

DEVELOPMENT APPLICATION

APPLICATION NUMBER:	PLN-24-181
PROPOSED DEVELOPMENT:	Sediment Basin and associated works (Utilities)
LOCATION:	15 Redlands Drive Rosetta 2 Redlands Drive Rosetta
APPLICANT:	Glenorchy City Council
ADVERTISING START DATE:	09/05/2025
ADVERTISING EXPIRY DATE:	23/05/2025

Plans and documentation are available for inspection at Council's Offices, located at 374 Main Road, Glenorchy between 8.30 am and 5.00 pm, Monday to Friday (excluding public holidays) and the plans are available on Glenorchy City Council's website (<u>www.gcc.tas.gov.au</u>) until **23/05/25**.

During this time, any person may make representations relating to the applications by letter addressed to the Chief Executive Officer, Glenorchy City Council, PO Box 103, Glenorchy 7010 or by email to gccmail@gcc.tas.gov.au.

Representations must be received by no later than 11.59 pm on **23/05/25**, or for postal and hand delivered representations, by 5.00 pm on **23/05/25**.

Johnstone McGee & Gandy



TRANSMITTAL

Form No. JS021H - Rev D

Project:	Project: Glenorchy City Council - Redlands Drive, Rosetta Debris Basin					Ρ	roject	No.:	23	230352CS					
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Discipline	Day	25	20	04	08	22	19	16				
Civil / Structural Services	Mth	08	09	03	03	05	03	04				
	Year	23	23	24	24	24	25	25				

Document Register	Doc. No.							Revi	sion					
Notes Sheet 1	C01	P1	P2	P3	P4	BA	BA1	BA1						
Notes Sheet 2	C02	P1	P2	P3	P4	BA	BA1	BA1						
General Arrangement	C03	P1	P2	P3	P4	BA	BA1	BA2						
Levels and Alignment Plan	C04	P1	P2	P3	P4	BA	BA1	BA2						
Debris Basin Typical Details and Sections	C05	P1	P2	P3	P4	BA	BA1	BA1						
Basin Profiles	C06	P1	P2	P3	P4	BA	BA1	BA1						
Debris Basin Cross Sections	C07	P1	P2	P3	P4	BA	BA1	BA1						
Retaining Wall Elevations Sheet 1	C08	P1	P2	P3	P4	BA	BA1	BA1						
Retaining Wall Elevations Sheet 2	C09			P1	P2	BA	BA1	BA1						
Structural Details Sheet 1	C10			P1	P2	BA	BA1	BA2						
Structural Details Sheet 2	C11			P1	P2	BA	BA1	BA1						
Jointing Plan	C12			P1	P2	BA	BA1	BA1						
Watermain Lowering Notes & Details	C100						BA1	BA2						
Watermain Lowering General	C101						BA1	BA2						
Arrangement & Profiles														
Distribution	Copies		•	•	•	-	-				1	1	•	
GCC (Patrick Marshall)		1	1	1	1	1	1	1						
	Reasor	n for I	ssue											
X - Information P - Preliminary		Р	Р	Р	Р	А	А	A						
R - Review T - Tender														
C - Construction A - Approval	Turce												L	
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Comments



30 April 2025

Planning Officer Glenorchy Planning Authority Glenorchy City Council

Dear Planning Officer

PLN-24-290 RESPONSE TO ADDITIONAL INFORMATION REQUEST UNDER S54(1) LUPAA – REDLANDS DRIVE FLOOD EROSION MITIGATION WORKS

This letter is in response to the additional information requested under the planning provisions for the proposed Redlands Drive Flood Erosion and Mitigation Works.

We have had several constructive discussions with the Council's planning officer, development engineers, and TasWater to better understand the additional information needed. This response has been prepared based on those discussions and our understanding of the requirements.

This response also includes the following additional documents as supporting information:

- Revised Engineering Plans with a section of TasWater bulk water main replaced along with associated adjustment as approved by TasWater
- Erosion and Sediment Control Plan
- Driveway drainage discharge calculations worksheet
- Email correspondence with statements from Council's Senior Transport Engineer and Manager Asset, Engineering and Design assessment on the proposed gradients of the maintenance access driveway for sediment basin
- Email correspondence from Council's Manager Assets, Engineering and Design as the asset owner, confirming the level of acceptance of the proposed driveway design and associated drainage measures

I welcome the opportunity to discuss this application further with the Glenorchy City Council Planning Authority if there are further clarifications required. Please feel free to contact me at 03 6216 6457 or <u>dan.egodawatte@gcc.tas.gov.au</u> for any additional information.

Thank you for your time and consideration.

Senior Civil Engineer



Responses to the additional information requests:

6.0 Assessment of an Application for Use or Development

Clause 6.1.3, Application requirements	Response:
The submitted site plan does not match the area to be used during construction for machinery access and temporary stock piling of fill. This request is to enable assessment of the application in accordance with the standards of the Scheme.	 An Erosion and Sediment Control Plan has now been provided. The plan includes stockpiling area, access points and area of ground disturbance and proposed measures in placed to control sediment and
Please provide a copy of scaled and dimensioned plans showing the following:	erosion during construction. Stockpiling is expected to be
 A site plan showing the full extent of the area to be disturbed by the use and development during construction, including all pathways 	minimised due to most of the cut material being used as fill within the works area (marked on the map) and to minimise erosion impacts.
 and areas to be used by machinery to access the site. A site plan showing any areas to be disturbed for use and development in relation to the replacement of the section of the Lake Fenton pipeline, including any temporary stock piling of dirt during the replacement. 	 A revised engineering plan submitted for the works near the TasWater bulk main (not the Fenton pipeline). No stockpiling to occur within the proximity of the water main and in drainage easement unless approved by or prior consultation with Tas Water.

22.0 Landscape and Conservation Zone

Clause 22.3.3, Discretionary use	Response:
The submitted plan indicates the proposal may impact the landscape values. Please demonstrate that the proposal satisfies performance criteria P1 of Clause 22.3.3 Discretionary use, Tasmanian Planning Scheme – Glenorchy. In particular, please demonstrate how the proposal will have regard to the landscape values of the site and surrounding area, and how the proposal will take measures to minimise or mitigate impacts	Proposed development works, including sediment retention basin and stormwater channel, falls under 'minor utilities' as defined in the LUPAA 1993 and is considered a permitted use class for 22.0 Landscape and Conservation Zone.
Clause 22.4.4 Landscape protection	Response:



The submitted plan indicates the proposal may impact the vegetation and landscape values. Please demonstrate that the proposal satisfies performance criteria P1 of Clause 22.4.4 Landscape protection, Tasmanian Planning Scheme – Glenorchy. In particular, please demonstrate how the proposal will have regard to the vegetation and landscape values of the site, and how the proposal will take measures to minimise or mitigate impacts.	Works are to be strictly limited to the extent shown in the Erosion and Sediment Control Plan and mostly contained within the watercourse. This ensures minimum impacts to the natural and landscape values. Landscape conservation was considered during the design process. The proposed design solution incorporating retaining walls was selected over constructing extensive batters in order to minimise the area of earthworks required outside the natural waterway and disturbance to the existing vegetation.
	Only the vegetation and trees that are directly within the works zone will be removed under the instruction of a qualified arborist and works are to be performed under the Erosion and Sediment Control Plan submitted herewith.
	Furthermore, we have consulted with Council's Property, Environment & Waste department to confirm there are no significant trees in the area or the works zone.



23.0 Environmental Management Zone

Clause 23.3.1 Discretionary use	Response:
The submitted plan indicates the proposal may extend into the Environmental Management Zone (CT 50844/1) during construction, if this is the case then there may be an impact the land management values.	Proposed works are to occur outside of the Environmental Management Zone. The Erosion and Sediment Control Plan provided indicates the separation of the proposed works to the shared boundary between 160921/1 and CT50844/1.
Please demonstrate that the proposal satisfies performance criteria P1 of Clause 23.3.1 Discretionary use, Tasmanian Planning Scheme – Glenorchy. In particular, please demonstrate how the proposal will have regard to the protection, conservation and management of the site, and how the proposal will take measures to minimise or mitigate impacts.	
Note:	
If the construction area, including use of machinery, does not extend into CT 50844/1 please ignore this request.	
Clause 23.4.1 Development area	Response:
The submitted plan indicates the proposal may extend into the Environmental Management Zone (CT 50844/1) during construction, if this is the case then there may be an impact the land management values. Please demonstrate that the proposal satisfies performance criteria P1 of Clause 23.4.1 Discretionary use, Tasmanian Planning Scheme – Glenorchy. In particular, please demonstrate how the proposal will have regard to the protection, conservation, remediation or mitigation of the site.	Proposed works are to occur outside of the Environmental Management Zone. The Erosion and Sediment Control Plan provided indicates the separation of the proposed works to the shared boundary between 160921/1 and CT50844/1.
Note:	
If the construction area, including use of	
machinery, does not extend into CT 50844/1	



C2.0 Parking and Sustainable Transport Code

C2.6.1 Construction of Parking Areas	Response
Please provide a stormwater concept plan showing the capture and disposal of all stormwater run-off from the proposed driveway, parking and any new hardstand areas to Council's approved outlet. All runoff must be drained via gravity to the proposed outlet. Driveway, parking and any new hardstand areas must be constructed and compacted to standards with paved/sealed surface, provide a driveway plan demonstrated the requirement: Please show drainage for the driveway Driveway to be sealed; and The legend missing. Green = Batter, Orange=??	 Please refer to the 'Driveway Drainage Discharge Calculations Worksheet' for detailed calculations that demonstrate the additional runoff generated from the driveway portion towards the kerb and gutter is insignificant (0.78 l/sec). Also, a capacity comparison of the stormwater side entry pit at the Cul-de-Sac has been provided and it demonstrates the net increase is an only 4% of the kerb inlet capacity. These calculations are justified by endorsement of the Manager Assets, Engineering and Design, from the asset owner's perspective, that the additional drainage received by the kerb and gutter infrastructure is acceptable. The driveway is reinforced concrete and will be constructed in accordance with TSD-R14. The legend for all plans is listed on the notes sheet C02 and for reinstatement details on C04. Green area is topsoil with grass seed and Oorange area is the verge(gravel)
C2.6.2 Design and layout of parking areas	Response



Layout of driveway and parking areas must be in accordance with the AS2890.1:2004 (depends what kind of vehicle is going to use the driveway) and the Scheme requirements. Please clearly show on the parking plan details of the proposed driveway, access and parking areas including gradients, parking area, spot levels, manoeuvring area, materials, finishing surface and drainage details must be submitted to demonstrate compliance and shall comply with the followings:

- Please show driveway long section CH00-CH25 to demonstrate the design is in accordance with AS. It is noted that the grades exceed 25% maximum allowable grade.
- Show detailed driveway crossover including footpath width, wings and grade.





Please refer to the enclosed email correspondence that include statement from Council's Senior Transport Engineer and Manager Asset, Engineering and Design. Following points are extracted from the statements.

- Under AS2890.1 a gradient of more than 25% is allowed for a private driveway, as it's not a domestic driveway or a car park with a ramp. A ramp is defined as a park on a substantially different level in which this is not the case. It meets the requirement of AS2890.1 for a vehicle not scraping (*section* 2.5.3 d and e) and the start of the access driveway (*section* 3.3). Additionally, the driveway is only to be used by service vehicles and not pedestrians.
- Unlike a typical residential driveway, which is designed for daily vehicular access, this driveway will primarily serve maintenance operations. The vehicles used for maintenance, such as backhoes and excavators, are specifically designed for rough and steep terrain. These types of equipment have sufficient traction and manoeuvrability to operate safely on a 30% grade without compromising efficiency or safety.
- Potential Use of a Vacuum Truck

 In cases where debris and silt accumulation are fine enough, a vacuum truck (vac truck) may be used to assist in clearing the



 area, particularly around the mouth of the pipes. The ability to use a vac truck provides an alternative method of debris removal without requiring additional modifications to the driveway grade. A 30% longitudinal grade remains within acceptable parameters for maintenance vehicles and personnel access. Many utility and maintenance roads exceed standard residential driveway requirements and still function effectively for their intended purpose. Given that this
driveway grade.
5 5
vehicles and personnel access.
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driveway is not intended for
frequent or daily passenger
vehicle use, but rather periodic
maintenance access, a steeper
grade is reasonable and
practical.
 The presence of heavy equipment such as backhoes and
excavators ensure that any
required maintenance, including
clearing debris, silt, and other
obstructions, can be effectively
conducted without the need for
a lower-grade driveway. The use
of specialised equipment
mitigates the need for compliance with residential
driveway slope standards.
Additionally, the driveway has
been designed to only need to
be cleaned quarterly, meaning
access will be required only once
every three months.

GENERAL

WORK HEALTH & SAFETY NOTICE:

JMG HAVE CONSIDERED THE HAZARDS AND RISKS ASSOCIATED WITH THE CONSTRUCTION, OPERATION, MAINTENANCE AND EVENTUAL DEMOLITION OF THIS PROJECT. THERE ARE A NUMBER OF HAZARDS AND HENCE RISKS WHICH ARE NOT UNIQUE TO THIS PROJECT WHICH NEED TO BE MANAGED DURING THESE PHASES. JMG REMIND CONSTRUCTORS, OPERATORS, MAINTAINERS AND DEMOLISHERS OF THEIR RESPONSIBILITIES UNDER WORK HEALTH & SAFETY ACTS AND REGULATIONS. THE FOLLOWING RISKS HAVE BEEN IDENTIFIED WHICH ARE UNUSUAL TO THIS PROJECT: LANDSLIP RISK AREA. FLOOD PRONE AREA

UNLESS SPECIFIED OTHERWISE BY DOCUMENTATION SPECIFIC TO THIS PROJECT ALL DIMENSIONS, MATERIALS, WORKMANSHIP ETC SHALL COMPLY WITH DSG STANDARD CONTRACT DOCUMENTS AND SPECIFICATIONS (R SERIES) AND IPWEA TASMANIAN DIVISION STANDARD DRAWINGS (INCLUDING THE AUTHORITIES LISTED DEPARTURES FROM THE IPWEA STANDARD DRAWINGS) VERSION 3 ISSUED DECEMBER 2020.

ONLY THOSE SERVICES CONSPICUOUS DURING FIELD SURVEYS HAVE BEEN PLOTTED. THE LOCATION OF THESE SERVICES IS APPROXIMATE ONLY AND NO GUARANTEE IS GIVEN THAT ALL SERVICES ARE SHOWN. THE CONTRACTOR SHALL CONFIRM ON SITE PRIOR TO THE START OF WORKS THE LOCATION OF ALL SERVICES WITH THE RELEVANT AUTHORITY. TASWATER BULK TRANSFER MAIN A428426 LOCATED VIA NON DESTRUCTIVE DIGGING METHODS (POTHOLING) ON 07/07/2023 AND 12/02/2025.

THE CONTRACTOR MUST POTHOLE ALL EXISTING SERVICES AT PROPOSED CROSSING POINTS WITH NEW SERVICES, STRUCTURES AND WHERE UNDER REDUCED FINISHED SURFACE LEVELS PRIOR TO THE COMMENCEMENT OF WORKS TO DETERMINE IF THE EXISTING OR PROPOSED SERVICE WILL BE ADVERSELY AFFECTED BY CLASH OR REDUCED MINIMUM COVER. THE CONTRACTOR MUST POTHOLE EXISTING SERVICES AT ALL PROPOSED CONNECTION POINTS FOR NEW SERVICES TO CONFIRM THAT MINIMUM COVER AND OR GRADIENT FOR THE NEW SERVICE WILL BE ACHIEVED. WHERE A CONFLICT WITH AN EXISTING OR PROPOSED SERVICE IS IDENTIFIED THE CONTRACTOR SHALL SEEK DIRECTION FROM THE SUPERINTENDENT. NO CLAIM FOR VARIATION OR EXTENSION OF TIME WILL BE CONSIDERED AS A RESULT OF THE CONTRACTORS FAILURE TO UNDERTAKE THIS INVESTIGATION, AT A SUFFICIENT TIME PRIOR TO THE INSTALLATION WORKS, TO ALLOW ANY REDESIGN TO OCCUR.

PRIOR TO THE COMMENCEMENT OF SITE WORKS THE CONTRACTOR SHALL PREPARE, SUBMIT AND GAIN APPROVAL FROM THE RELEVANT COUNCIL FOR A SOIL AND WATER MANAGEMENT PLAN FOR THE CONSTRUCTION WORKS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL REQUIRED PROTECTION MEASURES FOR THE DURATION OF THE CONTRACT AND UNTIL NEW VEGETATION IS FULLY ESTABLISHED.

ALL SITE WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE ENVIRONMENTAL CONDITIONS OF THE PLANNING PERMIT. ALL CONSTRUCTION EQUIPMENT ENTERING AND LEAVING THE SITE SHALL BE WASHED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EPA.

PRIOR TO THE COMMENCEMENT OF ANY COUNCIL INFRASTRUCTURE WORKS, THE CONTRACTOR SHALL APPLY TO COUNCIL, AND RECEIVE A PERMIT TO CONSTRUCT PUBLIC INFRASTRUCTURE.

FOR WORKS WITHIN THE ROAD RESERVATION THE CONTRACTOR SHALL APPLY FOR AND RECEIVE A ROAD OPENING PERMIT FROM COUNCIL PRIOR TO THE COMMENCEMENT OF WORKS, THIS APPLICATION SHALL INCLUDE THE PREPARATION OF TRAFFIC AND PEDESTRIAN MANAGEMENT PLANS AS APPLICABLE.

PRIOR TO THE COMMENCEMENT OF ANY TASWATER INFRASTRUCTURE WORKS. THE CONTRACTOR SHALL APPLY TO TASWATER. AND RECEIVE A PERMIT TO CONSTRUCT TASWATER INFRASTRUCTURE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL PEDESTRIAN AND TRAFFIC MANAGEMENT DEVICES TO COMPLY WITH AS1742 FOR THE DURATION OF THE WORKS.

THE CONTRACTOR SHALL PREPARE IN ELECTRONIC (.DWG) FORMAT "AS CONSTRUCTED" DRAWINGS TO THE SATISFACTION OF JMG, COUNCIL MUNICIPAL ENGINEER AND/OR TASWATER SHOWING THE AS INSTALLED LOCATION OF ALL ABOVE AND BELOW GROUND WORKS. CONFIRMATION OF APPROVAL, FROM THE RELEVANT AUTHORITIES, OF THE COMPLETED DRAWINGS SHALL BE SUBMITTED TO THE SUPERINTENDENT PRIOR TO THE ISSUING OF THE CERTIFICATE OF PRACTICAL COMPLETION.

ALL PIPEWORK (WATER, SEWER AND STORMWATER) PROFILE LEVELS ARE TO THE PIPE INVERT LEVEL. ALLOW ADDITIONAL TRENCHING DEPTH FOR BEDDING AS INDICATED ON THE TYPICAL DETAILS.

THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL CONDITIONS OF THE PLANNING PERMIT, A COPY OF WHICH MUST BE KEPT ON SITE.

PROPRIETARY PRODUCTS ARE TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

EARTHWORKS

DEMOLISH AND REMOVE ALL CONCRETE SLABS, KERBS, WALLS ETC. AS NOTED AND REQUIRED FOR THE CONSTRUCTION OF THE NOMINATED WORKS.

FOLLOWING DEMOLITION AND REMOVAL OF SLABS, KERBS ETC. AND STRIPPING OF THE SITE TO THE REQUIRED FORMATION LEVELS, GRADE SUB-GRADE TO A SMOOTH PROFILE AND CONSOLIDATE TO 98% MAXIMUM DRY DENSITY (AS 1289.5) PROOF ROLL IN THE PRESENCE OF THE CONSULTING ENGINEER USING A SINGLE AXLE RIGID TRUCK WITH A FULL LEGAL LIMIT LOAD, REMOVE ANY UNSUITABLE SOFT, WET OR HEAVING MATERIAL AS DIRECTED BY THE SUPERINTENDENT AND REPLACE WITH COMPACTED SELECT FILL IN LAYERS NOT EXCEEDING 200mm LOOSE TO ACHIEVE 98% STANDARD COMPACTION (AS1289.5).

