### **DELEGATED REPORT**

TO: COORDINATOR PLANNING & BUILDING

FROM: Supervisor Planning & Building FILE: OPW/25/0006

**DATE:** 24 November 2025

### **APPLICATION DETAILS**

| APPLICATION           |  | PR             | REMISES            |  |
|-----------------------|--|----------------|--------------------|--|
| FILE NO:              | OPW/25/0006                                | ADDRESS:       | Country Road,      |  |
|                       |  |                | Mareeba            |  |
| APPLICANT:            | Conmat No. 2 Pty                           | RPD:           | Lot 200 on         |  |
|                       | Ltd  |                | SP342245           |  |
| LODGED BY:            | ERSCON                                     | AREA:          | 27.28 hectares     |  |
|                       | Consulting                                 |                |                    |  |
|                       | Engineers                                  |                |                    |  |
| DATE LODGED:          | 29 August 2025                             | OWNER:         | Conmat No. 2       |  |
|                       |  |                | Pty Ltd            |  |
| TYPE OF APPROVAL:     | Development Pern                           | nit            |                    |  |
| PROPOSED DEVELOPMENT: | Operational Works                          | (Culvert Const | ruction, Roadworks |  |
|                       | and Service Extensions)                    |                |                    |  |
| PLANNING SCHEME:      | Mareeba Shire Council Planning Scheme 2016 |                |                    |  |
| ZONE:                 | Rural residential zone                     |                |                    |  |
| LEVEL OF              | Code Assessment                            |                |                    |  |
| ASSESSMENT:           |  |                |                    |  |

### **PREVIOUS APPLICATIONS & APPROVALS**

N/A

### **DESCRIPTION OF PROPOSED DEVELOPMENT**

Operational Works (Culvert Construction, Roadworks and Service Extensions)

### **ASSESSMENT**

### **State Planning Policy**

Separate assessment against the State Planning Policy (SPP) is not required because the Mareeba Shire Council Planning Scheme appropriately integrates all relevant aspects of the SPP.

### **Relevant Development Codes**

The following Development Codes are considered to be applicable to the assessment of the application:

6.2.10 Rural residential zone code

9.4.4 Reconfiguring a lot code

### 9.4.5 Works, services and infrastructure code

The application did not include a planning report and assessment against the planning scheme. An officer assessment has found that the application satisfies the relevant acceptable solutions (or probable solutions/performance criteria where no acceptable solution applies) of the relevant codes set out below.

| Relevant Codes                          | Comments  |
|---|---|
| Rural residential zone code             | The application can be conditioned to comply with the relevant acceptable outcomes contained within the code. |
| Reconfiguring a lot code                | The application can be conditioned to comply with the relevant acceptable outcomes contained within the code. |
| Works, services and infrastructure code | The application can be conditioned to comply with the relevant acceptable outcomes contained within the code. |

### Compliance with conditions of earlier related approval

N/A

### **FNQROC** Regional Development Manual Checklist

| Section                            | Assessment |
|------------------------------------|------------|
| DP1 - Development Principles       | Complies   |
| AP1 - Application Procedures       | Complies   |
| D1 - Road Geometry                 | Complies   |
| D2 - Site Regrading                | Complies   |
| D3 - Road Pavements                | Complies   |
| D4 - Stormwater Drainage           | Complies   |
| D5 - Stormwater Quality Management | Complies   |
| D6 - Water Reticulation            | N/A        |
| D7 - Sewerage System               | N/A        |
| D8 - Utilities                     | Complies   |
| D9 - Landscaping                   | N/A        |

### **REFERRALS**

Nil

### **Internal/External Consultation**

Technical Services / Trinity Engineering

### **OFFICER'S RECOMMENDATION**

1. That in relation to this operational works development application:

| API              | PLICATION                  |  | PREMISES              |  |  |
|------------------|----------------------------|--|-----------------------|--|--|
| APPLICANT:       | Conmat No. 2 Pty Ltd       | ADDRESS:   | Country Road, Mareeba |  |  |
| DATE LODGED      | 29 August 2025             | RPD:   | Lot 200 on SP342245   |  |  |
| TYPE OF APPROVAL | Development Permit         |  |                       |  |  |
| PROPOSED         | Operational Works (Culvert | Operational Works (Culvert Construction, Roadworks and Service Extensions) |                       |  |  |
| DEVELOPMENT      |                            |  |                       |  |  |

and in accordance with the Planning Act 2016, the applicant be notified that the application for a development permit for the development specified in (A) is:

Approved by Council in accordance with the approved plans/documents listed in (B), subject to assessment manager conditions in (C), assessment manager's advice in (D), relevant period in (E), further permits in (F), and further approvals required from Council listed in (G);

### And

The assessment manager does not consider that the assessment manager's decision conflicts with a relevant instrument.

(A) APPROVED DEVELOPMENT: Development Permit for Operational Works (Culvert Construction, Roadworks and Service Extensions)

### (B) APPROVED PLANS:

| Plan/Document<br>Number | Plan/Document Title                | Prepared<br>by | Dated      |
|-------------------------|------------------------------------|----------------|------------|
| Civil Drawings List     |                                    |                |            |
| 160-012-C101 Rev        | COVER SHEET, LOCALITY PLAN AND     | ERSCON         | -          |
| Α                       | DRAWINGS LIST                      |                |            |
| 160-012-C102 Rev        | CGENERAL NOTES                     | ERSCON         | 30/10/2025 |
| Α                       |                                    |                |            |
| 160-012-C103 Rev        | CULVERT PLAN                       | ERSCON         | 29/10/2025 |
| Α                       |                                    |                |            |
| 160-012-C104 Rev        | COUNTRY ROAD LONGITUDINAL SECTION  | ERSCON         | 28/10/2025 |
| Α                       |                                    |                |            |
| 160-012-C105 Rev        | COUNTRY ROAD CROSS SECTIONS (SHEET | ERSCON         | 30/10/2025 |
| Α                       | 1 OF 3)                            |                |            |
| 160-012-C106 Rev        | COUNTRY ROAD CROSS SECTIONS (SHEET | ERSCON         | 30/10/2025 |
| Α                       | 2 OF 3)                            |                |            |
| 160-012-C107 Rev        | COUNTRY ROAD CROSS SECTIONS (SHEET | ERSCON         | 30/10/2025 |
| Α                       | 3 OF 3)                            |                |            |
| 160-012-C108 Rev        | TYPICAL ROAD CROSS SECTION AND     | ERSCON         | 30/10/2025 |
| Α                       | DETAILS                            |                |            |
| 160-012-C109 Rev        | EROSION AND SEDIMENT CONTROL PLAN  | ERSCON         | 30/10/2025 |
| Α                       |                                    |                |            |
| 160-012-C110 Rev        | EROSION AND SEDIMENT CONTROL       | ERSCON         | 30/10/2025 |
| Α                       | NOTES                              |                |            |

| Structural Drawings | List                                       |        |            |
|---------------------|--|--------|------------|
| 160-012-S101 Rev 3  | WORKPLACE HEALTH AND SAFETY NOTES          | ERSCON | 21/08/2025 |
| 160-012-S102 Rev 3  | STUCTURAL ENGINEERING NOTES SHEET 1 OF 2   | ERSCON | 21/08/2025 |
| 160-012-S103 Rev 3  | STRUCTURAL ENGINEERING NOTES SHEET 2 OF 2  | ERSCON | 21/08/2025 |
| 160-012-S110 Rev 4  | CULVERT SITE PLAN                          | ERSCON | 3/11/2025  |
| 160-012-S111 Rev 3  | TYPICAL CULVERT SECTION A                  | ERSCON | 21/08/2025 |
| 160-012-S112 Rev 3  | CULVERT DETAILS SHEET 1 OF 2               | ERSCON | 21/08/2025 |
| 160-012-S113 Rev 3  | CULVERTY DETAILS SHEET 2 OF 2              | ERSCON | 21/08/2025 |
| 160-012-S120 Rev 3  | CULVERT PRECAST DECK PANELS P1-P6 & P9-P11 | ERSCON | 21/08/2025 |
| 160-012-S121 Rev 2  | CULVERT PRECAST DECK PANEL P7              | ERSCON | 21/08/2025 |
| 160-012-S122 Rev 2  | CULVERT PRECAST DECK PANEL P8              | ERSCON | 21/08/2025 |
| 160-012-S123 Rev 3  | CULVERT PRECAST HEAD WALL W4               | ERSCON | 21/08/2025 |
| 160-012-S130 Rev 2  | STORMWATER PIT                             | ERSCON | 21/08/2025 |

### (C) ASSESSMENT MANAGER'S CONDITIONS (COUNCIL)

### 1. General

- 1.1 Development must be carried out substantially in accordance with the approved plans and the facts and circumstances of the use as submitted with the application, and subject to any alterations:
  - found necessary by the Council's Delegated Officer at the time of examination of the engineering plans or during construction of the development because of particular engineering requirements;
  - to ensure the works comply in all respects with the requirements and procedures of the FNQROC Development Manual, Queensland Urban Drainage Manual and good engineering practice; and
  - to ensure compliance with the following conditions of approval.
- 1.2 All operational works must be designed and constructed in accordance with the design guidelines and procedures as set out in the FNQROC Development Manual, prior to works acceptance.
- 1.2 'For Construction' Engineering Drawings, inclusive of any amendments required by Conditions of this Permit, must be certified as approved by a suitably qualified RPEQ Engineer and a copy submitted to Council, prior to the pre-start meeting.
- 1.6 Where any part of Council's existing infrastructure or land is damaged as a result of construction activities occurring on the land, including but not limited to; mobilisation of heavy construction equipment, stripping, grubbing and vegetation damage, notify Council immediately of the affected infrastructure or land and have it repaired, replaced or reinstated at no cost to Council, prior to Works Acceptance.
- 1.7 Runoff Generally

All reasonable and practicable measures must be taken to prevent pollution entering existing creeks, waterways or drainage lines, as a result of silt run-off, oil and grease spills from any machinery. Wastewater as a result of cleaning equipment must not be discharged directly or in-directly to any watercourses, stormwater systems or private properties (in accordance with the requirements of the Environmental Protection Act (1994), the FNQROC Development Manual and Best Practice Erosion & Sediment Control – IECA Australasia).

