# ROADSIDE DRAINAGE REMEDIATION

# NOBBS STREET, MOURA BANANA SHIRE COUNCIL

	SHEET LIST				
DRAWING NO	DESCRIPTION	REVISION			
R0122324-001	TITLE SHEET	1			
R0122324-002	EXISTING LAYOUT PLAN	1			
R0122324-002	CIVIL NOTES - SHEET 1	1			
R0122324-002	CIVIL NOTES - SHEET 2	1			
R0122324-003	SAFETY IN DESIGN	1			
R0122324-011	TYPICAL SECTIONS AND DETAILS	1			
R0122324-012	PROPOSED LAYOUT PLAN	1			
R0122324-013	EARTHWORKS VOLUMES PLAN	1			
R0122324-014	EROSION AND SEDIMENT CONTROL	1			
R0122324-021	CATCHMENT PLAN	1			
R0122324-022	REINFORCED CONCRETE BOX CULVERT DETAILS	1			
R0122324-023	DRAINAGE CHANNEL CAPPING SLAB DETAILS	1			
R0122324-031	LONG SECTION - SHEET 1	1			
R0122324-032	LONG SECTION - SHEET 2	1			
R0122324-033	LONG SECTION - SHEET 3	1			
R0122324-041	CROSS SECTION - SHEET 1	1			
R0122324-042	CROSS SECTION - SHEET 2	1			
R0122324-043	CROSS SECTION - SHEET 3	1			
R0122324-044	CROSS SECTION - SHEET 4	1			
R0122324-045	CROSS SECTION - SHEET 5	1			
R0122324-046	CROSS SECTION - SHEET 6	1			
R0122324-047	CROSS SECTION - SHEET 7	1			

### **GENERAL NOTES**

- 1. ALL DRAWINGS ARE REDUCED TO A3 SHEET SIZE FOR PLOTTING PURPOSES FROM A1 SHEET SIZE ELECTRONIC CAD DRAWING FILES.
- 2. REFERENCE TO THE THE FOLLOWING AUSTRALIAN STANDARDS. (AS 1100.101 -GENERAL PRINCIPALS AND AS 1100.401 - ENGINEERING AND SURVEYING)
- 3. DO NOT SCALE FROM DRAWINGS, IF IN DOUBT OBTAIN DIMENSIONS FROM THE ELECTRONIC DRAWING FILE. ALL DRAWINGS SHALL BE CONSTRUCTED AS DIMENSIONED. UNDER NO CIRCUMSTANCES IS A DRAWING TO BE SCALED FROM FOR CONSTRUCTION PURPOSES.
- 4. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL ASSOCIATED RELEVANT DRAWINGS IN THE PLAN SET AND SPECIFICATIONS.
- 5. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE.
- THE LOCATION OF SERVICES ARE INDICATIVE ONLY.
- 7. HORIZONTAL DATUM IS GDA2020 AND ALL LEVELS ARE AHD.
- 8. CONTOURS PROVIDED ARE FROM DTM WITH VERTICAL ACCURACY 100mm NOMINAL.

# **SURVEYOR**

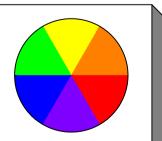
**VISION SURVEYS** 

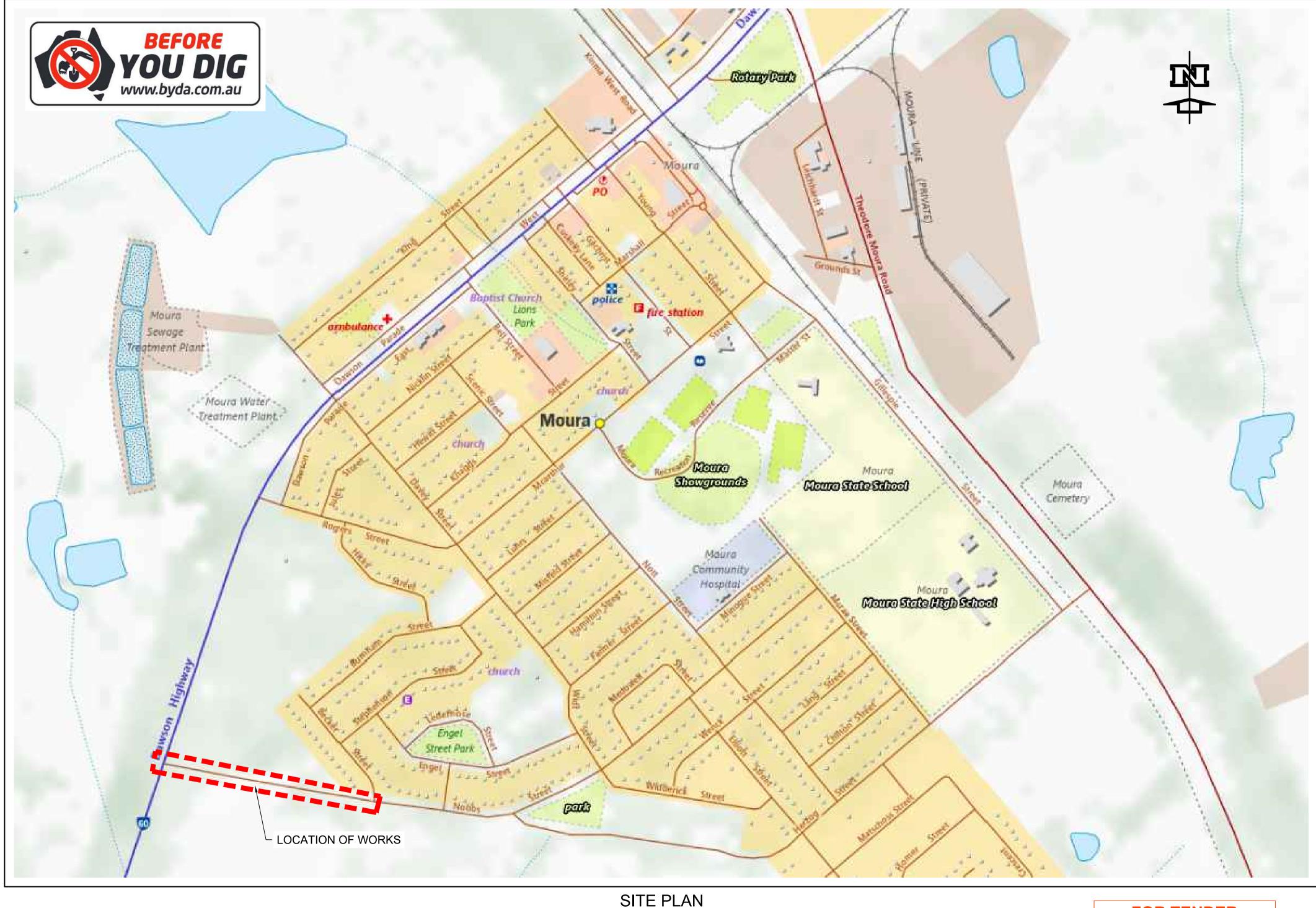
## **BENCHMARK**

PSM 129158 RL. 111.76 E: 800155.872 N: 7278135.866

Revision

STN 1 RL. 113.936 E: 800271.688 N: 7278339.112 THIS PLAN SET USES COLOUR FOR GREATER CLARITY. BLACK AND WHITE DRAWINGS MAY BE UNSUITABLE AND CAUSE ERRORS. USE COLOURED DRAWINGS ONLY.





SITE PLAN SCALE 1:1000(A1) 1:2000(A3)

**FOR TENDER** 

Notes: ISSUED FOR TENDER 20/03/2025 SERVICES NOTE UPDATED DRAWING SET 10/03/2025 IT IS THE RESPONSIBILITY OF THE CHANGE TO DRAIN TO AVOID SERVICE CONFLICT 2/12/2024 CONTRACTOR TO LOCATE ALL D | FINAL REVIEW 4/09/2024 SERVICES PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION ISSUED FOR INFORMATION 6/12/2023

Date

a/MIW - Banana Shire Council MTS - Banana Shire Council Designed: TAH TAH

DIS Review - Banana Shire Council

Certified:

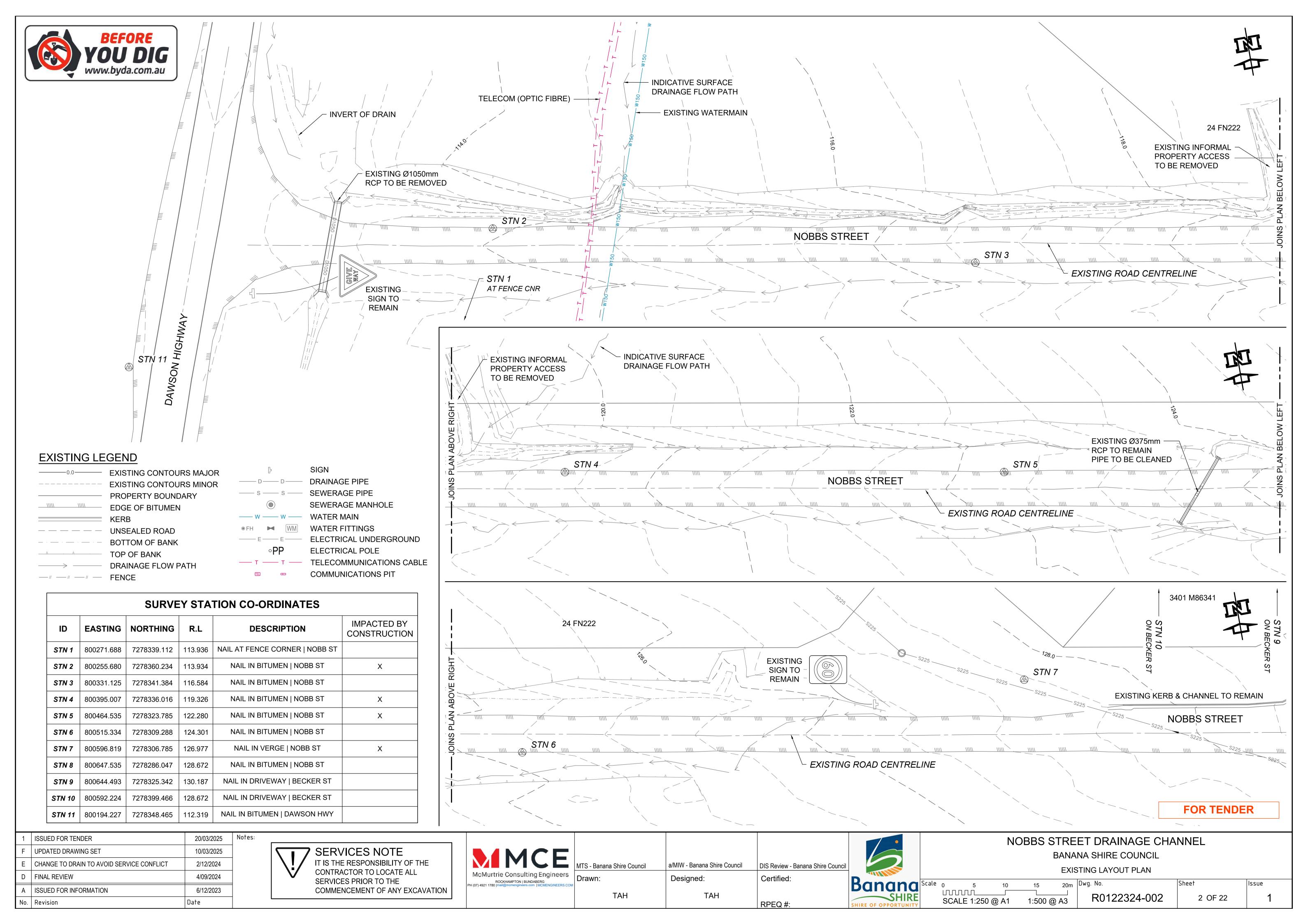
RPEQ#:



NOBBS STREET DRAINAGE CHANNEL BANANA SHIRE COUNCIL TITLE SHEET

R0122324-001

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# CIVIL INFRASTRUCTURE NOTES

#### **GENERAL NOTES**

- ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE BANANA SHIRE COUNCIL AND (CMDG) SPECIFICATIONS AND DRAWINGS. UNLESS STATED OTHERWISE.
- ALTHOUGH THE PRESENT AND/OR PROPOSED POSITIONS OF PUBLIC UTILITIES, FITTINGS, MANHOLES, POLES, ETC MAY BE INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING SERVICES WITH THE RELEVANT AUTHORITIES BEFORE COMMENCEMENT OF ANY WORK. ANY COST ASSOCIATED WITH REPAIRING DAMAGE TO EXISTING SERVICES SHALL BE PAID FOR BY THE CONTRACTOR
- NOTWITHSTANDING THE LIMITS OF CUT AND FILL SHOWN ON THE DRAWINGS, THE ACTUAL LIMITS SHALL BE DETERMINED ON SITE BY COUNCILS REPRESENTATIVE.
- ALL NEW WORK SHALL BE JOINED NEATLY TO EXISTING AND THE LEVELS FOR CONNECTION TO EXISTING WORKS MAY BE VARIED WHERE NECESSARY ON SITE BY COUNCILS REPRESENTATIVE TO ACHIEVE A SATISFACTORY SMOOTH FINISH TO THE EXISTING WORKS. JOINS TO EXISTING AC SURFACING SHALL BE SAW CUT TO THE SATISFACTION OF COUNCILS REPRESENTATIVE.
- THE PAVEMENT THICKNESS SHOWN ON THE DRAWINGS MAY BE VARIED BY DIRECTION, IN WRITING, OF COUNCILS REPRESENTATIVE AFTER THE EXAMINATION AND/OR TESTING OF THE ROAD SUBGRADE. THE CONTRACTOR SHALL IN ALL CASES CONFIRM THE PAVEMENT THICKNESS BEFORE PROCEEDING WITH THE FINAL PREPARATION OF THE ROAD SUBGRADE.
- A TELSTRA REPRESENTATIVE MUST BE PRESENT WHEN EXCAVATING NEAR TO TELSTRA CABLES.
- LAYOUT AND LEVELS PLAN MUST BE READ IN CONJUNCTION WITH LONGITUDINAL SECTIONS, CROSS SECTIONS AND DETAILS.
- ROAD CONTOURS ARE AT 0.1m INTERVALS UNLESS STATED OTHERWISE
- CLEARING AND GRUBBING SHALL BE AS DEFINED IN THE SPECIFICATIONS. ALL DEBRIS SHALL BE REMOVED FROM THE SITE (WHICH INCLUDES THE ROAD RESERVE AND ALLOTMENTS), BURNING OF WASTE MATERIAL AND DEBRIS IS PROHIBITED. WITHOUT APPROVAL FROM THE FIRE WARDEN AND BANANA SHIRE COUNCIL
- 10. STOCKPILING OF REUSABLE MATERIAL SHALL BE AT A LOCATION APPROVED BY COUNCILS REPRESENTATIVE ON SITE, AND SHALL BE WATERED DOWN TO ENSURE THAT DUST IS KEPT TO A MINIMUM.
- 11. TOPSOIL IS TO BE STRIPPED TO A DEPTH OF NOT LESS THAN 75mm AND STOCKPILED FOR LATER RE-SPREADING ON FOOTPATHS AND BATTERS AS DIRECTED BY COUNCILS REPRESENTATIVE. TOPSOIL TO BE RE-SPREAD TO MINIMUM DEPTH OF 50mm OR AS DIRECTED BY COUNCILS REPRESENTATIVE.
- 12. ALL SIGNAGE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- 13. ALL SIGNS TO BE MIN CLASS 1 RETRO-REFLECTIVE MATERIAL

#### **EROSION & SEDIMENT CONTROL**

- THE CONTRACTOR SHALL ENSURE THAT EFFECTIVE EROSION AND SEDIMENTATION CONTROL IS PROVIDED AT ALL TIMES.
- 2. RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS. DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES REQUIRED FOR THIS PURPOSE
- 3. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES. WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED EROSION AND SEDIMENTATION CONTROL STRATEGY.
- RUNOFF FROM AREAS EXPOSED DURING THE WORK SHALL BE CONTROLLED BY CONSTRUCTION OF TEMPORARY CONTOUR DRAINS AND/OR TEMPORARY DIVERSION DRAINS. GENERALLY, A TEMPORARY CONTOUR DRAIN OR TEMPORARY DIVERSION DRAIN TAKES THE FORM OF A CHANNEL CONSTRUCTED ACROSS A SLOPE WITH A RIDGE ON ITS LOWER SIDE. THEY MAY REQUIRE PROGRESSIVE IMPLEMENTATION AND FREQUENT ALTERATION AS THE WORK PROGRESSES.
- CONTOUR DRAINS. WHICH FOLLOW POINTS ON THE NATURAL SURFACE OF APPROXIMATELY THE SAME ELEVATION. SHALL BE PROVIDED IMMEDIATELY AFTER A CONSTRUCTION SITE IS CLEARED TO INTERCEPT AND DIVERT RUNOFF FROM THE SITE TO NEARBY STABLE AREAS AT NON-EROSIVE VELOCITIES. CONTOUR DRAINS SHALL BE FORMED WITH A GRADE OF NEITHER LESS THAN 1 PER CENT NOR MORE THAN 1.5 PER CENT AND SHALL BE SPACED AT INTERVALS OF NEITHER LESS THAN 20m NOR MORE THAN 50m, DEPENDING ON THE ERODIBILITY OF THE EXPOSED SOIL.
- DIVERSION DRAINS SHALL BE PROVIDED ACROSS HAUL ROADS AND ACCESS TRACKS WHEN SUCH ROADS AND ACCESS TRACKS ARE IDENTIFIED AS CONSTITUTING AN EROSION HAZARD DUE TO THEIR STEEPNESS. SOIL ERODIBILITY OR POTENTIAL FOR CONCENTRATING RUNOFF FLOW. DIVERSION DRAINS SHALL BE FORMED TO INTERCEPT AND DIVERT RUNOFF FROM THE ROAD OR TRACK TO STABLE OUTLETS. SPACING OF DIVERSION DRAINS SHALL NOT BE GREATER THAN THAT REQUIRED TO MAINTAIN RUNOFF AT NON-EROSIVE VELOCITIES.
- TEMPORARY SEDIMENT-TRAPPING DEVICES SHALL BE PROVIDED DURING CONSTRUCTION TO REMOVE SEDIMENT FROM SEDIMENT-LADEN RUNOFF FLOWING FROM AREAS OF 0.5 HECTARES OR MORE BEFORE THE RUNOFF ENTERS NATURAL WATERCOURSES OR ADJACENT LAND.
- 8. THE CONTRACTOR SHALL TAKE ALL NECESSARY ACTION TO PROTECT BATTERS FROM EROSION.
- SCOUR OF NEWLY-FORMED FILL BATTERS DURING AND AFTER EMBANKMENT CONSTRUCTION SHALL BE MINIMISED BY DIVERTING RUNOFF FROM THE FORMATION AWAY FROM THE BATTER UNTIL VEGETATION IS ESTABLISHED.
- 10. THE CONTRACTOR SHALL INSPECT ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL WORKS AFTER EACH RAIN PERIOD AND DURING PERIODS OF PROLONGED RAINFALL. ANY DEFECTS REVEALED BY SUCH INSPECTIONS SHALL BE RECTIFIED IMMEDIATELY AND THESE WORKS SHALL BE CLEANED, REPAIRED AND AUGMENTED AS REQUIRED, TO ENSURE EFFECTIVE EROSION AND SEDIMENTATION CONTROL THEREAFTER.
- 11. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ACCESS FOR CLEANING OUT SEDIMENTATION CONTROL WORKS.
- 12. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL WORKS SHALL BE REMOVED BY THE CONTRACTOR WHEN REVEGETATION IS ESTABLISHED ON FORMERLY EXPOSED AREAS BEFORE THE END OF THE CONTRACT. ALL MATERIALS USED FOR THE TEMPORARY EROSION AND SEDIMENTATION CONTROL WORKS SHALL BE REMOVED FROM THE SITE OR OTHERWISE LEGALLY DISPOSED BY THE CONTRACTOR.