ALL STRIPPED TOPSOIL SHALL BE STOCKPILED ON-SITE FOR RESPREADING ON BATTERS AND DISTURBED AREAS, ALL EXCESS EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF SITE AT THE CONTRACTORS COST UNLESS APPROVED OTHERWISE BY THE SUPERINTENDENT.

ANY IMPORTED FILL MATERIAL FOR UNDER ROADWAYS AND BASIN SHALL BE WELL GRADED WITH A MAXIMUM PARTICLE SIZE OF 75mm, 80% LESS THAN 20mm, HAVE A MINIMUM CBR VALUE OF 15% AND A PLASTICITY INDEX LESS THAN 12%. COMPACT TO A MINIMUM OF 95% STANDARD COMPACTION TO DSG SPECIFICATION R22 IN LAYERS NOT EXCEEDING 200mm LOOSE THICKNESS.

ALL EARTHWORKS INCLUDING EMBANKMENTS SHALL BE PREPARED AND CONSTRUCTED TO DSG SPECIFICATION R22 & R23

WHERE EMBANKMENT FILLS EXCEED 400mm IN HEIGHT ABOVE STRIPPED SURFACE LEVEL THE CONTRACTOR SHALL PROVIDE COMPACTION TEST RESULTS FOR THE PLACED MATERIAL AT A RATE OF AT LEAST 1 PER 500M2 OR A MINIMUM OF 2 PER LAYER WHICHEVER IS THE GREATER UNLESS APPROVED OTHERWISE BY THE SUPERINTENDENT. EMBANKMENT COMPACTION SHALL BE IN ACCORDANCE WITH DSG SPECIFICATION R22 TABLE 22.3.

WHERE EMBANKMENTS ARE TO BE CONSTRUCTED ON NATURAL GROUND WITH SLOPES EXCEEDING 3 HORIZONTAL TO 1 VERTICAL (3:1) THE FOUNDATION SHALL BE CUT INTO HORIZONTAL BENCHES TO DSG SPECIFICATION R22.9.1 PRIOR TO THE COMMENCEMENT OF EMBANKMENT CONSTRUCTION.

DURING FORMATION WORKS THE CONTRACTOR SHALL ENSURE THAT ADEQUATE STEPS ARE TAKEN TO PROTECT THE SUBGRADE FROM WET WEATHER PRIOR TO THE PLACEMENT OF THE SUB-BASE. NO CLAIM WILL BE CONSIDERED AS A RESULT OF THE CONTRACTORS FAILURE TO PROTECT THE WORKS.

ROADWORKS

WHERE NEW WORKS ABUT EXISTING SAWCUT ALL INTERFACES TO NEAT STRAIGHT LINES AND RECTANGULAR SHAPES AND MAKE GOOD TO MATCH.

BACKFILL ALL TRENCHES AND EXCAVATIONS WITHIN VEHICLE PAVEMENTS FULL DEPTH WITH 20mm FINE CRUSHED ROCK CONSOLIDATED IN MAXIMUM 150 LAYERS TO 96% MODIFIED COMPACTION.

SUBMIT TO THE CONSULTING ENGINEER PRIOR TO THEIR USE MATERIAL PROPERTIES AND SOURCE FOR ALL ROAD MAKING MATERIALS. UNLESS NOTED OTHERWISE PAVEMENT MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF DSG SPECIFICATION R40 FOR BASE CLASS A AND SUB-BASE 1 MATERIALS.

EACH COMPLETED PAVEMENT LAYER SHALL BE COMPACTED TO A MINIMUM DDR OF 96% FOR SUB-BASE AND 98% FOR BASE COURSE AND PROOF ROLLED IN THE PRESENCE OF THE SUPERINTENDENT AND COUNCIL'S WORKS INSPECTOR WHERE REQUIRED USING A SINGLE AXLE RIGID TRUCK WITH A FULL LEGAL LIMIT LOAD.

CONSTRUCT PAVEMENT BETWEEN NOMINATED LEVELS TO SMOOTH GRADES AND TRANSITION TO DRAIN TO PITS, KERB AND GUTTER, V-DRAINS ETC.

HOTMIX AND PAVED SURFACES SHALL HAVE A BITUMEN EMULSION PRIME COAT APPLIED TO THE CLEAN SWEPT SURFACE OF THE BASE COURSE AT THE MINIMUM RATE OF 0.15 L/M² RESIDUAL BINDER.

CONCRETE COMPRESSIVE STRENGTH SHALL BE :

PAVEMENTS AND GRATED TRENCH - N32 PITS. & MINOR WORKS - N25.

WORKMANSHIP, MATERIALS AND DESIGN SHALL BE IN ACCORDANCE WITH AS3600 AND THE ASSOCIATED CODES LISTED THEREIN AND THE SPECIFICATION.

GRADE AND ROLL MINIMUM 150 TOPSOIL TO ALL BATTERS & DISTURBED AREAS. WHERE NECESSARY TO RAISE LEVELS, PLACE AND CONSOLIDATE GENERAL FILL FROM SITE BENEATH TOPSOIL. HYDROMULCH AND SEED DISTURBED AREAS WITH TYPE A SEED MIX TO DSG SPECIFICATION R70.

CONCRETE PAVEMENTS GENERAL

CONSTRUCT PAVEMENT BETWEEN NOMINATED LEVELS TO SMOOTH GRADES AND TRANSITION TO PITS, HEADWALLS ETC, THE MINIMUM GRADIENT OF ANY AREA ON THE PAVEMENT IS TO BE 1:100. WHERE DISCREPANCIES EXIST ON THE DRAWINGS REFER TO SUPERINTENDENT FOR DIRECTION.

TOLERANCES OF FINISHED SURFACES MAXIMUM DEVIATION UNDER A 3m STRAIGHT EDGE = +/-10mm MAXIMUM LEVEL DIFFERENCE FROM DESIGN LEVELS = +/-20mm CONCRETE THICKNESS AND REINFORCEMENT LOCATION TO AS3600

CURE SURFACE FOR MINIMUM 7 DAYS AFTER PLACEMENT, CONTRACTOR TO SUBMIT TO THE SUPERINTENDENT FOR APPROVAL THE PROPOSED METHOD OF CURING PRIOR TO THE COMMENCEMENT OF PAVEMENT WORKS. PROTECT SURFACE FROM VEHICULAR TRAFFIC DURING CURING PERIOD.

SURVEY CONTROL

DATE OF SURVEY 11/10/2022

AS SUPPLIED BY VERIS

CONTOUR INTERVAL IS 0.25M

WHILE REASONABLE EFFORT HAS BEEN MADE TO LOCATE ALL VISIBLE ABOVE GROUND SERVICES. THERE MAY BE OTHER SERVICES THAT WERE NOT LOCATED DURING THIS SURVEY.

MACCAFERRI RENO MATTRESS

MACCAFERRI RENO MATTRESS TO BE INSTALLED USING 3 NO. 6M WIDE X 2M LONG MATTRESSES WITH A DEPTH OF 300MM.

DENSE GRADED QUARRY MATERIAL TO BE USED TO FILL MATTRESS. TO ENSURE THE DURABILITY OF THE STRUCTURE, THE ROCK SHOULD BE WEATHER RESISTANT, NON-FRIABLE, INSOLUBLE AND SUFFICIENTLY HARD. MATERIAL TO RANGE FROM 75MM MINIMUM TO MAXIMUM 200MM. MATERIAL SLECTION TO THE APPROVAL OF GCC AND SUPERINTENDENT.

MACCAFERRI RENO MATTRESS WIRE MESH PRODUCTS TO BE BE MACAFERRI RENO MATTRESS GALMAC CODE RGM30-625

BIDIM A24 GEOTEXTILE TO BE PROVIDED TO MATTRESS-SOIL INTERFACE.

THE FOUNDATION ON WHICH MATTRESSES ARE TO BE PLACED SHALL BE LEVEL AND GRADED TO THE ELEVATIONS AS SHOWN ON THE PROJECT CONSTRUCTION DRAWINGS. THE FOUNDATION SHALL BE SMOOTH AND FREE FROM SURFACE IRREGULARITIES, LOOSE MATERIAL AND VEGETATION. APPROPRIATE MEASURES SHALL BE TAKEN FOR FILTERING AND DRAINAGE OF THE FOUNDATION, AS PER THE PROJECT CONSTRUCTION DRAWINGS. FOUNDATION MATERIAL TO BE PREPARED, INSPECTED AND APPROVED BY SUPERINTENDENT PRIOR TO THE INSTALLATION OF GEOTEXTILE AND RENO MATTRESS.

INSTALL 2No. N16 x 2100 LONG TRIMMER BARS AT 45Deg ACROSS ALL RE-ENTRANT CORNERS.

INSTALL ISOLATION JOINTS AT ALL INTERFACES WITH EXISTING OR PROPOSED STRUCTURES.

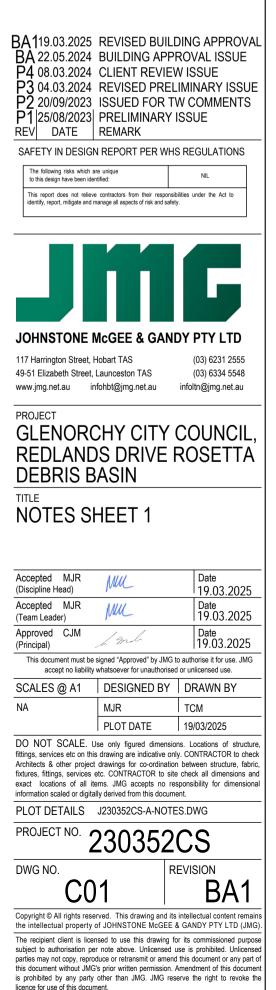
ALL JOINT SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN SPECIFICATIONS.

HORIZONTAL DATUM AS PER MGA2020 ZONE 55 AND VERTICAL DATUM AS PER AHD

MACCAFERRI RENO MATTRESS TO BE INSTALLED IN ACCORDANCE WITH RENO MATTRESS INSTALLATION MANUAL REV 1, DATE 19.04.2017 (HTTPS://WWW.GEOFABRICS.CO/SITES/DEFAULT/FILES/INSTALLATION%20MANUAL%20RENO%20MATTRESSES%20ENG_REV.%201_19042017.PDF)

GLENORCHY CITY COUNCIL PLANNING SERVICES PLN-24-181 **APPLICATION No**

30 April 2025 DATE RECEIVED ..



GENERAL

G1 IN THESE NOTES, APPROVED, DIRECTED, REQUIRED, REJECTED & SIMILAR EXPRESSIONS, SHALL MEAN APPROVED, DIRECTED, REQUIRED, REJECTED AND THE LIKE BY THE SUPERINTENDENT THROUGH THE CONTRACTOR.

G2 READ THIS DRAWING IN CONJUNCTION WITH ARCHITECTS AND OTHER DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTION THAT MAY BE ISSUED.

G3 BUILDING SET-OUT AND DIMENSIONS ARE DETERMINED BY THE ARCHITECT. DIMENSIONS EXPRESSED IN MILLIMETERS, UNO. DIMENSIONS SHALL NOT BE OBTAINED BY RW4 CLAY MATERIAL SHALL NOT BE USED AS BACKFILL BEHIND WALLS. SCALING THESE DRAWINGS. SETTING OUT DIMENSIONS SHALL BE VERIFIED BEFORE COMMENCING WORK. ANY DISCREPANCIES BETWEEN THESE DRAWINGS AND THE ARCHITECT'S OR OTHER DRAWINGS IS TO BE ADVISED BEFORE PROCEEDING WITH THE WORK.

G4 DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION & NO PART SHALL BE OVERSTRESSED.

G5 24 HOURS NOTICE REQUIRED FOR WORK REQUIRING INSPECTION.

G6 THE STRUCTURAL WORK SHOWN ON THESE DRAWINGS HAS BEEN DESIGNED IN ACCORDANCE WITH THE NCC & TO THE FOLLOWING CRITERIA:

IMPORTANCE LEVEL - IL1 DESIGN LIFE: -100 YEARS

DESIGN EVENT APE	SERVICEABILITY	ULTIMATE
WIND	1/25	1/500

G7 THE STRUCTURAL WORK SHOWN ON THESE DRAWINGS HAS BEEN DESIGNED ACCORDING TO AS 1170.2 FOR A REGIONAL WIND SPEED OF 48m/s IN TERRAIN CATEGORY 2.5 SHELTERED & FOR THE FOLLOWING LIVE LOADS:

SLAB: 14 TONNE EXCAVATOR

WALL SURCHARGE: 5kPa

G8 WORK HEALTH & SAFETY NOTICE:

JMG HAVE CONSIDERED THE HAZARDS AND RISKS ASSOCIATED WITH THE CONSTRUCTION OPERATION, MAINTENANCE AND EVENTUAL DEMOLITION OF THIS PROJECT. THERE ARE A NUMBER OF HAZARDS AND HENCE RISKS WHICH ARE NOT UNIQUE TO THIS PROJECT WHICH NEED TO BE MANAGED DURING THESE PHASES. JMG REMIND CONSTRUCTORS OPERATORS, MAINTAINERS AND DEMOLISHERS OF THEIR RESPONSIBILITIES UNDER WORK HEALTH & SAFETY ACTS AND REGULATIONS. THE FOLLOWING RISKS HAVE BEEN IDENTIFIED WHICH ARE UNIQUE TO THIS PROJECT:

NIL

FOUNDATION:

F1 FOUNDING DEPTHS ARE REDUCED LEVELS TO UNDERSIDE OF FOOTINGS SHOWN ON DRAWINGS ARE FOR TENDERING PURPOSES. EXCAVATE THROUGH FILL AS REQUIRED TO PLACE FOOTINGS ACCORDINGLY. ALL EXCAVATIONS SHALL BE APPROVED BEFORE PLACEMENT OF STRUCTURAL FILL, HARDCORE, BLINDING AND/OR REINFORCEMENT.

F2 FOUNDATION MATERIAL SHALL HAVE A UNIFORM BEARING CAPACITY OF 200 kPa MINIMUM

F3 BASES OF FOOTINGS SHALL BE HORIZONTAL, UNO.

F4 EXCESS DEPTHS AND WIDTHS IN FOUNDATIONS TO THOSE SPECIFIED SHALL BE FILLED WITH MINIMUM A.S. GRADE 15 CONCRETE. THE CONCRETE FILL SHALL NOT BE BONDED TO THE CONCRETE UNLESS APPROVED. THE COST OF FILLING SHALL BE BORNE BY THE CONTRACTOR.

F5 WHERE DETAILED ON THESE DRAWINGS & WHEREVER GROUND WATER IS ENCOUNTERED PROVIDE 50 CONCRETE BLINDING IMMEDIATELY AFTER APPROVAL OF FOUNDATION.

SLABS ON GRADE:

SG1 SUB-BASE PREPARATION

THE SUB-BASE FOR SLABS ON GRADE SHALL BE PREPARED AS FOLLOWS:

- STRIP OFF ALL VEGETATED TOPSOIL AND CUT TO REQUIRED LEVEL. 300 MIN. BELOW ESL (SUBJECT TO FINAL SITE CHECK) PROOF ROLL SUB-BASE TO STANDARD SPECIFIED.
- WHERE SUB-BASE DISTURBED FOR EXCAVATIONS. FILL WITH STRUCTURAL FILL TYPE A OR B THOROUGHLY COMPACTED IN 150 MAXIMUM LAYERS.

SG2 BASE PREPARATION

- THE BASE FOR SLABS ON GRADE SHALL BE PREPARED AS DETAILED AND AS FOLLOWS: FILL WITH STRUCTURAL FILL TYPE A COMPACTED AND WATERED TO 150 MIN. FINISHED THICKNESS. ADDITIONAL FILL REQUIRED BELOW THIS LAYER SHALL BE TYPE A OR B STRUCTURAL FILL COMPACTED AND WATERED, PLACED IN LAYERS NOT EXCEEDING 200 FINISHED THICKNESS. ROLL INTO SUBGRADE WITH 10t STATIC DRUM.
- COMPACTION TO MINIMUM 95% 'STANDARD COMPACTION' TO AS 1289 U.N.O. PLACE 25 MAX. SAND BLINDING WATERED & COMPACTED, UNDER ENTIRE SLAB AND
- SLAB THICKENINGS.
- LAY 0.2mm 'FORTECON' MEMBRANE. TAPE ALL JOINTS AND SEAL ALL PENETRATIONS. PLACE UNDER ENTIRE SLAB INCLUDING SLAB THICKENINGS & INTEGRAL FOOTINGS. TURN UP AT OUTSIDE EDGES.

SG3 STRUCTURAL FILL

- STRUCTURAL FILL SHALL BE AS FOLLOWS: TYPE A - 20 FINE CRUSHED ROCK
 - TYPE B -40+ FINE CRUSHED ROCK

TYPE C - 150/200 NOMINAL SIZE DOLERITE SPALLS IN 2

LAYERS. EXCAVATED MATERIAL NOT TO BE USED WITHOUT APPROVAL RETAINING WALL NOTES - REINFORCED MASONRY OR CONCRETE

RW1 ALL WORK TO BE IN ACCORDANCE WITH THE RELEVANT SAA CODE

RW2 CONCRETE STRENGTH FOR FOOTINGS 25MPa.

RW3	COVER TO REINFORCEMENT
	- 50mm FOOTINGS BOTTOM
	- 30mm FOOTINGS TOP
	- 55mm WALLS FROM BACKFILL FACE

RW5 THE REAR OF THE WALL SHALL BE DRAINED WITH AG DRAINS. PROVIDE 300mm MIN. WIDTH LAYER OF 25mm CRUSHED ROCK BEHIND WALL.

RW6 DO NOT BACKFILL BEHIND WALL UNTIL GROUT OR CONCRETE HAS CURED FOR AT LEAST 14 DAYS.

RW7 PROVIDE BLOCK BREAKS IN BOTTOM COURSE OF MASONRY WALL TO ALLOW CLEAN OUT OF MORTAR DROPPINGS AND TYING OF REINFORCEMENT. FORM UP TO GROUT. CONCRETE:

C1 WORKMANSHIP, MATERIALS & DESIGN SHALL BE IN ACCORDANCE WITH AS 3600 & ASSOCIATED CODES LISTED THEREIN AND THE SPECIFICATION.

C2 CONCRETE PROPERTIES SHALL BE AS FOLLOWS. REFERENCE TO BE MADE TO THE SPECIFICATION FOR OTHER REQUIREMENTS. SUPPLIER TO DESIGN MIX TO ACHIEVE THESE REQUIRED PROPERTIES. MOIST CURE FOR 3 DAYS MIN. AFTER POUR.

	CONCRETE MIX DETAILS					
ELEMENT & LOCATION	A.S. GRADE MPa	MAX. SLUMP	MAX. W/C RATIO	MIN. CEMENT CONT. Kg/m	TOTAL AIR CONT. % VOL.	OTHER MIX CRITERIA
SLABS AND STRUCTUAL CONCRETE	S25 N32	60	0.65	260	4-8	NIL CaCl ₂
FOOTINGS AND MINOR WORKS	N25	60	0.65	260	4-8	NIL CaCl₂

C3 BEAM DEPTHS ARE WRITTEN FIRST UNO AND INCLUDE SLAB THICKNESS IF ANY. C4 NO HOLES OR CHASES OTHER THAN THOSE SHOWN SHALL BE MADE WITHOUT

C5 DO NOT PLACE CONDUITS, PIPES AND THE LIKE WITHIN CONCRETE COVER.

C6 SLABS AND BEAMS ARE TO BE POURED TOGETHER UNLESS NOTED OTHERWISE.

C7 WHERE REINFORCEMENT IS CONTINUOUS THROUGH A POUR BREAK, SCABBLE, REMOVE ALL LOOSE MATERIAL AND DAMPEN THE OLD FACE BEFORE POURING AGAINST IT.

C8 THE USE OF BLENDED CEMENTS, FLY ASH AND OR CHEMICAL AD-MIXTURES SHALL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL.

C9 UNFORMED EXPOSED CONCRETE SURFACES SHALL HAVE AN APPROVED STEEL TROWELLED FINISH UNLESS SHOWN OTHERWISE

C10 REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.

