Checklist – CAC058M  
Landscape and Revegetation Works – Materials and Construction (MRTS16 - 2017)

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| Contractor |  | Date |  | Review No. |  |
| Contract No. |  | Project No. |  | Project Name |  |

| Reference | Requirements | | Addressed | Comments / Observations |
| --- | --- | --- | --- | --- |
| Preliminaries | | | | |
| Cl 5.2.1  Cl 6.2  Cl 7.1.2  Cl 8.1.2  Cl 7.1.2.2 | **Soil Management Plan – Construction**   * Has a *Soil Management Plan – Construction*, in accordance with Form A of Appendix MRTS16, been submitted prior to commencement of clearing and grubbing? Milestone Hold Point 1 * Has *Form A Section 1 Topsoil volumes assessment* and *Section 2* *Integrated soil management activities* been completed and co‑ordinated with the *Road Construction Program* and topsoil stripping operations? * Have regular updates been provided throughout the duration of the project as testing of stockpiled topsoil occurs, testing of subsoil on formed cut / fill batters occurs, as amelioration strategies are developed, and as quality assurance documentation is provided for imported materials? * Sampling has been conducted by a soil scientist or, where unavailable in a remote location, under the direction of the Administrator. * Testing, recommendations and amelioration strategies have been provided before any MRTS16 soil‑related activities occur? (amelioration of subsoil / topsoil, ground preparation, and placement of topsoil). | |  |  |
| Cl 7.1.1  Cl 8.1.1 | **Subsoil Testing**   * Has a representative sample been taken and tested for each subsoil type? (sample outer face / surface of cut and fill batters separately, sample subsoils different in colour, texture, type or layers separately). Refer Clause 8.1.1 for sampling and testing requirements. | |  |  |
| Cl 7.1.2.1  Cl 8.1.2 | **Site Topsoil Testing**   * Has a representative sample been taken and tested for each topsoil type? (Look for differences in colour, texture, types or layers). Refer Clause 8.1.2 for sampling and testing requirements. * *Topsoils with different colour, texture or layers are ideally stripped and stockpiled separately. Blending may occur; however it is recommended that the material qualities are determined initially to manage very low quality materials that may increase costs associated with amelioration.* | |  |  |
| Cl 8.2.1 | **Site Manufactured Topsoil**   * Has Site topsoil has been manufactured by ameliorating and screening the material in accordance with the *Soil Management Plan – Construction* and Clause 8.2.1? * Prior to using manufactured Site topsoil, has compliance testing in accordance against *Form D – Manufactured Site Topsoil Compliance Testing* been undertaken to confirm the material has been sufficiently ameliorated. Hold Point 7 | |  |  |
| Cl 7.1.2.2  Cl 8.1.2 | **Imported Topsoil**   * Has quality assurance documentation been provided, and incorporated as an Appendix to the *Soil Management Plan – Construction*, to demonstrate imported topsoil is in accordance with Form C of MRTS16 Appendix. Refer Clause 8.1.2 for sampling and testing requirements. | |  |  |
| Cl 7.2 | **Amelioration Agents**   * Has quality assurance documentation been provided, and incorporated as an Appendix to the *Soil Management Plan – Construction*, to demonstrate the amelioration agents are in accordance with the specification? (Gypsum, Lime, Dolomite, Fertiliser, Organic Soil Conditioner, Microbial Inoculants, Wetting Agents and Water Holding Agents). | |  |  |
| Cl 5.2.2  Cl 8.1.3 | **Non-Potable Water Management Plan**   * Has a *Non‑Potable Water Management Plan*, in accordance with Form H of Appendix MRTS16, been submitted where non‑potable water (dam, creek, river and bore water) is proposed to irrigate vegetation treatments? Hold Point 2 * Have necessary permits and approvals for the use of water from proposed water source been obtained? Are there any permit requirements? * Is the water quality suitable? Are adequate management strategies in place to manage any quality issues with the water? * Has the Contractor managed the use of the material to ensure it does not have negative impacts on soil and vegetation? * Has the water source been regularly sample tested in accordance with Clause 8.1.3? * Has relevant signage, in accordance with the AS 1319:1994 – *Safety Signs for the Occupational Environment*, been erected? | |  |  |