#### **BULK EARTHWORKS**

- IN AREAS LISTED BELOW, ALL LAYERS SHALL BE UNIFORMLY COMPACTED TO NOT LESS THAN THE RELATIVE COMPACTION SPECIFIED BEFORE THE NEXT LAYER IS COMMENCED. EACH LAYER OF MATERIAL SHALL BE TRIMMED PRIOR TO AND DURING COMPACTION TO AVOID BRIDGING OVER LOW AREAS. A SMOOTH SURFACE SHALL BE PRESENTED AT THE TOP OF EACH LAYER.
- THE FOLLOWING AREAS SHALL BE COMPACTED TO PROVIDE A RELATIVE COMPACTION, DETERMINED BY AS 1289.5.7.1 FOR STANDARD COMPACTION EFFORT. OF NOT LESS THAN 95 PER CENT.
- EACH LAYER OF MATERIAL REPLACING UNSUITABLE MATERIAL
- EACH LAYER OF MATERIAL PLACED IN EMBANKMENTS. UP TO 0.3 METRES FROM THE TOP OF THE SUBGRADE.
- THE WHOLE AREA ON THE FLOORS OF CUTTINGS.
- FILL PLACED ADJACENT TO STRUCTURES UP TO 1.0 METRE FROM THE TOP OF PAVEMENT.
- MATERIAL IN UNSEALED VERGES AND WITHIN MEDIANS UP TO THE LEVEL AT WHICH TOPSOIL IS PLACED.
- SPOIL (EXCLUDING UNSUITABLE MATERIAL)
- ALL OTHER AREAS EXCEPT THOSE WHERE 97 PER CENT RELATIVE COMPACTION IS SPECIFIED.
- UNSUITABLE MATERIAL SHALL BE STOCKPILED AS DIRECTED BY COUNCILS REPRESENTATIVE.
- THE FOLLOWING AREAS SHALL BE COMPACTED TO PROVIDE A RELATIVE COMPACTION OF NOT LESS THAN 98 PER CENT AS DETERMINED BY AS 1289.5.7.1 FOR STANDARD COMPACTION EFFORT:
- FOUNDATIONS FOR SHALLOW EMBANKMENTS.
- FOUNDATIONS OTHER THAN SHALLOW EMBANKMENTS.
- EACH LAYER OF THE EMBANKMENT WITHIN 0.3 METRES FROM THE TOP OF THE SUBGRADE.
- EACH LAYER OF THE SELECTED MATERIAL ZONE
- ANY AREAS OF MATERIAL OF SPECIFIED QUALITY WHICH MAY BE SHOWN ON THE DRAWINGS OR SPECIFIED FI SFWHERE BEHIND KERBS AND/OR GUTTERS OR ADJACENT TO RIGID PAVEMENTS
- THE FILL MATERIAL PLACED ADJACENT TO STRUCTURES WITHIN 1.0 METRE FROM THE TOP OF THE PAVEMENT. UNLESS OTHERWISE STATED.
- AT THE TIME OF COMPACTION THE MOISTURE CONTENT OF THE MATERIAL SHALL BE ADJUSTED SO AS TO PERMIT THE SPECIFIED COMPACTION TO BE ATTAINED AT A MOISTURE CONTENT OF NOT LESS THAN 80% OR MORE THAN 100% OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY AS 1289.5.1.1 OR AS 1289.5.7.1. MATERIAL WHICH BECOMES WETTED UP AFTER PLACEMENT SHALL NOT BE COMPACTED UNTIL IT HAS DRIED OUT SO THAT THE MOISTURE CONTENT IS WITHIN THIS RANGE. THE DRYING PROCESS MAY BE ASSISTED BY AERATION. IF THERE IS INSUFFICIENT MOISTURE IN THE MATERIAL FOR IT TO BE COMPACTED AS SPECIFIED. WATER SHALL BE ADDED. THE ADDED WATER SHALL BE APPLIED UNIFORMLY AND THOROUGHLY MIXED WITH THE MATERIAL UNTIL A HOMOGENEOUS MIXTURE IS OBTAINED.
- 6. COMPACTION SHALL BE UNDERTAKEN TO OBTAIN THE SPECIFIED RELATIVE COMPACTION FOR THE FULL DEPTH OF EACH LAYER IN EMBANKMENTS AND FOR THE FULL WIDTH OF THE FORMATION OVER THE ENTIRE LENGTH OF THE WORK. COMPACTION SHALL BE COMPLETED PROMPTLY TO MINIMISE THE POSSIBILITY OF RAIN DAMAGE.
- 7. ANY MATERIAL PLACED BY THE CONTRACTOR THAT HAS ATTAINED THE SPECIFIED RELATIVE COMPACTION BUT SUBSEQUENTLY BECOMES WETTED UP SO THAT THE MOISTURE CONTENT IS GREATER THAN THE APPARENT OPTIMUM, DETERMINED BY AS 1289.5.7.1, SHALL BE DRIED OUT AND UNIFORMLY RE-COMPACTED TO THE REQUIRED RELATIVE COMPACTION IN ACCORDANCE WITH THIS CLAUSE BEFORE THE NEXT LAYER OF MATERIAL IS PLACED. ALTERNATIVELY. THE CONTRACTOR MAY REMOVE THE LAYER OF WETTED MATERIAL TO A STOCKPILE SITE FOR DRYING AND LATER RE-USE.
- 8. FOLLOWING COMPLETION OF COMPACTION AND TRIMMING. THE ENTIRE SUBGRADE AREA SHALL BE INSPECTED BY PROOF ROLLING WITH A FULLY LOADED SINGLE REAR AXLE TRUCK (OR ACCEPTABLE EQUIVALENT) ACCEPTABLE PROOF ROLLING SHALL BE TAKEN TO BE NO VISIBLE SIGNS OF DEFORMATION OR INSTABILITY IN THE SUBGRADE.
- THE SPECIFIED COMPACTION AND MOISTURE TESTS SHALL BE TAKEN AT THE RANDOM TESTLOCATIONS ESTABLISHED IN EACH LOT IN ACCORDANCE WITH THE SPECIFIED MINIMUM TESTING FREQUENCY. PRIOR TO TESTING THE CONTRACTOR SHALL WORK THE LOT TO ENSURE UNIFORM MOISTURE CONTENT AND COMPACTION OF ALL MATERIAL WITHIN THE LOT.
- 10. THE TEST/S THEN TAKEN SHALL BE CONSIDERED TO REPRESENT THE TOTAL VOLUME OF MATERIAL PLACED WITHIN THE LOT
- 11. LIMITS AND TOLERANCES: THE LIMITS AND TOLERANCES APPLICABLE TO THE VARIOUS CLAUSES IN THE SPECIFICATION ARE SUMMARISED BELOW:
  - BATTER SLOPES
  - A) EXCAVATION ± 300mm
  - B) EMBANKMENT ± 300mm
  - FLOORS
  - A) FLOOR OF CUTTING: PARALLEL TO THE DESIGNED GRADE LINE AND  $\pm$  50mmOF THE DESIGNED FLOOR LEVEL
  - TOPS OF EMBANKMENTS
  - A) TRIMMING TOPS OF EMBANKMENTS: PARALLEL TO THE DESIGNED GRADE LINE, +10mmOR -40mm OF THE LEVELS SPECIFIED

### **PAVEMENT**

- CONTROL TESTING OF EARTHWORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH A.S.3798.
- FILL SHALL BE PLACED AND COMPACTED TO THE FOLLOWING STANDARDS:
- COHESIVE MATERIALS: ALLOTMENT FILL SHALL ACHIEVE A MINIMUM DRY DENSITY RATIO (M.D.D.R) OF 95% STANDARD.
- ROAD EMBANKMENTS SHALL ACHIEVE THE FOLLOWING MINIMUM STANDARDS:
- GREATER THAN OR EQUAL TO 0.3mBELOW PAVEMENT SUBGRADE: 95% M.D.D.R STANDARD.
- LESS THAN 0.3m BELOW PAVEMENT SUBGRADE: 98% M.D.D.R STANDARD.
- NON COHESIVE MATERIAL: FILL SHALL ACHIEVE A MINIMUM DENSITY INDEX RATIO OF 80%. FIELD DENSITY TESTS SHALL BE UNDERTAKEN AT THE FOLLOWING MINIMUM FREQUENCIES
- (A) SUBGRADE FILL AND ROAD PAVEMENT: 1 TEST/200CU.M OR 1 TEST/200mm THICKNESS/1000SQ.METRES (WHICHEVER IS GREATER)
- ROAD PAVEMENTS SHALL BE PLACED AND COMPACTED TO ACHIEVE A MINIMUM DRY DENSITY RATIO (M.D.D.R) OF 100%
- EARTHWORKS GREATER THAN 0.4m DEPTH TO BE CONTROL FILL LEVEL 1 SUPERVISION IN ACCORDANCE WITH AS 3798. THE LIMITS AND TOLERANCES APPLICABLE TO THE VARIOUS CLAUSES IN THIS SPECIFICATION ARE SUMMARISED AS BELOW
  - (A). STOCKPILE SITES.
    - RELATIVE COMPACTION >95% STOCKPILE HEIGHT < 3m
    - STOCKPILE BATTER <1.5:1 AND >3:1
  - (B). SPREADING PAVEMENT MATERIALS.
  - COMPACTED LAYER THICKNESS ≥100mm, ≤200mm
  - (C). COMPACTION ACCEPTANCE

  - MINIMUM VALUE OF ALL CALCULATED RELATIVE COMPACTION RESULTS ≥100 PER CENT (STANDARD COMPACTION

#### EFFORT)

**DRAWINGS** 

OR

(D). WIDTH OF PAVEMENT

DESIGN CENTRE-LINE TO EDGE OF CONSTRUCTED PAVEMENT -50mm TO +300mm OF DIMENSIONS ON

AVERAGE WIDTH THE AVERAGE WIDTH DETERMINED FROM 3 RANDOM SITES OVER ANY 200m ROAD LENGTH.

PART THEREOF. SHALL BE NOT LESS THAN THE SPECIFIED WIDTH.

#### (E). SURFACE LEVEL

- SUBBASE LEVELS <±10mm FROM DESIGN LEVEL
- BASE LEVELS <±10mm FROM DESIGN LEVEL
- SHAPE DEVIATION FROM A 3m LONG STRAIGHTEDGE ON BASE SURFACE IMMEDIATELY PRIOR TO SEALING

SHALL BE LESS THAN 12mm

### DRAINAGE

1. ALL STORMWATER PIPE BEDDING SHALL BE IN ACCORDANCE WITH THIS SPECIFICATION, AS3725 AND AS3725 SUPPLEMENT 1 FOR THE PIPE SUPPORT TYPES AS SHOWN ON THE DRAWINGS. WHERE THE PIPE SUPPORT TYPE IS NOT SHOWN ON THE DRAWINGS, THE SUPPORT TYPE SHALL BE HS3 WITHIN ROAD RESERVES AND H2 ELSEWHERE

2. AVERAGE RECURRENCE INTERVAL (ARI) FOR DESIGN; OF PIPED SYSTEMS = 20 YEARS

> OF TABLE DRAINS = 10 YEARS FOR MAJOR FLOW DRAINAGE = 100 YEARS.

FOR TENDER

ISSUED FOR TENDER Notes: 20/03/2025 UPDATED DRAWING SET 10/03/2025 2/12/2024 CHANGE TO DRAIN TO AVOID SERVICE CONFLICT D | FINAL REVIEW 4/09/2024 6/12/2023 ISSUED FOR INFORMATION Date No. | Revision

ROCKHAMPTON I BUNDABERG

a/MIW - Banana Shire Council MTS - Banana Shire Council Designed:

TAH

TAH

DIS Review - Banana Shire Council Certified:

RPEQ#:



NOBBS STREET DRAINAGE CHANNEL BANANA SHIRE COUNCIL

**CIVIL NOTES - SHEET 1** 

R0122324-002

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# CIVIL INFRASTRUCTURE NOTES

#### CONCRETE

IN ACCORDANCE WITH AS 3600

- C1. ALL STRUCTURAL CONCRETE SHALL BE IN ACCORDANCE WITH AS 3600. WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600, AS 3610 AND AS 1379.
- C2. COVER TO REINFORCEMENT AND CONCRETE GRADES SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE: -

		COVER	GRADE	
ELEMENT	EXPOSURE	SURFACES CAST AGAINST GROUND	FORMED OR FINISHED	(MIN.)
SLABS	EXTERIOR	50	30	N32

- (I) COVER IS THE CLEAR DISTANCE BETWEEN ANY REINFORCING (INCLUDING FITMENTS) AND THE FACE OF THE STRUCTURAL ELEMENT.
- (II) FOR ALL EXTERNAL SURFACES, PROVIDE FULLY PLASTIC BAR CHAIRS. TIE WIRE SHALL NOT BE NAILED TO THE FORMS.
- (III) PROVIDE AN APPROVED 0.2mm DAMP PROOF MEMBRANE UNDER ALL CONCRETE SURFACES ON GROUND.
- (IV) THE REINFORCEMENT COVERS SHALL BE MAINTAINED USING APPROVED BAR CHAIRS. IN SLABS THE BAR CHAIRS SHALL BE AT 800mm x 800mm MAXIMUM CENTRES.
- C3. ALL CONCRETE SUPPLIED SHALL BE NORMAL CLASS CONCRETE IN ACCORDANCE WITH AS 3600 AND HAVE A SLUMP OF 80mm AND A MAXIMUM NOMINAL AGGREGATE SIZE OF 20mm UNLESS NOTED OTHERWISE. THE ENGINEER SHALL APPROVE VARIATIONS FROM THESE.
- C4. USE READY MIX CONCRETE MIXED BY THE BATCH PRODUCTION PROCESS DELIVERED IN AGITATING TRUCKS. OBTAIN APPROVAL BEFORE ADDING WATER AT THE SITE. FOR EACH BATCH OF CONCRETE, SUPPLY A DOCKET LISTING THE INFORMATION REQUIRED BY AS 1379 CLAUSE 1.7.3 AND THE FOLLOWING:
  - (I) THE ELEMENT FOR WHICH THE CONCRETE WAS ORDERED;
  - (II) THE TOTAL AMOUNT OF WATER ADDED AT THE PLANT AND THE MAXIMUM AMOUNT PERMITTED TO BE ADDED AT SITE; AND
  - (III) THE AMOUNT OF WATER, IF ANY, ADDED AT THE SITE.
- C5. THE MANUFACTURER IS TO CARRY OUT PRODUCTION ASSESSMENT OF CONCRETE FOR COMPLIANCE WITH THE REQUIREMENTS OF AS 3600 SECTION 17.1, AND AS 1379. FORWARD PRODUCTION ASSESSMENT REPORTS TO THE SUPERINTENDENT AS PER AS 1379 APPENDIX B6.
- C6. USE CONCRETE PLACING METHODS TO MINIMISE PLASTIC SETTLEMENT AND SHRINKAGE CRACKING. LIMIT VERTICAL FREE FALL OF CONCRETE TO LESS THAN 1500mm. PROPERLY COMPACT CONCRETE USING MECHANICAL VIBRATION TO GIVE MAXIMUM COMPACTION WITHOUT SEGREGATION.
- C7. KEEP ON SITE A LOG BOOK RECORDING EACH CONCRETE PLACEMENT INCLUDING DATE, BATCH DOCKET NUMBER, PORTION OF THE WORK, AND VOLUME PLACED.
- C8. PROVIDE PROPOSED LOCATION AND DETAILS OF CONSTRUCTION JOINTS FOR THE SUPERINTENDENT'S APPROVAL PRIOR TO CONSTRUCTION. CONSTRUCTION JOINTS IN SLABS SHALL BE VERTICAL AND IN WALLS SHALL BE HORIZONTAL. ENSURE CONSTRUCTION JOINT SURFACES ARE CLEAN AND FREE OF LAITANCE, LOOSE MATERIAL AND FOREIGN MATTER, AND DELIBERATELY ROUGHENED IN ACCORDANCE WITH TABLE 8.4.4 OF AS 3600. PRIOR TO PLACING ADJACENT FRESH CONCRETE, PRIME EXISTING CONCRETE SURFACE WITH BASF "CONCRESIVE 2525" OR APPROVED EQUIVALENT IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- C9. ALL TRAFFICABLE SLABS SHALL BE FINISHED WITH AN APPROVED NON-SLIP SURFACE. ALL OTHER EXPOSED SURFACES SHALL BE FINISHED TO A CLASS 3 SURFACE FINISH IN ACCORDANCE WITH AS 3610.
- C10. ALL FORMED EXPOSED EDGES AND RE-ENTRANT CORNERS SHALL BE CHAMFERED OF FILLETED 20mm
  C11. DO NOT MAKE HOLES, CHASES NOR EMBED PIPES, OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS, WITHOUT THE APPROVAL OF THE SUPERINTENDENT.
- C12. COMMENCE CURING OF CONCRETE IN ACCORDANCE WITH AS 3600 AS SOON AS PRACTICABLE AFTER PLACING OR STRIPPING. ACCEPTABLE METHODS OF CURING INCLUDE: -
  - (I) MOIST CURING BY PONDING OR CONTINUOUS SPRINKLING OF WATER:
  - (II) AN IMPERMEABLE MEMBRANE:
  - (III) AN ABSORPTIVE COVER KEPT CONTINUOUSLY WET:
  - (IV) STEAM CURING; AND
  - (V) AN APPROVED CURING COMPOUND.
  - IF IT IS PROPOSED TO USE A LIQUID MEMBRANE FORMING CURING COMPOUND SUBMIT THE FOLLOWING INFORMATION:
  - CERTIFIED TEST RESULTS FOR WATER RETENTION TO AS 3799 APPENDIX B;
  - EVIDENCE THAT AN ACCEPTABLE FINAL CONCRETE SURFACE COLOUR WILL BE OBTAINED;
  - EVIDENCE OF COMPATIBILITY WITH APPLIED FINISHES, IF ANY;
  - METHODS OF OBTAINING THE REQUIRED ADHESION FOR TOPPINGS, RENDER AND THE LIKE, IF ANY.
- C13. PROTECT FRESH CONCRETE FROM PREMATURE DRYING AND FROM EXCESSIVE HOT AND COLD TEMPERATURES. MAINTAIN THE CONCRETE AT A REASONABLY CONSTANT TEMPERATURE WITH MINIMUM MOISTURE LOSS FOR THE CURING PERIOD.