C11 SPLICES IN REINFORCEMENT SHALL BE MADE ONLY AT LOCATIONS AND TO DETAILS SHOWN ON STRUCTURAL DRAWINGS UNLESS APPROVED OTHERWISE.

C12 CONCRETE COVER TO REINFORCEMENT (INCLUDING LIGS) SHALL BE AS FOLLOWS, UNLESS OTHERWISE SHOWN. 60 MIN. FIRE RESISTANCE PERIOD ASSUMED.

EXPOSURE ENVIRONMENT	A.S. 3600 CAT.	ELEMENT	#	CONCRETE AS GRADE	COVER B/T
BELOW GROUND	A2	FOOTINGS	1	25	50
BELOW GROUND		FOOTINGS	2	25	50
BUILDING EXTERNAL	B1	SLAB	2	32	40

#1 = CAST AGAINST GROUND #2 = CAST AGAINST FORMWORK

APPROVAL.

#3 = CAST AGAINST FORTECON MEMBRANE

SL81 SIDE LAP

TYPICAL DETAIL ALTERNATIVE DETAIL AS ABOVE

C17 MESH ORIENTATION FOR WALLS - HORIZONTAL BAR TO BE PLACED TO THE OUTER FACE UNLESS OTHERWISE NOTED. WHERE FABRIC PLACEMENT IS NOT PRACTICAL REPLACE WITH N12@200 EW.

N -	DEN
SL -	DEN
W -	DEN

C19 TRIMMING STEEL NOT DESIGNATED SHALL BE:

ELEMENT	LOCATION	TRIMMING REINFORCEMENT	EXTEND BEYOND CROSS OVER POINT
SLABS	-INTERNAL CORNERS -PENETRATIONS -SETDOWNS >25 DEEP	2/N16 EW TOP AT CORNERS	800

BEEN REMOVED.

C21		FIT	ME	NTS
	^	V		
			<u> </u>	
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	 FIF FA

ABBREVIATIONS: (REFER A.S. CZ1 PART 2)

BOTTOM
BRICK/BLOCK
CAST IN PLATE
CONSTRUCTIO
CONTINUOUS
CONTROL JOI
DIAMETER
EACH FACE
EACH WAY
EXISTING SUR
EXPANSION JO
FAR FACE
FINISHED FLO
FULL STRENG
FINISHED SUR
GALVANISED
GROUND SUR
KILOPASCAL
LIVE LOAD
MEGAPASCAL
NEAR FACE
REDUCED LEV
TOP AND BOT
UNLESS NOTE
011220011012

C13 REINFORCEMENT SHALL NOT BE CUT, WELDED, BENT OR HEATED ON SITE, NOR FITMENT OR SLAB STEEL BE DISPLACED MORE THAN 0.25 TIMES THE NOMINAL SPACING WITHOUT PRIOR APPROVAL.

C14 PLACE INDIVIDUAL BAR CHAIRS AT THE RATE OF 25 PER 10m2 OF BOTTOM & TOP SLAB REINFORCEMENT AREA (750 CRS. APPROX) AND AS REQUIRED FOR ADEQUATE SUPPORT IN OTHER MEMBERS. ALL CHAIRS SUPPORTED ON APPROVED TYPE PLATES.

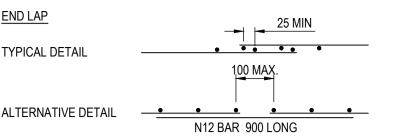
C15 REINFORCEMENT SHALL BE SECURELY WIRED IN PLACE WITHOUT WELDING, UNLESS APPROVED OTHERWISE.

C16 FABRIC SHALL BE RANDOM LAPPED WITH NO MORE THAN TWO SHEETS NESTED TOGETHER. USE ALTERNATIVE DETAIL AS REQUIRED. WHERE FABRIC ORIENTATION IS SHOWN. THIS BAR IS TO BE PLACED WITH MINIMUM COVER TO CONCRETE FACE. (ALTERNATIVE SHEETS WHERE FABRIC NESTED)

END LAP

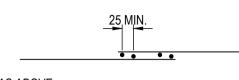
TYPICAL DETAIL

UP TO SL82 SL92



END LAPS NOT PERMITTED WITH ONE WAY FABRICS ABOVE RL818. END LAP WITH SPLICE BAR AT FOLLOWING CENTRES:

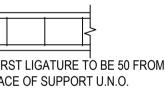
N12 @ 400 CRS. N12 @ 300 CRS. N12 @ 200 CRS.

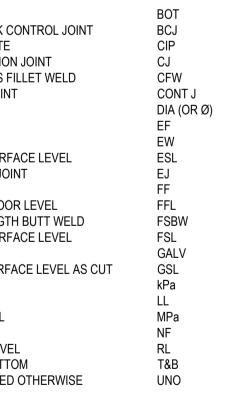


C18 REINFORCEMENT SYMBOLS AND GRADES:

R - DENOTES STRUCTURAL GRADE PLAIN ROUND (GRADE 250R) NOTES HOT ROLLED DEFORMED BAR (GRADE D500N) TO A.S. 4671 NOTES RIBBED REINFORCING FABRIC (GRADE D500L) TO A.S. 4671 NOTES HARD-DRAWN PLAIN WIRE (GRADE D500L) TO A.S. 1303.

C20 MASONRY OR CONCRETE WALLS OR SIMILAR ELEMENTS MUST NOT BE BUILT ON CONCRETE SLABS OR BEAMS UNTIL FORMWORK AND PROPS SUPPORTING THE SAME HAVE





STEELWORK:

S1 WORKMANSHIP, MATERIALS AND DESIGN SHALL BE IN ACCORDANCE WITH A.S. 4100, ASSOCIATED CODES LISTED THEREIN AND THE SPECIFICATION.

S2 UNLESS NOTED OTHERWISE STEEL ELEMENTS SHALL BE OF THE FOLLOWING GRADES:

GENERAL SECTIONS - BHP 300+ (UB/UC/PFC/LARGE ANGLES) - GRADE 250 TO AS 3678/3679

(OTHER SECTIONS)

R	HS & SHS
CI	HS <= 89Ø
CI	HS => 89Ø
Ρl	JRLINS & GIRTS
DI	JRAGAL

- GRADE 350 TO AS 1163
- GRADE 250 TO AS 1163
- GRADE 350 TO AS 1163
- GRADE G450-Z200 TO AS 139
- GRADE C450LO TO AS 1163

S3 REFER TO ARCHITECT'S OR OTHER DRAWINGS FOR LINTELS, CLEATS AND MEMBERS NOT SPECIFICALLY SHOWN ON THESE DRAWINGS.

S4 BOLTING PROCEDURES ARE IDENTIFIED AS FOLLOWS:

BOLTING PROCEDURE	GRADE MPa	BOLT TO A.S.	METHOD OF INSTALLATION	NOTES
4.6/s	4.6	AS 1111	SNUG TIGHTENED	
8.8/s	8.8	AS 1252	SNUG TIGHTENED	
8.8/TF	8.8	AS 1252	FULLY TENSIONED LOAD INDICATOR WASHERS.	FRICTION TYPE JOINT
8.8/TB	8.8	AS 1252	FULLY TENSIONED LOAD INDICATOR WASHERS.	BEARING TYPE JOINT

ALL BOLTS TO BE OF SUCH LENGTH THAT AT LEAST ONE FULL THREAD IS EXPOSED BEYOND THE NUT AFTER THE NUT HAS BEEN TIGHTENED.

S5 UNLESS NOTED OTHERWISE, CONNECTIONS SHALL BE AS FOLLOWS:

CONNECTION LOCATION	BOLT NO. &/OR SIZE	PROCEDURE	CLEAT THICKNESS	NOTES
GENERAL	<200 MAX DIM 2/M16	4.6/s	8	WASHER UNDER
MEMBERS	>200 2/M20	8.8/s	10	ROTATING PART
PURLINS & GIRTS	2/M12	4.6/s	8	GALVANISED BOLTS
ROD BRACING	2 NUTS AS SPECIFIED AS LOCK NUTS EACH END	4.6/s	AS DETAILED	HALF MOON WASHER EACH END
HD BOLTS	AS DETAILED	4.6/s	AS DETAILED	50x50x6 WASHER UNDER NUT

NOTE: ALL BOLTS TO BE HOT DIP GALV. U.N.O.

S6 PURLINS SHALL BE SUPPLIED AS SPECIFIED WITH BRIDGING AND TIES TO MANUFACTURER'S SPECIFICATION OR 3000 MAXIMUM UNSUPPORTED LENGTH U.N.O. SUBSTITUTION SHALL NOT BE MADE UNLESS APPROVED.

S7 WELDING CATEGORIES SHALL BE AS FOLLOWS: UNLESS NOTED OTHERWISE SP TO A.S. 1554 PURLIN AND GIRT CLEATS SP TO A.S. 1554

S8 UNLESS NOTED OTHERWISE ALL FILLET WELDS SHALL BE 6mm CONTINUOUS FILLET WELDS, SP CATEGORY

S9 ALL BUTT WELDS SHALL BE PRE-QUALIFIED COMPLETE PENETRATION SP CATEGORY

S10 ELECTRODES SHALL BE:	
E41xx OR E48xx	TO A.S. 1553 FOR MMAW
W500	TO A.S. 2717 FOR GMAW
W500	TO A.S. 2203 FOR FCAW
W500	TO A.S. 1858 FOR SAW

AND SHALL UTILISE "RUN-ON RUN-OFF" PLATES.

S11 GROUT UNDER BASE PLATES SHALL BE 2:1 SAND/CEMENT MORTAR MIXED NEARLY DRY AND RAMMED HARD MINIMUM 20 THICK. ALTERNATIVELY USE MASTER BUILDER'S MASTERFLOW TYPE 870A CEMENT GROUT (FLOWABLE GRADE) 20 THICK.

S12 SUSPENDED CEILINGS, AIR CONDITIONING UNITS, DUCTWORK AND SUSPENDED PIPEWORK MUST BE SUITABLY SUPPORTED FROM THE WEB OF PURLINS, SUPPORT FROM THE FLANGE OF PURLINS SHALL NOT BE PERMITTED. LOADS FROM HEAVIER UNITS OR PLANT MUST BE SUITABLY DISTRIBUTED BETWEEN THREE (3) PURLINS.

S13 PREPARE AND PRIME PAINT STEEL AS FOLLOWS:

- INTERNAL STEELWORK
- PREPARATION AS 1627.4 CLASS 1
- PRIME COAT 50 MICRONS OF ZINC PHOSPHATE EXTERNAL STEELWORK
- PREPARATION AS 1627.4 CLASS 2.5

- PRIME COAT - 75 MICRONS OF INORGANIC ZINC - ALL COATING TO BE FROM THE SAME MANUFACTURER AND SUBJECT TO ARCHITECT/ENGINEER APPROVAL

S14 STEELWORK TO BE HOT DIP GALVANISED IS AS DESCRIBED OR NOTED AS (GALV) ON THE PROJECT DRAWINGS, PREPARE TO CLASS 2 / AS 1627.4, MAKE GOOD DAMAGE TO GALVANISING WITH "DIMET GALVANITE" UNLESS NOTED OTHERWISE. REFER TO SPECIFICATION FOR BARRIER AND/OR FINISH COATS.

SUSPENDED SLABS ON FILL

SS1 GENERAL

WHERE SHOWN ON THE PROJECT DRAWINGS USE FILL AS FORMWORK ONLY FOR SUSPENDED SLABS. FILL TO BE PLACED SO AS TO ADEQUATELY SUPPORT CONCRETE UNTIL HARDENED AND SHALL BE FREE OF CONSPICUOUS CLAY CONTENT - USE COAL ASH.

SS2 SUB-BASE PREPARATION

STRIP OFF VEGETATION AND CUT TO REQUIRED LEVEL. PROOF ROLL SUB-BASE AS NOTED IN SPECIFICATION BEFORE PLACING FILL, SAND LAYER, AND FORTECON.

SS3 BASE PREPARATION

THE BASE FOR SUSPENDED SLABS ON FILL SHALL BE AS FOLLOWS:

- FILL AS NOTED IN SECTION SS1
- PLACE SAND LAYER & FORTECON AS NOTED IN SECTION SG2.

LEGEND

SEWER MAIN SEWER MANHOLE STORMWATER MAIN STORMWATER MANHOLE STORMWATER SIDE ENTRY PIT WATER MAIN STOP VALVE FIRE HYDRANT PROPERTY WATER CONNECTION TELSTRA UNDERGROUND ELEC. TELSTRA PIT ELECTRICITY TURRET LIGHT POLE LETTERBOX PROPERTY BOUNDARY EXISTING FENCE ASPHALT DRIVEWAY TO DETAIL CONCRETE LINED SPILLWAY TO DETAIL NATURAL FLOOR LEVELS

DESIGN FLOOR LEVELS

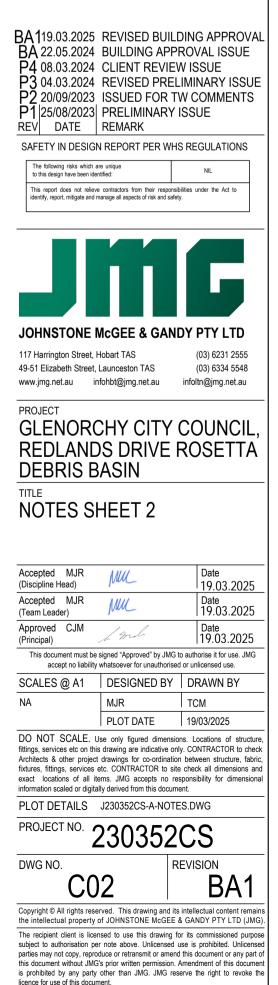
GLENORCHY (PLANNING	
APPLICATION No	PLN-24-181
	30 April 2025

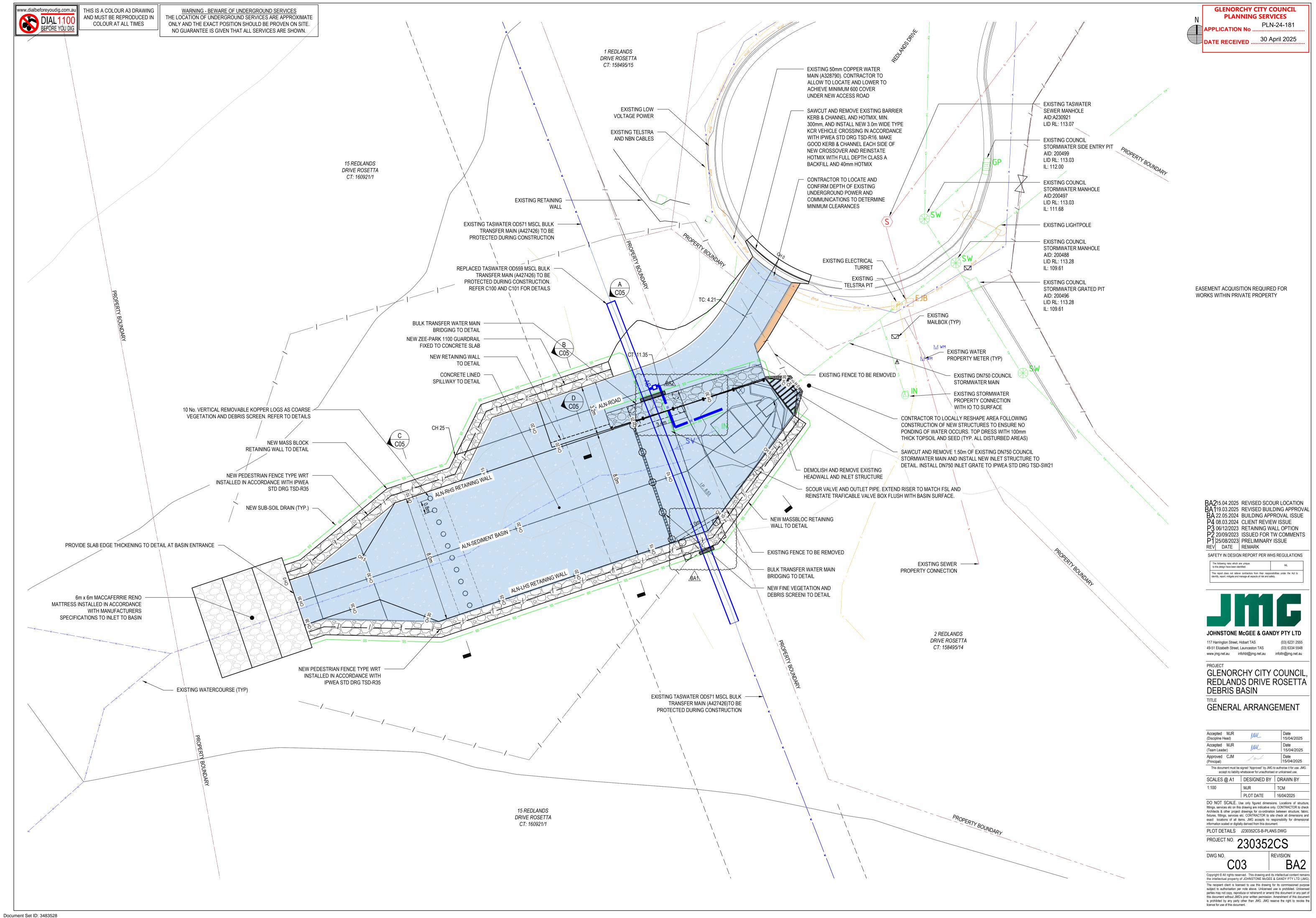
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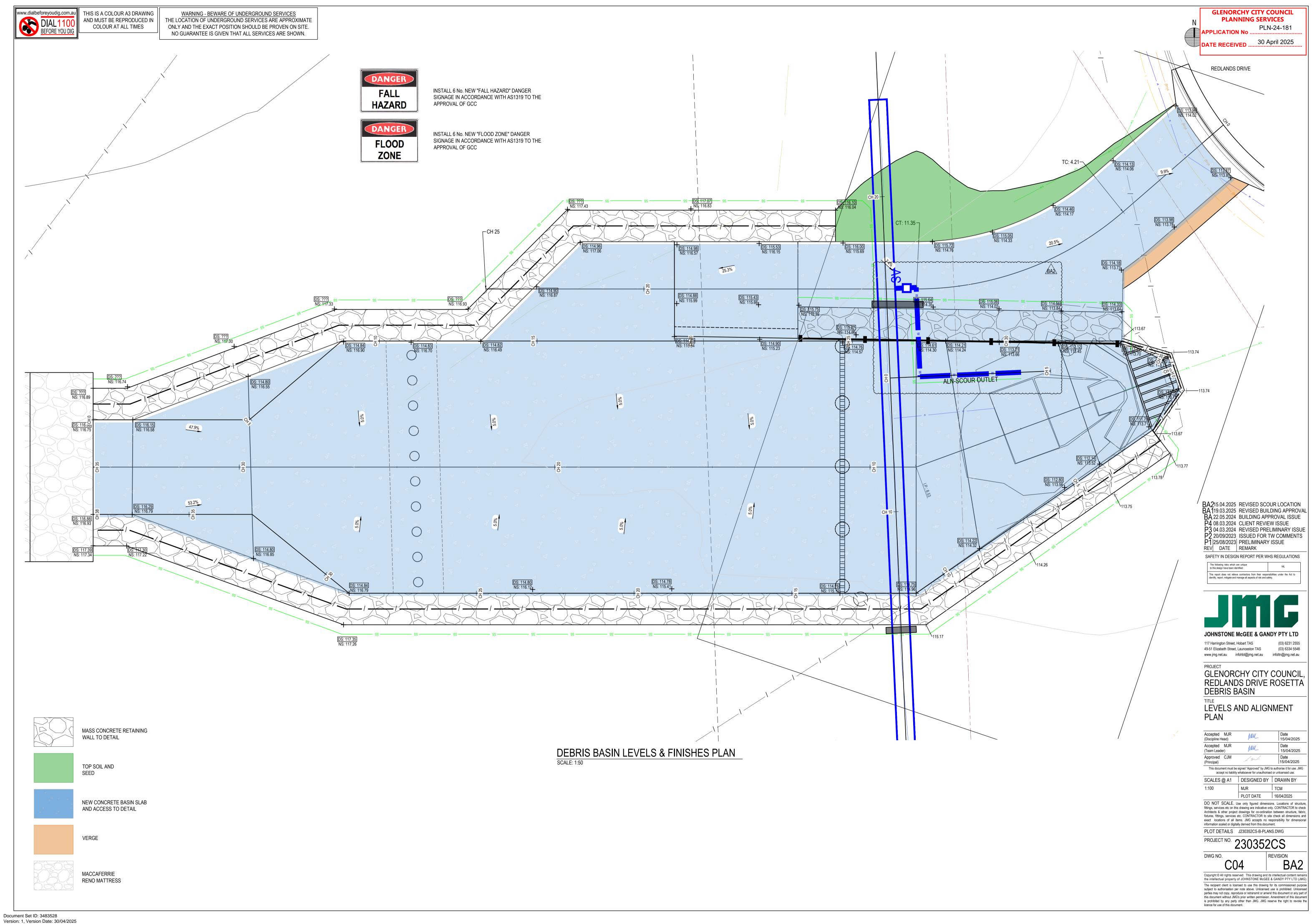
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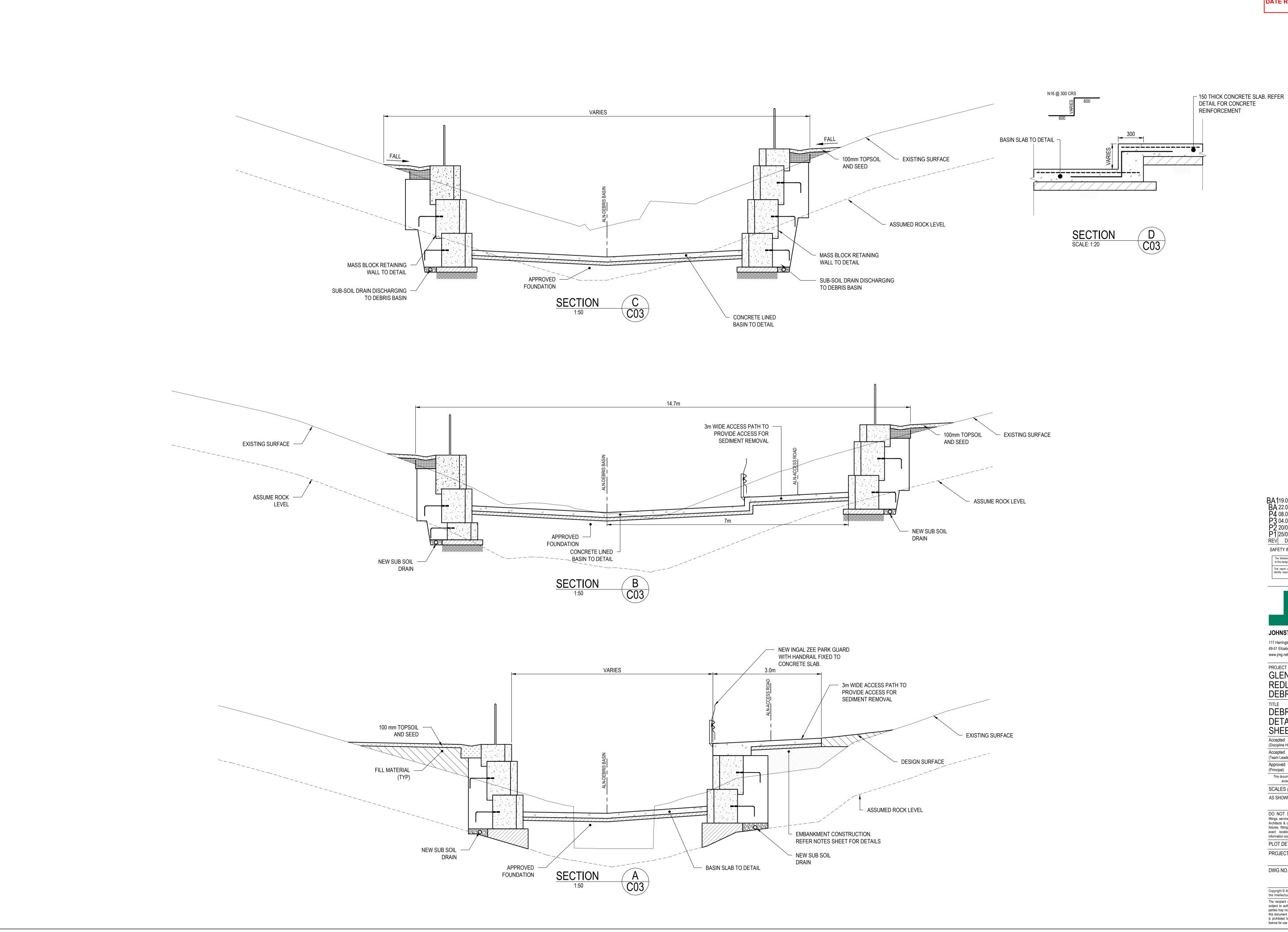