### 1.8 Earthworks Construction

All earthworks must be constructed in accordance with AS 3798: Guidelines on earthworks for commercial and residential developments. At the completion of works, RPEQ Certification of the works and test results are required to be provided to Council, prior to Works Acceptance.

### 1.9 Stormwater Drainage

Stormwater drainage as shown on the Approved Plan(s), must be constructed in accordance with the relevant design and specifications sections of the FNQROC Development Manual and the Queensland Urban Drainage Manual, prior to Works Acceptance.

All stormwater from the land must be directed to a lawful point of discharge as per the Approved Plan(s) such that it does not adversely affect surrounding properties or properties downstream from the development, in accordance with the Queensland Urban Drainage Manual.

1.10 Council's examination of the documents should not be taken to mean that the documents have been checked in detail and Council takes no responsibility for their accuracy. If during construction, inadequacies of the design are discovered, it is the responsibility of the Principal Consulting Engineer to resubmit amended plans to Council for approval and rectify works accordingly.

### 2. Pre-start Meeting

2.1 In addition to the requirements of Clause CP1.07 and CP1.08 of the FNQROC Development Manual; after documentation has been approved by Council, a pre-start meeting is to be held on site prior to the commencement of work. Part 1 of the attached pre-start meeting pro-forma is to be completed and returned prior to the meeting including clause 1.u 'Request for Meeting' together with the prescribed Construction Monitoring Fee as set out in Council's Schedule of Fees.

### 3. Inspections

3.1 Inspections are to be carried out as detailed in the FNQROC Manual unless advised otherwise at the pre-start meeting.

### 4. Construction Security Bond and Defects Liability Bond

4.1 In addition to Clauses CP1.06 and CP1.20 of the FNQROC Development Manual; the Construction Security Bond and Defects Liability Bond shall each be a minimum of \$1000 and Bank Guarantees shall have no termination date.

4.2 During the Defects Liability period, it is the responsibility of the developer to rectify any works found to be defective due to design faults and or found to exhibit faults attributed to the performance of the construction activities in terms of quality and conformance with design and specifications. The bond will be returned on satisfactory correction of any defective work and after expiration of the maintenance period. Failure to comply with a Council issued instruction to correct defective work may result in the call up of the bond to have the work completed.

### 5. Hours of Work

- 5.1 Work involving the operation of construction plant and equipment of any description, shall only be carried out on site during the following times:
  - 7.00am to 6.00pm, Monday to Friday;
  - 7.00am to 1.00pm Saturdays;
  - No work is permitted on Sundays or Public Holidays.
- 5.2 No variation to the above working hours is allowed unless otherwise agreed in writing by Council.

### 6. Transportation of Soil

6.1 All soil transported to or from the site must be covered to prevent dust or spillage during transport. If soil is tracked or spilt onto the road pavement from works on the subject land, it must be removed no later than at the end of each working day. Sediment must not enter Council's stormwater drainage network.

### (D) RELEVANT PERIOD

When approval lapses if development not started (s.85)

- Two (2) years (starting the day the approval takes effect).
- (E) OTHER NECESSARY DEVELOPMENT PERMITS AND/OR COMPLIANCE PERMITS
  - Nil

### **DECISION BY DELEGATE**

### **DECISION**

Having considered the Officers report detailed above, I approve, as delegate of Council, the application subject to the conditions listed in the report.

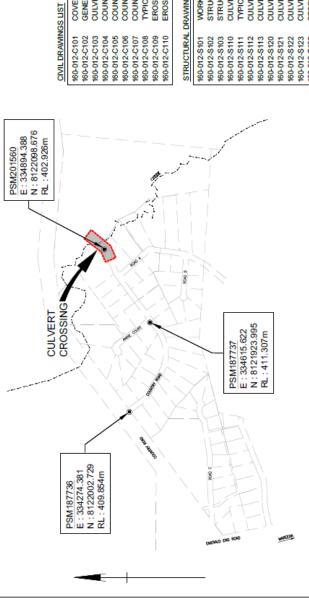
Dated the 2474 day of November 2025

**BRIAN MILLARD** 

**COORDINATOR PLANNING & BUILDING** 

MAREEBA SHIRE

AS DELEGATE OF THE COUNCIL



| 160-012-C101 | COVER SHEET, LOCALITY PLAN AND DRAWINGS LIST |
|--------------|--|
| 160-012-C102 | GENERAL NOTES                                |
| 160-012-C103 | CULVERT PLAN                                 |
| 160-012-C104 | COUNTRY ROAD LONGITUDINAL SECTION            |
| 160-012-C105 | COUNTRY ROAD CROSS SECTIONS (SHEET 1 OF 3)   |
| 160-012-C106 | COUNTRY ROAD CROSS SECTIONS (SHEET 2 OF 3)   |
| 160-012-C107 | COUNTRY ROAD CROSS SECTIONS (SHEET 3 OF 3)   |
| 160-012-C108 | TYPICAL ROAD CROSS SECTION AND DETAILS       |
| 160-012-C109 | EROSION AND SEDIMENT CONTROL PLAN            |
| 160-012-C110 | EROSION AND SEDIMENT CONTROL NOTES           |

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### GENERAL NOTES:

UNEL DATUM : 440 ORIGIN OF LEVELS: (40%2020 ZONE 55);

| NUMBER           | EASTING          | NORTHING      | R                  | LOCATION   |
|------------------|------------------|---------------|--------------------|--|
| PSM187736        | 334274,381       | 8122002.729   | 409.854m           | COUNTRY ROMD, MARKEDSA   |
| PSW187737        | 334615.622       | 8121923.995   | 411.307m           | COUNTRY ROAD, MARKEDIA   |
| CONTRACTOR STOCK | STREET PARTY AND | SALE WATCHEST | ACTION OF THE REAL | VOLUME OF STATE AND STATE OF S |

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# EROSION AND SEDIMENT CONTROL NOTES

