMENT BASIN DESIGN, CONSTRUCTION, OPERATION AND MAINTENANCE GUIDELINES FOR DETAILS ON THE INCORPORATION OF ANCILLARY ITEMS SUCH AS INTERNAL BAFFLES.

FLAT LAND (FLATTER THAN 1 in 10)	MILD SLOPE (1 in 10 - 1 in 4)	STEEP SLOPE (STEEPER THAN 1 in 4)
EROSION CONTROL BLANKETS	BONDED FIBRE MATRIX	BONDED FIBRE MATRIX
GRAVELLING	COMPOST BLANKETS	CELLULAR CONFINEMENT SYSTEMS
MULCHING	EROSION CONTROL BLANKETS, MATS AND MESH	COMPOST BLANKETS
REVEGETATION	MULCHING WELL ANCHORED	EROSION CONTROL BLANKETS, MATS AND MESH
ROCK MULCHING	REVEGETATION	REVEGETATION
SOIL BINDER	ROCK MULCHING	ROCK ARMOURING
TURFING	TURFING	TURFING



Drawing Number	Revision
510357-008-CI-1020	A

Drawn C.V.	Date 21/01/2020	Client KALFRESH PTY LTD			
Checked C.D.B.	Date 20/02/2020	Project SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT	Status FOR APPROVAL		
Designed M.D.	Date 20/01/2020		NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Verified C.D.B.	Date 20/02/2020		Date AHD	Scale AS SHOWN	Size A1
Approved	Date 20/02/2020		Drawing Number 510357-008-CI-1021		Revision A
<i>CD</i> <i>CPEC 7619</i>		Title EROSION AND SEDIMENT CONTROL CONSTRUCTION SEQUENCE			

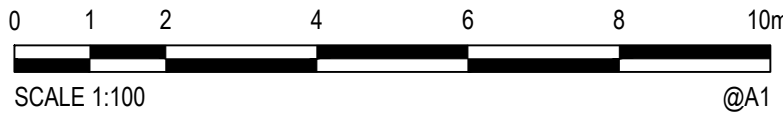


DEVICE ID	CATCHMENT	CATCHMENT AREA (ha)	SIDE BATTERS	BASIN LENGTH @ MID-ZONE DEPTH (m)	BASIN WIDTH @ MID-ZONE DEPTH (m)	BASIN AREA @ MID-ZONE DEPTH (m ²)	SETTLING ZONE DEPTH (m)	FREE WATER DEPTH (m)	SEDIMENT STORAGE DEPTH (m)	TOTAL DEPTH FROM SPILLWAY (m)	SETTLING ZONE VOLUME (m ³)	SEDIMENT STORAGE VOLUME (m ³)	FREE WATER ZONE STORAGE (m ³)	TOTAL BASIN STORAGE VOLUME (m ³)	INLET ZONE LENGTH @ MID-ZONE LEVEL (m)	INLET ZONE WIDTH @ MID-ZONE LEVEL (m)	INLET ZONE DEPTH (m)	EMERGENCY SPILLWAY LENGTH (m)	Q20 SPILLWAY DEPTH (m)	FREEBOARD (m)
SB-D	D	15.2	1 IN 3	99	31	3036	0.6	0.20	0.21	1.01	2112	634	688	3433	5.0	36.0	1.0	35.0	0.17	0.3

DEVICE ID	CATCHMENT	CATCHMENT AREA (ha)	SIDE BATTERS	BASIN LENGTH @ MID-ZONE DEPTH (m)	BASIN WIDTH @ MID-ZONE DEPTH (m)	BASIN AREA @ MID-ZONE DEPTH (m²)	SETTLING ZONE DEPTH (m)	SEDIMENT STORAGE DEPTH (m)	TOTAL DEPTH FROM SPILLWAY (m)	SETTLING ZONE VOLUME (m³)	SEDIMENT STORAGE VOLUME (m³)	TOTAL BASIN STORAGE VOLUME (m³)	INLET ZONE LENGTH @ MID-ZONE LEVEL (m)	INLET ZONE WIDTH @ MID-ZONE LEVEL (m)	INLET ZONE DEPTH (m)	EMERGENCY SPILLWAY LENGTH (m)	Q20 SPILLWAY DEPTH (m)	FREEBOARD (m)
SB-A	A	4.0	1 IN 2	95	32	2984	0.55	0.20	0.75	1641	559	2200	9.5	31.5	1.0	22.0	0.11	0.3
SB-B	B	1.45	1 IN 2	60	20	1216	0.50	0.20	0.70	608	221	829	6.0	20.1	1.0	10.0	0.10	0.3
SB-C	C	4.9	1 IN 2	103	34	3561	0.60	0.20	0.80	2136	669	2805	10.3	34.5	1.0	25.0	0.11	0.3
SB-E	E	2.0	1 IN 2	71	24	1678	0.50	0.20	0.70	839	309	1148	701	23.6	1.0	15.0	0.10	0.3
SB-F	F	4.3	1 IN 2	98	33	3208	0.55	0.20	0.75	1764	603	2367	9.8	32.7	1.0	23.0	0.11	0.3
SB-G	G	5.0	1 IN 2	102	34	3458	0.60	0.20	0.80	2075	649	2724	10.2	34.0	1.0	25.0	0.11	0.3

- BASIN LENGTHS AND WIDTHS NOTED IN TABLES ARE THE CONCEPTUAL BASIN DIMENSIONS AT THE MIDDLE DEPTH OF THE NOTED SETTLING ZONE. OVERALL BASIN FOOTPRINT WILL ALSO NEED TO CONSIDER EFFECT OF BATTER SLOPES.
- RECOMMENDED 3:1 EFFECTIVE LENGTH TO WIDTH RATIO.
- MINIMUM BASIN DEPTH ADOPTED FOR COMBINED SETTLING, FREE WATER AND STORAGE VOLUME.
- ADDITIONAL 0.5m MINIMUM REQUIRED ABOVE FOR SPILLWAY HEIGHT AND FREEBOARD (0.3m)
- SETTLING ZONE DEPTH TO BE MINIMUM 0.6m FOR TYPE A BASINS AND 0.5m FOR TYPE B BASINS U.N.O.
- FREE WATER ZONE DEPTH 0.2m MINIMUM DEPTH FOR TYPE A BASINS.
- SEDIMENT STORAGE ZONE DEPTH TO BE MINIMUM 0.2m U.N.O.
- SEDIMENT STORAGE VOLUME BASED ON 30% OF SETTLING ZONE VOLUME. A MARKER SHALL BE PLACED WITHIN THE BASIN TO SHOW THE LEVEL AT WHICH THE SEDIMENT STORAGE ZONE DESIGN CAPACITY OCCURS.
- EMERGENCY SPILLWAY WEIR LENGTHS BASED ON CONVEYING THE 20 YEAR ARI PEAK DISCHARGE, FOR THE CONTRIBUTING CATCHMENT AREA, WITH A MAXIMUM DEPTH OVER THE WEIR OF 0.2m.

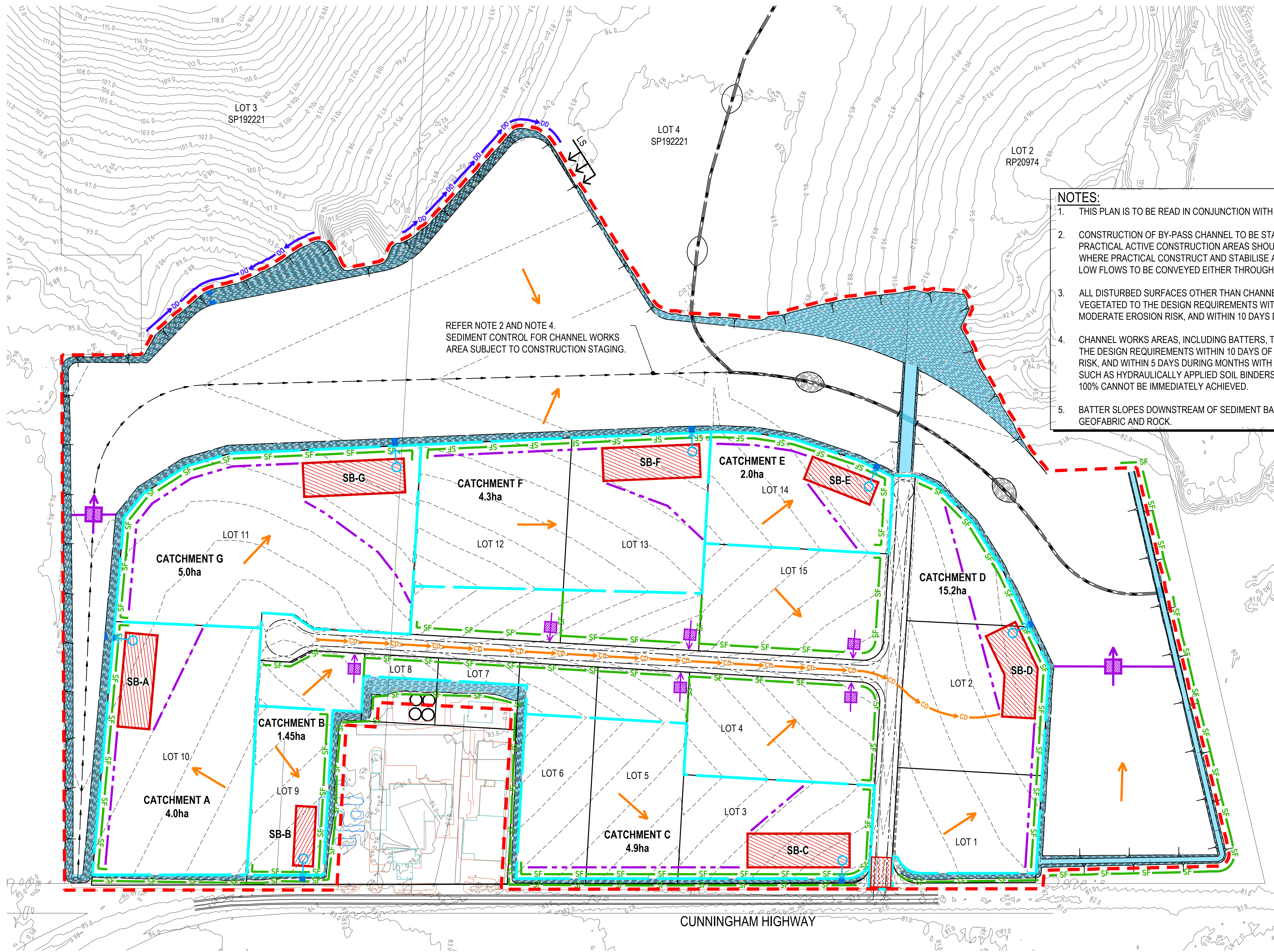
NOTE:
THE EROSION AND SEDIMENT STRATEGY SHOWN ON THIS PLAN IS CONCEPTUAL ONLY BASED ON THE SINGLE PHASE BULK EARTHWORKS CONTOURS PROVIDED. THE CONTRACTOR IS TO PREPARE AND MAINTAIN THEIR OWN EROSION AND SEDIMENT CONTROL PLANS, IN ACCORDANCE WITH THE IECA GUIDELINES, BASED UPON THEIR CHOSEN CONSTRUCTION METHODOLOGY AND SEQUENCING, AND THE PREVAILING SITE CONDITIONS FOR ALL PHASES OF THE WORKS (I.E. CLEARING AND GRUBBING, BULK EARTHWORKS, CIVIL WORKS AND SITE STABILISATION). ALL MEASURES ARE TO BE SUPPLEMENTED WITH MONITORING AND MAINTENANCE ON SITE. ADDITIONAL CONTROLS OR MODIFICATIONS TO WORK PRACTICES MAY BE REQUIRED TO SUIT THE SITE CONDITIONS OR CONSTRUCTION SEQUENCING AS IDENTIFIED THROUGH ON-SITE MONITORING.

