

BILOELA BUS STOP  
BUS STOP AND FOOTPATH DESIGN  
IDP ID NO. 21/22 5520-2383-0703

NO WORK IS SO  
IMPORTANT THAT  
IT CANNOT BE  
DONE SAFELY



DRAWING INDEX		
SHEET NO.	DRAWING NO.	DRAWING TITLE
1	5520-2383-0703-001	LOCALITY PLAN, SCOPE OF WORK & SHEET INDEX
2	5520-2383-0703-002	EXISTING FEATURE PLAN & SURVEY CONTROL POINTS
3	5520-2383-0703-003	PROPOSED FEATURE PLANS
4	5520-2383-0703-004	TYPICAL SECTIONS
5	5520-2383-0703-005	LONGITUDINAL SECTION OF CENTERLINE OF THE FOOTPATH, SIGNAGE DETAILS AND SETOUT POINT DETAILS
6	5520-2383-0703-006	CROSS SECTIONS OF THE PROPOSED FOOTPATH



STANDARD DRAWING INDEX	
DRAWING NO.	DRAWING TITLE
CMDG-R-050	KERB RAMP DETAILS
CMDG-R-051	CONCRETE PATHWAY / BIKEWAY DETAILS
GOSSI-CB3515-1010-03	BUS SHELTER LAYOUT
GOSSI-CB3515-1010-03	BUS STOP SHELTER - STRUCTURAL NOTES
DILEIGH-D21.100-TBS-01	TYPICAL BUS SHELTER POST FOOTING & FIXING DETAILS
CMDG-R-081	SIGN LOCATION AND INSTALLATION DETAILS
TRANSLINK SIGNAGE MANUAL SPEC 4.27.1	BUS STOP J POLE SIGN (TRANSLINK)

SCOPE OF WORK

- SITE ESTABLISHMENT
- PROVISION FOR TRAFFIC
- ASSESS AND INSTALL REQUIRED SEDIMENT AND EROSION CONTROL
- DEMOLITION AND DISPOSAL OF EXISTING CONCRETE
- CONSTRUCT CONCRETE FOOTPATH
- INSTALL 1 x BUS SHELTER
- INSTALL SIGNAGE, LITTER BIN AND LINEMARKING
- INSTALL 2 x KERB RAMP
- TOPSOIL AND TURF - DISTURBED AREAS
- INSTALL SIGNAGE AND LINEMARKING

FOR CONSTRUCTION

05/07/2022

D	FOR CONSTRUCTION	05/07/2022	<ul style="list-style-type: none"><li>• ALL UNITS IN METER UNLESS OTHERWISE SPECIFIED.</li><li>• ALL UNDERGROUND SERVICES SHALL BE LOCATED BY POTHOLING PRIOR TO ANY EARTHWORKS.</li><li>• MAPPING GRID 1994, ZONE 56.</li></ul>	M PAUDEL	I JOHNSON			BILOELA BUS STOP LOCALITY PLAN AND DRAWING INDEX			
C	FOR REVIEW	29/06/2022		DRAWN	MIW			SCALE NOT TO SCALE	DWG. NO. 5520-2383-0703-001	SHEET 1 OF 6	ISSUE D
B	FOR REVIEW	21/06/2022		A HEIT	G BROWN						
A	FOR REVIEW	03/06/2022		MIT	CHECKED RPQ 7682						
NO.	REVISION	DATE	GENERAL NOTES:								



# EXISTING FEATURES LEGEND

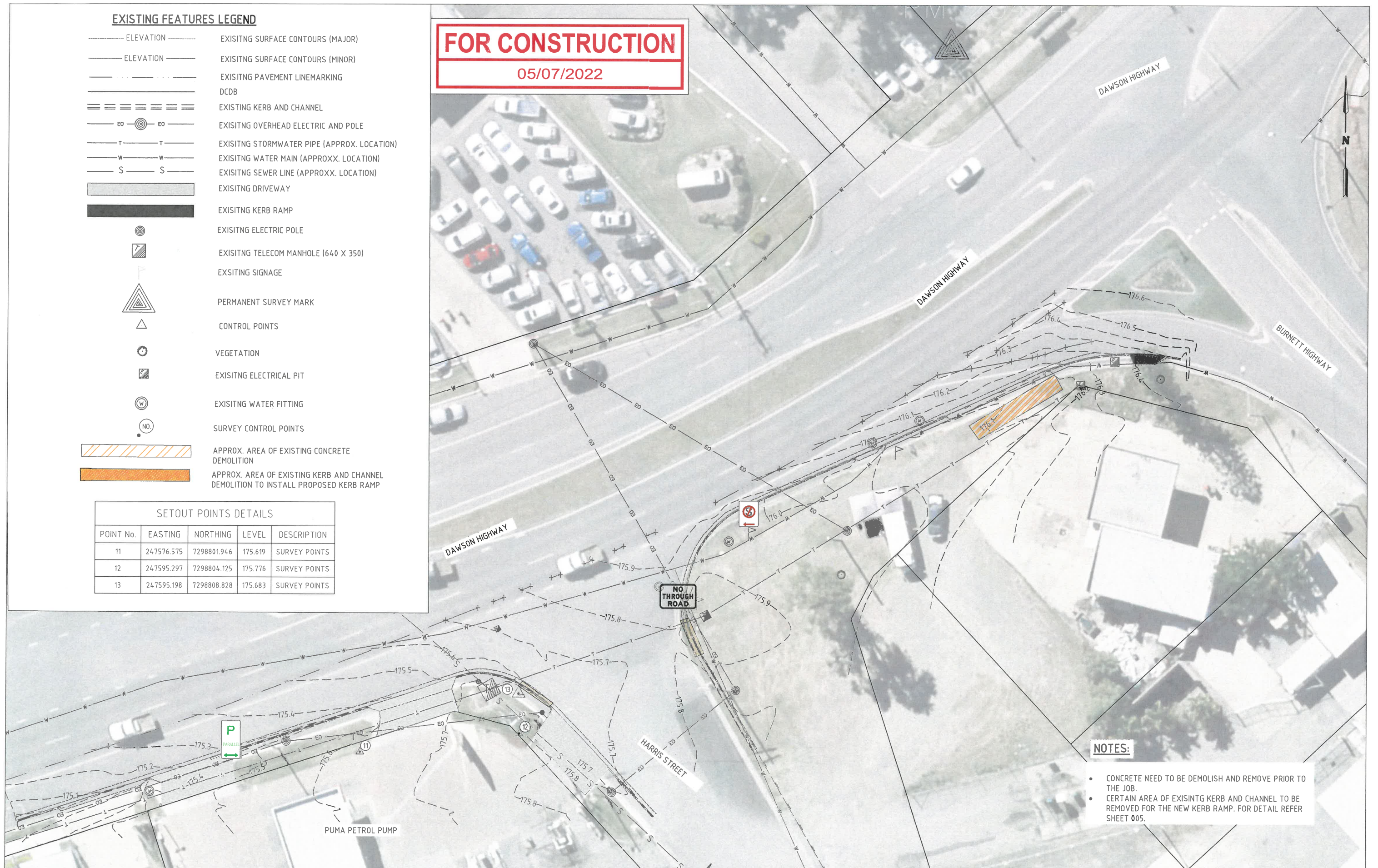
----- ELEVATION -----	EXISTING SURFACE CONTOURS (MAJOR)
----- ELEVATION -----	EXISTING SURFACE CONTOURS (MINOR)
----- ELEVATION -----	EXISTING PAVEMENT LINEMARKING
----- ELEVATION -----	DCDB
=====	EXISTING KERB AND CHANNEL
EO --- EO	EXISTING OVERHEAD ELECTRIC AND POLE
T --- T	EXISTING STORMWATER PIPE (APPROX. LOCATION)
W --- W	EXISTING WATER MAIN (APPROX. LOCATION)
S --- S	EXISTING SEWER LINE (APPROX. LOCATION)
=====	EXISTING DRIVEWAY
=====	EXISTING KERB RAMP
◎	EXISTING ELECTRIC POLE
◻	EXISTING TELECOM MANHOLE (640 X 350)
◻	EXISTING SIGNAGE
△	PERMANENT SURVEY MARK
△	CONTROL POINTS
⊙	VEGETATION
⊙	EXISTING ELECTRICAL PIT
⊙	EXISTING WATER FITTING
⊙	SURVEY CONTROL POINTS
▨	APPROX. AREA OF EXISTING CONCRETE DEMOLITION
▨	APPROX. AREA OF EXISTING KERB AND CHANNEL DEMOLITION TO INSTALL PROPOSED KERB RAMP

## SETOUT POINTS DETAILS

POINT No.	EASTING	NORTHING	LEVEL	DESCRIPTION
11	247576.575	7298801.946	175.619	SURVEY POINTS
12	247595.297	7298804.125	175.776	SURVEY POINTS
13	247595.198	7298808.828	175.683	SURVEY POINTS

FOR CONSTRUCTION

05/07/2022



## NOTES:

- CONCRETE NEED TO BE DEMOLISH AND REMOVE PRIOR TO THE JOB.
- CERTAIN AREA OF EXISTING KERB AND CHANNEL TO BE REMOVED FOR THE NEW KERB RAMP. FOR DETAIL REFER SHEET 005.

D	FOR CONSTRUCTION	05/07/2022
C	FOR REVIEW	29/06/2022
B	FOR REVIEW	21/06/2022
A	FOR REVIEW	03/06/2022
NO.	REVISION	DATE

GENERAL NOTES:

- ALL UNITS IN METER UNLESS OTHERWISE SPECIFIED.
- ALL UNDERGROUND SERVICES SHALL BE LOCATED BY POT-HOLING PRIOR TO ANY EARTHWORKS.
- MAPPING GRID 1994, ZONE 56.

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A HEIT

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I JOHNSON

MIW  
G BROWN

CHECKED RPEQ 7682



BILOELA BUS STOP  
EXISTING FEATURE PLAN AND SURVEY CONTROL POINTS

SCALE 0 2 4 6 8 1:400	DWG. NO. 5520-2383-0703-002	SHEET 2 OF 6	ISSUE D
DESCRIPTION			

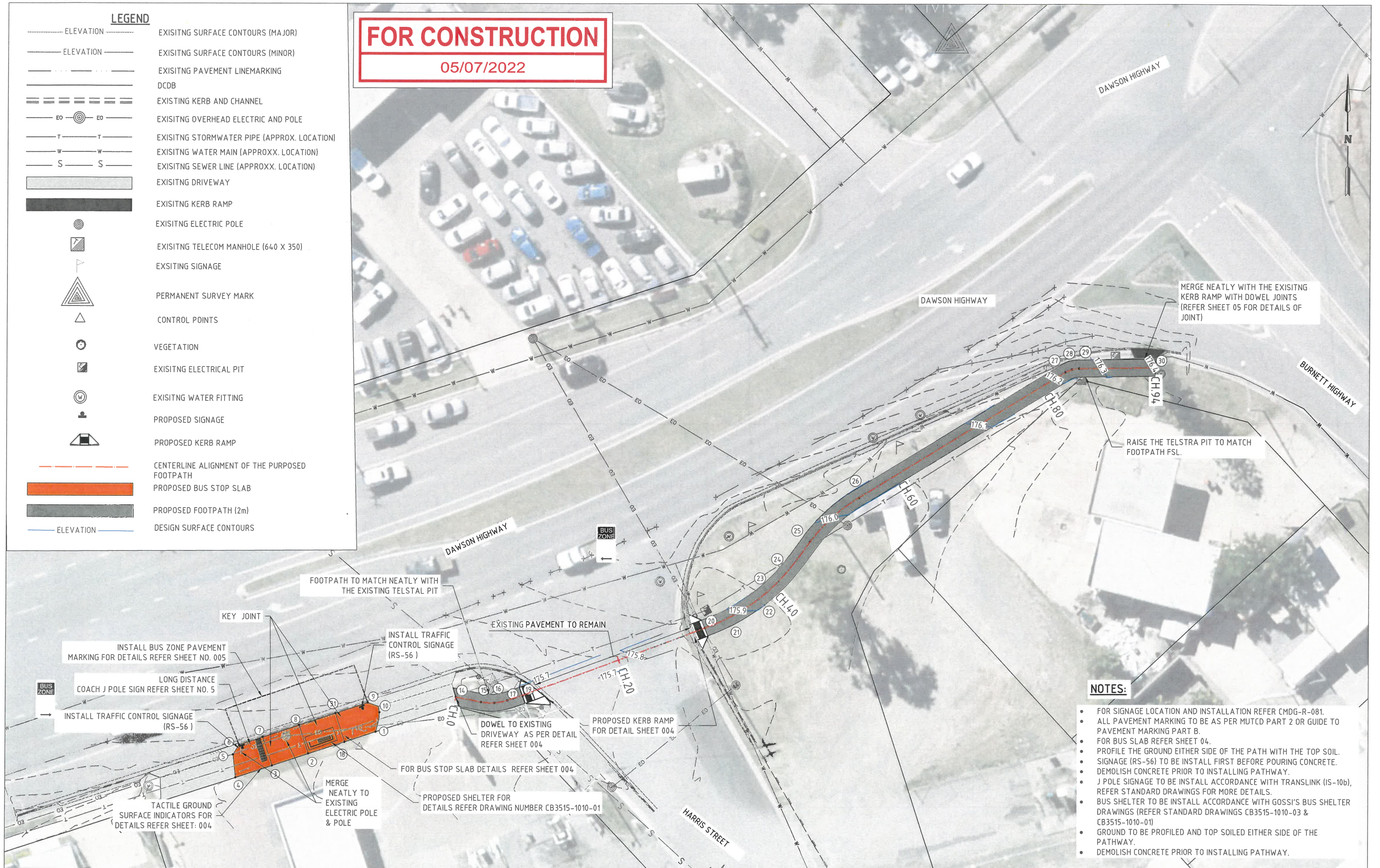


# LEGEND

----- ELEVATION -----	EXISTING SURFACE CONTOURS (MAJOR)
----- ELEVATION -----	EXISTING SURFACE CONTOURS (MINOR)
----- ELEVATION -----	EXISTING PAVEMENT LINEMARKING
=====	DCDB
=====	EXISTING KERB AND CHANNEL
EO --- EO	EXISTING OVERHEAD ELECTRIC AND POLE
T --- T	EXISTING STORMWATER PIPE (APPROX. LOCATION)
W --- W	EXISTING WATER MAIN (APPROX. LOCATION)
S --- S	EXISTING SEWER LINE (APPROX. LOCATION)
=====	EXISTING DRIVEWAY
=====	EXISTING KERB RAMP
◎	EXISTING ELECTRIC POLE
◻	EXISTING TELECOM MANHOLE (640 X 350)
△	EXISTING SIGNAGE
△	PERMANENT SURVEY MARK
△	CONTROL POINTS
○	VEGETATION
⊗	EXISTING ELECTRICAL PIT
⊗	EXISTING WATER FITTING
⊗	PROPOSED SIGNAGE
⊗	PROPOSED KERB RAMP
-----	CENTERLINE ALIGNMENT OF THE PURPOSED FOOTPATH
=====	PROPOSED BUS STOP SLAB
=====	PROPOSED FOOTPATH (2m)
----- ELEVATION -----	DESIGN SURFACE CONTOURS

**FOR CONSTRUCTION**

05/07/2022



D	FOR CONSTRUCTION	05/07/2022
C	FOR REVIEW	29/06/2022
B	FOR REVIEW	21/06/2022
A	FOR REVIEW	03/06/2022
NO.	REVISION	DATE

- ALL UNITS IN METER UNLESS OTHERWISE SPECIFIED.
- ALL UNDERGROUND SERVICES SHALL BE LOCATED BY POT HOLING PRIOR TO ANY EARTHWORKS.
- MAPPING GRID 1994, ZONE 56.

GENERAL NOTES:

M PAUDEL

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G BROWN

CHECKED RPO 1682



BILOELA BUS STOP PROPOSED FEATURE PLAN			
SCALE <div><div>02468</div><div>DESCRIPTION</div></div> 1:400	DWG. NO. 5520-2383-0703-003	SHEET 3 OF 6	ISSUE D