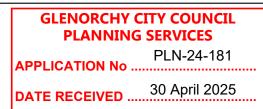






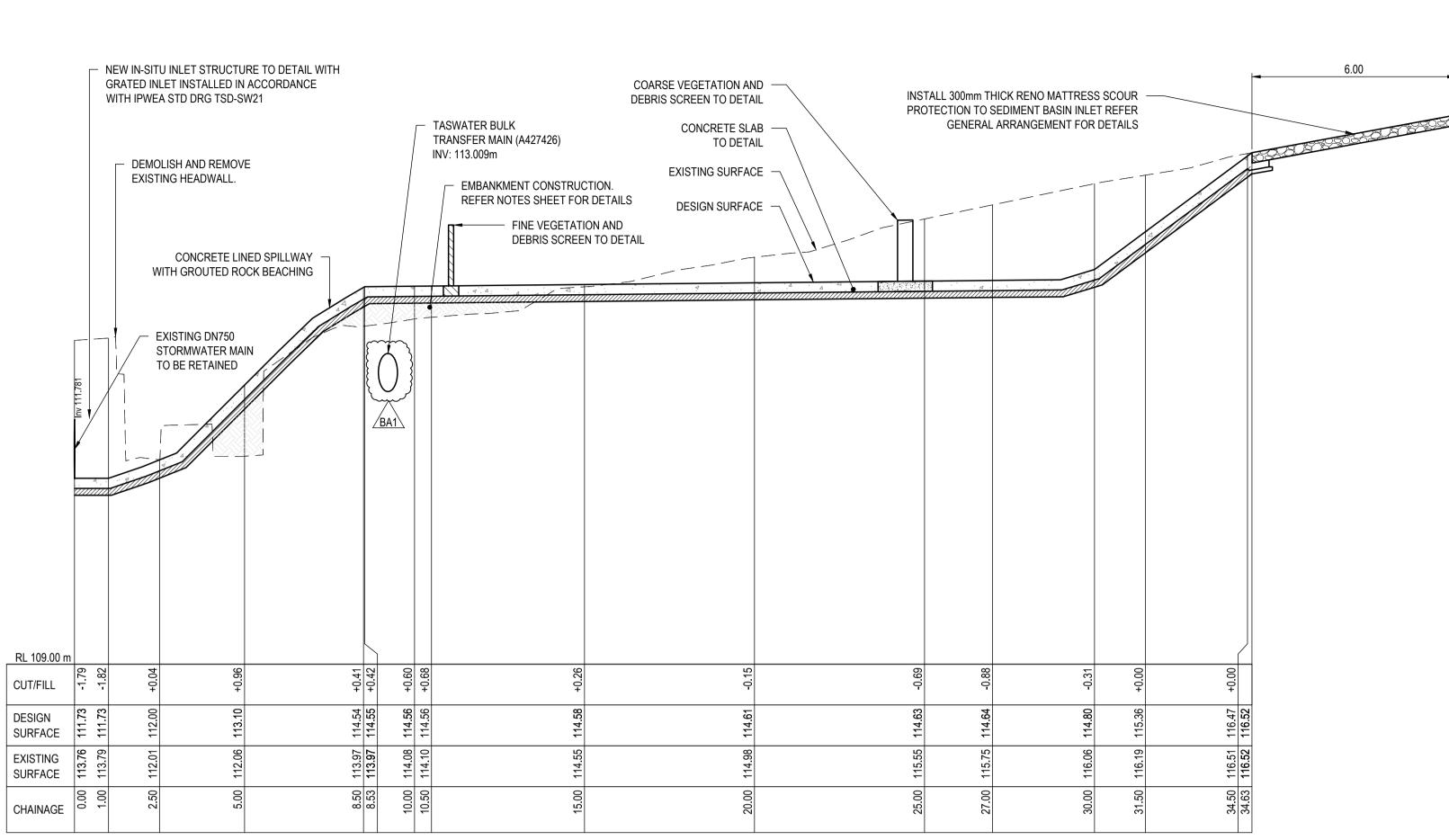
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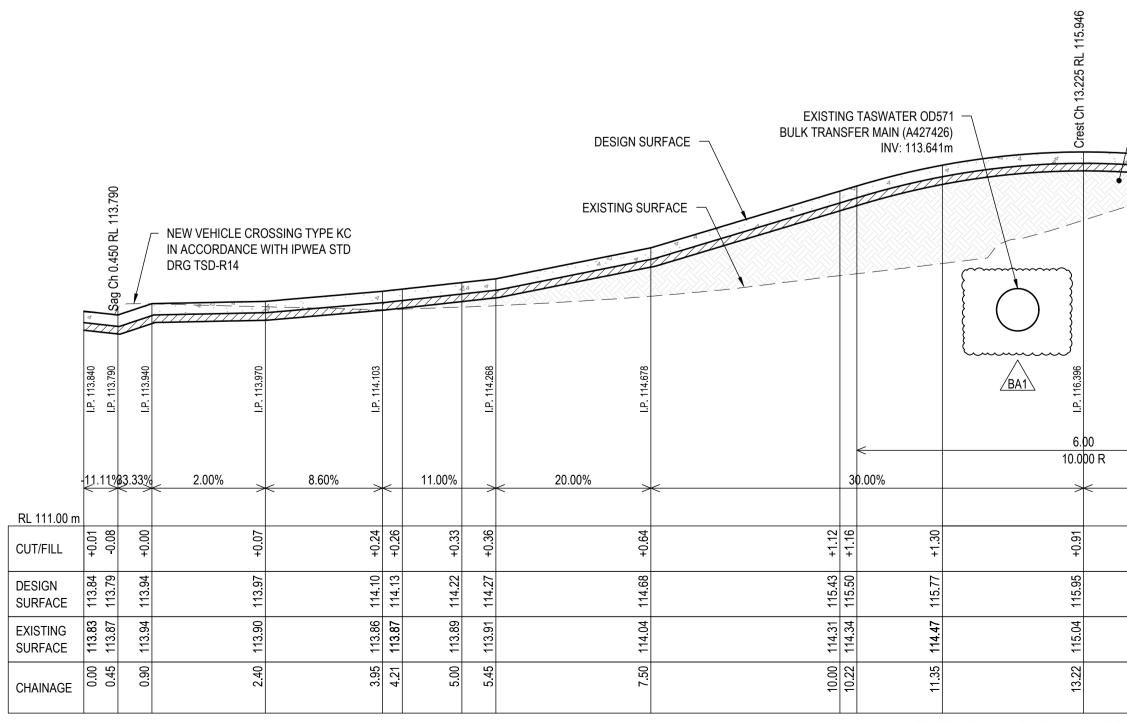


P4 08.03.2024 P3 04.03.2024 P2 20/09/2023 P1 25/08/2023	BUILDING AP CLIENT REVI REVISED PRI ISSUED FOR PRELIMINAR	PROV EW IS Elimi TW C	VAL ISSUE SSUE NARY ISSUE COMMENTS
REV DATE SAFETY IN DESIGN		וופ סב	
The following risks which ar to this design have been iden This report does not relieve identify, report, mitigate and m	e unique tified: contractors from their respo	onsibilities u	NIL
]
JOHNSTONE			
117 Harrington Street, H 49-51 Elizabeth Street, I www.jmg.net.au in			(03) 6231 2555 (03) 6334 5548 ltn@jmg.net.au
GLENORO REDLAND DEBRIS B	S DRIVE		,
DEBRIS B DETAILS A SHEET 1			
Accepted MJR (Discipline Head)	MIL		Date 19.03.2025
Accepted MJR	MIL		Date
(Team Leader) Approved CJM	10000		19.03.2025 Date
(Principal) This document must be s	igned "Approved" by JN	IG to auth	19.03.2025
	whatsoever for unauthor	ised or ur	
SCALES @ A1	DESIGNED B		RAWN BY
AS SHOWN			CM
DO NOT SCALE. U fittings, services etc on this Architects & other project fixtures, fittings, services e exact locations of all ite information scaled or digital	drawing are indicative drawings for co-ordina tc. CONTRACTOR to ms. JMG accepts no	isions. L only. CO ition betw site cheo respons	NTRACTOR to check veen structure, fabric, ck all dimensions and
PLOT DETAILS	J230352CS-C-DE	TAILS.	DWG
PROJECT NO.	230352	2C	S
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ALN-Sediment Basin PROFILE FROM CH 0.000m TO CH 34.631m SCALES: 1:100(H) 1:50(V)

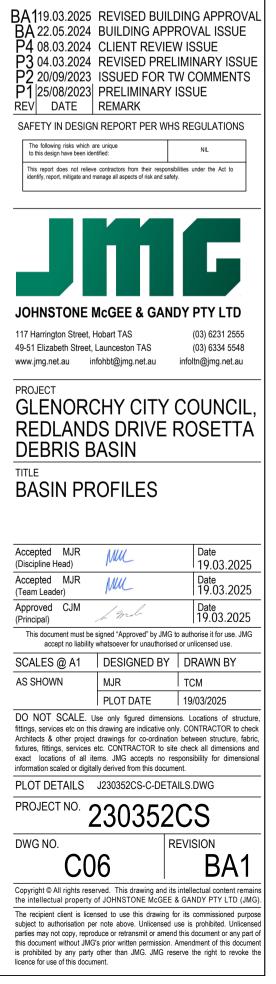


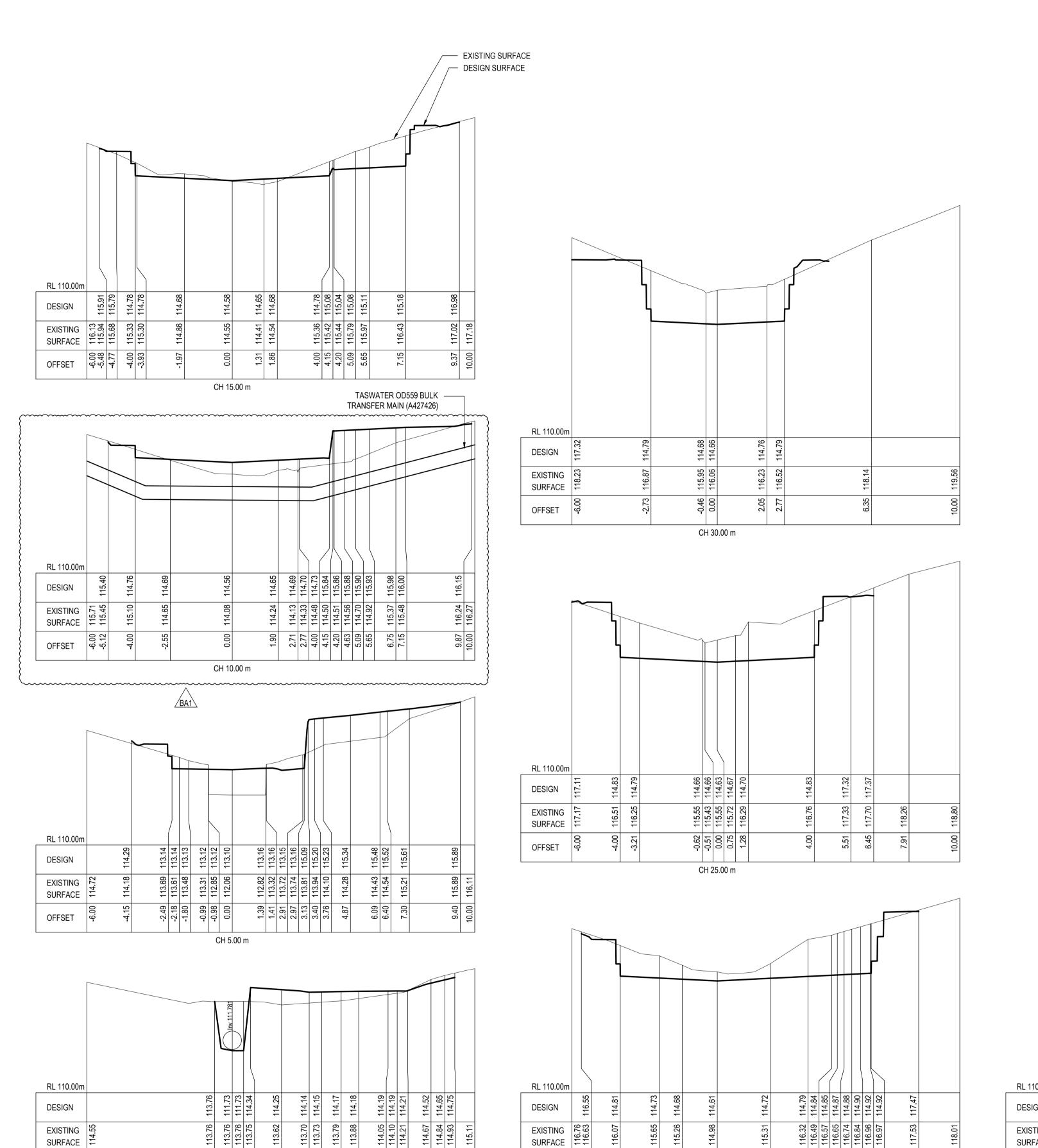
ALN-ACCESS PROFILE FROM CH 0.000m TO CH 25.009m SCALES: 1:50(H) 1:50(V)

	NT CONSTRUCTIO			\\ \\ Sag Ch 20.700 RL 114.824					
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	-30.00%	<	17 R	0.5	0%	>	< 40.20%		
								 ſ	
+0.24	-0.31	-1.09	-1.49	-1.62	-1.63	-1.95	-1.59		
115.79	115.50	114.99	114.84	114.82	114.82	114.84	115.44		
115.55	115.81	116.08	116.33	116.44		116.79	117.03	117.12	117.12
15.00	16.22	18.50	20.00	20.70		23.00	24.49	25.00	25.01

GLENORCHY CITY COUNCIL PLANNING SERVICES PLN-24-181 **APPLICATION No ..**

DATE RECEIVED 30 April 2025





ALN-Sediment Basin CROSS SECTIONS SCALES: 1:100(H) 1:100(V)

-0.73 0.00 0.47 0.76

CH 0.00 m

113.

