

8 October 2012

David Kitto
Department of Planning and Infrastructure
GPO Box 39
Sydney NSW 2001

Attention: Chris Ritchie

Dear Chris

Re: Section 75W Modification to Project Approval 09_0090 – Orica Australia Pty Limited Ammonium Nitrate Emulsion Production Facility, Richmond Vale

Orica Australia Pty Limited (Orica) proposes to modify the project approval (09_0090) granted for an Ammonium Nitrate Emulsion (ANE) production facility at its Mining Services Technology Centre at Richmond Vale, NSW. Orica is seeking a modification under Section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for construction of a storage shed and a 2 ML water tank on the site, within the footprint of the approved ANE facility. The storage shed is proposed to be installed between two existing sheds, south of the existing office and amenities and is required for the storage of spare parts, archives and safety equipment for the ANE plant. The water tank will collect rainwater and runoff from the bunded area around the plant operations for use in the production process.

Construction of this additional infrastructure is generally consistent with the existing buildings and ANE facility approved by the Minister for Planning in July 2010.

This letter has been prepared by Umwelt (Australia) Pty Limited on behalf of Orica to assess the potential environmental impacts of constructing and operating the proposed additional infrastructure within the existing ANE production facility.

1. Background

Orica's Mining Services Technology Centre is situated on the southern side of George Booth Drive at Richmond Vale NSW; approximately 22 kilometres west of Newcastle. The closest township to the Technology Centre is Seahampton, approximately 5.5 kilometres to the south-east (**Figure 1**). The Technology Centre is owned and operated by Orica which has approval for continued use of the mining services technology Centre on site as well as establishment of a new ANE production facility and associated infrastructure. The project was approved by the Minister for Planning on 26 July 2010. The ANE production facility has been constructed and is operational.

The ANE production facility includes the following infrastructure:

- chemical, fuel, water and product storage tanks;
- an ANE manufacturing plant;

Newcastle

PO Box 3024
75 York Street
Teralba NSW 2284

Ph. 02 4950 5322

Perth

PO Box 8177
144 Churchill Avenue
Subiaco East WA 6008

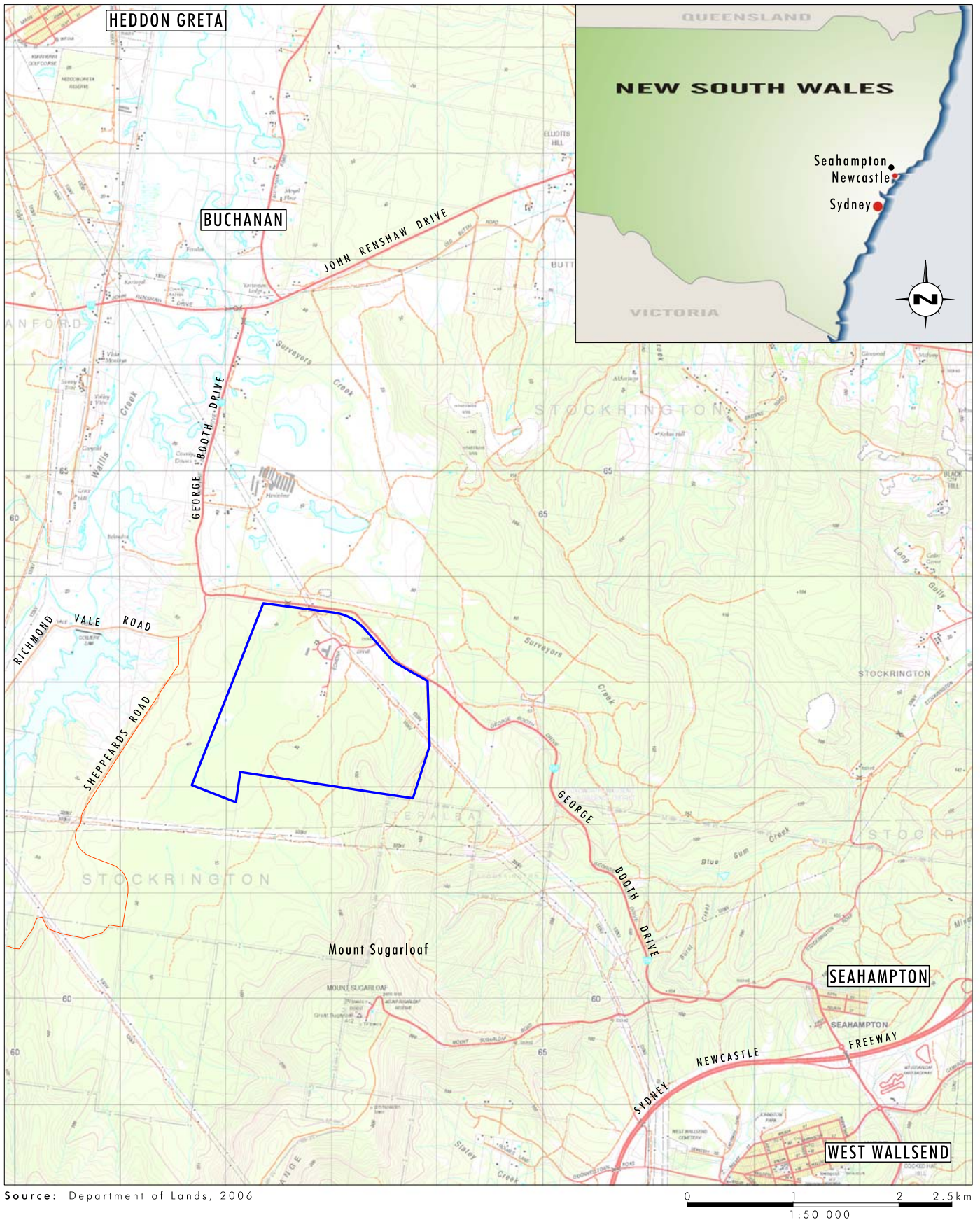
Ph. 08 6260 0700

Canberra

PO Box 6135
56 Bluebell Street
O'Connor ACT 2602

Ph. 02 6262 948

www.umwelt.com.au



Legend

Technology Centre Boundary

FIGURE 1
Locality Plan

- truck weighing, loading and unloading facilities;
- utilities including hot water, cooling water, chilled water and compressed air systems, electricity distribution cables and transformer;
- stormwater and spill management controls; and
- an office, control room, switch room and quality control laboratory.

Access to the existing ANE facility is via the site access road from George Booth Drive.

2. Proposed Approval Path

Orica proposes to modify the Project approval for the ANE production facility under the provisions of Section 75W of the EP&A Act. Part 3A of the EP&A Act was repealed in October 2011, however, Schedule 6A Clause 2(1)(a) of the EP&A Act defines the existing approved project (09_0090) as a '*transitional Part 3A project*' as follows:

2 Transitional Part 3A projects

(1) The following are, subject to this Schedule, transitional Part 3A projects:

(a) an approved project (whether approved before or after the repeal of Part 3A),

Therefore, in accordance with Schedule 6A Clause 3(1), the provisions of Section 75W of the EP&A Act apply to this application to modify the project (being a transitional Part 3A project):

3 Continuation of Part 3A—transitional Part 3A projects

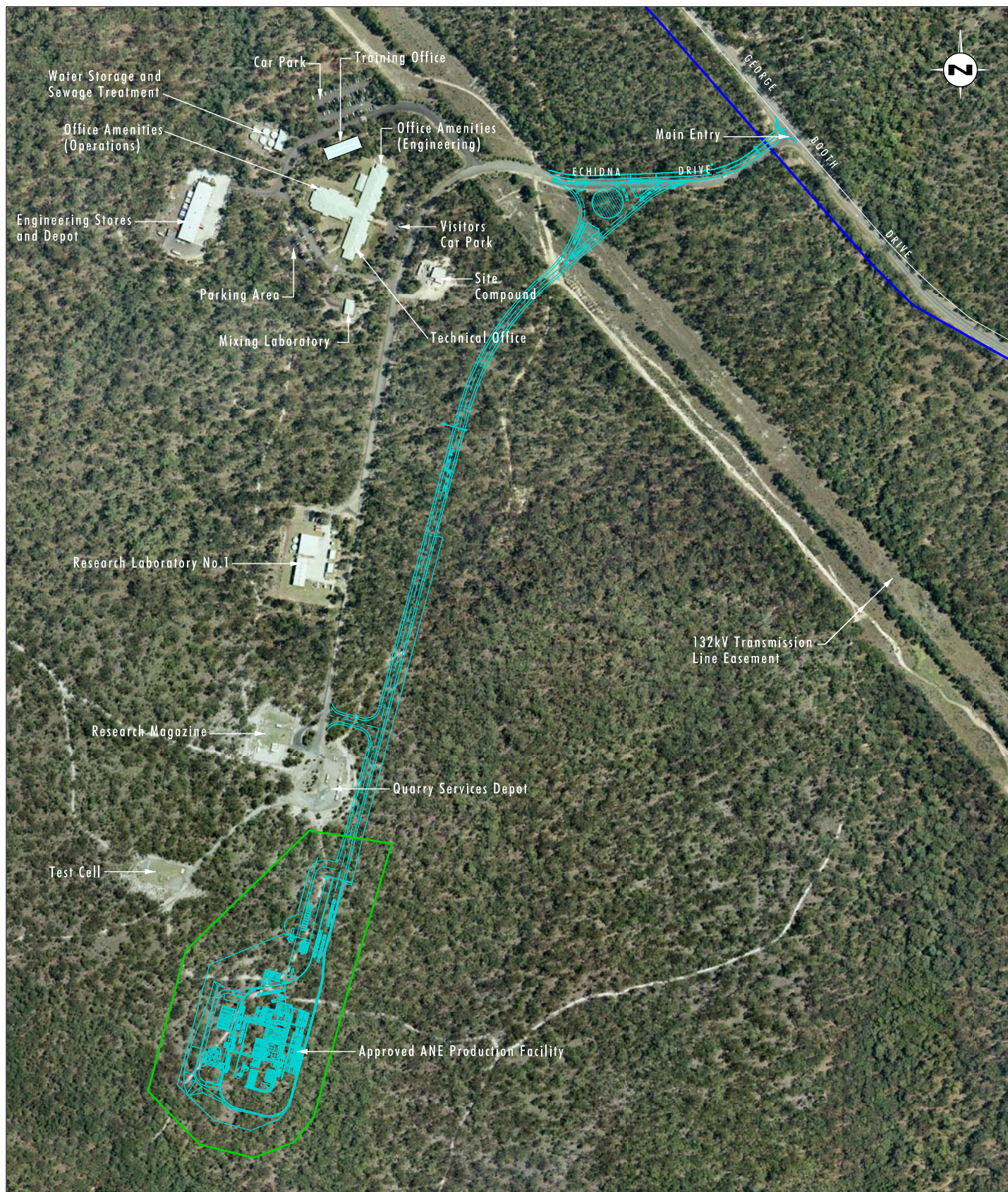
(1) Part 3A of this Act (as in force immediately before the repeal of that Part and as modified under this Schedule after that repeal) continues to apply to and in respect of a transitional Part 3A project.

3. Proposed Modifications

Orica is seeking to make minor additions to the infrastructure of the existing ANE production facility to improve the efficiency to its operations. The proposed infrastructure would be constructed within the existing ANE production facility footprint (refer to **Figure 2**) and is described below. Concept plans of the proposed development are provided in **Attachment 1**.

3.1 2 ML Rainwater Storage Tank

A new 2 ML storage tank is proposed to be located next to the north side of the existing mineral oils tanks. RLs for the top and bottom of the tank are shown in **Attachment 1**, which also shows the location of the tank relative to the overall structural arrangement of the ANE plant. The storage tank will capture rainwater that falls anywhere within the perimeter of the concrete bunded area around the plant operations. At present, during rain events, water flows directly off the site into the surrounding bushland. The proposed rainwater tank will collect water directed to a collection sump that pumps water directly to the tank. Water in the new tank will be pumped via a filter and then sent back into the process water system for use in the ANE plant.



Source: Orica (2008), Department of Lands (2006), Google Earth (2009)

0 100 200 300m
1:6 000

Legend

- Technology Centre Boundary
- Approved ANE Production Facility and Access Road
- 30m Bushfire Buffer Clearance Area

FIGURE 2

Footprint of Approved
ANE Production Facility and
Access Road

3.1.1 Construction Details

The proposed tank will be a bolt together style tank and will be constructed as follows: the ground preparation for the tank installation will need to have a bearing pressure of 150kpa. To ensure this is achieved, 300 millimetres of the existing fill material will be excavated and replaced with a stabilised material that will cover the tank footprint and an additional 1 metre outside the existing footprint (total area approximately 380 m²). The tank will be approximately 20 metre (diameter) x 8 metre (high). A concrete ring beam will be constructed for mounting the base of the tank and also for jacking proposes during construction. The tank will be built of bolt together painted steel panelling with an internal rubber bladder. The ring beam of the tank will be used to jack a complete ring panelled section up before installing the next sheeted ring panel section below. This process will continue until the tank is complete.

3.2 Storage Shed

A new storage shed is proposed to be installed just south of the existing office and amenities. The shed is proposed to be used for the storage of spare parts, archives and safety equipment for the ANE plant. The proposed shed is approximately 132 m² (17.7 x 7.4 m) and 4.75 metres high (sloped skillion roof). It will be sited between the existing sheds on the site (refer **Attachment 1**).

3.2.1 Construction Details

The shed will be a steel frame construction with sheet metal walls and roof with a roll-a- door entrance constructed on site from prefabricated materials to be delivered to site. Detailed construction plans for the shed are shown in **Attachment 2**, detailed as follows:

- Drawing No. 0516-S-1155 - Steelwork Sheet 1 (column, base plate and roof plans);
- Drawing No. 0516-S-1156 - Steelwork Sheet 2 (elevations);
- Drawing No. 0516-S-1157 - Steelwork Sheet 3 (sheeting);
- Drawing No. 0516-S-1158 - Steelwork Sheet 4 (details);
- Drawing No. 0516-G-1039 - Layout for construction access;
- Drawing No. 0516-C-1157 - Slab (concrete details);
- Drawing No. 0516-C-1158 - Driveway and concrete pathway (concrete details).
- Drawing No. 0516-C-1156 - Waste container storage bund; and
- Drawing No. 0516-C-1096 - Earthing arrangement.

3.3 Construction Works

Construction of the shed and water tank will be undertaken between 7.00 am and 6.00 pm on weekdays and weekends (if required). It is expected that the construction works for the shed will take four to six weeks to complete, while construction of the water tank is also expected to take four to six weeks. Both structures will be constructed to meet relevant Australian Standards and be certified by an appropriately qualified engineer.

No clearing of vegetation or disturbance of previously undisturbed ground will be required as both structures, including construction and trades access to the shed and tank site, will be within the existing footprint of the approved ANE production facility. Concrete hard stand areas will be constructed for the both the shed and water tank.

4. Environmental Assessment

Orica has engaged Umwelt to prepare an Environmental Assessment for the proposed modification of project approval 09_0090 for construction of additional infrastructure within the existing approved ANE production facility. The results of the Environmental Assessment (EA) are provided below.

The EA prepared for Project Application 09_0090 (Umwelt 2009) identified key environment and community issues for the project. The potential key environment and community issues identified as requiring further assessment in the EA for construction activities associated with the Project were:

- ecological impact assessment;
- Aboriginal cultural heritage assessment;
- surface water;
- noise impact assessment;
- air quality assessment; and
- traffic generation assessment.

The potential key environment and community issues identified as requiring further assessment in the EA for operational activities associated with the Project were:

- ecological impact assessment;
- Aboriginal cultural heritage assessment;
- noise impact assessment;
- greenhouse gas and energy assessment;
- preliminary hazard analysis;
- bushfire risk assessment; and
- traffic impacts assessment.

As Orica are seeking to make only minor additions to the existing ANE production facilities issues relating to air quality, traffic generation, greenhouse gas/energy and hazards are not considered as key environment and community issues relevant to the proposed modification. The water tank and shed are not specific elements of the ANE production process. As such, their construction and operation will have negligible effects on the aforementioned issues, which were assessed as part of the EA for the ANE production facility. The remaining issues are addressed in the following sections of the report.

4.1 Ecology

All construction work for both the water tank and storage shed will be undertaken within the existing footprint of the approved ANE production facility. Vegetation within the existing footprint was cleared as part of the construction of the ANE production facility.

There are no ecological values or features remaining within the existing footprint area and as a result, the proposed construction and operation of the water tank and storage shed will have no impact on the remaining ecological values or features of the site.

4.2 Aboriginal Archaeology

The project area was assessed in the EA prepared for Project Application 09_0090 (Umwelt, 2009) as being of low Aboriginal archaeological significance. Monitoring of ground disturbance works was undertaken and all artefacts were collected. Due to the disturbance of the existing project area during construction of the ANE production facility, there is limited potential for any Aboriginal sites or objects to be impacted by the construction and operation of any additional infrastructure within the existing footprint area. Therefore, further assessment of Aboriginal archaeology was considered unwarranted.

In recognition that it is possible, but very unlikely that undetected archaeological material may occur within the project area, the following recommendations are made:

- should skeletal material be identified during ground disturbance works all work must cease and the NSW Police, OEH and relevant Aboriginal stakeholders contacted immediately; and
- should additional artefactual material be exposed during ground disturbance works the artefacts will be collected in accordance with the collection methodology in Appendix 6 of the EA prepared for the project (Umwelt, 2009). Due to the proposed infrastructure being located within the approved project area, which has already been disturbed, it is considered that there is no further requirement for monitoring of ground disturbing works in this area by Aboriginal stakeholders.

4.3 Noise

The operation of the water tank and storage shed will not add to existing operational noise levels of the ANE production facility. Traffic noise associated with delivery of materials to the site for the water tank and storage shed would be in accordance with that assessed and reported in the EA prepared for Project Application 09_0090 (Umwelt, 2009).