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Verified C.D.B.	Date 20/02/2020		Date AHD	Scale AS SHOWN	Size A1
Approved	Date 20/02/2020	Title EROSION AND SEDIMENT CONTROL CONCEPT DEVICE DETAILS	Drawing Number 510357-008-CI-1022		Revision A

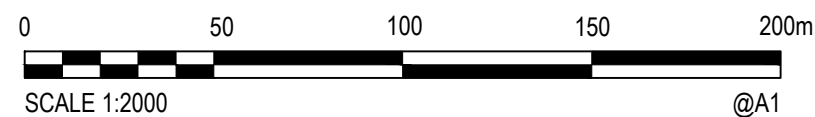


- NOTES:**
1. THIS PLAN IS TO BE READ IN CONJUNCTION WITH NOTES AND LEGEND ON DRG. 510357-008-CI-1020, 1021 AND 1022.
 2. CONSTRUCTION OF BY-PASS CHANNEL TO BE STAGED, WITH STAGING TO BE CONFIRMED BY CONTRACTOR. WHERE PRACTICAL ACTIVE CONSTRUCTION AREAS SHOULD BE ISOLATED OFF-LINE TO EXTERNAL CATCHMENT LOW FLOWS. WHERE PRACTICAL CONSTRUCT AND STABILISE A LOW FLOW DIVERSION CHANNEL TO ALLOW EXTERNAL CATCHMENT LOW FLOWS TO BE CONVEYED EITHER THROUGH OR AROUND ACTIVE CONSTRUCTION AREAS.
 3. ALL DISTURBED SURFACES OTHER THAN CHANNEL WORKS AREAS TO BE EITHER ADEQUATELY SEALED, STABILISED OR VEGETATED TO THE DESIGN REQUIREMENTS WITHIN 20 DAYS OF COMPLETION OF SITE WORKS DURING MONTHS WITH MODERATE EROSION RISK, AND WITHIN 10 DAYS DURING MONTHS WITH HIGH EROSION RISK.
 4. CHANNEL WORKS AREAS, INCLUDING BATTERS, TO BE ADEQUATELY STABILISED (100% COVERAGE) OR VEGETATED TO THE DESIGN REQUIREMENTS WITHIN 10 DAYS OF COMPLETION OF WORKS DURING MONTHS WITH MODERATE EROSION RISK, AND WITHIN 5 DAYS DURING MONTHS WITH HIGH EROSION RISK. ADDITIONAL EROSION CONTROL METHODS, SUCH AS HYDRAULICALLY APPLIED SOIL BINDERS/BLANKETS, MAY NEED TO BE APPLIED IF VEGETATION COVERAGE OF 100% CANNOT BE IMMEDIATELY ACHIEVED.
 5. BATTER SLOPES DOWNSTREAM OF SEDIMENT BASIN TEMPORARY SPILLWAYS TO BE ADEQUATELY STABILISED WITH GEOFABRIC AND ROCK.

NOTE:
THE EROSION AND SEDIMENT STRATEGY SHOWN ON THIS PLAN IS CONCEPTUAL ONLY BASED ON THE SINGLE PHASE BULK EARTHWORKS CONTOURS PROVIDED. THE CONTRACTOR IS TO PREPARE AND MAINTAIN THEIR OWN EROSION AND SEDIMENT CONTROL PLANS, IN ACCORDANCE WITH THE IECA GUIDELINES, BASED UPON THEIR CHOSEN CONSTRUCTION METHODOLOGY AND SEQUENCING, AND THE PREVAILING SITE CONDITIONS FOR ALL PHASES OF THE WORKS (I.E. CLEARING AND GRUBBING, BULK EARTHWORKS, CIVIL WORKS AND SITE STABILISATION). ALL MEASURES ARE TO BE SUPPLEMENTED WITH MONITORING AND MAINTENANCE ON SITE. ADDITIONAL CONTROLS OR MODIFICATIONS TO WORK PRACTICES MAY BE REQUIRED TO SUIT THE SITE CONDITIONS OR CONSTRUCTION SEQUENCING AS IDENTIFIED THROUGH ON-SITE MONITORING.

EROSION AND SEDIMENT CONTROL PLAN
SCALE 1:2000

Rev.	Date	Description	Des.	Verif.	Appd.
B	14/04/2020	FISH MITIGATION MEASURES ADDED	B.J.F.	C.D.B.	C.D.B.
A	20/02/2020	ISSUE FOR APPROVAL	M.D.	C.D.B.	C.D.B.



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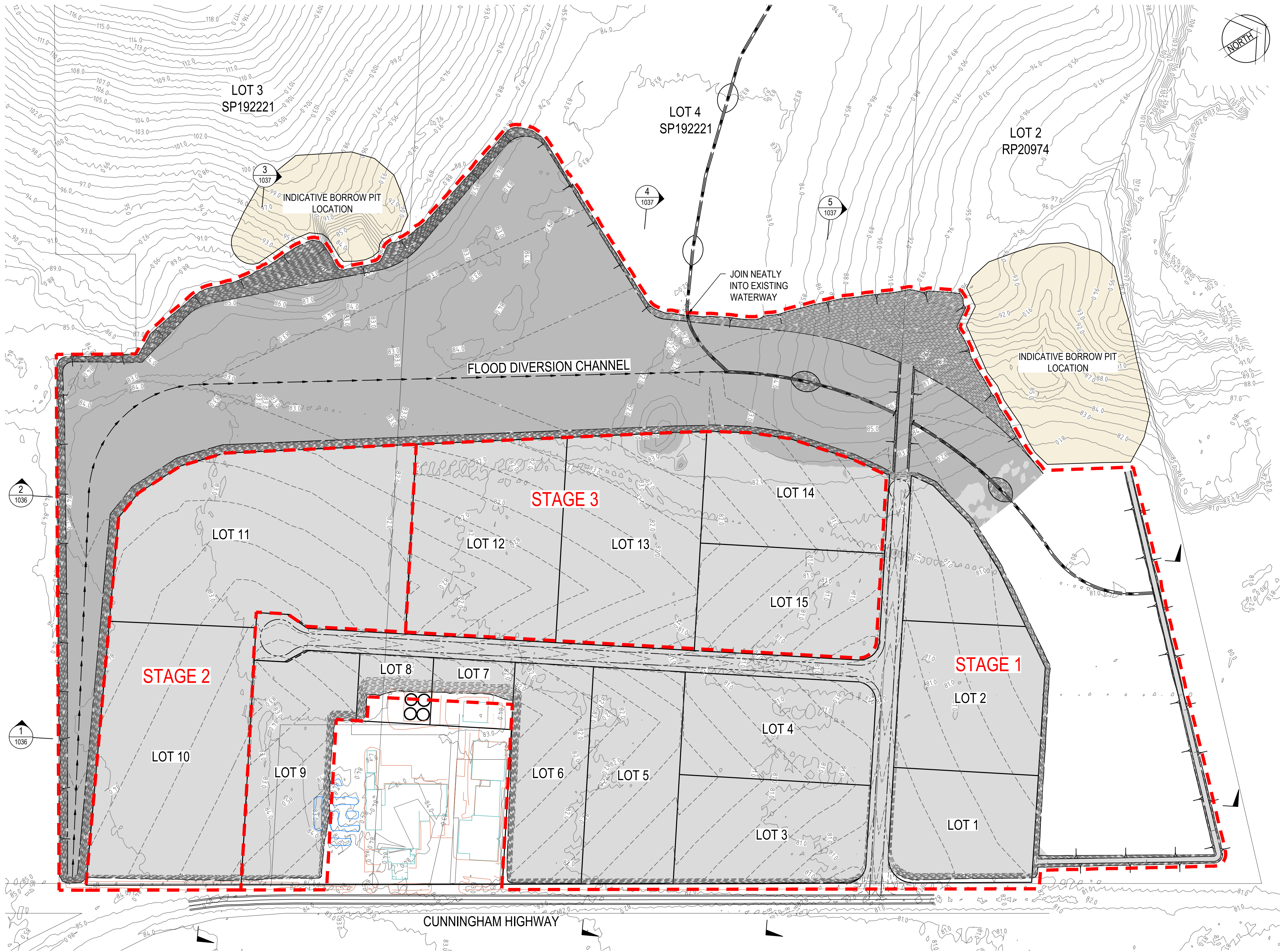
Drawn C.V.	Date 21/01/2020
Checked C.D.B.	Date 20/02/2020
Designed M.D.	Date 20/01/2020
Verified C.D.B.	Date 20/02/2020
Approved CD CPESC 7619	Date 14/04/2020

Client KALFRESH PTY LTD	Project SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT	Title EROSION AND SEDIMENT CONTROL CONCEPT LAYOUT PLAN
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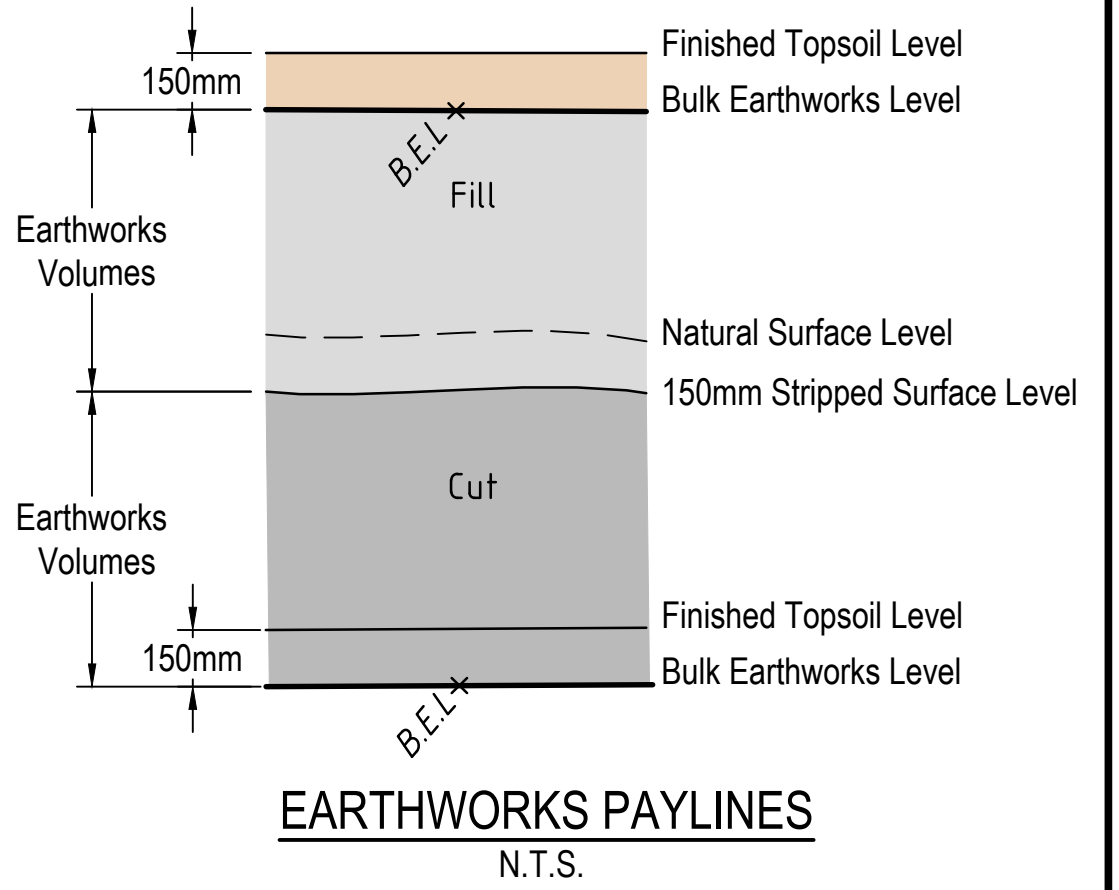
Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES	Datum AHD	Grid	Scale AS SHOWN	Size A1
Drawing Number 510357-008-CI-1023	Revision B			