| Cl 5.3.1 | **Seed Supply Proposal**   * Has an initial *Seed Supply Proposal* been submitted within 30 days from possession of Site? Hold Point 3 For projects with a long duration, regular updates should be provided to account for changes in supply / availability and to provide new seed testing certificates. | |  |  |
| Cl 5.3.2 | **Seed Harvesting Proposal**   * Where seed harvesting is to occur, has a *Seed Harvesting Proposal* been submitted with relevant permits prior to harvesting in accordance with DEHP requirements, MRTS51 and MRTS51.1? Hold Point 4 | |  |  |
| Cl 8.1.4 | **Seed Testing**   * Has seed been tested in accordance with Clause 8.1.4, and an associated certificate been supplied detailing the purity and germination / viability percentage? * Are seed pre‑treatments nominated and have these been carried out by the supplier? *(Typically, scarification for hard seeds such as acacia species, but may also include seed coatings).* * Germination / viability certificates are no older than six months old for grass species and one year old for tree and shrub species. | |  |  |
| Cl 5.3.3 | **Plant Supply Proposal**   * Has a Plant Supply Proposal been submitted within 30 days of the date of Possession of Site, or as specified in the Contract? Hold Point 5 * Has the timing and management of plant procurement, in particular procurement of large volumes of species, and/or procurement of container stock ≥ 25 L, been addressed? * Where proposed species are unavailable, the suitability of substitute species needs to be evaluated. *(Climatic and soil suitability, design constraint suitability such as mature size, frangibility etc.).* | |  |  |
| Cl 5.3.4 | **Plant Harvesting Proposal**   * Where plant harvesting is to occur, has a Plant Harvesting Proposal been submitted with relevant permits prior to harvesting in accordance with DEHP requirements, MRTS51 and MRTS51.1? Hold Point 6 | |  |  |
| Cl 5.3.3.1 | **Nursery Inspections**   * Have nursery inspections been proposed within the Plant Supply Proposal? * Have plants been inspected prior to delivery to Site? The Contractor should give a minimum five days notice of joint inspections at nurseries. Witness Point 1 * On large projects, regular inspections should occur to monitor progress of advanced stock and development of new stock. | |  |  |
| Cl 7.9  Cl 8.6.2.1  Cl 8.6.2.2  Cl 8.6.2.3 | **Irrigation System**   * Has a permanent irrigation design been submitted? Hold Point 12 *(Note permanent irrigation system only required where nominated in the Contract).* * Have local government reviewed the design and deemed it suitable*? (Typically irrigation systems will be at Council's request and ongoing use and maintenance will be their responsibility).* * Prior to covering the installed irrigation system, has it been inspected and tested? Hold Point 13 * Has training been provided to the Principal’s nominated representatives in the set up and operation of the irrigation system? *(This should include Council representatives).* * Have warranties, manuals / specifications and As Constructed drawings been supplied in hard copy and electronic format? * Have these been provided to the region's operations representative and, where relevant, to the local government's operations representative? | |  |  |
| Seeding | | | | |
| Cl 7.2  Cl 7.4.10  Cl 7.1.2  Cl 7.7  Cl 7.4.9 | **Seeding – Materials**  Refer to MRTS16 Clause 7 *Materials*, to confirm the following material requirements relevant to the installation of seeding have been reviewed.   * Common materials: * Amelioration agents (lime, dolomite, gypsum, fertiliser, soil wetting agents, soil microbial inoculants, soil conditioner). * Topsoil (Site manufactured topsoil, imported topsoil). * Water (potable water, non‑potable water). * Seed mixes: * *it is recommended seed mixes are either provided by the supplier fully mixed or mixed onsite into tubs for practical application, or* * *seed mixes are provided / mixed into 1 kg bags or other agreed weight to make application / administration straight forward, for example if a tank can apply only 2000 m² in a single pass as per loading chart, then each container will contain 20% of the total seed mix rate (kg/ha).* | |  |  |
| Cl 7.4.3 | * Hydromulch standard materials: * fibre and binder\* *Note binder may be incorporated with fibre depending on product.* | |  |  |
| Cl 7.4.4 | * Hydromulch BFM materials: * fibre and binder\* *Note binder may be incorporated with fibre depending on product* * BFM product should be supplied with certification it meets specification requirements. | |  |  |