### REINFORCEMENT

- R1. SYMBOLS ON DRAWINGS FOR GRADE AND TYPE OF REINFORCEMENT ARE AS FOLLOWS: R GRADE 250R PLAIN ROUND BAR TO AS 1302. NORMAL DUCTILITY CLASS
  - N GRADE D500N DEFORMED BAR TO AS/NZS 4671, NORMAL DUCTILITY CLASS
  - L GRADE D500N DEFORMED BAR TO AS/NZS 4071, NORMAL DOCTLITY CLASS

    L GRADE D500L PLAIN, DEFORMED OR INDENTED WELDED WIRE MESH TO AS/NZS 4671, LOW
  - DUCTILITY CLASS
- R2. THE FOLLOWING ABBREVIATIONS APPLY TO THE PLACEMENT AND LOCATION OF THE REINFORCEMENT: -
  - E.W. EACH WAY F.F. - FAR FACE
- E.F. EACH FACE BTM. - BOTTOM
- N.F. NEAR FACE TYP. - TYPICAL
- R3. PROVIDE STANDARD HOOKS AND COGS IN ACCORDANCE WITH AS 3600. TERMINATE ENDS OF
- COLUMN AND BEAM LIGATURES IN A HOOK OF AT LEAST 135°.
- R4. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY IN TRUE PROJECTION. SET REINFORCEMENT OUT AT EQUAL CENTRES WHERE SPACING IS NOT NOMINATED.
- R5. SECURE REINFORCEMENT, INCLUDING FITMENTS AND STARTER BARS, BY APPROVED CHAIRS, SPACERS, TIES AND THE LIKE AS REQUIRED TO PROVIDE ADEQUATE SUPPORT AND TO PREVENT DISPLACEMENT DURING SUBSEQUENT CONCRETE PLACEMENT WITHIN THE TOLERANCES SPECIFIED IN CLAUSE 17.5.3 OF AS 3600.
- R6. SPLICE REINFORCEMENT ONLY AT LOCATIONS SHOWN ON THE DRAWINGS OR AS APPROVED BY THE SUPERINTENDENT. SUBMIT DETAILS FOR APPROVAL OF ANY PROPOSED MECHANICAL
- R7. LAP LENGTHS SHALL COMPLY WITH AS 3600. LAPPED SPLICES FOR WELDED WIRE MESH SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CLAUSE 13.2.3 OF AS 3600.
- R8. DO NOT WELD REINFORCEMENT UNLESS SHOWN ON THE DRAWINGS OR OTHERWISE APPROVED BY THE SUPERINTENDENT. WHERE WELDING OF REINFORCEMENT IS ALLOWED, INCLUDING TACK WELDING, IT SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF AS 3600 AND AS 1554 PART 3. DO NOT WELD REINFORCEMENT WITHIN 75mm OF A PORTION OF THE BAR THAT HAS BEEN BENT.
- R9. DO NOT CUT, BEND NOR HEAT REINFORCEMENT ON SITE WITHOUT THE SUPERINTENDENTS APPROVAL.
- R10. WHERE ROUND BAR DOWELS ARE SPECIFIED, THEY SHALL BE HOT DIP GALVANISED, STRAIGHT, SMOOTH DOWELS FREE FROM BURRS WITH SAWN ENDS, NOT SHEARED. UNLESS NOTED OTHERWISE, INSTALL DOWELS PARALLEL TO THE FINISHED SURFACE AND PERPENDICULAR TO THE PLANE OF THE JOINT. MAINTAIN DOWEL ALIGNMENT BY THE USE OF A SUITABLE SUPPORT ASSEMBLY TO ENSURE SUITABLE HORIZONTAL AND VERTICAL ALIGNMENT TOLERANCE OF 1 IN 100. DO NOT INSERT DOWELS DURING THE PLACEMENT OF CONCRETE, NOR AFTER CONCRETE HAS SET

### **FOR TENDER**

1	ISSUED FOR TENDER	20/03/2025	Notes:
F	UPDATED DRAWING SET	10/03/2025	
Е	CHANGE TO DRAIN TO AVOID SERVICE CONFLICT	2/12/2024	
-	-	-	
Α	ISSUED FOR INFORMATION	6/12/2023	
No.	Revision	Date	



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Drawn: Designed:

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DIS Review - Banana Shire Council

Certified:



# NOBBS STREET DRAINAGE CHANNEL BANANA SHIRE COUNCIL

CIVIL NOTES - SHEET 2

Dwg. No.
R0122324-002

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RPEQ #:

	DESIGN HAZARD SCHEDULE						
ITEM	DESIGN HAZARD	POTENTIAL HAZARD	RISK	ELIMINATION/MINIMISATION OF HAZARD/RISK	RESIDUAL RISK		
D1	EXISTING UNDERGROUND/ OVERHEAD SERVICES	SERVICES OF HIGH IMPORTANCE ARE IN CLOSE PROXIMITY TO THIS PROJECT INCLUDING TELECOMMUNICATION NETWORK	SEVERE	APPROXIMATE LOCATIONS OF SERVICES ARE REPRESENTED ON THE DESIGN DRAWINGS, CONTRACTOR IS TO LOCATE AND PROTECT SERVICES PRIOR TO COMMENCEMENT OF WORKS	LOW		
D2	PAVEMENT DESIGN	PAVEMENT DESIGN HAS BEEN BASED ON ANTICIPATED TRAFFIC VOLUMES AND VEHICLES, ACTUAL TRAFFIC VOLUMES MAY DIFFER	MODERATE	APPROPRIATE SAFTEY FACTOR HAS BEEN ADOPTED IN CALCULATION	LOW		
D3	GROUND CONDITIONS	DESIGN IS BASED ON LIMITED GEOTECHNICAL TESTING AND EXTRAPOLATION BETWEEN POINTS, ACTUAL CONDITIONS MAY VARY.	MODERATE	SITE PROOFING OF GEOTECHNICAL DESIGN PARAMETERS IS TO BE UNDERTAKEN AND APPROVAL OF DESIGN PARAMETERS BY SUPERINTENDENT	LOW		
D4	STORMWATER CHANNEL	CHANNEL RUNNING PARALLEL WITH NOBB STREET WILL REMOVE EXISTING INFORMAL PROPERTY ACCESSES	MODERATE	CHANNEL DESIGNED TO ALLOW FOR NOMINAL BATTER SLOPES OF 1 IN 4 ADJACENT EASTBOUND LANE OF NOBB ST. ADDITIONAL GUIDEPOSTS TO BE INSTALLED WHERE INFORMAL PROPERTY ACCESSES BEING CLOSED.	LOW		

	CONSTRUCTION HAZARD SCHEDULE				
ITEM	POTENTIAL HAZARD	POTENTIAL PREVENTATIVE ACTION			
C1	HAZARDOUS MATERIALS	APPROPRIATE WARNING SIGNS SHALL BE DISPLAYED, MATERIAL SAFETY SHEETS SHALL BE AVAILABLE AND APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT USED WHILST WORKING WITH MATERIAL			
C2	UNDERGROUND ELECTRICAL AND COMMUNICATIONS HAZARD	WARNING SIGNS AND MARKERS SHALL BE ERECTED ADVISING OF THE PRESENCE OF THE EXISTING SERVICE. THE SERVICE SHALL BE IDENTIFIED AND MARKED BY THE SUPPLY AUTHORITY PRIOR TO THE COMMENCEMENT OF EXCAVATION. A REPRESENTATIVE OF THE SUPPLY AUTHORITY SHALL REMAIN ON SITE DURING THE EXCAVATION WORK, IF REQUIRED.			
C4	DEMOLITION AND REMOVAL HAZARD	SITE PERSONNEL SHALL BE ADVISED OF THE POTENTIAL HAZARDS AND THE APPROPRIATE PROCEDURES FOR SAFE DEMOLITION AND REMOVAL OF EXISTING STRUCTURES (KERB AND STORMWATER PITS). THE CONTRACTOR WILL BE RESPONSIBLE FOR DEVELOPING SAFE WORK METHODS INCLUDING BUT NOT LIMITED TO EXCLUSION ZONES, APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT TO BE WORN AND REQUIRED SIGNAGE TO BE ERECTED.			
C5	VEHICLE HAZARD	SITE PERSONNEL SHALL BE ADVISED OF THE POTENTIAL HAZARDS AND THE APPROPRIATE PROCEDURES FOR WORKING ADJACENT TO OPERATING PUBLIC ROADS. APPROPRIATE SAFETY CLOTHING SHALL BE WORN AND THE REQUIRED SIGNAGE SHALL BE ERECTED. THE WORKS SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT COMPROMISE THE SAFETY OF THE VEHICLE OCCUPANTS OR THE SITE PERSONNEL.			
C6	TRAFFIC MANAGEMENT HAZARD	SUITABLE QUALIFIED AND EXPERIENCED PERSONNEL SHALL BE RESPONSIBLE FOR THE SAFE AND ORDERLY PASSAGE OF VEHICULAR AND PEDESTRIAN TRAFFIC THROUGH THE PROJECT AT ALL TIMES. THE CONTRACTOR SHALL DEVELOP A TRAFFIC MANAGEMENT PLAN (TMP) FOR THE PROJECT TO ESTABLISH APPROPRIATE CONTROLS IN ACCORDANCE WITH THE MANUAL FOR UNIFORM TRAFFIC CONTROL.			
C7	EXCAVATION HAZARD	EXCAVATION REQUIRED FOR INSTALLATION OF CLVERTS. SITE PERSONNEL SHALL BE ADVISED OF THE POTENTIAL HAZARDS AND THE APPROPRIATE PROCEDURES FOR WORKING ADJACENT TO OPEN TRENCHES. TEMPORARY FENCING TO BE IMPLEMENTED TO DETER WAYWARD PEDESTRIANS.			
C8	SEDIMENT AND EROSION CONTROL HAZARD	THE CONTRACTOR WILL BE RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES FOR THE DURATION OF THE WORKS. ALL CONTROL MEASURES TO BE IN ACCORDANCE WITH INDUSTRY BEST PRACTICE AND EROSION SEDIMENT CONTROL FIELD GUIDE FOR CONSTRUCTION MANAGERS.			

#### **DESIGN HAZARD NOTES:**

- MCMURTRIE CONSULTING ENGINEERS (MCE) HAVING BEEN COMMISSIONED TO CARRY OUT DETAILED DESIGN AND DOCUMENTATION OF THESE WORKS, CONFIRM THAT THE MCE DRAWING SET HAS BEEN INTERNALLY REVIEWED FOR DESIGN SAFETY IN ACCORDANCE WITH SECTION 22 OF THE WORK HEALTH AND SAFETY ACT 2011 QLD.
- 2. THIS REPORT SUMMARISES AN INTERNAL REVIEW OF MCE'S DETAILED DESIGN DRAWINGS FOR DESIGN SAFTEY.
- 3. THIS REPORT IN NO WAY RELIEVES THE PRINCIPAL, CONTRACTOR OR ANY OTHER PARTY OF THEIR OWN OBLIGATIONS AND RESPONSIBILITIES UNDER THE WORK HEALTH AND SAFETY ACT 2011 QLD, INCLUDING (BUT NOT LIMITED TO) CONSULTATION WITH THE DESIGNER UNDER SECTION 294 OF THE ACT, THE PREPARATION OF SATISFACTORY SAFE WORK METHOD STATEMENTS AND DUTIES OF CARE.
- 4. IT IS A REQUIREMENT UNDER SECTION 296 OF THE WORK HEALTH AND SAFETY ACT 2011 QLD, THAT A COPY OF THIS REPORT BE PROVIDED TO THE CONTRACTOR BY THE ENTITY COMMISSIONING THE WORK SHOWN OF THE MCE DRAWINGS
- 5. AS PER THE DEPARTMENT OF JUSTICE AND THE ATTORNEY-GENERAL- WORKPLACE HEALTH AND SAFETY QUEENSLAND, A WRITTEN REPORT IS NOT REQUIRED FOR DESIGNS THAT HAVE TYPICAL FEATURES.

### **CONSTRUCTION HAZARD NOTES:**

- 1. UNDER THE QUEENSLAND WORK HEALTH AND SAFETY ACT 2011, THE WORK HEALTH AND SAFETY REGULATION 2011 AND OTHER LEGISLATION AND GUIDELINES, THE PRINCIPAL CONTRACTOR HAS SPECIFIC OBLIGATIONS IN RELATION TO THE SAFE OPERATION OF THE SITE AND OF THE WORKS. TO ASSIST THE PRINCIPAL CONTRACTOR IN COMPLYING WITH THESE OBLIGATIONS THE PROJECT DESIGNERS ADVICE, SHALL NOT NECESSARILY BE CONSIDERED COMPLETE AND ARE BASED UPON THE DESIGNERS' UNDERSTANDING OF THE SAFETY RISKS ASSOCIATED WITH THE WORKS. THESE NOTES OR ADVICE SHALL NOT RELIEVE THE PRINCIPAL CONTRACTOR OF ANY OBLIGATION UNDER THE RELEVANT LEGISLATION OR GUIDELINE. THE PRINCIPAL CONTRACTOR SHALL REMAIN RESPONSIBLE FOR THE PREPARATION OF AN APPROPRIATE WORK HEALTH SAFETY MANAGEMENT PLAN AND SAFE WORK METHOD
- 2. PURSUANT TO THE WORK HEALTH AND SAFETY ACT 2011 WE HEREBY ADVISE THAT OUR DESIGN SAFETY REVIEW HAS ENDEAVOURED TO IDENTIFY UNUSUAL OR ATYPICAL DESIGN FEATURES THAT MAY PRESENT ADDITIONAL HAZARDS OR RISKS DURING THE CONSTRUCTION PHASE.

