ACT Government

Municipal Infrastructure Technical Specification

03C Precast Box Culverts

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Transport Canberra and City Services

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1/1	All	Template update and web accessibility	Tim Rampton	December 2024
	All	Cross reference links updated		
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	All	General amendments to align with layout and structure of Municipal Infrastructure Technical Specifications documents, that are non-technical in nature		
	1.1.3	Referenced documents, including standards and guidelines, updated		
	1.1.4	Minor update to guidance on proprietary products		
	1.1.5	Abbreviations and definitions updated		
	1.1.6	Schedule of Hold points and Witness points updated for improved clarity. Other changes described below.		
	1.2.1.1	Update to requirement for concrete works to *TfNSW QA Specification B80*		

	1.2.2.1	Update to certification requirements for precast concrete box culvert units, to better align with TfNSW specifications. Update to marking requirements for box culvert units to better align with Australian Standards.		
	1.3.6.1	Update to requirements for box culvert installation to remove reference to *MITS 10*		
	1.3.6.2	Update to requirements for concrete works for cast in situ base and link slabs, to better align with TfNSW specifications. Update to requirements for certification of reinforcement and formwork installation to reference *TfNSW QA Specification B80* and include requirement to certify achievement of permitted tolerances. Update to requirements for early trafficking of base slabs to align with *TfNSW QA Specification B80*. Clarification of minimum strength requirement for base slabs prior to placement of precast box culverts.		
	1.3.8.2	Update to requirements for construction loading of box culverts, to align with Australian Standards and TfNSW specifications. This includes requirement to assess proposed construction loads against the loading restrictions in the Australian Standards.		
	1.4.2	Added requirements for CCTV and visual inspection of box culverts, to align with inspection requirements in *MITS 03B* for pipes and *MITS 03D* for drainage structures. New Hold point added for inspection of box culverts under the road prior to asphalt overlay.		
	2.2	Added Pay item 3C.5 for CCTV and visual inspection of box culverts		

Acknowledgement of Country

Transport Canberra and City Services (TCCS) acknowledge that Aboriginal people are the Traditional Owners of Australia. We acknowledge and pay respect to the Ngunnawal people as the custodians of the land and waters that we live and thrive on today and recognise any other people or families with connection to the lands of the ACT and region.

TCCS acknowledges that Canberra's cultural and natural heritage was maintained by the Traditional Custodians for many generations before colonial settlement on Australian soil. Aboriginal people's management of the land preserved the natural balance of local plants and animals. This knowledge of the environment in which we live is critical to the protection and restoration of our land today.

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1.1 General

1.1.1 Responsibilities

1.1.1.1 General

Requirement: Provide precast box culvert units, including construction of base slabs as documented.

1.1.2 Cross references

General: The following documents are related to this Specification. The latest version of the documents is to be adopted.

1.1.2.1 ACT Legislation

Road Transport (General) Act (ACT)
Public Roads Act (ACT)
Scaffolding and Lifts Act (ACT)
Scaffolding and Lifts Regulation (ACT)
Work Health and Safety Act (ACT)

1.1.2.2 Technical Specifications

Requirement: The following Technical Specifications must be conformed to:

MITS 00 Preliminaries
MITS 01 Traffic Management
MITS 02 Earthworks
MITS 03 Underground Services
MITS 04 Flexible Pavements
MITS 06 Concrete Kerbs, Footpaths and Minor Works
MITS 08 Incidental Works
MITS 09 Landscape
MITS 10 Concrete for General Works

The full list of Technical Specifications can be accessed via the TCCS website.

1.1.2.3 Design Standards

General: The following Design Standard is related to this Specification:

MIS 08 Stormwater

General: The full list of Design Standards can be accessed via the TCCS website.

1.1.2.4 TCCS Reference Documents

General: The following TCCS Reference Documents are related to this Specification:

Reference Document 4	Landscape Management and Protection Plans
Reference Document 6	Requirements for Design Acceptance Submissions
Reference Document 6A	Requirements for Design Acceptance Submissions for Infill Developments
Reference Document 7	Requirements for Operational Acceptance Submission for Hard Public Infrastructure Works
Reference Document 8	Requirements for Works as Executed Records
Reference Document 9	Requirements for Final Acceptance Submission for Hard Landscape Assets and Civil Works
Reference Document 10	Requirements for Soft Landscape Consolidation and Handover
Reference Document 11	Drafting Requirements for Summary Drawings

The full list of TCCS Reference Documents can be accessed via the TCCS website.