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# COUNTRY ROAD CENTRELINE

### FOR COUNCIL APPROVAL

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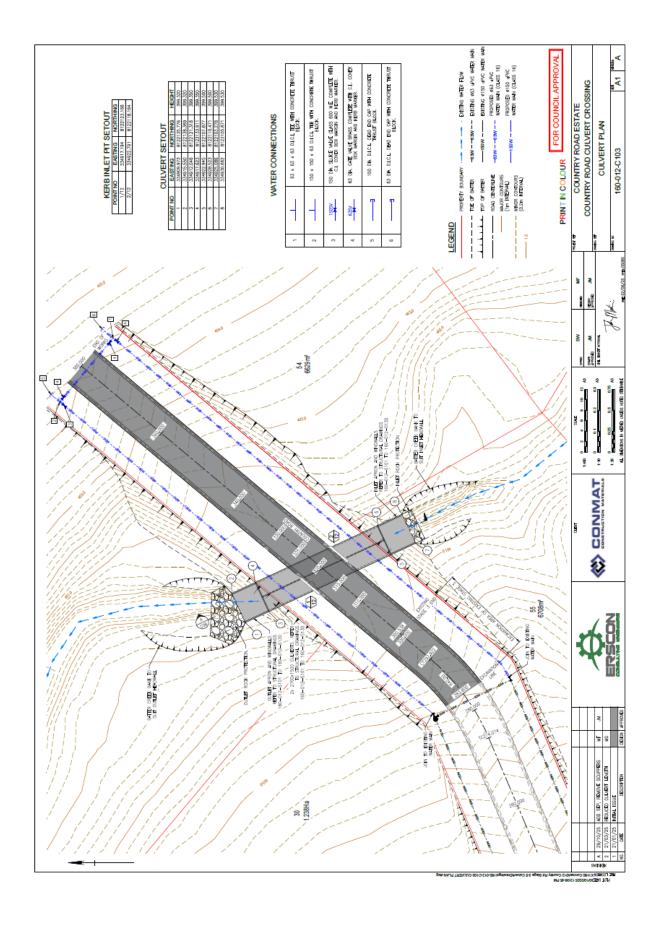
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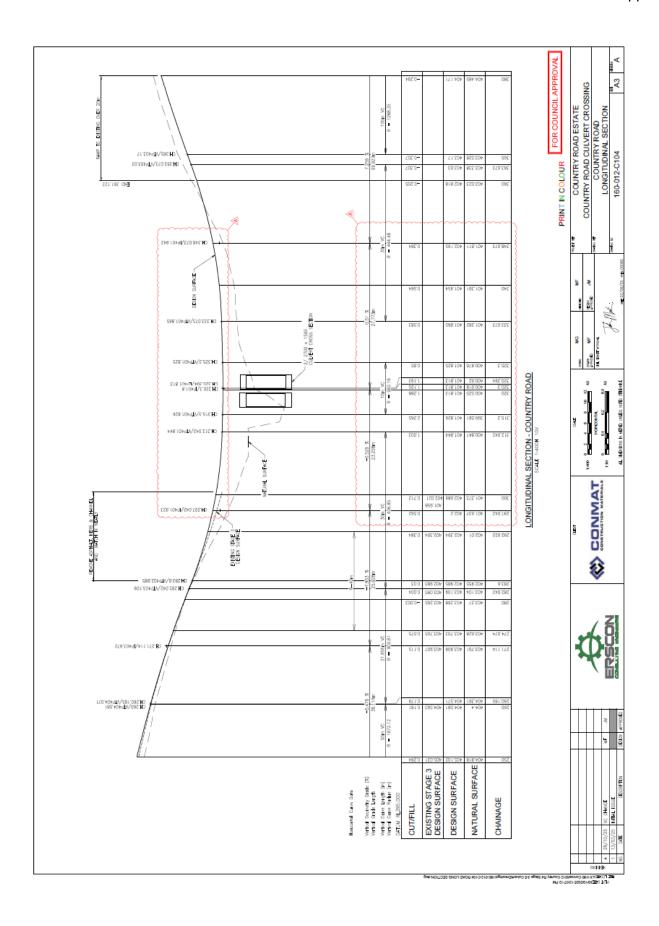
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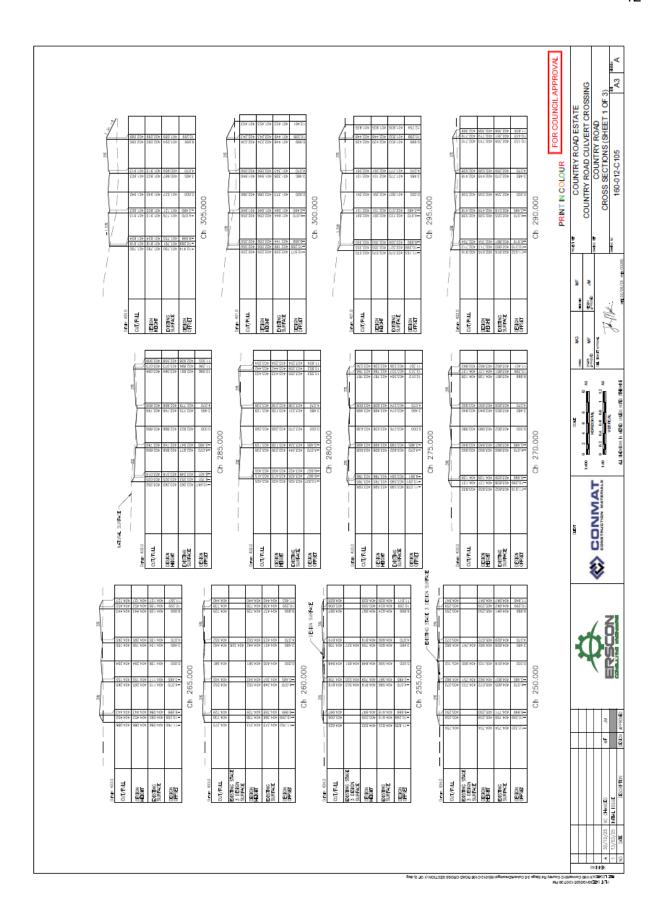
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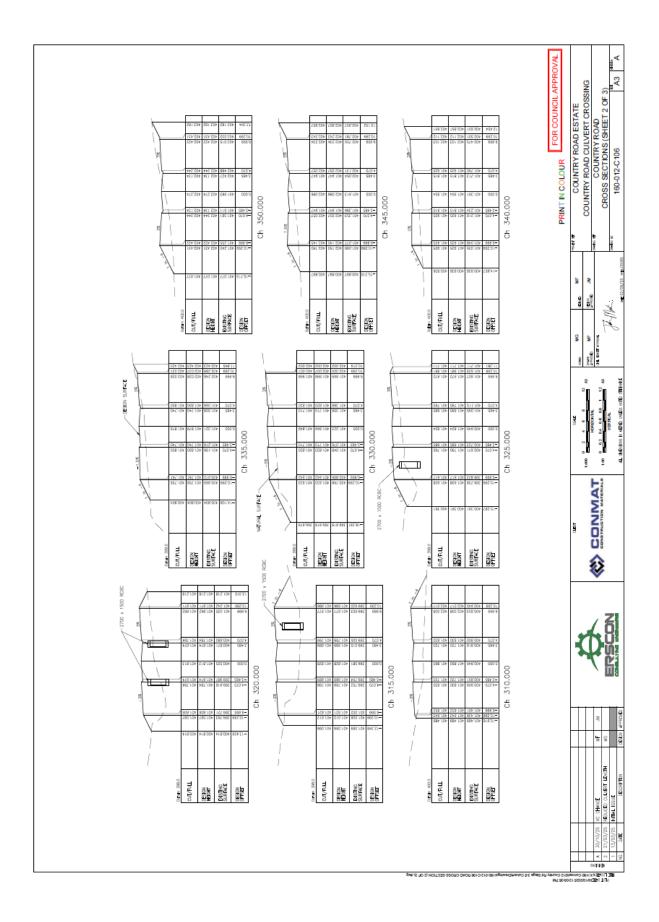
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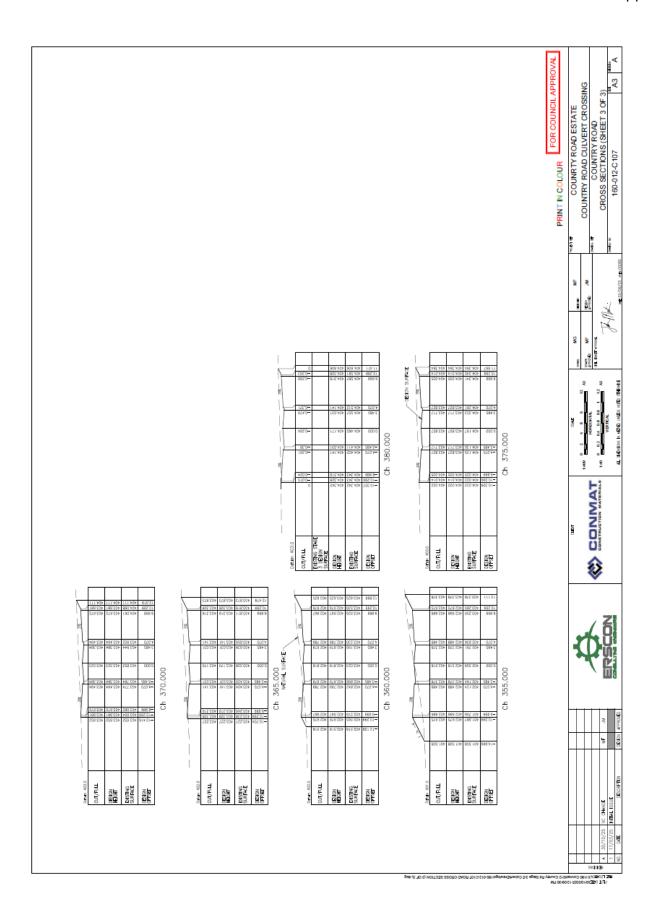
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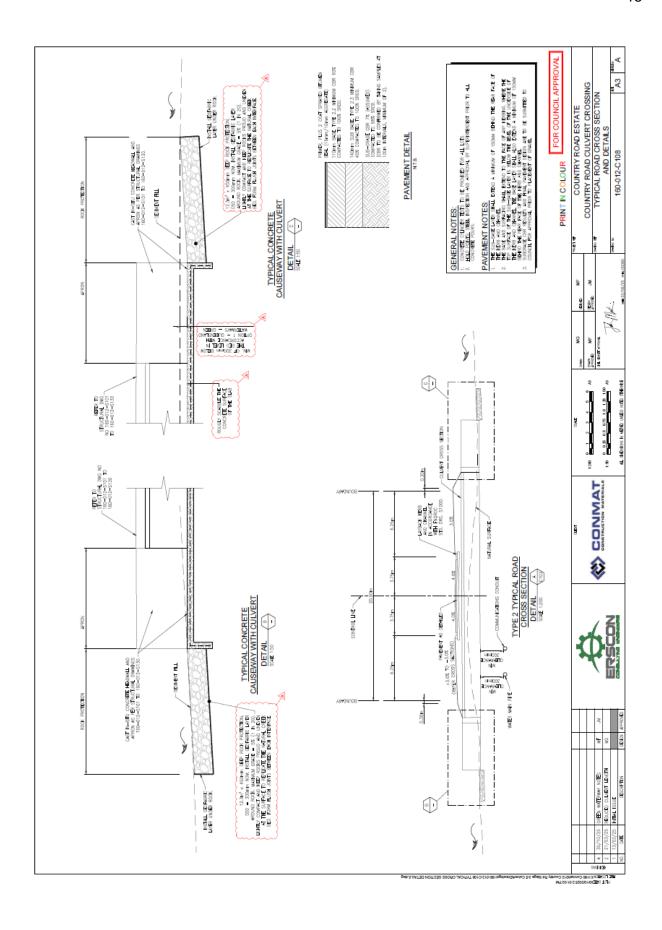