DATE PLOTTED: 14 April 2020 5:05 PM BY: BEN FALKENHAGEN

XPREFs: XR-SURVEY; XR-DSGN; XR-CONT-EW; XR-CONT-EXT; XR-CUT/FILL
CAD File: \AUS\CF\510357\008-CI-1030-008 - detailed bulk earthworks\Drawings\510357-008-CI-1030.dwg



BULK EARTHWORKS - OVERALL PLAN
SCALE 1:2000



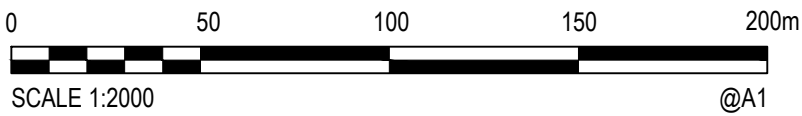
WARNING!
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- BATTER NOTE:**
- ALL BATTER SLOPES AND STABILITY TO BE CONFIRMED BY GEOTECHNICAL CONSULTANTS DURING CONSTRUCTION.
 - BATTERS STEEPER THAN 1 IN 4 (25%) ARE TO BE HYDROMULCHED;
 - BATTERS LESS THAN 1 IN 4 (25%) TO BE MULCHED AND LANDSCAPED;
 - TABLE DRAINS STEEPER THAN 1 IN 4 (25%) ARE TO BE ROCKED;
 - TABLE DRAINS LESS THAN 1 IN 4 (25%) TO BE TURF LINED OR AS SPECIFIED BY SUPERINTENDENT.

NOTE:
REFER DRG. 510357-008-CI-1034 FOR EARTHWORKS VOLUMES.

LEGEND			
	EARTHWORKS CUT		
	EARTHWORKS FILL		
	EXISTING PROPERTY BOUNDARY		
	PROPOSED PROPERTY BOUNDARY		
	STAGE BOUNDARY		
	TOP OF BATTER		
	BOTTOM OF BATTER		
	EARTHWORKS CONTOURS (0.25m)		
	EXISTING CONTOURS (1m)		
	V-DRAIN		

Rev.	Date	Description	Des.	Verif.	Appd.
B	14/04/2020	FISH MITIGATION MEASURES ADDED	B.J.F.	B.W.	J.O.S.
A	20/02/2020	ISSUE FOR APPROVAL	M.D.	B.W.	J.O.S.



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Level 6, Springfield Tower, 145 Sinnathamby Boulevard
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Drawn	C.V.	Date	21/01/2020
Checked	B.W.	Date	20/02/2020
Designed	M.D.	Date	20/01/2020
Verified	J.O.S.	Date	20/02/2020
Approved	RPEQ. 19706	Date	14/04/2020

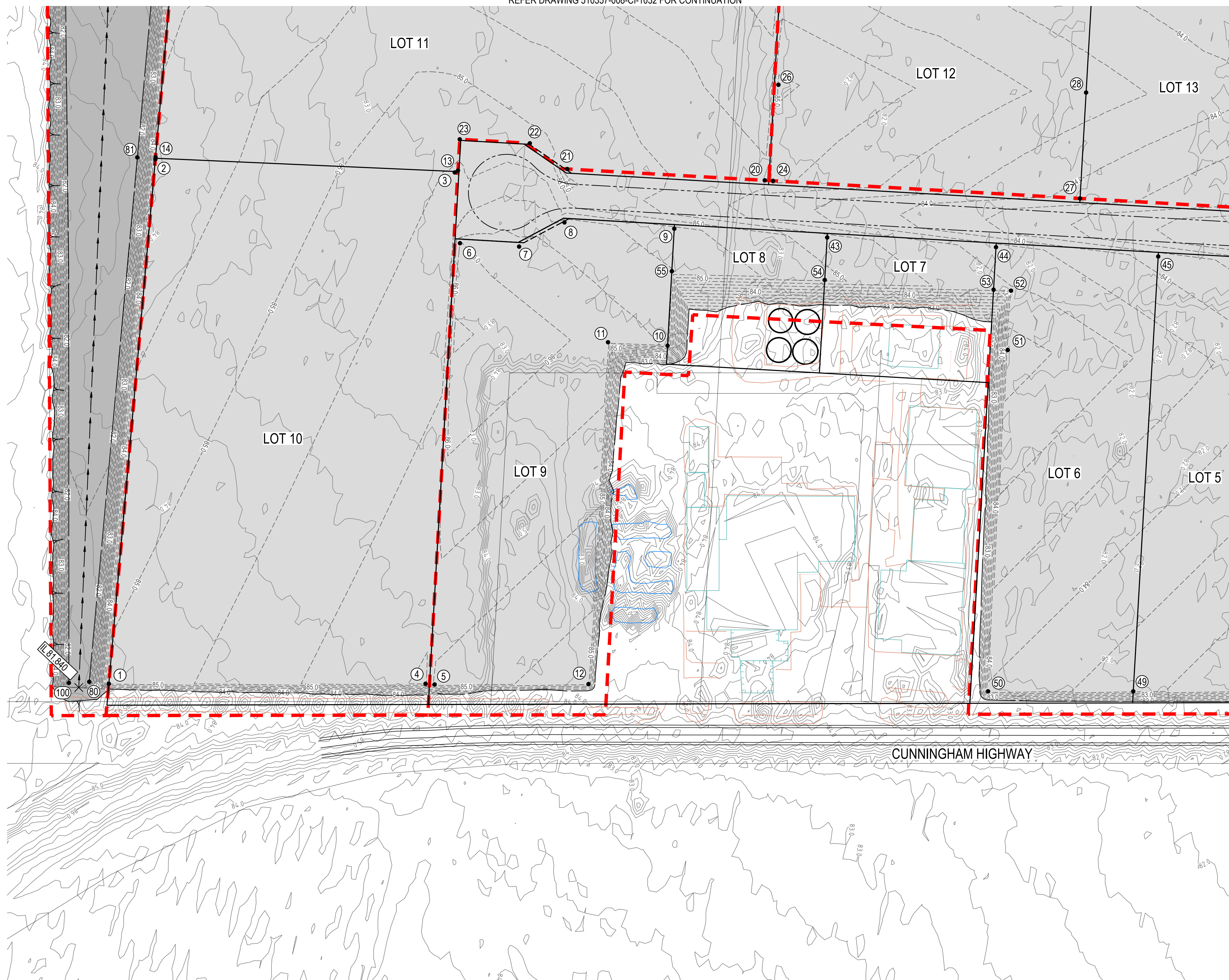
Client	KALFRESH PTY LTD		
Project	SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT		
Title	BULK EARTHWORKS OVERALL LAYOUT PLAN		

Status			
FOR APPROVAL			
NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Datum	GRID	Scale	Size
AHD		AS SHOWN	A1
Drawing Number			Revision
510357-008-CI-1030			B

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- ALL BATTER SLOPES AND STABILITY TO BE CONFIRMED BY GEOTECHNICAL CONSULTANTS DURING CONSTRUCTION.
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- TABLE DRAINS STEEPER THAN 1 IN 4 (25%) ARE TO BE ROCKED;
- TABLE DRAINS LESS THAN 1 IN 4 (25%) TO BE TURF LINED OR AS SPECIFIED BY SUPERINTENDENT.

REFER DRG. 510357-008-CI-1034 FOR
EARTHWORKS VOLUMES AND DRG.
510357-008-CI-1035 FOR SETOUT TABLES.

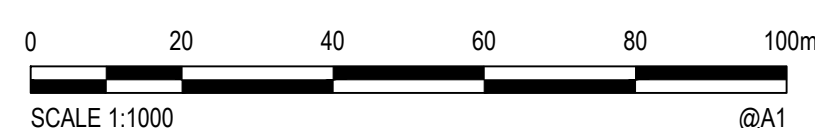


DEEER DRAWING 510357 008 CI 1022 FOR CONTINUATION

CUT AND FILL PLAN

SCALE 1:1000

 EARTHWORKS CUT
 EARTHWORKS FILL
 EXISTING PROPERTY BOUNDARY
 PROPOSED PROPERTY BOUNDARY
 STAGE BOUNDARY
 TOP OF BATTER
 BOTTOM OF BATTER
 EARTHWORKS CONTOURS (0.25m)
 EXISTING CONTOURS (0.25m)
 V-DRAIN

[illegible]

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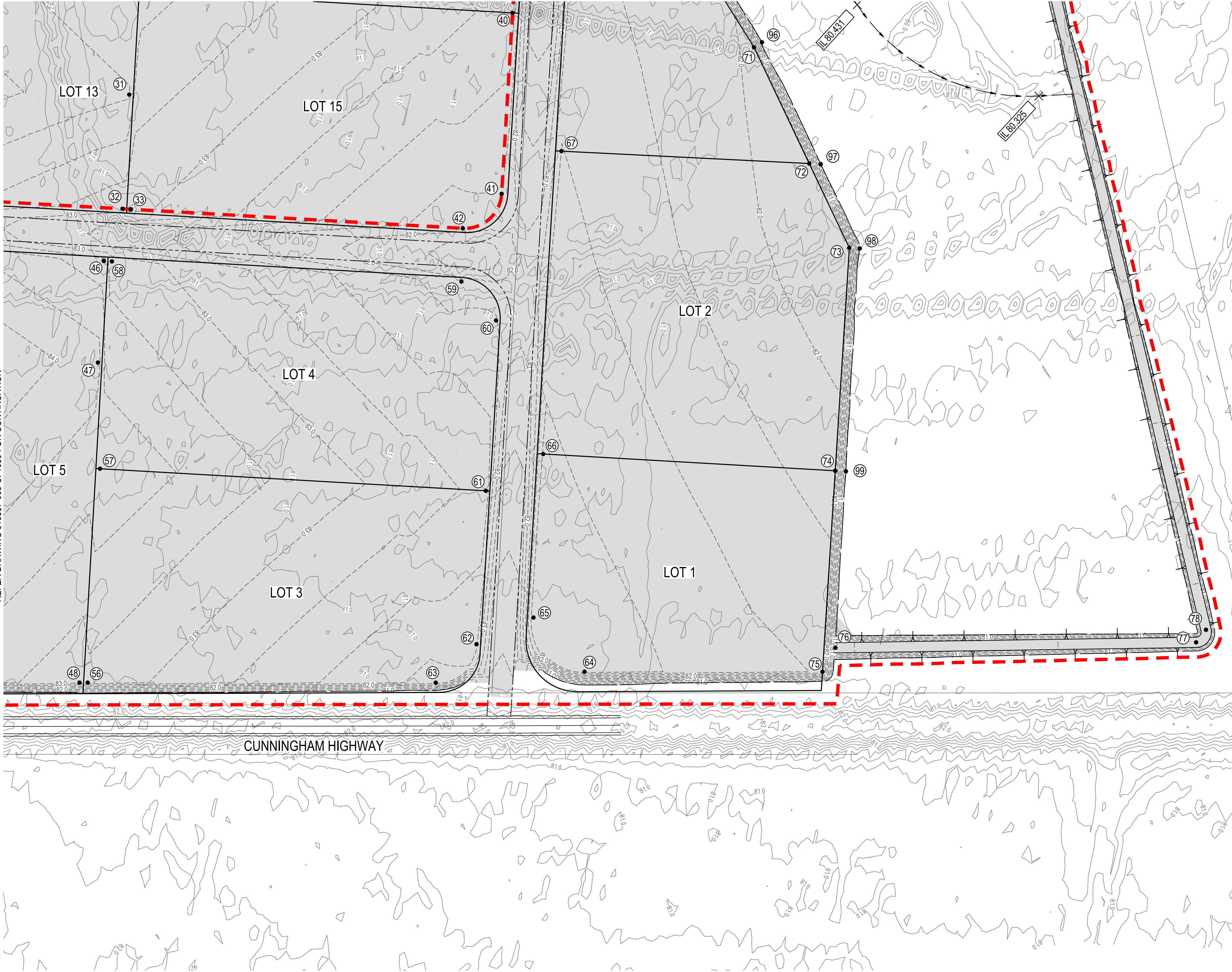
Drawn C.V.	Date 21/01/2020	Client KALFRESH PTY LTD				
Checked B.W.	Date 20/02/2020	Project SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Designed M.D.	Date 20/01/2020		Datum AHD			
Verified J.O.S.	Date 20/02/2020		GRID		Scale AS SHOWN	Size A1
Approved	RPEQ. 19706	Title CUT AND FILL PLAN SHEET 1 OF 4	Drawing Number 510357-008-CI-1031			Revision A
	Date 20/02/2020					