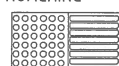


EXISTING KER AND CHANNEL  
EXISTING DRIVEWAY  
PURPOSED BUS STOP SLAB

## CONCRETE NOTES

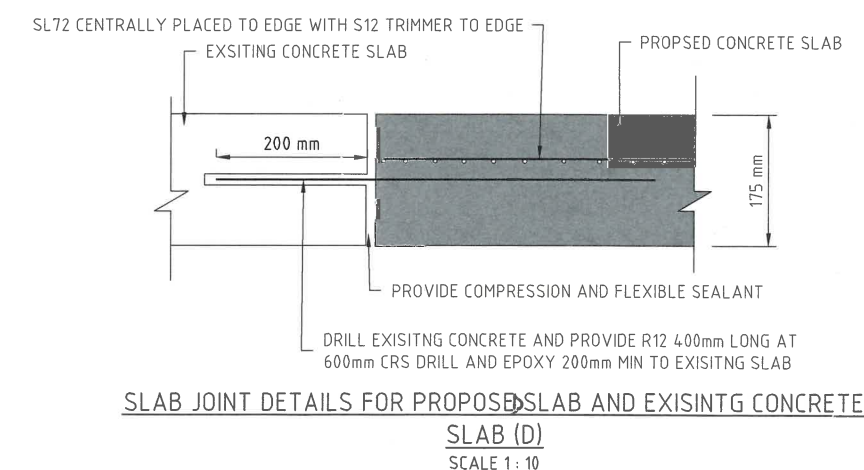
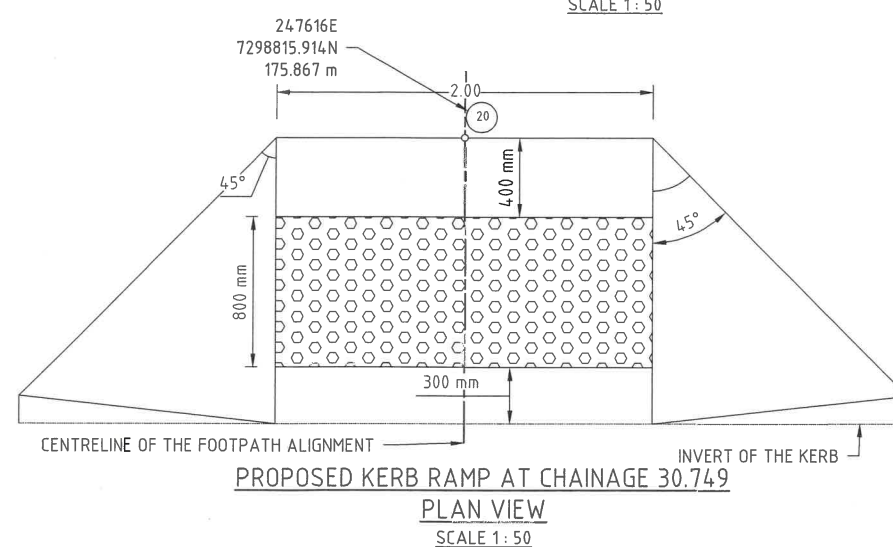
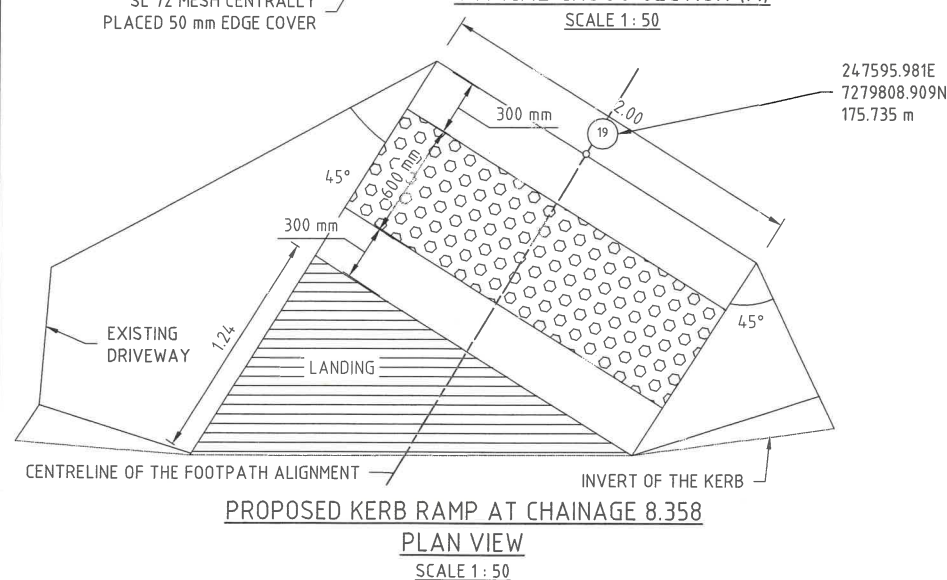
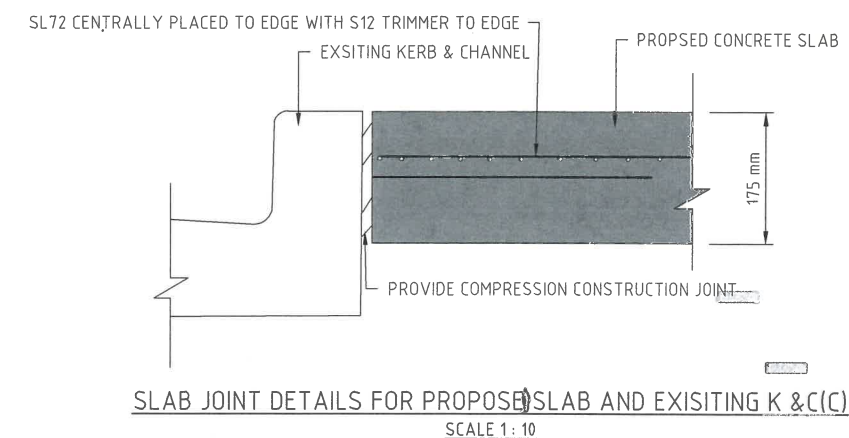
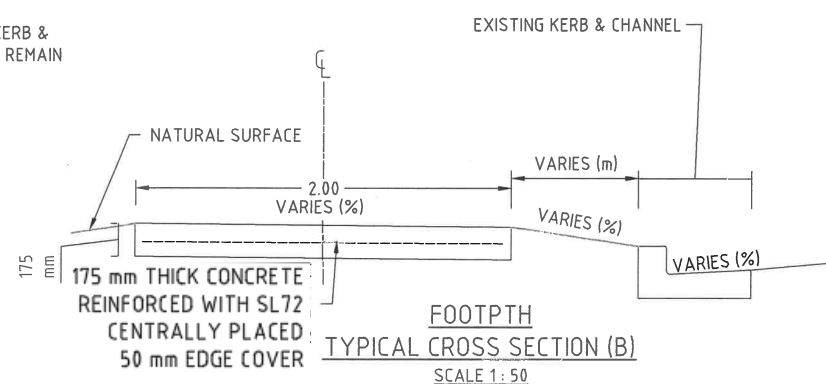
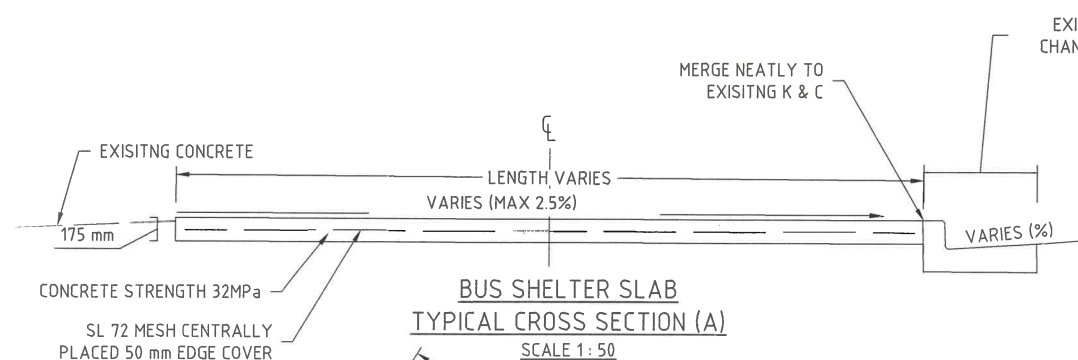
- FOOTPATH TO BE CONSTRUCTED IN ACCORDANCE WITH CMDG SPECIFICATION MINOR CONCRETE WORK (C271) & STANDARD DRAWING CMDG-R-051.
- ALTERNATING KEY AND EXPANSION JOINTS AT 5m C/C IN BUS STOP SLAB.
- CONCRETE STRENGTH TO BE 32MPa.
- BUS STOP SLAB CONCRETE TO BE THICK BROOM FINISHED FOR SLIP RESISTANCE.
- FOOTPATH CONCRETE TO BE THICK BROOM FINISHED FOR SLIP RESISTANCE.



- TAGTILE GROUND SURFACE INDICATORS (TGSIs) TO BE CERAMIC TYPE(OR APPROVED EQUIVALENT) SEALED WITH MINIMUM R11 SLIP RESISTANCE. TGSIs TO MAINTAIN MINIMUM 30% LUMINANCE CONTRAST TO ADJACENT HARD - STAND FINISHES (BLACK PREFERRED).
- DIRECTIONAL TGSIs TO BE INSTALLED PERPENDICULAR TO THE DIRECTION OF TRAVEL WHEN APPROACHING



TACTILE GROUND SURFACE  
INDICATORS AS PER  
AS1428.4.2002 (APPENDIX 3)

- KERB RAMP TO BE CONSTRUCTED AS PER CMDG-R-050.

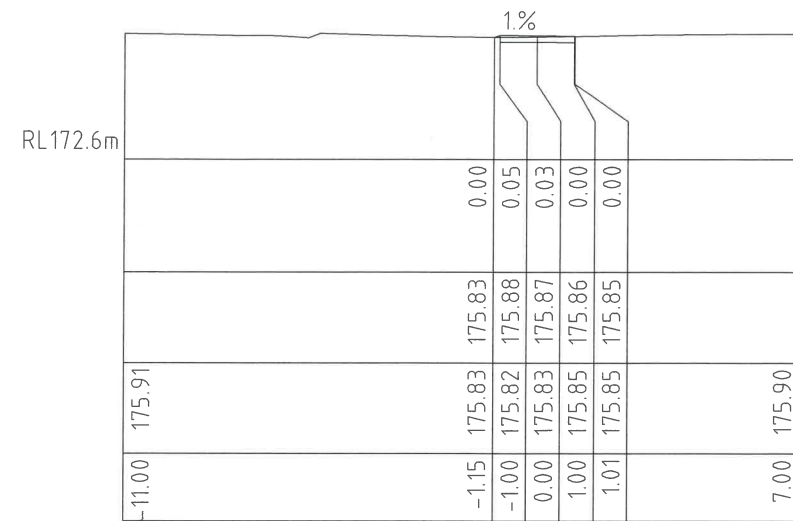


			<ul style="list-style-type: none"><li>ALL UNITS IN METER UNLESS OTHERWISE SPECIFIED.</li></ul>	M PAUDEL		I JOHNSON				<b>DIAL BEFORE YOU DIG</b> <a href="http://www.1100.com.au">www.1100.com.au</a>	BILOELA BUS STOP TYPICAL SECTION			
D	FOR CONSTRUCTION	05/07/2022		DRAWN A HEIT		MIW G BROWN					SCALE AS SHOWN	DWG. NO. 5520-2383-0703-004	SHEET 4 OF 6	ISSUE D
C	FOR REVIEW	29/06/2022												
B	FOR REVIEW	21/06/2022												
A	FOR REVIEW	03/06/2022												
NO	REVISION	DATE	GENERAL NOTES:	MIT	CHECKED RP00 7682									

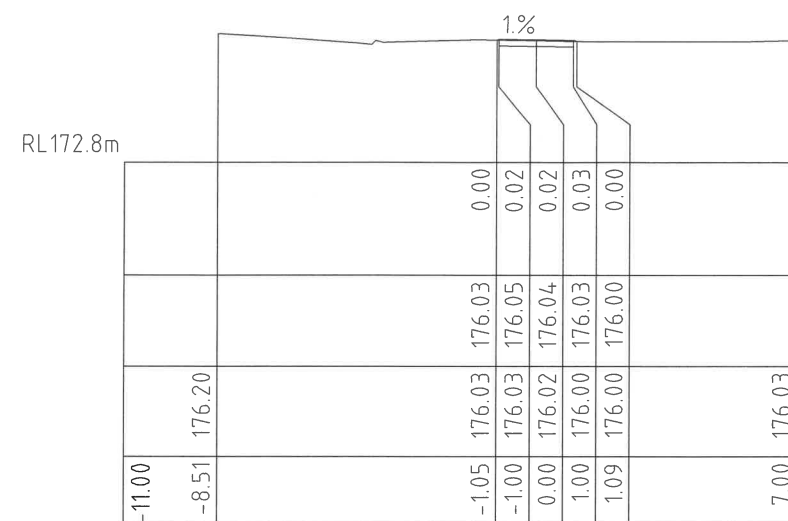




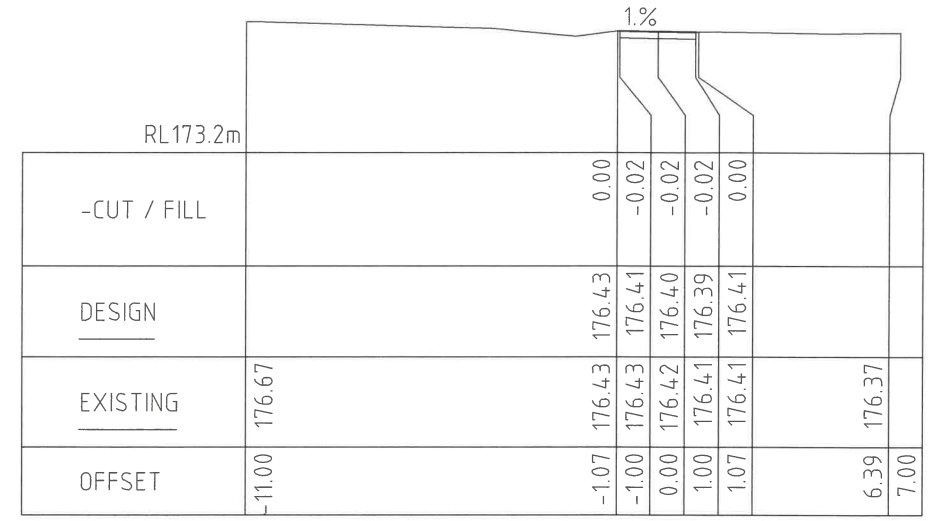




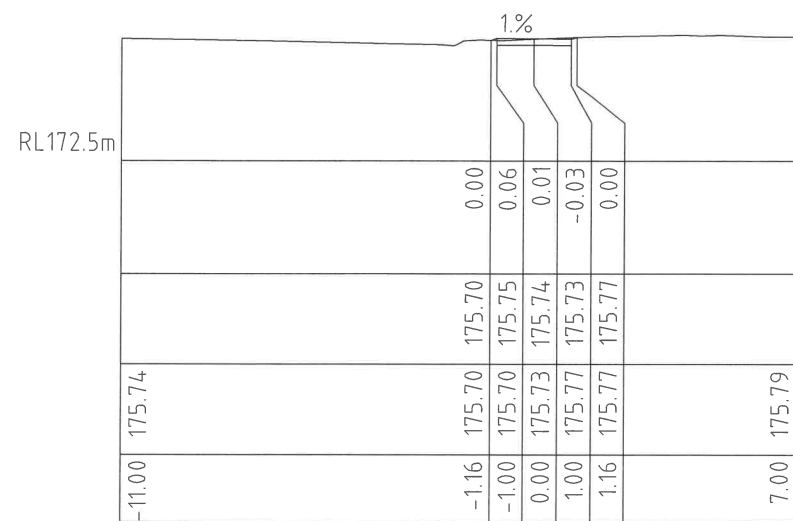
Ch 30.77 m



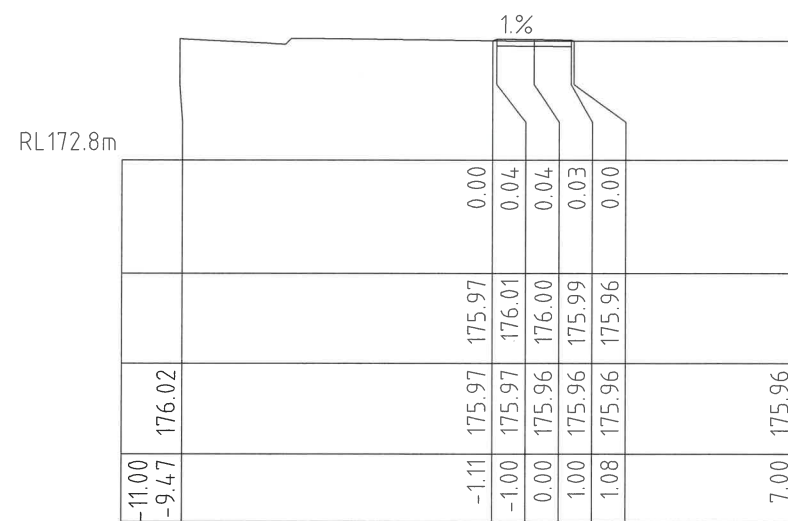
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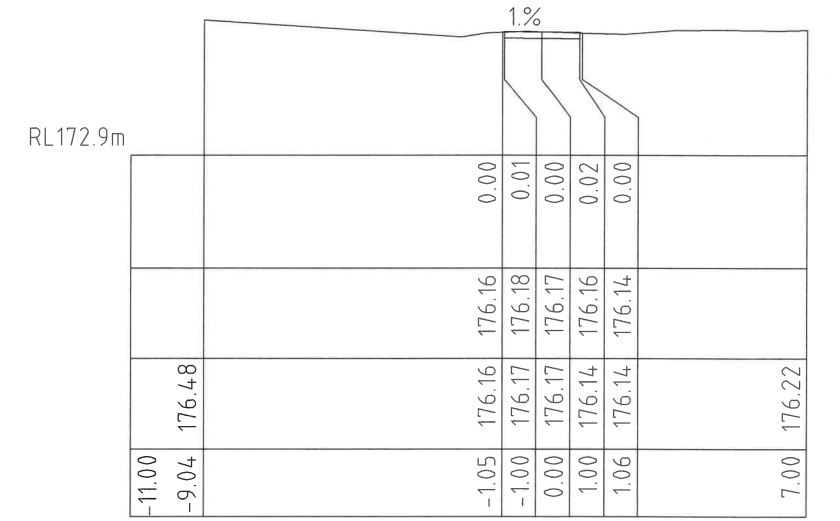
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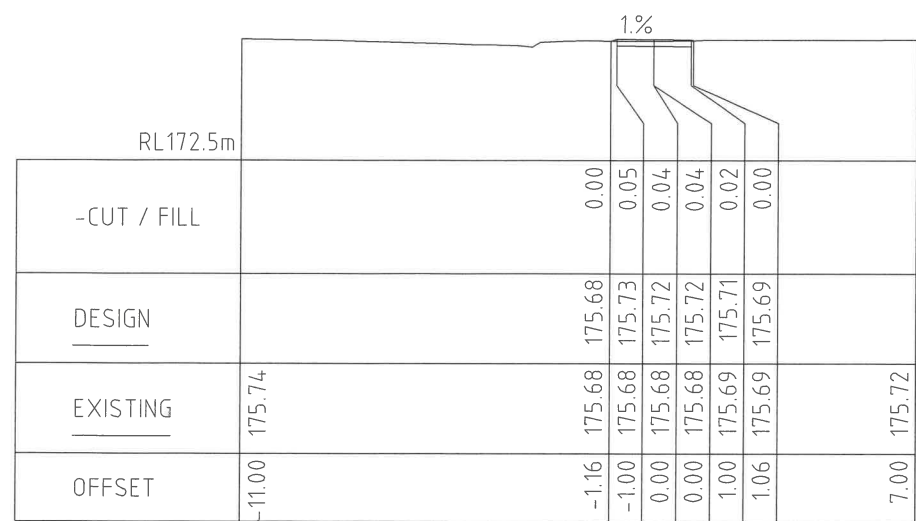
Ch 8.18 m