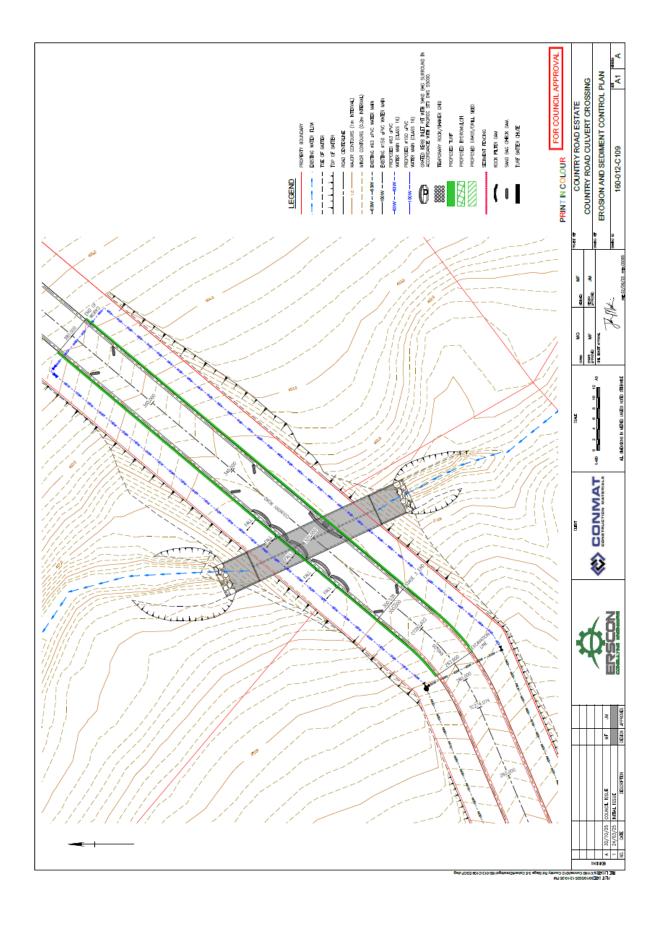


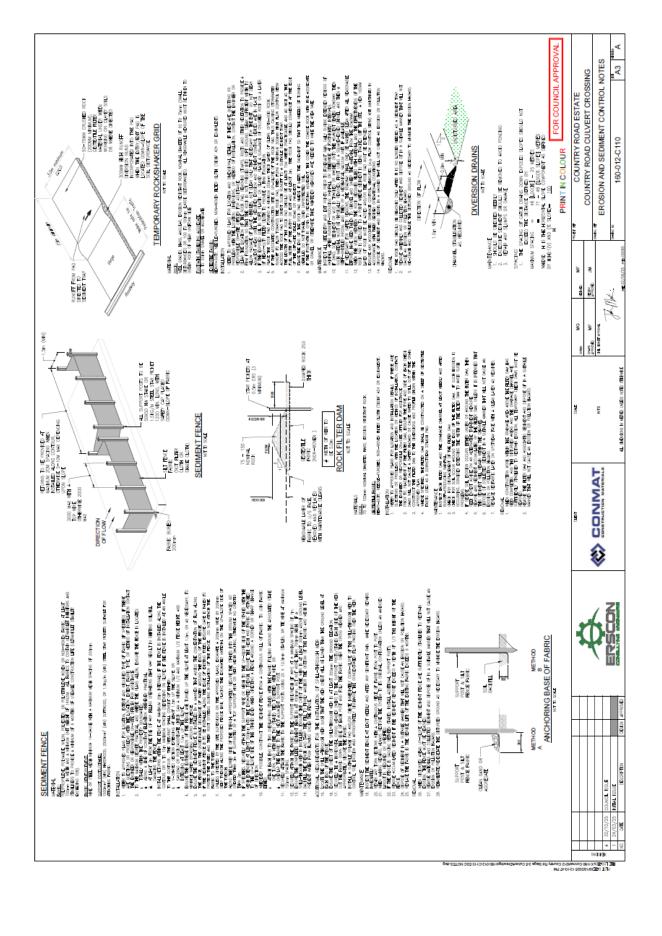












# WORKPLACE HEALTH AND SAFETY DESIGN REPORT

THESE NOTES SHOULD BE READ AND UNDERSTOOD BY ALL INVOLVED IN

THIS PROJECT.

WHEN INCLUDES, BY TIS NOT LIMITED TO), DESIGNERS, CLIENT, COWNER, OWNER BULDER, PRINCEPAL CONTRACTOR, SUB-CONTRACTORS, TRADE CONTRACTORS, CONTRACTORS, CHEMICA PRINCENSE, DEMOUTHERS, CONTRACTORS, CONTRACTORS, DEMOUTHERS, GENERAL WORKERS AND ANY PRESON CONDUCTIONS A BLISNESS OF UNDERTAKING (PCBU) ON THIS PROJECT.

- LOADING OF THE STRUCTURE BEFORE, DURING OR AFTER CONSTRUCTION MUST BE APPROVED BY THE STRUCTURAL ENGINEER OR 2. AM APPROPRIATELY QUALIFIED ENGINEER BEFORE PROCEEDING WITH ANY CHANGES TO THE SPECIFICATIONS OF THE STRUCTURAL DESIGN OR
  - PROPER PERSONAL PROTECTIVE EQUIPMENT (PPE) SHOULD BE ANY CONSTRUCTION OR ALTERATION WORKS.
- 3. AN ADEQUATE FIRST AID KIT SHOULD BE PRESENT AND MAINTAINED ON PROVIDED, USED, WORN AND CURRENT AT ALL TIMES. SITE AT ALL TIMES.
- REQUIRED FOR CONSTRUCTION, MAINTENANCE OR DEMOUTION OF THE ROLLS, AS SETY-MA-DESIGN REVIOUR WETHER LORINEES. HAS DETECTED NO 1853; REQUIRING UNQUE CONSIDERATION OR ACTION BEYOND THE REQUIREMENTS OF THE MATIONAL WORSPULACE HEALTH AND SAFETY ACT, THE WORRDLACE HEALTH AND SAFETY REGULATIONS AND MUSTERY CODES OF PRACTICE. NO UNIQUE/NON-TYPICAL BUILDING TECHNIQUES OR METHODS ARE

- SLIPS, TRIPS AND FALLS

  CONSTRUCTION, CLEANING AND MAINTENANCE OF THIS BUILDING MAY REQUIRE PERSONS TO BE SITUATED WHERE A FALL IN EXCESS OF 1.4m IS POSSIBLE WHERE THIS ACTIVITY CANNOT BE AVOIDED, SCAFFOLDING, LEGISLATION. CARE SHOULD BE TAKEN TO PREVENT A FALL FROM ANY ACCORDANCE WITH THE RELEVANT GUIDELINES, REGULATIONS OR LADDERS, FALL BARRIERS AND/OR PPE SHOULD BE USED IN
- THE SITE SHOULD BE KEPT TIDY AND FREE OF TRIP HAZARDS AT ALL TIMES, INCLUDING DURING CONSTRUCTION, MAINTENANCE AND N
- ADEQUATE LIGHTING SHOULD BE PROVIDED AT ALL TIMES DURING CONSTRUCTION AND MAINTENANCE AND WHEN THE BUILDING IS

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ENSURE SURFACES ARE KEPT FREE OF ANY OBJECTS THAT MAY CAUSE A ACCESSWAYS AND PATHS SHOULD BE MONITORED AT ALL TIMES TO BEING USED TO ENSURE SAFE WORKING CONDITIONS. ALIP OR TRIP HAZARD

- ANY ITEMS WITH A MASS GREATER THAN 25kg SHOULD BE LIFTED BY TWO OR MORE WORKERS, OR WITH THE AID OF A MECHANICAL LIFTING STORED IN A WAY WHICH MINIMISES THE NEED FOR BENDING BEFORE DEVICE, WHERE POSSIBLE, COMPONENTS SHOULD BE
- ALL PORTABLE TOOLS USED DURING CONSTRUCTION, MAINTENANCE AND DEMOLITION OF THIS BUILDING SHOULD BE PROPERLY MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S PECIFICATIONS.

### FALLING OBJECTS

1. CONSTRUCTION, MAINTENANCE OR DEMOLITION WORK ON OR AROUND THIS BUILDING IS LIKELY TO INVOLVE PERSONS WORKING ABOVE GROUND LEVEL, WHERE THIS OCCURS, ONE OR MORE OF THE

CLEARLY MARKED WITH BRIGHT COLOURED MARKERS AND SIGNAGE SHOULD BE PROVIDED AT GROUND LEVEL.
DURING RENOVATION AND MAINTENANCE WORK, ALL EXISTING FALLING OBJECTS.

• PREVENT OR RESTRICT ACCESS TO AREAS BELOW WHERE THE WORK IS 3. FOLLOWING MEASURES SHOULD BE TAKEN TO PREVENT INJURY FROM

- BEING CARRIED OUT BY THE USE OF APPROPRIATE BARRICIDES.

  PROVIDE TOE-BOARDS TO SCAFFOLDING OR WORK PLATFORMS.

  PROVIDE MESH BARRICADES TO THE SIDE OF SCAFFOLDING OR WORK PLATFORMS.
  - PROVIDE PROTECTIVE STRUCTURES, HOARDING AND GANTRIES
  - BELOW THE WORK AREA,

     ENSURE ALL PERSONS BELOW THE WORK AREA HAVE SUITABLE PPE
    (HARD HATS, SAFETY FOOTWEAR, EYE PROTECTION ETC.) AND THAT IT
- DURING CONSTRUCTION, RENOVATION, MAINTENANCE OR DEMOLITION MECHANICAL LIFTING OF MATERIALS MAY BE REQUIRED. LIFTING DEVICES ARE USED, THAT LOADS ARE APPROPRIATE AND ARE PROPERLY SECURED AND THAT ACCESS TO AREAS BELOW THE LOAD IS BUILDING. PARTS OF THE STRUCTURE WILL REMAIN STANDING PRIOR TO GO AFTER SUPPORTING ELEMBERTS SARE IN ELEC, COUTRACTORS SHOULD ERSURE THAT TRANDARM BACTING OR OTHER REQUIRED SUPPORTS ARE IN PLACE AT ALL TIMES TO PREVENT COLLAPS. WHERE SUCH LIFTING IS NECESSARY, ENSURE THAT APPROPRIATE DURING CONSTRUCTION, RENOVATION OR DEMOLITION OF THIS IS USED CORRECTLY.

### PUBLIC ACCESS

PREVENTED OR RESTRICTED.

APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT, DO NOT BURN

TREATED TIMBER.

THIS BUILDING DURING CONSTRUCTION, MAINTENANCE OR DEMOUTION SHOULD ENSURE GOOD VENTILATION AND WEAR

PIBLIC ACCESS TO CONSTRUCTION AND BENOUTION STITS AND MELAS.
WINDOM MAINTENANCE CAN CAUSE SINK TO WORKERS AND THE PUBLIC.
WARNINGS SHORE, AND BARNERS SHOULD BE PRODUDED TO PREVENT
WARNINGS SHORE, BLECTREAL INSTALLATIONS, EXCHANDIORS,
PLANT AND LOOSE MATERIAL SHOULD BE SCURED WHEN MOT PLALT. SUPERVISED.

### TRAFFIC MANAGEMENT

PARRING OF VEHICLES OR LOADING/UNLOADING OF VEHICLES ON THIS SITEMOWAY MAY CAUSE A THREFFEH CHAZARD. PARRING FOR WORKERS AND LOADING AREAS SHOULD BE PROVIDED AND SUPERVISED BY TRAINED TRAFFIC MANAGEMENT PERSONNEL. CONSTRUCTION OF THIS BUILDING MAY REQUIRE LOADING AND UNLOADING OF MATERIALS ON THE ROADWAY, DELIVERIES SHOULD SE WELL PLANNED TO AVOID CONGESTION OF LOADING AREAS, LOADING

WITH SUCH MATERIALS.