Construction of the water tank and storage shed is proposed between the hours of 7 am and 6 pm on weekdays and weekends (if required). Noise sources as a result of construction will include civil works such as the laying of foundations, minor earthworks (e.g. filling of the batter), structural steel erection, and general works typically associated with erection of a water tank and shed.

The noise assessment reported in the EA (Umwelt, 2009) indicated that construction noise levels were predicted to comply with the OEH's daytime construction noise criteria and the adopted night time construction noise criteria at all residential receiver locations.

Given the significantly smaller scale of works proposed in relation to erection of the water tank and storage shed, it is considered that the construction noise would also comply with the aforementioned noise criteria.

The proposed construction noise controls in the EA (Umwelt, 2009) are considered appropriate for the proposed modification and will be implemented.

4.4 Bushfire

The proposed storage shed is located so as to maintain the Asset Protection Zone (APZ) distance of 30 metres around the existing ANE production facility (**Figure 2**). Part of the proposed water tank may intrude slightly (several metres) into the 30 metre APZ. This is not, however, considered to be an issue for concern for the following reasons:

- the Bushfire Threat Assessment reported in the EA prepared for the project (Umwelt, 2009) recommended that a minimum 20 metre wide APZ be established around the northern, southern and eastern sides of the proposed ANE Production Facility, and a minimum 25 metre wide APZ on the western side of the proposed ANE Production Facility. Notwithstanding, Orica decided to exceed the recommendation and constructed an APZ of 30 metres around the proposed ANE Production Facility. Therefore, the intrusion of the tank by several metres into the 30 m APZ is still in excess of the originally recommended 20 m APZ; and

- the water tank is constructed of concrete and steel and is not subject to *AS3959:2009 - Construction of Buildings in Bushfire Prone Areas* (Standards Australia, 2009). The structural integrity of the water tank is therefore not at risk from a bushfire event in the area.

Therefore, no further assessment in relation to bushfire risk is required and no additional mitigation measures are required.

4.5 Other Issues

4.5.1 Surface Water

The Orica Mining Services Technology Centre is located in the catchment area of Surveyors Creek, a tributary of Wallis Creek, on the footslopes of the Sugarloaf Range. Surveyors Creek has a catchment area of approximately 2940 hectares.

At present, runoff from building roofs and hardstand areas (approximately 0.15 hectares of the 2 hectare ANE production facility site) is directed to a hydrocarbon and sediment trap for the removal of potential contaminants. Water treated in the hydrocarbon and sediment trap is harvested for re-use and stored in two recycled water tanks that have a combined capacity of approximately 93,000 L. Runoff in excess of the storage capacity of the recycled water tanks is treated to a water quality standard similar to the receiving waters and released to downstream drainage lines via a level spreader.

The proposed rainwater storage tank will capture rainwater that falls anywhere within the perimeter of the concrete bunded area around the plant operations, as well as collecting runoff from the roof of the storage shed and water tank. The proposal will effectively reduce the volume of excess water that is currently released from the site to the Surveyors Creek catchment, given that storage capacity will increase from 93 kL to 2 ML. Interception of water off the site for re-use was addressed during the impact assessment of the ANE production facility and considered to not be an issue of concern.

Despite the proposed increase in water retained for reuse onsite, the impact on the hydraulic function and ecology of Surveyors Creek catchment (reduction in the discharge of excess water off the site) is considered to be insignificant, given that the area of the site from which runoff is proposed to be reduced (0.15 hectares) represents approximately 0.005 % of the catchment area.

4.5.2 Dust Management

Construction activities may generate dust as a result of minor earthworks (fill activities). To minimise the level of dust generated by construction activities, the following mitigation measures will be implemented:

- minimise areas to be disturbed by construction activities;
- watering of fill areas with water carts, where required; and
- re-use of stockpiled soils on site for the filling works.

4.5.3 Construction Waste

The construction of the proposed water tank and storage shed will involve predominantly prefabricated components, which are assembled off site and transported to the site for installation. These construction activities are therefore not expected to generate a significant amount of waste materials. Any material generated during earthworks will be re-used on site where possible.

5. Justification and Benefits

The environmental impacts associated with the construction and operation of the proposed additional infrastructure located within the existing ANE production facility footprint, are expected to be minimal. The design and location of the proposed water tank and storage shed will not result in any changes to the environmental impact as assessed in the EA prepared for the project (Umwelt, 2009), as all facilities will be constructed within the existing disturbed area of the site and will have an appearance and function which is generally consistent with the existing ANE production facility.

The benefits of constructing and operating additional infrastructure within the existing ANE production facility footprint are:

- provision of a working environment suitable for the operations in the future;
- locating any new infrastructure within the existing footprint minimises the environmental impact and avoids additional surface disturbance in another location; and
- the design allows Orica to tailor the infrastructure to the operations throughout the life of the ANE production facility.

Given that the proposed water tank and storage shed involves limited environmental impacts beyond the current project approval (09_0090), Orica seeks a modification to project approval 09_0090 under Section 75W of the EP&A Act to allow for the proposed activities outlined in this letter.

Your earliest consideration of this matter would be greatly appreciated. If you would like any further information, please don't hesitate to contact either myself or Justin Meleo at Umwelt on (02) 4950 5322.

Yours faithfully



Michelle Kirkman
Associate

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References

Standards Australia (2009). *AS 3959-2009 Construction of buildings in bushfire-prone areas*.

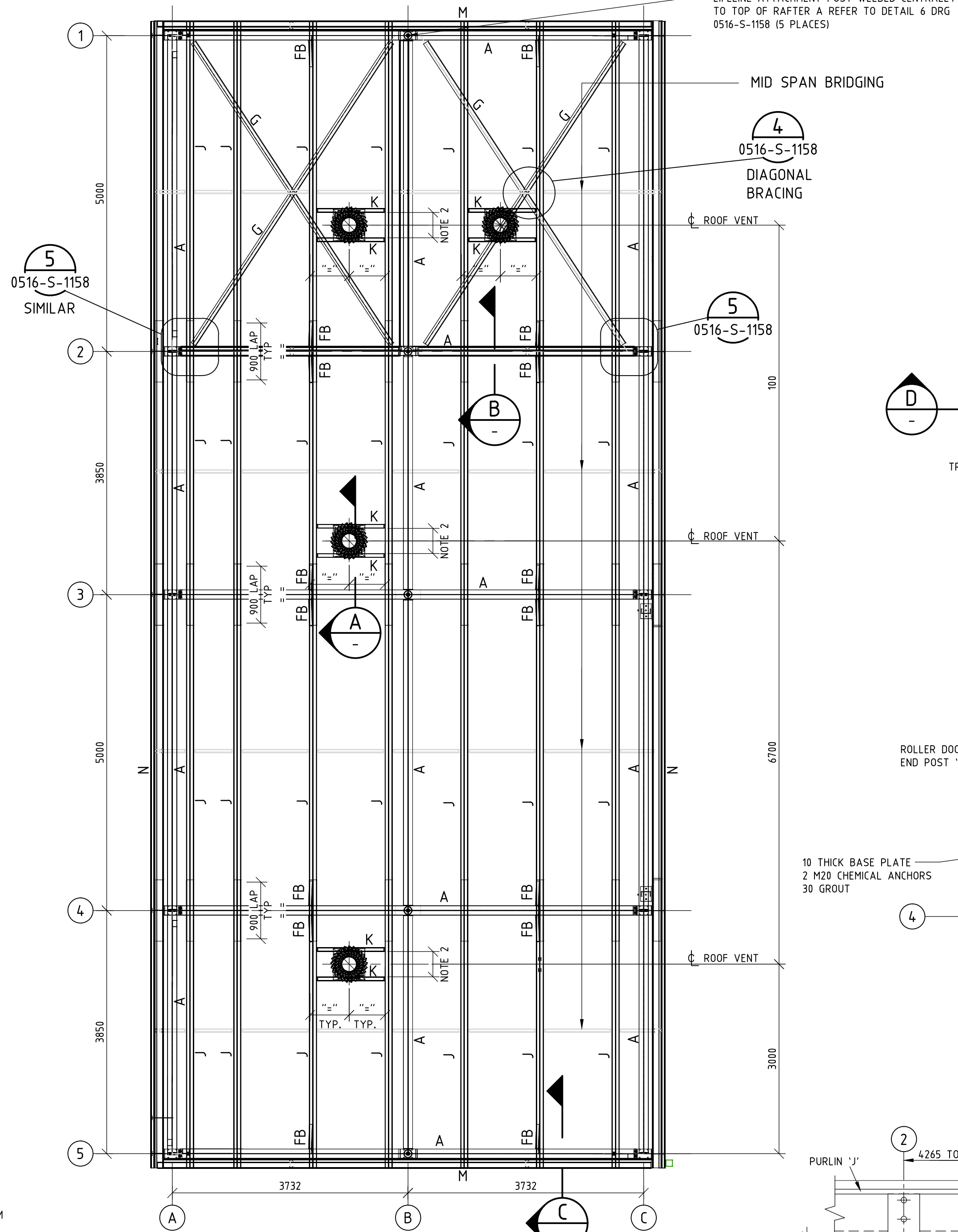
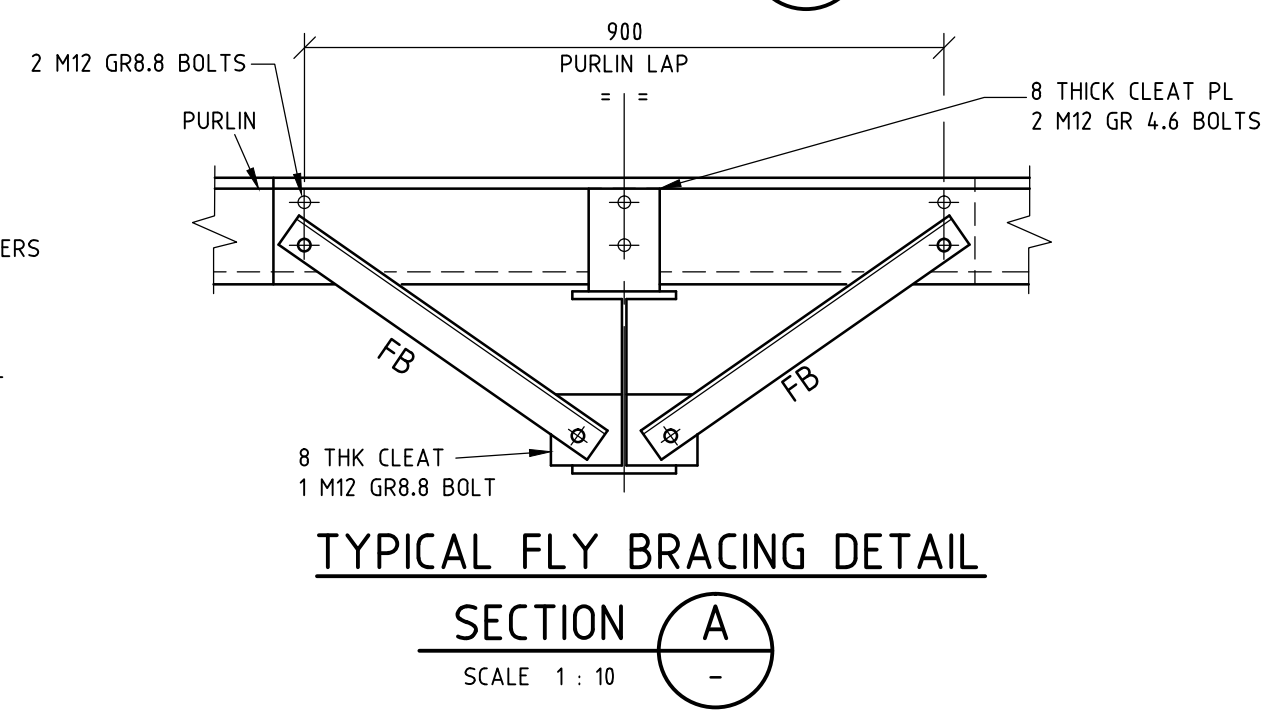
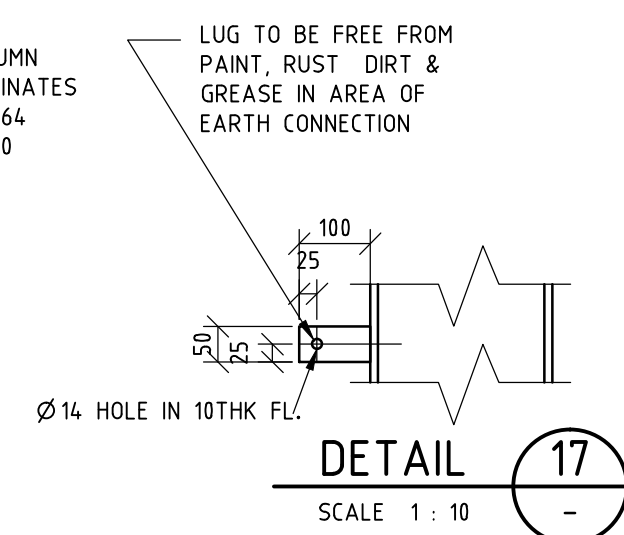
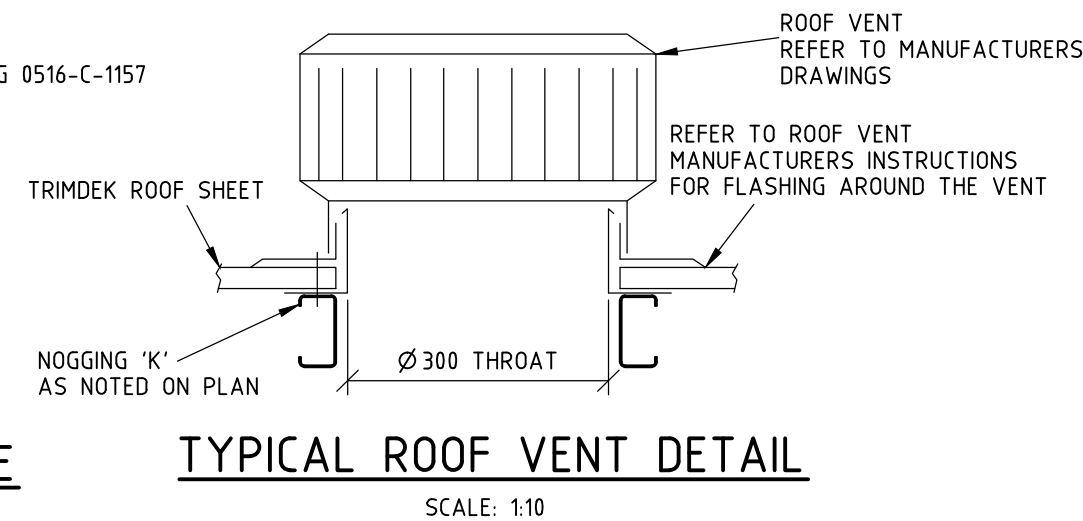
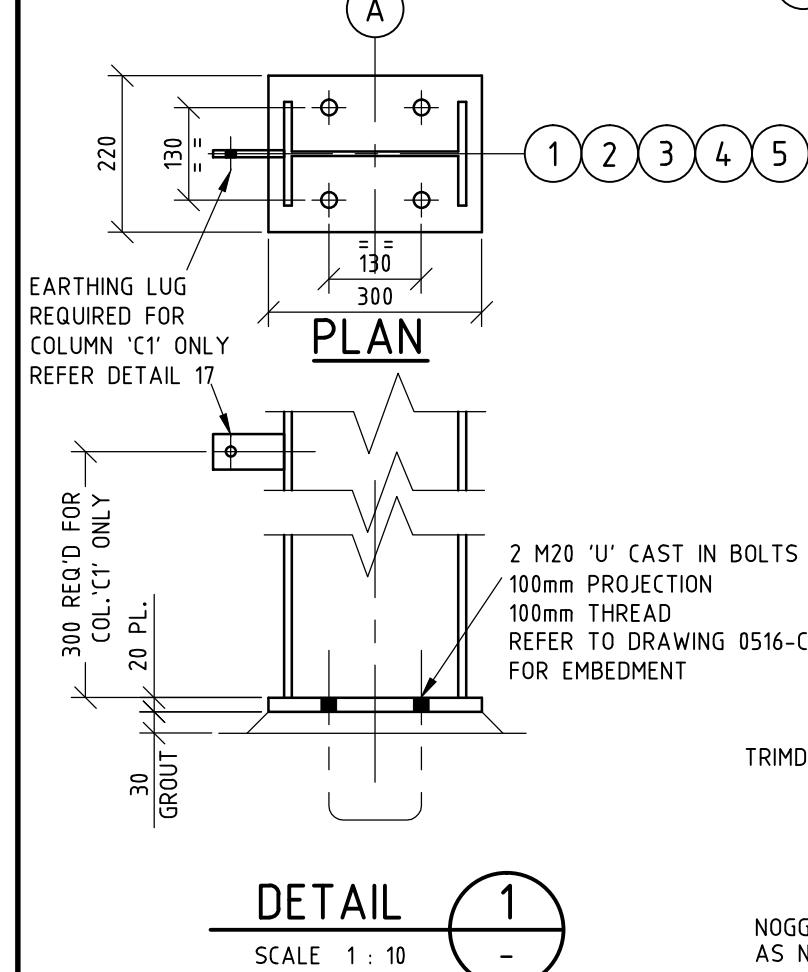
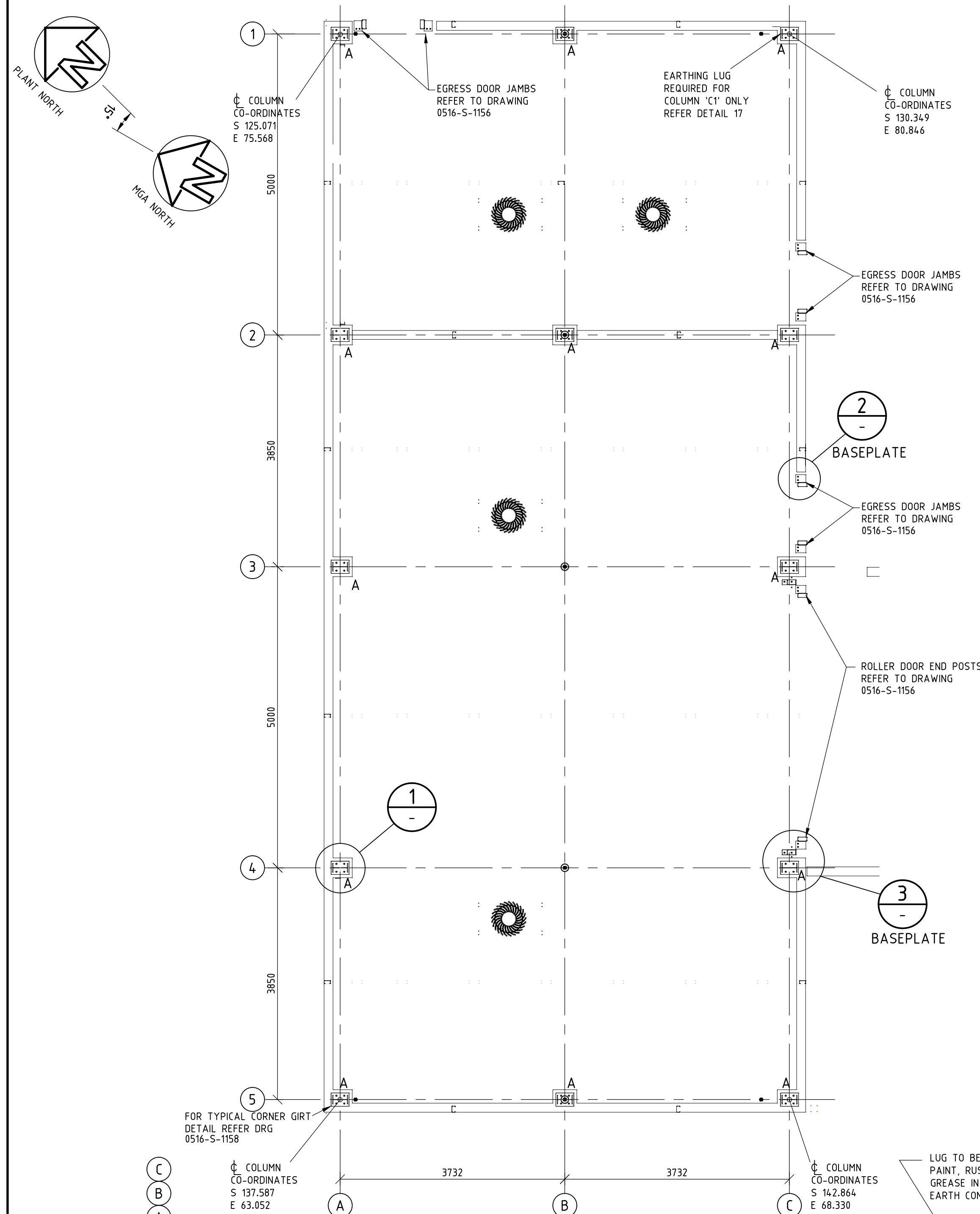
Umwelt (Australia) Pty Ltd (2009). *Environmental Assessment - Proposed Ammonium Nitrate Emulsion Production Facility and Continued Operation of Orica Mining Services Technology Centre, Richmond Vale, NSW*. Unpublished report prepared for Orica Australia Pty Limited.



