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Document Title	Road Stabilisation Procedure
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Approved By	Brendan McKenna
Position	Director
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Purpose

Brendan McKenna Earthmoving is committed to undertaking road stabilisation activities safely, efficiently and in accordance with engineering, environmental and quality requirements.

This procedure establishes the requirements for stabilising road pavements through the controlled application of stabilising products to improve pavement strength, durability, dust suppression and long-term road performance while protecting workers, road users, surrounding infrastructure and the environment.

This procedure supports compliance with the Work Health and Safety Act 2011 (Qld), Work Health and Safety Regulation 2011 (Qld), Environmental Protection Act 1994 (Qld) and Brendan McKenna Earthmoving's Integrated Management System (IMS).

Scope

This procedure applies to all Brendan McKenna Earthmoving employees and contractors undertaking road stabilisation activities at company worksites.

It applies to activities including:

- Road preparation.
- Stabilising product preparation.
- Product application.
- Road stabilisation.
- Moisture conditioning.
- Mixing and compaction.
- Ongoing road treatment.
- Associated plant operations.

Responsibilities

Role	Responsibilities
Director	Ensure adequate resources, plant, equipment and systems are available to safely undertake road stabilisation activities.
Operations Manager	Plan road stabilisation works, verify product requirements and ensure this procedure is implemented.
Supervisors / Site Managers	Coordinate road stabilisation activities, monitor quality, environmental and safety controls and verify compliance with project specifications.
Health & Safety Representative (HSR)	Participate in worker consultation, assist with hazard identification and support continual improvement where required.
Employees / Plant Operators	Operate plant safely, comply with this procedure, wear required PPE and report hazards, defects and environmental incidents immediately.

Procedure

Brendan McKenna Earthmoving shall ensure road stabilisation activities are completed using suitable plant, competent operators and approved engineering controls to achieve a safe, durable and compliant road surface.

Road stabilisation shall be completed in accordance with approved project specifications, product manufacturer recommendations and engineering requirements to improve pavement strength, durability and long-term performance.

1. Planning and Site Preparation

Prior to commencing road stabilisation activities, personnel shall ensure all planning activities have been completed and the work area has been assessed.

This shall include:

- Completing all required site inductions.
- Participating in the daily pre-start meeting.
- Completing a Personal Risk Assessment (Take 5) where required.
- Reviewing the relevant Safe Work Method Statement (SWMS) where applicable.
- Completing a **Dial Before You Dig (1100) / Before You Dig Australia (BYDA)** enquiry where excavation activities may affect underground services.
- Obtaining approval for the Traffic Management Plan where required.
- Installing traffic management controls in accordance with the approved Traffic Guidance Scheme.
- Completing plant pre-start inspections.
- Confirming the required stabilising product, water supply and plant are available.
- Reviewing project specifications and stabilisation requirements.
- Confirming all personnel have been trained in the safe handling and application of the stabilising product.

No person shall enter the work area unless authorised by the Site Manager.

Only trained, competent and authorised personnel shall undertake road stabilisation activities.

2. Product Preparation

Road stabilising products shall be prepared in accordance with the manufacturer's recommendations and project specifications.

This shall include:

- Positioning the spray truck adjacent to the stabilising product storage pod.
- Connecting transfer hoses between the storage pod and spray truck.
- Pumping the required quantity of DAS stabilising product into the spray truck as determined by the Site Manager.
- Adding water in the proportions specified for the product and project requirements.
- Mixing the product thoroughly to achieve the required consistency.
- Disconnecting transfer hoses and confirming all fittings are secure before moving the spray truck.
- Inspecting hoses and fittings for leaks or damage before and after transfer.
- Ensuring all product handling is completed using the required personal protective equipment (PPE).
- Managing any spills immediately in accordance with the Spill Response & Management Procedure.

3. Road Preparation

Road preparation is critical to achieving an effective and durable stabilised pavement.

This shall include:

- Cleaning table drains where required and restoring drainage using the grader or excavator.
- Stripping vegetation from the road formation and into the invert of the drain where appropriate.
- Assessing whether the existing gravel can be reused as part of the stabilisation process.
- Existing gravel shall only be reused where it is suitable, free from excessive contamination and capable of achieving the required pavement performance in accordance with project specifications.
- Measuring the work area and ordering additional gravel where required.
- Scarifying the existing road surface using a hard cut or light tyne to prepare the pavement.
- Conditioning the road surface using water to achieve suitable moisture content prior to stabilisation.
- Confirming the road has been correctly prepared before applying the stabilising product.

4. Road Stabilisation Operations

Road stabilisation shall be completed in accordance with the approved project specifications and the manufacturer's product recommendations.

The following construction sequence shall be followed:

- Grader operator to rip the road and prepare windrows ready for stabilisation.