6.42 6.80 6.80 8.19 8.76 9.17

3.17 3.69 4.49 5.21

113

33

CH 20.00 m

2

4

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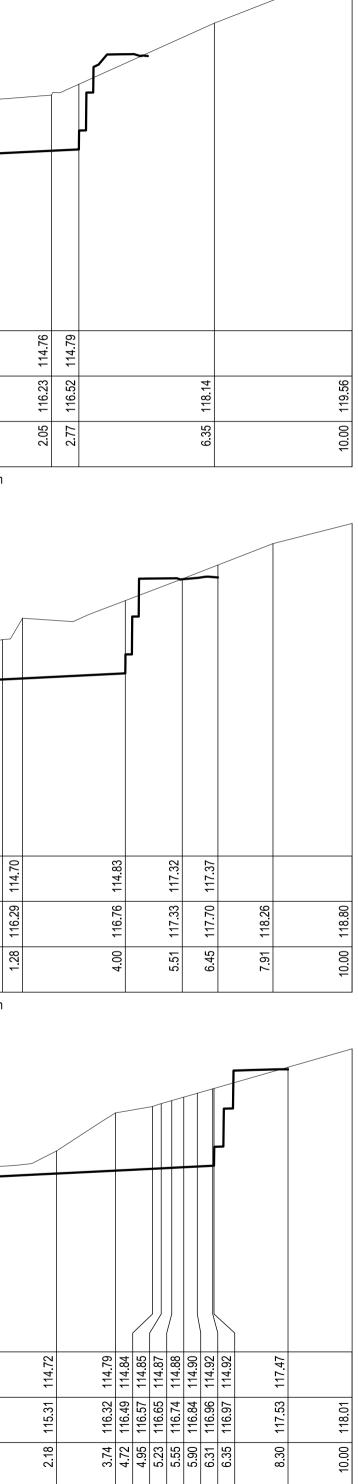
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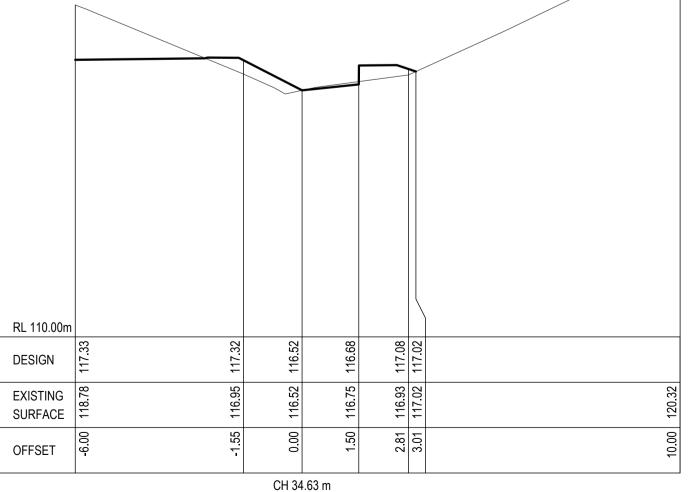
OFFSET

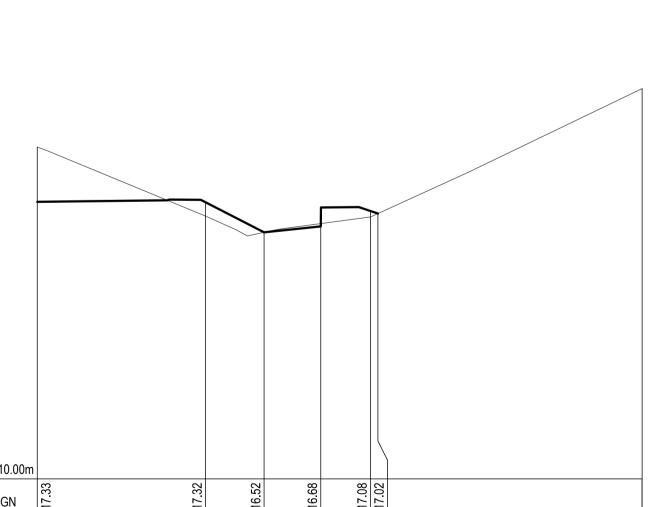
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SURFACE

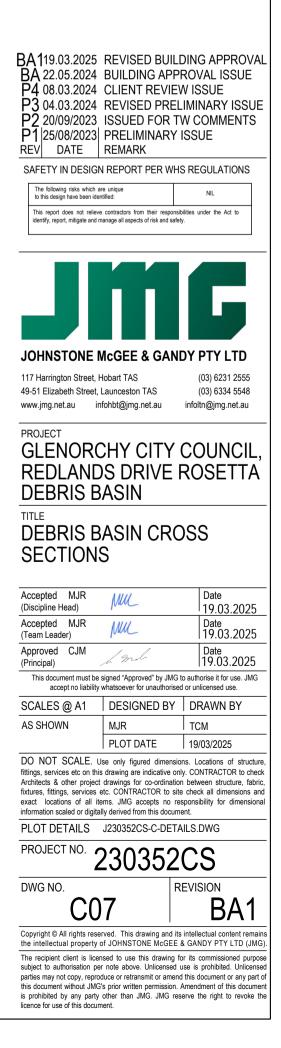
OFFSET

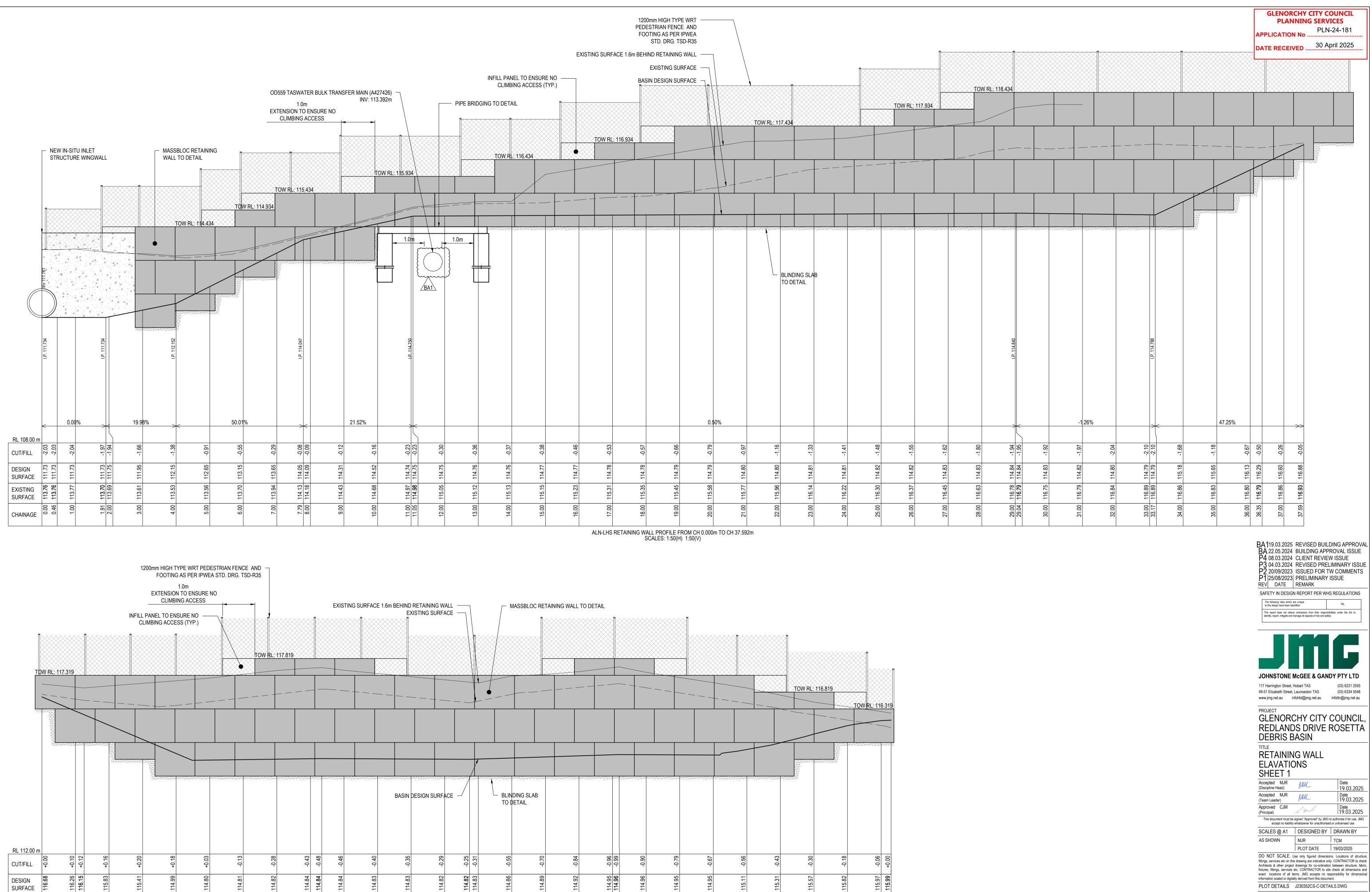






GLENORCHY CITY COUNCIL PLANNING SERVICES PLN-24-181 APPLICATION No





ALN-RHS RETAINING WALL PROFILE FROM CH 0.000m TO CH 25.299m SCALES: 1:50(H) 1:50(V)

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9.00

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SURFACE

EXISTING

SURFACE

CHAINAGE

58

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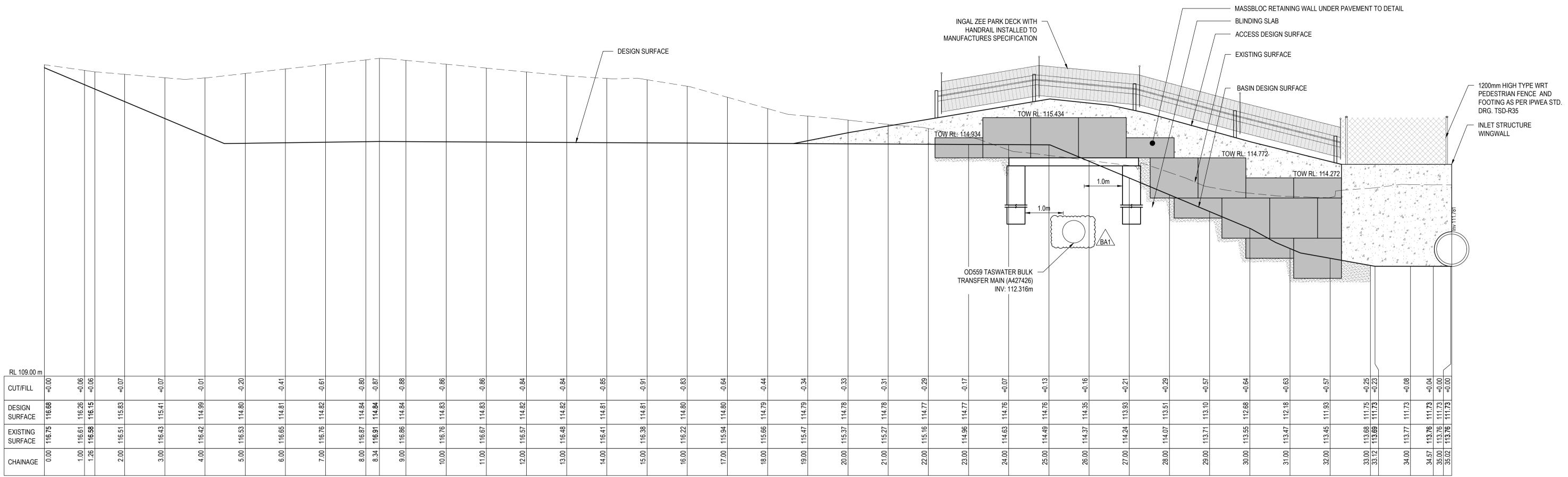
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8

[TOW RL:	116.819	TOW RL: 110	5.319
	NG SLAB												
-0.55	-0.70	-0.84	96.0-	-0.99	-0.90	-0.79	-0.67	-0.56	-0.43	-0.30	-0.18	-0.06	+0.00
114.86	114.89	114.92	114.95	114.96	114.96	114.95	114.95	115.11	115.31	115.57	115.82	115.97	115.99
116.75	116.86	116.96		117.07	116.95	116.80	116.64	116.49	116.32	116.15	115.99	115.83	115.76
14.00	15.00	16.00	17,00	17.20	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00	25.30

P3 04.03.2024 P2 20/09/2023 P1 25/08/2023 REV DATE	REVISED PREL ISSUED FOR TV PRELIMINARY REMARK	N C	OMMENTS											
SAFETY IN DESIGN	REPORT PER WH	S REC	GULATIONS											
The following risks which ar to this design have been iden			NIL											
This report does not relieve identify, report, mitigate and m	This report does not relieve contractors from their responsibilities under the Act to identify, report, mitigate and manage all aspects of risk and safety.													
JOHNSTONE McGEE & GANDY PTY LTD 117 Harrington Street, Hobart TAS (03) 6231 2555 49-51 Elizabeth Street, Launceston TAS (03) 6334 5548 www.jmg.net.au infohb@jmg.net.au infohtm@jmg.net.au														
REDLAND DEBRIS B TITLE RETAININ	PROJECT GLENORCHY CITY COUNCIL, REDLANDS DRIVE ROSETTA DEBRIS BASIN TITLE RETAINING WALL ELAVATIONS													
Accepted MJR (Discipline Head)	MIL		Date 19.03.2025											
Accepted MJR (Team Leader)	MIL		Date 19.03.2025											
Approved CJM (Principal)	1 ml		Date 19.03.2025											
This document must be s	signed "Approved" by JMG t whatsoever for unauthorised	o autho	rise it for use. JMG											
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DO NOT SCALE. U: fittings, services etc on this Architects & other project fixtures, fittings, services e exact locations of all ite information scaled or digital	drawing are indicative onl drawings for co-ordination tc. CONTRACTOR to site ms. JMG accepts no res	y. CON betwe check sponsib	ITRACTOR to check een structure, fabric, all dimensions and											
PLOT DETAILS	J230352CS-C-DETA	ILS.C	WG											
PROJECT NO.	230352	C	S											
DWG NO.	R	FVIS	ION											

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ALN-RHS RETAINING WALL PROFILE FROM CH 0.000m TO CH 35.024m SCALES: 1:50(H) 1:50(V)

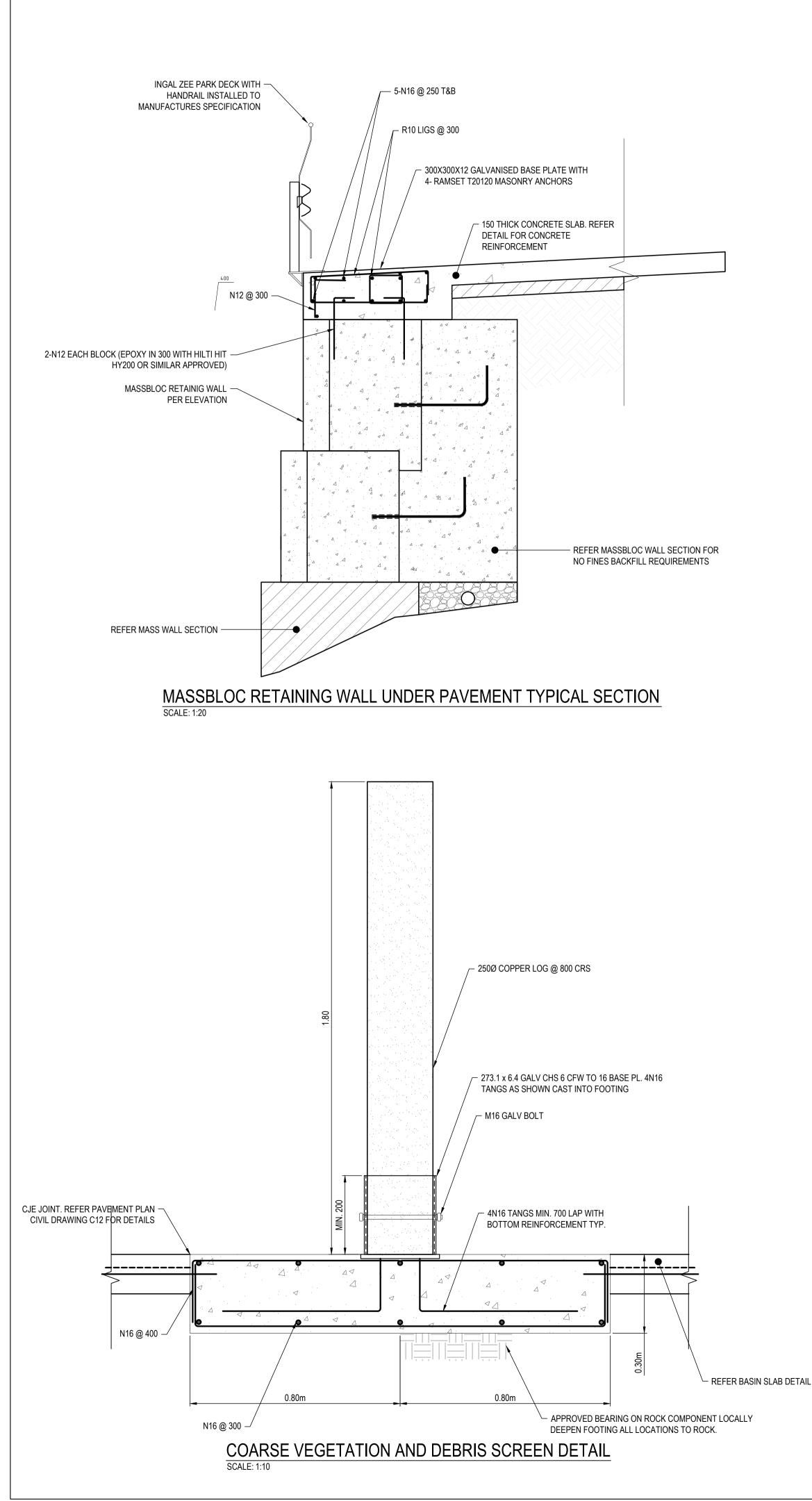
GLENORCHY CITY COUNCIL PLANNING SERVICES PLN-24-181 APPLICATION No DATE RECEIVED 30 April 2025