ATTACHMENT 1



ATTACHMENT 2



MARK	DESCRIPTION
A	250 UB 37
B	200 UC 60
C	150 UB 18
D	150 PFC
E	250 PFC
F	50 x 50 x 6 EA
G	90 x 90 x 10 EA
H	125 x 125 x 8 EA
J	Z15019
K	C15019
L	Z20019
M	C10015
N	FP23019
P	310 UB 46
Q	200 UB 30
R	200 PFC
S	88.9 x 5.9 CHS (GR 250)
T	75 x 75 x 6 EA
U	360 UB 51
V	150 UC 30
W	75 x 75 x 10 EA
X	50 x 50 x 3 EA
Y	75 x 75 x 8 EA
Z	100 x 100 x 10 EA
A1	150 x 90 x 10 UA
B1	250 UC 89
C1	360 UB 57
D1	410 UB 60
E1	100 x 100 x 12 EA
F1	150 UC 37
G1	100 UC 15
H1	100 PFC
BRIDGING	'LYSAGHT' HOOK-LOK 2 (OR EQUIV.) PROPRIETARY SYSTEM
FB	FLY BRACING 50 x 50 x 6 EA

NOTES:

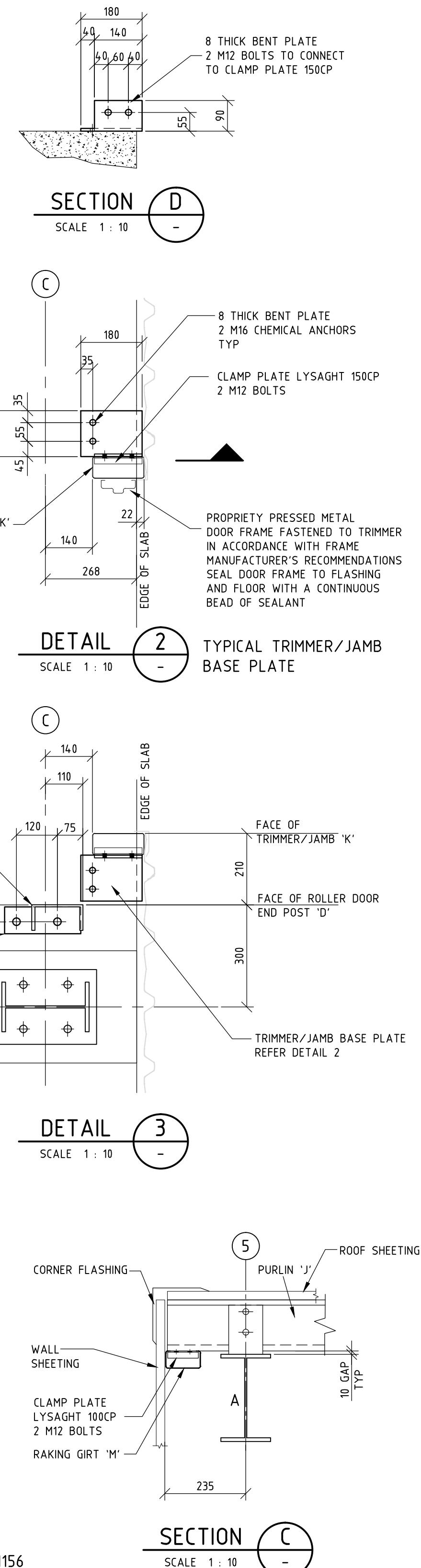
- FOR GENERAL CONSTRUCTION NOTES REFER TO DRG. 0516-C-1050
- NOGGING 'K' SPACING TO SUIT ROOF VENT MANUFACTURERS REQUIREMENTS.

REFERENCE DRAWINGS

STORES, ARCHIVES & SAFETY EQUIPMENT BUILDING STEELWORK SHEET 2 OF 4
 STORES, ARCHIVES & SAFETY EQUIPMENT BUILDING STEELWORK SHEET 3 OF 4
 STORES, ARCHIVES & SAFETY EQUIPMENT BUILDING STEELWORK SHEET 4 OF 4
 GENERAL PLANT AREA STRUCTURAL WORK GENERAL ARRANGEMENT
 STORES, ARCHIVES & SAFETY EQUIPMENT BUILDING FOOTINGS CONCRETE DETAILS

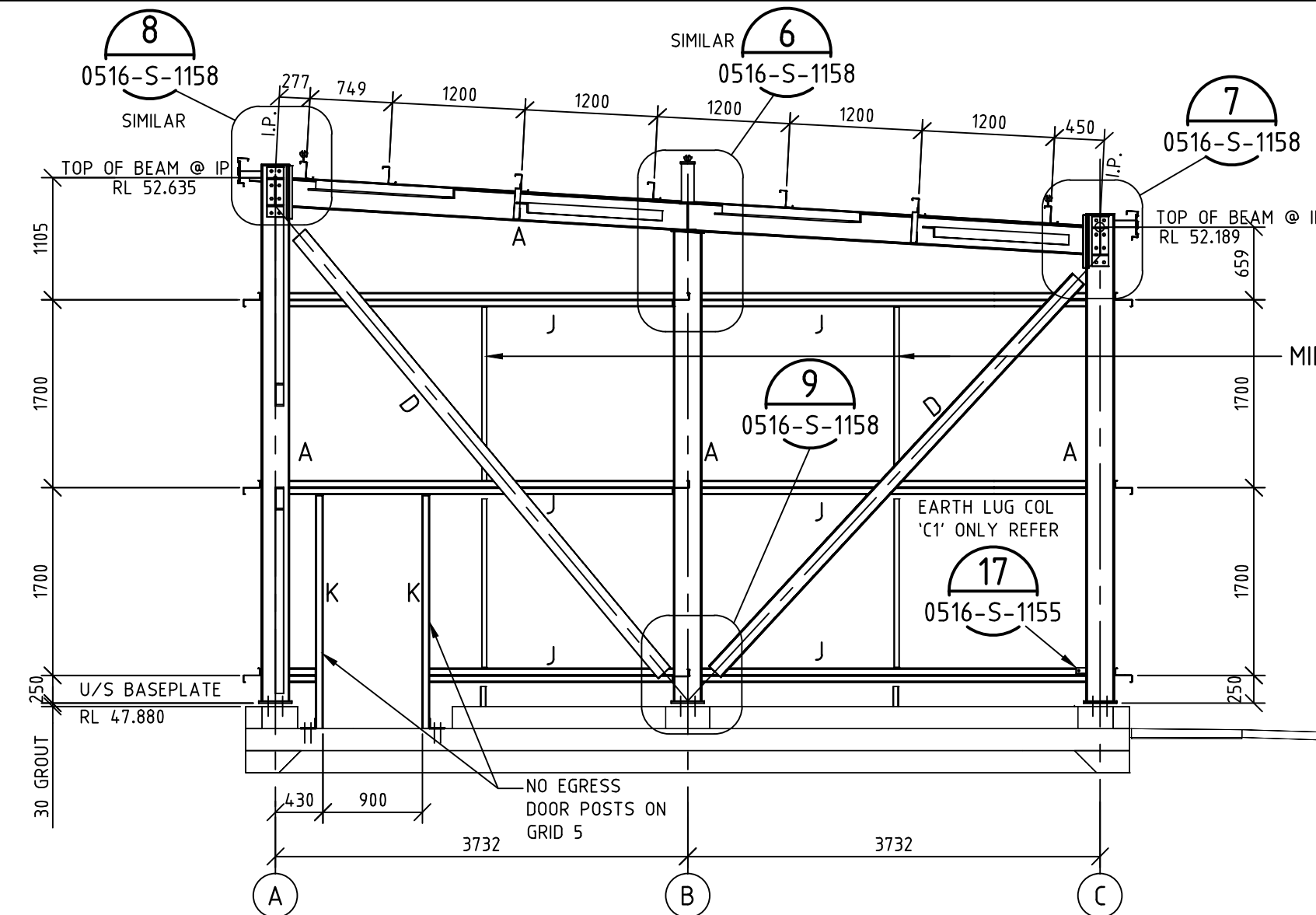
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 0516-S-1157
 0516-S-1158
 0516-S-1050
 0516-C-1157

REV	DATE	DESCRIPTION	DRAWN	CHECKED	ENGINEER	RELEASED
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1	13.04.12	ISSUED FOR COMMENTS	BB	GH	CK	DH

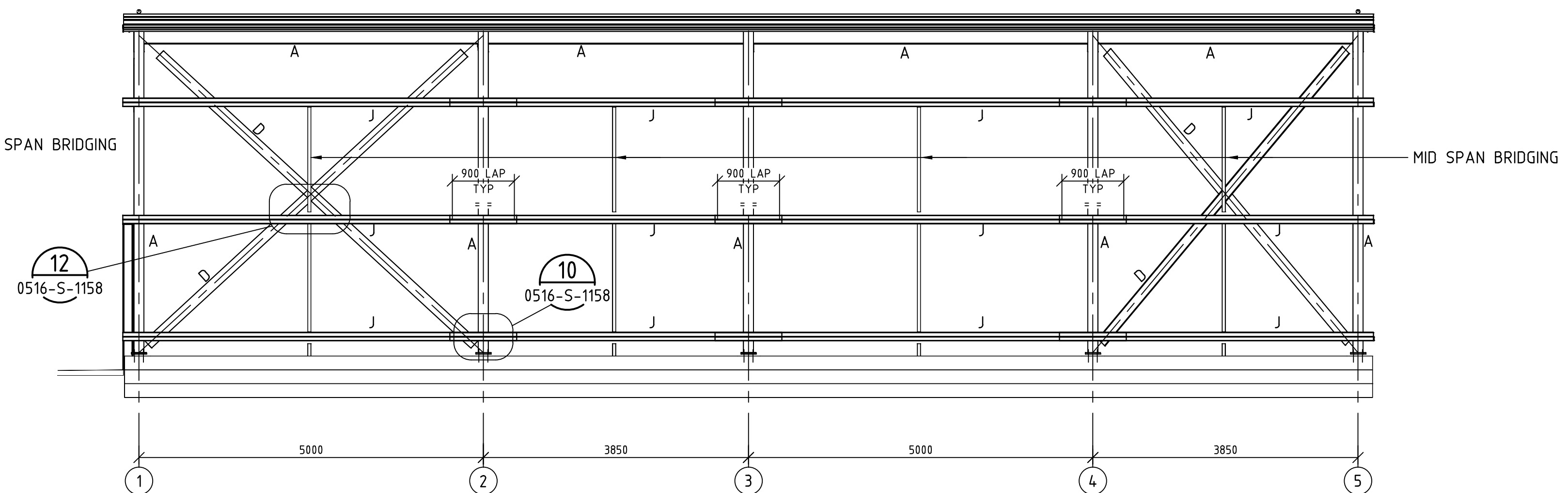


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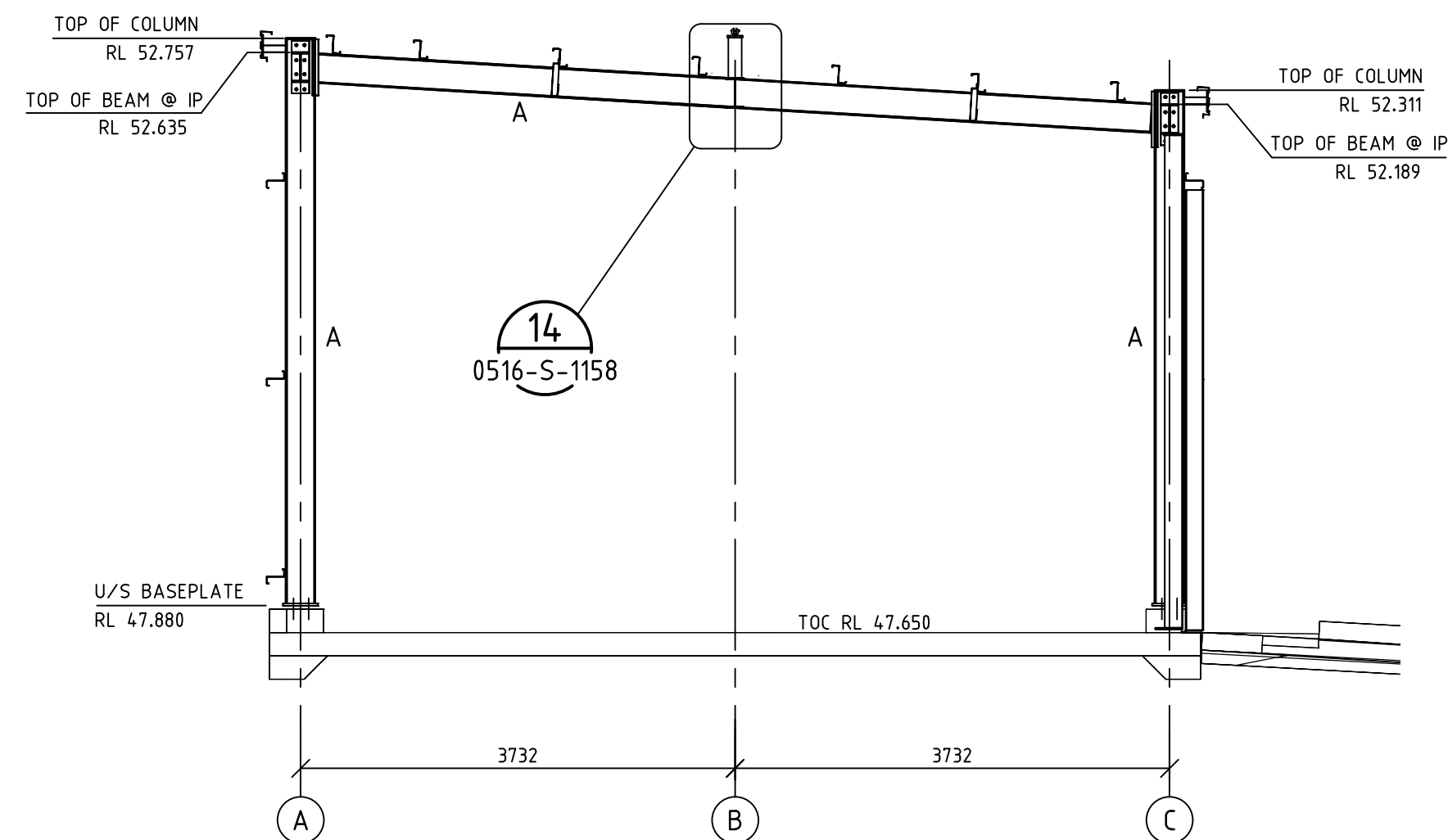
DEVELOPMENT CONSENT NUMBER	
I.C.D. (Asia Pacific) Pty Ltd 152 Bungaree Road, Pendle Hill, NSW 2145. Phone No.: (02) 9636-3777 Fax No.: (02) 9688-4124 E-Mail Address: icdeng@icdasiaspacific.com.au	
CLIENT: ORICA MINING SERVICES	
TITLE: KURRI KURRI AMMONIUM NITRATE EMULSION PLANT STORES, ARCHIVES & SAFETY EQUIPMENT BUILDING STEELWORK SHEET 1 OF 4 COLUMN, BASEPLATE & ROOF PLANS	
ICD JOB No. 0516	ICD CAD FILE No. 0516-S-1155
SCALE: AS NOTED	DRG. No. 0516-S-1155
A1	REV: A



