

14 October 2021

FDC Fitout & Construction
c/- Anthony Farr
Level 3, 1 Breakfast Creek Road
NEWSTEAD QLD 4006

Dear Mr Farr,

DECISION NOTICE – APPROVAL WITH CONDITIONS – DA2021/15/01

(GIVEN UNDER THE PROVISIONS OF GPC LAND USE PLAN 2012V2)

1. Application Details

This development application was **properly made** to the Gladstone Ports Corporation Limited on 17 May 2021.

Application Number:	DA2021/15/01
Applicant Name:	FDC Construction and Fitout Pty Ltd
Applicant Contact Details:	Anthony Farr FDC Fitout & Construction Level 3, 1 Breakfast Creek Road NEWSTEAD QLD 4006 Email: anthonyf@fdcbuilding.com.au
Approvals Sought (Land Use Plan):	1. Port Application for stormwater, car park, landscaping, outdoor lighting and irrigation
Details of Proposed Development:	Stormwater, car park, outdoor lighting, landscaping and irrigation associated with DA2020/05/01
Location Street Address:	113 Bryan Jordan Drive CALLEMONDAH QLD 4680
Location Real Property Description:	Lease MAAV in Lot 210 on SP120888 on SP311651 and adjacent land for services and infrastructure e.g. stormwater outfall
Land Owner:	Gladstone Ports Corporation Limited
Land Use Plan Precinct:	Strategic Port Land – Parkland and Education Precinct

2. Details Of Proposed Development

In association with the Central Queensland University's School of Manufacturing DA2020/05/01, this development includes stormwater infrastructure within the lease area, car parking, outdoor lighting, landscaping and irrigation infrastructure.

3. Details Of Decision

This development application was **decided** on **14 October 2021**.

This development application is **approved in full with conditions**. These conditions are set out in Attachment 1 and are clearly identified to indicate whether the assessment manager or a concurrence agency imposed them.

This application is **not** taken to have been approved (a deemed approval) under section 64(5) of the *Planning Act 2016*.

4. Details Of Approval

This development approval is a **Development Permit** given for:

- a) Port Application for undertaking work in, on, over or under premises that materially affects the premises or their use including stormwater infrastructure, car park, outdoor lighting, landscaping, irrigation infrastructure, electrical and communications, fire hydrants and all associated excavating or filling (*GPC Land Use Plan 2012v2*).

5. Conditions

This development approval is subject to the conditions in Attachment 1 - Part 1 and Part 2.

6. Further Development Permits

Please be advised that the following development permits are required to be obtained before the development can be carried out:

- (a) Operational work that involves marine plants adjacent to Auckland Inlet;
- (b) Any approvals for building works; and
- (c) Any approvals for plumbing and drainage works.

7. Approved Plans and Specifications

Copies of the following plans, specifications and/or drawings are approved and enclosed in Attachment 2:

Drawing/report title	Prepared by	Date	Reference no.	Version	Approval subject to the following changes

Aspect of development: Port Application (Land Use Plan)					
Carpark					
Roadworks – layout plan	Cardno	8/09/2021	CQU-GLD-015-GN-CIV-040	Issue C	
Roadworks – setout plan	Cardno	8/09/2021	CQU-GLD-015-GN-CIV-041	Issue C	
Roadworks – Details – sheet 1	Cardno	4/02/2021	CQU-GLD-015-GN-CIV-042	Issue A	
Roadworks – Details – sheet 2	Cardno	4/02/2021	CQU-GLD-015-GN-CIV-043	Issue A	
Roadworks – jointing plan	Cardno	4/03/2021	CQU-GLD-015-GN-CIV-045	Issue B	
Linemarking & Signage – layout plan	Cardno	4/02/2021	CQU-GLD-015-GN-CIV-050	Issue A	
GA Ground Level	Peddle Thorp	04/03/2021	CQU-GLD-015-ARC-03-01	Issue B	
Mechanical services – Legend & general notes	Integral	19/02/2021	CQU-GLD-015-00-MEC-001	Issue A	
Stormwater and Fire Hydrant					
SWD – layout plan	Cardno	23/09/2021	CQU-GLD-015-GN-CIV-030	Issue C	
SWD – Details – sheet 1	Cardno	4/02/2021	CQU-GLD-015-GN-CIV-032	Issue A	
SWD – Details – sheet 2	Cardno	8/09/2021	CQU-GLD-015-GN-CIV-033	Issue B	
SWD – Details – sheet 3	Cardno	8/09/2021	CQU-GLD-015-GN-CIV-034	Issue B	
SWD – Longitudinal sections	Cardno	23/09/2021	CQU-GLD-015-GN-CIV-035	Issue C	
Hydraulic Services – Ground level – Drainage services	Integral	29/02/2021	CQU-GLD-015-GN-HYD-300	Issue 6	
Ground slab plan	Cardno	26/05/2021	CQU-GLD-015-GN-STL-20	Issue B	
Footing and ground slab details – sheet 3	Cardno	06/05/2021	CQU-GLD-015-GN-STL-032	Issue B	
ESC					
ESC – layout plan	Cardno	8/09/2021	CQU-GLD-015-GN-CIV-010	Issue B	
ESC – Details – sheet 1	Cardno	4/02/2021	CQU-GLD-015-GN-CIV-012	Issue A	

ESC – Details – sheet 2	Cardno	4/02/2021	CQU-GLD-015-GN-CIV-013	Issue A	
BEWKS – Layout plan	Cardno	8/09/2021	CQU-GLD-015-GN-CIV-020	Issue B	
BEWKS – Sections – sheet 1	Cardno	4/02/2021	CQU-GLD-015-GN-CIV-022	Issue A	
Fire Hydrant					
Hydraulic Services – Legend and general notes	Integral	19/02/2021	CQU-GLD-015-00-HYD-001	Issue 6	
Hydraulic Services – Local site plan	Integral	19/05/2021	CQU-GLD-015-00-HYD-201	Issue 7	
Hydraulic Services – Standard details – sheet 2	Integral	19/02/2021	CQU-GLD-015-GN-HYD-501	Issue 3	
Outdoor Lighting / Electrical / Communications					
Luminaire Drawings Pg 1-6					
Electrical Services – luminaire schedule, legend & general notes	Chess Electrics	29/07/2021	CQU-GLD-015-00-ELE-001	Issue B	
Electrical Services – Schematic sheet 1	Chess Electrics	29/07/2021	CQU-GLD-015-00-ELE-100	Issue B	
Electrical Services – Schematic sheet 1.1	Chess Electrics	29/07/2021	CQU-GLD-015-00-ELE-100.1	Issue A	
Electrical Services – Schematic sheet 1.2	Chess Electrics	29/07/2021	CQU-GLD-015-00-ELE-100	Issue A	
Electrical Services – Schematic sheet 2	Chess Electrics	23/09/2021	CQU-GLD-015-00-ELE-101	Issue C	
Electrical Services – Schematic sheet 3	Chess Electrics	29/09/2021	CQU-GLD-015-00-ELE-102	Issue B	
Electrical Services – Schematic sheet 4	Chess Electrics	29/09/2021	CQU-GLD-015-00-ELE-103	Issue B	
Electrical Services – Schematic sheet 5	Chess Electrics	29/09/2021	CQU-GLD-015-00-ELE-104	Issue B	
Electrical Services – local site plan	Chess Electrics	29/07/2021	CQU-GLD-015-00-ELE-201	Issue D	
Electrical Services – ground level – Lighting & dry fire layout	Chess Electrics	29/07/2021	CQU-GLD-015-GN-ELE-300	Issue B	
Electrical Services – ground level –	Chess Electrics	29/07/2021	CQU-GLD-015-GN-ELE-400	Issue C	

power, communications & security					
Electrical Services – ground level – power, communications & security	Chess Electrics	29/07/2021	CQU-GLD-015-RF-ELE- 401	Issue B	
Install 1 Mva padmount for supply to new CQU campus building	Ergon Energy	21/04/2021	1628172_1	Rev. A	
Traffic Guidance Scheme – TGS No. 21-2859-1	Aaction Traffic	29/09/2021	TGS number 21-2859-1		
Landscaping					
Legend	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-101	Issue A	
Hardscape and furniture schedule	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-102	Issue A	
Plant schedule	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-103	Issue A	
Surface finishes plan – sheet 01	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-301	Issue A	
Surface finishes plan – sheet 02	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-302	Issue A	
Surface finishes plan – sheet 03	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-303	Issue A	
Surface finishes plan – sheet 04	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-304	Issue A	
Surface finishes plan – sheet 05	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-305	Issue A	As amended 14/10/2021
Surface finishes plan – sheet 06	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-306	Issue A	As amended 14/10/2021
Grading and jointing – sheet 01	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-401	Issue A	
Grading and jointing – sheet 02	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-402	Issue A	As amended 14/10/2021
Grading and jointing – sheet 03	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-403	Issue A	
Grading and jointing – sheet 04	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-404	Issue A	
Planting plan – sheet 01	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-601	Issue A	
Planting plan – sheet 02	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-602	Issue A	

Planting plan – sheet 03	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-603	Issue A	
Planting plan – sheet 04	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-604	Issue A	
Planting plan – sheet 05	Peddle Thorp	05/07/2021	CQU-GLD-015-GN-LSS-605	Issue B	
Planting plan – sheet 06	Peddle Thorp	05/07/2021	CQU-GLD-015-GN-LSS-606	Issue B	
Sections – sheet 01	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-801	Issue A	
Sections – sheet 02	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-802	Issue A	
Sections – sheet 03	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-803	Issue A	
Landscape details – sheet 01	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-901	Issue A	
Landscape details – sheet 02	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-902	Issue A	
Landscape details – sheet 03	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-903	Issue A	
Landscape details – sheet 04	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-904	Issue A	As amended 14/10/2021
Landscape details – sheet 05	Peddle Thorp	3/06/2021	CQU-GLD-015-GN-LSS-905	Issue A	
External works sheet 1	Peddle Thorp	5/05/2021	CQU-GLD-015-ARC-06-01	Issue D	
External works sheet 4	Peddle Thorp	5/05/2021	CQU-GLD-015-ARC-06-04	Issue B	
External works sheet 5	Peddle Thorp	6/05/2021	CQU-GLD-015-ARC-06-05	Issue B	
Irrigation					
General information – Cover page – sheet 1	Edwards Irrigation Consulting	04/05/2021	IW-GI-CP-100	IFC01	
General information – General notes – sheet 2	Edwards Irrigation Consulting	04/05/2021	IW-GI-GN-101	IFC01	
Early works – Cover page - sheet 1	Edwards Irrigation Consulting	04/05/2021	IW-EW-CP-300	IFC01	
Early works - sheet 2	Edwards Irrigation Consulting	04/05/2021	IW-EW-SA-301	IFC01	

Early works - sheet 3	Edwards Irrigation Consulting	04/05/2021	IW-EW-SA-302	IFC01	
Early works - sheet 4	Edwards Irrigation Consulting	04/05/2021	IW-EW-SA-303	IFC01	
Early works - sheet 5	Edwards Irrigation Consulting	04/05/2021	IW-EW-SA-304	IFC01	
Irrigation Layouts – Cover page – sheet 1	Edwards Irrigation Consulting	04/05/2021	IW-IL-CP-600	IFC01	
Irrigation Layouts – irrigation layout – sheet 2	Edwards Irrigation Consulting	04/05/2021	IW-IL-SA-601	IFC01	
Irrigation Layouts – irrigation layout – sheet 3	Edwards Irrigation Consulting	04/05/2021	IW-IL-SA-602	IFC01	
Irrigation Layouts – irrigation layout – sheet 4	Edwards Irrigation Consulting	04/05/2021	IW-IL-SA-603	IFC01	
Irrigation Layouts – irrigation layout – sheet 5	Edwards Irrigation Consulting	04/05/2021	IW-IL-SA-604	IFC01	
Automatic Controls – Cover page – sheet 1	Edwards Irrigation Consulting	04/05/2021	IW-AC-CP-700	IFC01	
Automatic Controls – sheet 2	Edwards Irrigation Consulting	04/05/2021	IW-AC-SA-701	IFC01	
Mainline and Valves – sheet 3	Edwards Irrigation Consulting	01/05/2021	IW-AC-SA-702	AO1	
Mainline and Valves – sheet 4	Edwards Irrigation Consulting	04/05/2021	IW-AC-SA-703	IFC01	
Mainline and Valves – sheet 5	Edwards Irrigation Consulting	01/05/2021	IW-AC-SA-704	AO1	
Typical Details – sheet 1	Edwards Irrigation Consulting	04/05/2021	IW-TD-GA-800	IFC01	
Typical Details – sheet 2	Edwards Irrigation Consulting	04/05/2021	IW-TD-GA-801	IFC01	
Typical Details – sheet 3	Edwards Irrigation Consulting	04/05/2021	IW-TD-GA-802	IFC01	

Typical Details – sheet 4	Edwards Irrigation Consulting	04/05/2021	IW-TD-GA-803	IFC01	
Typical Details – sheet 5	Edwards Irrigation Consulting	04/05/2021	IW-TD-GA-804	IFC01	
Other					
General – Locality plan	Cardno	04/02/2021	CQU-GLD-015-GN-CIV-001	Issue A	
General – Notes – sheet 1	Cardno	04/02/2021	CQU-GLD-015-GN-CIV-002	Issue A	
General – Notes – sheet 2	Cardno	04/02/2021	CQU-GLD-015-GN-CIV-003	Issue A	
General – Survey plan	Cardno	04/02/2021	CQU-GLD-015-GN-CIV-005	Issue A	
Transformer, fin & gas store slab plans	Cardno	06/06/2021	CQU-GLD-015-GN-STL-021	Issue B	
General – Locality plan	Cardno	04/02/2021	CQU-GLD-015-GN-CIV-001	Issue A	

12. Currency Period for the Approval

Pursuant to section 85 of the Planning Act, this development approval will lapse at the end of the periods set out below:

- (a) For Port Application this approval lapses 6 years after this approval decision date.

13. Rights of Appeal

No legislated appeal rights are afforded with this decision notice as the application was not made under the provisions of the *Planning Act 2016*.

For further information please contact Judy Horsfall, Planning Advisor, on 07 4976 1314 or the undersigned on 07 4976 1287 or via email planning@gpcl.com.au.

Yours sincerely,



Erin Clark
Principal Planner

- Enc. Attachment 1: Conditions of Approval
Part 1 – Conditions imposed by the assessment manager
Attachment 2: Approved plans and specifications

Attachment 1 Conditions of Approval

PART 1: ASSESSMENT MANAGER CONDITIONS

In general the development proposal is in compliance with the requirements of Gladstone Ports Corporation Limited (GPC). This development approval is subject to each the following conditions which are stated by GPC, the Assessment Manager.

Part 1a: Approval sought under Land Use Plan – Port Application

GENERAL

1. Development must be carried out generally in accordance with the Approved plans, except where modified by conditions of this permit.
2. Unless otherwise stated, all conditions must be complied with and completed prior to the commencement of the development.
3. Where additional “approval” is required under these conditions by the Assessment Manager (GPC) for drawings or documentation the proponent must submit for review, amend to the satisfaction of, and obtain written approval from the Assessment Manager.

Furthermore, the Assessment Manager will require no less than 10 business days, unless otherwise conditioned by the Assessment Manager, to initially assess the drawings or documentation provided prior to the commencement of the works. Should further information be required for assessment, the Assessment Manager will require a further 5 business days to complete the information request assessment and response.

4. The proponent must at its cost and expense, keep and maintain the development footprint, including existing services, in a state that is satisfactory to the Assessment Manager (GPC).

ENGINEERING

5. Upon completion of the works, the proponent must supply GPC with certified “As Constructed” plans for infrastructure in both hard copy (2 of) and electronic (CAD format), which illustrate all infrastructure and services installed on, under or over Port land associated with the activity.
6. “As Constructed” plans must be updated versions of the approved “for construction” plans, where “for construction” plans were submitted.
7. Upon completion of the works the proponent must also certify that the development is constructed as per design and generally in accordance with the approved plans prior to the use commencing. Plans shall be certified by an appropriately qualified and competent person, including RPEQ Engineer or Licenced Certifier.

Infrastructure

8. The communications infrastructure shown in Drawing No. CQU-GLD-015-00-ELE-101 Issue 5 must connect to existing infrastructure at the termination point in the drawing (adjacent the Process Engineering and Light Metal Research Facility (PELM building))

OR

The proponent must obtain any necessary approvals and submit ‘for construction’ drawings for review and approval of the Assessment Manager for new infrastructure past the termination point.

9. The applicant must notify the Assessment Manager (GPC) of damage caused to any port or port user infrastructure or services including, but not limited to, security related devices, buildings, fences, lighting etc., roads, driveways, walkways and underground services or infrastructure, including irrigation infrastructure, as a result of the approved use or during construction. The

proponent must undertake necessary repairs at their expense and to the satisfaction of the Assessment Manager (GPC).

10. Upon completion of the construction works, the proponent must reinstate the property to the same condition prior to the works being undertaken unless agreed to in writing by GPC. This includes replacing damaged lawn with like for like to the satisfaction of the Assessment Manager (GPC).

Landscaping & Rehabilitation

11. Landscaping within the buffer area along the street frontage must not include landform mounds, unless otherwise approved in writing by the Assessment Manager.
12. The proponent must establish and maintain all landscaping and irrigation proposed in approved landscaping drawings, including where adjoining the lease area while the use continues, including replacing failed plantings or irrigation infrastructure in a timely manner.
13. Trees, shrubs or other plants must not be damaged, trimmed or removed, without written approval from the Assessment Manager.
14. Existing irrigation infrastructure must not be damaged, interfered with, or removed without written approval from the Assessment Manager.

Acid Sulphate Soils

15. In the event acid sulphate soils are disturbed/excavated and require treatment on site or any land owned by GPC, a site specific acid sulphate management plan, including treatment locality and volumes and disposal locality, must be submitted to the Assessment Manager for approval prior to such works commencing.

Upon approval of the management plan, the works must be carried out in accordance with this plan and the plan will form part of the Approved plans.

Construction Management

16. The proponent is required to apply for and obtain from GPC a Permit to Dig/Excavate prior to commencing works by contacting, GPC's Port Infrastructure Asset Manager, including for any landscaping, services or infrastructure outside of the lease area.
17. In the event works are required to be carried out outside the lease area, the proponent or their contractor must obtain a Consent to Enter from GPC's Property Advisor prior to works commencing.
18. Civil works associated with high voltage infrastructure must be carried out in accordance with approved Traffic Guidance Scheme TGS number: 21-2859-1 to maintain safe pedestrian access.
19. ESC Drawing no.s CQU-GLD-015-GN-CIV-010, 012 and 013 must apply to all civil/ engineering work locations part of this approval and related approvals, inside and outside the lease area.
20. Excess cut material is not to be stored on GPC land at any time, unless approved in writing by the Assessment Manager.
21. Fill material must be uncontaminated and obtained from a licensed quarry, unless approved in writing by the Assessment Manager.
22. The hours for the construction of the facility (i.e. operation of any machinery and/or other equipment) is to be restricted to between 6.30am and 6:30pm Monday to Friday and 6.30am to 12.30pm Saturday. No works shall be undertaken on Sunday or on public holidays. Any variations to these times will be subject to the written approval of the Assessment Manager.

23. No mud, dirt or other debris is to be tracked onto GPC owned or public roads during the works.
24. Employee and contractor car parking must be provided within the construction site, construction compound and existing broader CQU facility car parks.
25. Construction employees and contractors must not use car parking provided for the Gladstone Marine Centre, Gladstone Marina and Gladstone Ferry Terminal.
26. At all times, maintain and operate an adequate waste disposal service, including the maintenance of refuse bins and associated storage areas so as not to cause an environmental nuisance.
27. Any site lighting used during construction should not impact on the visibility of Navigational Aids utilised for the primary shipping channels nor illuminate a landward glare beyond the site boundary. Lighting must be continually reviewed during construction with respect to navigation and will be revised as required in response to negative impacts as they arise.

ENVIRONMENT

Construction Environmental Management Plan

28. Prior to construction works commencing on site, a Construction Environmental Management Plan (CEMP) specific to these works, is to be submitted to the Assessment Manager (GPC) for approval.

The construction must be undertaken in accordance with the approved CEMP that ensures:

- a. environmental risks, including but not limited to, noise, odour, lighting, dust, are identified, managed and continually assessed in relation to the construction activity ;
- b. that staff are trained and aware of their obligations under the EMP, including a copy of the management plan and development approval available on site at all times;
- c. that reviews of environmental performance are undertaken at least annually; and
- d. any amendments to the EMP, including any listed within these conditions of approval, are to be submitted to GPC for review and approval.

Once approved by the Assessment Manager, the construction activity must be carried out in accordance with this CEMP.

Incident notification

29. At all times, Gladstone Ports Corporation Environment Hotline (07) 4976 1617 is to be notified of the occurrence of any:
 - a. release / spill of contaminants (e.g. fuels / chemicals / sewerage) greater than 250L to land;
 - b. release / spill of contaminants (e.g. fuels / chemicals / sewerage) of any amount to water;
 - c. any environmental complaints received by the holder of this approval; and
 - d. non-compliance with environment related conditions of this approval, or any other environmental approval obtained in relation to the approved activity.

ADVICE NOTES

1. The proponent must comply with the related development approval DA2020/05/01.
2. Where a Permit to Dig/Excavate prior to commencing excavation or digging for the development, the proponent or their contractor is required to apply for and obtain the permit by contacting the Port Infrastructure Asset Manager on 4976 1332 or bartono@gpcl.com.au.
3. Where works are proposed outside the lease area, including an acid sulphate soil treatment site, for the development, the proponent or their contractor is required to apply for and obtain a Consent

to Enter from GPC's Property Specialist via 07 4976 1334 or property@gpcl.com.au prior to works commencing.

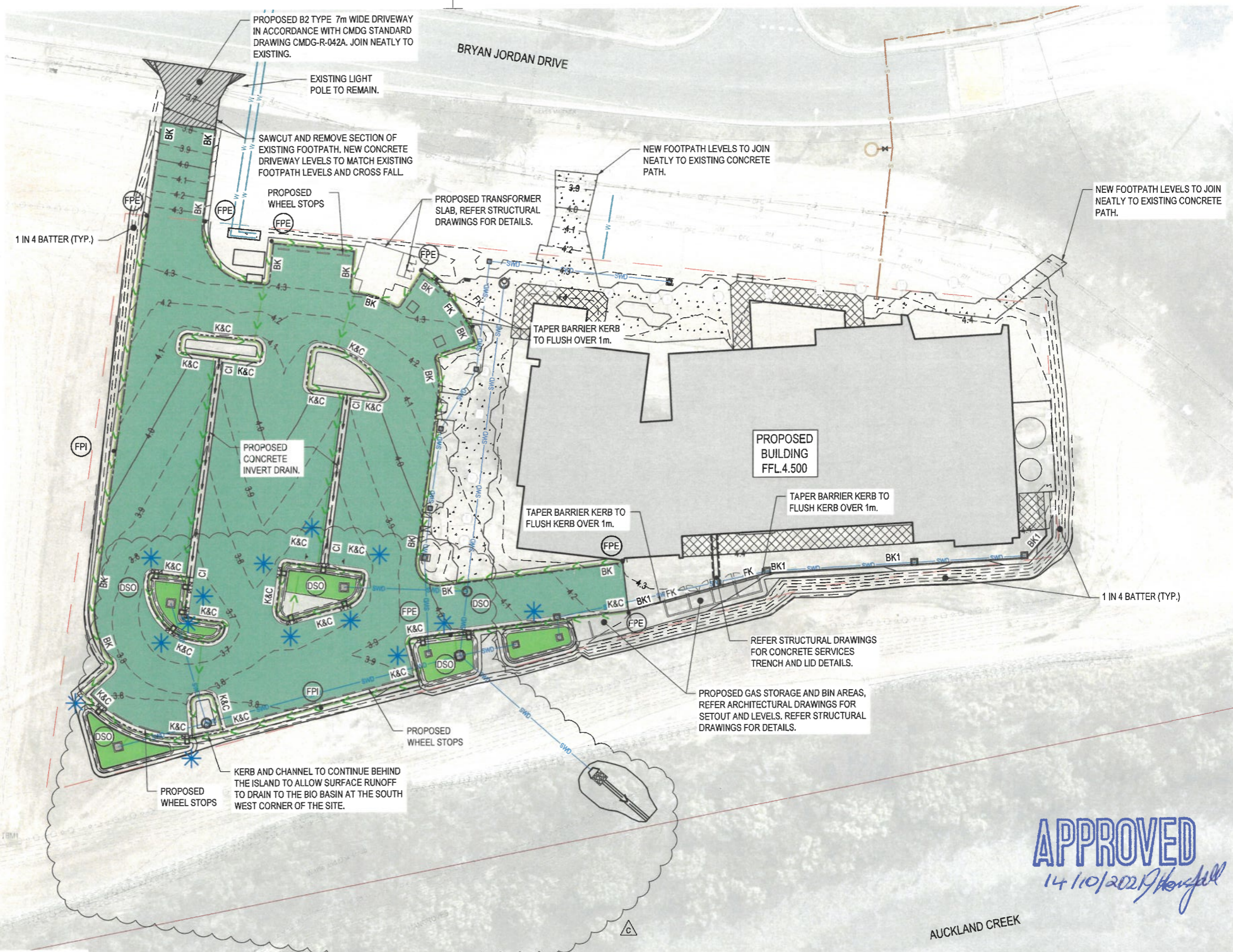
4. All other relevant approvals must be obtained before commencement of the development or operation of the development, including any Building works or Plumbing and drainage works and Operational works involving marine plants.
5. The *Environmental Protection Act 1994* states that a person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm. Environmental harm includes environmental nuisance. In this regard persons and entities, involved in the civil, earthworks, construction, and operational phases of this development, are to adhere to their 'general environmental duty' to minimise the risk of causing environmental harm.
6. This decision notice does not represent an approval to commence Building work or plumbing and drainage work.
7. Where the Applicant is required to submit further documentation to the Assessment Manager, this is to be directed to the Planning section at planning@gpcl.com.au, including reference to the allocated development application number.

Attachment 2 Approved Plans and Specifications

LEGEND

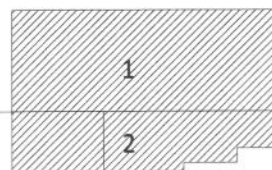
- 4.00 PROPOSED CONTOURS (0.1m INTERVAL)
- BK PROPOSED BARRIER KERB IN ACCORDANCE WITH CMDG STD DRG CMDG-R-060A
- K&C PROPOSED BARRIER KERB AND CHANNEL TYPE 1 IN ACCORDANCE WITH CMDG STD DRG CMDG-R-060
- BK1 TYPE '3' BARRIER KERB REFER DRG CQU-ROK-015-GN-CIV-042 FOR DETAIL
- CI PROPOSED TYPE '7' CONCRETE INVERT (600 WIDE) REFER CMDG STD DRG CMDG-R-060
- FK PROPOSED TYPE '10' FLUSH KERB REFER CMDG STD DRG CMDG-R-060
- PROPOSED KERB RAMP REFER CMDG STD DRG CMDG-R-050
- 450mm WIDE OPENING IN KERB AND CHANNEL AND FOREBAY. REFER DRG CQU-GLD-015-GN-CIV-032 FOR DETAILS
- PROPOSED B2 TYPE 7m WIDE DRIVEWAY IN ACCORDANCE WITH CMDG STANDARD DRAWING CMDG-R-042A
- PROPOSED PAVEMENT - TYPE A REFER CQU-GLD-015-GN-CIV-042 FOR DETAIL
- PROPOSED PAVEMENT - TYPE B REFER CQU-GLD-015-GN-CIV-042 FOR DETAIL. REFER LANDSCAPE ARCHITECT DRAWINGS FOR LEVELS, FINISH AND EXTENT
- PROPOSED PAVEMENT - TYPE C REFER CQU-GLD-015-GN-CIV-042 FOR DETAIL
- PROPOSED RELIEVING SLAB REFER STRUCTURAL DRAWINGS FOR DETAILS. REFER ARCHITECTURAL DRAWINGS FOR LEVELS, FINISH AND EXTENT
- PROPOSED BUILDING
- PROPOSED PAVEMENT SIDE DRAIN REFER DRG CQU-GLD-015-GN-CIV-043 FOR DETAILS
- FPS FLUSH POINT AT DRAINAGE STRUCTURE REFER DRG CQU-GLD-015-GN-CIV-043 FOR DETAILS
- DSO SIDE DRAIN OUTLET REFER DRG CQU-GLD-015-GN-CIV-043 FOR DETAILS
- FPE FLUSH POINT AT END OF LINE REFER DRG CQU-GLD-015-GN-CIV-043 FOR DETAILS
- FPI INTERMEDIATE FLUSH POINT REFER DRG CQU-GLD-015-GN-CIV-043 FOR DETAILS

DENOTES PROPOSED KERB WITH 200mm DEEP EXTENSION ADJACENT TO BIO-BASIN. REFER DRAWING CQU-GLD-015-GN-CIV-032 FOR TYPICAL DETAIL.



APPROVED
14/10/2021 *Horsfall*

KEY PLAN



FOR CONSTRUCTION

AMENDMENTS			
No	Description	Date	By
A	ISSUED FOR CONSTRUCTION	04/02/21	LG
B	KERB TYPE AMENDED - GAS STORAGE	04/03/21	LG
C	DRAINAGE OUTLET AMENDMENTS	07/09/2021	LG

Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au

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Cardno Project No. A12075

CONSULTANTS
Architect: **Peddie Thorp** +61 7 4046 5900
Structural Engineer: **Cardno** +61 7 3369 9822
Mechanical Engineer: **Integral Group** +61 7 3917 8888
Electrical Engineer: **Integral Group** +61 7 3917 8888
Hydraulic Engineer: **Integral Group** +61 7 3917 8888
Certifier: **Knibco** +61 7 3852 2080
Landscape Architect: **Tract** +61 7 3002 6400
Civil Engineer: **Cardno** +61 7 3369 9822

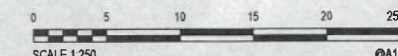
CLIENT
CQ University AUSTRALIA

CQU DRAWING NO.
CQU-GLD-015-GN-CIV-040

FDC
FDC Construction & Fitout

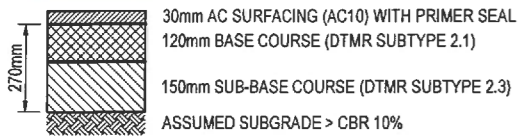
PROJECT
CQ UNIVERSITY - GLADSTONE SCHOOL OF MANUFACTURING
DRAWING
ROADWORKS LAYOUT PLAN

AUTHORISED SIGNATURE	RPEQ 22015 DATE 04-02-2021
A1 SCALE (at A1) As Shown	PROJ. NO. 450045
AUTHORISED LG	DATE 4/02/2021
DRAWING NO. CQU-GLD-015-GN-CIV-040	ISSUE C

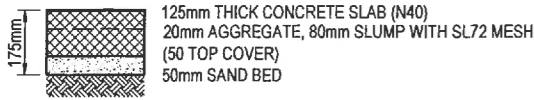


PAVEMENT DETAILS

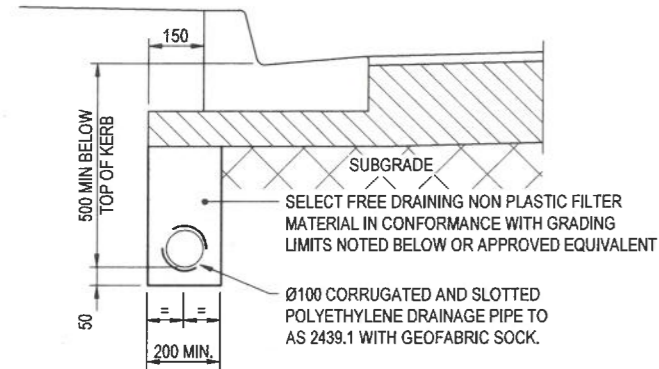
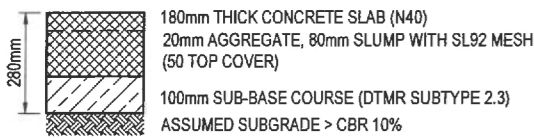
TYPE A



TYPE B



TYPE C



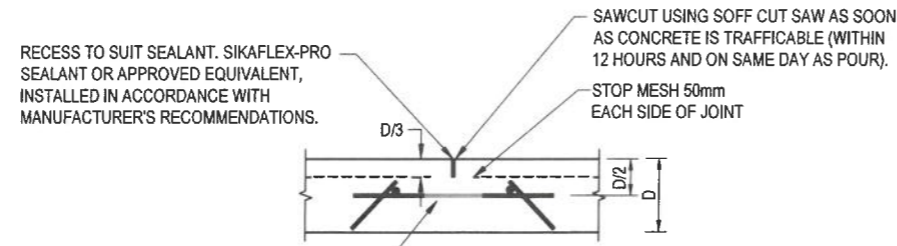
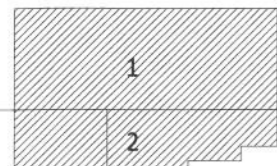
PAVEMENT SIDE DRAIN DETAIL
1 : 10 AT A1

NOTE
PAVEMENT & KERB TYPE SHOWN ARE INDICATIVE ONLY. SIDE DRAINS TO BE PROVIDED BENEATH ALL KERB / KERB & CHANNEL PROFILES AND AT LOCATIONS NOMINATED ON ROADWORKS LAYOUT PLANS.

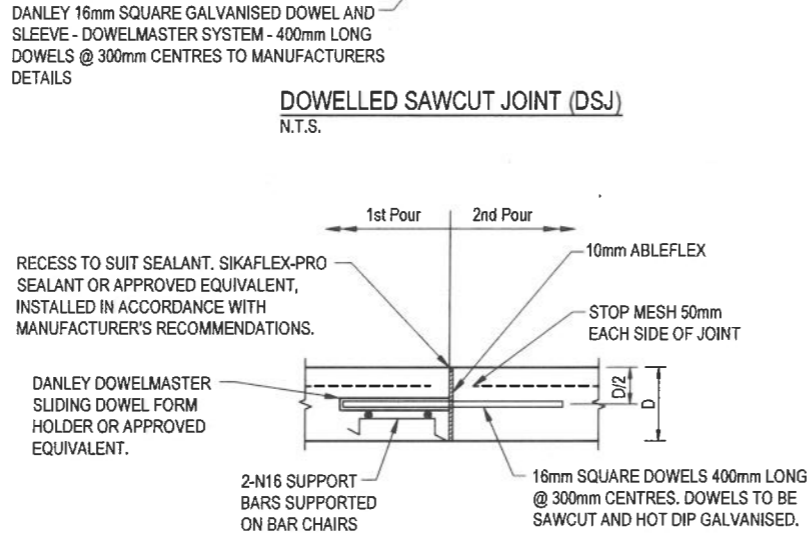
RECOMMENDED FILTER MATERIAL GRADING

AS. SEIVE SIZE (mm)	% PASSING BY MASS
9.50	100
4.75	90-100
1.18	45-80
0.300	10-30
0.150	0-10
0.075	0-1

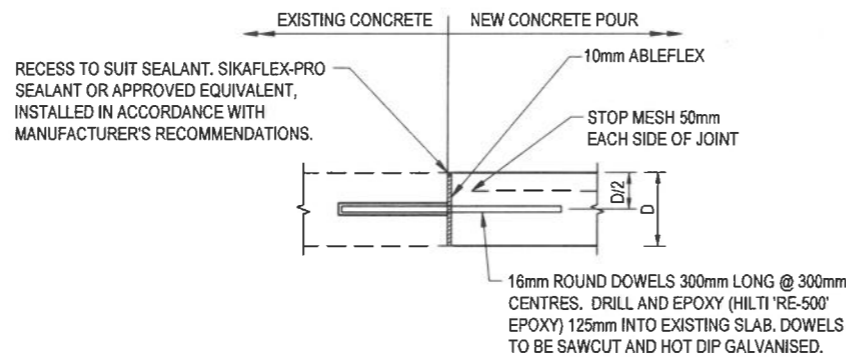
KEY PLAN



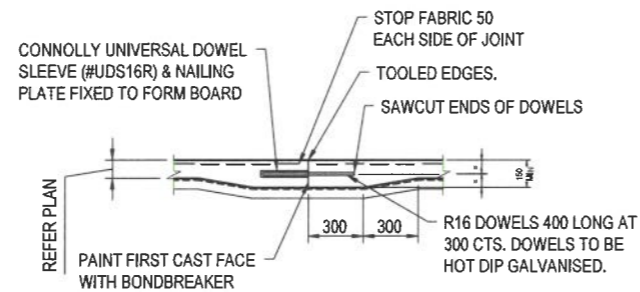
DOWELLED SAWCUT JOINT (DSJ)
N.T.S.



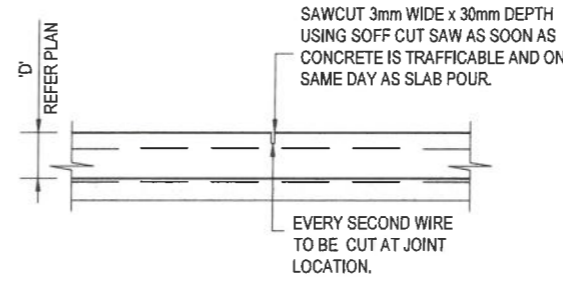
DOWELLED EXPANSION JOINT (DEJ)
N.T.S.



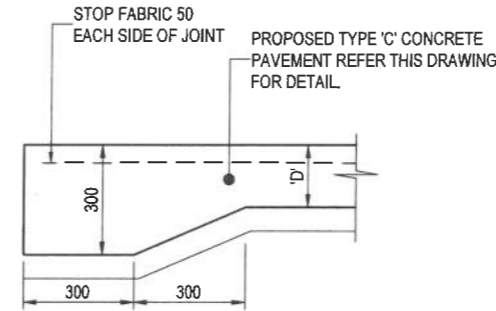
DOWEL JOINT INTO EXISTING SLAB
N.T.S.



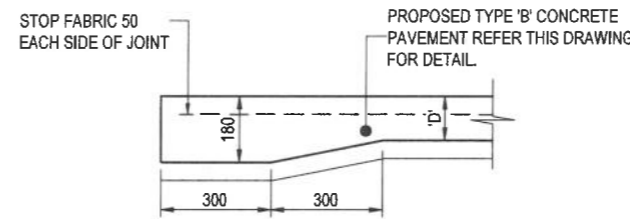
DOWELLED CONSTRUCTION JOINT (DCJ)
SCALE 1:20
WHERE SLAB THICKNESS IS GREATER THAN 150 NO THICKENING REQUIRED.



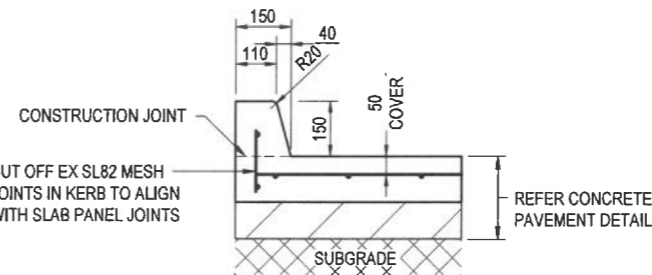
CONCRETE FOOTPATH SAWN JOINT (SJ)



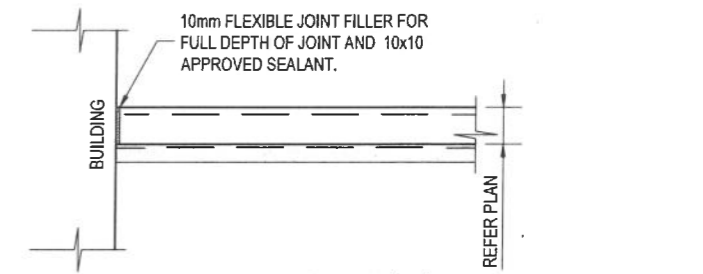
TYPE 'C' CONCRETE PAVEMENT EDGE THICKENING DETAIL (ET1)
1 : 10 AT A1



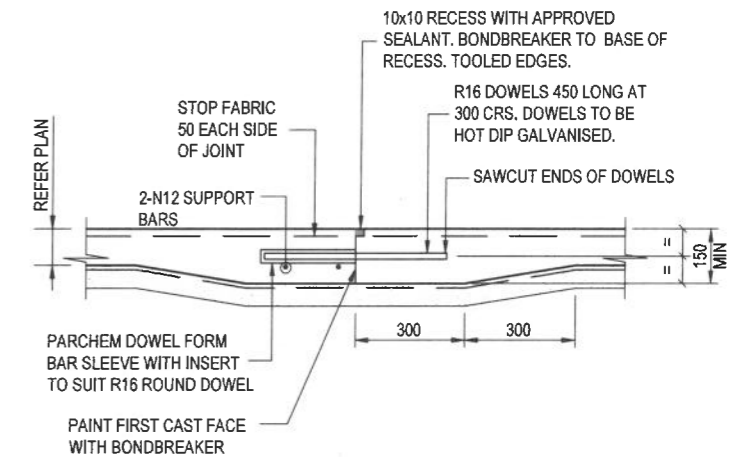
TYPE 'B' CONCRETE PAVEMENT EDGE THICKENING DETAIL (ET2)
1 : 10 AT A1



BARRIER KERB TYPE 1 DETAIL (BK1)
1 : 10 AT A1
TYPE '3' BARRIER KERB
REFER CMDG STD DRG CMDG-R-060

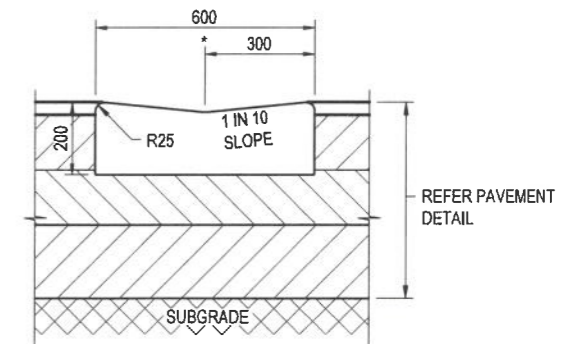


CONCRETE BUTT JOINT (BJ)



CONCRETE FOOTPATH DOWEL JOINT (DJ)
WHERE SLAB THICKNESS IS GREATER THAN 150 NO THICKENING REQUIRED.

APPROVED
14/10/2021 [Signature]



KERB INVERT DETAIL (KI)
1 : 10 AT A1
TYPE 'B' CONCRETE INVERT (600 WIDE)
REFER CMDG STD DRG CMDG-R-060
* = NOMINAL FACE OF KERB & SETOUT POINT

FOR CONSTRUCTION

AMENDMENTS

No	Description	Date	By
A	ISSUED FOR CONSTRUCTION	04/02/21	LG

Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au
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Cardno Project No. A12075

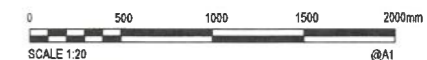
CONSULTANTS

Architect: **Peddie Thorp +61 7 4046 5900**
Cardno +61 7 3369 9822
Structural Engineer: **Cardno +61 7 3369 9822**
Mechanical Engineer: **Integral Group +61 7 3917 8888**
Electrical Engineer: **Integral Group +61 7 3917 8888**
Hydraulic Engineer: **Integral Group +61 7 3917 8888**
Civil Engineer: **Knisco +61 7 3852 2080**
Landscape Architect: **Tract +61 7 3002 6400**
Civil Engineer: **Cardno +61 7 3369 9822**

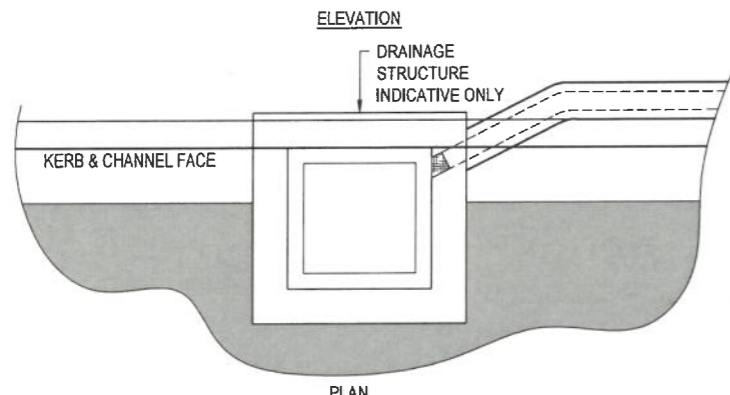
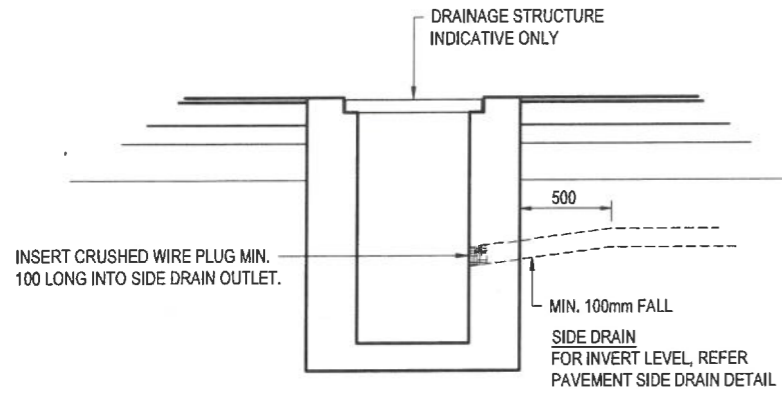
CLIENT

CQ University AUSTRALIA
FDC
FDC Construction & Fitout
CQU DRAWING NO. **CQU-GLD-015-GN-CIV-042**

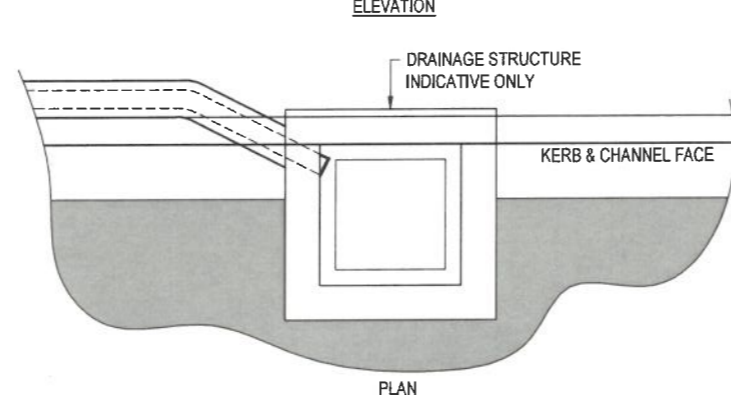
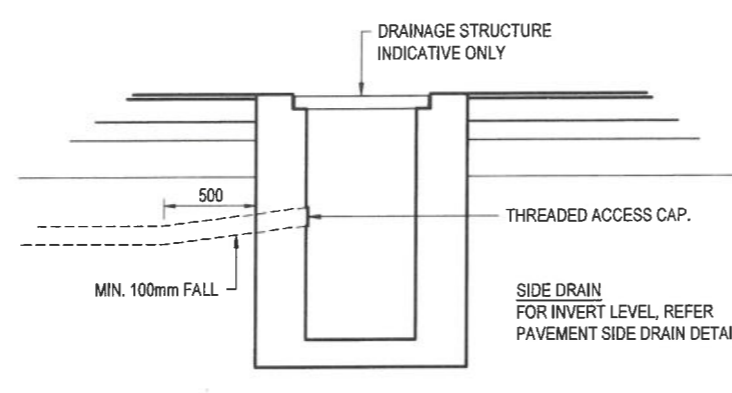
PROJECT
CQ UNIVERSITY - GLADSTONE SCHOOL OF MANUFACTURING
DRAWING
ROADWORKS DETAILS - SHEET 1



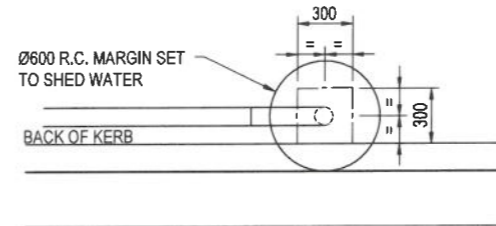
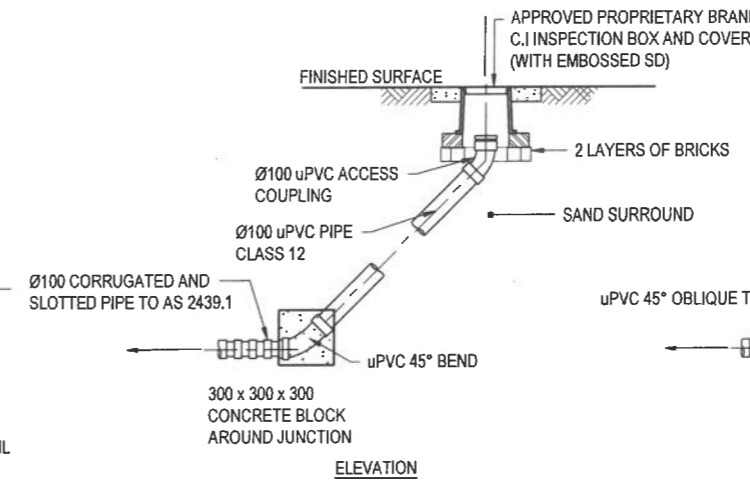
AUTHORISED SIGNATURE	RPEQ 22015 DATE 04-02-2021	PROJ. NO. 450045	AUTHORISED LG	DATE 4/02/2021
A1 SCALE (at A1) As Shown	DRAWING NO. CQU-GLD-015-GN-CIV-042		ISSUE A	



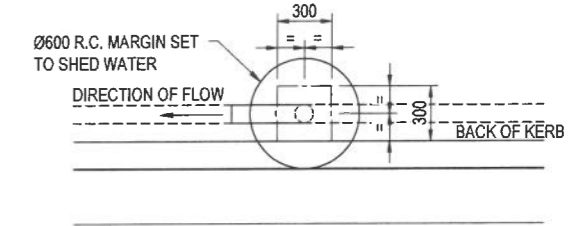
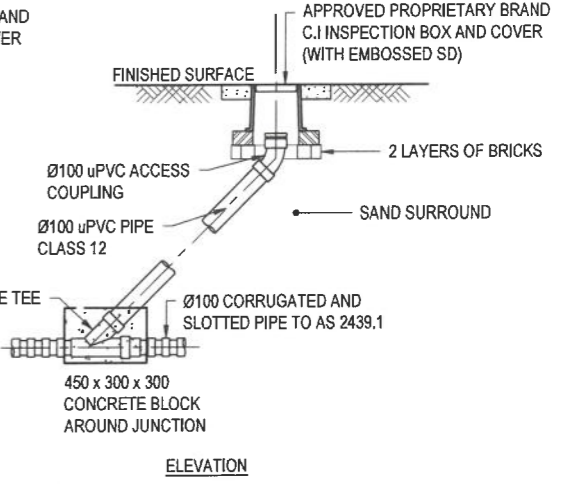
SIDE DRAIN OUTLET DETAIL (DSO)
 1:20 AT A1
 REFER ROADWORKS CONSTRUCTION LAYOUT PLAN FOR LOCATIONS.



SIDE DRAIN FLUSH POINT AT DRAINAGE STRUCTURE DETAIL (FPS)
 1:20 AT A1
 REFER ROADWORKS CONSTRUCTION LAYOUT PLAN FOR LOCATIONS.

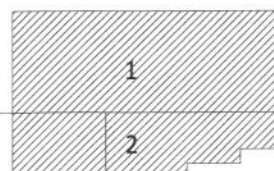


SIDE DRAIN FLUSH POINT AT END OF LINE DETAIL (FPE)
 SCALE 1:20
 REFER ROADWORKS LAYOUT PLANS FOR LOCATIONS



INTERMEDIATE SIDE DRAIN FLUSH POINT DETAIL (FPI)
 SCALE 1:20
 REFER ROADWORKS LAYOUT PLANS FOR LOCATIONS

KEY PLAN



FOR CONSTRUCTION

AMENDMENTS	No.	Description	Date	By
A	ISSUED FOR CONSTRUCTION		04/02/21	LG

Cardno
 Cardno (Cbk) Pty Ltd | ABN 57 051 074 992
 Level 11, 515 St Paul's Terrace
 Fortitude Valley, QLD 4006
 Tel: 07 3369 9822 Fax: 07 3369 9722
 Web: www.cardno.com.au
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 Cardno Project No. A12075

CONSULTANTS	
Architect:	Peddie Thorp +61 7 4046 5900
Structural Engineer:	Cardno +61 7 3369 9822
Mechanical Engineer:	Integral Group +61 7 3917 8888
Electrical Engineer:	Integral Group +61 7 3917 8888
Hydraulic Engineer:	Integral Group +61 7 3917 8888
Certifier:	Krisco +61 7 3852 2080
Landscape Architect:	Tract +61 7 3002 6400
Civil Engineer:	Cardno +61 7 3369 9822

CLIENT

FDC
 FDC Construction & Fitout
 CQU DRAWING NO.
CQU-GLD-015-GN-CIV-043
















PROJECT
CQ UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING
 DRAWING
ROADWORKS
DETAILS - SHEET 2



AUTHORISED SIGNATURE	RPEQ	PROJ. NO.	AUTHORISED	DATE
	22015	450045	LG	4/02/2021
DRAWING NO.		ISSUE		
CQU-GLD-015-GN-CIV-043		A		

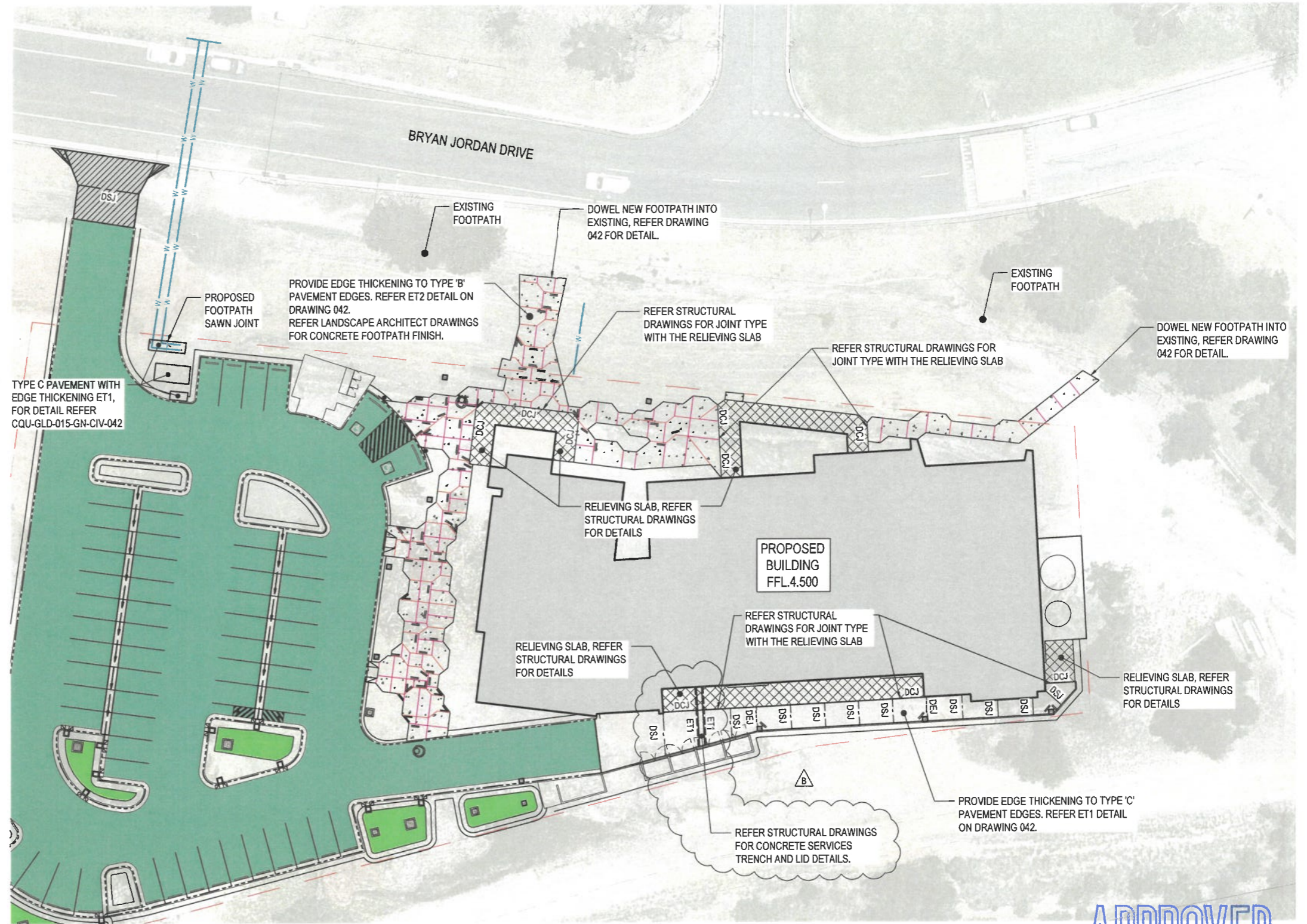
APPROVED
 14/10/2021

LEGEND

-  PROPOSED B2 TYPE 7m WIDE DRIVEWAY IN ACCORDANCE WITH CMDG STANDARD DRAWING CMDG-R-042A.
-  PROPOSED PAVEMENT - TYPE A
REFER CQU-GLD-015-GN-CIV-042 FOR DETAIL
-  PROPOSED BUILDING
-  PROPOSED PAVEMENT - TYPE B, REFER CQU-GLD-015-GN-CIV-042 FOR DETAIL
REFER LANDSCAPE ARCHITECT DRAWINGS FOR LEVELS, FINISH AND EXTENT
-  PROPOSED RELIEVING SLAB, REFER STRUCTURAL DRAWINGS FOR DETAILS
REFER ARCHITECTURAL DRAWINGS FOR LEVELS, FINISH AND EXTENT
-  PROPOSED PAVEMENT - TYPE C
REFER CQU-GLD-015-GN-CIV-042 FOR DETAIL
-  PROPOSED FOOTPATH DOWELED EXPANSION JOINT
-  PROPOSED FOOTPATH SAWN JOINT
-  PROPOSED DOWELED SAWN JOINT
-  PROPOSED DOWELED EXPANSION JOINT
-  PROPOSED BUTT JOINT
-  2xN12 900mm LONG TRIMMER BARS
-  2xN12 900mm LONG TRIMMER BARS
TYPICAL ARRANGEMENT AROUND ALL PIT OPENINGS
-  PROPOSED STORMWATER GULLY PIT
-  PROPOSED STORMWATER MANHOLE

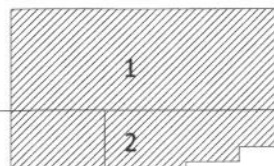
NOTE:
PROVIDE EDGE THICKENING TO TYPE 'B' AND 'C' CONCRETE PAVEMENT EDGES. REFER DRAWING CQU-GLD-015-GN-CIV-042 FOR EDGE THICKENING ET1 AND ET2 DETAILS.

NOTE:
REFER DRAWING CQU-GLD-015-GN-CIV-042 FOR PAVEMENT JOINT DETAILS.



APPROVED
14/10/2021 *Morfall*

KEY PLAN



FOR CONSTRUCTION

AMENDMENTS	No	Description	Date	By
A	ISSUED FOR CONSTRUCTION	04/02/21	LG	
B	JOINT LAYOUT AMENDED - GAS STORAGE	04/03/21	LG	

Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au

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Cardno +61 7 3369 9822
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Electrical Engineer: **Integral Group** +61 7 3917 8888
Hydraulic Engineer: **Integral Group** +61 7 3917 8888
Civil Engineer: **Cardno** +61 7 3369 9822



CQU DRAWING NO.
CQU-GLD-015-GN-CIV-045






PROJECT
**CQ UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING**
DRAWING
**ROADWORKS
JOINTING PLAN**

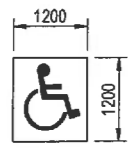


AUTHORISED SIGNATURE	RPEQ 22015 DATE 04-02-2021	PROJ. NO. 450045	AUTHORISED LG	DATE 4/02/2021
DRAWING NO. CQU-GLD-015-GN-CIV-045		ISSUE B		


PAVEMENT MARKING LEGEND

- (L1) CAR PARKING BAYS 
- (L2) DISABLES PARKING BAYS (YELLOW) 
- (L3) CHEVRON MARKING (YELLOW) (DISABLED PARKING BAY, SHARED ZONE) 

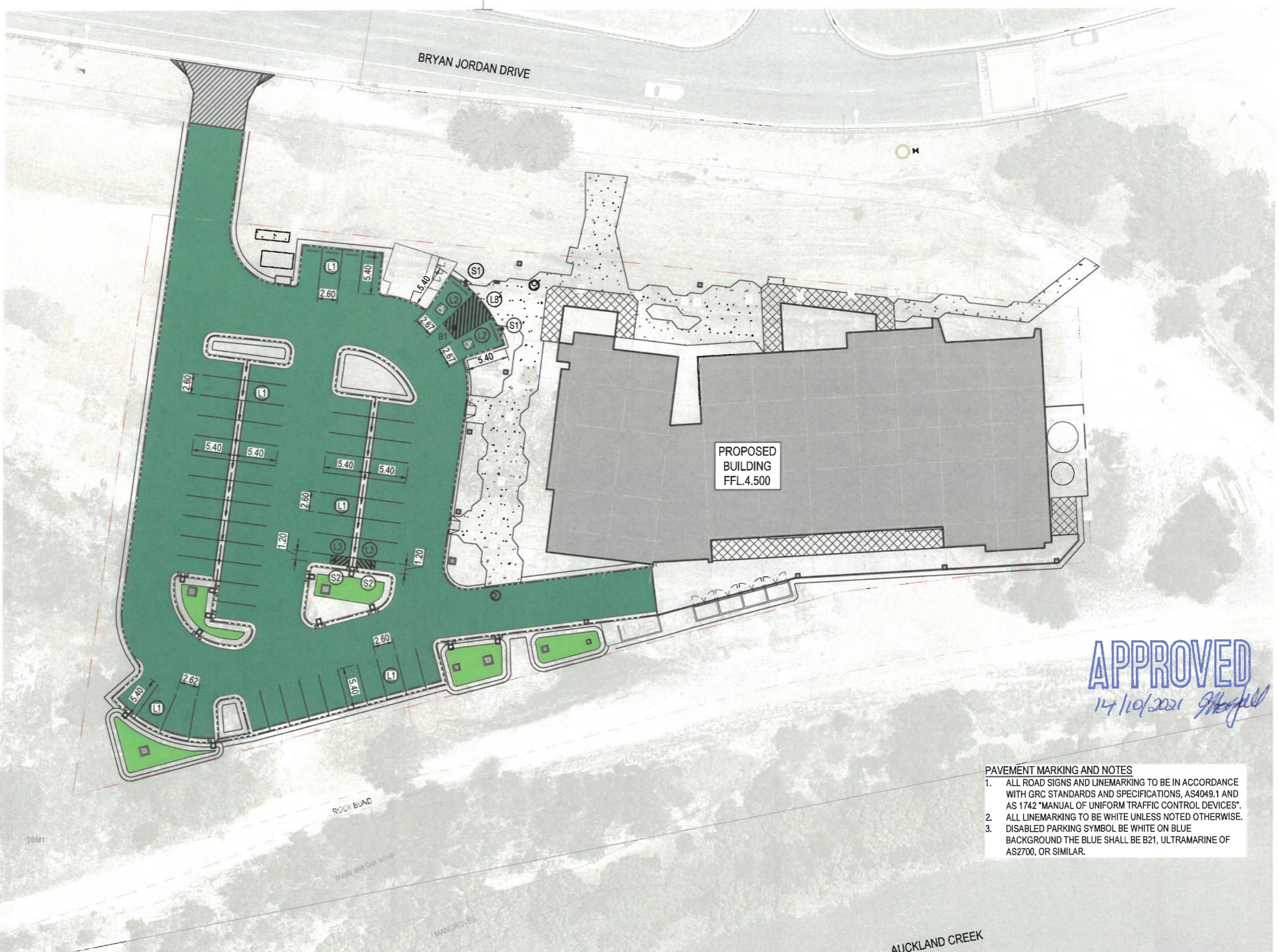
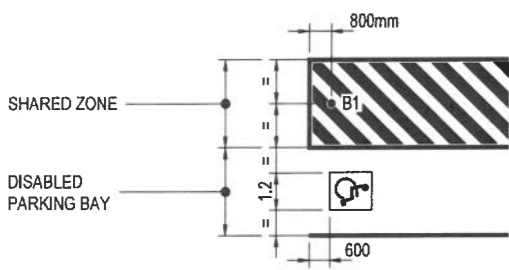
DISABLED PARKING
"900mm HIGH WHITE INTERNATIONAL SYMBOL OF ACCESS ON 1200x1200 (MAX.) BLUE SQUARE CENTRED ON BAY WIDTH AND 500mm IN FROM ROADWAY."



BOLLARD 

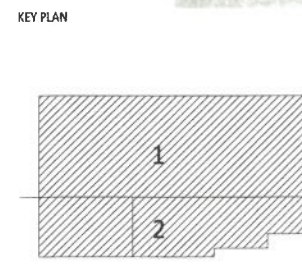
(S1) DISABLED PARKING ONLY SIGN & POST 

(S2) MOTORCYCLE PARKING ONLY SIGN & POST 



APPROVED
14/10/2021 *[Signature]*

- PAVEMENT MARKING AND NOTES**
- ALL ROAD SIGNS AND LINEMARKING TO BE IN ACCORDANCE WITH GRC STANDARDS AND SPECIFICATIONS, AS4049.1 AND AS 1742 "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
 - ALL LINEMARKING TO BE WHITE UNLESS NOTED OTHERWISE.
 - DISABLED PARKING SYMBOL BE WHITE ON BLUE BACKGROUND THE BLUE SHALL BE B21, ULTRAMARINE OF AS2700, OR SIMILAR.



FOR CONSTRUCTION

AMENDMENTS	No	Description	Date	By
A	1	ISSUED FOR CONSTRUCTION	04/02/21	LG

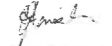
Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au
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Cardno Project No. A12075

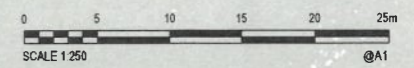
CONSULTANTS
Architect: **Peddie Thorp** +61 7 4046 5900
Cardno +61 7 3369 9822
Structural Engineer: **Integral Group** +61 7 3917 8888
Mechanical Engineer: **Integral Group** +61 7 3917 8888
Electrical Engineer: **Integral Group** +61 7 3917 8888
Hydraulic Engineer: **Wabco** +61 7 3852 2000
Civil Engineer: **Wabco** +61 7 3852 2000
Civil Engineer: **Cardno** +61 7 3369 9822

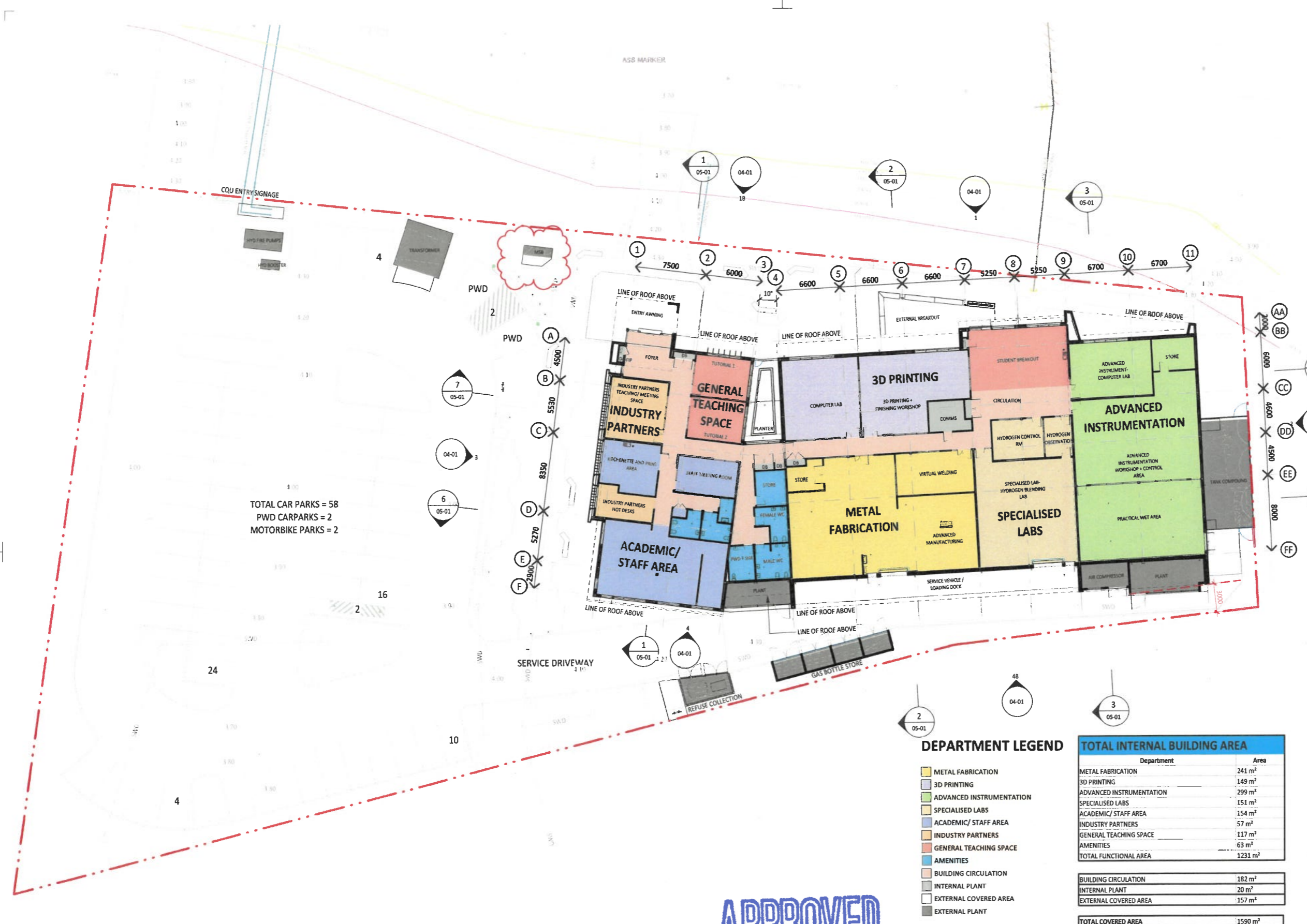
CLIENT

CQU DRAWING NO. **CQU-GLD-015-GN-CIV-050**


PROJECT
CQ UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING
DRAWING
LINEMARKING & SIGNAGE
LAYOUT PLAN

AUTHORISED SIGNATURE 		RPEQ 22015 DATE 04-02-2021
A1 SCALE (at A1) As Shown	PROJ. NO. 450045	AUTHORISED LG
DRAWING NO. CQU-GLD-015-GN-CIV-050		DATE 4/02/2021
		ISSUE A





ROOM SCHEDULE

Number	Name	Area
METAL FABRICATION		
G-29	ADVANCED MANUFACTURING	194 m ²
G-30	STORE	11 m ²
G-32	VIRTUAL WELDING	36 m ²
		241 m ²
3D PRINTING		
G-27	COMPUTER LAB	67 m ²
G-28	3D PRINTING + FINISHING WORKSHOP	82 m ²
		149 m ²
ADVANCED INSTRUMENTATION		
G-40	ADVANCED INSTRUMENT - COMPUTER LAB	50 m ²
G-41	ADVANCED INSTRUMENTATION WORKSHOP + CONTROL AREA	129 m ²
G-42	STORE	15 m ²
G-43	PRACTICAL WET AREA	106 m ²
		299 m ²
SPECIALISED LABS		
G-33	SPECIALISED LAB- HYDROGEN BLENDING LAB	117 m ²
G-34	HYDROGEN CONTROL RM	22 m ²
G-35	HYDROGEN OBSERVATION	12 m ²
		151 m ²
ACADEMIC/ STAFF AREA		
G-10	KITCHENETTE AND PRINT AREA	31 m ²
G-11	STAFF MEETING ROOM	24 m ²
G-12	STORAGE	1 m ²
G-17	STAFF OFFICE SPACE	80 m ²
G-18	RHD STUDENTS	18 m ²
		154 m ²
INDUSTRY PARTNERS		
G-08	INDUSTRY PARTNERS TEACHING/ MEETING SPACE	39 m ²
G-16	INDUSTRY PARTNERS HOT DESKS	18 m ²
		57 m ²
GENERAL TEACHING SPACE		
G-06	TUTORIAL 1	25 m ²
G-07	TUTORIAL 2	25 m ²
G-37	STUDENT BREAKOUT	66 m ²
		117 m ²
AMENITIES		
G-13	F STAFF WC	7 m ²
G-14	M STAFF WC	7 m ²
G-15	CLEANERS	4 m ²
G-19	STORE	12 m ²
G-20	FEMALE WC	10 m ²
G-21	MALE WC	13 m ²
G-22	PWD + SHR	10 m ²
		63 m ²
BUILDING CIRCULATION		
G-01	FOYER	29 m ²
G-05	CIRCULATION	57 m ²
G-09	CIRCULATION	21 m ²
G-25	CIRCULATION	74 m ²
		182 m ²
INTERNAL PLANT		
G-02	FHR	1 m ²
G-03	FIP	0 m ²
G-04	DB	1 m ²
G-23	DB	1 m ²
G-24	DB	1 m ²
G-26	DB	1 m ²
G-31	COMMS	13 m ²
G-36	DB	1 m ²
G-38	FHR	1 m ²
		20 m ²
EXTERNAL COVERED AREA		
G-39	EXTERNAL BREAKOUT	50 m ²
G-48	SERVICE VEHICLE / LOADING DOCK	84 m ²
G-53	ENTRY AWNING	24 m ²
		157 m ²
EXTERNAL PLANT		
G-44	TANK COMPOUND	57 m ²
G-45	PLANT	25 m ²
G-46	AIR COMPRESSOR	13 m ²
G-47	GAS BOTTLE STORE	24 m ²
G-49	TRANSFORMER	25 m ²
G-50	PLANT	17 m ²
G-52	MSB	3 m ²
G-54	HYD BOOSTER	2 m ²
G-56	HYD FIRE PUMPS	8 m ²
G-57	REFUSE COLLECTION	12 m ²
		186 m ²
Grand total		1776 m²

TOTAL CAR PARKS = 58
PWD CARPARKS = 2
MOTORBIKE PARKS = 2

DEPARTMENT LEGEND

- METAL FABRICATION
- 3D PRINTING
- ADVANCED INSTRUMENTATION
- SPECIALISED LABS
- ACADEMIC/ STAFF AREA
- INDUSTRY PARTNERS
- GENERAL TEACHING SPACE
- AMENITIES
- BUILDING CIRCULATION
- INTERNAL PLANT
- EXTERNAL COVERED AREA
- EXTERNAL PLANT

TOTAL INTERNAL BUILDING AREA

Department	Area
METAL FABRICATION	241 m ²
3D PRINTING	149 m ²
ADVANCED INSTRUMENTATION	299 m ²
SPECIALISED LABS	151 m ²
ACADEMIC/ STAFF AREA	154 m ²
INDUSTRY PARTNERS	57 m ²
GENERAL TEACHING SPACE	117 m ²
AMENITIES	63 m ²
TOTAL FUNCTIONAL AREA	1231 m²
BUILDING CIRCULATION	182 m²
INTERNAL PLANT	20 m²
EXTERNAL COVERED AREA	157 m²
TOTAL COVERED AREA	1590 m²
EXTERNAL PLANT	186 m²

KEY PLAN

1

CONSTRUCTION

AMENDMENTS

No	Description	Date	By
A	FOR CONSTRUCTION	19/02/21	DS
B	MSB RELOCATED	04/03/21	WC

PEDDLE THORP
architecture | interiors | health | planning

Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddlethorp.com.au
W peddlethorp.com.au

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5000
Cardno +61 7 3349 9832

Mechanical Engineer: Integral Group +61 7 3917 8888
Electrical Engineer: Integral Group +61 7 3917 8888
Hydraulic Engineer: Integral Group +61 7 3917 8888
Civil Engineer: Kilsco +61 7 3853 2080
Landscape Architect: Tract +61 7 3002 6400
Civil Engineer: Cardno +61 7 3349 9832

CLIENT

CQU university AUSTRALIA

FDC
FDC Construction & Fitout

CQU DRAWING NO.
CQU-GLD-015-GN-ARC-006

PROJECT

CQU UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING
DRAWING
GA GROUND LEVEL

CHECK ALL DIMENSIONS ON SITE BEFORE FABRICATIONS OR SET OUT
Use figured dimensions in preference to scale
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A1	SCALE (at A1) 1: 200	PROJ. NO. 213745	AUTHORISED DS	DATE 19.02.2021
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DRAWING NO.
CQU-GLD-015-ARC-03-01

ISSUE
B

APPROVED
14/10/2021 *[Signature]*

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LEGEND OF SYMBOLS

DUCTWORK LEGEND

- BARE OR EXTERNALLY INSULATED DUCTWORK
- REFER SPECIFICATION FOR DETAILS
- INTERNALLY INSULATED DUCTWORK
- REFER SPECIFICATION FOR DETAILS
- CIRCULAR DUCTWORK
- DUCT ACCESS PANEL
- SOUND ATTENUATOR
- FLEXIBLE DUCT CONNECTION
- TURNING VANES
- DUCT SET UP
- DUCT SET DOWN
- SIA DUCT RISER
- RIA DUCT RISER
- SIA DUCT DROPPER
- RIA DUCT DROPPER
- SPIRAL WOUND CIRCULAR OR OVAL DUCTWORK
- FLEXIBLE ACOUSTIC DUCTWORK
- CIRCULAR DUCT TAKEOFF
- CIRCULAR DUCT TAKEOFF WITH BUTTERFLY DAMPER
- ROOM TEMPERATURE SENSOR
- THERMOSTAT
- CONTROLLER
- AIR FILTER - DUCT MOUNTED C/W ACCESS PANEL
- VOLUME CONTROL DAMPER
- MOTORISED DAMPER
- FIRE DAMPER C/W ACCESS PANEL
- CEILING ACCESS PANEL - 600 x 600 U.N.O.
- CEILING LOUVRE FACED DIFFUSER (REFER SCHEDULE)
- CEILING AIR SWIRL DIFFUSER (REFER SCHEDULE)
- CEILING SUPPLY AIR DIFFUSER 3 WAY BLOW
- SIDEWALL SUPPLY AIR DIFFUSER
- CEILING RETURN/EXHAUST AIR GRILLE
- GRILLE TYPE (REFER SCHEDULE)
AIR QUANTITY U_s
- DOOR GRILLE
- INLINE RETURN / EXHAUST FAN
- MECHANICAL SERVICES SWITCHBOARD

DUCT COLOUR LEGEND

- SUPPLY AIR
- OUTSIDE AIR
- MAKE-UP AIR
- RETURN AIR
- EXHAUST AIR
- TOILET EXHAUST
- CARPARK EXHAUST
- KITCHEN EXHAUST
- SMOKE EXHAUST
- SPILL AIR

PIPEWORK LEGEND

- PIPE CONNECTION
- DIRECTION OF FLOW
- PIPE RISER/DROPPER
- PIPE BREAK
- ISOLATING VALVE
- TUNDISH
- IN WALL TUNDISH
- PIPEWORK
- SINGLE QUICK COUPLING 100 PSI COMPRESSED AIR OUTLET ON SHARED PENDANT WITH POWER OUTLET SUSPENDED ABOVE WORKBENCH
- WALL MOUNTED SINGLE QUICK COUPLING 100PSI COMPRESSED AIR OUTLET LOCATED 1300 AFFL
- ARGOSHIELD (OR EQUIVALENT) SUPPLY PIPE DROPPER TO LOW LEVEL WITHIN WELDING BAY COMPLETE WITH ISOLATION VALVE, FLOW-METER, REGULATOR, AND OUTLET.
- ARGON AND ARGOSHIELD (OR EQUIVALENT) SUPPLY PIPE DROPPERS TO LOW LEVEL WITHIN WELDING BAY COMPLETE WITH ISOLATION VALVE, FLOW-METER, REGULATOR, AND OUTLET.
- OXYGEN SUPPLY PIPE DROPPER TO LOW LEVEL COMPLETE WITH ISOLATION VALVE + REGULATOR WITH TWIN PRESSURE GAUGES, AND ACETYLENE SUPPLY PIPE DROPPER TO LOW LEVEL COMPLETE WITH ISOLATION VALVE + REGULATOR WITH FLOW METER.

PIPE COLOUR LEGEND

- CHILLED WATER
- DRAIN
- REFRIGERANT
- COMPRESSED AIR
- ARGON (OR EQUIVALENT)
- ARGOSHIELD
- OXYGEN
- ACETYLENE

ABBREVIATIONS

- S/A SUPPLY AIR
- R/A RETURN AIR
- O/A OUTSIDE AIR
- E/A EXHAUST AIR
- T/E TOILET EXHAUST
- G/E GENERAL EXHAUST
- K/E KITCHEN EXHAUST
- S/E SMOKE EXHAUST
- E/F EXHAUST FAN
- T/A TO ABOVE
- F/A FROM ABOVE
- T/B TO BELOW
- F/B FROM BELOW
- S/D SET DOWN
- S/U SET UP
- A/FL ABOVE FLOOR LEVEL
- F/F/L FROM FINISHED FLOOR LEVEL
- O/B/D OPPOSED BLADE DAMPER
- H/C HEATING COIL
- C/C COOLING COIL
- F/C FUME CLIPBOARD
- F/C/U FAN COIL UNIT
- V/A/V VARIABLE AIR VOLUME
- U/N/O UNLESS NOTED OTHERWISE
- H/H/W HEATING HOT WATER
- C/H/W CHILLED WATER
- C/C/W CONDENSER COOLING WATER
- F FLOW
- R RETURN
- C/W COLD WATER
- D/H/W DOMESTIC HOT WATER
- C/W COMPLETE WITH

GENERAL NOTES

1. DRAWINGS SHALL BE READ IN CONJUNCTION WITH RELEVANT SECTIONS OF THE MECHANICAL SPECIFICATION, SERVICES DOCUMENTS AND ALL OTHER DISCIPLINE DOCUMENTS INCLUDING BUT NOT LIMITED TO ACOUSTIC, FIRE ENGINEERING, BUILDING SURVEYOR, ARCHITECTURAL, STRUCTURAL, CIVIL ETC.
2. ALL DUCTWORK DIMENSIONS ARE CLEAR INTERNAL AIRWAY ONLY.
3. ALL DIMENSIONS ARE IN MILLIMETRES.
4. ALL AIR QUANTITIES ARE IN LITRES/SECOND.
5. INSULATION OF ALL SUPPLY AND RETURN AIR DUCTS SHALL BE IN ACCORDANCE WITH NCC/BCA REQUIREMENTS AND ACOUSTIC REQUIREMENTS (REGARDLESS IF SHOWN HATCHED OR NOT). EXHAUST AIR DUCTS DO NOT NEED TO BE INSULATED UNLESS NOTED OTHERWISE.
6. DIFFUSER AND GRILLE SIZES ARE NOMINAL ONLY. FINAL SIZE SHALL BE BASED ON MANUFACTURER'S CERTIFIED TECH DATA WITH RESPECT TO NOISE, PRESSURE DROP, AIR THROW AND VELOCITY.
7. FINAL LOCATIONS OF ALL TEMPERATURE SENSORS & CONTROL PANELS SHALL BE CONFIRMED WITH THE ARCHITECT, SYSTEM MANUFACTURER, COMMISSIONING CONTRACTOR AND CONTROLS CONTRACTOR FOR THE SAFE, PROPER AND EFFICIENT OPERATION OF THE AIR CONDITIONING SYSTEM.
8. PROVIDE TRAFFOLYTE LABEL ADJACENT TO EACH TEMPERATURE SENSOR/CONTROL PANEL TO INDICATE THE NUMBER/TAG OF CORRESPONDING VAV BOX, AIR CONDITIONING UNIT ETC.
9. ACCESS PANELS SHALL BE POSITIONED FOR THE PROPER MAINTENANCE OF SERVICES. FINAL DIMENSION AND LOCATION OF ALL ACCESS PANELS SHALL BE CO-ORDINATED WITH THE ARCHITECTURAL RCP BASED ON COMBINED SERVICES SHOP DRAWINGS. ACCESS PANELS SHALL BE SHOWN ON THE SHOP DRAWINGS, SUBMITTED FOR REVIEW.
10. FULL EXTENT OF EXPOSED REFRIGERANT PIPEWORK ON THE ROOF LEVEL SHALL BE PROTECTED WITH REMOVABLE COLORBOND METAL COVERS.
11. PIPEWORK ROUTES ARE SHOWN FOR INFORMATION PURPOSES ONLY AND SHALL NOT BE USED FOR PRICING. FINALISE AND CO-ORDINATE PIPEWORK ROUTES BASED ON CO-ORDINATED SHOP DRAWINGS AND ON-SITE CO-ORDINATION.
12. ALL FACADE INTAKE AND DISCHARGE LOUVRES SHALL BE INSTALLED WITH VERMIN PROOF MESH.
13. ALLOW TO THOROUGHLY CO-ORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS PRIOR TO INSTALLATION.
14. ALL BLANKED/TERMINATED SERVICES SHALL BE LABELLED AS 'FOR FUTURE USE'.
15. DUCTWORK & PIPEWORK CROSSING ANY EXPANSION OR MOVEMENT JOINTS SHALL BE INSTALLED WITH SUITABLE FLEXIBLE CONNECTIONS.
16. SERVICES CROSSING ANY FIRE AND/OR SMOKE RATED BARRIER SHALL BE PROTECTED WITH APPROPRIATE AND APPROVED FIRE AND SMOKE SEALS.
17. ALL DUCTWORK (NOT PART OF SMOKE HAZARD MANAGEMENT SYSTEMS) CROSSING ANY FIRE AND/OR SMOKE RATED BARRIER SHALL BE INSTALLED WITH APPROVED FIRE AND/OR SMOKE DAMPERS.
18. WHERE THERE IS ANY DISCREPANCY BETWEEN DRAWINGS AND SPECIFICATION, THE LARGER OR GREATER VALUE/CAPACITY SHALL BE CONSIDERED FOR PRICING DURING TENDERING. DURING CONSTRUCTION, WRITTEN CLARIFICATION SHALL BE OBTAINED FROM THE CONSULTANT PRIOR TO CARRYING OUT ANY WORK ON SITE.
19. REFER TO DATE AND REVISION OF ARCHITECTURAL BACKGROUND USED IN THE PREPARATION OF THESE DRAWINGS. ANY DISCREPANCY BETWEEN MECHANICAL DRAWINGS AND TENDER ARCHITECTURAL BACKGROUNDS SHALL BE RAISED WITH THE SUPERINTENDENT FOR CLARIFICATION.
20. CONNECT ALL CONDENSATE DRAINS TO NEAREST TUNDISH PROVIDED BY HYDRAULIC CONTRACTOR. PROVIDE CONDENSATE PUMP (IF REQUIRED) & ASSOCIATED ACCESSORIES.

CONSTRUCTION

AMENDMENTS	No	Description	Date	By
	1	30% ISSUE	28-04-20	TJM
	2	60% ISSUE	15-10-20	JVR
	3	90% ISSUE	04-12-20	TJM
	4	FINAL COORDINATION ISSUE	08-02-21	MLT
	A	CONSTRUCTION ISSUE	19-02-21	TJM

Integral Group
 Queensland Pty Ltd
 ABN 91 142 668 773
 Level 7, 200 Creek St
 Brisbane
 Queensland 4000 AUSTRALIA
 T +61 7 3917 6888
 brisbane@integralgroup.com
 integralgroup.com

CONSULTANTS

Architect:	Peddie Thorp +61 7 4046 5900
Structural Engineer:	Cardno +61 7 3369 9822
Mechanical Engineer:	Integral Group +61 7 3917 6888
Electrical Engineer:	Integral Group +61 7 3917 6888
Hydraulic Engineer:	Integral Group +61 7 3917 6888
Costler:	Kolico +61 7 3952 2080
Landscape Architect:	Tract +61 7 3002 6400
Civil Engineer:	Cardno +61 7 3369 9822

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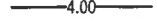






CQU DRAWING NO.
CQU-GLD-015-00-MEC-001

PROJECT
 CQU - GLADSTONE SCHOOL OF
 MANUFACTURING
 DRAWING
 MECHANICAL SERVICES
 LEGEND & GENERAL NOTES

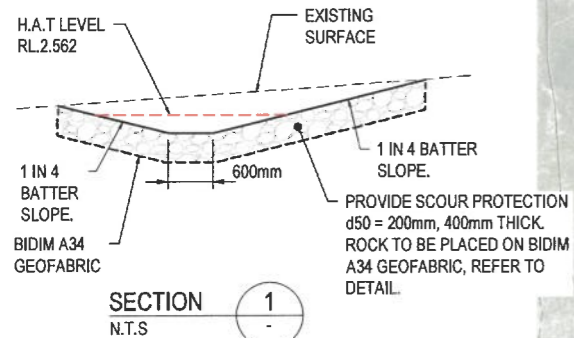
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DRAWING NO. CQU-GLD-015-00-MEC-001				ISSUE A

- LEGEND**
-  PROPOSED STORMWATER FIELD INLET
 -  PROPOSED STORMWATER MANHOLE
 -  PROPOSED STORMWATER PIPE
 -  PROPOSED BIO BASIN
 -  PROPOSED CONTOURS (0.1m INTERVAL)
 -  PROPOSED B2 TYPE 7m WIDE DRIVEWAY IN ACCORDANCE WITH CMDG STANDARD DRAWING CMDG-R-042A.
 -  PROPOSED PAVEMENT - TYPE A REFER TO PAVEMENT DETAIL ON DWG CQU-GLD-015-GN-CIV-042.
 -  PROPOSED PAVEMENT - TYPE B REFER TO PAVEMENT DETAIL ON DWG CQU-GLD-015-GN-CIV-042.
 -  PROPOSED PAVEMENT - TYPE C REFER TO PAVEMENT DETAIL ON DWG CQU-GLD-015-GN-CIV-042.
 -  PROPOSED RELIEVING SLAB REFER STRUCTURAL DRAWINGS FOR DETAILS
 -  PROPOSED BUILDING

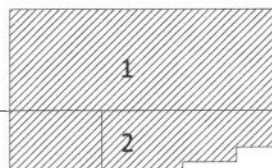
NOTE:
SUBJECT TO AUTHORITY APPROVAL, BlackMAX STORMWATER PIPES OR APPROVED EQUIVALENT MAY BE INSTALLED IN LIEU OF SPECIFIED REINFORCED CONCRETE PIPES. WHERE APPROVED, BlackMAX PIPES TO BE INSTALLED TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.



 DENOTES 450mm WIDE OPENING AND FOREBAY IN PROPOSED KERB AND CHANNEL REFER DRG CQU-GLD-015-GN-CIV-032 FOR DETAIL.

 DENOTES STORMWATER INLET TO BE FITTED WITH ENVRPP020 LITTER BASKETS UNLESS NOTED OTHERWISE. ALTERNATIVE IS NOT APPROVED.