DATE PLOTTED: 19 February 2020 4:39 PM BY: MITCHELL DASS

XREFs: XR-SURVEY: XR-DSGN: XR-CONT-EXST: XR-CONT-BULK-EVRK: XR-CUTFILL
CAD File: L:\510357-008 - DETAILED BULK EARTHWORKS\Drawings\510357-008-CI-1031-1035.dwg

REFER DRAWING 510357-008-CI-1030 FOR CONTINUATION

REFER DRAWING 510357-008-CI-1033 FOR CONTINUATION



CUT AND FILL PLAN
SCALE 1:1000

WARNING!
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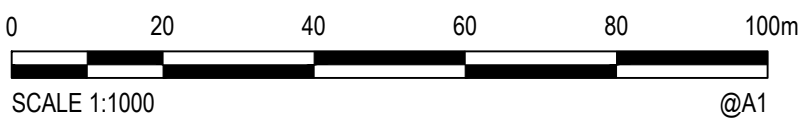
BATTER NOTE:

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NOTE:
REFER DRG. 510357-008-CI-1034 FOR EARTHWORKS VOLUMES AND DRG. 510357-008-CI-1035 FOR SETOUT TABLES.

LEGEND				
	EARTHWORKS CUT			
	EARTHWORKS FILL			
	EXISTING PROPERTY BOUNDARY			
	PROPOSED PROPERTY BOUNDARY			
	STAGE BOUNDARY			
	TOP OF BATTER			
	BOTTOM OF BATTER			
	EARTHWORKS CONTOURS (0.25m)			
	EXISTING CONTOURS (0.25m)			
	V-DRAIN			

Rev.	Date	Description	M.D.	B.W.	J.O.S.
A	20/02/2020	ISSUE FOR APPROVAL			
Rev.	Date	Description	Des.	Verif.	Appd.



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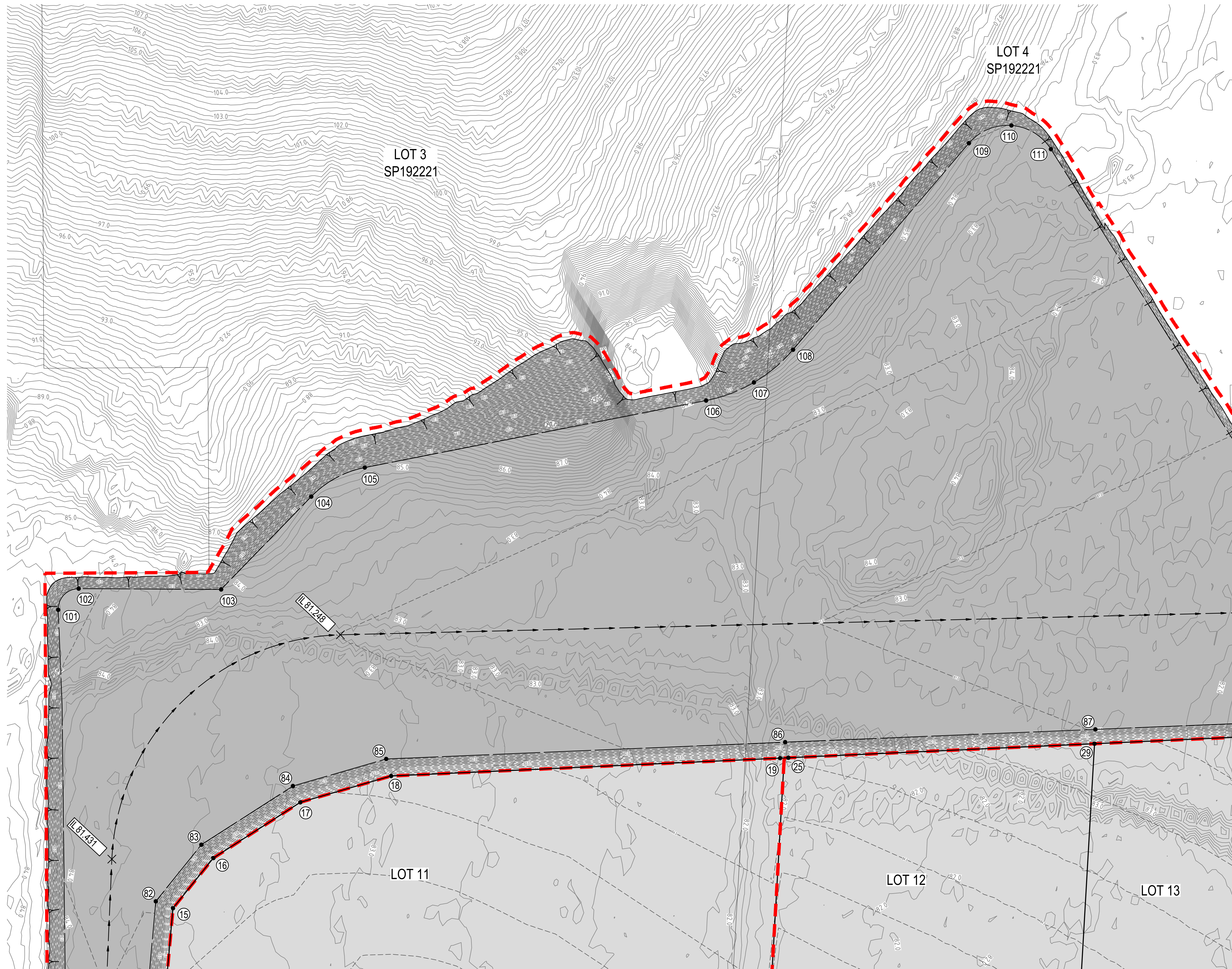


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Drawn	Date
C.V.	21/01/2020
Checked	Date
B.W.	20/02/2020
Designed	Date
M.D.	20/01/2020
Verified	Date
J.O.S.	20/02/2020
Approved	RPEQ. 19706

Client	KALFRESH PTY LTD
Project	SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT
Title	CUT AND FILL PLAN SHEET 2 OF 4
Date	20/02/2020

Status				
FOR APPROVAL				
NOT TO BE USED FOR CONSTRUCTION PURPOSES				
Datum	GRID	Scale	Size	
AHD		AS SHOWN	A1	
Drawing Number				Revision
510357-008-CI-1032				A



REFER DRAWING 510357-008-CI-1033 FOR CONTINUATION

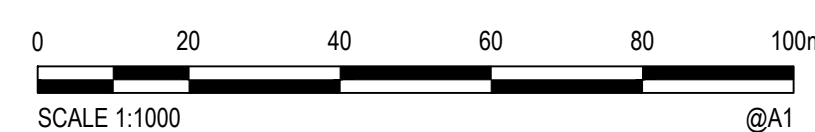
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REFER DRG. 510357-008-CI-1034 FOR
EARTHWORKS VOLUMES AND DRG.
510357-008-CI-1035 FOR SETOUT TABLES.

 EARTHWORKS CUT
 EARTHWORKS FILL
 EXISTING PROPERTY BOUNDARY
 PROPOSED PROPERTY BOUNDARY
 STAGE BOUNDARY
 TOP OF BATTER
 BOTTOM OF BATTER
 EARTHWORKS CONTOURS (0.25m)
 EXISTING CONTOURS (0.25m)
 V-DRAIN

SCALE 1:1000

[illegible]

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Checked B.W.	Date 20/02/2020	Project SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Designed M.D.	Date 20/01/2020		Datum AHD	GRID	Scale AS SHOWN	Size A1
Verified J.O.S.	Date 20/02/2020	Title CUT AND FILL PLAN SHEET 3 OF 4	Drawing Number 510357-008-CI-1033			Revision B
Approved	RPEQ. 19706 Date 14/04/2020					

DATE PLOTTED: 14 April 2020 5:16 PM BY: BEN FALKENHAGEN

EARTHWORKS - STAGE 1

DATE: THU FEB 13 10:02:27 2020
REPORT FILE: EWRK VOL.RPT

VOLUMES FROM TIN "SURVEY STRIP 150" TO TIN "BULK EW" - (WITH PLAN POLYGON "STAGE 1")

CUT VOLUMES ARE NEGATIVE
FILL VOLUMES ARE POSITIVE

TOTAL CUT -401036.614m³
TOTAL FILL 364021.734m³
IE EXCESS OF CUT OVER FILL -37014.880m³

NOTE:

1. A 150mm STRIPPING DEPTH HAS BEEN ASSUMED.
2. THE BULK EARTHWORKS SURFACE HAS BEEN CALCULATED TO 150mm BELOW FINISHED SURFACE LEVEL TO ALLOW FOR TOPSOIL TO BE PLACED ON ALL PADS AND VERGES.
3. EARTHWORKS VOLUMES ARE CALCULATED FROM THE BULK EARTHWORKS SURFACE TO A CALCULATED STRIPPED NATURAL SURFACE 150mm BELOW THE EXISTING NATURAL SURFACE.