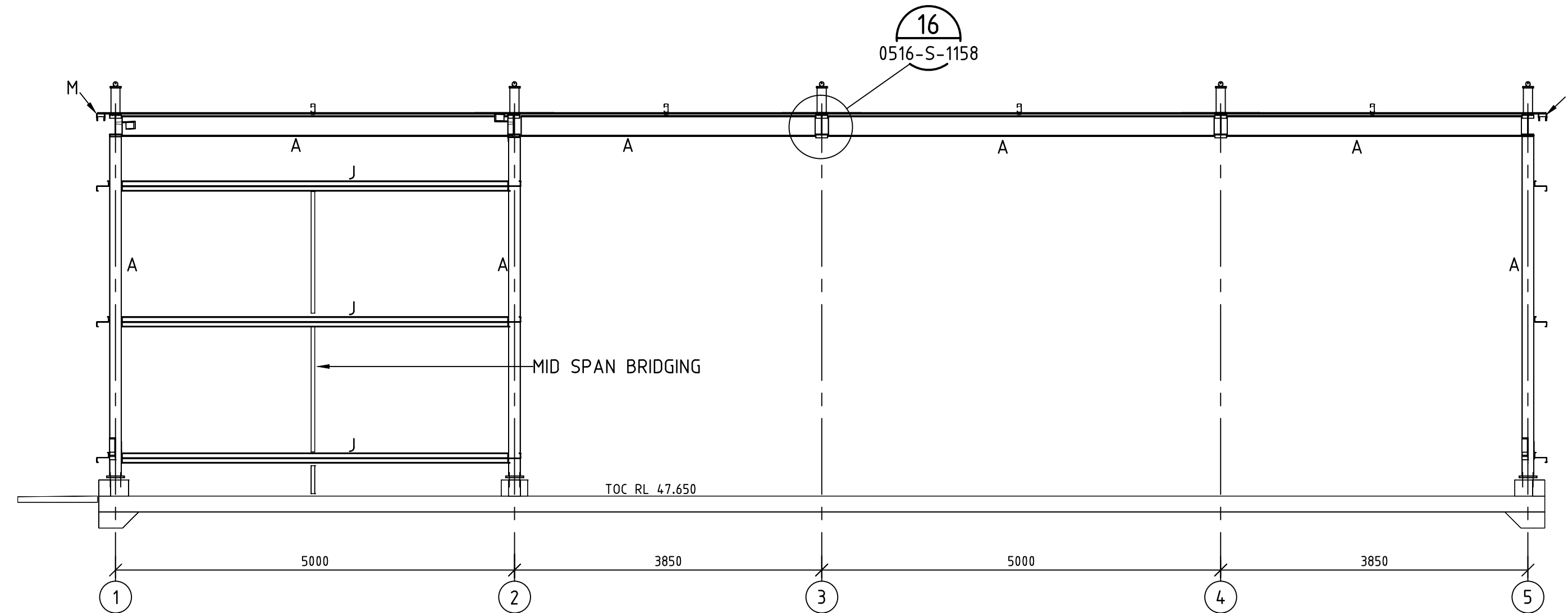
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ELEVATION - GRID 5 SIMILAR
SCALE 1 : 50



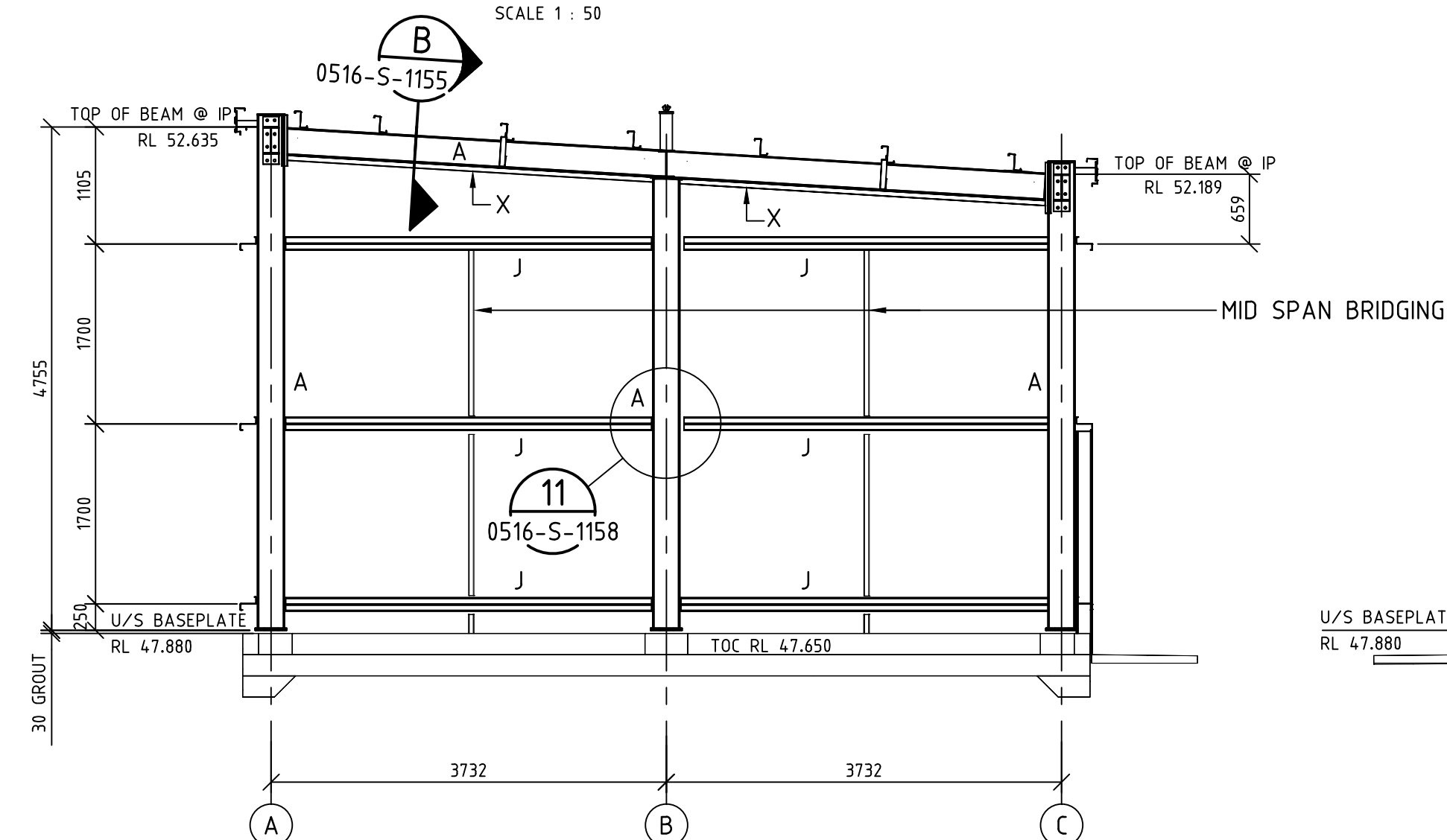
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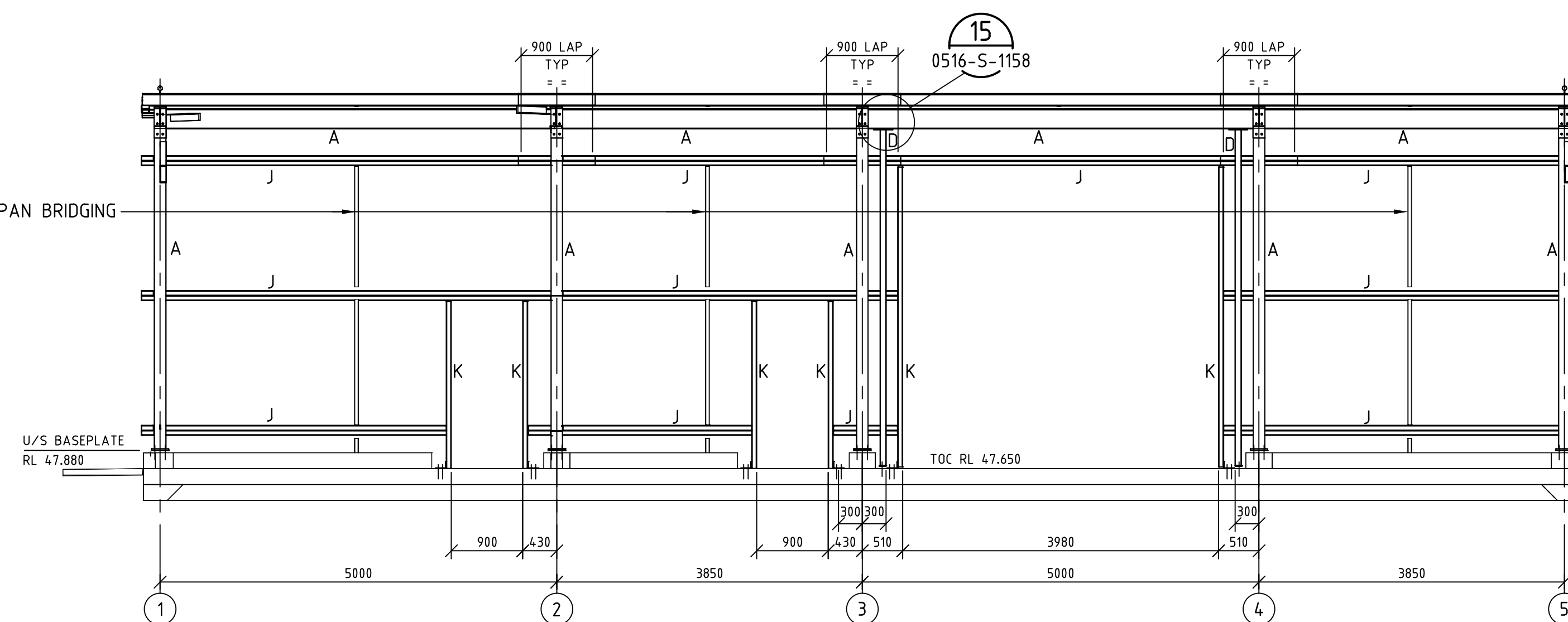
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SCALE 1 : 50



ELEVATION - GRID B
SCALE 1 : 50



ELEVATION - GRID 2
SCALE 1 : 50



ELEVATION - GRID C
SCALE 1 : 50

REFERENCE DRAWINGS

STORES, ARCHIVES & SAFETY EQUIPMENT BUILDING STEELWORK SHEET 1 OF 4 0516-S-1155
STORES, ARCHIVES & SAFETY EQUIPMENT BUILDING STEELWORK SHEET 3 OF 4 0516-S-1157
STORES, ARCHIVES & SAFETY EQUIPMENT BUILDING STEELWORK SHEET 4 OF 4 0516-S-1158
GENERAL PLANT AREA STRUCTURAL WORK GENERAL ARRANGEMENT 0516-S-1050

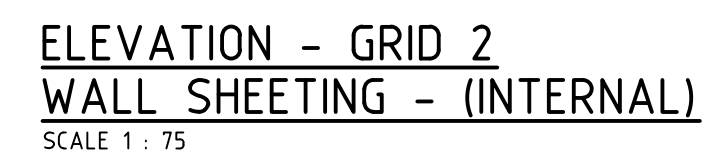
NOTES:
1. FOR GENERAL CONSTRUCTION NOTES REFER TO DRG 0516-C-1050

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A	250 UB 37
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FB	FLY BRACING 50 x 50 x 6 EA

FOR CONSTRUCTION

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CLIENT: ORICA MINING SERVICES			
TITLE: KURRI KURRI AMMONIUM NITRATE EMULSION PLANT STORES, ARCHIVES & SAFETY EQUIPMENT BUILDING STEELWORK SHEET 2 OF 4 ELEVATIONS			
ICD JOB No. 0516		ICD CAD FILE No. 0516-S-1156	
SCALE: 1 : 50	A1	DRG. No. 0516-S-1156	REV: A



1. FOR GENERAL CONSTRUCTION NOTES REFER DRG 0516-C-1050
2. ALL GUTTER FALLS TO BE 1/80 U.N.O.
3. SHEETING TO BE COLORBOND TRIMDEK HI-TEN ROOF SHEET BMT 0.42
4. ALL PENETRATIONS OF THE ROOFS & WALL SHEETING SHALL BE ADEQUATELY FLASHED AND SEALED.
5. FOR BUILDING COLOUR SCHEME REFER TO DRG 0516-C-1050
6. TRANSLUCENT SHEETING TO BE SUITABLE FOR SITE CONDITIONS AT KURRI KURRI.
SPACING BETWEEN GIRTS AND FOR SELECTED ROOF SHEETING PROFILE.
REFER SHEETING MANUFACTURER'S RECOMMENDATIONS.

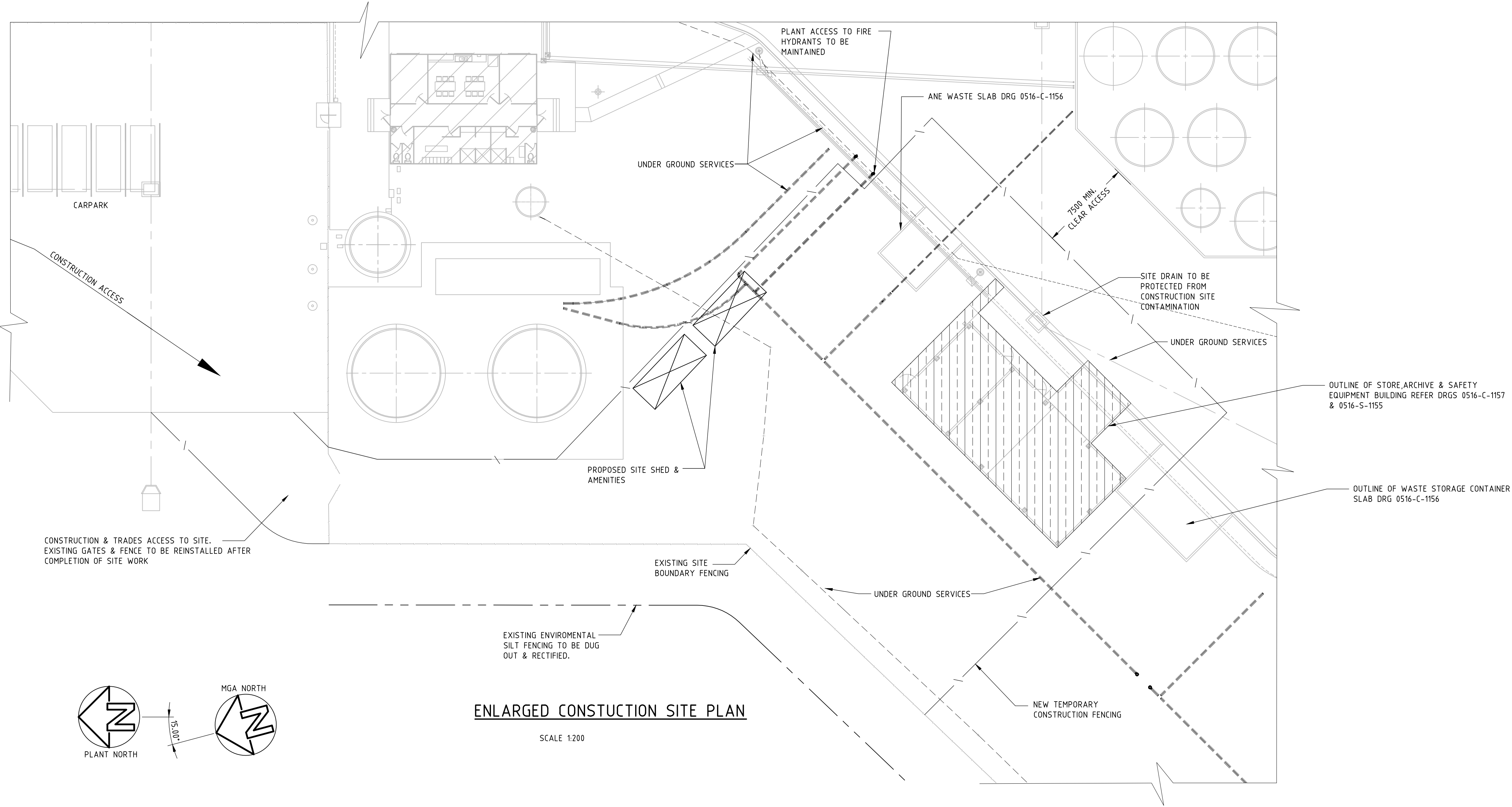
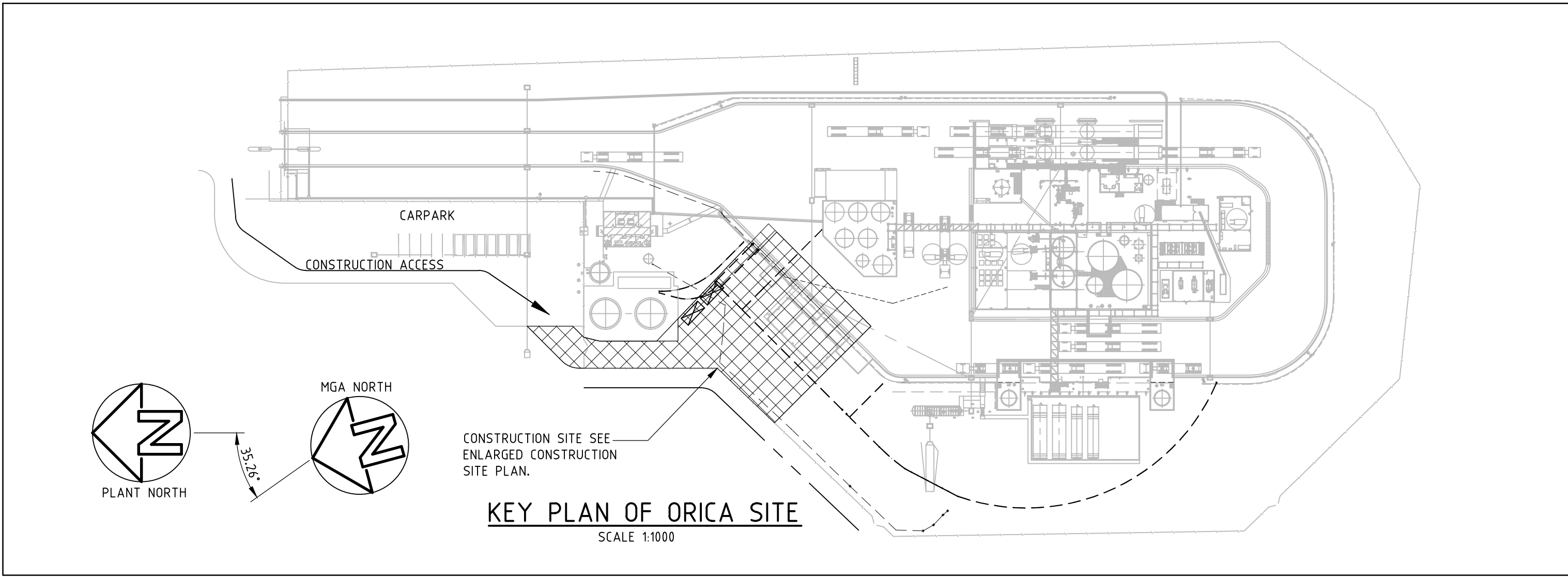
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STORES, ARCHIVES & SAFETY EQUIPMENT BUILDING STEELWORK SHEET 2 OF 4	0516-S-1156
STORES, ARCHIVES & SAFETY EQUIPMENT BUILDING STEELWORK SHEET 4 OF 4	0516-S-1158