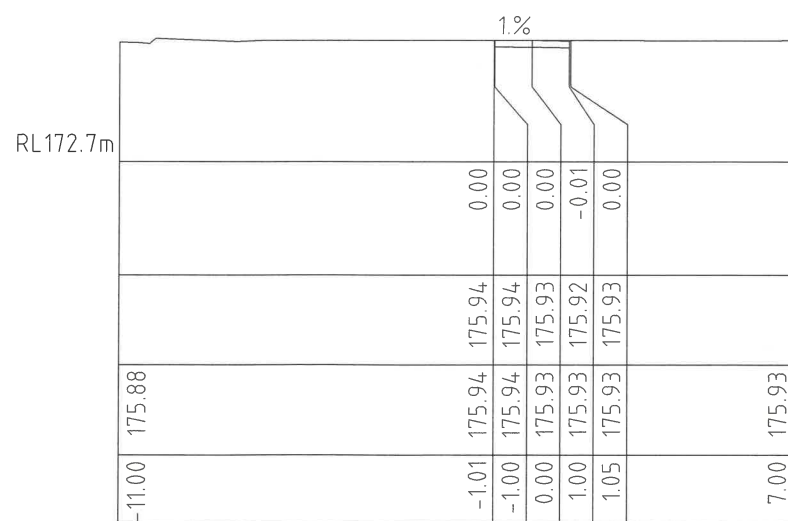
Ch 50.00 m



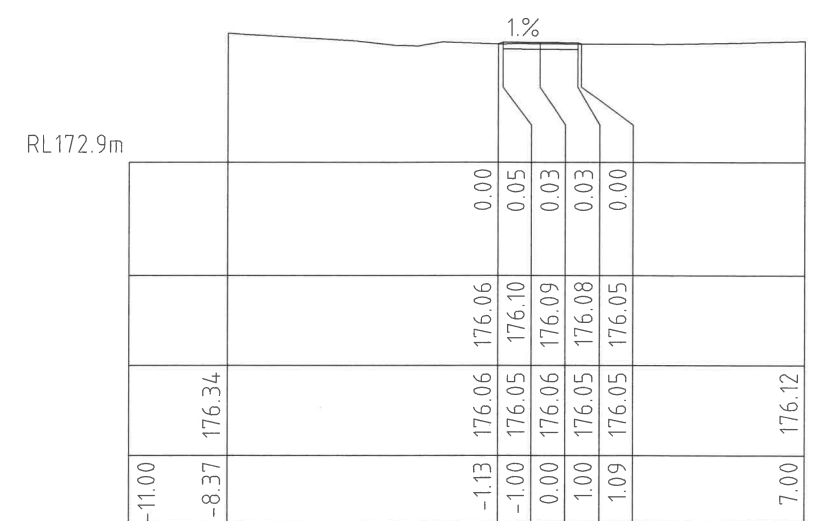
Ch 80.00 m





Ch 0.00 m



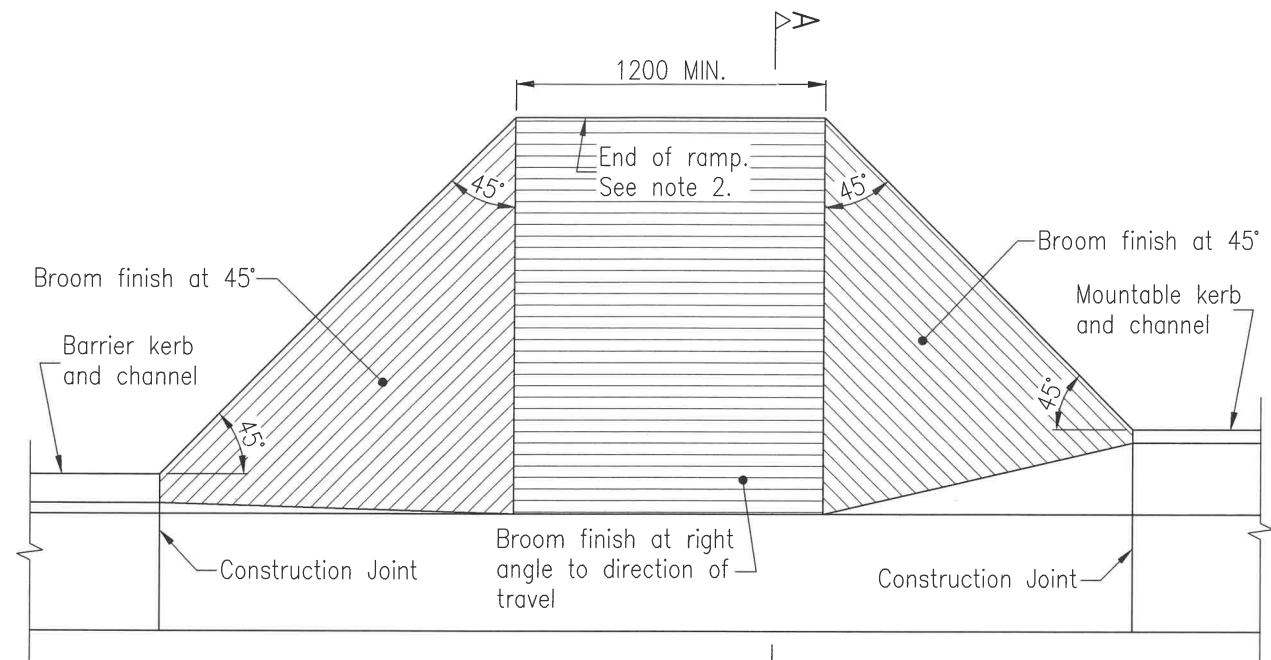
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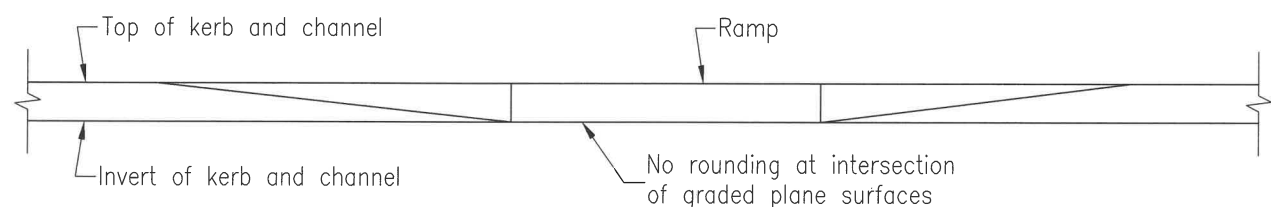
Ch 70.00 m

D	FOR CONSTRUCTION	05/07/2022	<div>FOR CONSTRUCTION</div> <div>05/07/2022</div>	M PAUDEL	I JOHNSON	 	BILOELA BUS STOP			
C	FOR REVIEW	29/06/2022		DRAWN	MIW		CROSS SECTIONS OF THE PROPOSED FOOTPATH			
B	FOR REVIEW	21/06/2022		A HEIT	G BROWN		SCALE (HORIZONTAL AND VERTICAL)			
A	FOR REVIEW	03/06/2022		MIT	CHECKED		DWG. NO.			
NO.	REVISION	DATE		GENERAL NOTES:	2/8/22		5520-2383-0703-006			
						SHEET		ISSUE		
						6 OF 6		D		

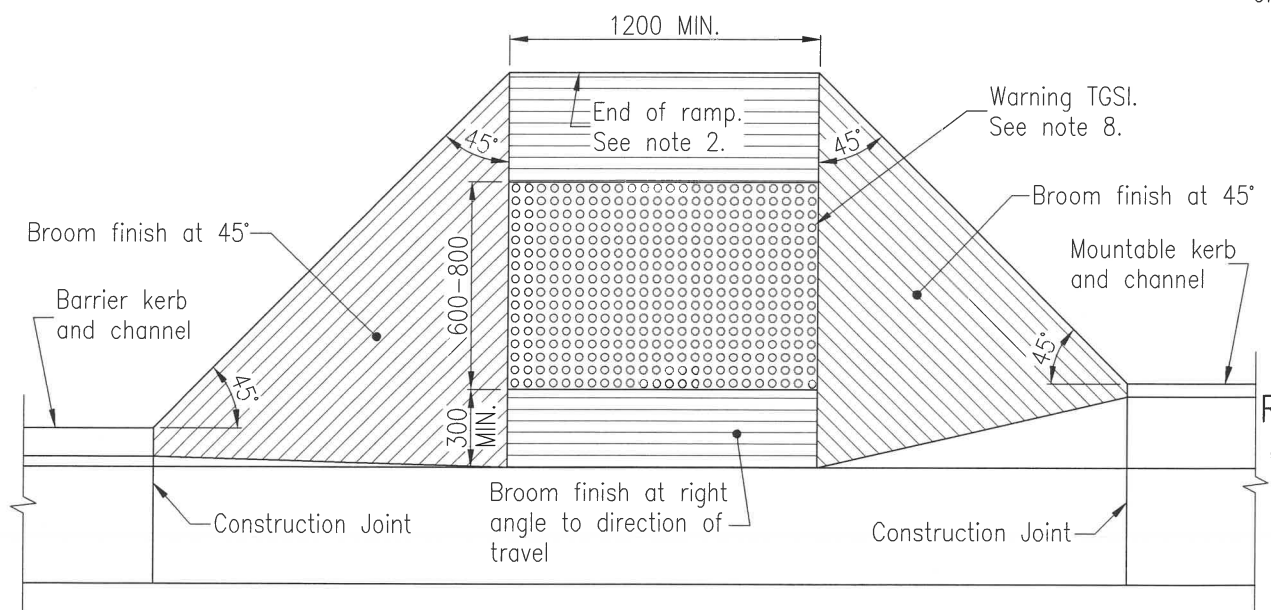




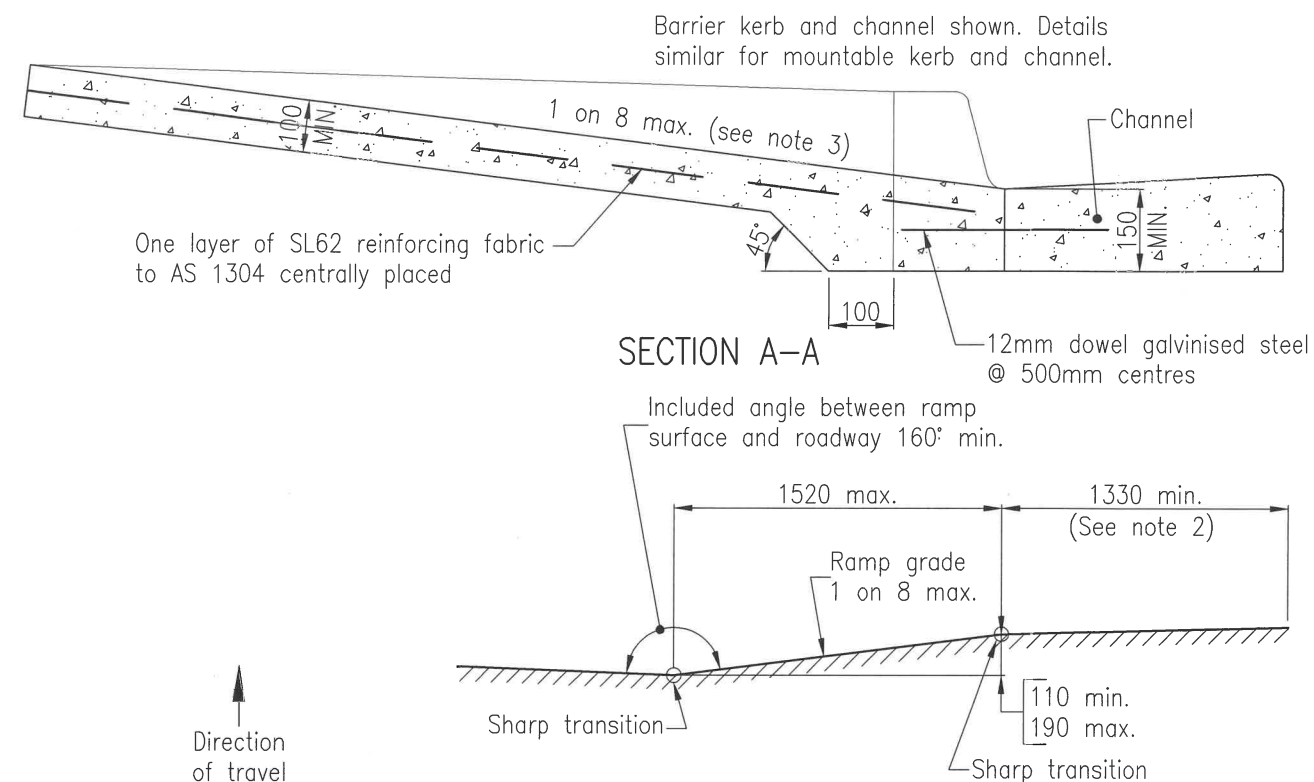
PLAN VIEW - TYPE GU RAMP



ELEVATION - RAMP



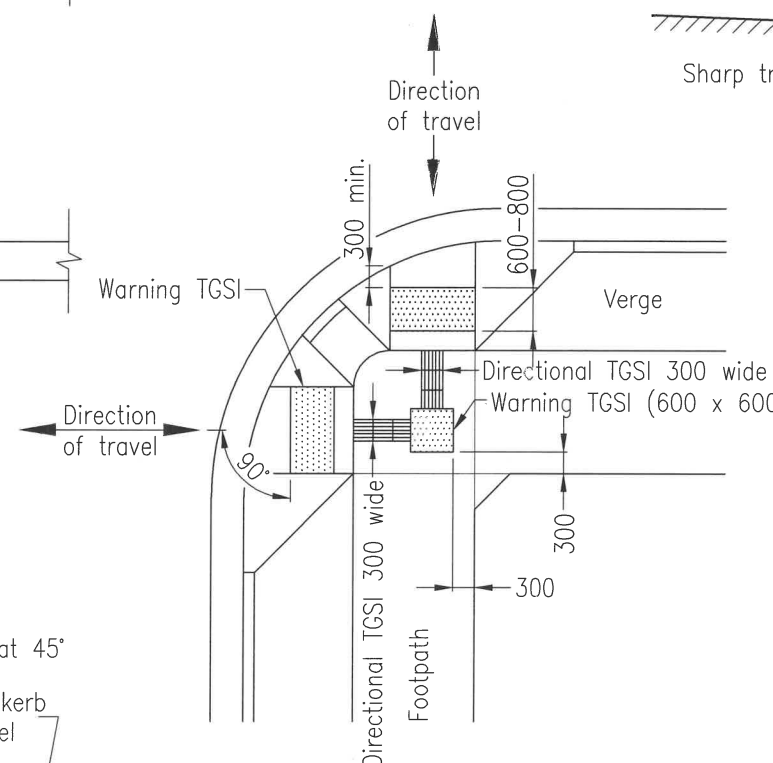
Section see note 5  
PLAN VIEW - TYPE TS RAMP



RAMP GRADING

NOTES:

- RAMPED PEDESTRIAN CROSSING TYPES are to be used as follows:  
1. Type GU - General usage.  
Type TS (Tactile Surface) - Where a need by vision impaired pedestrians has been identified.
- RAMP END CLEARANCE - There shall be a minimum wheelchair turnaround distance of 1330mm beyond the end of the ramp and free of any obstruction.
- RAMP SLOPE - Maximum ramp slope for wheelchair access shall be 1 on 8. The included angle between the ramp and the roadway shall not be less than 160° to provide ease of access for wheelchair users.
- RAMP LOCATION - Kerb ramps should preferably be directed at 90° to the direction of the road to enable vision impaired pedestrians to walk directly across the road by the shortest route.
- TYPE TS RAMP SECTION similar to section 1. Minimum 80mm depth of concrete to be provided below the tactile surfacing.
- CONCRETE to be Class 32MPa/10. All concrete to be broom finished. Ramp to be cast monolithically with the channel.
- SURFACE OF RAMP and sloping sides shall be slip resistant and of a colour that contrasts with the adjoining surfaces to meet the requirements of AS 1428.
- TGSI (Tactile Ground Surface Indicators) shall be in accordance with DR 00069 CP Design for Access and Mobility - Part 4: Tactile Indicators (Draft). Tactile indicators shall be of a contrasting colour, preferably yellow, to adjoining surfaces to assist partially sighted pedestrians. Width of warning indicators shall be for the full width of the ramp. Tactile surfacing shall be installed perpendicular to direction of travel.
- DIMENSIONS are in millimetres unless shown otherwise.



RAMP LOCATION  
(right angle corner)

APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes

REVISIONS	DATE
E IRC ADDED	12/2016
D GRC AND LSC ADDED	09/2014
C MRC ADDED	04/2011
B AMENDED RAMP LOCATION AND TGSI	07/2010
A POST AMALGAMATION REVIEW	01/2010

**DISCLAIMER.**  
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**Capricorn Municipal Development Guidelines**

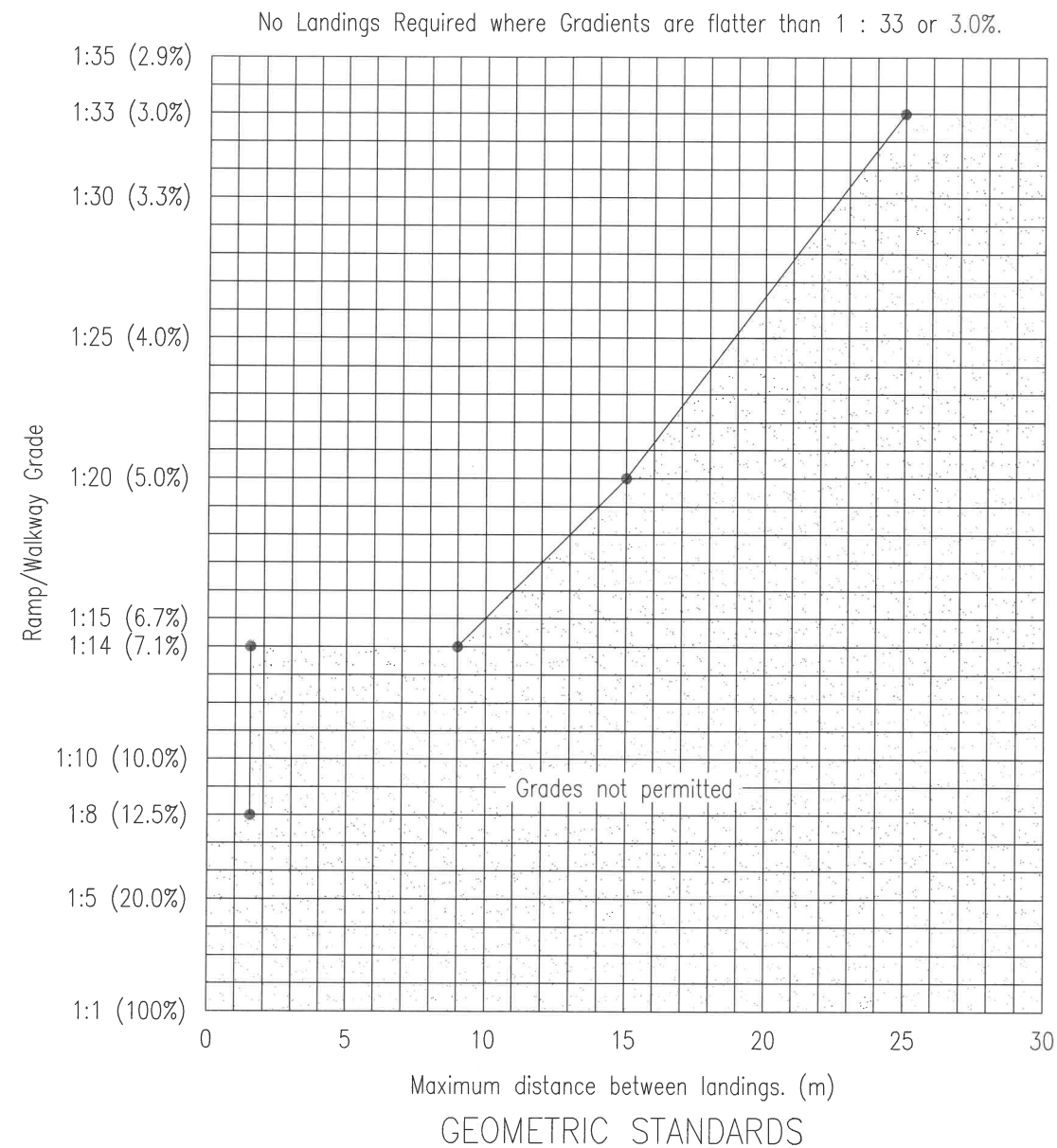
Incorporating:

