SCOPE AND SPECIFICATION

FLOOD DAMAGED ROADS RESTORATION

Warri Gate Road – Unsealed Road Repairs

VOLUME 3 OF 4

TC Kirrily Rainfall and Flooding – January 2024
Western Queensland Rainfall and Flooding March – April 2024

CONTRACT No.
T2024-2025-208

CONTRACT SERVICES

Bulloo Shire Council is seeking tenders from appropriately qualified contractors to complete works associated with Contracts T2024-2025-208– Flood Damaged Road Restoration in Bulloo Shire.

The Contract works will be provided in accordance with the tendered Schedule of Rates as submitted in *Schedule K1 Contract Works Pricing Schedule and Schedule K2 Additional Works Pricing Schedule*.

SCOPE AND SPECIFICATION DOCUMENTS

This Volume 3 Scope and Specification document comprises of and is to be read in conjunction with the following documents:

- Volume 3 Scope and Specification.
- Applicable Main Roads Technical Specifications.
- Applicable AUS-SPEC Specifications
- South West Regional Road Group Specifications.
- Full treatment meanings as required under QRA legislation.
- Bulloo Shire Council detailed maps.

CONTRACT SPECIFIC CLAUSES

SECTION 1 – GENERAL – PRELIMINARIES

1.1 SCHEDULE OF RATES CONTRACT

The Contractor shall note that the basis of the Contract is a schedule of rates, tendered to complete a defined body of work as detailed in Schedule K1 Contract Pricing Schedule and Schedule K2 Additional Works Pricing Schedule.

1.2 EXTENT OF WORKS

The works to be completed under the contract are specifically designed to address damaged caused to road infrastructure as a result of natural disasters. The extent of work is based on approvals provided by Bulloo Shire Council and the Queensland Reconstruction Authority.

1.3 SITE LOCATION MAPS

Maps are provided detailing the Contract worksite locations, along with Principal owned and/or managed gravel pits. The Contractor shall note that the maps are provided for information, planning and visual reference purposes only. Due to changes to the specified works, which may occur throughout the contract period and the lead up to it, the maps must not be relied upon by the Contractor as the sole source of information beyond the tender period.

The Contractor shall ensure that only the infield application program is used to determine and confirm the current extent of approved works during the Contract Period.

The maps are provided in Appendix A.

1.4 SCOPE OF WORK

General

General works across all sites include but are not limited to the following works.

- Development, implementation and management of site specific Temporary Traffic Management Plans.
- Development, implementation and management of site specific Safe Work Method Statements.
- Development, implementation and management of site specific environmental controls.
- Site establishment.
- Management and maintenance of the worksite.
- Site disestablishment and clean up.

Treatment Schedule

All works associated with this Contract relate to the approved standard road maintenance and reconstruction treatments detailed in the Queensland Government's Queensland Reconstruction Authority Treatment Guide 2021-21 (QRA Treatment Guide). The QRA Treatment Guide is provided as a reference in Appendix B.

Contractors shall note the inclusion of the Contract Treatment Code reference in the table below. The Contract Treatment Code is also referenced in the contract pricing schedules. For all work delivery purposes and on site the Contract Treatment Code will be used rather than the standard QRA Treatment Code.

The treatment list provided below details the type of works approved for delivery across the three contract packages. It must be noted that not all treatments detailed below have been approved for completion across the three contract packages. The Contract Bill of Quantities details the approved treatments and their extent at each site.

Contract Treatment Code	QRA Treatment Code	QRA Treatment Guide Page	Standard Treatment
BFI	BKF_IMP	23	Bulk fill - imported
BFL	BKF_LOC	23	Bulk fill - local
RRC	CON_RCN	26	Reconstruct reinforced concrete
RFC	CON_RFC	26	Repair with flowable concrete
DDS	CUL_SIL	27	Desilt drainage structure - removal of silt and debris
CMD	EXC_HVC	24	Clear mixed debris and remove from site
BER	EXC_RSOS	24	Bulk excavate surplus material and remove from site
BES	EXC_RSS	24	Bulk excavate surplus material to spoil
RCS	RFD_RCS	32	Replace sign (complete) - standard road sign, includes post
RGP	RFD_RP	32	Replace guide posts or markers
RSF	RFD_RSF	32	Replace sign face only - standard road sign
HSG	SPR_HSG	21	Heavy shoulder grading - incorporating 50mm of imported material
ER	SPR_PER	16	Edge Repair
POT	SPR_POT	15	Pothole repair <1m2
PRP	SPR_PRL	14	Pavement repair - patch local unbound pavement failure (<20m2). Includes 2 coat bitumen seal
RUGB	SPR_RB	19	Reconstruct unbound granular base. Excludes seal
RUGP	SPR_RR	19	Reconstruct unbound granular pavement. Excludes seal
BSS	SPR_RSSR	22	Bitumen spray seal, 2-coat
ISS	SPR_STB	17	In-situ stabilisation - including 50mm corrector. Excludes seal
GMS	USP_GMS	11	Gravel/material supply
GR100	USP_GR100	12	Gravel Resheeting 100mm
GR150	USP_GR150	12	Gravel Resheeting 150mm
HFG	USP_HFG	10	Heavy formation grading
HFG50	USP_HFG50	10	Heavy formation grading incorporating 50mm of imported material
HFG75	USP_HFG75	10	Heavy formation grading incorporating 75mm of imported material
MFG	USP_MFG	9	Medium formation grading
RTD	USP_RSTD	13	Reshape table drain (1 side)
RDS	CUL_RP	28	Repair drainage structure - excavate, repair and reinstate
RCP	CUL_RCP$_{<375}$	29	Replace concrete pipe <375mm dia.

1.5 COUNCIL INDUCTIONS

The Contractor shall note that all personnel working on site to deliver the Contract Works, along with all approved subcontractor personnel must complete a Bulloo Shire Council induction prior to establishing the worksite or commencing works.

1.6 RESTRICTIONS ON WORKS

The Contractor shall be restricted in the works to be performed under this Contract as follows:

- Roads shall be returned to normal traffic operation outside of working hours and/or during any time that the Contractor is not undertaking works at the site;
- Access to properties shall be maintained at all times throughout the period of the Contract.
- The Contractor shall provide a minimum of 48 hours notice to landowners of any works that will affect the owner's access. Work on the notified owner's access shall not commence prior to the 48 hours notice period, unless the Contractor has written permission from the owner;
- No works on the roads shall occur between Saturday 20 December 2025 and Sunday 11 January 2026 inclusive. All sealed road works shall be sealed and safe to use for the travelling public during the Christmas/New Year holiday period without the need for ongoing monitoring by Council or the Contractor's personnel.
- No works on the roads shall occur over the Easter period between Thursday 17 April 2025 and Tuesday 22 April 2025 inclusive. All sealed road works shall be sealed and safe to use for the travelling public during the holiday period without the need for ongoing monitoring by Council or the Contractor's personnel.
- Claims for extra payment arising from these restrictions and any other restriction outlined in the Specification will not be considered.

1.7 CONTRACTORS REPRESENTATIVE

The Contractor shall nominate, in writing, an authorised representative for the Contract. The nominated representative shall be a person an experienced delivering similar Contract works.

The Contractor's nominated representative shall act as the primary contact for the Superintendent's Representative and be responsible for administering the Contract.

The Contractor's nominated representative shall supervise all subcontractors during delivery of the Contract Works. All queries from sub-contractors shall be directed to the Superintendent's Representative via the Contractor's representative.

1.8 CONTRACTOR CONTACTS

The Contractor shall provide phone and email contact details to enable the Contractor's nominated representative to be reliably contacted both within and outside of business hours.

The Contractor shall also supply the Superintendent's Representative with all key personnel's contact details to enable efficient contract management in addition to alternative contact options should the nominated representative be unavailable.

1.9 Q LEAVE LEVY PAYMENT

The contractor shall be responsible for meeting all requirements and payment of the Q Leave Levy for the personnel it employs.

1.10 CONTRACT MANGEMENT PLAN SUBMISSION, REVIEW AND ENDORSEMENT

Management Plan Submission

The Contractor shall prepare and submit the following management plans to the Superintendent's Representative for review and endorsement, prior to the commencement of work on site:

- Work Health and Safety Management Plan
- Fatigue Management Plan
- NHVR Chain of Responsibility Plan
- Environmental Management Plan

- Quality Management Plan
- Temporary Traffic Management Plan

Each management plan shall comply with all relevant legislative and regulatory requirements, industry standards, and the specific requirements detailed in this Contract.

Superintendent Endorsement

The Superintendent's endorsement of the submitted management plans shall signify that the plans have been reviewed to ensure they meet the general requirements of the Contract. The endorsement does not imply approval or acceptance of responsibility for the content or implementation of the plans.

The Contractor shall remain fully responsible for the adequacy, implementation, and management of all endorsed plans, and shall ensure that all construction activities are conducted in accordance with the endorsed plans.

Revisions and Updates

The Contractor shall promptly revise and update the management plans as necessary to address any changes in scope, site conditions, or regulatory requirements. All revisions and updates shall be submitted to the Superintendent's Representative for review and endorsement prior to implementation on site.

The Contractor shall maintain records of all revisions and provide the Superintendent's Representative with updated copies of the endorsed plans.

Non-Compliance

Failure by the Contractor to submit the required management plans for review and endorsement or to implement the endorsed plans in accordance with the requirements of the Contract may result in the suspension of work, withholding of payments, or other remedies available to the Superintendent under the Contract.

Contractor's Responsibility

The Contractor acknowledges that the preparation, submission, and implementation of the management plans are solely the responsibility of the Contractor. The Superintendent's endorsement of the management plans does not relieve the Contractor of any responsibilities or liabilities under this Contract.

General Management Plan Requirements

The Contractor shall comply with any reasonable direction given by the Superintendent or their representatives relating to the effective and appropriate implementation of management plan requirements.

The Contractor shall comply with the requirements of all local, state and federal legislation and regulations associated with the management and delivery of the Contract Works. All costs associated with the Contractor's compliance with these obligations shall be included in the tendered Contract rates.

1.11 NHVR CHAIN OF RESPONSIBILITY AND FATIGUE MANAGEMENT

NHVR Chain of Responsibility

Bulloo Shire Council considers the National Heavy Vehicle Regulator (NHVR) Chain of Responsibility regulations to be an important aspect of road safety for heavy vehicles and other road users. Bulloo Shire Council requires its contractors to implement, operate and maintain a comprehensive NHVR Chain of Responsibility Plan which helps to keep all road users safe.

Notwithstanding the requirements of Clause 1.10 the Contractor shall supply its Chain of Responsibility Plan to the Superintendent's Representative for review and endorsement prior to the commencement of work on site.

The Contractor shall ensure that all work associated with the delivery of Contract Works involving the use of heavy vehicles is undertaken in accordance with the requirements of the Chain of Responsibility Plan and NHVR law.

The Contractor shall record and maintain all records associated with its implementation and compliance with the NHVR Chain of Responsibility Plan. The Contractor shall make all information and records available for audit and inspection if requested.

Fatigue Management

Bulloo Shire Council recognises that fatigue is an important consideration within the overall management of work health and safety. This is particularly the case with the long distances within the Bulloo region. This means fatigue can be a significant factor when ensuring that Contract Works are completed in a safe and efficient manner, while ensuring that all personnel arrive home safely, regardless of the distance they are required to travel.

Notwithstanding the requirements of Clause 1.10 the Contractor shall supply its Fatigue Management Plan to the Superintendent's Representative for review and endorsement prior to the commencement of work on site.

The Contractor shall ensure that all work associated with the delivery of Contract Works involving the use of heavy vehicles is undertaken in accordance with the requirements of Work Health and Safety legislation and the Fatigue Management Plan.

The Contractor shall record and maintain all records associated with its implementation and compliance with the Fatigue Management Plan. The Contractor shall make all information and records available for audit and inspection if requested.

1.12 BIOSECURITY MANGEMENT

The Contractor shall take reasonable and practical steps to address and/or mitigate biosecurity risks. The Contractor shall manage and implement its biosecurity obligations under the Biosecurity Act 2014 (QLD) and the Bulloo Shire Council Biosecurity Plan 2022 Onwards.

The Contractor shall be aware of the potential risks associated with carriers and the movement and sourcing of materials, vehicles and machinery and the disturbance, import or export of soils. The Contractor shall ensure that where necessary appropriate measures are implemented that reduce or eliminate, where practicable, the chance of biosecurity risks being exacerbated or a contravention occurring.

1.13 TEMPORARY TRAFFIC MANAGEMENT

The Contractor shall supply, install and maintain all temporary traffic management (TTM) required to complete the Contract Works safely, in accordance with the adopted Temporary Traffic Management Plan (TTMP). The Contractor shall ensure that the endorsed TTMP and installed TTM meets the requirements of the Australian Standard AS 1742 "Manual of Uniform Traffic Control Devices" and the Queensland Department of Transport and Main Roads "Manual of Uniform Traffic Control Devices, MUTCD, Part 3 – Work on Roads.

The Contractor shall ensure that the worksite shall be left safe for traffic overnight and when the site is unattended. Any hazards shall be clearly signposted and appropriate traffic management provided.

The Contractor shall ensure that all excess materials from its works are removed from the road surface and disposed of in a suitable manner to the satisfaction of the Superintendent's Representative while the site is unattended and at the completion of work on site.

1.14 ACCOMMODATION CAMPS

Accommodation camps supplied by Contractor to house personnel delivering Contract works are to be fully self-contained and managed by contractor.

The Contractor shall only use approved locations for camps. The Contractor shall seek approval from the Superintendent for all proposed camp locations prior to the commencement of work on site. The Contractor shall ensure that the camp extent does not encroach or impact on previously uncleared or unused areas of land. In particular the Contractor shall ensure that no damage to the environment or disturbance to cultural heritage sites and/or artifacts occurs.

The Contractor shall ensure that all sites used for camps are left in a clean and tidy manner. All litter and waste produced by the Contractor's personnel in a camp shall be collected and managed by the Contractor and disposed of in an approved manner in accordance with BSC guidelines.

1.15 COMPLAINTS

The Principal will pass on to the Contractor the details of all complaints received, which are associated with the works. The Contractor shall maintain a record of all complaints received via the Principal or from members of the public. The Superintendent's Representative must be advised of all complaints received by the Contractor at the earliest possible opportunity.

The Contractor shall, if the complaint is genuine and with basis, respond to and address the cause of the complaint at the earliest possible opportunity. The Contractor shall notify the Superintendent's Representative when the cause of the complaint has been resolved and the details of the resolution.

1.16 APPROVALS AND OTHER LAW

Definitions

In this clause:

Approvals means *certificates, licenses, accreditations, clearances, authorisations, consents, permits, approvals, determinations and permissions from any Authority and any related fees and charges*; and

Authority means *any Federal, State, or local government authority, administrative or judicial body or tribunal, department, commission, agency, government owned corporation, statutory body or instrumentality or any other person having jurisdiction*.