1. THE ROOF & WALL SHEETING ARE TO BE COLORBOND XSE TRIMKID H-TEN BMT 0.42.
2. TRANSLUCENT SHEETING SHALL BE ALSYNITE ULTRA-SAFE & HAVE SAME PROFILE AS THE ROOF SHEETING.
3. FASTENERS SHALL BE CLIMASEAL 2000 WITH SHANK GROUND NO. 14-10x42 HEX HEAD SELF DRILLING AND TAPPING SCREWS WITH EPDM SEALS. FIVE (5) FIXINGS PER SHEET FOR END AND LAP SUPPORTS AND (3) FOR INTERNAL. SIDE LAPS TO BE FASTENED USING CLIMASEAL 2000 WITH SHANK GROUND NO. 8x12mm SCREW WITH HEX HEAD AND EPDM SEAL. AT A MAXIMUM SPACING OF 900mm FOR ROOF AND 1200mm FOR WALLS.
4. ALL FASTENING HEADS ARE TO BE PRE-PAINTED TO MATCH SHEETING.
5. ROOF VENTILATORS TO BE ALSYNITE INDUSTRIAL RANGE OR EQUIVALENT WITH 300mm DIAMETER AIRPORT.
6. ALL ROLLER DOORS ARE TO BE B&D ROLL-A-DOOR SERIES 2 INDUSTRIAL OR EQUIVALENT, ELECTRICALLY OPERATED, SIZED TO SUIT OPENING.
7. THE EGRESS DOORS ARE TO BE METAL WITH 6.38 LAMINATED GLASS WINDOWS
7. COLOUR SCHEME - REFER TO DRG. 0516-C-1050.

A	18.04.12	ISSUED FOR CONSTRUCTION	GH	SV	CK	DH	
1	13.04.12	ISSUED FOR COMMENTS	BB	GH	CK	DH	
REV	DATE	DESCRIPTION	DRAWN	CHECKED	ENGINEER	RELEASE	

DEVELOPMENT CONSENT NUMBER			
 I.C.D. (Asia Pacific) Pty Ltd 152 Bungee Road, Ponde Hill, NSW 2145. Phone No.: (02) 9406-3777 Fax No.: (02) 9086-4124 E-mail Address: icdeng@icdasiapacific.com.au			
CLIENT: ORICA MINING SERVICES			
TITLE: KURRI KURRI AMMONIUM NITRATE EMULSION PLANT KURRI, ARCHIVES & SAFETY EQUIPMENT BUILDING STEELWORK SHEET 3 OF 4 SHEETING			
ICD JOB NO. 0516		ICD CAD FILE NO. 0516-S-1157	
SCALE: V	A1	DRG. NO. 0516-S-1157	REV: A

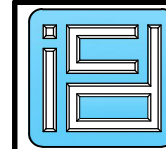
ICD JOB No. 0516	ICD CAD FILE No: 0516-S-1158		
SCALE: AS NOTED	A1	DRG. No: 0516-S-1158	REV: A



