



# **Construction Specification for Civil Works**

## **C211 - Control of Erosion and Sedimentation**

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## GENERAL

### C211.01 SCOPE

This Specification is for the installation of structures and the implementation of measures to control erosion and sedimentation in accordance with the approved Erosion and Sediment Control Plan (ESCP) or Storm Water Management Plan (SWMP). These may be temporary or permanent.

The Constructor shall plan and carry out the whole of the Works to avoid erosion and sedimentation of the site, surrounding country, watercourses, waterbodies and wetlands.

All measures for erosion and sedimentation control shall be designed, installed and maintained by the Constructor in such a manner so as not to present a potential hazard or otherwise to any person or property.

### C211.02 DEFINITIONS

**The Works** – Defined as follows:

- **Developer Infrastructure Works** - work includes subdivisions and any public infrastructure work associated with an approved Development in the TRC local government area requiring a construction certificate.
- **Contracted Works** – infrastructure work undertaken by a Principal Contractor or subcontractor formally appointed by TRC and supervised by TRC.
- **Internal Works** - infrastructure work undertaken by TRC's day labour workforce.

**The Works**

**Constructor** – Defined as the organisation responsible for construction of the Works and the Principal Contractor as defined in the *Work Health and Safety Act 2011*.

**Constructor**

**TRC Representative** – Defined as follows:

- **Developer Infrastructure Works** – Nominated TRC officer(s) for the approved Development.
- **For Contracted Works** – the Superintendent.
- **For Internal Works** – TRC Asset Owner

**TRC Representative**

**Constructor's Representative** – Defined as follows:

- **Contracted Works** – the Principal Contractor's nominated representative as per the relevant contract.
- **Internal Works** – TRC officer responsible for delivery.

**Constructor's Representative**

**Developer's Representative**– Defined as the person or organisation appointed by the Developer to administer the Constructor responsible for the delivery of **Developer Infrastructure Works**.

**Developer's Representative**

### C211.03 REFERENCE DOCUMENTS

Documents referenced in this Specification are listed in full below whilst being cited in the text in the abbreviated form or code indicated.

**Documents Standards Test Methods**

Where not otherwise specified in the relevant Tamworth Regional Council (TRC) Specifications or the approved design drawings, the Constructor shall use the latest versions of the Reference documentation, including amendments and supplements, listed in the TRC Construction Specifications at the time of the Works approval.

**Currency**

**(a) Tamworth Regional Council (TRC) Specifications**

*C212 - Clearing and Grubbing.*

*C213 - Earthworks.*

**(b) Legislation**

Protection of the Environment Operations Act 1997 (POEO Act).

**(c) Other Publications**

Landcom - Managing Urban Stormwater, Soils and Construction, 4th Edition, March 2004 ("the Blue Book").

**C211.04 EROSION AND SEDIMENTATION CONTROL PLAN**

An Erosion and Sedimentation Control Plan (ESCP) shall be developed for all work where ground disturbance is either known or likely to occur. The ESCP shall be prepared in accordance with Managing Urban Stormwater: Soils and Construction ("the Blue Book"). The ESCP shall be prepared in accordance with the Blue Book by a person with demonstrated skills, experience and qualifications.

All work that involves any disturbance to the surface of land shall be carried out in accordance with an approved ESCP.

***Erosion and Sedimentation Control Plan***

**C211.05 EROSION AND SEDIMENTATION CONTROL MEASURES**

Erosion and sedimentation control measures shall be in accordance with the approved ESCP.

***Scope***

**HOLD POINT**

The ESCP, including all associated details, shall be submitted to the Developer's Representative at least ten (10) working days prior to the proposed date of commencement of site work.

***Hold Point***

**PROCESS HELD:** Site establishment and any subsequent site works.

Under no circumstances shall work commence until the Hold Point has been released and all relevant control measures are in place.

***Timing***

**C211.06 EARTHWORKS FOR EROSION AND SEDIMENTATION CONTROL BASINS**

Earthworks for erosion and sedimentation control basins shall be to the planned levels and dimensions shown on the approved design drawings.

***Planned Levels***

The entire storage and embankment foundation area of erosion and sedimentation control basins shall be cleared in accordance with *C212 - Clearing and Grubbing* and shall be stripped of topsoil and any unsuitable material under embankments removed in accordance with *C213 - Earthworks*.

***Site Preparation***

The embankments shall be constructed in accordance with *C213 - Earthworks*.