KEY PLAN



FOR CONSTRUCTION

AMENDMENTS

No.	Description	Date	By
A	ISSUED FOR CONSTRUCTION	04/02/21	LG
B	DRAINAGE OUTLET AMENDMENTS	8/09/2021	LG
C	MHWS LINE ADDED	23/09/2021	LG

Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au

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Cardno Project No. A12075

CONSULTANTS

Architect: **Peddie Thorp** +61 7 4046 5900
Structural Engineer: **Cardno** +61 7 3369 9822
Mechanical Engineer: **Integral Group** +61 7 3917 8888
Electrical Engineer: **Integral Group** +61 7 3917 8888
Civil Engineer: **Integral Group** +61 7 3917 8888
Certifier: **Integral Group** +61 7 3917 8888
Landscape Architect: **Integral Group** +61 7 3917 8888
Civil Engineer: **Cardno** +61 7 3369 9822


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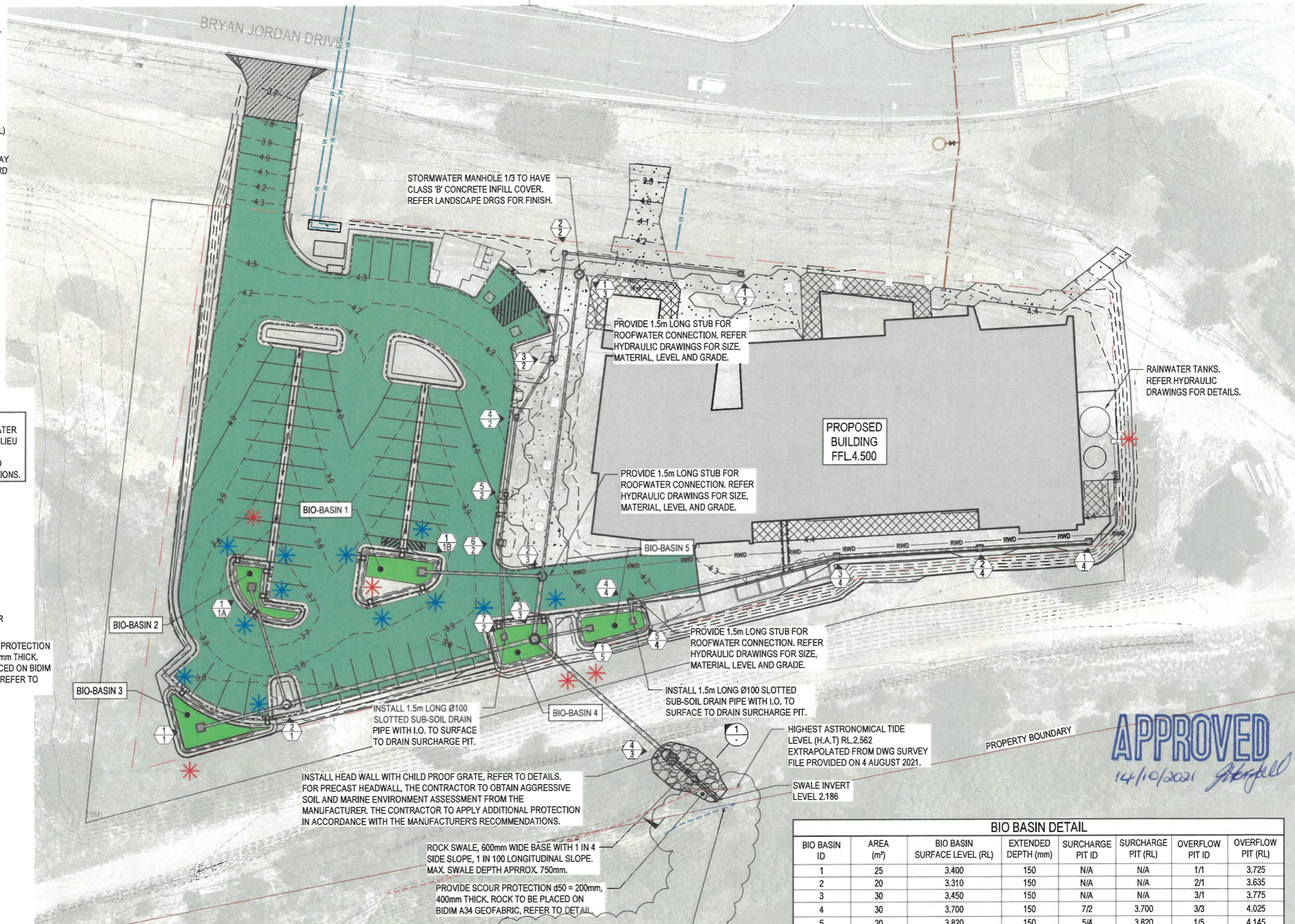


CQU DRAWING NO.
CQU-GLD-015-GN-CIV-030



PROJECT
**CQ UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING**
DRAWING
**SWD
LAYOUT PLAN**

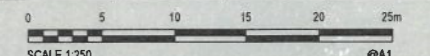
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DRAWING NO. CQU-GLD-015-GN-CIV-030		DATE 4/02/2021	
ISSUE C			

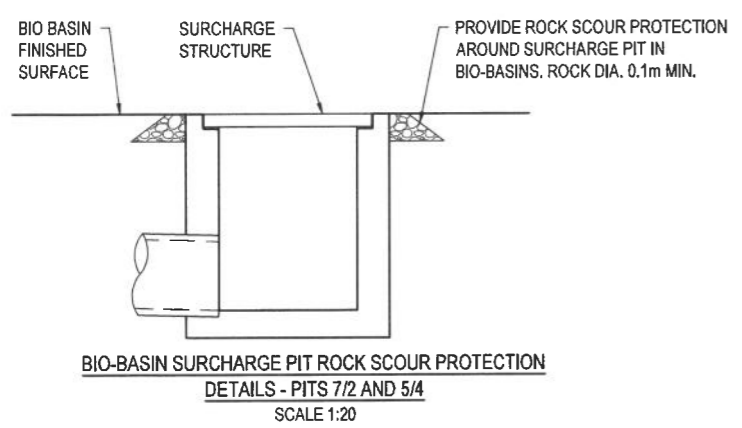
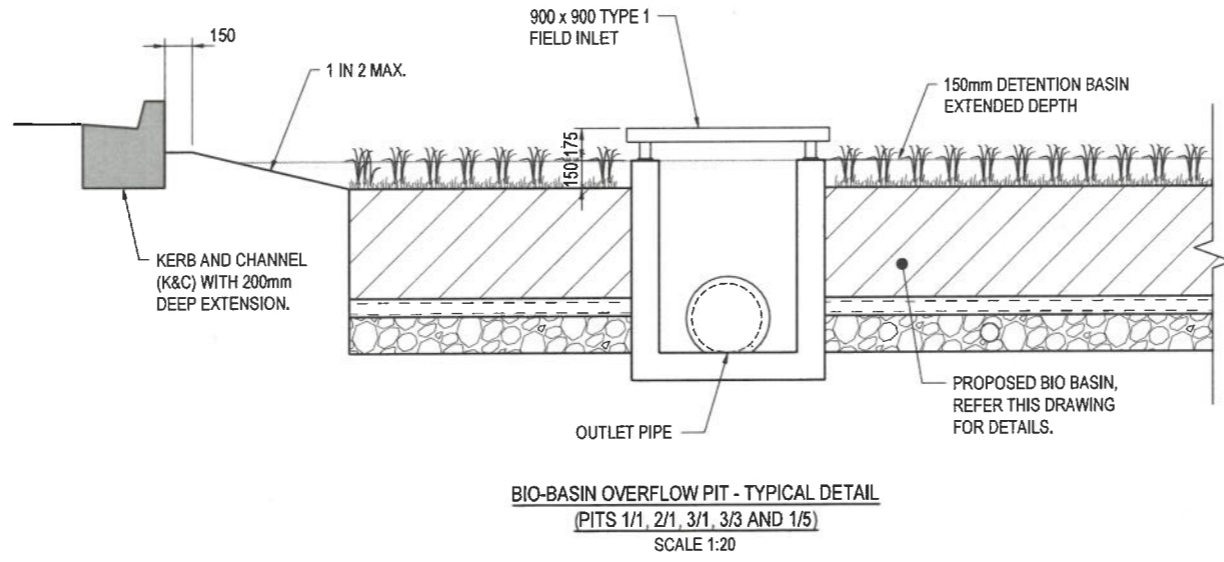
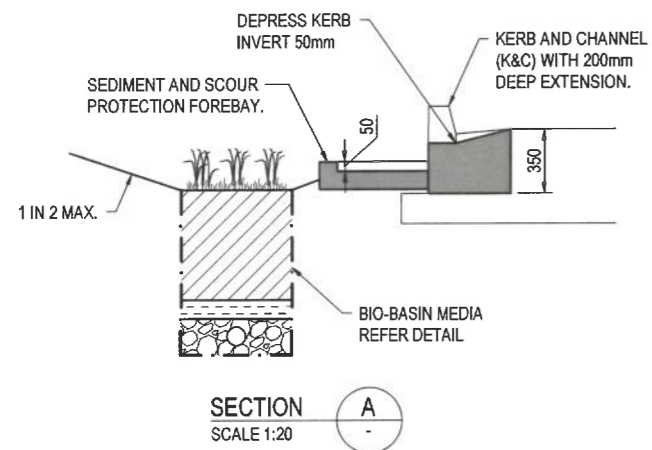
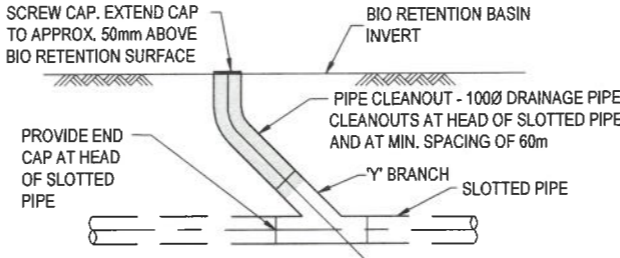
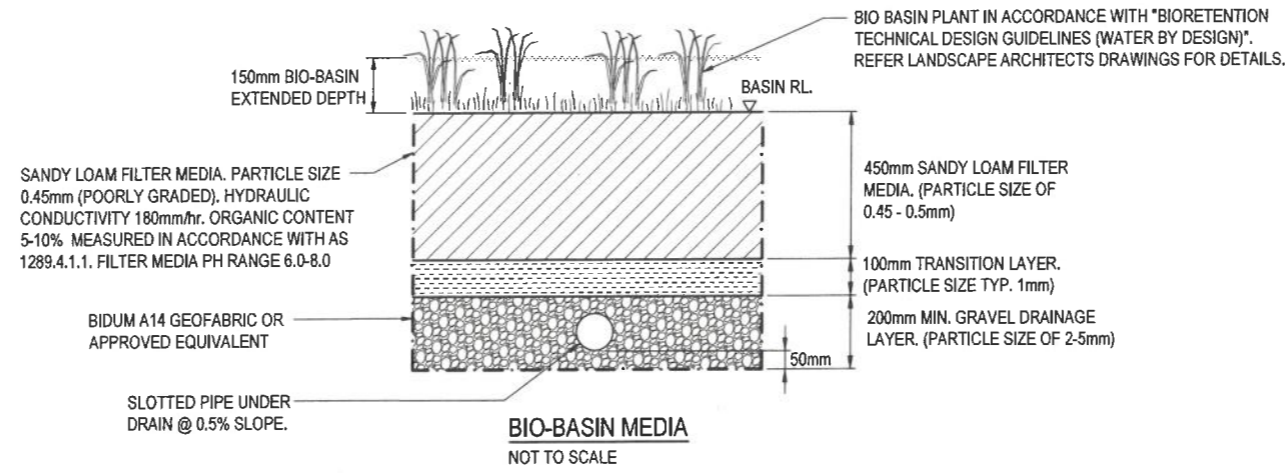
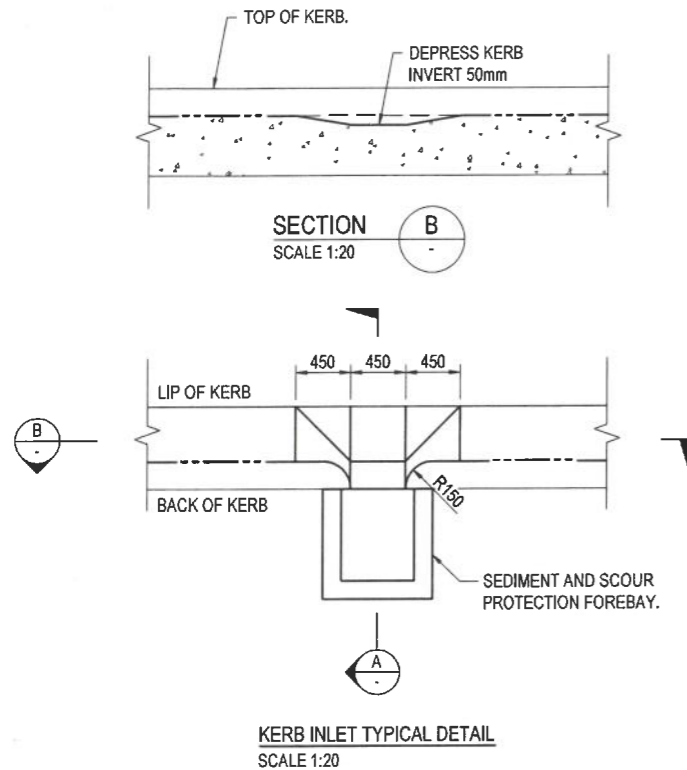


APPROVED
14/10/2021 *John Hill*

BIO BASIN DETAIL

BIO BASIN ID	AREA (m ²)	BIO BASIN SURFACE LEVEL (RL)	EXTENDED DEPTH (mm)	SURCHARGE PIT ID	SURCHARGE PIT (RL)	OVERFLOW PIT ID	OVERFLOW PIT (RL)
1	25	3.400	150	N/A	N/A	1/1	3.725
2	20	3.310	150	N/A	N/A	2/1	3.635
3	30	3.450	150	N/A	N/A	3/1	3.775
4	30	3.700	150	7/2	3.700	3/3	4.025
5	20	3.820	150	5/4	3.820	1/5	4.145



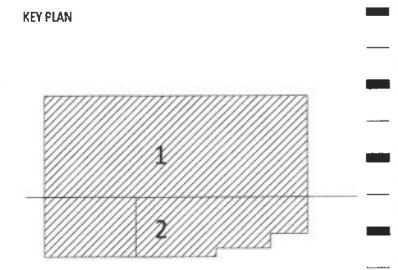


- BIORETENTION NOTES:**
- BIORETENTION MEDIA SPECIFICATION SHALL BE IN ACCORDANCE WITH THE FACILITY FOR ADVANCING BIOFILTRATION, "GUIDELINES FOR SOIL FILTER MEDIA IN BIORETENTION SYSTEMS". BIORETENTION HYDRAULIC CONDUCTIVITY SHALL BE IN ACCORDANCE WITH THE FACILITY FOR ADVANCING BIOFILTRATION "PRACTICE NOTE 1: IN SITU MEASUREMENT OF HYDRAULIC CONDUCTIVITY". THE NUMBER OF SAMPLES TO BE TESTED SHALL BE IN ACCORDANCE WITH THE "WATER SENSITIVE URBAN DESIGN CONSTRUCTION AND ESTABLISHMENT GUIDELINES - SWALES, BIORETENTION SYSTEMS AND WETLANDS (WATER BY DESIGN)".
FILTER LAYER:
 HYDRAULIC CONDUCTIVITY 180mm/hr (MIN)
 PARTICLE SIZES BETWEEN:

CLAY & SILT	<3%	(<0.05mm)
VERY FINE SAND	5-30%	(0.05-0.15mm)
FINE SAND	10-30%	(0.15mm-0.25mm)
MEDIUM TO COARSE SAND	40-60%	(0.25-1.0mm)
COARSE SAND	7-10%	(1.0-2.0mm)
FINE GRAVEL	<3%	(2.0-3.4mm)
ORGANIC CONTENT	<5%	IN ACCORDANCE WITH AS4419
pH	5.5-7.5	

DRAINAGE LAYER:
 WASHED SCREENINGS WITH:
 $d_{15} = 0.5mm$
 $d_{50} = 5mm$
 - 1000-1500 UNDER DRAIN/ SLOTTED RIGID PIPE (UPVC OR SIMILAR TO AS 2439.1) OR APPROVED EQUIVALENT TO BE USED IN DRAINAGE LAYER, 0.5% MINIMUM GRADE TO DRAINAGE STRUCTURE. REFER PROJECT DRAWINGS FOR DIAMETER AND INVERT LEVEL. PIPE SHOULD NOT BE INSTALLED WITH A FILTER SOCK SURROUNDING THE PIPE. UNDER DRAINAGE PIPES SHALL BE SEALED INTO PITS USING GROUT OR OTHER APPROVED WATERTIGHT SEAL.
 - FILTER CLOTH TO BE NON-WOVEN GEOTEXTILE. FILTER CLOTH NOT TO BE PLACED IN BETWEEN LAYERS. IMPERVIOUS LINER MAY BE REQUIRED SUBJECT TO SOIL TESTING REQUIREMENTS IN ACCORDANCE WITH THE "WATER SENSITIVE URBAN DESIGN TECHNICAL DESIGN GUIDELINES" (WATER BY DESIGN).
 - BASIN FINISHED LEVEL IS TOP OF FILTER MEDIA. SURFACE TO PLANTED AS PER LANDSCAPE DRAWINGS OR IN ACCORDANCE WITH "WATER SENSITIVE URBAN DESIGN TECHNICAL DESIGN GUIDELINES" SECTION 5.4 (REFER APPENDIX A IN SECTION 5.4 FOR VEGETATION TYPES). CONSULTATION WITH A LANDSCAPE ARCHITECT IS RECOMMENDED TO ENSURE SELECTED VEGETATION COMPLIMENTS EXISTING LANDSCAPE.
 - CONSTRUCTION TOLERANCES AS DOCUMENTED IN THE "WATER SENSITIVE URBAN DESIGN CONSTRUCTION AND ESTABLISHMENT GUIDELINES - SWALES, BIORETENTION SYSTEMS AND WETLANDS" (WATER BY DESIGN) MUST BE ACHIEVED.

APPROVED
14/10/2021 *Steffen*



FOR CONSTRUCTION

AMENDMENTS

No.	Description	Date	By
A	ISSUED FOR CONSTRUCTION	04/02/21	LG

Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au
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Cardno Project No. A12075

CONSULTANTS

Architect: **Peddie Thorp** +61 7 4046 5900
Cardno +61 7 3369 9822
Structural Engineer: **Integral Group** +61 7 3917 8888
Mechanical Engineer: **Integral Group** +61 7 3917 8888
Electrical Engineer: **Integral Group** +61 7 3917 8888
Hydraulic Engineer: **Integral Group** +61 7 3917 8888
Certifier: **Kolsco** +61 7 3852 2080
Landscape Architect: **Tract** +61 7 3002 6400
Civil Engineer: **Cardno** +61 7 3369 9822

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CQU DRAWING NO. **CQU-GLD-015-GN-CIV-032**

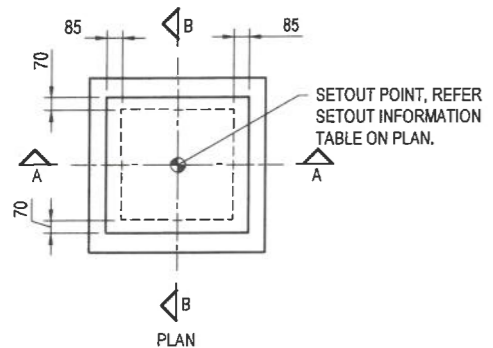
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FDC Construction & Fitout

PROJECT
CQU UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING

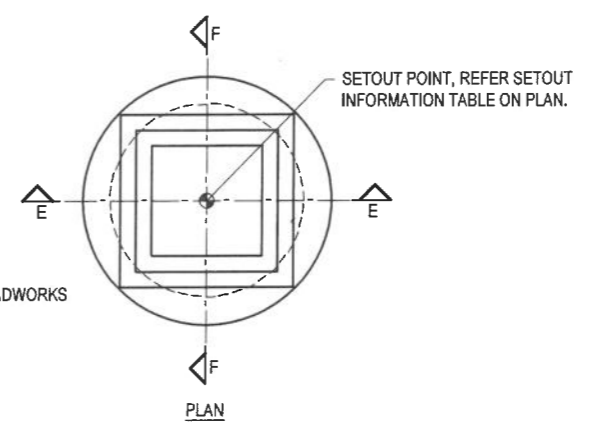
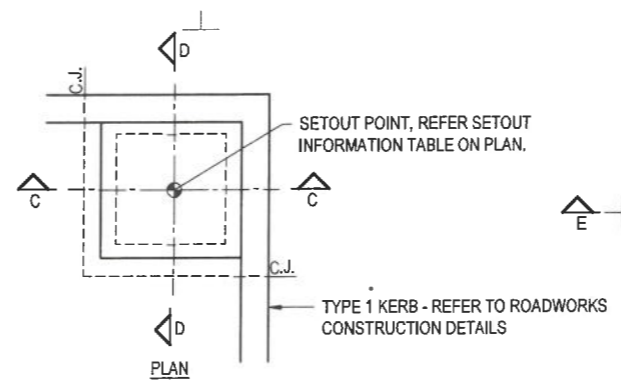
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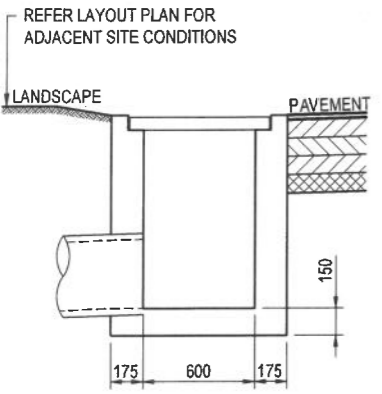
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A1 SCALE (at A1) As Shown	PROJ. NO. 450045
AUTHORISED LG	DATE 4/02/2021
DRAWING NO. CQU-GLD-015-GN-CIV-032	ISSUE A



FOR STORMWATER DRAINAGE
LEGEND, REFER TO DRG
CQU-GLD-015-GN-CIV-030.

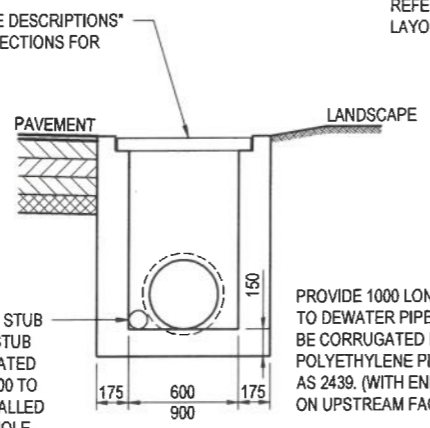


NOTE
STORMWATER STRUCTURES HAVE BEEN DETAILED AS CAST IN SITU CONSTRUCTION. SUBJECT TO THE ENGINEER'S APPROVAL, PRECAST COMPONENTS MAY BE SUBSTITUTED EITHER IN PART OR IN FULL FOR THE DETAILS SHOWN.

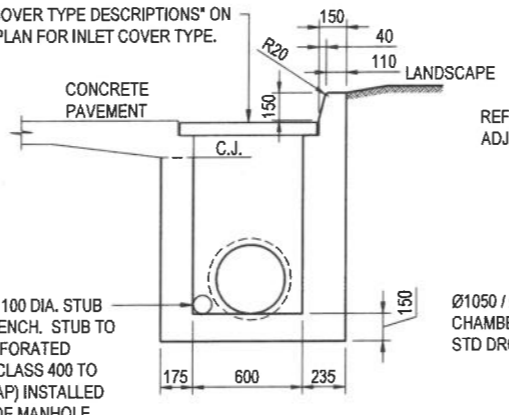


SECTION A-A

FIELD INLET DETAILS
1: 20 AT A1
ADJACENT SITE CONDITIONS ARE INDICATIVE ONLY

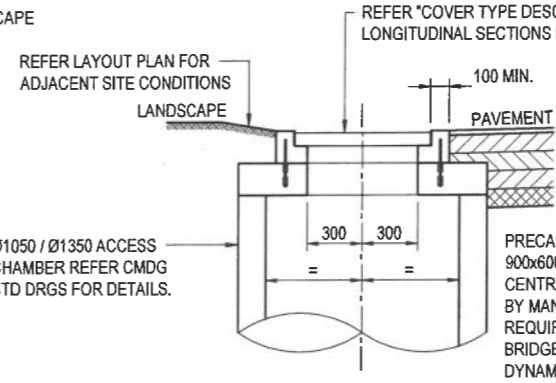


SECTION B-B



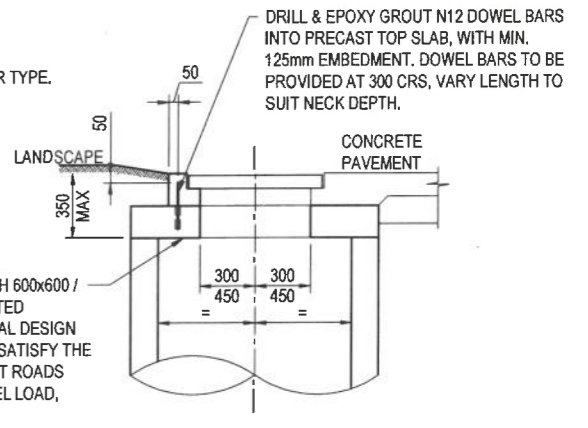
SECTION C-C
SECTION D-D SIMILAR U.N.O

FIELD INLET DETAILS
1: 20 AT A1
ADJACENT SITE CONDITIONS ARE INDICATIVE ONLY



SECTION E-E

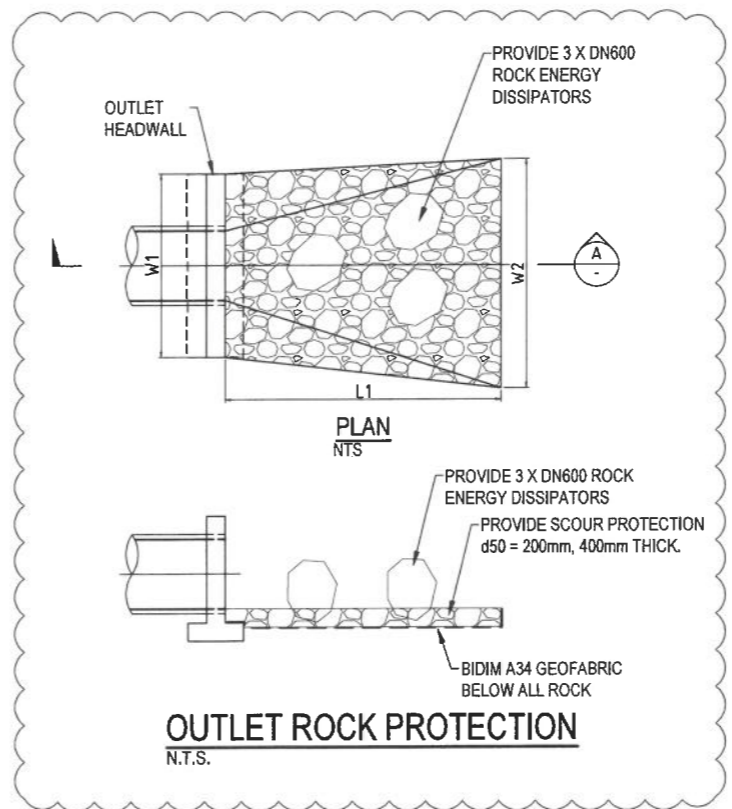
TYPICAL MANHOLE WITH 600x600 GRATED INLET
1: 20 AT A1
ADJACENT SITE CONDITIONS ARE INDICATIVE ONLY



SECTION F-F

STRUCTURE SETOUT POINTS		
STRUCTURE	HORIZONTAL SETOUT	VERTICAL SETOUT
HEADWALL		
MAINTENANCE CHAMBER		EXISTING SURFACE LEVEL CHAMBER/PIT COVER
FIELD INLET		TOP OF GRATE OR COVER, INVERT OF TABLE DRAIN

ROCK OUTLET PROTECTION DETAILS							
CULVERT ID	DIAMETER (mm)	VELOCITY (m/s)	FLOW (m³/s)	L (m)	W1 (m)	W2 (m)	d50 ROCK SIZE (mm)
4/3	525	1.28	0.253	REFER DRAWING CIV-030 FOR EXTENT			200

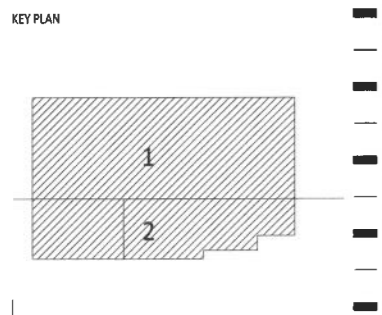


OUTLET ROCK PROTECTION
N.T.S.

STORMWATER DRAINAGE STRUCTURE NOTES

- ALL DIMENSIONS PROVIDED ON STRUCTURE DETAILS ARE IN MILLIMETRES
- SETOUT POINTS GIVEN FOR ALL STORMWATER STRUCTURES ARE TO THE CENTRE OF THE CHAMBER. FINISHED SURFACE LEVELS NOMINATED FOR:
 - ROADWAY GULLIES ARE AT THE ADJACENT LIP OF KERB;
 - FIELD INLETS ARE AT THE TOP OF THE GRATE;
 - ACCESS CHAMBERS ARE AT THE TOP OF THE ACCESS COVER.
- THE USE OF PRECAST COMPONENTS SHALL BE IN ACCORDANCE WITH THE RELEVANT AUTHORITY'S APPROVED PRODUCT LIST AND SUBJECT TO THE ENGINEERS APPROVAL.
- CONCRETE CLASS TO BE SUITABLE FOR MARINE ENVIRONMENT AND TO GRC STANDARDS AND SPECIFICATION.
- PROVIDE Ø100 UPVC SLOTTED PIPE STUB, 5.0m LONG WITH END CAP, INSTALLED ON THE UPSTREAM SIDE OF STORMWATER STRUCTURES (UNLESS DIRECTED OTHERWISE). THE STUB IS REQUIRED TO DEWATER THE PIPE TRENCH.
- ALL PIPE ENDS ARE TO BE RENDERED FLUSH WITH THE INSIDE FACE OF DRAINAGE STRUCTURES WITH A MINIMUM 50mm COVER TO STEEL REINFORCEMENT.
- JOINTS BETWEEN PRECAST UNITS ARE TO BE COMPLETELY SEALED USING A METHOD APPROVED BY THE ENGINEER.
- BASES OF ALL DRAINAGE STRUCTURES ARE TO BE BENCHED SMOOTHLY UP TO HALF HEIGHT OF PIPES (SPRING LINE).
- COVERS AND GRATES TO BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

APPROVED
14/10/2021 *[Signature]*



FOR CONSTRUCTION

AMENDMENTS		
No	Description	Date
A	ISSUED FOR CONSTRUCTION	04/02/21 LG
B	DRAINAGE OUTLET AMENDMENTS	8/09/2021 LG

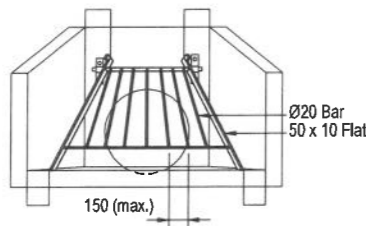
Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au
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Cardno Project No. A12075

CONSULTANTS
Architect: Puddle Thorp +61 7 4046 5900
Structural Engineer: Cardno +61 7 3369 9822
Mechanical Engineer: Integral Group +61 7 3917 8888
Electrical Engineer: Integral Group +61 7 3917 8888
Hydraulic Engineer: Integral Group +61 7 3917 8888
Civil Engineer: Tract +61 7 3852 2080
Landscape Architect: Cardno +61 7 3369 9822

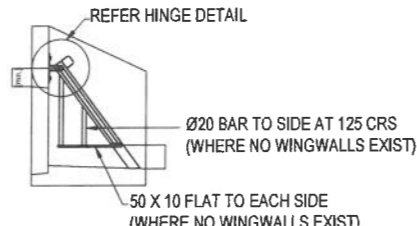
CLIENT
CQU University AUSTRALIA
FDC
FDC Construction & Fitout
CQU DRAWING NO.
CQU-GLD-015-GN-CIV-033

PROJECT
CQ UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING
DRAWING
SWD
DETAILS - SHEET 2

SCALE 1:20 @A1
AUTHORISED SIGNATURE: *[Signature]* RPEQ 22015 DATE 04-02-2021
SCALE (at A1) As Shown PROJ. NO. 450045 AUTHORISED LG DATE 4/02/2021
DRAWING NO. CQU-GLD-015-GN-CIV-033 **ISSUE B**

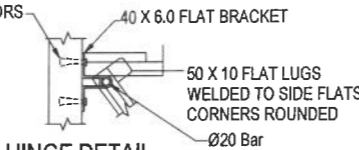


ENTRY GATE



SECTION

Ø12 MASONARY STAINLESS STEEL ANCHORS



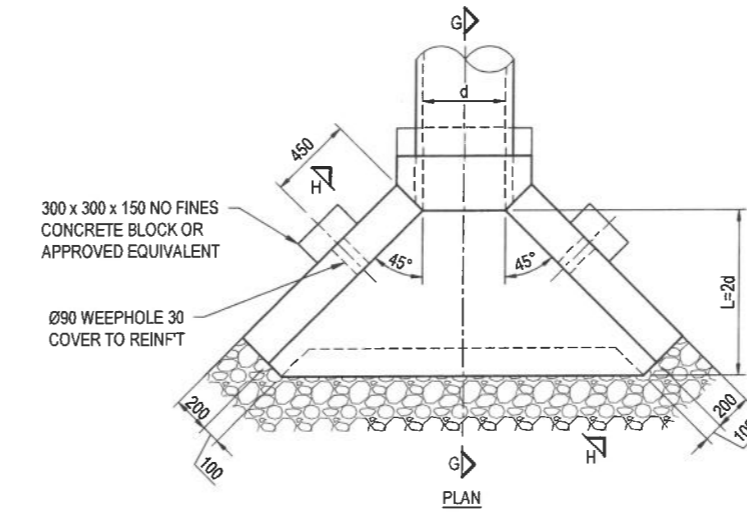
HINGE DETAIL

LENGTH OF LUGS SHALL BE SUCH THAT GRATE IS RESTRICTED IN SWING TO 45° ABOVE HORIZONTAL POSITION

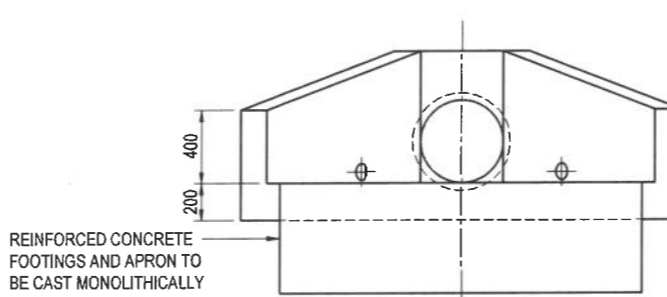
ENTRY GATE NOTES:

1. ENTRY GATES ARE REQUIRED ON ALL PIPES AND RCBC'S ENTERING THE UNDERGROUND DRAINAGE SYSTEM. GATES ARE NOT REQUIRED ON CULVERTS UNDER ROADWAYS.
2. ALL STEEL WORK SHALL BE HOT DIPPED GALVANISED TO AS 1560 AFTER FABRICATION.
3. ALL WELDS SHALL CONFORM TO AS 1554 AND BE 6MM C.F.W. UNLESS NOTED OTHERWISE.
4. SIDE BAR PROTECTION TO BE PROVIDED ONLY TO HEADWALLS WITH NO WINGWALLS.
5. ALL DIMENSIONS ARE IN MILLIMETRES.

CHILDPROOF GRATE
N.T.S.



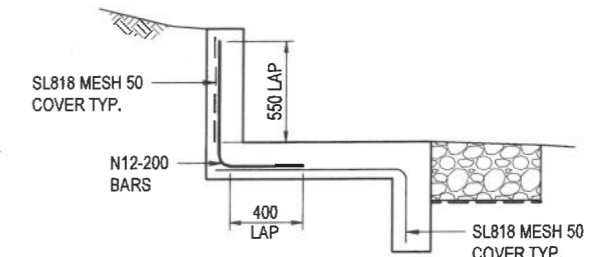
PLAN



ELEVATION

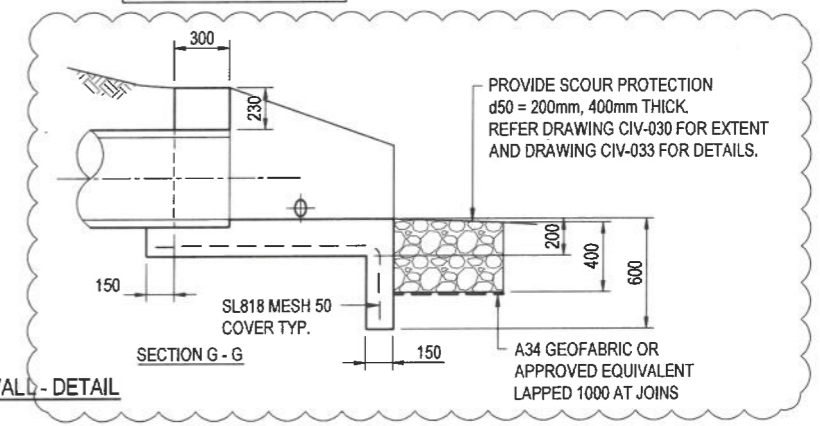
TYPICAL CONCRETE HEADWALL - DETAIL

SCALE 1:20



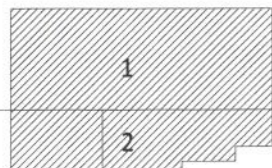
SECTION H - H

ADJACENT SITE CONDITIONS ARE INDICATIVE ONLY



SECTION G - G

KEY PLAN



FOR CONSTRUCTION

AMENDMENTS

No.	Description	Date	By
A	ISSUED FOR CONSTRUCTION	04/02/21	LG
B	DRAINAGE OUTLET AMENDMENTS	8/09/2021	LG



Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au
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Cardno Project No. A12075

CONSULTANTS

Architect:	Peddie Thorp +61 7 4046 5900
Structural Engineer:	Cardno +61 7 3369 9822
Mechanical Engineer:	Integral Group +61 7 3917 8888
Electrical Engineer:	Integral Group +61 7 3917 8888
Hydraulic Engineer:	Integral Group +61 7 3917 8888
Civil Engineer:	Kolico +61 7 3852 2080
Landscape Architect:	Tract +61 7 3022 6400
Civil Engineer:	Cardno +61 7 3369 9822

CLIENT



CQU DRAWING NO.
CQU-GLD-015-GN-CIV-034



PROJECT

CQ UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING
DRAWING
SWD
DETAILS - SHEET 3

APPROVED
14/10/2021 *Markell*



AUTHORISED SIGNATURE <i>Markell</i>	RPEQ 22015 DATE 04-02-2021		
A1 SCALE (at A1) As Shown	PROJ. NO. 450045	AUTHORISED LG	DATE 4/02/2021
DRAWING NO. CQU-GLD-015-GN-CIV-034			ISSUE B

STRUCTURE NAME	STRUCTURE DESCRIPTION	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE SLOPE (1 in X)	PIPE FLOW (cumecs)	CAPACITY FLOW (cumecs)	FULL PIPE VELOCITY (m/s)	NORMAL DEPTH VELOCITY (m/s)	DATUM RL	HGL ELEVATION	DEPTH TO INVERT	INVERT LEVEL OF DRAIN	DESIGN (& EXISTING) SURFACE LEVEL	SETOUT COORDINATES	CHAINAGE
1-1	CMDG FIELD INLET 900x900 TYPE 1 WITHOUT CONCRETE APRON CLASS 'B' GRATE AND FRAME	300	3	0.50%	200.0	0.016	0.068	0.23	0.9	-13.000	2.989 2.986	0.850	2.136	3.775 (3.738)	320985.574E 7362962.448N	0.000
2-1	CMDG ACCESS CHAMBER 1050mm DIA CLASS 'B' COVER AND FRAME	450	3	0.40%	250.0	0.070	0.213	0.44	1.20	-13.000	2.978 2.961	1.381	2.591	3.690 (3.773)	320986.918E 7362965.421N	11.728
3-3	CMDG FIELD INLET 900x900 TYPE 1 OVER 1200 DIA CHAMBER WITHOUT CONCRETE APRON CLASS 'B' GRATE AND FRAME	300	3	0.50%	200.0	0.054	0.058	0.76	1.07	-13.000	3.229 3.028	0.850	2.373	4.025 (3.836)	321028.654E 7362974.005N	46.371
1-1A	CMDG FIELD INLET 900x900 TYPE 1 WITHOUT CONCRETE APRON CLASS 'B' GRATE AND FRAME	300	3	0.50%	200.0	0.054	0.058	0.76	1.07	-13.000	3.229 3.028	0.850	2.373	4.025 (3.836)	320982.568E 7362980.564N	0.000
2-1	CMDG ACCESS CHAMBER 1050mm DIA CLASS 'B' COVER AND FRAME	450	3	0.40%	250.0	0.070	0.213	0.44	1.20	-13.000	2.978 2.961	1.381	2.591	3.690 (3.773)	320986.918E 7362965.421N	16.227
1-1B	CMDG FIELD INLET 900x900 TYPE 1 WITHOUT CONCRETE APRON CLASS 'B' GRATE AND FRAME	300	3	1.00%	100.0	0.054	0.097	0.76	1.40	-13.000	3.294 3.150	0.850	2.509	3.890 (3.172)	321014.752E 7362982.295N	0.000
2-3	CMDG ACCESS CHAMBER 1050mm DIA CLASS 'B' COVER AND FRAME	450	3	0.50%	200.0	0.070	0.213	0.44	1.20	-13.000	2.978 2.961	1.381	2.591	3.690 (3.773)	320986.918E 7362965.421N	15.856
1-2	FIELD INLET 450x450 TYPE 2 CLASS 'B' GRATE AND FRAME	225	uPVC	0.51%	195.6	0.007	0.038	0.19	0.74	-12.000	3.842 3.830	0.540	3.700	4.900 (4.094)	321056.752E 7363022.154N	23.475
2-2	FIELD INLET 450x450 TYPE 2 CLASS 'B' GRATE AND FRAME	225	uPVC	0.53%	187.3	0.015	0.039	0.37	0.91	-12.000	3.735 3.738	0.610	3.640	4.250 (4.054)	321033.456E 7363024.658N	23.475
3-2	FIELD INLET 450x450 TYPE 2 CLASS 'B' GRATE AND FRAME	225	uPVC	0.50%	198.3	0.022	0.038	0.55	0.98	-12.000	3.675 3.663	0.705	3.545	4.260 (3.987)	321031.779E 7363011.052N	37.522
4-2	FIELD INLET 450x450 TYPE 2 CLASS 'B' GRATE AND FRAME	225	uPVC	0.53%	188.5	0.022	0.039	0.55	1.00	-12.000	3.629 3.625	0.690	3.490	4.150 (3.983)	321027.224E 7363003.380N	8.922
5-2	FIELD INLET 450x450 TYPE 2 CLASS 'B' GRATE AND FRAME	225	uPVC	0.55%	182.4	0.026	0.039	0.66	1.06	-12.000	3.596 3.572	0.656	3.405	4.000 (3.911)	321025.835E 7362997.099N	56.819
6-2	CMDG FIELD INLET 600x600 TYPE 2 CLASS 'B' GRATE AND FRAME	225	uPVC	0.56%	178.3	0.034	0.034	0.84	0.96	-12.000	3.563 3.570	0.650	3.350	4.000 (3.883)	321026.084E 7362996.757N	63.204
7-2	CMDG FIELD INLET 600x600 TYPE 2 CLASS 'B' GRATE AND FRAME	225	3	0.56%	178.3	0.034	0.034	0.84	0.96	-12.000	3.511 3.413	0.670	3.330	3.700 (3.337)	321025.610E 7362997.295N	12.483
1-3	CMDG ACCESS CHAMBER 1050mm DIA CLASS 'B' CONCRETE INFILL COVER, REFER LANDSCAPE DRGS FOR FINISH	225	3	0.53%	190.0	0.037	0.033	0.93	0.93	-13.000	3.374 3.161	1.512	2.850	4.362 (4.093)	321015.344E 7363022.057N	40.044
2-3	CMDG ACCESS CHAMBER 1050mm DIA CLASS 'B' COVER AND FRAME	450	3	0.50%	200.0	0.183	0.202	1.03	1.41	-13.000	3.161 3.111	1.420	2.639	4.060 (3.883)	321030.596E 7362982.295N	40.044
3-3	CMDG FIELD INLET 900x900 TYPE 1 OVER 1200 DIA CHAMBER WITHOUT CONCRETE APRON CLASS 'B' GRATE AND FRAME	525	3	0.30%	333.3	0.274	0.253	1.28	1.28	-13.000	2.940 2.962	1.462	2.448	4.025 (3.836)	321025.654E 7362974.005N	8.343
4-3	OUTLET HEADWALL REFER DETAILS									-13.000	2.840	0.625	2.285	3.167 (2.981)	321046.613E 7362980.099N	70.972
1-4	CMDG FIELD INLET 600x600 TYPE 2 CLASS 'D' GRATE AND FRAME	300	3	0.50%	200.0	0.005	0.081	0.07	0.83	-12.000	3.752 3.151	0.625	3.598	4.327 (3.955)	321102.704E 7362986.550N	0.000
2-4	CMDG FIELD INLET 600x600 TYPE 2 CLASS 'D' GRATE AND FRAME	300	3	0.50%	200.0	0.010	0.081	0.14	0.77	-12.000	3.683 3.681	0.700	3.627	4.326 (3.934)	321088.379E 7362985.776N	14.347
3-4	CMDG FIELD INLET 600x600 TYPE 2 CLASS 'D' GRATE AND FRAME	300	3	0.50%	200.0	0.015	0.081	0.21	0.87	-12.000	3.597 3.583	0.839	3.592	4.351 (3.966)	321084.432E 7362984.751N	18.974
4-4	CMDG FIELD INLET 600x600 TYPE 2 CLASS 'D' GRATE AND FRAME	300	3	0.50%	200.0	0.019	0.081	0.27	0.94	-12.000	3.448 3.448	0.785	3.353	4.138 (3.888)	321042.279E 7362978.870N	27.783
5-4	CMDG FIELD INLET 600x600 TYPE 2 CLASS 'B' GRATE AND FRAME	300	3	0.50%	200.0	0.019	0.081	0.27	0.94	-12.000	3.320 3.320	0.500	3.320	3.820 (3.857)	321042.587E 7362976.333N	25.556
1-5	FIELD INLET 900x900 TYPE 1 CLASS 'B' GRATE AND FRAME	300	3	1.00%	100.0	0.027	0.397	0.38	1.17	-13.000	3.172 3.126	0.970	3.000	4.145 (3.940)	321035.594E 7362975.475N	0.000
3-3	CMDG FIELD INLET 900x900 TYPE 1 OVER 1200 DIA CHAMBER WITHOUT CONCRETE APRON CLASS 'B' GRATE AND FRAME	300	3	1.00%	100.0	0.027	0.397	0.38	1.17	-13.000	3.034 2.862	0.924	2.526	4.075 (3.836)	321025.654E 7362974.005N	7.435

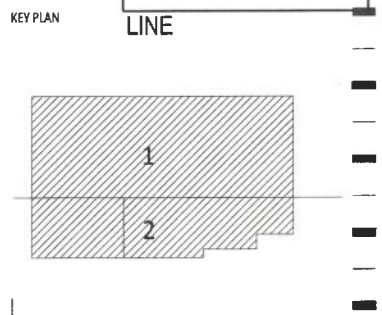
NOTE:
SUBJECT TO AUTHORITY APPROVAL, BlackMAX STORMWATER PIPES OR APPROVED EQUIVALENT MAY BE INSTALLED IN LIEU OF SPECIFIED REINFORCED CONCRETE PIPES.
WHERE APPROVED, BlackMAX PIPES TO BE INSTALLED TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

HIGHEST ASTRONOMICAL TIDE LEVEL (H.A.T.) RL.2.562 EXTRAPOLATED FROM DWG SURVEY FILE PROVIDED ON 4 AUGUST 2021.

MEAN HIGH WATER SPRINGS LEVEL (MHWS) RL.1.692. (MHWS INFORMATION PROVIDED BY FDC ON 22 SEPTEMBER 2021)

APPROVED
14/10/2021 *[Signature]*

FOR CONSTRUCTION



AMENDMENTS	No.	Description	Date	By
A	ISSUED FOR CONSTRUCTION	04/02/21	LG	
B	DRAINAGE OUTLET AMENDMENTS	8/09/2021	LG	
C	MHW LINES ADDED	23/09/2021	LG	

Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au

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Cardno Project No. A12075

CONSULTANTS
Architect: **Peddie Thorp +1 7 4046 5000**
Structural Engineer: **Cardno +61 7 3369 9822**
Mechanical Engineer: **Cardno +61 7 3917 8888**
Electrical Engineer: **Integral Group +61 7 3917 8888**
Hydraulic Engineer: **Integral Group +61 7 3917 8888**
Civil Engineer: **Integral Group +61 7 3917 8888**
Landscape Architect: **Tract +61 7 3002 6400**
Civil Engineer: **Cardno +61 7 3369 9822**

CQU University
CQU DRAWING NO. **CQU-GLD-015-GN-CIV-035**

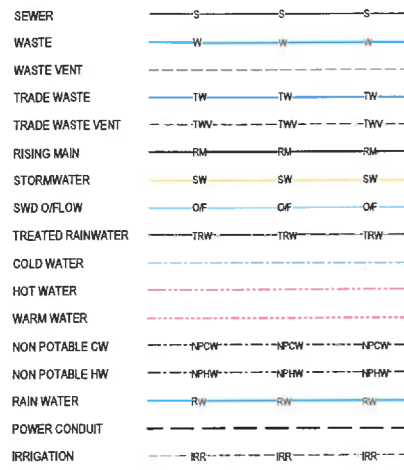
FDC Construction & Fitout

PROJECT
CQ UNIVERSITY - GLADSTONE SCHOOL OF MANUFACTURING

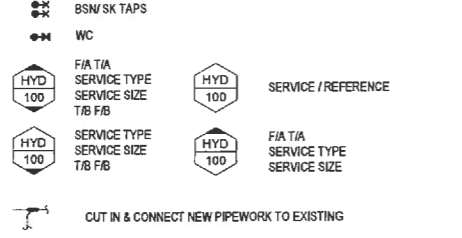
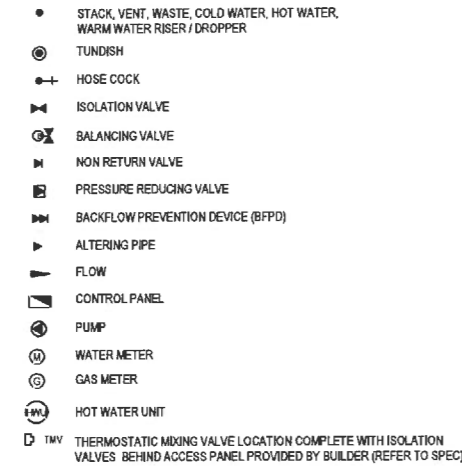
DRAWING
SWD LONGITUDINAL SECTIONS

AUTHORISED SIGNATURE <i>[Signature]</i>	RPEQ 22015 DATE 04-02-2021
SCALE: (at A1) As Shown	PROJ. NO. 450045
AUTHORISED LG	DATE 4/02/2021
DRAWING NO. CQU-GLD-015-GN-CIV-035	ISSUE C

NEW SERVICES LINE TYPES



TYPICAL LEGEND OF SYMBOLS



GENERAL ABBREVIATIONS

A/	ABOVE	GA	GREASE ARRESTOR	S	SEWER
AAV	AIR ADMITTANCE VALVE	GL	GROUND LEVEL	SEN	SENSOR TAP
AB	ACCESSIBLE BASIN	GM	GAS METER	SEP	SIDE ENTRY PIT
AC	AIR CONDITIONING	GMS	GALVANIZED MILD STEEL	SHR	SHOWER
AFFL	ABOVE FINISHED FLOOR LEVEL	GO	GRATED OUTLET	SK	SINK
A/P	ACCESS PANEL	GR.ST	GREASE STACK	SL	SURFACE LEVEL
ASH	ACCESSIBLE SHOWER	GR.V	GREASE VENT	SMH	SEWER MANHOLE
AWC	ACCESSIBLE WATER CLOSET	GR,W	GREASE WASTE	SMS	SEWER MAINTENANCE SHAFT
B	BASIN	GTD	GRATED TRENCH DRAIN	SRM	SEWER RISING MAIN
BB	BABY BATH	GV	GAS VALVE	S/S	STAINLESS STEEL
BCWU	BOILING & CHILLED WATER UNIT	GV	GAS VENT	SS	SUBSOIL RISING MAIN
BFPD	BACKFLOW PREVENTION DEVICE	GVP	GAS VENT PIPE	SSEW	SAFETY SHOWER/EYE WASH
BIB	SHROUDED BIB TAP	HC	HOSE TAP	SSL	STRUCTURAL SLAB LEVEL
BO	BALCONY OUTLET	H&C	HOT & COLD WATER	SST	SOIL STACK
BR	BRANCH	HD	HEAVY DUTY	ST	STACK - ST
BT	BOUNDARY TRAP	HDPE	HIGH DENSITY POLYETHYLENE	STV	STACK VENT
BTFW	BASKET TYPE FLOOR WASTE	HL	HIGH LEVEL	SV	STOP VALVE/STOP TAP
BTH	BATH	HP	HIGH POINT	SWD	STORMWATER DRAIN
BTHISHR	BATH WITH SHOWER OVER	HT	HOSE TAP - HT	SWRN	STORM WATER RISING MAIN
BWU	BOILING WATER UNIT	HW	HOT WATER	T/A	TO ABOVE
CEIL	CEILING	HWF	HOT WATER FLOW	T/B	TO BELOW
CD	CONDENSATE DRAIN	HWR	HOT WATER RETURN	TD	TUNDISH
CI	CAST IRON	HWU	HOT WATER UNIT	TD/CV	TESTABLE DOUBLE CHECK VALVE
CI/CL	CAST IRON CEMENT LINED	LO	INSPECTION OPENING	TMV	THERMOSTATIC MIXING VALVE
CIP	CAST IRON PIPE	IL	INVERT LEVEL	TPR	TEMPERATURE & PRESSURE RELIEF VALVE
CO	CLEAR OUT	lo	INSPECTION OPENING	TTD	TRAPPED TUNDISH
CP	CONTROL PANEL	IPMF	INDUCT PIPE MCA FLAP	TV	TEMPERING VALVE
CS	CLEANERS SINK	IRR	IRRIGATION SERVICE	TW	TRADE WASTE
CS	CEILING SPACE	JU	JUMP UP	TWV	TRADE WASTE VENT
CU	COPPER	LD	LIGHT DUTY	U/	UNDER
CV	CHECK VALVE - CV CONTROL VALVE	LL	LOW LEVEL	UNO	UNLESS NOTED OTHERWISE
CVP	CHAMBER VENT PIPE	MF	MANIFOLD	UPVC	UNPLASTICISED POLYVINYL CHLORIDE
CW	COLD WATER	MD	MEDIUM DUTY	UR	URINAL
CWU	CHILLED WATER UNIT	ML	MID LEVEL	V	VENT
D	DRAIN	NRV	NON RETURN VALVE	VCP	VITRIFIED CLAY PIPE
DB	DISABLED BASIN	KE	KERB ENTRY	VP	VENT PIPE
DCV	DOUBLE CHECK VALVE	IPB	PRESSURE IN KILOPASCALS	VW	VERTICAL WASTE
DCW	DOMESTIC COLD WATER	LF	FLOW IN LITRES PER SECOND	W	WASTE
DF	DRINKING FOUNTAIN	LL	LOW LEVEL	W&C	WARM & COLD WATER
DG	DISCONNECTOR GULLY	LT	LAUNDRY TUB/TROUGH	WC	WATER CLOSET
DI/CL	DUCTILE IRON CEMENT LINED	LU	LOADING UNITS	WM	WASHING MACHINE
DP	DOWN PIPE	m/h	PRESSURE IN METRES HEAD	WN	WATER METER
DV	DRAINAGE VENT	MJ/h	MEGAJOULE PER HOUR	WW	WARM WATER
DT	DRINKING TROUGH	NG	NATURAL GAS	WT	WASH TROUGH
DTU	DRAINAGE TURN UP	NP	NON POTABLE WATER SERVICE	XLPE	CROSS LINKED POLYETHYLENE
DW	DISHWASHER	OF	OVERFLOW		
E	EXISTING	OFG	OVERFLOW GULLY OVER		
EJ	EXPANSION JOINT	ORG	OVERFLOW RELIEF GULLY		
EW	EYE WASH	PD	PLANTER DRAIN		
EW/SS	COMBINED EYE WASH/SAFETY SHOWER	PE	POLYETHYLENE		
F/A	FROM ABOVE	PFE	PORABLE FIRE EXTINGUISHER		
F/B	FROM BELOW	PLV	PRESSURE LIMITING VALVE		
F/FL	FINISHED FLOOR LEVEL	PP	POLYPROPYLENE		
FH	FIRE HYDRANT	PRV	PRESSURE REDUCTION VALVE		
FHR	FIRE HOSE REEL	Q	FLOW		
F.L	FLOOR LEVEL	QT	QUENCHING TANKS		
FL	FLUSH LINE	RCP	REINFORCED CONCRETE PIPE		
FRC	FIBRE REINFORCED CEMENT	RD	ROOD DRAIN		
FSL	FINISHED SLAB LEVEL	RL	REDUCED/RELATIVE LEVEL		
FU	FIXTURE UNITS	RPZD	REDUCED PRESSURE ZONE DEVICE		
FV	FLOOR WASTE	RVZ	RELIEF VENT		
FWG	FLOOR WASTE GULLY	RVP	REFLUX VALVE RELIEF VENT PIPE		
		RW	RAIN WATER RE-USE SERVICE OR RECYCLED WATER		
		RWO	RAIN WATER OUTLET		

No. OF FIXTURES No. OF FU's	TBC TBC
ADDRESS	613 BRYAN JORDAN DRIVE CALLEE MOUNDWAI, QLD 4680 210 CW SP12/888
RFD LOCAL AUTHORITY DEVELOPMENT TYPE	GPC/GRC EDUCATION
OWNER DETAILS CONTACT EMAIL CONTACT PHONE	CQU University Australia CO Michael Wakeham m.wakeham@cqu.edu.au (07) 4530 6506
DESIGNER QBCC	GRAEME MALCOLM KNOX SMITH 10631 73
THESE DRAWINGS HAVE BEEN DESIGNED TO COMPLY WITH AS3600.1 WATER SERVICES AS3600.2 SANITARY PLUMBING & DRAINAGE AS3600.3 STORM WATER DRAINAGE AS3600.4 HEATED WATER SERVICES	

FIXTURE ABBREVIATION, WASTE & WATER SUPPLY SIZE SCHEDULE

ABBREVIATION	FIXTURE TYPE	WASTE CONNECTION MINIMUM SIZE (mm)	WATER SUPPLY MINIMUM SIZE (mm)
B/DB	BASIN/DISABLED BASIN	Ø40 INDIVIDUALLY TRAPPED	Ø15 WARM WATER & CW BRANCHES WHERE NOMINATED
BTFW	BUCKET TRAP FLOOR WASTE	Ø100xØ100 IN GROUND	N/A
BTH	BATH	Ø40	Ø20 WARM WATER & CW BRANCHES
BCWU	BOILING WATER UNIT	Ø40	Ø15 CW BRANCH WITH STOP TAP
CS	CLEANERS SINK	Ø50	Ø20 HW & CW BRANCHES
DF	DRINKING FOUNTAIN	Ø40	Ø15 CW WITH BALL VALVE OR STOP TAP
DWM	DISHWASHING MACHINE	Ø50 DISCHARGE TO ADJACENT SINK	Ø15 HW BRANCH WITH STOP TAP PRESSURE REDUCTION VALVE SET TO 400kPa MAX
DT	DRINKING TROUGH	Ø50 TRAP AND WASTE	Ø20 CW WITH BALL VALVE
FWG	FLOOR WASTE GULLY	80x65 CHROME PLATED	Ø15 CW SUPPLY FOR ELECTRONIC TRAP PRIMING WHERE REQUIRED
LT	LAUNDRY TROUGH	Ø50	Ø20 HW & CW BRANCHES
PD	PLANTER DRAIN OUTLET	Ø100	n/a
QT/VB	QUENCHING TANK W/ VACUUM BREAKER	Ø50 TRAP AND WASTE	Ø20 CW HOSE TAP W/ VACUUM BREAKER
SHR	SHOWER	Ø100xØ100 IN GROUND; Ø100xØ50 (PALAZZI) ABOVE GROUND	Ø15 WARM WATER & CW BRANCHES
SK	SINK	Ø50 INDIVIDUALLY TRAPPED	Ø20 HW & CW BRANCHES
SS/EW	SAFETY SHOWER/EYE WASH	Ø40	Ø25 CW WITH BALL VALVE
TD	TUNDISH		
	-ON WALL	Ø100xØ50	n/a
	-IN WALL	Ø50 CONNECTED TO STAINLESS STEEL PROPRIETARY TUNDISH	n/a
UR	URINAL - WALL HUNG	Ø50	Ø20 CW BRANCH WITH STOP TAP
WC	WATER CLOSET	Ø100	Ø15 CW BRANCH WITH STOP TAP
WT	WASH TROUGH	50x50	Ø20 CW BRANCH WITH STOP TAP

TESTABLE BACKFLOW PREVENTION SCHEDULE

NO.	MAKE	TYPE	LOCATION & REASON FOR INSTALLATION	SIZE	SERIAL NO.
1		RPZD	GROUND FLOOR EXTERNAL - MAIN METERING ASSEMBLY FOR POTABLE WATER SERVICE PROTECTION FOR ZONE CONTAINMENT.	50mm	
2		TESTABLE DCV	GROUND FLOOR EXTERNAL - MAIN METERING ASSEMBLY FIRE HYDRANT SERVICE.	100mm	
3		RPZD	GROUND FLOOR EXTERNAL - SOUTH WESTERN EXTERNAL WALL FOR POTABLE WATER SERVICE PROTECTION FOR SANITARY PUMP STATION MAINTENANCE.	20mm	
4		RPZD	GROUND FLOOR EXTERNAL - SOUTHERN EXTERNAL WALL OUTSIDE SPECIALIST WELDING AREA FOR POTABLE WATER SERVICE PROTECTION FOR SILT TRAP ARRESTOR MAINTENANCE.	20mm	
5		RPZD	GROUND FLOOR PLANT ROOM - POTABLE WATER SERVICE PROTECTION FROM MECHANICAL EQUIPMENT.	20mm	
6		RPZD	GROUND FLOOR TANK COMPOUND - POTABLE WATER SERVICE PROTECTION FROM ADVANCED MANUFACTURING TANK UNIT.	32mm	
7		RPZD	GROUND FLOOR TANK COMPOUND - POTABLE WATER SERVICE PROTECTION FROM RAINWATER CHANGEOVER DEVICE.	32mm	
8		RPZD	GROUND FLOOR CLEANERS ROOM - POTABLE WATER BACKFLOW PROTECTION FOR CHEMICAL DOSING UNIT.	20mm	
9		RPZD	GROUND FLOOR CLEANERS ROOM - POTABLE HOT WATER BACKFLOW PROTECTION FOR CHEMICAL DOSING UNIT.	20mm	

COUNCIL APPROVAL

AMENDMENTS	No	Description	Date	By
1	30% ISSUE		28-04-20	TJM
2	COORDINATION ISSUE		25-09-20	
3	60% ISSUE		16-10-20	NVR
4	90% ISSUE		07-12-20	NVR
5	FINAL COORDINATION ISSUE		09-02-21	NVR
6	COUNCIL APPROVAL		19-02-21	NVR

Integral Group
Queensland Pty Ltd
ABN 91 142 668 773
Level 7, 200 Creek St
Brisbane
Queensland 4000 AUSTRALIA
T +61 7 3517 8888
brisbane@integralgroup.com
iv@integralgroup.com

CONSULTANTS	Name	Contact
Architect	Peddie Thorp	+61 7 4046 5900
Structural Engineer	Cardno	+61 7 3369 9822
Mechanical Engineer	Integral Group	+61 7 3917 8888
Electrical Engineer	Integral Group	+61 7 3917 8888
Hydraulic Engineer	Integral Group	+61 7 3917 8888
Civil Engineer	Intisco	+61 7 3852 2080
Landscaping Architect	Tract	+61 7 3002 6400
Civil Engineer	Cardno	+61 7 3369 9822

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CQU-GLD-015-00-HYD-001

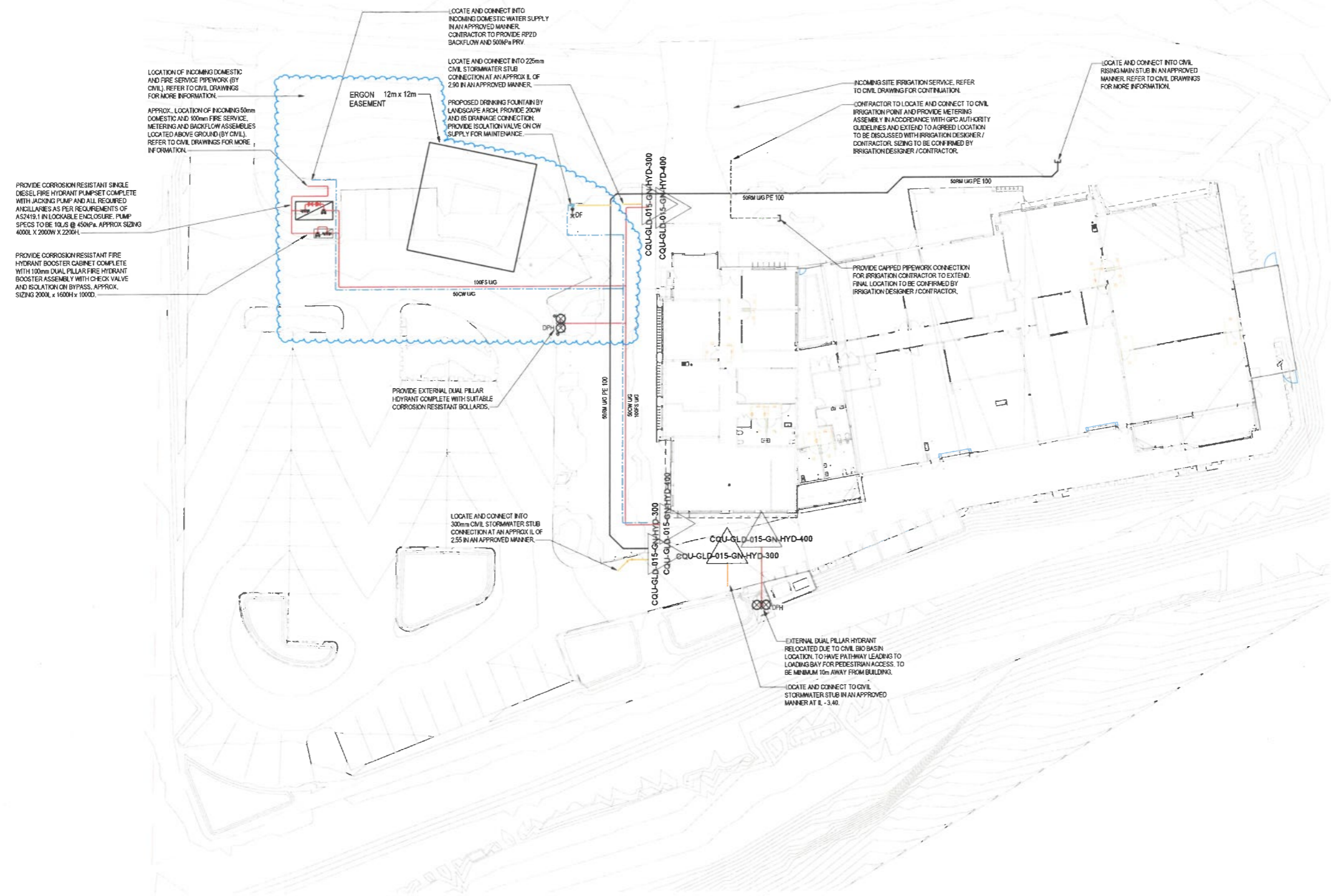
PROJECT
CQU - GLADSTONE SCHOOL OF
MANUFACTURING
DRAWING
HYDRAULIC SERVICES
LEGEND & GENERAL NOTES

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A1	SCALE (at A1) As Indicated	PROJ. NO. 620069	AUTHORISED	DATE 03/30/20
DRAWING NO. CQU-GLD-015-00-HYD-001				ISSUE 6

No. OF FIXTURES No. OF F.U.'s	TBC TBC
ADDRESS	613 BRYAN JORDAN DRIVE CALLEMONDAH, QLD 4680 213 ON SP120668
RFD LOCAL AUTHORITY DEVELOPMENT TYPE	GP/GRIC EDUCATION
OWNER DETAILS CONTACT EMAIL CONTACT PHONE	CQUniversity Australia C/O Michael Waleham m.waleham@cqu.edu.au (07) 4530 9508
DESIGNER QBCC	GRAEME MALCOLM KNOX SMITH 1063179

NOTES:
A. REFER TO DRAWING CQU-GLD-015-00-HYD-001 FOR LEGEND & GENERAL NOTES.



COUNCIL APPROVAL

20
17.5
15
12.5
10
7.5
5
2.5
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AMENDMENTS		
No	Description	Date By
1	30% ISSUE	28-04-20 TXM
2	COORDINATION ISSUE	25-09-20
3	60% ISSUE	16-10-20 JWR
4	90% ISSUE	07-12-20 JWR
5	FINAL COORDINATION ISSUE	09-02-21 JWR
6	COUNCIL APPROVAL	19-02-21 TXM
7	COUNCIL APPROVAL	19-05-21 TXM

Integral Group
Queensland Pty Ltd
ABN 91 142 658 773
Level 7, 200 Creek St
E Brisbane
Queensland 4000 AUSTRALIA
T +61 7 3917 8888
brisbane@integralgroup.com



CONSULTANTS	
Architect:	Peddie Thorp +61 7 4046 5900
Structural Engineer:	Cardno +61 7 3369 9822
Mechanical Engineer:	Integral Group +61 7 3917 8888
Electrical Engineer:	Integral Group +61 7 3917 8888
Hydraulic Engineer:	Integral Group +61 7 3917 8888
Certifier:	Kolaco +61 7 3852 2080
Landscape Architect:	Tract +61 7 3002 6400
Civil Engineer:	Cardno +61 7 3369 9822



CQU DRAWING NO.
CQU-GLD-015-00-HYD-201



PROJECT
CQU - GLADSTONE SCHOOL OF
MANUFACTURING
DRAWING
HYDRAULIC SERVICES
LOCAL SITE PLAN

APPROVED
14/10/2021
Waleham

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A1	SCALE (at A1) 1 : 250	PROJ. NO. 620069	AUTHORISED
DRAWING NO. CQU-GLD-015-00-HYD-201			DATE 03/30/20
ISSUE 7			

No. OF FIXTURES	TBC
No. OF FUs	TBC
ADDRESS	613 BRYAN JORDAN DRIVE CALLEMONDAH, QLD 4680 210 ON SP1 26686
LOCAL AUTHORITY	GFC/GRC
DEVELOPMENT TYPE	EDUCATION
OWNER DETAILS	CQU University Australia G/O Michael Waleham m.waleham@cqu.edu.au (07) 4530 9508
CONTACT EMAIL	
CONTACT PHONE	
DESIGNER	GRAEME MALCOLM KNOX SMITH 1063179
QBCC	

- NOTES:**
- A. REFER TO DRAWING CQU-GLD-015-00-HYD-001 FOR LEGEND & GENERAL NOTES.
 - B. PROVIDE LEAF GUARDS TO ALL GUTTERS.
 - C. ALL DOWNPIPES CONNECTING TO RAINWATER TANK TO BE PROVIDED WITH LEAF EATER STYLE HEADS.
 - D. ALL EAVES GUTTER TO HAVE 100% OVERFLOW PROVISIONS.
 - E. PROVIDE RAINWATER HEADS FOR ALL DOWNPIPES SUPPLYING THE RAINWATER STORAGE TANK.
 - F. PROVIDE DRAINAGE CONNECTIONS TO IN-WALL RPZD BACKFLOW ASSEMBLIES.
 - G. ALL TUNDISHES TO BE CONNECTED INTO SANITARY PLUMBING/ DRAINAGE OR STORMWATER IN AN APPROVED MANNER. ALL TUNDISH TO BE EQUAL TO IN-WALL BRITEX D-TW-B COMPLETE WITH INSULATION AROUND BOX.
 - H. ALL WCs TO HAVE CLEAR OUT TO SURFACE LOCATED NEXT TO PAN FOR MAINTENANCE. PROVIDE WITH CHROME PLATED BRASS FINISH.
 - I. PROVIDE SWIVEL AND EXPANSION JOINTS WHEN ENTERING AND EXITING UNDER FOUNDATIONS.
 - J. ALL UNDERSLAB DRAINAGE & WATER SERVICES INTERNAL TO THE BUILDING FOOTPRINT TO HAVE SUPPORTS TIED INTO STRUCTURE.



PROVIDE 400L SANITARY PUMP STATION COMPLETE WITH DUAL SUBMERSIBLE PUMPS. PUMPS TO BE MOUNTED ON STAINLESS STEEL RAILS. ACCESS LIDS TO BE MINIMUM CLASS D AIGHTIGHT COVERS. ANTI FLATULATION BASE AND INSTALLED AS PER MANUFACTURERS INSTRUCTIONS. PUMP DUTIES TO BE EACH 1.5L/S @ 20m ON AN ALTERNATING DUTY STANDBY ARRANGEMENT.

COUNCIL APPROVAL

AMENDMENTS	No	Description	Date	By
1	30% ISSUE		28-04-20	TYM
2	COORDINATION ISSUE		25-09-20	
3	60% ISSUE		15-10-20	NVR
4	90% ISSUE		07-12-20	NVR
5	FINAL COORDINATION ISSUE		09-02-21	NVR
6	COUNCIL APPROVAL		19-02-21	NVR

Integral Group
 Queensland Pty Ltd
 Level 7, 200 Creek St
 Brisbane
 Queensland 4000 AUSTRALIA
 T +61 7 3917 8888
 brisbane@integralgroup.com
 integralgroup.com

CONSULTANTS

Architect: **Peddie Thorp** +61 7 4046 5900
 Cardno +61 7 3369 9822
 Structural Engineer: **Cardno** +61 7 3369 9822
 Mechanical Engineer: **Integral Group** +61 7 3917 8888
 Electrical Engineer: **Integral Group** +61 7 3917 8888
 Hydraulic Engineer: **Integral Group** +61 7 3917 8888
 Certifier: **Kolbe** +61 7 3852 2000
 Landscape Architect: **Tract** +61 7 3002 6400
 Civil Engineer: **Cardno** +61 7 3369 9822

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CQU DRAWING NO.
CQU-GLD-015-GN-HYD-300

PROJECT

CQU - GLADSTONE SCHOOL OF MANUFACTURING
 DRAWING
HYDRAULIC SERVICES
 GROUND LEVEL - DRAINAGE SERVICES

SCALE (at A1)
 1:100

PROJ. NO.
 620069

AUTHORISED

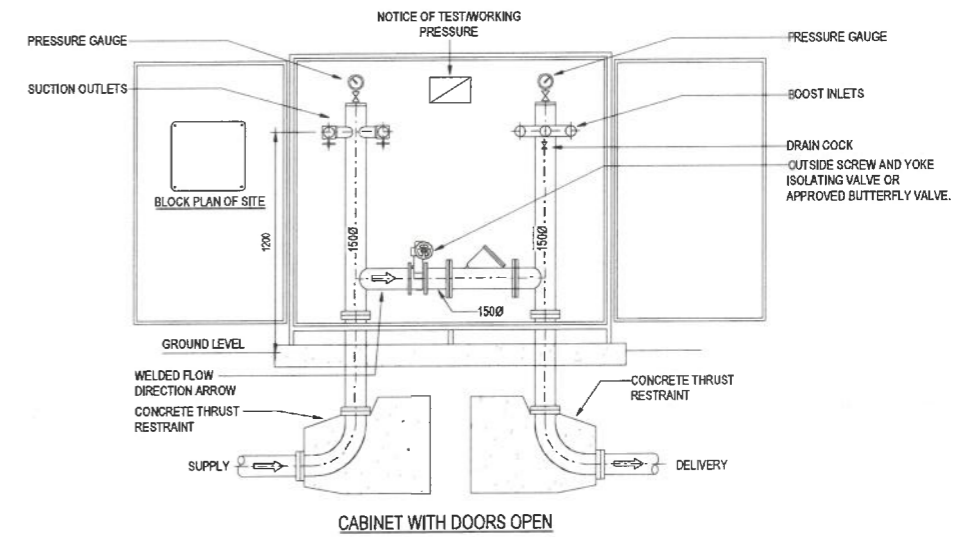
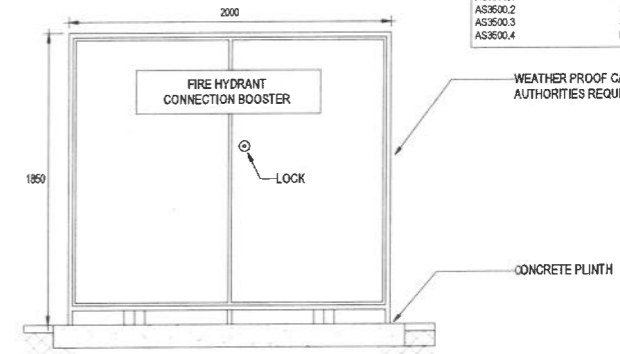
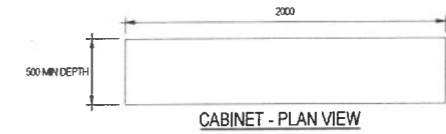
DATE
 03/30/20

DRAWING NO.
CQU-GLD-015-GN-HYD-300

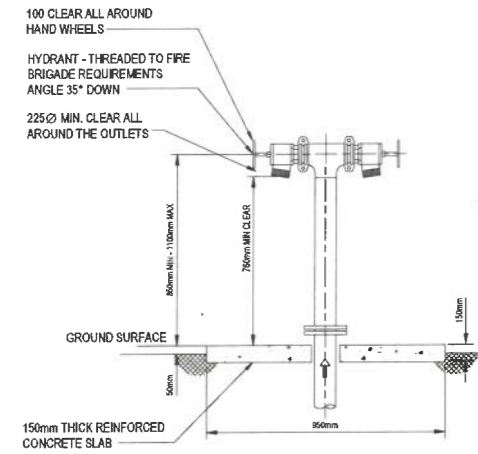
ISSUE
6

APPROVED
 14/10/2021 *J. Horsfield*

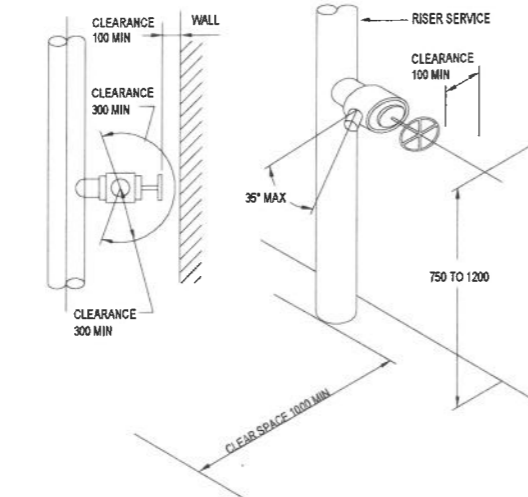
No. OF FIXTURES No. OF FUs	TBC TBC
ADDRESS	613 BRYAN JORDAN DRIVE CALLEMONDAH QLD 4680 215 ON SP 22556
RPD LOCAL AUTHORITY	GPC/GRG
DEVELOPMENT TYPE	EDUCATION
OWNER DETAILS	COUniversity Australia C/O Michael Waleham
CONTACT EMAIL	m.waleham@cqu.edu.au
CONTACT PHONE	(07) 4530 6508
DESIGNER	GRAEME MALCOM KNOX SMITH
CIBC	1063179
THESE DRAWINGS HAVE BEEN DESIGNED TO COMPLY WITH AS3600.1 WATER SERVICES AS3600.2 SANITARY PLUMBING & DRAINAGE AS3600.3 STORM WATER DRAINAGE AS3600.4 HEATED WATER SERVICES	



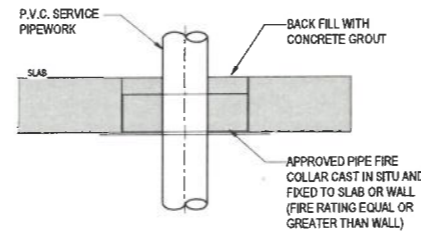
3 FIRE SERVICES BOOSTER CABINET (DUAL)
N.T.S.



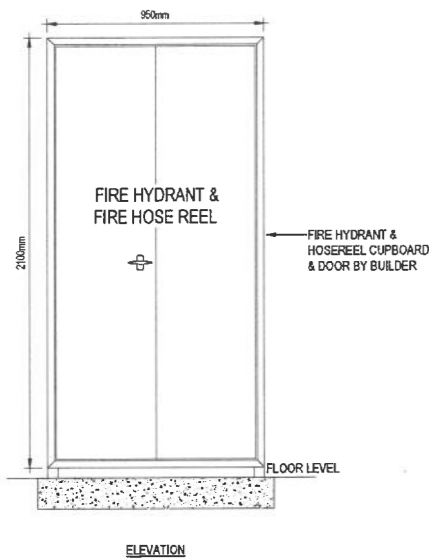
1 EXTERNAL DUAL HEAD HYDRANT
N.T.S.



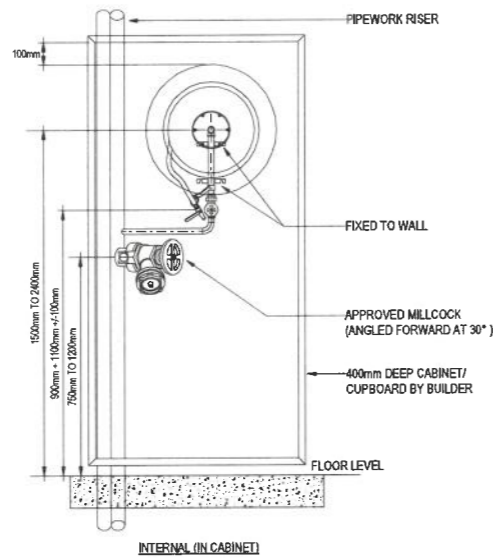
2 FIRE STAIR HYDRANT DETAIL
N.T.S.



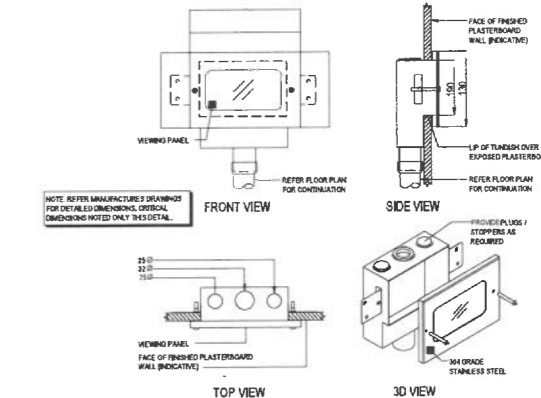
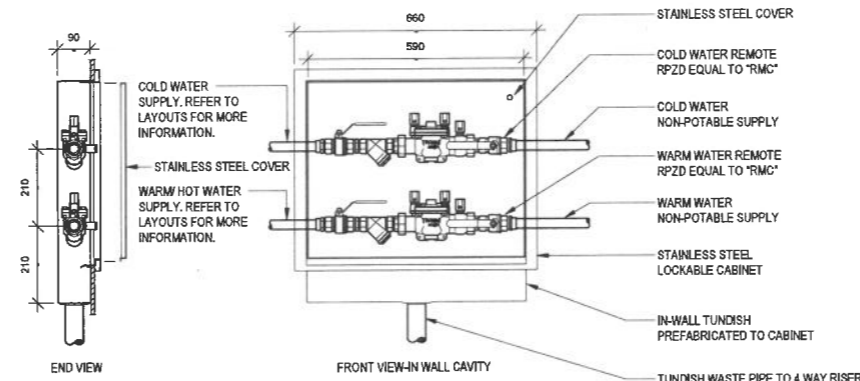
5 FIRE COLLAR FOR P.V.C. PIPE PENETRATING THROUGH FIRE RATED STRUCTURE
N.T.S.



4 FIRE HYDRANT & FIRE HOSE REEL
N.T.S.



6 IN-WALL COLD & WARM WATER RPZD VALVES WITHIN CABINET
N.T.S.



7 IN-WALL TUNDISH
N.T.S.

COUNCIL APPROVAL

AMENDMENTS	No	Description	Date	By
1	90% ISSUE		07-12-20	DWR
2	FINAL COORDINATION ISSUE		09-02-21	DWR
3	COUNCIL APPROVAL		19-02-21	DWR

Integral Group
Queensland Pty Ltd
ABN 91 142 668 773
Level 7, 200 Creek St
Brisbane
Queensland 4000 AUSTRALIA
T +61 7 3917 8888
bob@integralgroup.com
integralgroup.com



CONSULTANTS
Architect: **Peddie Thorp** +61 7 4046 5900
Cardno +61 7 3369 9822
Structural Engineer: **Integral Group** +61 7 3917 8888
Mechanical Engineer: **Integral Group** +61 7 3917 8888
Electrical Engineer: **Integral Group** +61 7 3917 8888
Hydraulic Engineer: **Integral Group** +61 7 3917 8888
Certifier: **Jobisco** +61 7 3852 2080
Landscape Architect: **Tract** +61 7 3002 6400
Civil Engineer: **Cardno** +61 7 3369 9822



CLIENT
CQU DRAWING NO.
CQU-GLD-015-GN-HYD-501



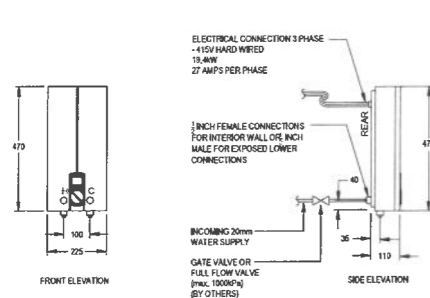
PROJECT
CQU - GLADSTONE SCHOOL OF MANUFACTURING
DRAWING
HYDRAULIC SERVICES
STANDARD DETAILS - SHEET 2

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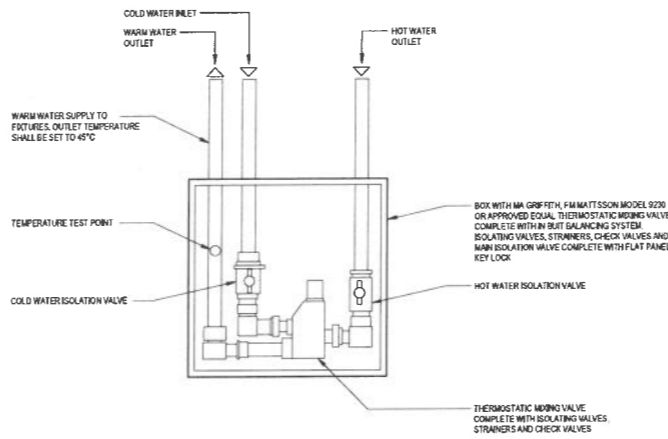
A1 SCALE (at A1) As indicated	PROJ. NO. 620069	AUTHORISED	DATE 12/07/20
DRAWING NO. CQU-GLD-015-GN-HYD-501			ISSUE 3

APPROVED
14/10/2021
Morganfield

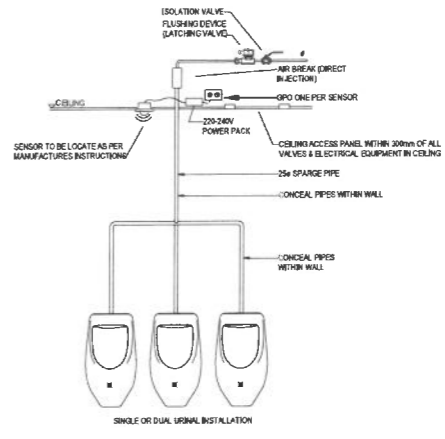
No. OF FIXTURES No. OF FLUs	TBC TBC
ADDRESS	613 BRYAN JORDAN DRIVE CALLEMONDIAH QLD 4880 210 ON SP7 20888
RPD LOCAL AUTHORITY	GPO:GRC
DEVELOPMENT TYPE	EDUCATION
OWNER DETAILS	CQU University Australia C/O Michael Walsham m.walsham@cqu.edu.au (07) 4930 0500
CONTACT PHONE	
DESIGNER	GRAEME MALCOM KNOX SMITH 1063179
QBCCC	
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1 KITCHENETTE ELECTRIC INSTANTANEOUS HOT WATER UNIT - DEL 18AU
N.T.S



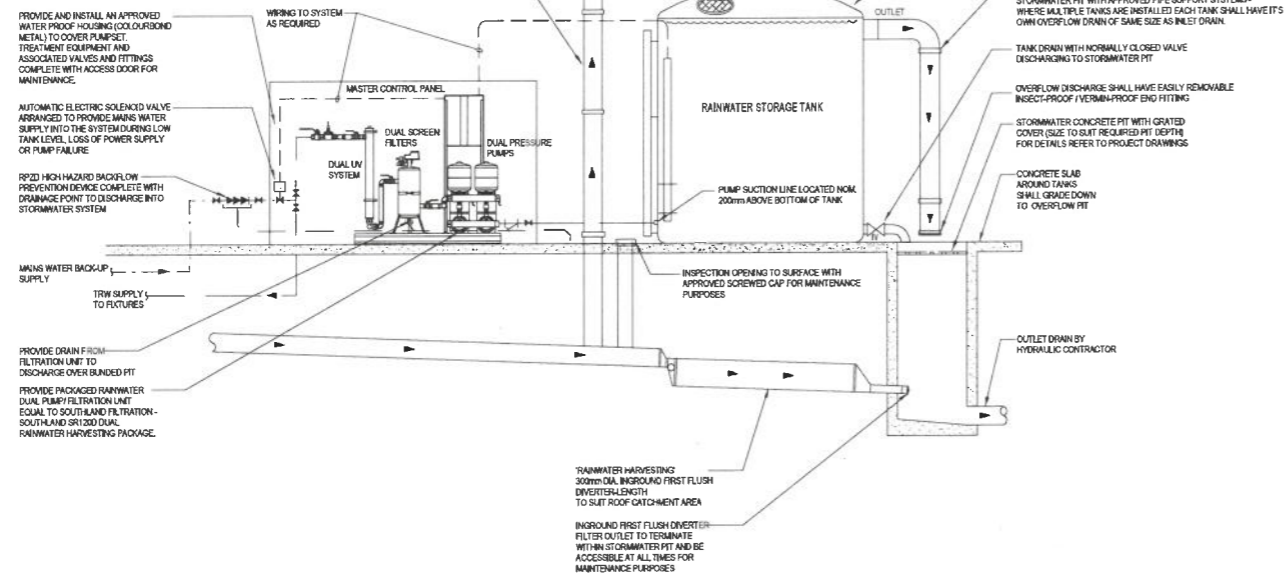
2 MAG MATSSON PRESSURE BALANCED THERMOSTATIC MIXING VALVE 3 PIPES ONE WAY
N.T.S



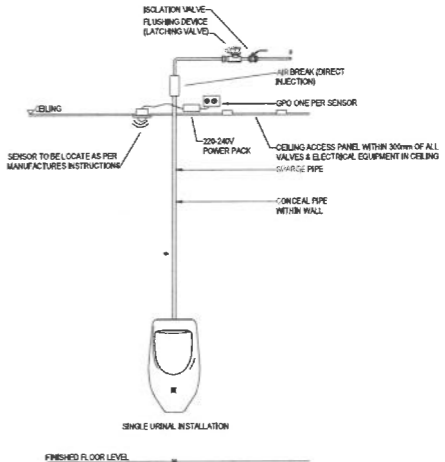
4 URINAL (DUAL/SINGLE) FLUSHING SYSTEM
N.T.S

LEGEND

- ISOLATING VALVE
- CHECK VALVE
- SOLENOID VALVE
- BACKFLOW PREVENTION DEVICE
- DIRECTION OF FLOW
- PRESSURE GAUGE
- PRESSURE SWITCH
- PUMP
- FILTER CHANGE MONITOR SWITCH
- INLINE STRAINER



3 RAINWATER HARVESTING SYSTEM SCHEMATIC
N.T.S



5 URINAL (SINGLE) FLUSHING SYSTEM
N.T.S

APPROVED
14/10/2021 *J. Horne*

COUNCIL APPROVAL

AMENDMENTS	No	Description	Date	By
	1	50% ISSUE	07-12-20	JVR
	2	50% ISSUE	08-12-20	MLT
	3	FINAL COORDINATION ISSUE	09-02-21	JVR
	4	COUNCIL APPROVAL	19-02-21	JVR

Integral Group
Queensland Pty Ltd
ABN 91 142 668 773
Level 7, 200 Creek St
Brisbane
Queensland 4000 AUSTRALIA
T +61 7 3017 8888
brsbane@integralgroup.com
integralgroup.com

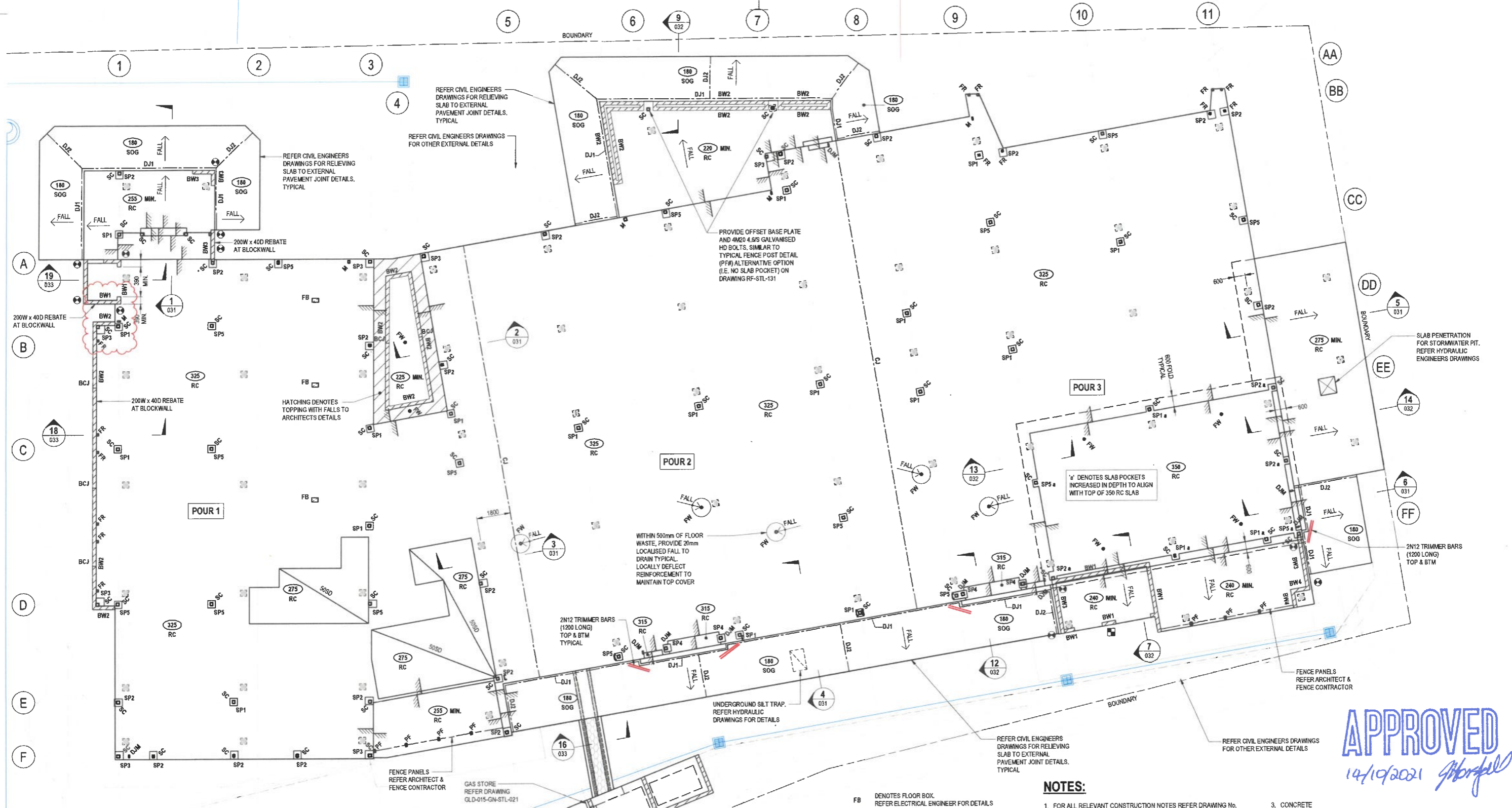


CONSULTANTS
Architect: Puddle Thorp +61 7 4046 5900
Cardno +61 7 3369 9822
Structural Engineer: Cardno +61 7 3369 9822
Mechanical Engineer: Integral Group +61 7 3917 8888
Electrical Engineer: Integral Group +61 7 3917 8888
Hydraulic Engineer: Integral Group +61 7 3917 8888
Certifier: Koloco +61 7 3852 2080
Landscape Architect: Tract +61 7 3002 6400
Civil Engineer: Cardno +61 7 3369 9822

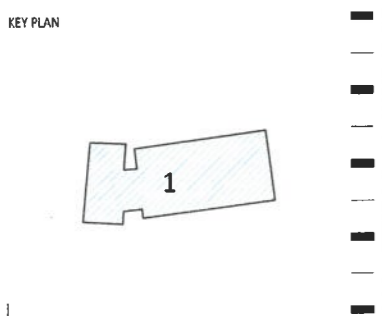
CLIENT
CQU UNIVERSITY AUSTRALIA
FDC
CQU DRAWING NO.
CQU-GLD-015-GN-HYD-502

PROJECT
CQU - GLADSTONE SCHOOL OF
MANUFACTURING
DRAWING
HYDRAULIC SERVICES
STANDARD DETAILS - SHEET 3

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A1	SCALE (at A1) As indicated	PRD. NO. 620069	AUTHORISED DATE 12/07/20
DRAWING NO. CQU-GLD-015-GN-HYD-502			ISSUE 4



APPROVED
14/10/2021 *[Signature]*



Construction Design

AMENDMENTS

No	Description	Date	By
A	ISSUED FOR CONSTRUCTION	24-02-2021	FS
B	ISSUED FOR CONSTRUCTION - MULLION ADDED	26-05-2021	FS

Cardno
Cardno (QLD) Pty. Ltd. | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD, 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au
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Cardno Project No. A12074

CONSULTANTS

Architect:	Puddle Thorp +61 7 4046 5900
Structural Engineer:	Cardno +61 7 3369 9822
Mechanical Engineer:	Integral Group +61 7 3937 8888
Electrical Engineer:	Integral Group +61 7 3937 8888
Hydraulic Engineer:	Integral Group +61 7 3937 8888
Certifier:	Kilsco +61 7 3852 2080
Landscape Architect:	Tract +61 7 3002 6400
Civil Engineer:	Cardno +61 7 3369 9822

CLIENT

CQ University
AUSTRALIA

FDC

CQU DRAWING NO.
CQU-GLD-015-GN-STL-020

PROJECT
CQ UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING
DRAWING
GROUND SLAB PLAN

AUTHORISED SIGNATURE

RPEQ 15695
DATE 28-05-2021

A1 SCALE (at A1)
As indicated

PROJ. NO. 450045

AUTHORISED
JT

DATE 09/22/20

DRAWING NO.
CQU-GLD-015-GN-STL-020

ISSUE
B

LEGEND

	350 RC	DENOTES THICKNESS OF REINFORCED CONCRETE GROUND SLAB LAID ON 50mm OF BEDDING SAND WITH DAMP PROOF MEMBRANE
	180 SOG	DENOTES THICKNESS OF CONCRETE SLAB ON GROUND WITH S181 MESH TOP & BOTTOM. 45mm COVER TO TOP & BOTTOM REINFORCEMENT. LAID ON 50mm OF BEDDING SAND WITH DAMP PROOF MEMBRANE
	BW#	DENOTES BLOCKWORK WALL REFER TYPICAL BLOCKWORK DRAWING FOR DETAILS
		DENOTES TOP OF PROFILE STEP
		DENOTES 50mm SETDOWN
		DENOTES FLOOR WASTE. REFER HYDRAULIC ENGINEER FOR DETAILS

NOTES:

- FOR ALL RELEVANT CONSTRUCTION NOTES REFER DRAWING No. GLD-015-GN-001
- DESIGN LOADS

AREA	SUPERIMPOSED DEAD LOAD	LIVE LOAD
GENERAL	1.0 kPa	3.0 kPa
AMENITIES	2.5 kPa	2.0 kPa
WORKSHOPS/CORRIDORS/ PLANT	1.0 kPa	5.0 kPa
RELIEVING SLABS	1.0 kPa	5.0 kPa
WATER TANKS	1.0 kPa	30 kPa

N DENOTES NORMAL CLASS CONCRETE WITH THE FOLLOWING PROPERTIES U.N.O.
MAXIMUM AGGREGATE SIZE- 20mm
SLUMP- 100mm ±15
TESTING TYPE- PROJECT ASSESSMENT

S DENOTES SPECIAL CLASS CONCRETE WITH 650 NOMINAL (700 MAXIMUM) MICROSTRAIN SHRINKAGE AS PER THE CONCRETE SPECIFICATION.