- Spray truck operator to apply the stabilising product under the direction of the grader operator.
- Grader operator to thoroughly mix the stabilising product through the road material.
- Repeat the spraying and mixing process until the required moisture content and product distribution has been achieved.
- Compact the stabilised pavement using the roller until the required compaction has been achieved.
- Apply the final surface spray of stabilising product where specified.
- Repeat maintenance applications at approximately two-week intervals or as directed by the Site Manager or project specifications.
- Monitor weather conditions throughout the stabilisation process to ensure the product performs as intended.
- Prevent unnecessary traffic from accessing the stabilised surface until the required curing period has been achieved.
- Confirm the stabilised pavement has achieved the required curing and surface condition before reopening the road to normal traffic.

Personnel shall continually monitor:

- Product application rates.
- Moisture content.
- Material mixing consistency.
- Compaction.
- Surface finish.
- Drainage performance.
- Plant interaction.
- Environmental controls.
- Road profile and finished surface levels.

Any unsafe condition or non-conformance shall be reported immediately to the Site Manager.

5. Plant and Equipment Operations

Road stabilisation activities shall be undertaken using suitable plant and equipment appropriate for the work activity.

Plant selection shall be appropriate for the road conditions, stabilising product requirements and stage of road stabilisation being undertaken.

Plant and equipment that may be utilised includes:

- Grader
- Spray Truck
- Flat Drum Roller
- Bobcat / Skid Steer Loader
- Excavator
- Water Truck
- Tip Trucks

All operators shall hold the appropriate licences, competencies or verified training applicable to the plant or equipment being operated.

The Operations Manager or delegated Supervisor shall verify operator competency prior to commencing work.

Validation of Competency records shall be retained within the Training & Competency Register.

6. Quality, Environmental and PPE Controls

Road stabilisation shall be completed in a manner that restores pavement performance while protecting workers and the environment.

This shall include:

- Verifying the completed road profile complies with the approved project specifications.
- Confirming stabilising products have been mixed and applied in accordance with the manufacturer's recommendations and project specifications.
- Monitoring product application rates and coverage.
- Confirming the required moisture content has been achieved before compaction.
- Compacting the pavement until the required density has been achieved.

- Inspecting the completed surface for defects, segregation or inadequate product distribution.
- Preventing contamination of waterways and surrounding vegetation.
- Managing chemical spills immediately in accordance with the Spill Response & Management Procedure.
- Wearing the required PPE when handling or applying stabilising products, including:
 - Safety footwear.
 - Long sleeve shirt and long trousers.
 - Coveralls where required.
 - Safety glasses or splash-proof goggles.
 - Respiratory protective equipment as specified by the applicable Safety Data Sheet (SDS), where required.
 - Hard hat.
 - Chemical-resistant gloves (PVA or Viton).

7. Documentation and Completion

Road stabilisation activities shall be documented in accordance with company requirements.

This shall include:

- Completing Plant Pre-start Inspections through the MCK Group App or approved paper forms where required.
- Completing a Personal Risk Assessment (Take 5) through the MCK Group App prior to commencing work.
- Completing paper forms where mobile coverage is unavailable and submitting completed records once adequate signal is available.
- Completing a Job Hazard Analysis (JHA) where activities fall outside the scope of this procedure.
- Recording product usage, inspections and quality checks where required.
- Reporting hazards, incidents, near misses and environmental incidents in accordance with company procedures.
- Confirming completed stabilisation works comply with project specifications before reopening the road to normal traffic.

Records

The following records may be retained where relevant to road stabilisation activities.

Record	Responsibility	Retention Location
Personal Risk Assessments (Take 5)	Employees / Contractors	MCK Group App / Project Records
Plant Pre-start Inspection Records	Plant Operators	Plant Maintenance Register
Validation of Competency Records	Operations Manager	Training & Competency Register
Road Stabilisation Inspection Records	Site Manager / Supervisor	Project Quality Records
Product Application Records	Site Manager	Project Records
Incident Reports	Employees / Supervisors	Incident Records
Corrective Actions	Operations Manager	Incident / NCR / Corrective Action Register

Related Information

- HS-PR-001 Risk Assessment Procedure
- HS-PR-003 Personal Risk Assessment (Take 5) Procedure
- HS-PR-005 Incident Investigation & Reporting Procedure
- OP-PR-018 Spill Response & Management Procedure
- HS-SWMS-006 Mobile Plant Operations SWMS
- Traffic Management Plan / Traffic Guidance Scheme (where applicable)
- Environmental Management Plan (where applicable)
- Training & Competency Register
- Plant Maintenance Register
- Incident / NCR / Corrective Action Register
- MCK Group App
- DAS Product Safety Data Sheet (SDS)
- Work Health and Safety Act 2011 (Qld)
- Work Health and Safety Regulation 2011 (Qld)
- Environmental Protection Act 1994 (Qld)

Review and Revision

This procedure shall be reviewed every two years or earlier following legislative changes, incidents, audit findings, changes to stabilising products, organisational changes or identified improvement opportunities.