EARTHWORKS - STAGE 2

DATE: THU FEB 13 10:02:27 2020
REPORT FILE: EWRK VOL.RPT

VOLUMES FROM TIN "SURVEY STRIP 150" TO TIN "BULK EW" - (WITH PLAN POLYGON "STAGE 2")

CUT VOLUMES ARE NEGATIVE
FILL VOLUMES ARE POSITIVE

TOTAL CUT -1.039m³
TOTAL FILL 160700.409m³
IE EXCESS OF FILL OVER CUT 160699.370m³

NOTE:

1. A 150mm STRIPPING DEPTH HAS BEEN ASSUMED.
2. THE BULK EARTHWORKS SURFACE HAS BEEN CALCULATED TO 150mm BELOW FINISHED SURFACE LEVEL TO ALLOW FOR TOPSOIL TO BE PLACED ON ALL PADS AND VERGES.
3. EARTHWORKS VOLUMES ARE CALCULATED FROM THE BULK EARTHWORKS SURFACE TO A CALCULATED STRIPPED NATURAL SURFACE 150mm BELOW THE EXISTING NATURAL SURFACE.

EARTHWORKS - STAGE 3

DATE: THU FEB 13 10:02:27 2020
REPORT FILE: EWRK VOL.RPT

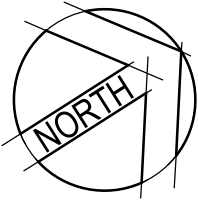
VOLUMES FROM TIN "SURVEY STRIP 150" TO TIN "BULK EW" - (WITH PLAN POLYGON "STAGE 3")

CUT VOLUMES ARE NEGATIVE
FILL VOLUMES ARE POSITIVE

TOTAL CUT -1570.734m³
TOTAL FILL 193713.908m³
IE EXCESS OF FILL OVER CUT 192143.173m³

NOTE:

1. A 150mm STRIPPING DEPTH HAS BEEN ASSUMED.
2. THE BULK EARTHWORKS SURFACE HAS BEEN CALCULATED TO 150mm BELOW FINISHED SURFACE LEVEL TO ALLOW FOR TOPSOIL TO BE PLACED ON ALL PADS AND VERGES.
3. EARTHWORKS VOLUMES ARE CALCULATED FROM THE BULK EARTHWORKS SURFACE TO A CALCULATED STRIPPED NATURAL SURFACE 150mm BELOW THE EXISTING NATURAL SURFACE.



WARNING!

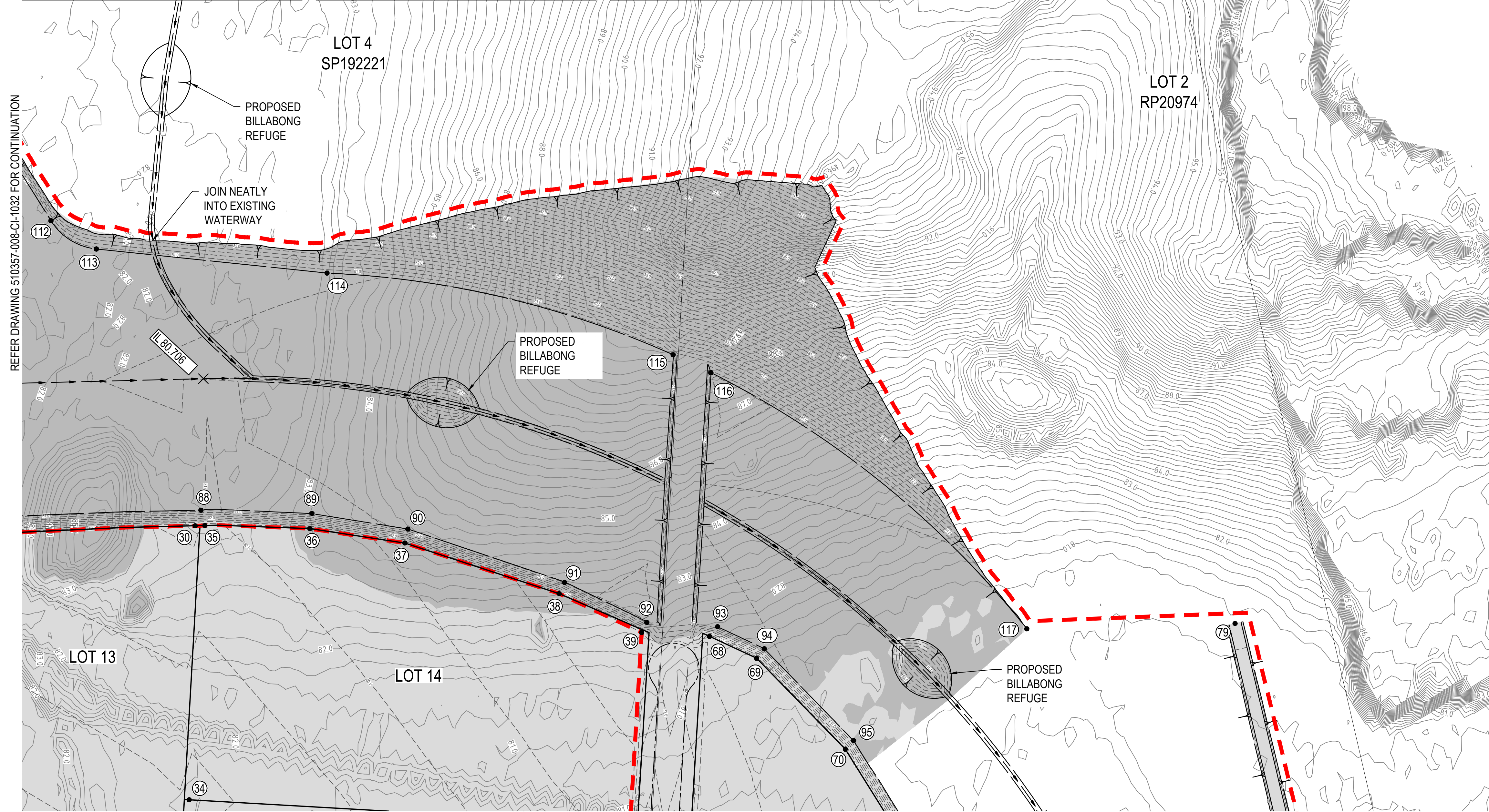
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BATTER NOTE:

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NOTE:

REFER DRG. 510357-008-CI-1034 FOR EARTHWORKS VOLUMES AND DRG. 510357-008-CI-1035 FOR SETOUT TABLES.



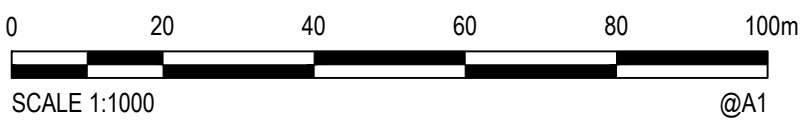
LEGEND

- EARTHWORKS CUT
- EARTHWORKS FILL
- EXISTING PROPERTY BOUNDARY
- PROPOSED PROPERTY BOUNDARY
- STAGE BOUNDARY
- TOP OF BATTER
- BOTTOM OF BATTER
- EARTHWORKS CONTOURS (0.25m)
- EXISTING CONTOURS (0.25m)
- V-DRAIN
- BILLABONG REFUGE - REFER FISH MITIGATION REPORT FOR DETAILS

REFER DRAWING 510357-008-CI-1031 FOR CONTINUATION

CUT AND FILL PLAN

SCALE 1:1000



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Drawn C.V.	Date 21/01/2020	Client KALFRESH PTY LTD
Checked B.W.	Date 20/02/2020	Project SCENIC RIM
Designed M.D.	Date 20/01/2020	Project AGRICULTURAL INDUSTRIAL PRECINCT
Verified J.O.S.	Date 20/02/2020	Title CUT AND FILL PLAN
Approved RPEQ. 19706	Date 14/04/2020	Sheet SHEET 4 OF 4

Status	Datum AHD	GRID	Scale AS SHOWN	Size A1
Drawing Number 510357-008-CI-1034	Revision B			

Rev.	Date	Description	Des.	Verif.	Appd.
B	14/04/2020	FISH MITIGATION MEASURES ADDED	B.J.F.	B.W.	J.O.S.
A	20/02/2020	ISSUE FOR APPROVAL	M.D.	B.W.	J.O.S.

XR-FILES: XR-SURVEY; XR-DSGN; XR-CONT-EXST; XR-CONT-BULK-EWRK; XR-CUTFILL
CAD File: laustf62daa510357008 - detailed bulk earthworksDrawings510357-008-CI-1031-1035.dwg

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6	458397.576	6908353.589	86.008
7	458414.394	6908376.967	85.817
8	458416.298	6908401.874	85.652
9	458447.529	6908445.288	85.330
10	458493.761	6908412.029	85.728
11	458476.824	6908388.485	85.902
12	458611.994	6908291.311	85.071
13	458367.239	6908371.178	85.271
14	458282.887	6908251.139	84.550
15	458200.000	6908314.772	84.420
16	458189.851	6908344.684	84.381
17	458189.654	6908395.346	84.290
18	458202.638	6908439.861	84.182
19	458297.608	6908605.554	83.735
20	458451.270	6908495.010	84.550
21	458395.105	6908416.936	84.964
22	458374.816	6908408.303	85.059
23	458354.889	6908380.602	85.206
24	458453.606	6908498.257	84.811
25	458299.608	6908609.043	83.732
26	458415.644	6908525.567	85.045
27	458540.925	6908619.634	83.914
28	458499.078	6908649.738	84.383
29	458374.360	6908739.460	83.329
30	458443.806	6908859.384	82.957
31	458576.030	6908764.263	83.772
32	458621.459	6908731.581	83.087
33	458623.795	6908734.828	83.063
34	458537.266	6908797.077	83.596
35	458445.872	6908862.819	83.033
36	458470.005	6908898.418	82.856
37	458495.859	6908928.088	82.694
38	458547.267	6908970.292	82.420
39	458578.869	6908990.253	82.267
40	458642.895	6908943.906	82.662
41	458714.702	6908891.927	82.226
42	458718.759	6908866.834	82.087
43	458491.009	6908505.727	84.883
44	458539.014	6908572.457	84.390
45	458585.139	6908636.574	83.916
46	458638.015	6908710.073	83.373
47	458678.423	6908681.004	83.871
48	458805.700	6908589.441	83.087
49	458757.039	6908512.910	83.586
50	458719.165	6908453.343	83.974
51	458584.245	6908550.404	84.888
52	458560.792	6908567.276	84.520
53	458555.821	6908560.366	84.571
54	458507.815	6908493.637	85.064
55	458464.336	6908433.197	85.511
56	458807.850	6908592.822	83.180
57	458722.782	6908654.020	83.704
58	458640.351	6908713.320	83.150
59	458740.342	6908852.314	82.122
60	458765.509	6908856.383	82.264
61	458833.119	6908807.442	82.681
62	458894.011	6908763.363	82.305
63	458899.161	6908736.431	82.159
64	458933.672	6908800.704	82.884
65	458897.924	6908793.861	82.958
66	458833.008	6908840.812	82.800