Identifying, obtaining and maintaining Approvals

The Contractor shall identify and notify the Principal of all Approvals which are necessary for the proper completion of Contract Works (other than Approvals which the Principal has advised the Contractor it has already obtained). The Contractor must obtain and maintain all such Approvals until all of the Contractor's other obligations under the Contract are complete. The cost of obtaining and maintaining all such Approvals shall be borne by the Contractor.

Compliance

The Contractor shall and must ensure that its Personnel comply with all Approvals and other laws which are in anyway applicable to the delivery of the Contract Works, including, unless the Contract expressly provides otherwise, by paying all fees, royalties, levies, charges, costs, expenses, taxes or duties.

Obtaining or Granting of Approvals by Principal

The Principal gives no warranty and makes no representation that it will be able to obtain, or obtain within any particular timeframe; or where the principal is the relevant Authority, that it will grant, any Approval required for the Contractor to perform the Services.

No fetter

Nothing in the Contract shall be taken to fetter the power, rights or authority of the principal as the sublessor under the *Land Act 1994 (Qld)* or an Authority under the *Local Government Act 2009 (Qld)*, the Local Government.

SECTION 2 – GENERAL – SERVICE LEVELS AND QUALITY

2.1 SERVICE LEVEL, SCOPE AND QUALITY

The Contractor shall ensure that the specified Contract Works are delivered in accordance with the requirements of the Contract, within the required timeframe and to the required quality standards. The table below details the requirements and standards, against which the Contractor will be assessed.

The Superintendent's Representative will review the Contractor's delivery performance of the Contract Works against the following Service Levels at the frequency stated in the table below. The Superintendent may seek a written explanation and proposed solution from the Contractor if any Service Levels detailed below are breached or the completed work does not meet the specified standards.

Service Level	Requirement	Review Period
Delivery of program accepted by superintendent	As per contractor program supplied at time of tender award	Reviewed at progress meetings held at start of each agreed day of roster commencement.
Scope of works delivery	In accordance with scope "long form" of each treatment type. Refer Appendix B QRA Treatment Guide	Review at daily inspections with Superintendent Representative
Quality of works	In accordance with SWRRG and MRTS Specifications	Review at daily inspections with Superintendent Representative

2.2 QUALITY AND CONFORMANCE

The Works Under Contract will be supervised by the nominated Superintendent's Representative(s).

The Contractor shall report to Superintendent's Representative daily regarding the progress and completion of works on site. The Contractor shall submit for review on a weekly basis, on the first working day of the week, as a minimum, the previous weeks tip and load sheets, and water usage records.

The Superintendent's Representative will be required to sign off Hold Points and complete Inspections of the Contractor's works at the times and work stages detailed below. The Contractor shall provide 48 hours notice when the works are ready for hold point or final inspection.

Work	Work Stage	Inspection / Hold Point
All works	Lot Identification	Hold Point
	Set out of works	Hold Point
Subgrade / Embankment	Subgrade preparation (shape, level and density)	Hold Point
Material Quality (All Works)	Use of quarry or material source	Hold Point
	Compliance of all materials prior to their haulage to the works	Hold Point
	Pavement density (proof roll)	Inspection

Work	Work Stage	Inspection / Hold Point
Pavement (in addition to Subgrade)	Geometry (finished surface shape, alignment and level)	Inspection
	Depth of granular pavement material	Inspection
All Works	Non-conformance to any specified criteria	Hold Point
	Final Inspection prior to practical completion	Hold Point
	Practical Completion prior to leaving the site	Inspection

SECTION 3 – GENERAL – SITE WORKS

3.1 WORKS PROGRAM AND PROGRESS

Works Program

The Contractor shall submit to the Superintendent's Representative for review, a detailed works program within ten days of the date of contract award. The works program shall include the following information:

- Detailed activities for all construction works.
- Activity dependencies.
- Critical path activities identified for the Works and any Separable Portion of the Works.
- Activity duration indicating the start and finish dates for each activity.
- Milestones which identify significant events including completion of Separable Portions.
- Allowance for adverse weather.
- Non-work periods.

The Contractor's works program should reflect delivery from furthest site to the closest, where possible, to avoid cartage over recently completed work.

The Contractor shall ensure that all works are complete on each road and have been approved by the Superintendent's Representative prior to work commencing on a new road.

The submitted construction program will be reviewed by the Superintendent's Representative. If the Superintendent's Representative considers that the submitted works program or any subsequent revision does not show sufficient details, or is impractical, or does not comply with the requirements of the Contract, or will not result in completion of the Contract Works by the Date for Practical Completion, the Superintendent may direct the Contractor to revise and resubmit to the Superintendent an amended works program within five business days for further review.

Works Progress

The Superintendent's Representative will monitor the Contractor's progress against the agreed works program throughout the contract period.

The Contractor shall note that if the Principal or Superintendent is not satisfied with the Contractor's progress compared to the agreed works program, the Contractor will be requested to demonstrate how the works will be brought back onto schedule.

If the Contractor is unable or unwilling to bring the works back onto schedule in accordance with the agreed works program to the satisfaction of the Principal or Superintendent, or if it is considered that the work cannot be completed by the Date for Practical Completion, additional resources may be procured by the Principal, and a separable portion of the Contract Works may be awarded to a third party to meet works delivery time constraints.

3.2 ADVERSE WEATHER

Notwithstanding the requirements of Clause 34A Delay Costs the Contractor shall make allowance in the submitted works program for adverse weather and the effects of the adverse weather. The Contractor shall make the following allowances for adverse weather in the submitted works program.

Work Zone	Adverse Weather Allowance
Warri Gate Road	20 Working Days

The adverse weather allowance does not include allowance for periods when works are suspended due to adverse weather. This allowance is included in the Contract duration and is not to be construed as the actual time lost due to adverse weather conditions likely to be encountered during the Contract.

The Contractor's representative shall notify the Superintendent's Representative immediately of any time lost due to adverse weather conditions and shall confirm such notification in writing within five business days. The confirmation shall provide details of the nature and extent of delays and the construction activities affected. The Superintendent, if satisfied that the Contractor has taken reasonable steps to minimise the period of delay, will certify at the end of each month an appropriate period of time lost and will issue to the Contractor a monthly summary of certified time lost. The maximum period of time which will be certified on any working day will be ten hours.

Where the Contractor is required to provide a construction program, only delays affecting critical activities will be considered as time lost due to adverse weather conditions.

If the total period of time certified exceeds the total allowance for the Contract Works specified above, the Superintendent's Representative will, in accordance with the General Conditions of Contract, grant an extension of time for completion of the Contract Works on the basis of one working day for each ten hours of certified time in excess of the allowance. No extension of time will be granted until the total excess period equals ten hours or a multiple thereof. Periods of less than ten hours' duration shall accrue to form part of any subsequent extension of time.

No additional payment for costs arising from extensions of time granted due to excess adverse weather will be made.

3.2 COMMENCEMENT OF WORK

The Contractor shall provide 48 hours' notice of the intention to commence work on a new road. Notification shall be provided to the Superintendent's Representative in writing.

3.3 WORK TIMEFRAMES

Notwithstanding the requirements of Clause 39.2 Contractor's Default Parts c) and d) the Contractor shall ensure that all works are completed in a timely and efficient manner to enable overall Contract timeframes to be met.

3.4 WORK TO BE DONE BY OTHERS

The Contractor shall note that amongst other activities, Bulloo Shire Council has routine maintenance contractors for road work. Bulloo Shire Council also employs its own maintenance crews who also maintain the road network. The Contractor may from time to time be required to share use of the worksite and stockpile sites with other contractors and/or Council work crews.

The Contractor shall ensure it does not delay or hinder the works of others and works collaboratively with other contractors and Council personnel to enable all works to be delivered in a safe and efficient manner.

3.5 UTILITY SERVICES

The Contractor shall be responsible for identifying utility services on site and any special requirements the various utility service authorities have concerning works in the vicinity of their assets.

The Contractor shall take account of any identified restrictions to the works when pricing work packages. Any costs associated with complying with the identified restrictions shall be included in the quotes for the relevant work package and identified as a separate cost.

The Contractor shall also note and account for the presence of private utilities within the road reserve, such as water supply pipes for stock or irrigation purposes. The Contractor shall note that private utilities of this nature are unlikely to be present on Before You Dig plans. The Contractor shall ensure that appropriate measures are taken to ensure that any such utility services are not damaged as a result of the Contract Works.

3.6 ELECTRONIC RECORDS AND INFIELD APP

The Principal, via the Superintendent's Representative, uses an infield data capture and works management application. The data collected by the application program is used to provide reports internally, and externally to other agencies, on the progress of Contract works. The Contractor and its personnel shall be required to use the application program daily as part of works delivery.

The app is used to provide and confirm information about the approved works along with recording the completed works, materials used and problems encountered. The app will also be used by the Superintendent's Representative to record inspections completed and final approval of completed works for payment claims.

The Contractor shall supply suitable Android phones or tablets to site personnel to enable the application program to be installed and appropriate login details provided.

The Superintendent's Representative will provide training to the contractor's personnel on the usage and Principal's expectations of application program. Additional training relating to the usage and expectations for the application program will be provided as required by the Superintendent's Representative.

The application used by Bulloo Shire Council is Fulcrum App.

3.7 WORK SET OUT AND LOT IDENTIFICATION

The initial identification and set out of work sites will be undertaken by the Superintendent's Representative. The set out will include the following:

- Queensland Reconstruction Authority site Identification number
- Chainage start and end.
- Direction of works.
- Treatment type – (QRA) Contract Treatment Code.

Appendix C contains an example template depicting the standard manner in which pegs are set out and the detail contained on them.

The Contractor shall check and confirm all work details at each site, prior to the commencement of work at a site. If discrepancies are identified, they shall be immediately communicated to the Superintendent's Representative and direction sought.

3.8 GRANULAR PAVEMENT MATERIAL SOURCES AND ACCESS

Granular pavement material shall be sourced from Principal nominated gravel pits, unless directed otherwise by the Superintendent's Representative. The nominated source of granular pavement material for each worksite is detailed in the Pricing Schedule. Granular pavement material shall be loaded and supplied to worksites by the Contractor.

Granular Pavement Material Procurement

All pavement material required to complete the Contract will be stockpiled at the nominated gravel pit sites, ready for loading and haulage by the Contractor.

The Contractors shall provide at least 72 hours notice to the Superintendent's Representative of the intention to procure material from a nominated gravel pit.

Granular Pavement Material Records

The Contractor shall record the quantity of all material sourced from each gravel pit. The quantity measure shall be recorded via the weight of material removed from the pit.

The Contractor shall keep records of all granular pavement material used for the delivery of the Contract works. All records shall be supplied to the Superintendent's Representative on a weekly basis. The records supplied shall detail the following information as a minimum:

- Quantity of material loaded and delivered to site.

- Source of the materials.
- Location that the material is being delivered to.
- Roads used for carting materials.

Gravel Pit Access

The Contractor shall be responsible for facilitating access to the nominated pit. The Contractor shall maintain the access road to the pit and ensure no damage occurs from the extraction operations to support the Contract works. The Contractor shall undertake any required maintenance to the access road before, during and upon completion of the extraction operations to ensure safe access to the pit is maintained.

3.9 MATERIAL BULK DENSITY AND BULKING FACTOR

The Contractor shall complete work associated with the Contract using a nominated bulk density material rate and bulking factor as detailed below.

Material Bulk Density	2.2T/m^3
Material Bulking Factor	30%

3.10 PAVEMENT AND MATERIALS TESTING

The Principal may elect to undertake material and/or pavement testing throughout the Contract Period on any of the worksites. The Principal will pay the costs associated with completion of the testing work.

The Contractor shall ensure the Principal is afforded the time and safe worksite area to undertake the required material sampling and/or testing. The Contractor shall not be entitled to costs or an extension of time to provide the assistance and/or worksite area required to facilitate the testing work to be completed.

The Contractor shall be responsible for all costs associated with the rework or replacement of sub-standard materials and/or completed work where test results do not meet the specified limits.

The Contractor shall ensure that only fit-for-purpose materials which meet the specification requirements are utilised to deliver the Contract works. If materials are identified, without testing occurring, that appear to not meet the required quality or specification requirements, the Contractor will be required to provide test results to prove suitability or replace the materials at its expense with mutually agreed suitable materials.

3.11 WATER PROCUREMENT

The Contractor shall be responsible for sourcing and supplying all water required for completion of the Contract works.

Creeks and Rivers

Extraction of water from creeks and rivers will require a written permit from the relevant authority. The Contractor is responsible for applying and obtaining any permit(s) to extract the water required to complete the Contract works. The Contractor shall pay all costs associated with obtaining and meeting the ongoing compliance requirements of the permit(s). The Contractor shall supply a copy of the permit to the Superintendent's Representative within ten working days of its receipt and prior to the extraction of any water.

Private Sources

If the Contractor wishes to obtain water from private property, the Contractor shall negotiate the use and extraction of the water with the property owner. The Contractor shall pay all costs sought by the property owner for the extraction and use of the water. The Contractor shall ensure the details of the agreement with the private property owner are documented in writing. The Contractor shall supply a copy of the written agreement to the Superintendent's Representative within ten working days of the agreement's finalisation and prior to the extraction of any water.

3.12 HAUL ROADS

The Contractor shall be responsible for the condition and maintenance of haul roads used for the delivery of the Contract works. Maintenance works shall include, but not be limited to:

- The use of water carts to maintain the road surface and for dust suppression.
- Grading of the road surface to remove potholes, corrugations and reinstate shape.

The Contractor shall complete prior to the use of all haul roads an existing condition report to identify the current condition. The Contractor shall repair, at its cost, any damage caused by haulage operations.

Haulage of materials shall not occur during the following periods or situations:

- On closed roads as defined by the BSC Road Report.
- During periods of wet weather.
- On roads affected or damaged by wet weather.
- Between the hours of 6pm and 6am during delivery of the Contract works.

3.13 TURN AROUND FACILITIES

Contractors shall only utilise existing turnaround facilities across the Principal's road network. The Contractor shall not form new turnaround facilities unless specific approval for each facility is provided in writing by the Superintendent's Representative.

The Contractor's Tendered rates shall include all costs associated with material haulage and trafficking between turnaround areas. The Contractor shall make allowance for any impact on production rates and the Contract program of the need to account for any extra distance and inefficiencies introduced by the location of approved turn around facilities.

SECTION 4 – FORMATION CONSTRUCTION

4.1 UNSUITABLE SUBGRADE MATERIAL

The Contractor may encounter patches where the road subgrade material is unsuitable for pavement restoration works to occur upon. Where directed by the Superintendent's Representative the Contractor shall remove unsuitable subgrade material to an agreed depth. The Contractor shall seek approval from the Superintendent's Representative prior to replacement of subgrade material as to the suitability of the excavation subgrade.