| Cl 7.4.5 | * Hydro – compost materials: * fibre, binder\* and microbial inoculants\* Note materials may be incorporated with fibre depending on product. | |  |  |
| Cl 7.4.6 | * Straw mulching materials: * straw and binder. | |  |  |
| Cl 7.4.7 | * Organic blanket materials: * soil conditioner, binder and microbial inoculants. | |  |  |
| Cl 7.4.8 | * Mesh lined drain materials * fibre and binder (slow setting anionic bitumen emulsion) * organic mesh material (for example, Coir mesh 400 gsm). | |  |  |
| Cl 8.5.1 | **Seeding – Common Operations**  The following operations are common to all seeding operations:   * Has a sample area been prepared for each of the specified seeding treatments / seed mixes to provide an agreed quality control for further installations? Has this process been witnessed and signed off by relevant parties (administrator, inspection personnel, contractor, sub‑contractor)? Hold Point 9 * Has the area (m²) of the sample area been determined and measured, and have the quantities of material to be applied been determined? * Have quantities of materials, particularly fibre and seed, been measured? * Has the loading of tanks with materials and application of materials been witnessed? * Once the sample area is installed ensure all relevant parties agree on benchmark. * On large project where installation of seeding treatments occurs over several months, have regular sample areas been installed? | |  |  |
| Cl 8.3 | * Prior to the commencement of ground preparation, have all weeds been sprayed or manually removed from the area? Witness Point 2 | |  |  |
| Cl 8.4.1.1 | * Have amelioration agents been spread over the subsoil surface at the specified rates? Hold Point 8 * It is recommended a sample area to benchmark large scale ameliorant applications be installed? | |  |  |
| Cl 8.4.1.2  Cl 8.4.1.3  Cl 8.4.1.4 | * After the application of amelioration agents to the subsoil, has the relevant ground preparation operation occurred parallel to the contour, incorporating the ameliorants into the subsoil? * ≤1:4 slopes and compacted, Ripping 300 mm Witness Point 3 * operation has shattered the subsoil * operation is followed by cultivation * ≤1:4 slopes and ripping areas, Cultivation 150 mm Witness Point 4 * breaking up the surface and incorporating the ameliorants * >1:4 slopes, Roughening 50 mm Witness Point 5 * breaking up the surface, forming keys in the subsoil and incorporating the ameliorants * Have stones and other deleterious materials greater than 40 mm been removed from areas to be mown / slashed in the future? | |  |  |
| Cl 7.4.9 | * Has seed type and quantities supplied / applied been verified? *Ensure adequate seed is supplied for given areas to be treated, otherwise limit the area to be treated relative to the available seed.* Hold Point 10 | |  |  |
| Cl 8.5.1.1  Cl 8.4.2.1  SD1651- 1  SD1644- 3  SD1644- 6 | **Seeding – Drill Seeding**   * Have the operations in *Seeding – Common Operations* section of this checklist been completed? Hold Point 8, Hold Point 9, Witness Point 2, Witness Point 3, Witness Point 4, Witness Point 5 * Has topsoil been installed: * within three days of completing the subsoil operations? * to 75 mm depth? Witness Point 6 * Has seed type and quantities supplied / applied been verified? *Ensure adequate seed is supplied for given areas to be treated, otherwise limit the area to be treated relative to the available seed.* * Has drill seeding been installed: * within two days of topsoil installation? * parallel to the contour? * with fertiliser? * with seed? * Has seed been installed in the upper 3‑10 mm of the topsoil and are the seeds covered with topsoil? * Has the drill seeding been watered on the day of installation with a mixture of water and wetting agents, until the topsoil layer is moist? *Watering should initially be applied in small volumes at multiple applications to minimise erosion. Consider application of a soil binder to reduce wind and sheet flow erosion.* * Where seeding is installed adjoining the verge, or hardstand interface, has a 600 mm wide turf strip been installed in accordance with Standard Drawing 1644? | |  |  |