NOTES:

- FOR ALL RELEVANT CONSTRUCTION NOTES REFER DRAWING No. GLD-015-GN-001
- DESIGN LOADS

AREA	SUPERIMPOSED DEAD LOAD	LIVE LOAD
GENERAL	1.0 kPa	3.0 kPa
AMENITIES	2.5 kPa	2.0 kPa
WORKSHOPS/CORRIDORS/ PLANT	1.0 kPa	5.0 kPa
RELIEVING SLABS	1.0 kPa	5.0 kPa
WATER TANKS	1.0 kPa	30 kPa

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MAXIMUM AGGREGATE SIZE- 20mm
SLUMP- 100mm ±15
TESTING TYPE- PROJECT ASSESSMENT

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NOTES:

- FOR ALL RELEVANT CONSTRUCTION NOTES REFER DRAWING No. GLD-015-GN-001
- DESIGN LOADS

AREA	SUPERIMPOSED DEAD LOAD	LIVE LOAD
GENERAL	1.0 kPa	3.0 kPa
AMENITIES	2.5 kPa	2.0 kPa
WORKSHOPS/CORRIDORS/ PLANT	1.0 kPa	5.0 kPa
RELIEVING SLABS	1.0 kPa	5.0 kPa
WATER TANKS	1.0 kPa	30 kPa

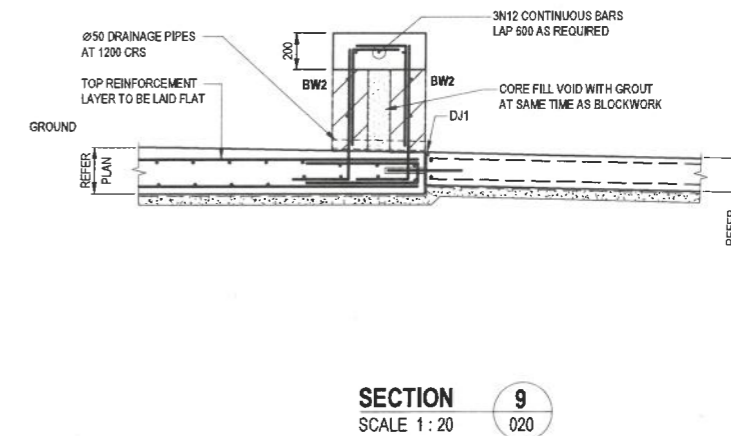
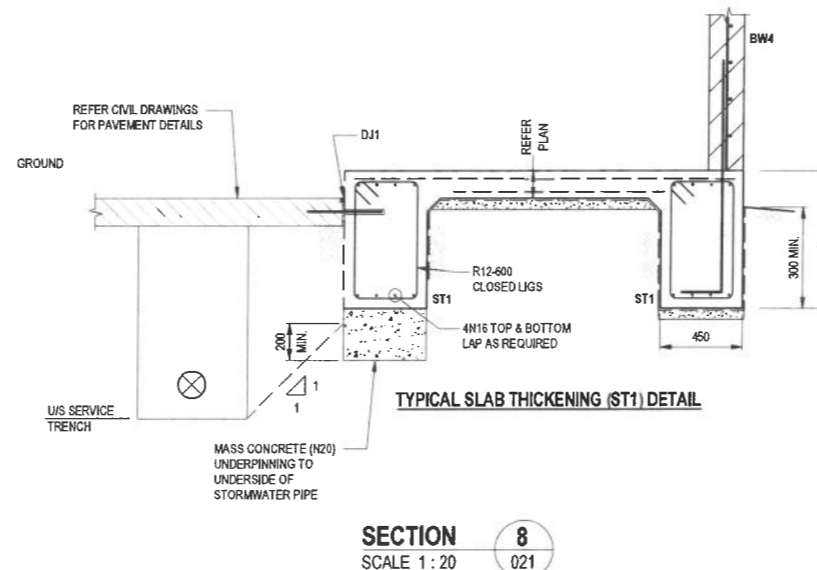
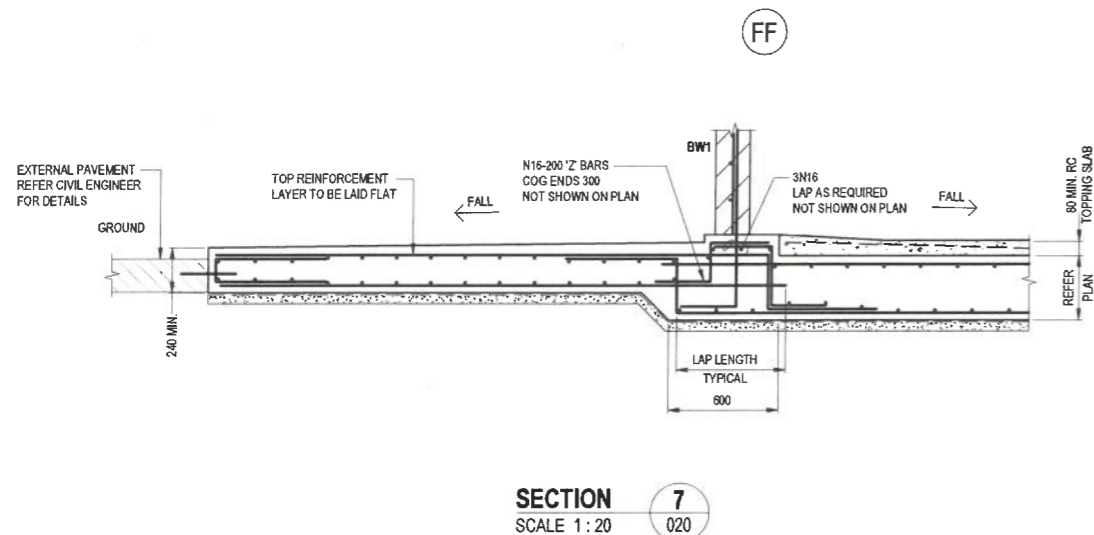
N DENOTES NORMAL CLASS CONCRETE WITH THE FOLLOWING PROPERTIES U.N.O.
MAXIMUM AGGREGATE SIZE- 20mm
SLUMP- 100mm ±15
TESTING TYPE- PROJECT ASSESSMENT

S DENOTES SPECIAL CLASS CONCRETE WITH 650 NOMINAL (700 MAXIMUM) MICROSTRAIN SHRINKAGE AS PER THE CONCRETE SPECIFICATION.

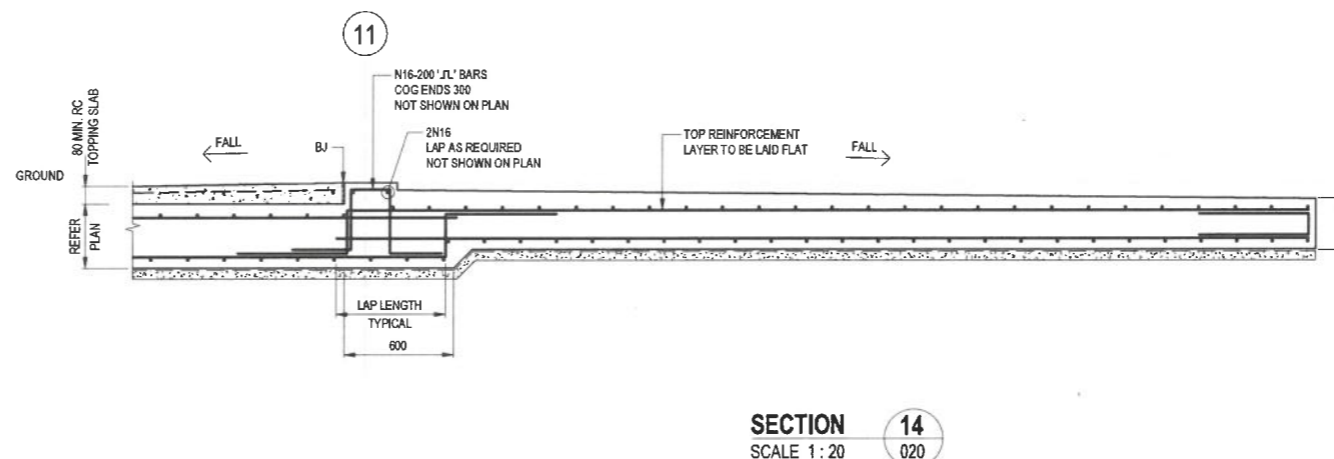
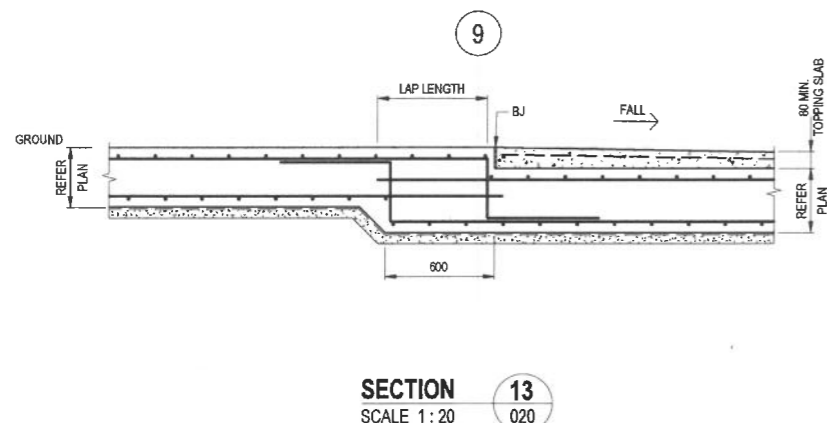
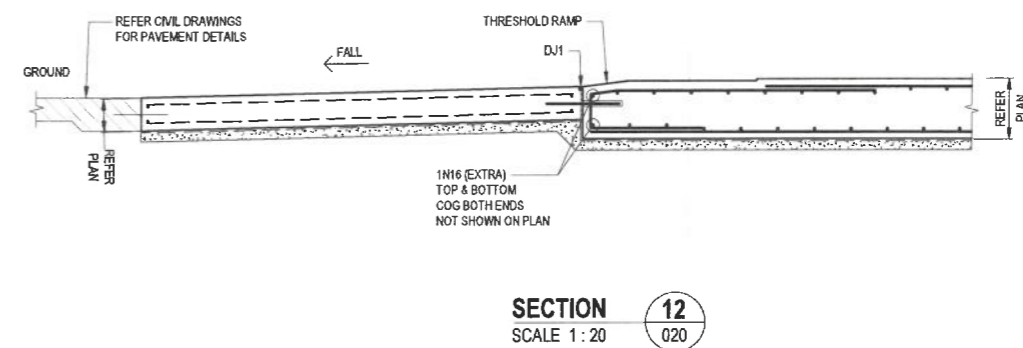
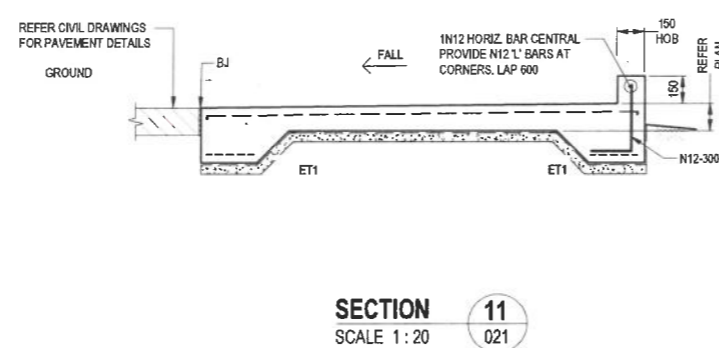
COMPONENT

COMPONENT	STRENGTH
GROUND SLAB	N40
RELIEVING SLAB	N40

NOTES:
 1. FOR ALL RELEVANT CONSTRUCTION NOTES REFER DRAWING No. GLD-015-GN-001



SECTION 10 NO LONGER REQUIRED



APPROVED

14/10/2021 *[Signature]*

KEY PLAN



Construction Design

AMENDMENTS		
No	Description	Date By
A	ISSUED FOR CONSTRUCTION	24-02-2021 FS
B	CONSTRUCTION ISSUE - REV. TRANSFORMER LOCATION	06-05-2021 FS

Cardno
 Cardno (QLD) Pty. Ltd. | ABN 57 051 074 992
 Level 11, 515 St Paul's Terrace
 Fortitude Valley, QLD, 4006
 Tel: 07 3369 9822 Fax: 07 3369 9722
 Web: www.cardno.com.au

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Cardno Project No. A12074

CONSULTANTS
 Architect: **Peddie Thorp** +61 7 4046 5900
 Structural Engineer: **Cardno** +61 7 3369 9822
 Mechanical Engineer: **Integral Group** +61 7 3917 8888
 Electrical Engineer: **Integral Group** +61 7 3917 8888
 Hydraulic Engineer: **Integral Group** +61 7 3917 8888
 Certifier: **Krisco** +61 7 3852 2080
 Landscape Architect: **Tract** +61 7 3002 6400
 Civil Engineer: **Cardno** +61 7 3369 9822

CQ University AUSTRALIA

CQU DRAWING NO.
CQU-GLD-015-GN-STL-032

FDC

PROJECT
 CQ UNIVERSITY - GLADSTONE
 SCHOOL OF MANUFACTURING
DRAWING
 FOOTING AND GROUND
 SLAB DETAILS - SHEET 3

AUTHORISED SIGNATURE		RPEQ 15605	DATE 06-05-2021
<i>[Signature]</i>			
A1	SCALE (at A1) As Indicated	PROJ. NO. 450045	AUTHORISED JT
DRAWING NO. CQU-GLD-015-GN-STL-032		DATE 12/04/20	ISSUE B

8/05/2021 4:43:05 PM: BIN: 3662/CQU/Manufacturing and Mfg/CQU-GLD-015-STL-NEW-815.rvt

PHASING OF WORKS

1. INSTALL TRUCK SHAKER RAMP AND WASH DOWN AT ENTRY TO NEW WORK AREA.
2. INSTALL ALL BARRIER AND SILT FENCING.
3. INSTALL ALL CATCH DRAINS AND DIVERSION BANKS
4. CARRY OUT CLEARING FROM ALL DRIVE AND SITE REGARDING AREAS. ALL VEGETATION IS TO BE MULCHED AND STOCKPILED FOR LATER USE. ONLY RUBBISH AND TIMBER UNSUITABLE FOR MULCHING IS TO BE DISPOSED OF TO AN APPROPRIATE LOCATION.
5. STRIP SITE AND STOCKPILE TOPSOIL.
6. FORM SEDIMENT BASINS AND EXCAVATE DIVERSION DRAINS TO THE BASINS TO CONTROL SEDIMENT LADEN FLOWS IF REQUIRED.
7. UNDERTAKE SITE WORKS, COMPACT AND REVEGETATE DISTURBED AREAS.
8. UNCOMPLETED EARTHWORKS ARE TO BE ROLLED AT THE END OF EACH DAY SO AS TO SEAL THE SURFACE.
9. AS EARTHWORKS ARE COMPLETED THOSE AREAS ARE TO BE TOPSOILED, SEEDED AND MULCHED OR PAVED WITHIN 20 WORKING DAYS.
10. IN AREAS WHERE WORKS HAVE TEMPORARILY CEASED AND WILL NOT PROCEED FOR 2 WEEKS TEMPORARY EROSION CONTROLS (EG. MULCHES ANNUAL GRASSES ETC.) ARE TO BE INSTALLED.
11. ONLY AT THE COMPLETION AND STABILIZATION OF AREAS UPSTREAM ARE ANY CONTROL DEVICES TO BE REMOVED.

DUST CONTROL NOTES

1. TOPSOIL STOCKPILES ARE TO BE WATERED AND LIGHTLY COMPACTED TO ENSURE MINIMAL DUST DISTURBANCE PRIOR TO RESPREADING.
2. SITE TO BE KEEP MOIST AT ALL TIMES TO ENSURE DUST CONTROL.
3. UNCOMPLETED WORKS ARE TO BE WATERED AND ROLLED AT THE END OF EACH WORKING DAY TO ENSURE A FIRM SEALED SURFACE TO CONTROL DUST.
4. TURF TO BE ADDED TO SWALE DRAINS UPON COMPLETION

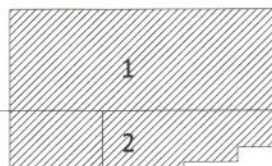
SEDIMENT CONTROL

1. CONTROL WILL BE VIA THE INSTALLATION OF SILT FENCING, CATCH DRAINS, HAYBALE BARRIERS AND SEDIMENT PONDS.
2. TOPSOIL STOCK-PILES ARE TO BE LOCATED IN AREAS CLEAR OF SERVICING, WATERCOURSES, ROAD AND DRAINAGE WORKS AND PROVIDE WITH SILT FENCING ON THEIR DOWNSTREAM SIDE.
3. DURING THE PROJECTS CONSTRUCTION, ALL PITS ARE TO BE BLOCKED OFF AT THE SURFACE AND RUNOFF FLOWS ARE TO BE DIRECTED TO THE SEDIMENT PONDS WHERE CONTAMINATED WATERS CAN BE TREATED UNTIL THE SURROUNDING LANDSCAPE HAS BEEN STABILISED TO THE SATISFACTION OF THE SITE SUPERINTENDENT.
4. ONLY ON THE COMPLETION OF WORKS ARE THE SEDIMENT PONDS TO BE REMOVED.
5. SITE TO BE FULLY MAINTAINED DURING THE MAINTENANCE PERIOD OR UNTIL SUCH TIME THAT THE WORKS ARE PLACED OFF MAINTENANCE.

LEGEND

- 4.00 PROPOSED CONTOURS (0.1m)
- 0.15 EXISTING CONTOURS (0.1m)
- FF DRAINAGE STRUCTURE PROTECTION
- SF SEDIMENT FENCE
- SFW SEDIMENT FENCE WEIR
- EXIT STABILISED ENTRY POINT
- ST SEDIMENT TRAP
- DC DISCHARGE CHUTE
- SWD PROPOSED STORMWATER PIPE
- S PROPOSED SEWER
- PROPERTY BOUNDARY
- EXISTING BATTER TOP AND TOE
- EXISTING ROAD LIP
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING SEWER RISING MAIN
- EXISTING SEWER LINE
- EXISTING WATER LINE
- EXISTING STORMWATER
- EXISTING TELECOMMUNICATION
- EXISTING FIBRE OPTIC LINES
- EXISTING TREES

KEY PLAN



FOR CONSTRUCTION

AMENDMENTS

No	Description	Date	By
A	ISSUED FOR CONSTRUCTION	04/02/21	LG
B	DRAINAGE OUTLET AMENDMENTS	01/09/2021	LG



Cardno (Qld) Pty Ltd | ABN 57 051 074 992
 Level 11, 515 St Paul's Terrace
 Fortitude Valley, QLD 4006
 Tel: 07 3369 9822 Fax: 07 3369 9722
 Web: www.cardno.com.au

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 Cardno Project No. A12075

CONSULTANTS

Architect: **Peddie Thorp** +61 7 4046 5900
 Structural Engineer: **Cardno** +61 7 3369 9822
 Mechanical Engineer: **Integral Group** +61 7 3917 8888
 Electrical Engineer: **Integral Group** +61 7 3917 8888
 Hydraulic Engineer: **Integral Group** +61 7 3917 8888
 Civil Engineer: **Cardno** +61 7 3369 9822

CLIENT



CQU DRAWING NO.
CQU-GLD-015-GN-CIV-010



PROJECT
**CQ UNIVERSITY - GLADSTONE
 SCHOOL OF MANUFACTURING**
 DRAWING
**ESC
 LAYOUT PLAN**

AUTHORISED SIGNATURE

[Signature]

SCALE (at A1)
 As Shown

DRAWING NO.
CQU-GLD-015-GN-CIV-010

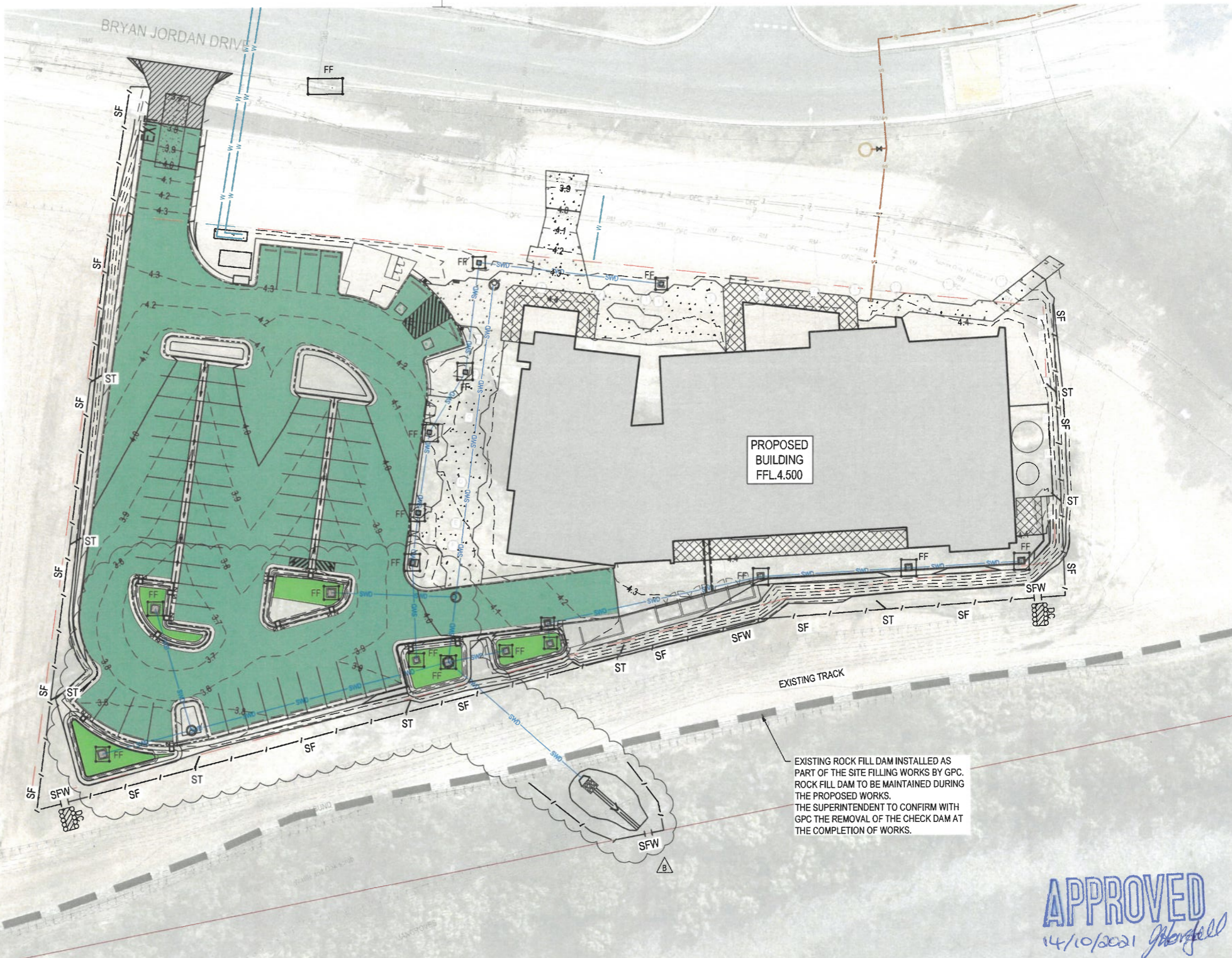
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 22015
 DATE
 04-02-2021

PROJ. NO.
 450045

AUTHORISED
 LG

DATE
 4/02/2021

ISSUE
B

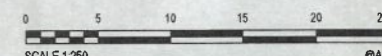


PROPOSED BUILDING
 FFL4.500

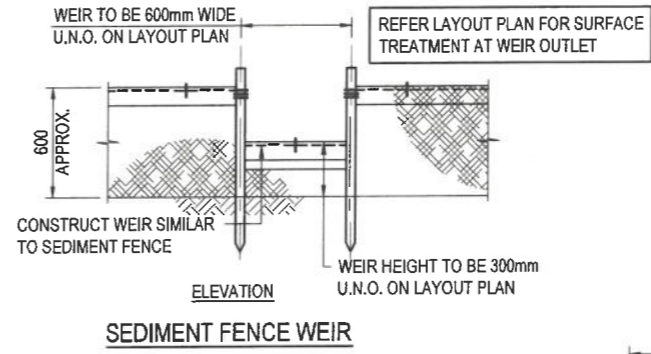
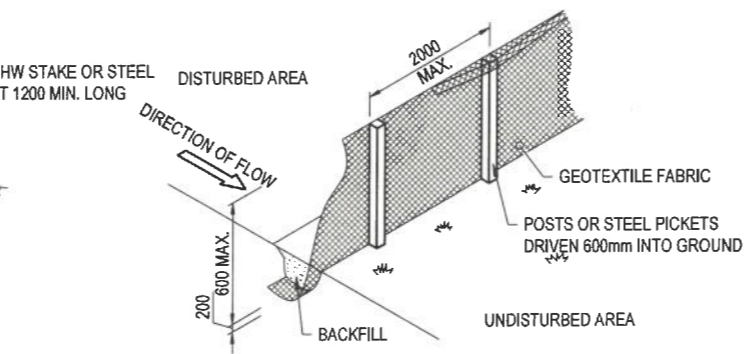
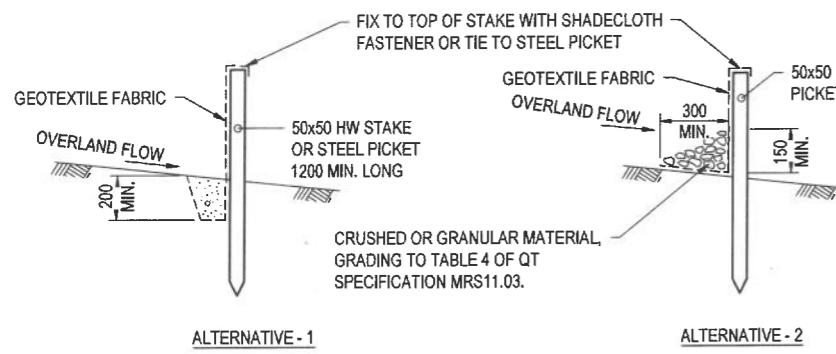
EXISTING TRACK

EXISTING ROCK FILL DAM INSTALLED AS PART OF THE SITE FILLING WORKS BY GPC. ROCK FILL DAM TO BE MAINTAINED DURING THE PROPOSED WORKS. THE SUPERINTENDENT TO CONFIRM WITH GPC THE REMOVAL OF THE CHECK DAM AT THE COMPLETION OF WORKS.

APPROVED
 14/10/2021 *[Signature]*



SCALE 1:250 @A1



ALTERNATIVE - 1

ALTERNATIVE - 2

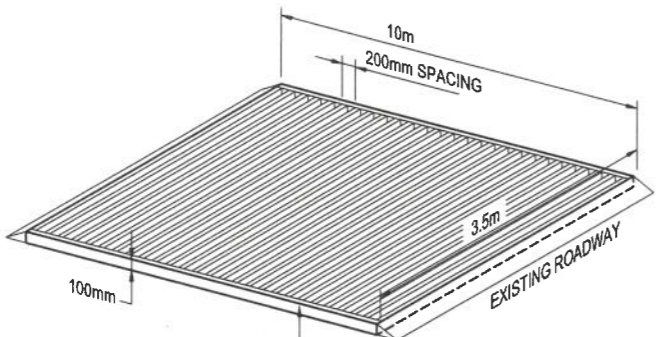
SECTION

SEDIMENT FENCE DETAILS

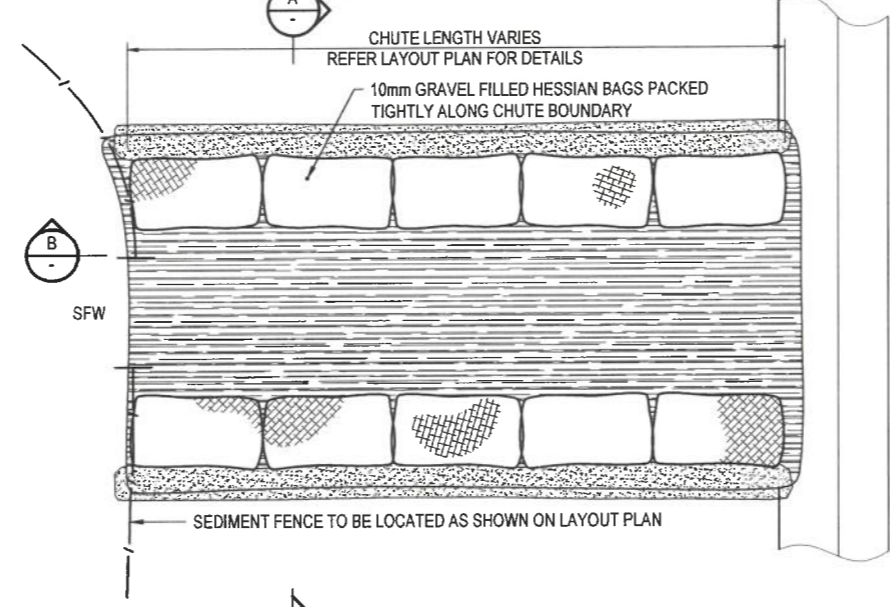
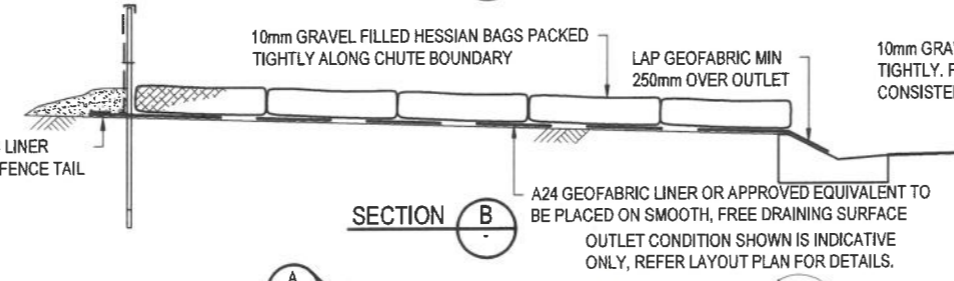
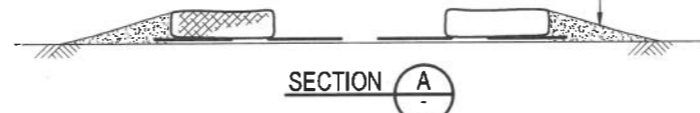
SF DENOTES SEDIMENT FENCE, REFER LAYOUT PLAN FOR LOCATION AND EXTENTS.

FOR SEDIMENT & EROSION CONTROL LEGEND, REFER TO DRG CQU-GLD-015-GN-CIV-010

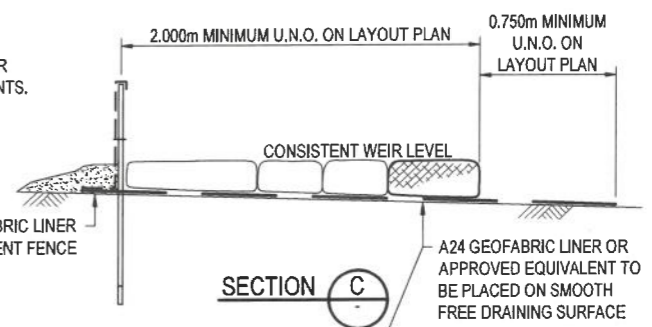
PROVIDE TOPSOIL RESTRAINT BEHIND GRAVEL FILLED HESSIAN BAGS



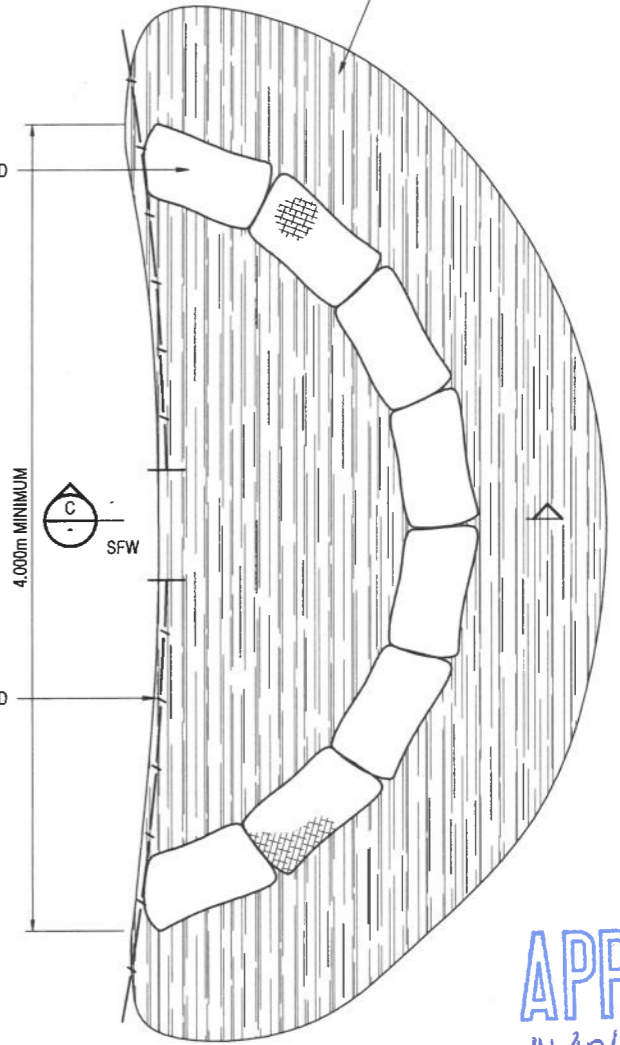
CATTLE GRIDS - METAL OR TIMBER SLEEPERS.
STABILISED ENTRY/EXIT POINT - TYPE B
 NTS OR APPROVED EQUIVALENT
 EXIT DENOTES STABILISED ENTRY/EXIT POINT, REFER LAYOUT PLAN FOR LOCATIONS.



DC DENOTES DISCHARGE CHUTE, REFER LAYOUT PLAN FOR LOCATION & EXTENTS.

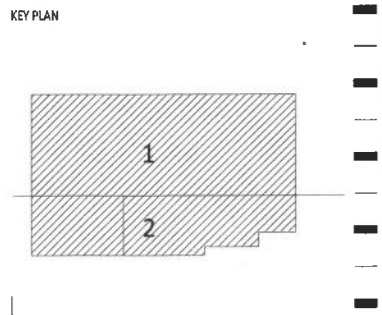


SECTION C



LS DENOTES LEVEL SPREADER, REFER LAYOUT PLAN FOR LOCATION & EXTENTS.

APPROVED
 14/10/2021 *[Signature]*



FOR CONSTRUCTION

AMENDMENTS		
No.	Description	Date By
A	ISSUED FOR CONSTRUCTION	04/02/21 LG

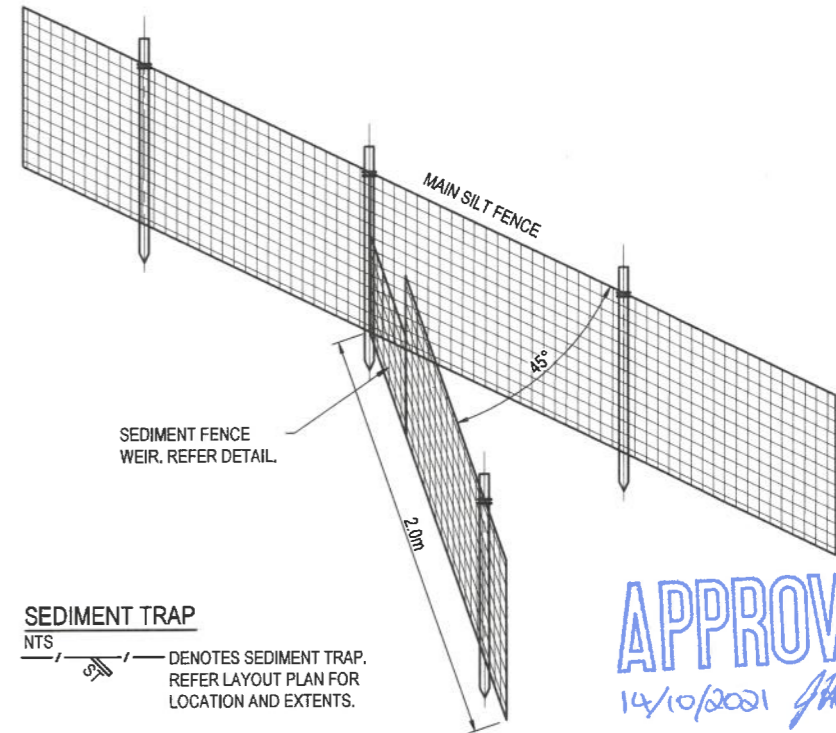
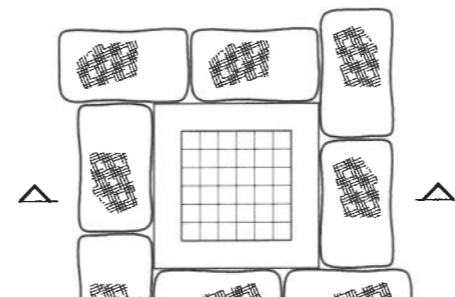
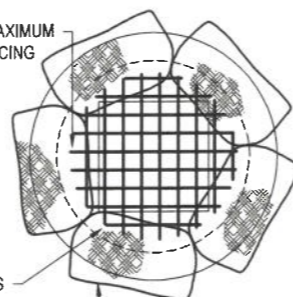
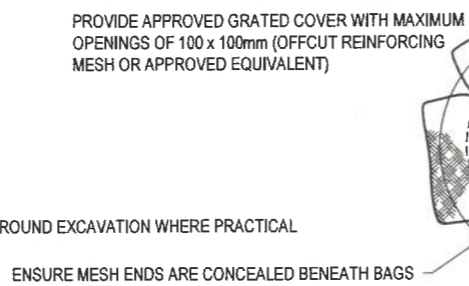
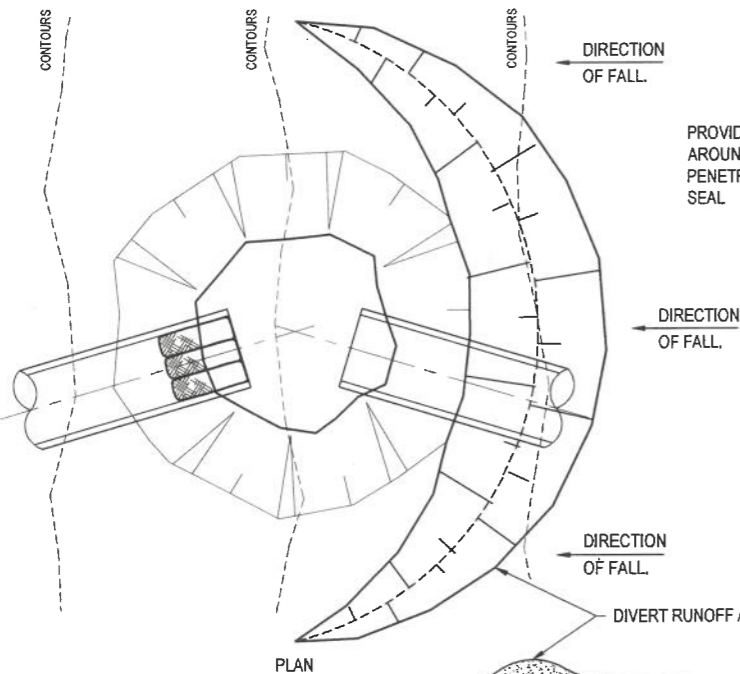
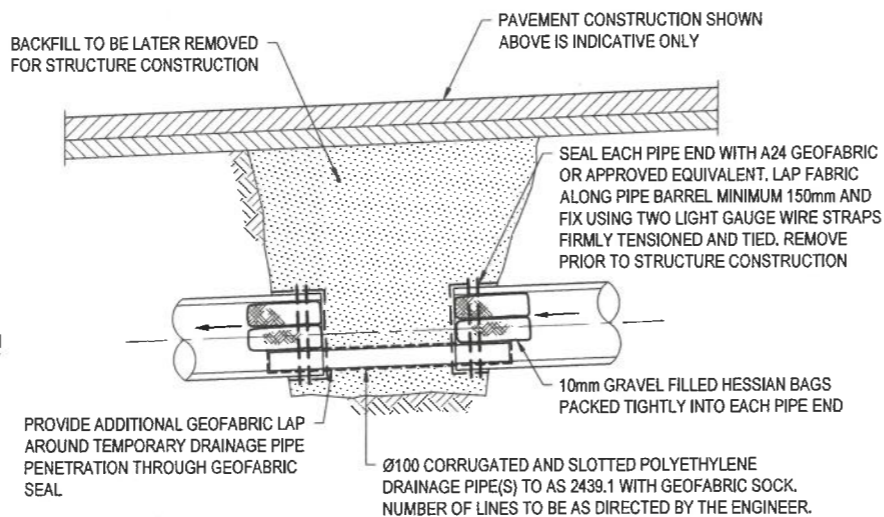
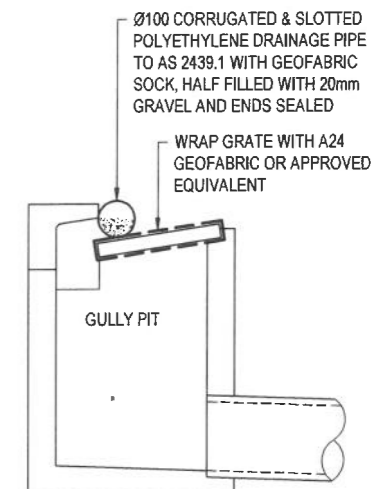
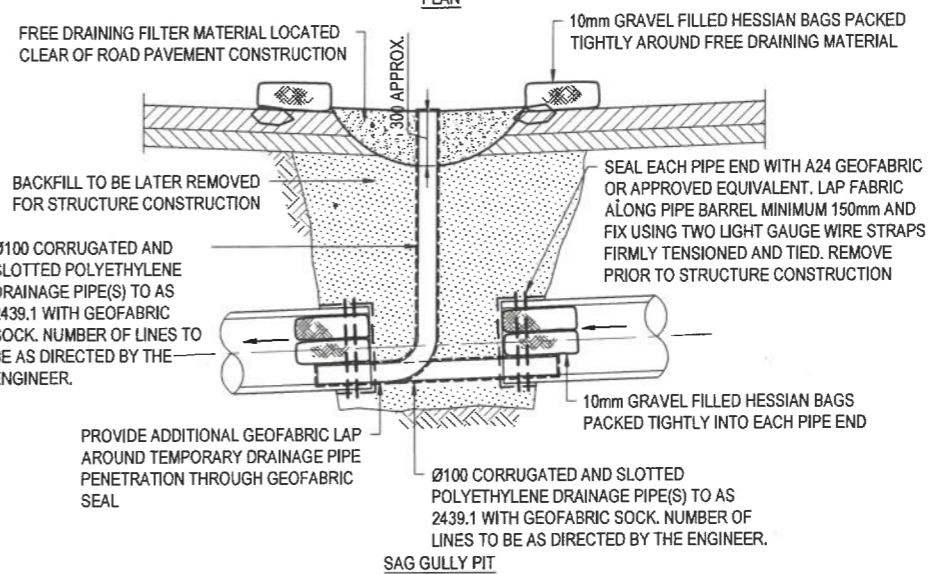
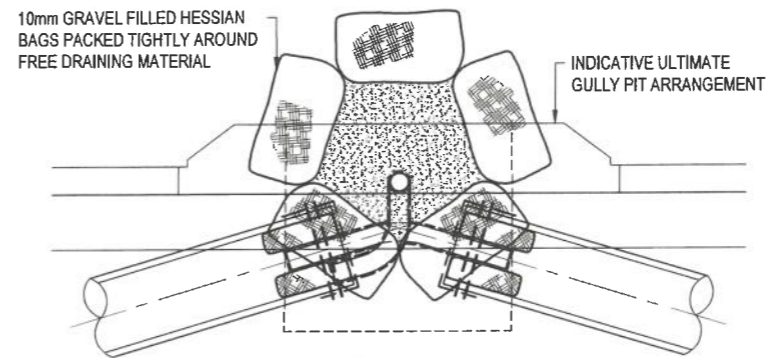
Cardno
 Cardno (Qld) Pty Ltd | ABN 57 051 074 992
 Level 11, 515 St Paul's Terrace
 Fortitude Valley, QLD 4006
 Tel: 07 3369 9822 Fax: 07 3369 9722
 Web: www.cardno.com.au
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 Cardno Project No. A12075

CLIENT
CQU University AUSTRALIA
FDC Construction & Fitout
 CQU DRAWING NO. CQU-GLD-015-GN-CIV-012

PROJECT
CQ UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING
 DRAWING
ESC
DETAILS - SHEET 1

AUTHORISED SIGNATURE		RPEQ	DATE
<i>[Signature]</i>		23015	04-02-2021
A1	SCALE (at A1) As Shown	PROJ. NO. 450045	AUTHORISED LG DATE 4/02/2021
DRAWING NO. CQU-GLD-015-GN-CIV-012			ISSUE A

FOR SEDIMENT & EROSION CONTROL LEGEND, REFER TO DRG CQU-GLD-015-GN-CIV-010



STAGE 1 EXCAVATION AND PIPE INSTALLATION

ACCESS CHAMBER / INLET STRUCTURE

STAGE 2 STRUCTURE COMPLETE UP TO TOP SLAB

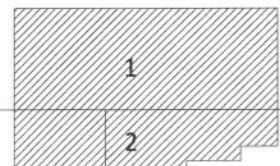
STAGE 3 STRUCTURE COMPLETE

SEDIMENT TRAP NTS

FF DENOTES DRAINAGE STRUCTURE PROTECTION, REFER LAYOUT PLAN FOR LOCATION & EXTENTS.

APPROVED
14/10/2021 J.Horfield

KEY PLAN



AMENDMENTS			
No	Description	Date	By
A	ISSUED FOR CONSTRUCTION	04/02/21	LG

Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 932
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au

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Cardno Project No. A12075

CONSULTANTS
Architect: Puddle Thorp +61 7 4046 5900
Structural Engineer: Cardno +61 7 3369 9822
Mechanical Engineer: Integral Group +61 7 3917 8858
Electrical Engineer: Integral Group +61 7 3917 8858
Hydraulic Engineer: Integral Group +61 7 3917 8858
Civil Engineer: Cardno +61 7 3852 2080
Landscape Architect: Tract +61 7 3002 6400
Civil Engineer: Cardno +61 7 3369 9822

CQU UNIVERSITY AUSTRALIA

CQU DRAWING NO.
CQU-GLD-015-GN-CIV-013

FDC
FDC Construction & Fitout

PROJECT
CQ UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING
DRAWING
ESC
DETAILS - SHEET 2

AUTHORISED SIGNATURE		RPEQ	DATE
		22015	04-02-2021
A1	SCALE (at A1) As Shown	PROJ. NO. 450045	AUTHORISED LG
DRAWING NO. CQU-GLD-015-GN-CIV-013			DATE 4/02/2021
ISSUE A			

WARNING!
BEWARE OF UNDERGROUND SERVICES THE LOCATIONS 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.

LEGEND

- EXISTING CONTOURS
- PROPERTY BOUNDARY
- BULK EARTHWORKS MAJOR CONTOURS
- PROPOSED BATTER TOP
- PROPOSED BATTER TOE
- PROPOSED CUT
- PROPOSED FILL
- EXISTING BATTER TOP AND TOE
- EXISTING ROAD LIP
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING SEWER RISING MAIN
- EXISTING SEWER LINE
- EXISTING WATER LINE
- EXISTING STORMWATER
- EXISTING TELECOMMUNICATION
- EXISTING FIBRE OPTIC LINES

• THE DESIGN OF WORKING PLATFORM TO BE COMPLETED BY THE CONTRACTOR'S QUALIFIED GEOTECHNICAL ENGINEER TO SUIT THE TYPE OF PIPES / SIZE OF PILING RIG AND STRENGTH OF MATERIAL ON SITE.

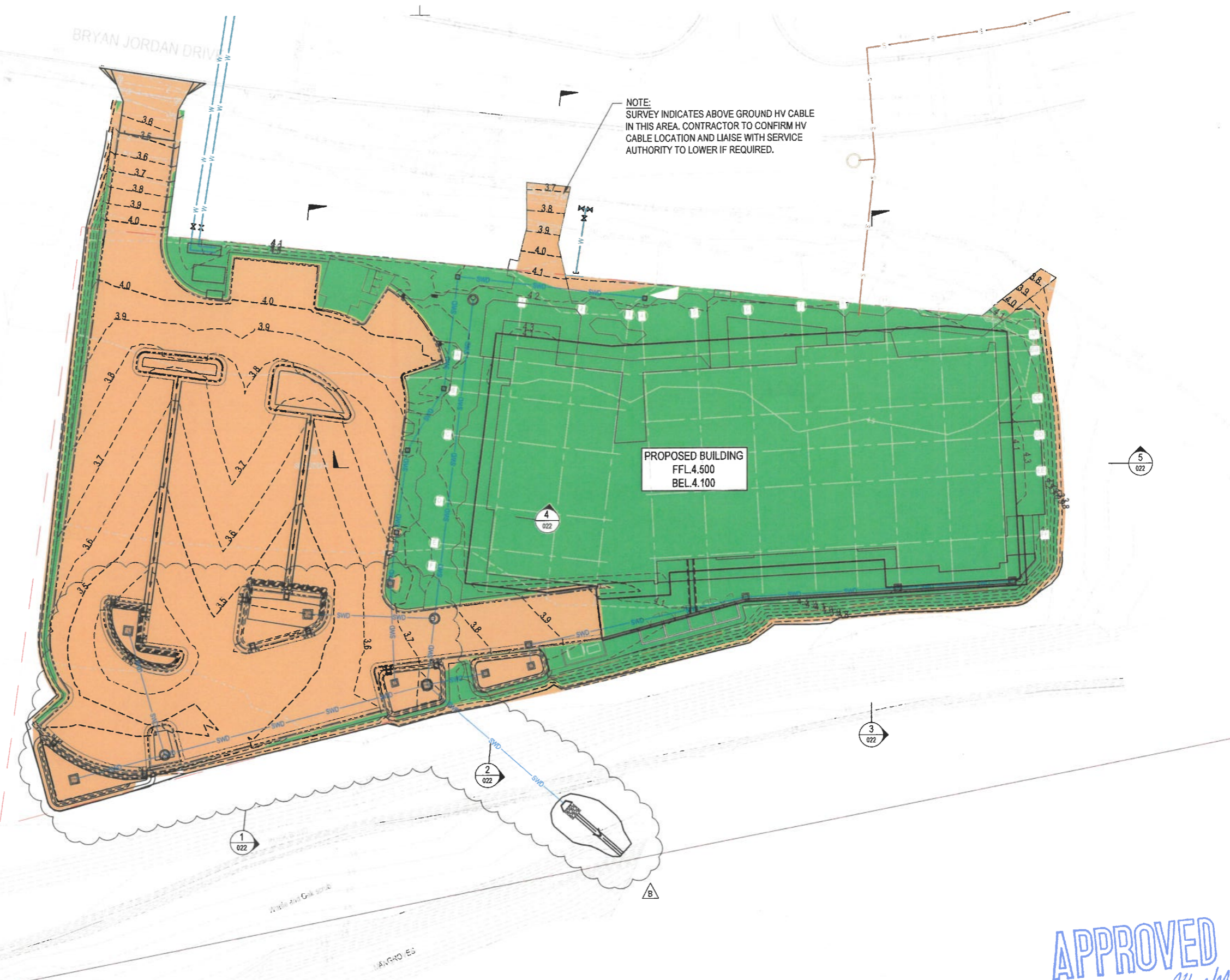
EARTHWORKS - TOTAL
Project: A12074 CQU Gladstone
Date: Thu Feb 4 08:48:26 2021
Report File: BEWKS QUANTITIES_210204.rpt

Volumes from tin "EXIST" to tin "S BEWKS" - (with no plan polygon)

cut volumes are negative
fill volumes are positive

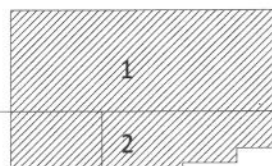
Total cut -856.997
Total fill 560.068
Total balance -296.929

NOTE:
1. INDICATED EARTHWORKS VOLUMES ARE NETT AND EXCLUDE BULKING / COMPACTION FACTORS.
2. SPOIL LOCATION FOR EXCESS CUT MATERIAL TO BE ADVISED BY THE SUPERINTENDENT.
3. NO STRIPPING OF EXISTING SURFACE IS INCLUDED IN BULK EARTHWORKS QUANTITIES.



APPROVED
14/10/2021 *[Signature]*

KEY PLAN



FOR CONSTRUCTION

AMENDMENTS	No	Description	Date	By
A	ISSUED FOR CONSTRUCTION	04/02/21	LG	
B	DRAINAGE OUTLET AMENDMENTS	8/09/2021	LG	

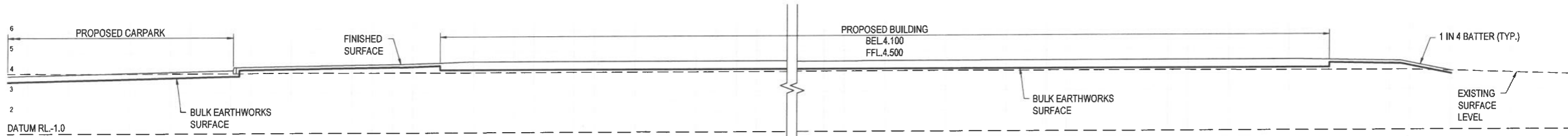
Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au
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Cardno Project No. A12075

CONSULTANTS
Architect: **Peddie Thorp** +61 7 4066 5900
Structural Engineer: **Cardno** +61 7 3369 9822
Mechanical Engineer: **Integral Group** +61 7 3917 8888
Electrical Engineer: **Integral Group** +61 7 3917 8888
Hydraulic Engineer: **Integral Group** +61 7 3917 8888
Civil Engineer: **Integral Group** +61 7 3917 8888
Landscape Architect: **Tract** +61 7 3002 6400
Civil Engineer: **Cardno** +61 7 3369 9822

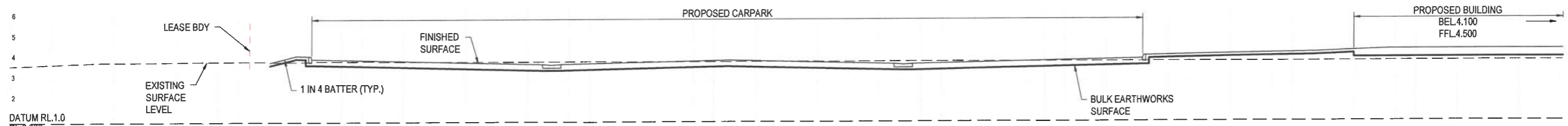
CLIENT
CQU university AUSTRALIA
CQU DRAWING NO. **CQU-GLD-015-GN-CIV-020**
FDC Construction & Fitout

PROJECT
CQU UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING
DRAWING
BEWKS
LAYOUT PLAN

AUTHORISED SIGNATURE	RPEQ	PROJ. NO.	AUTHORISED	DATE
<i>[Signature]</i>	22015	450045	LG	4/02/2021
A1	SCALE (at A1) As Shown			
DRAWING NO. CQU-GLD-015-GN-CIV-020				ISSUE B

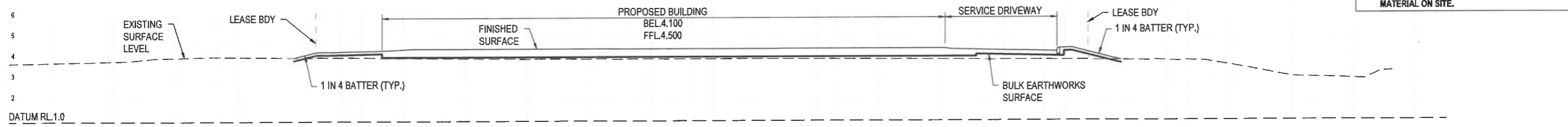


SECTION 5
SCALE 1:100 020

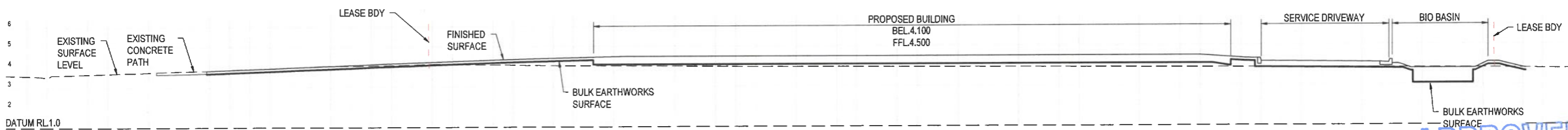


SECTION 4
SCALE 1:100 020

THE DESIGN OF WORKING PLATFORM TO BE COMPLETED BY THE CONTRACTOR'S QUALIFIED GEOTECHNICAL ENGINEER TO SUIT THE TYPE OF PIPES / SIZE OF PILING RIG AND STRENGTH OF MATERIAL ON SITE.

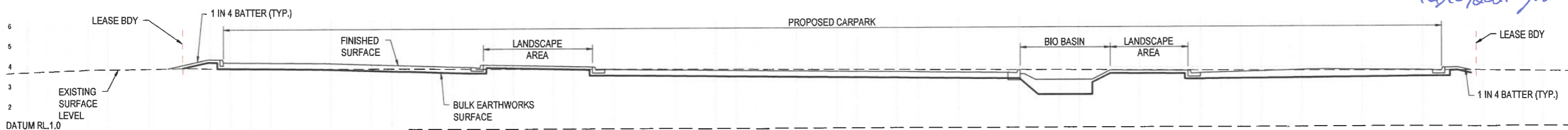


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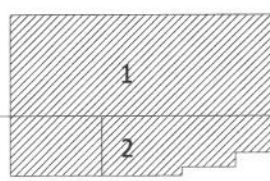
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SCALE 1:100 020

APPROVED
14/10/2021 *[Signature]*



SECTION 1
SCALE 1:100 020

KEY PLAN



FOR CONSTRUCTION

AMENDMENTS	No.	Description	Date	By
A	ISSUED FOR CONSTRUCTION		04/01/21	LG

Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9922 Fax: 07 3369 9722
Web: www.cardno.com.au
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Cardno Project No.

CONSULTANTS	
Architect:	Peddie Thorp +61 7 4046 5900
Structural Engineer:	Cardno +61 7 3369 9822
Mechanical Engineer:	Integral Group +61 7 3917 8888
Electrical Engineer:	Integral Group +61 7 3917 8888
Hydraulic Engineer:	Integral Group +61 7 3917 8888
Certifier:	Y&S +61 7 3852 2080
Landscape Architect:	Tract +61 7 3002 6400
Civil Engineer:	Cardno +61 7 3369 9822





CLIENT
CQ University AUSTRALIA
CQU DRAWING NO.
CQU-GLD-015-GN-CIV-022

FDC
FDC Construction & Fitout

PROJECT
CQ UNIVERSITY - GLADSTONE SCHOOL OF MANUFACTURING
DRAWING
BEWKS SECTIONS - SHEET 1

AUTHORISED SIGNATURE		RPEQ	DATE
<i>[Signature]</i>		22015	04-02-2021
SCALE (at A1) As Shown	PROJ. NO. 450045	AUTHORISED LG	DATE 4/02/2021
DRAWING NO. CQU-GLD-015-GN-CIV-022			ISSUE A

Luminaire Summary

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	4	LUNA_S24_S2H (P1)	SINGLE	9200	0.800	LUNA_S24_S2H
	6	LUNA_S24_S2H (P2)	BACK-BACK	9200	0.800	LUNA_S24_S2H
	6	LUNA_S12_S2H (P3)	SINGLE	4600	0.800	LUNA_S12_S2H
	26	D5 - KV07_0xx04_4080	SINGLE	1218	0.800	KV07_0xx04_4080_x

APPROVED
14/10/2021 *J. Herford*

Calculation Summary

COMPLIANCE TO AS/NZS 1158.3.1 2020

REFER TO BELOW LIGHTING PARAMETER TABLES THE DESIGN COMPLIES WITH.

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	Max/Avg
Car Park eH	Illuminance	Lux	31.14	64.9	7.1	N.A.	N.A.	2.08
Car Park eV0	Illuminance	Lux	13.56	27.2	3.7	N.A.	N.A.	N/A
Car Park eV180	Illuminance	Lux	15.30	31.6	3.6	N.A.	N.A.	N/A
Car Park PWD eH	Illuminance	Lux	27.80	38.6	21.5	N.A.	N.A.	1.39
East Path Eh	Illuminance	Lux	27.20	88.2	11.8	N.A.	N.A.	2.00
East Path Ev270	Illuminance	Lux	N.A.	30.7	3.3	N.A.	N.A.	N/A
East Path Ev90	Illuminance	Lux	N.A.	30.5	3.7	N.A.	N.A.	N/A
Entry Road Eh_1	Illuminance	Lux	19.19	40.8	5.2	N.A.	N.A.	2.13
North Path Eh	Illuminance	Lux	40.54	145.8	5.4	N.A.	N.A.	3.59
North Path Ev0	Illuminance	Lux	N.A.	78.0	7.3	N.A.	N.A.	N/A
North Path Ev180	Illuminance	Lux	N.A.	53.8	3.5	N.A.	N.A.	N/A
Service Road Eh	Illuminance	Lux	28.39	86.9	3.1	N.A.	N.A.	3.06

PC1
PC1
PC1
PCD
PP1
PP1
PP1
PP1
PC1
PP1
PP1
PP1
PC1

TABLE 2.2

LIGHTING SUBCATEGORIES FOR PEDESTRIAN AND CYCLIST PATHS

1	2	3	4	5
Type of pathway	Selection criteria ^{a,b,c}			Applicable lighting subcategory
General description	Basic operating characteristics	Pedestrian/cycle activity	Fear of crime	
Pedestrian or cycle orientated pathway, e.g. footpaths, including those along local roads ^d and arterial roads ^e , walkways, lanes, park paths, cyclist paths	Pedestrian and or cycle traffic only	N/A	High	PP1 ^c
		High	Medium	PP2 ^c
		Medium	Medium	PP3
		Medium	Low	PP4
		Low	Low	PP5

TABLE 3.4

VALUES OF LIGHT TECHNICAL PARAMETERS FOR PATHWAYS AND CYCLIST PATHS

1	2	3	4	5
Lighting subcategory	Light technical parameters (LTP)			
	Average horizontal illuminance ^{a,b} (\bar{E}_h) lx	Point horizontal illuminance ^{a,b,d} (E_{ph}) lx	Illuminance (horizontal) uniformity ^c Cat. P (U_{E2})	Point vertical illuminance ^{a,b} (E_{pv}) lx
PP1	10	2	5	1
PP2	7	1	5	0.3
PP3	3	0.5	5	0.1
PP4	1.5	0.25	5	0.05 ^e
PP5	0.85	0.14	5	0.02 ^e

TABLE 2.5

LIGHTING SUBCATEGORIES FOR OUTDOOR CAR PARKS (INCLUDING ROOF-TOP CAR PARKS)

1	2	3	4
Type of area	Selection criteria ^{a,c}		
	Night time vehicle and/or pedestrian movements	Fear of crime	Applicable lighting subcategory ^b
Parking spaces, aisles and circulation roadways	High	High	PC1
	Medium	Medium	PC2
	Low	Low	PC3
Designated parking spaces specifically intended for people with disabilities	N/A	N/A	PCD
For any designated areas for pedestrians to cross	N/A	N/A	PCX

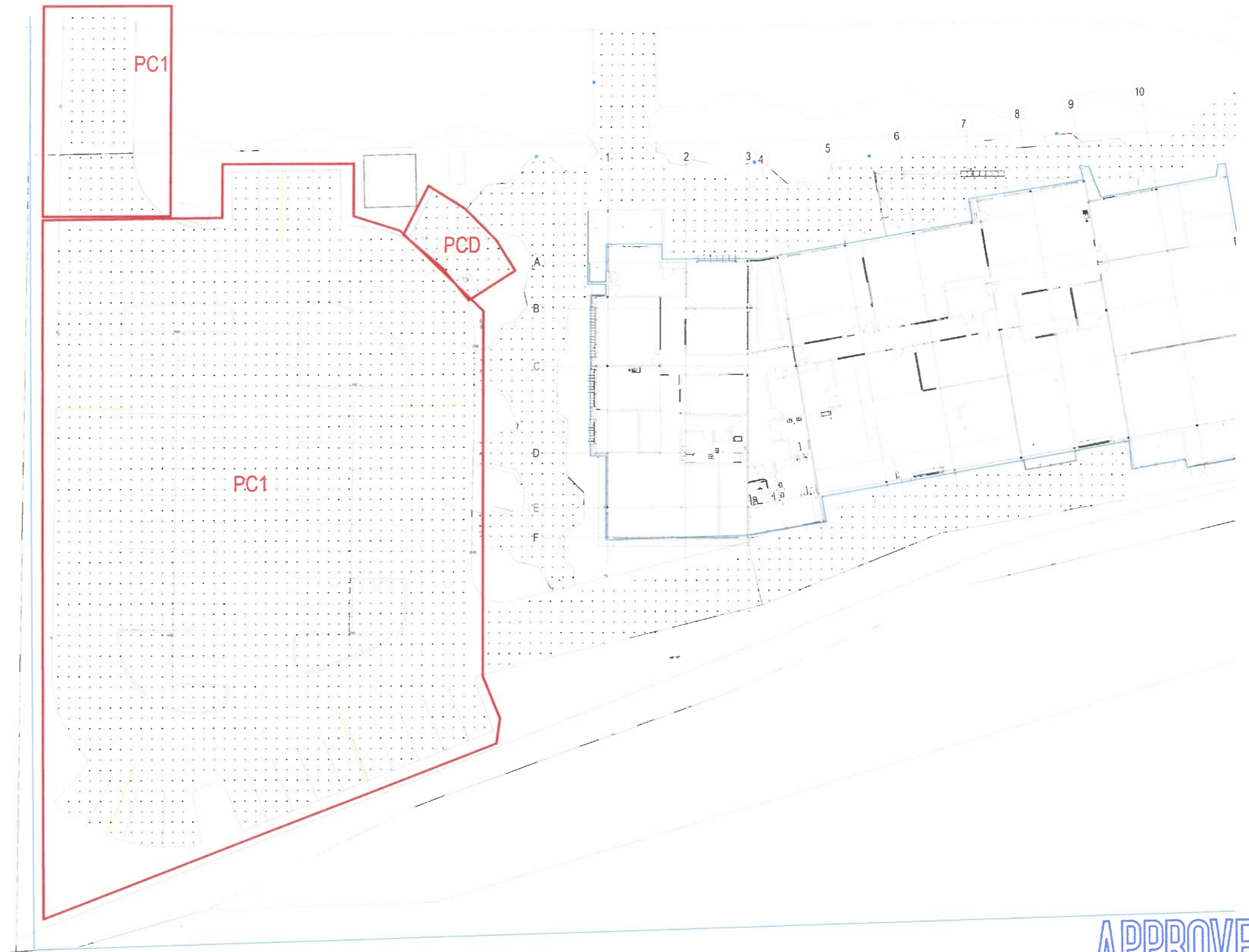
TABLE 3.7

VALUES OF LIGHT TECHNICAL PARAMETERS FOR OUTDOOR CAR PARKS (INCLUDING ROOF-TOP CAR PARKS)

1	2	3	4	5
Lighting subcategory	Light technical parameters (LTP)			
	Average horizontal illuminance ^{a,b} (\bar{E}_h) lx	Point horizontal illuminance ^{a,b} (E_{ph}) lx	Illuminance (horizontal) uniformity ^c Cat. P (U_{E2})	Point vertical illuminance ^{a,b} (E_{pv}) lx
PC1	14	3	8	3
PC2	7	1.5	8	1
PC3	3.5	0.7	8	—
PCD ^d	—	≥ 14 and $\geq (\bar{E}_h)^d$	—	—
PCX ^e	21	5	8	—

APPROVED
14/10/2021 *J. Hargrave*

Viewpoint CAR PARK



VIEWPOINT: Viewpoint_1

APPROVED
14/10/2021 *Glenfell*

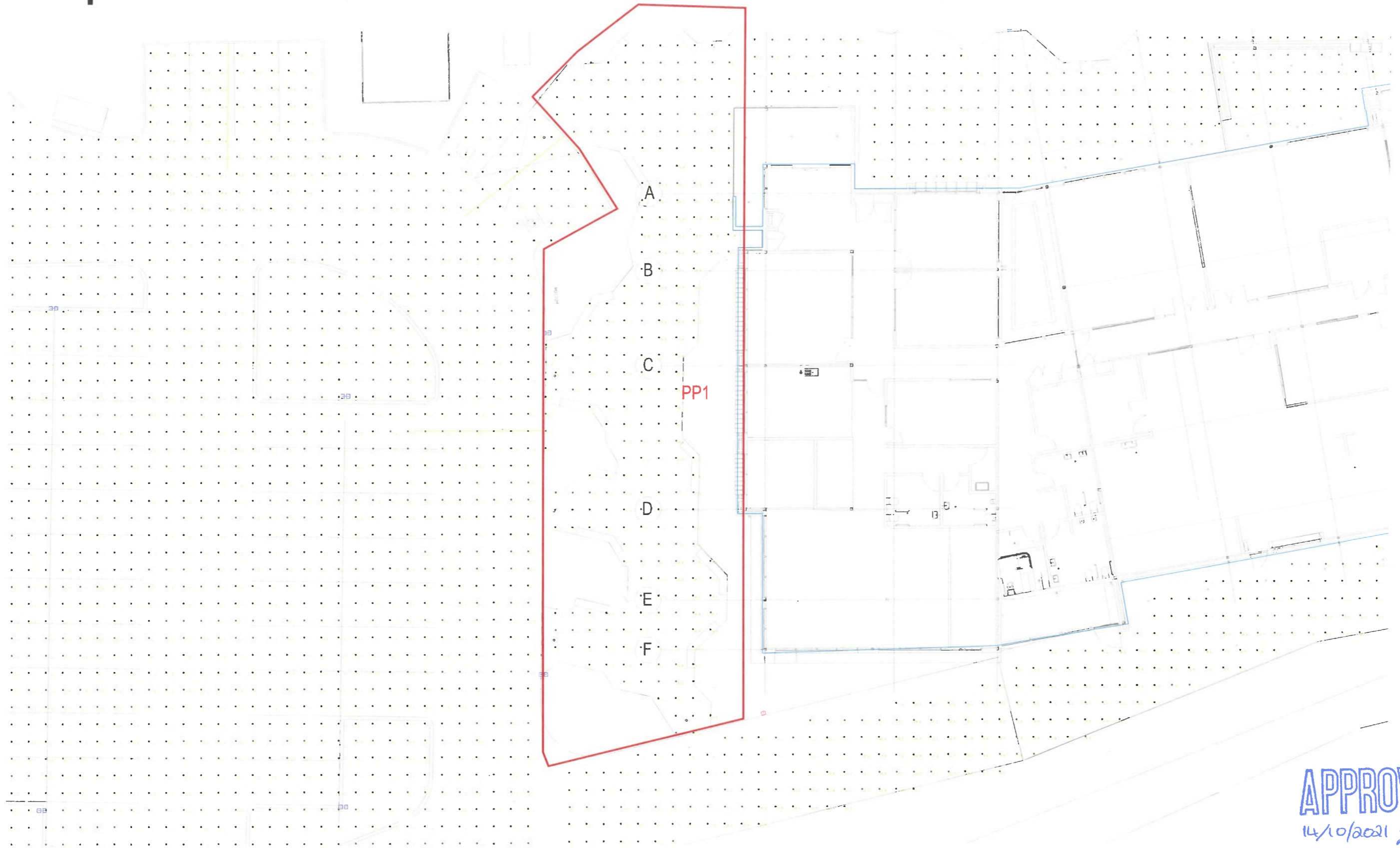
Viewpoint - Cont. SERVICE ROAD



VIEWPOINT: Viewpoint_2

APPROVED
14/10/2021 *[Signature]*

Viewpoint - Cont. EAST PATH



VIEWPOINT: Viewpoint_3

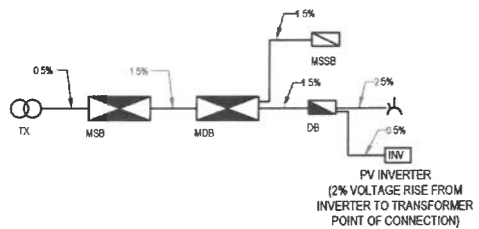
APPROVED
11/10/2021 *[Signature]*

Viewpoint - Cont. NORTH PATH

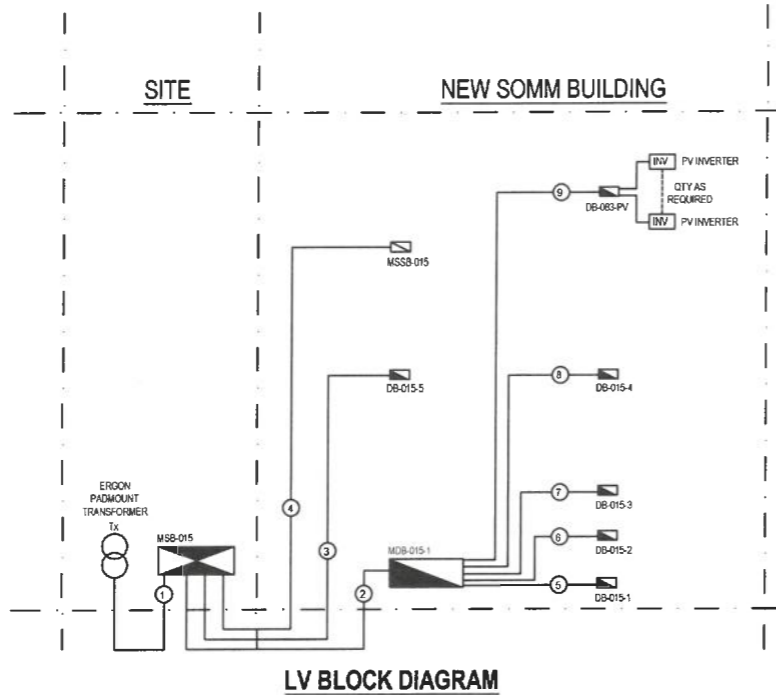


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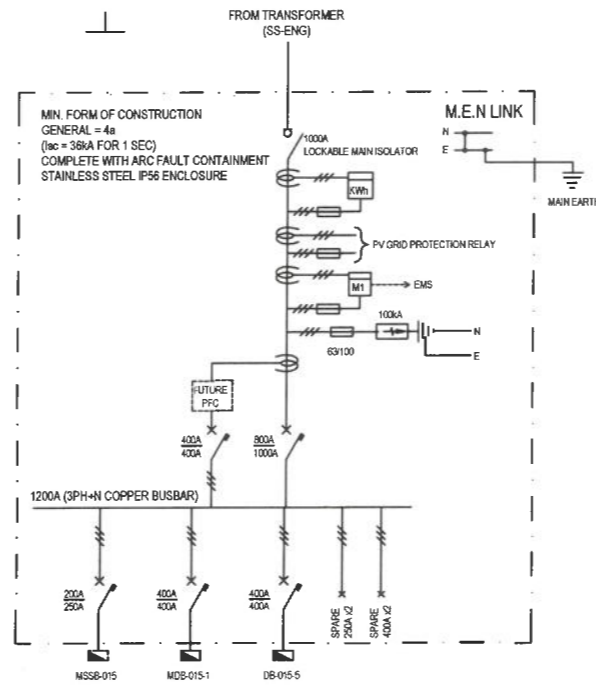
APPROVED
14/10/2021 *Handwritten signature*



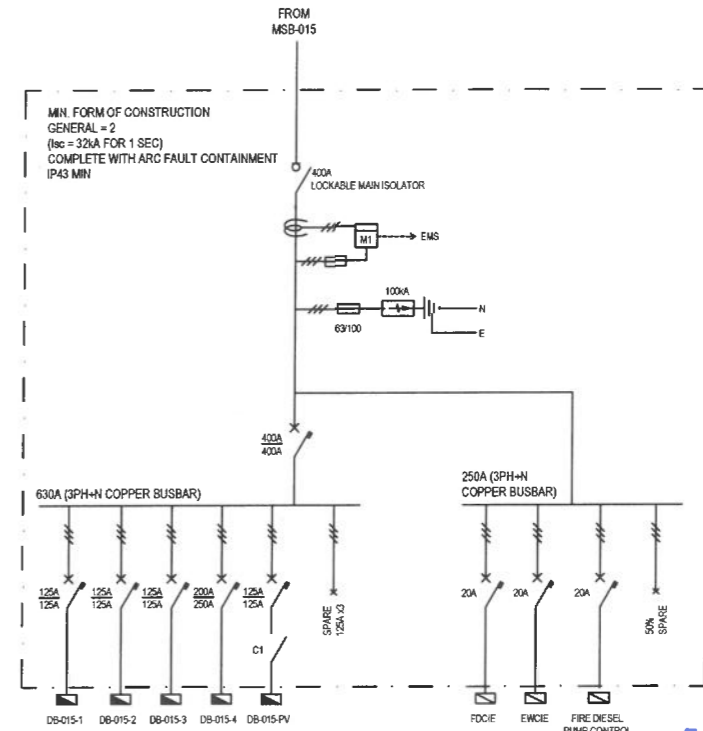
VOLTAGE DROP SCHEMATIC
VOLTAGE DROP ALLOWANCE OF 5%



LV BLOCK DIAGRAM



MSB SINGLE LINE DIAGRAM

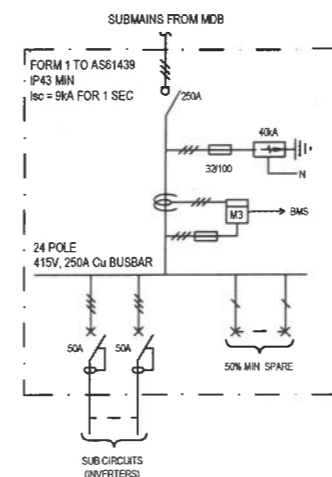


MDB-1 SINGLE LINE DIAGRAM

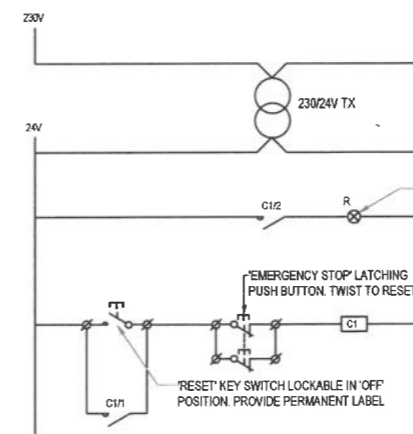
APPROVED
14/10/2021 *[Signature]*

NOTES:

- WORKS SHALL BE PERFORMED TO BEST TRADE PRACTICE AND SHALL COMPLY WITH ALL APPLICABLE CODES AND STANDARDS INCLUDING BUT NOT LIMITED TO THE NATIONAL CONSTRUCTION CODE, ELECTRICAL SAFETY ACT, WORKPLACE HEALTH AND SAFETY ACT, AUSTRALIAN COMMUNICATIONS AND MEDIA AUTHORITY REGULATIONS, AS3000, AS3003, AS3006, AS2293, AS1670, AS1158, AS4282, NCC, LOCAL AUTHORITIES AND ANY SITE SPECIFIC STANDARDS. PROVIDE CERTIFICATION OF ELECTRICAL SAFETY PRIOR TO COMPLETION. THE CONTRACTOR SHALL ALSO REFER TO THE CLIENT BRIEF / SPECIFICATIONS.
- REFER TO ELE-001 FOR LEGEND AND GENERAL NOTES.
- ALL MCCBS TO BE NHP TEMBREAK 2 ELECTRONIC TYPE OF APPROVED EQUAL.
- REFER TO LAYOUT DRAWINGS FOR SUB CIRCUIT DETAILS
- SINGLE LINE DIAGRAM NOTES
- ALL SWITCHBOARD CONSTRUCTION AND MODIFICATIONS SHALL COMPLY WITH AS/NZS61439 (LOW-VOLTAGE SWITCHGEAR AND CONTROL GEAR ASSEMBLIES GENERAL RULES) & AS3439 (LOW-VOLTAGE SWITCHGEAR AND CONTROL GEAR ASSEMBLIES TYPE-TESTED AND PARTIALLY TYPE-TESTED ASSEMBLIES).
- THE ELECTRICAL CONTRACTOR / SWITCHBOARD MANUFACTURER SHALL CONFIRM THAT THE PROTECTION SETTINGS, CASCADING & DISCRIMINATION OF CIRCUIT BREAKERS IS COORDINATED PRIOR TO INSTALLATION FOR THE DISTRIBUTION BOARD.
- ALL CIRCUIT BREAKERS SHALL BE LABELED & THE SCHEDULE SHALL BE FILLED DISPLAYING WHAT EACH CIRCUIT SUPPLIES.
- THE ELECTRICAL CONTRACTOR / SWITCHBOARD MANUFACTURER SHALL CONFIRM ADJUSTABLE CIRCUIT BREAKER CAN BE SET TO THE CURRENT RATING INDICATED ON THE DRAWINGS VIA THE ADJUSTMENT SETTINGS.
- THE ELECTRICAL CONTRACTOR / SWITCHBOARD MANUFACTURER SHALL ALLOW SUFFICIENT SPARE CAPACITY FOR FUTURE CIRCUITS (50% TYPICAL).
- AFTER COMPLETION OF THE WORKS THE ELECTRICAL CONTRACTOR SHALL PROVIDE AS-CONSTRUCTED DRAWINGS OF THE DISTRIBUTION BOARDS INCLUDING ANY ALTERATIONS.
- A DAYLIGHT TIMBERS COMBO WITH MANUAL OVERRIDE SHALL ALSO BE INCLUDED FOR EXTERIOR LIGHTS. SEPARATE DAYLIGHT / TIMER SWITCHES MAY BE NEEDED FOR FLOOD AND DOOR LIGHTS. THE ELECTRICAL CONTRACTOR SHALL CONFIRM WITH THE CLIENT PRIOR TO INSTALLATION.
- ADDITIONAL CONTROL CIRCUITS MAY NEED TO BE ADDED.
- ADDITIONAL CIRCUIT BREAKERS / FUSES MAY BE NEEDED TO ASSIST IN DISCRIMINATION BETWEEN CIRCUIT BREAKERS. THE FINAL SWITCHBOARD DESIGNS SHALL BE COMPLETED BY THE SWITCHBOARD MANUFACTURER IN COMPLIANCE WITH AUSTRALIAN STANDARDS.
- TESTING FUNCTIONALITY SHALL BE INSTALLED FOR TESTING THE EMERGENCY LIGHTING.
- THE MSSBS AND DB-PV ARE BY OTHERS.
- THE PV SYSTEM IS INDICATIVE ONLY. FINAL DETAILS TBC WITH THE PV CONTRACTOR PRIOR TO INSTALLATION.