The Contractor shall supply and place approved geotextile material prior to back filling the removed subgrade material with approved granular pavement material. The Contractor shall place and compact, at optimum moisture level, all materials in layers not greater than 100mm compacted depth.

The Contractor shall capture photos and document all details of unsuitable subgrade materials, its removal and the replacement with suitable material to ensure that the work can be claimed via QRA variation processes and meets their requirements. Photos and documentation shall include all parts of the process from site identification, through removal, to the replacement and completion of the work.

4.2 SUBGRADE MATERIAL REHABILITATION

The Contractor may encounter patches where the road subgrade material is initially unsuitable for rehabilitation works to occur upon but does not require removal. Where directed by the Superintendent's Representative the Contractor shall rehabilitate unsuitable subgrade material to an agreed depth.

The Contractor shall treat identified subgrade areas with the specified 70/30 cement/fly ash treatment at a rate of 2% by mass of stabilised material, approved by the Superintendent's Representative. Following treatment the subgrade shall be compacted in accordance with the requirements of the Specification, to the satisfaction of the Superintendent's Representative.

The Contractor shall seek approval from the Superintendent's Representative prior to replacement of pavement material as to the suitability of the treated subgrade for construction to occur upon.

Payment for work associated with treatment of unsuitable subgrade material will be made in accordance with the requirements of the Contract using tendered Provisional Quantity rates.

4.3 BULK FILL

The Contractor shall undertake bulk fill works along the sections of road specified in the Contract. The work shall be completed in accordance with the requirements of QRA treatment type Bulk Fill. The Contractor shall complete the following works.

- Supplying and carting bulk fill material to the site.
- Preparing the underlying subgrade material to receive the fill material.
- Placement, compaction, and trimming of the fill material to the specified level.

Bulk fill shall be used to reinstate roads in the following manner.

- To a road's natural surface level for unformed roads
- To the top of formation for formed roads.
- To the top of the road subgrade for gravel and sealed roads or table drains.

The Contractor shall obtain approval from the Superintendent for the intended material source to ensure the that fill material used is consistent with the displaced or scoured material. The Contractor shall note the intended source of bulk fill material as specified in the Works Schedule, local or imported.

Locally sourced bulk fill material shall be obtained from the road reserve in accordance with the requirements of Standard Drawing SSD-001 provided in Appendix D Standard Drawing and as agreed with the Superintendent. Imported bulk fill material shall be obtained from an approved source as agreed with the Superintendent.

Finished road surface crossfall shall be 5% on straight sections to allow for effective drainage of the road surface.

Finished road surface superelevation within bends, shall ideally be constructed with a grade of 6% and not be greater than 7% in any location. The Contractor shall ensure that transitions to and from superelevated road cross sections are shaped in a manner that does not cause adverse stability issues for vehicles with high centres of mass.

The Contractor shall also ensure that filled areas match the adjacent table drain or allow the finished pavement surface to match the adjacent table drain which allows effective drainage of the road and shoulder areas.

Payment for bulk filling work will be made in accordance with the applicable tendered rate in Schedule K1.

SECTION 5 – PAVEMENT CONSTRUCTION

5.1 MEDIUM FORMATION GRADING

The Contractor shall undertake medium formation grading works along the sections of road specified in the Contract. The work shall be completed in accordance with the requirements of the QRA treatment type Medium Formation Grading. The Contractor shall complete the following works.

- Scarify the road surface to a depth of 50mm using a grader.
- Clear and grub the site to enable recovery of suitable material from table drains for incorporation into the road pavement.
- Shape and compact the material to restore the road surface to its pre-disaster profile and condition.

Medium formation grading does not include the importation of additional material. All grading works shall ensure the finished surface is free from significant deviations in longitudinal and horizontal geometry, providing a smooth and safe wearing course.

The Contractor shall also ensure that completed grading areas match the adjacent table drain and allow effective drainage of the road and shoulder areas.

Finished road surface crossfall shall be 5% on straight sections to allow for effective drainage of the road surface.

Finished road surface superelevation within bends, shall ideally be constructed with a grade of 6% and not be greater than 7% in any location. The Contractor shall ensure that transitions to and from superelevated road cross sections are shaped in a manner that does not cause adverse stability issues for vehicles with high centres of mass.

Payment for medium formation grading will be made in accordance with the applicable tendered rate in Schedule K1.

5.2 HEAVY FORMATION GRADING

The Contractor shall undertake heavy formation grading works along the sections of road specified in the Contract. The work shall be completed in accordance with the requirements of QRA treatment type Heavy Formation Grading. The Contractor shall complete the following works.

- Scarify the road surface to a depth of 150mm using a grader to reinstate the road formation and longitudinal and horizontal geometry.
- Clear and grub the site to enable recovery of suitable material from table drains for incorporation into the road pavement.
- Where specified, additional granular pavement material shall be incorporated into the road surface to achieve the specified profile.
- Shape and compact the material to restore the road surface to its pre-disaster profile and condition.

All grading works shall ensure the finished surface is free from significant deviations in longitudinal and horizontal geometry, providing a smooth and safe wearing course.

Finished road surface crossfall shall be 5% on straight sections to allow for effective drainage of the road surface.

Finished road surface superelevation within bends, shall ideally be constructed with a grade of 6% and not be greater than 7% in any location. The Contractor shall ensure that transitions to and from superelevated road cross sections are shaped in a manner that does not cause adverse stability issues for vehicles with high centres of mass.

The Contractor shall also ensure that completed grading areas match the adjacent table drain and allow effective drainage of the road and shoulder areas.

Payment for heavy formation grading will be made in accordance with the applicable tendered rate in Schedule K1.

5.3 GRAVEL RESHEETING

The Contractor shall undertake gravel resheeting works along the sections of road specified in the Contract. The work shall be completed in accordance with the requirements of QRA treatment type Gravel Resheeting. The Contractor shall complete the following works.

- Preparation of the existing road formation through heavy formation grading.
- Supply and spread imported granular pavement material to reinstate the road surface and correct profile to the specified compacted depth.
- Shape and compact the material to restore the road surface to its pre-disaster profile and condition.

All grading works shall ensure the finished surface is free from significant deviations in longitudinal and horizontal geometry, providing a smooth and safe wearing course.

Finished road surface crossfall shall be 5% on straight sections to allow for effective drainage of the road surface.

Finished road surface superelevation within bends, shall ideally be constructed with a grade of 6% and not be greater than 7% in any location. The Contractor shall ensure that transitions to and from superelevated road cross sections are shaped in a manner that does not cause adverse stability issues for vehicles with high centres of mass.

The Contractor shall also ensure that resheeted areas match the adjacent table drain and allow effective drainage of the road and shoulder areas.

Payment for gravel resheeting will be made in accordance with the applicable tendered rate in Schedule K1.

5.4 PAVEMENT RECONSTRUCTION

Road reconstruction works shall be undertaken where the road has been identified as unsuitable for restoration or patching works to occur upon. The Contractor shall remove unsuitable pavement material to the specified depth. The Contractor shall seek approval from the Superintendent's Representative prior to replacement of pavement material as to the suitability of the excavation subgrade.

The Contractor shall supply, place and compact approved pavement material at optimum moisture level. All pavement materials shall be placed in layers not greater than 100mm compacted depth.

Granular pavement material removed from the road pavement and deemed unsuitable for reuse shall be removed from site and disposed of by the Contractor in an approved manner at the Contractor's expense.

Road Reconstruction

The reconstructed road surface shall meet the appropriate minimum and maximum horizontal and vertical grade requirements. The following situations shall

- Minimum straight road crossfall – 1.0%
- Maximum straight road crossfall – 3.0%
- Minimum superelevation – 3.0%
- Maximum superelevation – 6.0%

In situations where short road sections are being reconstructed, and the adjacent existing road geometry does not match the above minimum and maximum horizontal and vertical grade requirements, the existing road profile shall be matched to ensure no sudden geometry changes which may cause vehicle instability.

The Contractor shall also ensure that completed reconstructed road pavement area match the adjacent table drains and allow effective drainage of the road and shoulder area.

The Contractor shall ensure that all reconstructed road pavement areas are swept following completion of reconstruction works. The road wearing course shall be swept to ensure that loose material is not left on the road surface upon completion of work on site.

5.5 UNSUITABLE PAVEMENT MATERIAL

For pavement reconstruction work where the road pavement material has been identified as unsuitable for restoration works to occur upon. The Contractor shall remove unsuitable pavement material to the specified

depth. The Contractor shall seek approval from the Superintendent's Representative prior to replacement of pavement material as to the suitability of the excavation subgrade.

The Contractor shall supply, place and compact approved pavement material at optimum moisture content. All pavement materials shall be placed in layers not greater than 100mm compacted depth.

Granular pavement material removed from the road pavement and deemed unsuitable for reuse shall be removed from site and disposed of by the Contractor in an approved manner at the Contractor's expense.

Payment for work associated with unsuitable material will be made in accordance with the requirements of the Contract using tendered rates.

SECTION 6 – SURFACE TREATMENTS

6.1 FINISHED SURFACE

The quality and integrity of the finished wearing course surface following the completion of works is an important feature of the road. The finished surface of all unsealed wearing courses shall be completed in manner that ensures the following requirements are achieved:

- The wearing course surface of the treated area provides a smooth and safe interface with the surface of the adjacent untreated roadway.
- The Contractor shall ensure that the finished road surface is free draining with no ponding of water.
- The Contractor shall ensure that the finished pavement levels match all driveways and accesses to property.
- The Contractor shall ensure that the finished pavement levels match all intersections and side roads.
- The quality of surface finish for unsealed surfaces shall match the existing road surfacing and provide improved performance in terms of water and skid resistance.
- The type of surfacing and quality of surface finish for sealed surfaces shall match the existing road surfacing and provide improved performance in terms of water and skid resistance.
- The finished surface of pavement restoration work shall match the longitudinal grade and superelevation or crossfall of the surrounding pavement wearing course.

SECTION 7 – DRAINAGE WORKS

7.1 TABLE DRAINS AND MITRE DRAINS

The Contractor shall undertake the cleaning, repair, reconstruction, and reprofiling of all table drains where specified, in accordance with the requirements detailed in the Contract and the QRA Treatment Guide. All works shall ensure the effective collection and discharge of surface water to prevent ponding, erosion or damage to the adjacent road surfaces and infrastructure.

Extent of Works

The scope of works includes, but is not limited to:

Cleaning: Removal of accumulated silt, debris, and vegetation that obstructs the flow within the table drains. Cleared material shall be disposed of in a manner approved by the Superintendent's Representative.

Repair: Repair of eroded or undermined sections of the table drains. This includes backfilling of scoured areas with approved materials to reinstate the original formation.

Reconstruction: Where required, reconstruction of table drains to ensure uniform depth and alignment is achieved. This shall involve re-excavation, shaping, and stabilisation of drain batters.

Reprofiling: Reprofiling of table drains to restore the correct cross-sectional shape, gradient, and longitudinal fall. The reprofiled drain shall maintain a minimum gradient to ensure effective drainage and shall be matched to adjacent road formation levels.

Drain Cross-Section

All table drains shall be constructed with a minimum base width of 1 meter, where practical, and side slopes not steeper than 1:3. Drain depth shall be maintained to a minimum of 150mm below the adjacent road formation to ensure effective water collection.

Mitre Drains

The Contractor shall ensure that existing mitre drains are cleaned, repaired and reprofiled to allow captured water in the table drains to be directed away from the road. The reinstated mitre drains entrance shall be profiled in a manner which prevents water from bypassing it and flowing further along the road. The mitre drain shall be installed in a manner which prevents water from re-entering the road formation further downstream.

Inspection and Approval

The Contractor shall notify the Superintendent's Representative when repaired table drains are ready for inspection. All completed works shall be inspected and approved by the Superintendent's Representative prior to progressing to subsequent construction activities.

Measurement and Payment

Payment for cleaning, repairing, reconstructing, and reprofiling table drains shall be made in accordance with the applicable rates in Schedule K1 – Contract Works Pricing Schedule. The tendered rate shall include all costs associated with labour, materials, plant, overheads, and any other resources necessary to complete the specified works.

7.2 REPLACE CULVERT ENDWALL

The Contractor shall remove and replace the specified damaged or deteriorated endwall in accordance with the QRA Treatment Guide. Works shall include excavation and removal of the existing endwall, preparation of the subgrade base, installation of the new culvert pipe or box culvert endwall, and backfilling with suitable compacted material. The joint between the endwall and pipe shall be sealed with a suitable grout product to prevent infiltration or erosion of material.

The Contractor shall ensure that the replacement pipe or box culvert endwalls match the existing size compared to the original installation and comply with relevant Australian Standards. The Contractor shall

ensure that damage to adjoining structures, the road formation, and utility services during the replacement works does not occur.

7.3 REPLACE CONCRETE CULVERT

The Contractor shall remove and replace the specified damaged or deteriorated concrete culverts in accordance with the QRA Treatment Guide. Works shall include excavation and removal of the existing culvert, preparation of the trench base, installation of the new culvert pipe or box culvert, and backfilling with suitable compacted material. Pipe joints shall be properly sealed to prevent infiltration or erosion.

The Contractor shall ensure that the replacement pipes or box culverts are of equivalent or increased size compared to the original installation and comply with relevant Australian Standards. The Contractor shall ensure that damage to adjoining structures, the road formation, and utility services during the replacement works does not occur.

SECTION 8 – INCIDENTAL WORKS

8.1 GUIDE POSTS

The Contractor may need to remove and replace guideposts to complete the specified works safely and effectively. Existing guideposts requiring removal and replacement shall be agreed in advance with the Superintendent's Representative.

The Contractor shall ensure that the method of guidepost removal and replacement used does not damage the post. The Contractor must notify the Superintendent's Representative if any damaged and/or missing posts are identified to seek approval for replacement posts to be installed.

8.2 SIGNS

The Contractor may be required to install signs as part of the Contract works. Where the installation of signs is required, the Principal will supply the signs for the Contractor to collect and install. The Contractor shall supply all materials, fixtures and fittings required to complete the installation in accordance with the appropriate Australian Standards.

8.3 GEOTEXTILE MATERIAL

The Contractor shall supply and place geotextile material in locations identified by the Superintendent's Representative. The Contractor shall use, upon approval of the Superintendent's Representative, Tensar TriAx TX-G geotextile material or a similar product that meets the same specification requirements.