- TRAFFIC MANAGEMENT PLAN SHOULD BE ADOPTED AND SUPERVISED PLANT OPERATING ON THIS SITE MAY CAUSE A RISK OF COLLISION. A AND UNLOADING SHOULD BE SUPERVISED BY TRAINED TRAFFIC MANAGEMENT PERSONNEL. BY TRAINED TRAFFIC MANAGEMENT PERSONNEL.
  - GOVERNMENT REQUIREMENTS, THE PRINCIPAL CONTRACTOR IS TO COMPLETE ALL NECESSARY DOCUMENTATION FOR TRAFFIC MANAGEMENT, SIGNAGE, BARRICADES, TRAFFIC CONTROLLERS ETC. ANY TEMPORARY ROAD CLOSURES ARE TO COMPLY WITH ALL LOCAL

UNDERGROUND SERVICES MAY BE PRESENT AT THIS SITE, ALL SERVICES SHOULD BE LOCATED (USING DIAL BEFORE YOU DIG AND A SPECIALIST CONTRACTOR) AND CLEARLY MARKED PRIOR TO ANY WORKS

THE 'CODE OF PRACTICE MANAGING ELECTRICAL RISKS AT THE WORKPLACE, AS/AYS 2012" AND ALL LICENSING RECQUIENTERTS. NEW ELECTRICAL INSTALATION OF CONSTRUCTION AND DEMOUTION SITES MANGE BE IN ACCORDANCE WITH THE WIRINGS ROLLES OF AS/ASS. 3000

ALL WORK SHOULD BE CARRIED OUT IN ACCORDANCE WITH THE 'CODE

ALL WORK USING PLANT SHOULD BE CARRIED OUT IN ACCORDANCE

AND APPROPRIATE REQUIREMENTS OF AS/NZA 3012.

WITH THE 'CODE OF PRACTICE MANAGING RISKS OF PLANT AT THE

WORKPLACE"

OF PRACTICE MANAGING NOISE AND PREVENTING HEARING LOSS AT WORK!

ELECTRICAL WORK SHOULD BE CARRIED OUT IN ACCORDANCE WITH

OUT BY LICENCED SPECIALISTS AND STRICTLY IN ACCORDANCE WITH THE WHS REGULATIONS.



MET PRESENTE TO PLANT COMING INTO OR PLANT COMING INTO OR OWNERS OF PLANT COMING INTO OR OWNERS OF PLANT COMING INTO OR OWNERS THIS IS A RISK OF WORKERS OF PLANT COMING INTO OR OWNER THIS IS NOT POSSIBLE, POWER LIMES SHOULD BE RELOCATED, WHERE THIS IS NOT POSSIBLE, POWER LIMES SHOULD BE

THAT PARTICULAR CARE BE EXERCISED WHEN UNDERTAKING ANY WORK INVOLVING STELL CONSTRUCTION AND CONCRETE PLACEMENT. DUE TO THE HISTORY OF SERIOUS INCIDENTS, IT IS RECOMMENDED SERVICES WITHIN THE WORK AREA SHOULD BE LOCATED PRIOR TO

### FIRE FIGHTING 1. THE CLIEMT/OWNER IS TO ENSURE THAT APPROPRIATE FIRE FIGHTING EQUIPMENT IS PROVIDED ON SITE DURING CONSTRUCTION AND MAINTAINED FOR THE LIFE OF THE BUILDING.

ANY TEMPORARY SERVICES ARE TO BE CLEARLY MARKED AND HAVE ALL

WORK COMMENCING, IF DISCONNECTION IS NOT POSSIBLE, SERVICES

SHOULD BE CLEARLY MARKED TO AVOID ANY RISK OF CONTACT OR

NECESSARY PROTECTIVE COVERINGS FOR THE PROPER PERFORMANCE OF THE WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE RELEVANT AUTHORITIES.

ALL FIRE FIGHTING EQUIPMENT IS TO BE PROVIDED AND MAINTAINED IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS.

ENERAL WORKPLACE HEALTH AND SAFETY REQUIREMENTS THE CLIENT/OWNER IS TO ENSURE THAT THE PRINCIPAL CONTRACTOR COMPLIES WITH ALL REQUIREMENTS OF THE NATIONAL WH&S ACT 2011, WORKPLACE HEALTH AND SAFETY REGULATIONS 2011 AND CODES OF PRACTICE DURING THE CONSTRUCTION OF THE BUILDING

AZARDOUS SUBSTANCES
MANY MATERIALS USED IN THE CONSTRUCTION OF THIS BUILDING CAN

CAUSE HARM IF INHALED OR HANDLED, PERSONS WORKING ON OR IN THE BUILDING DURING CONSTRUCTION, MAINTENANCE OR

PERSONAL PROTECTIVE EQUIPMENT INCLUDING PROTECTION AGAINST

DEMOLITION SHOULD ENSURE GOOD VENTILATION AND WEAR

THE PRINCIPAL CONTRACTOR MEANS THE BUILDER WHO HAS OBTAINED THE BUILDER PREND USED FOR THE CONTRACT.

FOR THE CONTRACT.

THE CLIENT/OWNER MUST ENSURE THAT THE PRINCIPAL CONTRACT COMPLETES A CONSTRUCTION WORNPLACE PLAN AS APPLICABLE. UNDER THE WH&S LEGISLATION.
THE CLIENT/OWNER MUST ENSURE THAT THE PRINCIPAL CONTRACTOR
AND ALL TRADE CONTRACTORS COMPLETE WORK METHOD HAMA ATTON WAHE LISHOF PONDERED MATERIALS OR WHEN SANDING, DIRELING, CUTTING OR OR THERWANDED ESTURBING OR GRADNE POWDERED MATERIAL.
POWDERED MATERIAL.
FACIE DIMERS ANY BE USED IN THE SUILDING, DUST OR FUNDER FROM THIS MATERIAL, CAN BE EMBANFILL, PRESONIS WORKING ON OR IN

THE CLIENT/OWNER MUST ENSURE THAT THE PRINCIPAL CONTRACTOR CONDUCTS THE NECESSARY SITE-SPECIFIC INDUCTION AS REQUIRED BY STATEMENTS (WMS) AS APPLICABLE UNDER THE WHRS LEGISLSATION THE CLIENT/OWNER MUST ENSURE THAT WORKERS HAVE A CURRENT GENERAL SAFETY INDUCTION (WHITE OR BLUE) CARD. BEFORE ANY WORK COMMENCES.

THE CLEAT/CONNER MUST ENGUISE THAT THE PRINCIPAL CONTRACTOR HAS THE APPROPRIATE FIRST AID KITS AND THAT THEY ARE MAINTAINED MAINTAINED AND STORE OF AND THAT THEY ARE MAINTAINED MAINTAINED THE CONTRACTOR. THE CLIENT/COWNER MUST ENGUISE THAT THE PRINCIPAL CONTRACTOR. TRADE CONTRACTORS AND WORKERS MEET ALL OF THEIR WH&S OBLIGATIONS DURING CONSTRUCTION. 3. MANY TYPES OF GLILE, SOLVENTS, SPRAY PACKS, PARNTS, VARMISHES AND STOKE CLEANING MATERIALS AND DISHEFECTARY HAVE DAMOGENOUS EMISSIONS, AREAS WHERE 'HEST AGE USED SHOULD BE KETY WELL VENTLATED. PERSONAL PROTECTIVE COUPMENT MAY BE REQUIRED. THE MANUFACTURE'S RECKNAMENDATIONS FOR USE MIDST 7. BE CAREFULLY CONDERED AT TANKE.

4. IF INSECULAS, ROCKWOOL, CERAMIC AND OTHER MATERIAL USED FOR THEMSELAS, ROCKWOOL, CERAMIC AND OTHER MATERIAL USED FOR THEM ALO SOLUND INSULATION MAY CONTAN SYMPHETIC MINERAL BE WAITCH AND SET SOLUTIVE COUPMENT WITH THE SOLUTIVE STANDING IS SHAFFING PASTS OF THE BOOY, APPROPRIATE PERSONAL PROTECTIVE COUPMENT WITH THE SOLUTIVE SOLUTION BE 9. WORKING DATES AND THE TANKE OF THE MATERIAL SHOULD BE 9.

THE CLIENT/OWNER MUST ENSURE THAT THE PRINCIPAL CONTRACTOR AND TRADE CONTRACTORS ENSURE THAT ONLY EXPERIENCED, QUALIFIED, LICENSED PERSONS ARE EMPLOYED TO CARRY OUT THE

30, THE CLENT/OWNER MUST ENSURE THAT THE PRINCIPAL CONTRACTOR HAS PUT IN PLACE THE WORKPLACE HEALTH AND SAFETY CONTROL MESURES IN ACCORDANCE WITH WHARS REGULATION FOR ALL HIGH PLATFORMS ON TRESTLE LADDERS, FALL ARREST PLATFORMS, TRAVEL PROTECTION, BALCONY EDGE PROTECTION, INDUSTRIAL SAFETY NETS CONSTRUCTION SAFETY PLAN, WORK METHOD STATEMENTS, ROOF RESTRAINT SYSTEMS, FALL ARREST HARNESS SYSTEMS, STAIR VOID EDGE PROTECTION, SCAFFOLDS AND WORK PLATFORMS, WORK RISK CONSTRUCTION WORK INCLUDING BUT NOT LIMITED TO: AND EXCAVATION FALLS PROTECTION. AREAS WHERE TIMBER FINISHES ARE APPLED SHOULD BE KEFT WELL WETLIATED DUBLIGG SANDING AND PROLICATION AND FOR A PERIOD AFFILIATION DUBLING SANDING AND APPLICATIONS AND FOR A PERIOD AFFI BINSTALLATION, FERSONAL PROTICATIC EQUIPMENT MAY BE FEGURED. THE MANUFACTURER'S RECOMMENDATIONS FOR USE MUST BE CAREFULLY CONSIDERED AT ALL TIMES.