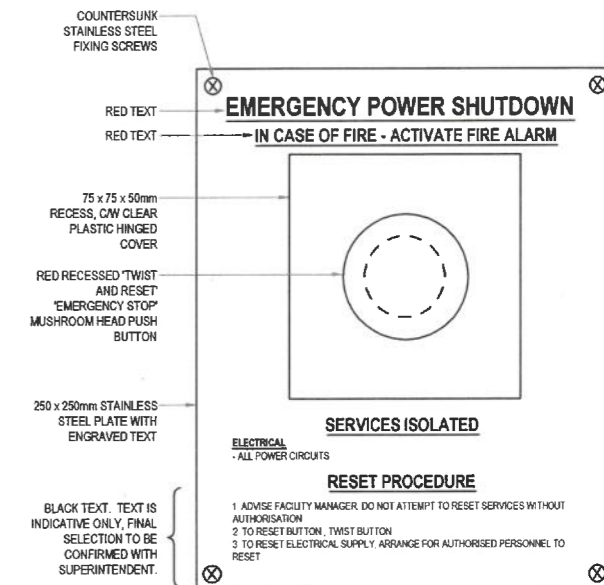


PV DISTRIBUTION BOARD (TYPICAL)



WORKSHOP DISTRIBUTION BOARD SHUT OFF CONTROL CIRCUIT (TYPICAL)

CABLE SCHEDULE							
CABLE REFERENCE	FROM	TO	CABLE CONFIGURATION	CABLE SIZE (mm ²)	EARTH SIZE (mm ²)	CONDUCTOR	INSULATION
1	TRANSFORMER	MSB-015	12x1C	300	N/A	CU	XLPE/PVC
2	MSB-015	MDB-015-1	8x1C	240	120	CU	XLPE/PVC
3	MSB-015	MDB-015-5	8x1C	185	120	CU	XLPE/PVC
4	MSB-015	MSSB-015	8x1C	120	95	CU	XLPE/PVC
5	MDB-015-1	DB-015-1	4x1C	95	10	CU	XLPE/PVC
6	MDB-015-1	DB-015-2	4x1C	95	10	CU	XLPE/PVC
7	MDB-015-1	DB-015-3	4x1C	95	10	CU	XLPE/PVC
8	MDB-015-1	DB-015-4	4x1C	70	25	CU	XLPE/PVC
9	MDB-015-1	DB-015-PV	4x1C	35	10	CU	XLPE/PVC



EMERGENCY SHUT OFF FACE PLATE DETAIL

AMENDMENTS		No	Description	Date	By
1	CONSTRUCTION ISSUE - CHSS	0		29.07.21	GN

Chess Electrics Pty Ltd
ABN 78 150 016 943
Rockhampton - Mackay - Townsville
P: 07 49955134
E: admin@chessselectrics.com.au

CLIENT

CQU DRAWING NO.
CQU-GLD-015-00-ELE-100

PROJECT

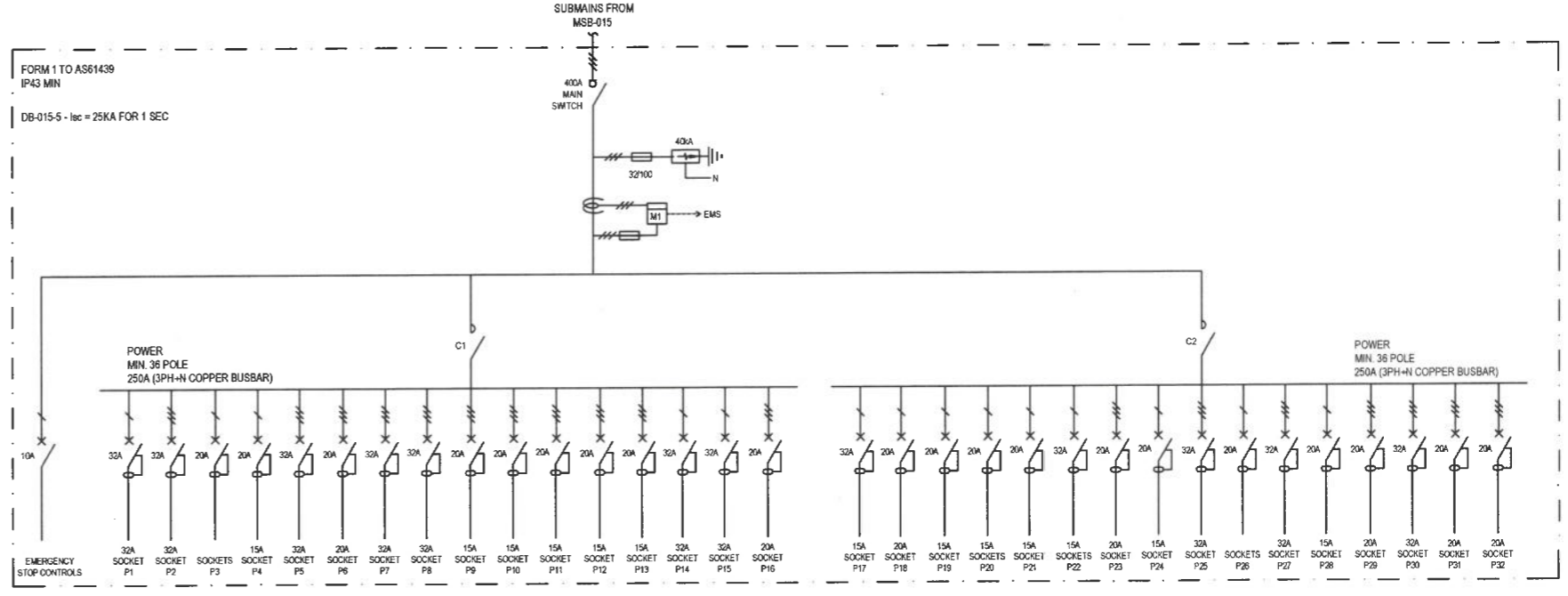
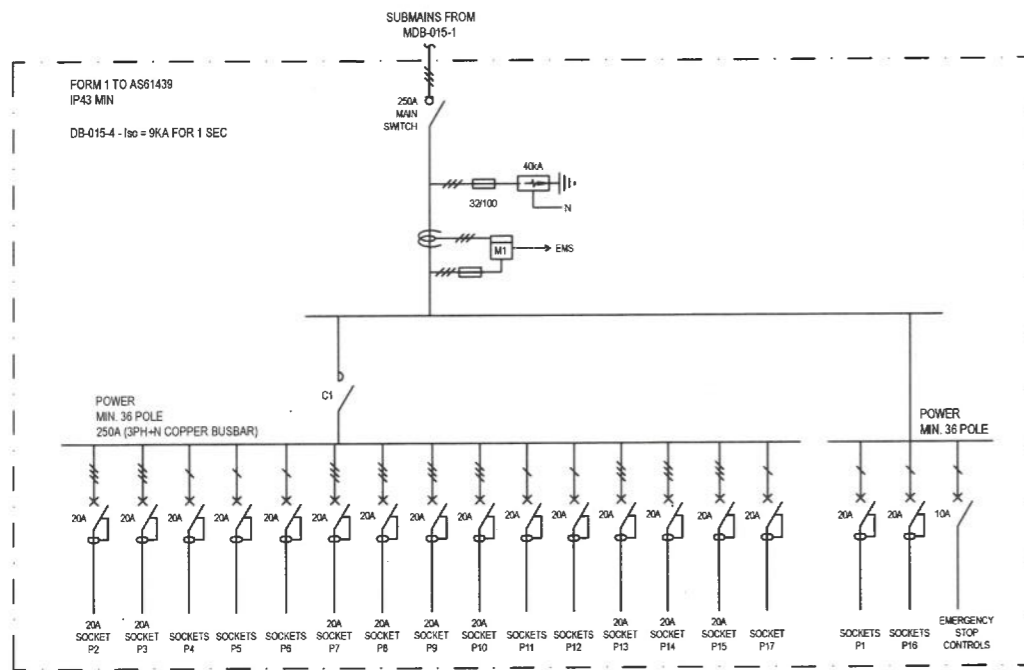
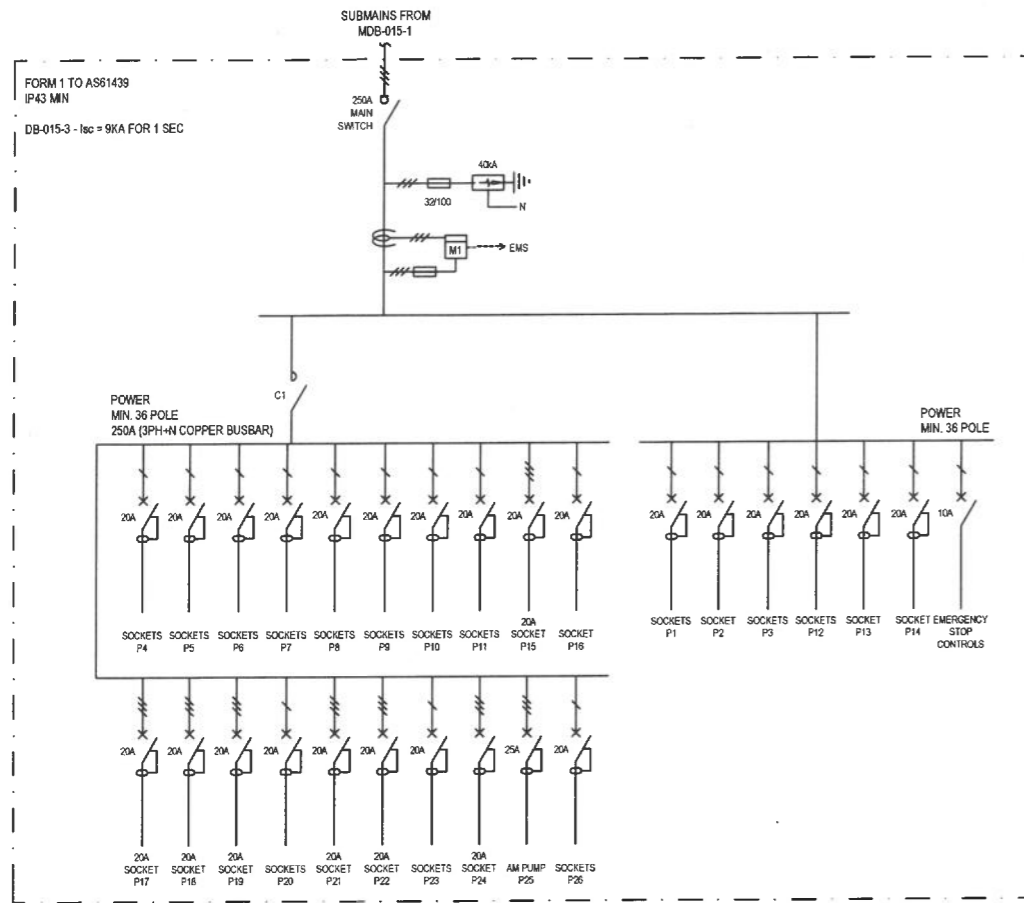
CQU - GLADSTONE SCHOOL OF MANUFACTURING
DRAWING
ELECTRICAL SERVICES
SCHEMATIC SHEET 1

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A1	SCALE (at A1) 1:1	PROJ. NO. 620069	AUTHORISED	DATE 03/30/20
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DRAWING NO.
CQU-GLD-015-00-ELE-100

ISSUE
B



APPROVED
14/10/2001 J. Mansfield



AMENDMENTS

No	Description	Date	By
A	CONSTRUCTION ISSUE - CHESS	29-07-21	GM

Chess Electrics Pty Ltd
ABN 78 150 016 943
Rockhampton - Mackay - Townsville
P: 07 49985134
E: admin@chess-electrics.com.au



CQU DRAWING NO.
CQU-GLD-015-00-ELE-100



PROJECT
CQU - GLADSTONE SCHOOL OF
MANUFACTURING
DRAWING
ELECTRICAL SERVICES
SCHEMATIC SHEET 1.1

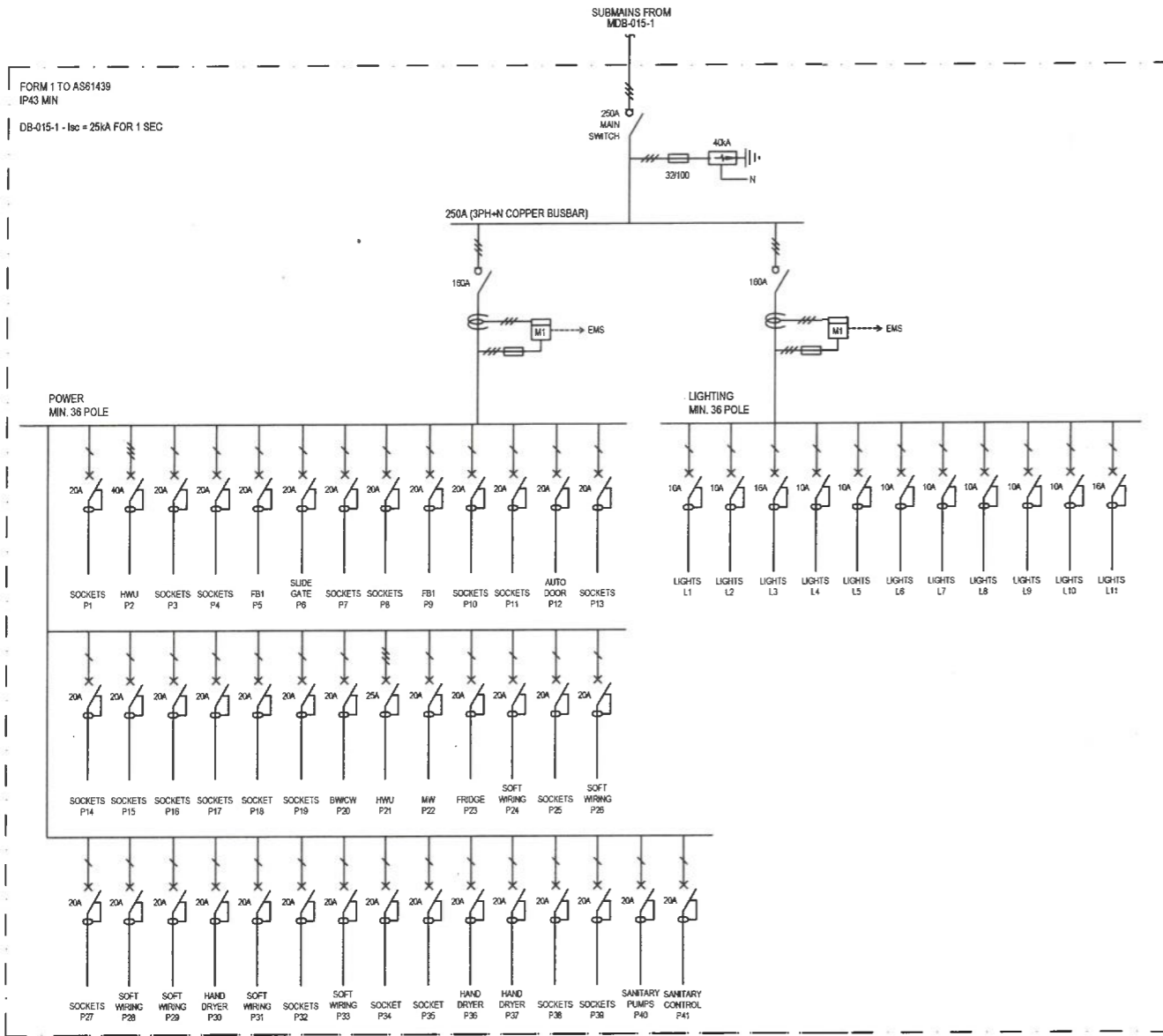
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A1	SCALE (at A1) 1:1	PROJ. NO. 620069	AUTHORISED	DATE 03/30/20
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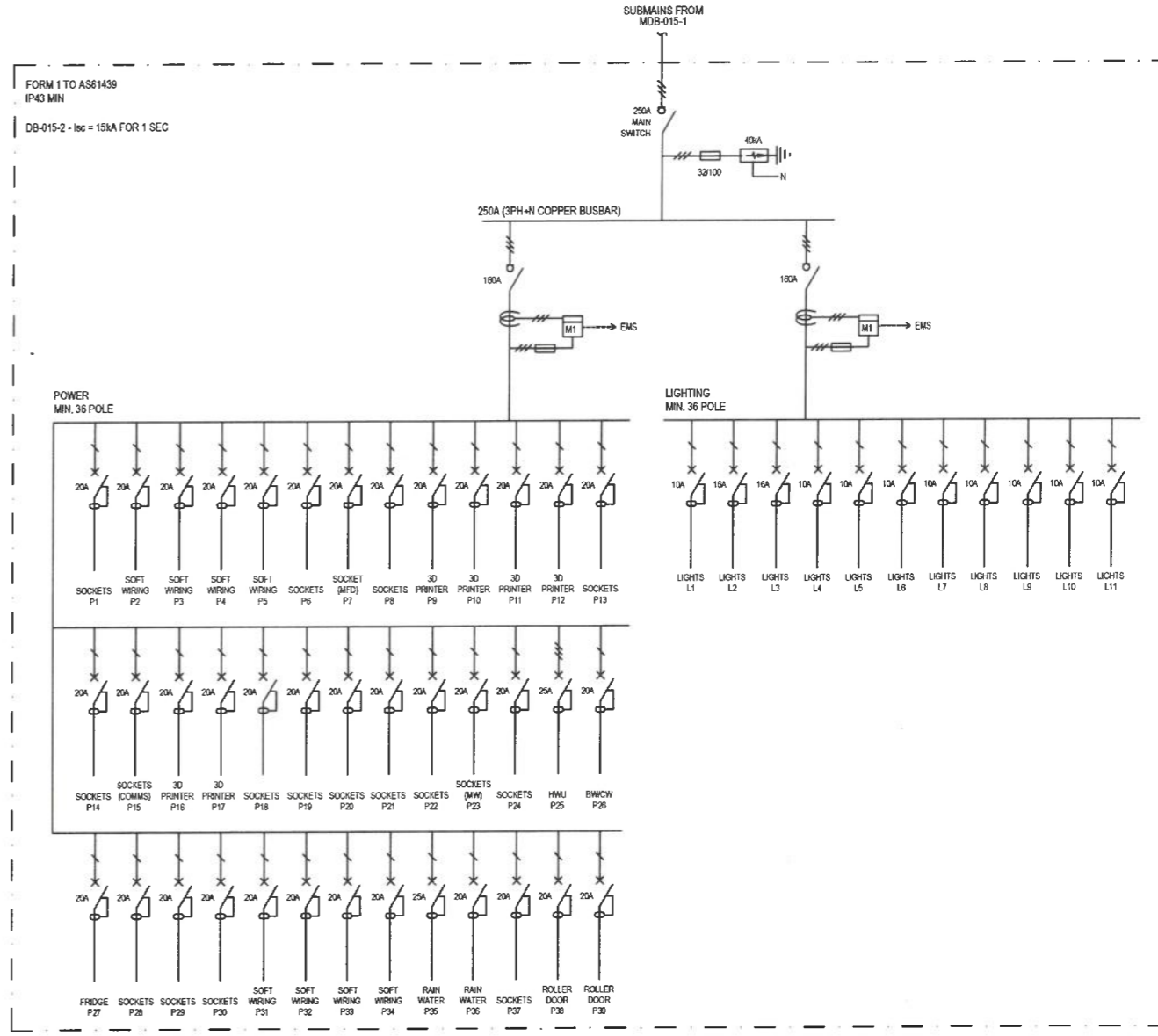
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CQU-GLD-015-00-ELE-100.1

ISSUE
A

FORM 1 TO AS61439
IP43 MIN
DB-015-1 - Ibc = 25KA FOR 1 SEC



FORM 1 TO AS61439
IP43 MIN
DB-015-2 - Ibc = 15KA FOR 1 SEC



APPROVED
14/10/2021 *[Signature]*

AMENDMENTS		
No	Description	Date By
A	CONSTRUCTION ISSUE - CHSS	29-07-21 GN

Chess Electrics Pty Ltd
ABN 78 150 018 943
Rochampton - Mackay - Townsville
P: 07 499 95134
E: admin@chess-electrics.com.au



CLIENT



CQU DRAWING NO.
CQU-GLD-015-00-ELE-100

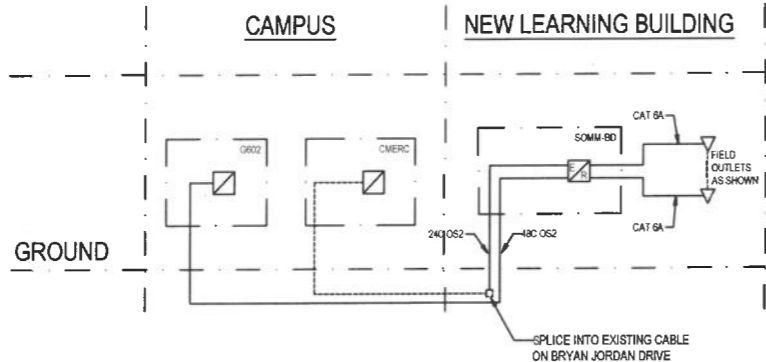
PROJECT
CQU - GLADSTONE SCHOOL OF MANUFACTURING
DRAWING
ELECTRICAL SERVICES SCHEMATIC SHEET 1.2

THIS SET OF DOCUMENTS CONTAINS DRAWINGS THAT HAVE BEEN CREATED IN COLOUR. REPRODUCTIONS MUST BE MADE IN COLOUR TO AVOID LOSS OF INFORMATION.

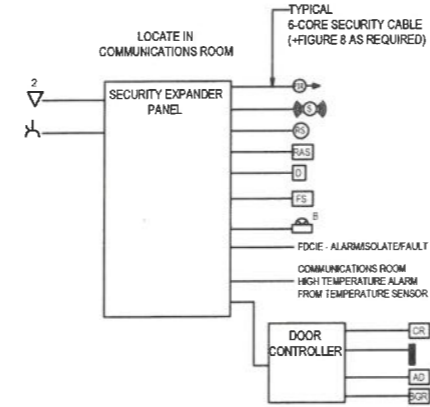
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DRAWING NO. CQU-GLD-015-00-ELE-100.2				ISSUE A

NOTES:

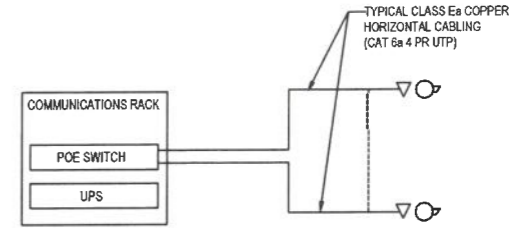
- 1 REFER TO ELE-001 FOR LEGEND AND GENERAL NOTES
- 2 THE COMMUNICATIONS, SECURITY AND CCTV CONTRACTOR'S SHALL CONFIRM ALL FINAL EQUIPMENT SELECTION / SPECIFICATION AND LAYOUT WITH THE CLIENT'S IT PERSONNEL ON SITE PRIOR TO PURCHASE AND INSTALLATION. THE CONTRACTOR'S SHALL CONFIRM / SEAMLESS INTEGRATION WITH THE UNIVERSITIES EXISTING SYSTEMS PRIOR TO EQUIPMENT PURCHASE AND INSTALLATION



COMMUNICATIONS SCHEMATIC (TYPICAL)



SECURITY INTRUDER DETECTION AND ACCESS CONTROL INFRASTRUCTURE SCHEMATIC (TYPICAL)



CCTV INFRASTRUCTURE SCHEMATIC (TYPICAL)



COMMUNICATIONS SITE RETICULATION

APPROVED
14/10/2021 *[Signature]*



FOR INFORMATION ONLY

AMENDMENTS			
No	Description	Date	By
B	CONSTRUCTION ISSUE - CHSS	29-07-21	GN
C	COMMUNICATION PATH DETAILS UPDATED	23-09-21	GN

Chess Electrics Pty Ltd
 ABN 78 150 016 943
 Rockhampton - Mackay - Townsville
 P:0749065134
 E: admin@chess-electrics.com.au

CLIENT

 CQU DRAWING NO.
CQU-GLD-015-00-ELE-101



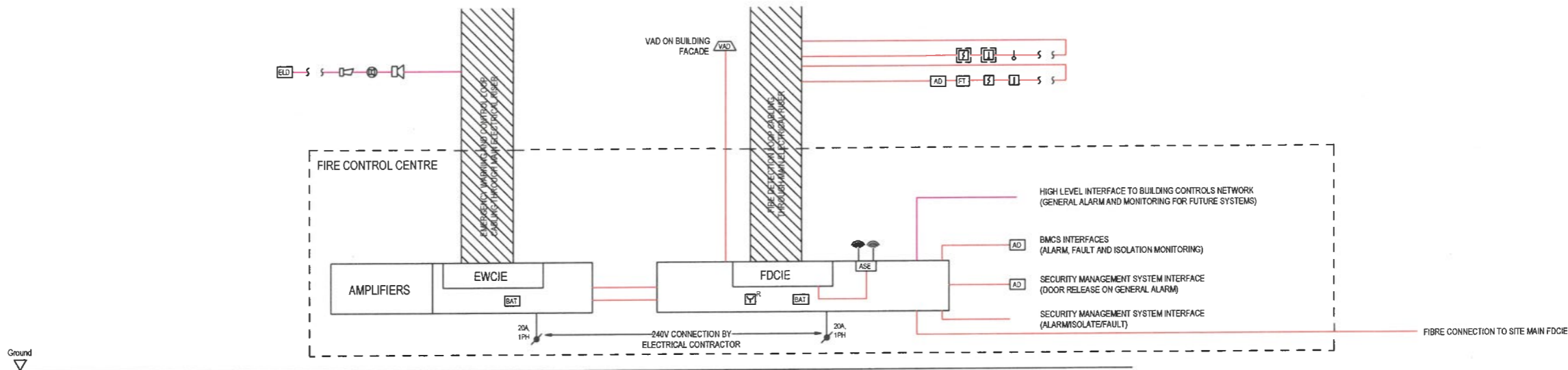
PROJECT
CQU - GLADSTONE SCHOOL OF MANUFACTURING
 DRAWING
ELECTRICAL SERVICES SCHEMATIC SHEET 2

THIS SET OF DOCUMENTS CONTAINS DRAWINGS THAT HAVE BEEN CREATED IN COLOUR. REPRODUCTIONS MUST BE MADE IN COLOUR TO AVOID LOSS OF INFORMATION.

A1	SCALE (at A1) 1:1	PROJ. NO. 620069	AUTHORISED	DATE 03/30/20
DRAWING NO. CQU-GLD-015-00-ELE-101				ISSUE C

NOTES:

1. REFER TO ELE-001 FOR LEGEND AND GENERAL NOTES
2. THE FIRE CONTRACTOR SHALL CONFIRM ALL FINAL EQUIPMENT AND DETECTOR LOCATIONS ON SITE PRIOR TO PURCHASE AND INSTALLATION. THE FIRE CONTRACTOR SHALL ALSO CONFIRM INSTALLATION COMPLIANCE WITH AS1670 PRIOR TO INSTALLATION AND ALSO THAT EQUIPMENT SELECTION PROVIDES A SEAMLESS INTERFACE TO THE EXISTING UNIVERSITY'S FIRE SYSTEM.



FIRE DETECTION AND ALARM SCHEMATIC (TYPICAL)

APPROVED
 14/10/2021 *[Signature]*



FOR INFORMATION ONLY

AMENDMENTS	No	Description	Date	By
8	CONSTRUCTION ISSUE - CHES	29-07-21	GN	

Chess Electrical Pty Ltd
 ABN 76 150 019 943
 Rockhampton - Mackay - Townsville
 P: 07 49985134
 E: admin@chess-electrics.com.au



CLIENT



CQU DRAWING NO.
CQU-GLD-015-00-ELE-102

PROJECT

CQU - GLADSTONE SCHOOL OF MANUFACTURING
 DRAWING
ELECTRICAL SERVICES
 SCHEMATIC SHEET 3

THIS SET OF DOCUMENTS CONTAINS DRAWINGS THAT HAVE BEEN CREATED IN COLOUR. REPRODUCTIONS MUST BE MADE IN COLOUR TO AVOID LOSS OF INFORMATION.

A1	SCALE (at A1) 1:1	PROJ. NO. 620069	AUTHORISED	DATE 03/30/20
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DRAWING NO. CQU-GLD-015-00-ELE-102	ISSUE B
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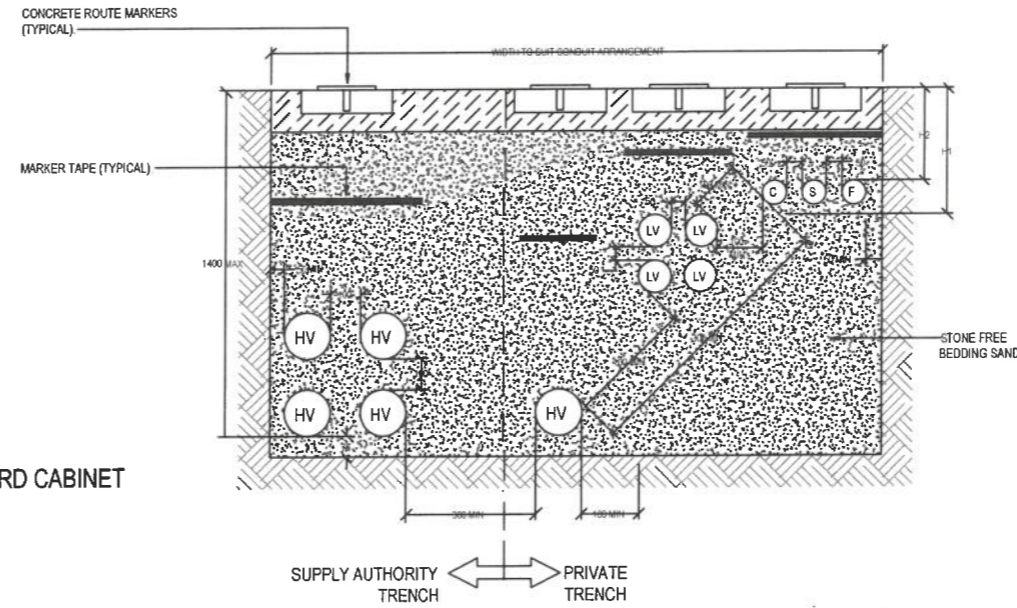
NOTES:

- REFER TO ELE-001 FOR LEGEND AND GENERAL NOTES.
- THE ELECTRICAL CONTRACTOR SHALL MAINTAIN COMPLIANCE WITH AS/NZS3000

	ROADWAY	MIN 75mm CONTINUOUS POURED CONCRETE	OTHER LOCATIONS
MINIMUM DIMENSION 'H1' DIMENSION 'H2'	750 450	350 300	550 300

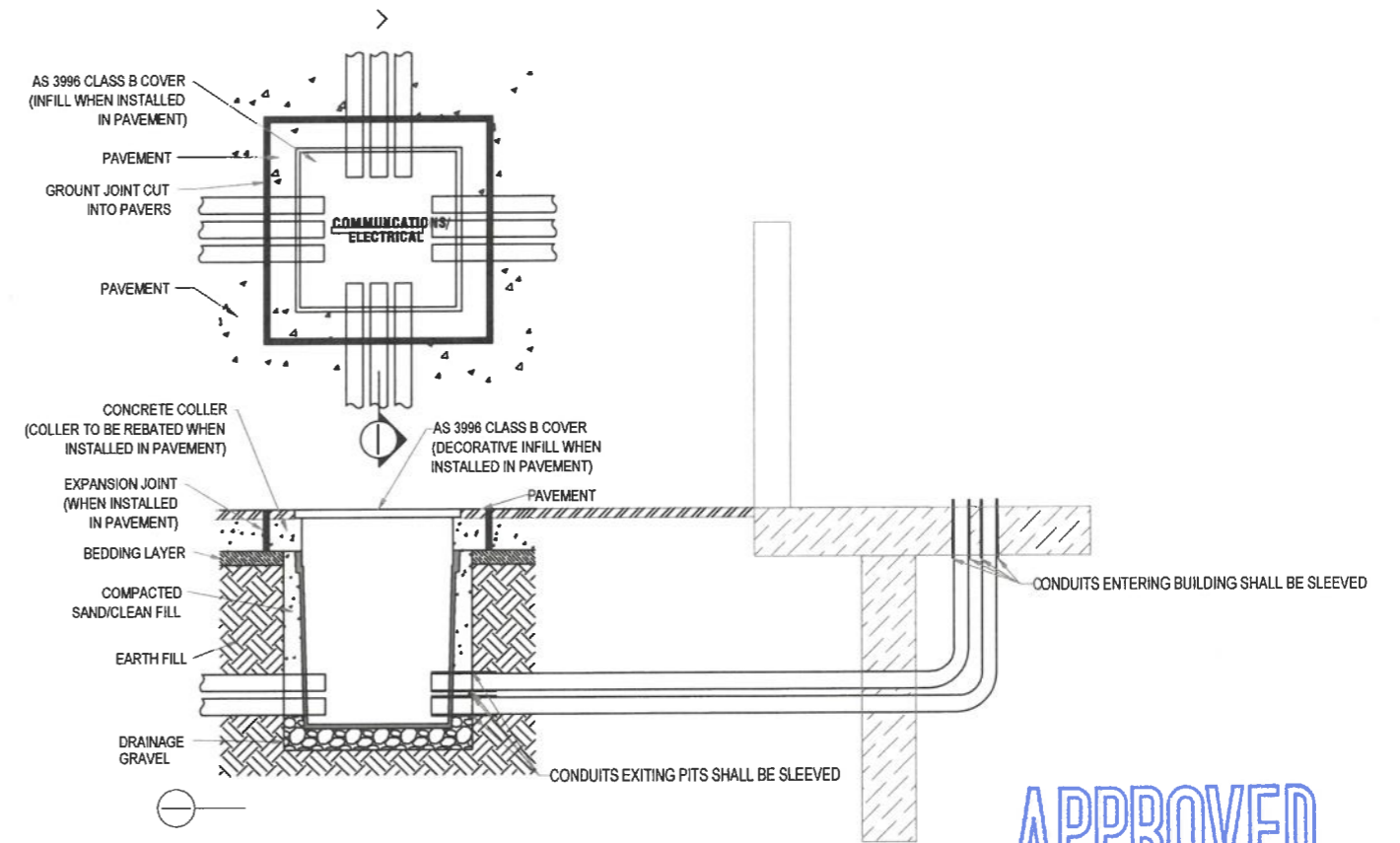
DETAIL APPLICABLE TO CATEGORY 'A' WIRING SYSTEM (AS/NZS 3000:2007) AND AS/CA 5009. REFER TO SPECIFICATION FOR TRENCHING AND BACKFILLING REQUIREMENTS. ALL UNDERGROUND WIRING SYSTEMS SHALL BE SPACED NOT LESS THAN 100mm FROM OTHER UNDERGROUND SERVICES.

- (C) TELECOMMUNICATIONS (Ø80)
- (LV) 400 / 230V CONDUIT (Ø100)
- (HV) UP TO 11kV (Ø150)
- (S) SECURITY (Ø80)
- (F) FIRE SERVICES (Ø80)



TYPICAL UNDERGROUND CABLE DUCT LAYOUT (TYPICAL)

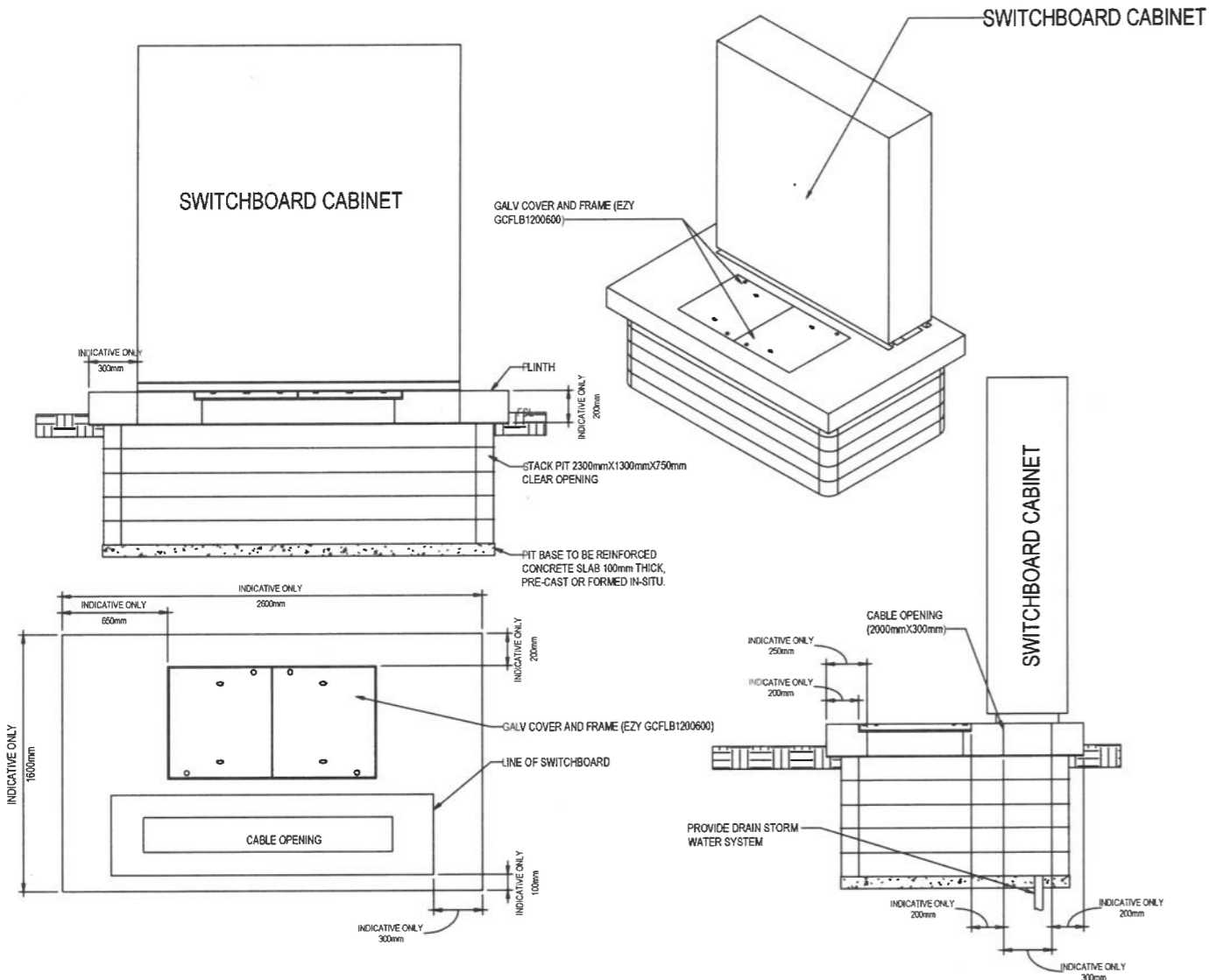
SCALE 1:20



TYPICAL ELECTRICAL/COMMUNICATIONS PIT DETAIL (TYPICAL)

NTS

APPROVED
14/10/2021 J. Hanford



MAIN SWITCHBOARD CABLE PIT SCHEMATIC (TYPICAL)



FOR INFORMATION ONLY

AMENDMENTS	No	Description	Date	By
B	CONSTRUCTION ISSUE - CHSS		29-07-21	GH

Chess Electrics Pty Ltd
ABN 78 150 018 943
Rockhampton - Mackay - Townsville
P: 07 49985134
E: admin@chess-electrics.com.au



CLIENT



CQU DRAWING NO.
CQU-GLD-015-00-ELE-103



PROJECT

**CQU - GLADSTONE SCHOOL OF
MANUFACTURING
ELECTRICAL SERVICES
SCHEMATIC SHEET 4**

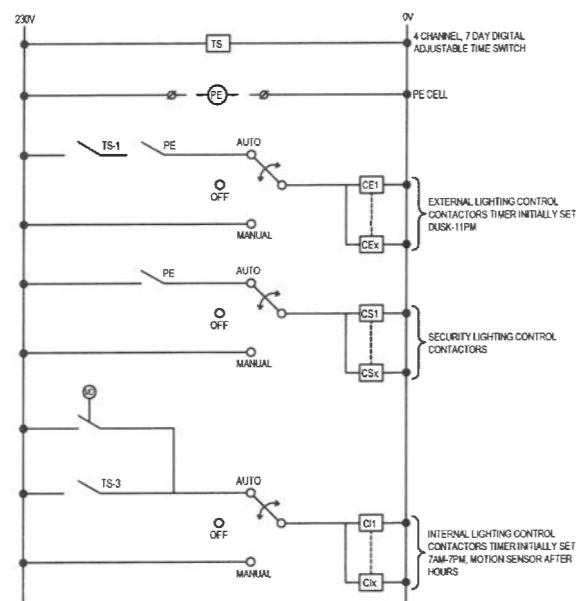
THIS SET OF DOCUMENTS CONTAINS DRAWINGS THAT HAVE BEEN CREATED IN COLOUR. REPRODUCTIONS MUST BE MADE IN COLOUR TO AVOID LOSS OF INFORMATION.

A1	SCALE (at A1) As indicated	PROJ. NO. 620069	AUTHORISED	DATE 03/30/20
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DRAWING NO. CQU-GLD-015-00-ELE-103	ISSUE B
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NOTES:

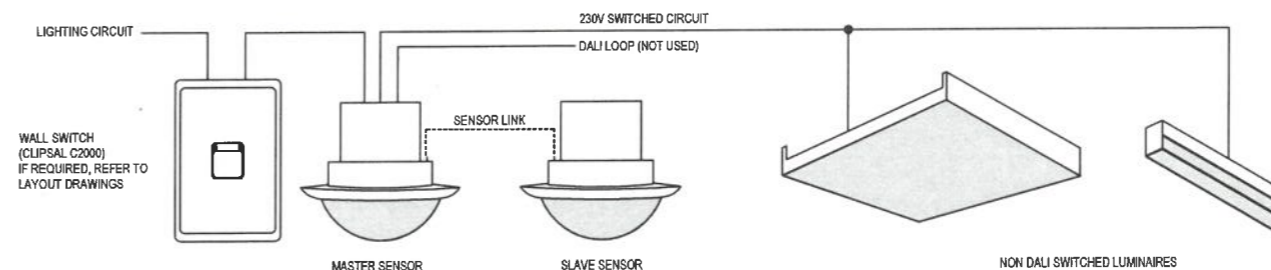
- REFER TO ELE-001 FOR LEGEND AND GENERAL NOTES.



NOTES

- SET TIMESWITCHES AS LABELLED OR TO CLIENTS REQUIREMENTS. PROVIDE FINAL SUB-CIRCUIT, 30A CONTACTORS AND
- CONTROL CIRCUITS AS REQUIRED.

TIME SWITCH LIGHTING CONTROL SCHEMATIC (TYPICAL)



TYPICAL LIGHTING CONTROL SCHEMATIC (WITHOUT DIMMER CONTROL)

N.T.S

APPROVED
14/10/2021 J. Horsfield



FOR INFORMATION ONLY

AMENDMENTS	No	Description	Date	By
B	CONSTRUCTION ISSUE - CHES		29.07.21	GN

Chess Electrics Pty Ltd
ABN 78 150 016 943
Rockhampton - Mackay - Townsville
P: 07 499 85134
E: admin@chessselectrics.com.au



CLIENT



CQU DRAWING NO.
CQU-GLD-015-00-ELE-104



PROJECT

CQU - GLADSTONE SCHOOL OF MANUFACTURING
DRAWING
ELECTRICAL SERVICES
SCHEMATIC SHEET 5

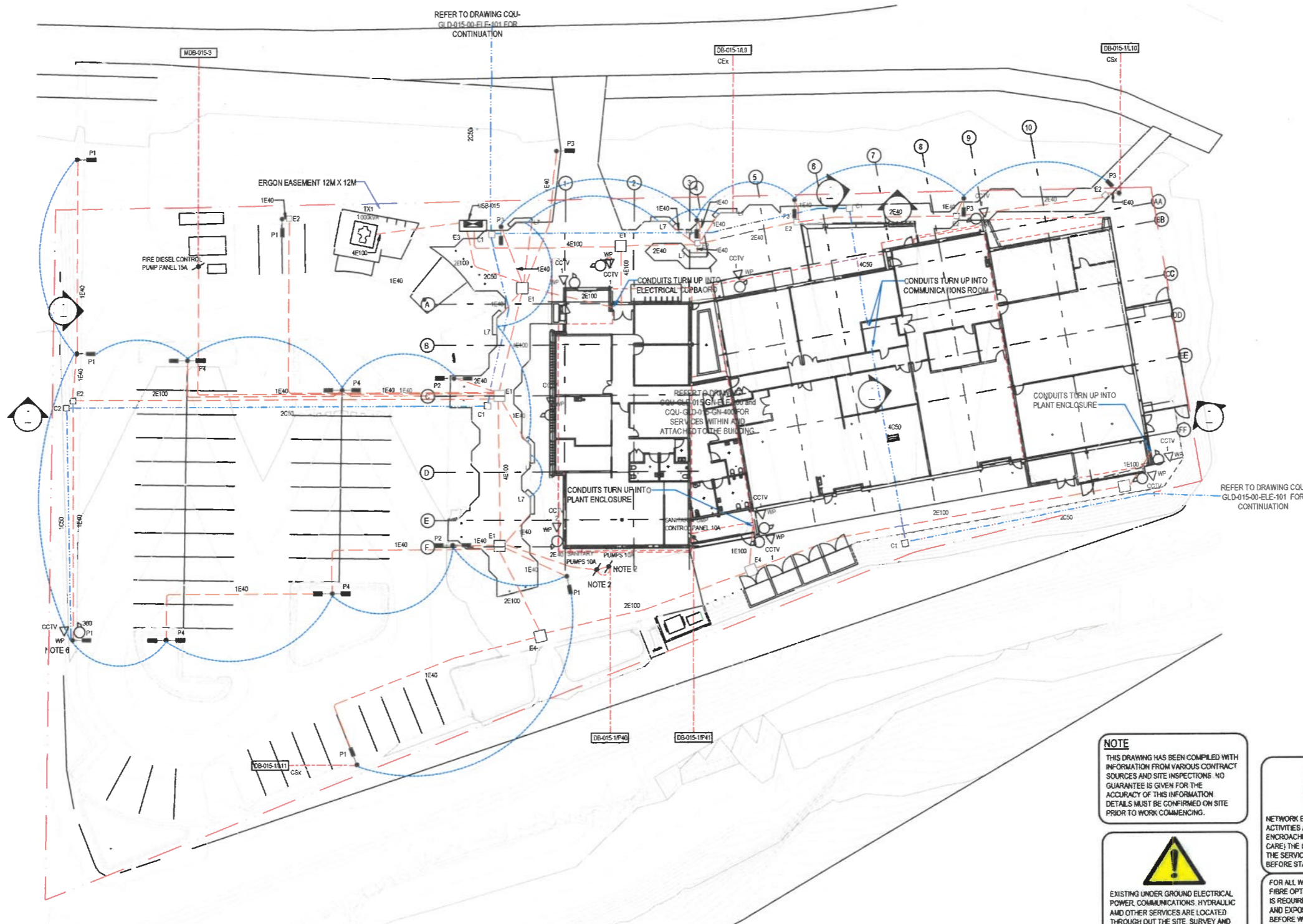
THIS SET OF DOCUMENTS CONTAINS DRAWINGS THAT HAVE BEEN CREATED IN COLOUR. REPRODUCTIONS MUST BE MADE IN COLOUR TO AVOID LOSS OF INFORMATION.

A1	SCALE (at A1) 1:1	PROJ. NO. 620069	AUTHORISED	DATE 03/30/20
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DRAWING NO. CQU-GLD-015-00-ELE-104	ISSUE B
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NOTES:

1. REFER TO ELE-001 FOR LEGEND AND GENERAL NOTES
2. FINAL LOCATION TO BE CONFIRMED WITH HYDRAULICS TRADE.
3. CAR PARK LIGHTING DESIGNED TO AS/NZS 1158 3.1 2020 CATEGORY PC1 AND PC2.
4. TRANSFORMERS FOR L7 TYPE LUMINAIRES MOUNTED IN EXTERNAL SEATING TO BE INSTALLED IN NEAREST ELECTRICAL PIT.
5. PROVIDE POWERED FIBRE CONNECTION TO POLE MOUNTED CCTV CAMERA TO THE REQUIREMENTS OF THE COU NETWORK CABLING SPECIFICATION AND STANDARD.
6. PROVIDE POWERED FIBRE CABLE TO CAR PARK POLE MOUNTED CCTV CAMERA. CAMERA TO BE MOUNTED 4000mm AFSL ATTACHED TO LIGHT POLE.
7. PWD PARKING DETAIL LOCATION WERE UNKNOWN AT THE TIME OF DESIGN. THE LIGHTING DESIGN MAY NEED TO BE ADJUSTED TO MAINTAIN COMPLIANCE FOR ANY PWD PARKING CLIENT TO CONFIRM.
8. THE ELECTRICAL CONTRACTOR SHALL CONFIRM FINAL DETAILS (LOCATION, SIZE, QTY, ETC) ON SITE WITH THE FIRE CONTRACTOR PRIOR TO EXCAVATION AND INSTALLATION.
9. THE ELECTRICAL TRADES SHALL COORDINATE WITH ALL OTHER TRADES.



APPROVED
14/10/2021 *Merfull*

NOTE
THIS DRAWING HAS BEEN COMPILED WITH INFORMATION FROM VARIOUS CONTRACT SOURCES AND SITE INSPECTIONS. NO GUARANTEE IS GIVEN FOR THE ACCURACY OF THIS INFORMATION. DETAILS MUST BE CONFIRMED ON SITE PRIOR TO WORK COMMENCING.

STOP
NETWORK EXISTS IN THE AREA. IF YOUR ACTIVITIES ARE WITH IN SERVICE PROVIDER ENCROACHMENT DISTANCES (SEE DUTY OF CARE); THE CONTRACTOR IS TO CONTACT THE SERVICE PROVIDER AT LEAST 2 DAYS BEFORE STARTING ANY ACTIVITY.

WARNING
EXISTING UNDER GROUND ELECTRICAL, POWER, COMMUNICATIONS, HYDRAULIC AND OTHER SERVICES ARE LOCATED THROUGH OUT THE SITE. SURVEY AND CHECK THE EXTENT OF SERVICES WITHIN WORK ZONES PRIOR TO EXCAVATION CORING OR PENETRATIONS OF ANY KIND.

DIAL BEFORE YOU DIG
www.1100.com.au
DIAL BEFORE YOU DIG TO BE CONTACTED FOR THE LOCATION OF EXISTING PUBLIC UTILITIES PRIOR TO EXCAVATION

FOR INFORMATION ONLY

AMENDMENTS		
No	Description	Date By
0	CONSTRUCTION ISSUE - CHSS	29-07-21 GN

Chess Electric Pty Ltd
AGENTS 150 015 943
Rockhampton - Mackay - Townsville
P: 07 49985134
E: admin@chess-electrics.com.au

CLIENT

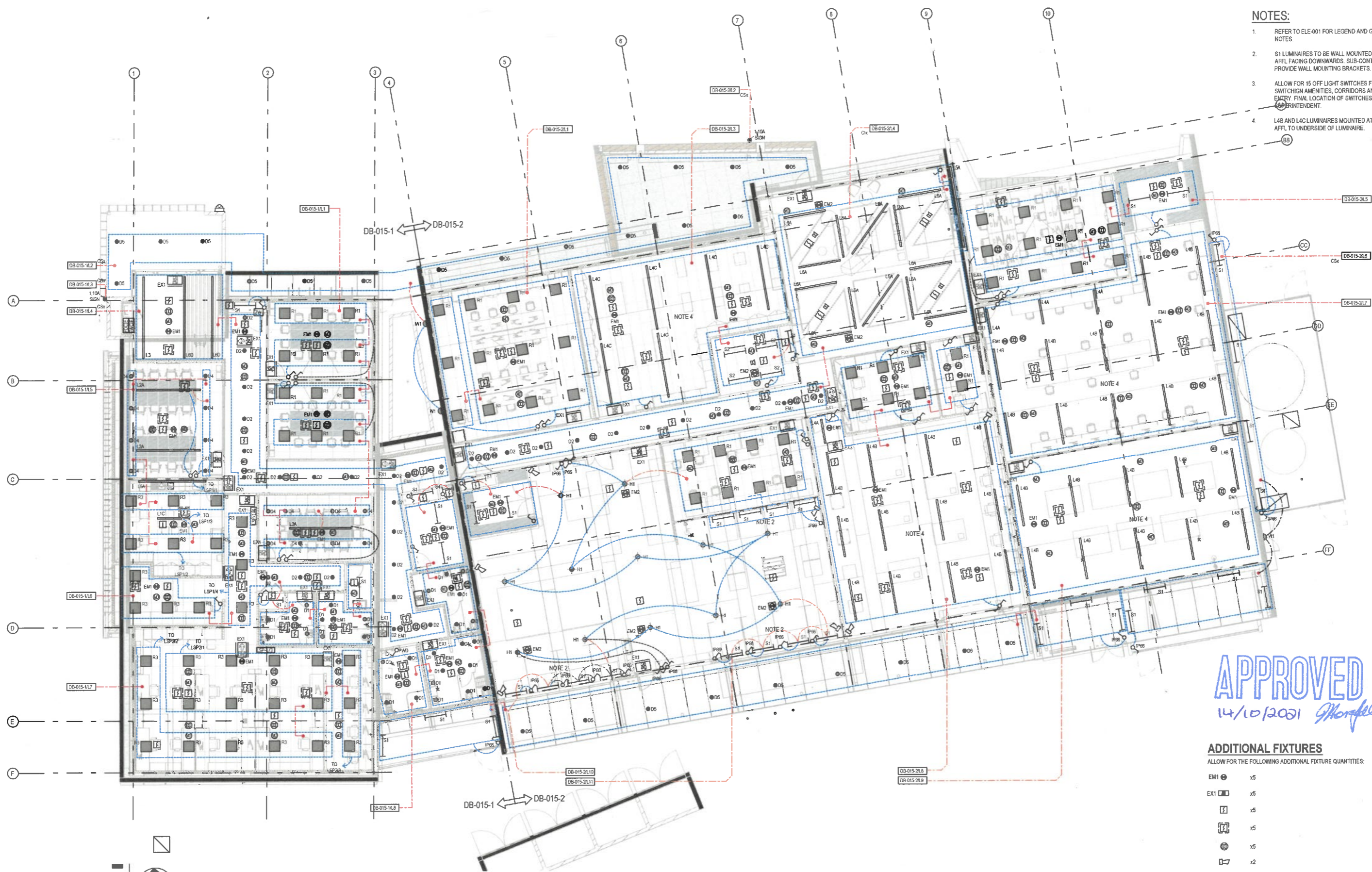
CQU DRAWING NO.
CQU-GLD-015-00-ELE-201

PROJECT
CQU - GLADSTONE SCHOOL OF MANUFACTURING
DRAWING
ELECTRICAL SERVICES LOCAL SITE PLAN

THIS SET OF DOCUMENTS CONTAINS DRAWINGS THAT HAVE BEEN CREATED IN COLOUR. REPRODUCTIONS MUST BE MADE IN COLOUR TO AVOID LOSS OF INFORMATION.

A1	SCALE (at A1) 1 : 250	PROJ. NO. 620069	AUTHORISED	DATE 03/30/20
DRAWING NO. CQU-GLD-015-00-ELE-201				ISSUE D

- NOTES:**
- REFER TO ELE-001 FOR LEGEND AND GENERAL NOTES.
 - S1 LUMINAIRES TO BE WALL MOUNTED AT 1800mm AFFL. FACING DOWNWARDS. SUB-CONTRACTOR TO PROVIDE WALL MOUNTING BRACKETS.
 - ALLOW FOR 15 OFF LIGHT SWITCHES FOR SWITCHIGN AMENITIES, CORRIDORS AND FOYER ENTRY. FINAL LOCATION OF SWITCHES T.B.C WITH THE PRINTENDENT.
 - L48 AND L4C LUMINAIRES MOUNTED AT 2700mm AFFL TO UNDERSIDE OF LUMINAIRE.



APPROVED
 14/10/2021 *Shorffell*

- ADDITIONAL FIXTURES**
 ALLOW FOR THE FOLLOWING ADDITIONAL FIXTURE QUANTITIES:
- EM1 15
 - EX1 15
 - 15
 - 15
 - 15
 - 12
 - 15

AMENDMENTS		Date	By
No	Description	29-07-21	GN
B	CONSTRUCTION ISSUE - CHSS		

Chess Electrics Pty Ltd
 ABN 78 02 015 943
 Rockhampton - Mackay - Townsville
 P 07 49985134
 E edna@chessselectrics.com.au

CLIENT

CQU DRAWING NO.
CQU-GLD-015-GN-ELE-300

PROJECT
CQU - GLADSTONE SCHOOL OF MANUFACTURING
 DRAWING
ELECTRICAL SERVICES
GROUND LEVEL - LIGHTING & DRY FIRE LAYOUT

THIS SET OF DOCUMENTS CONTAINS DRAWINGS THAT HAVE BEEN CREATED IN COLOUR. REPRODUCTIONS MUST BE MADE IN COLOUR TO AVOID LOSS OF INFORMATION.

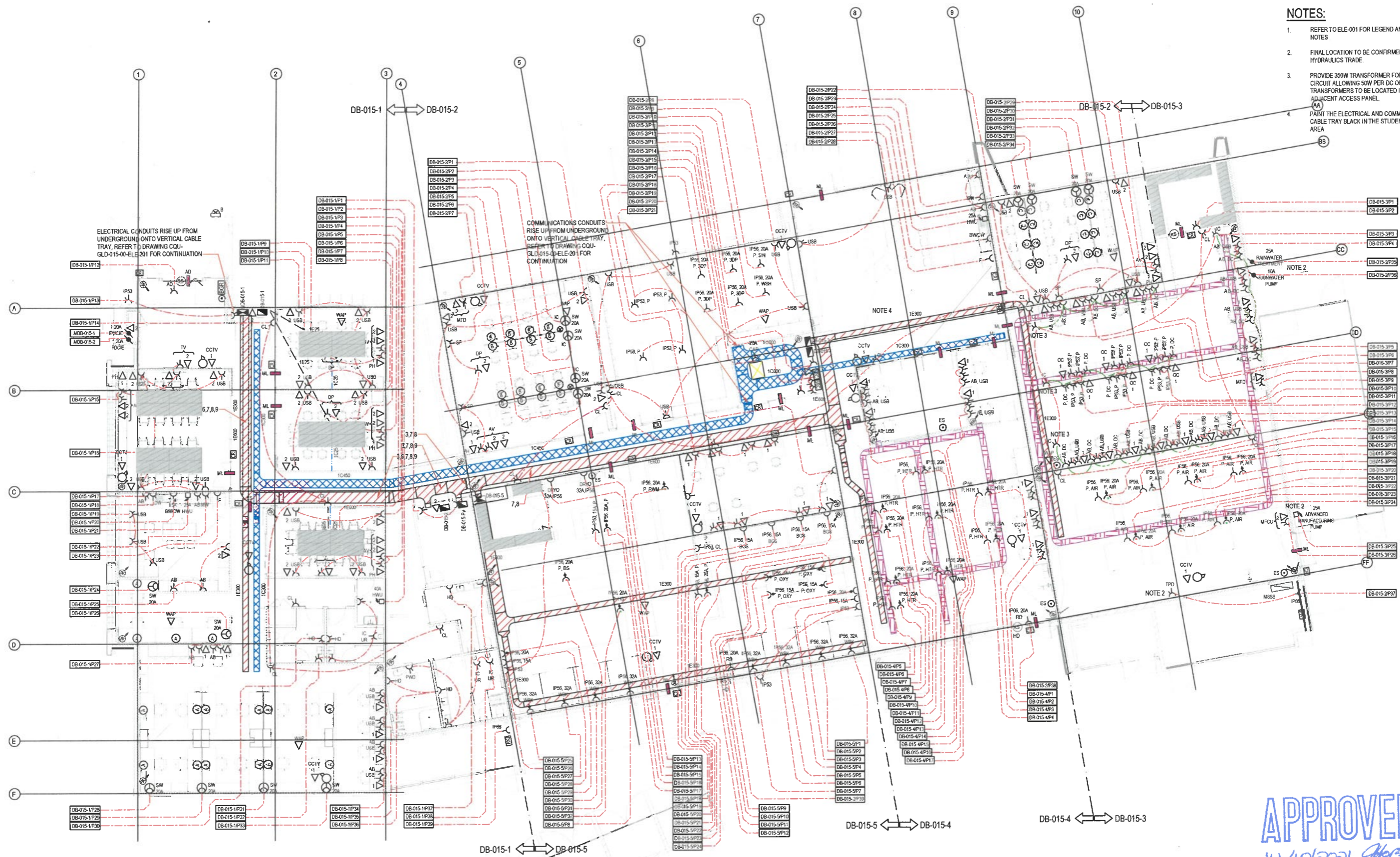
A1	SCALE (at A1) 1 : 100	PROJ. NO. 620069	AUTHORISED	DATE 04/21/20
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DRAWING NO.
CQU-GLD-015-GN-ELE-300

ISSUE
B

NOTES:

1. REFER TO ELE-001 FOR LEGEND AND GENERAL NOTES
2. FINAL LOCATION TO BE CONFIRMED WITH HYDRAULICS TRADE.
3. PROVIDE 350W TRANSFORMER FOR 24V DC SUB-CIRCUIT ALLOWING 50W PER DC OUTLET. TRANSFORMERS TO BE LOCATED IN CEILING VOID ADJACENT ACCESS PANEL.
4. PAINT THE ELECTRICAL AND COMMUNICATIONS CABLE TRAY BLACK IN THE STUDENT BREAKOUT AREA.



APPROVED
 14/10/2021 *[Signature]*



AMENDMENTS		Date	By
No	Description	29.07.21	GN
C	CONSTRUCTION ISSUE - CHES		

Chess Electric Pty Ltd
 ABN 78 150 016 943
 Rockhampton - Mackay - Townsville
 P: 07 49985134
 E: admin@chess-electrics.com.au

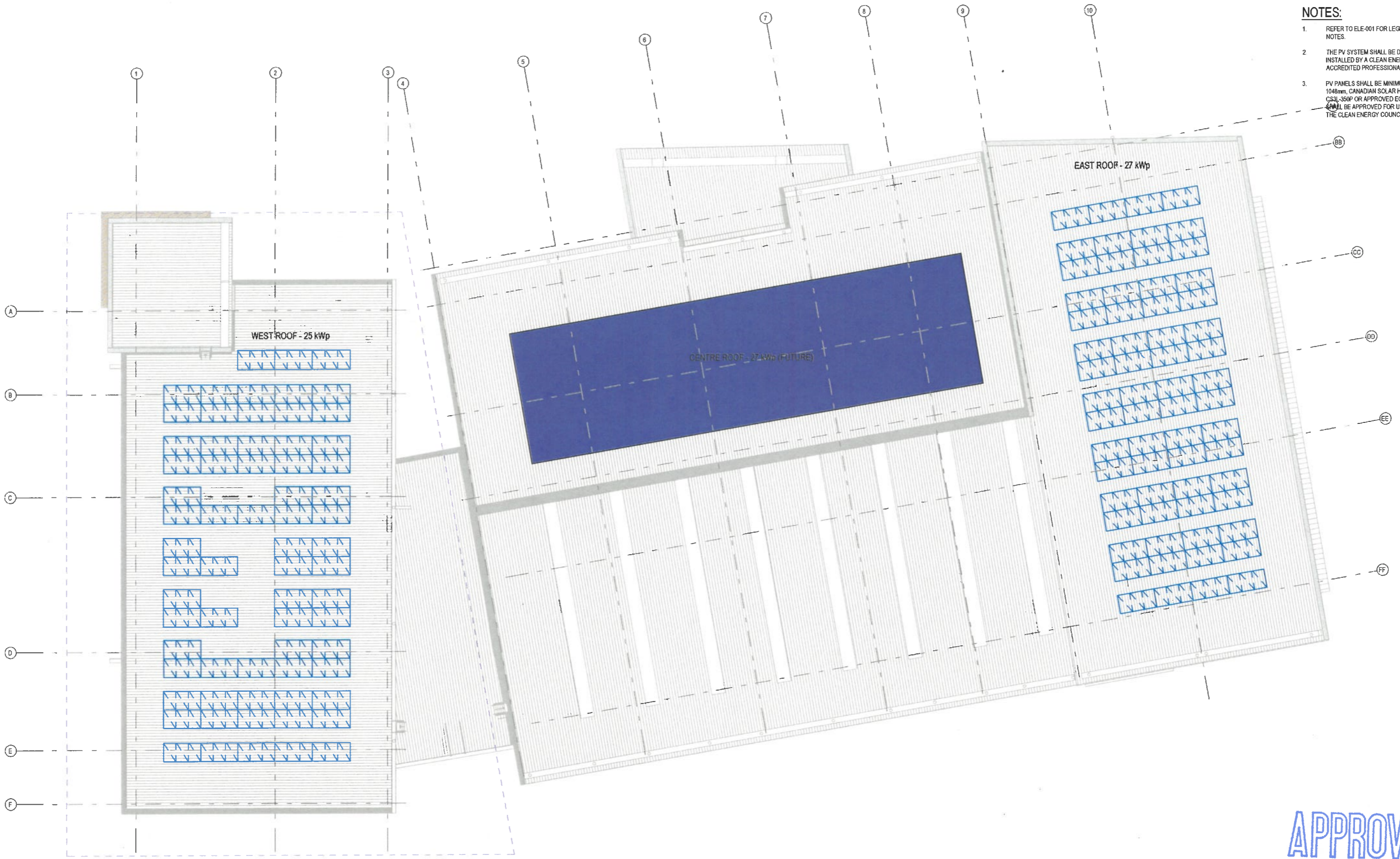
CLIENT

CQU DRAWING NO.
CQU-GLD-015-GN-ELE-400

PROJECT
CQU - GLADSTONE SCHOOL OF MANUFACTURING
 DRAWING
ELECTRICAL SERVICES
GROUND LEVEL - POWER, COMMUNICATIONS AND SECURITY

THIS SET OF DOCUMENTS CONTAINS DRAWINGS THAT HAVE BEEN CREATED IN COLOUR. REPRODUCTIONS MUST BE MADE IN COLOUR TO AVOID LOSS OF INFORMATION.			
A1	SCALE (at A1) 1:100	PROJ. NO. 620069	DATE 03/30/20
DRAWING NO. CQU-GLD-015-GN-ELE-400		AUTHORISED	ISSUE C

- NOTES:**
- REFER TO ELE-001 FOR LEGEND AND GENERAL NOTES.
 - THE PV SYSTEM SHALL BE DESIGNED AND INSTALLED BY A CLEAN ENERGY COUNCIL ACCREDITED PROFESSIONAL.
 - PV PANELS SHALL BE MINIMUM 350W, 1765mm x 1048mm, CANADIAN SOLAR HRU POLY CELL CS3L-350P OR APPROVED EQUAL. PV PANELS SHALL BE APPROVED FOR USE IN AUSTRALIA BY THE CLEAN ENERGY COUNCIL.



APPROVED
 14/10/2021 *Ghorafell*

 **FOR INFORMATION ONLY**

AMENDMENTS		
No	Description	Date By
B	CONSTRUCTION ISSUE: CHES	29-07-21 GN

Chess Electrics Pty Ltd
 ABN 78 150 016 943
 Rockhampton - Mackay - Townsville
 P:0749985134
 E: admin@chess-electrics.com.au



CLIENT



CQU DRAWING NO.
CQU-GLD-015-RF-ELE-401



PROJECT
CQU - GLADSTONE SCHOOL OF MANUFACTURING
 DRAWING
ELECTRICAL SERVICES
ROOF - POWER, COMMUNICATIONS AND SECURITY

THIS SET OF DOCUMENTS CONTAINS DRAWINGS THAT HAVE BEEN CREATED IN COLOUR. REPRODUCTIONS MUST BE MADE IN COLOUR TO AVOID LOSS OF INFORMATION.

A1	SCALE (at A1) 1:100	PROJ. NO. 620069	AUTHORISED	DATE 03/30/20
DRAWING NO. CQU-GLD-015-RF-ELE-401				ISSUE B

CONSTRUCTION PLAN

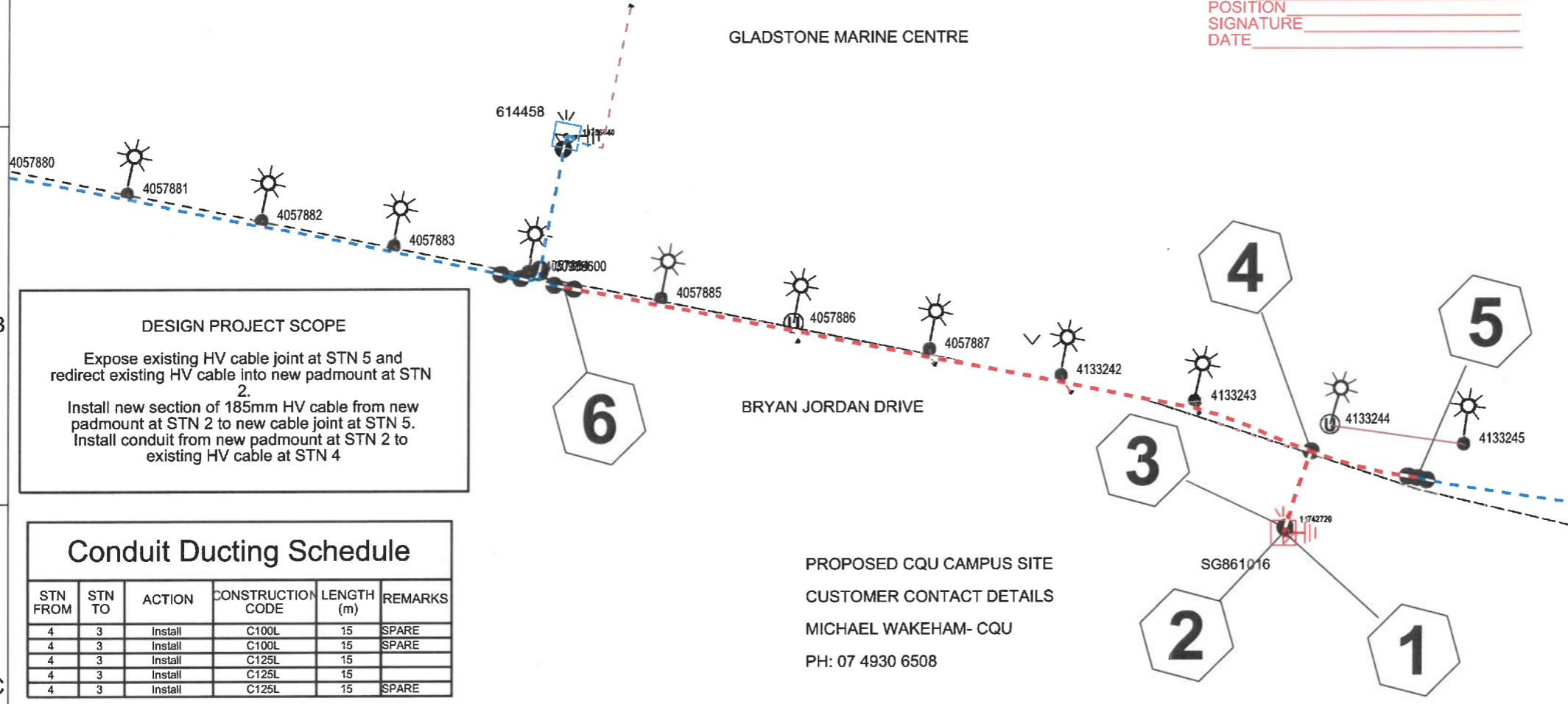
SITE SPECIFIC CONSTRUCTION NOTES
 1:- CUSTOMER RESPONSIBLE FOR CONDUIT INSTALLATION FROM STN 2 TO STN 4 AND PADMOUNT FOUNDATION.
 2:- CONSTRUCTION CREW TO EXCAVATE AND EXPOSE EXISTING CABLE, JOINT AT STN 5 FOR NEW CABLE INSTALLTION. VAC TRUCK HAS BEEN ALLOWED IN ESTIMATE.
 3:- CUSTOMER TO INSTALL SPARE CONDUITS FROM STN 2 TO STN 4 AS REQUESTED BY ERGON
 4:- CUSTOMER TO PROVIDE 12M X 12M EASEMENT AT PADMOUNT LOCATION
 5:- INSTALL 1600A CIRCUIT BREAKER SET AT 1200 A. CIRCUIT BREAKER ADDED TO BOM

ON COMPLETION, MARK UP THIS PRINT CLEARLY WITH ALL FINAL CHANGES & EMAIL SCANNED COPY TO dmlinesdesign@ergon.com.au WITHIN 5 DAYS OF ENERGISATION

RETURN HARD COPY TO LINES DESIGN GROUP
 CHANGES: YES / NO
 COMPLETION DATE _____
 NAME _____
 POSITION _____
 SIGNATURE _____
 DATE _____

- CONSTRUCTION PLAN NOTES**
- Existing LV open points shall be confirmed by field crews prior to construction.
 - Existing electrical infrastructure has been captured from historical data and is indicative only. Actual physical sizes of conductors and cables should be confirmed by field crews on site to ensure correct conductor fittings are used.
 - This design adheres to EECL standards and regulations. All changes from the approved design must be formally approved by the designer. Refer to the As Constructed process.
 - This construction plan is to be read in conjunction with all relevant ERGON ENERGY manuals, specifications, procedures and guidelines. Consumers installation shall comply with AS3000:2018- SAA Wiring Rules
 - Any replacement service fuse cartridges are not to exceed existing rating unless specified by the Designer.
 - All existing pole equipment that has not been replaced under this project is assumed to be in a serviceable condition. Any pole equipment deemed to be in an unserviceable condition upon closer inspection is to be replaced.
 - Physical location of buried services shall be confirmed prior to construction.
 - Check correct phasing prior to commissioning
 - Where possible notify property owners prior to entry to site

1628172_1



DESIGN PROJECT SCOPE
 Expose existing HV cable joint at STN 5 and redirect existing HV cable into new padmount at STN 2.
 Install new section of 185mm HV cable from new padmount at STN 2 to new cable joint at STN 5.
 Install conduit from new padmount at STN 2 to existing HV cable at STN 4

Conduit Ducting Schedule

STN FROM	STN TO	ACTION	CONSTRUCTION CODE	LENGTH (m)	REMARKS
4	3	Install	C100L	15	SPARE
4	3	Install	C100L	15	SPARE
4	3	Install	C125L	15	
4	3	Install	C125L	15	
4	3	Install	C125L	15	SPARE

Underground Cable Schedule

STN FROM	STN TO	ACTION	VOLTAGE	CONSTRUCTION CODE	No. OF CONDUCTORS	ROUTE LENGTH (m)	CABLE LENGTH (m)
5	2	Install	11.000 kV	11-185T/1723	1	36 m	40 m
6	2	Relocate	11.000 kV	11-185T/1716	1	157 m	161 m

Construction Schedule

STN No	SITE LABEL	ACTION	CONSTRUCTION CLASS	CONSTRUCTION CODE	DRAWING NUMBER	REMARKS
1	11742720	Install	Pad	PMF11U	5005	
2	SG861016	Install	Substation	PM11/1000/8DJH2S1F	5368	
2	SG861016	Install	Termination	11PM/CTC/8DJH/185T	5373	
2	SG861016	Install	Earth	EPM11/SEP	5014	
2	SG861016	Install	Termination	11PM/CTC/8DJH/185T	5373	
2	CB861130	Install	Switch	CB/SUB		1250 A CIRCUIT BREAKER
5		Replace	Cable Joint	11-CJS185T	5073	

PROPOSED CQU CAMPUS SITE
 CUSTOMER CONTACT DETAILS
 MICHAEL WAKEHAM- CQU
 PH: 07 4930 6508

UNDERGROUND SPECIFICATIONS
 This works plan is to be read in conjunction with the following ERGON ENERGY manuals and specifications.
 * Main Specification
 * RSC07 URD Civil Works Specification
 * RSC09 Tunnel Boring Specification
 * RSC12 Commercial and Industrial Civil Works Main Specification
 * Underground Construction Manual
 * Lighting Construction Manual
 * Consumer's installation shall comply with AS3000: 2018 - SAA Wiring Rules.

APPROVED
 14/10/2021 J Pearson

UNDERGROUND CONSTRUCTION NOTES
 1. CONDUIT DEPTHS, ALIGNMENTS & TRENCHING detail refer Underground Construction Manual TRENCHING DWG 5165. Provide Polymeric Cable Protection Cover in accordance with CONSTRUCTION PRACTICES DWG 5124.
 2. Developer to supply and install conduits, lighting foundations, pad mount foundation and site finish.
 3. Developer/Civil Contractor to contact Ergon Energy for site audits in accordance with RSC07.

ORIGINAL ISSUE
 OA
 DRN: jpearson
 DATE: 22/04/2021

LEGEND

<ul style="list-style-type: none"> Proposed 185mm HV Cable Existing 185mm HV Cable Proposed 11kV Cable Existing 11kV Cable Proposed 11kV Conduit Existing 11kV Conduit Proposed 11kV Cable Joint Existing 11kV Cable Joint Proposed 11kV Cable Termination Existing 11kV Cable Termination Proposed 11kV Cable Earth Existing 11kV Cable Earth Proposed 11kV Cable Switch Existing 11kV Cable Switch Proposed 11kV Cable Pad Existing 11kV Cable Pad Proposed 11kV Cable Substation Existing 11kV Cable Substation Proposed 11kV Cable Feeder Existing 11kV Cable Feeder Proposed 11kV Cable Feeder Termination Existing 11kV Cable Feeder Termination Proposed 11kV Cable Feeder Earth Existing 11kV Cable Feeder Earth Proposed 11kV Cable Feeder Switch Existing 11kV Cable Feeder Switch Proposed 11kV Cable Feeder Pad Existing 11kV Cable Feeder Pad Proposed 11kV Cable Feeder Substation Existing 11kV Cable Feeder Substation 	<ul style="list-style-type: none"> Proposed 11kV Cable Existing 11kV Cable Proposed 11kV Conduit Existing 11kV Conduit Proposed 11kV Cable Joint Existing 11kV Cable Joint Proposed 11kV Cable Termination Existing 11kV Cable Termination Proposed 11kV Cable Earth Existing 11kV Cable Earth Proposed 11kV Cable Switch Existing 11kV Cable Switch Proposed 11kV Cable Pad Existing 11kV Cable Pad Proposed 11kV Cable Substation Existing 11kV Cable Substation Proposed 11kV Cable Feeder Existing 11kV Cable Feeder Proposed 11kV Cable Feeder Termination Existing 11kV Cable Feeder Termination Proposed 11kV Cable Feeder Earth Existing 11kV Cable Feeder Earth Proposed 11kV Cable Feeder Switch Existing 11kV Cable Feeder Switch Proposed 11kV Cable Feeder Pad Existing 11kV Cable Feeder Pad Proposed 11kV Cable Feeder Substation Existing 11kV Cable Feeder Substation
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REFERENCE DRAWINGS
 Operating Diagram:- OS-10091-01
 Zone Sub:- CISS CLINTON INDUSTRIAL 66/11KV
 Feeder Number:- 11KV MARIAN FEEDER CH11

REVISION CONTROL

Drawn: jpearson	Date: 18/03/2021
Checked: nkeene	Date: 20/04/2021
Approved: lleighlo	Date: 21/04/2021

ERGON ENERGY CORPORATION LTD.

Bryan Jordan Drive- Gladstone Marina
 Install 1 Mva padmount for supply to new CQU campus building
 Integral Group - Chris Hansen Ph: 0438 571 080

Drawing Status: Approved

Project : 1628172 Designer: J Pearson Ph. 0415649802

1628172_1 A

Work Order : 8040837 Scale 1:1000 Sheet 1 of 1

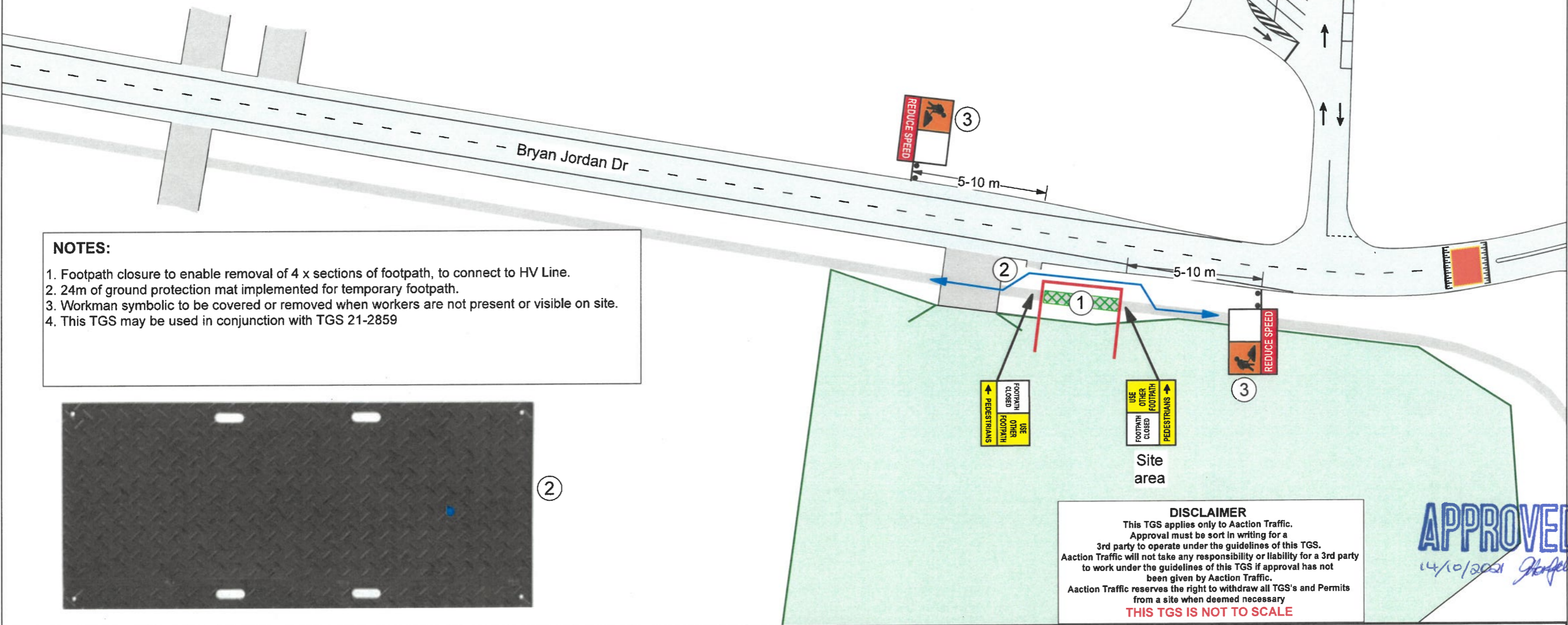
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This TGS may be used in conjunction with TGS 21-2859



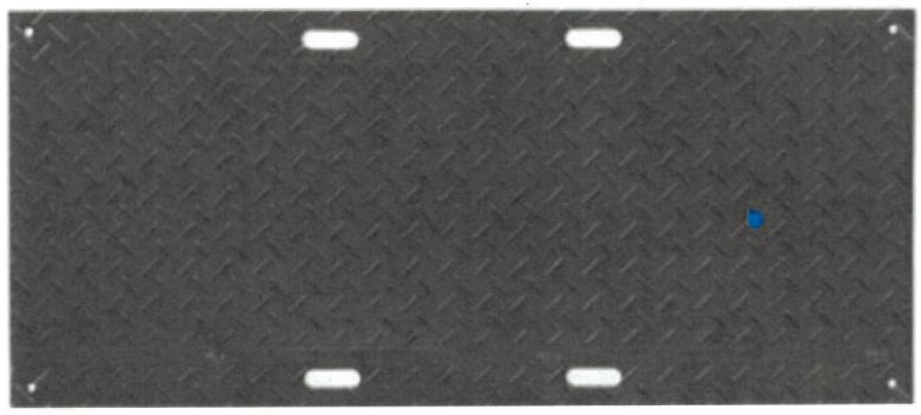
www.actiontraffic.com

- FENCING
- TEMPORARY FENCING
- PEDESTRIAN DETOUR



NOTES:

1. Footpath closure to enable removal of 4 x sections of footpath, to connect to HV Line.
2. 24m of ground protection mat implemented for temporary footpath.
3. Workman symbolic to be covered or removed when workers are not present or visible on site.
4. This TGS may be used in conjunction with TGS 21-2859



DISCLAIMER
 This TGS applies only to Aaction Traffic. Approval must be sort in writing for a 3rd party to operate under the guidelines of this TGS. Aaction Traffic will not take any responsibility or liability for a 3rd party to work under the guidelines of this TGS if approval has not been given by Aaction Traffic. Aaction Traffic reserves the right to withdraw all TGS's and Permits from a site when deemed necessary
THIS TGS IS NOT TO SCALE

APPROVED
 14/10/2021 *[Signature]*

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 DTMR #: 0202 PH: 07 3204 9988	Client:	FDC Building	Posted Speed:	60kmh	LEGEND:	TGS Number:	21-2859-1
	Client Contact:	Anthony Farr	Term of Works:	Short			Traffic Cones/Bollards
	Client Mobile:	0402 350 184	Existing Width:	N/A		Work Vehicle	N NOTE: This Traffic Guidance Scheme is not to scale.
	Activity:	Building	Control Type:	Signs		Vehicle Mounted Arrow Board	
	Street:	Bryan Jordan Dr	Closure:	Footpath		Work Area	
	Suburb:	Callemondah (Gladstone)	TC/Ute Numbers:	0	Drawn By TMD OP420: Darren Achammer Sign: <i>[Signature]</i>		
Cross Street 1:	Alf Orourke dr	D Spacing:	15-45 & 5-10m				
Cross Street 2:	Lord St	Date Created:	20/09/2021				
Road Type:	Two way - Undivided	Revision Due:	20/03/2022				

LEGEND - GENERAL

- EXTENT OF WORKS
- ROOF LINE ABOVE

LEGEND - SITE SERVICES

- STORM WATER**
REFER TO CIVIL ENGINEER DRAWINGS FOR DETAIL.
- WATER**
REFER TO CIVIL ENGINEER DRAWINGS FOR DETAIL.
- ELECTRICAL CONDUITS**
REFER TO ELECTRICAL ENGINEER DRAWINGS FOR DETAIL.
- TELECOMMUNICATIONS**
REFER TO CIVIL ENGINEER DRAWINGS FOR DETAIL.
- POLE LIGHT**
REFER ELECTRICAL ENGINEER DRAWINGS FOR DETAILS

LEGEND - LEVELS & GRADING

- PROPOSED FINISHED SURFACE LEVEL**
REFER GRADING PLAN.
- FALL AS DIRECTED**
DIRECTION OF SURFACE FALL TO CIVIL SW
REFER GRADING PLAN.
- PROPOSED TOP OF WALL HEIGHT**
TOP OF HEIGHT SET FROM ADJOINING SURFACE
REFER GRADING PLAN.

LEGEND - DRAINAGE

- SUBSOIL DRAINAGE (ENGINEERING)**
FOR SUBSOIL UNDER PAVEMENT / KERB
REFER TO ENGINEERING PACKAGE FOR DETAIL.
- SUBSOIL DRAINAGE TO GARDENS**
TO BE CONNECTED TO STORMWATER SERVICE
REFER DETAILS AND SPECIFICATION.

LEGEND - SURFACE FINISHES

- PAVEMENT TYPE 1**
COLOURED, LIGHTLY EXPOSED AGGREGATE.
REFER TO MATERIALS AND FINISHES SCHEDULE.
REFER TO ENGINEER DETAILS.
- PAVEMENT TYPE 2**
COLOURED, LIGHTLY EXPOSED AGGREGATE.
REFER TO MATERIALS AND FINISHES SCHEDULE.
REFER TO ENGINEER DETAILS.
- PAVEMENT TYPE 3**
NATURAL, LIGHTLY EXPOSED AGGREGATE
REFER TO MATERIALS AND FINISHES SCHEDULE.
REFER TO ENGINEER DETAILS.
- RELIEVING SLAB**
REFER TO CIVIL ENGINEER DRAWINGS FOR DETAIL.
- TURF TYPE 1**
REFER TO MATERIALS AND FINISHES SCHEDULE, DETAILS
AND SPECIFICATION.
- MULCH TYPE 1**
REFER TO MATERIALS AND FINISHES SCHEDULE, DETAILS
AND SPECIFICATION.
- MULCH TYPE 2**
REFER TO MATERIALS AND FINISHES SCHEDULE, DETAILS
AND SPECIFICATION.

LEGEND - JOINTING & EDGES

- ROOT BARRIER**
REFER TO MATERIALS AND FINISHES
SCHEDULE AND SPECIFICATION.
- CONTROL JOINT (SAWN JOINT)**
REFER TO ENGINEER DETAILS. REFER PLAN FOR SPACING
- EXPANSION JOINT (DOWELLED)**
REFER TO ENGINEER DETAILS. REFER PLAN FOR SPACING
- EXTENT OF RELIEVING SLAB**
REFER TO ENGINEERS PACKAGE FOR INFORMATION,
AND JOINTING TO FOOTPATH.
- EDGE TYPE 1**
CONCRETE EDGE. REFER TO MATERIALS AND
FINISHES SCHEDULE AND SPECIFICATION.

LEGEND - WALLS

- WALL TYPE 1**
PRECAST CONCRETE SEAT. REFER TO DETAILS,
MATERIALS AND FINISHES SCHEDULE.
- WALL TYPE 2**
PODIUM PLANTER WALL.
REFER TO DETAILS, MATERIALS AND FINISHES
SCHEDULE.

LEGEND - FURNITURE

- BIKE RACK**
REFER TO DETAILS, MATERIALS AND FINISHES SCHEDULE.
- DRINKING FOUNTAIN**
CONNECT TO POTABLE WATER, DISCHARGE TO SW
REFER TO DETAILS, MATERIALS AND FINISHES SCHEDULE.
- RUBBISH BIN - GENERAL**
COMBINED FURNITURE ELEMENT
REFER TO MATERIALS AND FINISHES SCHEDULE.
- BOLLARD**
REFER TO MATERIALS AND FINISHES SCHEDULE.
- TACTILES: WARNING**
HAZARD TACTILE IN ACCORDANCE WITH AS 1428.4
REFER TO MATERIALS AND FINISHES SCHEDULE.

LEGEND - PLANTING

- EXISTING TREE - TO BE RETAINED**
REFER DETAILS AND SPECIFICATION.
- TREE - PROPOSED**
REFER DETAILS, PLANTING SCHEDULE AND
SPECIFICATION.
- FEATURE SHRUB - PROPOSED**
REFER DETAILS, PLANTING SCHEDULE AND
SPECIFICATION.
- MASS PLANTING AREA**
REFER TO PLANTING SCHEDULE AND PLAN FOR SPECIES
(colour varies depending on species type).

LANDSCAPE NOTES

GENERAL

- LANDSCAPE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE LANDSCAPE SPECIFICATION
- REFER TO ARCHITECT'S PACKAGE FOR:
 - BUILDING DESIGN
- REFER TO ENGINEER'S PACKAGE FOR:
 - DRAINAGE;
 - LOCATION OF ALL EXISTING AND PROPOSED SERVICES;
 - LOCATIONS OF WATER METERS AND TAPS;
 - POSITION AND NUMBERING OF LIGHTING;
 - LEVELS.
- INSTALL ALL PROPRIETARY PRODUCTS TO MANUFACTURER'S SPECIFICATION.
- WHERE POSITION OF SERVICES IS CRITICAL, THE CONTRACTOR IS TO NOTIFY THE SERVICE AUTHORITY AND LOCATE ON SITE PRIOR TO CONSTRUCTION.
- ROOT BARRIER IS TO BE USED TO PROTECT SERVICE LINES WHERE TREES ARE LOCATED WITHIN 3M OF ANY SERVICE LINE. ROOT BARRIER IS TO BE INSTALLED 500MM OFFSET FROM SERVICE LINE FOR THE EXTENT OF TREES SHOWN.

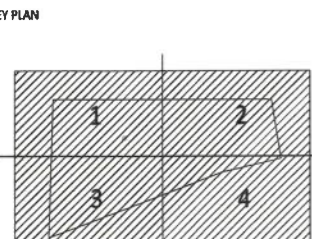
MAINTENANCE NOTES

- MAINTENANCE ACTIVITIES ARE TO BE CARRIED OUT AS PER THE SPECIFICATION AND MAINTENANCE MANAGEMENT PLAN (CQU).

DISCLAIMER

WHERE INCONSISTENCY OCCURS BETWEEN SCHEDULE AND DRAWINGS, DRAWINGS ARE TO TAKE PRECEDENCE.