| Cl 8.5.1.2  Cl 8.4.2.1  SD1651- 1  SD1651- 2  SD1644- 3  SD1644- 6 | **Seeding – Broadcast Seeding**   * Have the operations in *Seeding – Common Operations* section of this checklist been completed? Hold Point 8, Hold Point 9, Witness Point 2, Witness Point 5 * Has topsoil been installed: * within three days of completing the subsoil operations? * to 75 mm depth? Witness Point 6 * Has seed type and quantities supplied / applied been verified? *Ensure adequate seed is supplied for given areas to be treated, otherwise limit the area to be treated relative to the available seed.* * Has broadcast seeding been installed: * within two days of topsoil installation? * with a mixture of seed fertiliser and a bulking agent evenly broadcast to the Site? * by covering the seed mixture with topsoil through either harrowing, raking, tracking or chain dragging parallel to the contour? * Has the broadcast seeding been watered on the day of installation with a mixture of water and wetting agents, until the topsoil layer is moist? *Watering should initially be applied in small volumes at multiple applications to minimise erosion.* * Where seeding is installed adjoining the verge, or hardstand interface, has a 600 mm wide turf strip been installed in accordance with Standard Drawing 1644? | |  |  |
| Cl 8.5.1.3  Cl 8.4.2.1  SD1651- 1  SD1651- 2  SD1644- 3  SD1644- 6 | **Seeding – Hydromulch – Standard**   * Have the operations in *Seeding – Common Operations* section of this checklist been completed? Hold Point 8, Hold Point 9, Witness Point 2, Witness Point 5 * Has topsoil been installed: * within three days of completing the subsoil operations? * to 75 mm depth? Witness Point 6 * Has the area (m²) been determined and measured, and have the quantities of required material to be applied (fibre, seed, fertiliser) been determined and verified? *Ensure adequate material is supplied for given areas to be treated, otherwise limit the area to be treated relative to the available material.* * Has hydromulch been installed: * Within two days of topsoil installation? * By moistening the topsoil layer with a mixture of water and wetting agents? * In an indirect, dispersed spray pattern, from opposing directions during each pass, to achieve a complete coverage and a uniform finish? * In a minimum two pass process as follows: * first pass – a slurry of water, 1000 kg/ha of fibre, binder, fertiliser and the seed mix * first pass shall become tacky (not dry) before subsequent passes are applied * second / subsequent passes – a slurry of water, with balance of the fibre and binder. * Has the installation achieved a nominal finished fibre depth of 4 mm and no soil visible? * Do not water within 24‑48 hrs of installation to allow binders to set. * Refer Hydromulch / BFM Loading Sheet table at end of this checklist for guide on volumes relative to fibre applied in the hydromulch truck. *Conduct regular audits to ensure adequate materials are available relative to the areas to be treated, otherwise limit the area to be treated relative to the available material.* * Where seeding is installed adjoining the verge, or hardstand interface, has a 600 mm wide turf strip been installed in accordance with Standard Drawing 1644? | |  |  |
| Cl 8.5.1.4  Cl 8.4.2.1  SD1651- 1  SD1651- 2  SD1644- 3  SD1644- 6 | **Seeding – Hydromulch – Bonded Fibre Matrix (BFM)**   * Have the operations in *Seeding – Common Operations* section of this checklist been completed? Hold Point 8, Hold Point 9, Witness Point 2, Witness Point 5 * Has topsoil been installed: * within three days of completing the subsoil operations? * to 75 mm depth? Witness Point 6 * Has the area (m²) been determined and measured, and have the quantities of required material to be applied (fibre, seed, fertiliser) been determined and verified? *Ensure adequate material is supplied for given areas to be treated, otherwise limit the area to be treated relative to the available material.* * Has BFM been installed: * Within two days of topsoil installation? * By moistening the topsoil layer with a mixture of water and wetting agents? * In an indirect, dispersed spray pattern, from opposing directions during each pass, to achieve a complete coverage and a uniform finish? * In a minimum two pass process as follows: * first pass – a slurry of water, 1000 kg/ha of fibre, binder, fertiliser and the seed mix * first pass shall become tacky (not dry) before subsequent passes are applied * second / subsequent passes – a slurry of water, with balance of the fibre and binder. * Has the installation achieved a nominal finished fibre depth of 5 mm and no soil visible? * Do not water within 24‑48 hrs of installation to allow binders to set. * Refer Hydromulch / BFM Loading Sheet table at end of checklist for guide on volumes relative to fibre applied in the hydromulch truck. *Conduct regular audits to ensure adequate materials are available relative to the areas to be treated, otherwise limit the area to be treated relative to the available material.* * Where seeding is installed adjoining the verge, or hardstand interface, has a 600 mm wide turf strip been installed in accordance with Standard Drawing 1644? | |  |  |