Banana Shire Council (BSC) Livingstone Shire Council (LSC)  
Central Highlands Regional Council (CHRC) Maranoa Regional Council (MRC)  
Gladstone Regional Council (GRC) Rockhampton Regional Council (RRC)  
Isaac Regional Council (IRC)

**KERB RAMP DETAILS**

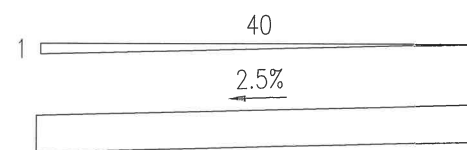
ROADS				
STANDARD DRAWING				
CMDG-R-050				
REV.	A	B	C	D



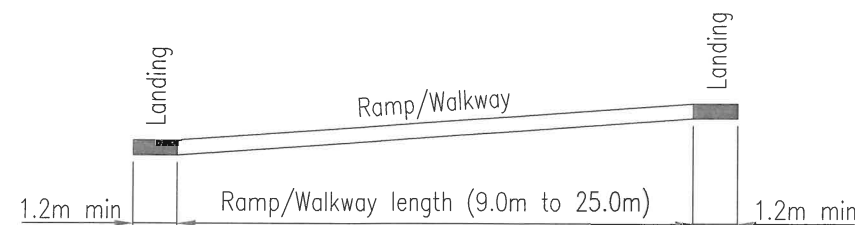


#### NOTES:

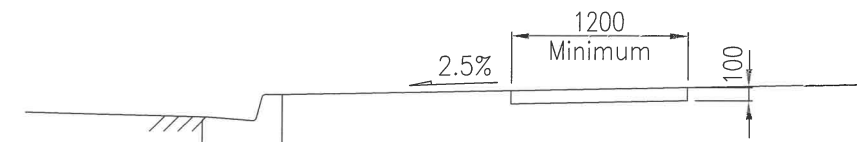
1. Path grades to be in accordance with AS 1428.1.
2. Tactile indicators to be provided in accordance with AS 1428.1.
3. The gradient of walkways and ramps between landings shall be constant. Ramps shall have landings at changes in direction.
4. Passing spaces shall be provided in accordance with AS 1428.2 where path width is less than 1.8m wide.
5. Where the length of ramp exceeds 1.52m it shall be installed at a maximum grade of 1:14.
6. Joints to be approved metal key joints.
7. Thickness to be increased to 125mm at residential vehicular crossings. Provide a joint at both ends of thickened section.
8. Concrete footpaths joining existing driveways to be transitioned over a minimum 5.0m length.
9. All concrete surfaces to be broom finished.
10. All dimensions in millimetres unless shown otherwise.
11. Kerb Paths are to be 1.5m.



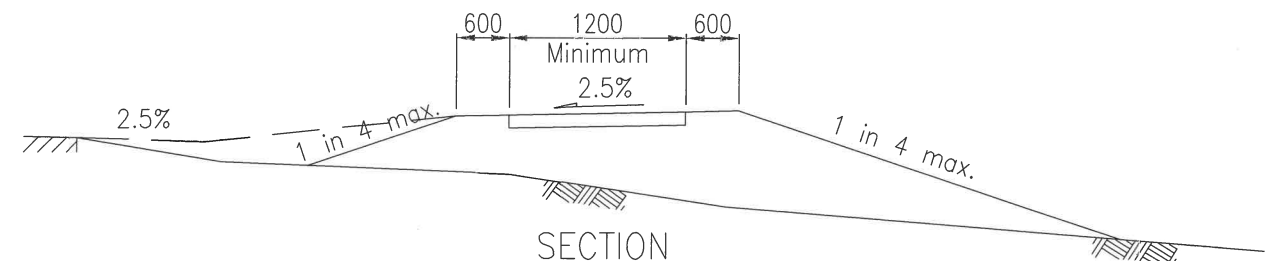
MAXIMUM CROSSFALL OF PATHS



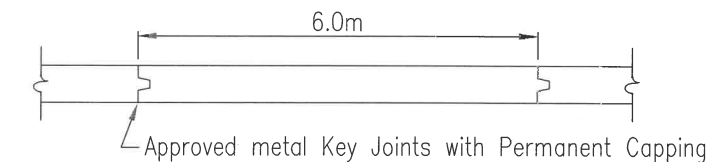
LONGITUDINAL GRADES OF PATHS



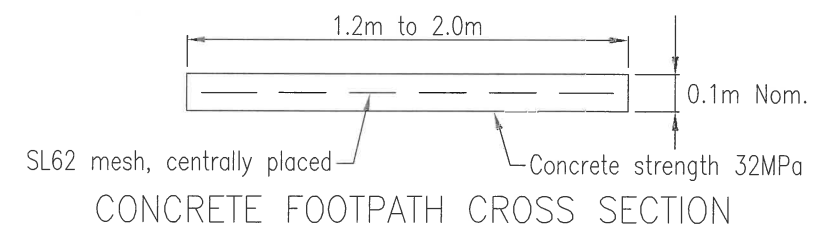
SECTION  
(Where kerb & channel exists)



SECTION  
(Where no kerb & channel exists)



METAL KEY JOINTS



CONCRETE FOOTPATH CROSS SECTION

APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fibre Reinforced Concrete Approved?	Yes	No	No	No	No	No	Yes

REVISIONS	DATE
E IRC ADDED	12/2016
D GRC AND LSC ADDED	09/2014
C MRC ADDED	04/2011
B GRADE AMEND TO 1:4 MAX AND FIBRE REINFORCED CONCRETE	07/2010
A POST AMALGAMATION REVIEW	01/2010

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Isaac Regional Council (IRC)

#### CONCRETE PATHWAY/BIKEWAY DETAILS

ROADS
STANDARD DRAWING
CMDG-R-051
REV. A B C D E



GENERAL NOTES

G1 THE STRUCTURAL DRAWINGS MUST BE READ IN CONJUNCTION WITH THE ARCHITECTURAL AND ALL OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY MUST BE REFERRED TO THE SUPERINTENDENT FOR RESOLUTION PRIOR TO COMMENCEMENT OF THE WORK.

DETAIL NOTES ON THESE DRAWINGS AND THE SPECIFICATION CLAUSES TAKE PRECEDENCE OVER THE GENERAL NOTES.

G2 ALL MATERIALS AND WORKMANSHIP MUST BE IN ACCORDANCE WITH THE RELEVANT CURRENT STANDARDS AUSTRALIA CODES, THE BUILDING CODE OF AUSTRALIA AND THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES, EXCEPT WHEN VARIED BY THE CONTRACT DOCUMENTS.

G3 ALL DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS MUST BE VERIFIED BY THE CONTRACTOR ON SITE, PRIOR TO COMMENCEMENT OF ANY FABRICATION OR CONSTRUCTION WORKS. THE STRUCTURAL DRAWINGS MUST NOT BE SCALED FOR DIMENSIONS.

G4 ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES, U.N.O.

G5 THE STRUCTURAL COMPONENTS DETAILED ON THESE STRUCTURAL DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RELEVANT STANDARDS AUSTRALIA CODE AND BUILDING CODE OF AUSTRALIA

G6 THE STRUCTURE HAS BEEN DESIGNED FOR WIND ACTIONS IN ACCORDANCE WITH AS4055-2006 AND AS/NZS1170.2-2011 AS APPROPRIATE. THE ADOPTED ULTIMATE DESIGN WIND SPEED ( $V_{des}$ ) IS 37 m/s - N2 WIND CLASSIFICATION.

G7 THE METHOD OF CONSTRUCTION AND THE MAINTENANCE OF SAFETY DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR. IF ANY STRUCTURAL ELEMENT PRESENTS DIFFICULTY IN RESPECT OF CONSTRUCTABILITY OR SAFETY, THE MATTER MUST BE REFERRED TO THE SUPERINTENDENT FOR RESOLUTION PRIOR TO COMMENCEMENT OF THE WORK.

G8 DURING CONSTRUCTION THE STRUCTURE MUST BE MAINTAINED IN A STABLE CONDITION AND MUST ENSURE THAT NO PART IS OVERLOADED DURING CONSTRUCTION. TEMPORARY PROPPING OR BRACING MUST BE DESIGNED AND PROVIDED BY THE CONTRACTOR AND ISSUED TO THE DESIGN ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT, IN ORDER TO KEEP THE BUILDING WORKS AND EXCAVATIONS STABLE AT ALL TIMES.

G9 CONSTRUCTION JOINTS WHERE NOT SHOWN ON THE DRAWINGS MUST BE TO THE APPROVAL OF THE ENGINEER.

G10 NO HOLES OR CHASES OTHER THAN THOSE ON THE STRUCTURAL DRAWINGS MUST BE MADE IN ANY STRUCTURAL MEMBER, WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER.

G11 THESE NOTES MUST ALSO APPLY TO ALL MATERIALS AND PROPRIETARY PRODUCTS USED IN CONSTRUCTION OF THE WORK.

G12 THE CONTRACTOR MUST BE RESPONSIBLE TO ENSURE ALL MATERIALS AND PROPRIETARY PRODUCTS SOURCED COMPLY WITH THE APPROPRIATE QUALITY AND RELEVANT STANDARDS NOTED WITHIN THESE GENERAL NOTES.

FOOTING NOTES

F1 ALL FOOTINGS ARE TO BE FOUND IN MATERIAL HAVING A MINIMUM ALLOWABLE BEARING CAPACITY OF 100 kPa.

F2 THE CONTRACTOR SHALL ENGAGE A GEOTECHNICAL ENGINEER TO CONFIRM THE ADEQUACY OF THE FOUNDING MATERIAL (BEARING CAPACITY), PRIOR TO THE PLACEMENT OF MEMBRANE, REINFORCEMENT OR CONCRETE.

F3 SHOULD ACTUAL CONDITIONS BE FOUND TO DIFFER FROM THOSE NOTED, THE MATTER SHOULD BE REFERRED TO THE SUPERINTENDENT FOR POSSIBLE FOOTING REDESIGN BY THE ENGINEER.

F4 ALL FOOTINGS MUST BE FOUNDED A MINIMUM OF 200mm INTO NATURAL GROUND.

F5 THE CONTRACTOR MUST CHECK ALL EXCAVATIONS FOR EXISTENCE OF ORGANIC MATERIAL AND RUBBISH. ANY SUCH MATERIAL MUST BE REMOVED AND THE EXCAVATION BACKFILLED WITH CLEAN GRANULAR MATERIAL AND COMPACTED.

F6 FOOTINGS MUST BE CONSTRUCTED AND BACKFILLED AS SOON AS POSSIBLE FOLLOWING EXCAVATION TO AVOID EITHER SOFTENING OF THE FOUNDING MATERIAL OR DRYING OUT BY EXPOSURE.

F7 EXCAVATE FOR FOOTINGS TO THE NOMINATED SIZE AND DEPTH. FOOTING FOUNDING LEVELS ARE PROVISIONAL SUBJECT TO ACTUAL SITE CONDITIONS AND APPROVAL BY THE GEOTECHNICAL ENGINEER.

F8 CONCRETE MUST BE COMPACTED BY AN IMMERSION VIBRATOR.

F9 BORED PIERS MUST BE CONSTRUCTED IN ACCORDANCE WITH AS2159 PILING DESIGN AND INSTALLATION EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

F10 PIER HOLES BASES MUST HAVE ALL LOOSE AND DISTURBED MATERIAL REMOVED PRIOR TO PLACING CONCRETE.

F11 BORED PIER FOOTINGS MUST BE TEMPORARILY SHEATHED DURING BORING AND CASTING CONCRETE IF NECESSARY TO MAINTAIN THE SIDES THAT ARE UNSTABLE AND COLLAPSING. SHEATHING MUST BE REMOVED GRADUALLY AS CASTING PROGRESSES.

F12 PIER HOLES MUST BE KEPT FREE OF WATER. ANY RESIDUAL OR SEEPAGE WATER IS TO BE REMOVED PRIOR TO PLACEMENT OF CONCRETE

CONCRETE NOTES:

C1 ALL CONCRETE PLACED MUST BE COMPACTED BY MECHANICAL VIBRATOR OR SIMILAR METHOD IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.

C2 CONCRETE QUALITY:

GRADE N25  
SLUMP 80mm  
MAX AGGREGATE SIZE 20mm

C3 MINIMUM CLEAR COVER TO REINFORCEMENT = 50mm

C4 REINFORCING BAGS DENOTED 'N' MUST BE TYPE D500N.

REINFORCING BARS DENOTED 'R' MUST BE TYPE R250N

MESH DENOTED SL... OR RL... MUST BE TYPE D500SL OR D500RL RESPECTIVELY

TRENCH MESH MUST BE D500L

C5 SLAB MESH IS TO BE SUPPORTED BY PLASTIC CHAIRS AT 800mm MAX SPACING IN EACH DIRECTION. ALL BARS AND TRENCH MESH IN FOOTINGS IS TO BE SUPPORTED BY PLASTIC CHAIRS, OR SIMILAR, AT 1200mm MAX SPACING. ALL CHAIRING IS TO MAINTAIN CORRECT COVER AT ALL TIMES AND IN ALL CASES.

C6 BASES OF BORED PIERS ARE TO BE THOROUGHLY CLEANED OF ALL LOOSE MATERIAL AND MAINTAINED FREE OF DEBRIS PRIOR TO CONCRETE PLACEMENT

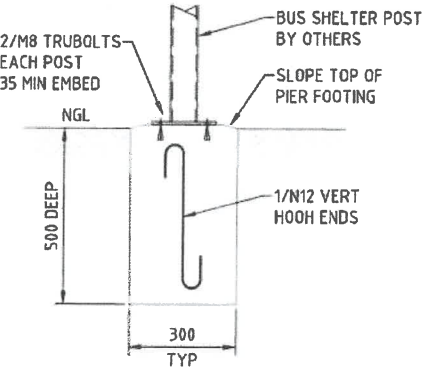
PROPRIETARY PRODUCTS

P1 ALL PROPRIETARY PRODUCTS MUST BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, EPOXY AND MECHANICAL ANCHORING PRODUCTS, LIFTING DEVICES, STANDARDISED FIXINGS AND CAST-IN ITEMS.

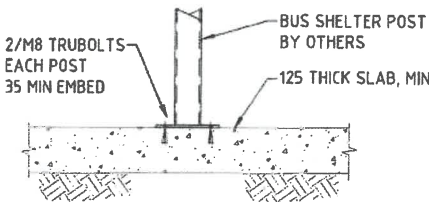
P2 ANY DISCREPANCIES BETWEEN THE MANUFACTURERS SPECIFICATIONS AND DETAIL NOTES IN THESE DRAWINGS MUST BE REFERRED TO THE SUPERINTENDENT FOR CLARIFICATION PRIOR TO PROCEEDING OR INSTALLATION.

APPENDIX A - EARTHWORKS AND STORMWATER DRAINAGE

- FILL IS TO BE UNIFORMLY COMPACTED IN UP TO 200-300MM HORIZONTAL LAYERS AND ACHIEVE A MINIMUM STANDARD OF COMPACTION OF GREATER THAN 95% RELATIVE TO COMPACTION TEST AS1289.5.1.1 (STANDARD) FOR COHESIVE SOILS OR A DENSITY INDEX GREATER 65% FOR NON-COHESIVE SOILS. BENCHING OF NATURAL GROUND WILL BE REQUIRED ON STEEP SLOPING GROUND.
- CLAYS OF HIGH PLASTICITY OR HIGH IN-SITU MOISTURE CONTENT ARE NOT TO BE USED AS FILL. SHOULD THE AMOUNT OF FILL REQUIRED EXCEED THE AMOUNT OF CUT AVAILABLE (OR THE CUT MATERIAL IS UNSUITABLE), AN IMPORTED GRANULAR FILL WITH A PLASTICITY INDEX PREFERABLY LESS THAN 15% WITH NO EXCESSIVE OVERSIZED MATERIAL, MAY BE USED. SEE EARTHWORKS STANDARD CODE FOR SUITABLE FILLS AND ALLOWABLE GRADING. FIELD DENSITY TESTS OR EQUIVALENT SHOULD BE CARRIED OUT TO VERIFY THE STANDARD OF COMPACTION IS ACHIEVED. (SEE CURRENT AUSTRALIAN STANDARD EARTHWORKS STANDARD CODE AS 3798 FOR TYPE AND FREQUENCY OF TESTS). WHERE THE FILL MATERIAL DOES NOT ACHIEVE THE ABOVE COMPACTION STANDARD, PIERING OF THE FOOTINGS AND SLAB SYSTEM WILL BE REQUIRED.
- SITE DRAINAGE IS TO BE MAINTAINED AT ALL TIMES BOTH DURING AND AFTER CONSTRUCTION. AT NO TIME DURING CONSTRUCTION OR SUBSEQUENTLY, SHOULD THE WATER BE ALLOWED TO POND ON OR NEAR THE FOOTINGS. TO ENSURE ADEQUATE DRAINAGE FOR SLOPING SITES, DRAINS SHOULD BE PROVIDED AT THE BOTTOM OF EMBANKMENTS CLEAR OF THE FOOTING SYSTEM. IF THE SURFACE FLOW IS LIKELY TO BE LARGE, DRAINS SHOULD ALSO BE PROVIDED AT THE TOP OF ANY CUTTING TO AVOID SCOURING OF THE FACE. SURFACE RUN-OFF SHOULD BE COLLECTED AND DRAINED AWAY FROM THE WALL AT 1:100 MIN. DOWN PIPES FROM ROOFS SHOULD NOT BE ALLOWED TO DISCHARGE ON THE GROUND SURFACE NEAR THE WALL EVEN FOR SHORT PERIODS DURING CONSTRUCTION. THE GROUND AROUND THE BUILDING SHOULD BE SLOPED AWAY FROM THE WALL AT A GRADE OF 1:20 AT A MINIMUM DISTANCE OF 1000mm.
- TREES: TO REDUCE, BUT NOT ELIMINATE, THE POSSIBILITY OF DAMAGE FROM TREES, EXISTING OR FUTURE, TREES SHOULD BE RESTRICTED TO A DISTANCE FROM THE HOUSE OF:
  - FOR CLASS E SITES (OR EQUIVALENT) = 1.75 TIMES THE MATURE HEIGHT OF THE TREE
  - FOR CLASS H SITES (OR EQUIVALENT) = 1.0 TIMES THE MATURE HEIGHT OF THE TREE
  - FOR CLASS S & M SITES (OR EQUIVALENT) = 0.75 TIMES THE MATURE HEIGHT OF THE TREE
- REMOVAL OF TREES FROM THE SITE CAN ALSO CAUSE SIMILAR PROBLEMS. HOLES FROM TREES REMOVED SHOULD BE FILLED WITH SIMILAR SOIL AS ENCOUNTERED ON THE SITE AND COMPACTED AS MENTIONED ABOVE.
- ALL EARTHWORKS OPERATIONS SHALL COMPLY WITH THE AUSTRALIAN STANDARD EARTHWORKS CODE, AS 3798