KEY PLAN



FOR CONSTRUCTION

AMENDMENTS		
No	Description	Date By
A	ISSUE FOR CONSTRUCTION	03.06.21 JH

PEDDLE THORP
architecture | interiors | health | planning

Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddletorp.com.au
W peddletorp.com.au

Tract

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
Project Manager: Central Queensland University +61 7 4990 9000
Structural Engineer: Cairns +61 7 3369 9822
Mechanical Engineer: Integral Group +61 7 3917 8888
Electrical Engineer: Integral Group +61 7 3917 8888
Hydraulic Engineer: Integral Group +61 7 3917 8888
Certifier: Kincco +61 7 3850 2080
Landscape Architect: Tract Pty Ltd +61 7 8002 6400
Civil Engineer: Cairns +61 7 3369 9822
Cost Planner: WT Partnership +61 7 4722 2760

CUJENT

CUJENT AUSTRALIA

FDC

CQU DRAWING NO.
CQU-GLD-015-00-LSS-101

PROJECT
Central Queensland University
Gladstone Marina Campus

DRAWING
LEGEND

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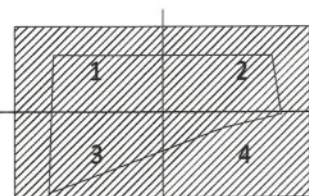
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STAGE 1 AND 2 HARDSCAPE SCHEDULE

CQU GLADSTONE CAMPUS MATERIAL AND FINISHES SCHEDULE							
CODE	DESCRIPTION	MATERIAL SIZE	FINISH	COLOUR	PATTERN	FIXING	SUPPLIER
SURFACE TREATMENTS							
PT1	Pavement Type 1	Insitu Coloured Concrete with Aggregate. Pedestrian Grade 125mm depth.	Approx. 2mm Light Abrasive Blast	Colour: CCS Kalahari 8% Aggregate: Hanson 5-7mm Blue Gold 50%	Refer Plan & Jointing	N/A	Concrete Pigment: CCS Concrete Colour Systems Aggregate: Hanson
PT2	Pavement Type 2	Insitu Coloured Concrete with Aggregate. Pedestrian Grade 125mm depth.	Approx. 2mm Light Abrasive Blast	Colour: CCS Paperbark 8% Aggregate: Hanson 5-7mm Blue Gold 50%	Refer Plan & Jointing	N/A	Concrete Pigment: CCS Concrete Colour Systems Aggregate: Hanson
PT3	Pavement Type 3	Insitu Concrete with Aggregate. Pedestrian Grade 125mm depth.	Approx. 1mm Light Abrasive Blast	Colour: Natural Aggregate: Hanson 5-7mm Blue Healer 20%, Hanson 5-7mm Blue Gold 30%	Refer Plan & Jointing	N/A	Concrete Pigment: CCS Concrete Colour Systems Aggregate: Hanson
MU1	Mulch Type 1	Hoop Pine Mulch, minimum installation depth of 100 mm	Natural	Natural	N/A	N/A	Approved Local Supplier
MU2	Mulch Type 2	Bio-Basin - Hoop Pine Mulch to batlers, minimum installation depth of 100 mm, with base as per engineers drawings.	Natural	Natural	N/A	N/A	Approved Local Supplier
GT3	Garden Type 3	Raise Planter - Hoop Pine Mulch, minimum installation depth of 100 mm	Natural	Natural	N/A	N/A	Approved Local Supplier
TGSI	Tactiles Type 1 - Warning	Ground Surface Indicators Cautional - Charcoal 300x300x40mm Paver	As per AS/NZS 1428.1:2009	Charcoal	As per AS 1428.4 and associated amendments -See Plan	As per manufacturers installation specification.	Boral Concrete
BARRIERS AND EDGES							
CE	Concrete Edge	Concrete Formed Edge Size: 100 x 100mm. Refer detail and specification	Trowelled Finish	Natural Grey cement	Minimum Tool jointing at 4m centres, joints at junctions and transitions	N/A	Approved supplier
RB	Root Barrier	Product Code: Global Synthetics Root Barrier Material: HDPE Size: 900 mm depth	N/A	Black	N/A	N/A	Global Synthetics (07) 3865 7000 44 Telford St, Virginia, QLD 4014
WALLS							
WT1	Wall Type 1 - Custom Precast Seat Wall	Plinth: Class 2 Precast Concrete Formed - Shop drawings Required Seat: 5m Mild Steel Custom Backed Bench with Arm Rest, fixed to Custom Mild Steel Bench - Shop Drawings Req	Plinth: Class 2 Finish, 20mm Chamfer to all exposed edges Backing & Arm Rest: Powdercoated Mild Steel Bench: Powdercoated Mild Steel Frame: 3mm Powdercoated SHS	Plinth: Natural, anti graffiti coating Backing & Arm Rest: Powdercoat: Dulux Powdercoat Duralloy Wedgewood Satin 27250279 Bench: Powdercoat: Dulux Powdercoat Duralloy White Satin 26011393 RC Frame: Powdercoat: Dulux Powdercoat Duralloy White Satin 26011393 RC	Perforations as per Detail	Backed Bench and Armrest: 10mm 316 SS Countersunk Socket Head Cap Screw and Anchor	Custom Seat Design - Shop Drawings Required for approval
WT2	Raised Planter - Blockwork Wall	Blockwork: 200 series, core filled, designer blockwork wall - Split Face Austral GB Sandstone Brick Split Face Concrete Capping: 50mm thick, 20mm Chamfer to exposed edges	Blockwork: Split Face finish (manufacturers finish) Concrete Capping: Smooth Finish	Blockwork: Austral Sandstone. Concrete: Sandstone, Natural	Refer Plan	Brick Ties	Approved Local Supplier
FURNITURE							
DF	Drinking Fountain	Street & Garden Drinking Fountain Product: Flight FLTB Size: 840x150x206mm	Powdercoated Duralloy	Body Powdercoated Duralloy Colour - White 26011393 RC	N/A	As per manufacturer's installation specification Connect to potable water Connect discharge to SW	Street and Garden Furniture (07) 3844 1951 Unit 1, 11 Donkin Street, West End, Brisbane QLD 4101
RB	Rubbish Bin Enclosure Combined - General Waste (RB1) & Recycling (RB2)	Street & Garden Bin Enclosure Product: Flight FLT5 2-2 Size: 1520x1420x844mm Capacity: 240L	Powdercoated Duralloy	Body Powdercoated Duralloy Colour - White 26011393 RC General Waste Feature Panel Colour - Red as standard Recycling Feature Panel Colour - Yellow as standard	N/A	As per manufacturer's installation specification	Street and Garden Furniture (07) 3844 1951 Unit 1, 11 Donkin Street, West End, Brisbane QLD 4101
BR	Bike Rack	Street & Garden Product: Flight LLT7 Size: 900mm x 900mm	Powdercoated Duralloy	Body Powdercoated Duralloy Colour - White Satin 26011393 RC	N/A	As per manufacturer's installation specification	Street and Garden Furniture (07) 3844 1951 Unit 1, 11 Donkin Street, West End, Brisbane QLD 4101
BO	Bollard	Street & Garden Product: FLT6-F Size: 1000x180mm	Powdercoated Duralloy	Body Powdercoated Duralloy Colour - White Satin 26011393 RC	N/A	As per manufacturer's installation specification	Street and Garden Furniture (07) 3844 1951 Unit 1, 11 Donkin Street, West End, Brisbane QLD 4101

APPROVED
14/10/2021 JHorsfall

KEY PLAN



FOR CONSTRUCTION

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A	ISSUE FOR CONSTRUCTION		03.06.21	JH

PEDDLE THORP
architecture | interiors | health | planning
Brisbane
Cairns
Townsville
T +61 (7) 3811 9500
E info@peddlethorp.com.au
W peddlethorp.com.au



CONSULTANTS
Architect: Peddle Thorp +61 7 4046 5900
Project Manager: Central Queensland University +61 7 4690 9000
Structural Engineer: Cardno +61 7 3369 9822
Mechanical Engineer: Integral Group +61 7 3917 8888
Electrical Engineer: Integral Group +61 7 3917 8888
Hydraulic Engineer: Integral Group +61 7 3917 8888
Certifier: Kinco +61 7 3850 2080
Landscape Architect: Tract Pty Ltd +61 7 3002 6400
Civil Engineer: Cardno +61 7 3369 9822
Cost Planner: WT Partnership +61 7 4722 2760



CQU DRAWING NO.
CQU-GLD-015-00-LSS-102



PROJECT
Central Queensland University
Gladstone Marina Campus

DRAWING
HARDSCAPE AND
FURNITURE SCHEDULE

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DRAWING NO. CQU-GLD-015-GN-LSS-102	ISSUE A
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STAGE 1 - LEASE AREA PLANTING SCHEDULE

STAGE 2 - 20M SETBACK AREA PLANTING SCHEDULE

CODE	BOTANICAL NAME	COMMON NAME	PLANT SIZE (min)	INSTALLED SIZE	FIXING	DENSITY	QUANTITY
TREES (symbol)							
AGA rob	<i>Agathis robusta</i>	Kauri Pine	5m H; 1m SPR; 2m clear trunk; 120mm Cal.	400L	Rootball Guying	as shown	9
ARA col	<i>Arucaria columnaris</i>	Cook Island Pine	5m HT; 1m SPR; 2m clear trunk; 120mm CAL, good form, single trunk	400L	Rootball Guying	as shown	14
BUK cel	<i>Buckinghamia celsissima</i>	Ivory Curl	2m HT; 1.5m SPR; 1.2m clear trunk, 60mm Cal.	200L	Stake	as shown	11
CUP ana	<i>Cupenopsis anacardioides</i>	Tuckeroo	2m HT; 1.5m SPR; 1.2m clear trunk, 60mm Cal.	200L	Stake	as shown	7
ELA eum	<i>Elaeocarpus eumundi</i>	Eumundi Quandong	2m HT; 1m SPR; good form, Single Lead Shoot	100L	Stake	as shown	14
FIC mic	<i>Ficus microcarpa</i> var. <i>Hilli</i>	Hill's Weeping Fig	2.5m HT; 1.5m SPR; 1.2m clear trunk, 90mm Cal.	200L	Stake	as shown	7
HIB bl	<i>Hibiscus tiliaceus rubra</i>	Coastal Hibiscus	2m HT; 2.5m SPR; 1.2m clear trunk, 90mm Cal.	200L	Stake	as shown	5
MEL leu	<i>Melaleuca leucadendra</i>	Weeping Paper Bark	3.0m HT; 1.5m SPR; 1.0m clear trunk, 90mm Cal.	200L	Stake	as shown	7
PEL ple	<i>Peltophorum pterocarpum</i>	Yellow Poinciana	2m HT; 2.5m SPR; 1.2m clear trunk, 90mm Cal.	200L	Stake	as shown	6
TRI lau	<i>Tristanopsis laurina</i> 'Luscious'	Water Gum	2m HT; 1.5m SPR; 1.2m clear trunk, 60mm Cal.	200L	Stake	as shown	4
WAT flo	<i>Waterhousia floribunda</i>	Weeping Lilly Pilly	3m H, 2m Clear Trunk, 2m Spread, 80mm Cal.	400L	Rootball Guying	as shown	5
TOTAL							89

FEATURE SHRUBS (as per symbol)							
ALC spp	<i>Alcantarea</i> spp.	Giant Bromeliad	Locate min. 600mm from adjoining hardstand.	300mm		as shown	16
ALP zer	<i>Alpinia zerumbet</i>	Shell Ginger	Locate min. 600mm from adjoining hardstand.	300mm		as shown	42
CR1 ped	<i>Crinum pedunculatum</i>	Swamp Lily	Locate min. 600mm from adjoining hardstand.	200mm		as shown	29
DOR exc	<i>Doryanthe excelsa</i>	Gymea Lily	Locate min. 600mm from adjoining hardstand.	200mm		as shown	32
ZAM tur	<i>Zamia lurida</i>	Cardboard Palm	Locate min. 600mm from adjoining hardstand.	300mm		as shown	14
TOTAL							133

GENERAL MASS PLANTING							
CAL vim	<i>Callistemon viminalis</i> 'Little John'	Little John		140mm		2m2	531
CAR gla	<i>Carpobrotus glaucescens</i>	Pig Face		140mm		4m2	299
DIA cae	<i>Dianella caerulea</i>	Blue Flax Lily		140mm		3m2	250
GAZ rig	<i>Gazania rigens</i>	Treasure Flower		140mm		1m2	169
LR mus	<i>Liriope muscari</i>	Lily Turf		140mm		3m2	543
LOM con	<i>Lomandra conchifolia</i>	Mat Rush		140mm		2m2	47
LOM hys	<i>Lomandra hystrix</i>	Mat Rush		140mm		2m2	109
MYO par	<i>Myoporum parvifolium</i>	Creeping Boobialla		140mm		3m2	528
PHI xan	<i>Philodendron Xanadu</i>	Xanadu		140mm		3m2	834
POA lab	<i>Poa labillardieri</i>	Tussock grass		140mm		2m2	171
TRA jas	<i>Trachelospermum jasminoides</i>	Star Jasmine		140mm		2m2	356
WES fru	<i>Westringia fruticosa</i>	Coastal Rosemary		140mm		1m2	155
TOTAL							3992

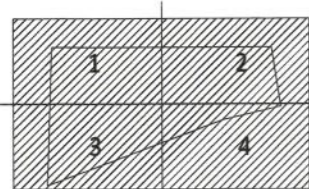
BIO SWALE BASIN MASS PLANTING							
Mix 1	<i>Juncus ustulatus</i>	Juncus		75mm T tube		8m2	1028
	<i>Ficinia nodosa</i>	Knobby Club Rush		75mm T tube		8m2	
	<i>Carex appressa</i>	Tall Sedge		75mm T tube		8m2	
Mix 2	<i>Lomandra hystrix</i>	Mat Rush		75mm T tube		8m2	994
	<i>Lomelia silanifolia</i>	Crinkle Bush		75mm T tube		8m2	
TOTAL							2022

SCREEN PLANTING TO EASTERN ELEVATION (outside water tank area)							
LOM hys	<i>Lomandra hystrix</i>	Mat Rush		200mm		2m2	58
TOTAL							58

CODE	BOTANICAL NAME	COMMON NAME	PLANT SIZE (min)	INSTALLED SIZE	FIXING	DENSITY	QUANTITY
TREES (to 20m setback area north of the lease area)							
AGA rob	<i>Agathis robusta</i>	Kauri Pine	5m H; 1m SPR; 2m clear trunk; 120mm Cal.	400L	Rootball Guying	as shown	0
ARA col	<i>Arucaria columnaris</i>	Cook Island Pine	5m HT; 1m SPR; 2m clear trunk; 120mm CAL, good form, single trunk	400L	Rootball Guying	as shown	0
BUK cel	<i>Buckinghamia celsissima</i>	Ivory Curl	2m HT; 1.5m SPR; 1.2m clear trunk, 60mm Cal.	200L	Stake	as shown	2
FIC mic	<i>Ficus microcarpa</i> var. <i>Hilli</i>	Hill's Weeping Fig	2.5m HT; 1.5m SPR; 1.2m clear trunk, 90mm Cal.	200L	Stake	as shown	1
PEL ple	<i>Peltophorum pterocarpum</i>	Yellow Poinciana	2m HT; 2.5m SPR; 1.2m clear trunk, 90mm Cal.	200L	Stake	as shown	4
WAT flo	<i>Waterhousia floribunda</i>	Weeping Lilly Pilly	3m H, 2m Clear Trunk, 2m Spread, 80mm Cal.	200L	Stake	as shown	2
TOTAL							9

APPROVED
14/10/2021 JHorsfield

KEY PLAN



FOR CONSTRUCTION

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A	ISSUE FOR CONSTRUCTION	03.06.21	JH

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architecture | interiors | health | planning

Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddlethorp.com.au
W peddlethorp.com.au

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
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Hydraulic Engineer: Knisco +61 7 3850 2060
Certifier: Tract Pty Ltd +61 7 3002 6400
Landscape Architect: Cardno +61 7 3369 9822
Civil Engineer: WT Partnership +61 7 4722 2760
Cost Planner:

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Central Queensland University
Gladstone Marina Campus

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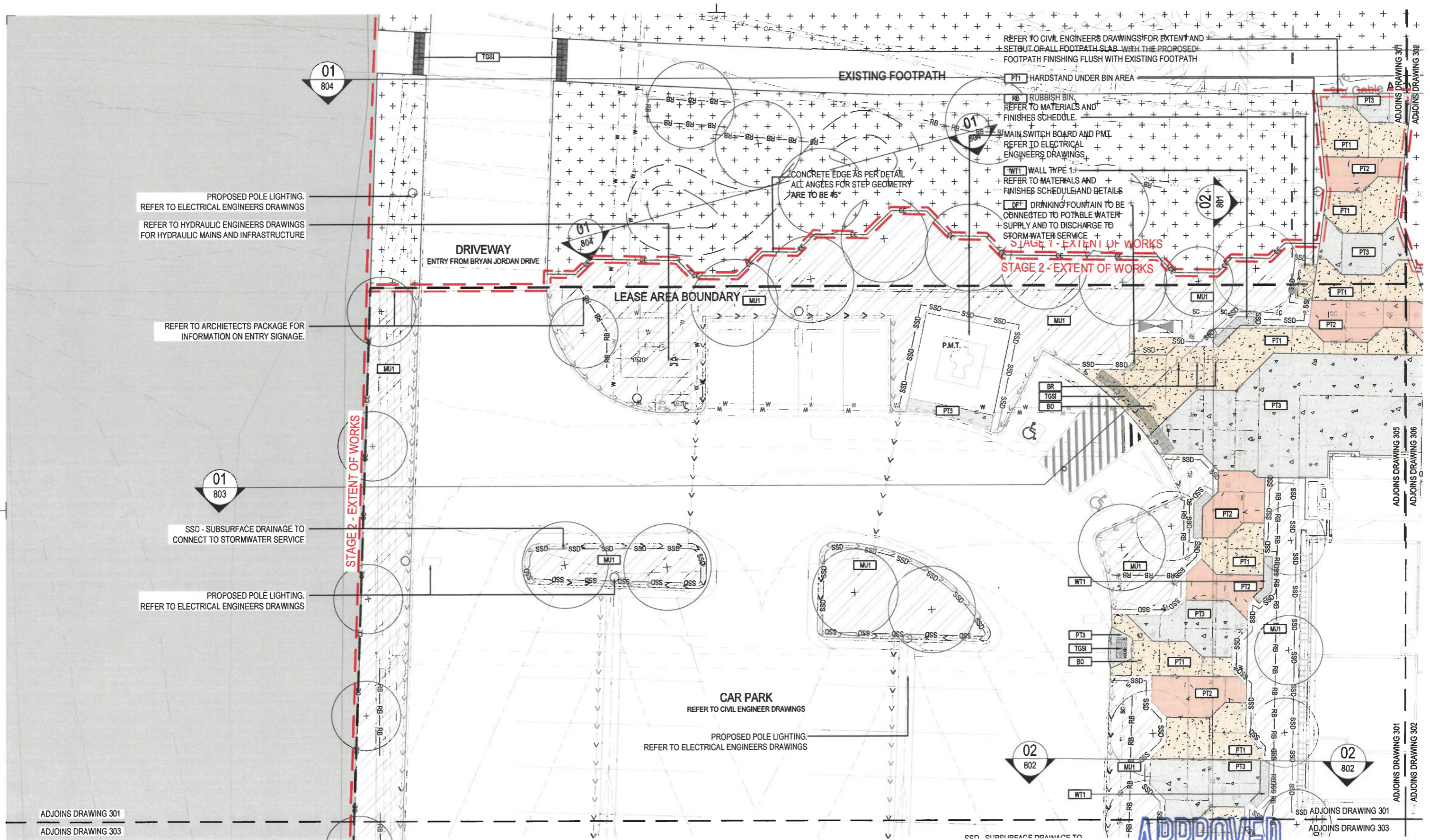
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PROJECT
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Gladstone Marina Campus

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PLANT SCHEDULE

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PROPOSED POLE LIGHTING.
REFER TO ELECTRICAL ENGINEERS DRAWINGS
REFER TO HYDRAULIC ENGINEERS DRAWINGS
FOR HYDRAULIC MAINS AND INFRASTRUCTURE

REFER TO ARCHITECTS PACKAGE FOR
INFORMATION ON ENTRY SIGNAGE.

SSD - SUBSURFACE DRAINAGE TO
CONNECT TO STORMWATER SERVICE

PROPOSED POLE LIGHTING.
REFER TO ELECTRICAL ENGINEERS DRAWINGS

CAR PARK
REFER TO CIVIL ENGINEER DRAWINGS

PROPOSED POLE LIGHTING.
REFER TO ELECTRICAL ENGINEERS DRAWINGS

REFER TO CIVIL ENGINEERS DRAWINGS FOR EXTENT AND
SET OUT OF ALL FOOTPATH SLAB WITH THE PROPOSED
FOOTPATH FINISHING FLUSH WITH EXISTING FOOTPATH

PT1 HARDSTAND UNDER BIN AREA

RB RUBBISH BIN
REFER TO MATERIALS AND
FINISHES SCHEDULE.

MAIN SWITCH BOARD AND PMT.
REFER TO ELECTRICAL
ENGINEERS DRAWINGS.

WT1 WALL TYPE 1
REFER TO MATERIALS AND
FINISHES SCHEDULE AND DETAILS

DF1 DRINKING FOUNTAIN TO BE
CONNECTED TO POTABLE WATER
SUPPLY AND TO DISCHARGE TO
STORMWATER SERVICE

STAGE 1 - EXTENT OF WORKS
STAGE 2 - EXTENT OF WORKS

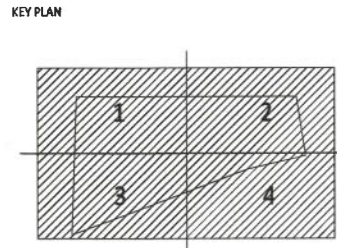
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ADJOINS DRAWING 303

ADJOINS DRAWING 305
ADJOINS DRAWING 306

ADJOINS DRAWING 301
ADJOINS DRAWING 302

ADJOINS DRAWING 301
ADJOINS DRAWING 303

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14/10/2021 *[Signature]*



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Civil Engineer: Cairns +61 7 3369 9822
Cost Planner: WT Partnership +61 7 4722 2760

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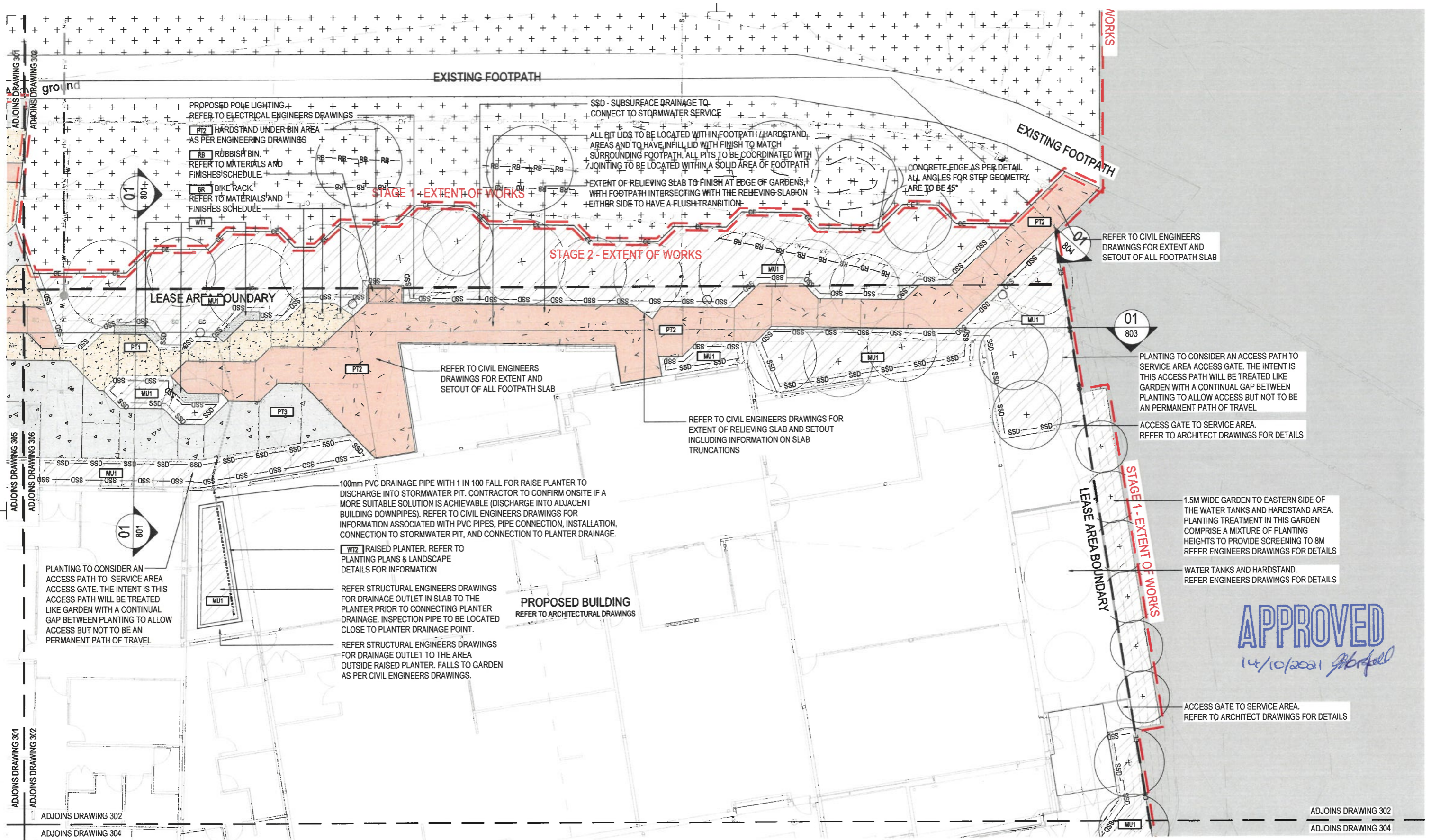
DRAWING
**SURFACE FINISHES PLAN
SHEET 01**

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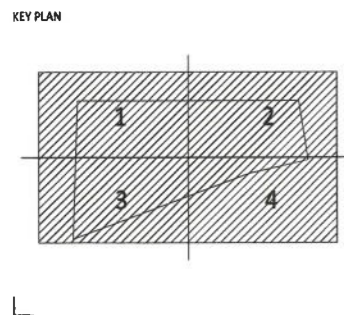
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Brisbane
 Cairns
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T +61 (7) 3811 9500
 E info@peddletorp.com.au
 W peddletorp.com.au

Tract

CONSULTANTS	
Architect:	Peddle Thorp +61 7 4046 5900
Project Manager:	Central Queensland University +61 7 4930 9000
Structural Engineer:	Cardno +61 7 3369 9822
Mechanical Engineer:	Integral Group +61 7 3917 8888
Electrical Engineer:	Integral Group +61 7 3917 8888
Hydraulic Engineer:	Integral Group +61 7 3917 8888
Cartiller:	Kincoo +61 7 3850 2080
Landscape Architect:	Tract Pty Ltd +61 7 3002 6400
Civil Engineer:	Cardno +61 7 3369 9822
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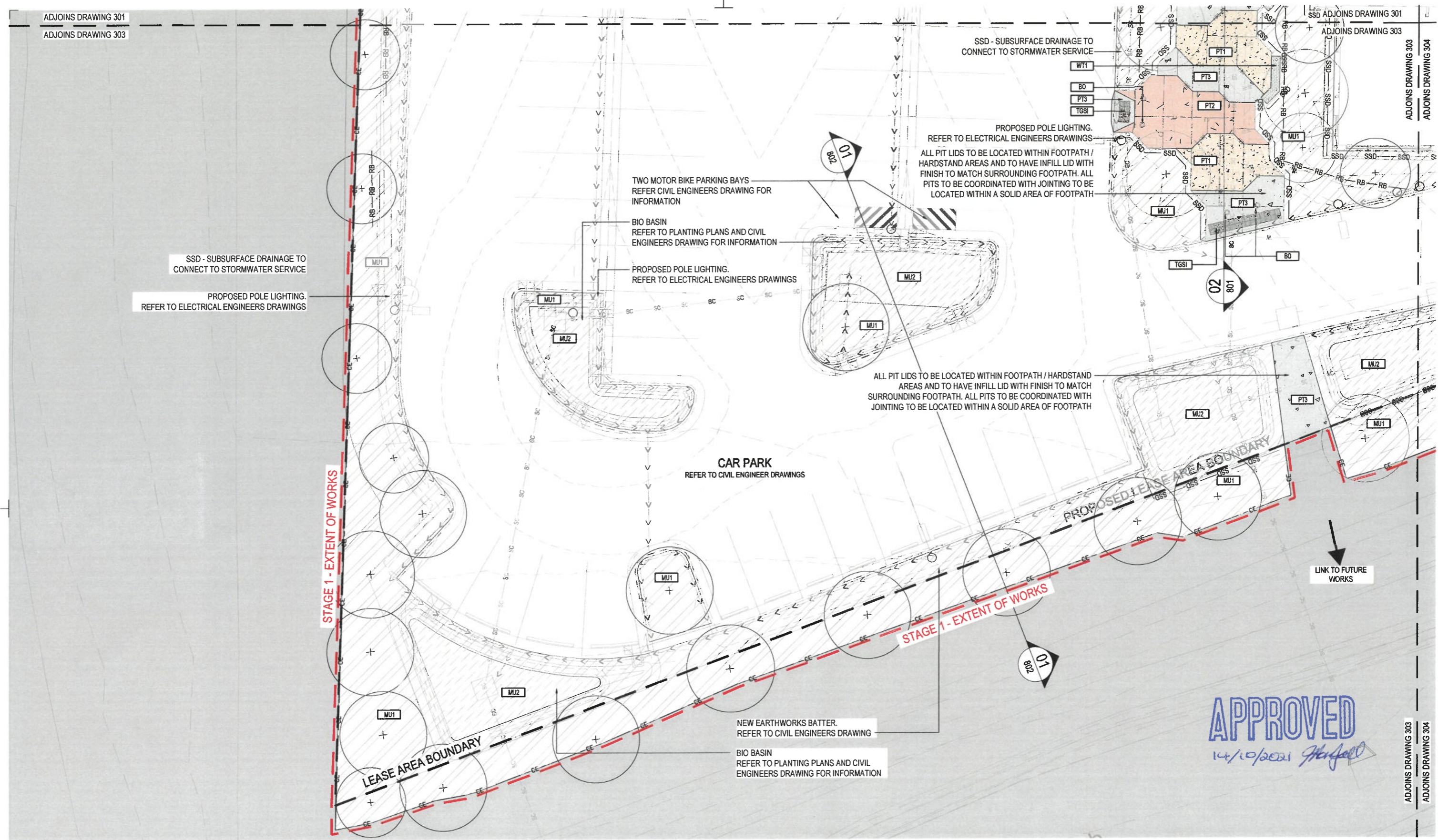
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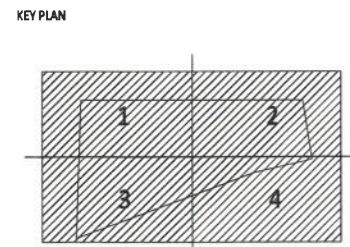
DRAWING
SURFACE FINISHES PLAN
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Brisbane
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Townsville

T +61 (7) 3811 9500
E info@peddlethorp.com.au
W peddlethorp.com.au

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
Project Manager: Central Queensland University +61 7 4990 9000
Structural Engineer: Cairns +61 7 3369 9832
Mechanical Engineer: Integral Group +61 7 3917 8888
Electrical Engineer: Integral Group +61 7 3917 8888
Hydraulic Engineer: Integral Group +61 7 3917 8888
Civil Engineer: Kinico +61 7 3850 2080
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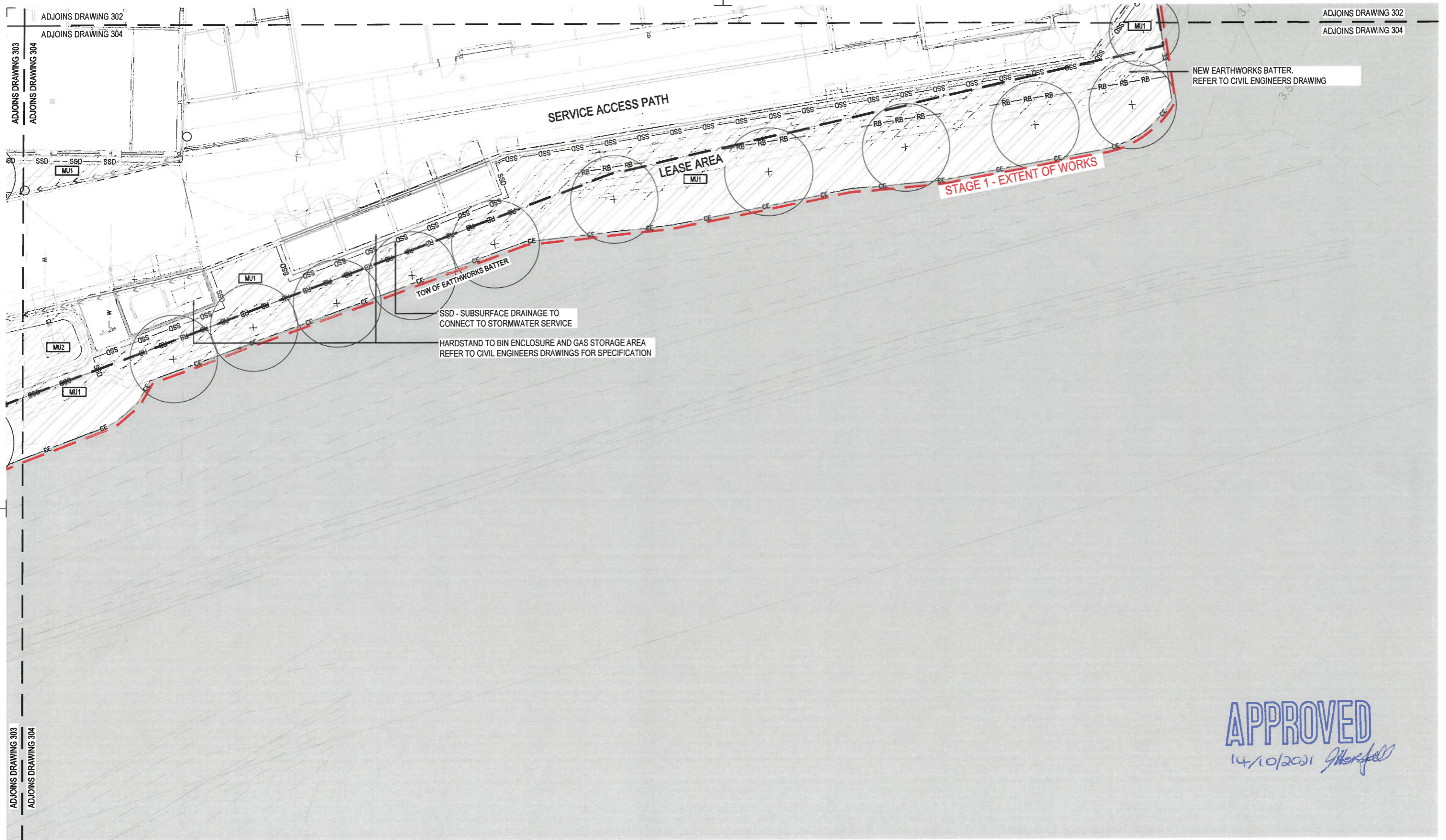
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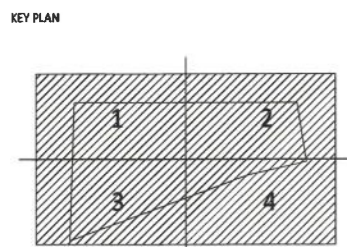
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**SURFACE FINISHES PLAN
SHEET 03**

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T +61 (7) 3811 9500
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 W peddletorp.com.au

Tract

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5000
 Project Manager: Central Queensland University +61 7 4930 9000
 Structural Engineer: Cardno +61 7 5369 9822
 Mechanical Engineer: Integral Group +61 7 3517 8888
 Electrical Engineer: Integral Group +61 7 3517 8888
 Hydraulic Engineer: Integral Group +61 7 3517 8888
 Cartifier: Kraeco +61 7 3850 2080
 Landscape Architect: Tract Pty Ltd +61 7 3002 6400
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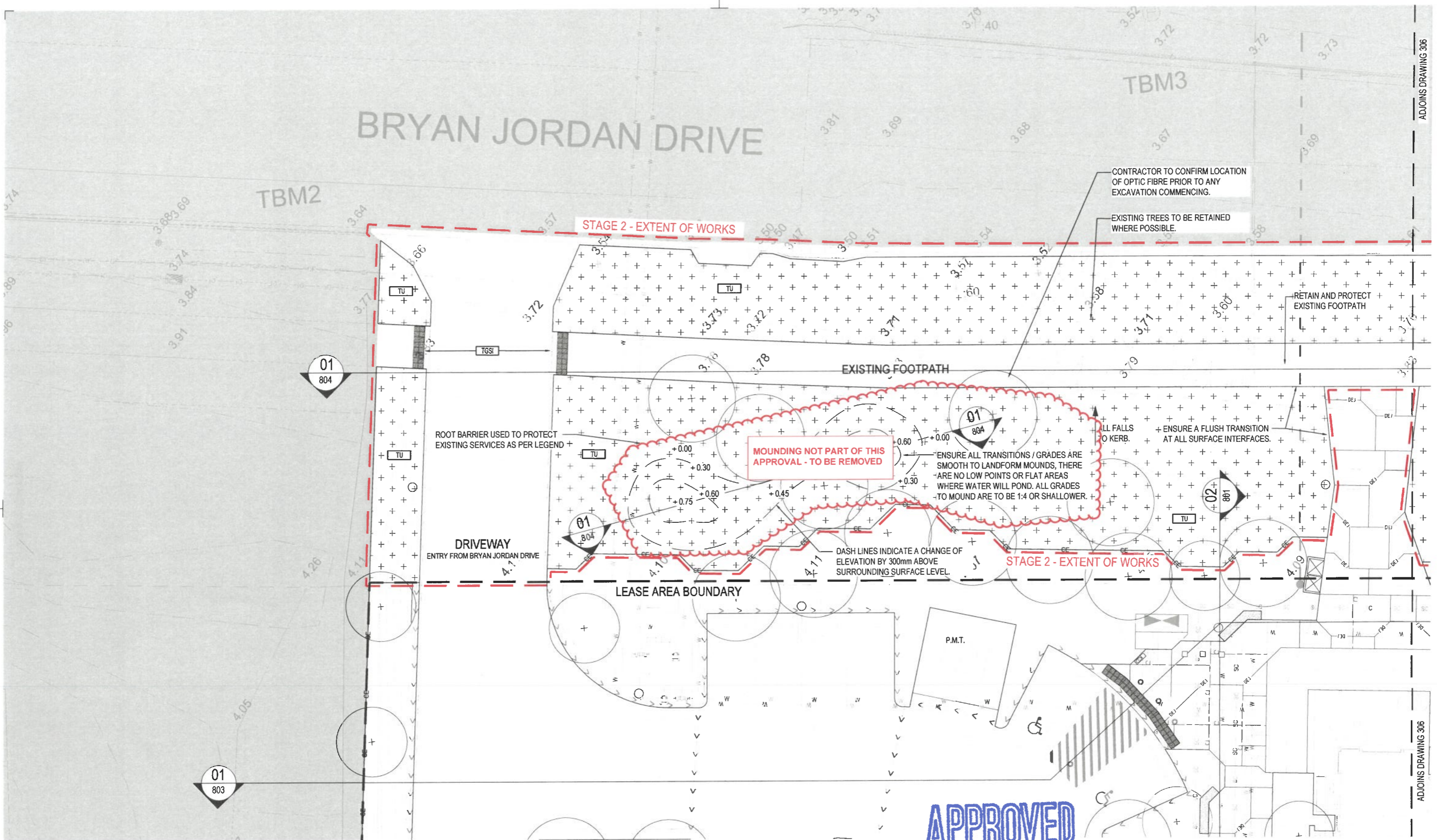
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**SURFACE FINISHES PLAN
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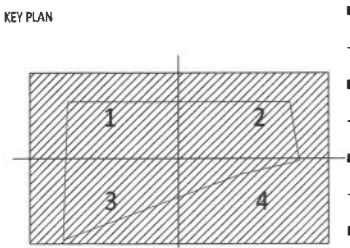
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Townsville

T +61 (7) 3811 9500
E info@peddletthorp.com.au
W peddletthorp.com.au

Tract

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
Project Manager: Central Queensland University +61 7 4930 9000
Cardno +61 7 3369 9822
Structural Engineer: Integral Group +61 7 3917 8888
Mechanical Engineer: Integral Group +61 7 3917 8888
Electrical Engineer: Integral Group +61 7 3917 8888
Hydraulic Engineer: Integral Group +61 7 3917 8888
Civil Engineer: Tract Pty Ltd +61 7 3850 2080
Landscape Architect: Tract Pty Ltd +61 7 3850 2080
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SURFACE FINISHES PLAN SHEET 05

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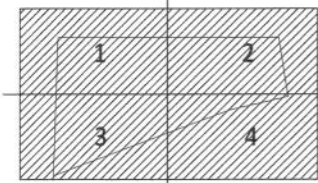
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T +61 (7) 3811 9500
E info@peddlethorp.com.au
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Tract

CONSULTANTS	
Architect:	Peddle Thorp +61 7 4046 5900
Project Manager:	Central Queensland University +61 7 4930 9000
Structural Engineer:	Cardno +61 7 3369 9822
Mechanical Engineer:	Integral Group +61 7 3917 8888
Electrical Engineer:	Integral Group +61 7 3917 8888
Hydraulic Engineer:	Integral Group +61 7 3917 8888
Certifier:	Knisco +61 7 3850 2080
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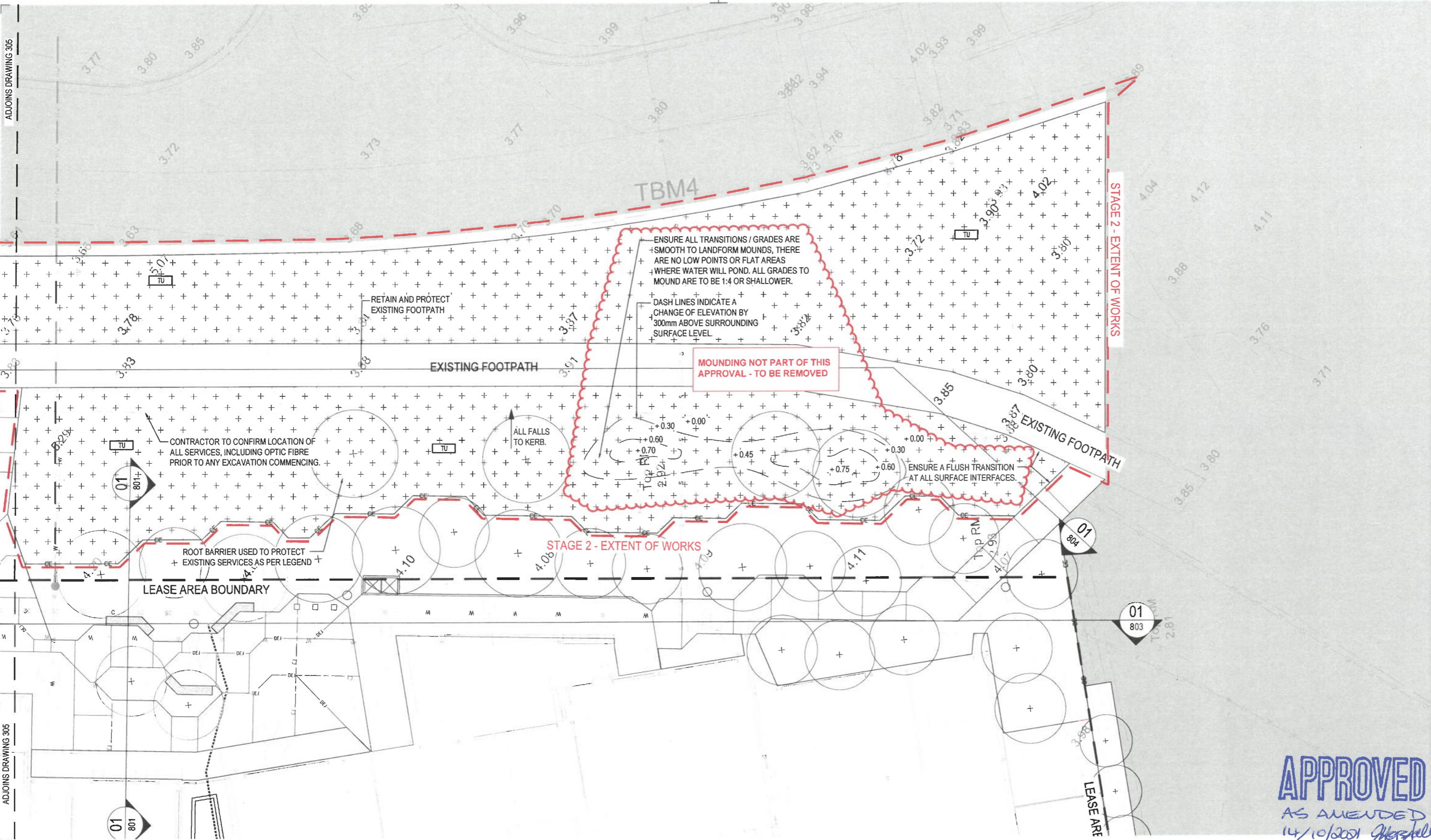
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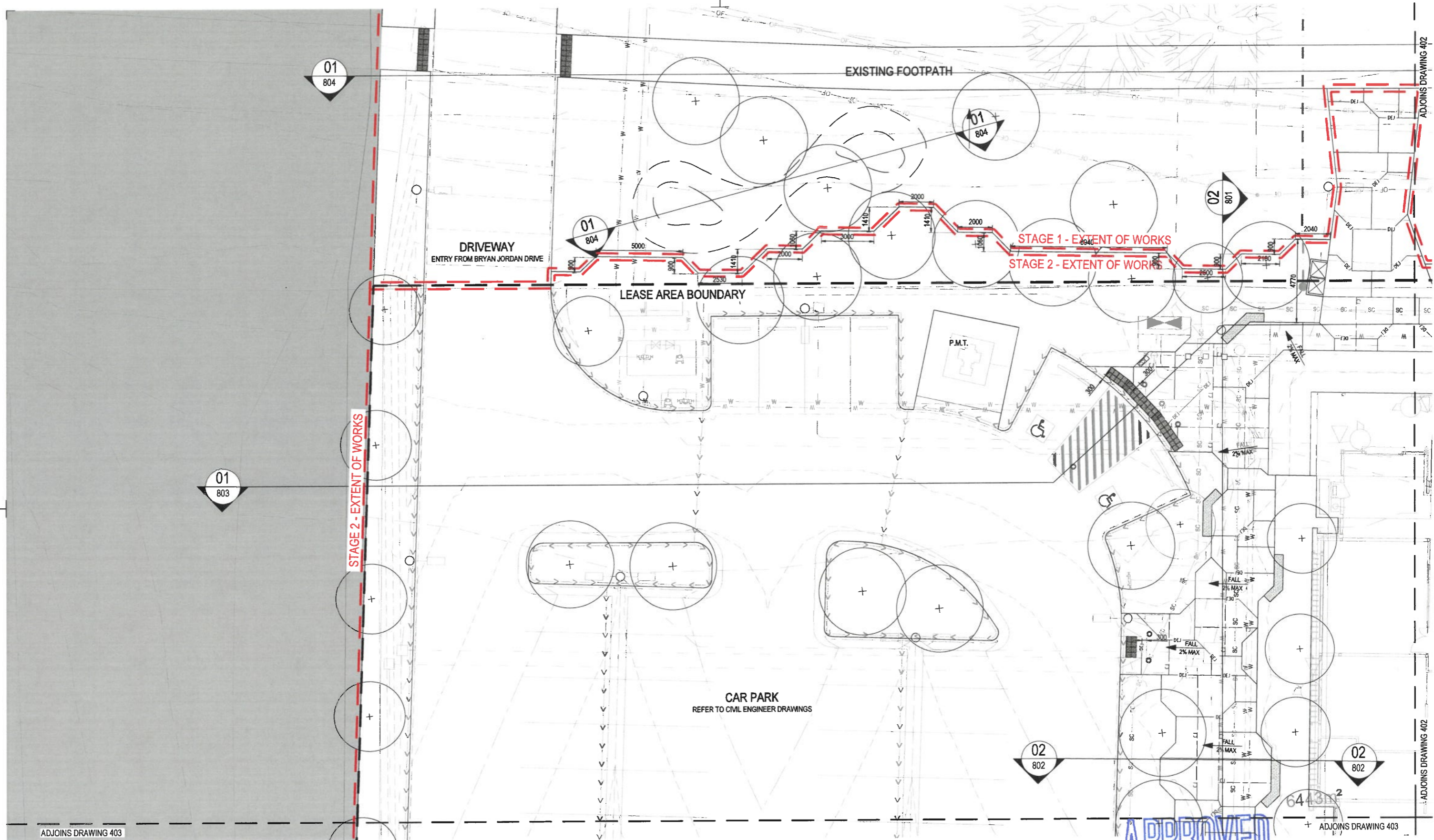
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**SURFACE FINISHES PLAN
SHEET 06**

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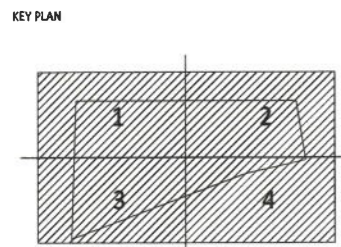


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ADJOINS DRAWING 402

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Brisbane
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 E info@peddlethorp.com.au
 W peddlethorp.com.au

Tract

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
 Project Manager: Central Queensland University +61 7 4830 9000
 Carino +61 7 3369 9822
 Mechanical Engineer: Integral Group +61 7 3917 8888
 Electrical Engineer: Integral Group +61 7 3917 8888
 Hydraulic Engineer: Integral Group +61 7 3917 8888
 Certifier: Kinisco +61 7 3850 2080
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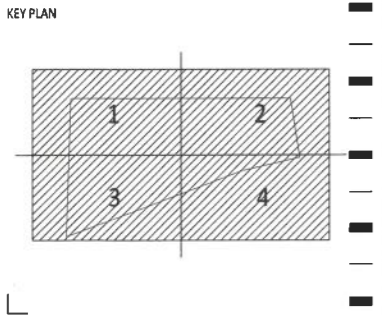
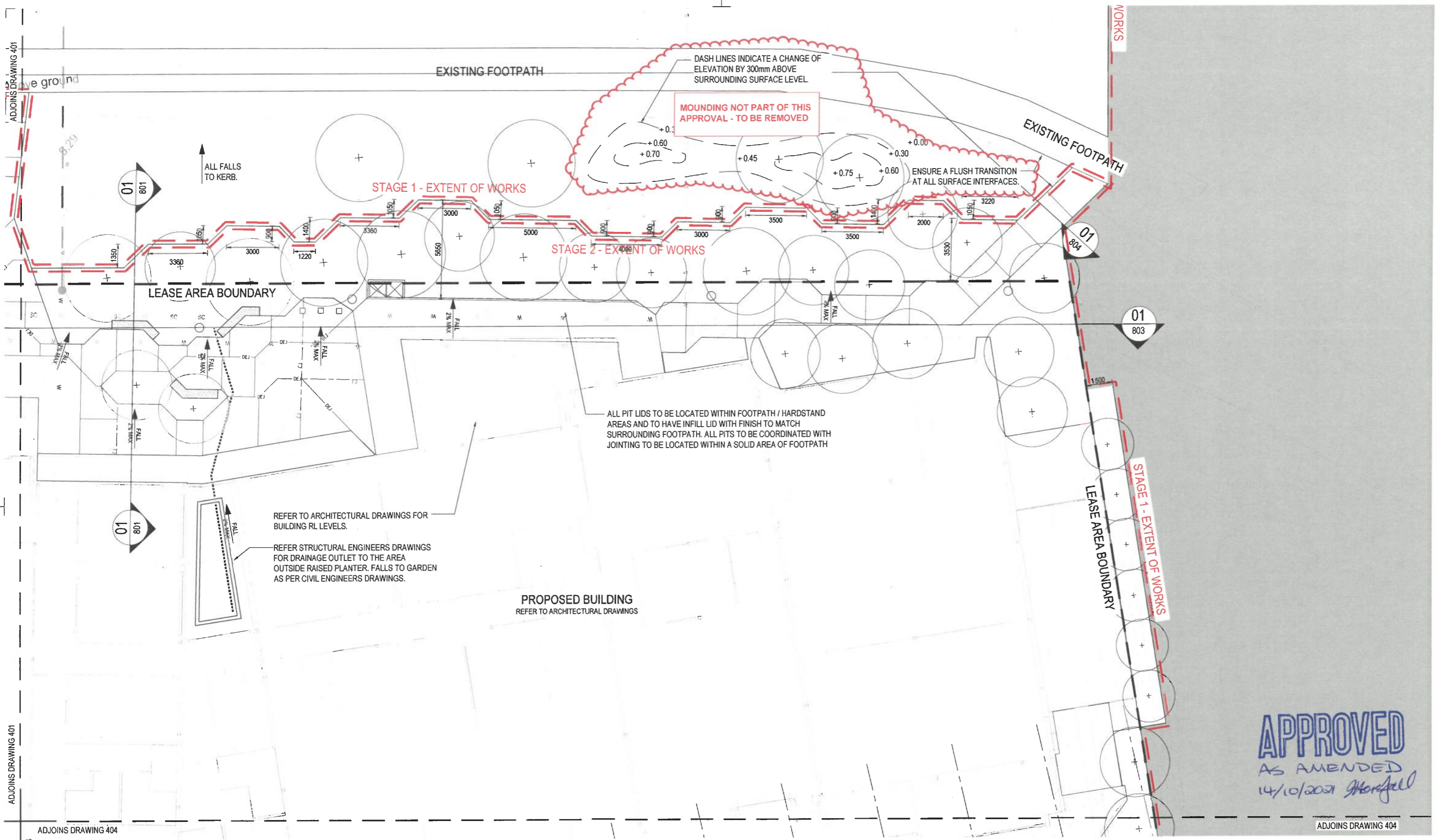
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DRAWING
**GRADING AND JOINTING
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Brisbane
 Cairns
 Townsville

T +61 (7) 3811 9500
 E info@peddlethorp.com.au
 W peddlethorp.com.au

Tract

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
 Central Queensland University +61 7 4930 9000
 Project Manager: Cairns +61 7 3369 9822
 Mechanical Engineer: Integral Group +61 7 3917 8888
 Electrical Engineer: Integral Group +61 7 3917 8888
 Hydraulic Engineer: Integral Group +61 7 3917 8888
 Certifier: Kōhaco +61 7 3850 2080
 Landscape Architect: Tract Pty Ltd +61 7 3002 6400
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**GRADING AND JOINTING
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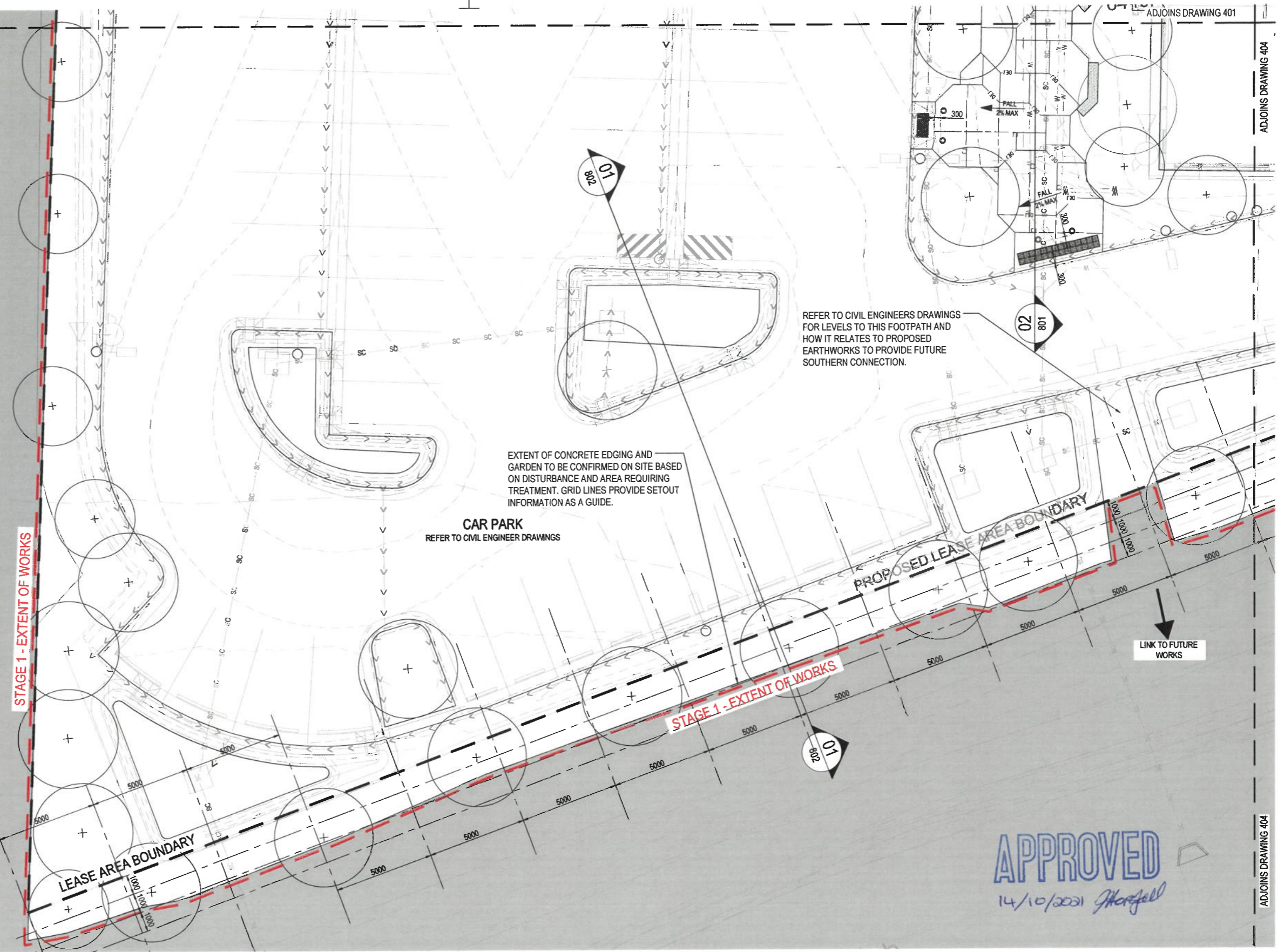
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REFER TO CIVIL ENGINEERS DRAWINGS FOR LEVELS TO THIS FOOTPATH AND HOW IT RELATES TO PROPOSED EARTHWORKS TO PROVIDE FUTURE SOUTHERN CONNECTION.

EXTENT OF CONCRETE EDGING AND GARDEN TO BE CONFIRMED ON SITE BASED ON DISTURBANCE AND AREA REQUIRING TREATMENT. GRID LINES PROVIDE SETOUT INFORMATION AS A GUIDE.

CAR PARK
REFER TO CIVIL ENGINEER DRAWINGS

STAGE 1 - EXTENT OF WORKS

STAGE 1 - EXTENT OF WORKS

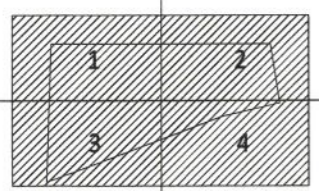
PROPOSED LEASE AREA BOUNDARY

LEASE AREA BOUNDARY

LINK TO FUTURE WORKS

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KEY PLAN



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architecture | interiors | health | planning

Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddlethorp.com.au
W peddlethorp.com.au



CONSULTANTS

Architect: **Peddle Thorp** +61 7 4046 5900
Central Queensland University +61 7 4890 9000
Project Manager: **Carino** +61 7 3369 9822
Mechanical Engineer: **Integral Group** +61 7 3917 8888
Electrical Engineer: **Integral Group** +61 7 3917 8888
Hydraulic Engineer: **Integral Group** +61 7 3917 8888
Civil Engineer: **Enisco** +61 7 3850 2080
Landscape Architect: **Tract Pty Ltd** +61 7 3002 6400
Civil Engineer: **Carino** +61 7 3369 9822
Cost Planner: **WT Partnership** +61 7 4722 2760



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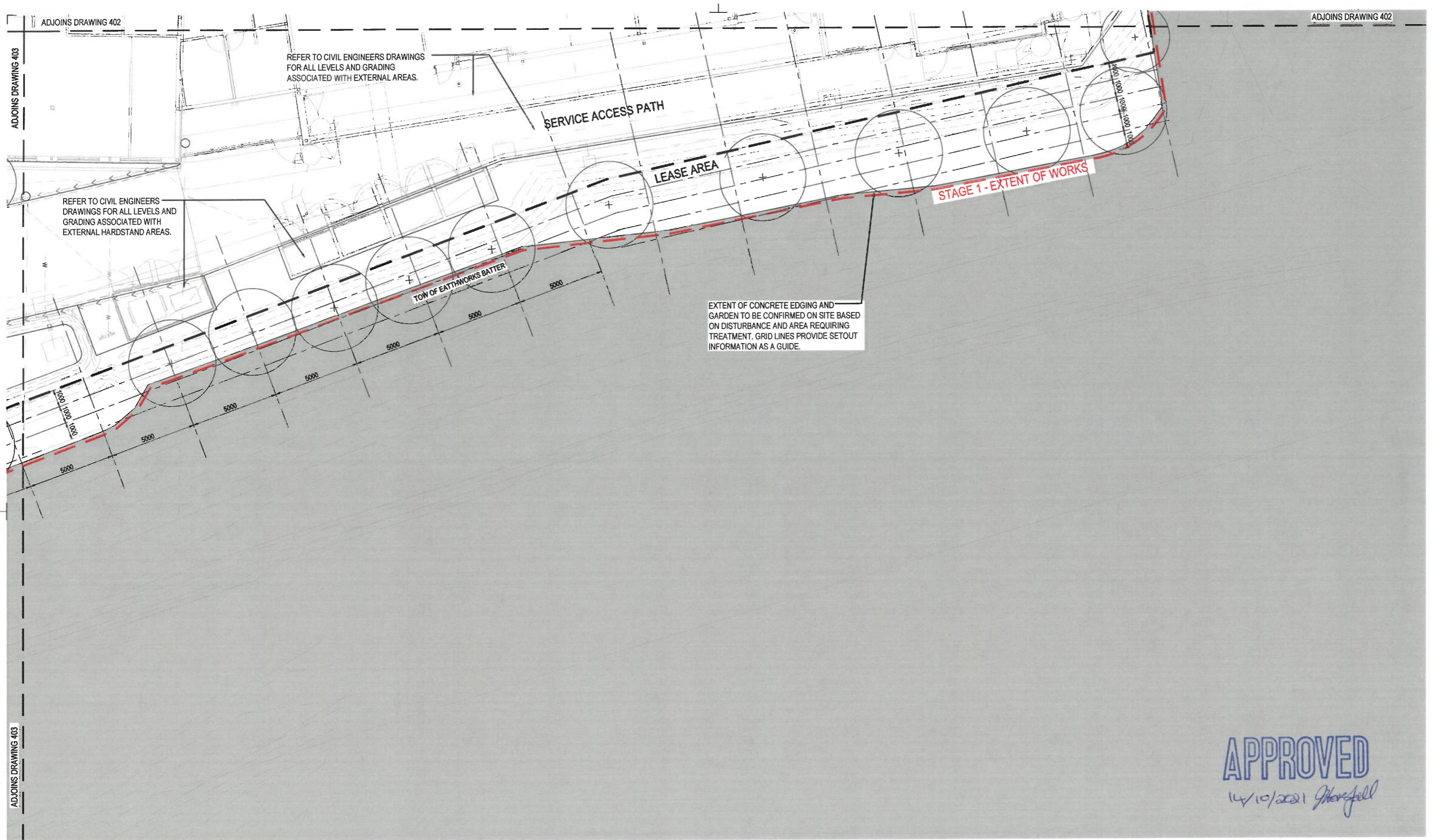


PROJECT
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DRAWING
GRADING AND JOINTING
SHEET 03

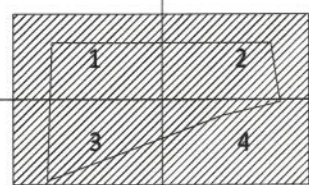
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architecture | interiors | health | planning

Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddlethorp.com.au
W peddlethorp.com.au

Tract

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
Project Manager: Central Queensland University +61 7 4890 9000
Structural Engineer: Cardno +61 7 3369 9822
Mechanical Engineer: Integral Group +61 7 3917 8888
Electrical Engineer: Integral Group +61 7 3917 8888
Hydraulic Engineer: Integral Group +61 7 3917 8888
Civil Engineer: Tract Pty Ltd +61 7 3850 2880
Landscape Architect: Tract Pty Ltd +61 7 3850 2880
Civil Engineer: Cardno +61 7 3369 9822
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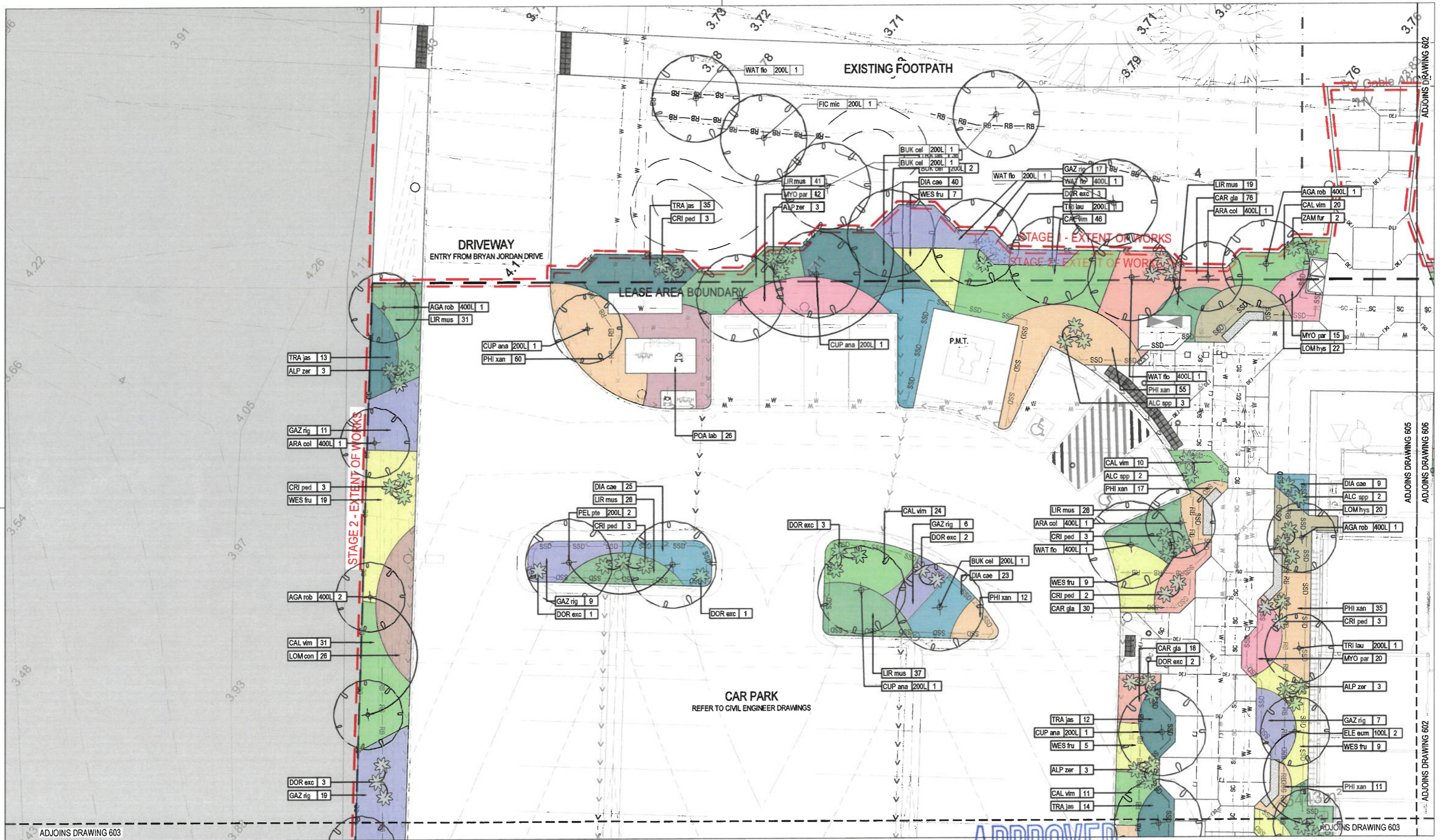
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**GRADING AND JOINTING
SHEET 04**

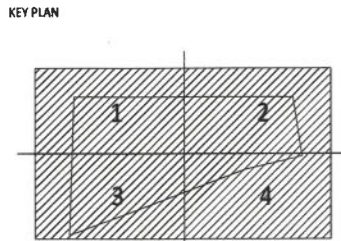
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Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddlethorp.com.au
W peddlethorp.com.au

Tract

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5800
Project Manager: Central Queensland University +61 7 4990 9000
Structural Engineer: Cardno +61 7 3369 9822
Mechanical Engineer: Integral Group +61 7 3917 8888
Electrical Engineer: Integral Group +61 7 3917 8888
Hydraulic Engineer: Integral Group +61 7 3917 8888
Civil Engineer: Kralco +61 7 3850 2080
Landscape Architect: Tract Pty Ltd +61 7 3022 6400
Cost Planner: Cardno +61 7 3369 9822
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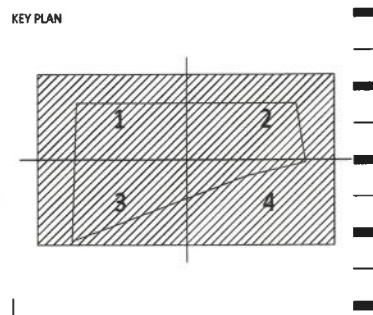
DRAWING
PLANTING PLAN
SHEET 01

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Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddletthorp.com.au
W peddletthorp.com.au

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
Project Manager: Central Queensland University +61 7 4990 9000
Structural Engineer: Carino +61 7 3369 9822
Mechanical Engineer: Integral Group +61 7 3917 8888
Electrical Engineer: Integral Group +61 7 3917 8888
Hydraulic Engineer: Integral Group +61 7 3917 8888
Cartifier: Kinco +61 7 3850 2090
Landscape Architect: Tract Pty Ltd +61 7 3002 6400
Civil Engineer: Carino +61 7 3369 9822
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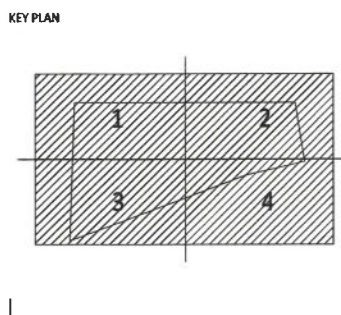
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 architecture | interiors | health | planning
 Brisbane
 Cairns
 Townsville
 T +61 (7) 3811 9500
 E info@peddlethorp.com.au
 W peddlethorp.com.au

Tract
 CONSULTANTS
 Architect: Peddle Thorp +61 7 4046 5900
 Project Manager: Central Queensland University +61 7 4590 9800
 Structural Engineer: Cairns +61 7 3369 9822
 Mechanical Engineer: Integral Group +61 7 3917 8888
 Electrical Engineer: Integral Group +61 7 3917 8888
 Hydraulic Engineer: Integral Group +61 7 3917 8888
 Certifier: Kinaco +61 7 3850 2080
 Landscape Architect: Tract Pty Ltd +61 7 3002 6400
 Cairns +61 7 3369 9822
 Civil Engineer: Cairns +61 7 3369 9822
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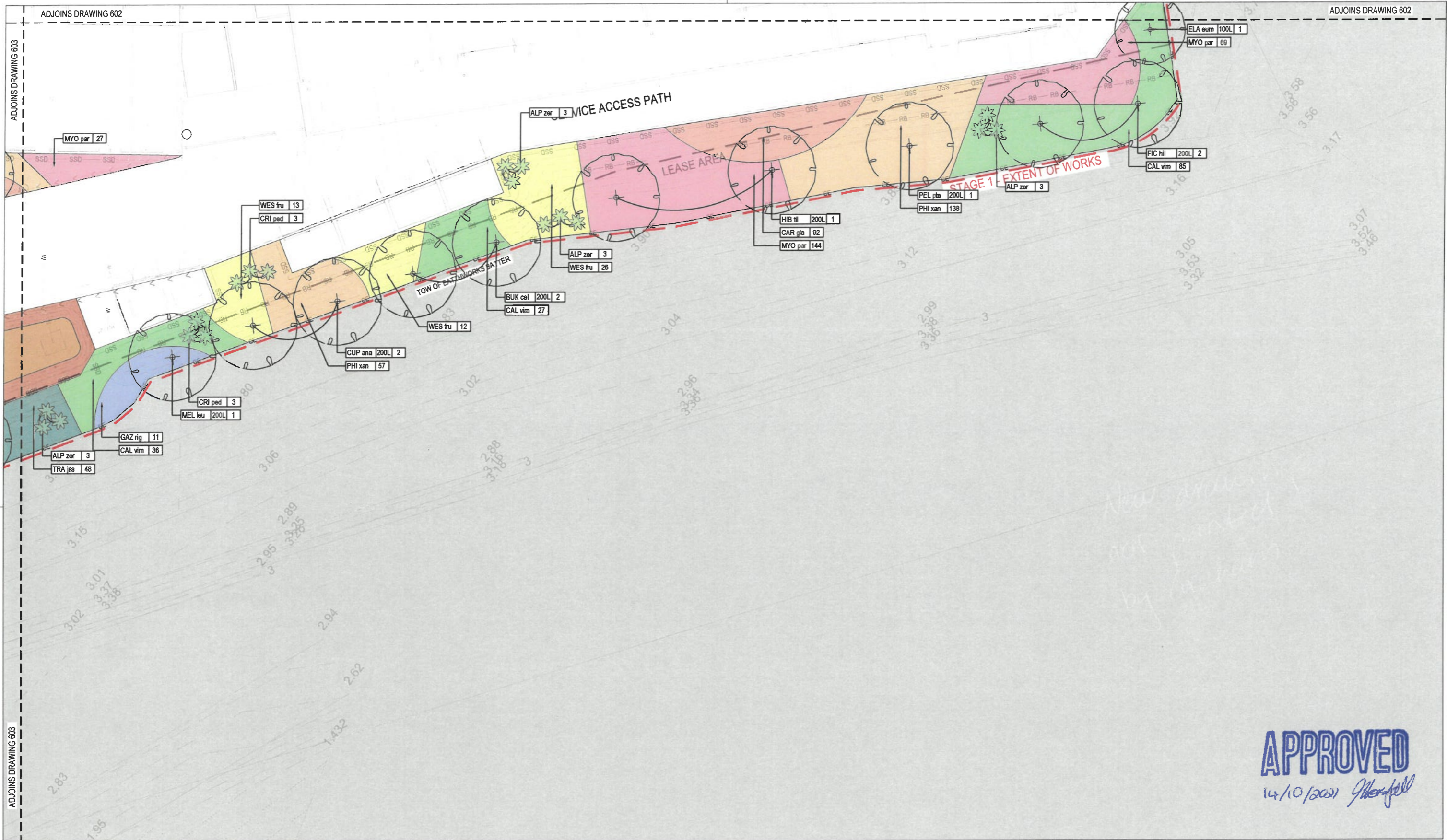
PROJECT
 Central Queensland University
 Gladstone Marina Campus
 DRAWING
**PLANTING PLAN
 SHEET 03**

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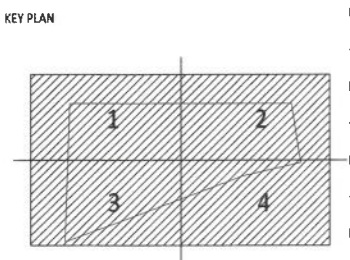
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DRAWING NO. CQU-GLD-015-GN-LSS-603			ISSUE A

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 11/10/2021 *JH*

ADJOINS DRAWING 604



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 14/10/2021 *[Signature]*



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 Townsville

T +61 (7) 3811 9500
 E info@peddlethorp.com.au
 W peddlethorp.com.au

Tract

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
 Project Manager: Central Queensland University +61 7 4930 9000
 Structural Engineer: Cairns +61 7 3369 9822
 Mechanical Engineer: Integral Group +61 7 3917 8888
 Electrical Engineer: Integral Group +61 7 3917 8888
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 Certifier: Kilsco +61 7 3850 2080
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PROJECT
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DRAWING
PLANTING PLAN SHEET 04

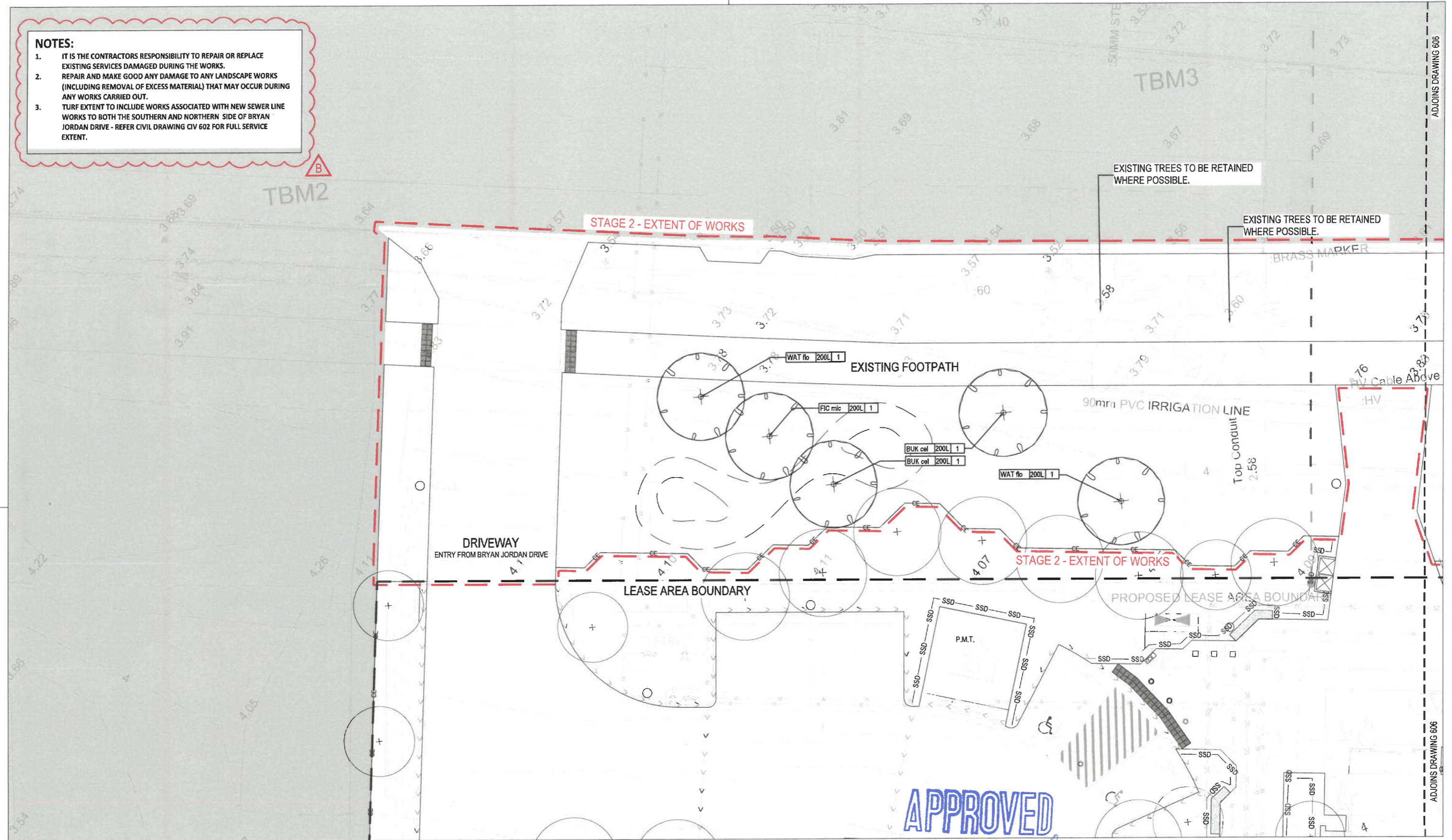
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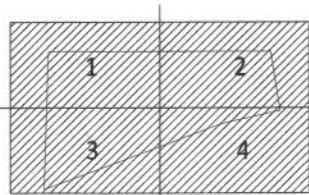
DRAWING NO. CQU-GLD-015-GN-LSS-604	ISSUE A
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NOTES:

1. IT IS THE CONTRACTORS RESPONSIBILITY TO REPAIR OR REPLACE EXISTING SERVICES DAMAGED DURING THE WORKS.
2. REPAIR AND MAKE GOOD ANY DAMAGE TO ANY LANDSCAPE WORKS (INCLUDING REMOVAL OF EXCESS MATERIAL) THAT MAY OCCUR DURING ANY WORKS CARRIED OUT.
3. TURF EXTENT TO INCLUDE WORKS ASSOCIATED WITH NEW SEWER LINE WORKS TO BOTH THE SOUTHERN AND NORTHERN SIDE OF BRYAN JORDAN DRIVE - REFER CIVIL DRAWING CIV 602 FOR FULL SERVICE EXTENT.



KEY PLAN



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B	ISSUE FOR CONSTRUCTION	05.07.21	SE	

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Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddlethorp.com.au
W peddlethorp.com.au

Tract

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
Project Manager: Central Queensland University +61 7 4930 9900
Structural Engineer: Cairns +61 7 3368 9822
Mechanical Engineer: Integral Group +61 7 3517 8888
Electrical Engineer: Integral Group +61 7 3517 8888
Hydraulic Engineer: Katoosa +61 7 3850 2080
Certifier: Tract Pty Ltd +61 7 3002 6400
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CQU DRAWING NO. **CQU-GLD-015-GN-LSS-604**

PROJECT
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Gladstone Marina Campus

DRAWING
**PLANTING PLAN
SHEET 05**

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CQU-GLD-015-GN-LSS-605

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ADJOINS DRAWING 606

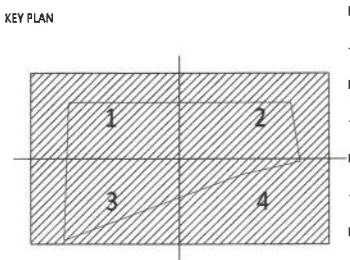
ADJOINS DRAWING 606

NOTES:

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2. REPAIR AND MAKE GOOD ANY DAMAGE TO ANY LANDSCAPE WORKS (INCLUDING REMOVAL OF EXCESS MATERIAL) THAT MAY OCCUR DURING ANY WORKS CARRIED OUT.
3. TURF EXTENT TO INCLUDE WORKS ASSOCIATED WITH NEW SEWER LINE WORKS TO BOTH THE SOUTHERN AND NORTHERN SIDE OF BRYAN JORDAN DRIVE - REFER CIVIL DRAWING CIV 602 FOR FULL SERVICE EXTENT.