**C211.07 INLETS, SPILLWAYS AND LOW FLOW OUTLETS FOR SEDIMENTATION CONTROL BASINS AND SEDIMENT TRAPS**

Inlets and spillways shall be constructed in accordance with the approved ESCP.

### **C211.08 DROP INLET SEDIMENT CONTROL**

Drop inlet sediment traps and inlet control banks shall be constructed on completion of each gully pit unless otherwise directed by the TRC Representative. These drop inlet sediment traps and inlet control banks are additional to the temporary sedimentation control measures that may be required under Clause C211.10 during construction of the gully pits.

***Time of Construction***

The drop inlet sediment traps are intended to remove sediment from the surface flow before it enters the drainage system. The inlet control banks shall be constructed as required to prevent the surface flows bypassing the gully pits.

***Purpose***

The drop inlet sediment traps shall be constructed as shown on the approved design drawings. The associated inlet control banks shall consist of at least two (2) courses of sandbags containing a 10:1 sand/cement mix. The bags shall be keyed at least 25mm into the surface, dampened sufficiently to ensure hydration of the cement and tamped lightly to provide mechanical interlock between adjacent bags.

***Control Banks***

### **C211.09 CLEANING SEDIMENTATION CONTROL STRUCTURES**

The Constructor shall clean out permanent sedimentation control structures, cleaning out whenever the accumulated sediment has reduced the capacity of the structure by 70% or more, or whenever the sediment has built up to a point where it is less than 300mm below the spillway crest. All permanent sedimentation control structures shall be cleaned out by the Constructor prior to completion of the Works.

***Constructor 's Responsibility***

Accumulated sediment shall be removed from permanent sedimentation control structures in such a manner as not to damage the structures. The sediment removed shall be disposed of in such locations that the sediment will not be conveyed back into the construction areas or into watercourses. The Constructor shall provide and maintain suitable access to permanent sedimentation control structures to allow cleaning out in all weather conditions.

***Removal of Sediment***

## TEMPORARY EROSION AND SEDIMENTATION CONTROL

### C211.10 GENERAL

The Constructor shall ensure that effective erosion and sedimentation control is provided at all times for the duration of the works and until all disturbed surfaces are fully restored or revegetated to the satisfaction of the TRC Representative.

**Constructor's Responsibility**

Runoff from all areas where the natural surface is disturbed by construction, including access roads, depot and stockpile sites, shall be free of pollutants. The Constructor shall be responsible for all temporary erosion and sedimentation control measures required for this purpose.

**Pollutant Free**

The Constructor shall provide and maintain slopes, crowns and drains on all excavations and embankments to ensure satisfactory drainage at all times. Water shall not be allowed to pond on the Works site unless such ponding is part of an approved ESCP.

**Maintenance by the Constructor**

### C211.11 TEMPORARY DRAINS

Runoff from areas exposed during the work shall be controlled in accordance with the approved ESCP.

**Control of Runoff**

### C211.12 TEMPORARY SEDIMENT TRAPS

Temporary sediment-trapping devices shall be provided during construction in accordance with the approved ESCP to remove sediment from sediment-laden runoff before it enters natural watercourses or adjacent land.

**Sediment Traps**

### C211.13 BATTER PROTECTION

The Constructor shall take all necessary action to protect batters from erosion during the Works.

**Constructor's Responsibility**

Scour of newly-formed fill batters during and after embankment construction shall be minimised by diverting runoff from the formation away from the batter until vegetation is established.

**Scour Control**

### C211.14 MAINTENANCE AND INSPECTION

The Constructor shall be responsible for operation, monitoring, cleaning out, maintenance, repair and rectification of erosion and sediment control measures as specified in the approved ESCP.

**Constructor's Responsibility**

The Constructor shall provide and maintain access from within the road reserve or from other locations acceptable for cleaning out sedimentation control structures.

**Access**

### C211.15 REMOVAL

All temporary erosion and sedimentation control measures shall be removed by the Constructor when revegetation is established on formerly exposed areas before the end of the Works. All materials used for the temporary erosion and sedimentation control measures shall be removed from the site.

**Constructor's Responsibility**

Concurrence from the TRC Representative shall be sought to confirm the standard of revegetation is satisfactory prior to the removal of the associated control measures required under the ESCP.

#### WITNESS POINT

The removal of approved erosion and sedimentation control measures requires the concurrence of the TRC Representative.

A joint inspection shall be undertaken by the Constructor and the TRC Representative.

**PROCESS HELD:** Removal of approved erosion and sedimentation control measures.

**Witness Point**

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