LEGEND

- CONSTRUCTION SITE AREA
- STORE ARCHIVE & SAFETY EQUIPMENT STORE CONSTRUCTION
- TEMPORARY CONSTRUCTION SITE FENCE

FOR CONSTRUCTION



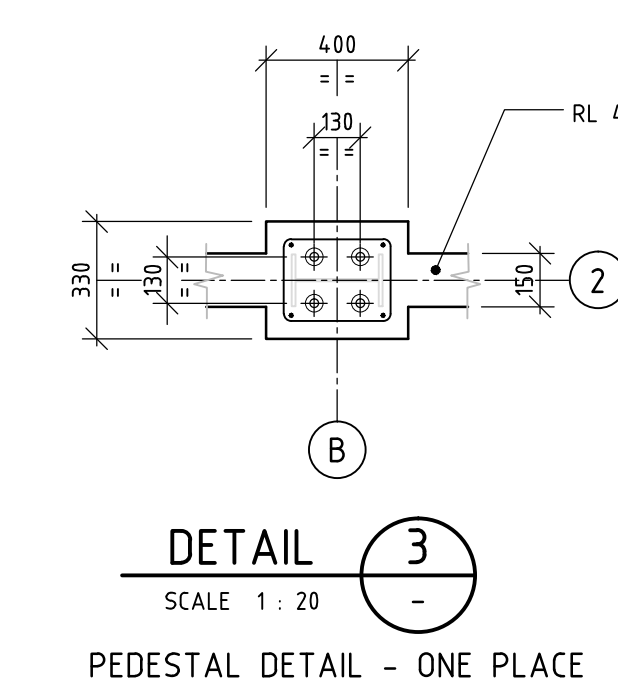
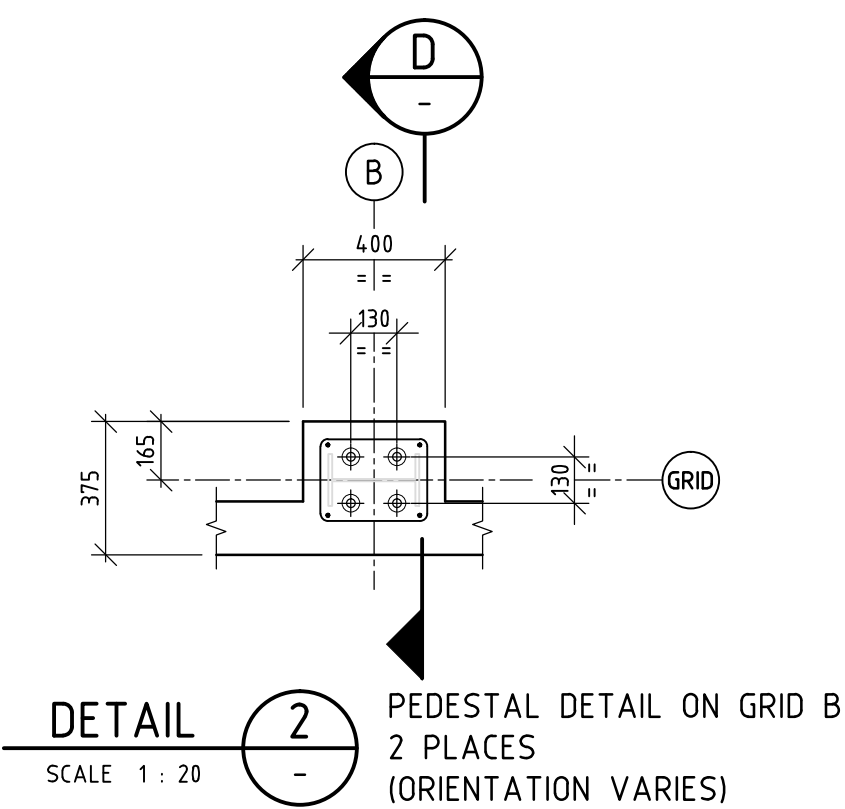
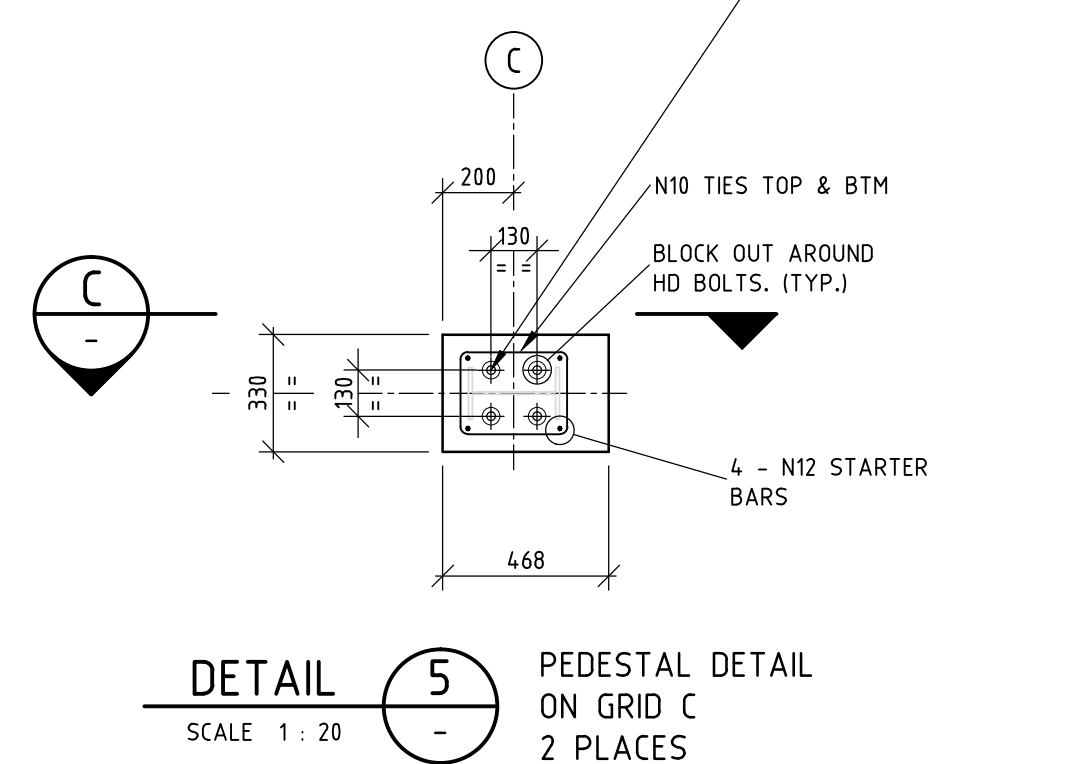
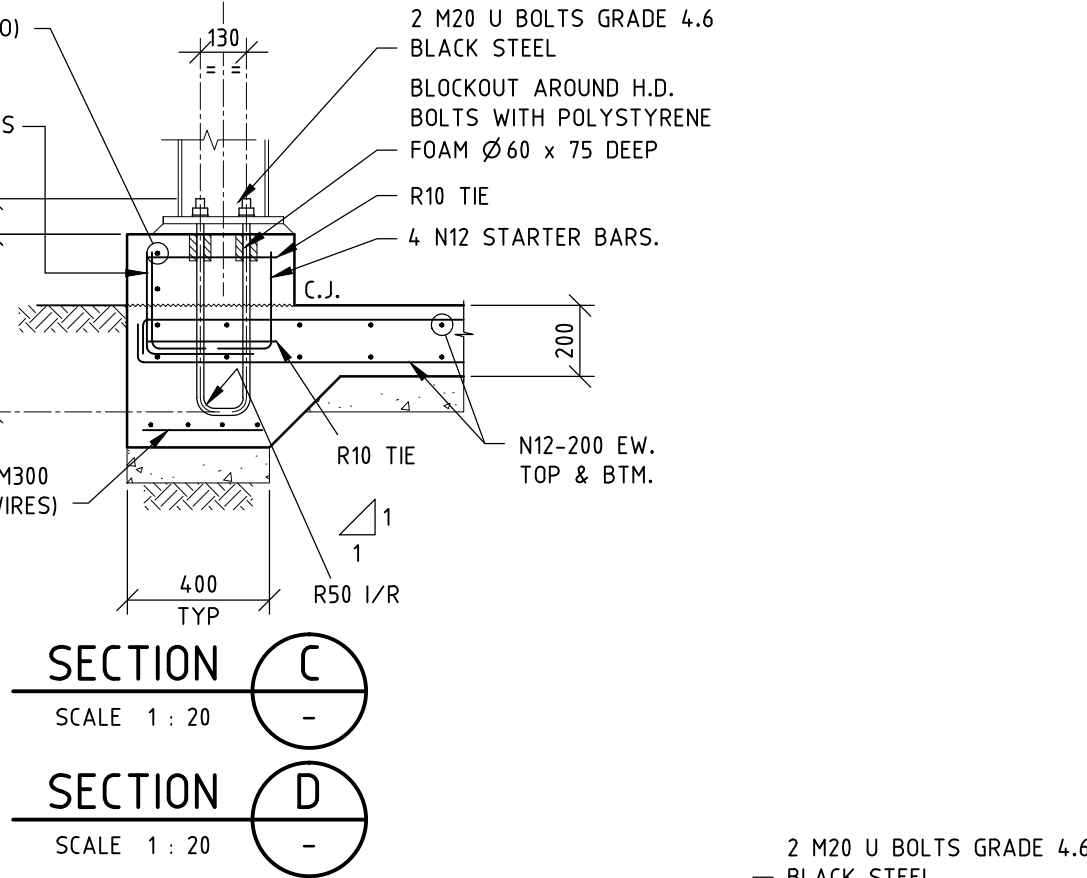
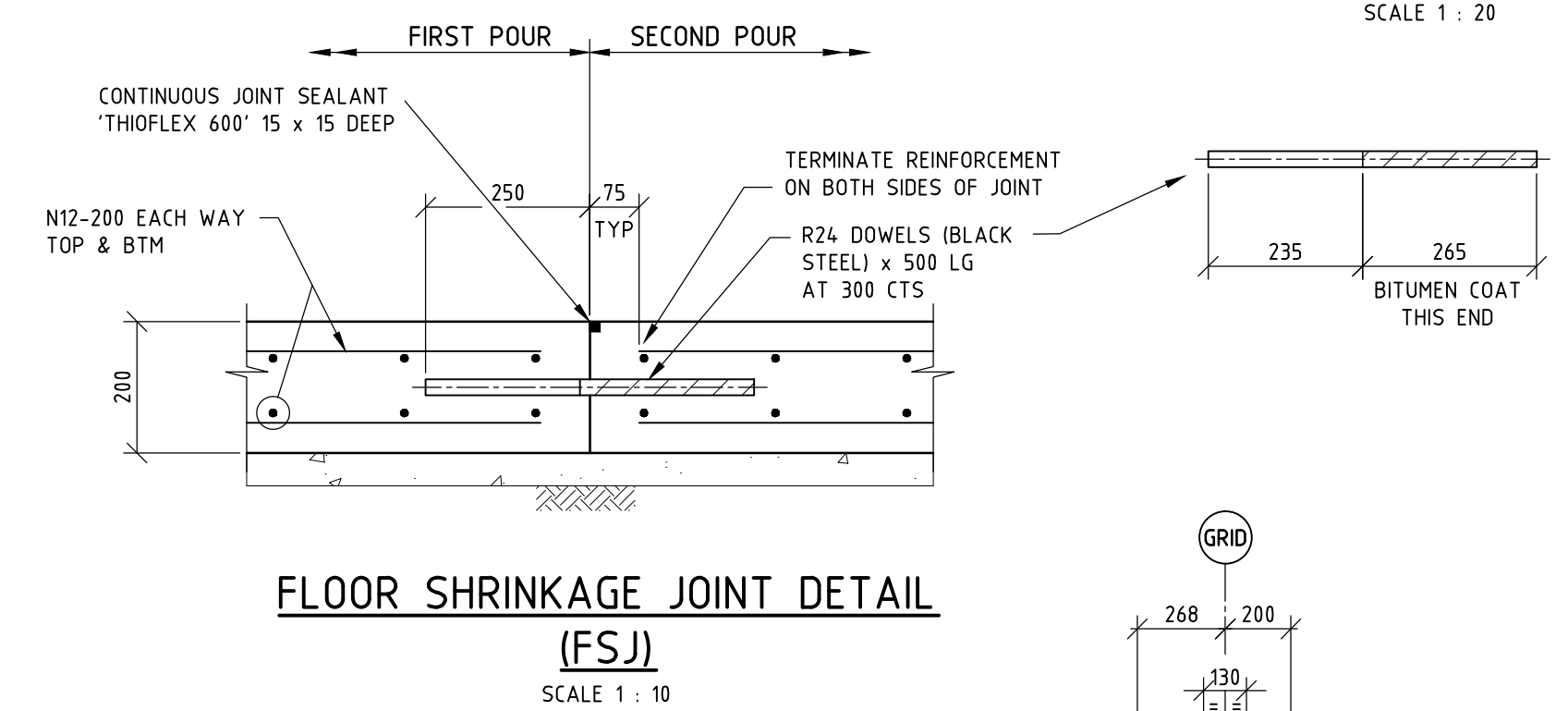
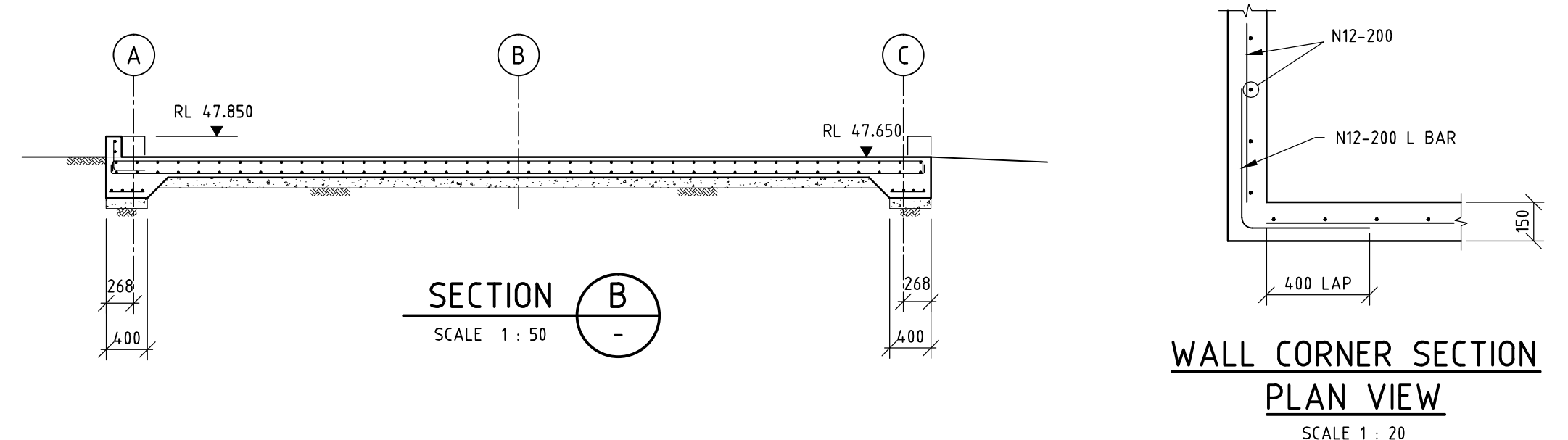
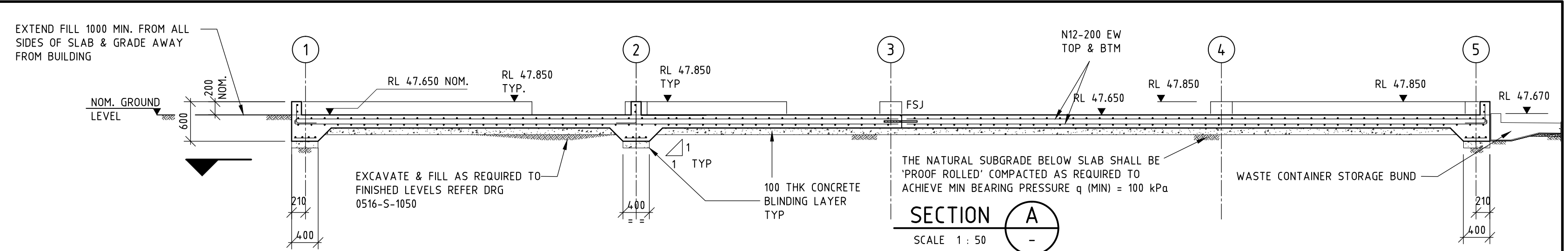
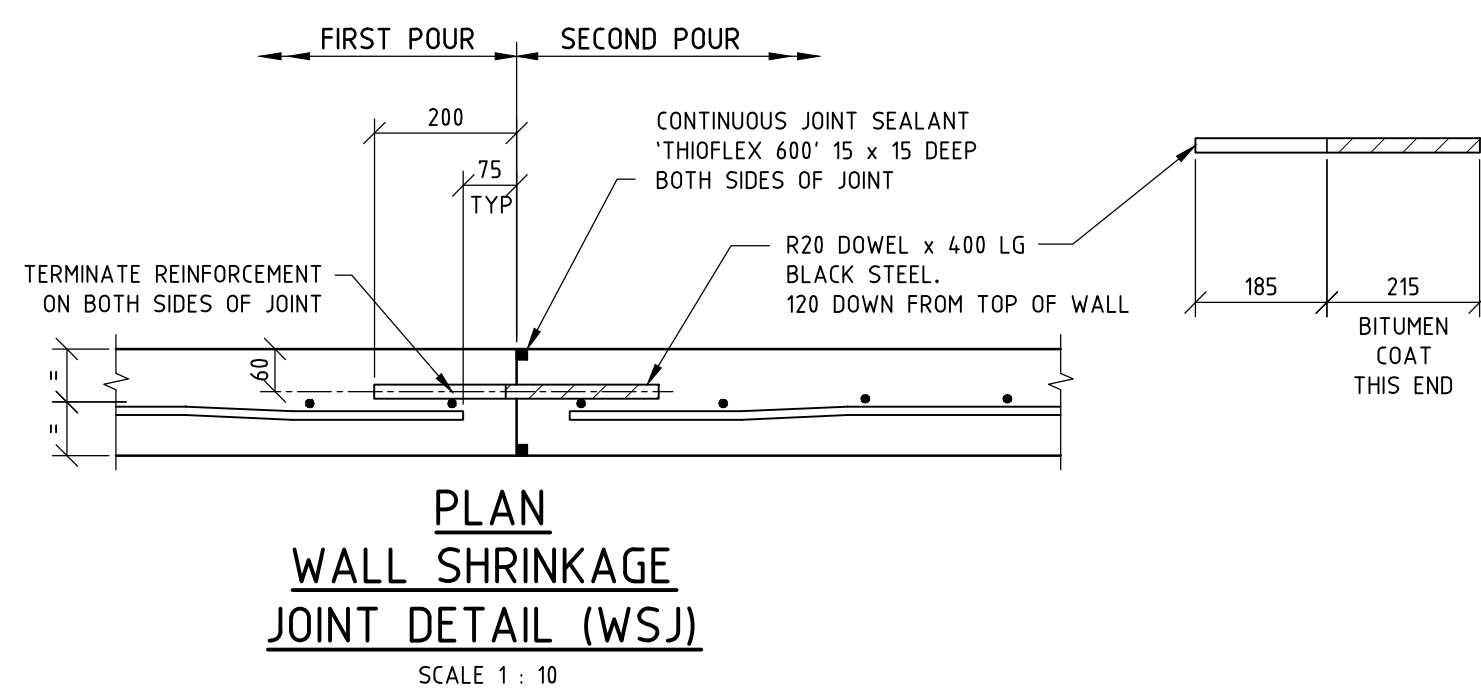
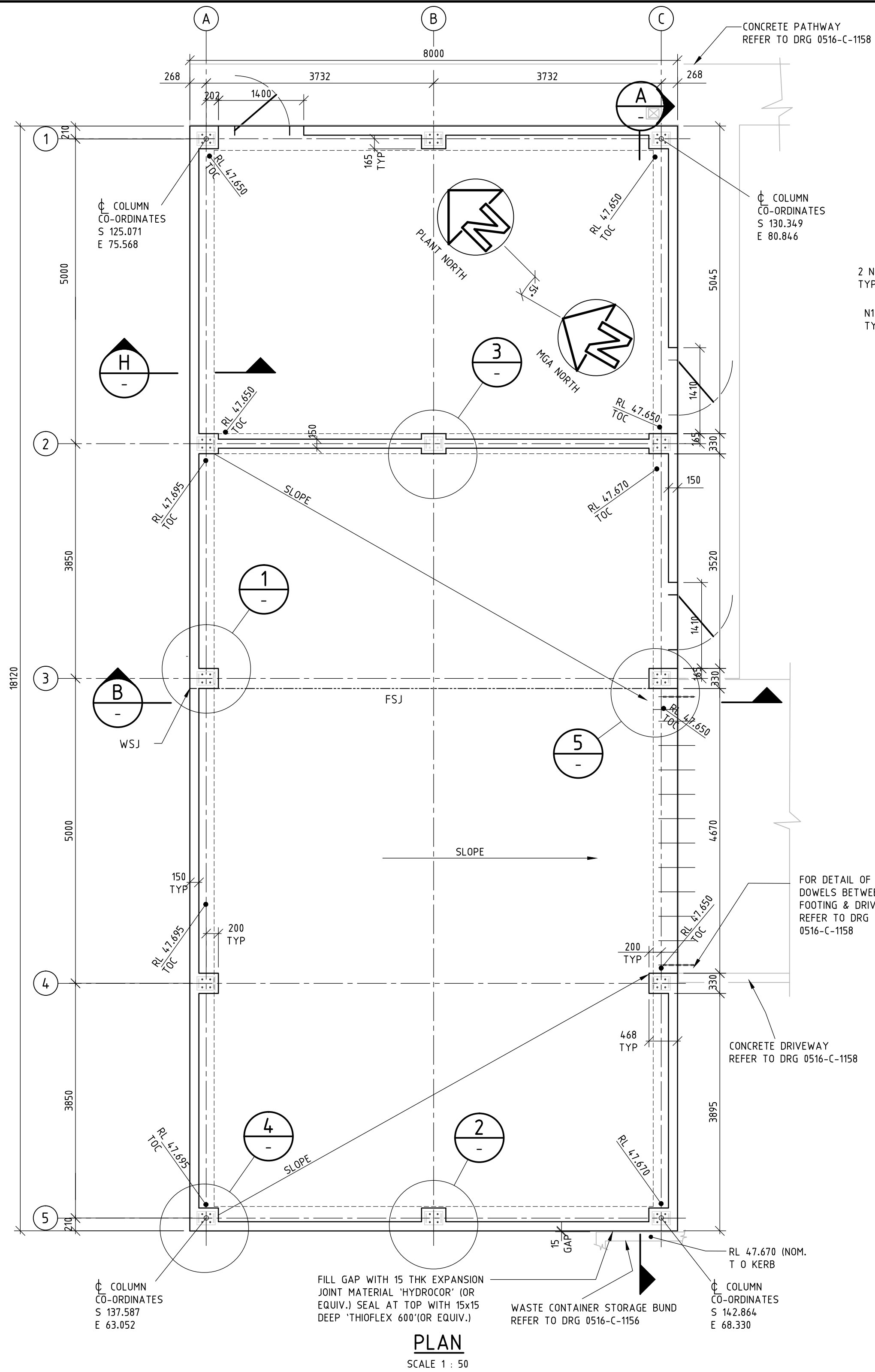
ICD Asia Pacific Pty Ltd
2 Solent Circuit,
Norwest Business Park,
Baulkham Hills, NSW 2153
Phone No: (02) 8882-2700
Fax No: (02) 8882-2799
www.icdasiapacific.com.au

CLIENT: ORICA MINING SERVICES

TITLE: KURRI KURRI AMMONIUM NITRATE EMULSION PLANT
LAYOUT OF CONSTRUCTION ACCESS
FOR CONSTRUCTION PHASE OF STORE,
ARCHIVE & SAFETY EQUIPMENT BUILDING

ICD JOB No.	0516	ICD Drg. No.	0516-G-1039
CLIENT Ref:	SCALE		AS NOTED
A1	REV:	A	

A	19.04.12	ISSUED FOR CONSTRUCTION	GH	SW	SW	DH	
1		ORIGINAL ISSUE	GH				
REV	DATE	DESCRIPTION	DRAWN	CHECKED	ENGINEER	RELEASED	



NOTES

- FOR GENERAL CONSTRUCTION NOTES REFER TO DRG. 0516-C-1050

LEGEND

- WSJ - DENOTES WALL SHRINKAGE JOINT
FSJ - DENOTES FLOOR SHRINKAGE JOINT
CJ - DENOTES CONSTRUCTION JOINT REFER DRG. 0516-C-1050 (NOTES C20 & C21)
DEJ - DENOTES DOWELED EXPANSION JOINT
RL 48.000 DENOTES FLOOR SLAB/PAVING FINISHED LEVEL (REDUCED LEVEL IN METRES)

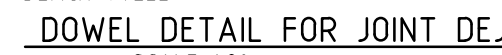
REFERENCE DRAWINGS

- GENERAL CONSTRUCTION NOTES 0516-C-1050
GENERAL PLANT AREA CIVIL WORKS SETOUT PLAN 0516-C-1054
STORES BUILDING DRIVEWAY & PATHWAY CONCRETE DETAILS 0516-C-1150
STORES, ARCHIVE & SAFETY EQUIPMENT BUILDING 0516-S-1155
STEELWORK SH1 1 OF 4
GENERAL PLANT AREA WASTE CONTAINER STORAGE BUND 0516-C-1156

FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRAWN	CHECKED	ENGINEER	RELEASED
A	18.04.12	ISSUED FOR CONSTRUCTION	GH	SV	CK	DH
1	13.04.12	ISSUED FOR COMMENTS	GH	SV	CK	DH

I.C.D. (Asia Pacific) Pty Ltd 152 Bungaree Road, Pendle Hill, NSW 2145. Phone No.: (02) 9636-3777 Fax No.: (02) 9688-4124 E-Mail Address: icdeng@icdasiaspacific.com.au	
CLIENT: ORICA MINING SERVICES	
TITLE: KURRI KURRI AMMONIUM NITRATE EMULSION PLANT STORES, ARCHIVES & SAFETY EQUIPMENT BUILDING SLAB CONCRETE DETAILS	
ICD JOB No. 0516	ICD CAD FILE No. 0516-C-1157
SCALE: AS NOTED A1	DRG. No. 0516-C-1157
REV: A	



NOTES

- ## LEGEND

DEJ - DENOTES DOWELED EXPANSION JOINT
DEJ1 - DENOTES DOWELED EXPANSION JOINT- VARIATION 1
IJ - DENOTES ISOLATION JOINT REFER DRG 0516-C-1084
DENOTES FLOOR SLAB/PAVING FINISHED
LEVEL (REDUCED LEVEL IN METRES)

GENERAL CONSTRUCTION NOTES	0516-C-1050
GENERAL PLANT AREA CIVIL WORKS SETOUT PLAN	0516-C-1054
STORES,ARCHIVES & SAFETY EQUIP. BUILDING SLAB CONCRETE DETAILS	0516-C-1157
GENERAL PLANT & ACCESS ROAD PAVEMENT DETAILS SHT 2 OF 3	0516-C-1084
GENERAL PLANT AREA EARTHING ARRANGEMENT	0516-C-1096