1.1.3 Referenced documents[1]

General: The following documents are incorporated into this Specification by reference:

1.1.3.1 Australian Standards

AS 1379	Specification and supply of concrete
AS 1478.1	Chemical admixtures for concrete, mortar and grout: Part 1: Admixtures for concrete
AS/NZS 1554.3	Structural steel welding: Part 3: Welding of reinforcing steel
AS 1597	Precast reinforced concrete box culverts (Set)
AS 1597.1	Precast reinforced concrete box culverts: Part 1: Small culverts (not exceeding 1200 mm span and 1200 mm height)
AS 1597.2	Precast reinforced concrete box culverts: Part 2: Large culverts (exceeding 1200 mm span or 1200 mm height and up to and including 4200 m span and 4200 mm height)
AS 2758.1	Aggregates and rock for engineering purposes: Part 1: Concrete aggregates
AS 3600	Concrete structures
AS 3610	Formwork for concrete
AS 3610.1	Formwork for concrete: Part 1: Specifications
AS 3972	General purpose and blended cements
AS/NZS 4671	Steel for the reinforcement of concrete
AS/NZS ISO 9001	Quality management systems – Requirements

1.1.3.2 TfNSW Specification

TfNSW QA Specification B80	Concrete Work for Bridges

[1] Not all the documents are specifically referenced in the body of this Specification. However, they may be relied upon depending on the nature of the Works.

1.1.3.3 Other publications

Austroads

AGPT Guide to Pavement Technology: Set
AGPT04G Guide to Pavement Technology Part 4G: Geotextiles and Geogrids

National Precast Concrete Association Australia

NP:PCH Precast Concrete Handbook

1.1.4 Standards

1.1.4.1 General

Small culverts, including all link slabs: To *AS 1597.1.*

Large culverts, including all link slabs: To *AS 1597.2.*

Precast culverts: To the recommendations in *NP:PCH.*

Proprietary products: Email TCCS.RoadStandards@act.gov.au for advice on proprietary products.

1.1.5 Interpretation

1.1.5.1 Abbreviations

General: For the purposes of this Specification, the following abbreviations apply:

ACT Australian Capital Territory
AS Australian Standard
CCTV Closed Circuit Television
ISO International Organization of Standardization
MIS Municipal Infrastructure Standard
MITS Municipal Infrastructure Technical Specification
NATA National Association of Testing Authorities
NSW New South Wales
NZS New Zealand Standard
PAP Principal's Authorised Person
RCBC Reinforced Concrete Box Culvert
TCCS Transport Canberra and City Services, ACT Government, and its successors
TfNSW Transport for New South Wales

1.1.5.2 Definitions

General: For the purposes of this Specification, the definitions given in *AS 1597.1* and *AS 1597.2*, as appropriate, and the following apply:

Authorised Person: The Authorised Person is the person or body responsible for administering the Works Contract and has the same meaning as Contract Administrator, Principal's representative, Principal's Authorised Person (PAP), Superintendent or equivalent. The powers, duties and authorities of the Authorised Person are covered in the Contract.

Contract: The agreement between the Principal and the Contractor.

Contractor: The person bound to execute the work under the Contract.

Large culvert unit: Culvert unit with a span exceeding 1,200 mm up to 4,200 mm, and a height from 1,200 mm up to 4,200 mm.

Practical Completion: This represents the time at which the Works have reached completion, except for minor omissions and minor defects, are considered as fit for occupancy and are ready for handover to the asset owner.

Precast box culvert: Includes link slabs and precast reinforced concrete crown sections.

Principal: Principal has the same meaning as Owner, Client and Proprietor and is the party to whom the Contractor is legally bound to construct the Works. The primary obligation of the Principal is to make payments to the Contractor.

Small culvert unit: Culvert unit with a span up to 1,200 mm and a height up to 1,200 mm.

Works: The scope of works to be executed by the Contractor in accordance with the Contract.

1.1.6 Hold points and Witness points

1.1.6.1 Notice

General: Give written notice to the Authorised Person for Hold points and Witness points in accordance with **Table 3C-1** and **Table 3C-2** respectively.