	LIKELIHOOD TABLE			
LEVEL	DESCRIPTION	QUANTIFICATION GUIDE		
A-ALMOST CERTAIN	THE EVENT IS EXPECTED TO OCCUR IN MOST CERTAIN CIRCUMSTANCES	MORE THAN ONCE PER YEAR		
B-LIKELY	THE EVENT WILL PROBABLY OCCUR IN MOST CIRCUMSTANCES	AT LEAST ONCE IN 5 YEARS		
C-POSSIBLE	THE EVENT SHOULD OCCUR AT SOME TIME	AT LEAST ONCE IN 10 YEARS		
D-UNLIKELY	THE EVENT COULD OCCUR AT SOME TIME	AT LEAST ONCE IN 30 YEARS		
E-RARE	THE EVENT MAY OCCUR IN EXCEPTIONAL CIRCUMSTANCES	LESS THAN ONCE IN 30 YEARS		

RISK EVALUATION TABLE		
RISK LEVEL ACTION REQUIRED		
SEVERE	UNACCEPTABLE RISK. RE-DESIGN REQUIRED. DO NOT PROCEED WITHOUT ADDITIONAL CONTROLS.	
SIGNIFICANT	UNACCEPTABLE RISK. ADDITIONAL CONTROLS NEEDED. CONSIDER FURTHER REVIEW AND CONSIDER RE-DESIGN	
MODERATE	RISK MAY BE ACCEPTABLE. MANAGEMENT TO DETERMINE ACTIONS REQUIRED	
LOW	ACCEPTABLE. MANAGE RISK THROUGH ROUTINE PROCEDURES AND OTHER ADMINISTRATIVE CONTROLS	

CONSEQUENCE TABLE				
LEVEL	CONSEQUENCE	COST/TIME		
5-CATASTROPHIC	FATALITY OR MULTIPLE PERSONS ONSITE WITH LIFE THREATENING HEALTH EFFECT OR INABILITY TO CONTINUE	HUGE FINANCIAL/TIME LOSS		
4-MAJOR	EXTENSIVE INJURIES, OR ONSET OF SEVERE OR LIFE THREATENING HEALTH EFFECT TO SINGLE PERSON ONSITE. MULTIPLE PERSONS WITH ONSET OF IRREVERSIBLE HEALTH EFFECTS. PREMANENT INJURT TO PERSON INSITE.	MAJOR FINANCIAL/TIME LOSS		
3-MODERATE	MEDICAL TREATMENT REQUIRED. IRREVERSIBLE HEALTH EFFECT TO A SINGLE PERSON. MULTIPLE PERSONS ONSITE WITH REVERSIBLE HEALTH EFFECTS.	HIGH FINANCIAL/TIME LOSS		
2-MINOR	FIRST AID, SINGLE OR MULTIPLE INJURIES AMONGST PERSONS ONSITE. SINGLE PERSON ONSITE WITH MODERATE SHORT TERM REVERSIBLE HEALTH EFFECTS.	MEDIUM FINANCIAL/TIME LOSS		
1-INSIGNIFICANT	NO INJURIES. OVER EXPOSURE TO A SINGLE PERSON ONSITE, BUT NO REPORTED HEALTH EFFECTS.	LOW FINANCIAL/TIME LOSS		

		RISK MATRIX				
				LIKELIHOOD		
		1	2	3	4	5
NCE	E	LOW	LOW	LOW	MODERATE	MODERATE
ш	D	LOW	LOW	MODERATE	MODERATE	SIGNIFICANT
EQU	С	LOW	MODERATE	MODERATE	SIGNIFICANT	SEVERE
ONSE	В	MODERATE	MODERATE	SIGNIFICANT	SEVERE	SEVERE
00	Α	MODERATE	SIGNIFICANT	SEVERE	SEVERE	SEVERE

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No.	Revision	Date	

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McMurtrie Consulting Engineers	
ROCKHAMPTON   BUNDABERG PH (07) 4921 1780   mail@mcmengineers.com   MCMENGINEERS.COM	

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DIS Review - Banana Shire Council Certified:

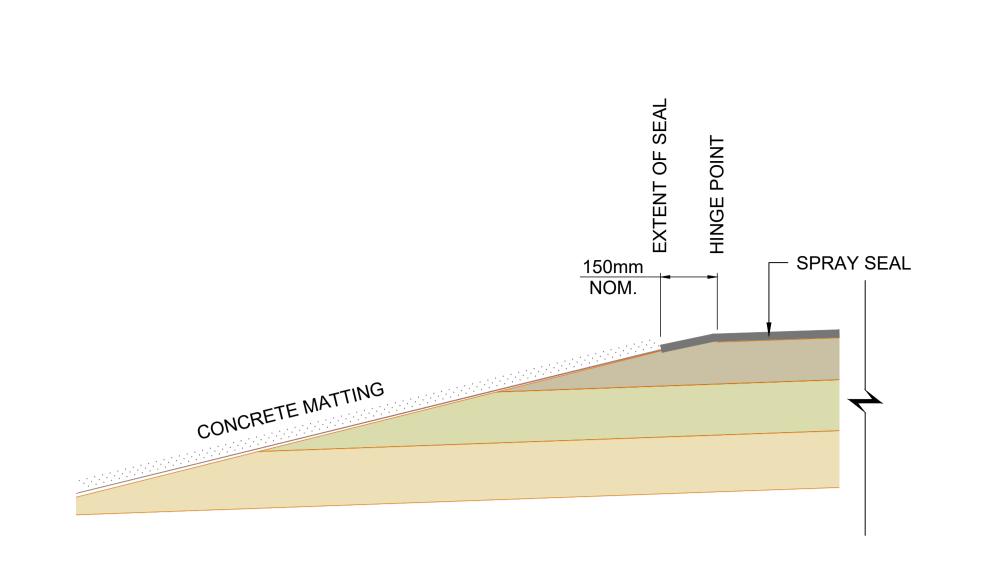
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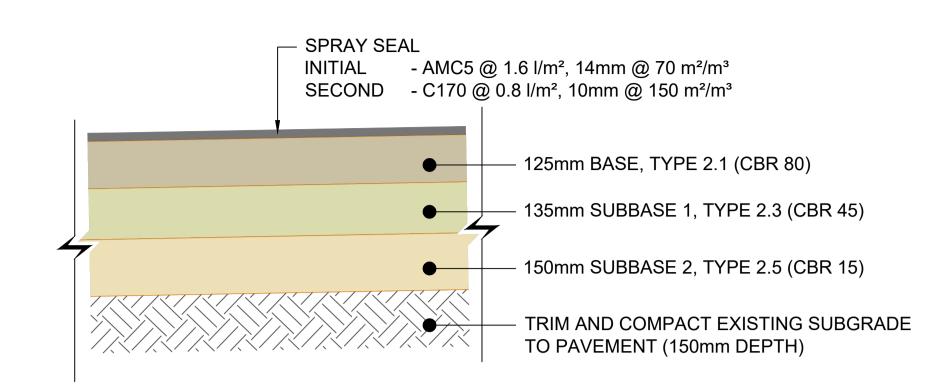
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BANANA SHIRE COUNCIL

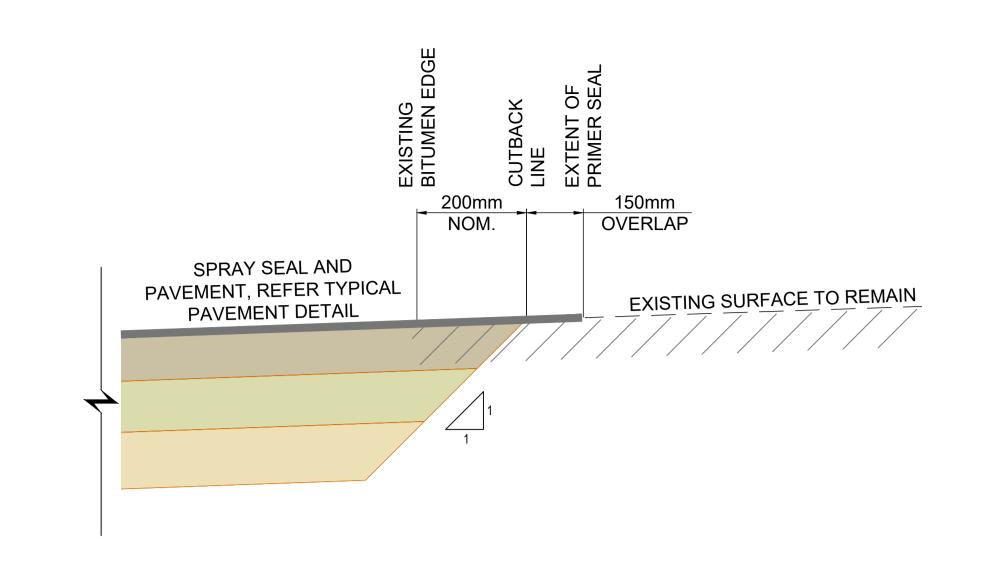
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NOTE: PAVEMENT SHOWN IS PROVISIONAL ONLY AND IS TO BE CONFIRMED WITH ONSITE CBR TESTING.



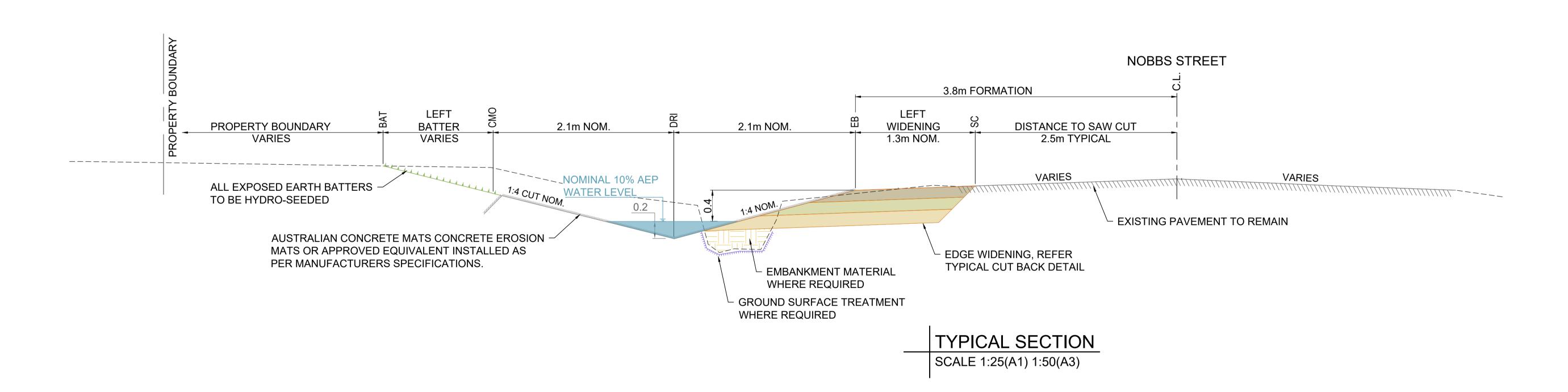


### OVERLAP MATTING EDGE DETAIL

SCALE 1:10(A1) 1:20(A3)

### TYPICAL PAVEMENT DETAIL SCALE 1:10(A1) 1:20(A3)

TYPICAL CUT BACK DETAIL SCALE 1:10(A1) 1:20(A3)



# **FOR TENDER**

	CUTLINE [SC] - SETOUT TABLE				
СН	EASTING	NORTHING	LENGTH	BEARING	
-7.555 0.000	800231.848 800239.197	7278364.821 7278363.065	7.555m	103°25'56"	
0.000 350.415	800239.197 800584.385	7278363.065 7278302.766	350.415m	99°54'32"	
350.415 360.027	800584.385 800593.795	7278302.766 7278300.808	9.612m	101°45'25"	
360.027 375.281	800593.795 800608.855	7278300.808 7278298.380	15.254m	99°09'34"	
375.281 380.686	800608.855 800614.246	7278298.380 7278298.777	5.405m	85°46'39"	

NOBBS STREET [C.L.] - SETOUT TABLE						
СН	CH EASTING NORTHING LENGTH BEARING					
0.000 363.217	800220.651 800578.362	7278364.021 7278301.017	363.217m	99°59'21"		
363.217 800578.362 7278301.017 87.166m 99°09'34"						



ST	RING CODE ABBREVIATIONS	
CODE	DESCRIPTION	
C.L.	CONTROL LINE (NOBBS STREET CROWN)	
SC	SAW CUT (NEW PAVEMENT CUTBACK)	
EB	EDGE OF BITUMEN (HINGE POINT)	
DRI	DRAIN INVERT	
DRI2	DRAIN INVERT WIDENNING (CH. 45-90)	
СМО	CONCRETE MATTING OUTER	
BAT	BATTER	

RPEQ#:

MATERIAL QUANTITY TABLE				
ITEM	QUANTITY	ITEM	QUANTITY	
BITUMEN SURFACING	671m²	SUBBASE T2.1	77 Cu. m	
CONCRETE MATTING	1690m²	SUBBASE T2.3	108 Cu. m	
HYDRO-SEEDED BATTERS	1065m²	SUBBASE T2.5	148 Cu. m	
GROUND SURF. TREATMENT	240m²	CONC. CAPPING SLAB AREA:	37.4m²	
TYPE 1 BARRIER KERB	20m	SLAB VOLUME: (INCL. CUT-OFF WALLS)	6.45m Cu. m	
TYPE 7 CONCRETE INVERT	18m	ROCK PROTECTION	000-2	
EMBANKMENT	33.5 Cu. m	AREA: VOLUME:	268m² 120m Cu. m	
REFER DRG R0122324-013 FOR EARTHWORKS CUT AND FILL VOLUMES				

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SERVICES NOTE IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL SERVICES PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION



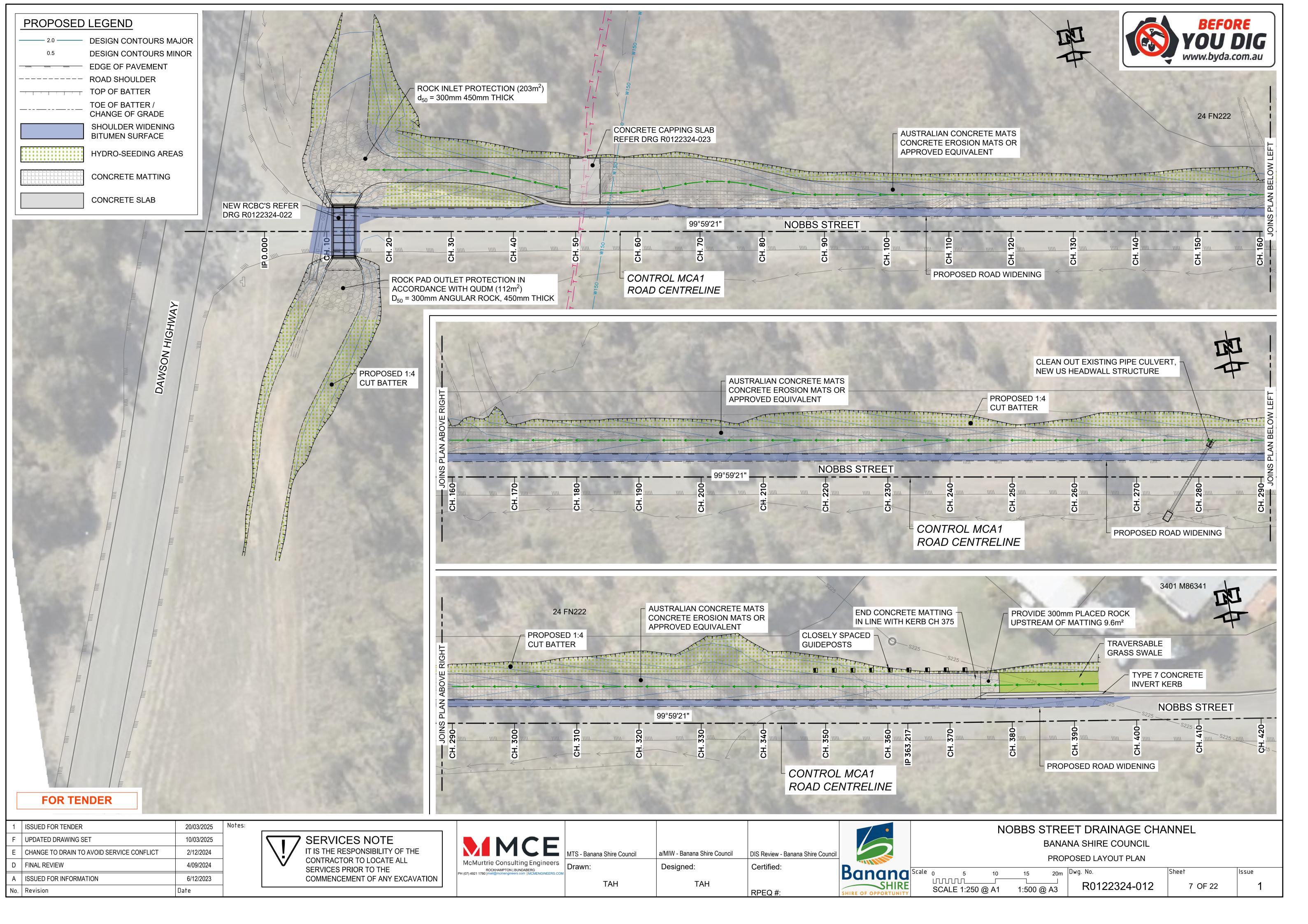
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Aurtrie Consulting Engineers  ROCKHAMPTON   BUNDABERG 1 1780   mail@mcmengineers.com   MCMENGINEERS.COM	Drawn:	Designed:
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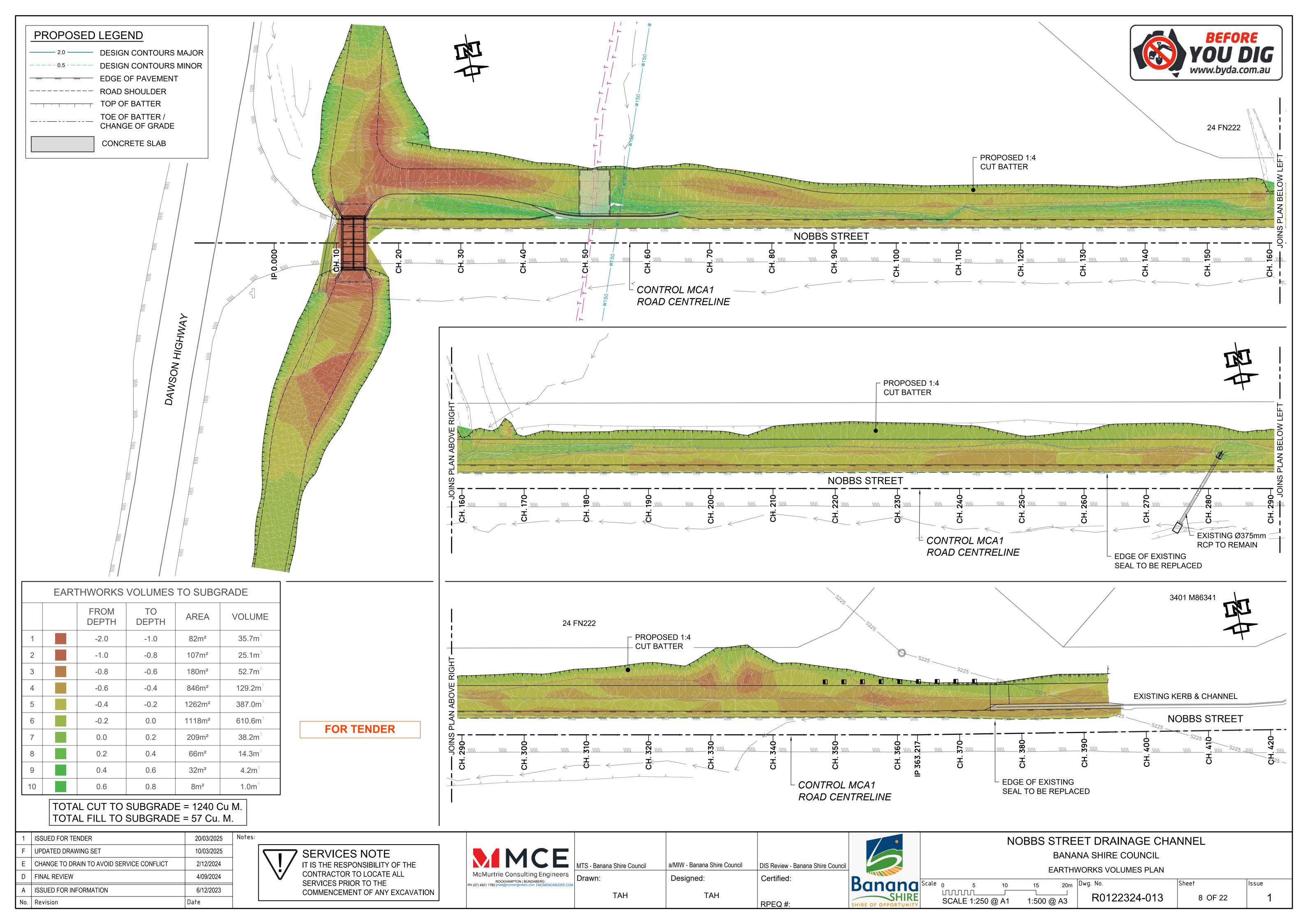
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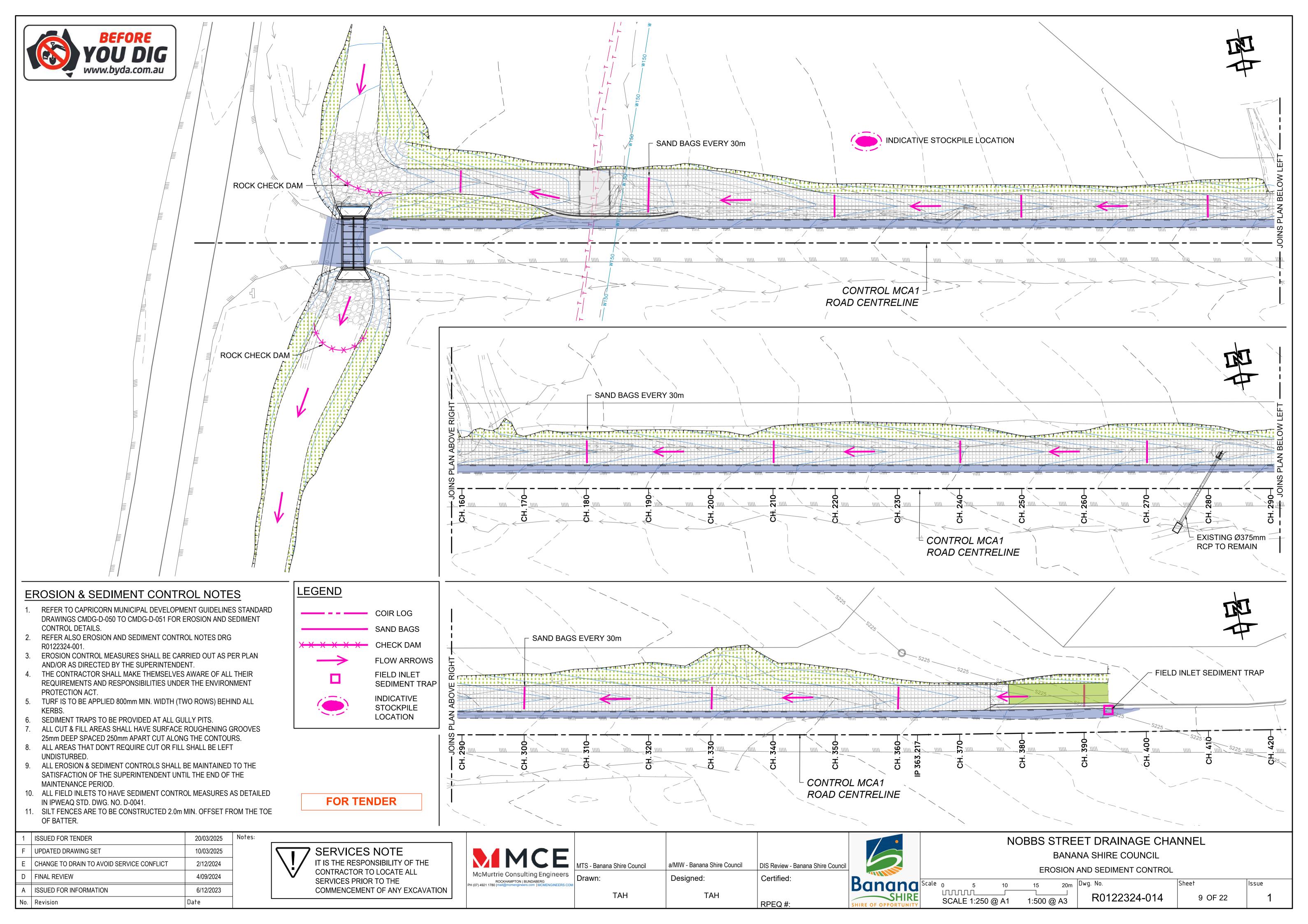
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BANANA SHIRE COUNCIL	

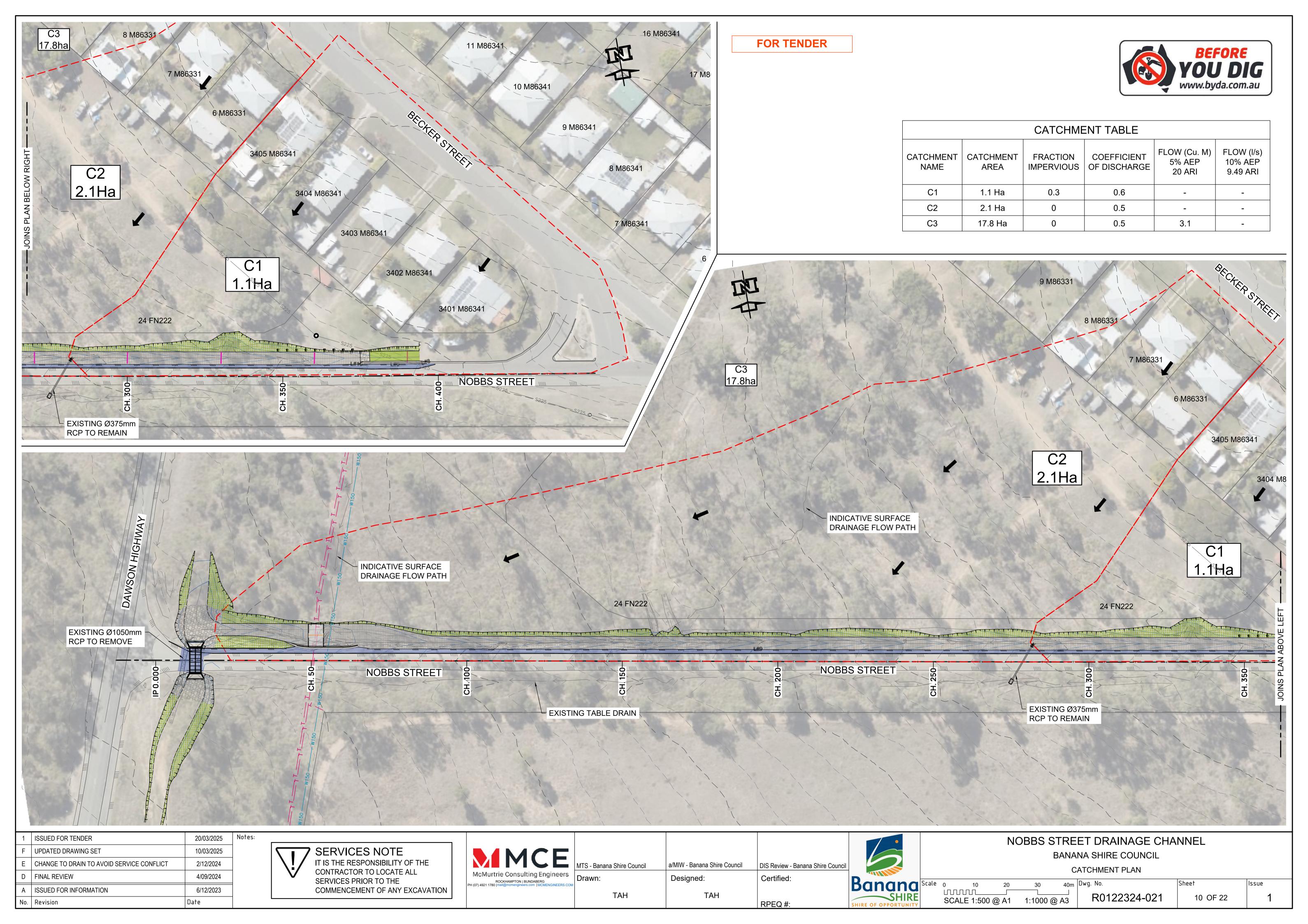
TYPICAL SECTIONS AND DETAILS

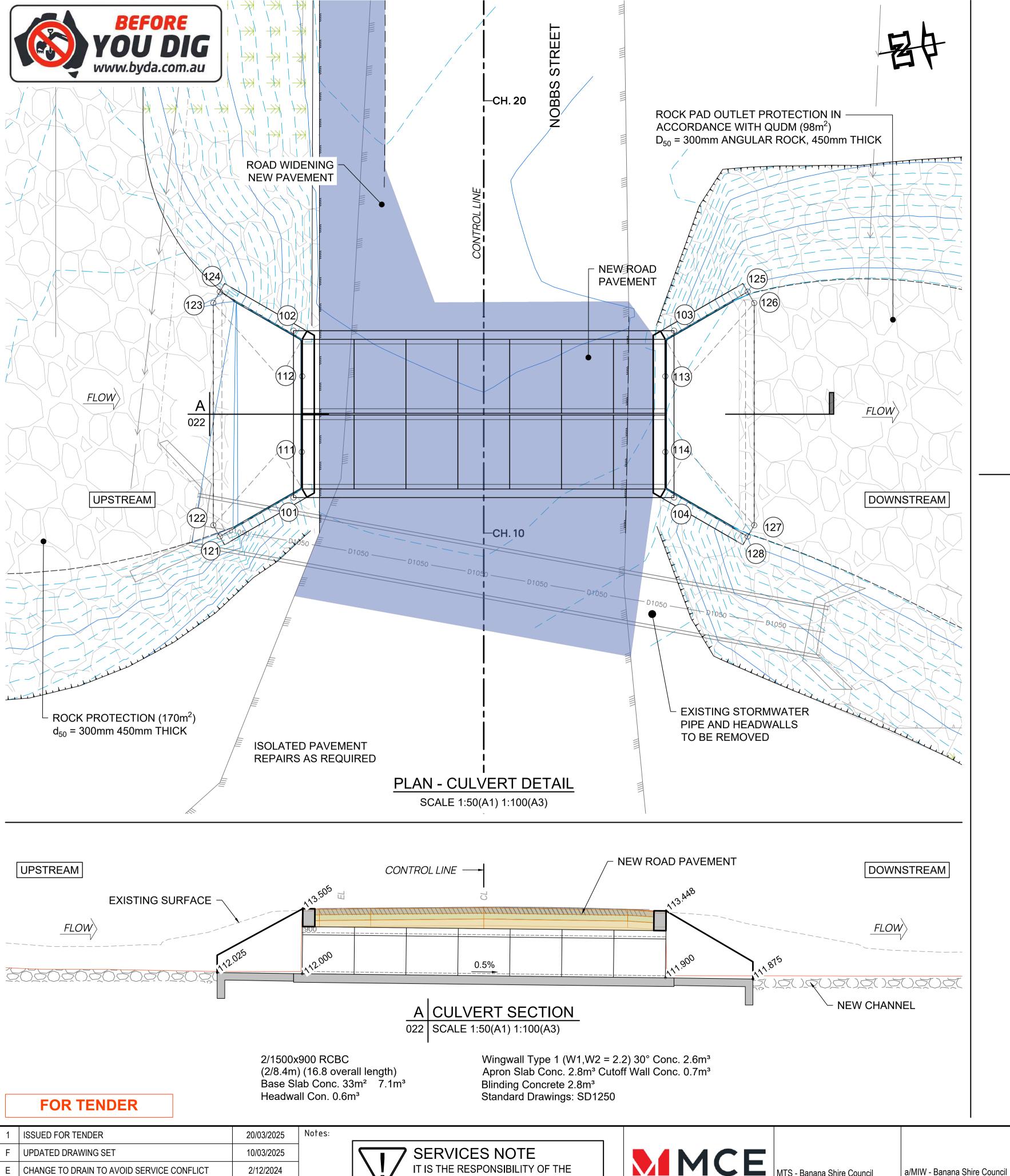
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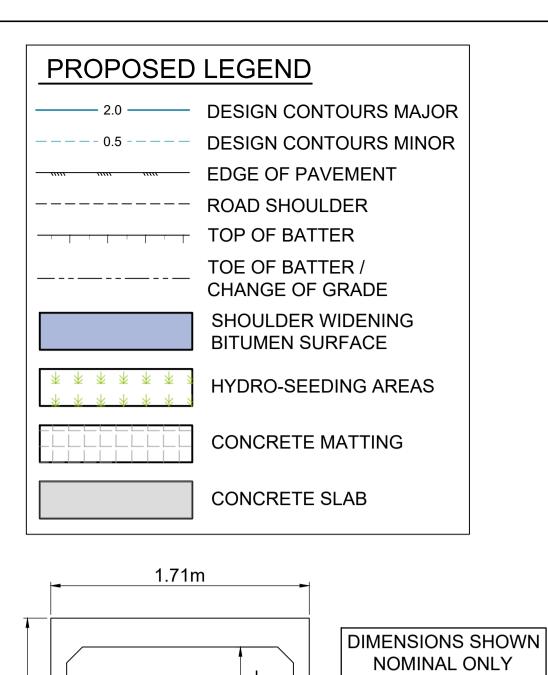