8.4 BULK EXCAVATION – SURPLUS MATERIAL REMOVAL

The Contractor shall undertake bulk excavation to remove surplus material from the specified location in accordance with the QRA Treatment Guide. Excavation shall be completed to the required depth, with unsuitable or excess material loaded and transported to an approved disposal site. The Contractor shall ensure the excavation work does not undermine adjacent structures, vegetation or compromise the integrity of the existing road formation.

The Contractor shall take all necessary precautions to prevent contamination of adjacent areas and waterways and ensure that all excavated material is removed and disposed of in accordance with environmental and regulatory requirements. The worksite shall be left in a stable and clean condition, with no identified material remaining.

8.5 CLEAR MIXED DEBRIS AND REMOVE FROM SITE

The Contractor shall clear mixed debris, including vegetation, loose material, and obstructions, from the identified areas in accordance with the QRA Treatment Guide. All debris shall be safely removed from the road reserve, waterways, drainage lines, and other affected locations, ensuring that no residual material obstructs traffic, drainage, or ongoing maintenance activities.

Debris shall be transported to an approved disposal site, with all removal activities completed in compliance with environmental and WHS regulations. The Contractor shall take care to minimise disturbance to the adjacent road infrastructure and vegetation during the clearing process and ensure that the area is left in a tidy and safe manner.

SECTION 9 – MEASUREMENT AND PAYMENT

9.1 GENERAL

This section covers the requirements for measurement and computation to be used in the determination of quantities of materials furnished and work performed under the Contract and provides the basis for payment.

Except for the specific items listed in this section, or unless otherwise specified, lengths and areas will be measured in the horizontal plane.

Where payment is made at rate per unit, payment will be made at the relevant tendered rate for the measured quantities of materials supplied and work performed in accordance with the requirements of the Contract.

9.2 PREPARATION AND MAINTENANCE OF MANAGEMENT SYSTEMS

No separate payment shall be made for the costs of work associated with planning, establishing, implementing and maintaining Contract Management Systems. All costs associated with planning, establishing, implementing and maintaining Contract Management Systems will be deemed to be included in the Contract Rates.

9.3 JOINT MEASUREMENT

Unless otherwise specified, a joint measure shall be undertaken to confirm final quantities of all works completed under the Contract.

The Contractor shall notify the Superintendent in sufficient time and at such appropriate time to enable a joint assessment by the Superintendent and the Contractor.

9.4 MEASUREMENT BY MASS

Where material is to be measured by mass it shall be measured in tonnes to the nearest one tenth of a tonne. The Contractor shall measure and document the mass of all materials supplied under the Contract in accordance with the Specification and the Contractor's Quality Plan. The Contractor shall supply all necessary documentation, objective where possible, of the quantity of material used.

Further, the Contractor shall provide, on request by the Superintendent, objective evidence to the ongoing verification of the accuracy of any weighing devices to assure the Superintendent of the accuracy of the measured mass of material delivered.

9.5 MEASUREMENT BY LENGTH

Where work is to be measured by length it shall be measured in meters to the nearest one tenth of a meter. The Contractor shall measure and document the length of all work completed under the Contract in accordance with the Specification and the Contractor's Quality Plan.

Further, the Contractor shall provide, on request by the Superintendent, objective evidence to the ongoing verification of the accuracy of any measuring devices to assure the Superintendent of the accuracy of the measured length of work completed.

9.6 MEASUREMENT BY AREA

Where work is to be measured by area it shall be measured in square meters to the nearest one tenth of a square meter. The Contractor shall measure and document the area of all work completed under the Contract in accordance with the Specification and the Contractor's Quality Plan.

Further, the Contractor shall provide, on request by the Superintendent, objective evidence to the ongoing verification of the accuracy of any measuring devices to assure the Superintendent of the accuracy of the measured area of work completed.

9.7 MEASUREMENT BY VOLUME

Where work is to be measured by volume it shall be measured in cubic meters to the nearest one tenth of a cubic meter. The Contractor shall measure and document the volume of all work completed under the Contract in accordance with the Specification and the Contractor's Quality Plan.

Further, the Contractor shall provide, on request by the Superintendent, objective evidence to the ongoing verification of the accuracy of any measuring devices to assure the Superintendent of the accuracy of the measured volume of work completed.

9.8 MEASUREMENT BY EACH

Where work is to be measured by each it shall be measured as a singular item or numbers of items measured as a whole number. The Contractor shall measure and document the number of items delivered or work completed under the Contract in accordance with the Specification and the Contractor's Quality Plan.

Further, the Contractor shall provide, on request by the Superintendent, objective evidence to the ongoing verification of the accuracy of any measuring devices to assure the Superintendent of the accuracy of the measured items delivered or included in the works.

9.9 PAYMENT REDUCTION

Work which fails to fully satisfy the specified standards but is acceptable on reduced payment, will be valued in accordance with the percentage reduction stated in the relevant clause or table. The reduced payment will be based on rates submitted in the Schedules or where no rate or reference table is provided, on the value or rate for the work as agreed between the Superintendent and the Contractor. Where no agreement can be reached the work will be valued by the Superintendent.

9.10 MEASUREMENT AND PAYMENT OF SCHEDULE OF RATES ITEMS – SCHEDULE K1

Measurement for Schedule of Rates Items in Schedule K1 – Contract Works Pricing Schedule, will be made using the units denoted in the schedule of rates table against the applicable item.

Payment for Schedule of Rates Items in Schedule K1 – Contract Works Pricing Schedule, will be made using the tendered rate in the schedule of rates table. Tendered rates shall include full compensation for the supply of all labour, materials, plant, overheads, profit and any other costs incurred in completing the specified work covered by the item.

9.11 MEASUREMENT AND PAYMENT OF PLANT AND PERSONNEL – SCHEDULE K2

From time to time additional works to those specified in Schedule K1 may be instructed by the Superintendent. Where relevant rates are listed in Schedule K2 Additional Works Pricing Schedule, these shall be used as the basis of payment. Where no such rate exists the value of works shall be determined in accordance with Clause 36 Variations of the General Conditions of Contract.

Payment for items in Schedule K2 – Additional Works Pricing Schedule, will be made using the tendered rate in the schedule of rates table. Tendered rates for plant, equipment and personnel shall include full compensation for the supply of the plant, equipment and personnel and include appropriate allowances for labour, overheads, profit and any other costs incurred in supplying the item.

No payments will be made for standby of plant, equipment and personnel.

9.12 PAYMENTS TO CONTRACTOR

All payments due to the Contractor for works, supplies or services provided under this Contract will be made by Electronic Funds Transfer (EFT).

Within 14 days of award of the Contract, the Contractor shall submit the following details to the Superintendent:

name and address of a financial institution participating in the Direct Entry System to which payment is to be made;

- relevant Bank State Branch code or participating financial institution number (BSB);
- account name; and
- account number.

The Contractor shall within seven days of any change to the above details inform the Superintendent in writing of that change. Bulloo Shire Council shall not be responsible for any delay in transmission of funds arising from incorrect or outofdate information supplied by the Contractor.

Payments to the Contractor shall be deemed to have been made by Bulloo Shire Council within 24 hours from the date Bulloo Shire Council has:

(a) correctly entered all necessary information; and
(b) sent; and
(c) had processed under a processing date;

all relevant debits online into the Electronic Funds Transfer System.

Bulloo Shire Council shall not be responsible for any delays or failures in transmission of funds arising from or relating to system failure, temporary system constraints or other functional transfer problems in the EFT direct entry system.

STANDARD SECTIONS

MAIN ROADS TECHNICAL SPECIFICATION

Notwithstanding the requirements of Clause 2.1 Service Level, Scope and Quality the Contract works shall be subject to the following Main Roads Technical Specifications (MRTS). In delivering the Contract Works the Contractor shall ensure the requirements of the relevant specification are adhered to.

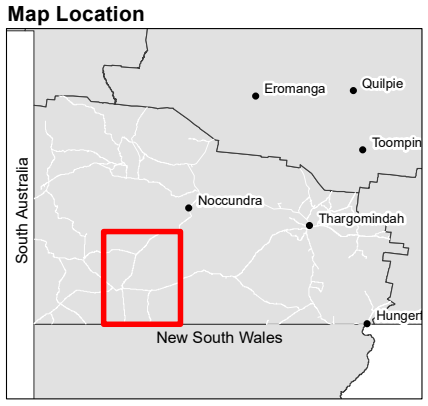
The table below details the MRTS documents relevant to this Contract.

Reference Number	Specification Name
MRTS05	Unbound Pavements
MRTS07B	Insitu Stabilised Pavements Using Cement or Cementitious Blends
MRTS11	Sprayed Bituminous Treatments (Excluding Emulsion)
MRTS17	Bitumen and Multigrade Bitumen
MRTS22	Supply of Cover Aggregate
MRTS04	General Earthworks
MRTS14	Road Furniture
MRTS03	Drainage Structures, Retaining Structures and Embankment Protections

APPENDIX A – SITE LOCATION MAPS

Thompson's Yards
Ella Bore
60000m
80000m
O'Hea Turkey's Nest
Hume Turkey's Nest
Bransby Yards Turkey's Nest
Rainlover Turkey's Nest
Noccaburra Turkey's Nest
20000m
Bransby Santos Rd
KingstonTown Dam
100000m
0m
120000m
Warri Gate Rd
Bulloo Shire
Naryilco Access Rd
0m
140000m
20000m
Orientos Rd
0m
Cameron Corner Rd
0m
100000m
Tickalara Rd
Tickalara Access Rd
0m
0m
80000m
60000m
Brumby Dam
Four Mile Bore
160000m
20000m
Wompah Gate Rd
180000m
Date: 17/02/2025
1:306,000 when printed at A3
0
20
Kilometres

Map Location



Bulloo Shire Council
Flood Damaged Roads Restoration - Warri Gate Road

Legend

- Potential Water Source
- Main Road
- Road

Treatment Sites

- Bulk excavate surplus material & remove from site
- Bulk excavate surplus material to spoil
- Bulk fill - imported
- Bulk fill - local
- Clear mixed debris and remove from site
- Gravel Resheeting 100mm
- Gravel Resheeting 150mm
- Heavy formation grading
- Heavy formation grading incorporating 50mm of imported material
- Heavy formation grading incorporating 75mm of imported material
- Medium formation grading
- Replace RCBC, nominal span <1200mm
- Replace head/end wall <1200mm pipe or RCBC
- Reshape table drain (1 side)

APPENDIX B – QRA TREATMENT GUIDE

QRA QUEENSLAND RECONSTRUCTION AUTHORITY

Treatment Guide 2020–21

July 2021

Queensland Government

Document details

Security classification	Public
Date of review of security classification	June 2021
Authority	Queensland Reconstruction Authority
Document status	Final
Version	2.0
Reference number	DOC/21/22621

Interpreter

The Queensland Government is committed to providing accessible services to Queenslanders from all culturally and linguistically diverse backgrounds. If you have difficulty in understanding this report, you can access the Translating and Interpreting Services via www.qld.gov.au/languages or by phoning 13 14 50.

Copies

Copies of this publication are available on our website at www.qra.qld.gov.au.

Queensland Reconstruction Authority
PO Box 15428
City East QLD 4002
Telephone: 1800 110 841
Email: info@qra.qld.gov.au

Contents

Foreword

Prepared by the Queensland Reconstruction Authority (QRA), this *QRA Treatment Guide* provides a common set of treatments for the scoping of road reconstruction works following damage by natural disasters.

The treatment list represents the most commonly used treatments across the state. Detail of each treatment is provided to enable consistency of language and a common understanding of treatment inclusions/exclusions. A consistent treatment set also provides for consistency in the methodology for benchmarking local rates.

The guide will be reviewed from time to time to ensure emerging or common treatments are documented.

Treatment list

Category	Reference	Treatment	Unit
Unsealed pavements	USP_LFG	Light formation grading	m
	USP_MFG	Medium formation grading	m
	USP_HFG	Heavy formation grading	m
	USP_HFG50	Heavy formation grading incorporating 50mm of imported material	m^3
	USP_HFG75	Heavy formation grading incorporating 75mm of imported material	m^3
	USP_GR	Gravel resheeting (excludes supply of material)	m^3
	USP_GR100	Gravel resheeting 100mm	m^3
	USP_GR150	Gravel resheeting 150mm	m^3
	USP_GMS	Gravel/material supply	m^3
	USP_RSTD	Reshape table drain (1 side)	m
Sealed pavement repairs	SPR_STB	In-situ stabilisation - including 50mm corrector. Excludes seal	m^2
	SPR_GO	Granular overlay - overlay with imported material (≤150mm). Excludes seal	m^2
	SPR_FBS	Foamed bitumen stabilisation - including 50mm corrector. Excludes seal	m^2
	SPR_RR	Reconstruct unbound granular pavement. Excludes seal	m^2
	SPR_RB	Reconstruct unbound granular base Excludes seal	m^2
	SPR_PRL	Pavement repair - patch unbound pavement failure (≤20m2). Includes 2 coat bitumen seal	m^2
	SPR_POT	Pothole repair ≤1m2	each
	SPR_SCR	Crack repair	m
	SPR_PER	Edge repair	m
	SPR_USF	Reconstruct unsealed shoulder - repair isolated shoulder failure	m^2
	SPR_HSG	Heavy shoulder grading - incorporating 50mm of imported material	m
	SPR_RSAC	Asphalt surfacing, ≤50mm thickness	m^2
	SPR_RSSR	Bitumen spray seal, 2-coat	m^2
Clearing and earthworks	EXC_HVC	Clear mixed debris and remove from site	m^3
	EXC_RSOS	Bulk excavate surplus material and remove from site	m^3
	EXC_RSS	Bulk excavate surplus material to spoil	m^3
	BKF_IMP	Bulk fill - imported	m^3
	BKF_LOC	Bulk fill - local	m^3
Concrete works	CON_KER	Reconstruct concrete kerb	m
	CON_RCN	Reconstruct reinforced concrete	m^3
	CON_RFC	Repair with flowable concrete	m^3

Treatment list (cont)

Category	Reference	Treatment	Unit
Drainage structures	CUL_RP	Repair drainage structure - excavate, repair and reinstate	m
	CUL_SIL	Desilt drainage structure - removal of silt and debris	m^3
	CUL_RBC<600	Replace RCBC, nominal span ≤600mm.	m
	CUL_RBC<900	Replace RCBC, nominal span ≤900mm.	m
	CUL_RBC<1200	Replace RCBC, nominal span ≤1200mm.	m
	CUL_RBC>1200	Replace RCBC, nominal span >1200mm.	m
	CUL_RCP<375	Replace concrete pipe ≤375mm dia.	m
	CUL_RCP<600	Replace concrete pipe ≤600mm dia.	m
	CUL_RCP<900	Replace concrete pipe ≤900mm dia.	m
	CUL_RCP<1200	Replace concrete pipe ≤1200mm dia.	m
	CUL_RCP>1200	Replace concrete pipe >1200mm dia.	m
	CUL_RHW<375	Replace head/end wall ≤375mm pipe or RCBC	unit
	CUL_RHW<600	Replace head/end wall ≤600mm pipe or RCBC	unit
	CUL_RHW<900	Replace head/end wall ≤900mm pipe or RCBC	unit
	CUL_RHW<1200	Replace head/end wall ≤1200mm pipe or RCBC	unit
	CUL_RHW>1200	Replace head/end wall >1200mm pipe or RCBC	unit
Protection works	RK_RKP	Rock protection	m^3
	RK_STP	Repair stone pitching	m^2
	RK_MAT	Construct rock mattress	m^3
Road furniture and delineation	RFD_RGET	Replace guardrail end treatment	each
	RFD_RG	Replace guardrail	m
	RFD_RP	Replace guide posts or markers	each
	RFD_RRS	Repair road signage	each
	RFD_RSF	Replace sign face only - standard road sign	each
	RFD_RCS	Replace sign (complete) - standard road sign, includes post	each
	RFD_RLN	Reinstate line marking	m
Other	OTHER	Other - including structures, retaining items	lump sum

Unsealed roads overview

Treatment selection for the restoration of unsealed roads should be commensurate with the classification of the asset and its maintained condition prior to the disaster. Unsealed road assets are generally classified as either unformed, formed or gravelled.