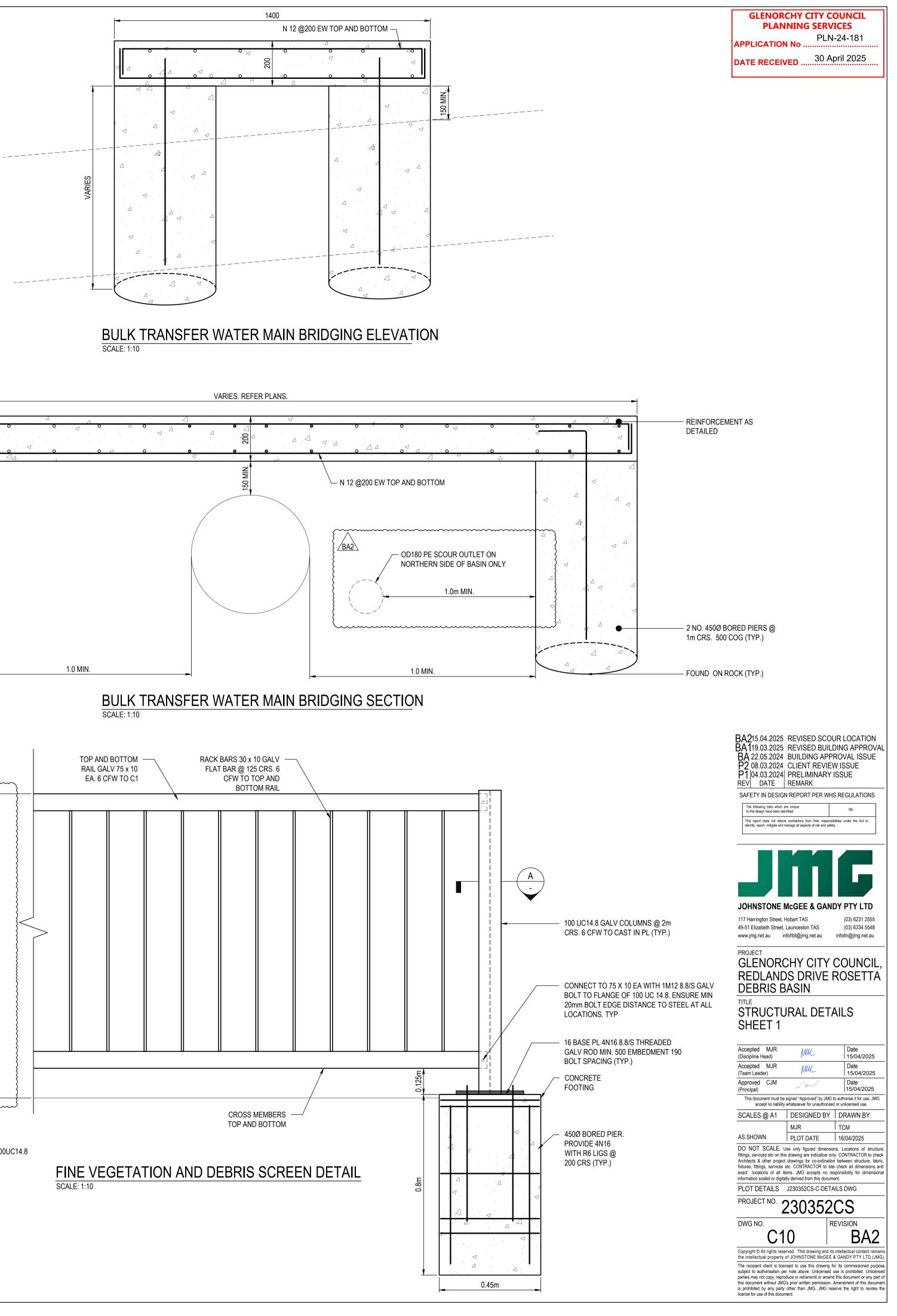
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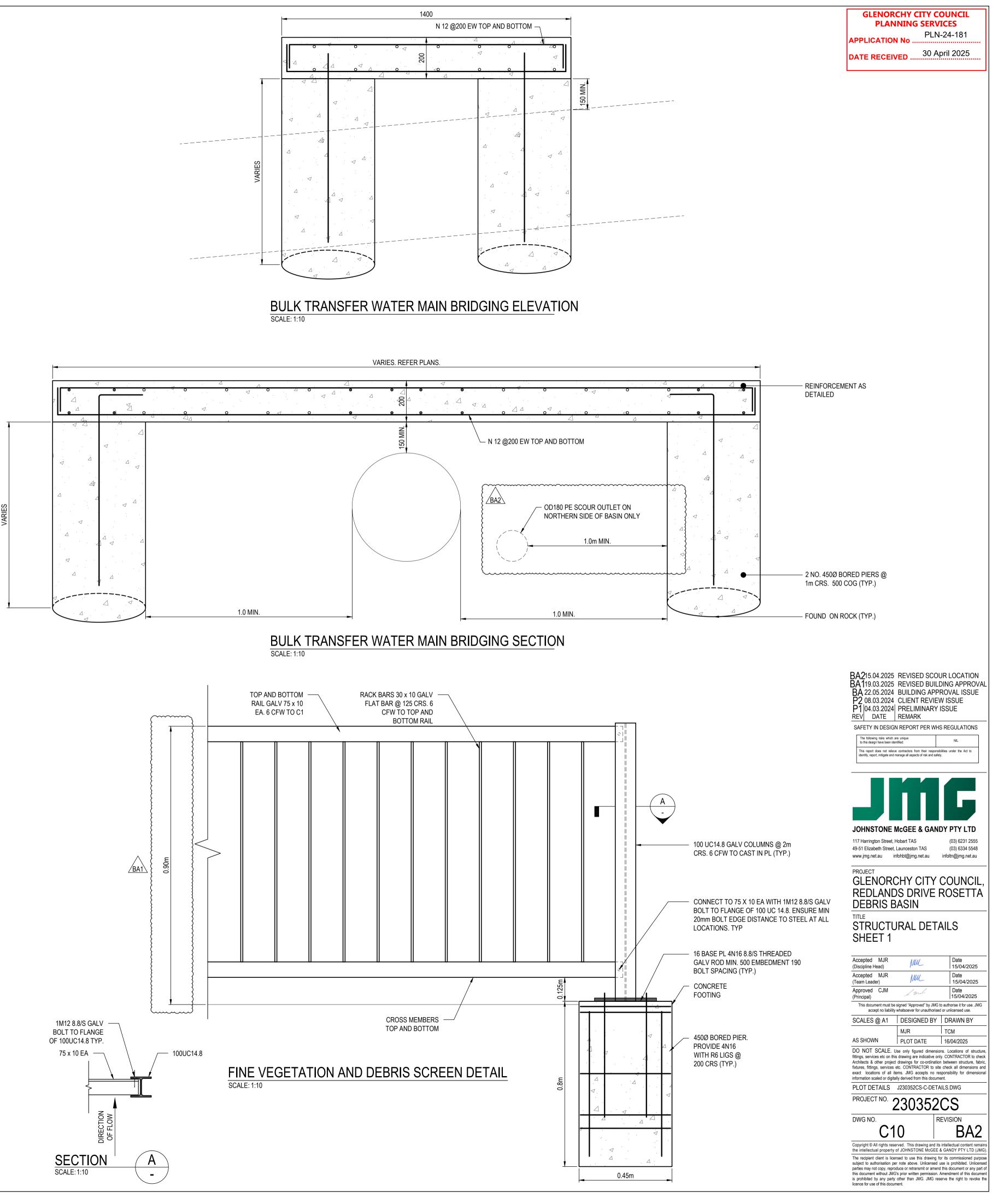
WINGWALL

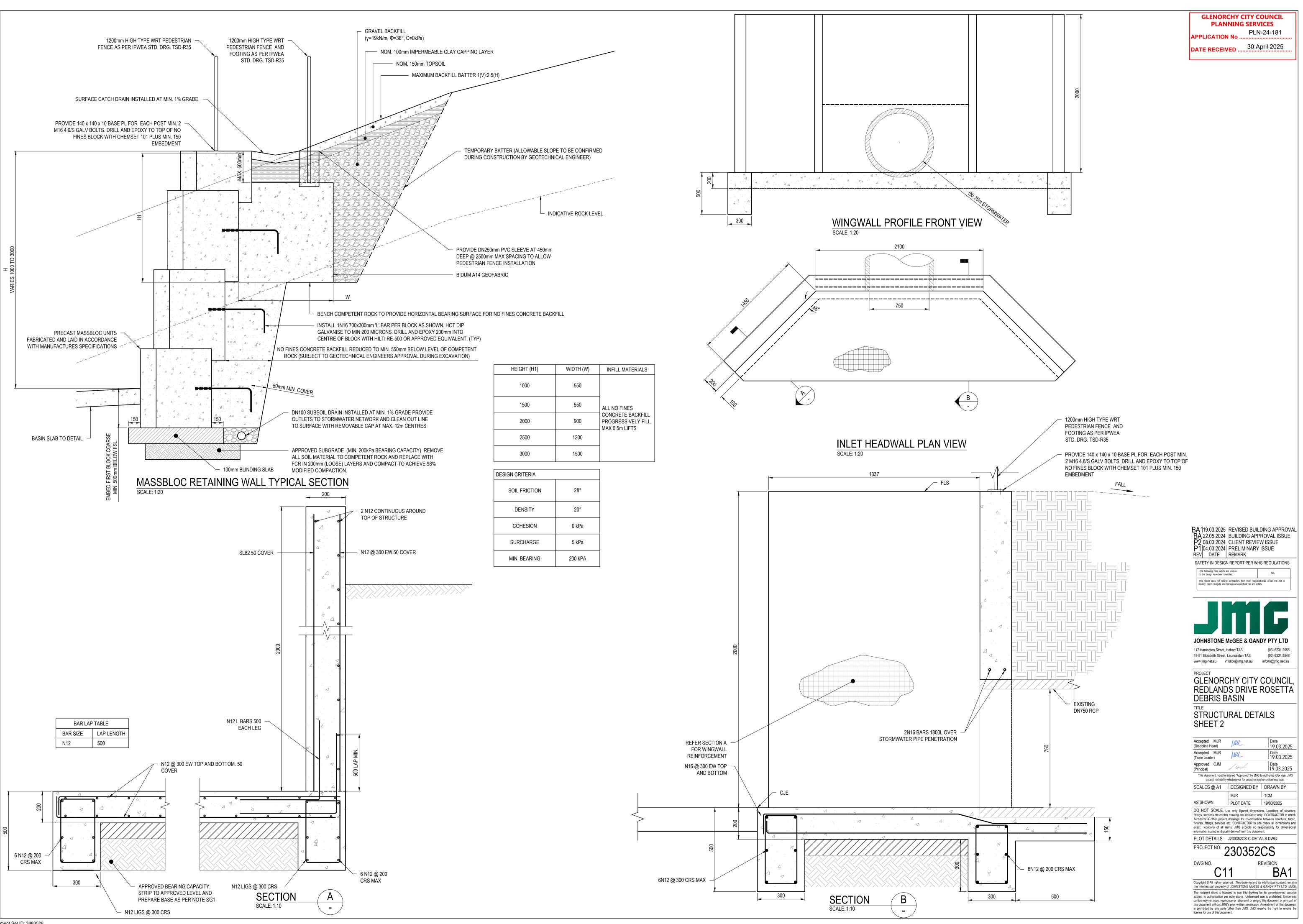
INLET STRUCTURE

BA119.03.2025 REVISED BUILDING APPROVA BA 22.05.2024 BUILDING APPROVAL ISSUE P2 08.03.2024 CLIENT REVIEW ISSUE P1 04.03.2024 PRELIMINARY ISSUE REVI DATE REMARK
SAFETY IN DESIGN REPORT PER WHS REGULATIONS
The following risks which are unique to this design have been identified: NIL
This report does not relieve contractors from their responsibilities under the Act to identify, report, mitigate and manage all aspects of risk and safety.
Jmg
JOHNSTONE McGEE & GANDY PTY LTD
117 Harrington Street, Hobart TAS (03) 6231 2555 49-51 Elizabeth Street, Launceston TAS (03) 6334 5548 www.jmg.net.au infohbt@jmg.net.au
PROJECT
GLENORCHY CITY COUNCIL,
REDLANDS DRIVE ROSETTA
REDLANDS DRIVE ROSETTA DEBRIS BASIN
REDLANDS DRIVE ROSETTA DEBRIS BASIN TITLE RETAINING WALL
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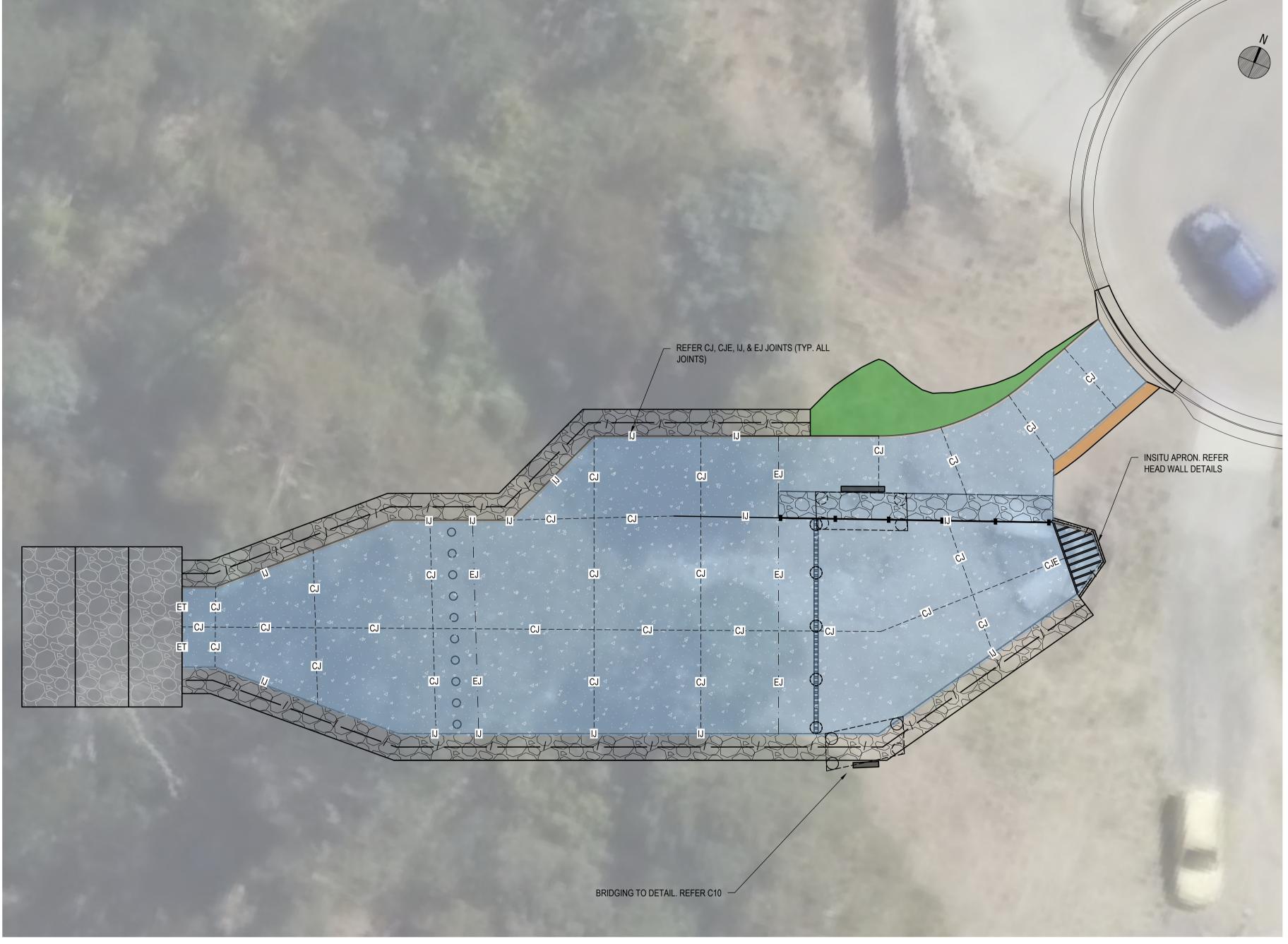




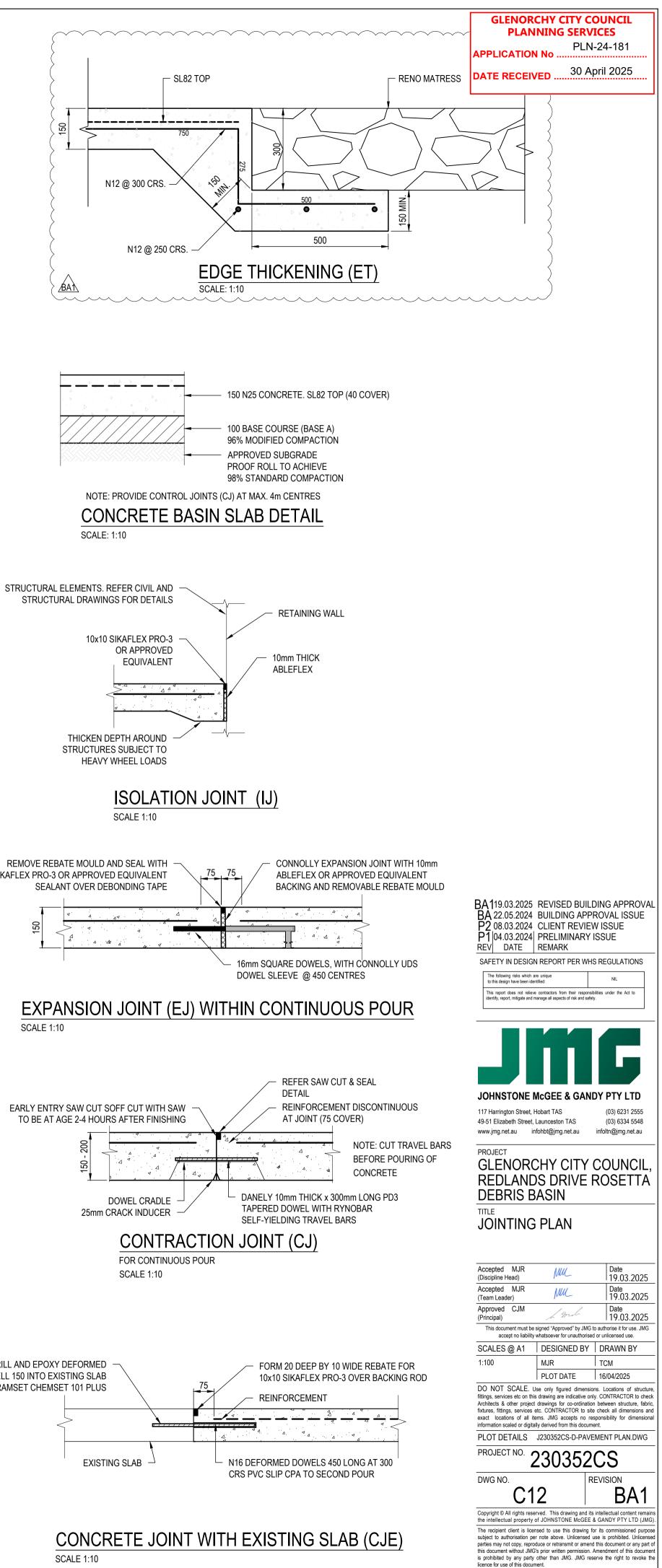


THIS IS A COLOUR A3 DRAWING AND MUST BE REPRODUCED IN COLOUR AT ALL TIMES

WARNING - BEWARE OF UNDERGROUND SERVICES THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THE EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL SERVICES ARE SHOWN.



JOINTING PLAN SCALE: 1:100



SIKAFLEX PRO-3 OR APPROVED EQUIVALENT

SCALE 1:10

DRILL AND EPOXY DEFORMED -DOWELL 150 INTO EXISTING SLAB USING RAMSET CHEMSET 101 PLUS

SCALE 1:10

GENERAL

CONTRACTOR TO CONFIRM ONSITE THE SIZE OF EXISTING MSCL MAIN PRIOR TO ANY CONSTRUCTION WORKS, INCLUDING FABRICATION OF NEW MAIN, BEING UNDERTAKEN. IF DESCREPANCIES TO DESIGN DOCUMENTATION ARE FOUND, SUPERINTENDENT TO BE NOTIFIED AND CONTRACTOR TO AWAIT FURTHER INSTRUCTION FROM SUPERINTENDENT PRIOR TO PROCEEDING.