WORKS INVOLVING EXPOSURE TO ASSESTIOS SHALL ONLY BE CARRIED WORKS WOULDING EXPOSURE TO ASSESTIOS SHALL ONLY BE CARRIED

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FOR COUNCIL APPROVAL

|        | 7   | 8                   | C61     | COUNTRY ROAD ESTATE               |
|--------|---|---------------------|---------|-----------------------------------|
|        |   | RG                  | PO POPE | COUNTRY ROAD CULVERT CROSSING     |
| CONMAT |   | Promise Book Person |         | WORKPLACE HEALTH AND SAFTEY NOTES |
|        |   |                     | 000     |                                   |
|        | 7. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. | 20/02/2022          | . K. K. | 160-012-S101 "F1                  |



| COUNTRY RO | WORKPLACE HE     | 160-012   |
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| RG NOW PG  | The treff-repair | 20/05/2025 =c. 15306                              |
| -          | - Diagram        | CECHO EN PETER DE SELECI PATE OFFICIALE PAT 20/05 |
|            |                  | ne alamen   |
|            |                  | 92  |

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ESCH-TH

### A. GENERAL NOTES

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER PROJECT DRAWINGS, SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE WORK. ALL DISCREPANCIES SHALL BE REFERRED FOR APPROVAL BY THE ENGINEER' BEFORE PROCEEDING WITH THE WORK.
- RPEQ ENGINEER WHOSE NAME APPEARS ON THE STRUCTURAL DESIGN CERTIFICATE ISSUED THE TERM 'ENGINEER' REFERRED TO IN THESE NOTES IS TAKEN TO MEAN THE CERTIFYING WITH THESE DRAWINGS A2.
- APPROVAL IS TO BE PROVIDED IN WRITING. SUBSTITUTIONS OR ADJUSTMENTS ARE NOT A3. WHERE THE "APPROVAL OF THE ENGINEER" IS SPECIFIED OR REQUIRED IN THESE NOTES,
- PERMITTED WITHOUT THE "APPROVAL OF THE ENGINEER". A4, WORKMANSHIP AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF FNGROC, STANDARDS AUSTRALIA CODES AND THE WORKPLACE HEALTH AND SAFETY ACT ALL LOCAL AND STATUTORY AUTHORITY'S REQUIREMENTS AND BYLAWS ARE TO BE ADMERED TO
- AB. THE CONTRACTOR SHALL PROVIDE (TO THE CONTRACTOR'S COSTS AND CERTIFICATION) AND TEMPORARY BRACING ELEMENTS AS IS NECESSARY TO STABILIZE THE STRUCTURE AND ANY AS CONSTRUCTED DATA TO BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ADJACENT STRUCTURES DURING CONSTRUCTION, TRANSPORTATION, EXCAVATIONS AND ERECTION, ENSURING NO PART SHALL BE OVERSTRESSED DURING THESE ACTIVITIES. LEAVE IN PLACE UNTIL PERMANENT BRACING ELEMENTS ARE CONSTRUCTED, SUCH COUNCIL IN ACCORDANCE WITH FNOROC DEVELOPMENT MANUAL. A5.

A7. If IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL EXISTING SERVICES ON THE SITE, SERVICES WHERE SHOWN ON THESE DRAWINGS ARE INDICATIVE LOCATIONS ONLY. THE

SERVICES AND PROVIDE TEMPORARY AND ADEQUATE SERVICES WHILST REPAIRS ARE

CONTRACTOR IS TO RECTIFY IMMEDIATELY ANY OBSTRUCTION OR DAMAGE TO SUCH

ANY DRAINAGE WORKS SHOWN ON THE STRUCTURAL DRAWINGS ARE INDICIATIVE ONLY AND DO NOT FORM PART OF ERSCON'S STRUCTURAL CERTIFICATION, EXCEPT DRAINAGE BEHIND CARRIED OUT.

AB.

A9. INSPECTIONS AND CERTIFICATION: THE INSPECTOR MUST BE A REGISTERED PROFESSIONAL ENGINEER OF OLD AND INSPECT AND CERTIFY ALL STRUCTURE RELATED CONSTRUCTION RETAINING WALLS, DRAINAGE WORKS ARE TO BE BY THE CIVIL ENGINEERING

WORKS, CONTRACTOR TO ARRANGE REQUIRED INSPECTIONS FOR THE FOLLOWING HOLD

- IMPROVEMENT WORKS OR FILL, CONTRACTOR MUST PROVIDE DCP TEST RESULTS TO 1. AFTER EXCAVATION TO NATURAL GROUND BEFORE CONSTRUCTING ANY SOIL
- THE CERTIFYING ENGINEER LATEST AT THIS STAGE OF WORKS.
- 3. AFTER COMPLETED SET UP OF FORMWORK FOR BASE SLAB AND/OR APRON SLAB AND AFTER ANY SOIL IMPROVEMENT WORKS OR FILL HAS BEEN CONSTRUCTED AND BASE SLAB SET UP HAS NOT BEEN STARTED YET

2

- PLACEMENT OF BASE SLAB REINFORCEMENT AND/OR HEAD WALL /WING WALLS STARTER BARS (MIN. 24h BEFORE THE CONCRETE POUR)
- PLACEMENT OF THE WALL REINFORCEMENT, FURTHER WALL SECTION INSPECTIONS CAN BE DONE VIA PHOTOS PROVIDED BY THE BUILDER TO THE ENGINEER FOR AFTER COMPLETED SET UP OF FORMWORK FOR THE CULVERT WALLS AND APPROVAL 24h BEFORE THE CONCRETE POUR.
  - AFTER COMPLETED SET UP OF FORMWORK FOR THE WING WALLS AND PLACEMENT AFTER COMPLETED SET UP OF FORMWORK FOR THE CULVERT DECK PANELS AND OF THE REINFORCEMENT (MIN. 24h BEFORE THE CONCRETE POUR)
- PLACEMENT OF THE REINFORCEMENT AND ALL ANCHILLARY ITEMS (MIN. 24h BEFORE
- AFTER COMPLETED SET UP OF FORMWORK FOR THE HEAD WALL AND PLACEMENT OF THE REINFORCEMENT AND ALL ANCHILLARY ITEMS (MIN. 24) BEFORE THE CONCRETE

# 8. AFTER PLACEMENT OF THE CULVERT DECK PANELS AND THE HEAD WALL PANEL BUT BEFORE GROUTING OF THE CONNECTION POINTS OF THE DECK PANELS TO THE

- D3. PERMISSION IS GIVEN TO COPY THESE PLANS FOR USE ON THIS SPECIFIC PROJECT ONLY. PLANS MAY ONLY BE REPRODUCED AS A COMPLETE SET AND MUST INCLUDE THE STRUCTURAL DESIGN CERTIFICATE 410.
  - IF ANY PART OF THIS DOCUMENTATION IS UNCLEAR OR ILLEGIBLE, PLEASE CONTACT THIS OFFICE.
    - DO NOT OBTAIN DIMENSIONS BY SCALING FROM THESE DRAWINGS. ABBREVIATIONS:

412.

**8** 

THE CULVERT HAS BEEN DESIGNED FOR AN EXPOSURE CLASSIFICATION B2.
ALL THE ABOVE ON NOT THOUSE LOADS WHICH MAY BE APPHED DURING CONSTRUCTION. THE BUILDER IS TO BOANTAIN THE STABILLTY OF THE STRUCTURE DURING CONSTRUCTION.

THE CULVERT HAS BEEN DESIGNED FOR THE STANDARD ROAD TRAFFIC LOADS AS DEFINED

EXPOSURE CLASSIFICATION, CONCRETE PROPERTIES & CURING, CONCRETE STRENGTH

AND REINFORCEMENT COVER TO AS 5100.5

EARTHQUAKE LOADS TO AS 1170.4: 2024

VEHICLE LOADING TO AS 5100.2

AS/NZS 1170.1: 2002

| ABBR. | DESCRIPTION                   | ABBR | DESCRIPTION                   |
|-------|-------------------------------|------|-------------------------------|
| CBR   | CALIFORNIA BEARING RATIO      | RCBC | REINFORCED CONCRETE BOXED     |
| _     | CENTRE LINE                   | REIN | REINFORCEMENT                 |
| C.J.  | CONSTRUCTION JOINT            | S.C. | SAW CUT                       |
| CM    | CONRETE MASONRY (BLDCKWORK)   | SRDD | STANDARD RELATIVE DRY DENSITY |
| CRS   | CENTRES                       | TBA  | TO BE ADMISED                 |
| DCP   | DYNAMIC CONE PENETROMETER     | T/0  | TOP OVER (REINFORCING LAYER)  |
| EW    | EACH WAY (REINFORGING LAYERS) | TV   | TOP UNDER (REINFORCING LAYER) |
| HORI  | HORIZONTAL                    | TYP  | TYPICAL                       |
| MAX   | MAXIMUM                       | nrs  | ULTIMATE LIMIT STATE          |
| MIN   | MINIMUM                       | U.N. | UNLESS NOTED OTHERWISE        |
| 8     | QUALITY ASSURANCE             | VERT | VERTICAL                      |
| HC.   | REINFORCED CONCRETE           | WHS  | WORKPLACE HEALTH & SAFETY     |

## B1. ERSCON ACCEPTS NO RESPONSIBILITY FOR A DRAWING THAT HAS BEEN AMENDED IN ANY ELECTRONICALLY TRANSFERRED DRAWINGS

ASSESSED AS BEING LESS AND DIFFERENT THAN ASSUMED, THE ENGINEER WILL NEED TO BE

ES. UNLESS NOTED OTHERWISE IN SPECIFICATIONS, THE BASE SLAB SHALL BE FOUNDED ON COMPACTED NATURAL GROUND INCLUDING THE FOUNDATION PREPARATION WORKS AS

CONTACTED TO PROVIDE A SUITABLE AMENDED DESIGN.

AND SOIL PROPERTIES SHALL BE VERIFIED WITH A GEOTECHNICAL INVESTIGATION AND THE

REPORT FORWARDED TO THE ENGINEER. IF THE BEARING PRESSURE AND SOIL TYPE IS

IG CAPACITY OF THE GROUND

MEMBRANE UNDER THE BASE SLABS, MOISTEN GROUND BEFORE CONCRETE POUR.

CO. IF COMPACTED CONTROLLED FILL IS TO BE USED AS FOUNDING MATERIAL, THIS IS TO BE
COMPACHED FOR THE PRIGHTER BEFORE CONSTRUCTION COMMENCES AND THE ELEMENE

SPECIFIED ON THE CULVERT SECTION DRAWING. DO NOT PROVIDE A DAMP PROOF MEMBRANE UNDER THE BASE SLABS. MOISTEN GROUND BEFORE CONCRETE POUR

ERSOON CONSULTING ENGINEERS FOR FURTHER NOTES.
E3. THE DESIGN OF THE STRUCTURE HAS BEEN BASED ON THE FOUNDATION HAVING A MINIMUM

BEARING CAPACITY OF 150 kPa AND THE SOIL BEING OF GRANULAR TYPE.