Unformed road

An unformed road is a road that has no constructed or maintained formation, or surface drainage.

Figure 1 - Unformed road

Unformed roads may have had vegetation intentionally cleared, or may simply be the result of vehicles travelling the same path over a period of time.

Unless the asset owner is able to demonstrate an appropriate level of maintenance has occurred (bulk-fill or clearing), works to unformed assets are generally ineligible. The treatments applicable to a maintained unformed road are bulk fill of scours using local material (BKF_LOC), clearing of mixed debris (EXC_HVC) and bulk excavation to spoil (EXC_RSS).

Formed road

A formed road is a road that has a constructed formation and, in most cases, table drains. A formed road is often constructed through grading of materials from the road reserve onto the road, resulting in the creation of table drains and a shaped formation.

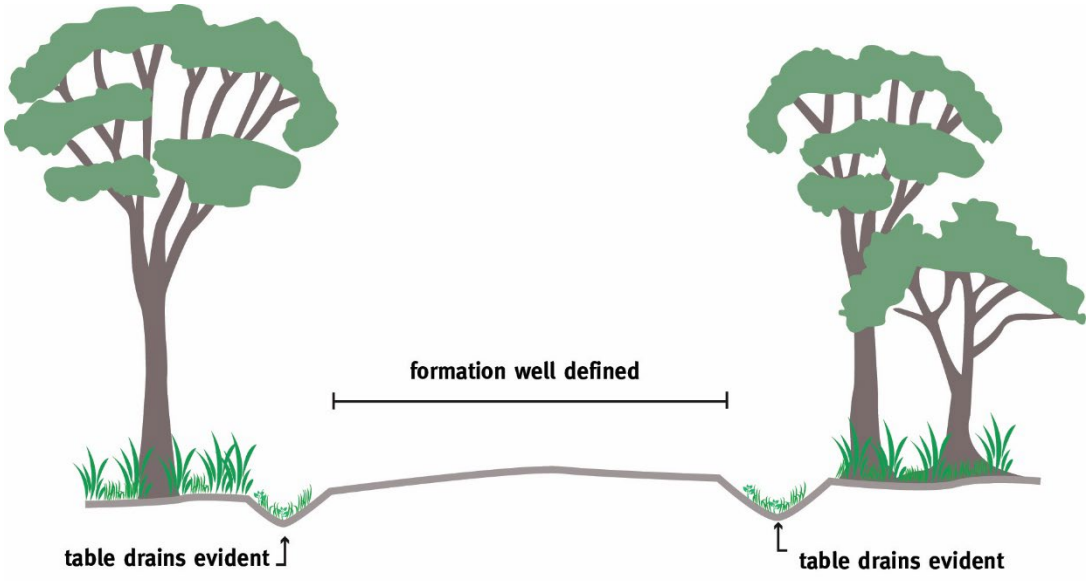


Figure 2 - Formed road

As no gravel is generally imported for this road classification, the import of gravel is generally not eligible. Where scouring or loss of material has occurred, bulk fill using local material (BKF_LOC) from within the road corridor should be used.

Where sufficient material remains on the road, but loss of shape has occurred, the treatment should be limited to a **Medium formation grading (USP_MFG)**.

Where rutting and loss of shape is extensive, **Heavy formation grading (USP_HFG)** may be considered. The displaced formation material should be recovered from the table drains or within the road corridor.

Gravel road

A gravel road is a road that has had a layer of gravel imported, compacted and maintained atop the formation. Gravel may vary from a material won from borrow pits, nearby ridges or quarries.

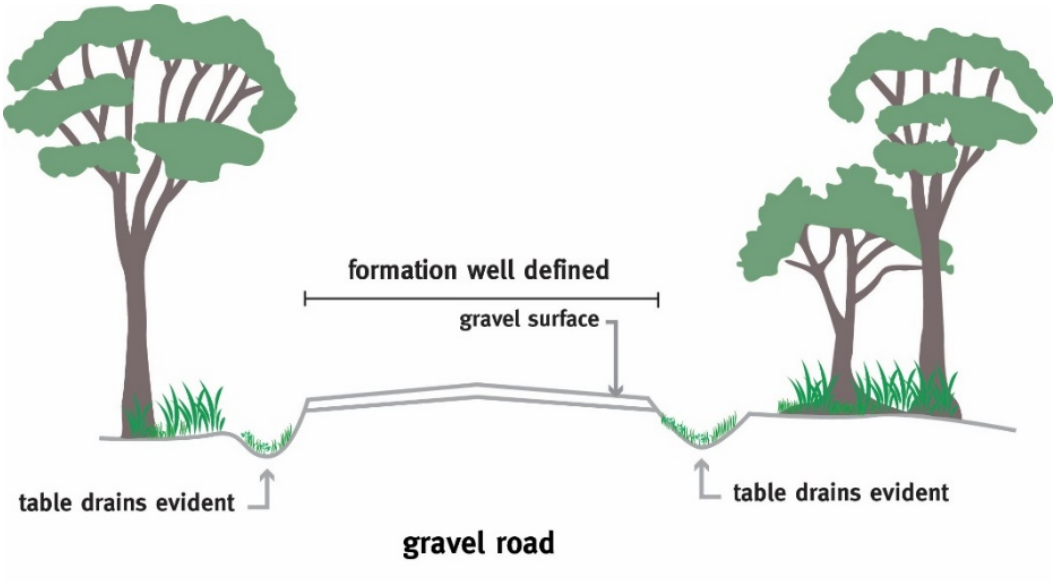


Figure 3 – Gravel road

Where rutting, loss of shape and gravel displacement has resulted, a **Medium formation grading (USP_MFG)** should be nominated. Where displaced gravel is suitable and recoverable from drainage lines, it should be used as a component of the Medium formation grading.

Where the displaced gravel is non-recoverable/heavily contaminated and extensive damage to the roadway has resulted, import of material will likely be required. Considerations of the use of Heavy Formation Grade and Gravel resheet treatments is provided below:

- Where gravel remains on the roadway (i.e. ≥25mm thickness), but gravel displacement and loss of shape is evident, a **Heavy formation grading (USP_HFG)** + **Gravel/material supply (USP_GMS)** should be nominated. The gravel supply volume should be commensurate with the volume of material lost as a result of the event. A minimum gravel thickness of 75mm (inclusive of gravel remaining on roadway) is generally required for constructability purposes
  - to achieve this, where ≥25mm thickness remains on the roadway, a **Heavy formation grading incorporating 50mm of imported material (USP_HFG50)** should be nominated
  - where loss of gravel as a result of the event exceeded 50mm, a Heavy formation grading incorporating 75mm of imported material **(USP_HFG75)** may be nominated
  - where loss of gravel as a result of the event exceeded 75mm, a Gravel Re-sheet should be nominated
- Where loss of both shape and gravel is evident, and no useable gravel remains on the roadway (i.e. <25mm depth), a **100mm Gravel resheet (USP_GR100)** should be nominated. A **150mm Gravel resheet (USP_GR150)** may be nominated only where supported by asset registers and maintenance records. Imported material should be consistent with material in-place pre-disaster or material currently utilised by the asset owner in maintaining the asset.
- Where loss of shape has occurred, but no loss of gravel is evident as a result of the event, a **Heavy formation grading (USP_HFG)** should be nominated. As gravel loss is not evident, Gravel/material supply is not eligible.
- Where road subgrade is exposed, loss of shape is general only (wear and tear), and no loss of gravel is evident as a result of the event, works would be considered ineligible.

Unsealed road treatments

All grading and resheet treatments include the following work operations:

- site establishment and disestablishment of all plant, labour and materials
- establishment and disestablishment of traffic control
- determination of work area
- removal and re-instatement of roadside furniture (e.g. guide posts, signs etc.) as required
- clean up of site and disposal of any waste/removed material in accordance with applicable State Government legislation or Local Government by-laws

Reference	Treatment	Unit
USP_LFG	Light formation grading	m
USP_MFG	Medium formation grading	m
USP_HFG	Heavy formation grading	m
USP_HFG50	Heavy formation grading incorporating 50mm of imported material	m^3
USP_HFG75	Heavy formation grading incorporating 75mm of imported material	m^3
USP_GR	Gravel resheeting (excludes supply of material)	m^3
USP_GR100	Gravel resheeting 100mm	m^3
USP_GR150	Gravel resheeting 150mm	m^3
USP_GMS	Gravel/material supply	m^3
USP_RSTD	Reshape table drain (1 side)	m

Light formation grading

For gravel roads damage as a result of an activated event, a **Light formation grading** is often undertaken during the emergency works period to restore rideability prior to restoration works. Where the road is formed only (not gravelled), and loss of shape and material is minor only, a **Light formation grading** may be appropriate for restoration works to restore shape.

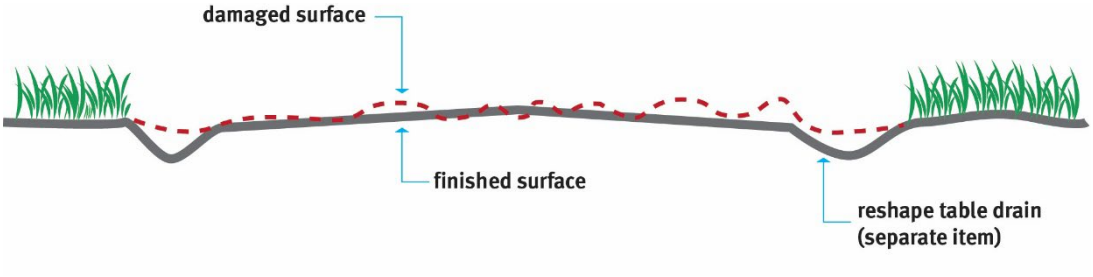


Figure 4 – Light formation grading

Treatment:	**USP_LFG**
Unit of measurement:	m
Summary:	Light trimming by grader of unsealed road surface to restore rideability
Description:	Light trimming by grader of the existing roadway to fill holes and other depressions.
Exclusions:	Scarifying, compaction, import of water or material, table drain works (separate item)
Indicative plant:	Grader

Medium formation grading

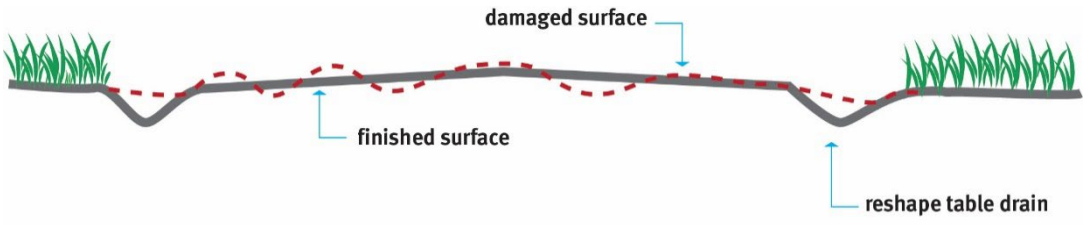


Figure 5 – Medium formation grading

Treatment:	**USP_MFG**
Unit of measurement:	m
Summary:	Grading of unsealed roadway to reinstate the pre-disaster profile.
Description:	Grading to restore the road surface to pre-disaster profile and condition. Includes roughening of up to 50mm of roadway top (by grader), clearing and grubbing to remove light vegetation and grass, recovery of suitable material from table drains (by grader), incorporation of water and compaction.
Exclusions:	No import of material
Indicative plant:	Grader, water truck, rollers

Heavy formation grading

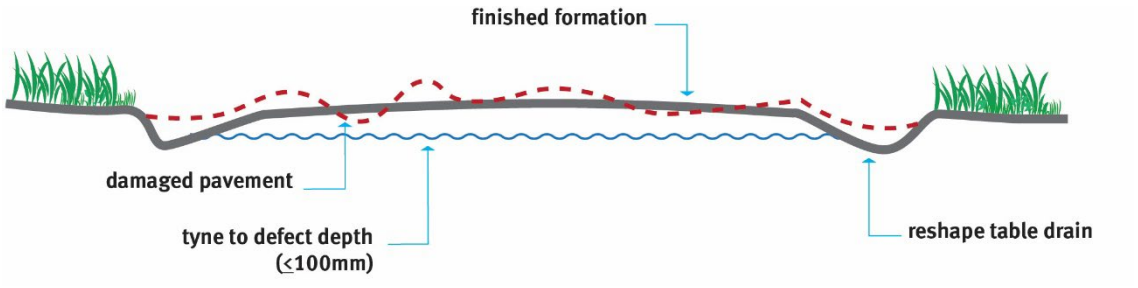


Figure 6 – Heavy formation grading

Treatment:	**USP_HFG** **USP_HFG50** **USP_HFG75**
Unit of measurement:	m
Summary:	Reinstatement of formation and profile.
Description:	Clearing and grubbing and recovery of suitable material from table drains (by grader), tyne ≤100mm depth (150mm if supported by depth of rutting), incorporation of additional gravel/material (excluding USP_HFG), trimming, and compaction.
Exclusions:	USP_HFG (only) – No gravel/material supply
Indicative plant:	Grader, water truck, roller, front end loader and truck (for disposal of unsuitable)

Gravel/material supply

Treatment:	**USP_GMS**
Unit of measurement:	m^3
Summary:	Supply of gravel/material to the work site.
Description:	Supply of gravel/material to the work site for inclusion with material reclaimed through grading operations. Top up gravel/material only. Imported gravel/material should be consistent with material in-place pre-disaster or material which the asset owner currently uses for maintenance in the area.
Exclusions:	Excludes all operations for placement, trimming and rolling
Indicative plant:	Gravel truck, front end loader/excavator