Table 3C-1 Hold points

Item	Clause	Requirement	Notice for inspection	Release by
Materials				
HP3C.1	1.2.2.1 – Precast concrete – General	Submit certificate of conformance for precast box culvert units	3 working days prior to dispatch	Authorised Person
Execution				
HP3C.2	1.3.3.1 – Handling, delivery and storage – General	Inspect box culvert units for dimensional accuracy and defects	3 working days prior to installation	Authorised Person
HP3C.3	1.3.6.2 – Installation – Cast in situ base and link slabs	Submit certification that installation of reinforcement and formwork conforms with *TfNSW QA Specification B80* and the drawings, and installation of formwork is within tolerances, and give notice for inspection	1 working day before pouring concrete	Authorised Person
HP3C.4	1.3.6.3 – Installation – Placement of units	Present joints and seals for inspection before backfilling	1 working day before backfilling	Authorised Person

Item	Clause	Requirement	Notice for inspection	Release by
HP3C.5	1.3.8.2 – Finishing – Construction loading on culvert	Provide certification that base slab concrete has achieved required compressive strength and provide assessment of construction loads over box culverts	1 working day prior to commencement of construction loading over box culvert units	Authorised Person
Completion				
HP3C.6	1.4.2 – CCTV and visual inspection for box culverts	Submit CCTV/visual inspection report and proposal to repair any defects	3 working days prior to commencement of overlying asphalt construction	Authorised Person

Table 3C-2 Witness points

Item	Clause	Requirement	Notice for inspection
Execution			
WP3C.1	1.3.6.2 – Installation – Cast in situ base slabs	Supply certification that concrete has achieved the required minimum compressive strength	1 working day prior to installation of precast unit
WP3C.2	1.3.7.1 – Backfill – General – Balancing backfill	Backfill layers simultaneously on both sides to avoid differential loading	1 working day

1.2 Materials

1.2.1 General

1.2.1.1 Materials and components

Pipes: To *MITS 03B Pipe Drainage*.

Structures: To *MITS 03D Drainage Structures*.

Concrete, reinforcement and formwork: To *TfNSW QA Specification B80*.

Cast in inserts: Provide structural steel cast in lifting items as shown on the drawings.

1.2.2 Precast concrete

1.2.2.1 General

Concrete, reinforcement and embedments: *TfNSW QA Specification B80*.

Type of joint: Butt joint.

Certification: Submit manufacturer's certificate of conformance for precast box culvert units to demonstrate conformance with the following:

(a) Concrete, reinforcement and embedments: To *TfNSW QA Specification B80*.

(b) Design, testing, manufacture and delivery of small culvert units: To *AS 1597.1*.

(c) Design, testing, manufacture and delivery of large culvert units: To *AS 1597.2*.

This is a **HOLD POINT (HP3C.1)**.

Marking: Mark each unit at time of manufacture with the following, using 75 mm high letters on the inside face of the unit in an easily visible location which will not become hidden once the unit is installed:

(a) Type and size.

(b) Casting date.

(c) Manufacturer's name.

(d) Inspection pass date.

(e) Batch number.

1.3 Execution

1.3.1 Provision for traffic

1.3.1.1 General

Requirement: Conform to *MITS 01 Traffic Management*.

1.3.2 Site establishment

1.3.2.1 Survey

Requirement: Conform to *MITS 00A General Requirements*.

1.3.3 Handling, delivery and storage

1.3.3.1 General

Lifting: Provide lifting holes, galvanized lifting points or steel lifting eyes in the culvert units, link slabs and base slabs for all culverts larger than 600 mm x 450 mm. Handle and load precast box culvert units to prevent any damage to the units.

Delivery and storage: Do not transfer completed precast box culvert units from the place of manufacture until the following is achieved:

(a) 70% of the minimum concrete strength.

(b) Small culvert units: Cured to *AS 1597.1, Clause 2.6.3*.

(c) Large culvert units: Cured to *AS 1597.2, Clause 2.6.3.*

Inspection: Inspect batches of precast box culvert units for dimensional accuracy and defects following delivery to installation location. Conform to the following:

(a) Small culvert unit: To *AS 1597.1.*

(b) Large culvert unit: To *AS 1597.2.*

This is a **HOLD POINT (HP3C.2)**.

1.3.4 Excavation

1.3.4.1 General

Excavation: Conform to *MITS 03A Trenching for Underground Services* and *MITS 02B Bulk Earthworks*.

Batter slopes: Evenly transitioned over 10 m length from the edge of the wingwall to match culvert wingwall slopes.

1.3.5 Foundations

1.3.5.1 Rock foundations

Level: Excavate foundations in rock neatly to the underside of the bedding as shown on the drawings.