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Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddletorp.com.au
W peddletorp.com.au

Tract

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
Project Manager: Central Queensland University +61 7 4930 9000
Structural Engineer: Cairns +61 7 3369 9822
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PROJECT
**Central Queensland University
Gladstone Marina Campus**

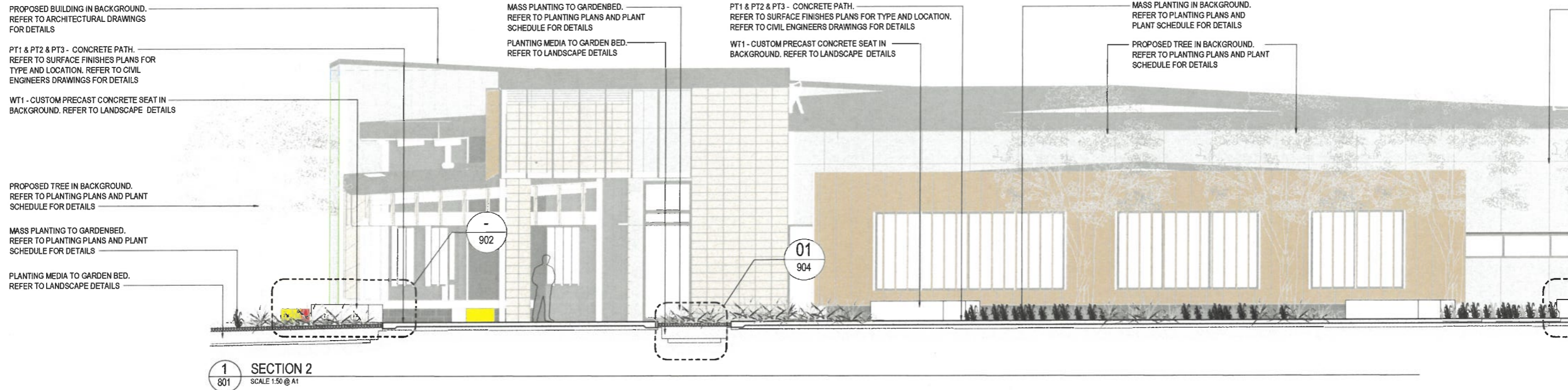
DRAWING
**PLANTING PLAN
SHEET 06**

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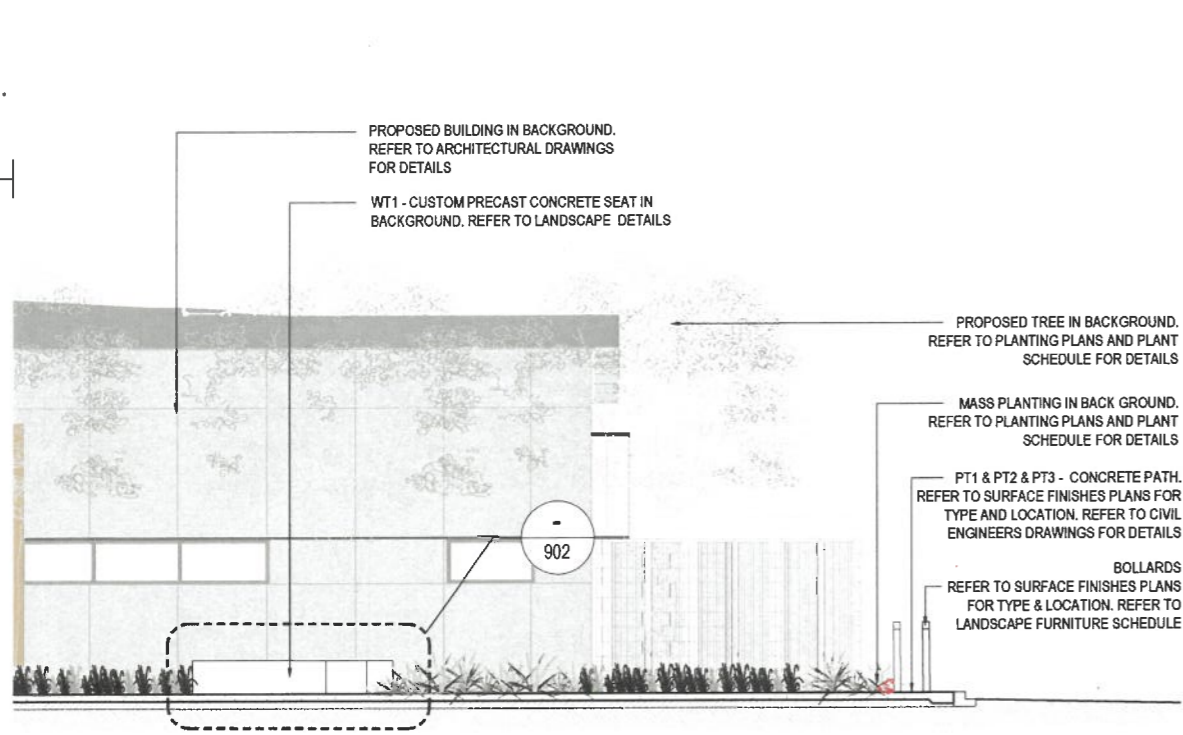
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CQU-GLD-015-GN-LSS-606

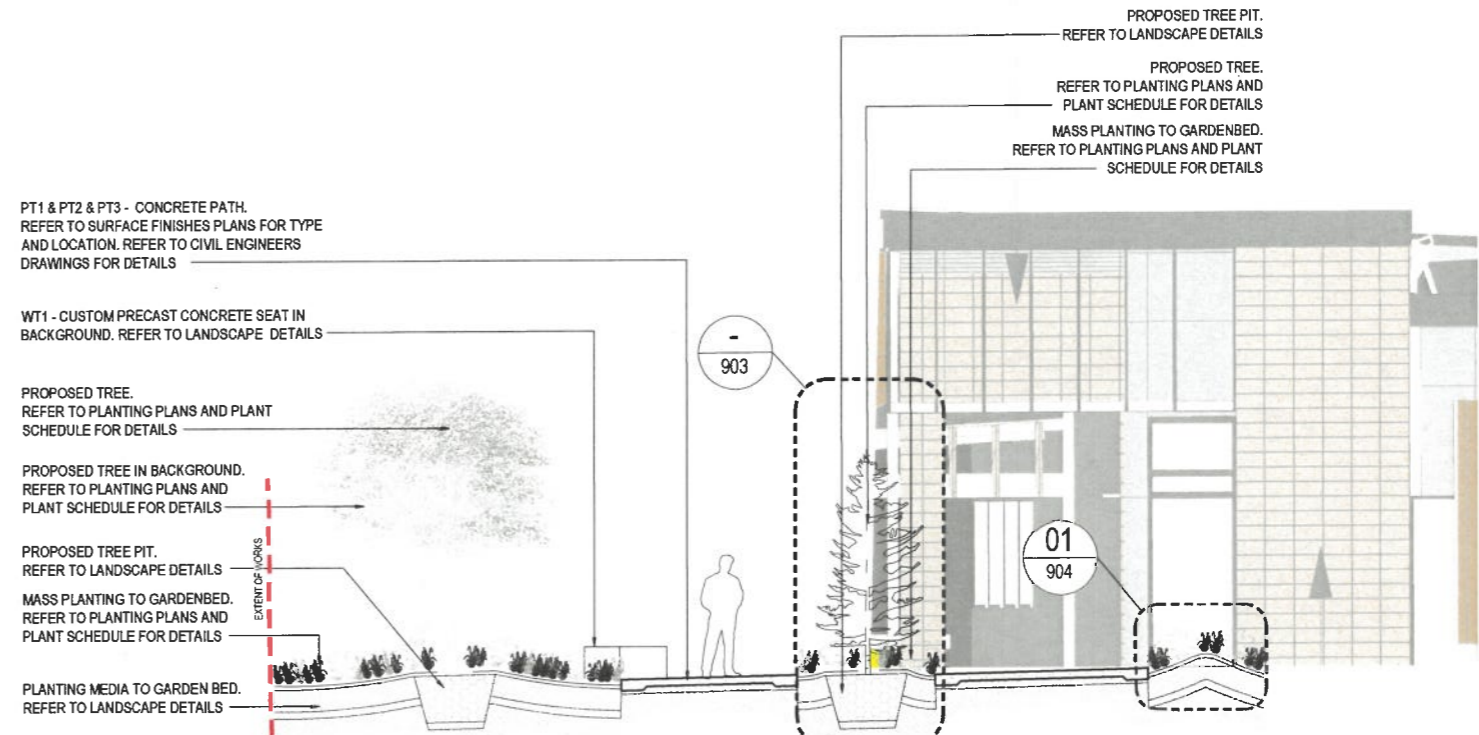
ISSUE
B



1 SECTION 2
801 SCALE 1:50 @ A1

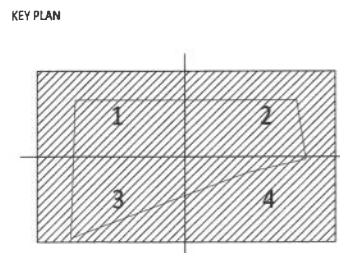


1 SECTION 2 - CONTINUED
801 SCALE 1:50 @ A1



1 SECTION 1
801 SCALE 1:50 @ A1

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Townsville

T +61 (7) 3811 9500
E info@peddletthorp.com.au
W peddletthorp.com.au

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
Project Manager: Central Queensland University +61 7 4930 9000
Cardno +61 7 3369 9822
Structural Engineer: Infragal Group +61 7 3917 8888
Mechanical Engineer: Infragal Group +61 7 3917 8888
Electrical Engineer: Infragal Group +61 7 3917 8888
Hydraulic Engineer: Infragal Group +61 7 3917 8888
Certifier: Knisco +61 7 3850 2080
Landscape Architect: Tract Pty Ltd +61 7 3002 6400
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CQU DRAWING NO.
CQU-GLD-083-GN-LSS-801

PROJECT

Central Queensland University
Gladstone Marina Campus

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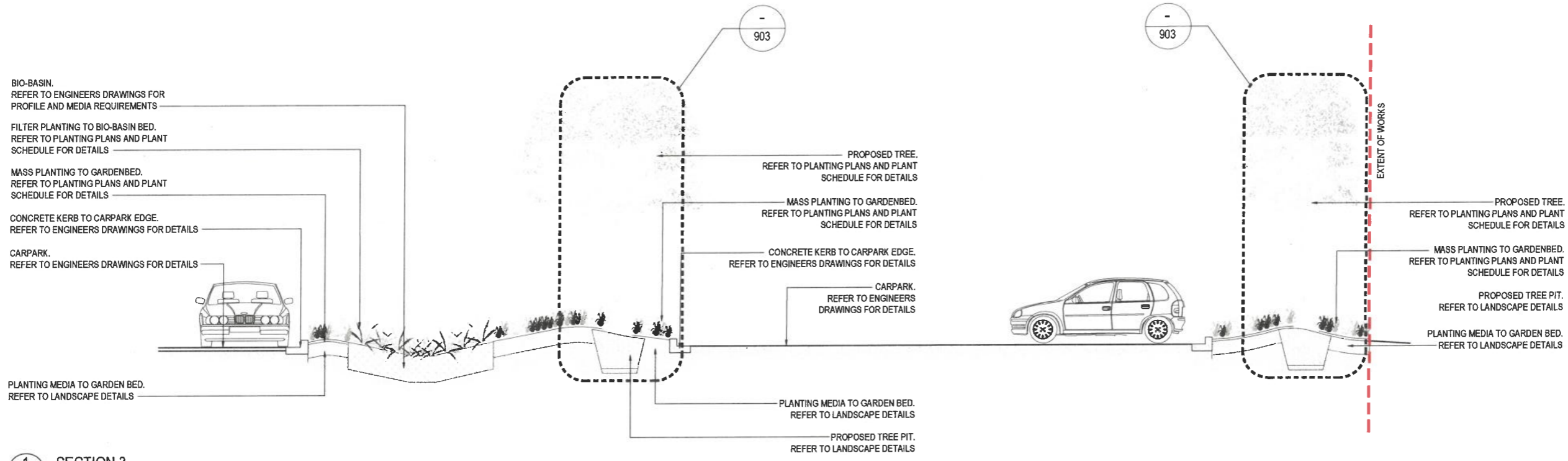
SECTIONS
SHEET 01

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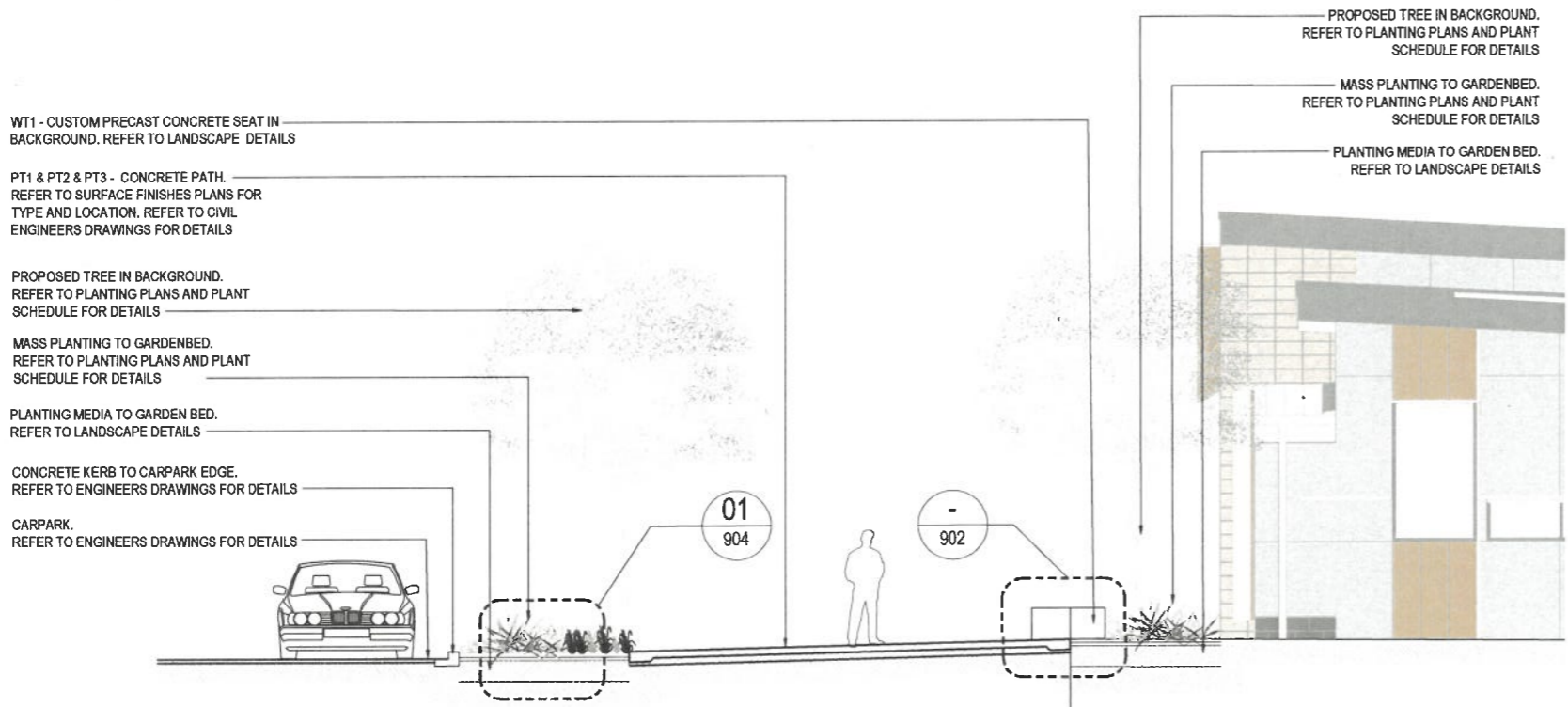
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ISSUE
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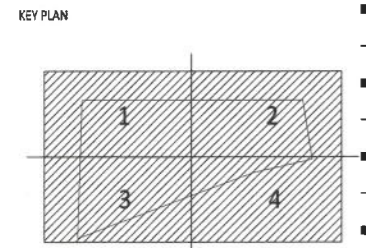


1 SECTION 3
802 SCALE 1:50 @ A1



2 SECTION 4
802 SCALE 1:50 @ A1

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Townsville

T +61 (7) 3811 9500
E info@peddletthorp.com.au
W peddletthorp.com.au

Tract

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
Project Manager: Central Queensland University +61 7 4930 9000
Structural Engineer: Cardno +61 7 3369 9822
Mechanical Engineer: Integral Group +61 7 3517 8888
Electrical Engineer: Integral Group +61 7 3517 8888
Hydraulic Engineer: Integral Group +61 7 3517 8888
Civil Engineer: Nilsco +61 7 3850 2080
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Civil Engineer: Cardno +61 7 3369 9822
Cost Planner: WT Partnershp +61 7 4722 2760

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PROJECT

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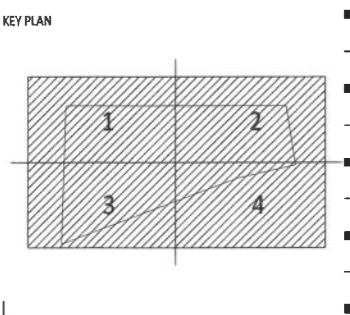
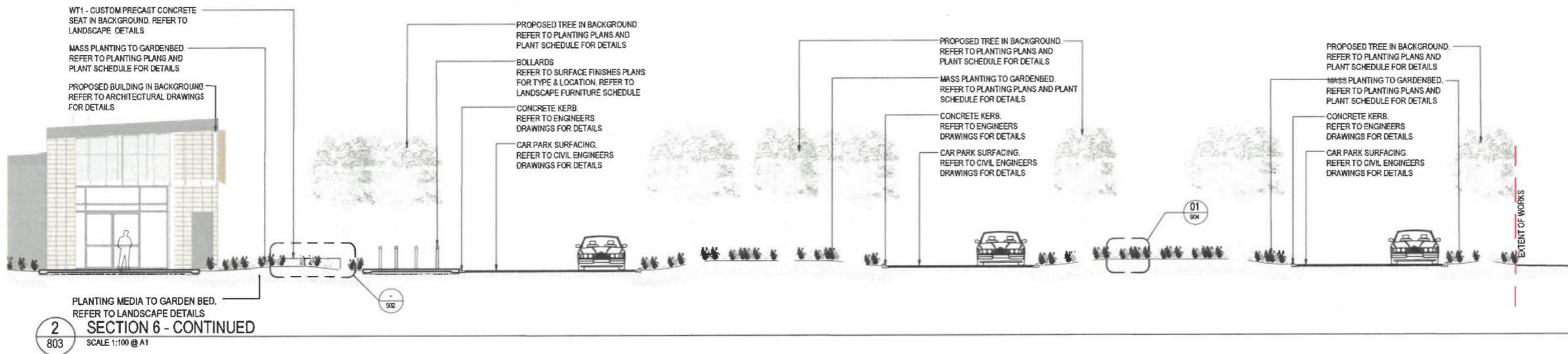
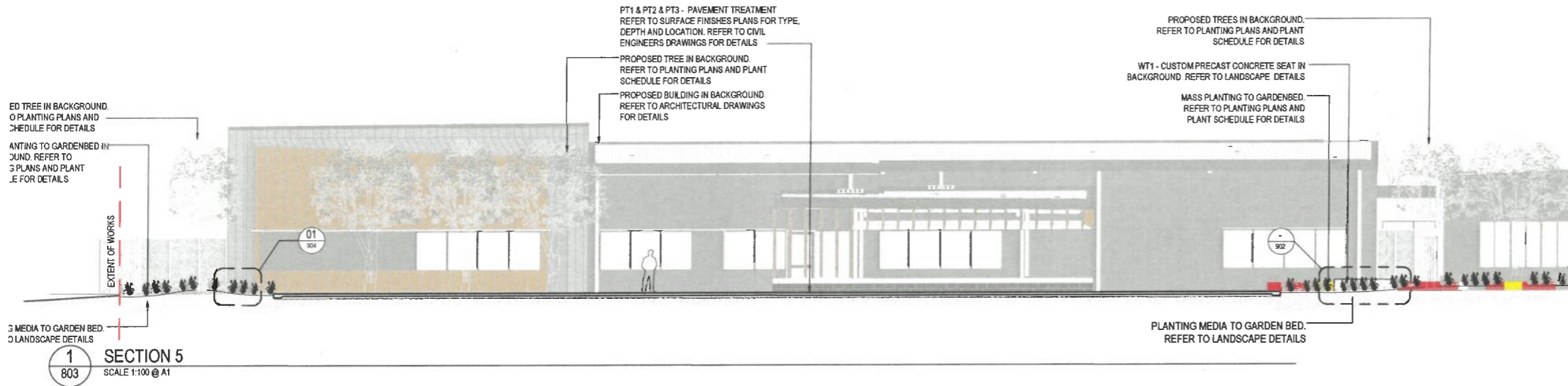
**SECTIONS
SHEET 02**

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 Brisbane
 Cairns
 Townsville
 T +61 (7) 3811 9900
 E info@peddletthorp.com.au
 W peddletthorp.com.au

Tract

CONSULTANTS
 Architect: Peddle Thorp +61 7 4046 5900
 Project Manager: Central Queensland University +61 7 4930 9000
 Structural Engineer: Cairns +61 7 3369 9822
 Mechanical Engineer: Integral Group +61 7 3917 8888
 Electrical Engineer: Integral Group +61 7 3917 8888
 Hydraulic Engineer: Integral Group +61 7 3917 8888
 Certifier: Kinison +61 7 3850 2000
 Landscape Architect: Tract Pty Ltd +61 7 3002 6400
 Civil Engineer: Cairns +61 7 3369 9822
 Cost Planner: WT Partnership +61 7 4722 2760

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 DRAWING
SECTIONS
SHEET 03

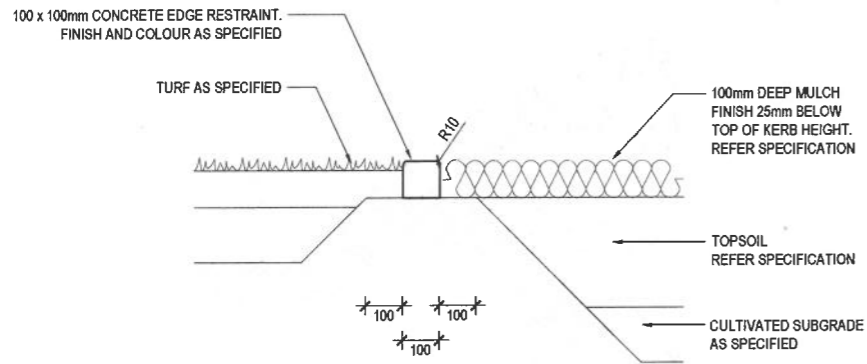
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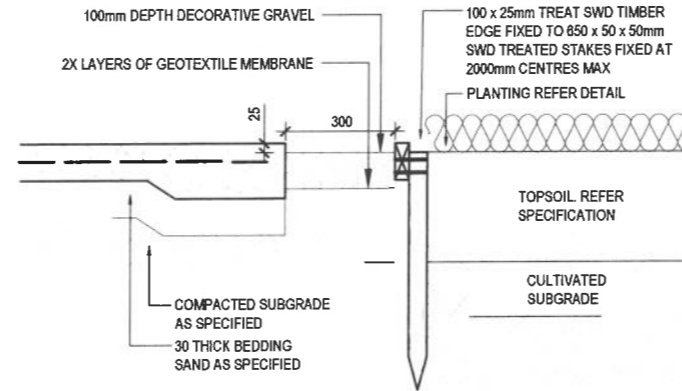
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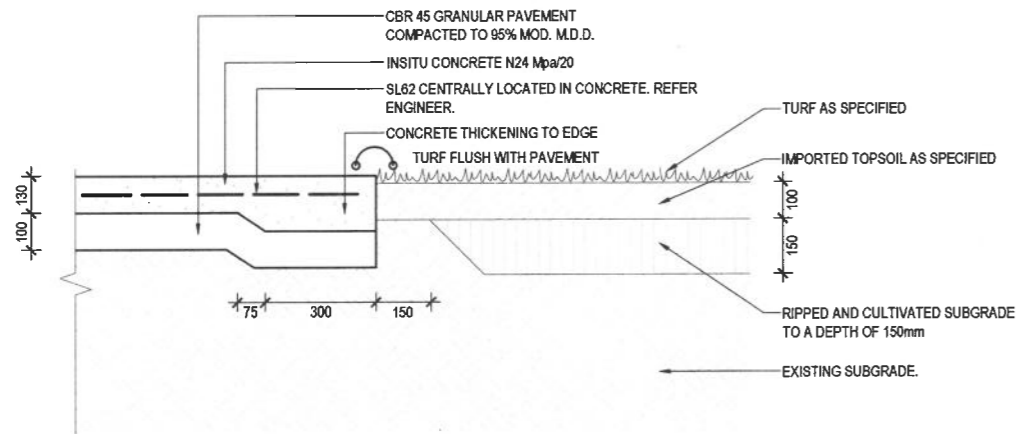
1 CONCRETE EDGE (TYPICAL)
901 SCALE 1:10 @ A1



2 DRAINAGE GRAVEL AND TIMBER EDGE TO PLANTING
901 SCALE 1:10 @ A1

- NOTES:
- 1] ALL TIMBER IN CONTACT WITH GROUND TO BE PRESERVATIVE TREATED TO HAZARD CLASS H5 TO AS 1604.1-2000 AND HAVE A DURABILITY CLASS 1 OR 2 TO AS 5604-2003.
 - 2] ALL TIMBER TO BE FREE OF KNOTS, SPLINTERS CRACKS OR ANY OTHER MAJOR DEFECT.

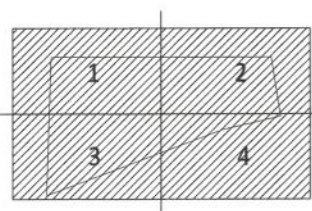
- NOTES:
1. REFER TO CAPRICORN MUNICIPAL DEVELOPMENT GUIDELINES STANDARD DRAWING.
 2. REFER TO FINISHES SCHEDULE FOR FINISH
 3. CONTRACTION JOINTS TO EXPANSION JOINTS TO CAPRICORN MUNICIPAL DEVELOPMENT GUIDELINES STANDARD DRAWING



3 CONCRETE PEDESTRIAN PAVEMENT TO TURF
901 SCALE 1:10 @ A1

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KEY PLAN



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Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddlethorp.com.au
W peddlethorp.com.au

Tract

CONSULTANTS

Architect: Peddle Thorp +61 7 4045 5900
Project Manager: Central Queensland University +61 7 4930 9000
Structural Engineer: Cardno +61 7 3369 9822
Mechanical Engineer: Integral Group +61 7 3917 8888
Electrical Engineer: Integral Group +61 7 3917 8888
Hydraulic Engineer: Integral Group +61 7 3917 8888
Civil Engineer: Kolsco +61 7 3850 2080
Landscape Architect: Tract Pty Ltd +61 7 3002 6400
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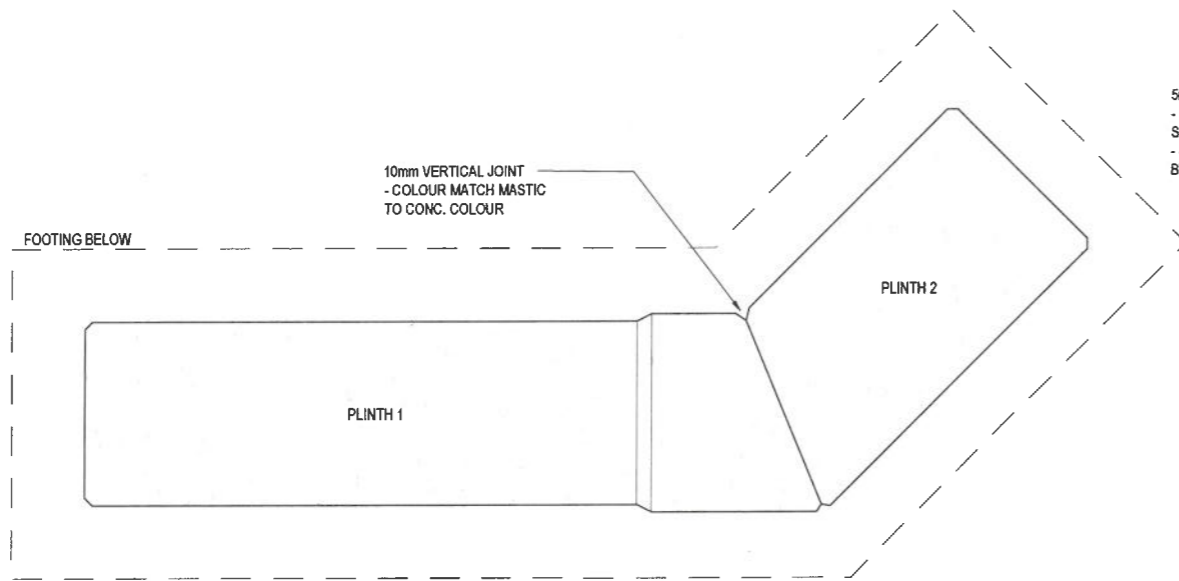
DRAWING
**LANDSCAPE DETAILS
SHEET 01**

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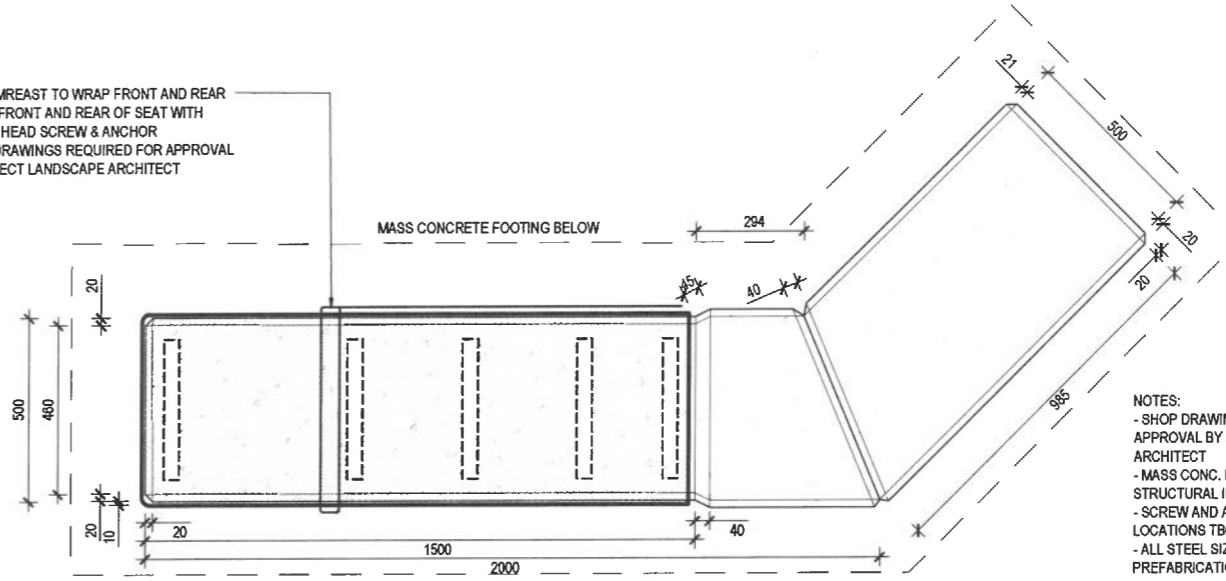
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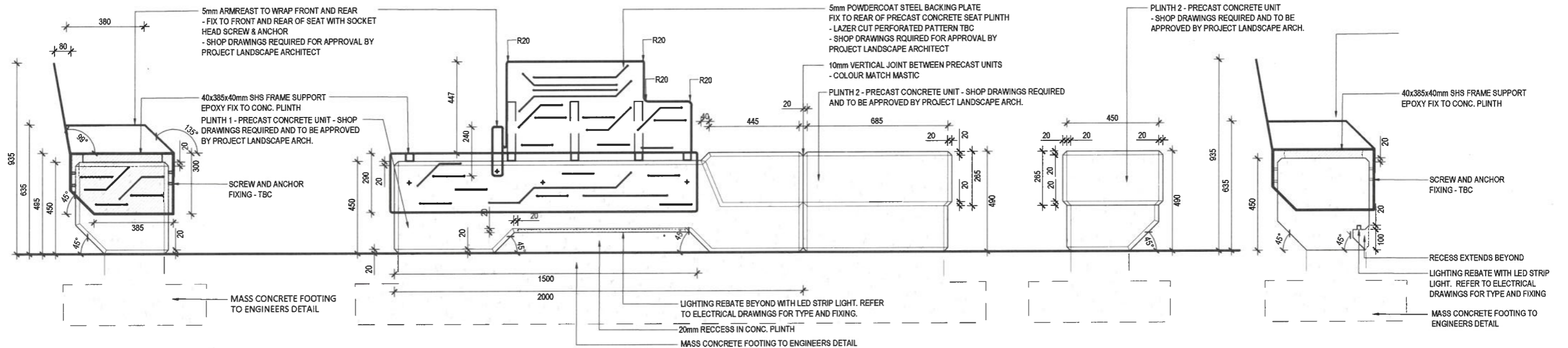
1 WALL TYPE 1 - CONCRETE PLINTH ARRANGEMENT (PLAN)
902 SCALE 1:10 @ A1

5mm ARMREAST TO WRAP FRONT AND REAR
- FIX TO FRONT AND REAR OF SEAT WITH SOCKET HEAD SCREW & ANCHOR
- SHOP DRAWINGS REQUIRED FOR APPROVAL BY PROJECT LANDSCAPE ARCHITECT



NOTES:
- SHOP DRAWINGS REQUIRED FOR APPROVAL BY PROJECT LANDSCAPE ARCHITECT
- MASS CONC. FOOTINGS REQ. STRUCTURAL INPUT
- SCREW AND ANCHOR FIXINGS & LOCATIONS TBC
- ALL STEEL SIZING, COLOURS & PREFABRICATION TBC

2 WALL TYPE 1 - CONCRETE PLINTH WITH PREFABRICATED SEAT ATTACHED (PLAN)
902 SCALE 1:10 @ A1



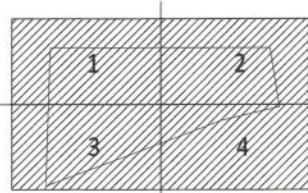
3 WALL TYPE 1 - END ELEVATION
902 SCALE 1:10 @ A1

4 WALL TYPE 1 - FRONT ELEVATION
902 SCALE 1:10 @ A1

5 WALL TYPE 1 - END ELEVATION
902 SCALE 1:10 @ A1

6 WALL TYPE 1 - LED LIGHT REBATE
902 SCALE 1:10 @ A1

KEY PLAN



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Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddlethorp.com.au
W peddlethorp.com.au

Tract

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
Project Manager: Central Queensland University +61 7 4930 9000
Structural Engineer: Cardno +61 7 3369 9822
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Civil Engineer: Kalsco +61 7 3850 2080
Landscape Architect: Tract Pty Ltd +61 7 3002 6400
Civil Engineer: Cardno +61 7 3369 9822
Cost Planner: WT Partnership +61 7 4722 2760

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PROJECT

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**LANDSCAPE DETAILS
SHEET 02**

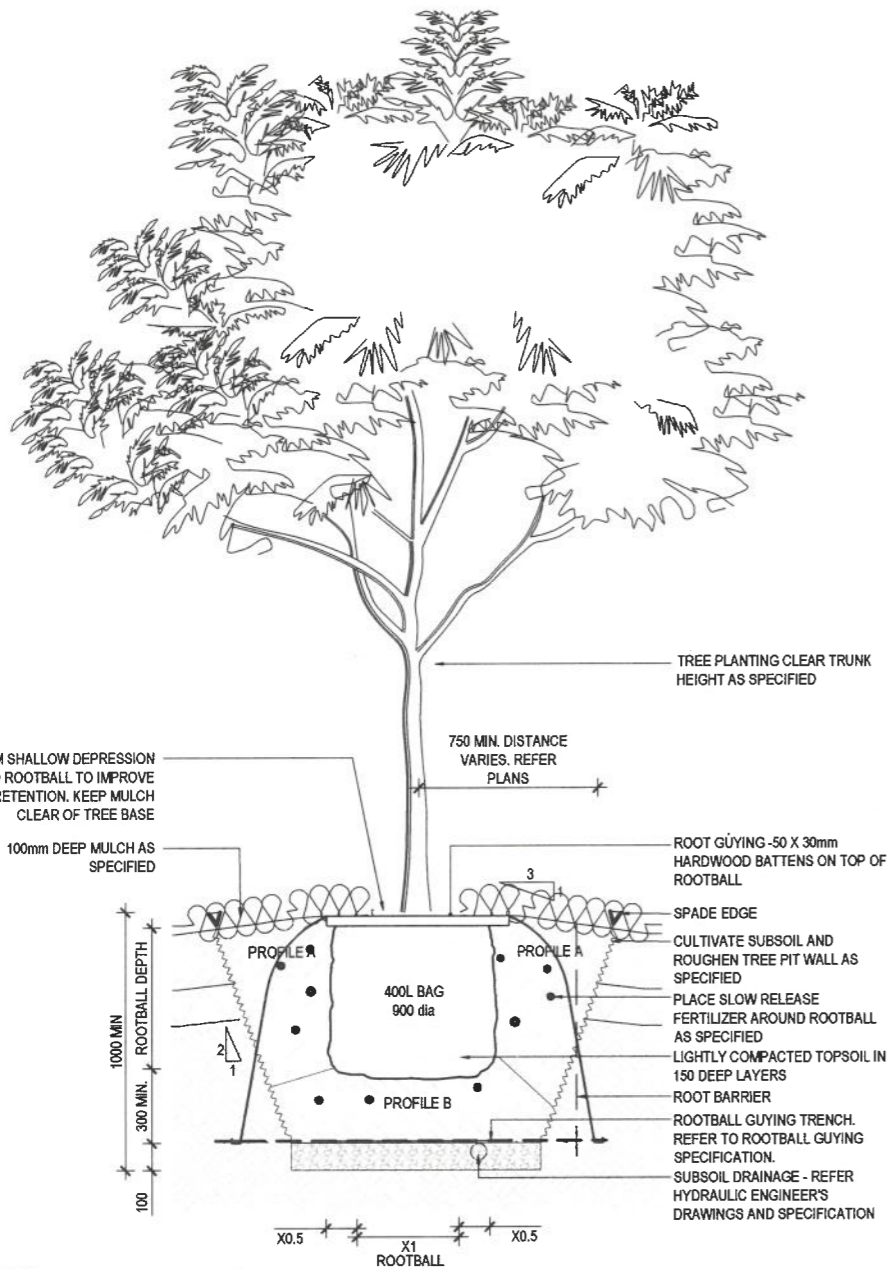
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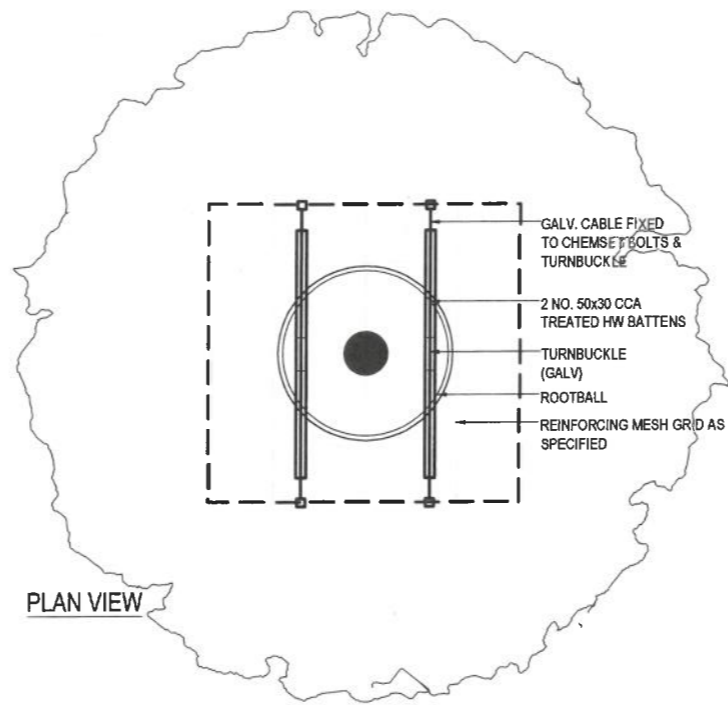
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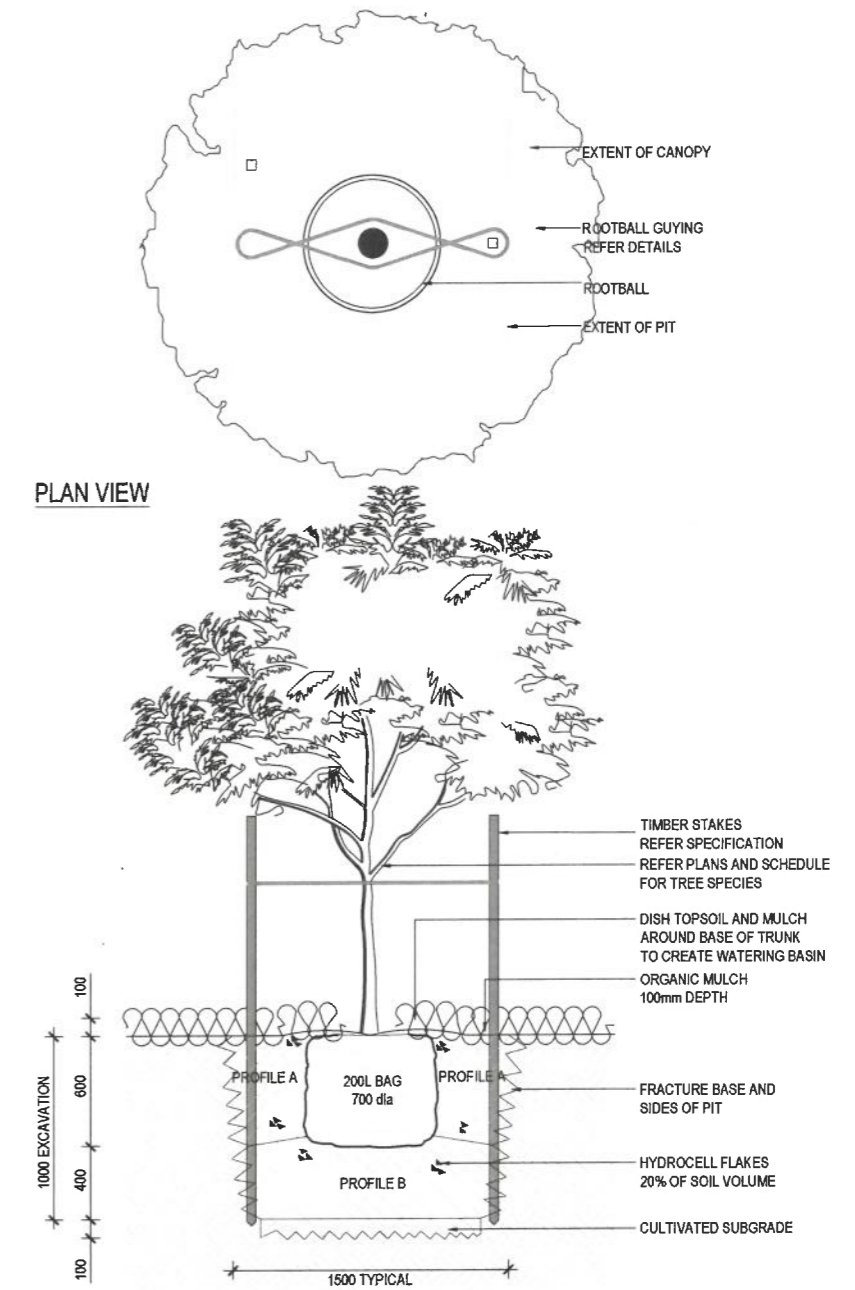
APPROVED
14/10/2021 *J. Moorfield*



1 400L TREE GUYING IN NATURAL GROUND
903 SCALE 1:20 @ A1



PLAN VIEW

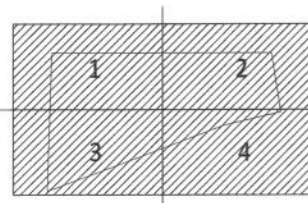


PLAN VIEW

2 200L TREE WITH STAKES IN NATURAL GROUND
903 SCALE 1:20 @ A1

APPROVED
14/10/2021 JHorsfield

KEY PLAN



FOR CONSTRUCTION

AMENDMENTS	No	Description	Date	By
A	ISSUE FOR CONSTRUCTION		03.06.21	JH

PEDDLE THORP
architecture | interiors | health | planning

Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddlethorp.com.au
W peddlethorp.com.au

Tract

CONSULTANTS	
Architect:	Peddle Thorp +61 7 4046 5900
Project Manager:	Central Queensland University +61 7 4930 9000
Structural Engineer:	Cardno +61 7 3369 9822
Mechanical Engineer:	Integral Group +61 7 3917 8888
Electrical Engineer:	Integral Group +61 7 3917 8888
Hydraulic Engineer:	Integral Group +61 7 3917 8888
Cartographer:	Intaco +61 7 3850 2080
Landscape Architect:	Tract Pty Ltd +61 7 3802 6400
Civil Engineer:	Cardno +61 7 3369 9822
Cost Planner:	WT Partnership +61 7 4722 2760

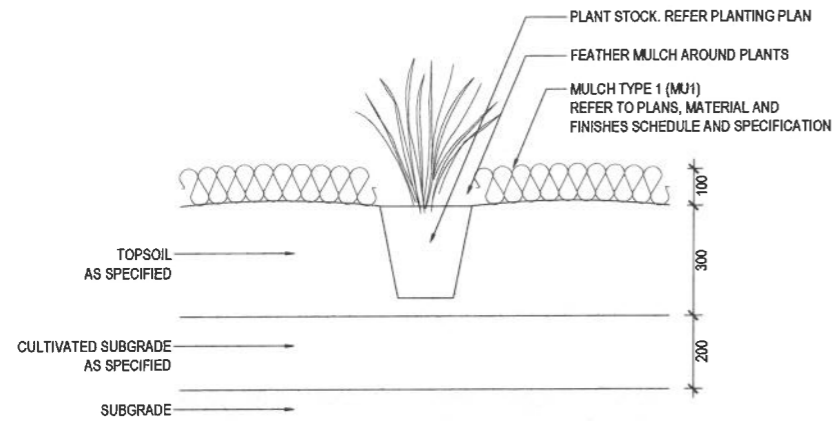
CLIENT
Central Queensland University
GLADSTONE
AUSTRALIA
FDC
CQU DRAWING NO.
CQU-GLD-015-GN-LSS-903

PROJECT
Central Queensland University
Gladstone Marina Campus
DRAWING
LANDSCAPE DETAILS
SHEET 03

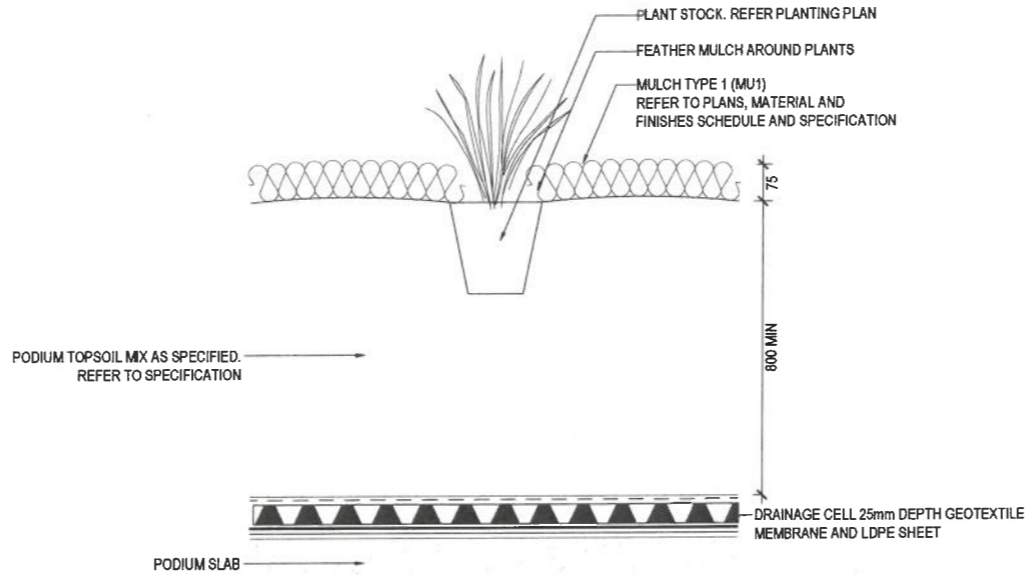
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SCALE (at A1)	PROJ. NO.	AUTHORISED	DATE
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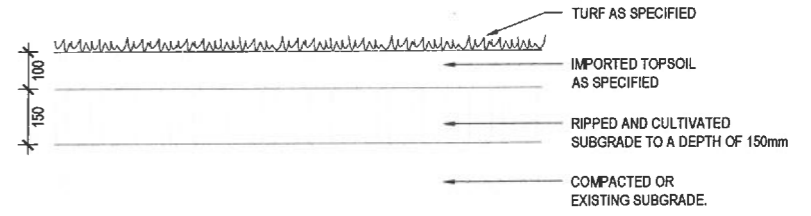
DRAWING NO.	ISSUE
CQU-GLD-015-GN-LSS-903	A



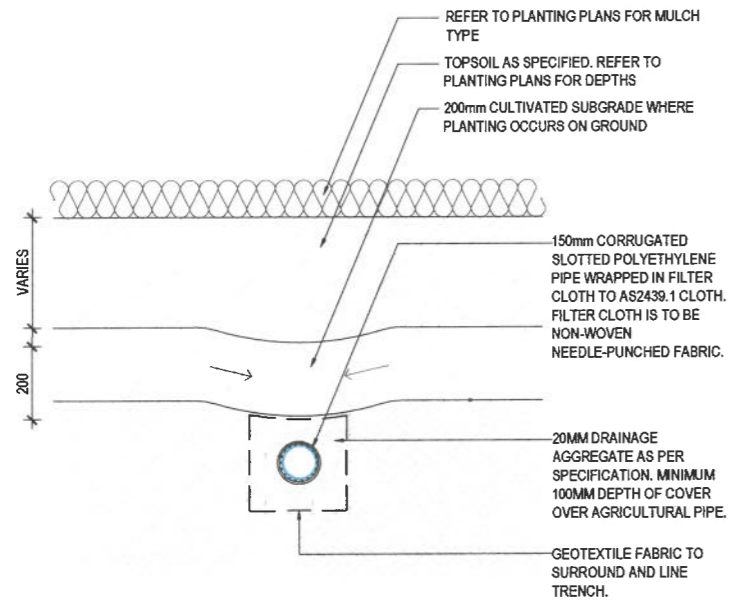
1 PLANTING ON NATURAL GROUND
SCALE 1:10 @ A1



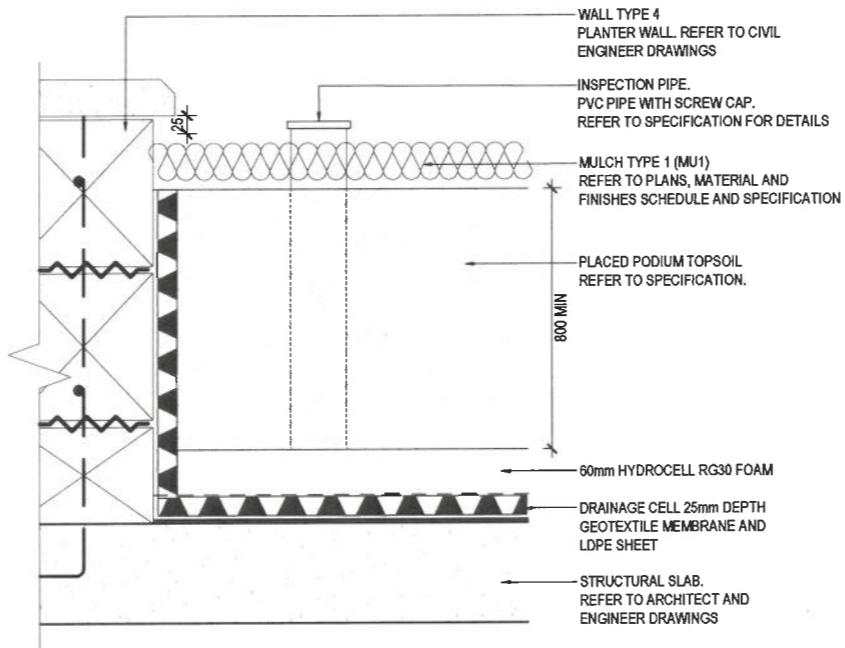
2 PLANTING ON PODIUM
SCALE 1:10 @ A1



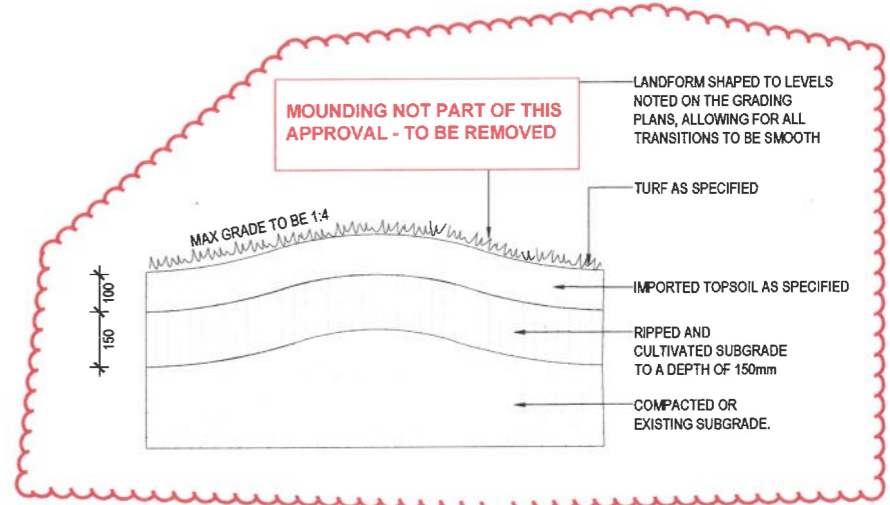
3 TURF DETAIL
SCALE 1:10 @ A1



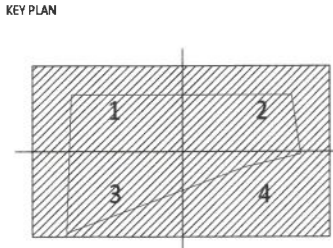
4 SUB SOIL DRAINAGE - PLANTING ON NATURAL GROUND
SCALE 1:10 @ A1



5 SUB SOIL DRAINAGE - PLANTING ON PODIUM
SCALE 1:5 @ A1



6 LANDFORM MOUND DETAIL
SCALE 1:10 @ A1



FOR CONSTRUCTION

AMENDMENTS		
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Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddlethorp.com.au
W peddlethorp.com.au

Tract

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
Project Manager: Central Queensland University +61 7 4930 9000
Structural Engineer: Cardno +61 7 3369 9822
Mechanical Engineer: Integral Group +61 7 3917 8888
Electrical Engineer: Integral Group +61 7 3917 8888
Hydraulic Engineer: Integral Group +61 7 3917 8888
Certifier: Kolsco +61 7 3850 2080
Landscape Architect: Tract Pty Ltd +61 7 3002 6400
Civil Engineer: Cardno +61 7 3369 9822
Cost Planner: WT Partnership +61 7 4722 2760

CLIENT

CQU AUSTRALIA **FDC**

CQU DRAWING NO.
CQU-GLD-015-GN-LSS-904

PROJECT
Central Queensland University
Gladstone Marina Campus

DRAWING
**LANDSCAPE DETAILS
SHEET 04**

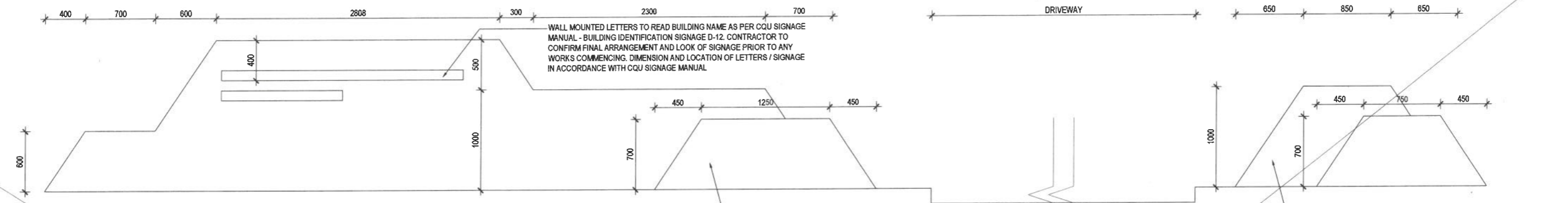
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A1	SCALE (at A1) N/A	PROJ. NO. CQU-GLD-015	AUTHORISED PM	DATE 18.03.21
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DRAWING NO.
CQU-GLD-015-GN-LSS-904

ISSUE
A

APPROVED
AS AMENDED
14/10/2021 *[Signature]*

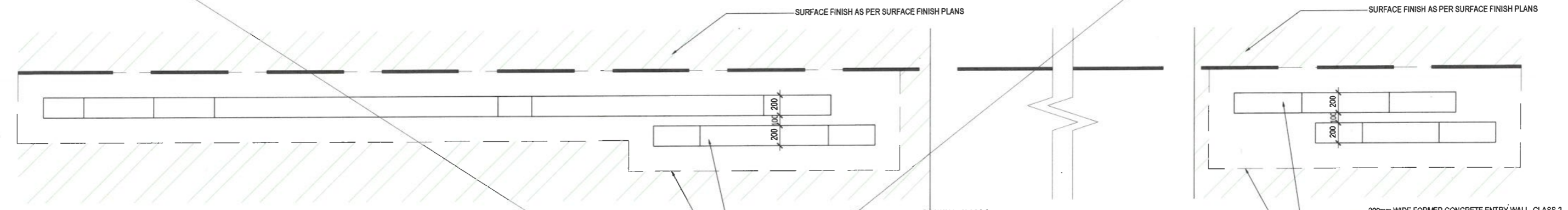


1 ENTRY WALL SIGNAGE DETAIL - ELEVATION
905 SCALE 1:20 @ A1

WALL MOUNTED LETTERS TO READ BUILDING NAME AS PER CQU SIGNAGE MANUAL - BUILDING IDENTIFICATION SIGNAGE D-12. CONTRACTOR TO CONFIRM FINAL ARRANGEMENT AND LOOK OF SIGNAGE PRIOR TO ANY WORKS COMMENCING. DIMENSION AND LOCATION OF LETTERS / SIGNAGE IN ACCORDANCE WITH CQU SIGNAGE MANUAL

200mm WIDE FORMED CONCRETE ENTRY WALL, CLASS 2 FINISH WITH 20mm CHAMFER TO ALL EXPOSED EDGES. NATURAL FINISH WITH ANTI GRAFFITI COATING. FOOTINGS AS PER STRUCTURAL ENGINEERS DETAIL

200mm WIDE FORMED CONCRETE ENTRY WALL, CLASS 2 FINISH WITH 20mm CHAMFER TO ALL EXPOSED EDGES. NATURAL FINISH WITH ANTI GRAFFITI COATING. FOOTINGS AS PER STRUCTURAL ENGINEERS DETAIL



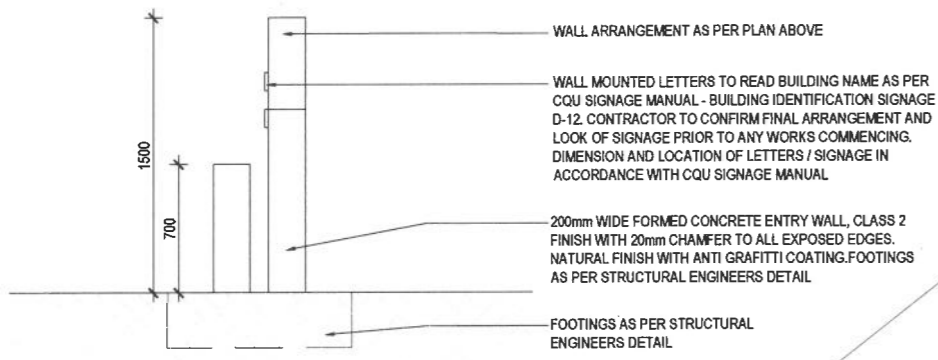
2 ENTRY WALL SIGNAGE DETAIL - PLAN
905 SCALE 1:20 @ A1

200mm WIDE FORMED CONCRETE ENTRY WALL, CLASS 2 FINISH WITH 20mm CHAMFER TO ALL EXPOSED EDGES. NATURAL FINISH WITH ANTI GRAFFITI COATING. FOOTINGS AS PER STRUCTURAL ENGINEERS DETAIL

200mm WIDE FORMED CONCRETE ENTRY WALL, CLASS 2 FINISH WITH 20mm CHAMFER TO ALL EXPOSED EDGES. NATURAL FINISH WITH ANTI GRAFFITI COATING. FOOTINGS AS PER STRUCTURAL ENGINEERS DETAIL

FOOTINGS AS PER STRUCTURAL ENGINEERS DETAIL

FOOTINGS AS PER STRUCTURAL ENGINEERS DETAIL



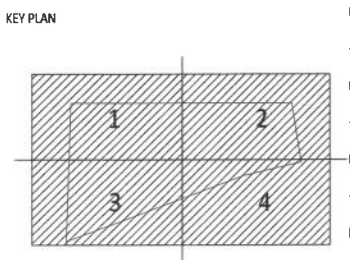
3 ENTRY WALL SIGNAGE DETAIL - SECTION
905 SCALE 1:20 @ A1

WALL MOUNTED LETTERS TO READ BUILDING NAME AS PER CQU SIGNAGE MANUAL - BUILDING IDENTIFICATION SIGNAGE D-12. CONTRACTOR TO CONFIRM FINAL ARRANGEMENT AND LOOK OF SIGNAGE PRIOR TO ANY WORKS COMMENCING. DIMENSION AND LOCATION OF LETTERS / SIGNAGE IN ACCORDANCE WITH CQU SIGNAGE MANUAL

200mm WIDE FORMED CONCRETE ENTRY WALL, CLASS 2 FINISH WITH 20mm CHAMFER TO ALL EXPOSED EDGES. NATURAL FINISH WITH ANTI GRAFFITI COATING. FOOTINGS AS PER STRUCTURAL ENGINEERS DETAIL

FOOTINGS AS PER STRUCTURAL ENGINEERS DETAIL

APPROVED
14/10/2021 *G.Horsfield*



FOR CONSTRUCTION

AMENDMENTS	No	Description	Date	By
A	ISSUE FOR CONSTRUCTION		03.06.21	JH

PEDDLE THORP
architecture | interiors | health | planning

Brisbane
Cairns
Townsville

T +61 (7) 3813 9500
E info@peddlethorp.com.au
W peddlethorp.com.au

Tract

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
Project Manager: Central Queensland University +61 7 4930 9000
Cairns +61 7 3369 9822
Structural Engineer: Integral Group +61 7 3517 8888
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Hydraulic Engineer: Integral Group +61 7 3517 8888
Certifier: Wacoop +61 7 3850 2080
Landscape Architect: Tract Pty Ltd +61 7 3002 6400
Civil Engineer: Cairns +61 7 3368 9822
Cost Planner: WT Partnership +61 7 4722 2760

CLIENT

Central Queensland University
AUSTRALIA

FDC

CQU DRAWING NO.
CQU-GLD-015-GN-LSS-905

PROJECT

Central Queensland University
Gladstone Marina Campus

DRAWING

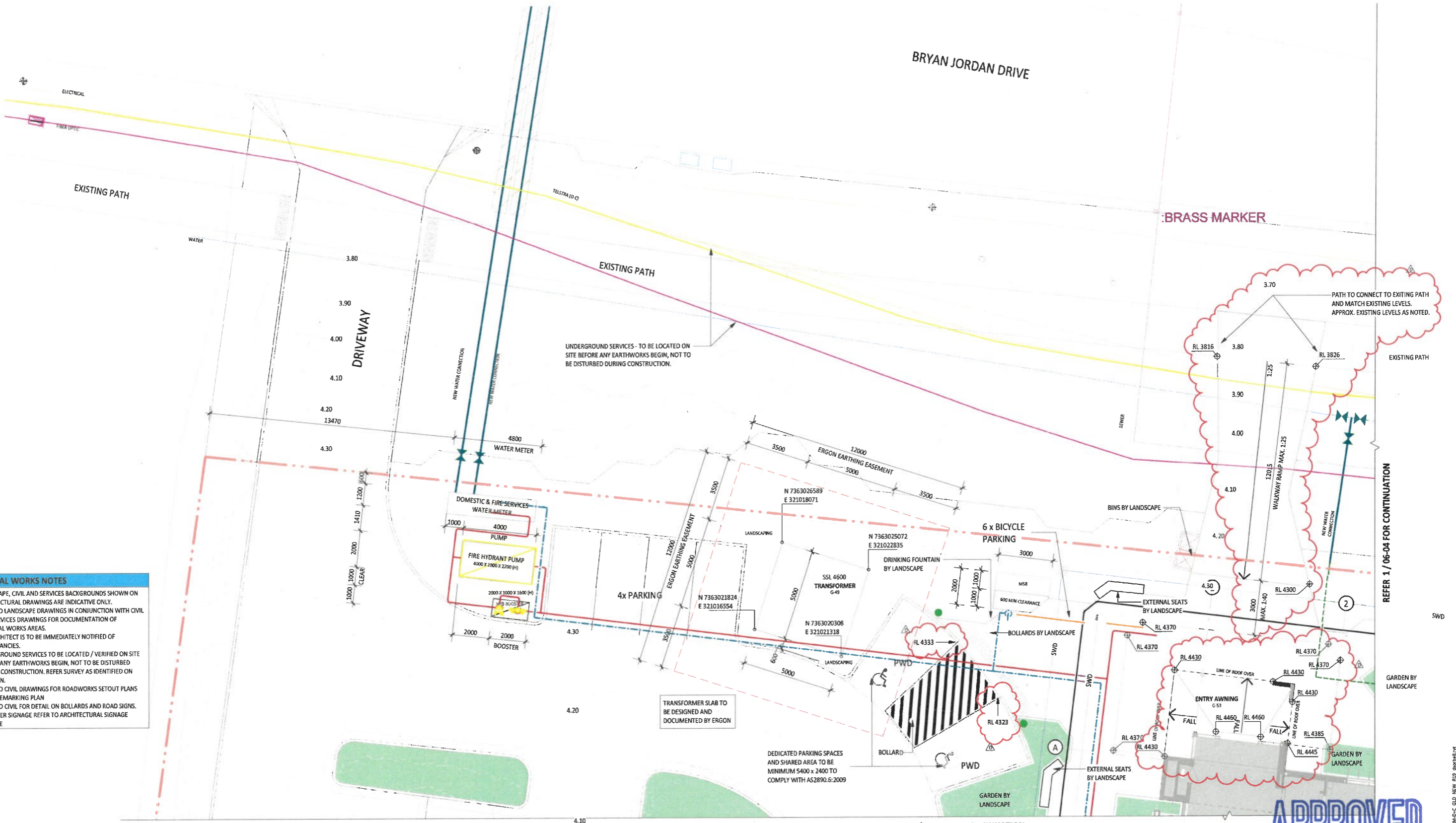
LANDSCAPE DETAILS
SHEET 05

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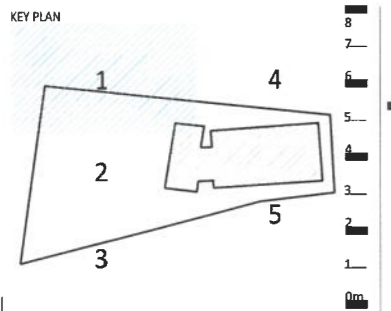
A1	SCALE (at A1) N/A	PROJ. NO. CQU-GLD-015	AUTHORISED PM	DATE 18.03.21
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DRAWING NO.
CQU-GLD-015-GN-LSS-905

ISSUE
A



- EXTERNAL WORKS NOTES**
1. LANDSCAPE, CIVIL AND SERVICES BACKGROUNDS SHOWN ON ARCHITECTURAL DRAWINGS ARE INDICATIVE ONLY.
 2. REFER TO LANDSCAPE DRAWINGS IN CONJUNCTION WITH CIVIL AND SERVICES DRAWINGS FOR DOCUMENTATION OF EXTERNAL WORKS AREAS.
 3. THE ARCHITECT IS TO BE IMMEDIATELY NOTIFIED OF DISCREPANCIES.
 4. UNDERGROUND SERVICES TO BE LOCATED / VERIFIED ON SITE BEFORE ANY EARTHWORKS BEGIN, NOT TO BE DISTURBED DURING CONSTRUCTION. REFER SURVEY AS IDENTIFIED ON SITE PLAN.
 5. REFER TO CIVIL DRAWINGS FOR ROADWORKS SETOUT PLANS AND LINEMARKING PLAN
 6. REFER TO CIVIL FOR DETAIL ON BOLLARDS AND ROAD SIGNS. ALL OTHER SIGNAGE REFER TO ARCHITECTURAL SIGNAGE PACKAGE



CONSTRUCTION

AMENDMENTS		
No	Description	Date By
A	FOR CONSTRUCTION	19/02/21 DS
B	MSR RELOCATED	04/03/21 MC
C	TRANSFORMER LOCATION REVISED	29/04/21 DS
D	BA APPROVAL NOTES	06/05/21 DS

PEDDLE THORP
architecture | interiors | health | planning

Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddlethorp.com.au
W peddlethorp.com.au

CONSULTANTS	
Architect:	Peddle Thorp +61 7 4046 5900
Structural Engineer:	Cartho +61 7 3369 9622
Mechanical Engineer:	Integral Group +61 7 3917 8808
Electrical Engineer:	Integral Group +61 7 3917 8808
Hydraulic Engineer:	Integral Group +61 7 3917 8808
City Planner:	Kulgo +61 7 3852 2080
Landscape Architect:	Tract +61 7 3001 8400
Civil Engineer:	Cartho +61 7 3369 9622

CLIENT

CQU UNIVERSITY AUSTRALIA

FDC Construction & Fitout

CQU DRAWING NO. CQU-GLD-015-00-ARC-011

PROJECT

CQU UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING

DRAWING

EXTERNAL WORKS SHEET

1

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A1	SCALE (at A1) 1:100	PROJ. NO. 213745	AUTHORISED DS	DATE 19.02.2021
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DRAWING NO. CQU-GLD-015-ARC-06-01

ISSUE D

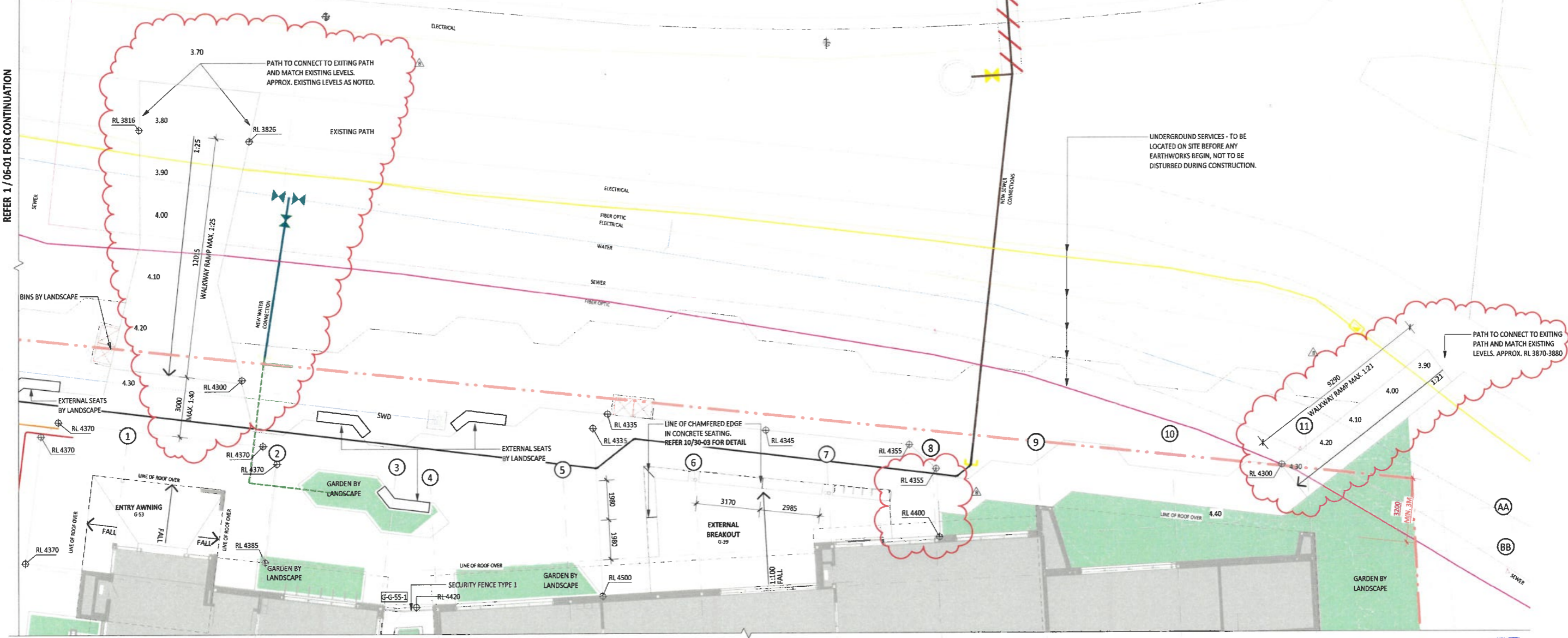
APPROVED
14/10/2021 J. Hargrell

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BRYAN JORDAN DRIVE

IRASS MARKER

REFER 1 / 06-01 FOR CONTINUATION

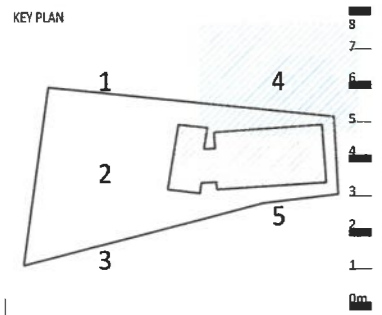


UNDERGROUND SERVICES - TO BE LOCATED ON SITE BEFORE ANY EARTHWORKS BEGIN, NOT TO BE DISTURBED DURING CONSTRUCTION.

PATH TO CONNECT TO EXISTING PATH AND MATCH EXISTING LEVELS. APPROX. RL 3870-3880

REFER 1 / 06-05 FOR CONTINUATION

APPROVED
14/10/2022 *Monty*



CONSTRUCTION

AMENDMENTS	Date	By
No Description	19/02/21	DS
A FOR CONSTRUCTION	05/05/21	DS
B BA APPROVAL NOTES		

PEDDLE THORP
architecture | interiors | health | planning

Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddlethorp.com.au
W peddlethorp.com.au

CONSULTANTS

Architect:	Peddle Thorp +61 7 4046 5900
Structural Engineer:	Cardno +61 7 3349 9822
Mechanical Engineer:	Integral Group +61 7 3517 8888
Electrical Engineer:	Integral Group +61 7 3517 8888
Hydraulic Engineer:	Integral Group +61 7 3517 8888
Cartiller:	Kilco +61 7 3853 2080
Landscape Architect:	Tract +61 7 3002 6400
Civil Engineer:	Cardno +61 7 3349 9822

CLIENT

CQ University AUSTRALIA

CQU DRAWING NO.
CQU-GLD-015-00-ARC-014

FDC

FDC Construction & Fitout

PROJECT

CQ UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING
DRAWING
EXTERNAL WORKS SHEET
4

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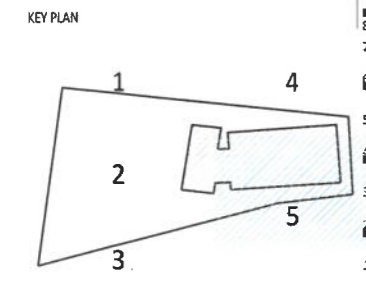
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APPROVED
14/10/2021 J. Hanford

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AMENDMENTS

No	Description	Date	By
A	FOR CONSTRUCTION	19/02/21	DS
B	ON AMENDMENTS	06/05/21	DS

PEDDLE THORP
architecture | interiors | health | planning

Brisbane
Cairns
Townsville

T +61 (7) 3811 9500
E info@peddlethorp.com.au
W peddlethorp.com.au

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5000
Cardno +61 7 3369 9622
Structural Engineer: Integral Group +61 7 3917 8888
Mechanical Engineer: Integral Group +61 7 3917 8888
Electrical Engineer: Integral Group +61 7 3917 8888
Hydraulic Engineer: W&Paco +61 7 3852 2000
W&Paco +61 7 3852 2000
Tract +61 7 3002 6400
Landscape Architect: Cardno +61 7 3369 9622
Civil Engineer: Cardno +61 7 3369 9622

CLIENT

CQ University AUSTRALIA

FDC Construction & Fitout

CQU DRAWING NO.
CQU-GLD-015-00-ARC-015

PROJECT
CQ UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING
DRAWING
EXTERNAL WORKS SHEET
5

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SCALE (at A1)	PROJ. NO.	AUTHORISED	DATE
A1 1:100	213745	DS	19.02.2021

DRAWING NO.
CQU-GLD-015-ARC-06-05

ISSUE
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06/06/2021 16:38:22 PNC:\vent content\Bentley\1213745_A_CQU-GLD-015-00-ARC-015.dwg_P19_mchawco.rvt

MINING AND MANUFACTURING FACILITIES BUILDING

IRRIGATION WORKS - COVER PAGE

MINING AND MANUFACTURING FACILITIES BUILDING			
IRRIGATION WORKS - COVER PAGE			
Title:	ID:	Title:	ID:
GENERAL INFORMATION - COVER PAGE	IW-GN-CP-100	IRRIGATION LAYOUT	IW-IL-SA-604
GENERAL INFORMATION - GENERAL NOTES	IW-GN-GN-101	AUTOMATIC CONTROLS / COVER PAGE	IW-AC-CP-700
EARLY WORKS / COVER PAGE	IW-EW-CP-300	AUTOMATIC CONTROLS	IW-AC-SA-701
EARLY WORKS	IW-EW-SA-301	AUTOMATIC CONTROLS	IW-AC-SA-702
EARLY WORKS	IW-EW-SA-302	AUTOMATIC CONTROLS	IW-AC-SA-703
EARLY WORKS	IW-EW-SA-303	AUTOMATIC CONTROLS	IW-AC-SA-704
EARLY WORKS	IW-EW-SA-304	TYPICAL DETAILS	IW-TD-SA-800
IRRIGATION LAYOUT - COVER PAGE	IW-IL-CP-600	TYPICAL DETAILS	IW-TD-SA-801
IRRIGATION LAYOUT	IW-IL-SA-601	TYPICAL DETAILS	IW-TD-SA-802
IRRIGATION LAYOUT	IW-IL-SA-602	TYPICAL DETAILS	IW-TD-SA-803
IRRIGATION LAYOUT	IW-IL-SA-603	TYPICAL DETAILS	IW-TD-SA-804

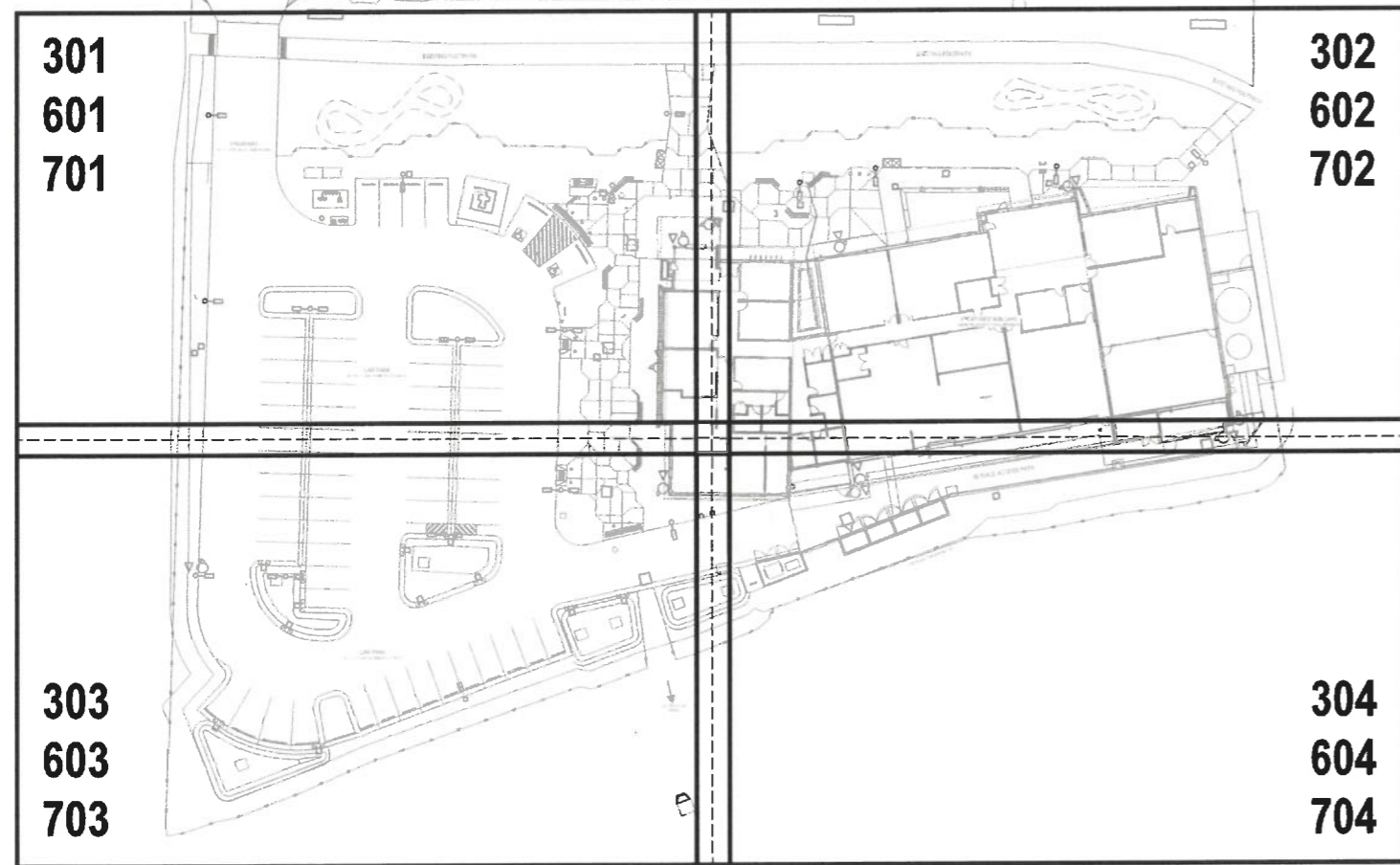
APPROVED
14/10/2021 *J Herdall*



FOR CONSTRUCTION
All materials, arrangements, installation to equal or exceed relevant Australian standards / WSA codes / Manufacturers published advice at all times. Refer Cover Pages for GN-01 GENERAL NOTES and GN-02 RESPONSIBILITIES AND CROSS-REFERENCE DOCUMENTS.

- GN-01 IRRIGATION WORKS - GENERAL NOTES**
PACKAGE: IRRIGATION / ELECTRICAL / CIVIL / STRUCTURAL / LANDSCAPING / HYDRAULICS / BUILDER
- REFER CLIENT'S AS BUILT DRAWINGS FOR EXISTING SERVICES / INFRASTRUCTURE
 - REFER ALLIED TRADES DRAWINGS
 - CO-ORDINATE ALL IRRIGATION INFRASTRUCTURE WORKS WITH ALLIED TRADES / EXISTING SERVICES AS APPLICABLE
 - INFRASTRUCTURE DIAMETERS / SIZES / CAPACITIES SHOWN ARE TO BE RETAINED AT ALL TIMES
 - INFRASTRUCTURE LOCATIONS SHOWN ARE DIAGRAMMATIC ONLY. PROVIDED THAT SIZES / TERMINATION POINTS / LOCATIONS SHOWN ARE RETAINED, THE FINAL ROUTE MAY ALTER.
 - PROVIDE PVC CONDUIT TO ALL 3-PHASE / SINGLE PHASE / CONTROL WIRING
 - USE CONDUIT SWEEP BENDS AT ALL TIMES (DO NOT USE ELBOWS)
 - LABEL ALL WIRING TO IDENTIFY USE
 - LABEL EXPOSED CONDUIT TO IDENTIFY CONTENTS
 - LABEL EXPOSED PIPE WORK TO IDENTIFY WATER SOURCE
 - ALL PIPE WORK AND VALVES, ACCESS SLEEVES, AND CONDUITS TO BE LOCATED ACCURATELY BY LICENSED SURVEYOR, UNLESS OTHERWISE SPECIFIED
 - INSTALL IRRIGATION OUTLETS VERTICALLY
 - ALL CONSTRUCTION WORKS TO BE CO-ORDINATED WITH CLIENT / SUPERINTENDENT
 - ALL CONSTRUCTION WORKS TO BE UNDERTAKEN WITH CARE IN AREAS OF EXISTING VEGETATION

- GN-02 IRRIGATION WORKS - RESPONSIBILITIES AND CROSS-REFERENCE DOCUMENTS**
PACKAGE: IRRIGATION
- THE RESPONSIBLE ALLIED TRADES PROVIDING SPECIFIC IRRIGATION EARLY WORKS ARE SHOWN ON THE DRAWINGS, IN THE SPECIFICATIONS AND IN THE SCHEDULES, WHERE APPLICABLE
 - ADVISE SUPERINTENDENT IMMEDIATELY IF ANY EARLY WORKS HAVE NOT BEEN INSTALLED, ARE OUT OF POSITION, OR ARE SIZED INCORRECTLY
 - PROJECT IRRIGATION DRAWINGS MUST BE READ IN CONJUNCTION WITH ALL PROJECT IRRIGATION DRAWINGS (GI / SD / MW / IL / AC / TD AS APPLICABLE)
 - PROJECT IRRIGATION DRAWINGS MUST BE READ IN CONJUNCTION WITH ALL PROJECT IRRIGATION DOCUMENTS (SPECIFICATIONS / SCHEDULES / DESIGN DATA ETC)



ORIGINAL PLANS SUPPLIED BY:
TRACT LANDSCAPE ARCHITECTS

ADDITIONAL DATA:

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Do not scale from drawing. Use indicated dimensions at all times. Verify all dimensions and set-outs on site before commencing work. Clarify discrepancies before commencing work.



0416 635 200
Ph. (02) 6687-4053
E-mail:
chriseck@bigpond.net.au
ABN: 77 673 782 179

A member of the AWC Group



CLIENT: MINING AND MANUFACTURING FACILITIES BUILDING

PROJECT TITLE: MINING AND MANUFACTURING FACILITIES BUILDING

DRAWING TITLE: IRRIGATION WORKS GENERAL INFORMATION COVER PAGE SHEET 1

IFC	REV.	ISSUE	AMENDMENT	BY	DATE
01		ISSUED FOR CONSTRUCTION		EP	04.05.21
A	01	FOR APPROVAL		BP	03.05.21

SCALE @ A1: N.T.S.
SCALE @ A2: N.T.S.
SCALE BAR:

PROJECT NUMBER: 2109
DRAWINGS NUMBER: IW-GI-CP-100
REVISION NUMBER: IFC01

GI-41 GENERAL NOTES - SITE AND STATUTORY REQUIREMENTS:
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- REFER EXISTING SITE PLAN AT ALL TIMES
- REFER EXISTING SERVICES PLANS AT ALL TIMES
- REFER OH+S / WH+S MANAGEMENT PLAN AT ALL TIMES
- REFER IRRIGATION INSPECTION AND TEST PLANS AT ALL TIMES
- WHERE EXISTING TREE ROOTS HAVE BEEN IDENTIFIED, PARTICULAR CARE IS TO BE TAKEN
- WHERE AREAS OF SIGNIFICANT CULTURAL HERITAGE HAVE BEEN IDENTIFIED, REFER DOCUMENTATION
- WHERE ACID-SULPHATE SOILS HAVE BEEN IDENTIFIED, REFER DOCUMENTATION
- WHERE WATER TABLE ISSUES HAVE BEEN IDENTIFIED, REFER DOCUMENTATION
- WHERE ROCK AND / HARD-GOING HAS BEEN IDENTIFIED, REFER DOCUMENTATION
- WHERE APPLICABLE, REFER HEAD CONTRACT / GENERAL CONDITIONS OF CONTRACT
- WHERE APPLICABLE, REFER LANDSCAPE WORKS CONTRACT
- WHERE APPLICABLE, REFER ENVIRONMENTAL MANAGEMENT PLAN
- WHERE APPLICABLE, REFER TREE PROTECTION AND MANAGEMENT PLAN AT ALL TIMES
- WHERE APPLICABLE, REFER IRRIGATION MANAGEMENT PLAN
- WHERE APPLICABLE, REFER RECYCLED WATER MANAGEMENT PLAN
- WHERE APPLICABLE, ALL STAFF WILL BE SITE-INDUCTED AND HOLD RELEVANT CONSTRUCTION CARDS
- ALL CURRENT AUSTRALIAN STANDARDS (AS) WILL APPLY
- ALL WATER SERVICES ASSOCIATION OF AUSTRALIA GUIDELINES (WSAA) WILL APPLY
- ALL PLASTIC INDUSTRY PIPE ASSOCIATION OF AUSTRALIA (PIPA) GUIDELINES WILL APPLY

NOTE:

- ALL IRRIGATION DOCUMENTATION AND DRAWINGS ARE EQUALLY BINDING
- PROTECT ALL SERVICES ADJACENT TO PROPOSED WORKS
- OBTAIN WRITTEN, SIGNED-OFF REPORT CONFIRMING ALL WORKS / DIRECTIONS / NOTICES / HOLD-POINTS / WITNESS POINTS HAVE BEEN UNDERTAKEN / OBSERVED / APPROVED BEFORE COMMENCING WORKS. WORKS TIMING (PARTICULARLY WORKS PRIOR TO BACK-FILLING), SERVICES IDENTIFICATION, SET-OUT LOCATIONS, SIZES, EQUIPMENT CONFORMANCE, INSTALLATION CONFORMANCE AND TESTING

GI-42 GENERAL NOTES - COMMENTS / TIMING OF WORKS:
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- WHERE IRRIGATION SALVAGE AND DEMOLITION WORKS ARE SPECIFIED, THESE WORKS ARE TO BE UNDERTAKEN STRICTLY BEFORE ANY OTHER WORKS
- ALL WORKS IDENTIFIED ON THE IRRIGATION EARLY WORKS DRAWINGS ARE TO BE UNDERTAKEN STRICTLY BEFORE ANY OTHER WORKS

NOTE:

- WHERE INDICATED: IRRIGATION 'LIMIT OF WORKS LINE' - PROJECT EXTENT OF WORKS +/- 1500
- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-43 GENERAL NOTES - EXIST. MAINLINE PIPEWORK SALVAGE AND DEMOLITION (WHERE APPLICABLE):
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- EXCAVATE, FIND, IDENTIFY, CUT, FLAG EXISTING MAINLINES CROSSING THE LIMIT OF WORKS LINE
- ALL IDENTIFIED MAINLINES TO BE PROTECTED AGAINST DAMAGE AT ALL TIMES

NOTE:

- REFER SPECIFIC SALVAGE AND DEMOLITION NOTES REGARDING RETENTION OR ABANDONMENT OF EXISTING MAINLINES
- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-44 GENERAL NOTES - EXIST. LATERAL LINE PIPEWORK SALVAGE AND DEMOLITION (WHERE APPLICABLE):
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- EXCAVATE, FIND, IDENTIFY, CUT, FLAG EXISTING LATERAL LINES CROSSING THE LIMIT OF WORKS LINE
- ALL IDENTIFIED LATERAL LINES TO BE PROTECTED AGAINST DAMAGE AT ALL TIMES

NOTE:

- REFER SPECIFIC SALVAGE AND DEMOLITION NOTES REGARDING RETENTION OR ABANDONMENT OF EXISTING LATERAL LINES
- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-45 GENERAL NOTES - EXIST. CONTROL WIRING SALVAGE AND DEMOLITION (WHERE APPLICABLE):
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- EXCAVATE, FIND, IDENTIFY, CUT, FLAG EXISTING CONTROL WIRING CROSSING THE LIMIT OF WORKS LINE
- ALL IDENTIFIED CONTROL WIRING TO BE PROTECTED AGAINST DAMAGE AT ALL TIMES

NOTE:

- REFER SPECIFIC SALVAGE AND DEMOLITION NOTES REGARDING RETENTION OR ABANDONMENT OF EXISTING CONTROL WIRING
- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-46 GENERAL NOTES - EXIST. IRRIGATION WORKS SALVAGE AND DEMOLITION (WHERE APPLICABLE):
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- REMOVE ALL SPRINKLERS AND ARTICULATED RISERS WITHIN THE LIMIT OF WORKS LINE, HANDOVER TO SUPERINTENDENT
- REMOVE ALL VALVES, SWING JOINT RISERS AND VALVE BOXES WITHIN THE LIMIT OF WORKS LINE, HANDOVER TO SUPERINTENDENT

NOTE:

- REFER SPECIFIC SALVAGE AND DEMOLITION NOTES REGARDING RETENTION OR SALVAGE OF EXISTING SPRINKLERS, ARTICULATED RISERS, VALVES, SWING JOINT RISERS AND VALVE BOXES
- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-47 GENERAL NOTES - EARLY WORKS TASKS AND RESPONSIBILITIES:
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- THE IRRIGATION EARLY WORKS RELY ON TIMELY INSTALLATION. THIS IS ACHIEVED BY HAVING CRITICAL ELEMENTS INSTALLED IN ALLIED TRADES PACKAGES
- SUCH ELEMENTS INCLUDE, BUT ARE NOT LIMITED TO:
 - POWER SUPPLY
 - WATER SUPPLY
 - ACCESS SLEEVES
 - CONDUITS
 - PENETRATIONS
 - COMMUNICATIONS
 - COPPERWORK

3. THE RESPONSIBLE TRADE IS INDICATED IN THE EARLY WORKS DRAWINGS / SPECIFICATIONS / SCHEDULES

4. THE IRRIGATION WILL ENSURE ALL EARLY WORKS REQUIREMENTS HAVE BEEN MET BEFORE COMMENCING EACH STAGE OF WORK

NOTE:

- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-48 GENERAL NOTES - ACCESS SLEEVES:
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- FINAL LOCATIONS TO BE DETERMINED ON SITE
- PVC PRESSURE PIPE (DIAMETERS AS SHOWN - MIN. 150)
- MIN. CLASS 9
- TERMINATE MIN. 300 CLEAR OF HARD-EDGES IN LANDSCAPING
- SLEEVES TO HAVE 450 COVER UNDER PATHS
- SLEEVES TO HAVE 600 COVER UNDER ROADS
- PROVIDE APPROVED MARKER-TAPE OVER
- COORDINATE SLEEVE HEIGHT AND LOCATION WITH OTHER SERVICES
- LOCATE ALL SLEEVES IMMEDIATELY AFTER INSTALLATION WITH MARKER-PEGS / OIL-BASED TEXT ON HARD-SURFACES
- IMMEDIATELY AFTER INSTALLATION, PROTECT SLEEVE ENDS AGAINST INGRESS OF SPOIL OR VERMIN (USE POLY BAGS TAPED OVER OUTLET / PIPE CAPS)

NOTE:

- INSTALLATION OF ALL IRRIGATION SERVICES / BRONZE KERB-MARKERS BY IRRIGATION, UNLESS OTHERWISE DIRECTED
- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-49 GENERAL NOTES - PENETRATIONS:
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- LOCATION IS NOMINAL (COORDINATE ON SITE)
- DIAMETERS AS SHOWN / SIZE TO SUIT SERVICES
- VERTICAL OR HORIZONTAL
- CORE-HOLE OR CAST-IN

NOTE:

- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-10 GENERAL NOTES - MAINLINE PIPEWORK LOCATION AND SET-OUT:
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- ALL LOCATIONS TO BE FINALLY DETERMINED ON SITE
- MAINLINE PIPEWORK SET OUT TO BE BY SURVEYOR USING IRRIGATION 'MODEL' CAD BASE IN CONJUNCTION WITH CONSULTANT AND SUPERINTENDENT
- MAINLINES TO BE MIN. 500 OFFSET FROM BUILDINGS, FOUNDATIONS, LIGHTS, ROADS AND PATHS

NOTE:

- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-11 GENERAL NOTES - SUNDRY AND AUTOMATIC VALVES LOCATION AND SET-OUT:
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- LOCATE IN UNOBTRUSIVE AREAS / GARDENS WHERE POSSIBLE
- ALL VALVES / VALVE BOXES TO BE INSTALLED MIN. 1200 OFFSET FROM MARKED SPORTS FIELD EDGES
- ALL VALVES / VALVE BOXES TO BE INSTALLED MIN. 1200 OFFSET FROM PAVEMENT / BUILDINGS
- ALL VALVES / VALVE BOXES TO BE INSTALLED PARALLEL OR PERPENDICULAR TO NEAREST STRAIGHT EDGE
- ALL VALVES WILL BE INSTALLED IN THEIR OWN DEDICATED VALVE BOX AND DRAINAGE CELL / SECURITY PIT / PILLAR BOX, UNLESS OTHERWISE DIRECTED
- PROVIDE ALL VALVES WITH I.D. TAG
- PROVIDE PILLAR BOX / VALVE BOX LID / SECURITY PIT LID WITH I.D. PLAQUE

NOTE:

- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-12 GENERAL NOTES - PREPARATION, TRENCHWORK AND FINISH:
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- TRENCH LOCATION TO BE MARKED-OUT PRIOR TO EXCAVATION
- TRENCHING TO BE UNDERTAKEN BY HAND / VACUUM EXCAVATION WHERE DIRECTED
- SAND-BEDDING TO TRENCHES WHERE SPECIFIED
- TRACEABLE MARKER TAPE TO TRENCHWORK WHERE SPECIFIED, MIN. 150 BELOW FSL
- SAND-BACKFILLING TO TRENCHES WHERE SPECIFIED
- MAIN LINE, LATERAL LINES AND CONTROL WIRING / CONDUIT TO BE RUN IN SAME TRENCH WHERE PRACTICAL

NOTE:

- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-13 GENERAL NOTES - EXCAVATION ON SLOPES:
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- TAKE EXTREME CARE EXCAVATING ON SLOPES
- ENSURE THAT BACKFILLING AND COMPACTION TAKE PLACE TO THE SUPERINTENDENT'S SATISFACTION
- ENSURE THAT SCOURING IS MINIMISED AT ALL TIMES

NOTE:

- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-14 GENERAL NOTES - MAINLINE ISOLATING VALVES:
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- MAINLINE ISOLATING VALVES OVER 50 DIA. WILL BE FLANGED BUTTERFLY TYPE
- MAINLINE ISOLATING VALVES UP TO 50 DIA. WILL BE POLY FUSION WELD / COMPRESSION TYPE

NOTE:

- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-15 GENERAL NOTES - MAINLINE AIR VALVE ASSEMBLIES:
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- AIR VALVES WILL BE LOCATED AT THE HIGHEST SURVEYED MAINLINE POINT, AS APPROVED BY CONSULTANT
- PROVIDE VALVE BOX AND DRAINAGE CELL CW VALVE I.D. TAG AND VALVE BOX LID I.D. PLAQUE
- TOP OF AIR VALVE TO BE MAX. 100 BELOW UNDERSIDE OF VALVE BOX LID

NOTE:

- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-16 GENERAL NOTES - SCOUR VALVES (WHERE REQUIRED):
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- PROVIDE SCOUR VALVE TO LOWEST SURVEYED POINT OF MAINLINES, AS APPROVED BY CONSULTANT
- SCOUR VALVE TO BE FULL-FLOW CONFIGURATION TO ALLOW COMPLETE OPENING
- PROVIDE SCOUR LINE EXTENSION TO ATMOSPHERE, AS APPROVED BY CONSULTANT
- PROVIDE 90° UPTURN
- PROVIDE VALVE BOX AND DRAINAGE CELL CW VALVE I.D. TAG AND VALVE BOX LID I.D. PLAQUE

NOTE:

- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-17 GENERAL NOTES - IRRIGATION SYSTEM SET-OUT, SURVEYOR:
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- IRRIGATION SET OUT TO BE BY SURVEYOR USING IRRIGATION 'MODEL' CAD BASE

NOTE:

- FOR IRRIGATION OUTLETS, THIS APPLIES ONLY TO SPRINKLERS OF 8.0 M RADIUS OR GREATER
- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-18 GENERAL NOTES - SPRINKLER / IRRIGATION OUTLETS SET-OUT, TAPE:
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- SPRINKLER / IRRIGATION OUTLETS SET OUT TO BE BY MEASURING TAPE
- NOTE:**
- APPLIES ONLY TO GARDEN AND TURF SPRINKLERS OF LESS THAN 8.0 M RADIUS
 - OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-19 GENERAL NOTES - CONDUITS FOR POWER SUPPLY, CONTROL WIRING, SENSOR WIRING:
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- ALL POWER SUPPLY WIRING WILL BE RUN IN HD ELECTRICAL CONDUIT
- ALL SENSOR WIRING WILL BE RUN IN HD ELECTRICAL CONDUIT
- ALL CONTROL WIRING WILL BE RUN IN HD ELECTRICAL CONDUIT, WHERE SPECIFIED
- USE SWEEP BENDS AT ALL TIMES
- USE JUNCTION BOXES, WHERE SPECIFIED
- USE STAINLESS STEEL DOUBLE-SADDLES FOR EXPOSED CONDUIT
- INSTALL CONDUIT WITH DRAW-WIRE, WHERE SPECIFIED

NOTE:

- DO NOT USE ELBOWS AT ANY TIME
- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-20 GENERAL NOTES - 415 / 240 VAC POWER SUPPLY WIRING INSTALLATION:
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- ALL POWER SUPPLY WIRING WILL BE A CONTINUOUS RUN AT ALL TIMES
- POWER SUPPLY WIRING TO BE JOINTED AT SOURCE, JUNCTIONS AND TERMINATIONS ONLY
- DO NOT JOIN POWER SUPPLY WIRING IN FIELD UNLESS ABSOLUTELY UNAVOIDABLE
- WHERE PRACTICAL, LOCATE FIELD WIRE JOINTS IN ADJACENT PILLAR BOX (PREFERRED METHOD)
- ALL POWER SUPPLY WIRING TO BE INSTALLED IN DEDICATED TRENCHES, UNLESS SPECIFIED OTHERWISE
- PROVIDE TRACEABLE WARNING / MARKER TAPE 'DANGER ELECTRICAL CABLE BELOW'
- PROVIDE MIN. 600 COVER
- PROVIDE SAND-BEDDING AND SAND BACKFILLING
- PROVIDE JUNCTION BOXES / SECURITY PITS / PILLAR BOXES WHERE CONDUITS / POWER SUPPLY WIRE PATHS BRANCH
- ALL SECURITY PIT LIDS / PILLAR BOXES TO HAVE I.D. PLAQUE

NOTE:

- ANY FIELD JOINTS TO BE MARKED IMMEDIATELY ON WORKS AS EXECUTED (WEX) DRAWINGS
- ALL WIRING WILL BE MEGA-TESTED AND APPROVED BEFORE BACK-FILLING OF TRENCHES
- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-21 GENERAL NOTES - 24 VOLT CONTROL WIRING:
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- COMMON WIRE TO BE MIN. 70/57, 2.5 MM², SINGLE CORE
- ACTIVE WIRES TO BE MIN. 70/50, 1.5 MM², MULTI-CORE / TWIN CORE / FOUR-CORE / EIGHT-CORE (UNLESS SPECIFIED OTHERWISE)
- WIRE JOINTS TO BE 3M DBRY, UNLESS OTHERWISE SPECIFIED

NOTE:

- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-22 GENERAL NOTES - DECODER AND 24 VOLT CONTROL WIRING INSTALLATION:
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- ALL CONTROL WIRING WILL BE A CONTINUOUS RUN AT ALL TIMES
- CONTROL WIRING TO BE JOINTED AT SOURCE, CONTROL VALVES, JUNCTIONS AND TERMINATIONS ONLY
- DO NOT JOIN CONTROL WIRING IN FIELD UNLESS ABSOLUTELY UNAVOIDABLE
- PROVIDE A 1200 LOOP OF DECODER / 24 VOLT CONTROL WIRE AT EACH VALVE WIRE JOINT AND JUNCTIONS
- ALL CONTROL WIRING TO BE INSTALLED IN COMMON PIPE TRENCHES WHERE PRACTICAL
- WHERE CONTROL WIRING IS RUN IN DEDICATED TRENCHES, PROVIDE TRACEABLE MARKER TAPE
- WHERE CONTROL WIRING IS RUN IN DEDICATED TRENCHES, PROVIDE 450 COVER
- PROVIDE SAND-BEDDING AND SAND BACKFILLING, WHERE SPECIFIED
- PROVIDE JUNCTION VALVE BOXES / SECURITY PITS / PILLAR BOXES WHERE CONTROL WIRE PATHS BRANCH
- PILLAR BOXES ARE THE PREFERRED METHOD FOR DECODER WIRE JOINTS IN THE FIELD
- ALL WIRE PATHS TO BE I.D. LABELLED MIN. EVERY 20 M
- ALL VALVE BOXES / PILLAR BOXES / SECURITY PIT LIDS TO HAVE I.D. PLAQUE

NOTE:

- AVOID TRAPPING WIRING IN CONCRETE WORK E.G. THRUST BLOCKS
- ANY CONTROL WIRE FIELD JOINTS TO BE MARKED IMMEDIATELY ON WORKS AS EXECUTED (WEX) DRAWINGS
- ALL WIRE WIRING WILL BE MEGA-TESTED AND APPROVED BEFORE BACK-FILLING OF TRENCHES
- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-23 GENERAL NOTES - DECODERS / SURGE PROTECTION UNITS:
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- PROVIDE PROPRIETARY DECODERS, SURGE PROTECTION UNITS, DECODER WIRE AND VALVE BOXES / SECURITY PITS
- SURGE PROTECTION UNITS TO BE OFFSET FROM WIRE PATH MIN. 1500 AT 90°
- PROVIDE DEDICATED IRRIGATION VALVE BOX / SECURITY PIT / PILLAR BOX TO EACH SPU
- WHERE PRACTICAL, LOCATE SURGE PROTECTION UNITS IN PILLAR BOX (PREFERRED METHOD)
- ALL DECODERS, SURGE PROTECTION UNITS, JUNCTIONS TO BE I.D. LABELLED
- ALL VALVE BOXES / PILLAR BOXES / SECURITY PIT LIDS TO HAVE I.D. PLAQUE

NOTE:

- EACH SURGE PROTECTION UNIT TO BE TESTED AND CERTIFIED BY CONTROLS MANUFACTURER
- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-24 GENERAL NOTES - SENSOR WIRING:
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- ALL WIRING WILL BE A CONTINUOUS RUN AT ALL TIMES
- WIRING TO BE JOINTED AT SOURCE AND TERMINATIONS ONLY
- DO NOT JOIN WIRING IN FIELD
- PROVIDE A 1200 LOOP OF SENSOR WIRE AT EACH TERMINATION
- ENSURE MIN. 1200 OFFSET FROM PARALLEL POWER SUPPLY AND DECODER WIRING TO AVOID SIGNAL INTERFERENCE
- ALL WIRING WILL BE MEGA-TESTED AND APPROVED BEFORE BACK-FILLING OF TRENCHES
- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-25 GENERAL NOTES - IRRIGATION OPERATION:
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- IRRIGATION OPERATION WILL BE NIGHT-TIME UNLESS OTHERWISE DIRECTED
- NOTE:**
- OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

GI-26 GENERAL NOTES - WORKS AS EXECUTED (WEX):
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:

- ALL WATER SUPPLY CONNECTIONS, VALVES, POWER SUPPLY CONNECTIONS, ACCESS SLEEVES TO BE LOCATED BY GPS
 - ALL WATER SUPPLY CONNECTIONS, VALVES, POWER SUPPLY CONNECTIONS, ACCESS SLEEVES TO BE LOCATED ON CAD BASE
 - WEX DRAWING TO BE BADGED: IR-WEX-GA-900, 901, 902 (DRAWING NUMBERS AS NEEDED)
 - PROVIDE AS LAMINATED COPIES, DWG CAD FILES AND PDF
- NOTE:**
- REFER SPECIFICATION / SUPERINTENDENT FOR SPECIFIC REQUIREMENTS
 - OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS



FOR CONSTRUCTION

All materials, arrangements, installation to equal or exceed relevant Australian standards / WSAA codes / Manufacturers published advice at all times. Refer Cover Pages for GN-01 GENERAL NOTES and GN-02 RESPONSIBILITIES AND CROSS-REFERENCE DOCUMENTS.