| Cl 8.5.1.5  Cl 8.4.2.1  SD1651- 3  SD1651- 4  SD1644- 3  SD1644- 6 | **Seeding** – **Hydro‑compost**   * Have the operations in *Seeding – Common Operations* section of this checklist been completed? Hold Point 8, Hold Point 9, Witness Point 2, Witness Point 5 * Has topsoil been installed: * within three days of completing the subsoil operations? * to 75 mm depth? Witness Point 6 * Has the area (m²) been determined and measured, and have the quantities of required material to be applied (fibre, seed, fertiliser) been determined and verified? *Ensure adequate material is supplied for given areas to be treated, otherwise limit the area to be treated relative to the available material.* * Has hydro-compost been installed: * Within two days of topsoil installation? * By moistening the topsoil layer with a mixture of water and wetting agents? * In an indirect, dispersed spray pattern, from opposing directions during each pass, to achieve a complete coverage and a uniform finish? * In a minimum two pass process as follows: * first pass – a slurry of water, fibre, binder, soil microbial inoculants, fertiliser and majority of the seed mix * first pass shall become tacky (not dry) before subsequent passes are applied * second / subsequent passes – a slurry of water, with balance of the fibre, binder and remaining seed mix. | |  |  |
|  | * Has the installation achieved a nominal finished fibre depth of 10 mm with no soil visible? * Do not water within 24‑48hrs of installation to allow binders to set. * Where seeding is installed adjoining the verge, or hardstand interface, has a 600 mm wide turf strip been installed in accordance with Standard Drawing 1644? | |  |  |
| Cl 8.5.1.6  Cl 8.4.2.1  SD1651- 1  SD1651- 2  SD1644- 3  SD1644- 6 | **Seeding – Straw Mulching**   * Have the operations in *Seeding – Common Operations* section of this checklist been completed? Hold Point 8, Hold Point 9, Witness Point 2, Witness Point 5 * Has topsoil been installed: * within three days of completing the subsoil operations? * to 75 mm depth? Witness Point 6 * Has the area (m²) been determined and measured, and have the quantities of required material to be applied (fibre, seed, fertiliser) been determined and verified? *Ensure adequate material is supplied for given areas to be treated, otherwise limit the area to be treated relative to the available material.* * Has the straw mulching been installed: * within two days of topsoil installation? * by initially installing broadcast seeding or drill seeding in accordance within Clause 8.5.1.1 and 8.5.1.2? * by evenly spreading straw to a nominal depth of 25 mm? * by spraying an anionic bitumen emulsion? * Do not water within 24‑48hrs of installation to allow binders to set. * Where seeding is installed adjoining the verge, or hardstand interface, has a 600 mm wide turf strip been installed in accordance with Standard Drawing 1644? | |  |  |
| Cl 8.5.1.7  SD1651- 5  SD1651- 6  SD1644- 3  SD1644- 6 | **Seeding – Organics Blanket**   * Have the operations in *Seeding – Common Operations* section of this checklist been completed? Hold Point 8, Hold Point 9, Witness Point 2, Witness Point 5 * Has the area (m²) been determined and measured, and have the quantities of required Material to be applied (organics, seed, fertiliser) been determined and verified? *Ensure adequate material is supplied for given areas to be treated, otherwise limit the area to be treated relative to the available material.* * Has the organics blanket been installed: * within two days of completing the subsoil operations? * with a mixture of organic blanket, seed mix, soil microbial inoculants and binder? * to a nominal depth of 40 mm and completely covered the subsoil? | |  |  |
|  | * Has the organics blanket seeding been watered on the day of installation with a mixture of water and wetting agents? *Watering should be applied in multiple applications to ensure surface erosion does not occur.* * Where seeding is installed adjoining the verge, or hardstand interface, has a 600 mm wide turf strip been installed in accordance with Standard Drawing 1644? | |  |  |
| Turfing | | | | |