Prepare: Thoroughly clean out all minor fissures and refill with concrete, mortar or grout. Remove all loose material.

Rock: If rock is encountered over part of the foundation, excavate the whole of the foundation to a depth of 300 mm below the level of the bottom of the base concrete slab.

Backfill: Replace and compact this additional excavation with backfill material to provide uniform bearing conditions. Conform to *MITS 03A Trenching for Underground Services*, *Table 3A-3*.

1.3.5.2 Bedding

Bedding: Unless noted otherwise, provide DGB20 bedding for cast in situ base slabs:

(a) DGB20 material: To *MITS 04 Flexible Pavements*.

(b) Lightly bound and compacted: To *MITS 03A Trenching for Underground Services*.

(c) Dimensions: As shown on the drawings.

(d) Place to the line and level of the underside of the base slab: ±10 mm in level and ±5 mm in line.

(e) Finish: Smooth surface finish by screeding.

1.3.6 Installation

1.3.6.1 General

Inlet and outlet invert levels: As shown on the drawings, ±10 mm and smooth, uniform gradient throughout each culvert length.

Installation: Conform to the following:

(a) Small culvert units: To *AS 1597.1*, Section 4, the drawings and this Specification.

(b) Large culvert units: To *AS 1597.2*, Section 5, the drawings and this Specification.

1.3.6.2 Cast in situ base and link slabs

Requirement: Construct cast in situ base slabs to the dimensions shown on the drawings and in conformance with this Specification.

Concrete works: Unless specified otherwise in this Specification, concrete works for base slabs and link slabs must comply with *TfNSW QA Specification B80*. Plain concrete for the blinding layer must comply with *MITS 10 Concrete for General Works* or *TfNSW QA Specification B80*.

Formwork and reinforcement: Certify that the installation of reinforcement and formwork conforms with *TfNSW QA Specification B80* and the drawings. This includes certification that the formwork has been installed to achieve the permitted tolerances for invert level, grade and plan position in **Clause 1.3.6.2**. The placed reinforcement and formwork shall be inspected by the Authorised Person prior to the concrete being poured.

This is a **HOLD POINT (HP3C.3)**.

Traffic: Prevent construction or public traffic over the base slab in accordance with the requirements for early trafficking of bridge decks in *TfNSW QA Specification B80*.

Tolerance: Conform to the following:

(a) Invert levels: −10 mm, +10 mm.

(b) Grade: 5 mm in 2.5 m (1 in 500).

(c) Plan position: ±50 mm.

(d) Surface irregularities: < 5 mm abrupt and 8 mm over a 3 m straightedge.

Recesses: Form recesses to accommodate the walls of the precast crown units in the base slab to the dimensions shown on the drawings.

Minimum strength requirement: Provide NATA (National Association of Testing Authorities) test certificate to confirm the base slab has attained the required minimum compressive strength specified on the drawings. Do not install precast units until after the base slab has attained the required minimum compressive strength. Unless otherwise shown on the drawings, it can be assumed that the required minimum compressive strength is 20 MPa in accordance with *AS 1597.1, Clause 4.4* and *AS 1597.2, Clause 5.4* as appropriate.

This is a **WITNESS POINT (WP3C.1)**.

1.3.6.3 Placement of units

Precast or cast in situ base slabs: When two or more rows of parallel box sections are to be constructed together, they shall be laid on a single base slab.

Temporary plug: If required, seal the ends of the culvert with a temporary plug to exclude water, sand or other deleterious materials.

Cement mortar: 0.4:1:3, Water:Cement:Sand ratio by mass.

Mortar bed in recess: Install precast crown units on a bed of cement mortar in the recesses in the base slab. Pack any gaps between the side walls and the sides of the recesses with cement mortar.

Voids: Seal lifting holes and butt joints between the ends of units with cement mortar or grout of a consistency that ensures the void is filled.

Mortar bed on supports: Thoroughly clean the bearing areas of the supports before placement of top slabs on U-shaped units, or link slabs on adjacent crown units, and cover with a bed of mortar.

Thickness of mortar bed: > 5 mm after placement of precast units.

Lifting hooks: Cut lifting hooks and seal the exposed steel with an anti-corrosion coating approved by the Authorised Person.

Multi-cell: In the case of multi-cell culverts, provide a gap between adjacent cells as shown on the drawings or typically 15 mm. Fill this gap with cement mortar or grout.