APPROVED

14/10/2021 J. Horefield

ORIGINAL PLANS SUPPLIED BY:
TRACT LANDSCAPE ARCHITECTS

ADDITIONAL DATA:

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EDWARDS IRRIGATION CONSULTING

0416 636 200
Ph. (02) 6687-4063
E-mail: chris@edwardsirrigation.com.au
ABN: 77 673 782 179

Committed to Conservation
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Unit 3, 2 Henderson Place
LENNOX HEAD NSW
AUSTRALIA 2478

A member of the AWC Group

CLIENT:

CQU university AUSTRALIA

PROJECT TITLE:

MINING AND MANUFACTURING FACILITIES BUILDING

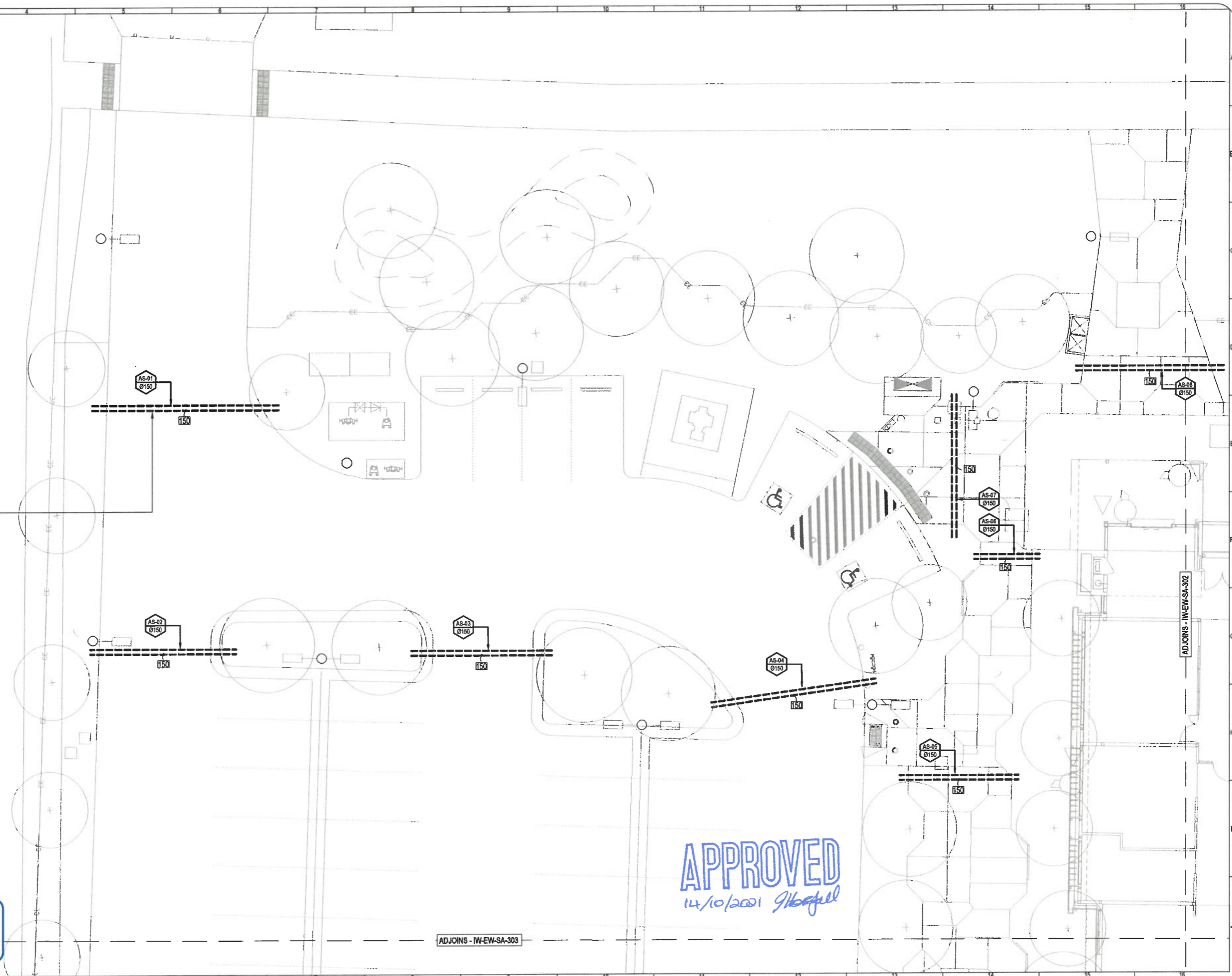
DRAWING TITLE:

IRRIGATION WORKS GENERAL INFORMATION GENERAL NOTES SHEET 2

SCALE @ A1:	N.T.S.	NORTH
SCALE @ A3:	N.T.S.	
SCALE BAR:		
IFC 01 ISSUED FOR CONSTRUCTION	BP 04.05.21	PROJECT NUMBER: 2109
A 01 FOR APPROVAL	BP 03.05.21	DRAWING NUMBER: IW-GI-GN-101
ISSUE REV.	AMENDMENT	BY DATE
		REVISION NUMBER: IFC01

EW-01 EARLY WORKS - GENERAL INSTRUCTIONS:
RESPONSIBLE TRADES:
 A. ALL
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. ALL PIPEWORK TO BE TERMINATED FL BSP
 2. ALL PIPEWORK AND CONDUITS TO BE SUITABLY SADDLED / SUPPORTED
 3. SEAL ALL PENETRATIONS AFTER INSTALLATION OF PIPEWORK / CONDUIT / RISERS / DROPPERS
 4. ALL CONTROLS CONDUITS TO INCLUDE DRAW-WIRE
 5. ALL ELECTRICAL / CONTROLS CONDUITS TO USE SWEEP BENDS
 6. ALL ELECTRICAL / CONTROLS CONDUITS TO BE INSTALLED TO AS3000
NOTE:
 7. REFER SPECIFIC NOTATION AT ALL TIMES
 8. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

EW-05 EARLY WORKS - IRRIGATION ACCESS SLEEVES, GENERAL:
RESPONSIBLE TRADES:
 A. CIVIL WORKS / LANDSCAPE WORKS
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. FINAL LOCATIONS TO BE DETERMINED ON SITE
 2. PVC PRESSURE PIPE (DIAMETER AS SHOWN - MIN. 150)
 3. MIN. CLASS 9
 4. TERMINATE MIN. 300 CLEAR OF HARD-EDGES IN LANDSCAPING
 5. SLEEVES TO HAVE 450 COVER UNDER PATHS
 6. SLEEVES TO HAVE 600 COVER UNDER ROADS
 7. PROVIDE APPROVED MARKER-TAPE OVER
 8. COORDINATE SLEEVE HEIGHT AND LOCATION WITH OTHER SERVICES
 9. LOCATE ALL SLEEVES IMMEDIATELY AFTER INSTALLATION WITH MARKER-PEGS / OIL-BASED TEXT ON HARD-SURFACES
 10. IMMEDIATELY AFTER INSTALLATION, PROTECT SLEEVE ENDS AGAINST INGRESS OF SPOIL OR VERMIN (USE POLY BAGS TAPED OVER OUTLET / PIPE CAPS)
NOTE:
 11. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS



FOR CONSTRUCTION
 All materials, arrangements, installation to equal or exceed relevant Australian standards / WSAA codes / Manufacturers published advice at all times.
 Refer Cover Pages for GN-01 GENERAL NOTES and GN-02 RESPONSIBILITIES AND CROSS-REFERENCE DOCUMENTS.

APPROVED
 14/10/2021 J. Hooper

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EDWARDS IRRIGATION CONSULTING
 Committed to Conservation
 Committed to Quality
 Unit 1, 2 Henderson Place
 LENNOX HEAD NSW
 AUSTRALIA 2478
 A member of the AWC Group

0416 636 200
 Ph. (02) 6687-4053
 E-mail:
 chris@edwardsirrigation.com.au
 ABN: 77 673 782 173
 Member of the
 IFC
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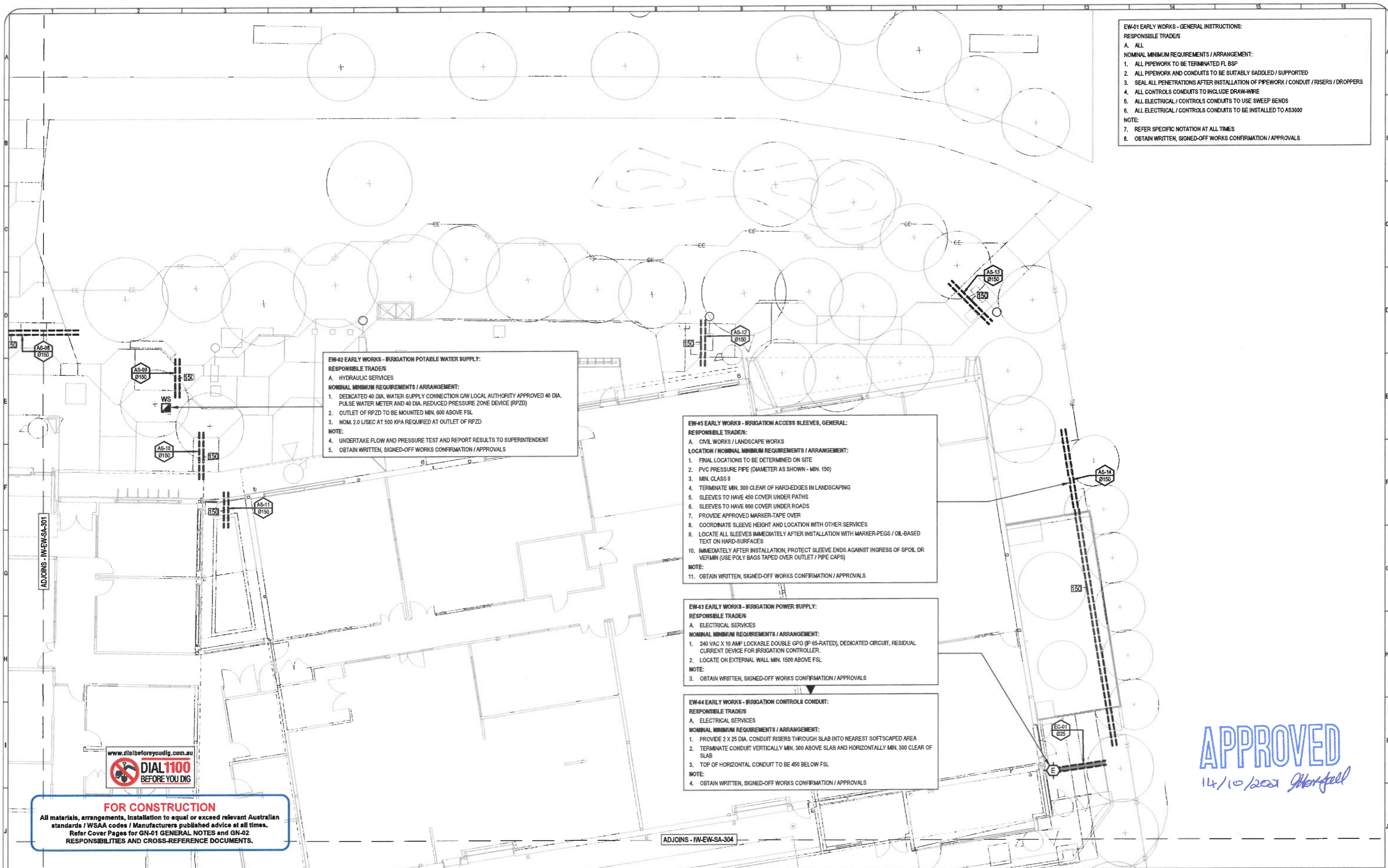
CQ university AUSTRALIA

PROJECT TITLE:
MINING AND MANUFACTURING FACILITIES BUILDING

DRAWING TITLE:
IRRIGATION WORKS EARLY WORKS SHEET 2

IFC	REV.	AMENDMENT	BY	DATE
01		ISSUED FOR CONSTRUCTION	BP	04.05.21
A	01	FOR APPROVAL	BP	29.04.21

SCALE @ A1: 1:100
 SCALE @ A3: 1:200
 SCALE BAR: METRES 1.0 0 1.0 2.0 3.0 4.0 5.0
 PROJECT NUMBER: 2109
 DRAWING NUMBER: IW-EW-SA-301
 REVISION NUMBER: IFC01



EW-01 EARLY WORKS - GENERAL INSTRUCTIONS:
RESPONSIBLE TRADES:
 A. ALL
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. ALL PIPEWORK TO BE TERMINATED FL BSP
 2. ALL PIPEWORK AND CONDUITS TO BE SUITABLY SADDLED / SUPPORTED
 3. SEAL ALL PENETRATIONS AFTER INSTALLATION OF PIPEWORK / CONDUIT / RISERS / DROPPERS
 4. ALL CONTROLS CONDUITS TO INCLUDE DRAW-WIRE
 5. ALL ELECTRICAL / CONTROLS CONDUITS TO USE SWEEP BENDS
 6. ALL ELECTRICAL / CONTROLS CONDUITS TO BE INSTALLED TO AS3000
NOTE:
 7. REFER SPECIFIC NOTATION AT ALL TIMES
 8. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

EW-02 EARLY WORKS - IRRIGATION POTABLE WATER SUPPLY:
RESPONSIBLE TRADES:
 A. HYDRAULIC SERVICES
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. DEDICATED 40 DIA. WATER SUPPLY CONNECTION CW LOCAL AUTHORITY APPROVED 40 DIA. PULSE WATER METER AND 40 DIA. REDUCED PRESSURE ZONE DEVICE (RPZD)
 2. OUTLET OF RPZD TO BE MOUNTED MIN. 600 ABOVE FSL
 3. NOM. 2.0 L/SEC AT 500 KPA REQUIRED AT OUTLET OF RPZD
NOTE:
 4. UNDERTAKE FLOW AND PRESSURE TEST AND REPORT RESULTS TO SUPERINTENDENT
 5. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

EW-05 EARLY WORKS - IRRIGATION ACCESS SLEEVES, GENERAL:
RESPONSIBLE TRADES:
 A. CIVIL WORKS / LANDSCAPE WORKS
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. FINAL LOCATIONS TO BE DETERMINED ON SITE
 2. PVC PRESSURE PIPE (DIAMETER AS SHOWN - MIN. 150)
 3. MIN. CLASS 9
 4. TERMINATE MIN. 300 CLEAR OF HARD-EDGES IN LANDSCAPING
 5. SLEEVES TO HAVE 450 COVER UNDER PATHS
 6. SLEEVES TO HAVE 600 COVER UNDER ROADS
 7. PROVIDE APPROVED MARKER-TAPE OVER
 8. COORDINATE SLEEVE HEIGHT AND LOCATION WITH OTHER SERVICES
 9. LOCATE ALL SLEEVES IMMEDIATELY AFTER INSTALLATION WITH MARKER-PEGS / OIL-BASED TEXT ON HARD-SURFACES
 10. IMMEDIATELY AFTER INSTALLATION, PROTECT SLEEVE ENDS AGAINST INGRESS OF SPOIL OR VERMIN (USE POLY BAGS TAPED OVER OUTLET / PIPE CAPS)
NOTE:
 11. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

EW-03 EARLY WORKS - IRRIGATION POWER SUPPLY:
RESPONSIBLE TRADES:
 A. ELECTRICAL SERVICES
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. 240 VAC X 10 AMP LOCKABLE DOUBLE GPO (P 65-RATED), DEDICATED CIRCUIT, RESIDUAL CURRENT DEVICE FOR IRRIGATION CONTROLLER.
 2. LOCATE ON EXTERNAL WALL MIN. 1500 ABOVE FSL
NOTE:
 3. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

EW-04 EARLY WORKS - IRRIGATION CONTROLS CONDUIT:
RESPONSIBLE TRADES:
 A. ELECTRICAL SERVICES
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. PROVIDE 2 X 25 DIA. CONDUIT RISERS THROUGH SLAB INTO NEAREST SOFTSCAPED AREA
 2. TERMINATE CONDUIT VERTICALLY MIN. 300 ABOVE SLAB AND HORIZONTALLY MIN. 300 CLEAR OF SLAB
 3. TOP OF HORIZONTAL CONDUIT TO BE 450 BELOW FSL
NOTE:
 4. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

APPROVED
 14/10/2021 *John Gifford*



FOR CONSTRUCTION
 All materials, arrangements, installation to equal or exceed relevant Australian standards / WSAA codes / Manufacturers published advice at all times. Refer Cover Pages for GN-01 GENERAL NOTES and GN-02 RESPONSIBILITIES AND CROSS-REFERENCE DOCUMENTS.

ORIGINAL PLANS SUPPLIED BY: TRACT LANDSCAPE ARCHITECT ADDITIONAL DATA:	 Committed to Conservation Committed to Quality Unit 1, 2 Henderson Place LENNOX HEAD NSW AUSTRALIA 2478 A member of the AWC Group	0416 635 200 Ph. (02) 6687-4083 E-mail: chris@bigpond.net.au ABN: 77 473 762 179 	CLIENT: 	PROJECT TITLE: MINING AND MANUFACTURING FACILITIES BUILDING	DRAWING TITLE: IRRIGATION WORKS EARLY WORKS SHEET 3	<table border="1"> <tr> <td>SCALE @ A1:</td> <td>1:100</td> </tr> <tr> <td>SCALE @ A3:</td> <td>1:200</td> </tr> <tr> <td>SCALE BAR:</td> <td>METRES 0 1.0 2.0 3.0 4.0 5.0 1:100 @ A1 1:200 @ A3</td> </tr> <tr> <td>PROJECT NUMBER:</td> <td>2109</td> </tr> <tr> <td>DRAWING NUMBER:</td> <td>IW-EW-SA-302</td> </tr> <tr> <td>REVISION NUMBER:</td> <td>IFC01</td> </tr> </table>	SCALE @ A1:	1:100	SCALE @ A3:	1:200	SCALE BAR:	METRES 0 1.0 2.0 3.0 4.0 5.0 1:100 @ A1 1:200 @ A3	PROJECT NUMBER:	2109	DRAWING NUMBER:	IW-EW-SA-302	REVISION NUMBER:	IFC01														
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IFC	01	ISSUED FOR CONSTRUCTION	BP	04.05.21																												
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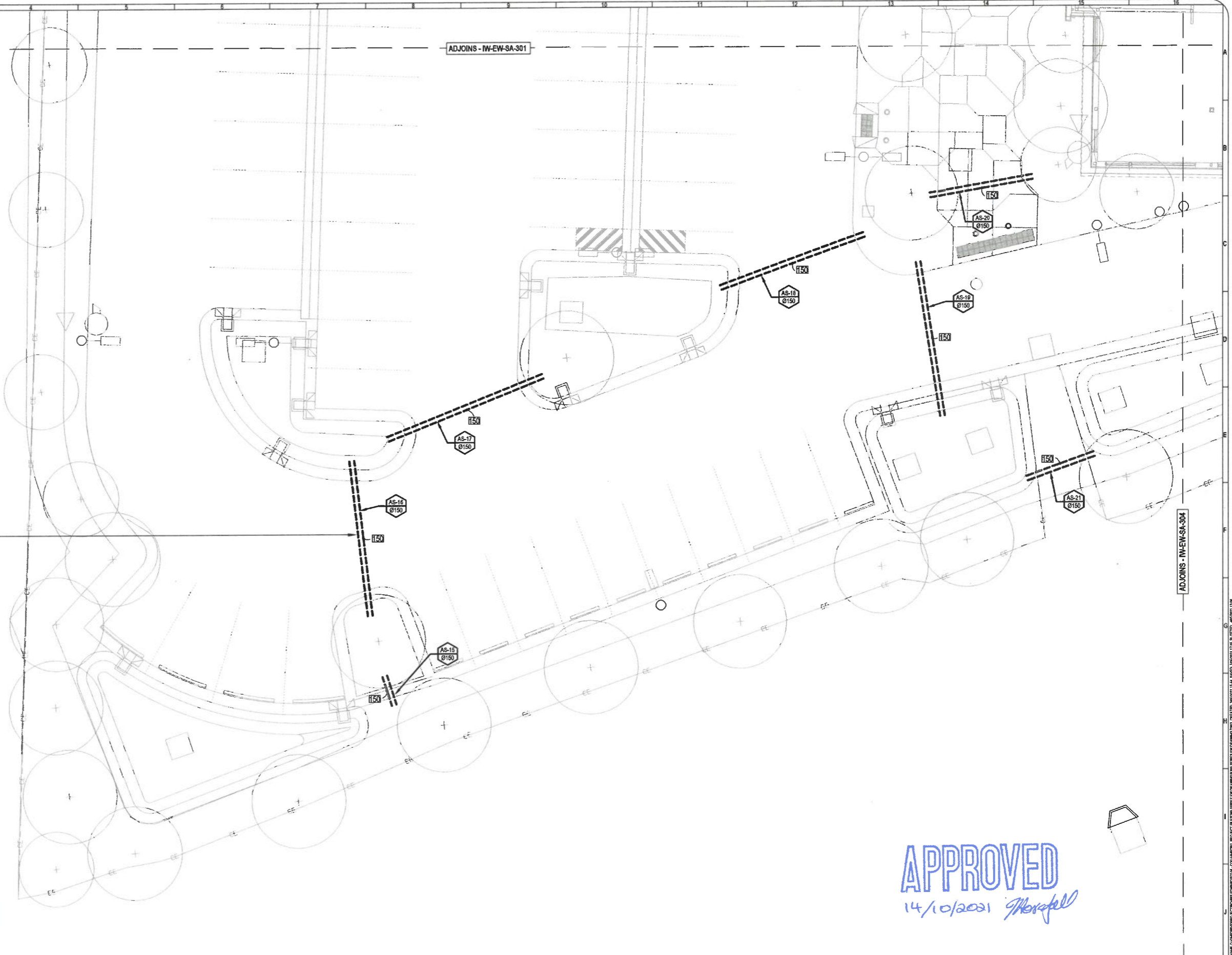
EW-01 EARLY WORKS - GENERAL INSTRUCTIONS:
RESPONSIBLE TRADE/S:
 A. ALL
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. ALL PIPEWORK TO BE TERMINATED FL BSP
 2. ALL PIPEWORK AND CONDUITS TO BE SUITABLY SADDLED / SUPPORTED
 3. SEAL ALL PENETRATIONS AFTER INSTALLATION OF PIPEWORK / CONDUIT / RISERS / DROPPERS
 4. ALL CONTROLS CONDUITS TO INCLUDE DRAW-WIRE
 5. ALL ELECTRICAL / CONTROLS CONDUITS TO USE SWEEP BENDS
 6. ALL ELECTRICAL / CONTROLS CONDUITS TO BE INSTALLED TO AS3000
NOTE:
 7. REFER SPECIFIC NOTATION AT ALL TIMES
 8. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

EW-05 EARLY WORKS - IRRIGATION ACCESS SLEEVES, GENERAL:
RESPONSIBLE TRADE/S:
 A. CIVIL WORKS / LANDSCAPE WORKS
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. FINAL LOCATIONS TO BE DETERMINED ON SITE
 2. PVC PRESSURE PIPE (DIAMETER AS SHOWN - MIN. 150)
 3. MIN. CLASS 9
 4. TERMINATE MIN. 300 CLEAR OF HARD-EDGES IN LANDSCAPING
 5. SLEEVES TO HAVE 450 COVER UNDER PATHS
 6. SLEEVES TO HAVE 600 COVER UNDER ROADS
 7. PROVIDE APPROVED MARKER-TAPE OVER
 8. COORDINATE SLEEVE HEIGHT AND LOCATION WITH OTHER SERVICES
 9. LOCATE ALL SLEEVES IMMEDIATELY AFTER INSTALLATION WITH MARKER-PEGS / OIL-BASED TEXT ON HARD-SURFACES
 10. IMMEDIATELY AFTER INSTALLATION, PROTECT SLEEVE ENDS AGAINST INGRESS OF SPOIL OR VERMIN (USE POLY BAGS TAPED OVER OUTLET / PIPE CAPS)
NOTE:
 11. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS



FOR CONSTRUCTION

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EDWARDS IRRIGATION CONSULTING
 Committed to Conservation
 Committed to Quality
 Unit 3, 2 Henderson Place
 LEARNING HEAD NSW
 AUSTRALIA 2478
 A member of the AWIC Group

0416 635 200
 Ph. (02) 6687-4063
 E-mail: chris@edwardsirrigation.com.au
 AIBN: 77 673 782 178
 Australian Society of Irrigation Consultants
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 AUSTRALIA 2478

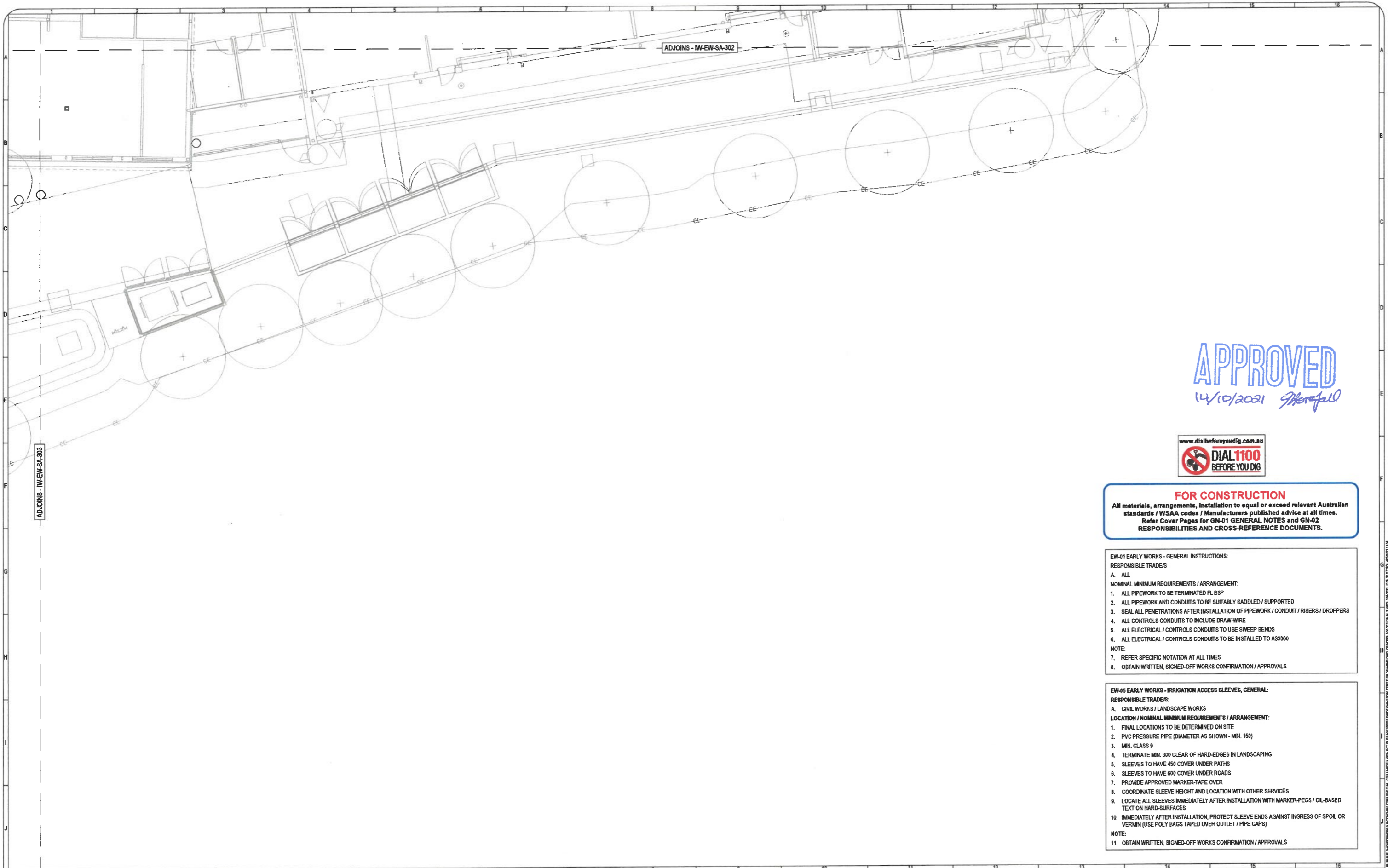
PROJECT TITLE
MINING AND MANUFACTURING FACILITIES BUILDING

DRAWING TITLE
IRRIGATION WORKS EARLY WORKS SHEET 4

ISSUE	REV.	AMENDMENT	BY	DATE
IFC	01	ISSUED FOR CONSTRUCTION	BP	04.05.21
A	01	FOR APPROVAL	BP	29.04.21

SCALE @ A1: 1:100
 SCALE @ A3: 1:200
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 PROJECT NUMBER: 2109
 DRAWING NUMBER: IW-EW-SA-303
 REVISION NUMBER: IFC01

PLANNING CONSULTANTS ELECTRONIC SERVICES (P.L.) COMPANY PROJECT FILED IN THE PUBLIC DOMAIN UNDER THE PROVISIONS OF THE ARCHITECTURE ACT 1966 (NSW)



APPROVED
14/10/2021 *[Signature]*



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EW-01 EARLY WORKS - GENERAL INSTRUCTIONS:
RESPONSIBLE TRADES:
A. ALL
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
1. ALL PIPEWORK TO BE TERMINATED FL BSP
2. ALL PIPEWORK AND CONDUITS TO BE SUITABLY SADDLED / SUPPORTED
3. SEAL ALL PENETRATIONS AFTER INSTALLATION OF PIPEWORK / CONDUIT / RISERS / DROPPERS
4. ALL CONTROLS CONDUITS TO INCLUDE DRAW-WIRE
5. ALL ELECTRICAL / CONTROLS CONDUITS TO USE SWEEP BENDS
6. ALL ELECTRICAL / CONTROLS CONDUITS TO BE INSTALLED TO AS3000
NOTE:
7. REFER SPECIFIC NOTATION AT ALL TIMES
8. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

EW-05 EARLY WORKS - IRRIGATION ACCESS SLEEVES, GENERAL:
RESPONSIBLE TRADES:
A. CIVIL WORKS / LANDSCAPE WORKS
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
1. FINAL LOCATIONS TO BE DETERMINED ON SITE
2. PVC PRESSURE PIPE (DIAMETER AS SHOWN - MN. 150)
3. MN. CLASS 9
4. TERMINATE MIN. 300 CLEAR OF HARD-EDGES IN LANDSCAPING
5. SLEEVES TO HAVE 450 COVER UNDER PATHS
6. SLEEVES TO HAVE 600 COVER UNDER ROADS
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EDWARDS IRRIGATION CONSULTING
Committed to Conservation
Committed to Quality
Unit 3, 2 Henderson Place
LENNOX HEAD NSW
AUSTRALIA 2478
A member of the AWC Group

0416 635 200
Ph. (02) 6687-4053
E-mail:
chrisek@bigpond.net.au
ABN: 77 673 782 178
Australian Society of Irrigation Consultants
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CLIENT:
 CQU university AUSTRALIA

PROJECT TITLE
MINING AND MANUFACTURING FACILITIES BUILDING

DRAWING TITLE
IRRIGATION WORKS EARLY WORKS SHEET 5

IFC	REV.	ISSUED FOR CONSTRUCTION	BP	DATE
A	01	FOR APPROVAL	BP	29.04.21
ISSUE	REV.	AMENDMENT	BY	DATE

SCALE @ A1: 1:100
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PROJECT NUMBER: 2109
DRAWING NUMBER: IW-EW-SA-304
REVISION NUMBER: IFC01

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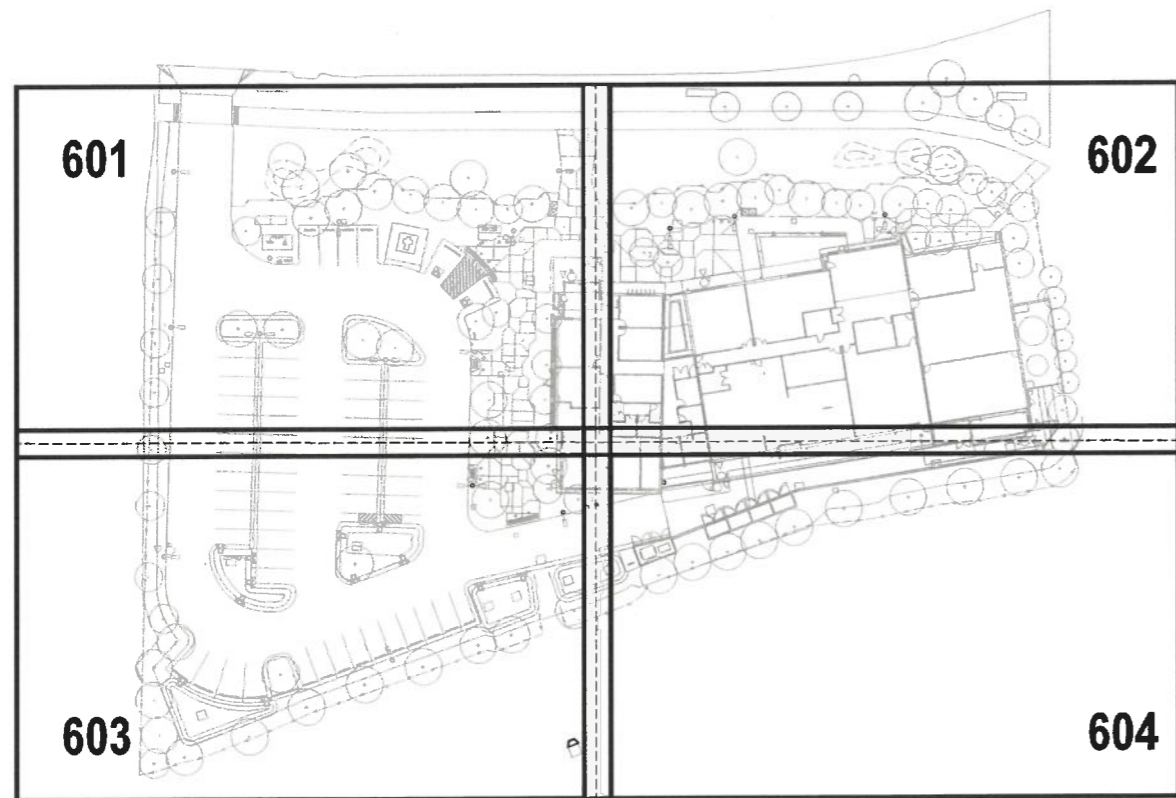
MINING AND MANUFACTURING FACILITIES BUILDING

IRRIGATION WORKS - IRRIGATION LAYOUTS

MINING AND MANUFACTURING FACILITIES BUILDING	
IRRIGATION WORKS - IRRIGATION LAYOUTS	
Title:	ID:
IRRIGATION LAYOUTS / COVER PAGE	IWL-CP-600
IRRIGATION LAYOUT	IWL-SA-601
IRRIGATION LAYOUT	IWL-SA-602
IRRIGATION LAYOUT	IWL-SA-603
IRRIGATION LAYOUT	IWL-SA-604
REFER DRAWING IR-GI-CP-100 FOR FULL PROJECT DRAWINGS AND DOCUMENT LIST	



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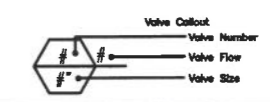


- IL-01 IRRIGATION LAYOUT - MAINLINE SET-OUT, GENERAL:**
 RESPONSIBLE TRADES:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. ALL LOCATIONS TO BE DETERMINED ON SITE
 2. MAINLINE PIPEWORK SET OUT TO BE BY SURVEYOR USING IRRIGATION 'MODEL' CAD BASE IN CONJUNCTION WITH CONSULTANT AND SUPERINTENDENT
 3. MAINLINES TO BE MIN. 500 OFFSET FROM BUILDINGS, FOUNDATIONS, LIGHTS, ROADS AND PATHS
 NOTE:
 4. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS
- IL-02 IRRIGATION LAYOUT - SPRINKLER SET-OUT, GENERAL (TAPE):**
 RESPONSIBLE TRADES:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. SPRINKLER SET OUT TO BE BY MEASURING TAPE
 NOTE:
 2. APPLIES ONLY TO GARDEN AND TURF SPRINKLERS OF LESS THAN 6.0 M RADIUS
 3. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

APPROVED
 14/10/2021 *[Signature]*

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
Q T H TT TO F	TORO O-T-570Z-12P-COM-PC POP UP SPRINKLER 5 SERIES 300MM, CHECK VALVE, FLOW STOP, PCD, PRECISION NOZZLE, 350 KPA	86
Q T H TT TO F	TORO O-T-570Z-12P-COM-PC POP UP SPRINKLER 5 SERIES 300MM, CHECK VALVE, FLOW STOP, PCD, PRECISION NOZZLE, 350 KPA	10
Q T H TT TO F	TORO O-T-570Z-12P-COM-PC POP UP SPRINKLER 8 SERIES 300MM, CHECK VALVE, FLOW STOP, PCD, PRECISION NOZZLE, 350 KPA	63
Q T H TT TO F	TORO O-T-570Z-12P-COM-PC POP UP SPRINKLER 8 SERIES 300MM, CHECK VALVE, FLOW STOP, PCD, PRECISION NOZZLE, 350 KPA	10
Q T H TT TO F	TORO O-T-570Z-12P-COM-PC POP UP SPRINKLER 10 SERIES 300MM, CHECK VALVE, FLOW STOP, PCD, PRECISION NOZZLE, 350 KPA	73
Q T H TT TO F	TORO O-T-570Z-12P-COM-PC POP UP SPRINKLER 10 SERIES 300MM, CHECK VALVE, FLOW STOP, PCD, PRECISION NOZZLE, 350 KPA	8
Q T H TT TO F	TORO O-T-570Z-12P-COM-PC POP UP SPRINKLER 12 SERIES 300MM, CHECK VALVE, FLOW STOP, PCD, PRECISION NOZZLE, 350 KPA	60
Q T H TT TO F	TORO O-T-570Z-12P-COM-PC POP UP SPRINKLER 15 SERIES 300MM, CHECK VALVE, FLOW STOP, PCD, PRECISION NOZZLE, 350 KPA	75
Q T H TT TO F	TORO O-T-570Z-12P-COM-PC POP UP SPRINKLER 15 SERIES 300MM, CHECK VALVE, FLOW STOP, PCD, PRECISION NOZZLE, 350 KPA	1
Q T H TT TO F	TORO O-T-570Z-12P-COM-PC POP UP SPRINKLER 4X STRIP SPRAY 300MM, CHECK VALVE, FLOW STOP, PCD, PRECISION NOZZLE, 350 KPA	37
Q T H TT TO F	TORO 570Z-12P-XF-SH-PC POP UP SPRINKLER 8 SERIES VAN 300MM, CHECK VALVE, FLOW STOP, PCD, PRECISION NOZZLE 350 KPA	3

SYMBOL	MANUFACTURER/MODEL	QTY
+	HUNTER ICV-G-BSP SOLENOID VALVE 25MM	9
+	ISOLATION VALVE	3
A	25MM AIR RELIEF VALVE	2
C	IRRIGATION CONTROLLER	1
WS	WATER CONNECTION POINT	1
---	IRRIGATION LATERAL LINE: PE100 PN 12.5 POLY PIPE 25	1,089 m
---	IRRIGATION LATERAL LINE: PE100 PN 12.5 POLY PIPE 32	66.8 m
---	IRRIGATION LATERAL LINE: PE100 PN 12.5 POLY PIPE 40	27.1 m
---	IRRIGATION LATERAL LINE: PE100 PN 12.5 POLY PIPE 50	19.3 m
---	IRRIGATION LATERAL LINE: PE100 PN 12.5 POLY PIPE 63	26.8 m
---	IRRIGATION MAINLINE: PE100 PN 12.5 63	364.4 m

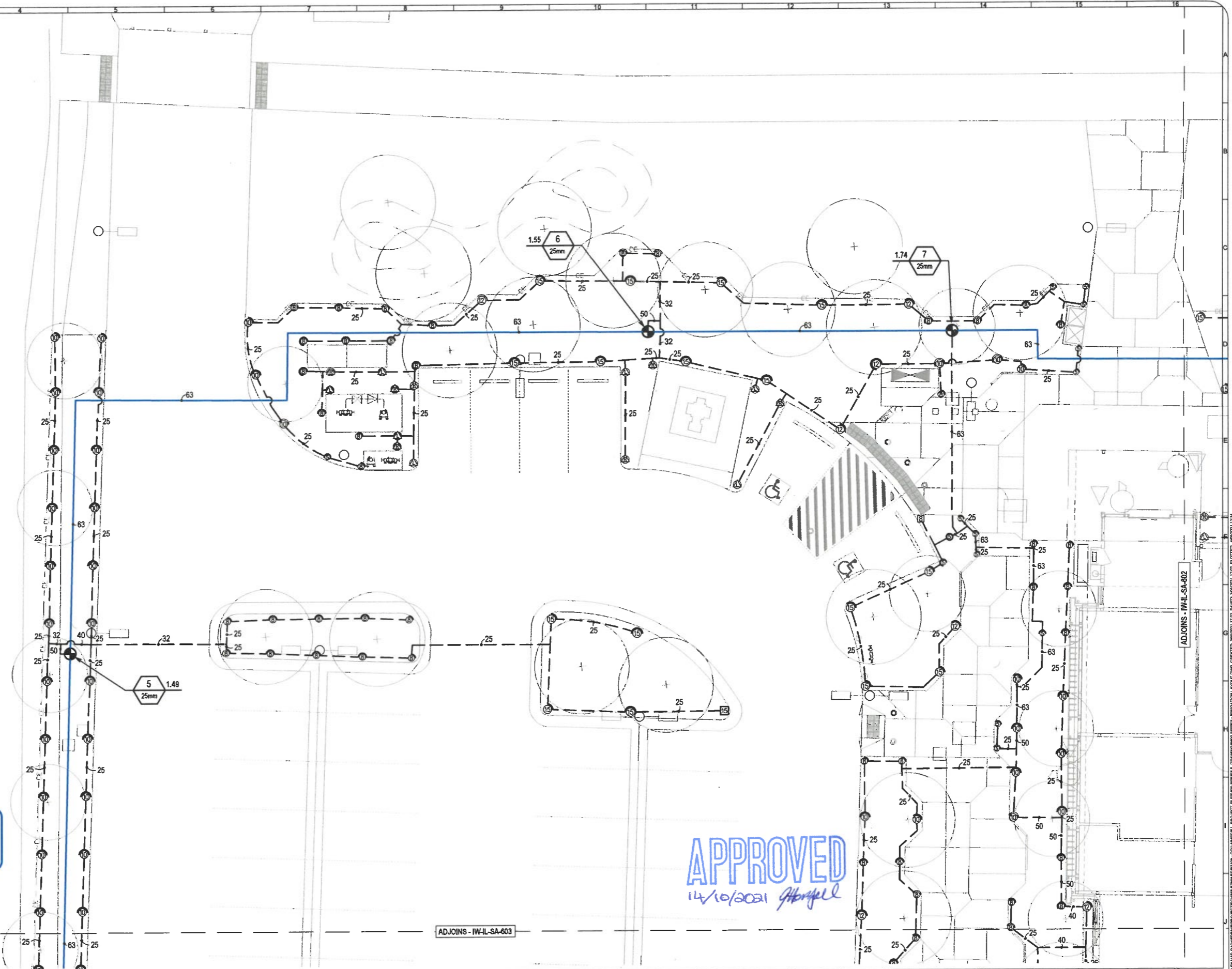


IL-03 IRRIGATION LAYOUT - SUNDRY AND AUTOMATIC VALVES, GENERAL:
RESPONSIBLE TRADES:
 A. IRRIGATION
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. LOCATE IN UNOBTRUSIVE AREAS / GARDENS WHERE POSSIBLE
 2. ALL VALVES / VALVE BOXES TO BE INSTALLED MIN. 1200 OFFSET FROM MARKED SPORTS FIELD EDGES
 3. ALL VALVES / VALVE BOXES TO BE INSTALLED MIN. 1200 OFFSET FROM PAVEMENT / BUILDINGS
 4. ALL VALVES / VALVE BOXES TO BE INSTALLED PARALLEL OR PERPENDICULAR TO NEAREST STRAIGHT EDGE
 5. ALL VALVES WILL BE INSTALLED IN THEIR OWN DEDICATED VALVE BOX AND DRAINAGE CELL / SECURITY PIT, UNLESS OTHERWISE DIRECTED
 6. PROVIDE ALL VALVES WITH I.D. TAG
 7. PROVIDE VALVE BOX / SECURITY PIT LID WITH I.D. PLAQUE
NOTE:
 8. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-04 IRRIGATION LAYOUT - AUTOMATIC CONTROL VALVES, GENERAL:
RESPONSIBLE TRADES:
 A. IRRIGATION
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. LOCATE VALVES OFF SIDE OF MAINLINE MIN. 600 OFFSET WITH VALVES ORIENTED STRICTLY AT 90° TO MAINLINE
 2. PROVIDE ISOLATING BALL VALVE UPSTREAM OF EACH AUTOMATIC VALVE
 3. PROVIDE BARREL UNIONS ON EITHER SIDE OF AUTOMATIC VALVE
 4. DEPTH TO VALVE HANDLE TO BE NO MORE THAN 150 BELOW F.S.L.
NOTE:
 5. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-05 IRRIGATION LAYOUT - PREPARATION, TRENCHWORK AND FINISH, GENERAL:
RESPONSIBLE TRADES:
 A. IRRIGATION
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. TRENCH LOCATION TO BE MARKED-OUT PRIOR TO EXCAVATION
 2. TRENCHING TO BE UNDERTAKEN BY HAND / VACUUM EXCAVATION WHERE DIRECTED
 3. SAND-BEDDING TO TRENCHES WHERE SPECIFIED
 4. TRACEABLE MARKER TAPE TO TRENCHWORK WHERE SPECIFIED, MIN. 150 BELOW F.S.L.
 5. SAND-BACKFILLING TO TRENCHES WHERE SPECIFIED
 6. MAIN LINE, LATERAL LINES AND CONTROL WIRING / CONDUIT TO BE RUN IN SAME TRENCH WHERE PRACTICAL
NOTE:
 7. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-06 IRRIGATION LAYOUT - EXCAVATION ON SLOPES, GENERAL:
RESPONSIBLE TRADES:
 A. IRRIGATION
NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. TAKE EXTREME CARE EXCAVATING ON SLOPES
 2. ENSURE THAT BACKFILLING AND COMPACTION TAKE PLACE TO THE SUPERINTENDENT'S SATISFACTION
 3. ENSURE THAT SCOURING IS MINIMISED AT ALL TIMES
NOTE:
 4. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS



FOR CONSTRUCTION
 All materials, arrangements, installation to equal or exceed relevant Australian standards / WSAA codes / Manufacturers published advice at all times.
 Refer Cover Pages for GN-01 GENERAL NOTES and GN-02 RESPONSIBILITIES AND CROSS-REFERENCE DOCUMENTS.

APPROVED
 14/10/2021 *[Signature]*

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 Unit 1, 2 Henderson Place
 LEWISHEAD NSW
 AUSTRALIA 2478
 A member of the AWC Group

0416 636 200
 Ph. (02) 6687-4063
 E-mail:
 chris@edwardsirrigation.com.au
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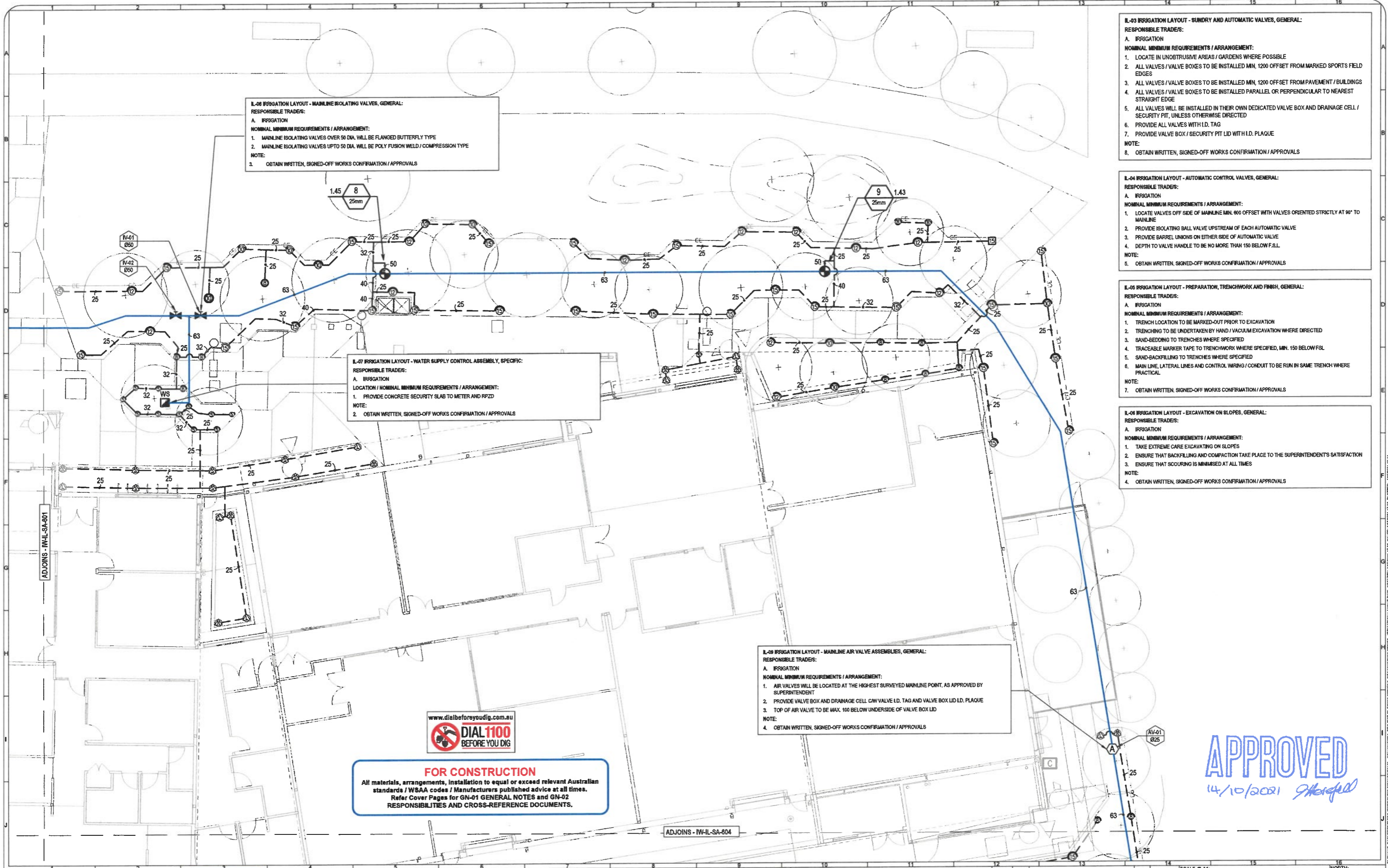
CLIENT:

 CQ university AUSTRALIA

PROJECT TITLE:
MINING AND MANUFACTURING FACILITIES BUILDING

DRAWING TITLE:
IRRIGATION WORKS IRRIGATION LAYOUT SHEET 2

SCALE @ A1:		1:100		NORTH:
SCALE @ A3:		1:200		
SCALE BAR: METRES		1:100 @ A1 1:200 @ A3		REVISION NUMBER: IFC01
IFC 01	FOR CONSTRUCTION	BP	04.05.21	
A 01	FOR APPROVAL	BP	01.05.21	
ISSUE REV.	AMENDMENT	BY	DATE	PROJECT NUMBER: 2109
				DRAWING NUMBER: IW-IL-SA-601



IL-06 IRRIGATION LAYOUT - MAINLINE ISOLATING VALVES, GENERAL:
 RESPONSIBLE TRADER:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. MAINLINE ISOLATING VALVES OVER 50 DIA. WILL BE FLANGED BUTTERFLY TYPE
 2. MAINLINE ISOLATING VALVES UP TO 50 DIA. WILL BE POLY FUSION WELD / COMPRESSION TYPE
 NOTE:
 3. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-07 IRRIGATION LAYOUT - WATER SUPPLY CONTROL ASSEMBLY, SPECIFIC:
 RESPONSIBLE TRADER:
 A. IRRIGATION
 LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. PROVIDE CONCRETE SECURITY SLAB TO METER AND RPZD
 NOTE:
 2. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-09 IRRIGATION LAYOUT - MAINLINE AIR VALVE ASSEMBLIES, GENERAL:
 RESPONSIBLE TRADER:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. AIR VALVES WILL BE LOCATED AT THE HIGHEST SURVEYED MAINLINE POINT, AS APPROVED BY SUPERINTENDENT
 2. PROVIDE VALVE BOX AND DRAINAGE CELL CW VALVE I.D. TAG AND VALVE BOX LID I.D. PLAQUE
 3. TOP OF AIR VALVE TO BE MAX. 100 BELOW UNDERSIDE OF VALVE BOX LID
 NOTE:
 4. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-03 IRRIGATION LAYOUT - SUNDRY AND AUTOMATIC VALVES, GENERAL:
 RESPONSIBLE TRADER:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. LOCATE IN UNOBTUSIVE AREAS / GARDENS WHERE POSSIBLE
 2. ALL VALVES / VALVE BOXES TO BE INSTALLED MIN. 1200 OFFSET FROM MARKED SPORTS FIELD EDGES
 3. ALL VALVES / VALVE BOXES TO BE INSTALLED MIN. 1200 OFFSET FROM PAVEMENT / BUILDINGS
 4. ALL VALVES / VALVE BOXES TO BE INSTALLED PARALLEL OR PERPENDICULAR TO NEAREST STRAIGHT EDGE
 5. ALL VALVES WILL BE INSTALLED IN THEIR OWN DEDICATED VALVE BOX AND DRAINAGE CELL / SECURITY PIT, UNLESS OTHERWISE DIRECTED
 6. PROVIDE ALL VALVES WITH I.D. TAG
 7. PROVIDE VALVE BOX / SECURITY PIT LID WITH I.D. PLAQUE
 NOTE:
 8. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-04 IRRIGATION LAYOUT - AUTOMATIC CONTROL VALVES, GENERAL:
 RESPONSIBLE TRADER:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. LOCATE VALVES OFF SIDE OF MAINLINE MIN. 600 OFFSET WITH VALVES ORIENTED STRICTLY AT 90° TO MAINLINE
 2. PROVIDE ISOLATING BALL VALVE UPSTREAM OF EACH AUTOMATIC VALVE
 3. PROVIDE BARREL UNIONS ON EITHER SIDE OF AUTOMATIC VALVE
 4. DEPTH TO VALVE HANDLE TO BE NO MORE THAN 150 BELOW F.S.L.
 NOTE:
 5. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

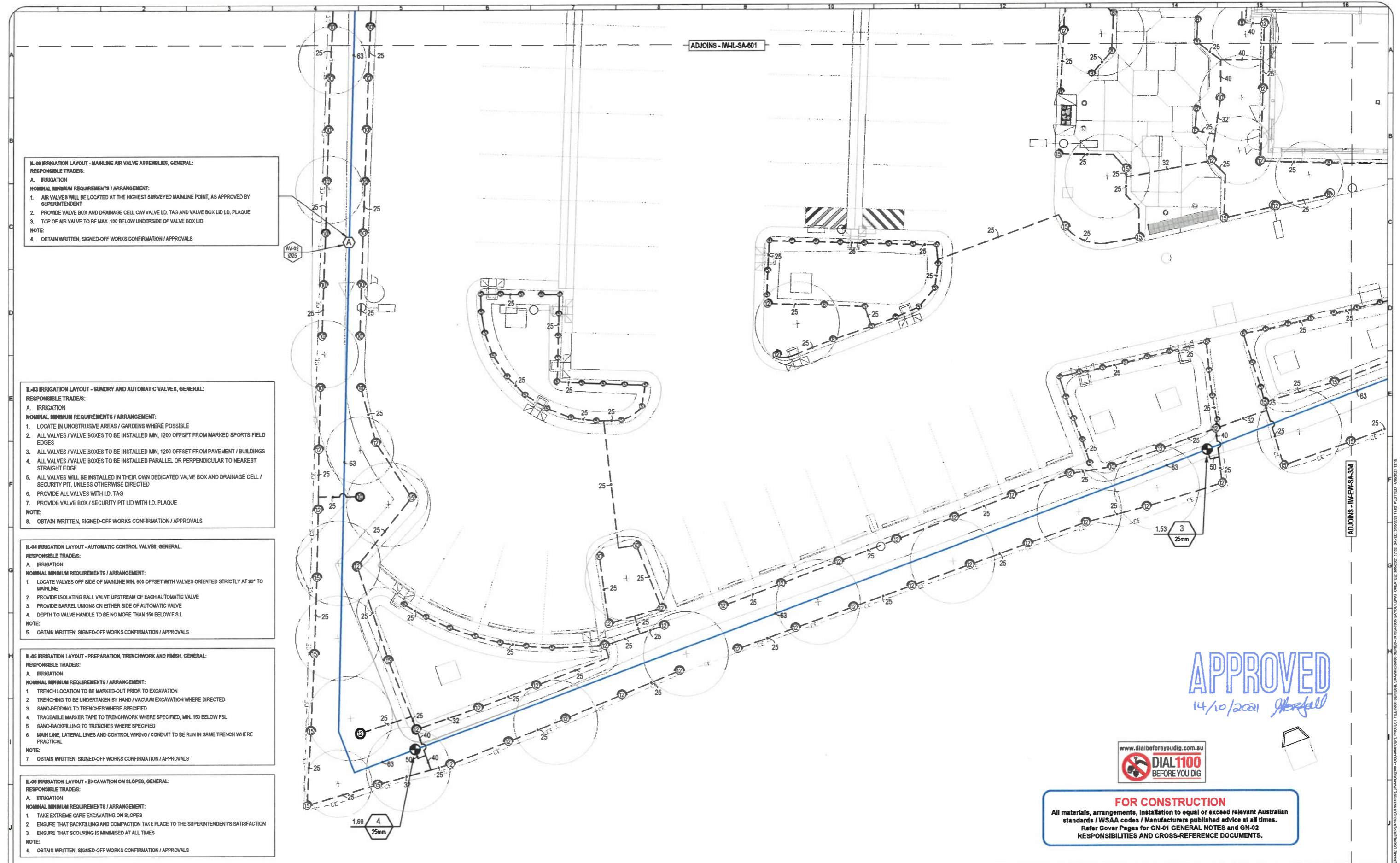
IL-05 IRRIGATION LAYOUT - PREPARATION, TRENCHWORK AND FINISH, GENERAL:
 RESPONSIBLE TRADER:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. TRENCH LOCATION TO BE MARKED-OUT PRIOR TO EXCAVATION
 2. TRENCHING TO BE UNDERTAKEN BY HAND / VACUUM EXCAVATION WHERE DIRECTED
 3. SAND-BEDDING TO TRENCHES WHERE SPECIFIED
 4. TRACEABLE MARKER TAPE TO TRENCHWORK WHERE SPECIFIED, MIN. 150 BELOW FSL
 5. SAND-BACKFILLING TO TRENCHES WHERE SPECIFIED
 6. MAIN LINE, LATERAL LINES AND CONTROL WIRING / CONDUIT TO BE RUN IN SAME TRENCH WHERE PRACTICAL
 NOTE:
 7. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-08 IRRIGATION LAYOUT - EXCAVATION ON SLOPES, GENERAL:
 RESPONSIBLE TRADER:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. TAKE EXTREME CARE EXCAVATING ON SLOPES
 2. ENSURE THAT BACKFILLING AND COMPACTION TAKE PLACE TO THE SUPERINTENDENT'S SATISFACTION
 3. ENSURE THAT SCOURING IS MINIMISED AT ALL TIMES
 NOTE:
 4. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS



FOR CONSTRUCTION
 All materials, arrangements, installation to equal or exceed relevant Australian standards / WSA codes / Manufacturers published advice at all times.
 Refer Cover Pages for GN-01 GENERAL NOTES and GN-02 RESPONSIBILITIES AND CROSS-REFERENCE DOCUMENTS.

APPROVED
 14/10/2021 *Sherriff*



IL-02 IRRIGATION LAYOUT - MAINLINE AIR VALVE ASSEMBLIES, GENERAL:
 RESPONSIBLE TRADES:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. AIR VALVES WILL BE LOCATED AT THE HIGHEST SURVEYED MAINLINE POINT, AS APPROVED BY SUPERINTENDENT
 2. PROVIDE VALVE BOX AND DRAINAGE CELL CW VALVE I.D. TAG AND VALVE BOX I.D. PLAQUE
 3. TOP OF AIR VALVE TO BE MAX. 100 BELOW UNDERSIDE OF VALVE BOX LID
 NOTE:
 4. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-03 IRRIGATION LAYOUT - SUNDRY AND AUTOMATIC VALVES, GENERAL:
 RESPONSIBLE TRADES:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. LOCATE IN UNOBTRUSIVE AREAS / GARDENS WHERE POSSIBLE
 2. ALL VALVES / VALVE BOXES TO BE INSTALLED MIN. 1200 OFFSET FROM MARKED SPORTS FIELD EDGES
 3. ALL VALVES / VALVE BOXES TO BE INSTALLED MIN. 1200 OFFSET FROM PAVEMENT / BUILDINGS
 4. ALL VALVES / VALVE BOXES TO BE INSTALLED PARALLEL OR PERPENDICULAR TO NEAREST STRAIGHT EDGE
 5. ALL VALVES WILL BE INSTALLED IN THEIR OWN DEDICATED VALVE BOX AND DRAINAGE CELL / SECURITY PIT, UNLESS OTHERWISE DIRECTED
 6. PROVIDE ALL VALVES WITH I.D. TAG
 7. PROVIDE VALVE BOX / SECURITY PIT LID WITH I.D. PLAQUE
 NOTE:
 8. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-04 IRRIGATION LAYOUT - AUTOMATIC CONTROL VALVES, GENERAL:
 RESPONSIBLE TRADES:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. LOCATE VALVES OFF SIDE OF MAINLINE MIN. 600 OFFSET WITH VALVES ORIENTED STRICTLY AT 90° TO MAINLINE
 2. PROVIDE ISOLATING BALL VALVE UPSTREAM OF EACH AUTOMATIC VALVE
 3. PROVIDE BARREL UNIONS ON EITHER SIDE OF AUTOMATIC VALVE
 4. DEPTH TO VALVE HANDLE TO BE NO MORE THAN 150 BELOW F.S.L.
 NOTE:
 5. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-05 IRRIGATION LAYOUT - PREPARATION, TRENCHWORK AND FINISH, GENERAL:
 RESPONSIBLE TRADES:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. TRENCH LOCATION TO BE MARKED-OUT PRIOR TO EXCAVATION
 2. TRENCHING TO BE UNDERTAKEN BY HAND / VACUUM EXCAVATION WHERE DIRECTED
 3. SAND-BEDDING TO TRENCHES WHERE SPECIFIED
 4. TRACEABLE MARKER TAPE TO TRENCHWORK WHERE SPECIFIED, MIN. 150 BELOW FSL
 5. SAND-BACKFILLING TO TRENCHES WHERE SPECIFIED
 6. MAIN LINE, LATERAL LINES AND CONTROL WIRING / CONDUIT TO BE RUN IN SAME TRENCH WHERE PRACTICAL
 NOTE:
 7. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-06 IRRIGATION LAYOUT - EXCAVATION ON SLOPES, GENERAL:
 RESPONSIBLE TRADES:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. TAKE EXTREME CARE EXCAVATING ON SLOPES
 2. ENSURE THAT BACKFILLING AND COMPACTION TAKE PLACE TO THE SUPERINTENDENT'S SATISFACTION
 3. ENSURE THAT SCOURING IS MINIMISED AT ALL TIMES
 NOTE:
 4. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

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 TRACT LANDSCAPE ARCHITECTURE
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EDWARDS IRRIGATION CONSULTING
 Committed to Conservation
 Committed to Quality
 Unit 1, 2 Henderson Place
 LENNOX HEAD NSW
 AUSTRALIA 2478
 A member of the AWC Group

0416 635 200
 Ph. (02) 6687-4063
 E-mail:
 chriseik@bigpond.net.au
 ABN: 77 673 792 179

 Full Professional Member Since 1984

CLIENT:

 PROJECT TITLE:
 MINING AND MANUFACTURING FACILITIES BUILDING

DRAWING TITLE:
 IRRIGATION WORKS IRRIGATION LAYOUT SHEET 4

IFC	REV.	AMENDMENT	BY	DATE
D1		FOR CONSTRUCTION	BP	04.05.21
A1		FOR APPROVAL	BP	01.05.21

SCALE @ A1:	SCALE @ A3:
1:100	1:200

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 1:200 @ A3

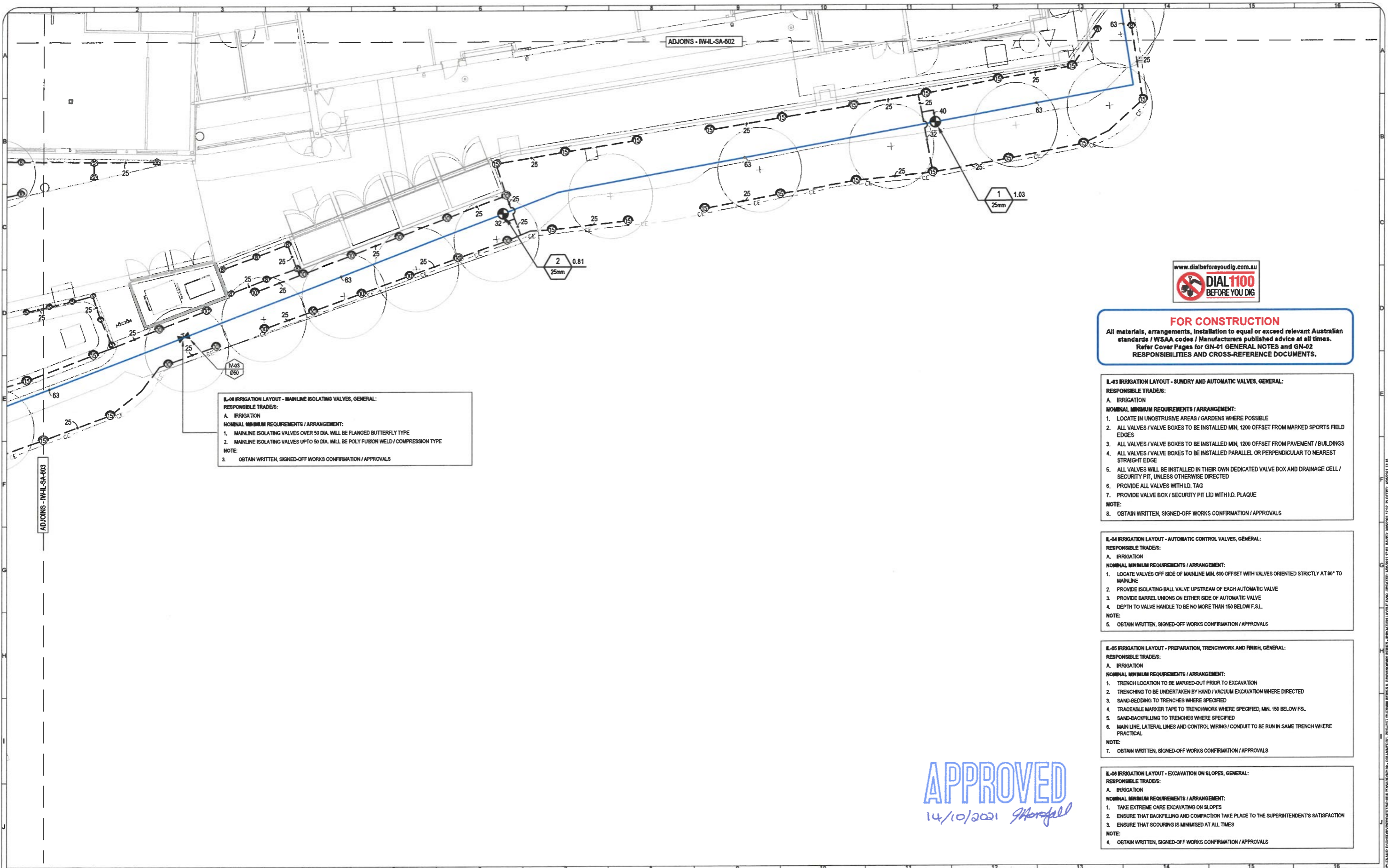
PROJECT NUMBER:	DRAWING NUMBER:	REVISION NUMBER:
2109	IW-IL-SA-603	IFC01

APPROVED
 14/10/2021

FOR CONSTRUCTION
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 Refer Cover Pages for GN-01 GENERAL NOTES and GN-02 RESPONSIBILITIES AND CROSS-REFERENCE DOCUMENTS.

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FILENAME: D:\CONSTRUCTION\PROJECTS\EDWARDS\COMMS\0219 - COMMS\0219 - IRRIGATION LAYOUT.DWG CREATED: 2020/01/17 12:30:00 PM BY: J. McFarrell



FOR CONSTRUCTION
 All materials, arrangements, installation to equal or exceed relevant Australian standards / WSA codes / Manufacturers published advice at all times. Refer Cover Pages for GN-01 GENERAL NOTES and GN-02 RESPONSIBILITIES AND CROSS-REFERENCE DOCUMENTS.

IL-03 IRRIGATION LAYOUT - MAINLINE ISOLATING VALVES, GENERAL:
 RESPONSIBLE TRADES:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. MAINLINE ISOLATING VALVES OVER 50 DIA. WILL BE FLANGED BUTTERFLY TYPE
 2. MAINLINE ISOLATING VALVES UP TO 50 DIA. WILL BE POLY FUSION WELD / COMPRESSION TYPE
 NOTE:
 1. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-03 IRRIGATION LAYOUT - SUNDRY AND AUTOMATIC VALVES, GENERAL:
 RESPONSIBLE TRADES:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. LOCATE IN UNOBTRUSIVE AREAS / GARDENS WHERE POSSIBLE
 2. ALL VALVES / VALVE BOXES TO BE INSTALLED MIN. 1200 OFFSET FROM MARKED SPORTS FIELD EDGES
 3. ALL VALVES / VALVE BOXES TO BE INSTALLED MIN. 1200 OFFSET FROM PAVEMENT / BUILDINGS
 4. ALL VALVES / VALVE BOXES TO BE INSTALLED PARALLEL OR PERPENDICULAR TO NEAREST STRAIGHT EDGE
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 6. PROVIDE ALL VALVES WITH I.D. TAG
 7. PROVIDE VALVE BOX / SECURITY PIT LID WITH I.D. PLAQUE
 NOTE:
 8. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-04 IRRIGATION LAYOUT - AUTOMATIC CONTROL VALVES, GENERAL:
 RESPONSIBLE TRADES:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. LOCATE VALVES OFF SIDE OF MAINLINE MIN. 600 OFFSET WITH VALVES ORIENTED STRICTLY AT 90° TO MAINLINE
 2. PROVIDE ISOLATING BALL VALVE UPSTREAM OF EACH AUTOMATIC VALVE
 3. PROVIDE BARREL UNIONS ON EITHER SIDE OF AUTOMATIC VALVE
 4. DEPTH TO VALVE HANDLE TO BE NO MORE THAN 150 BELOW F.S.L.
 NOTE:
 5. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-05 IRRIGATION LAYOUT - PREPARATION, TRENCHWORK AND FINISH, GENERAL:
 RESPONSIBLE TRADES:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. TRENCH LOCATION TO BE MARKED-OUT PRIOR TO EXCAVATION
 2. TRENCHING TO BE UNDERTAKEN BY HAND / VACUUM EXCAVATION WHERE DIRECTED
 3. SAND-BEDDING TO TRENCHES WHERE SPECIFIED
 4. TRACEABLE MARKER TAPE TO TRENCHWORK WHERE SPECIFIED, MIN. 150 BELOW F.S.L.
 5. SAND-BACKFILLING TO TRENCHES WHERE SPECIFIED
 6. MAIN LINE, LATERAL LINES AND CONTROL WIRING / CONDUIT TO BE RUN IN SAME TRENCH WHERE PRACTICAL
 NOTE:
 7. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

IL-06 IRRIGATION LAYOUT - EXCAVATION ON SLOPES, GENERAL:
 RESPONSIBLE TRADES:
 A. IRRIGATION
 NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. TAKE EXTREME CARE EXCAVATING ON SLOPES
 2. ENSURE THAT BACKFILLING AND COMPACTION TAKE PLACE TO THE SUPERINTENDENT'S SATISFACTION
 3. ENSURE THAT SCOURING IS MINIMISED AT ALL TIMES
 NOTE:
 4. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

APPROVED
 14/10/2021 *Morrell*

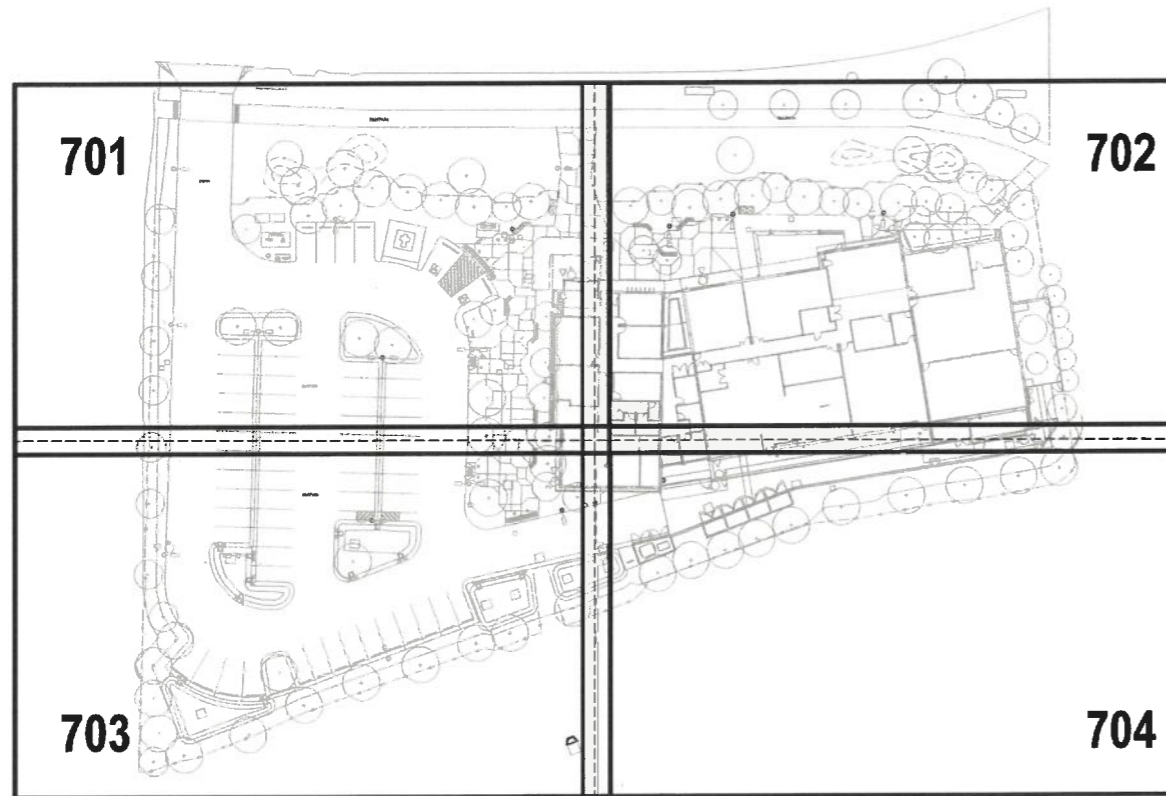
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ISSUE	REV.	AMENDMENT	BY	DATE																		

MINING AND MANUFACTURING FACILITIES BUILDING

IRRIGATION WORKS - AUTOMATIC CONTROLS

MINING AND MANUFACTURING FACILITIES BUILDING	
IRRIGATION WORKS - AUTOMATIC CONTROLS	
Title:	ID:
AUTOMATIC CONTROLS / COVER PAGE	IW-AC-CP-700
AUTOMATIC CONTROLS	IW-AC-SA-701
AUTOMATIC CONTROLS	IW-AC-SA-702
AUTOMATIC CONTROLS	IW-AC-SA-703
AUTOMATIC CONTROLS	IW-AC-SA-704
REFER DRAWING IR-GI-CP-100 FOR FULL PROJECT DRAWINGS AND DOCUMENT LIST	

APPROVED
14/10/2021 *J. Mansfield*



FOR CONSTRUCTION
All materials, arrangements, installation to equal or exceed relevant Australian standards / WSA codes / Manufacturers published advice at all times.
Refer Cover Pages for GN-01 GENERAL NOTES and GN-02 RESPONSIBILITIES AND CROSS-REFERENCE DOCUMENTS.

SYMBOL	MANUFACTURER/MODEL	QTY
	HUNTER ICV-G-BSP SOLENOID VALVE 25MM	9
	ISOLATION VALVE	3
	RAIN SWITCH	1
	IRRIGATION CONTROLLER	1
	SURGE PROTECTION UNIT	4
	WIND SWITCH	1
	SOIL MOISTURE SENSOR	2
	25MM AIR RELIEF VALVE	2
	WATER CONNECTION POINT	1
	IRRIGATION MAINLINE: PE100 PN 12.5 63	364.4 m
	DECODER - SINGLE STATION	9
	DECODER WIRE PATH 1	130 m
	DECODER WIRE PATH 2	200 m

Valve Callout

 Valve Number
 Valve Flow
 Valve Size

ORIGINAL PLANS SUPPLIED BY:
TRACT LANDSCAPE ARCHITECTURE

ADDITIONAL DATA:

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0416 635 200
Ph. (02) 6687-4063
E-mail: chrseic@bopond.net.au
ABN: 77 673 792 179
Australian Society of Irrigation Consultants
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CLIENT:



PROJECT TITLE:

MINING AND MANUFACTURING FACILITIES BUILDING

DRAWING TITLE:

IRRIGATION WORKS
AUTOMATIC CONTROLS
COVER PAGE
SHEET 1

IFC	REV.	AMENDMENT	BY	DATE
01		ISSUED FOR CONSTRUCTION	BP	04.05.21
01	A	FOR APPROVAL	BP	01.05.21

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N.T.S

SCALE @ A3:

N.T.S

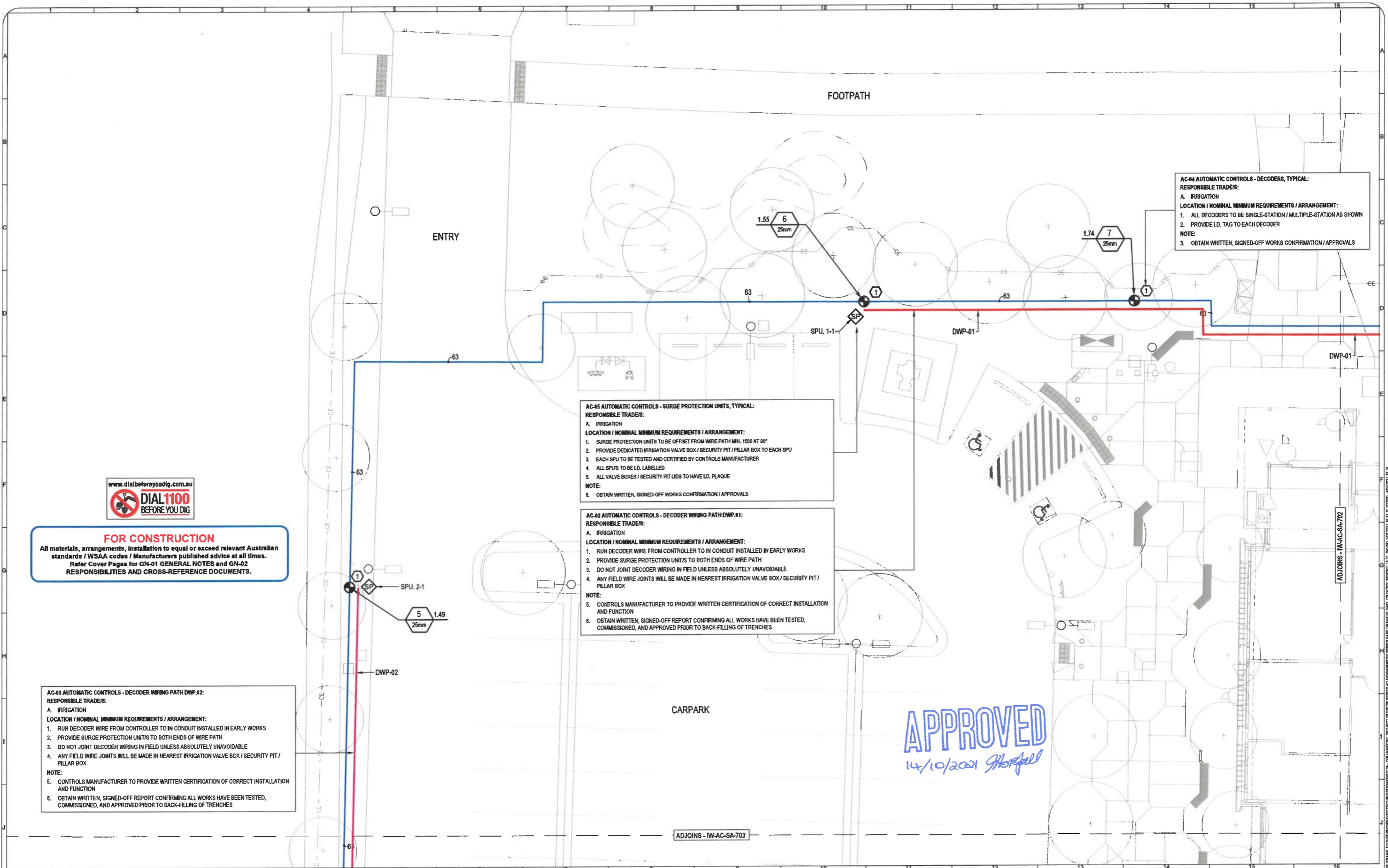
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PROJECT NUMBER:
2109

DRAWING NUMBER:
IW-AC-CP-700

REVISION NUMBER:
IFC01





AC-04 AUTOMATIC CONTROLS - DECODERS, TYPICAL:
 RESPONSIBLE TRADES:
 A. IRRIGATION
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. ALL DECODERS TO BE SINGLE-STATION / MULTIPLE-STATION AS SHOWN
 2. PROVIDE I.D. TAG TO EACH DECODER
NOTE:
 3. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

AC-05 AUTOMATIC CONTROLS - SURGE PROTECTION UNITS, TYPICAL:
 RESPONSIBLE TRADES:
 A. IRRIGATION
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. SURGE PROTECTION UNITS TO BE OFFSET FROM WIRE PATH MIN. 1500 AT 90°
 2. PROVIDE DEDICATED IRRIGATION VALVE BOX / SECURITY PIT / PILLAR BOX TO EACH SPU
 3. EACH SPU TO BE TESTED AND CERTIFIED BY CONTROLS MANUFACTURER
 4. ALL SPUS TO BE I.D. LABELLED
 5. ALL VALVE BOXES / SECURITY PIT LIDS TO HAVE I.D. PLAQUE
NOTE:
 6. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

AC-02 AUTOMATIC CONTROLS - DECODER WIRING PATH DWP-01:
 RESPONSIBLE TRADES:
 A. IRRIGATION
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. RUN DECODER WIRE FROM CONTROLLER TO IN CONDUIT INSTALLED IN EARLY WORKS
 2. PROVIDE SURGE PROTECTION UNITS TO BOTH ENDS OF WIRE PATH
 3. DO NOT JOINT DECODER WIRING IN FIELD UNLESS ABSOLUTELY UNAVOIDABLE
 4. ANY FIELD WIRE JOINTS WILL BE MADE IN NEAREST IRRIGATION VALVE BOX / SECURITY PIT / PILLAR BOX
NOTE:
 5. CONTROLS MANUFACTURER TO PROVIDE WRITTEN CERTIFICATION OF CORRECT INSTALLATION AND FUNCTION
 6. OBTAIN WRITTEN, SIGNED-OFF REPORT CONFIRMING ALL WORKS HAVE BEEN TESTED, COMMISSIONED, AND APPROVED PRIOR TO BACK-FILLING OF TRENCHES

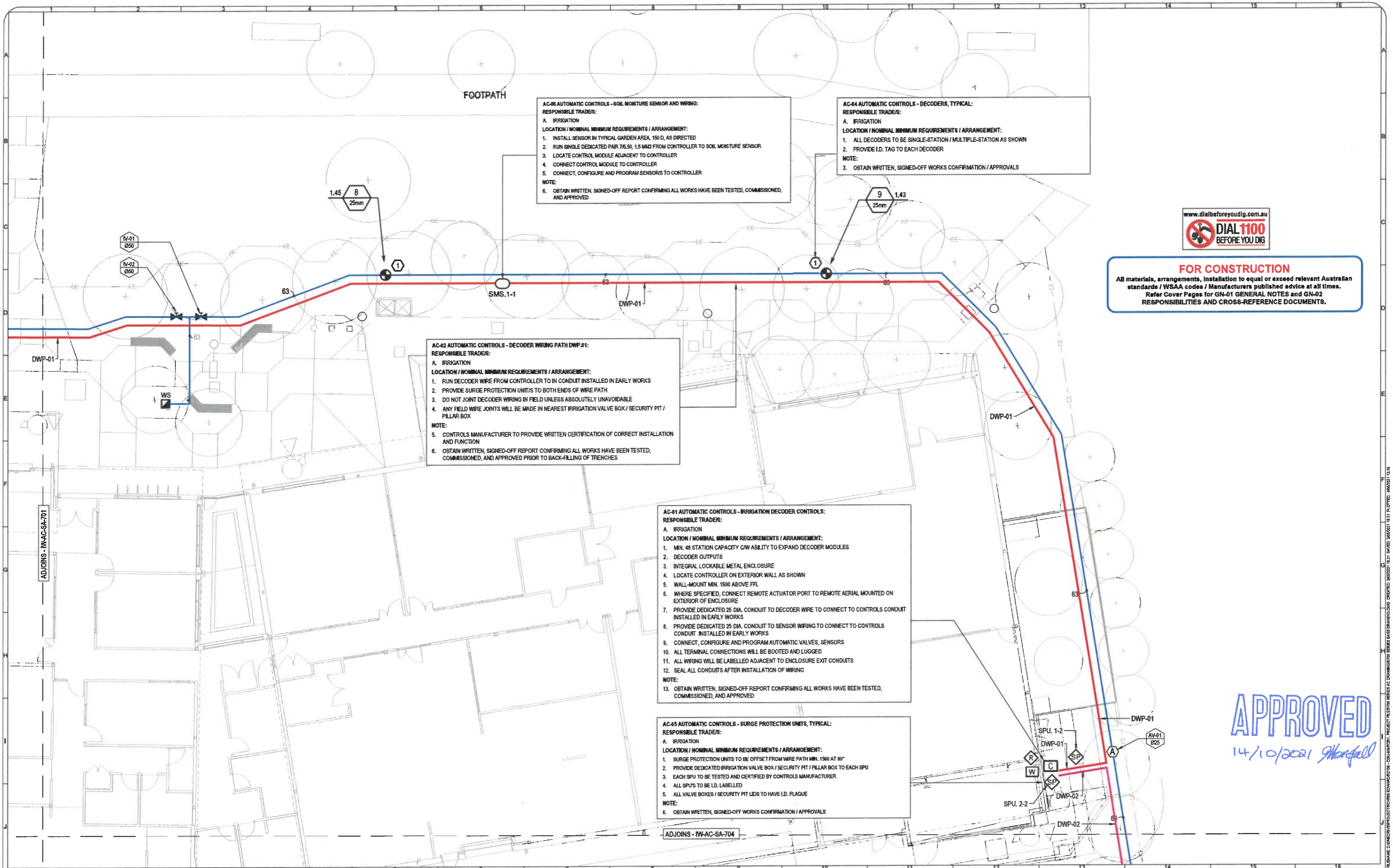
FOR CONSTRUCTION
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 Refer Cover Pages for GN-01 GENERAL NOTES and GN-02 RESPONSIBILITIES AND CROSS-REFERENCE DOCUMENTS.