E2. REFER TO THE 'GENERAL NOTES' OF THE CIVIL ENGINEERING DESIGN DOCUMENTION BY

E1. EARTHWORKS SHALL BE IN ACCORDANCE WITH AS3798 "GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS" AND AS FOLLOWS, AND SATISFY THE MINIMUM REQUIREMENTS SET OUT IN THE FNORGC DEVELOPMENT MANUAL SPECIFICATION

E. SITE PREPARATIONS, EARTHWORKS AND FOUNDATION NOTES

WAY BY OTHER PARTIES.

2. ANY PART OF EASONYS DRAWINGS COPIED FROM ELECTRONICALLY TRANSFERRED DAWNINGS BECOMES THE RESPONSIBILITY OF THE RECIPIENT TO DISTRIBUTE ONLY TO THE PARTICIPATING PARTIES AS COMPLETE SET OF DRAWINGS. C1. THE CONTRACTOR SHALL DEVELOP, IMPLEMENT AND ADMINISTER A WORKPLACE HEALTH AND SAFETY PROGRAM THAT WILL ENSURE THAT ALL CONSTRUCTION ACTIVITIES ARE C. HEALTH & SAFETY

- PERFORMED TO THE RELEVANT WORKPLACE HEALTH AND SAFETY REQUIREMENTS AND ANY
- OTHER RELEVANT STATUTORY REQUIREMENTS. C2. THE WORKPLACE HEALTH AND SAFETY PROGRAM MUST BE COORDINATED WITH ADJOINING PROPERTY OWNERS AND ALL RELEVANT PARTIES AS NECESSARY TO ENSURE A SAFE BUILDING ENVIRONMENT AT ALL TIMES
  - C3. CONTRACTOR TO ARRANGE THE DESIGN AND CERIFICATION OF ANY LIFTING ARRANGEMENT FOR ON-SITE PRECAST ELEMENTS BY A SUITABLY QUALIFED ENGINEER.
    C4. CONTRACTOR FOR FULLY LUCKNESS A REGISTIERED FOR THE TYPES OF CONSTRUCTION WORKS. WORKS TO BE UNDERTAVEN ONLY BY SUITABLY QUALIFED TRANBED STAFF IN ACCORDANCE WITH THE MANUFACTURES WHAS AND DA PROCEDURES.

150mm AND STOCKPILE, REMOVE ALL DELETERIOUS MATTER.

ALL TREES AND LARGER VEGETATION SHALL BE KEPT MIN, 5m AWAY FROM THE CULVERT

E9. STRIP BUILDING PLATFORM OF ALL TOPSOIL AND VEGETATION TO A MINIMUM DEPTH OF

PROVIDE SHORING CERTIFIED BY SUITABLY QUALIFIED STRUCTURAL ENGINEER TO ALL DEEP

EB. KEEP EXCAVATIONS FREE OF WATER. PROVIDE ADEQUATE DRAINAGE TO ENSURE

FOUNDATION IS NOT AFFECTED BY MOISTURE.

**EXCAVATION.** 

EXCAVATIONS WHERE REQUIRED.

FROM ADVERSE EFFECTS OF GROUND WORKS. PROVIDE TEMPORARY WORKS AS REQUIRED

EXCAVATIONS IN STABLE CONDITIONS. PROTECT SURROUNDING PROPERTY AND SERVICES

E7. DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAIN NG

WILL NEED TO BE ASKED TO PROVIDE A SUITABLE DESIGN.

PREVENT FOUNDATION DRYING OUT DUE TO

EXPOSURE. PLACE BLINDING, FOOTINGS AND BACKFILL AS SOON AS PRACTICABLE AFTER

RUBBISH. IF ANY OF THIS MATERIAL IS FOUND, IT SHALL BE REMOVED FROM THE WORKS TO

THE CONTRACTOR SHALL CHECK ALL EXCAVATIONS FOR ORGANIC MATERIAL AND

STRUCTURE. E10. E11 E12. EXPOSURE OF EXCAVATED FOOTINGS SHALL BE MINIMISED TO PREVENT LOCAL SED

A PLACE DESIGNATED BY THE SUPERINTENDENT.

MOISTURE CHANGES DURING THE CONSTRUCTION PERIOD.

# D. DESIGN PARAMETERS AND SERVICE LOADS

THE REINFORCED CONCRETE CULVERT STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE CURRENT ISSUES OF AS \$100.2-2017 BRIDGE DESIGN - DESIGN LOADS, AS \$100.5-2017 BRIDGE DESIGN - CONCRETE, AND STANDARDS MENTIONED WITHIN THOSE CODES AS APPLICABLE AND SUBSEQUENTLY THE DESIGN WILL SATISFY THE MINIMUM D2. DESIGN CRITERIA AND ASSUMPTIONS USED IN THE DESIGN AMONGST OTHERS: REQUIREMENTS SET OUT IN THE FNOROC DEVELOPMENT MANUAL VERSION 9.

E13. TREE REMOVAL: WHERE A TREE IS REMOVED, EXCAVATE 200mm BELOW EXTENT OF ROOT BALL. COMPACT EXPOSED SURFACE TO 98% SRDD TO A DEPTH OF AT LEAST 250mm. PLACE

APPROVED COMPACTED FILL AND REQUEST THE SPECIFICATION FROM THE ENGINEER

BEFORE COMMENCING CONSTRUCTION.

PERMANENT, IMPOSED AND OTHER ACTIONS TO ASNZS 1170.0; 2002 AND

FOR COUNCIL APPROVAL PRINT IN COLOUR

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| ATE                 | CROSSING             | NG NOTES              |               | A1 1813       |
|---------------------|----------------------|-----------------------|---------------|---------------|
| COUNTRY ROAD ESTATE | COUNTRY ROAD CULVERT | STRUCTURAL ENGINEERIN | SHEET 1 OF 2  | 160-012-S102  |
| 9                   |                      | <b>B</b> (pless       |               | 9             |
| 180                 | EM PAGE              |                       | 0             | × 8           |
| 8                   | Els Rg               | Tuffed from smooth    | C             | A July Change |
| 7                   |                      |                       |               | Y. S.         |
|                     |                      | FAM                   | HOP MATERIALS |               |

FOOTING, THE EXCAVATION IS TO BE BACKFILLED WITH A WEAK MIX CONCRETE (N10) TO THE F13. RESPONSIBILITY FOR DESIGN, CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF UNDERSIDE OF THE FOOTING BUT THIS IS TO BE CONFIRMED WITH THE ENGINEER BEFORE F14. FORMWORK TO BE DESIGNED AND CONSTRUCTED TO AS3610. WHERE THE SUITABLE FOUNDING MATERIAL IS DEEPER THAN REQUIRED FOR THE

F15. BEEN PLACED WITH THE GROUT FILLING OF THE CONNECTION POINTS HAVING ATTAINED MIN. COMMENCING ANY BUILDING WORKS, BACE UNTIL THE BASE SLAB AND THE CULVERT WALLS BACKFILLING SHALL NOT TAKE PLACE UNTIL THE BASE SLAB AND THE CULVERT WALLS HAVE REACHED THEIR FULL 28-DAY CONCRETE STRENGTH AND THE DECK PANELS HAVE 40 MPa STRENGTH E15.

FORMWORK, WHERE NECESSARY CLEAN REINFORCEMENT TO REMOVE TRACES OF RELEASE AGENT. SEAL JOINTS BETWEEN FORMWORK PANELS, AND TO HARDENED

F16. DO NOT STRIP FORMWORK PRICR TO 36 HOURS AFTER PLACEMENT.

CONCRETE WITH A FLEXIBLE RUBBER STRIP.

APPLY RELEASE AGENT COMPATIBLE WITH CONTACT SURFACES TO INTERIOR OF

# CONCRETE AND REINFORCEMENT NOTES

ı.

F17. STEEL REINFORGEMENT IS TO COMPLY WITH ASALSAG71. SYMBOLS ON DRAWINGS FOR GRADE AND TYPE OF REINFORGEMENT ARE AS FOLLOWS: RE STRUCTURAL GRADE 250 PLAIN ROUND BAR TO ASINZS/#371 REINFORCEMENT ALL WORKMANSHIP AND MATERIALS SHALL BE GENERALLY IN ACCORDANCE WITH AS3600 CONCRETE STRUCTURES AND ASS100 BRIDGE DESIGN, AND STANDARDS MENTIONED REQUIREMENTS SET OUT IN THE FNOROC DEVELOPMENT MANUAL SPECIFICATION 'S7 WITHIN THOSE DOCUMENTS AS APPLICABLE, AND SHALL SATISFY THE MINIMUM

ALL FORMWORK SHALL BE IN ACCORDANCE WITH AS 3610 FORMWORK FOR CONCRETE CONCRETE WORKS'

MINIMUM COVER TO ALL REINFORCEMENT SHALL BE 50mm EXCEPT WHERE CAST AGAINST

SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES. ALL CONCRETE THICKNESSES SHOWN ARE MINIMUM STRUCTURAL REQUIREMENTS; NO REDUCTION IN THICKNESS DUE TO FALLS OR TOPPING IS PERMITTED, REFER CIVIL DRAWINGS FOR CONFIRMATION OF ALL SLAB FALLS AND STEPS. GROUND IT SHALL BE 80mm.

NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT PRIOR APPROVAL OF THE ENGINEER 55 9

WET CONCRETE TO BE UNFORM, HOMOGENEOUS, COMESIVE AND ABLE TO WORK READILY INTO CORNERS, MAN ADAILON REMONEY WHITOOTH FLEEL VILLIAN FORMANISK WITHOUT F19. SEGREGATION, EXCESS REE WATER ON SURSIAGE, LOSS OF MATERIAL OR CONTAMINATION. CONCRETE TO HAVE GOOD DIMENSIONAL STABILITY AND ABLE TO RESIST PLASTIC F20. SETTLEMENT CRACKING, THERMAL CRACKING AND SHRINKAGE CRACKING.