Curing of joints: Protect all mortar joints from the sun and cure in an approved manner > 48 hours prior to placing backfill.

Joint covering: Cover all external surfaces of joints between precast crown units, both laterally and longitudinally for the full length, and minimum 250 mm width, with strips of non-woven geotextile with a minimum mass of 270 grams/m^2 in conformance with *AGPT04G.*

Check inspection: Prior to backfill placing, inspect and make good all seals, joints and levels.

This is a **HOLD POINT (HP3C.4)**.

1.3.7 Backfill

1.3.7.1 General

Removal of formwork: Remove all bracing and formwork prior to backfilling.

Embankments: Unless otherwise specified, construct culverts in conjunction with or prior to filling embankments.

Zones: Place selected backfill in the side zones of the box culverts and wingwalls, and to a depth of 300 mm in the overlay zone of the culverts.

Backfill: Conform to *MITS 03A Trenching for Underground Services, Table 3A-4*. Alternatively, cementitious flowable fill with a compressive strength in the range of 0.6 MPa to 3 MPa may be used. Backfilling shall not take place until the cast in situ reinforced concrete base slab, if any, has reached its specified 28-day strength.

Compaction: Compact in layers > 150 mm compacted thickness.

Ordinary backfill: Backfill the remainder of the excavation with General Fill in conformance with *MITS 02B Bulk Earthworks*.

Wingwalls: Do not place backfill against wingwalls until concrete has gained sufficient strength as directed in the drawings.

Subsoil drain: Provide a subsoil drain enclosed in a seamless tubular filter fabric at the outer walls of the precast crown sections and at wingwalls as shown on the drawings, and in conformance with *MITS 03J Subsoil and Foundation Drains*.

Balancing backfill: Place backfill layers simultaneously on both sides of the culvert with a maximum 600 mm level difference to avoid differential loading. Commence backfilling and compaction at the wall and proceed away from it.

This is a **WITNESS POINT (WP3C.2)**.

Horizontal terraces: If the slopes bounding the excavation are steeper than 4H:1V, cut benches in the form of successive horizontal terraces at least 1 m in width before the backfill is placed.

1.3.8 Finishing

1.3.8.1 General

Requirement: Remove and replace a precast box culvert if required for any of the following reasons:

(a) Any culvert is not within tolerances true to line.

(b) The level or grade shows settlement of the culvert after installation.

(c) Damage occurs during backfilling, compaction or subsequent operations.

Flushing: Flush clean all culverts from end to end and maintain in proper working order until the completion of works.

1.3.8.2 Construction loading on culverts

Constraint: Prevent the passage of construction vehicles and plant over the culvert until 28 days after the casting of the base slab or until the compressive strength of the base slab concrete has reached its design 28-day compressive strength.

Loading restrictions: For the loading of culverts by construction vehicles and plant as part of earthworks, pavement works or other construction activities, adhere to the following load restrictions:

(a) Small culvert units: To *AS 1597.1, Clause 4.7*

(b) Large culvert units: To *AS 1597.2, Clause 5.7*

Protective measures: Assess proposed construction loads over the culverts against the loading restrictions. If the loading of culverts by construction vehicles and plant in excess of the load restrictions is proposed, design protective measures for the crossings.

Submission to Authorised Person: Submit certification that base slab concrete has achieved its design 28-day compressive strength and submit assessment of construction loads over the box culvert units.

This is a **HOLD POINT (HP3C.5)**.

1.4 Completion

1.4.1 Submissions

Works as Executed Records: To *MITS 00B Quality Construction*.

1.4.2 CCTV and visual inspections for box culverts

Closed circuit television (CCTV) and visual inspections: Carry out CCTV inspections or visual inspections of all box culverts at the following times:

(a) For box culverts under the road, after construction of all overlying backfill, select fill and gravel pavement layers above the subject box culvert, but prior to commencement of construction of the overlying asphalt or concrete pavement above the box culvert. To be carried out under Hold point HP3C.6.

(b) For all box culverts, no more than 14 days prior to Practical Completion. This is a prerequisite for Practical Completion, but not a Hold point.

Verification: CCTV inspections and visual inspections are to verify that the Works have been constructed within the specified tolerances, the flow of water is not obstructed by waste construction material left inside, and to check for visible signs of defects, structural failure or joint displacements.

Restricted access to box culverts: Where dimensions of box culverts restrict human access, carry out CCTV inspection. Carry out visual inspection where human access to box culverts is not restricted and it is considered safe to do so.