Gravel resheeting

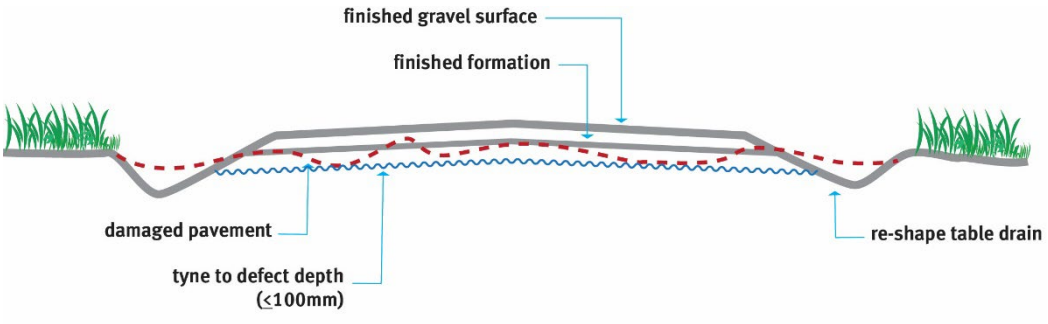


Figure 7 – Gravel resheeting

Treatment:	**USP_GR** **USP_GR100** **USP_GR150**
Unit of measurement:	m^3
Summary:	Addition of imported gravel/material to the roadway to reinstate the running surface and correct profile.
Description:	Preparation of the formation through Heavy Formation Grading. Supply and spreading of imported gravel/material. Imported material should be consistent with material in-place pre-disaster or material which the asset owner currently uses for maintenance in the area.
Exclusions:	Additional material required for incorporation in **the Heavy Formation Grading** (prior to resheet) is not included. Any additional volume should be included as **Gravel/material supply or Bulk Fill** **USP_GR** (only) relates to the work operations of resheeting and excludes import of gravel/material. **USP_GR** should be used in conjunction with **USP_GMS** (Gravel/material supply) where works are being undertaken by Council day labour (**USP_GR** item estimate based on benchmark rate) and a commercial supply for material is required (**USP_GMS** rate based on market pricing)
Indicative plant:	Grader, truck, water truck, roller, front end loader and truck (for disposal of unsuitable)

Reshape table drain

Consequential re-shaping of existing table drains/vee drains, through recovery of displaced material, will occur when carrying out **Medium Formation Grade, Heavy Formation Grading** or **Gravel Resheet** operations. In these instances, no separate item is required for the inclusion of re-shaping existing table drains.

In the absence of, or where not included in the adjacent pavement work item, a separate treatment item, and evidence of event related damage demonstrating silting, scour or blockage of the table drains is required for inclusion.

Treatment:	**USP_RSTD**
Unit of measurement:	m
Summary:	Cleaning and reshaping of existing surface drains adjacent the road formation (allowance for one drain only)
Description:	Reshaping of existing table drains by grader.
Exclusions:	No scarify, no import of material, no addition of water, no compaction
Indicative plant:	Grader, front end loader and job truck (for disposal of unsuitable)

Where minor scours or minor deposits of silt exist along a drainage line, repair should be achieved through reshaping of the table drain.

Where drainage lines are filled with large deposits of silt, **Bulk Excavate** (**EXC_RSOS** or **EXC_RSS**) should be nominated to allow for removal of the material.

Where major scours exist along a drainage line, **Bulk Fill** (**BKF_IMP** or **BKF_LOC**) should be nominated to allow for filling of the scours.

Sealed pavement repairs

All sealed pavement repair treatments include the following work operations:

- site establishment and disestablishment of all plant, labour and materials
- establishment and disestablishment of traffic control
- determination of work area
- removal and re-instatement of roadside furniture (e.g. guide posts, signs etc.) as required
- clean up of the site and disposal of any waste/removed material in accordance with applicable State Government legislation or Local Government by-laws

Treatment selection for the restoration of sealed pavements should be appropriate to the road type, functionality, pre-disaster condition and Value for Money outcomes with reference to site specific constraints.

Reference	Treatment	Unit
SPR_STB	In-situ stabilisation - including 50mm corrector. Excludes seal	m^2
SPR_GO	Granular overlay - overlay with imported material (≤150mm). Excludes seal	m^2
SPR_FBS	Foamed bitumen stabilisation - including 50mm corrector. Excludes seal	m^2
SPR_RR	Reconstruct unbound granular pavement. Excludes seal	m^2
SPR_RB	Reconstruct unbound granular base Excludes seal	m^2
SPR_PRL	Pavement repair - patch unbound pavement failure (≤20m2). Includes 2 coat bitumen seal	m^2
SPR_POT	Pothole repair ≤1m2	each
SPR_PER	Edge repair	m
SPR_SCR	Crack repair	m
SPR_USF	Reconstruct unsealed shoulder - repair isolated shoulder failure	m^2
SPR_HSG	Heavy shoulder grading - incorporating 50mm of imported material	m
SPR_RSAC	Asphalt surfacing, ≤50mm thickness	m^2
SPR_RSSR	Bitumen spray seal, 2-coat	m^2

Localised damage

Pothole repair

Where a small pavement failure in the form of a pothole emerges (generally under a wheel path), a **Pothole repair** may be considered appropriate.

Treatment:	**SPR_POT**
Unit of measurement:	each
Summary:	Repair of localised damage with asphalt or premix
Description:	Removal of water and debris, cut back to sound pavement and squaring of sides. Fill with asphalt-mix and compact to match adjacent road surface.
Exclusions:	Line-marking
Indicative plant:	Work truck, pneumatic hammer, cutting saw, blower, plate compacter

Where multiple potholes appear in close proximity, a **Pavement Repair** may be better suited.

Pavement repair

Where a road is damaged in isolated areas, a **Pavement Repair** is considered the most appropriate treatment.

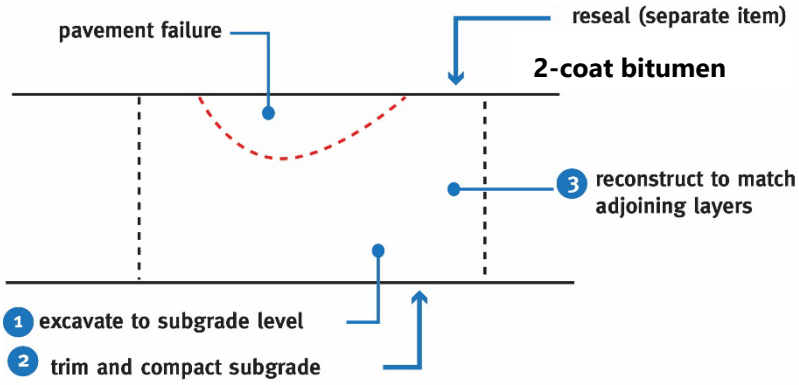


Figure 8 – Pavement repair

Treatment:	**SPR_PRL**
Unit of measurement:	m^2
Summary:	Removal and reconstruction of isolated pavement failures
Description:	Removal of failed pavement material, reasonable allowance for replacement of unsuitable, compaction of subgrade, import and placement of unbound granular material in layers to match adjoining. 2-coat bitumen seal.
Exclusions:	nil
Indicative plant:	Excavator, truck, grader, water truck, rollers

Edge repair

Where damage to the edge of seal and/or pavement has occurred due to trafficking in saturated conditions or excessive volumes or velocities of water, **Edge repair** (**SPR_PER**) should be nominated.

Treatment:	**SPR_PER**
Unit of measurement:	m
Summary:	Repair of pavement edge failures
Description:	Supply and application of tack coat; and supply, application and compaction of asphalt or premix.
Exclusions:	linemarking
Indicative plant:	Roller or manual compaction, truck, flowcon (where required)

Crack repair

Where damage to the road seal has developed as a result of shrink/swell of the underlying material during saturation/inundation, **Crack repair** (**SPR_SCR**) should be nominated.

Treatment:	**SPR_SCR**
Unit of measurement:	m
Summary:	Repair of pavement seal cracking
Description:	Clean out (blow) of loose material, partial filling, application of crack seal to manufacturers specifications, application of cover material.
Exclusions:	linemarking
Indicative plant:	Hand tools and minor compaction equipment

Continuous damage

Where continual or long lengths of damage has occurred across the width of the road, a full-width treatment is likely to be required. Selection of an appropriate full-width treatment requires consideration of the pavement failure mechanism, the usefulness of the in-situ pavement, the surrounding environment and any constructability issues (e.g. plant or material availability).

Where limited damage to the underlying subgrade has occurred, but loss of shape is extensive, excavation of existing pavement material may pose significant risk. Risks include subgrade disturbance and subsequent need for treatment or replacement, or interference with drainage or utilities. In such circumstances, **in-situ stabilisation (SLP_STB)** or reworking of the existing pavement (tyne, shape and compact – select **USP_HFG**) may be suitable. Where additional pavement strength is required, and where still able to represent a value for money option compared to the use of pavement reconstruction, a **Granular Overlay (SPR_GO)** may also be considered.

In-situ stabilisation

Where limited damage to the underlying subgrade has occurred, but loss of shape is extensive, **In-situ stabilisation** may be appropriate**. In-situ Stabilisation** using cement, fly ash or hydrated lime or **Foamed bitumen stabilisation** allow repair of damaged pavement without exposing the subgrade.

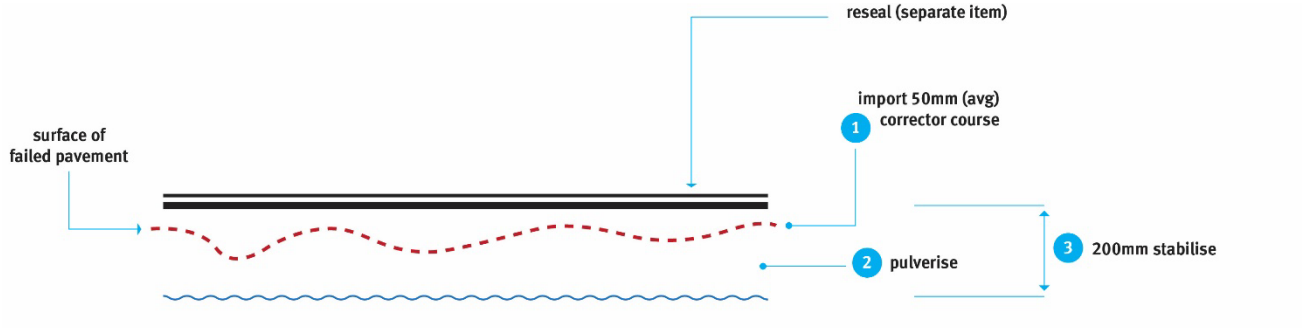


Figure 9 – In-situ stabilisation

Treatment:	**SPR_STB** (in-situ stabilisation), **SPR_FBS** (Foamed bitumen stabilisation)
Unit of measurement:	m^2
Summary:	In-situ stabilisation of base course material
Description:	Removal of material not suitable for stabilisation, import and spreading of unbound granular material to replace unsuitable and for shape-correction (50mm), pulverisation, supply and spreading of stabilising agents, stabilisation, compaction and curing
Exclusions:	Excludes all seal items
Indicative plant:	Gravel truck, grader, stabiliser, water truck and roller, cement spreader/ prime spreader (for prime or foam bitumen stabilisation)

The selection of an appropriate stabilisation type requires consideration of plant availability, suitability of work force, environmental conditions and constitution of the existing pavement.

In some cases, the condition and composition of the existing pavement may preclude in-situ stabilisation treatments. The availability of plant, size of the site and future performance of the stabilised pavement in the context of the surrounding pavement should also be considered when selecting insitu-stabilisation and the stabilisation type.

Granular overlay

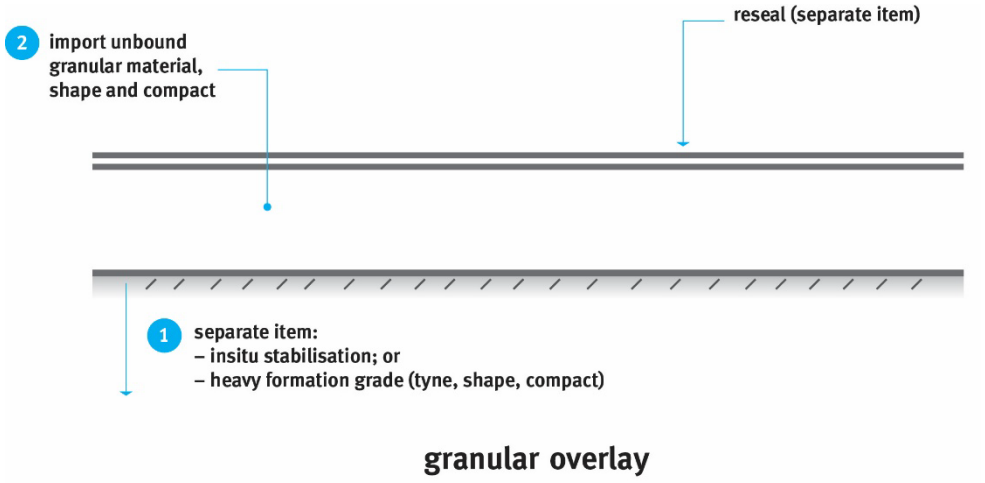


Figure 10 – Granular overlay

Treatment:	**SPR_GO**
Unit of measurement:	m^2
Summary:	Overlay of treated pavement with unbound granular material
Description:	Import and spreading unbound granular material, shaping and compaction, ≤150mm thickness
Exclusions:	Excludes treatment of in-situ material/preparation of subbase (refer alternative treatments)
	Excludes formation work in accommodation of extra pavement height
	Excludes all seal items
Indicative plant:	Gravel truck, grader, water truck, roller

The use of an overlay can reduce material spoilage, reduce risks of exposing unsuitable subgrade and reduce the duration of construction. However, the use of a granular overlay may not be appropriate in the event of vertical constraints (e.g. afflux/flow issues, short site, tie-in to structures, kerb and channel or property accesses) or horizontal constraints, for example insufficient formation width to accommodate overlay. In these circumstances, a treatment maintaining existing levels may need to be adopted.

The overall cost of the pavement treatment, including the treatment of the in-situ material, and formation works to accommodate the overlay, as well as the granular overlay itself needs to be considered in comparison to the likely cost of the alternative, Reconstruct Road treatment.

Reconstruct unbound granular pavement

Where extensive subgrade failure or material contamination has occurred, and the use of an overlay or stabilised layer cannot economically or suitably bridge the failure, reconstruction of the road will likely be required.