SETOUT POINTS

PT No.	EASTING	NORTHING	RL.
67	458712.793	6908927.758	82.507
68	458595.115	6909012.868	82.221
69	458612.988	6909024.333	82.179
70	458663.956	6909035.001	82.076
71	458720.404	6909034.518	81.964
72	458782.908	6909026.789	81.840
73	458828.191	6909021.233	81.750
74	458916.519	6908956.897	82.132
75	458996.119	6908898.918	82.477
76	458989.642	6908910.539	81.923
77	459082.021	6909060.822	81.330
78	459079.421	6909068.206	81.308
79	458706.120	6909197.347	80.959
80	458480.822	6908087.096	81.849
81	458278.226	6908243.604	81.609
82	458192.609	6908309.478	81.390
83	458181.157	6908343.232	81.443
84	458180.949	6908396.572	81.360
85	458194.286	6908442.297	81.345
86	458292.312	6908611.828	81.163
87	458368.653	6908743.566	80.996
88	458439.691	6908864.808	80.897
89	458465.209	6908902.452	80.787
90	458491.692	6908932.167	80.750
91	458544.606	6908974.609	80.724
92	458576.505	6908994.256	80.714
93	458593.563	6909017.763	80.546
94	458611.414	6909029.056	80.512
95	458662.816	6909039.714	80.461
96	458720.443	6909039.092	80.440
97	458786.172	6909031.400	80.185
98	458831.202	6909025.367	80.195
99	458919.591	6908961.167	80.379
100	458475.960	6908078.473	81.850
101	458046.262	6908345.800	81.539
102	458042.870	6908359.865	81.540
103	458080.689	6908418.594	81.384
104	458065.956	6908480.330	81.430
105	458068.018	6908510.132	81.438
106	458130.095	6908669.018	81.331
107	458135.185	6908693.565	81.331
108	458131.905	6908718.419	81.345
109	458092.696	6908845.520	81.502
110	458096.520	6908867.803	81.502
111	458116.753	6908877.889	81.453
112	458306.620	6908876.615	80.936
113	458326.378	6908886.083	80.886
114	458385.402	6908960.532	80.769
115	458489.704	6909062.203	80.789
116	458504.181	6909071.312	80.645
117	458662.203	6909124.203	80.598

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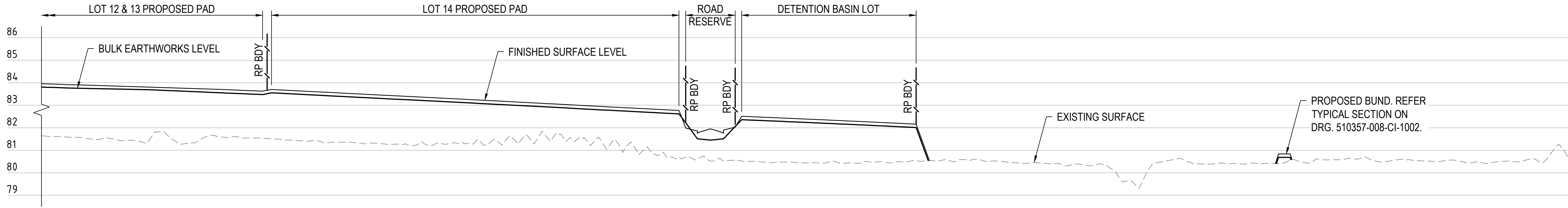
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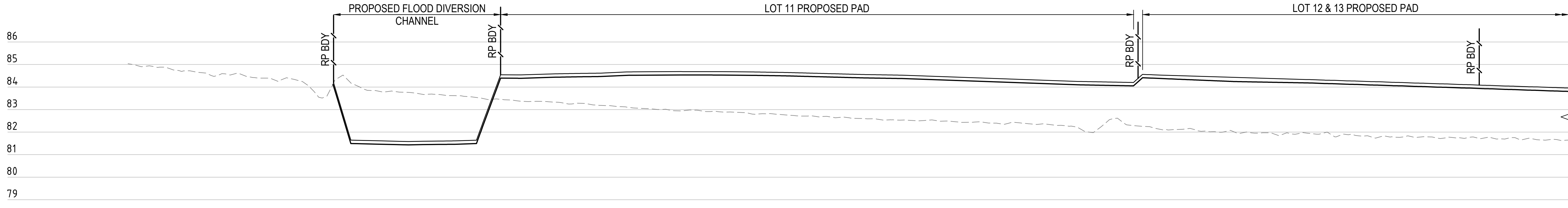
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 6, Springfield Tower, 145 Sinnathamby Boulevard
Springfield Central QLD 4300
Tel: 07 3381 0111 Fax: 07 3470 1241
Web: www.cardno.com.au

Drawn C.V.	Date 21/01/2020	Client KALFRESH PTY LTD			
Checked B.W.	Date 20/02/2020	Project SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT	Status		
Designed M.D.	Date 20/01/2020				
Verified J.O.S.	Date 20/02/2020	Title	Datum AHD		
Approved RPEQ. 19706		BULK EARTHWORKS SETOUT TABLES	Scale AS SHOWN		Size A1
	Date 20/02/2020		Drawing Number 510357-008-CI-1035		Revision A

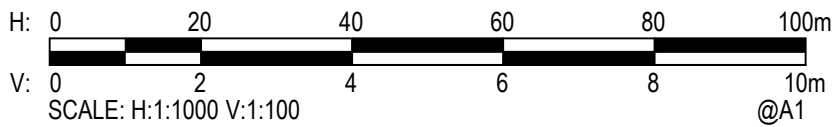
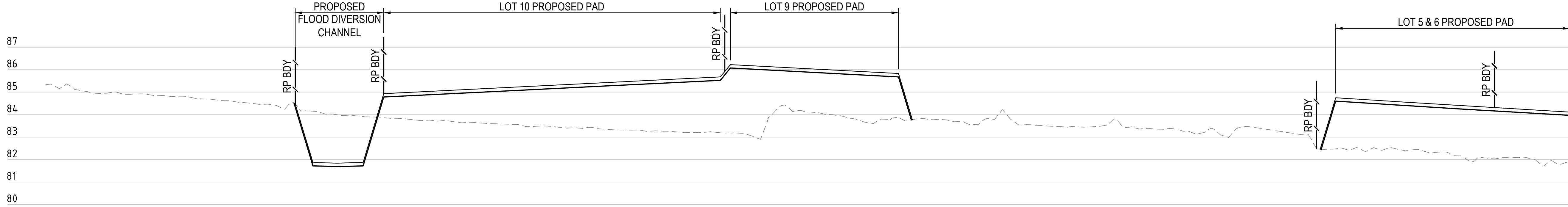
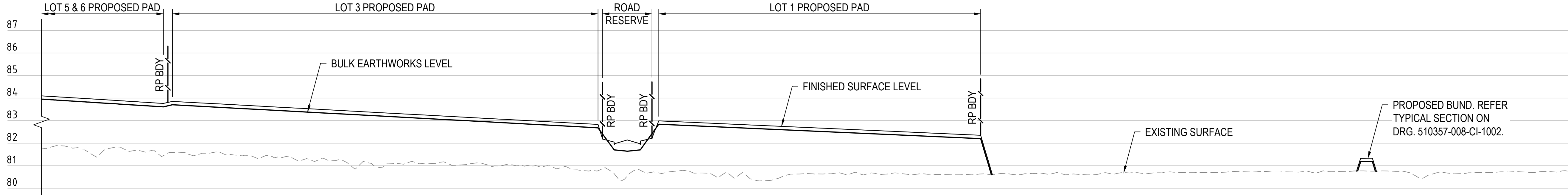
DATE PLOTTED: 14 April 2020 5:19 PM BY: BEN FALKENHAGEN



SECTION 2
SCALE 1:1000 (H); 1:100 (V)
1030



SECTION 1
SCALE 1:1000 (H); 1:100 (V)
1030



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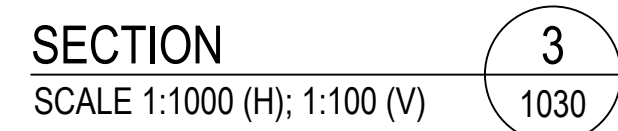
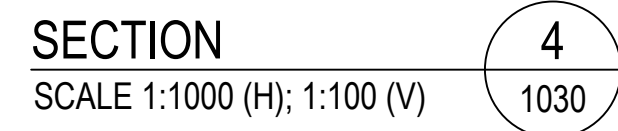
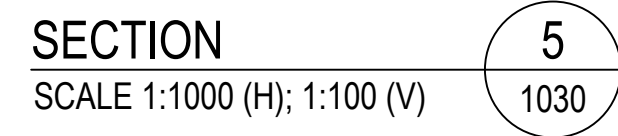
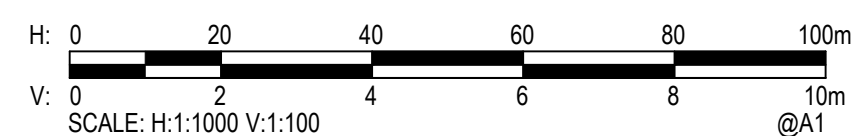


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Springfield Central QLD 4300
Tel: 07 3381 0111 Fax: 07 3470 1241
Web: www.cardno.com.au

Drawn C.V.	Date 21/01/2020	Client KALFRESH PTY LTD
Checked B.W.	Date 20/02/2020	Project SCENIC RIM
Designed M.D.	Date 20/01/2020	AGRICULTURAL INDUSTRIAL PRECINCT
Verified J.O.S.	Date 20/02/2020	Title BULK EARTHWORKS SITE SECTIONS SHEET 1 OF 2
Approved RPEQ. 19706	Date 14/04/2020	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES
		Datum AHD
		Grid
		Scale AS SHOWN
		Size A1
		Drawing Number 510357-008-CI-1036
		Revision B

Rev.	Date	Description	Des.	Verif.	Appd.
B	14/04/2020	FISH MITIGATION MEASURES ADDED	B.J.F.	B.W.	J.O.S.
A	20/02/2020	ISSUE FOR APPROVAL	M.D.	B.W.	J.O.S.

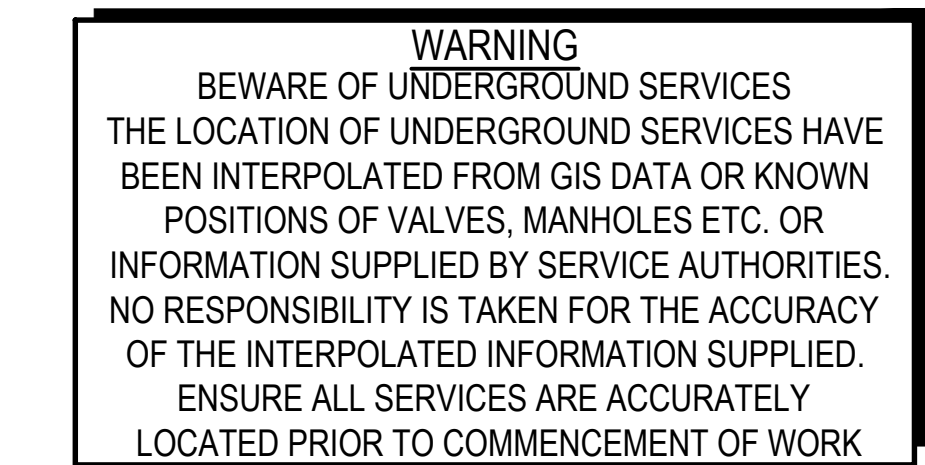
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Checked B.W.	Date 20/02/2020	Project SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Designed M.D.	Date 20/01/2020		Datum	GRID	Scale AS SHOWN	Size A1
Verified J.O.S.	Date 20/02/2020		Drawing Number 510357-008-CI-1037		Revision B	
Approved RPEQ. 19706	Date 14/04/2020	Title BULK EARTHWORKS SITE SECTIONS SHEET 2 OF 2				



PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANG LE
IP 1	0.000	458480.453	6908081.324	81.990	304°54'02.06"			
TC	386.375	458163.569	6908302.390	81.581	304°54'02.06"			
IP 2	472.820	458075.405	6908363.896	81.489		R = 115.000	172.890	86°08'15.96"
CT	559.264	458130.833	6908456.002	81.398	31°02'18.02"			
TC	1071.111	458394.747	6908894.564	80.834	31°02'18.02"			
IP 3	1240.556	458487.745	6909049.104	80.378		R = 400.000	338.889	48°32'32.07"
CC	1410.000	458665.135	6909081.724	79.799	79°34'50.08"			
IP 4	1442.610	458697.278	6909087.634	80.168		R = 400.000	65.219	9°20'31.21"
CC	1475.219	458729.954	6909088.249	80.135	88°55'21.29"			
IP 5	1527.228	458787.212	6909089.326	80.080		R = -100.000	104.017	59°35'50.48"
CT	1579.236	458815.259	6909139.255	80.026	29°19'30.81"			
IP 6	1598.767	458824.825	6909156.282	80.006	29°19'30.81"			

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	458932.915	6908751.250	81.366	305°53'59.81"
IP 2	422.035	458591.049	6908998.719	81.908	305°53'59.81"

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	458747.946	6908885.145	82.077	215°43'51.85"
IP 2	585.000	458406.317	6908410.261	84.970	215°43'51.85"

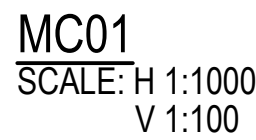
 CONTROL LINE
 EXISTING PROPERTY BOUNDARY
 PROPOSED PROPERTY BOUNDARY



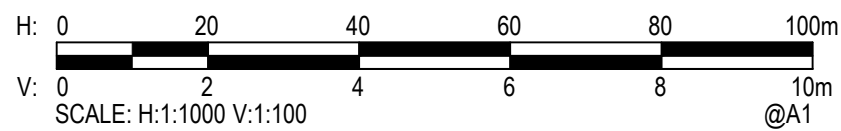
Drawn C.V.	Date 21/01/2020	Client KALFRESH PTY LTD
Checked B.W.	Date 20/02/2020	Project SCENIC RIM
Designed M.D	Date 20/01/2020	AGRICULTURAL INDUSTRIAL
Verified J.O.S.	Date 20/02/2020	
Approved	RPEQ. 19706	Title
	Date 14/04/2020	CONTROL LINE SETOUT PLAN

Status				FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Datum		GRID					
AHD				AS SHOWN		A1	
Drawing Number						Revision	
510357-008-CI-1110						B	

B	14/04/2020	FISH MITIGATION MEASURES ADDED	B.J.F.	B.W.	J.O.S.
A	20/02/2020	ISSUE FOR APPROVAL	M.D.	B.W.	J.O.S.
Rev.	Date	Description	Des.	Verif.	Appd.



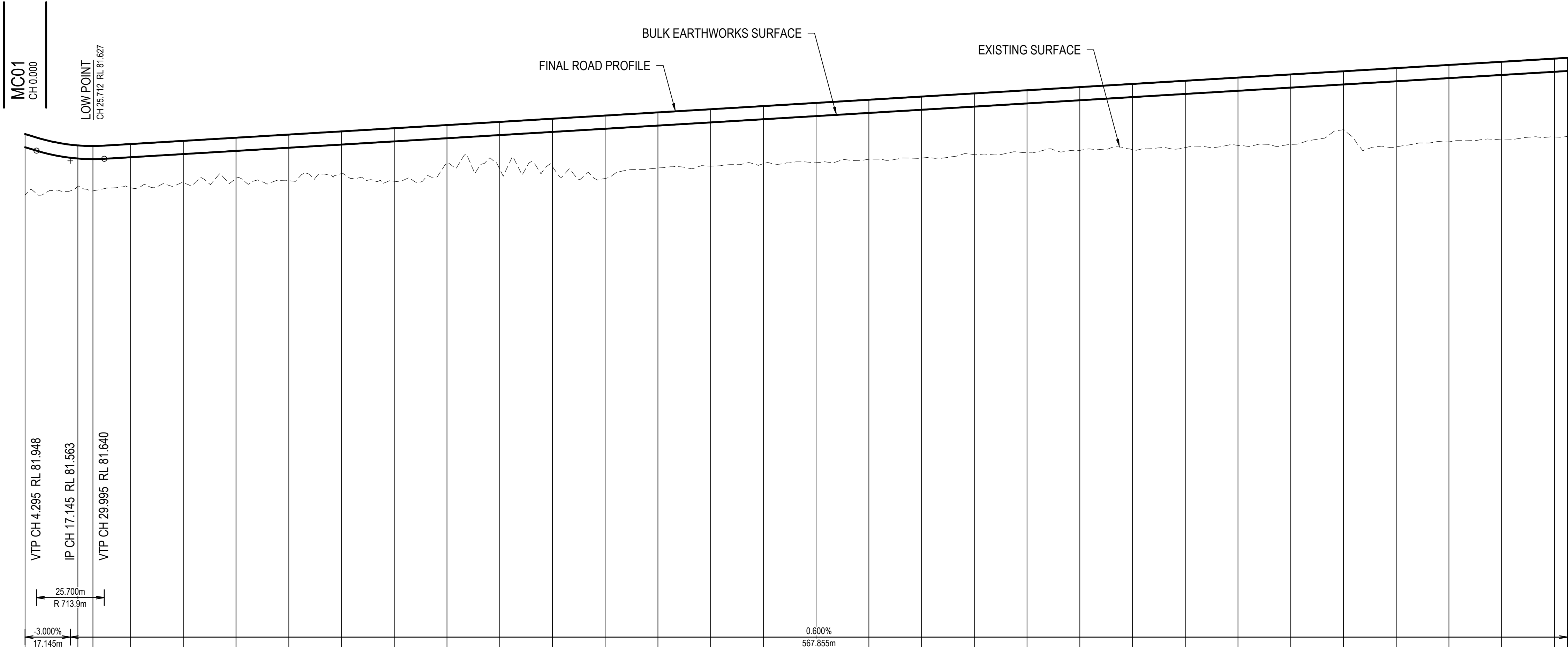
A	20/02/2020	ISSUE FOR APPROVAL		M.D.	B.W.	J.O.S.
Rev.	Date	Description		Des.	Verif.	Appd.



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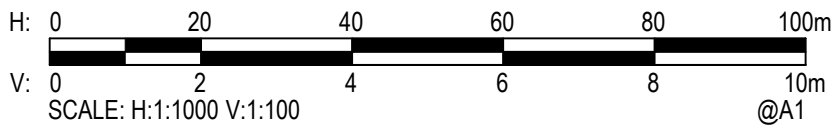
Drawn C.V.	Date 21/01/2020	Client KALFRESH PTY LTD			
Checked B.W.	Date 20/02/2020	Project SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT	Status	FOR APPROVAL	
Designed M.D.	Date 20/01/2020		NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Verified J.O.S.	Date 20/02/2020				
Approved	RPEQ. 19706	Title	AHD	GRID	Scale AS SHOWN
	Date 20/02/2020	MC01 LONGITUDINAL SECTION	Drawing Number	510357-008-CI-1130	Revision A



VERT. CURVE LENGTH (m)
VERT. CURVE RADIUS (m)
VERT. GEOMETRY GRADE (%)
VERT. GEOMETRY LENGTH(m)
DATUM RL 62.000

HORZ. CURVE LENGTH (m) HORZ. CURVE RADIUS (m)	LHS BOXING LEVELS	RHS BOXING LEVELS	EXISTING SURFACE LEVELS INVERT CENTRELINE	CUT / FILL DEPTH TO EXISTING SURFACE	BULK EARTHWORKS LEVELS INVERT CENTRELINE	CONTROL LINE CHAINAGE INVERT CENTRELINE
			80.283	1.794	82.077	0.000
	81.708	81.708	80.599	1.051	81.650	20.000
	81.685	81.685	80.423	1.204	81.627	25.712
	81.758	81.758	80.540	1.160	81.700	40.000
	81.878	81.878	80.729	1.091	81.820	60.000
	81.998	81.998	80.896	1.044	81.940	80.000
	82.118	82.118	80.814	1.246	82.060	100.000
	82.238	82.238	81.081	1.099	82.180	120.000
	82.358	82.358	80.791	1.509	82.300	140.000
	82.478	82.478	81.474	0.946	82.420	160.000
	82.598	82.598	81.249	1.291	82.540	180.000
	82.718	82.718	81.344	1.316	82.660	200.000
	82.838	82.838	80.896	1.884	82.780	220.000
	82.958	82.958	81.291	1.609	82.900	240.000
	83.078	83.078	81.363	1.657	83.020	260.000
	83.198	83.198	81.455	1.685	83.140	280.000
	83.318	83.318	81.492	1.768	83.260	300.000
	83.438	83.438	81.624	1.756	83.380	320.000
	83.558	83.558	81.668	1.832	83.500	340.000
	83.678	83.678	81.799	1.821	83.620	360.000
	83.798	83.798	81.872	1.868	83.740	380.000
	83.918	83.918	81.956	1.904	83.860	400.000
	84.038	84.038	81.991	1.989	83.980	420.000
	84.158	84.158	82.070	2.030	84.100	440.000
	84.278	84.278	82.150	2.070	84.220	460.000
	84.398	84.398	82.185	2.155	84.340	480.000
	84.518	84.518	82.743	1.717	84.460	500.000
	84.638	84.638	82.094	2.486	84.580	520.000
	84.758	84.758	82.282	2.418	84.700	540.000
	84.878	84.878	82.388	2.432	84.820	560.000
	84.998	84.998	82.471	2.469	84.940	580.000
	85.028	85.028	82.491	2.479	84.970	585.000

MC02
SCALE: H 1:1000
V 1:100



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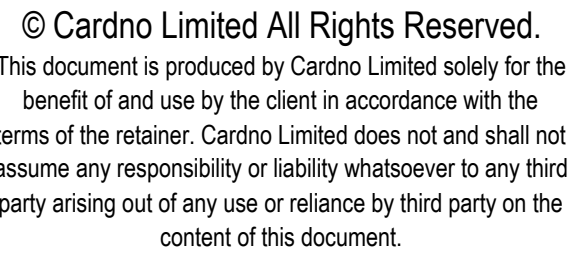


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Level 6, Springfield Tower, 145 Sinnathamby Boulevard
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Tel: 07 3381 0111 Fax: 07 3470 1241
Web: www.cardno.com.au

Drawn C.V.	Date 21/01/2020	Client KALFRESH PTY LTD
Checked B.W.	Date 20/02/2020	Project SCENIC RIM
Designed M.D.	Date 20/01/2020	AGRICULTURAL INDUSTRIAL PRECINCT
Verified J.O.S.	Date 20/02/2020	Title
Approved RPEQ. 19706	Date 20/02/2020	MC02 LONGITUDINAL SECTION
Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Datum AHD	GRID	Scale AS SHOWN
Drawing Number 510357-008-CI-1131	Size A1	Revision A



B	14/04/2020	FISH MITIGATION MEASURES ADDED		B.J.F.	B.W.	J.O.S.
A	20/02/2020	ISSUE FOR APPROVAL		M.D.	B.W.	J.O.S.
Rev.	Date	Description		Des.	Verif.	Appd.