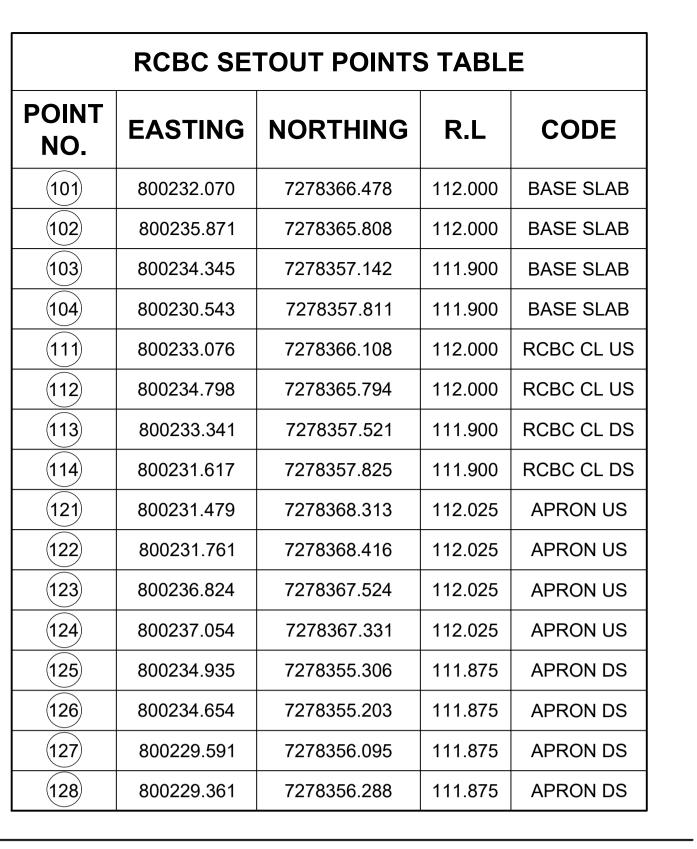


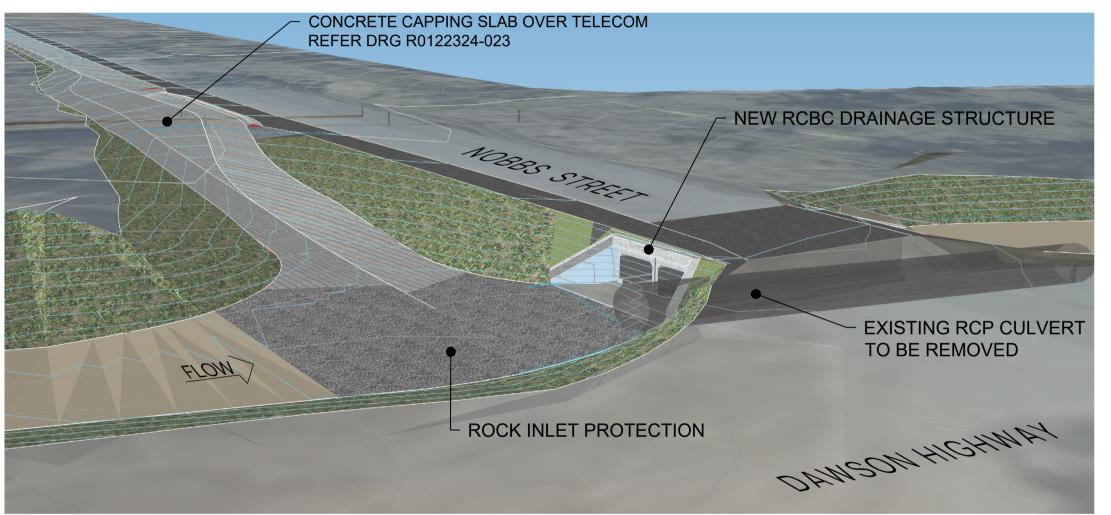


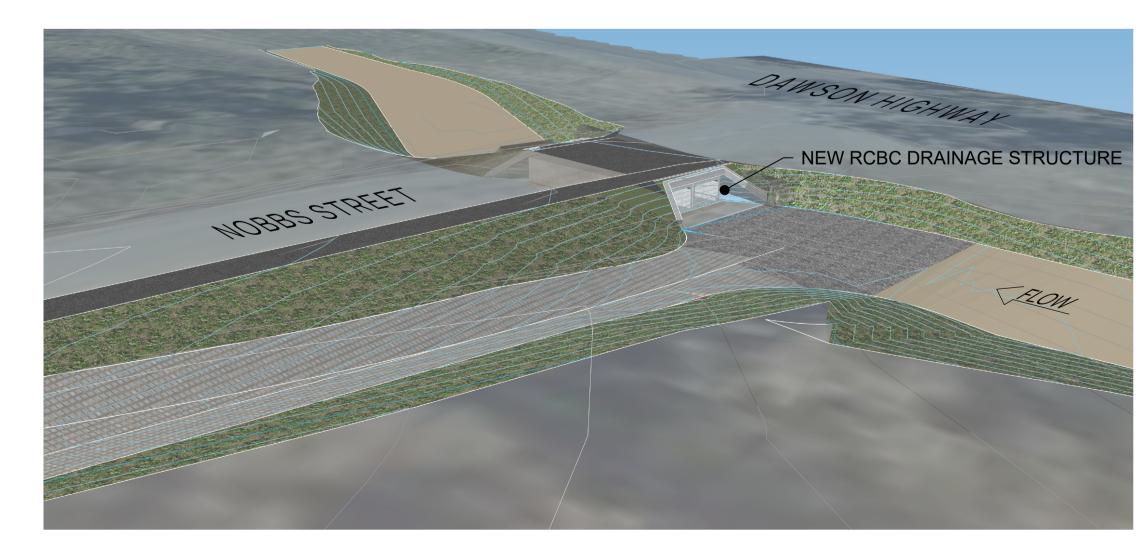
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### 3D PERSPECTIVE VIEWS

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NOBBS STREET DRAINAGE CHANNEL BANANA SHIRE COUNCIL

REINFORCED CONCRETE BOX CULVERT DETAILS

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	SERVICES NOTE IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL SERVICES PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION

4/09/2024

6/12/2023

Date

D | FINAL REVIEW

Revision

ISSUED FOR INFORMATION

McMurtrie Consulting Engineers
ROCKHAMPTON | BUNDABERG
PH (07) 4921 1780 | mail@mcmengineers.com | MCMENGINEERS.COM

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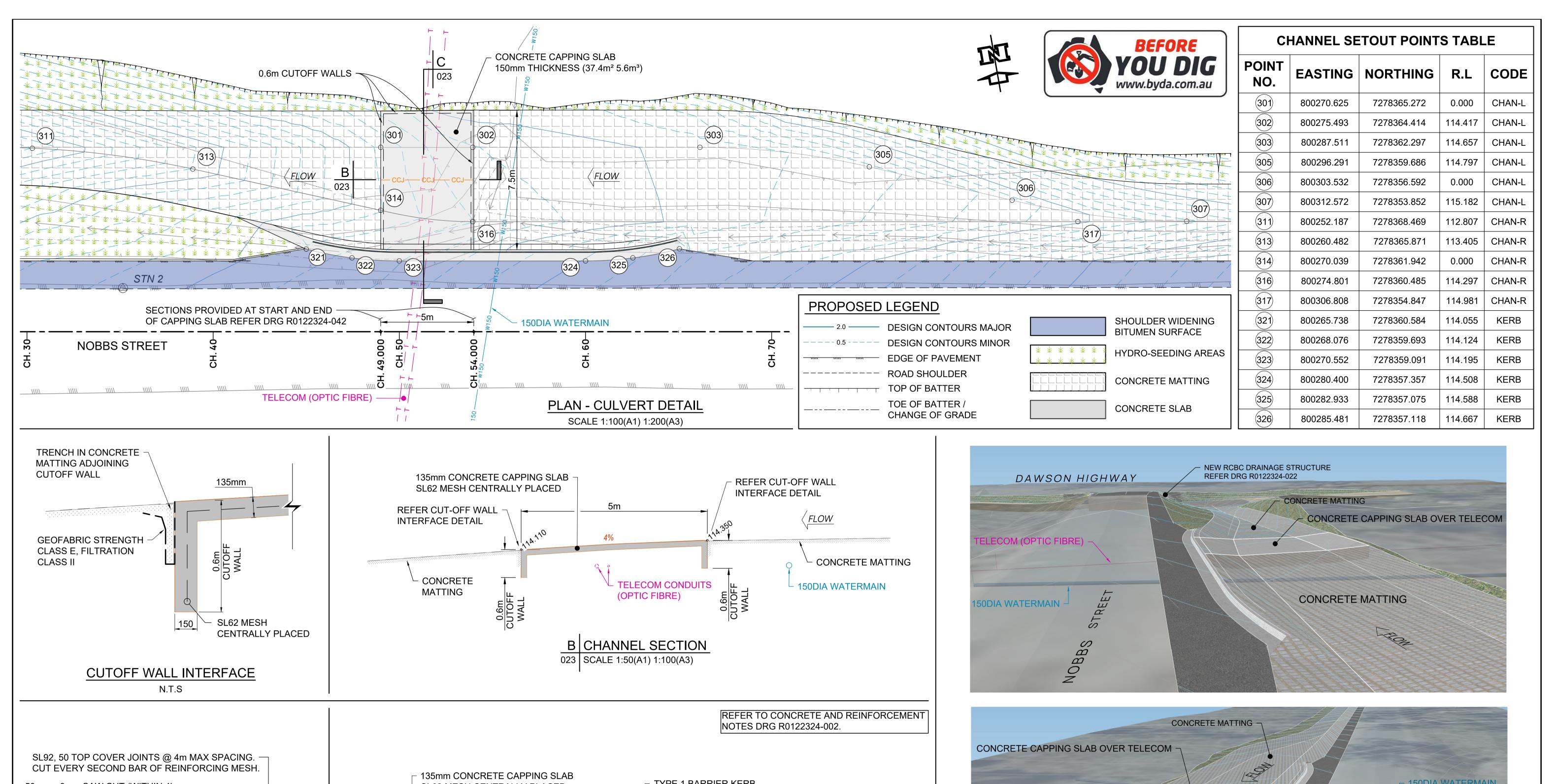
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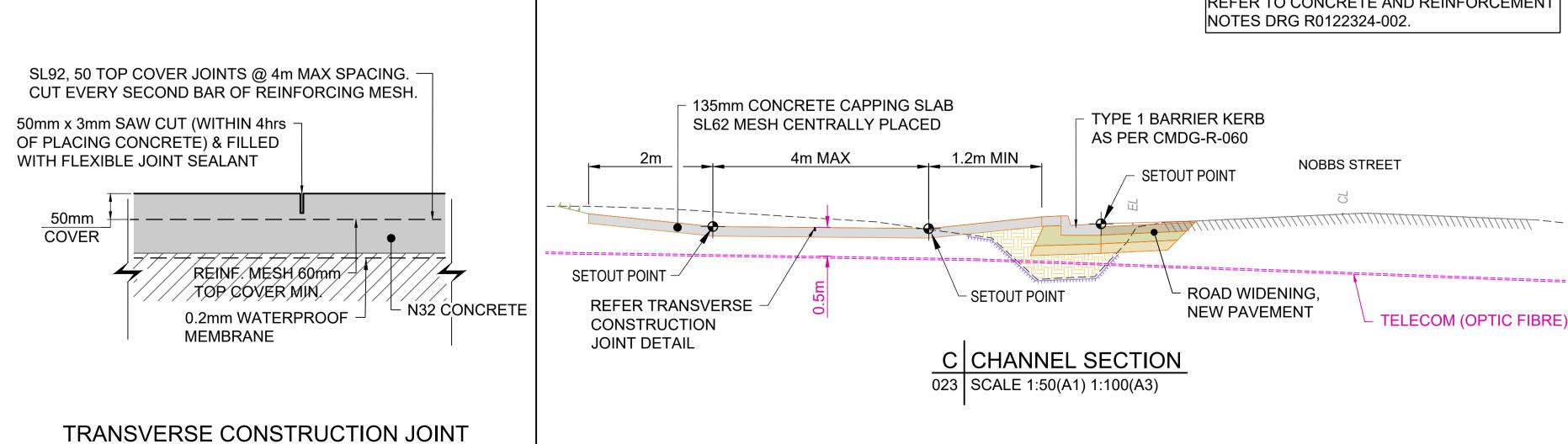
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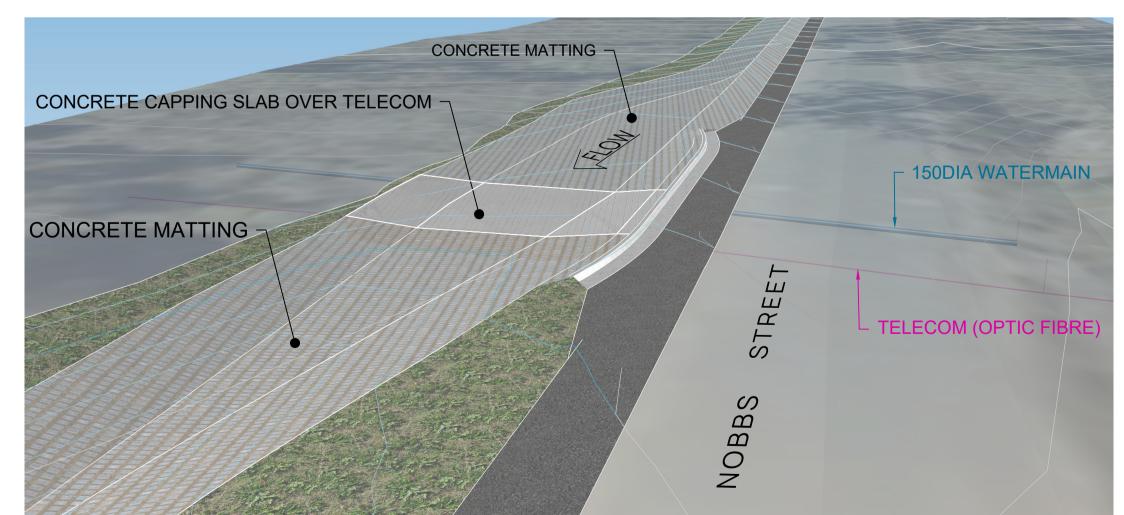
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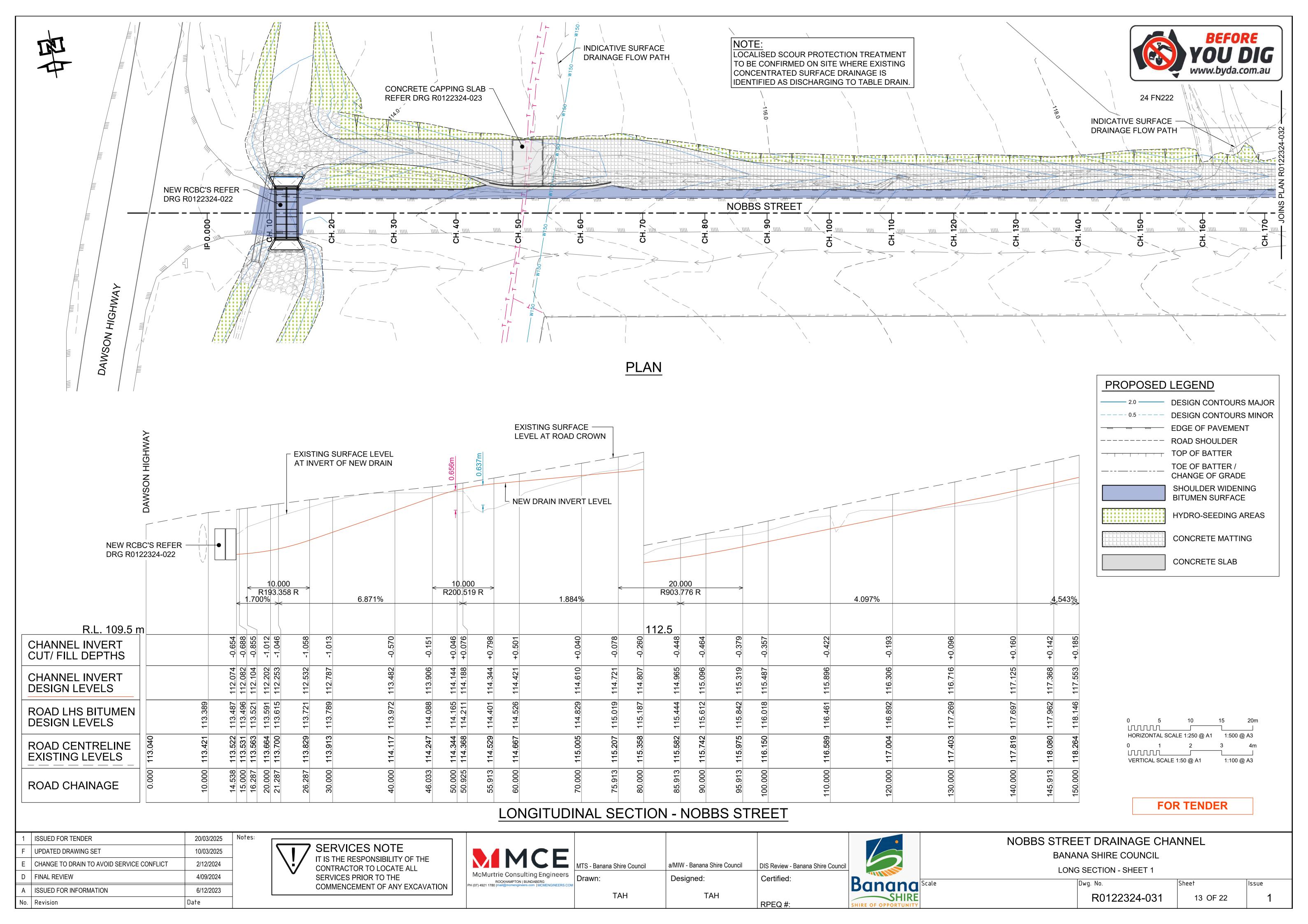
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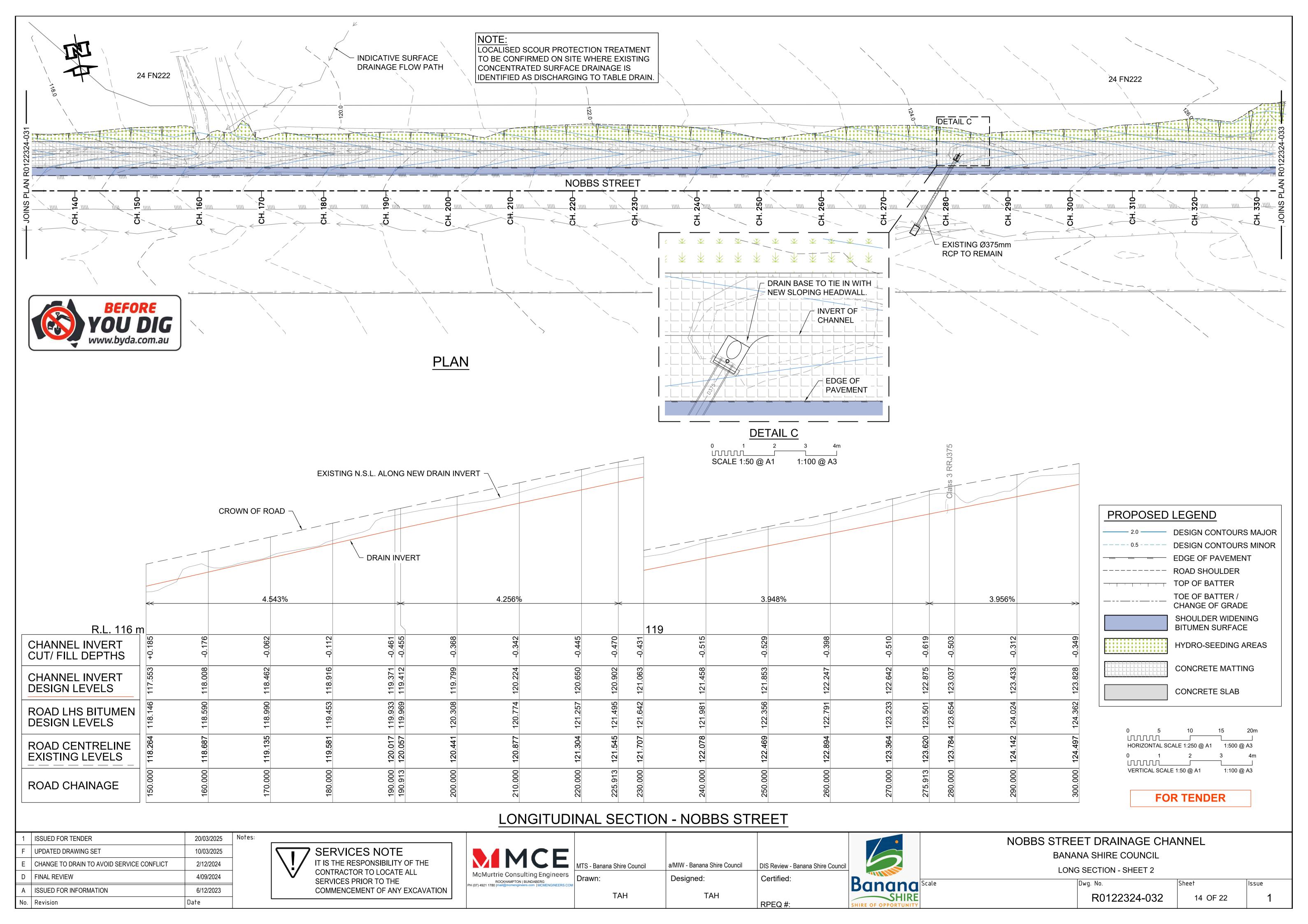
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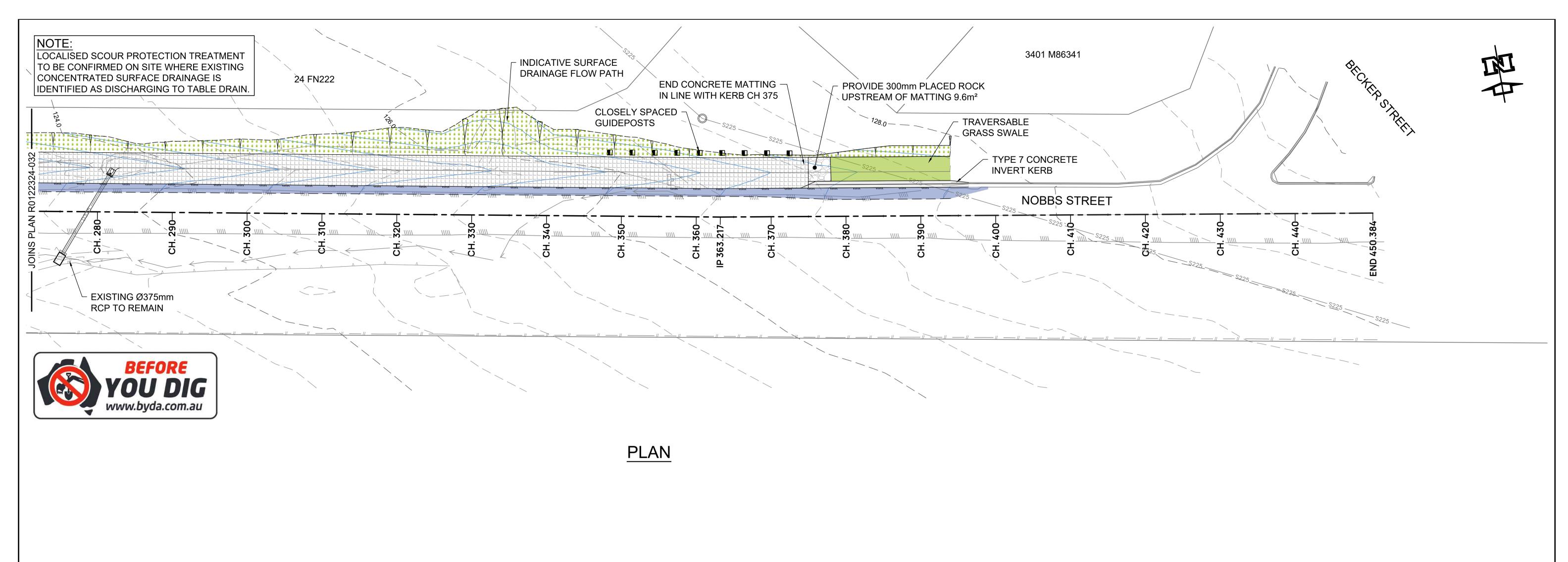
DRAINAGE CHANNEL CAPPING SLAB DETAILS