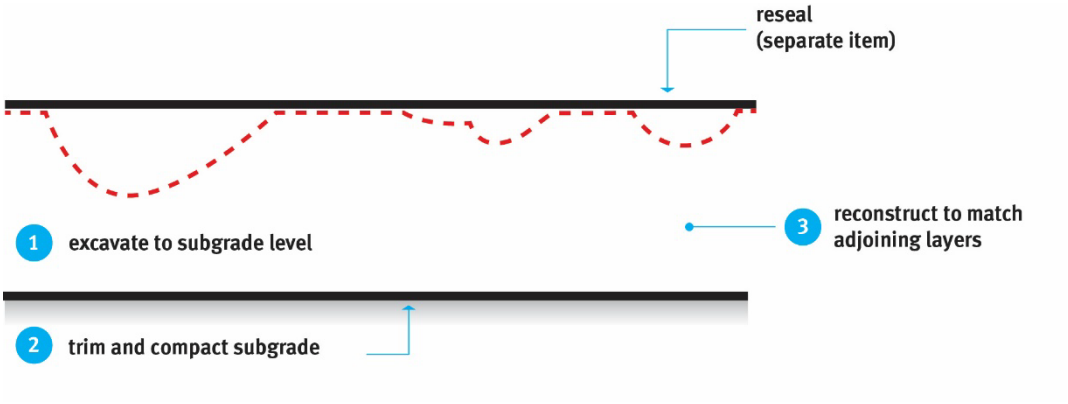


Figure 11 – Reconstruct unbound granular pavement. Excludes seal

Treatment:	**SPR_RR**
Unit of measurement:	m^2
Summary:	Removal and reconstruction of failed pavement
Description:	Removal of failed pavement material, reasonable allowance for replacement of unsuitable, compaction of subgrade, import and placement of unbound granular material in layers to match adjoining
Exclusions:	Excludes all seal items (separate item)
Indicative plant:	Excavator, truck, grader, water truck, roller

Reconstruct unbound granular base

Where road pavement damage such as peeling/stripping of seal (due to overland flow) or shallow pavement failures (i.e. above subgrade) have occurred, **Reconstruct unbound granular base** should be nominated. This treatment allows for repair/replacement of the top 150mm of unbound pavement ready for sealing.

Treatment:	**SPR_RB**
Unit of measurement:	m^2
Summary:	Reconstruction of isolated base course pavement failures
Description:	Removal of failed pavement material (where material cannot be reused), compaction of underlying pavement layer, import and placement of unbound granular base pavement to match adjoining
Exclusions:	Excludes all seal items
Indicative plant:	Excavator/profiler, truck, grader/skid-steer, water truck, roller

Shoulders

Shoulder scour

Where damage to the verge/shoulder (clear of the table drain) has occurred, and no damage sustained to the sealed roadway, a shoulder restoration treatment will likely be appropriate.

Where a pavement failure has occurred and the damage is localised, **Reconstruct unsealed shoulder** should be nominated. Where loss of shoulder material or scour has occurred due to overland or longitudinal flow, a **Heavy shoulder grading** should be nominated.

Reconstruct unsealed shoulder

For treatment of localised areas of severely damaged or contaminated shoulders or verges, **Reconstruct Unsealed Shoulder** should be used. This item is quantified in m² and should be used for localised repairs only.

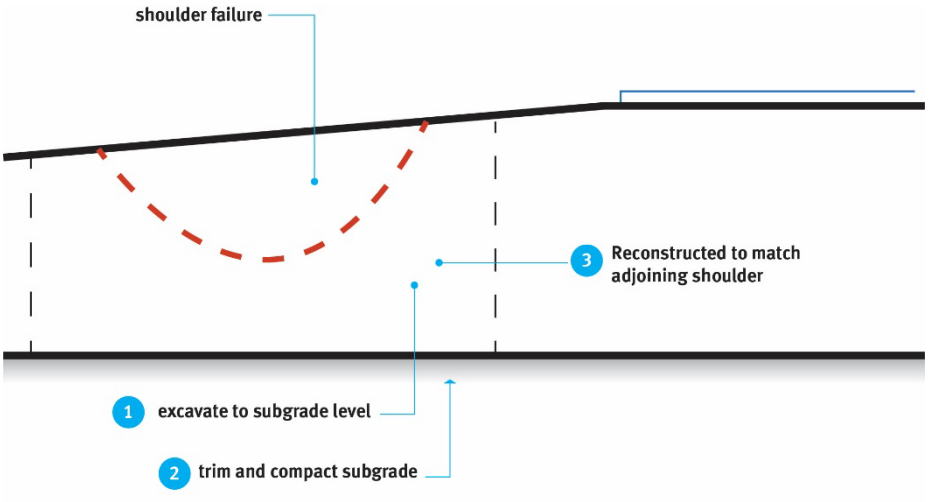


Figure 12 – Reconstruct unsealed shoulder

Treatment:	**SPR_USF**
Unit of measurement:	m²
Summary:	Placement and compaction of gravel into isolated potholes in a gravel shoulder or verge
Description:	Removal of failed material, reasonable allowance for replacement of unsuitable, compaction of subgrade, supply, placement and compaction of granular material
Exclusions:	No reshaping of table drains – refer USP_RSTD
	Brooming of adjacent seal only, no works to sealed pavement
Indicative plant:	Excavator, water truck, roller, truck, grader

Heavy shoulder grading

Where loss of shoulder material or scour has occurred due to overland or longitudinal flow, a **Heavy shoulder grading** should be carried out.

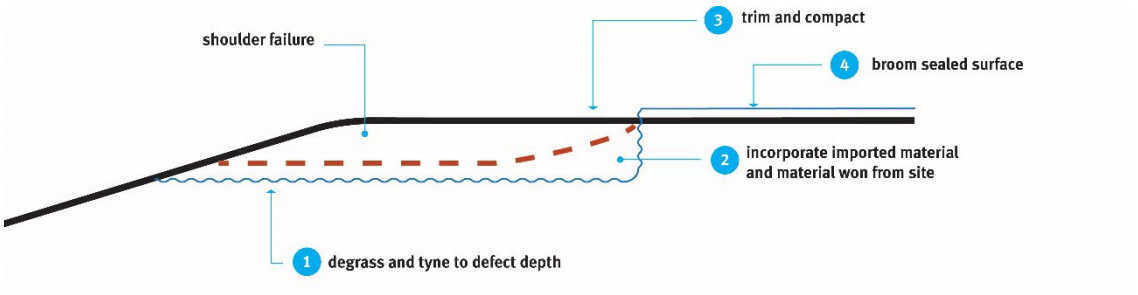


Figure 13 – Heavy shoulder grading

Treatment:	**SPR_HSG**
Unit of measurement:	m
Summary:	Grading of unsealed shoulder to reinstate correct profile
Description:	Reinstatement of formation and profile Includes recovery of material from adjacent table drains where appropriate (by grader), incorporation of additional 50mm top up material, tyne ≤100mm depth, trimming and rolling, and brooming of adjacent sealed surface. Where material additional to the included 50mm is required, include Gravel/material supply
Exclusions:	No works to sealed pavement
Indicative plant:	Grader, water truck, roller

Pavement seals

Where a road reconstruction, granular overlay or stabilisation has occurred as part of the restoration works, a seal will need to be applied. An asphalt surface or bitumen spray seal (2-coat) should be nominated consistent with the pre-disaster road surface.

Asphalt surfacing, ≤50mm thickness

Treatment:	**SPR_RSAC**
Unit of measurement:	m^2
Summary:	Asphalt surfacing ≤50mm
Description:	Preparation of the existing surface, supply and application of tack coat, supply, laying and compaction of asphalt, line spotting as required
Exclusions:	Line-marking
Indicative plant:	Truck, paver, roller

Bitumen spray seal, 2-coat

Treatment:	**SPR_RSSR**
Unit of measurement:	m^2
Summary:	Bitumen spray seal, 2-coat to local applied standard (including prime)
Description:	Preparation of the existing surface, supply, carting, heating and application of prime and spraying of bitumen seal (including cutter and additive), supply, carting, spreading and rolling of pre-coated aggregate, line spotting as required. Includes allowance for lapping of seal with existing.
Exclusions:	Line-marking
Indicative plant:	Truck, bitumen sprayer, roller

Clearing and earthworks

All clearing and earthworks treatments include the following work operations:

- site establishment and disestablishment of all plant, labour and materials
- establishment and disestablishment of traffic control
- determination of work area
- clean up of the site and disposal of any waste/removed material in accordance with applicable State Government legislation or Local Government by-laws

Reference	Treatment	Unit
EXC_HVC	Clear mixed debris and remove from site	m^3
EXC_RSOS	Bulk excavate surplus material and remove from site	m^3
EXC_RSS	Bulk excavate surplus material to spoil	m^3
BKF_IMP	Bulk fill - imported	m^3
BKF_LOC	Bulk fill - local	m^3

Bulk fill

Where scour or loss of road or formation has occurred, a bulk fill item should be selected to reinstate the road to natural surface level (for unformed roads), top of formation (for formed roads) or top of road subgrade (for gravel and sealed roads or table drains).

Where material can be sourced within vicinity of the works, **Bulk fill - local** (**BKF_LOC**) should be selected.

Where material, consistent with that lost, is unable to be won within vicinity of the works, **Bulk fill - imported** (**BKF_IMP**) should be selected, allowing for the purchase of general fill and haulage.

For a gravel or sealed road, bulk fill items should be used to reinstate material to subgrade level, and an appropriate pavement treatment selected to reinstate the road to the pre-disaster condition.

Treatment:	varies (**BKF_LOC**; **BKF_IMP**)
Unit of measurement:	m^3
Summary:	Bulk fill to localised scours
Description:	Sourcing and cartage of bulk fill material (varies as per below), preparation of underlying material, placement, incorporation (where required) and compaction
Exclusions:	Bulk fill material should be selected consistent with the displaced/scoured material.
Indicative plant:	Excavator (or backhoe or loader), grader (where dispersed over large areas), truck, water cart, roller

Excavation

Where mixed debris (including rocks, gravel, sand or silt mixed with vegetation or rubbish) has been deposited on a roadway or drainage lines, **Clear mixed debris and remove from site** (**EXC_HVC**) should be nominated.

Treatment:	**EXC_HVC**
Unit of measurement:	m^3
Summary:	Clear mixed debris and remove from site
Description:	Clearing of mixed debris material, loading and removal from site.
Exclusions:	Reshaping of roadway or drainage lines
Indicative plant:	Excavator (or backhoe or loader), grader (where dispersed over large areas), truck

Where large deposits of silt have been deposited on the roadway or within drainage lines, **Bulk excavate** (**EXC_RSOS** or **EXC_RSS**) should be nominated.

Treatment:	varies (**EXC_RSOS**, **EXC_RSS**)
Unit of measurement:	m^3
Summary:	Bulk excavation of surplus material
Description:	Excavation of surplus material, loading and removal from site (**ESC_RSOS**) or to spoil (**EXC_RSS**)
Exclusions:	Reshaping of roadway or drainage lines
Indicative plant:	Excavator (or backhoe or loader), truck, grader (where dispersed over large area of roadway)

Concrete works

Damage to concrete may include scouring, undermining, structural cracking, or total loss as a result of large or intense rainfall events.

All concrete works treatments include the following work operations:

- site establishment and disestablishment of all plant, labour and materials
- establishment and disestablishment of traffic control
- determination of work area
- clean up of the site and disposal of any waste/removed material in accordance with applicable State Government legislation or Local Government by-laws

Reference	Treatment	Unit
CON_KER	Reconstruct concrete kerb	m
CON_RCN	Reconstruct reinforced concrete	m^3
CON_RFC	Repair with flowable concrete	m^3

Reconstruct concrete kerb

Where damage to concrete kerb is suffered as a result of scour, or rendered unusable as a result works to underlying pavement, **Reconstruct concrete kerb** should be nominated. The kerb should be consistent with the pre-disaster kerb/adjoining sections.

Treatment:	**CON_KER**
Unit of measurement:	m
Summary:	Reconstruct concrete kerb
Description:	Saw cut and remove existing kerb. Prepare base and extrude/construct kerb. Backfill with suitable material
Exclusions:	Revegetation/turfing, removal/realignment of utilities.
Indicative plant:	Concrete saw, pavement breaker, bobcat/backhoe, kerb & channel machine, concrete agitator

Reconstruct reinforced concrete

Reinforced concrete assets include floodways, concrete batters, margins and footpaths. Damage to reinforced concrete assets including scouring, undermining, debris impact or total loss can occur during large or intense rainfall events. Where the damage suffered necessitates replacement, **Reconstruct reinforced concrete** should be nominated.

Treatment:	**CON_RCN**
Unit of measurement:	m^3
Summary:	Reconstruct reinforced concrete
Description:	Demolish and remove existing concrete. Prepare base, form and position reinforcing. Pour concrete, cure (where required) and finish surface. Backfill adjoining surface (where required).
Exclusions:	Revegetation/turfing, removal/realignment of utilities
Indicative plant:	Job truck, concrete saw, pavement breaker, bobcat/backhoe, and concrete agitator.

Repair with flowable concrete

Damage often results around bridges and drainage structures during disasters as a result of high velocity waters. **Repair with flowable concrete** may be used for filling of undermined reinforced concrete or for repair of grouted rock protection.

Treatment:	**CON_RFC**
Unit of measurement:	m^3
Summary:	Repair with flowable concrete
Description:	Pouring/pumping of flowable concrete to fill voids.
Exclusions:	Rock protection
Indicative plant:	Job truck, concrete truck, concrete pump

Drainage structures

Damage to drainage structures including scouring, undermining, debris impact, separation of units, silting or total loss can occur during large or intense rainfall events.

All drainage structure treatments include the following work operations:

- site establishment and disestablishment of all plant, labour and materials
- establishment and disestablishment of traffic control
- determination of work area
- the removal and re-instatement of roadside furniture (e.g. guide posts, signs etc.) as required
- clean up of the site and disposal of any waste/removed material in accordance with applicable State Government legislation or Local Government by-laws

Reference	Treatment	Unit
CUL_RP	Repair drainage structure - excavate, repair and reinstate	m
CUL_SIL	Desilt drainage structure - removal of silt and debris	m^3
CUL_RBC‹600	Replace RCBC, nominal span ≤600mm.	m
CUL_RBC‹900	Replace RCBC, nominal span ≤900mm.	m
CUL_RBC‹1200	Replace RCBC, nominal span ≤1200mm.	m
CUL_RBC›1200	Replace RCBC, nominal span ›1200mm.	m
CUL_RCP‹375	Replace concrete pipe ≤375mm dia.	m
CUL_RCP‹600	Replace concrete pipe ≤600mm dia.	m
CUL_RCP‹900	Replace concrete pipe ≤900mm dia.	m
CUL_RCP‹1200	Replace concrete pipe ≤1200mm dia.	m
CUL_RCP›1200	Replace concrete pipe ›1200mm dia.	m
CUL_RHW‹375	Replace head/end wall ≤375mm pipe or RCBC	unit
CUL_RHW‹600	Replace head/end wall ≤600mm pipe or RCBC	unit
CUL_RHW‹900	Replace head/end wall ≤900mm pipe or RCBC	unit
CUL_RHW‹1200	Replace head/end wall ≤1200mm pipe or RCBC	unit
CUL_RHW›1200	Replace head/end wall ›1200mm pipe or RCBC	unit

Where access issues exist, or there is uncertainty in quantities or cost of works, a market price may need to be sought to establish an estimate of cost following design.