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- 2. THE CONTRACTOR WILL PROVIDE THE FOLLOWING STEEL PIPE AND FITTINGS:
 - OD559 X 5mm WALL THICKNESS, SINTAKOTE MSCL PIPE (WITH INTERNAL SEAL COAT).
 - ONE (1) 13.5M EFFECTIVE LENGTH OF PLAIN END
 - ONE (1) 12.2M EFFECTIVE LENGTH OF PLAIN END
 - ONE (1) 6m LENGTH OF OD180 PE PN16 PIPE.
 - ONE (1) DN150 PN16 FL-FL GATE VALVE WITH SPINDLE RISER AND TRAFFICABLE VALVE BOX.
 - TWO (2) OD180 PN16 STUB FLANGED 90° BENDS
- ONE (1) OD180 PN16 STUB FLANGE AND BACKING PLATE
- IT IS THE CONTRACTORS RESPONSIBILITY TO APPLY FOR AND OBTAIN ALL REQUIRED PERMITS AND APPROVALS SUCH AS TASWATER CCW AND PERMIT TO CONSTRUCT PRIOR TO THE COMMENCEMENT OF WORKS.
- 4. THE CONTRACTOR SHALL PROVIDE A CONSTRUCTION MANAGEMENT PLAN (CMP) DETAILING HOW THE WORKS ARE TO BE UNDERTAKEN WITH DUE CONSIDERATION TO ONGOING OPERATIONS, SAFETY AND THE ENVIRONMENT. THE PLAN SHALL INCLUDE COMMISSIONING AND CUT OVER AND BE PREPARED WITH INPUT FROM TASWATER OPERATIONS AND BE APPROVED BY THE PROJECT MANAGER.
- 5. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE TRAFFIC AND PEDESTRIAN MANAGEMENT DURING THE WORKS.
- REFER TO TASWATER CDO DOCUMENTATION FOR ENVIRONMENTAL AND NATURAL VALUE DETAILS INCLUDING CONTRACTOR REQUIREMENTS FOR THE DEVELOPMENT. IMPLEMENTATION AND RECORDING OF MANAGEMENT PLANS FOR:
- WEED PESTS AND DISEASE
- FLORA AND FAUNA
- SOIL MANAGEMENT
- EROSION AND SEDIMENT CONTROL
- UNANTICIPATED FINDS
- MACHINERY, PLANT AND VEHICLE CLEAN-DOWN
- 7. ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH TASWATERS ENVIRONMENTAL REQUIREMENTS RELATING TO TOP SOIL MANAGEMENT, EROSION AND SEDIMENT CONTROL, WEED CONTROL, FLORA AND FAUNA MANAGEMENT
- 8. THE LOCATION AND DEPTH OF ALL EXISTING SERVICES SHALL BE IDENTIFIED AND PROVEN ON-SITE PRIOR TO COMMENCING EXCAVATIONS.
- PROPRIETARY PRODUCTS ARE TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. 10. STEEL PIPE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS - REFER "SINTAKOTE STEEL PIPELINE SYSTEMS HANDLING & INSTALLATION" GUIDELINE AVAILABLE FROM STEELMAINS.
- 11. STEEL PIPE COATINGS SHALL BE TESTED FOR DEFECTS USING A 'SPARK TESTER' WITH A VOLTAGE OF 12kV IMMEDIATELY PRIOR TO INSTALLATION IN THE TRENCH. TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 3894.1.
- 12. COATING DEFECTS SHALL BE REPAIRED IN ACCORDANCE WITH THE PIPE MANUFACTURERS RECOMMENDATIONS AND TO THE APPROVAL OF THE SUPERINTENDENT.
- 13. WELDING AND NON DESTRUCTIVE TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH CLAUSE "WELDING OF STEEL PIPELINES" IN PART 2 OF WSA03, MRWA EDITION.
- 14. STEEL PIPE SPECIALS SHALL BE PLAIN ENDS UNO, BE MANUFACTURED USING THE PIPE SUPPLIED IN ACCORDANCE WITH THE DIMENSIONS SHOWN ON THE DRAWINGS AND WITH CLAUSE "FABRICATION OF STEEL FITTINGS" IN PART 2 OF WSA03, MRWA EDITION, PROTECTIVE EXTERNAL COATINGS SHALL BE REINSTATED USING RAYCHEM WPCB HEAT SHRINK SLEEVES, CEMENT MORTAR LINING TO BE REINSTATED IN ACCORDANCE WITH MANUFACTURERES INSTRUCTIONS.
- 15. CORROSION PROTECTION AT JOINTS OF PIPES SHALL BE IN ACCORDANCE WITH DWG MRWA-W-400.
- 16. ALL FLANGES ARE TO BE DRILLED TO AS4087 CLASS 16 U.N.O. GASKETS TO BE COMPOSITE FIBRE 1.5mm THICK TEADIT NA1000 C6327 OR EQUIVALENT
- 17. GATE VALVES SHALL BE RESILIENT SEATED SLUICE VALVES TO AS2638.2 RATED TO MINIMUM CLASS PN16
- 18. ALL REDUNDANT PIPE TO BE FULLY REMOVED
- 19. A DETECTABLE MARKER TAPE WITH THE WORDING 'WATER MAIN' SHALL BE PLACED OVER ALL WATER MAINS FOR FULL LENGTH ON TOP OF THE BEDDING.
- 20. CONTRACTOR TO AVOID PLACEMENT OF LOAD (INCLUDING VEHICLE TRAFFIC) OVER EXISTING TRUNK MAIN WHILE IT IS IN SERVICE. PROVIDE ADEQUATE TEMPORARY PROTECTION OVER THE MAIN IF CROSSING THE TRUNK MAIN IS NECESSARY.
- 21. CONTRACTOR IS ADVISED THAT EXISTING PIPE COATING MAY CONTAIN ASBESTOS AND SHALL INVESTIGATE THIS PRIOR TO CONDUCTING THE WORK. IF ASBESTOS IS PRESENT THE CONTRACTOR SHALL HANDLE APPROPRIATELY.
- 22. CLEAN, DISINFECT AND PRESSURE TEST ALL PIPEWORK IN ACCORDANCE WITH WSA STANDARD SPECIFICATION CONSTRUCTION CLAUSE 19 PRIOR TO CONNECTION TO EXISTING INFRASTRUCTURE. ALL PIPELINES MUST BE INSPECTED BY TASWATER PRIOR TO BACKFILL. FOLLOWING BACKFILL PRESSURE TEST TO 1500kpa AT THE LOW POINT OF THE SYSTEM FOR A MINIMUM 2 HOURS. PIPELINE DESIGN PRESSURE IS 900kPa. CONTRACTOR TO FURNISH ANY TEMPORARY FITTINGS WITH PRESSURE GAUGE, FILLING AND AIR RELEASE APPURTENANCES FOR HYDROTESTING. CONTRACTOR TO PROVIDE ADEQUATE TEMPORARY RESTRAINTS AT PIPE ENDS FOR THE HYDROTEST. ANY DEFECTS FOUND DURING TESTING ARE TO BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
- 23. CONNECTIONS TO EXISTING TASWATER INFRASTRUCTURE TO BE PERFORMED BY AN ACCREDITED TASWATER CONTRACTOR AT CONTRACTORS COST UNLESS SPECIFIED OTHERWISE BY TASWATER. CONTRACTOR IS RESPONSIBLE FOR CO-ORDINATION OF ALL WORKS WITH TASWATER.
- 24. THE CONTRACTOR SHALL ENSURE THAT WATER MAINS INCLUDING ALL TEES, BENDS, VALVES AND PROPERTY CONNECTION LINES ARE LEFT EXPOSED UNTIL SUCH TIME AS THEY HAVE BEEN LOCATED BY THE SURVEYOR UNDERTAKING THE AS CONSTRUCTED SURVEY. THE SURVEYOR SHALL BE PROVIDED WITH AT LEAST 48Hrs ADVANCE NOTICE TO ALLOW THEM TO ATTEND THE SITE. FAILURE TO DO SO MAY RESULT IN THE CONTRACTOR HAVING TO RE-EXPOSE ALL PIPEWORK TO ALLOW ACCURATE PICK UP OF THE SERVICE.
- 25. WHERE MANAGED BY THE THE CONTRACTOR, THE CONTRACTOR SHALL ENSURE THE AS-CONSTRUCTED DRAWINGS, SURVEY & CONTROL AND DATA COLLECTION IS UNDERTAKEN AND PROVIDED TO TASWATER IN ACCORDANCE WITH TASWATERS ASSET SPATIAL DATA SPECIFICATION

BACKFILL MATERIAL

TYPE 1 - BACKFILL MATERIAL FOR TRAFFICABLE AREA

PLACE AND COMPACT FULL DEPTH (FROM TOP OF PIPE EMBEDMENT {LO} TO EXISTING SURFACE LEVELS) WITH 20MM COMPACTED FINE CRUSHED ROCK (BASE CLASS A) CONSOLIDATED IN LAYERS NO GREATER THAN 200MM LOOSE TO ACHIEVE THE MINIMUM 95% OF MAXIMUM DRY DENSITY RATIO TO AS1289.5.1.1

REINSTATE SURFACE AS FOLLOWS;

FINISHED SURFACE LEVELS TO MATCH EXISTING SURFACE LEVELS PRIOR TO EXCAVATION UNLESS NOTED OTHERWISE TO ALLOW FOR FUTURE TRIMMING AND PAVEMENT CONSTRUCTION.

PIPE BEDDING & EMBEDMENT MATERIAL

- TYPE A: TO BE 20MM CEMENT TREATED CLASS 3 FCR. EMBEDMENT MATERIAL SHALL BE COMPACTED IN MAXIMUM 150MM LAYERS TO ACHIE VE A MINIMUM 95% OF MAXIMUM DRY DENSITY RATIO TO AS1289.5.1.1
- 26. FOR EXCAVATIONS >1.5M DEEP PROVIDE BENCHING OR SHORING WHERE REQUIRED.
- 27. MINIMUM COVER AND CLEARANCE FOR ANY SERVICE RELOCATION WORKS TO BE IN ACCORDANCE WITH THE RELEVANT AUTHORITIES STANDARD REQUIREMENTS.
- 28. WAVELAY DETECTABLE UNDERGROUND WARNING TAPE (TEXT AND COLOUR IN ACCORDANCE WITH AS2648.1:1995) OR SIMILAR APPROVED PRODUCT. INSTALLATION IN ACCORDANCE WITH WSA 04-2005-2.1
- 29. SUBMIT TO THE SUPERINTENDENT TO THEIR USE, MATERIAL PROPERTIES AND SOURCE FOR ALL BEDDING, HAUNCHING, BACKFILL AND ROAD PAVEMENT MATERIALS. PAVEMENT MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF DSG SPECIFICATION R40 FOR BASE CLASS A AND SUB-BASE 1 MATERIALS.
- 30. REINSTATE ALL GROUND SURFACES TO MATCH EXISTING. STOCKPILE STRIPPED TOPSOIL FOR SPREADING ON TRENCHES AND DISTURBED AREAS AND PROVIDE IMPORTED MATERIAL AS REQUIRED TO ENSURE MINIMUM TOPSOIL DEPTHS AS SHOWN ON THE DRAWINGS. TOPSOIL TO BE WEED FREE FROM AND SOURCE APPROVED BY THE PROJECT MANAGER. ALL EXCESS EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF SITE AT THE

CONTRACTORS COST UNLESS APPROVED OTHERWISE BY THE PROJECT MANAGER.

COMMISSIONING

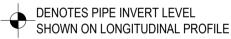
- WORKS MAY BE CONNECTED TO THE EXISTING SYSTEM.
- IS SATISFIED THAT THE WHOLE OF THE WORKS MEETS THE TESTING REQUIREMENTS.
- THE TESTS.

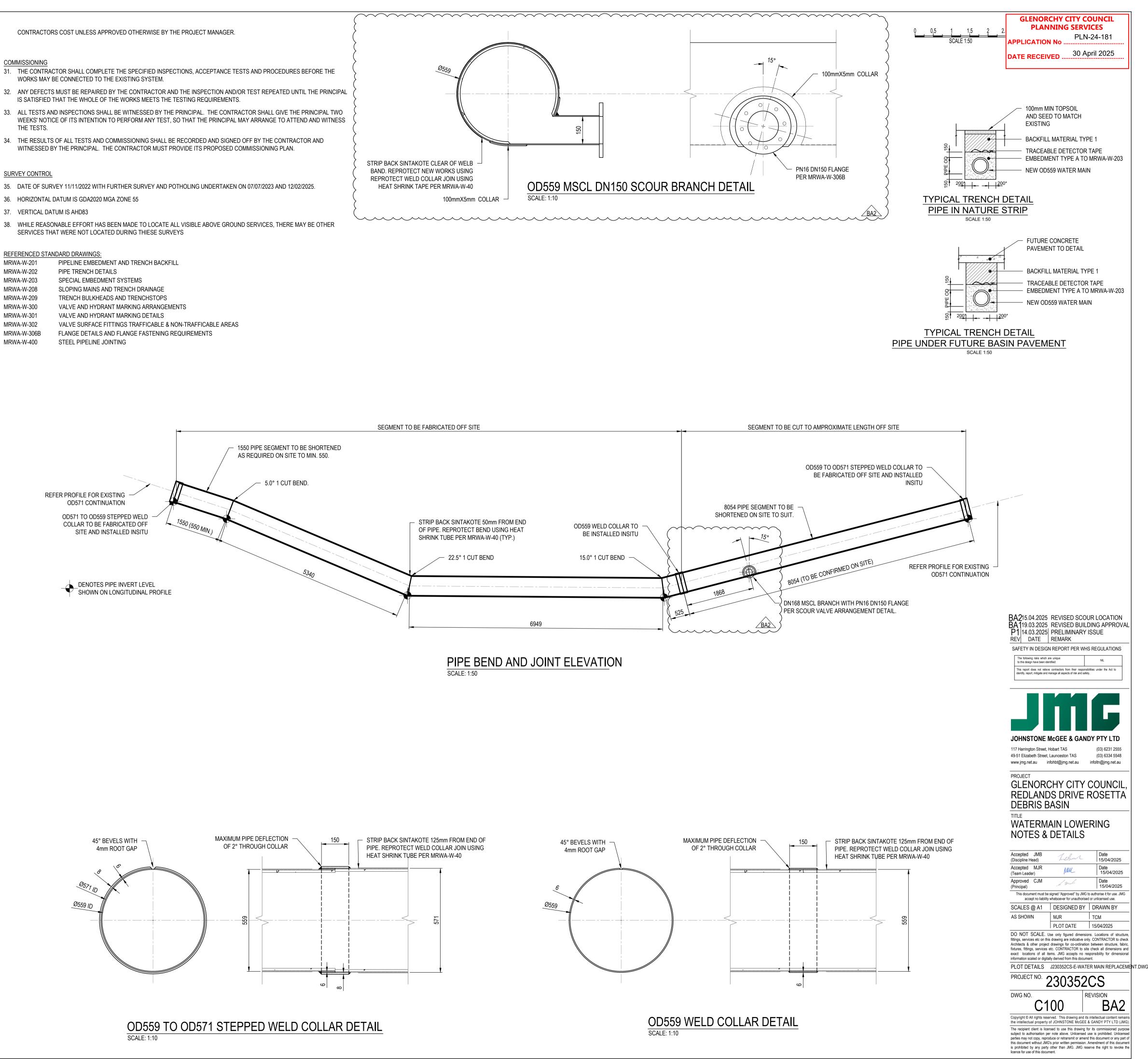
SURVEY CONTROL

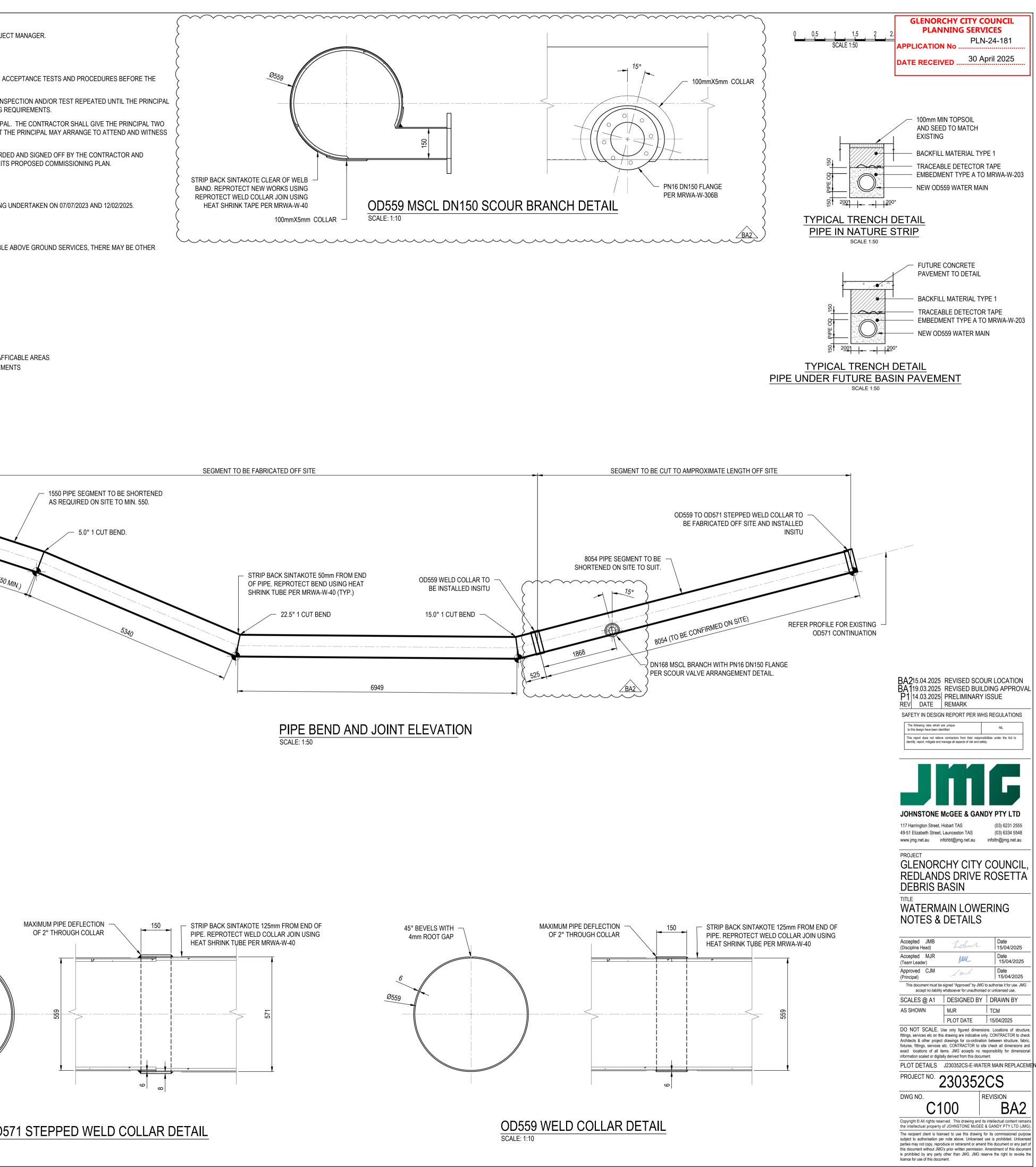
- 36. HORIZONTAL DATUM IS GDA2020 MGA ZONE 55
- 37. VERTICAL DATUM IS AHD83
- SERVICES THAT WERE NOT LOCATED DURING THIESE SURVEYS

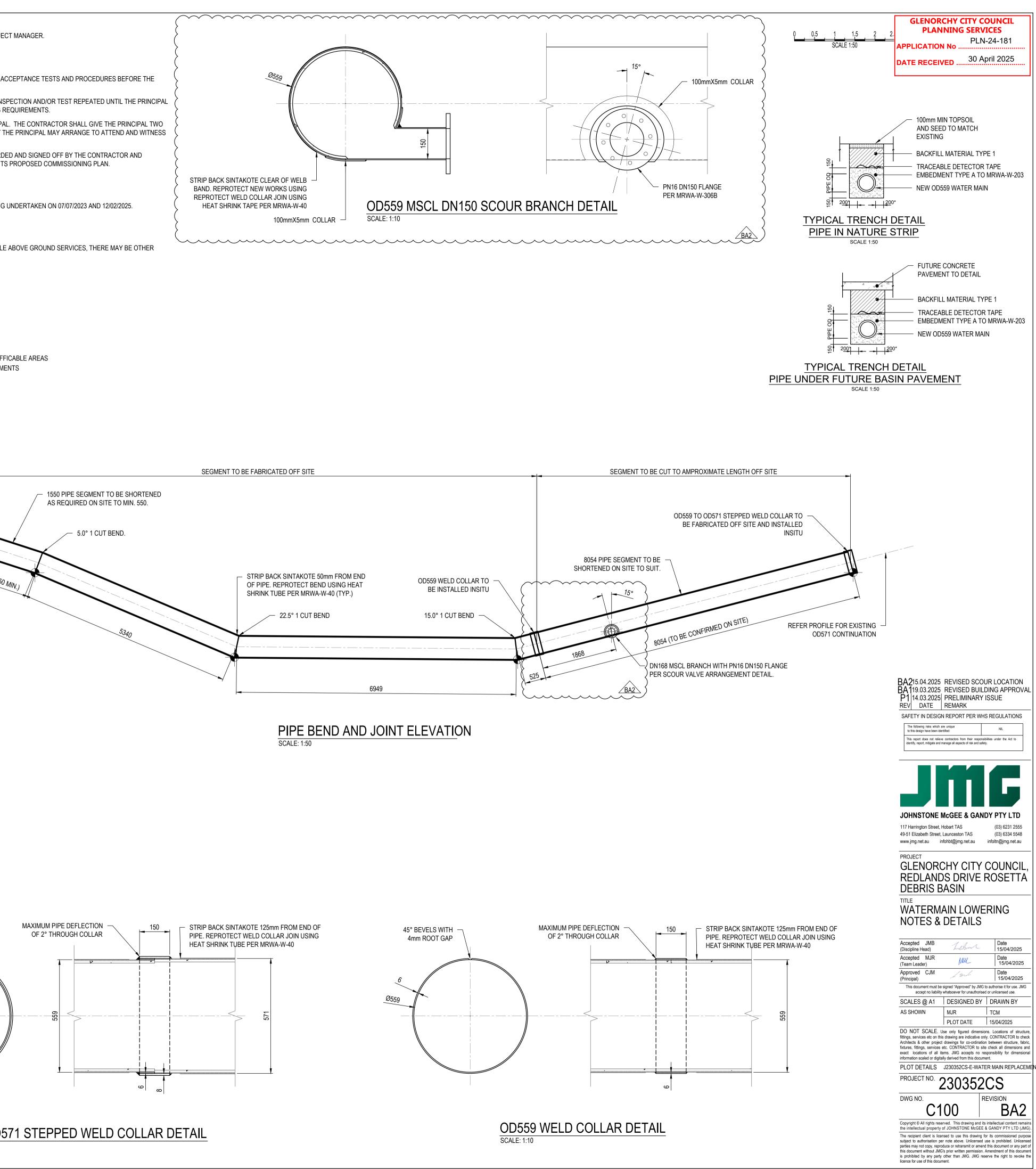
THE ENCENTOED ON	
MRWA-W-201	PIPELINE EMBEDMENT AND TRENCH BACKFILL
MRWA-W-202	PIPE TRENCH DETAILS
MRWA-W-203	SPECIAL EMBEDMENT SYSTEMS
MRWA-W-208	SLOPING MAINS AND TRENCH DRAINAGE
MRWA-W-209	TRENCH BULKHEADS AND TRENCHSTOPS
MRWA-W-300	VALVE AND HYDRANT MARKING ARRANGEMENTS
MRWA-W-301	VALVE AND HYDRANT MARKING DETAILS
MRWA-W-302	VALVE SURFACE FITTINGS TRAFFICABLE & NON-TH
MRWA-W-306B	FLANGE DETAILS AND FLANGE FASTENING REQUIF
MRWA-W-400	STEEL PIPELINE JOINTING