TYPICAL FIXING WITH BORED PIER  
SCALE 1:20



TYPICAL FIXING TO SHELTER SLAB  
SCALE 1:20

SCALE

0 0.1 0.2 0.3 0.4  
A3 SHEET 1:20

CONSTRUCTION  
ISSUE

REV	REVISION	DATE
A	FOR CONSTRUCTION	09/2021

**DILEIGH**  
CIVIL/STRUCTURAL DESIGN & PROJECT MANAGEMENT

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Drawn by	SJG
Checked by	SJG
Approved	S GRALLEIS
RPEQ	Sign
23373	19/09/2021

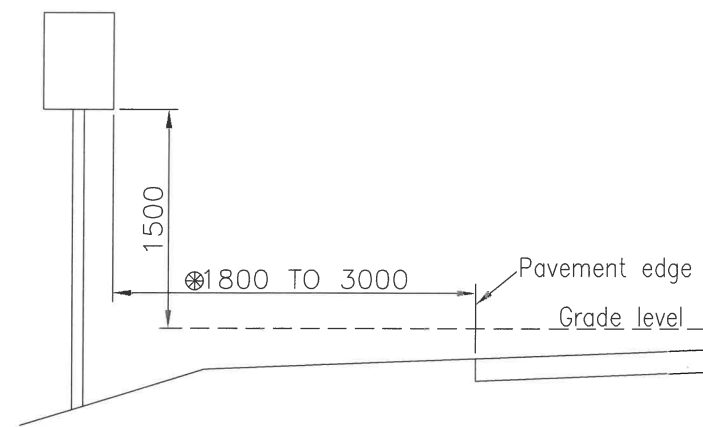
BANANA SHIRCE COUNCIL  
PROPOSED BUS SHELTER FOOTING/TIEDOWN  
CNR DAWSON & HUTTON STREET, TAROOM  
TYPICAL BUS SHELTER POST FOOTING AND  
FIXING DETAILS

D21.100-TBS-01

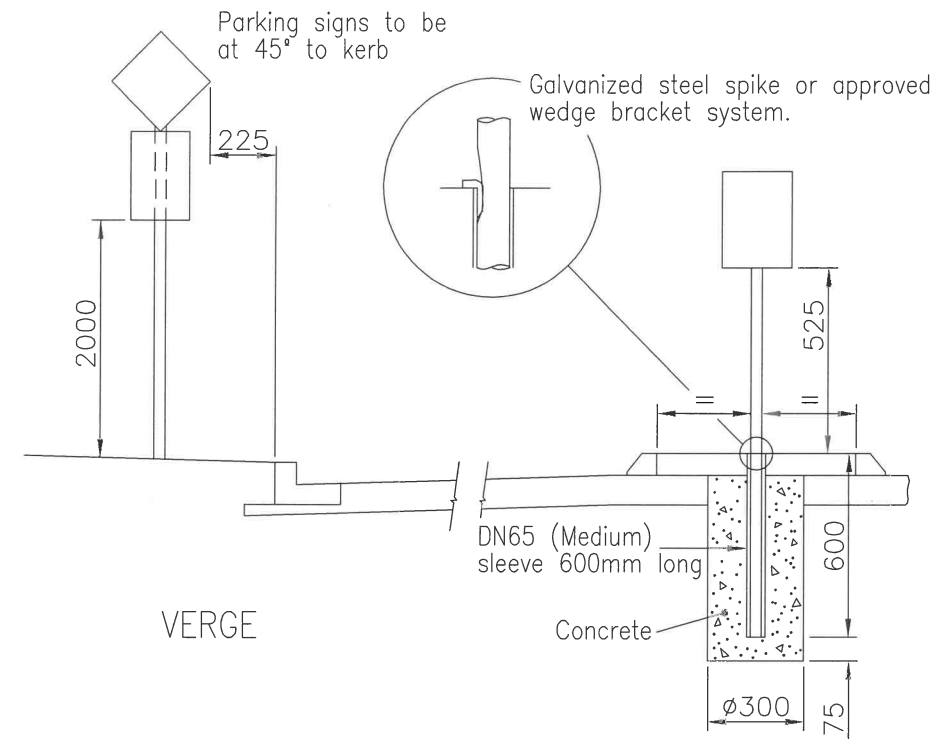
SHEET 1 OF 1

A





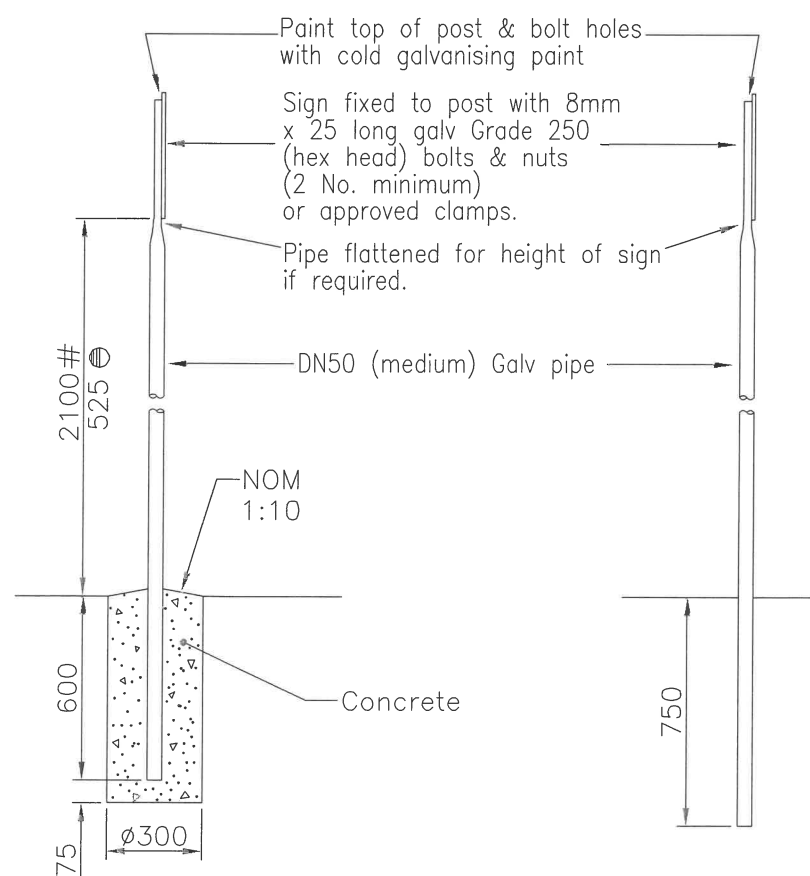
LOCATION OF SIGNS – RURAL ROADS



VERGE

MEDIAN

LOCATION OF SIGNS – STREETS



STREETS

RURAL ROADS

# NOTES:

1. All signs to be reflectorised Class 1 to AS1743 unless noted otherwise.
2. Size & sign type has been included in the schedule and/or in the project drawings. Special standards are to be provided at large signs when indicated in the project drawings.
3. All signs are to be approved by the Superintendent prior to erection.
4. Where signs are to be erected in streets where footpaths are not constructed to permanent levels the Rural Roads type base shall be adopted.
5. Signs shall be out of aluminium or aluminium alloy not less than 2mm thick to AS 2848.
6. The DN65 sleeve and spike shall only be used on medians.
7. All pipes to be galvanised. Steel pipe to AS 1074. Galvanising to AS/NZS 4680.
8. Concrete N25 in accordance with AS 1379 and AS 3600.
9. Hexagonal head bolts to AS 1111.  
Nuts to AS 1112.  
Washers to AS 1237.  
Galvanizing to AS 1214.
10. All dimensions in millimetres.
11. Sleeve to be provided as directed by Council

## LEGEND

- # on footpaths
- ⊗ As directed by the Superintendent
- ⊙ on medians

## APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC		
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

REVISIONS	DATE
E IRC ADDED	12/2016
D GRC AND LSC ADDED	09/2014
C MRC ADDED	04/2011
B NOTE 11 ADDED	07/2010
A POST AMALGAMATION REVIEW	01/2010

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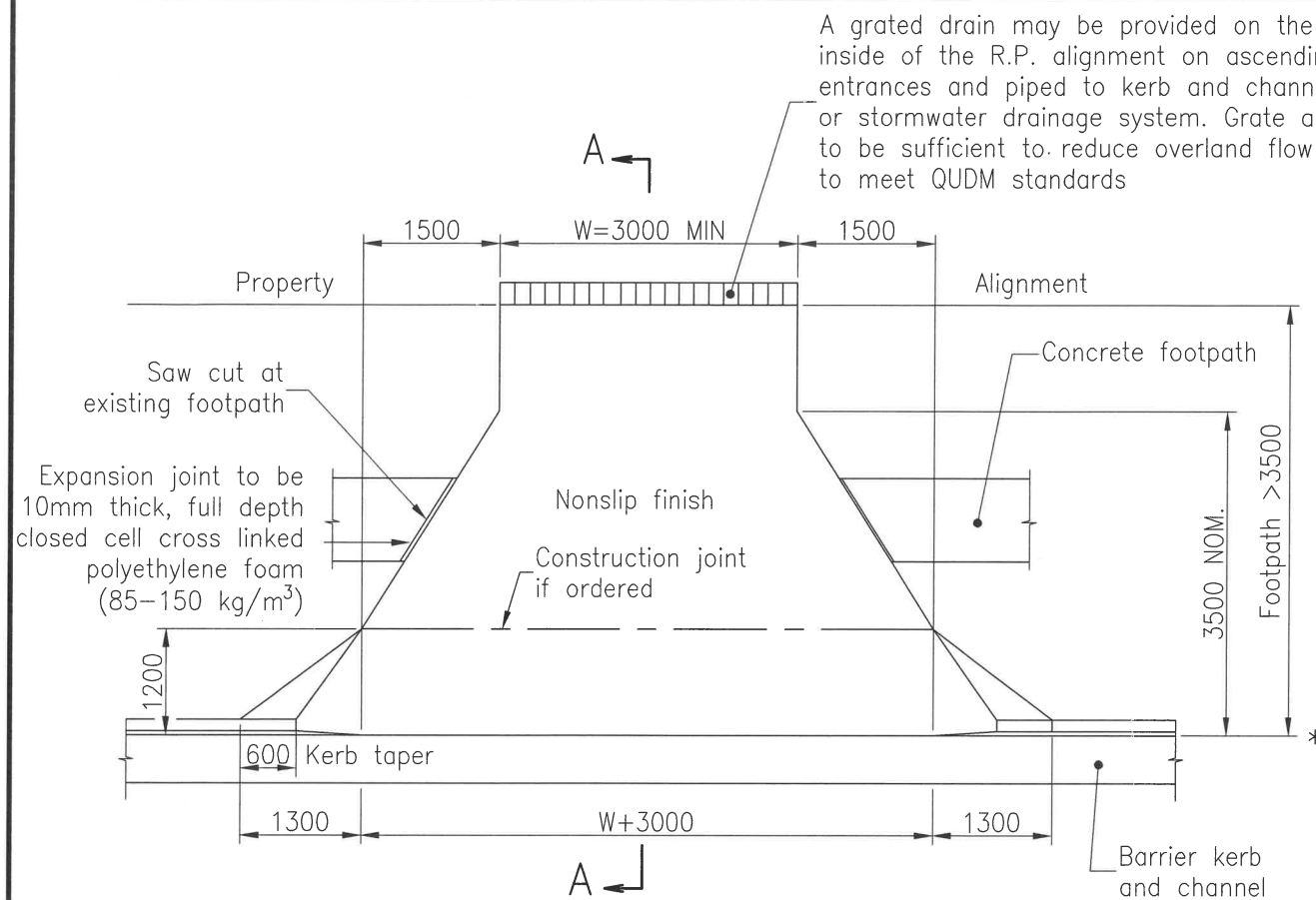
## Capricorn Municipal Development Guidelines

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Central Highlands Regional Council (CHRC) Maranoa Regional Council (MRC)  
Gladstone Regional Council (GRC) Rockhampton Regional Council (RRC)  
Isaac Regional Council (IRC)

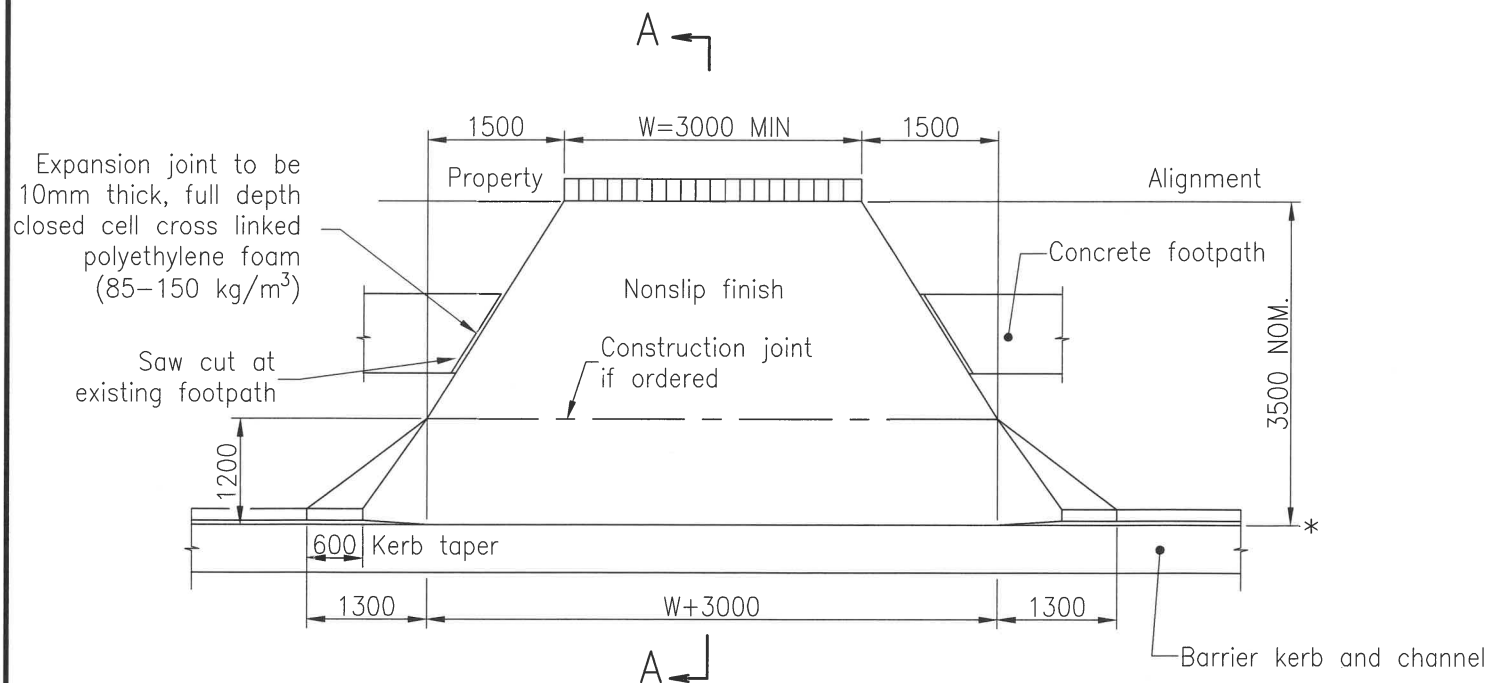
## SIGN LOCATION AND INSTALLATION DETAILS

ROADS
STANDARD DRAWING CMDG-R-081
REV. A B C D E



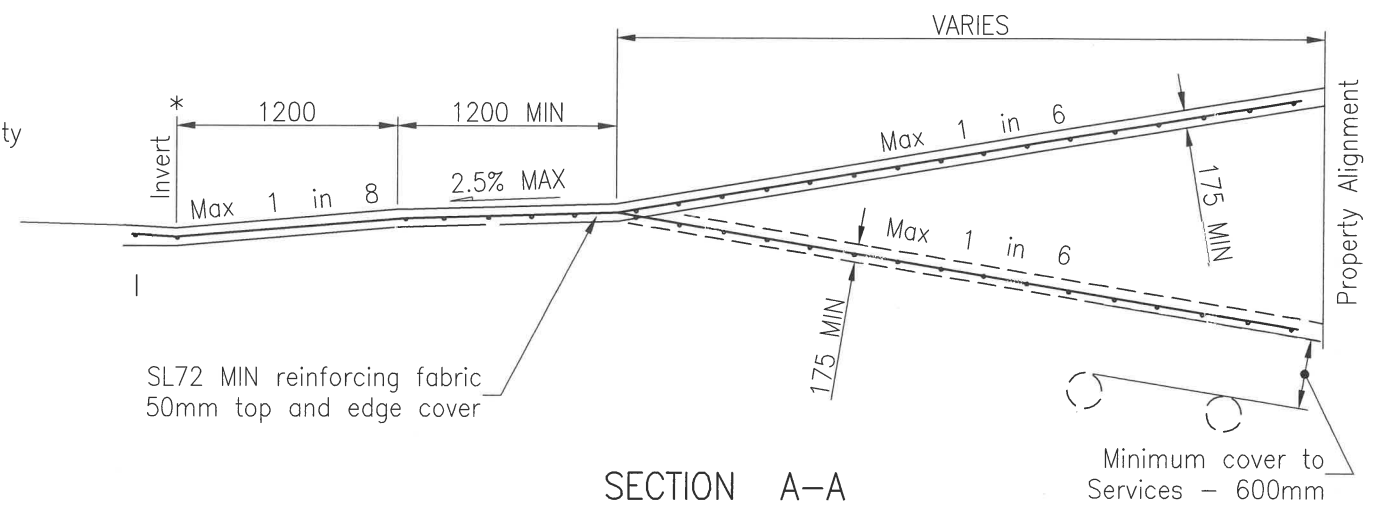


PLAN - WIDE FOOTPATHS  
SCALE 1 : 40



PLAN - 3.5m FOOTPATH  
SCALE 1 : 40

ADDED REGARDING  
GRATED DRAIN GRATE  
AREA



SECTION A-A

LEGEND:

\* NOM. kerb line.