CCTV and visual inspection records: On completion of the inspections, submit a report and video/photo evidence to the Authorised Person for approval in accordance with TCCS *Reference Document 8 – Requirements for Work as Executed Records* requirements. If any defects or non-conformities are identified, submit proposed methodology to rectify any such defects or non-conformities to the Authorised Person for approval.

This is a **HOLD POINT (HP3C.6)**.

Defects: Any defects identified by the CCTV/visual inspection shall be rectified together with a new CCTV/visual inspection report prior to requesting final inspection.

Repair: Repair of damaged concrete box culverts by patching is not acceptable.

2 Measurement and payment

2.1 Measurement

2.1.1 General

Payments made to the Bill of Quantities: To *MITS 00A General Requirements*, this Specification, the drawings and **Clause 2.2**.

2.1.2 Methodology

The following methodology will be applied for measurement and payment:

(a) Allow for all work, materials, testing and quality assurance requirements in each Pay item.

(b) Embankment backfill: To *MITS 02B Bulk Earthworks*.

(c) Excavation, bedding, support and backfill material for precast reinforced box culverts: Conform to *MITS 03A Trenching for Underground Services*, paid under this Specification.

(d) Backfill under roads, paths and driveways: Extra over to *MITS 03H Road Openings and Restorations*.

(e) Cast in situ headwalls and wingwalls: To *MITS 03D Drainage Structures*.

(f) Subsoil drains: To *MITS 03J Subsoil and Foundation Drains*.

(g) Excavation for inlet and outlet channels: To *MITS 02B Bulk Earthworks*.

(h) Miscellaneous minor concrete work not included in the Pay items in this Specification: To *MITS 10 Concrete for General Works*.

(i) All costs associated with removal of water from excavations shall be included within respective excavation rates for stormwater pipes and drainage structures.

(j) No additional payment will be made for excavation in rock, overbreak of trench due to ground conditions or over excavation of trenches.

2.1.3 Deductions

In situ concrete strength: Deductions made as follows:

(a) Scheduled rate of payment is reduced by 2% for each 1%, or fraction thereof, by which the strength of the specimen fails to reach the specified strength, up to a maximum deficiency of 10%.

(b) If the deficiency in strength exceeds 10%, the concrete represented by the specimens may be rejected, in which case no payment will be made.

2.2 Pay items

Table 3C-3 Pay items

Item No	Pay items	Unit of measurement	Schedule of rates scope
3C.1	Cast in situ base slab	Number	All activities associated with the construction of cast in situ base slabs, including excavation for the slab in all types of material encountered, including rock, over excavation for bedding, shoring, foundation preparation, bedding, supply and installation of concrete, reinforcement and formwork. A separate Pay item shall be included in the Contract for each culvert, including a description of the slab dimensions. For example: 3C.1.1 Culvert 1: 1200x3000x200 base slab 3C.1.2 Culvert 2: 2x5000x4500x250 base slab etc.
3C.2	Precast reinforced concrete box culvert (RCBC)	Number	All activities associated with the construction of precast RCBCs, including supply and installation of the units. This Pay item shall include excavation for the units in all types of material encountered, including rock, shoring and jointing, including 'sand bands', sealing, backfilling and compaction. A separate Pay item shall be included in the Contract for each culvert dimension. For example: 3C.2.1 900Wx450H 3C.2.2 3000Wx1200H etc.
3C.3	Cast in situ link slab	Number	All activities associated with the construction of cast in situ link slabs, including excavation for the slab in all types of material encountered, including rock, over excavation for bedding, foundation preparation, bedding, supply and installation of concrete, pinning, reinforcement and formwork. A separate Pay item shall be included in the Contract for each culvert, including a description of the slab dimensions. For example: 3C.3.1 Culvert 1: 5000x4500x200 link slab etc.
3C.4	Modify precast RCBC	Number of precast units modified	All activities extra over precast RCBC associated with the adjustment of precast units to suit splays or skewed headwalls as specified. This Pay item shall include cutting, sealing, finishing and legal disposal of off-cuts.

Item No	Pay items	Unit of measurement	Schedule of rates scope
3C.5	CCTV and visual inspection	Per linear metre of box culvert	All activities associated with carrying out CCTV and visual inspections of box culverts, including submission of inspection reports, video evidence and photo evidence. A single rate applies to inspection per linear metre of box culvert, regardless of the number of times the box culvert is to be inspected.