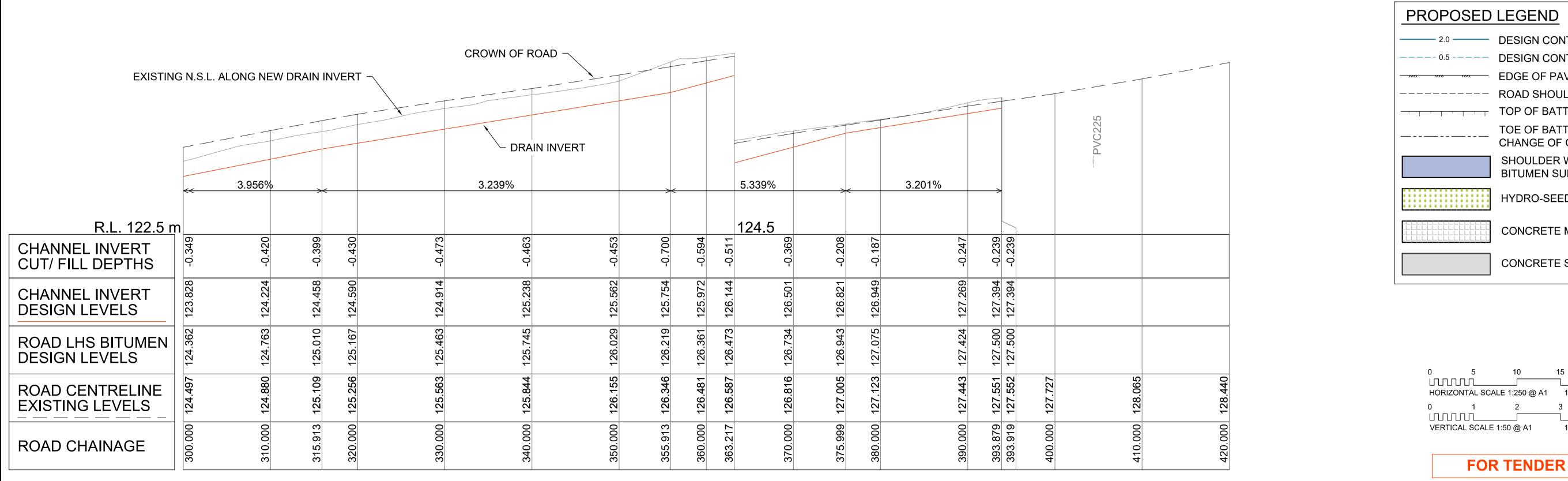
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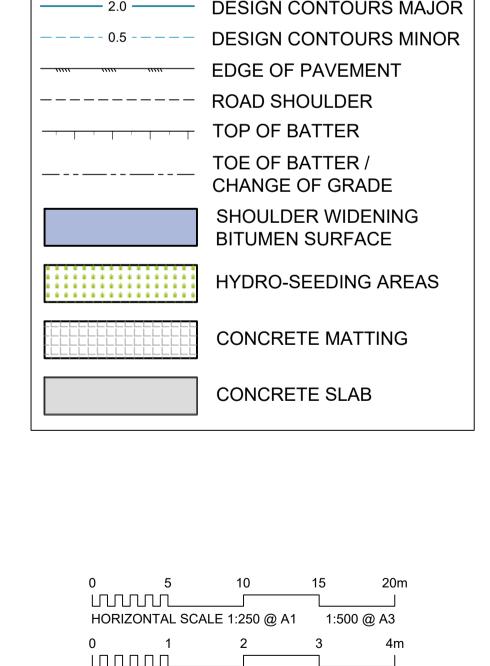
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# LONGITUDINAL SECTION - NOBBS STREET

1	ISSUED FOR TENDER	20/03/2025
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No.	Revision	Date

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Notes:

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McMurtrie Consulting Engineers	D
ROCKHAMPTON   BUNDABERG PH (07) 4921 1780  mail@mcmengineers.com   MCMENGINEERS.COM	וט

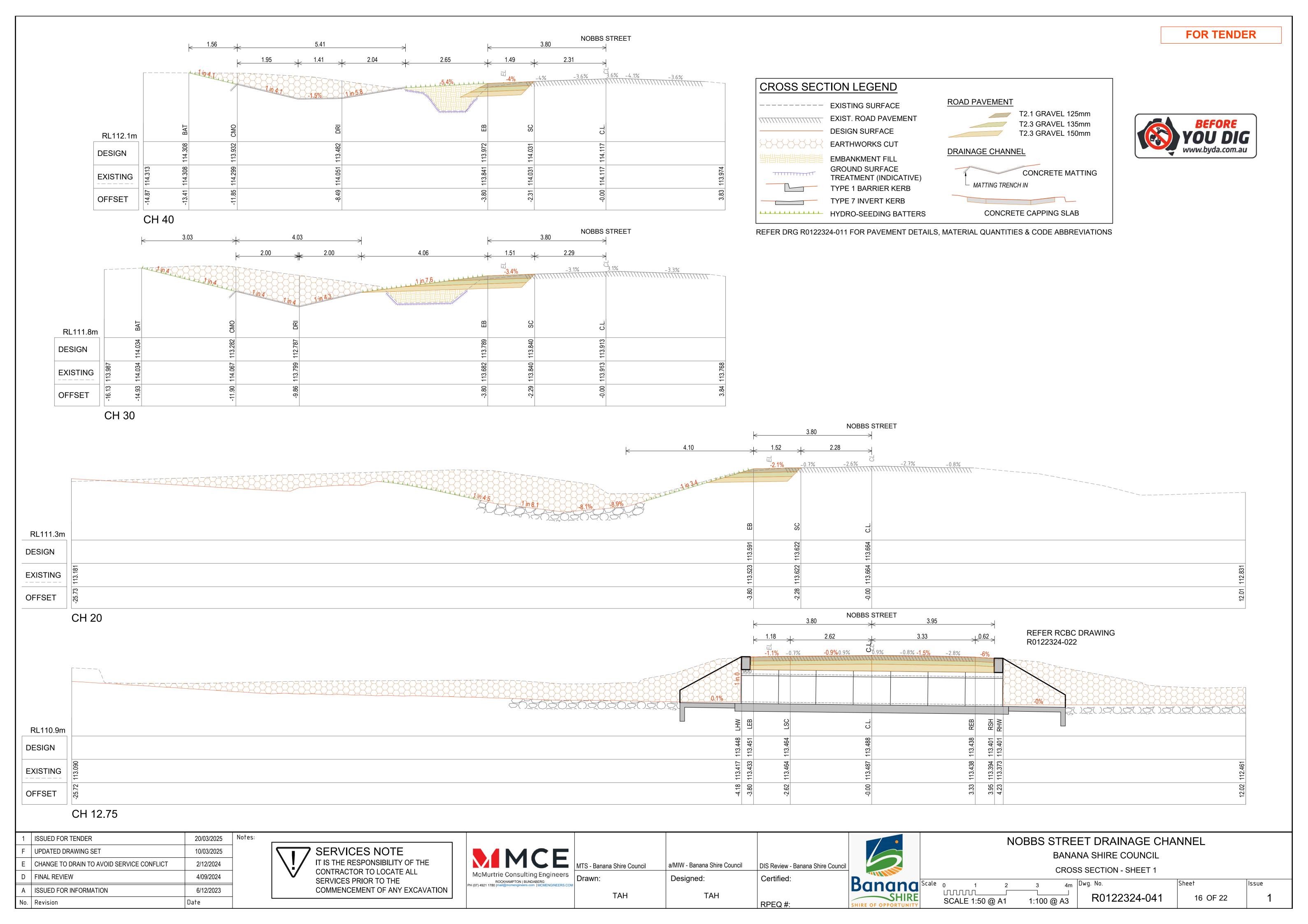
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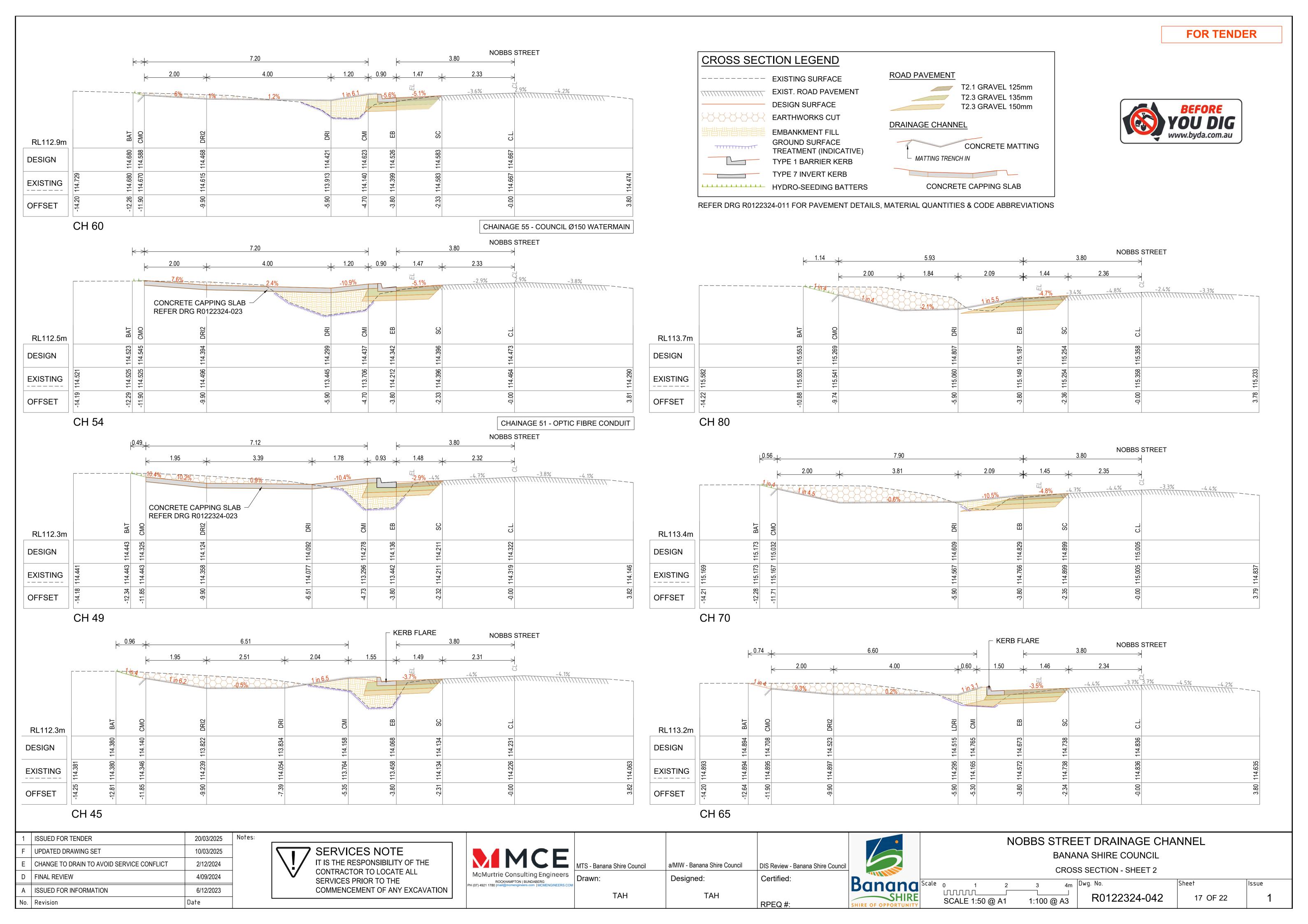
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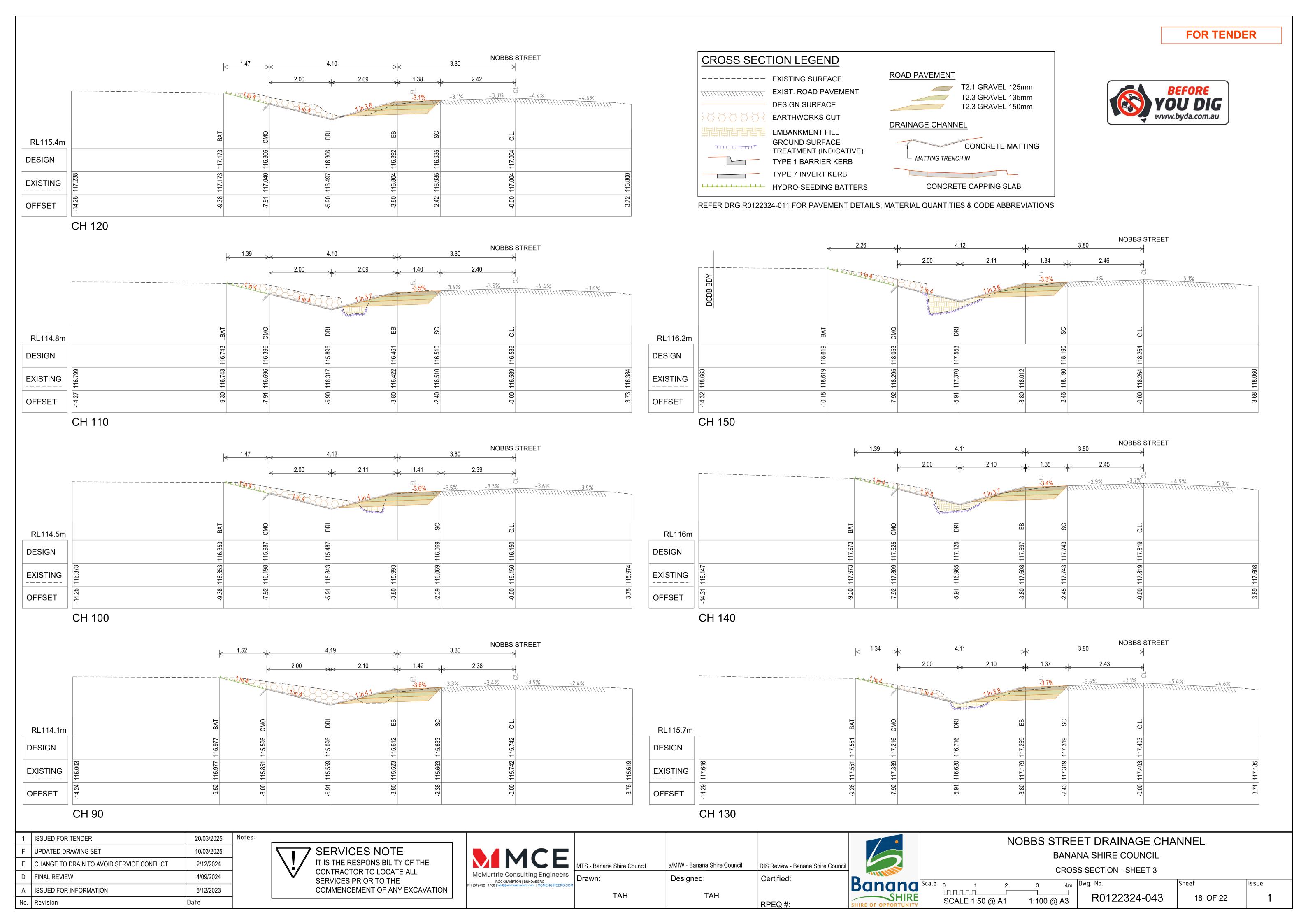
NOBBS STREET DRAINAGE CHANNEL
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LONG SECTION - SHEET 3