Drawn C.V.	Date 21/01/2020	Client KALFRESH PTY LTD		
Checked B.W.	Date 20/02/2020	Project SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT	Status FOR APPROVAL	
Designed M.D.	Date 20/01/2020		NOT TO BE USED FOR CONSTRUCTION PURPOSES	
Verified J.O.S.	Date 20/02/2020	Title TD01 LONGITUDINAL SECTION SHEET 1 OF 3	Datum AHD	Scale AS SHOWN
Approved RPEQ. 19706			Drawing Number 510357-008-CI-1132	Revision B
	Date 14/04/2020			



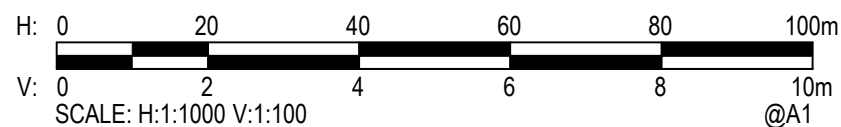
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V: 0 2 4 6 8 10m
SCALE: H:1:1000 V:1:100 @A1

Drawn	Date
C.V.	21/01/2021
Checked	Date
B.W.	20/02/2021
Designed	Date
M.D.	20/01/2021
Verified	Date
J.O.S.	20/02/2021
Approved	RPEQ. 19706
	Date
	14/04/2021

Status				FOR APPROVAL			
NOT TO BE USED FOR CONSTRUCTION PURPOSES							
Datum		GRID		Scale		Size	
AHD				AS SHOWN		A1	
Drawing Number						Revision	
510357-008-CI-1133						B	



B	14/04/2020	FISH MITIGATION MEASURES ADDED		B.J.F.	B.W.	J.O.S.
A	20/02/2020	ISSUE FOR APPROVAL		M.D.	B.W.	J.O.S.
Rev.	Date	Description		Des.	Verif.	Appd.

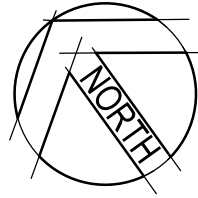
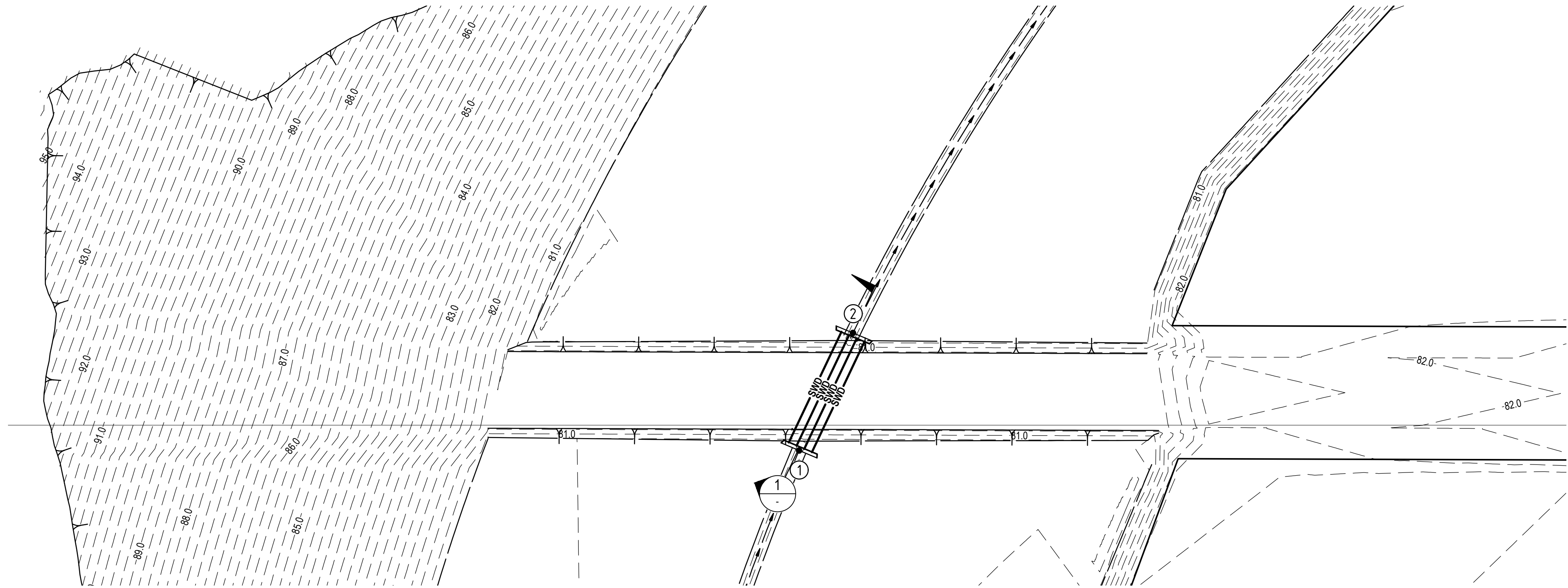


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Checked B.W.	Date 20/02/2020	Project SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT		Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES	
Designed M.D.	Date 20/01/2020	Title TD01 LONGITUDINAL SECTION SHEET 3 OF 3		Datum AHD	
Verified J.O.S.	Date 20/02/2020			Scale AS SHOWN	
Approved RPEQ. 19706	Date 14/04/2020	Drawing Number 510357-008-CI-1134			Revision B

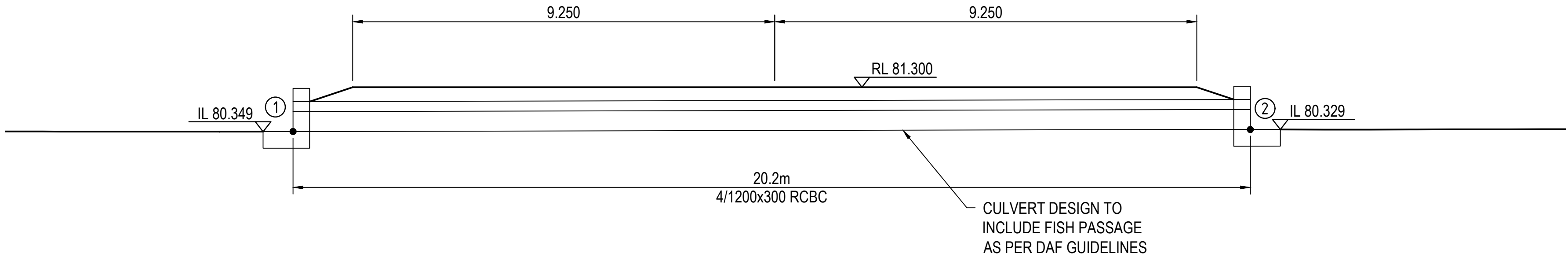
DATE PLOTTED: 14 April 2020 5:32 PM BY: BEN FALKENHAGEN



WARNING
BEWARE OF UNDERGROUND SERVICES
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WEIR LAYOUT PLAN
SCALE 1:500

SETOUT POINTS		
PT No.	EASTING	NORTHING
1	458530.330	6909030.505
2	458548.923	6909041.091

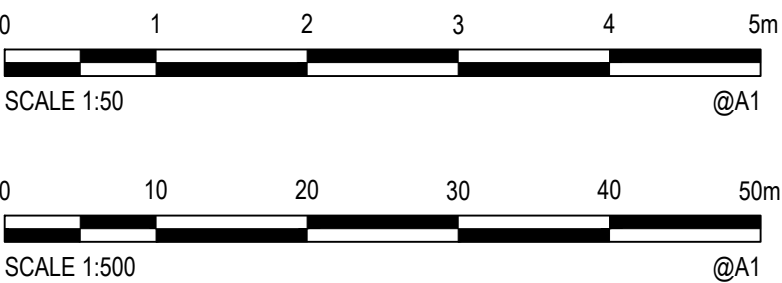


SECTION 1
SCALE 1:50

- LEGEND**
- PROPERTY BOUNDARY
 - TOP OF BATTER
 - BOTTOM OF BATTER
 - SWD
 - STORMWATER CULVERTS
 - DIVERSION CHANNEL
 - FINISHED CONTOURS (0.25m)

XREFs: XR-DSGN, XR-SURVEY, XR-CONT-FINISHED
CAD File: \aust6\62\data\510357-008-CI-1301-1302.dwg

Rev.	Date	Description	Des.	Verif.	Appd.
B	14/04/2020	FISH MITIGATION MEASURES ADDED	B.J.F.	B.W.	J.O.S.
A	20/02/2020	ISSUE FOR APPROVAL	M.D.	B.W.	J.O.S.

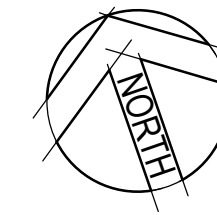


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Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 6, Springfield Tower, 145 Sinnathamby Boulevard
Springfield Central QLD 4300
Tel: 07 3381 0111 Fax: 07 3470 1241
Web: www.cardno.com.au

Drawn	Date	Client
C.V.	21/01/2020	KALFRESH PTY LTD
Checked	Date	Project
B.W.	20/02/2020	SCENIC RIM
Designed	Date	AGRICULTURAL INDUSTRIAL PRECINCT
M.D.	20/01/2020	
Verified	Date	Title
J.O.S.	20/02/2020	WEIR CULVERT PLAN AND DETAILS
Approved	Date	
RPEQ. 19706	14/04/2020	

Status	FOR APPROVAL
Datum	AHD
GRID	
Scale	AS SHOWN
Size	A1
Drawing Number	510357-008-CI-1301
Revision	B



BUND LAYOUT PLAN

SCALE 1:500

Diagram illustrating the cross-section of the bridge deck and drainage system. The deck is 6.0m wide, supported by 8/1200x300 RCBC. The drainage system includes a central channel with a width of 2.50m and a depth of 2.50m. The elevations are marked as follows:

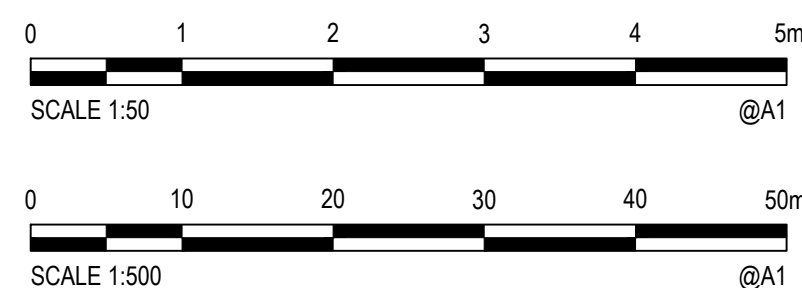
- IL 80.527 (Inlet Level) at the left abutment.
- RL 80.977 (Right Level) at the centerline.
- IL 80.519 (Inlet Level) at the right abutment.

A note indicates: CONTRACTOR TO LOCALLY EXCAVATE DRAIN TO PROVIDE A FREE-DRAINING OUTLET FROM THE CULVERTS.

SECTION 1
SCALE 1:50



- PROPERTY BOUNDARY
- TOP OF BATTER
- BOTTOM OF BATTER
- SWD
- STORMWATER CULVERTS
- DIVISION CHANNEL
- FINISHED CONTOURS (0.25m)

[illegible]

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Drawn C.V.	Date 21/01/2020	Client KALFRESH PTY LTD				
Checked B.W.	Date 20/02/2020	Project SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT	Status FOR APPROVAL			
Designed M.D.	Date 20/01/2020		NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Verified J.O.S.	Date 20/02/2020	Title BUND CULVERT PLAN AND DETAILS	Datum AHD	GRID	Scale AS SHOWN	Size A1
Approved	RPEQ. 19706		Drawing Number 510357-008-CI-1302	Revision B		
	Date 14/04/2020					