SECTION D
SCALE 1 : 20

1. ALL EXPOSED CORNERS TO HAVE A MIN. RADIUS OF 10mm



'ERITECH' EARTH ROD _____
INSPECTION BOX (ERICO) PIT-03
MARK NO. EP10

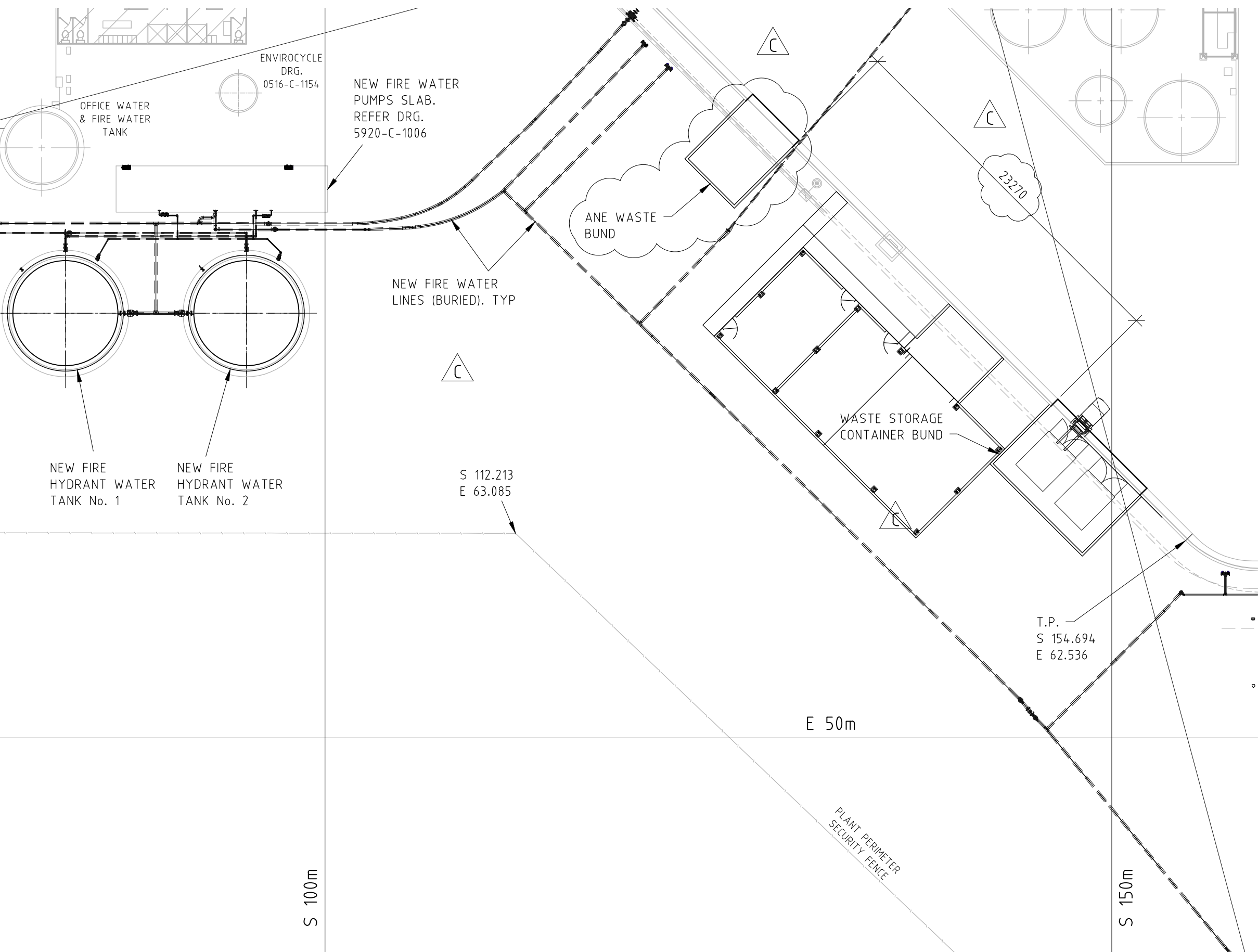
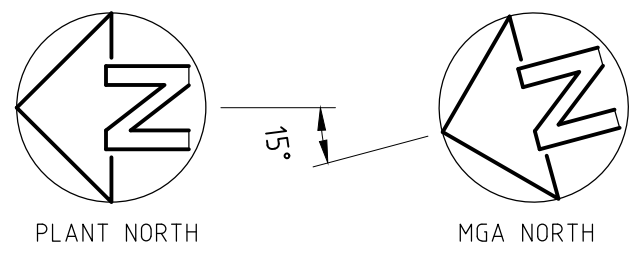
A	10.04.12	ISSUED FOR CONSTRUCTION	GH	SV	CK	DH	
1	13.04.12	ISSUED FOR COMMENTS	GH	SV	CK	DH	
REV	DATE	DESCRIPTION	DRAWN	CHECKED	ENGINEER	RELEASED	

I.C.D. (Asia Pacific) Pty Ltd
152 Bungaree Road, Pendle Hill, NSW 2145.
Phone No.: (02) 9636-3777 Fax No.: (02) 9688-4124
E-Mail Address: icdeng@icdasiapacific.com.au

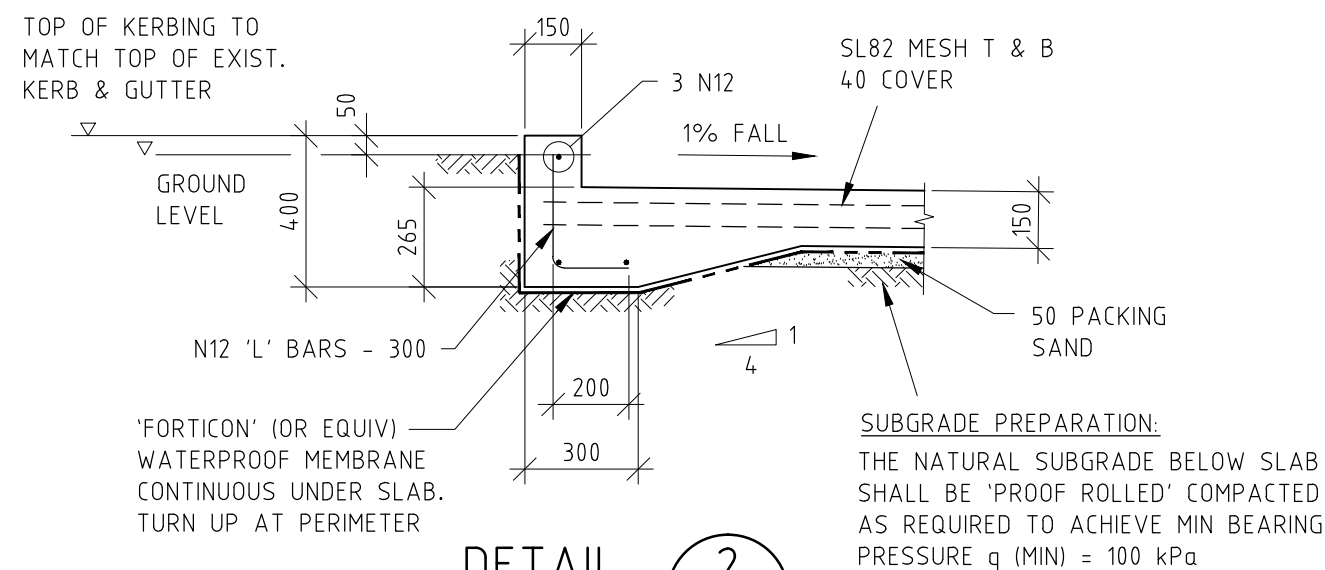
CLIENT:	ORICA MINING SERVICES
TITLE:	KURRI KURRI AMMONIUM NITRATE EMULSION PLANT STORES, ARCHIVES & SAFETY EQUIPMENT BUILDING DRIVEWAY & CONCRETE PATHWAY CONCRETE DETAILS