Repair drainage structure

Where separation of culvert cells has occurred, but no damage to the pipes eventuated, **Repair drainage structure** should be nominated. Repair drainage structure allows for excavation of the drainage structure, resetting of the units, backfill with suitable material (representing value for money) and reinstatement of pavement.

Treatment:	**CUL_RP**
Unit of measurement:	m
Summary:	Repair drainage structure
Description:	Excavate, repair and reinstate drainage structure, backfill with suitable material and reinstatement of pavement.
Exclusions:	Pavement seal, import of rock protection
Indicative plant:	Excavator, lifting equipment, truck, roller

Clearing of culverts, pipes and pits

Where a culvert has been blocked, **Desilt drainage structure** should be selected to remove the silt and debris from the culvert where it is not possible to undertake the clearing by an excavator or small plant.

Treatment:	**CUL_SIL**
Unit of measurement:	m^3
Summary:	Clearing of culverts, pipes and pits
Description:	Cleaning or flushing of blocked culverts from debris or silt by hand tools, water pressure blasting or pull-back/pull-through system.
Exclusions:	Import of materials, import of rock protection, removal of spoil.
Indicative plant:	Watercart, high pressure water blaster, generator

Replace concrete pipe/RCBC

Where replacement of a drainage structure is required, replacement of concrete pipe/RCBC should be to the same size/arrangement as per pre-disaster. Where replacement to pre-disaster size and arrangement is not possible due to current requirements of cover, or not economical (due to obsolete sizes or combination of pipes) a concrete pipe/RCBC arrangement with a cross-sectional area equivalent to the pre-disaster arrangement should be nominated.

Treatment:	various (**CUL_RBC‹600, CUL_RBC‹900, CUL_RBC‹1200, CUL_RBC›1200, CUL_RCP‹600, CUL_RCP‹900, CUL_RCP‹1200, CUL_RCP›1200**)
Unit of measurement:	m
Summary:	Replacement of concrete pipes/RCBC
Description:	Excavate and dispose of existing drainage structure. Prepare base, form and construct base slab (where required) supply and place drainage structure, replace sand band (where required), backfill with suitable material and reinstate pavement.
Exclusions:	Head/end walls (end structures), scour protection, pavement seals
Indicative plant:	Excavator/ backhoe, hydraulic breaker, lifting equipment, truck, roller, concrete truck, concrete agitator. Concrete vibrator, rotary screed & concrete pump (if required)

Replace head/end wall

Where a culvert/RCBC end structure has been dislodged or damaged by an activated event, or rendered unusable as a result of reconstruction work to the adjoining culverts, replacement of the head/end wall should be nominated.

Unless nearby concrete works (floodways, margins etc.) is being undertaken, it is often more economical to use pre-cast units. Where multiple cell arrangements are in-place, this may not be possible or efficient due to manufacturing time etc. It is the responsibility of the asset owner to identify the best value for money solution for replacing the head/end wall.

Treatment:	various (**CUL_RHW‹600, CUL_RHW‹900, CUL_RHW‹1200, CUL_RHW›1200**)
Unit of measurement:	unit
Summary:	Replacement of culvert/RCBC end structures
Description:	Remove and dispose of existing end structure. Prepare base, supply and install OR construct end structure, backfill with suitable material.
Exclusions:	Pavement works, scour protection
Indicative plant:	Excavator, hydraulic breaker, lifting equipment, truck, roller

Protection works

Damage to rock protection (including mass/dumped rock, rock pitching and rock mattress) can occur from result of high velocity flows, undermining or debris impact during large or intense rainfall events.

Subject to the ability to achieve value for money, damaged protection works should be restored commensurate with pre-disaster arrangements. Where reconstruction to pre-disaster arrangements is uneconomical (due to material or labour availability), or not feasible (due to obsolete construction techniques) contemporary techniques may be employed.

All protection works treatments include the following work operations:

- site establishment and disestablishment of all plant, labour and materials
- establishment and disestablishment of traffic control
- determination of work area
- removal and re-instatement of roadside furniture (e.g. guide posts, signs etc.) as required
- preparation of work area
- placement of geotextile (where required)
- construction/placing of protection works
- clean up of the site and disposal of any waste/removed material in accordance with applicable State Government legislation or Local Government by-laws\

Reference	Treatment	Unit
RK_RKP	Rock protection	m^3
RK_STP	Repair stone pitching	m^2
RK_MAT	Construct rock mattress	m^3

Rock protection

Bulk rock for scour protection is commonly affected by large inundation or high intensity events due to its interaction high velocity waters. **Rock protection**, although low-tech, can be effective in mitigating against high velocity waters and requires limited preparation of the underlying surface prior to placement. Rock type should be selected subject to local availability.

Treatment:	**RK_RKP**
Unit of measurement:	m^3
Summary:	Rock protection works (bulk)
Description:	Preparation of work area, placement of geotextile (where required), recovery of displaced rock, placement of bulk rock.
Exclusions:	Pavement works
Indicative plant:	Excavator, truck

Where adequate sized rock in not economically viable, alternative solutions such as rock-mattresses may be considered.

Stone pitching

Stone pitching, whilst not commonly used in modern construction, is commonly encountered in older head-walls, margins, retaining walls and abutments. The extent of damage and the likely cost of repair needs to be considered. Alternatives such as shotcreting, gabions, rock-mattress, reinforced concrete or pre-cast elements may need to be considered where a repair option with stone pitching is not economically viable.

Treatment:	**RK_STP**
Unit of measurement:	m^2
Summary:	Repair stone pitching
Description:	Preparation of work area, cleaning of damaged area, supply and replacement of displaced or damaged stone and pitching.
Exclusions:	Pavement works
Indicative plant:	Truck, excavator, concrete agitator

Rock mattresses

Where bulk rock relies on its mass to withstand scouring waters, **rock mattresses** provide an alternative, able to utilise smaller rock through a caging system. Although more labour intensive, and requiring the purchase/manufacturing of cages, significantly less rock, and more easily sourced rock (due to size) may result in a value for money alternative.

Treatment:	**RK_MAT**
Unit of measurement:	m^3
Summary:	Installation of rock-mattresses
Description:	Preparation of the work area, placement of geotextile (where required), supply and installation cages, recovery of displaced rock, filling and wiring of cages.
Exclusions:	Pavement works
Indicative plant:	Excavator, truck

Note: Environmental conditions leading to corrosion of the cages/wires and estimated flow velocities (with potential to lead to failure of the cage or bunching of the rock) needs to be considered during specification.

Road furniture and delineation

Road furniture is often damaged during natural disasters as a result of flood waters or debris impacts. Where damage has occurred to road furniture, the number of units replaced should be commensurate with the pre-disaster arrangements, however a current standard of the pre-disaster system/item should be used.

All road furniture works include the following work operations:

- site establishment and disestablishment of all plant, labour and materials
- establishment and disestablishment of traffic control
- determination of work area
- removal of damaged road furniture
- re-instatement of roadside furniture
- clean up of the site and disposal of any waste/removed material in accordance with applicable State Government legislation or Local Government by-laws

Following restoration of sealed pavements, line-marking is generally required. Line marking should be consistent with either the adjoining sections of road or the pre-disaster arrangement.

Reinstate line-marking includes the following work operations:

- establishment and disestablishment of traffic control
- determination of work area
- cleaning the pavement in the work area (as required)
- spotting/symbolising
- application of marking material

Reference	Treatment	Unit
RFD_RGET	Replace guardrail end treatment	each
RFD_RG	Replace guardrail	m
RFD_RP	Replace guide posts or markers	each
RFD_RRS	Repair road signage	each
RFD_RSF	Replace sign face only - standard road sign	each
RFD_RCS	Replace sign (complete) - standard road sign, includes post	each
RFD_RLN	Reinstate line marking	m

Where a depth marker or similar has been damaged or destroyed, select **Replace sign (complete**) (**RFD_RCS**).

Other

Where works require engineering investigations/testing or detailed design, **OTHER** should be nominated. This includes landslips, coastal protection, structures, gabions, shotcreting etc.

Reference	Treatment	Unit
OTHER	Other - including structures, retaining items	lump sum

Specifics of the scope should be outlined and priced by the applicant for consideration.

APPENDIX C – SET OUT PEG TEMPLATE

Peg Information Layout

QRA Submission and Line Number

Start Chainage

Finish Chainage

Quantity / Unit
(Damage in unit of measure + length)

Treatment Description Abreviation

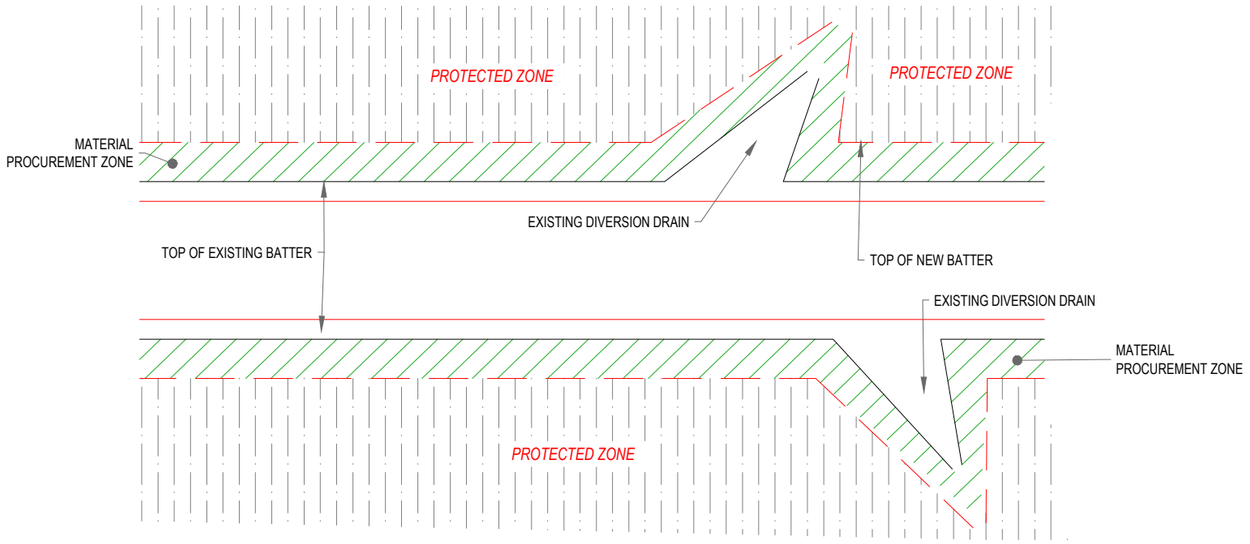
Direction Of Work From Peg Location

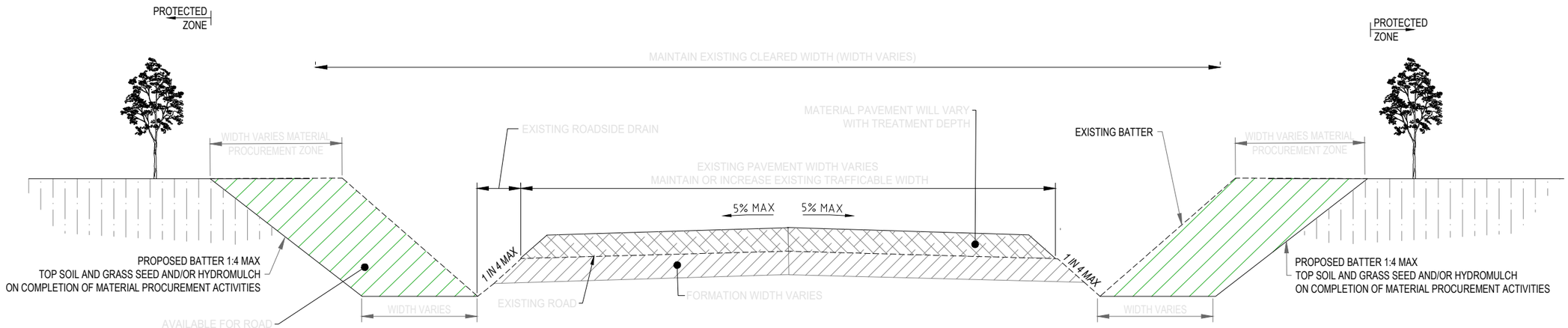
SHEPHERD
asset management solutions

APPENDIX D – STANDARD DRAWING

NOTES:

- THE CONTRACTOR SHALL COMPLETE DIAL BEFORE YOU DIG CHECKS PRIOR TO COMMENCEMENT OF WORK ON THE SITE.
- THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITY SERVICES PRIOR TO COMMENCEMENT OF WORK ON SITE.
- THE CONTRACTOR SHALL BE AWARE OF AND PROTECT ALL UNDOCUMENTED UTILITY SERVICES IDENTIFIED ON SITE.
- THE CONTRACTOR SHALL NOT DISTURB EXISTING VEGETATION DURING THE PROCUREMENT OF MATERIAL
- PROCURED MATERIAL TO BE USED FOR CONSTRUCTION OF ROAD FORMATION
- PROCURED MATERIAL SHALL ONLY BE USED FOR PAVEMENT LAYERS WITH SUPERINTENDENT APPROVAL
- THE SUPERINTENDENT SHALL APPROVE THE PROCUREMENT OF ALL MATERIAL PRIOR TO THE COMMENCEMENT OF WORK





TYPICAL CROSS SECTION

NOT TO SCALE
(VERTICAL EXAGGERATION)

DATUM: HORIZ. GDA 94 VERT. AHD

SCALES NTS.

FULL SIZE A3

CONSTRUCTION ISSUE

FOR CONSTRUCTION ONLY WITH COUNCIL APPROVAL

REV	REVISION DESCRIPTION	DATE
1	FOR CONSTRUCTION	----

BULLOO SHIRE COUNCIL
68 DOWLING STREET, THARGOMINDAH
07 4621 8000
council@bulloo.qld.gov.au

DRAFTED	LD
DESIGNED	GB
CHECKED	GB
APPROVED	G J BROWN
RPEQ 7682	SIGN

ROADSIDE MATERIAL PROCUREMENT

LAYOUT AND DETAIL PLAN

DWG No. SSD-001

REVISION 1