NOTES:

1. The owner of the property served by the driveway shall be responsible for all maintenance associated with the driveway.
2. Concrete N32 in accordance with AS 1379 and AS 3600.
3. Reinforcing fabric to AS 4671. Lap fabric 250mm.
4. Depths of concrete and reinforcing steel shown are the minimum requirements for good foundation conditions, and average traffic loading. Where this does not apply, depths of concrete and reinforcing shall be increased to suit specific conditions. Council accepts no responsibility for the structural adequacy of the design and it is recommended that engineering advice be sought where higher commercial vehicle loadings are expected.
5. Reprofile adjacent footpath to match driveway. Footpath earthworks adjoining concrete must be well compacted.
6. Existing footpath profile to be maintained where possible.
7. Compaction for subgrade 95% Standard to AS 1289.5.1.1.
8. Where subgrade is less than CBR 5 excavate and provide imported material to satisfaction of independent Engineering authority.
9. Driveways to be constructed from concrete only.
10. Approval of location, feature finishes and levels must be obtained from Local Authority prior to excavation.
11. Engineering advice should be sought where it is proposed to modify the footpath profile by excavation or filling to ensure drainage problems do not result and existing services are not affected.
12. Where new concrete work abuts existing concrete work, 12dia dowels (500mm length) at 300mm centres (500mm allowable at invert of kerb and channel) to be installed to prevent differential movement.
13. All dimensions in millimetres.

APPLICABILITY TABLE							
	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	No	Yes	Yes	Yes	Yes
Applicable DWG	CMDG-R-042A						

REVISIONS	DATE
F IRC ADDED	12/2016
E APPLICABLE DRAWING ADDED	04/2016
D GRC AND LSC ADDED	09/2014
C MRC ADDED/AMENDMENT TO DRIVEWAY GRADE	07/2011
B NOTE ADDED REGARDING GRATED DRAIN GRATE AREA	12/2010
A POST AMALGAMATION REVISION	01/2010

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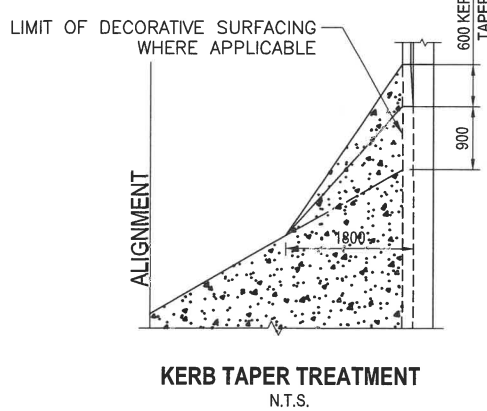
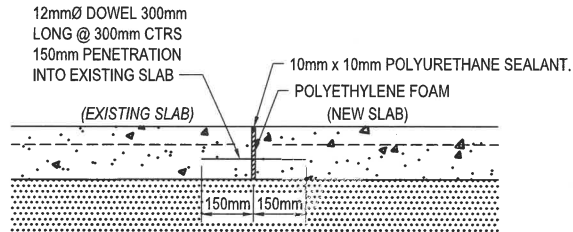
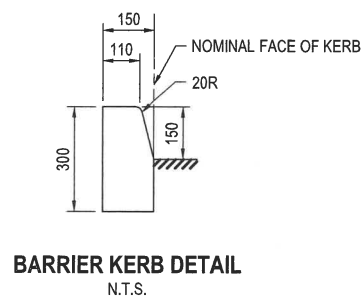
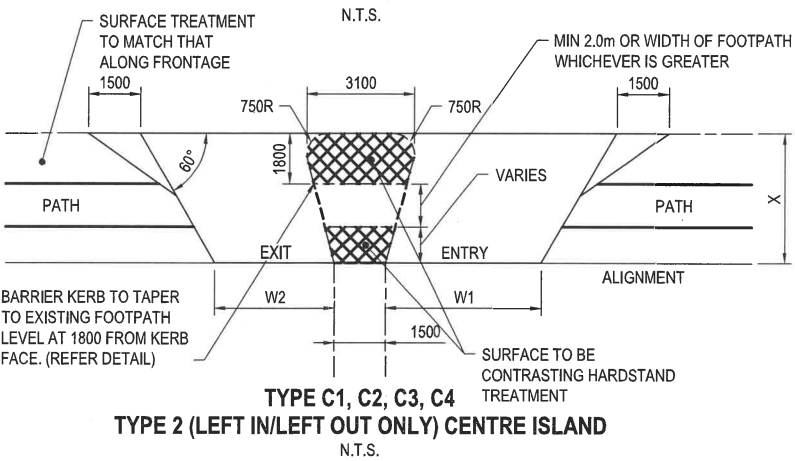
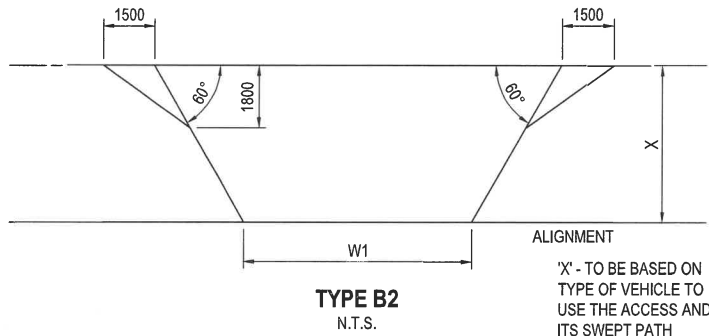
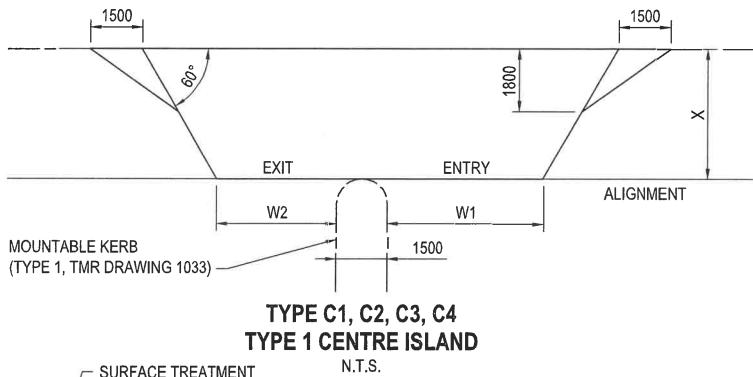
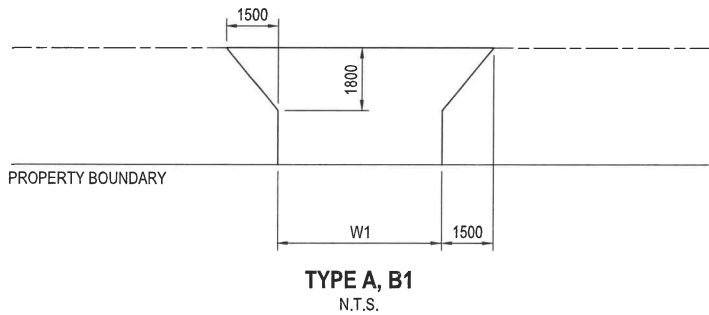
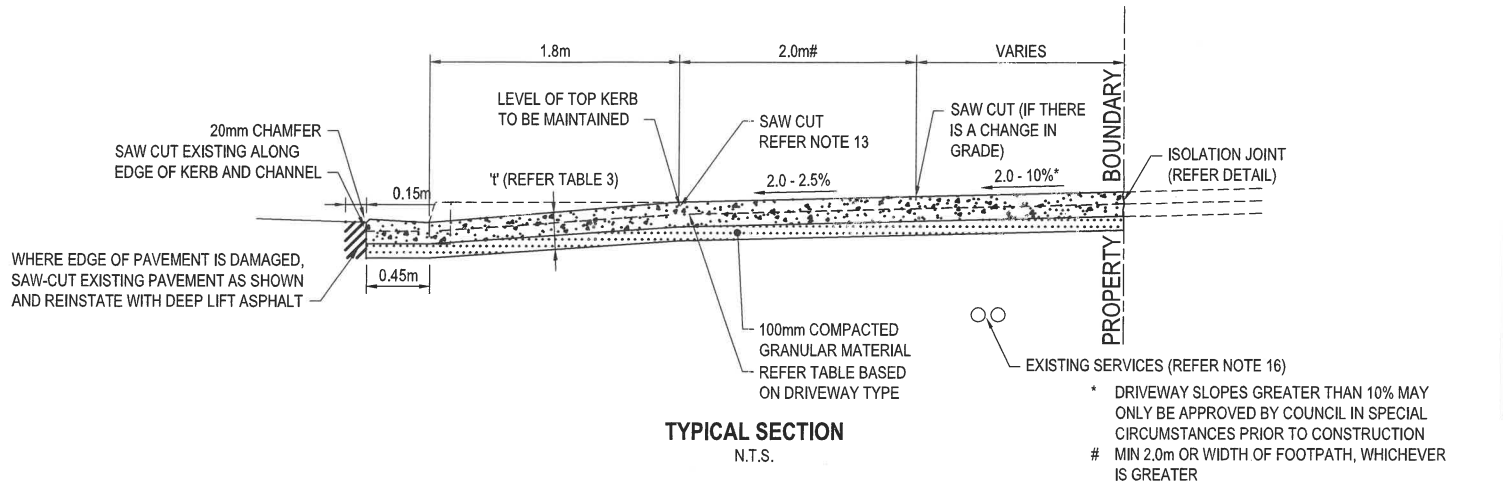
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Maranoa Regional Council (MRC)  
Rockhampton Regional Council (RRC)

**TYPE A - TWO WAY ACCESS  
COMMERCIAL DRIVEWAY SLAB**

ROADS							
STANDARD DRAWING							
CMDG-R-042							
REV.	A	B	C	D	E	F	





FOR RURAL COMMERCIAL AND INDUSTRIAL ACCESS, REFER COUNCIL'S STANDARD DRAWINGS FOR MAJOR ACCESS POINTS

TABLE 1: DRIVEWAY SELECTION FOR CARS ONLY						
TURNOVER RATE OF CAR PARKING AREA (a)	TYPE OF FRONTAGE ROAD	TYPE OF DRIVEWAY FOR THE NUMBER OF SPACES IN CAR PARKING AREA				NOTE
		1-25	26-250	251-500	OVER 500 (b)	
LOW/MED	MINOR	A (c)	B2	C1	C3	a) LOW TO MEDIUM PARKING TURNOVER RATES ARE LIKELY TO BE GENERATED BY RESIDENTIAL, INDUSTRIAL AND COMMERCIAL DEVELOPMENTS. HIGH PARKING TURNOVER RATES ARE LIKELY TO BE GENERATED BY ENTERTAINMENT, TRANSPORT, RETAIL AND FAST FOOD DEVELOPMENTS.
LOW/MED	MAJOR	B1 (6m)	C1	C2	C3	b) CAR PARKING AREAS CONTAINING OVER 500 SPACES OR GENERATING MORE THAN 1,000vpd ARE TO BE ASSESSED FOR THE NEED OF AN APPROPRIATELY DESIGNED CHANNELISED ACCESS INTERSECTION.
HIGH	MINOR	B1 (7m)	C1	C2	C3	c) ON MINOR ROADS, RESIDENTIAL (TYPE A) DRIVEWAYS LESS THAN 6m WIDE ARE ACCEPTABLE FOR STREETSCAPE ENHANCEMENT, PROVIDED NORMAL MANOEUVRING AND QUEUING REQUIREMENTS ARE SATISFIED
HIGH	MAJOR	B2 (7m)	C2	C3	C3	

TABLE 2: DRIVEWAY SELECTION FOR SERVICES OR OTHER LARGE VEHICLES				NOTE
FRONTAGE ROAD	MINOR ROAD <100vpd	MAJOR ROAD		
NOMINATED DESIGN VEHICLE (d)	DRIVEWAY TYPE			
CAR AND TRAILER	A (6m)	C1		M
SERVICE VEHICLE 8.8m	B2 (7m)	C2		PATHS OF THE VEHICLES IS REQUIRED TO BE SUBMITTED TO COUNCIL TO DEMONSTRATE HOW THE VEHICLE WILL PRACTICALLY ACCESS THE PROPERTY.
SINGLE UNIT TRUCK 12.5m	B2 (7m)	C2		ACCESS FOR SUCH VEHICLES REQUIRE FORWARD ONLY MANOEUVRE FOR ENTRY AND EXIT OF THE PROPERTY.
REFUSE COLLECTION VEHICLE	B2 (7m)	C2		
BUS	B2 (9m)	C4		
PRIME MOVER	B2 (9m)	C4		
B-DOUBLE	B2 (9m)	C4		

- RELEVANT STANDARDS:
- AS3600, CONCRETE STRUCTURES
  - AS1379, SPECIFICATIONS AND SUPPLY OF CONCRETE
  - AS/NZS A4671, STEEL REINFORCING MATERIALS.

#### NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
- CROSSING TYPE, LOCATION AND IF RELEVANT, DIMENSIONS W1 AND W2 WILL BE DETERMINED BY COUNCIL.
- NEW FOOTPATH PROFILE TO VARY WHERE NECESSARY TO MATCH WITH EXISTING CONCRETE FOOTPATHS AND VERGE PROFILES. BASE LAYER MUST BE WELL COMPACTED AND TRANSITION SMOOTHLY TO AND FROM DRIVEWAY. ADJOINING FOOTPATH SURFACES SHALL NOT HAVE A GRADE GREATER THAN 1:8 OR 12.5%.
- PEDESTRIAN REFUGE AREA TREATMENT TO MATCH TREATMENT ADJACENT TO CROSSING.
- NO TRACKS PERMITTED ACROSS FOOTPATH.
- CONCRETE PATH SHALL BE CONTINUOUS ACROSS DRIVEWAYS AS PEDESTRIAN AND CYCLISTS SHOULD HAVE RIGHT OF WAY.
- VARIATION TO THE DESIGNS SHOWN ARE SUBJECT TO APPROVAL FROM THE MANAGER ROAD SERVICES OR THIS DELEGATE.
- CONCRETE GRADE N32 OR BETTER; REINFORCEMENT AS PER TABLE, MIN LAP 210 MIN, MIN CLEAR TOP COVER 50mm.
- ALL VERTICAL FACES ARE TO BE FORMED, INCLUDING THE INTERFACE WITH THE ROADWAY.
- FORMWORK AND REINFORCEMENT MUST BE IN PLACE AND INSPECTED AND APPROVED BY COUNCIL OFFICER BEFORE DELIVERY OF THE CONCRETE.
- THE THICKNESS OF DECORATIVE SURFACING WHERE APPROVED IS ADDITIONAL TO THE THICKNESS DIMENSIONS 'Y' SHOWN IN TABLE.
- BRASS DISKS EMBEDDED IN KERB AND CHANNEL SHALL NOT BE REMOVED WITH OUT THE PERMISSION OF COUNCIL.
- SAW CUT TO BE 3-6mm WIDE x  $\frac{D}{2}$ , WHERE D = DEPTH OF PAVEMENT. APPLY BEAD OF POLYSULPHIDE SEALANT TO BOND BREAKING TAPE.
- FINISH: WOOD FLOAT OR STEEL FOLLOWED BY NYLON BROOM OR OTHER APPROVED NON-SLIP SURFACE.
- SURFACE TREATMENT MAY NOT BE MATCHED BY COUNCIL IF REPAIRS ARE NEEDED TO SERVICES UNDER DRIVEWAY.
- ENSURE MIN. COVER TO SERVICES IN FOOTPATH AND DRIVEWAY IS ACHIEVED TO MEET RELEVANT AUTHORITY STANDARD. A DIAL BEFORE YOU DIG (DBYD) IS TO BE UNDERTAKEN PRIOR TO COMMENCING WORK ON SITE.

TABLE 3: LAYOUT DIMENSIONS				
TYPE	W1 (m)	W2 (m)	t (mm)	REINFORCEMENT MESH
A	6.0	-	130	SL82
B1	6.0	-	180	SL92
B2	6.0 - 9.0	-	180	SL92
C1	4.5	3.5	180	SL92
C2	5.5	5.0	180	SL92
C3	7.5	6.0	180	SL92
C4	9.0	7.5	180	SL92

- ALL WATER VALVES, HYDRANTS, SEWER MANHOLE, TELECOMMUNICATION PITS AND THE LIKE TO BE RELOCATED CLEAR OF PROPERTY ACCESS AT THE EXPENSE OF THE PROPERTY OWNER. THE RELEVANT AUTHORITY IS TO BE CONTACTED SO THAT CONFLICTING SERVICES CAN BE RELOCATED PRIOR TO CROSS OVER CONSTRUCTION
- THE PROPERTY OWNER / APPLICANT / CONTRACTOR IS TO TAKE ALL NECESSARY MEASURES TO ENSURE PEDESTRIAN SAFETY INCLUDING BUT NOT LIMITED TO BARRICADES, SAFETY LIGHTING, WARNING DEVICES OR OTHER MEANS OF PROTECTING PUBLIC RISK IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- WHERE NEW CONCRETE WORKS ABUTS EXISTING CONCRETE WORK, 12Ø DOWELS 300mm LENGTH (500mm LENGTH AT INVERT OF KERB AND CHANNEL) AT 300mm CENTRES TO BE INSTALLED TO PREVENT DIFFERENTIAL MOVEMENT (REFER ISOLATION JOINT DETAIL).
- COUNCIL TAKES NO RESPONSIBILITY FOR A VEHICLE SCRAPING WHEN USING A FOOTPATH CROSSOVER OR INVERT CROSSING. THE PROPERTY OWNER/APPLICANT/CONTRACTOR IS TO ENSURE ADEQUATE VEHICLE CLEARANCE IS PROVIDED.
- MANDATORY COUNCIL INSPECTIONS ARE REQUIRED PRIOR TO CONSTRUCTION INCLUDING CONCRETE SLAB SET-UP AND REINFORCEMENT, AND FINAL INSPECTION FOLLOWING COMPLETION OF CONSTRUCTION, INCLUDING BACK FILLING TO EDGES AND ENSURING THE NEW DRIVEWAY WILL NOT CAUSE A TRIPPING HAZARD.
- AN APPLICATION TO "CARRY OUT WORKS ON A COUNCIL ROAD" IS TO BE SUBMITTED BEFORE WORKS ARE UNDERTAKEN.