SELECTED INFORMATION AND REPORT INFORMATION OF THE SENDING THE SENDING THE SENDING THE SENDING SENDING SENDING THE SENDING SEN DO NOT ADD WATER TO CONCRETE AFTER TRUCK HAS LEFT BATCHING PLANT.

CONSTRUCTION JOINTS SHALL BE LOCATED AND CONSTRUCTED AS PER THE DETALLS ON CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES. F10. 69

ADMIC C-Series TO THE CONCRETE AT TIME OF BATCHING AS ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. MIN. 32 MPa CONCRETE STRENGTH AT TIME OF STRIPPING RECOMMENDATION: ADD PENETRON ADMIX-SB OR XYPEX MAX AGGREGATE **OUSLY FOR AT LEAST 14 DAYS** PER THE DRAWINGS SPECIFICATION AND STRICTLY IN 0 +/-15 20 mm S MATERIAL CONTENT 450 kg/m² SIZE APRON SLAB,

WALLS, WINGWALLS,

WALLS, WINGWALLS,

WALL THE WATER CEMENT RATIO DA
DECK SLAB PANEL,

CURE CONCRETE CONTINUOUSLY FOR,

AMO HEADWALLS

MIN 32 MPs CONCRETE STERENTH AT 80 +/-15 SLUMP CONCRETE SPECIFICATION, U.N.O. ON DRAWINGS: MIN. CEMENTITIOUS AND CURING GRADE CULVERT BASE SLAB. ELEMENT

METHOD OF PLACEMENT BY PUMP.

PROJECT ASSESSIMENT IS NOT REQUIRED.
PROJECT ASSESSIMENT IS NOT REQUIRED.
NOR-SHRINK GROUT SHALL BE PARTONED ONBOSTRA OB CEMENTITIOUS, OR APPROVED. F12.

ARORATORY

# DELIVERABLES

JOINT LOCATIONS FOR ENGINEER-CINESS APPROVAL. NOMINATE FOR EACH MIX DESIGN THE TYPE AND PROPORTIONS OF CONSTITUENTS. AGREENTE READINGS, ADDITIVES AND ADMATURES, MAXIMIM WATER CONTENT AND MAXIMUM WATER CONTENT AND MAXIMUM WATER CONTENT AND MAXIMUM WATER CONTENT FAND. TARGET SUMP. TARGET CHARACITERSTIC STRENGTH (FG), AND F31. AT LEAST ONE WEEK PRIOR TO CONCRETE PLACEMENT SUBMIT DETAILS OF PROPOSED CONCRETE MIX DESIGNS, SEQUENCE AND TIMES FOR CONCRETE POURS, CONSTRUCTION TARGET DRYING SHRINKAGE

USE READY MIXED CONCRETE MIXED BY BATCH PRODUCTION PROCESS DELICERED IN AGUITATION TRUCKS. FOR EACH BATCH SUPPLY A DOCKET LISTING INFORMATION REQUIRED BY ASSIST 9 CAULAET 1.8 AND FOLLOWING: F32.

SERNAL NUMBER OF IDENTIFICATION CERTIFICATES OF EACH BATCH NAME OF CONCRETE DELIVER'S RUPERVOOR RUPEN CONCRETE WAS PREVENCE RUPEN WHICH COURSETE WAS GROEDED AND WHERE IT WAS PLACED METHOO OF PLACEMENT AND CLIMATIC CONDITIONS DURING POUR METHOO OF PLACEMENT AND CLIMATIC CONDITIONS DURING POUR

N: HOT ROLLED GRADE 500 DEFORMED (RIBBED) BAR DUCTILITY CLASS N TO

AS/NZS4671

L. HOT ROLLED GRADE 500 DEFORMED BAR DUCTILITY CLASS L TO ASNZS4671 SL: HARD DRAWN WIRE GRADE 500 SQUARE MESH DUCTILITY CLASS L TO ASNZS4671

TM: HARD DRAWN STEEL GRADE 500 TRENCH MESH DUCTILITY CLASS L TO AS/NZS/4671

RL: HARD DRAWN WIRE GRADE 500 RECTANGULAR MESH DUCTILITY CLASS L TO

W. GRADE SOD STEEL REINFORCING WIRE TO ASAIZSA671
FOLLOWINE ABREVILITIONS, APPLY TO DESCHBE THE PLACEMENT OF REINFORCEMENTS.
E.M.E. EACH WAY FF: FAR FAZE.

M.F. MEAR FACE.

PROVIDE ACRS (AUSTRALIAN CERTIFICATION AUTHORITY FOR REINFORCING STEEL LTD)

EN: EACH WAY FF: FAR FACE EF: EACH FACE BTM: BOTTOM

CERTIFICATION OF COMPLIANCE WITH ASNZS-4671 FOR ALL REINFORCEMENT, PROVIDE DOCUMENTATION TO SHOW THAT REINFORCEMENT SUPPLIER AND MILL.

COMPLIES WITH AS/NZS4671.

DIAMETERS TO BE TO AS3600. BARS TO BE BENT COLD UNO, DO NOT COOL HEATED

BARS BY QUENCHING.

0F THE ENCINEER. F2S. ALL REINFORCEMENT SHALL BE SUPPORTED IN ITS CORRECT POSITION BEFORE

TOTAL AMOUNT OF WATER REQUIRED BY MIX DESIGN TOTAL AMOUNT OF WATER ADDED AT PLANT PROJECT ASSESSMENT CARRIED OUT

F33. PROVIDE RECORD OF SLUMP TESTING TO SUPERINTENDENT.
F34. FORWARD CONCRETE PRODUCTION ASSESSMENT INFORMATION TO SUPERINTENDENT AS PER AS1379 CLAUSE 6.4 WHEN PRODUCTION ASSESSMENT IS UNDERTAKEN. 735. REPORT DRYING SHRINKAGE TESTING RESULTS TO SUPERINTENDENT

## PRECAST CONCRETE ELEMENTS

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ALL PRECAST CONCRETE WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH AS3850 PREFABRICATED CONCRETE ELEMENTS, AS 5100 BRIDGE DESIGN AND AS 3610 FORMWORK FOR CONCRETE AS APPLICABLE.

REINFORCEMENT OF PRECAST CONCRETE UNITS HAVE BEEN DESIGNED FOR "IN-SERVICE" QUALIFIED CONTRACTOR E.G. REID CONSTRUCTION SYSTEMS TO DESIGN, DOCUMENT USE CAST IN FERRULES FOR STRUCTURAL FIXINGS, NOT MECHANICAL OR CHEMICAL AND CERTIFY ANY ADDITIONAL REINFORCEMENT REQUIRED FOR LOADS DURING HANDLING, LIFTING AND TRANSPORTATION, ANY LIFTERS, BRACES ETC. 62 63 F24. WELDING OR SITE BENDING OF REINFORCEMENT IS NOT PERMITTED WITHOUT APPROVAL

ENSURE THAT PRECAST UNITS REMAIN UNCRACKED AND UNDAMAGED DURING ANCHORS CONGRETING (BY APPROVED CHARRS, SPACERS, LIGATURES OR TIES AT 800 mm MAXIMUM CENTRES EACH WAY UNIO, TO PREVENT DISPLACEMENT OF REINFORCEMENT BY MOVEMEN OR EQUIPMENT DISPLACEMENT OR TO SHOW OF THE PLACEMENT.

USE RIGID FORMWORK AND INTENSE COMPACTION, SUCH AS VIBRATING TABLES OR HANDLING, ERECTION AND INSTALLATION OPERATIONS. USE FORMWORK BOND BREAKERS AND STRONG BACKS AS REQUIRED. PROTECT UNITS FROM STAINING. DISCOLOURATION AND OTHER DAMAGE G5. FOR CONCRETE SURFACES WITH B2 EXPOSURE CLASSIFICATION OR GREATER, ONLY USE

CONTRACTOR TO PROVIDE COMPONENTS, MATERIALS, FASTENERS, BRACES, PRECAST UNIT TOLERANCES TO BE TO AS3850 EXCEPT WHERE VARIED BY FORM VIBRATORS, TO AS 5100. SPECIFICATION. 68

SECURELY TIE REINFORCEMENT WITH WIRE TIES. TURN ENDS OF TIE WIRES INTO

CONCRETE, CLEAR OF COVER ZONE.

CONCRETE TESTING

PROPRIETARY HIGH STRENGTH FIBRE REINFORCED CEMENT SPACER BLOCKS OR

F26. F27.

Parchem CONBEXTRA CB CEMENTITIOUS, OR APPROVED EQUIVALENT INSTALLED IN ACCORDANCE VITH MANUFACTURER 'S SPECIFICATIONS, SUBMIT PRODUCT DETAILS FOR STRONGBACKS, SHIMS, JOINTING STRIPS, SEALANTS, FLASHING, GROUT AND MORTAR, BEARING PADS AND STRIPS, TIES, DOWELS, CLIPS, FIXINGS & CAS REQUIRED. REMOVE TEMPORARY ATTACHMENTS AFTER ERECTION, MAKE GOOD AND SEAL.
NON-SHRINK GROUT SHALL BE OF 28 DAY CHARACTERISTIC STRENGTH OF 40 MPa 8-g. CAST UNITS WITH OUTER FACE OFF FORM. G8. G9. F28. TEST SLUMP OF EACH BATCH OF CONCRETE DELIVERED BEFORE PLACING CONCRETE FROM THAT DELIVERY. SLUMP MASSURED TO BE NO GREATER THAN TARGET SLUMP WITHIN TOLKENICES GIVEN IN ASTST9 CLAUSE 2.3.

CONCRETE TESTING RESULTS TO BE PROVIDED AT 1 SAME TE BRE 26AT EACH SAMPLE TO COMPRISE FOUR CYLLIDRES. TEST TWO AT 7 DAYS AND TWO AT 28 DAYS.

F30. CONCRETE TESTING TO BE BY ANA APPROVED INDEPRINGENT NAT A REGISTERED.

FOR COUNCIL APPROVAL PRINT IN COLOUR

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