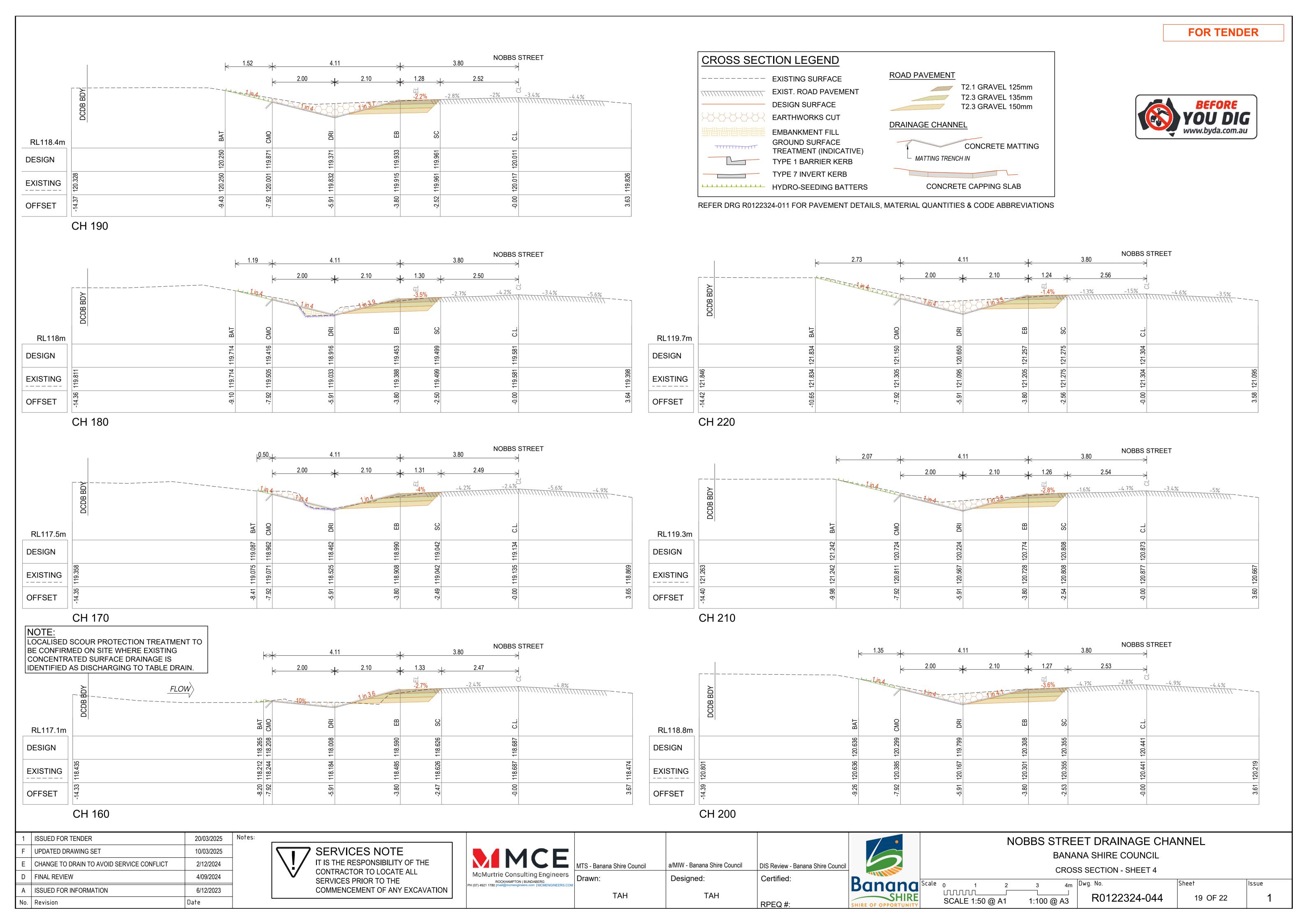
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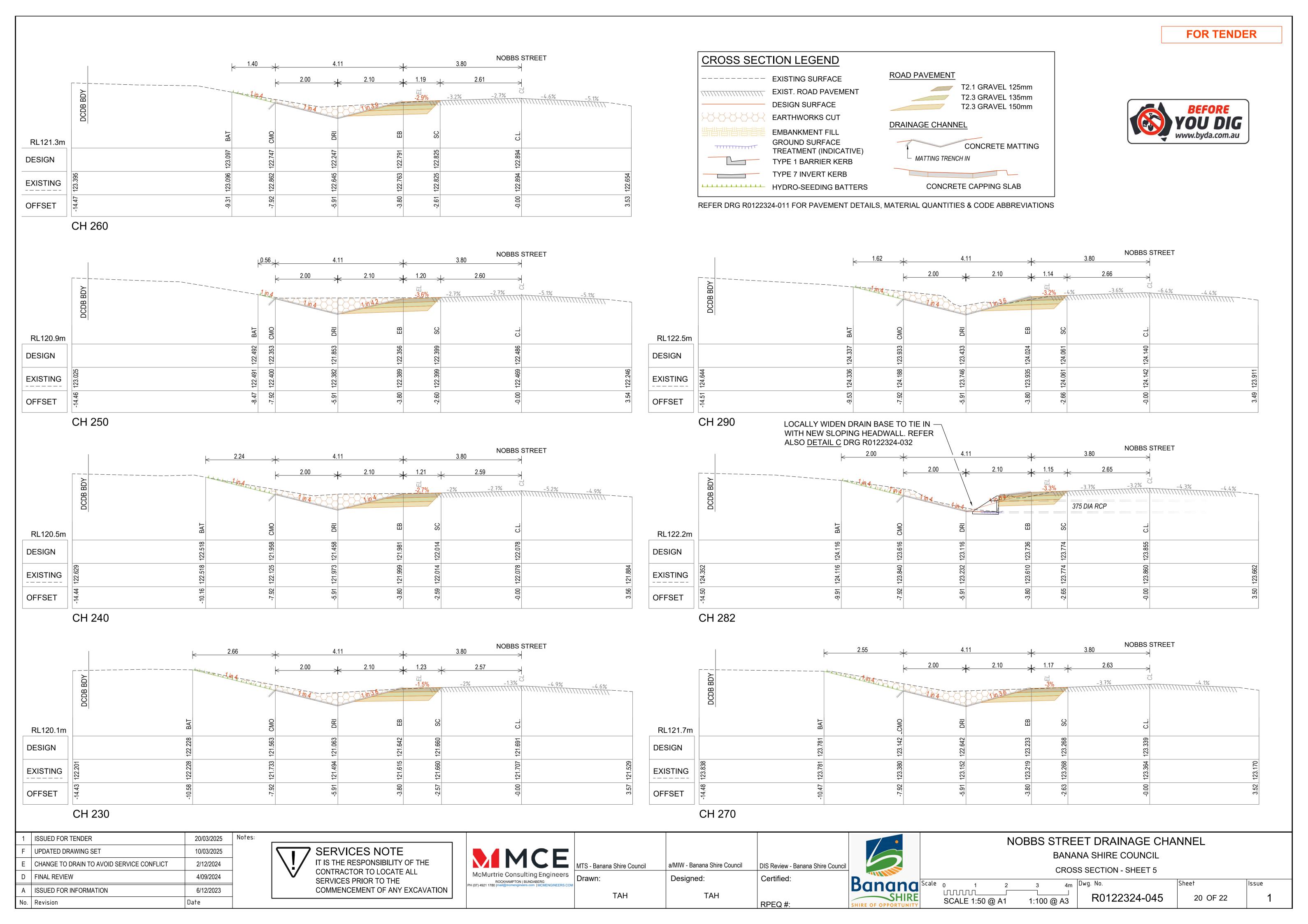
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	R0122324-033	15 OF 22	1	

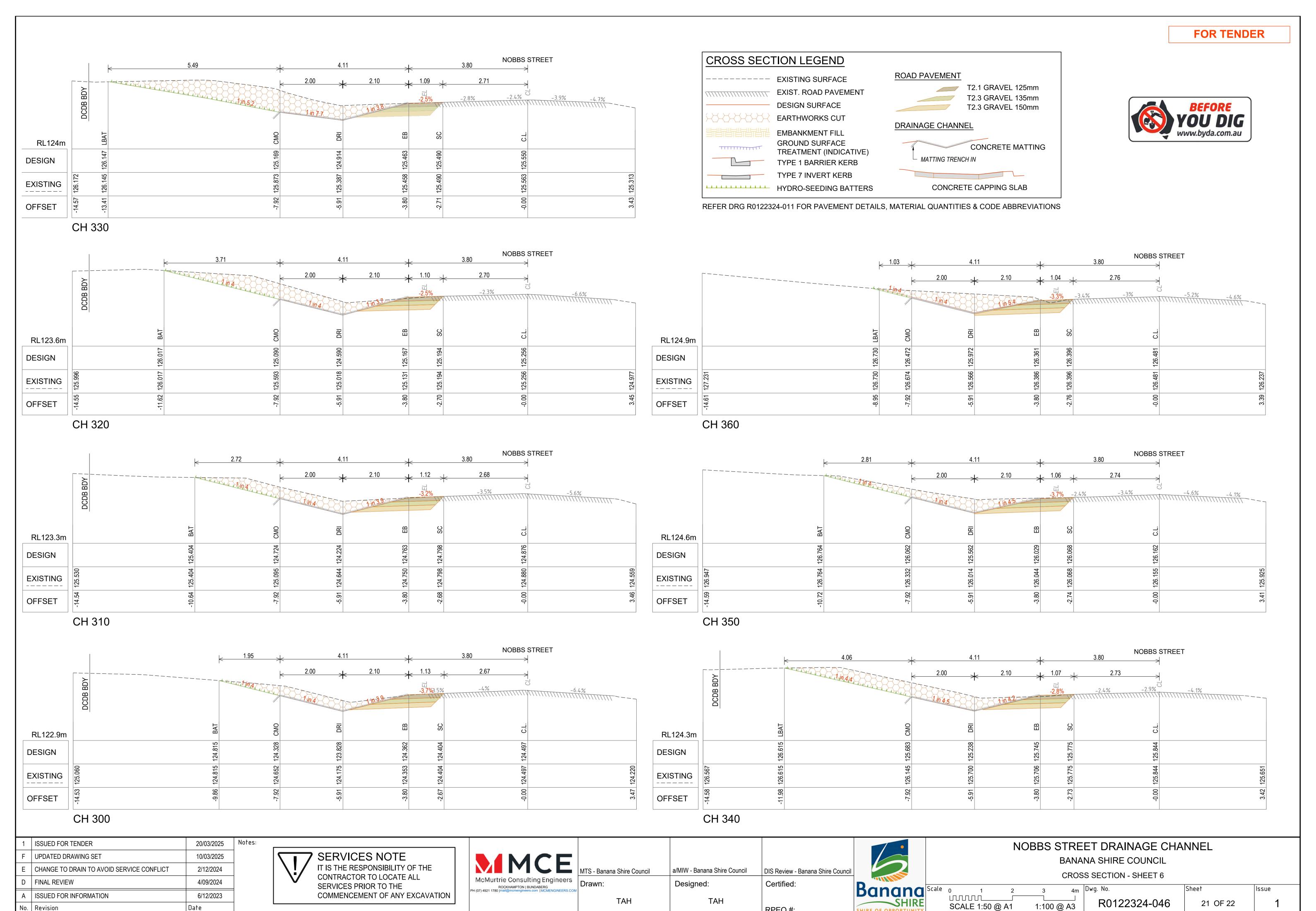










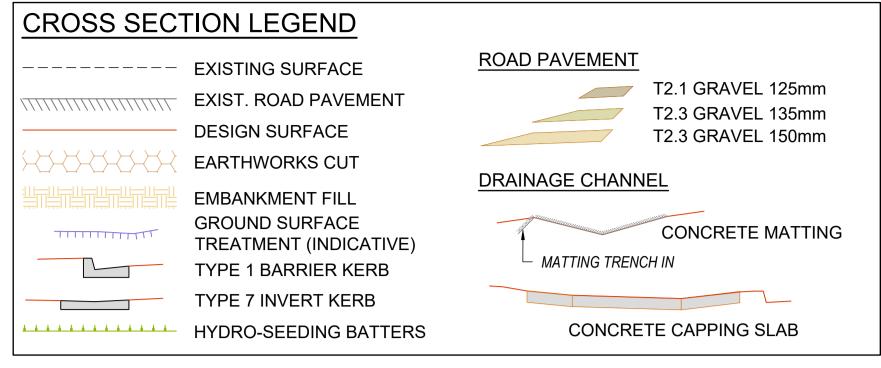


RPEQ #:

Date

No. Revision







REFER DRG R0122324-011 FOR PAVEMENT DETAILS, MATERIAL QUANTITIES & CODE ABBREVIATIONS

RL125.7m

DESIGN

DESI

- COUNCIL GRAVITY SEWER MAIN

RL125.5m

DESIGN

EXISTING

| Sign |

CH 375

OFFSET

ISSUED FOR TENDER

D | FINAL REVIEW

No. Revision

UPDATED DRAWING SET

A ISSUED FOR INFORMATION

CHANGE TO DRAIN TO AVOID SERVICE CONFLICT

6/12/2023

Date

CH 380

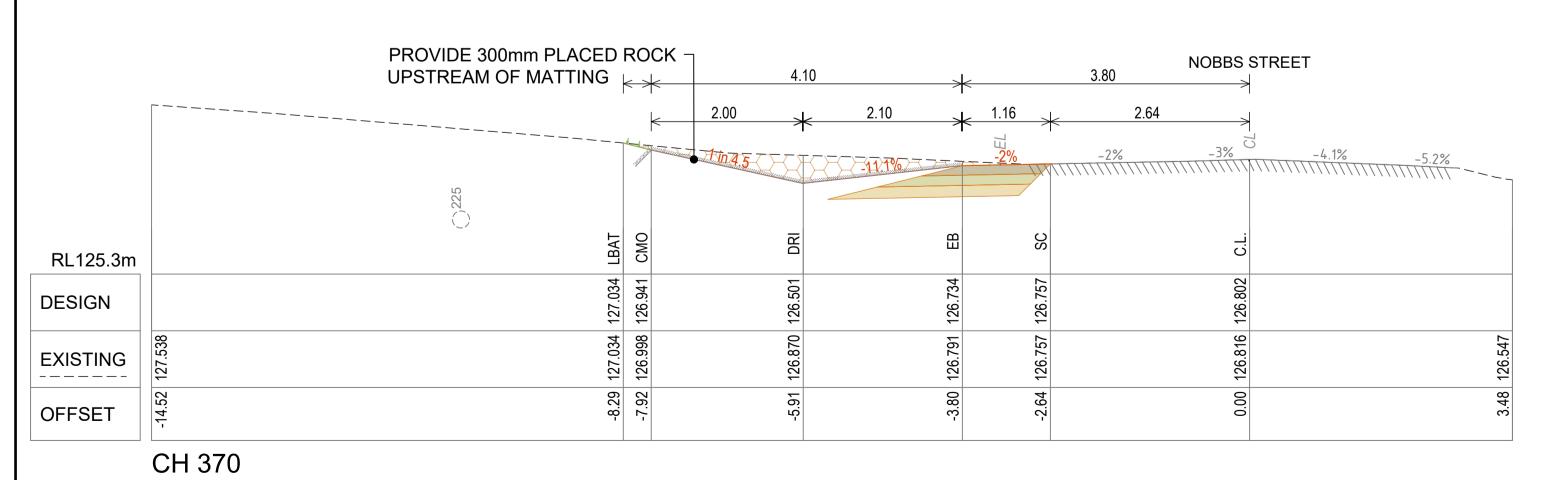
RL126m

DESIGN

**EXISTING** 

OFFSET

CH 390



20/03/2025

10/03/2025

2/12/2024

4/09/2024

Notes:

SERVICES NOTE

IT IS THE RESPONSIBILITY OF THE

CONTRACTOR TO LOCATE ALL

MCN

SERVICES PRIOR TO THE

COMMENCEMENT OF ANY EXCAVATION



TS - Banana Shire Council	a/MIW - Banana Shire Council	DIS Review - E
rawn:	Designed:	Certified:
TAH	TAH	
		RPEQ#:

RL126.6m

DESIGN

EXISTING

OFFSET

CH 400



NOBBS STREET DRAINAGE CHANNEL
BANANA SHIRE COUNCIL
CPOSS SECTION SHEET 7

CROSS SECTION - SHEET 7						
0 1 2	3 4m	Dwg. No.	Sheet	Issue		
SCALE 1:50 @ A1	1:100 @ A3	R0122324-047	22 OF 22	1		

**NOBBS STREET**