APPLICABILITY TABLE							
	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	No	No	Yes	No	No	No	No
Applicable DWG	CMDG-R-042						

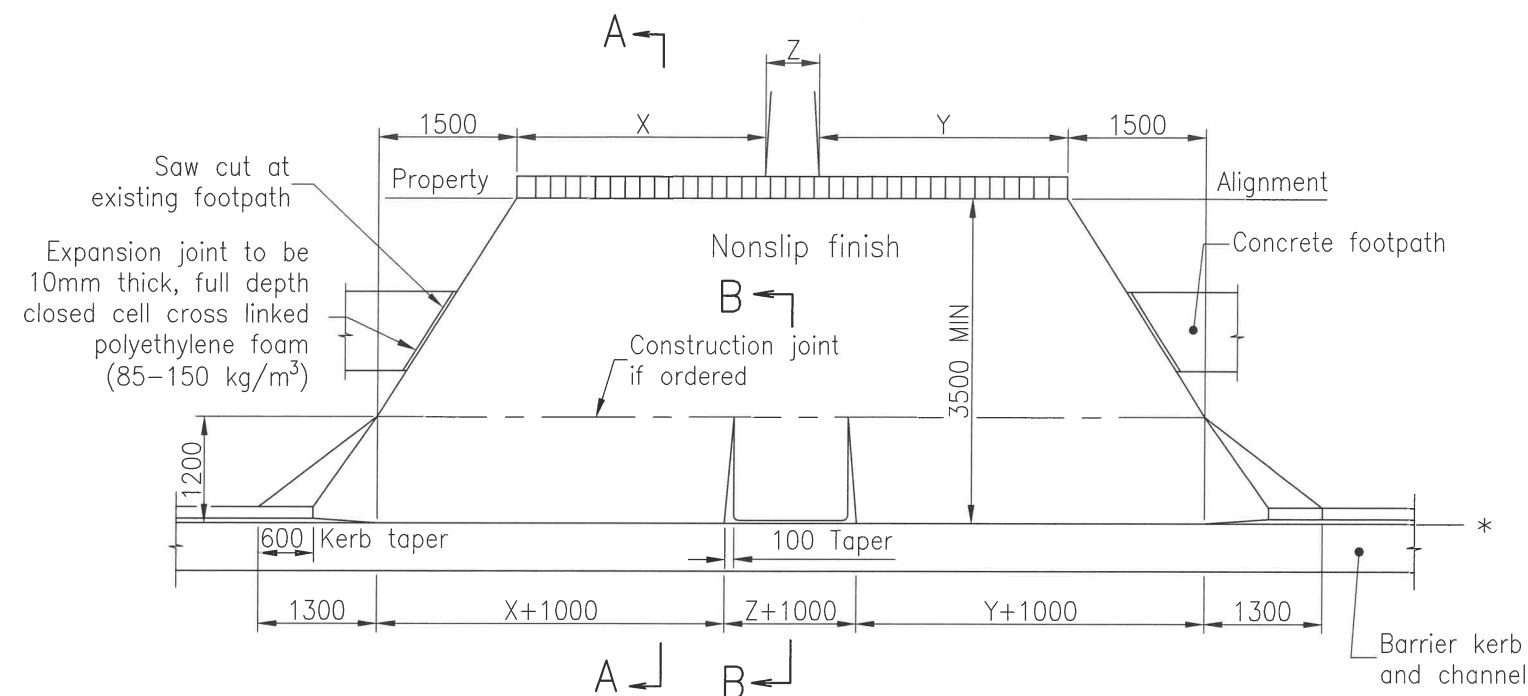
REVISIONS	DATE
B	IRC ADDED
A	NEW DRAWING FOR GRC

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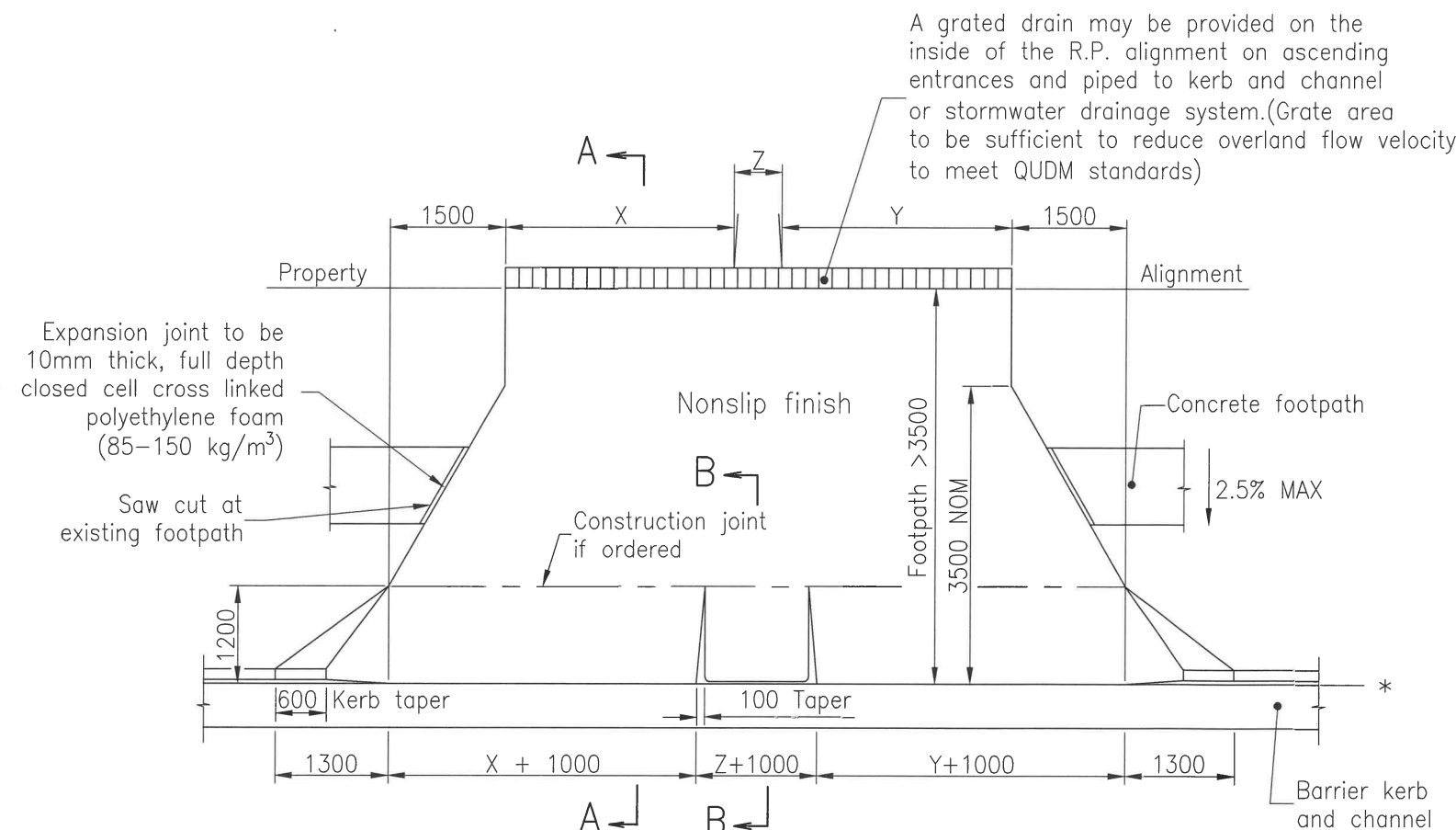
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**URBAN COMMERCIAL/INDUSTRIAL DRIVEWAY**  
STANDARD DRAWING  
CMDG-R-042A  
REV. A B



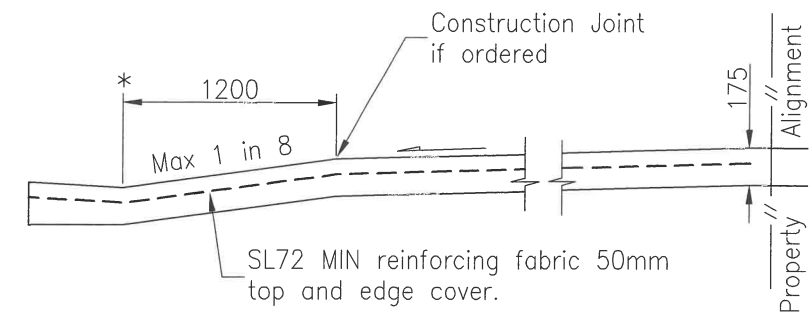


PLAN - 3.5m FOOTPATH

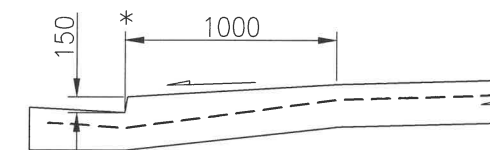


REGARDING GRATED DRAIN GRATE AREA

PLAN - WIDE FOOTPATHS



SECTION A-A



SECTION B-B

LEGEND:

\* NOM. kerb line.

NOTES:

1. The owner of the property served by the driveway shall be responsible for all maintenance associated with the driveway.
2. Concrete N32 in accordance with AS 1379 and AS 3600.
3. Reinforcing fabric to AS 4671. Lap fabric 250mm.
4. Depths of concrete and reinforcing steel shown are the minimum requirements for good foundation conditions and average traffic loading. Where this does not apply, depths of concrete and reinforcing shall be increased to suit specific conditions. Council accepts no responsibility for the structural adequacy of the design and it is recommended that engineering advice be sought where higher commercial vehicle loadings are expected.
5. Design of crossings may vary, refer project drawings.
6. Dimensions X, Y, & Z, refer specification or project drawings.
7. Reprofile adjacent footpath to match driveway. Footpath earthworks adjoining concrete must be well compacted.
8. Existing footpath profile to be maintained where possible.
9. Compaction for subgrade 95% Standard to AS 1289.5.1.1.
10. Where subgrade is less than CBR 5 excavate and provide imported material to satisfaction of independent Engineering authority.
11. Driveways to be constructed from concrete only.
12. Approval of location, feature finishes and levels must be obtained from Local Authority prior to excavation.
13. Engineering advice should be sought where it is proposed to modify the footpath profile by excavation or filling to ensure drainage problems do not result and existing services are not affected.
14. Where new concrete work abuts existing concrete work, 12dia dowels (500mm length) at 300mm centres (500mm allowable at invert of kerb and channel) to be installed to prevent differential movement.
15. All dimensions in millimetres.

APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	No	Yes	Yes	Yes	Yes
Applicable DWG							

REVISIONS	DATE
E IRC ADDED	12/2016
D GRC AND LSC ADDED	09/2014
C MRC ADDED/AMENDMENT TO DRIVEWAY GRADE	07/2011
B NOTE ADDED REGARDING GRATED DRAIN GRATE AREA	12/2010
A POST AMALGAMATION REVIEW	01/2010

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Capricorn Municipal Development Guidelines

Incorporating:

Banana Shire Council (BSC)  
Central Highlands Regional Council (CHRC)  
Gladstone Regional Council (GRC)  
Isaac Regional Council (IRC)  
Livingstone Shire Council (LSC)  
Maranoa Regional Council (MRC)  
Rockhampton Regional Council (RRC)

COMMERCIAL DRIVEWAY SLAB  
TYPE B - TWO LANE ACCESS

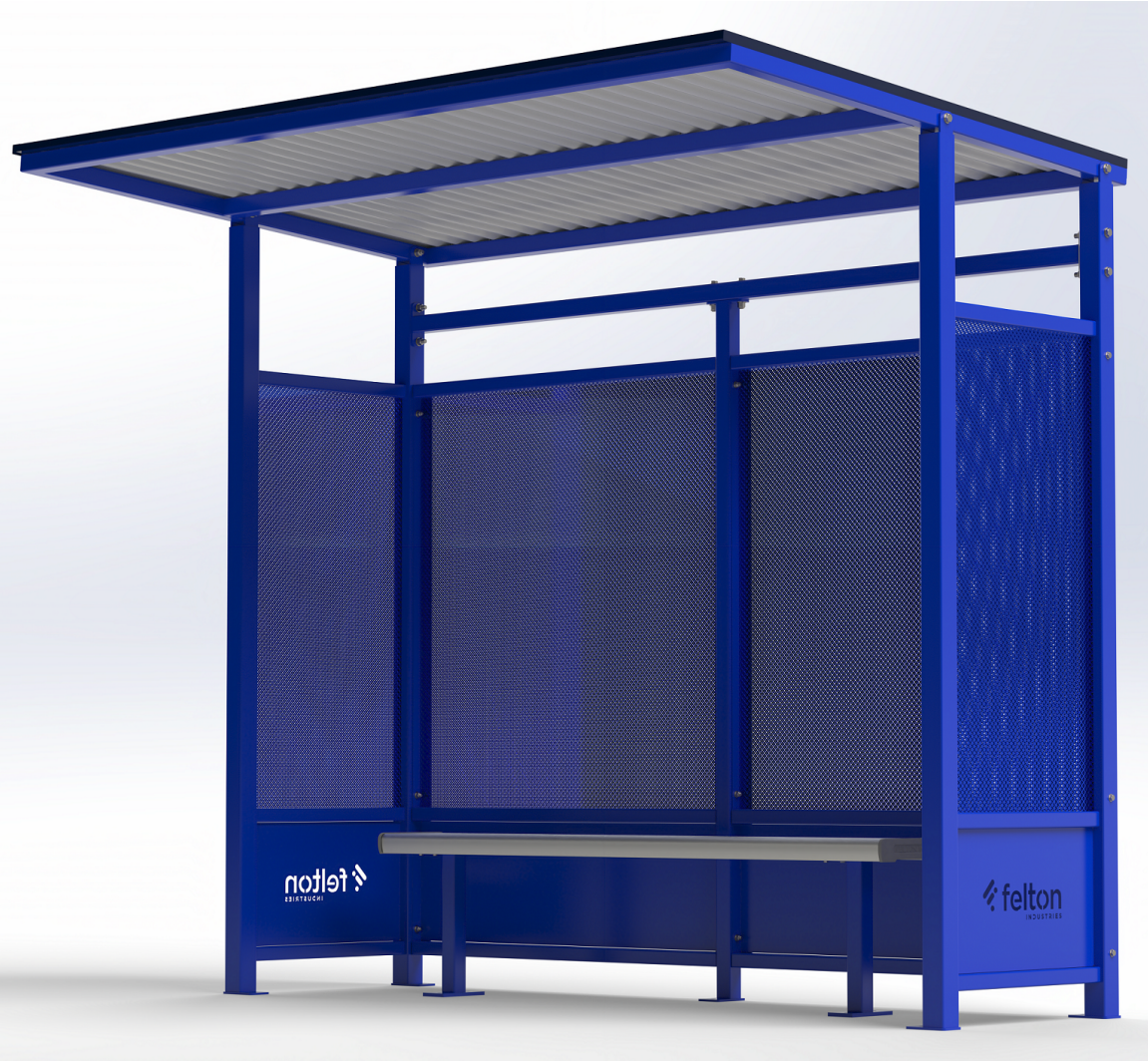
ROADS
STANDARD DRAWING CMDG-R-043
REV. A B C D E



ASSEMBLY INSTRUCTION

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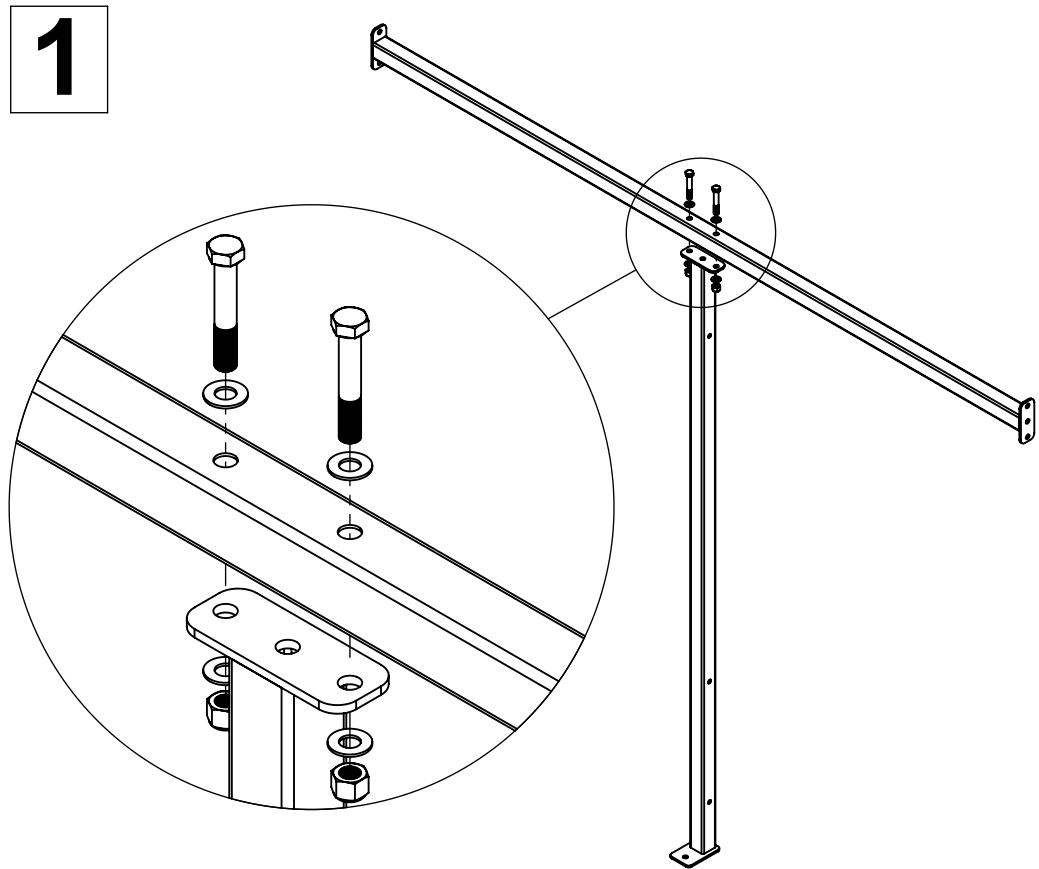
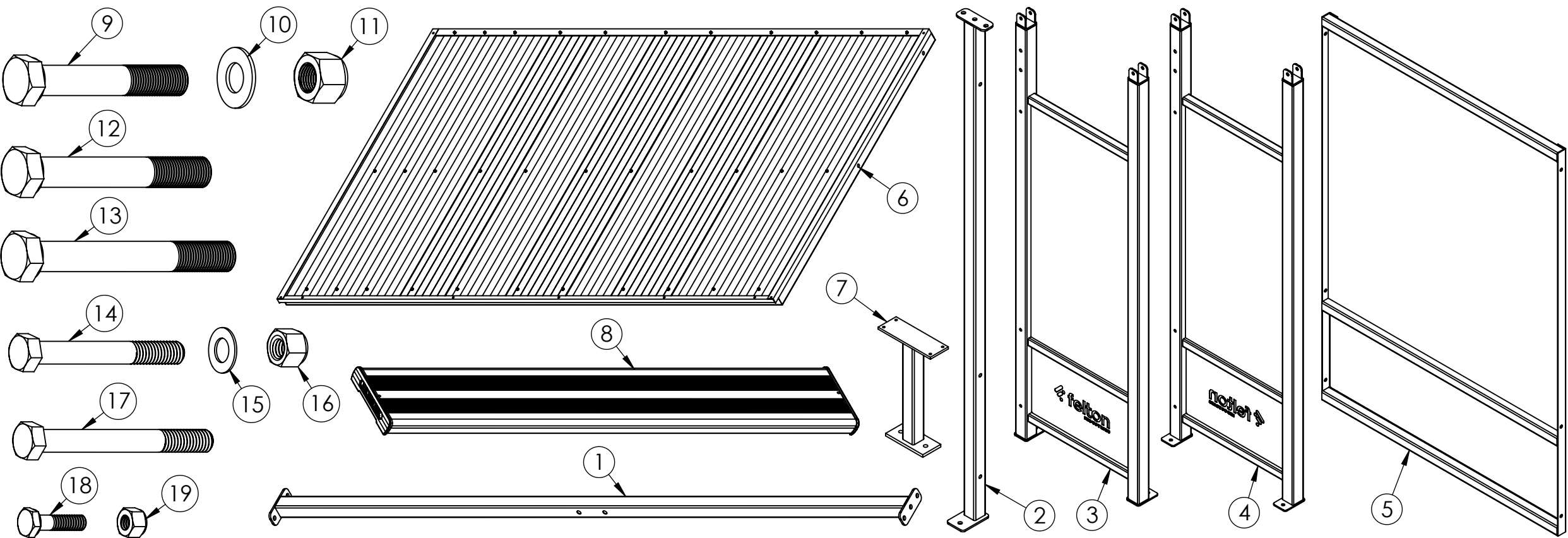