ICD JOB No.	0516	ICD CAD FILE No:	0516-C-1158
SCALE: AS NTD.	A1	DRG. No:	0516-C-1158
			REV: A

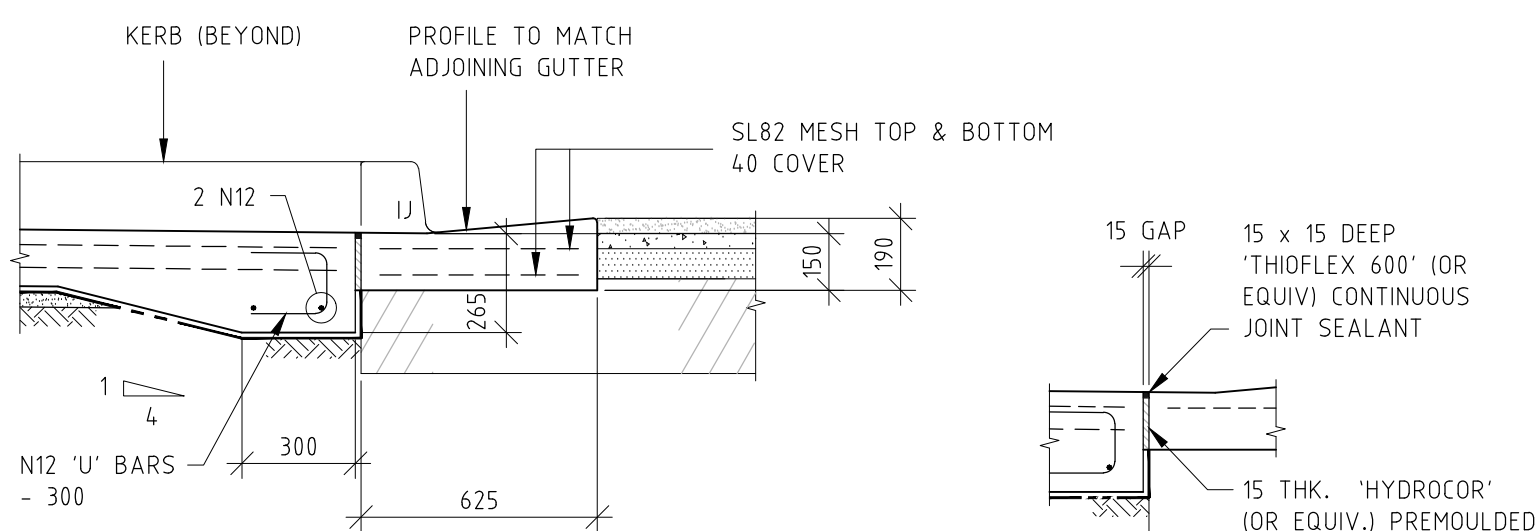
FOR CONSTRUCTION



PLAN
SCALE 1 : 250

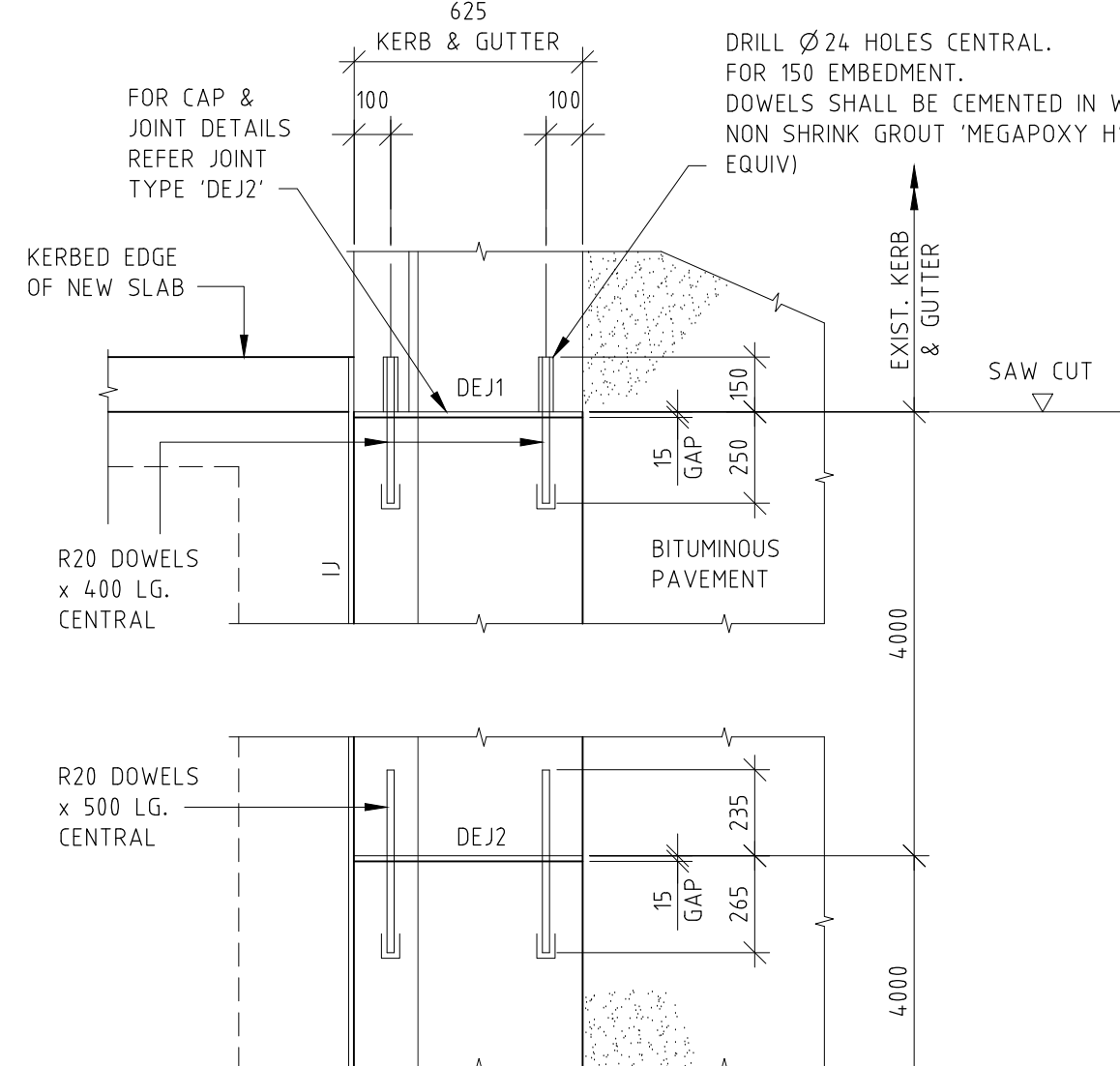


TYP KERBED SLAB EDGE DETAIL

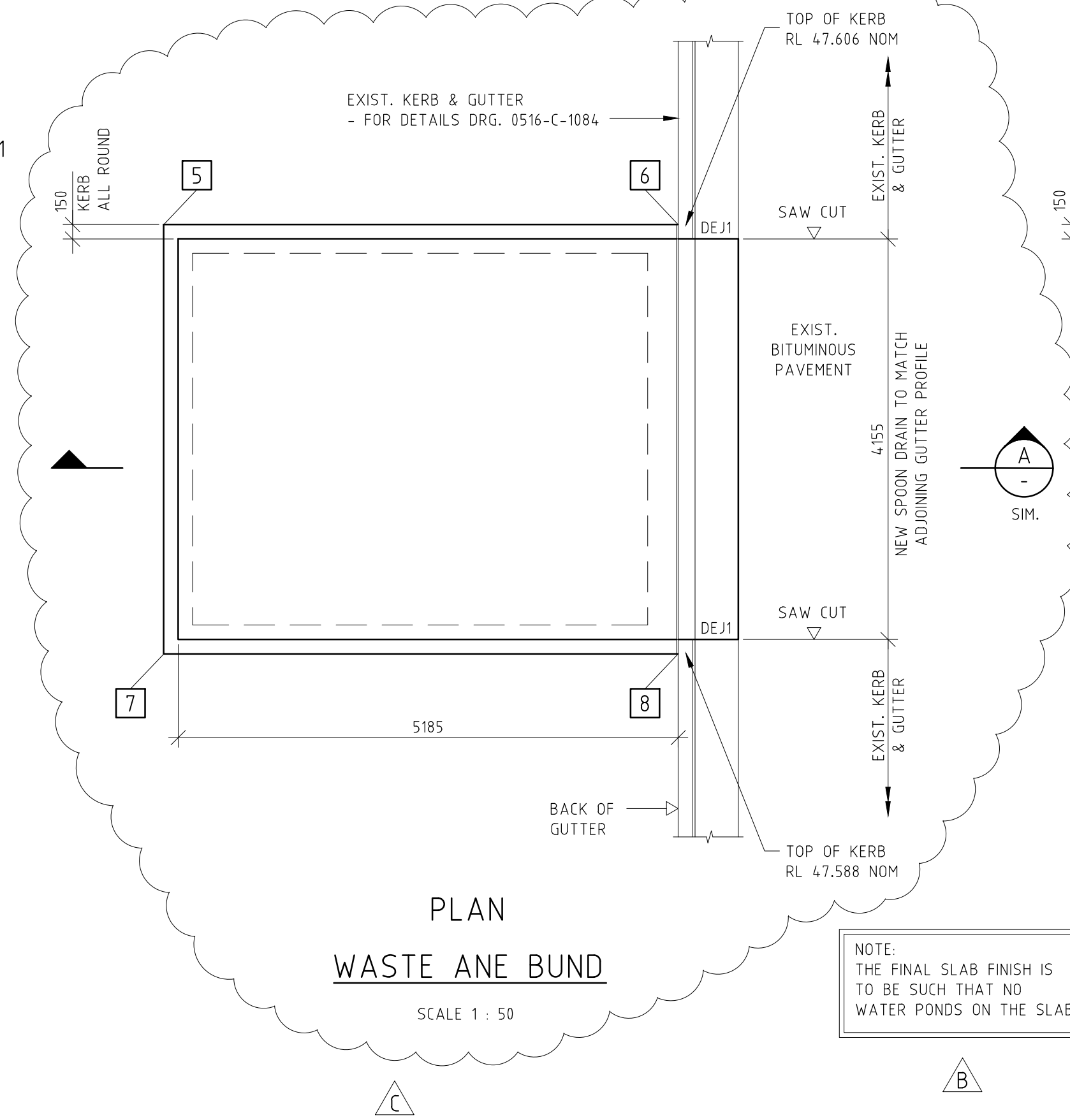


DETAIL 3
SCALE 1 : 20

ISOLATION JOINT (IJ)
SCALE 1 : 20



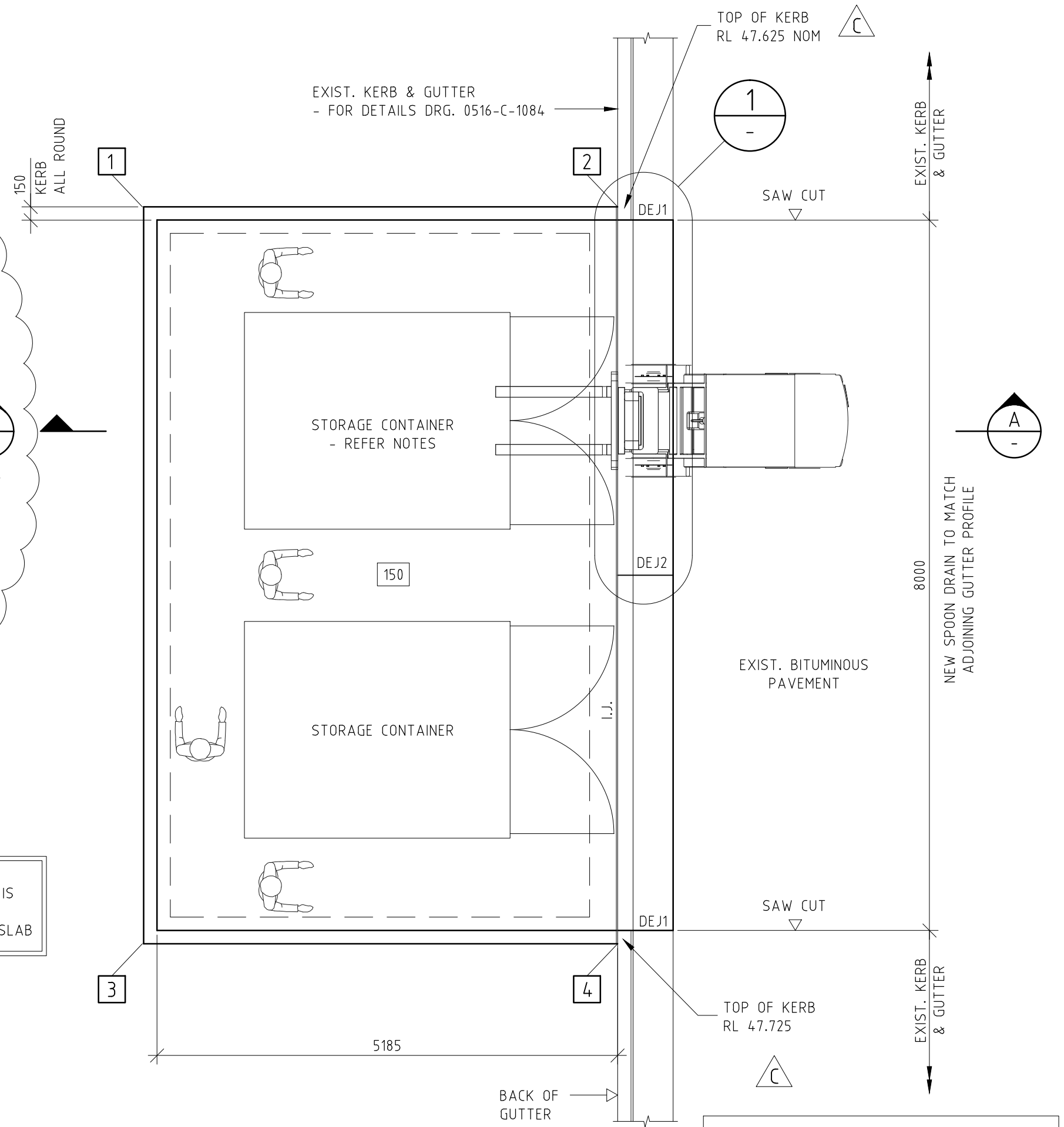
DETAIL 1
SCALE 1 : 20



PLAN
WASTE ANE BUND
SCALE 1 : 50

NOTE:
THE FINAL SLAB FINISH IS
TO BE SUCH THAT NO
WATER PONDS ON THE SLAB

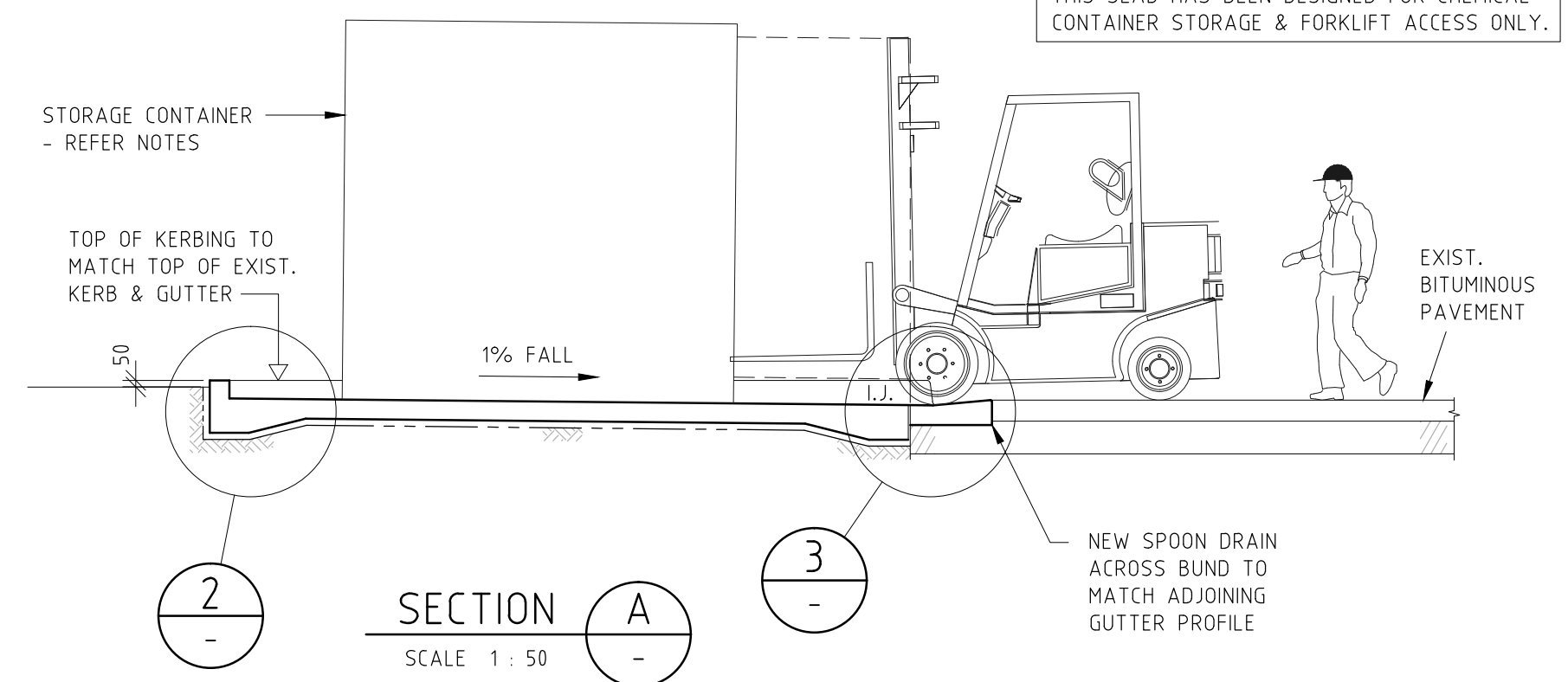
SETOUT SCHEDULE		
POINT	COORDINATES	
1	E 67.416	S 142.258
2	E 71.199	S 146.031
3	E 61.558	S 148.127
4	E 65.330	S 151.900
5	E 86.819	S 122.866
6	E 90.592	S 126.638
7	E 83.669	S 126.016
8	E 87.441	S 129.789



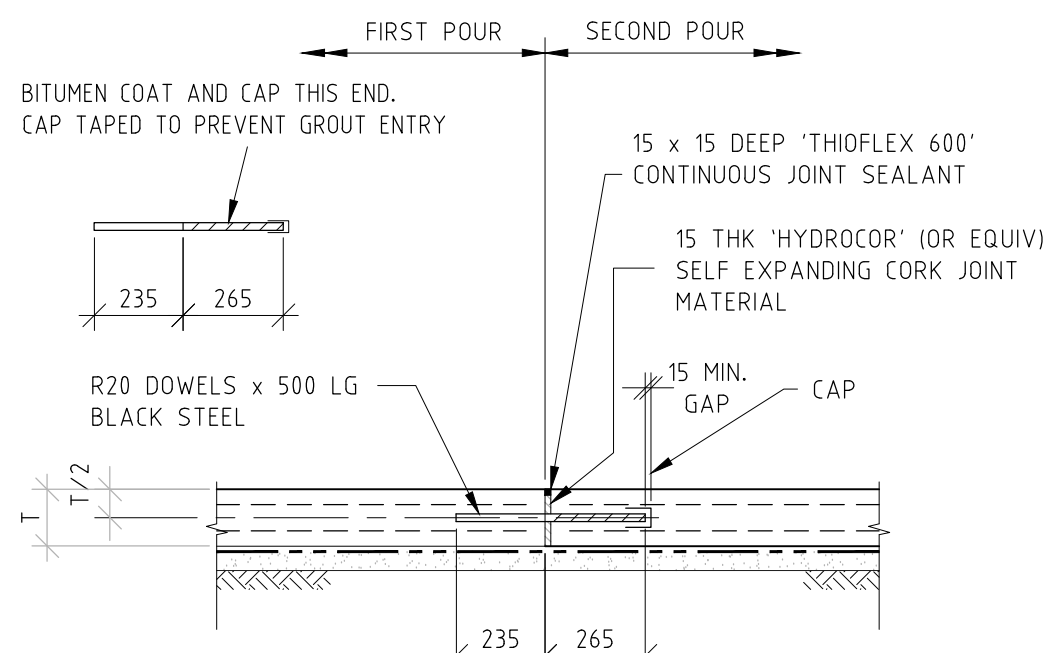
PLAN
WASTE STORAGE CONTAINERS BUND
SCALE 1 : 50

PORTABLE DANGEROUS GOODS & CHEMICAL
STORAGE CONTAINERS:
CONTAINERS TO BE 'ROYAL WOLF' (OR EQUIV)
3m (10' PALLET WIDE) WITH NOMINAL EXTERNAL
DIMENSIONS 2990L x 2440W x 2900H.
UNIT STORAGE CAPACITY UP TO 6560L WITH AN
INTERNAL BUND CAPACITY OF 1860L.
UNIT TO COMPLY WITH AS1940-2004, WITH
RELEVANT VENTILATION, VALVING, DOUBLE
OUTWARD OPENING DOORS & SIGNAGE.

NOTE:
THIS SLAB HAS BEEN DESIGNED FOR CHEMICAL
CONTAINER STORAGE & FORKLIFT ACCESS ONLY.



SECTION A
SCALE 1 : 50



DOWELLED EXPANSION JOINT (DEJ2)

NOTES:

- FOR GENERAL CONSTRUCTION NOTES REFER TO DRG. 0516-C-1050

FOR CONSTRUCTION

REFERENCE DRAWINGS

GENERAL SITE LAYOUT 0516-C-1051
GENERAL PLANT AREA CIVIL WORKS SETOUT PLAN 0516-C-1054
GEN. PLANT & ACCESS ROAD - PAVEMENT DETAILS SHEET 2 OF 3 0516-C-1084
FIREWATER PUMPS SLAB - PLAN & DETAILS 5920-C-1006

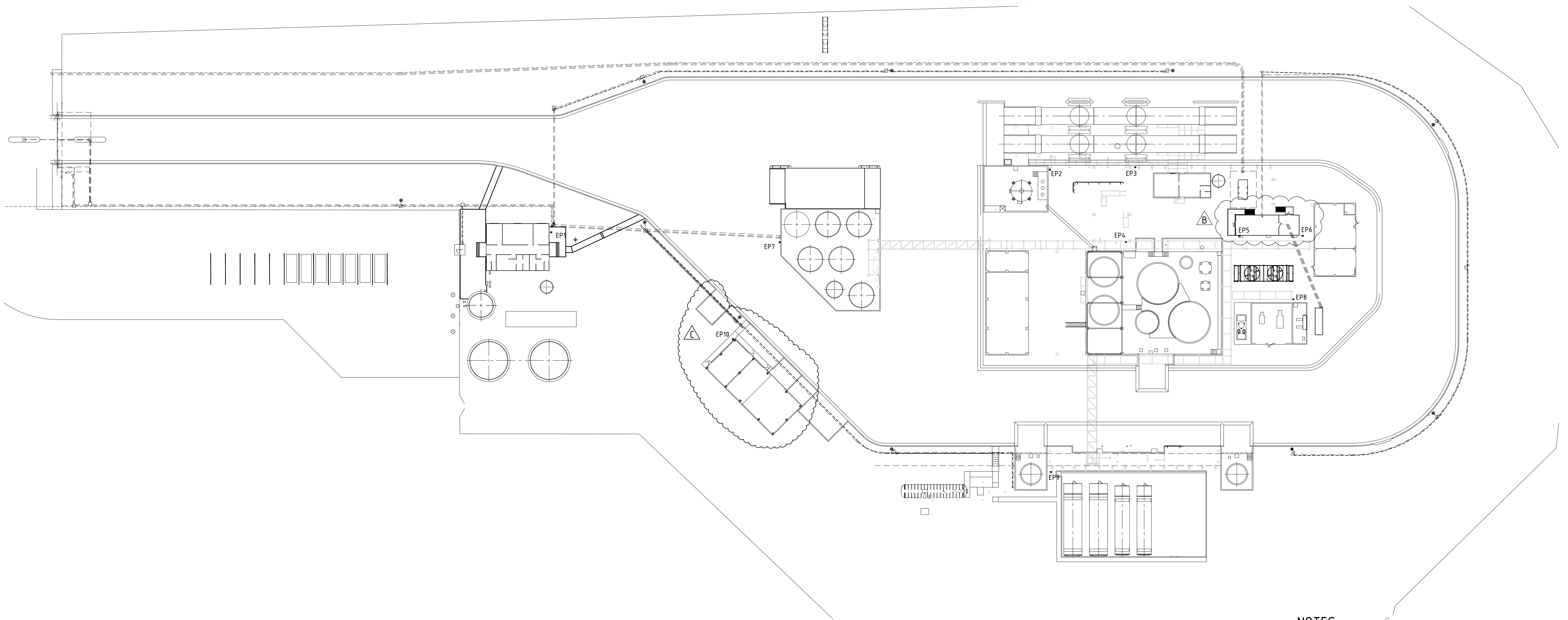
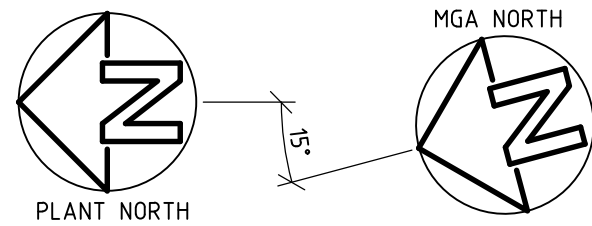
I.C.D. (Asia Pacific) Pty Ltd
152 Bungaree Road, Pendle Hill, NSW 2145.
Phone No.: (02) 9638-3777 Fax No.: (02) 9688-4124
E-Mail Address: icdeng@icdasiaspacific.com.au

CLIENT: ORICA MINING SERVICES

TITLE: KURRI KURRI AMMONIUM NITRATE EMULSION PLANT
GENERAL PLANT AREA
WASTE CONTAINER STORAGE BUND

ICD JOB No. 0516	ICD CAD FILE No. 0516-C-1156
SCALE: AS SHOWN	A1 DRG. No. 0516-C-1156
REV. C	

REV	DATE	DESCRIPTION	DRAWN	CHECKED	ENGINEER	RELEASED
C	23.02.12	WASTE ANE BUND ADDED STORAGE SLAB COORDINATES & REFERENCES ADDED	SV	SH	KWO	DH
B	05.09.11	NOTES ADDED/ REVISED	SV	GH	KWO	MW
A	01.09.11	ISSUED FOR CONSTRUCTION	SV	GH	KWO	MW



PLAN VIEW
SCALE 1 : 375

EARTH ROD INSPECTION BOX CENTRE COORDINATES		
PIT	SOUTHING	EASTING
EP1	95.366	101.417
EP2	190.343	113.350
EP3	206.597	113.800
EP4	204.804	99.619
EP5	226.453	100.750
EP6	238.463	100.750
EP7	138.901	99.513
EP8	236.658	88.660
EP9	190.519	55.751
EP10	*	*

* REFER TO DRG 0516-C-1158
FOR LOCATION



'ERITECH' EARTH ROD
INSPECTION BOX (ERICO) PIT-03

NOTES

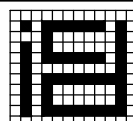
- FOR GENERAL CONSTRUCTION NOTES REFER TO DRG. 0516-C-1050
- 'ERITECH' EARTH ROD INSPECTION BOX (ERICO) PIT-03 SHALL BE INSTALLED BY CIVIL CONTRACTOR & LOCATED AT A DISTANCE FROM BUND WALLS TO ALLOW FOR THE INSTALLATION OF 2 Ø50 CONDUIT BENDS. CIVIL CONTRACTOR SHALL SEAL BOTH ENDS OF EACH CONDUIT TO PREVENT MOISTURE INGRESS.
AT A LATER STAGE THE ELECTRICAL CONTRACTOR WILL INSTALL THE EARTH ELECTRODE IN EACH LOCATION & RUN THE EARTH CABLES THROUGH CONDUITS.

REFERENCE DRAWINGS

GENERAL PLANT AREA CIVIL WORKS SETOUT PLAN	0516-C-1054
CONCRETE PAVED AREAS DETAILED LAYOUT SHT 2 OF 3	0516-C-1081
CONCRETE PAVED AREAS DETAILED LAYOUT SHT 3 OF 3	0516-C-1082

FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRAWN	CHECKED	ENGINEER	RELEASED
C	18.04.12	EP10 ADDED	GH	SV	CK	DH
B	31.08.10	SWITCHROOM RELOCATED	SV	SH	CK	MW
A	19.08.10	ISSUED FOR CONSTRUCTION	BB	SH	CK	MW
1	15.03.10	ISSUED FOR COMMENTS	RIB	SH		MW

DEVELOPMENT CONSENT NUMBER	
 I.C.D. (Asia Pacific) Pty Ltd 152 Bungaree Road, Pendle Hill, NSW 2145. Phone No.: (02) 9636-3777 Fax No.: (02) 9688-4124 E-Mail Address: icdeng@icdaslapacific.com.au	
CLIENT: ORICA MINING SERVICES	
TITLE: KURRI KURRI AMMONIUM NITRATE EMULSION PLANT GENERAL PLANT AREA EARTHING ARRANGEMENT	
ICD JOB No. 0516	ICD CAD FILE No: 0516-C-1096
SCALE: AS NOTED	DRG. No: 0516-C-1096
A1	REV: C