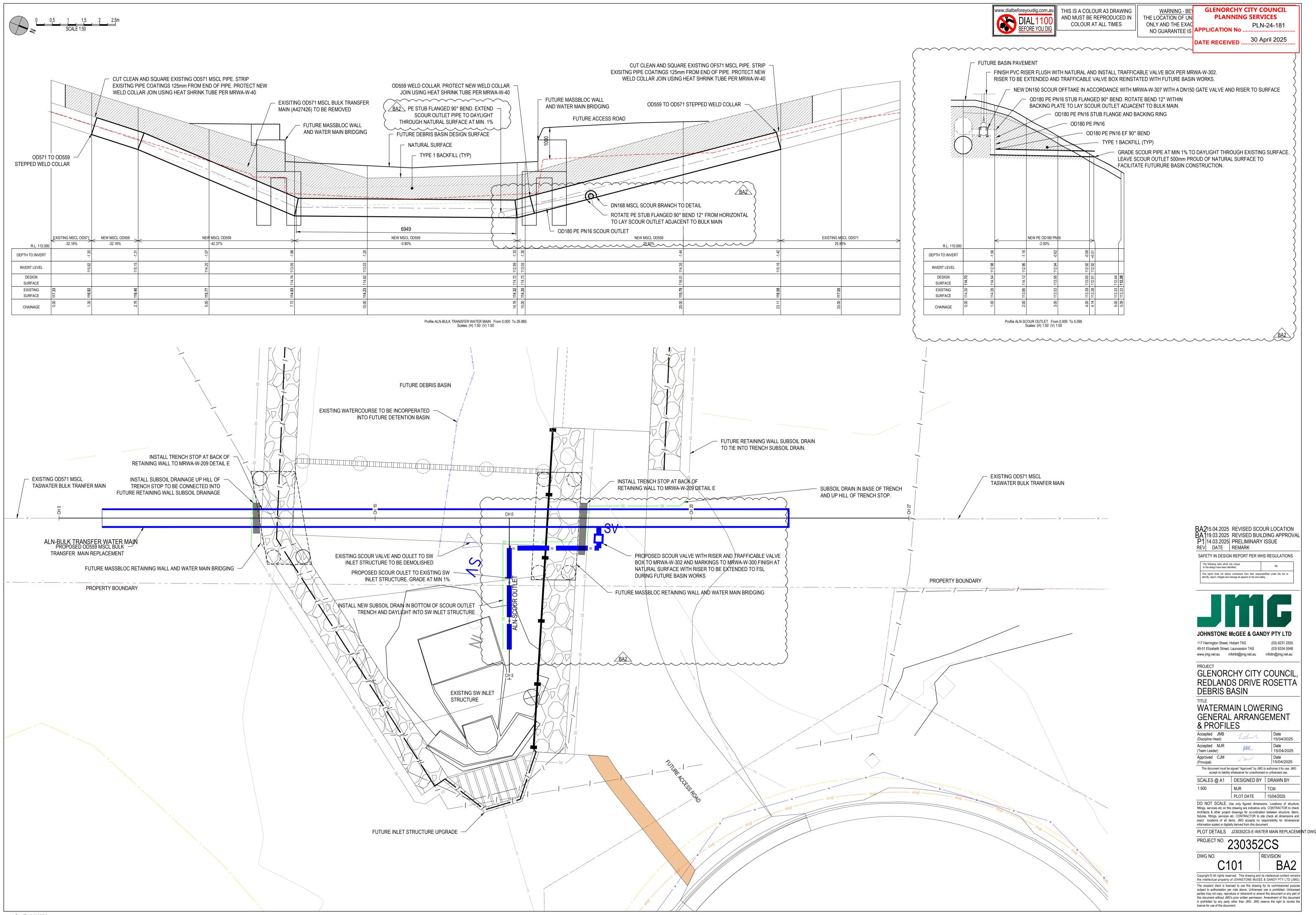


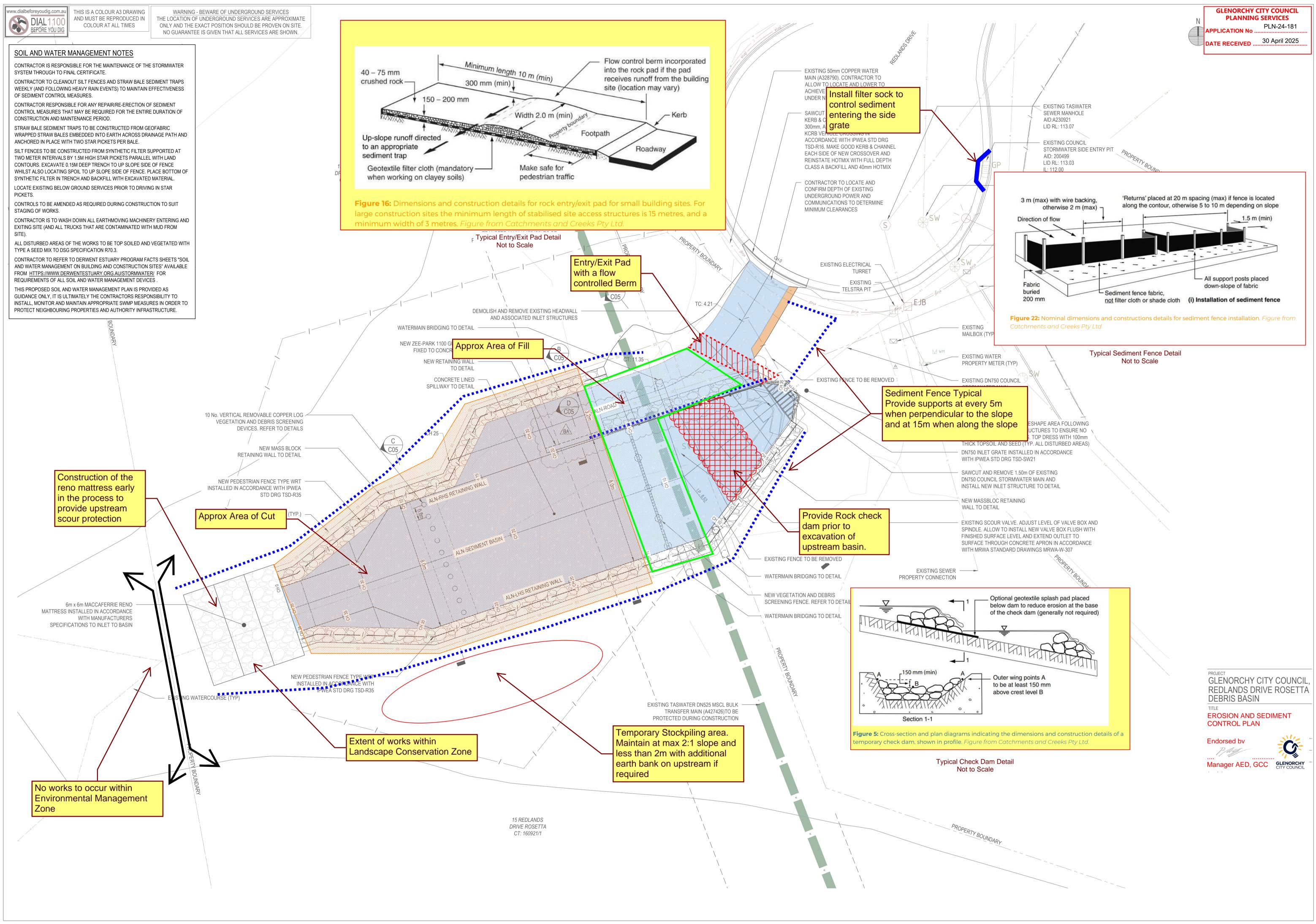


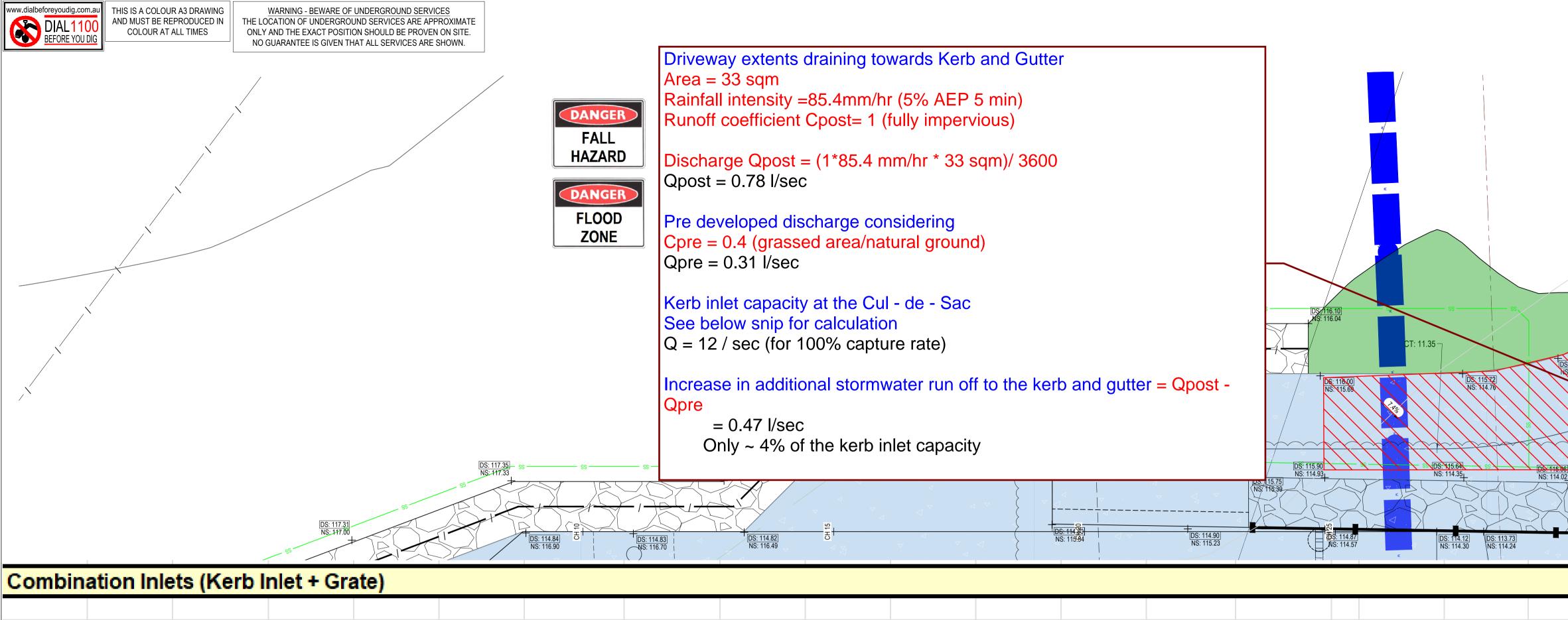












Section 4.4	4.4.4 of HEC	C 22 states t	hat the cap	acity of a c	ombination	inlet should b	be the capaci	ty of the gra	ate plus the	capacity of	f the				_				
portion of t	he kerb inle	t that is upst	tream of the	e grate. The	e portion of t	the kerb inlet	adjacent to t	he grate is	ignored.					Gutter	<				
It is assumed that the grate is located at the low					f the longer	kerb inlet.								Vildui	1				
												Roa	d Crossfall			Face Slope			
1. Inputs -	. Inputs - Enter appropriate values in the yellow cells and press the 'Calculate' button.										grees)								
Upstream	Road Prof	ile Characte	eristics		Inlet Char	acteristics													
Road Cros	sfall or Side	Slope (%)	3		Total Kerb	Inlet Length	(m)	0	Set this to z	ero for a grat	e alone								
Gutter Cros	ssfall (%)		8		Gutter Cro	ssfall at the l	nlet (%)	16						Gutter Cross	fall at Inlet				
	al Grade (%	•	1		Grate Leng	,th (m)		0.9	Set this to z	ero for a kert	b inlet alone								
		point to edge)			Grate Widt				Set this to z	ero for a kert	b inlet alone								
Half Road	Width (incl.	Gutter) (m)	6.5		Grate Type	e (1 to 7) - Sec	t. 4.4.3, HEC22	7	(see 'Grate	Types' sheet)				Edge	of Road				
Gutter Dep	oth (Kerb He	ight) (m)	0.15						1 - Reticuline	e 5-C	urved Vane								
Gutter Fac	e Slope (de	grees)	80	0° - flat, 90°	° - vertical		Calculate		2 - 30°-85 Tilt Bar 6 - P-3		-30								
Manning's	n of Street		0.014				calculate		3 - P-50x100	50x100 7 - P-50						/and			
Manning's	n of Gutter		0.012						4 - 45°-85 Ti	ilt Bar									
Flow Adjus	stment Fact	or	1	1.0 in HEC 2	2; in Australia	n practice 0.8 f	or vertical gutte	r face, 0.9 fo	r sloping face.	(See comme	nt to right.)								
2. Capture	ed flowrate	s are given	in the foll	owing tabl	le for the fl	owrates ent	ered in the f	first colum	n.							apacity Relation			
																copied and			
		acteristics		let Results			Grate Resu							Total	transfe	rred to DRAINS			
Approach		Flow	Required		Flow			Velocity	Frontal	Captured		Captured	Flow	Total Flow					
Flowrate	Depth	Width	Length	Efficiency	Captured	Remaining	Flow	Difference	Flow	Frontal	Side	Flow	Captured	Captured	Approach	Total Flow			
(m ³ /s)	(m)	(m)	(m)	Ratio	by Kerb	Flowrate	Velocity	(m/s)	Ratio	Flow Ratio	Flow Ratio	Ratio	by Grate	(m³/s)	Flowrate	Captured			
					Inlet	(m ³ /s)	(m/s)					(m³/s)	(m ³ /s)		(m ³ /s)	(m ³ /s)			
					(m ³ /s)														
0	These valu	es are fixed.												0.000000	0.000	0.000			
0.001	100% capt	ture is assur	ned for a lo	w flowrate (1 L/s) to ave	oid possible s	stability proble	ems in DRA	AINS.					0.001000	0.001	0.001			
0.002	0.024473	0.3102333	0	0	0	0.002	0.5268375	0	1	1	0.474022	1	0.002	0.002000	0.002	0.002			
0.004	0.031738	0.4023228	0	0	0	0.004	0.6265188	0	1	1	0.397493	1	0.004	0.004000	0.004	0.004			
0.006	0.03695	0.4880173	0	0	0	0.006	0.6926109	0	0.999751	1	0.355158	0.999839	0.005999	0.005999	0.006	0.006			
0.008	0.041086	0.6258784	0	0	0	0.008	0.7295067	0	0.988889	1	0.334063	0.992601	0.0079408	0.007941	0.008	800.0			
0.01	0.044501	0.739702	0	0	0	0.01	0.7520015	0	0.966498	1	0.322014	0.977286	0.0097729	0.009773	0.010	0.010			
																••••••••••••••••••••••••••••••••••••••			

						inlet should b			•	capacity of	fthe							
portion of t	he kerb inle	t that is upst	ream of the	e grate. The	e portion of t	the kerb inlet	adjacent to t	he grate is	ignored.					→ Gutter Width				
It is assum	ned that the	grate is loca	ted at the l	ower end of	the longer	kerb inlet.								Vilda	1			
												Roa	d Crossfall			Face Slope		
1. Inputs -	Enter app	ropriate val	ues in the	yellow cel	Is and pres	ss the 'Calcu	late' button	•					C	Sutter Crossfall	(de	grees)		
												_						
•		ile Characte	eristics			acteristics									\mathcal{L}			
		Slope (%)	3			Inlet Length (0	Set this to z	ero for a grat	e alone							
Gutter Cro			8		Gutter Cro	ssfall at the Ir	ilet (%)	16					Gutter Crossfall at Inlet					
	al Grade (%		1		Grate Leng	,th (m)		0.9	Set this to a	zero for a kert	o inlet alone							
		point to edge)	0.45		Grate Widt				Set this to a	zero for a kert	o inlet alone							
	•	Gutter) (m)	<u>6.5</u>		Grate Type	e (1 to 7) - Sec	t. 4.4.3, HEC22	7	(see 'Grate	Types' sheet)				Edge	e of Road			
Gutter Dep	oth (Kerb He	ight) (m)	0.15						1 - Reticulin	e 5 - Ci	urved Vane							
Gutter Fac	e Slope (de	grees)	80	0° - flat, 90°	- vertical				2 - 30°-85 T	ilt Bar 6 - P-	-30							
Manning's	n of Street		0.014				Calculate		3 - P-50x10	0 7 - P	-50					And the second s		
Manning's	n of Gutter		0.012						4 - 45°-85 T	ilt Bar								
Flow Adjus	stment Fact	or	1	1.0 in HEC 2	2; in Australia	n practice 0.8 fo	or vertical gutter	r face, 0.9 for	sloping face	. (See comme	nt to right.)							
2. Capture	ed flowrate	s are given	in the foll	owing tabl	e for the fl	owrates ente	ered in the f	first colum	n.						3. Inlet Ca	apacity Relation		
															can be	copied and		
	Flow Char	acteristics	Kerb In	let Results			Grate Resu	lts						Total	transfe	rred to DRAINS		
Approach	Flow	Flow	Required		Flow			Velocity	Frontal	Captured	Captured	Captured	Flow	Total Flow				
Flowrate	Depth	Width	Length	Efficiency	Captured	Remaining	Flow	Difference	Flow	Frontal	Side	Flow	Captured	Captured	Approach	Total Flow		
(m ³ /s)	(m)	(m)	(m)	Ratio	by Kerb	Flowrate	Velocity	(m/s)	Ratio	Flow Ratio	Flow Ratio	Ratio	by Grate	(m ³ /s)	Flowrate	Captured		
					Inlet	(m ³ /s)	(m/s)					(m ³ /s)	(m ³ /s)		(m ³ /s)	(m ³ /s)		
					(m ³ /s)													
0	These valu	es are fixed.			(0.000000	0.000	0.000		
0.001				w flowrate (1 L/s) to ave	oid possible s	tability proble	ems in DRA	NNS.					0.001000	0.001	0.001		
0.002		0.3102333		Ò	Ú 0		0.5268375		1	1	0.474022	1	0.002		0.002	0.002		
0.004		0.4023228		0	0	0.004			1	1	0.397493		0.004		0.004	0.004		
0.006	0.03695			0	0	0.006			0.999751	1	0.355158				0.006	0.006		
0.008	0.041086			0	0	0.008			0.988889		0.334063		0.0079408		0.008	0.008		
0.01	0.044501	0.739702		0	0	0.01			0.966498		0.322014		0.0097729		0.010	0.010		
0.012	0.047422	0.8370682	0	0	0	0.012			0.939821		0.313195				0.012	0.012		
0.014		0.9227291	0	0	0		0.7837914		0.912507		0.305964		0.0131499		0.014	0.013		
0.016		0.9996134	0	0	0		0.7968578		0.886104					0.014724	0.016	0.015		
cument Set ID: 3483528														-	5			