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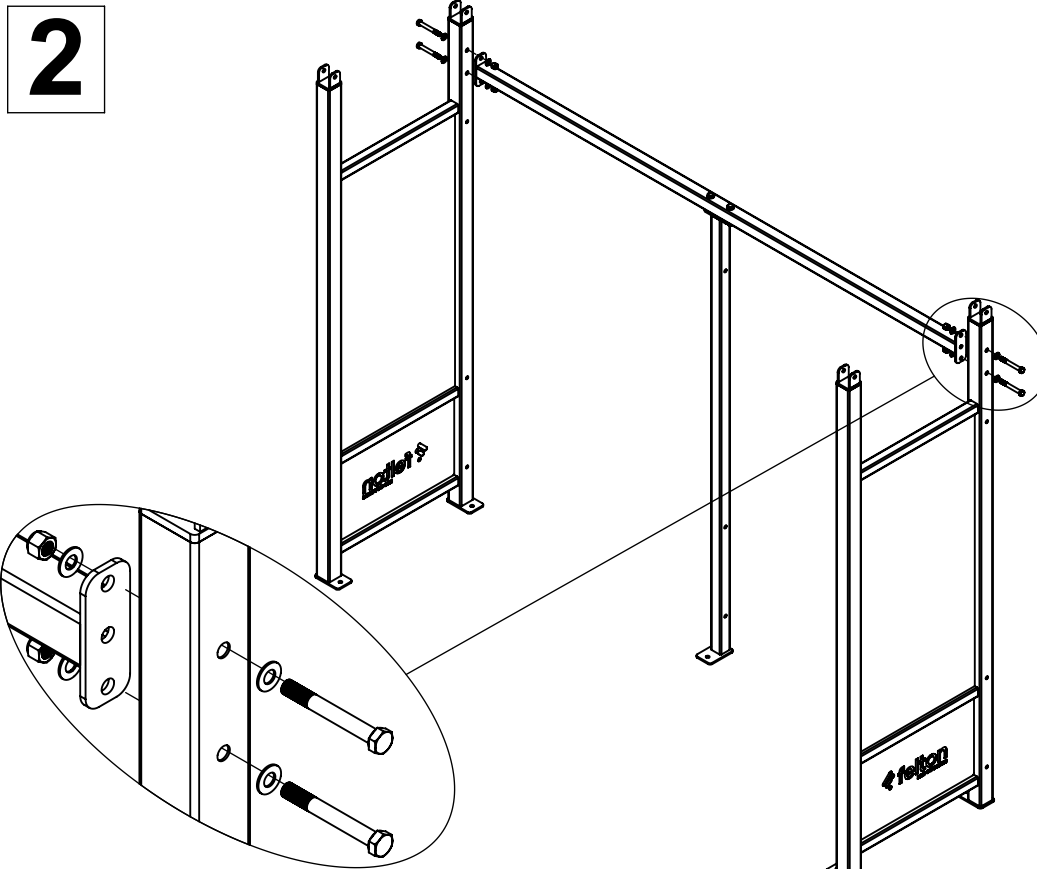


WARNING: This assembly required two or more people as lifting is involved. Please ensure bolts and nuts are only finger-tightened throughout assembly for flexibility in lining up components. Bolt and nuts should be securely tightened in place when instructed to do so. Please check all components are included before proceeding with the assembly

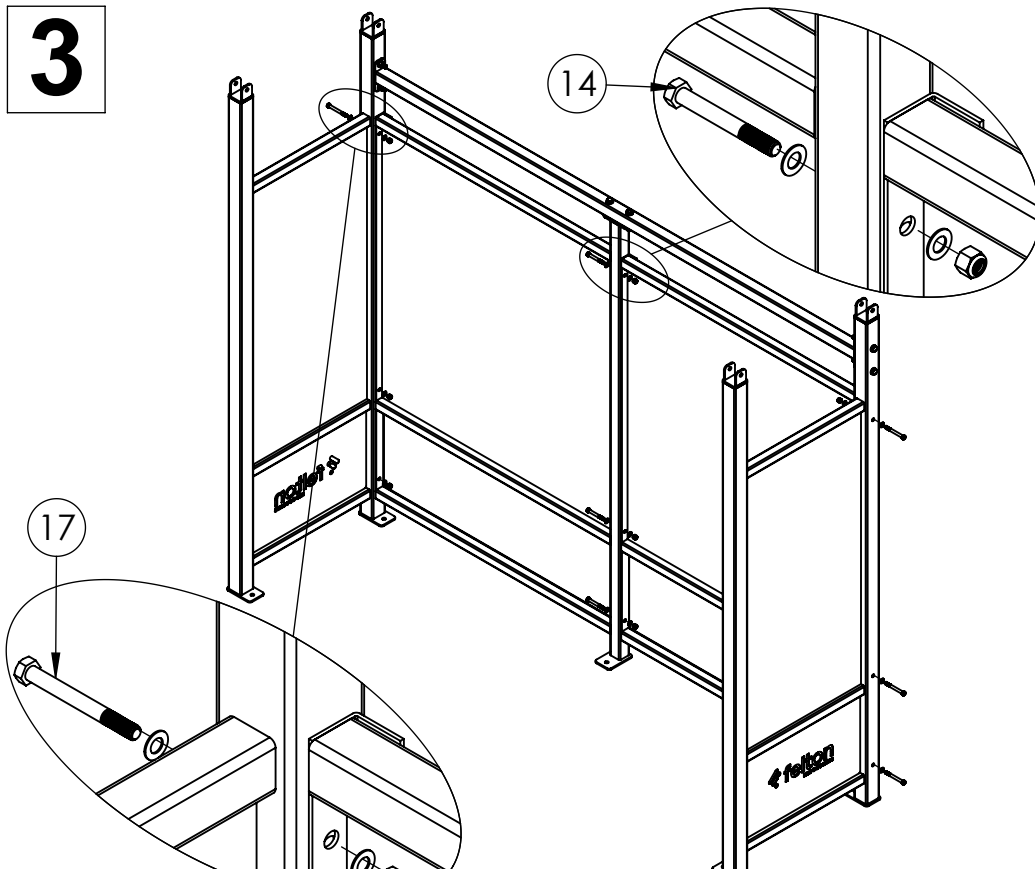
ITEM	DESCRIPTION	Qty
1	FELMBST_CROSS BAR	1
2	FELMBST_UPRIGHT BAR	1
3	FELMBST_LEFT FRAME	1
4	FELMBST_RIGHT FRAME	1
5	FELMBST_BACK MESH PANEL	2
6	FELMBST_ROOF	1
7	FELMBST_LEG SUPPORT	2
8	FELMBST_SEAT PLANK L1800	1
9	AS-NZS 2465 Bolt - 0.5in x 3in	2
10	AS-Flat Washer - 0.5in	20
11	AS-NZS Nylon Nut - 0.5in	10
12	AS-NZS 2465 Bolt - 0.5in x 3.5in	4
13	AS-NZS 2465 Bolt - 0.5in x 4in	4
14	AS-NZS 2465 Bolt - 0.375in x 3in	3
15	AS-Flat Washer - 0.375in	18
16	AS-NZS Nylon Nut - 0.375in	9
17	AS-NZS 2465 Bolt - 0.375in x 3.5in	6
18	AS-NZS 2465 Bolt - 0.25in x 1in	8
19	AS-NZS Nylon Nut - 0.25in	8



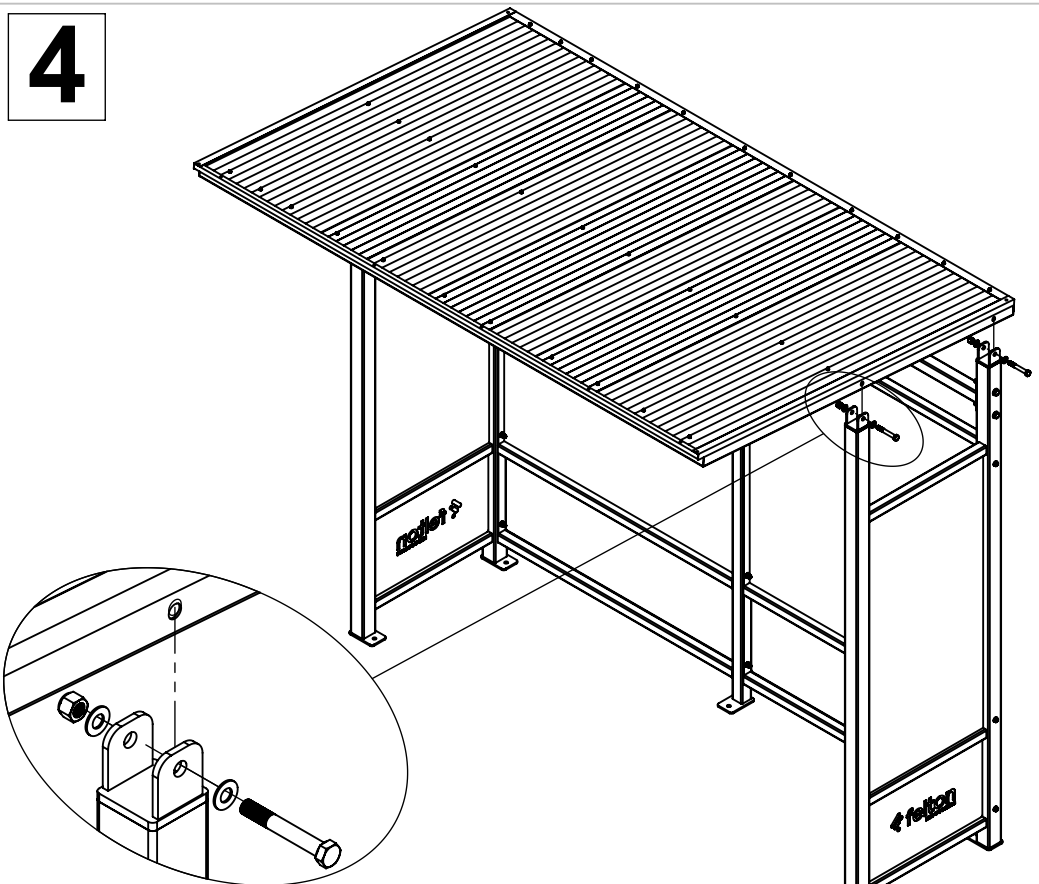
Attach cross bar (1) to upright bar (2) by using bolts (9) , washers (10) and nuts (11) as illustrated.



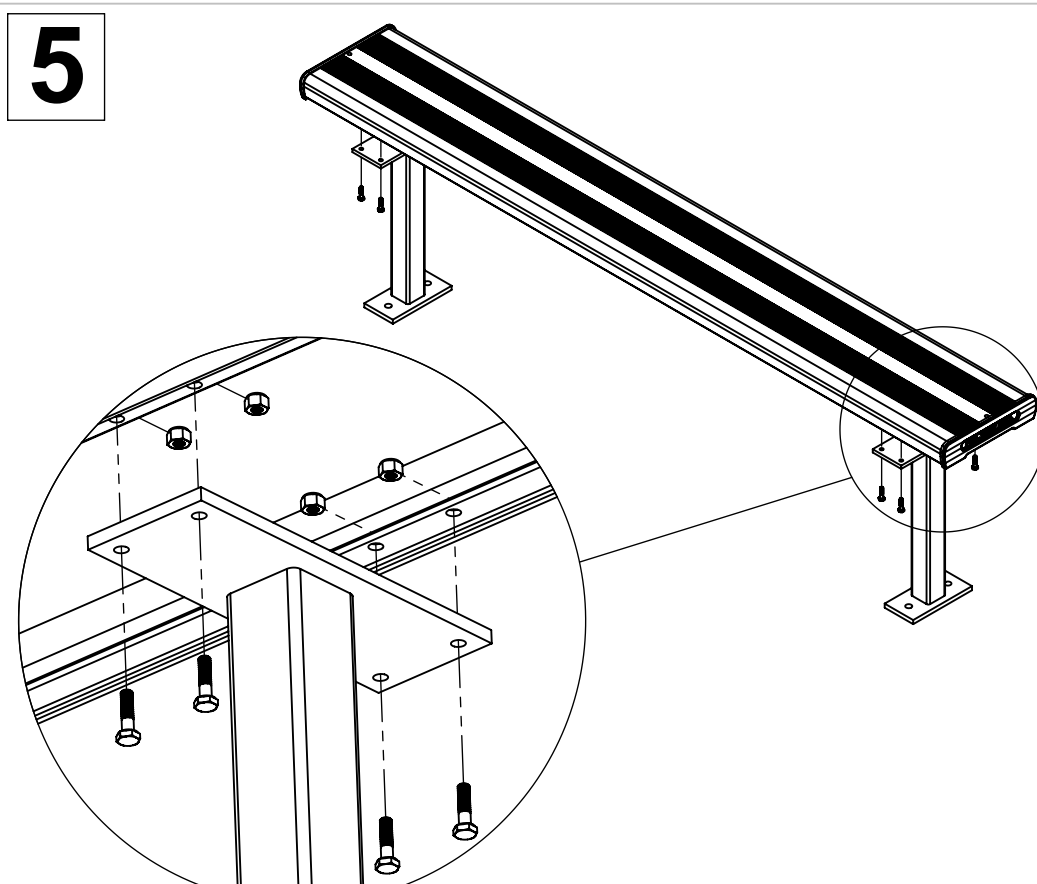
Attach left frame (3) and right frame (4) to the assembly in step 1 by using bolts (13) , washers (10) and nuts (11) as illustrated.



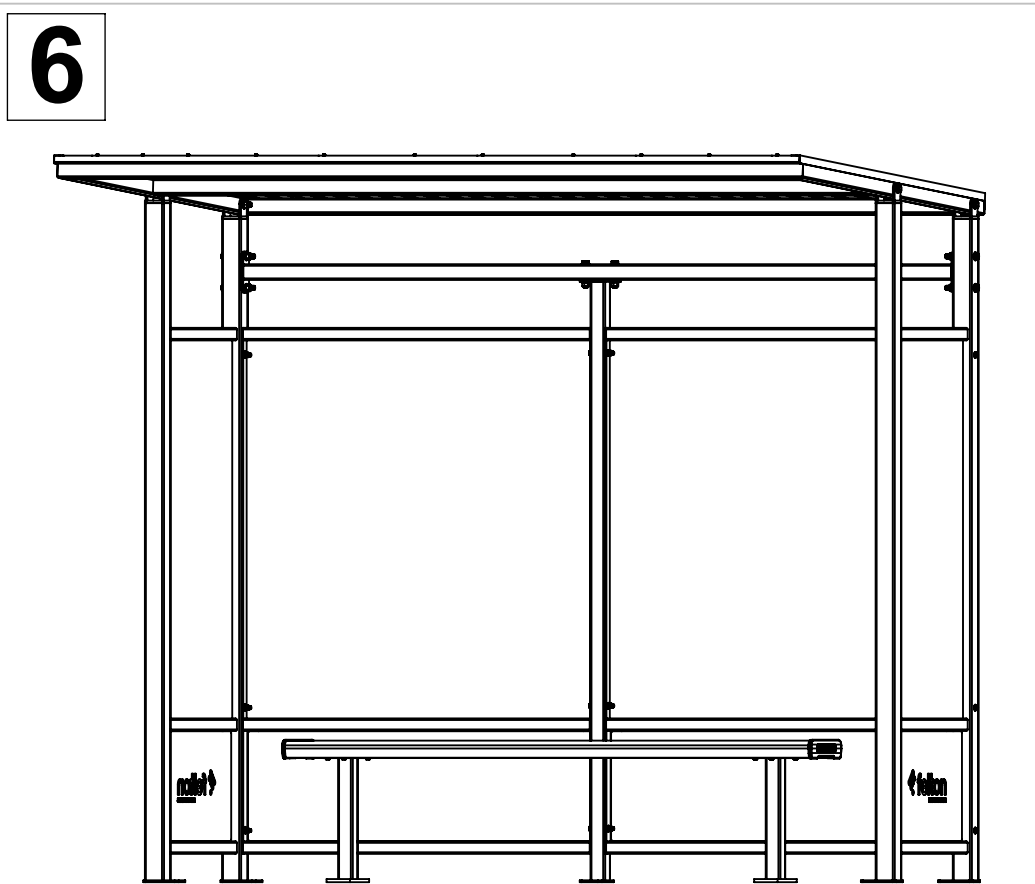
Attach two back mesh panels (5) to the assembly in step 2 by using bolts (14) , bolts (17) washers (15) and nuts (16) as illustrated.



Attach the top roof (6) to the assembly in step 3 by using bolts (12) , washers (10) and nuts (11) as illustrated.



Attach seat plank (8) to two leg supports (7) by using bolts (18) and nuts (19) as illustrated.



Tighten all hexagonal head bolts with spanners and appropriate tools. Then attach the frame and seating assemblies to the ground by using M12 dyna-bolts preferably, on each frame lug.