AC-03 AUTOMATIC CONTROLS - DECODER WIRING PATH DWP-02:
 RESPONSIBLE TRADES:
 A. IRRIGATION
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. RUN DECODER WIRE FROM CONTROLLER TO IN CONDUIT INSTALLED IN EARLY WORKS
 2. PROVIDE SURGE PROTECTION UNITS TO BOTH ENDS OF WIRE PATH
 3. DO NOT JOINT DECODER WIRING IN FIELD UNLESS ABSOLUTELY UNAVOIDABLE
 4. ANY FIELD WIRE JOINTS WILL BE MADE IN NEAREST IRRIGATION VALVE BOX / SECURITY PIT / PILLAR BOX
NOTE:
 5. CONTROLS MANUFACTURER TO PROVIDE WRITTEN CERTIFICATION OF CORRECT INSTALLATION AND FUNCTION
 6. OBTAIN WRITTEN, SIGNED-OFF REPORT CONFIRMING ALL WORKS HAVE BEEN TESTED, COMMISSIONED, AND APPROVED PRIOR TO BACK-FILLING OF TRENCHES

APPROVED
 14/10/2021 J. Herford

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01		ISSUED FOR CONSTRUCTION	BP	04.05.21																
01	A	FOR APPROVAL	BP	01.05.21																



AC-05 AUTOMATIC CONTROLS - SOIL MOISTURE SENSOR AND WIRING:
 RESPONSIBLE TRADES:
 A. IRRIGATION
 LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. INSTALL SENSOR IN TYPICAL GARDEN AREA, 150 D, AS DIRECTED
 2. RUN SINGLE DEDICATED PAIR 70.50, 1.5 M22 FROM CONTROLLER TO SOIL MOISTURE SENSOR
 3. LOCATE CONTROL MODULE ADJACENT TO CONTROLLER
 4. CONNECT CONTROL MODULE TO CONTROLLER
 5. CONNECT, CONFIGURE AND PROGRAM SENSORS TO CONTROLLER
 NOTE:
 6. OBTAIN WRITTEN, SIGNED-OFF REPORT CONFIRMING ALL WORKS HAVE BEEN TESTED, COMMISSIONED, AND APPROVED

AC-04 AUTOMATIC CONTROLS - DECODERS, TYPICAL:
 RESPONSIBLE TRADES:
 A. IRRIGATION
 LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. ALL DECODERS TO BE SINGLE-STATION / MULTIPLE-STATION AS SHOWN
 2. PROVIDE I.D. TAG TO EACH DECODER
 NOTE:
 3. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

AC-02 AUTOMATIC CONTROLS - DECODER WIRING PATH DWP-01:
 RESPONSIBLE TRADES:
 A. IRRIGATION
 LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. RUN DECODER WIRE FROM CONTROLLER TO IN CONDUIT INSTALLED IN EARLY WORKS
 2. PROVIDE SURGE PROTECTION UNITS TO BOTH ENDS OF WIRE PATH
 3. DO NOT JOINT DECODER WIRING IN FIELD UNLESS ABSOLUTELY UNAVOIDABLE
 4. ANY FIELD WIRE JOINTS WILL BE MADE IN NEAREST IRRIGATION VALVE BOX / SECURITY PIT / PILLAR BOX
 NOTE:
 5. CONTROLS MANUFACTURER TO PROVIDE WRITTEN CERTIFICATION OF CORRECT INSTALLATION AND FUNCTION
 6. OBTAIN WRITTEN, SIGNED-OFF REPORT CONFIRMING ALL WORKS HAVE BEEN TESTED, COMMISSIONED, AND APPROVED PRIOR TO BACK-FILLING OF TRENCHES

AC-01 AUTOMATIC CONTROLS - IRRIGATION DECODER CONTROLS:
 RESPONSIBLE TRADES:
 A. IRRIGATION
 LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. MIN. 48 STATION CAPACITY CW ABILITY TO EXPAND DECODER MODULES
 2. DECODER OUTPUTS
 3. INTEGRAL LOCKABLE METAL ENCLOSURE
 4. LOCATE CONTROLLER ON EXTERIOR WALL AS SHOWN
 5. WALL-MOUNT MIN. 1500 ABOVE FFL
 6. WHERE SPECIFIED, CONNECT REMOTE ACTUATOR PORT TO REMOTE AERIAL MOUNTED ON EXTERIOR OF ENCLOSURE
 7. PROVIDE DEDICATED 25 DIA. CONDUIT TO DECODER WIRE TO CONNECT TO CONTROLS CONDUIT INSTALLED IN EARLY WORKS
 8. PROVIDE DEDICATED 25 DIA. CONDUIT TO SENSOR WIRING TO CONNECT TO CONTROLS CONDUIT INSTALLED IN EARLY WORKS
 9. CONNECT, CONFIGURE AND PROGRAM AUTOMATIC VALVES, SENSORS
 10. ALL TERMINAL CONNECTIONS WILL BE BOOTED AND LUGGED
 11. ALL WIRING WILL BE LABELLED ADJACENT TO ENCLOSURE EXIT CONDUITS
 12. SEAL ALL CONDUITS AFTER INSTALLATION OF WIRING
 NOTE:
 13. OBTAIN WRITTEN, SIGNED-OFF REPORT CONFIRMING ALL WORKS HAVE BEEN TESTED, COMMISSIONED, AND APPROVED

AC-45 AUTOMATIC CONTROLS - SURGE PROTECTION UNITS, TYPICAL:
 RESPONSIBLE TRADES:
 A. IRRIGATION
 LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. SURGE PROTECTION UNITS TO BE OFFSET FROM WIRE PATH MIN. 1500 AT 90°
 2. PROVIDE DEDICATED IRRIGATION VALVE BOX / SECURITY PIT / PILLAR BOX TO EACH SPU
 3. EACH SPU TO BE TESTED AND CERTIFIED BY CONTROLS MANUFACTURER
 4. ALL SPUS TO BE I.D. LABELLED
 5. ALL VALVE BOXES / SECURITY PIT LIDS TO HAVE I.D. PLAQUE
 NOTE:
 6. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS



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 Committed to Conservation
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 Unit 1, 2 Henderson Place
 LENNOX HEAD NSW
 AUSTRALIA 2478
 A member of the AWC Group

0416 636 200
 Ph. (02) 6687-4063
 E-mail:
 chris@bigpond.net.au
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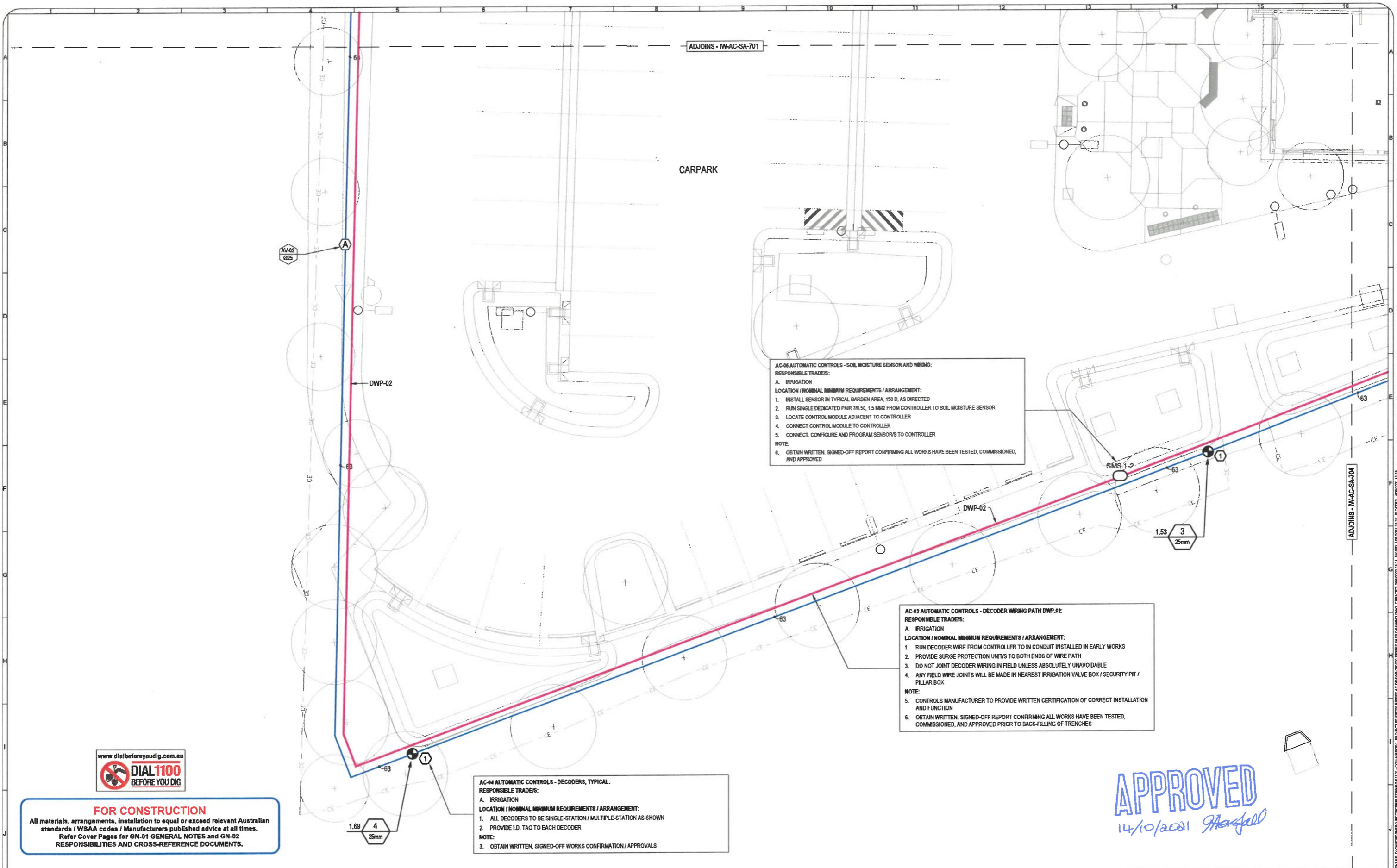
PROJECT TITLE:
MINING AND MANUFACTURING FACILITIES BUILDING

DRAWING TITLE:
IRRIGATION WORKS MAINLINE AND VALVES SHEET 3

ISSUE	REV.	AMENDMENT	BY	DATE
A	01	FOR APPROVAL	BP	01.05.21

SCALE @ A1: 1:100
 SCALE @ A3: 1:200
 SCALE BAR: METRES
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 PROJECT NUMBER: 2109
 DRAWING NUMBER: IW-AC-SA-702
 REVISION NUMBER: A01

REVISION: 01/05/2021 PROJECT: MINING AND MANUFACTURING FACILITIES BUILDING DRAWING: IRRIGATION WORKS MAINLINE AND VALVES SHEET 3



AC-06 AUTOMATIC CONTROLS - SOIL MOISTURE SENSOR AND WIRING:
RESPONSIBLE TRADES:
 A. IRRIGATION
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. INSTALL SENSOR IN TYPICAL GARDEN AREA, 150 Ø, AS DIRECTED
 2. RUN SINGLE DEDICATED PAIR 70.50, 1.5 MM2 FROM CONTROLLER TO SOIL MOISTURE SENSOR
 3. LOCATE CONTROL MODULE ADJACENT TO CONTROLLER
 4. CONNECT CONTROL MODULE TO CONTROLLER
 5. CONNECT, CONFIGURE AND PROGRAM SENSOR/S TO CONTROLLER
NOTE:
 6. OBTAIN WRITTEN, SIGNED-OFF REPORT CONFIRMING ALL WORKS HAVE BEEN TESTED, COMMISSIONED, AND APPROVED

AC-03 AUTOMATIC CONTROLS - DECODER WIRING PATH DWP.02:
RESPONSIBLE TRADES:
 A. IRRIGATION
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. RUN DECODER WIRE FROM CONTROLLER TO IN CONDUIT INSTALLED IN EARLY WORKS
 2. PROVIDE SURGE PROTECTION UNITS TO BOTH ENDS OF WIRE PATH
 3. DO NOT JOINT DECODER WIRING IN FIELD UNLESS ABSOLUTELY UNAVOIDABLE
 4. ANY FIELD WIRE JOINTS WILL BE MADE IN NEAREST IRRIGATION VALVE BOX / SECURITY PIT / PILLAR BOX
NOTE:
 5. CONTROLS MANUFACTURER TO PROVIDE WRITTEN CERTIFICATION OF CORRECT INSTALLATION AND FUNCTION
 6. OBTAIN WRITTEN, SIGNED-OFF REPORT CONFIRMING ALL WORKS HAVE BEEN TESTED, COMMISSIONED, AND APPROVED PRIOR TO BACK-FILLING OF TRENCHES

AC-04 AUTOMATIC CONTROLS - DECODERS, TYPICAL:
RESPONSIBLE TRADES:
 A. IRRIGATION
LOCATION / NOMINAL MINIMUM REQUIREMENTS / ARRANGEMENT:
 1. ALL DECODERS TO BE SINGLE-STATION / MULTIPLE-STATION AS SHOWN
 2. PROVIDE I.D. TAG TO EACH DECODER
NOTE:
 3. OBTAIN WRITTEN, SIGNED-OFF WORKS CONFIRMATION / APPROVALS

FOR CONSTRUCTION
 All materials, arrangements, installation to equal or exceed relevant Australian standards / WSAA codes / Manufacturers published advice at all times. Refer Cover Pages for GN-01 GENERAL NOTES and GN-02 RESPONSIBILITIES AND CROSS-REFERENCE DOCUMENTS.

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 Unit 1, 2 Henderson Place
 LENNOX HEAD NSW
 AUSTRALIA 2478
 A member of the AWC Group

0416 635 200
 Ph. (02) 6687-4053
 E-mail: chrisek@bigpond.net.au
 ABN: 77 673 782 179
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CLIENT:

CQ University AUSTRALIA

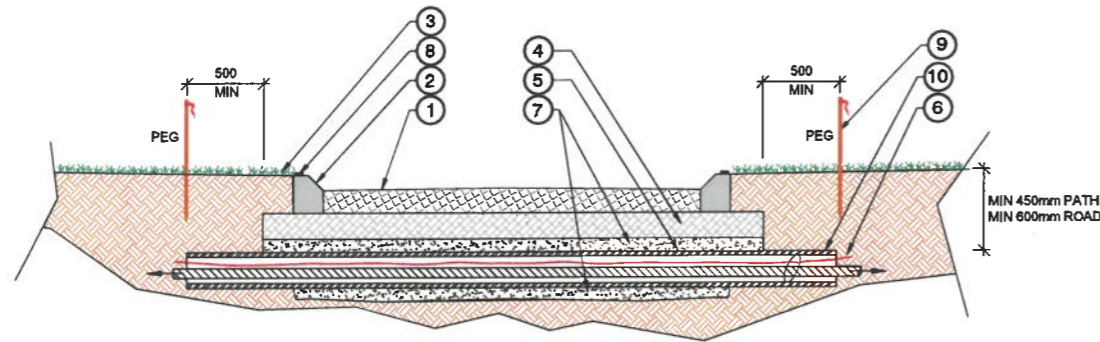
PROJECT TITLE:
MINING AND MANUFACTURING FACILITIES BUILDING

DRAWING TITLE:
IRRIGATION WORKS AUTOMATIC CONTROLS SHEET 4

IFC	REV.	AMENDMENT	BY	DATE
01		ISSUED FOR CONSTRUCTION	BP	04.05.21
01		FOR APPROVAL	BP	01.05.21

SCALE @ A1: 1:100
 SCALE @ A3: 1:200
 SCALE BAR: METRES
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 PROJECT NUMBER: 2109
 DRAWING NUMBER: IW-AC-SA-703
 REVISION NUMBER: IFC01

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 PLOTTED: 08/05/2021 11:19

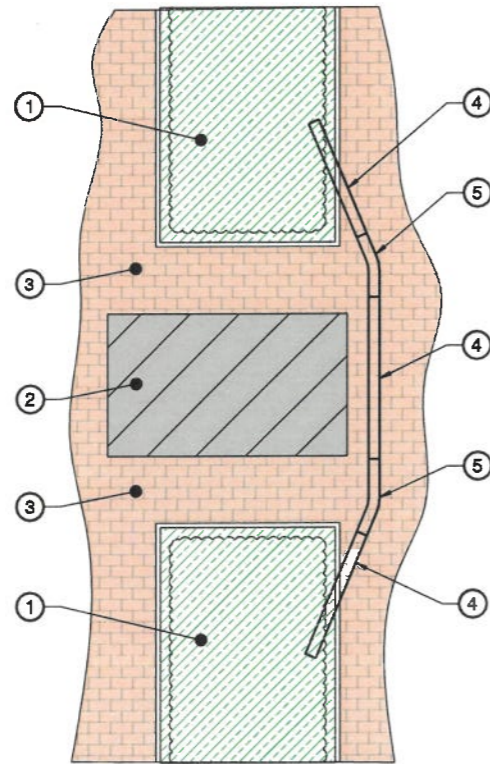


- EW-AS ACCESS SLEEVES - TYPICAL CROSS-SECTION**
 PACKAGE: CIVIL / LANDSCAPING / IRRIGATION / AS SPECIFIED
1. FINISHED PAVEMENT SURFACE
 2. KERB
 3. FINISHED LANDSCAPE SURFACE
 4. ROADBASE / SUBGRADE / PAVEMENT FOUNDATION / CONCRETE HAUNCH
 5. PVC ACCESS SLEEVE WITH MARKER TAPE, REFER LAYOUT DRAWINGS / SPECIFICATION / SOQ FOR DIAMETER / CLASS, MIN. CLASS 9 IF NOT ELSEWHERE SPECIFIED.
 6. IRRIGATION PIPEWORK AND CONTROL WIRING, REFER LAYOUT DRAWINGS / SPECIFICATION / SOQ FOR DETAILS.
 7. SAND-BEDDING MIN. 50 ALL ROUND, FULL SAND BACKFILLING WHERE SPECIFIED.
 8. T BRASS INDICATOR PLAQUE / KERB MARKER TO BE PLACED WHERE ACCESS SLEEVES CROSS KERB / PATH / EDGING MATERIAL
 9. WHERE ACCESS SLEEVES ARE INSTALLED PRIOR TO KERB / PATH / EDGING MATERIAL / KERB MARKERS, MARK EACH ACCESS SLEEVE WITH A RHW PEG MIN. 50 X 50 X 750 L, FLAG THE PEG TOP WITH RED INSULATION TAPE.
 10. CAP OR BAG / TAPE ACCESS SLEEVE ENDS IMMEDIATELY AFTER INSTALLATION, LOCATE ON SURVEY DRAWINGS.
- NOTE:
 11. IT IS CRITICAL THAT THE ACCESS SLEEVE BE CLEAR OF ANY HARD SURFACES TO ALLOW TOTAL ACCESS.

UNDER ROAD ACCESS SLEEVE

N.T.S

P-ED-ACC-ACCE-328409-03

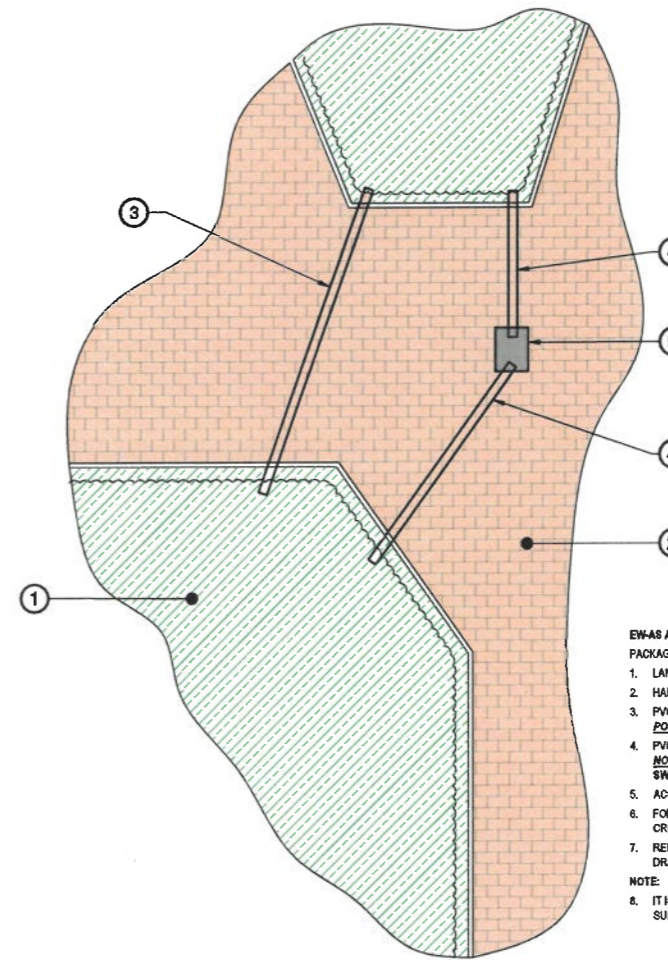


- EW-AS ACCESS SLEEVE - TYPICAL SWEEP BENDS**
 PACKAGE: CIVIL / LANDSCAPING / IRRIGATION / AS SPECIFIED
1. LANDSCAPED AREA
 2. OBSTRUCTING OBJECT / STRUCTURE
 3. HARD-PAVED AREAS
 4. PVC ACCESS SLEEVE WHERE DIRECT / STRAIGHT-LINE ACCESS IS NOT POSSIBLE
 5. PVC SWEEP BEND MAX. 22.5°. BENDS OF GREATER ARC TO BE USED ONLY AS DIRECTED IN WRITING.
6. FOR INSTALLATION REFER TYPICAL DETAIL EW-IF ACCESS SLEEVE CROSS-SECTION
 7. REFER RELEVANT PROJECT EARLY WORKS AND IRRIGATION LAYOUT DRAWINGS FOR DIAMETERS / LOCATIONS
- NOTE:
 8. IT IS CRITICAL THAT THE ACCESS SLEEVE BE CLEAR OF ANY HARD SURFACES TO ALLOW TOTAL ACCESS

EW-AS ACCESS SLEEVE - SWEEP BEND

N.T.S

P-ED-ACC-ACCE2-328409-02



- EW-AS ACCESS SLEEVES - TYPICAL STRAIGHT-LINE / ACCESS PIT**
 PACKAGE: CIVIL / LANDSCAPING / IRRIGATION / AS SPECIFIED
1. LANDSCAPED AREA
 2. HARD-PAVED AREAS
 3. PVC ACCESS SLEEVE WHERE DIRECT / STRAIGHT-LINE ACCESS IS POSSIBLE
 4. PVC ACCESS SLEEVE WHERE DIRECT / STRAIGHT-LINE ACCESS IS NOT POSSIBLE REFER TYPICAL DETAIL EW-IF ACCESS SLEEVES - SWEEP BENDS
 5. ACCESS PIT
 6. FOR INSTALLATION REFER TYPICAL DETAIL ACCESS SLEEVE CROSS-SECTION
 7. REFER RELEVANT PROJECT EARLY WORKS AND IRRIGATION LAYOUT DRAWINGS FOR DIAMETERS / LOCATIONS
- NOTE:
 8. IT IS CRITICAL THAT THE ACCESS SLEEVE BE CLEAR OF ANY HARD SURFACES TO ALLOW TOTAL ACCESS

EW-AS ACCESS SLEEVE - STRAIGHT / PIT

1:10

P-ED-ACC-ACCE1-328409-02

APPROVED
 14/10/2021 *Marjell*

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 LINDOX HEAD NSW
 AUSTRALIA 2478
 A member of the AWIC Group

0416 636 200
 Ph. (02) 6687-4063
 E-mail:
 chris@edc@bigpond.net.au
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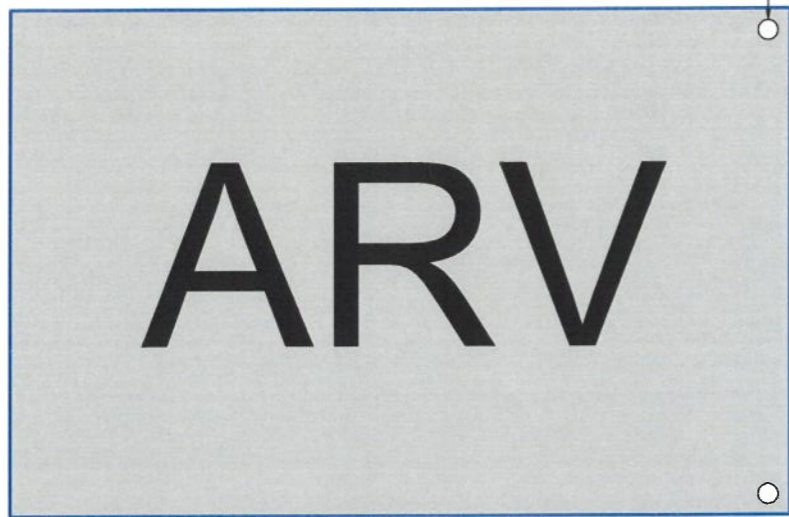
CLIENT:
 CQ university AUSTRALIA

PROJECT TITLE:
 MINING AND MANUFACTURING FACILITIES BUILDING

DRAWING TITLE:
 IRRIGATION WORKS TYPICAL DETAILS SHEET 1

IFC	REV.	AMENDMENT	BY	DATE
01		ISSUED FOR CONSTRUCTION	BP	04.05.21
01		FOR APPROVAL	BP	01.05.21

SCALE @ A1:	N.T.S
SCALE @ A3:	N.T.S
SCALE BAR:	
PROJECT NUMBER:	2109
DRAWING NUMBER:	IW-TD-GA-800
REVISION NUMBER:	IFC01



MINIMUM 135mm

MINIMUM 70mm

- IL-06 VALVE BOX IDENTIFICATION PLAQUE**
PACKAGE: IRRIGATION
1. PROVIDE IDENTIFICATION PLAQUE TO EACH VALVE BOX / SECURITY PIT
 2. TAGS TO BE 316 STAINLESS STEEL MIN. 135 L X 70 W X 3 THICK
 3. TAGS TO BE LASER-CUT / ENGRAVED
 4. LETTERING TO IDENTIFY CONTENTS (MAX. 3 LETTERS)
 5. REFER TABLE FOR TYPICAL STANDARD I.D.'S
 6. LETTERING TO BE MIN. 50 H X 35 W
 7. EXAMPLE: ACV = AUTOMATIC CONTROL VALVE
 8. FIX PLAQUES TO LIDS WITH MIN. 4 X 316 STAINLESS STEEL 4.2 X 12 L SELF-TAPPING SCREWS
 9. WHERE SPECIFIED, FIX PLAQUES TO ADJACENT PAVEMENT, KERB, DECKING
 10. WHERE FIXED TO HARD SURFACES, DRILL SURFACE AND GLUE-IN SCREWS
 11. WHERE BOXES / PITS ARE BURIED, ACCURATELY SURVEY LOCATION BEFORE BURIAL AND MARK ON AS BUILT DRAWINGS

IDENTIFICATION			
ACV	AUTOMATIC CONTROL VALVE	AFT	AUTOMATIC FILTER
ARV	AIR RELIEF VALVE	ADV	AUTOMATIC DRAIN VALVE
BHP	BORE HOLE POINT	BPD	BACKFLOW PREVENTION DEVICE
BPV	BY-PASS VALVE	CKV	CHECK VALVE
FTR	FLOW TRANSDUCER	FSW	FLOW SWITCH
MCV	MASTER CONTROL VALVE	MFM	MANUAL FLOW METER
MFT	MANUAL FILTER	MHV	MAINS HYDRANT VALVE
MIV	MAINS ISOLATION VALVE	MPI	MAINS POWER ISOLATION
MSV	MAINS SCOUR VALVE	MWS	MAIN WATER SUPPLY
PFM	PULSE FLOW METER	PPI	PUMP POWER ISOLATION
PRF	PRESSURE RELIEF VALVE	PRV	PRESSURE REDUCING VALVE
PTR	PRESSURE TRANSDUCER	QCV	QUICK COUPLING VALVE
SPP	SPEAR POINT	VB	VALVE BOX 21
WLS	WATER LEVEL SWITCH		



MINIMUM 76mm

MINIMUM 121mm

- IL-07 AUTOMATIC VALVE IDENTIFICATION TAG**
PACKAGE: IRRIGATION
1. PROVIDE IDENTIFICATION TAG TO EACH AUTOMATIC VALVE
 2. TAGS TO BE BLUE / POTABLE OR PURPLE / NON-POTABLE
 3. TAGS TO BE LASER-CUT / LASER OVER-PRINTED
 4. LETTERING TO IDENTIFY CONTROLLER / SATELLITE (MIN. 2)
 5. NUMBERS TO IDENTIFY VALVE / STATION (MAX. 3)
 6. LETTERING AND NUMBERS TO BE 30 H (MAX. 5 TOTAL)
 7. EXAMPLE: QS101 = QUAY STREET SATELLITE, VALVE 101
 8. FIX TAGS TO VALVE STEMS USING CABLE-TIES MIN. 100 L
 9. WHERE SPECIFIED, FIX TAGS TO LID SECURITY CHAIN



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MINIMUM 76mm

MINIMUM 121mm

- IL-08 SUNDRY VALVE / CONTROL DEVICE IDENTIFICATION TAG**
PACKAGE: IRRIGATION
1. PROVIDE IDENTIFICATION TAG TO EACH DEVICE
 2. TAGS TO BE BLUE / POTABLE OR PURPLE / NON-POTABLE
 3. TAGS TO BE LASER-CUT / LASER OVER-PRINTED
 4. NUMBERS TO IDENTIFY DEVICE SEQUENTIALLY (MAX. 3 NUMBERS)
 5. NUMBERS TO BE 30 H (MAX. 5 TOTAL)
 6. EXAMPLE: 325 = 325 ON SPECIFIC PROJECT VALVE-TABLE
 7. FIX TAGS TO DEVICE USING CABLE-TIES MIN. 100 L
 8. WHERE SPECIFIED, FIX TAGS TO LID SECURITY CHAIN

APPROVED
14/10/2021 *[Signature]*

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Unit 1, 2 Henderson Place
LINDVOX HEAD NSW
AUSTRALIA 2478

A member of the AWIC Group

0416 635 200
Ph. (02) 6687-4063

E-mail:
chrisek@bigpond.net.au

ABN: 77 673 782 176

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CLIENT:

CQ university AUSTRALIA

PROJECT TITLE:

MINING AND MANUFACTURING FACILITIES BUILDING

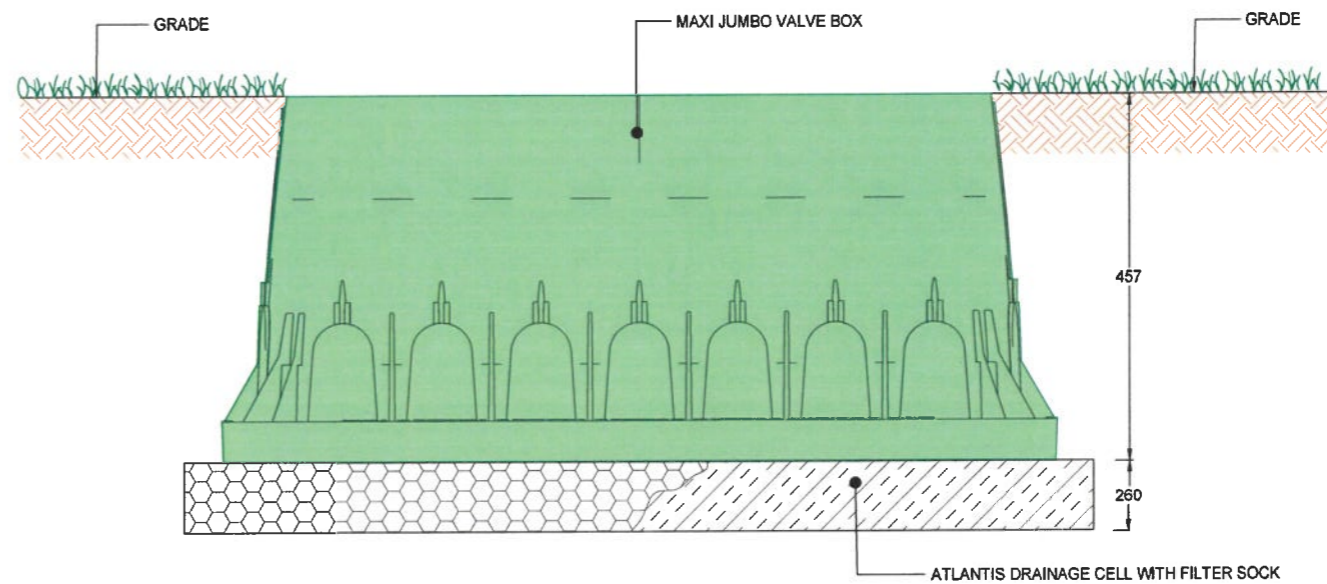
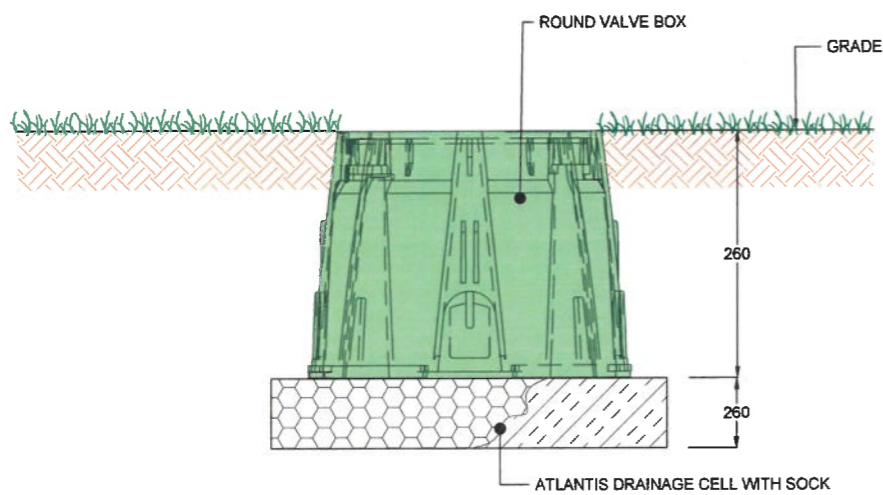
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IRRIGATION WORKS TYPICAL DETAILS SHEET 4

IFC	REV.	ISSUED FOR CONSTRUCTION	AMENDMENT	BP	DATE
A	01	FOR APPROVAL		BP	01.05.21
				BY	DATE

SCALE @ A1:	N.T.S	NORTH:
SCALE @ A3:	N.T.S	
SCALE BAR:		
PROJECT NUMBER:	2109	REVISION NUMBER:
DRAWING NUMBER:	IW-TD-GA-803	IFC01

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STANDARD VALVE BOX DETAIL



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APPROVED
 14/10/2021 *[Signature]*

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 LENOX HEAD NSW
 AUSTRALIA 2478

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0416 635 200
 Ph. (02) 6687-4053
 E-mail: chris@bigpond.net.au
 ABN: 77 673 792 179

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PROJECT TITLE:
MINING AND MANUFACTURING FACILITIES BUILDING

DRAWING TITLE:
IRRIGATION WORKS TYPICAL DETAILS SHEET 5

IFC	REV.	AMENDMENT	BY	DATE
IFC	01	ISSUED FOR CONSTRUCTION	BP	04.05.21
A	01	FOR APPROVAL	BP	01.05.21

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SCALE @ A3:	N.T.S	
SCALE BAR:		
PROJECT NUMBER:	2109	DRAWING NUMBER:
		IW-TD-GA-804
REVISION NUMBER:		IFC01

FILENAME: C:\DESIGN\PROJECTS\EDWARDS\2109 - CUMMINGS\PROJECT RELEASE\EDWARDS\2109 - CUMMINGS\TYPICAL DETAILS\STANDARD VALVE BOX DETAIL.dwg CREATED: 18/05/2021 17:15 SAVED: 18/05/2021 17:15 PLOTTED: 18/05/2021 13:24

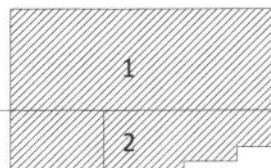
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DRAWING No.	DESCRIPTION
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CQU-GLD-015-GN-CIV-000	COVER SHEET
CQU-GLD-015-GN-CIV-001	LOCALITY PLAN
CQU-GLD-015-GN-CIV-002	NOTES - SHEET 1
CQU-GLD-015-GN-CIV-003	NOTES - SHEET 2
CQU-GLD-015-GN-CIV-005	SURVEY PLAN
EROSION & SEDIMENT CONTROL	
CQU-GLD-015-GN-CIV-010	LAYOUT PLAN
CQU-GLD-015-GN-CIV-012	DETAILS - SHEET 1
CQU-GLD-015-GN-CIV-013	DETAILS - SHEET 2
BULK EARTHWORKS	
CQU-GLD-015-GN-CIV-020	LAYOUT PLAN
CQU-GLD-015-GN-CIV-022	SECTIONS - SHEET 1
STORMWATER DRAINAGE	
CQU-GLD-015-GN-CIV-030	LAYOUT PLAN
CQU-GLD-015-GN-CIV-032	DETAILS - SHEET 1
CQU-GLD-015-GN-CIV-033	DETAILS - SHEET 2
CQU-GLD-015-GN-CIV-034	DETAILS - SHEET 3
CQU-GLD-015-GN-CIV-035	LONGITUDINAL SECTIONS
ROADWORKS	
CQU-GLD-015-GN-CIV-040	LAYOUT PLAN
CQU-GLD-015-GN-CIV-041	SETOUT PLAN
CQU-GLD-015-GN-CIV-042	DETAILS - SHEET 1
CQU-GLD-015-GN-CIV-043	DETAILS - SHEET 2
CQU-GLD-015-GN-CIV-045	JOINTING PLAN
LINEMARKING & SIGNAGE	
CQU-GLD-015-GN-CIV-050	LAYOUT PLAN
SEWERGAE	
CQU-GLD-015-GN-CIV-060	LOCALITY PLAN & NOTES
CQU-GLD-015-GN-CIV-062	LAYOUT PLAN
CQU-GLD-015-GN-CIV-063	LONGITUDINAL SECTION
WATER RETICULATION	
CQU-GLD-015-GN-CIV-070	LOCALITY PLAN & NOTES
CQU-GLD-015-GN-CIV-072	LAYOUT PLAN



LOCALITY PLAN (nearmap)
NOT TO SCALE

APPROVED
14/10/2021 *J. Hanfield*

KEY PLAN



FOR CONSTRUCTION

AMENDMENTS			
No	Description	Date	By
A	ISSUED FOR CONSTRUCTION	04/02/21	LG



Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au

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Cardno Project No. A12075

CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
Structural Engineer: Cardno +61 7 3369 9822
Mechanical Engineer: Integral Group +61 7 3917 8888
Electrical Engineer: Integral Group +61 7 3917 8888
Hydraulic Engineer: Integral Group +61 7 3917 8888
Certifier: Kilsco +61 7 3852 2080
Landscape Architect: Tract +61 7 3002 6400
Civil Engineer: Cardno +61 7 3369 9822

CLIENT



CQU DRAWING NO.
CQU-GLD-015-GN-CIV-001



PROJECT

CQ UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING
DRAWING
GENERAL
LOCALITY PLAN

AUTHORISED SIGNATURE

J. Hanfield
RPEQ
22015
DATE
04-02-2021

SCALE (at A1)	PROJ. NO.	AUTHORISED	DATE
As Shown	450045	LG	4/02/2021

DRAWING NO.
CQU-GLD-015-GN-CIV-001

ISSUE
A

GENERAL NOTES

- THESE DRAWINGS AND NOTES ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND OTHER WORKING DRAWINGS, SPECIFICATIONS INCLUDING LOCAL AUTHORITY STANDARDS AND SPECIFICATIONS, AND WITH SUCH FURTHER DETAILS, AND INSTRUCTIONS WHICH MAY BE ISSUED. REFER ALL DISCREPANCIES TO THE ENGINEER AND THE SUPERINTENDENT BEFORE PROCEEDING WITH WORK.
- CONSTRUCTION OF ALL CIVIL WORK SHALL COMPLY WITH CURRENT EDITIONS OF RELEVANT SAA CODES
- DIMENSIONS SHALL BE VERIFIED BEFORE COMMENCING CONSTRUCTION. DO NOT SCALE DRAWINGS TO OBTAIN DIMENSIONS.
- THROUGHOUT CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVER STRESSED.
- CONSTRUCTION SYSTEMS, PROCEDURES AND METHODOLOGY OF CIVIL WORK SHALL ENSURE COMPLIANCE WITH THE LOCAL AUTHORITY WORKPLACE HEALTH AND SAFETY LEGISLATION.
- SHOULD SITE WORKS EXPOSE ANY ARCHAEOLOGICAL OR CULTURAL MATERIAL ALL WORKS SHALL CEASE AND SUPERINTENDENT, OFFICIALS OF THE NATIONAL PARKS AND WILDLIFE, ABORIGINAL LAND COUNCIL AND LOCAL AUTHORITY ARE TO BE NOTIFIED.
- THE CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS OF THE DEPARTMENT OF ENVIRONMENT AND HERITAGE PROTECTION (D.E.HP).
- WHERE IN THIS SET OF DRAWINGS REFERENCE IS MADE TO THE ENGINEER, CONSULTING ENGINEER AND OR COUNCIL ENGINEER IT SHALL MEAN THE SUPERINTENDENT UNDER THE CONTRACT FOR THE WORKS.
- WHERE A DISCREPANCY AND / OR CONFLICT EXISTS BETWEEN THE DRAWING PREPARED BY CARDNO AND ANY STANDARD DRAWING OF THE LOCAL GOVERNMENT AUTHORITY AND / OR GOVERNMENT ORGANISATION THE DETAILS AND / OR INFORMATION OR THE CARDNO DRAWINGS SHALL TAKE PRECEDENCE. ADVISE THE SUPERINTENDENT IMMEDIATELY OF THE DETAILS OF ANY AND ALL CONFLICTS FOUND PRIOR TO CONSTRUCTING THE WORK.
- PRIOR TO COMMENCEMENT OF WORK, FENCE OFF AND CLEARLY DELINEATE ALL AREAS WHERE WORK CANNOT BE CARRIED OUT INCLUSIVE OF TREE PROTECTION ZONES.
- THE CONTRACTOR IS TO VERIFY LOCATION AND LEVELS OF ALL SERVICES AND TO LIAISE WITH THE LOCAL AND SERVICE AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
- ELECTRICAL, TELECOMMUNICATION AND ANY OTHER SERVICES CONTRACTOR TO CONFIRM LOCATIONS OF ALL EXISTING SERVICES ON SITE, INCLUDING LIAISON WITH RELEVANT AUTHORITIES.
- THE CONTRACTOR IS TO INFORM THE LOCAL AUTHORITY AND THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.
- LEVELS SHOWN AT ALL INTERFACES ARE TO BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED CONDITIONS OF CONSENT.
- THESE DRAWING ARE TO BE READ IN CONJUNCTION WITH ELECTRICAL RETICULATION, COMMUNICATION RETICULATION AND LANDSCAPE ARCHITECTS DRAWINGS, ELECTRICAL, COMMUNICATION AND LANDSCAPE WORKS ARE NOT DETAILED AS PART OF THIS PACKAGE AND ARE ONLY SHOWN INDICATIVELY.
- ALL CIVIL DRAWINGS ARE TO BE READ AS A WHOLE AND NOT IN ISOLATION.
- ALL DRAWINGS TO BE READ IN CONJUNCTION WITH PROJECT SPECIFICATION.
- THE CONTRACTOR IS TO ENSURE THAT ALL SURFACE GRADES TO BE A MINIMUM OF 0.5%.
- IT IS THE CONTRACTORS RESPONSIBILITY TO REPAIR OR REPLACE EXISTING SERVICES DAMAGED DURING THE WORKS.
- A FORMAL PRE-START MEETING WITH THE SUPERINTENDENT AND ASSOCIATED CONSULTANTS IS TO BE HELD PRIOR TO THE COMMENCEMENT OF WORKS.
- THE CONTRACTOR IS TO COORDINATE THEIR WORKS AND STAGING WITH OTHER ADJOINING CONTRACTS.
- WORKS IN VICINITY OF EXISTING SERVICES ARE TO BE UNDERTAKEN WITH SUPERVISION OF SERVICES AUTHORITIES WHERE REQUIRED AT CONTRACTOR COST. CONTRACTOR TO LIAISE AND COORDINATE WORKS WITH AUTHORITIES.
- A CONSTRUCTION MANAGEMENT PLAN IS TO BE PREPARED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.

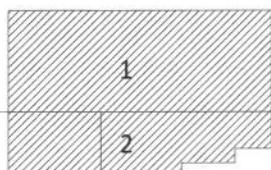
SETOUT NOTES

- CO-ORDINATE SETOUT PROVIDED ON THESE DRAWINGS IS BASED ON AN ARBITRARY CO-ORDINATE BASE. REFERENCE MARKS AND CORRESPONDING CO-ORDINATES ARE PROVIDED ON THE PROJECT DRAWINGS.
- THE LEVEL DATUM FOR WORKS IS AHD (AUSTRALIAN HEIGHT DATUM). SITE BENCHMARKS SHALL BE PROVIDED BY THE SURVEYORS AND LEVEL BENCHMARK IS NOTED ON THE SURVEY PLAN.

DEMOLITION AND CLEARING NOTES

- PRIOR TO CLEARING AND DEMOLITION OPERATIONS REMOVE WITHOUT DAMAGING, ALL EXISTING INFRASTRUCTURE TO BE REUSED OR STORED AS NOTED AND DIRECTED BY THE SUPERINTENDENT.
- CLEARING AND DEMOLITION OPERATIONS SHALL BE CARRIED OUT ONLY WITHIN THOSE AREAS AFFECTED BY THE PROPOSED WORKS UNLESS NOTED OTHERWISE.

KEY PLAN



FOR CONSTRUCTION

AMENDMENTS			
No	Description	Date	By
A	ISSUED FOR CONSTRUCTION	04/02/21	IG

Cardno
 Cardno (Qld) Pty Ltd | ABN 57 051 074 992
 Level 11, 515 St Paul's Terrace
 Fortitude Valley, QLD 4006
 Tel: 07 3369 9822 Fax: 07 3369 9722
 Web: www.cardno.com.au
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 Cardno Project No. A12075

CONSULTANTS

Architect: Peadar Thorp +61 7 4046 5900
Structural Engineer: Cardno +61 7 3369 9822
Mechanical Engineer: Integral Group +61 7 3917 8888
Electrical Engineer: Integral Group +61 7 3917 8888
Hydraulic Engineer: Integral Group +61 7 3917 8888
Certifier: Kolsco +61 7 3852 2080
Landscape Architect: Tract +61 7 3002 6400
Civil Engineer: Cardno +61 7 3369 9822

CLIENT

CQU University AUSTRALIA
FDC Construction & Fitout

CQU DRAWING NO.
CQU-GLD-015-GN-CIV-002

PROJECT
CQU UNIVERSITY - GLADSTONE SCHOOL OF MANUFACTURING

DRAWING
GENERAL NOTES - SHEET 1

AUTHORISED SIGNATURE	RPEQ 22015 DATE 04-02-2021
A1 SCALE (at A1) As Shown	PROJ. NO. 450045
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- DEMOLISH EXISTING REDUNDANT INFRASTRUCTURE SUCH AS KERBS, PAVEMENT SEALS, CONCRETE FOOTPATHS, ABANDONED SERVICE STRUCTURES ETC. TO A DEPTH OF 500mm BELOW PROPOSED PAVEMENT SUBGRADE LEVEL AND 300mm BELOW FINISHED LEVEL IN ALL OTHER AREAS AND REFILL AS NOTED BELOW. DISPOSE OF ALL SUCH MATERIAL OFF SITE.
- CLEAR RUBBISH, SCRUB, TREES, STUMPS ETC. AND GRUB OUT STUMPS AND ROOTS OVER 50mm DIAMETER TO A DEPTH OF 500mm BELOW PROPOSED PAVEMENT SUBGRADE LEVEL AND 300mm BELOW FINISHED LEVEL IN ALL OTHER AREAS AND REFILL AS NOTED BELOW.
- REFILL DEMOLITION EXCAVATIONS AND GRUB HOLES WITH ON SITE MATERIAL WON FROM CUT AREAS SUITABLE FOR USE AS FILL MATERIAL (REFER EARTHWORKS NOTES). PLACE AND COMPACT FILL MATERIAL IN ACCORDANCE WITH EARTHWORKS NOTES.

SEDIMENT AND EROSION CONTROL NOTES

- CONSTRUCTION IS TO BE PROGRAMMED TO PROVIDE INSTALLATION OF PERIMETER LANDSCAPING/SURFACE TREATMENTS AS EARLY AS PRACTICAL.
- THE CONTRACTOR IS RESPONSIBLE FOR PROGRAMMING WORKS SO THAT SATISFACTORY EROSION AND SEDIMENT CONTROL DEVICES ARE IN PLACE AND MAINTAINED AT ALL TIMES.
- A PHOTOGRAPHIC RECORD OF SEDIMENT AND EROSION CONTROL DEVICES AND THE IMMEDIATE DOWNSTREAM STORMWATER SYSTEM, IS TO BE CARRIED OUT ON A FORTNIGHTLY CYCLE AND AFTER EACH MAJOR STORM EVENT. CARRY OUT CORRECTIVE AND PREVENTATIVE ACTION AS REQUIRED.
- PUBLIC & WORKPLACE SAFETY ISSUES MUST BE CONSIDERED AND MONITORED FOR EACH DEVICE TO THE SATISFACTION OF THE SUPERINTENDENT.
- WOVEN FABRICS ARE TO BE USED FOR SEDIMENT FENCE FILTER FABRIC.
- SEDIMENTATION MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND MAINTAINED AT A SUITABLE LEVEL/ CONDITION THROUGHOUT CONSTRUCTION. SEDIMENT FENCES ARE TO BE CLEANED OUT WHEN CAPACITY IS REDUCED BY 30%. DRAINAGE STRUCTURE PROTECTION IS TO BE CLEANED FOLLOWING EACH SIGNIFICANT RUNOFF PRODUCING STORM.
- APPROVAL IS TO BE OBTAINED FROM THE LOCAL AUTHORITY FOR THE LOCATION OF THE SITE ACCESS POINT AND WASH DOWN AREA WHICH IS TO BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. ACCESS TO AND FROM THE SITE IS TO BE VIA THE SHAKEDOWN FACILITY ONLY. ALL VEHICLES ARE TO BE WASHED DOWN PRIOR TO LEAVING THE SITE.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY DRAINAGE CONTROL TO DIVERT FLOW FROM UNDISTURBED AREAS AROUND DISTURBED AREAS AND DIRECT FLOW FROM DISTURBED AREAS TOWARD CONTROL DEVICES.
- PONDED RAINFALL SHALL BE PUMPED THROUGH A SEDIMENT FENCE LOCATED ON THE SITE BEFORE DISCHARGING INTO THE DOWNSTREAM STORMWATER SYSTEM.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE OF SEDIMENT AND EROSION CONTROL DEVICES. ALL DEVICES ARE TO BE INSPECTED AT LEAST WEEKLY AND AFTER SIGNIFICANT RUNOFF PRODUCING STORMS.
- IF EROSION AND SEDIMENT CONTROL DEVICES HAVE BEEN FOUND TO BE DEFICIENT OR FAILED IN SERVICE DUE TO UNFORESEEN CIRCUMSTANCES, CORRECTIVE ACTION IS TO BE UNDERTAKEN BY THE CONTRACTOR IMMEDIATELY WHICH MAY INCLUDE AMENDMENTS/ADDITIONS TO THE ORIGINAL EROSION CONTROL PLANS. SUCH ADDITIONS OR AMENDMENTS ARE TO BE APPROVED BY THE SUPERINTENDENT.
- STRAW BALES USED IN SEDIMENT DEVICES ARE TO BE REPLACED AFTER A MAXIMUM SERVICE PERIOD OF 6 WEEKS.
- SEDIMENTATION MANAGEMENT DEVICES ARE TO BE MAINTAINED BY THE CONTRACTOR, AS NOTED AND DETAILED, UNTIL APPROVAL HAS BEEN GRANTED BY THE ENGINEER FOR THEIR REMOVAL. THE CONTRACTOR IS TO REMOVE AND DISPOSE OF THESE DEVICES OFF SITE.
- TREE PROTECTION IS INDICATIVE ONLY. TREE PROTECTION TO BE DIRECTED BY SUPERINTENDENT ON SITE.
- THE CONTRACTOR IS RESPONSIBLE FOR RELOCATING SEDIMENT AND EROSION DEVICES/ FENCES TO ACCOMMODATE EARTHWORKS AS AND WHEN REQUIRED. THE LOCATION OF THE SEDIMENT AND EROSION CONTROL DEVICES ARE INDICATIVE ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO SPECIFICALLY LOCATE, THEN ENSURE SEDIMENT IS NOT WASHED DOWNSTREAM.
- EROSION CONTROL MATTING IS TO BE INSTALLED, REMOVED AND REINSTATED AS REQUIRED TO ENSURE THAT BATTERS ARE PROTECTED AT ALL TIMES WHEN THEY ARE NOT BEING WORKED ON.
- ALL OPEN DRAINS ARE TO BE TURFED IN ACCORDANCE WITH LANDSCAPE ARCHITECTS REQUIREMENTS AS SOON AS PRACTICAL, AFTER THE OPEN DRAIN IS COMPLETED.

EARTHWORKS NOTES

- STRIP THE CONSTRUCTION AREA OF ALL GRASS, SHRUBS, RUBBISH, DELETERIOUS MATERIAL, UNSUITABLE TOPSOIL AND ALL UNCONTROLLED FILL MATERIAL AS NOMINATED BY THE ENGINEER. DISPOSE OF ALL SUCH MATERIAL OFF SITE.
- TOPSOIL AND UNCONTROLLED FILL APPROVED BY THE ENGINEER FOR REUSE, IS TO BE STOCKPILED ON SITE AS DIRECTED BY THE ENGINEER.
- BULK EARTHWORKS IS TO BE CARRIED OUT IN ACCORDANCE WITH THE LOCAL AUTHORITY STANDARDS AND THE REQUIREMENTS OF AS3798. GEOTECHNICAL LEVEL 1 SUPERVISION OF EARTHWORKS IS TO BE CARRIED OUT IN ACCORDANCE WITH THE EARTHWORKS

SPECIFICATION BY A N.A.T.A. REGISTERED GEOTECHNICAL TESTING AUTHORITY AT THE CONTRACTORS COST. THE CONTRACTOR SHALL PROVIDE DETAILS OF ALL TESTING TO THE ENGINEER PROGRESSIVELY THROUGH THE WORKS AND NOTIFY THE ENGINEER OF ANY NON-COMFORMANCES. ALL NON CONFORMING WORK IS TO BE RECTIFIED AS DIRECTED BY THE ENGINEER.

- PRIOR TO FILL OPERATIONS AND IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER, PROOF ROLL THE FILL AREA SUBGRADE. REMOVE SOFT AND OR COMPRESSIBLE ZONES AND REPLACE WITH SELECT SITE MATERIAL COMPACTED TO A DENSITY CONSISTENT WITH THAT PRESCRIBED FOR PROPOSED FILLING ABOVE.
- INSITU Silty / Clayey SAND SOILS SHALL NOT BE USED AS STRUCTURAL FILL. INSITU CLAYEY MATERIAL WON FROM PROPOSED EXCAVATIONS SHOULD BE SUITABLE FOR REUSE AS FILL MATERIAL APART FROM ANY OVERSIZE MATERIAL. SUITABLE MATERIALS FOR FILLING SHOULD HAVE A MAXIMUM PARTICLE SIZE NOT EXCEEDING 75mm. OVERSIZE MATERIAL IS TO BE EITHER CRUSHED TO A PARTICLE SIZE \leq 75mm FOR REUSE AS FILL MATERIAL OR DISPOSED OF OFF SITE.
- PLACE FILL IN LAYERS OF LOOSE THICKNESS APPROPRIATE TO THE TYPE OF COMPACTION EQUIPMENT BEING USED AND NOT GREATER THAN 250mm. COMPACT EACH FILLING LAYER TO THE MINIMUM DRY DENSITY SPECIFIED. THE MOISTURE CONTENT OF FILL MATERIAL SHOULD BE MAINTAINED WITHIN THE RANGE OF -2% TO +2% OF THE OPTIMUM MOISTURE CONTENT.
- EARTHWORKS PROFILES ARE TO BE TRANSITIONED UNIFORMLY BETWEEN PRESCRIBED SLOPES.
- FOLLOWING COMPLETION OF BULK EARTHWORKS OPERATIONS THE CONTRACTOR IS TO NOTIFY THE ENGINEER. THE FINISHED SURFACE IS TO BE PROOF ROLLED IN THE PRESENCE OF THE ENGINEER PRIOR TO TOPSOILING.
- STOCKPILED TOPSOIL IS TO BE SPREAD TO AN EVEN 100mm THICKNESS OVER ALL BATTERS AND SURROUNDING AREAS DISTURBED BY CONSTRUCTION ACTIVITIES. THE CONTRACTOR IS TO DISPOSE OF EXCESS TOPSOIL OFF SITE. ALL DISTURBED AREAS TO BE GRASS SEED TO ACHIEVE 80% GRASS COVER. SEED MIXTURE.
- IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT THE SITE AND SURROUNDING AREAS FROM DAMAGE RESULTING FROM STORMWATER RUNOFF. TEMPORARY DIVERSION DRAINS AND OR OTHER DRAINAGE CONTROL DEVICES ARE TO BE IMPLEMENTED BY THE CONTRACTOR DURING CONSTRUCTION TO MINIMISE THE EFFECTS OF WEATHER. NO EXTENSIONS OF TIME WILL BE GRANTED SHOULD DAMAGE TO THE WORKS AND SURROUNDING AREAS RESULT FROM THE CONTRACTOR'S NEGLIGENCE IN NOT PROVIDING ADEQUATE PROTECTION.
- IMPORTED FILL MATERIAL IF ORDERED, SHALL BE LOW PLASTICITY COHESIVE GRAVEL FILL HAVING THE FOLLOWING CHARACTERISTICS:

CBR	15% MIN
PLASTICITY INDEX	15% MAX
% PASSING 75mm SIEVE	100% MIN
% PASSING 19mm SIEVE	80% MIN
LIQUID LIMIT	45% MAX
SHRINK/SWELL INDEX	1% MAX
- EXCESS SPOIL MATERIAL GENERATED DURING CONSTRUCTION IS TO BE REMOVED FROM THE SITE BY THE CONTRACTOR.
- ALL FILL MATERIAL PLACED ON THE SITE COMPRISING ONLY NATURAL EARTH AND ROCK IS TO BE FREE OF CONTAMINANTS (AS DEFINED BY SECTION 11 OF THE ENVIRONMENTAL PROTECTION ACT 1994), NOXIOUS, HAZARDOUS, DELETERIOUS AND ORGANIC MATERIALS. SUITABLE FILL MATERIAL IS DEEMED TO COMPLY WITH THE REQUIREMENTS OF CLAUSE 4.3, AS3798, GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS.
- TO ASSIST WITH ACCESS, PLACEMENT OF A WORKING PLATFORM FOR CONSTRUCTION IS RECOMMENDED. THIS COULD BE ACHIEVED BY PLACING A 150mm LAYER OF SELECT GRANULAR FILL (CBR 15% MIN), EXTENDING A MINIMUM 1.5m BEYOND THE BUILDING PERIMETER, ACROSS THE BUILDING PLATFORM AS THE FINAL LAYER. THE SUB-BASE MATERIAL SHOULD BE COMPACTED TO A DENSITY NOT LESS THAN 95% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS.1289 5.2.1 (MODIFIED COMPACTION). SUB-BASE MATERIAL SHOULD BE OF GOOD QUALITY CONFORMING TO REQUIREMENTS (MINIMUM) OF MATERIAL TYPE 2.4 AS SPECIFIED IN THE QUEENSLAND DEPARTMENT OF TRANSPORT, STANDARD SPECIFICATION MRS 11.05, UNBOUND PAVEMENTS.
- ALL EXPOSED SURFACES APART FROM SWALE DRAINS ARE TO BE GRASS SEED AS A SEDIMENT AND EROSION CONTROL MEASURE.
- ALL OPEN DRAINS ARE TO BE TURFED AS SOON AS PRACTICAL, AFTER THE OPEN DRAIN IS COMPLETED.

STORMWATER DRAINAGE NOTES

- ALL STORMWATER DRAINAGE SHALL COMPLY WITH AS3500 1998 NATIONAL PLUMBING AND DRAINAGE CODE.
- MAINTAIN AND PROTECT EXISTING SERVICES TO BE RETAINED.
- STORMWATER STRUCTURES AND CONNECTIONS ARE TO BE LOCATED AS INDICATED ON THE PLAN. ADJUSTMENTS TO THE DESIGN LAYOUT WHERE REQUIRED TO SUIT ACTUAL AS-CONSTRUCTED GEOMETRY SHALL REQUIRE THE ENGINEERS APPROVAL.
- TRENCH EXCAVATIONS FOR DRAINAGE SHALL COMPLY WITH WORKPLACE HEALTH AND

SAFETY REQUIREMENTS.

- PIPES SHALL BE BEDDED IN ACCORDANCE WITH AS3725-H1.
- ALL PIPES SHALL BE RUBBER RING JOINTED.
- PIPES EQUAL TO OR SMALLER THAN 225Ø SHALL BE uPVC, RCP OR FRC. PIPES GREATER THAN 225Ø SHALL BE RCP OR FRC.
- uPVC PIPES EQUAL TO 100Ø SHALL BE CLASS SN6, PIPES EQUAL OR GREAT THAN 150Ø SHALL BE SN6 UNLESS NOTED OTHERWISE. RCP AND FRC PIPES SHALL BE CLASS 3 UNLESS NOTED OTHERWISE.
- SPOIL MATERIAL GENERATED FROM TRENCH EXCAVATION IS TO BE DISPOSED OF OFF SITE.
- THE MAJORITY OF MATERIAL WON FROM PROPOSED TRENCH EXCAVATIONS SHOULD BE SUITABLE FOR REUSE AS TRENCH BACKFILL MATERIAL APART FROM ANY OVERSIZE MATERIAL. SUITABLE MATERIALS FOR BACKFILLING SHOULD GENERALLY HAVE A MAXIMUM PARTICLE SIZE NOT EXCEEDING 75mm. OVERSIZE MATERIAL IS TO BE CRUSHED TO A PARTICLE SIZE \leq 75mm PRIOR TO REUSE AS BACKFILL MATERIAL OR DISPOSED OFF SITE.
- ALL STORMWATER TRENCHES SHALL BE BACKFILLED IN LAYERS OF LOOSE THICKNESS APPROPRIATE TO THE TYPE OF COMPACTION EQUIPMENT BEING USED AND NOT GREATER THAN 250mm. BACKFILLING IS TO BE COMPACTED TO THE MINIMUM DRY DENSITIES SPECIFIED. THE MOISTURE CONTENT OF BACKFILL MATERIAL SHOULD BE MAINTAINED WITHIN THE RANGE OF -2% TO +2% OF THE OPTIMUM MOISTURE CONTENT.
- COMPACTION TESTING IS TO BE CARRIED OUT AT THE SPECIFIED FREQUENCY BY A N.A.T.A. REGISTERED GEOTECHNICAL TESTING AUTHORITY AT THE CONTRACTORS COST. THE CONTRACTOR SHALL PROVIDE DETAILS OF ALL TESTING TO THE ENGINEER PROGRESSIVELY THROUGH THE WORKS AND NOTIFY THE ENGINEER OF ANY NON-COMFORMANCES. ALL NON CONFORMING WORK IS TO BE RECTIFIED AS DIRECTED BY THE ENGINEER.
- SWALE DRAINS ARE TO BE GRADED EVENLY BETWEEN INVERT LEVELS PROVIDED.
- ALL DRAINAGE STRUCTURES ARE TO HAVE HALF HEIGHT BENCHING AS PER QUDM SECTION S.21.8.
- ALL PIPE STUBS ARE TO BE FITTED WITH HARDBOARD PLANKS TO SEAL OFF END OF PIPE AND BACKFILLED.

APPROVED
 14/10/2021 *[Signature]*

SERVICE LOCATIONS

It is the responsibility of the Foreman to contact the relevant service authorities to ascertain the exact location of services prior to construction.

DIAL BEFORE YOU DIG
 www.1100.com.au

TELECOMMUNICATIONS SERVICE PROVIDERS

'yes' OPTUS Telstra

NOTE: SERVICE LOCATIONS ARE APPROXIMATE ONLY FROM PROVIDERS PLANS. LOCATIONS ARE TO BE CONFIRMED PRIOR TO START OF CONSTRUCTION. PHONE DBYD SERVICE LOCATIONS ON 1100 FOR DETAILS.

ENERGY SERVICE PROVIDERS

AGL origin ERGON ENERGY energex

NOTE: SERVICE LOCATIONS ARE APPROXIMATE ONLY FROM PROVIDERS PLANS. LOCATIONS ARE TO BE CONFIRMED PRIOR TO START OF CONSTRUCTION. PHONE DBYD SERVICE LOCATIONS ON 1100 FOR DETAILS.

ROADWORKS NOTES

1. GEOTECHNICAL TESTING FOR PAVEMENT CONSTRUCTION IS TO BE CARRIED OUT IN ACCORDANCE WITH THE PROJECT SPECIFICATION. TEST CERTIFICATES ARE TO BE PREPARED BY A REGISTERED N.A.T.A. LABORATORY AT THE CONTRACTORS COST AND SHALL BE PROVIDED TO THE ENGINEER PROGRESSIVELY THROUGH THE WORKS. THE CONTRACTOR IS TO NOTIFY THE ENGINEER OF ANY NON-CONFORMANCES. ALL NON CONFORMING WORK IS TO BE RECTIFIED AS DIRECTED BY THE ENGINEER.
2. FULL DEPTH PAVEMENT CONSTRUCTION SHALL EXTEND BEHIND ALL KERB AND KERB AND CHANNEL FOR A DISTANCE WHICH IS THE GREATER OF 150mm FROM THE BACK OF KERB OR ACROSS TO THE OUTER LIMIT OF SIDE DRAIN FILTER MATERIAL.
3. TRANSITION KERB AND CHANNEL TO BARRIER KERB SMOOTHLY OVER MIN. 1.0m LENGTH.
4. PAVEMENT THICKNESSES NOMINATED ON THESE DRAWINGS ARE PROVISIONAL ONLY AND MAY BE VARIED BY THE SUPERINTENDENT SUBJECT TO INSITU PAVEMENT SUBGRADE TESTING. PAVEMENT SUBGRADES ARE TO BE INITIALLY CONSTRUCTED TO THE UNDERSIDE OF THE NOMINATED LOWER SUBBASE COURSE WITHIN FILL AREAS, AND TO THE UNDERSIDE OF THE NOMINATED UPPER SUBBASE COURSE WITHIN CUT AREAS. INSITU SUBGRADE CBR TESTING AS SPECIFIED FOR PAVEMENT DESIGN VERIFICATION IS TO BE CARRIED OUT AT THESE LEVELS.
5. REPAIR ANY DAMAGE TO EXISTING KERB AND CHANNEL, FOOTPATH OR ROADWAY (INCLUDING REMOVAL OF CONCRETE SLURRY FROM FOOTWAYS, ROADS, KERB AND CHANNEL AND STORMWATER GULLIES AND SIDEDRAINS) THAT MAY OCCUR DURING ANY WORKS CARRIED OUT.

CONCRETE PAVEMENT NOTES

1. MATERIALS AND WORKMANSHIP SHALL COMPLY WITH AS1379, AS3600 AND AS3610.
2. CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES:

BUILDING ELEMENT	f _c MPa	SLUMP	MAX. AGG. SIZE	QUALITY OF SURFACE CLASS (AS 3610)
REFER PAVEMENT DETAILS DRG CQU-GLD-015-GN-CIV-042				

3. PROJECT ASSESSMENT OF STRENGTH IN ACCORDANCE WITH AS3600 SHALL BE ADOPTED FOR SAMPLING AND TESTING. CONTRACTOR SHALL PAY ALL COSTS.
4. CONSTRUCTION JOINTS SHALL BE MADE ONLY AT APPROVED LOCATIONS.
5. ALL JOINTS ARE TO BE SEALED JUST PRIOR TO HANDOVER WITH DOW CORNING '888' SEALANT INSTALLED IN ACCORDANCE WITH MANUFACTURING RECOMMENDATIONS.
6. JOINTS ARE TO BE INSPECTED AND SEALANT REGULARLY REPLACED IF REQUIRED.
7. DIMENSIONAL TOLERANCES OF AS3600, MODIFIED BY AS3610, SHALL APPLY UNLESS OTHERWISE NOTED. SLAB SURFACE FLATNESS TOLERANCE SHALL BE 5mm MAXIMUM DEVIATION FOR A 3m STRAIGHT EDGE.
8. CONCRETE PAVEMENTS ARE TO BE BROOM FINISHED. SLAB THICKNESSES NOTED ARE EXCLUSIVE OF APPLIED FINISHES
9. CURE ALL CONCRETE BY AN APPROVED METHOD FOR 7 DAYS AFTER HARDENING. PVA AND RESIN BASED CURING COMPOUNDS SHALL NOT BE USED.

CONCRETE PAVEMENT MAINTENANCE NOTES

1. NOTE THAT UPKEEP AND REPLACEMENT OF SEALANTS IS PART OF THE ONGOING MAINTENANCE REQUIREMENTS FOR THIS SITE.
2. NOTE THAT SHRINKAGE CRACKS OF WIDTH < 1.5mm MAY OCCUR IN CONCRETE PAVEMENTS WITHIN 12 MONTHS OF INITIAL CASTING.
3. NOTE THAT THE PAVEMENT WILL NOT BE MAINTENANCE FREE FOR ITS DESIGN LIFE.
4. INSPECT FLUSH SIDE DRAINS AND SUBSOIL DRAINS EVERY 12 MONTHS.

SAFETY IN DESIGN AND CONSTRUCTION

1. ALL CONSTRUCTION WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY WORKPLACE HEALTH AND SAFETY LEGISLATION.
2. CONSTRUCTION ACTIVITY CAN BE HAZARDOUS AND POTENTIAL SAFETY HAZARDS CONSIDERED BY THE DESIGNERS TO HAVE A HIGHER RISK THAN NORMAL CONSTRUCTION ACTIVITY ARE IDENTIFIED WITH APPROPRIATE NOTES IN THE DOCUMENTATION.
3. DESIGNERS GENERALLY HAVE A LOWER LEVEL OF APPRECIATION OF THE SAFETY RISKS AND HAZARDS INVOLVED IN CONSTRUCTION COMPARED TO THAT OF A COMPETENT BUILDER / CONTRACTOR AND THEREFORE ALL THE SAFETY RISKS AND HAZARDS APPLICABLE TO THIS PROJECT MAY NOT BE IDENTIFIED.
4. IT IS ESSENTIAL THAT PRIOR TO COMMENCEMENT OF CONSTRUCTION AN ADEQUATE SAFETY PLAN IS PREPARED BY THE BUILDER / CONTRACTOR FOR THE WORKS IN COMPLIANCE WITH STATUTORY REQUIREMENTS. THE SAFETY PLAN SHALL INCLUDE APPROPRIATE WORK METHOD STATEMENTS FOR ALL RISK ACTIVITIES. THE STRUCTURAL ENGINEER IS AVAILABLE TO BE CONSULTED IN REGARDS TO THE SAFETY PLANS.
5. PRIOR TO ANY ERECTION OF STRUCTURAL ELEMENTS THE CONTRACTOR SHALL HAVE COMPLETED A RISK ASSESSMENT OF ALL CONSTRUCTION PROCEDURES AND ENSURED THAT WHERE POSSIBLE, ALL RISKS HAVE BEEN ELIMINATED AND WHERE NOT POSSIBLE THEIR SAFETY PLAN HAS ADDRESSED THOSE ISSUES AND IT HAS BEEN FORMULATED AND DOCUMENTED FOR STRICT ADHERENCE DURING THE CONSTRUCTION WORKS.
6. PRIOR TO FABRICATION OF STEELWORK THE CONTRACTOR SHALL AGREE WITH THE ENGINEER ON AREAS OF RISK WHICH HAVE BEEN ADDRESSED BY THE DESIGN WHERE POSSIBLE AND AGREE ON SUITABLE CONSTRUCTION PROCEDURES WHERE AREAS OF RISK STILL EXIST.
7. PRIOR TO THE USE OF THE PROJECT AS DESIGNED, THE OWNER SHALL HAVE COMPLETED A RISK ASSESSMENT OF ALL WORK PRACTICES AND ENSURED THAT WHERE POSSIBLE ALL RISKS HAVE BEEN ELIMINATED AND WHERE NOT POSSIBLE THERE SAFETY PLAN HAS ADDRESSED THOSE ISSUES AND IT HAS BEEN FORMULATED AND DOCUMENTED FOR STRICT ADHERENCE AFTER COMMISSIONING.

APPROVED
14/10/2021 *[Signature]*

SERVICE LOCATIONS

It is the responsibility of the Foreman to contact the relevant service authorities to ascertain the exact location of services prior to construction.



TELECOMMUNICATIONS SERVICE PROVIDERS



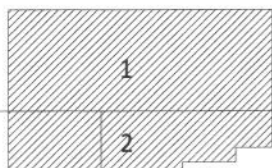
NOTE: SERVICE LOCATIONS ARE APPROXIMATE ONLY FROM PROVIDERS PLANS. LOCATIONS ARE TO BE CONFIRMED PRIOR TO START OF CONSTRUCTION. PHONE DBYD SERVICE LOCATIONS ON 1100 FOR DETAILS.

ENERGY SERVICE PROVIDERS



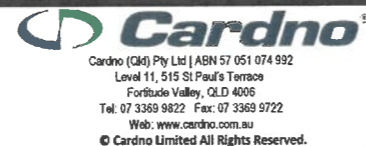
NOTE: SERVICE LOCATIONS ARE APPROXIMATE ONLY FROM PROVIDERS PLANS. LOCATIONS ARE TO BE CONFIRMED PRIOR TO START OF CONSTRUCTION. PHONE DBYD SERVICE LOCATIONS ON 1100 FOR DETAILS.

KEY PLAN



FOR CONSTRUCTION

AMENDMENTS			
No	Description	Date	By
A	ISSUED FOR CONSTRUCTION	04/02/21	LG



Cardno (Ckl) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au
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CONSULTANTS
Architect: Peddie Thorp +61 7 4046 5900
Structural Engineer: Cardno +61 7 3369 9822
Mechanical Engineer: Integral Group +61 7 3517 8888
Electrical Engineer: Integral Group +61 7 3517 8888
Hydraulic Engineer: Integral Group +61 7 3517 8888
Civil Engineer: Krieco +61 7 3852 2080
Landscape Architect: Tract +61 7 3002 6400
Civil Engineer: Cardno +61 7 3369 9822















CQU DRAWING NO.
CQU-GLD-015-GN-CIV-003



PROJECT
CQ UNIVERSITY - GLADSTONE SCHOOL OF MANUFACTURING
DRAWING
GENERAL NOTES - SHEET 2

AUTHORISED SIGNATURE <i>[Signature]</i>	RPEQ 22015 DATE 04-02-2021	PROJ. NO. 450045	AUTHORISED LG	DATE 4/02/2021
DRAWING NO. CQU-GLD-015-GN-CIV-003		ISSUE A		

LEGEND

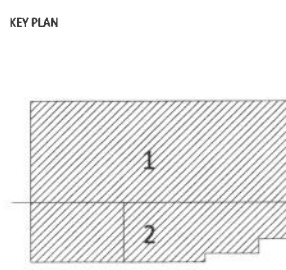
-  EXISTING CONTOURS
-  EXISTING BATTER TOP AND TOE
-  EXISTING ROAD LIP
-  PROPERTY BOUNDARY
-  EXISTING UNDERGROUND ELECTRICAL
-  EXISTING LIGHT POLE
-  EXISTING SEWER RISING MAIN
-  EXISTING SEWER LINE
-  EXISTING WATER LINE
-  EXISTING STORMWATER
-  EXISTING TELECOMMUNICATION
-  EXISTING FIBRE OPTIC LINES
-  EXISTING TREES



SURVEY SETOUT TABLE

STN	EASTING	NORTHING	LEVEL
STN9000	320980.743	7363052.431	
STN9001	321035.131	7363056.455	3.660
STN9002	320952.655	7363059.786	6.040
STN9003	321197.624	7363065.671	3.907

APPROVED
14/10/2021 *[Signature]*



FOR CONSTRUCTION

AMENDMENTS

No	Description	Date	By
A	ISSUED FOR CONSTRUCTION	04/02/21	LG

Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au
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Cardno Project No. A12075

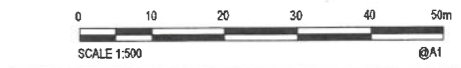
CONSULTANTS

Architect: Peddle Thorp +61 7 4046 5900
Cardno +61 7 3369 9822
Structural Engineer: Integral Group +61 7 3517 8888
Mechanical Engineer: Integral Group +61 7 3517 8888
Electrical Engineer: Integral Group +61 7 3517 8888
Hydraulic Engineer: Krieco +61 7 3852 2080
Certifier: Tract +61 7 3002 6400
Landscape Architect: Cardno +61 7 3369 9822
Civil Engineer:

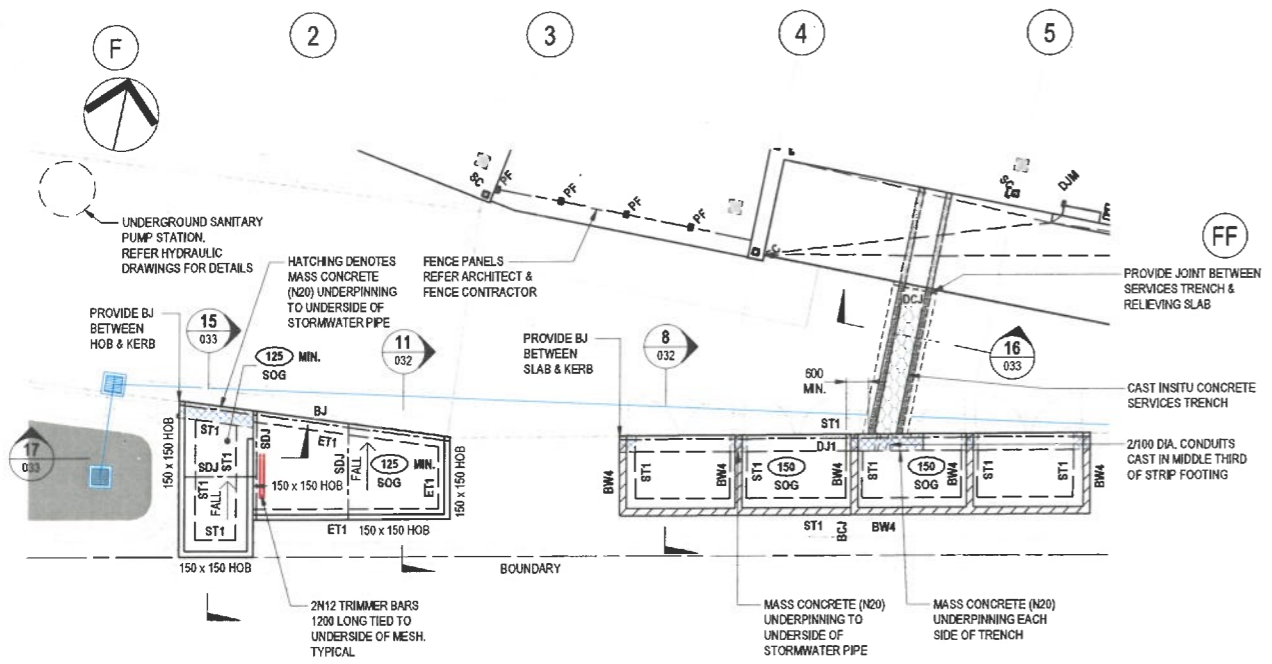
CLIENT

 **FDC**
FDC Construction & Fitout
CQU DRAWING NO. **CQU-GLD-015-GN-CIV-005**

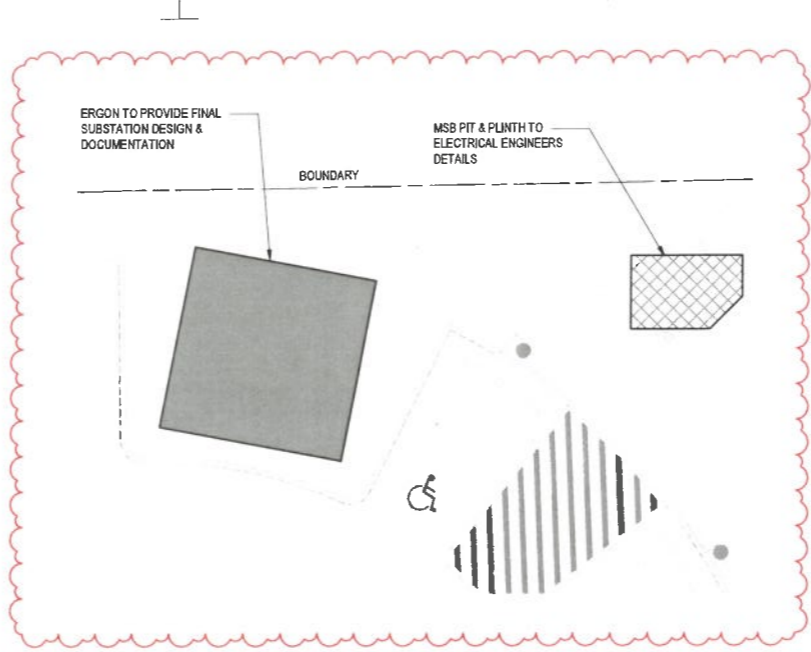
PROJECT
CQ UNIVERSITY - GLADSTONE
SCHOOL OF MANUFACTURING
DRAWING
GENERAL
SURVEY PLAN



AUTHORISED SIGNATURE <i>[Signature]</i>		RPEQ 22015	DATE 04-02-2021
A1	SCALE (at A1) As Shown	PROJ. NO. 450045	AUTHORISED LG
DRAWING NO. CQU-GLD-015-GN-CIV-005			DATE 4/02/2021
			ISSUE A



BIN & GAS STORE SLAB PLAN
SCALE 1 : 100



TRANSFORMER SLAB GA PLAN
SCALE 1 : 100

NOTES:

- FOR ALL RELEVANT CONSTRUCTION NOTES REFER DRAWING No. GLD-015-GN-001
- DESIGN LOADS

AREA	SUPERIMPOSED DEAD LOAD	LIVE LOAD
GROUND SLABS	1.0 kPa	5.0 kPa
- CONCRETE

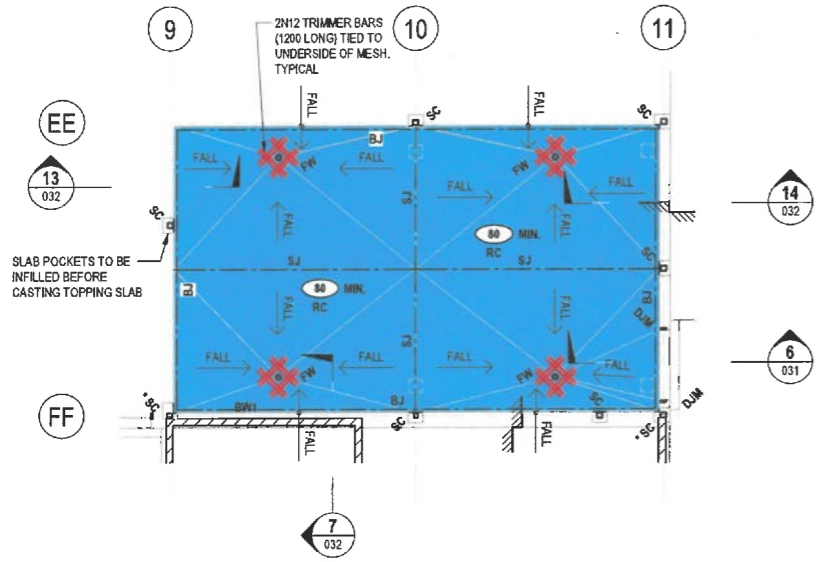
ALL WORKMANSHIP, MATERIALS & TESTING SHALL BE IN ACCORDANCE WITH AS 3600 EXCEPT AS VARIED BY THE CONTRACT DOCUMENTS AND SPECIFICATION. ALL CONCRETE COMPONENTS SHALL BE NORMAL CLASS WITH A 28 DAY COMPRESSIVE STRENGTH OF 32MPa (ie.N32) EXCEPT WHERE VARIED BY THE TABLE BELOW.

N DENOTES NORMAL CLASS CONCRETE WITH THE FOLLOWING PROPERTIES U.N.O.

MAXIMUM AGGREGATE SIZE:- 20mm
 SLUMP:- 100mm ±15
 TESTING TYPE:- PROJECT ASSESSMENT

S DENOTES SPECIAL CLASS CONCRETE WITH 650 NOMINAL (700 MAXIMUM) MICROSTRAIN SHRINKAGE AS PER THE CONCRETE SPECIFICATION.

COMPONENT	STRENGTH
SLAB ON GROUND	N40



GROUND TOPPING SLAB PLAN
SCALE 1 : 100

■ DENOTES EXTENT OF TOPPING SLAB

LEGEND

- BJ DENOTES BUTT JOINT
- BCJ DENOTES BLOCKWORK CONTROL JOINT
- CJ DENOTES CONSTRUCTION JOINT
- DCJ DENOTES DOWELLED CONSTRUCTION JOINT
- DJ1 DENOTES DOWELLED JOINT - TYPE 1
- DJ2 DENOTES DOWELLED JOINT - TYPE 2
- DSJ DENOTES DOWELLED SAWN JOINT
- SJ DENOTES SAWN JOINT

LEGEND

- 80 RC DENOTES THICKNESS OF CONCRETE TOPPING SLAB WITH SL82 MESH TOP. 40mm COVER TO TOP REINFORCEMENT. N40 CONCRETE
- 125 SOG DENOTES THICKNESS OF CONCRETE SLAB ON GROUND WITH SL82 MESH TOP. 45mm COVER TO TOP REINFORCEMENT. LAID ON 50mm OF BEDDING SAND WITH DAMP PROOF MEMBRANE
- 150 SOG DENOTES THICKNESS OF CONCRETE SLAB ON GROUND WITH SL82 MESH TOP & BOTTOM. 50mm COVER TO TOP & BOTTOM REINFORCEMENT. LAID ON 50mm OF BEDDING SAND WITH DAMP PROOF MEMBRANE
- BW DENOTES BLOCKWORK WALL REFER TYPICAL BLOCKWORK DRAWING FOR DETAILS
- LOAD BEARING ELEMENT UNDER
- SC DENOTES STEEL COLUMN REFER STEELWORK DRAWINGS FOR DETAILS
- SM DENOTES STRUCTURAL STEEL MULLION REFER STEELWORK DRAWINGS FOR DETAILS
- SP DENOTES STRUCTURAL STEEL FENCE POST REFER STEELWORK DRAWINGS FOR DETAILS
- TOP OF PROFILE STEP
- ET# DENOTES EDGE THICKENING
- ST# DENOTES SLAB THICKENING

APPROVED
12/10/2021 [Signature]

KEY PLAN



Construction Design

AMENDMENTS

No	Description	Date	By
A	ISSUED FOR CONSTRUCTION	24-02-2021	FS
B	CONSTRUCTION ISSUE - REV. TRANSFORMER LOCATION	06-05-2021	FS

Cardno
 Cardno (QLD) Pty. Ltd. | ABN 57 051 074 992
 Level 11, 515 St Paul's Terrace
 Fortitude Valley, QLD, 4006
 Tel: 07 3369 9822 Fax: 07 3369 9722
 Web: www.cardno.com.au
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 Cardno Project No. A12074

CONSULTANTS

Architect: **Peddie Thorp** +61 7 4046 5900
 Cardno +61 7 3369 9822
 Structural Engineer: **Cardno** +61 7 3917 8888
 Mechanical Engineer: **Integral Group** +61 7 3917 8888
 Electrical Engineer: **Integral Group** +61 7 3917 8888
 Hydraulic Engineer: **Integral Group** +61 7 3917 8888
 Civil Engineer: **Knisco** +61 7 3852 2080
 Tract +61 7 3002 6400
 Cardno +61 7 3369 9822

CLIENT

CQ University AUSTRALIA

FDC

CQU DRAWING NO. **CQU-GLD-015-GN-STL-021**

PROJECT
 CQ UNIVERSITY - GLADSTONE
 SCHOOL OF MANUFACTURING
 DRAWING
 TRANSFORMER, BIN &
 GAS STORE SLAB PLANS

This Drawing has been prepared in COLOUR
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AUTHORISED SIGNATURE	RPEQ 15605	DATE 06-05-2021
SCALE (at A1) As indicated	PROJ. NO. 450045	AUTHORISED JT
DRAWING NO. CQU-GLD-015-GN-STL-021	DATE 11/27/20	ISSUE B

6/05/2021 4:08:54 PM BWA:960/CCU/MLWing and MNG/CCU-GLD-015-STL-HRM-REB-101