| Cl 7.2  Cl 7.1.2  Cl 7.7  Cl 7.5.1 | **Turfing Materials**  Refer to MRTS16 Clause 7 *Materials*, to confirm the following material requirements relevant to the installation of turfing have been reviewed.   * Common materials * amelioration agents (lime, dolomite, gypsum, fertiliser, soil wetting agents, microbial innoculants, water holding agents) * topsoil (Site manufactured topsoil, imported topsoil) * water (potable water, non‑potable water). * Turf | |  |  |
| Cl 8.5.2  Cl 8.3 | **Install Turf**   * Prior to the commencement of ground preparation, have all weeds been sprayed or manually removed from the area? Witness Point 2 | |  |  |
| Cl 8.4.1.1 | * Have amelioration agents been spread over the subsoil surface at the specified rates? Hold Point 8 *Has an area been marked out as a sample area to set the standard for large scale applications?* | |  |  |
| Cl 8.4.1.2  Cl 8.4.1.3  Cl 8.4.1.4 | * After the application of amelioration agents to the subsoil, has the relevant ground preparation operation occurred parallel to the contour, incorporating the ameliorants into the subsoil? * 1:4 slopes and compacted, Ripping 300 mm Witness Point 3 * operation has shattered the subsoil * operation is followed by cultivation * ≤1:4 slopes and ripping areas, Cultivation 150 mm Witness Point 4 * breaking up the surface and incorporating the ameliorants * >1:4 slopes, Roughening 50 mm Witness Point 5 * breaking up the surface, forming keys in the subsoil and incorporating the ameliorants * Have stones and other deleterious materials greater than 40 mm been removed from areas to be mown / slashed in the future? | |  |  |
| Cl 8.4.2.1 | * Has topsoil been installed: * within three days of completing the subsoil operations? * to a minimum 75 mm deep? Witness Point 6 * with finished level of the topsoil approximately 30 mm below adjoining paths, back of kerb, edging and so on to allow turf sod to finish flush with adjoining surfaces? | |  |  |
| Cl 8.5.2  SD1650- 1  SD1550- 2 | * Has turf been installed: * by spreading fertiliser at the specified rates over the topsoil? * by raking topsoil smooth prior to laying turf? * by moistening the topsoil layer with water and wetting agents? * on the day the turf was delivered to Site? * parallel to the contour, in a running bond brick pattern, and hard butting each roll to minimise gaps? * by lawn rolling / tamping finished installation to achieve a flat, even surface? * in high profile areas (for example pedestrian areas and shared paths, transport stations, areas fronting residential property), has turf been top dressed to fill gaps and eliminate localised depressions? * Has turf been watered within two hours of installation, until the topsoil layer is moist? Watering should be applied in multiple applications to ensure surface erosion does not occur. | |  |  |
| Planting | | | | |
| Cl 7.6.1  Cl 7.2  Cl7.4.10  Cl 7.1.2  Cl 7.7  Cl 7.6.3  Cl 7.6.6  Cl 7.6.5  Cl 7.6.4  Cl 7.6.2  Cl 7.9 | **Planting Materials**  Refer to MRTS16 Clause 7 *Materials*, to confirm the following material requirements relevant to the installation of planting have been reviewed.   * Common materials: * amelioration agents (lime, dolomite, gypsum, fertiliser, soil wetting agents, microbial innoculants, water holding agents) * topsoil (Site manufactured topsoil, imported topsoil) * water (potable water, non-potable water) * mulch (Site manufactured mulch, imported mulch) * Subsoil drainage * Stakes and guys * Organic mesh / matting * Containerised plants * Irrigation systems (if relevant). | |  |  |
| Cl 8.5.3.1 | **Planting – Install topsoil and mulch to mass planted areas (Containers <25L)**  *Installation may vary slightly with context. Refer Standard Drawings 1653, 1643 and 1647.* | |  |  |
| Cl 8.3 | * Prior to the commencement of ground preparation, have all weeds been sprayed or manually removed from the area? Witness Point 2 | |  |  |
| Cl 8.4.1.1 | * Have amelioration agents been spread over the subsoil surface at the specified rates? Hold Point 8 *Has an area been marked out as a sample area to set the standard for large scale applications?* | |  |  |
| Cl 8.4.1.2  Cl 8.4.1.3  Cl 8.4.1.4 | * After the application of amelioration agents to the subsoil, has the relevant ground preparation operation occurred parallel to the contour, incorporating the ameliorants into the subsoil? * ≤1:4 slopes and compacted, Ripping 300 mm Witness Point 3 * operation has shattered the subsoil * operation is followed by cultivation * ≤1:4 slopes and ripping areas, Cultivation 150 mm Witness Point 4 * breaking up the surface and incorporating the ameliorants * >1:4 slopes, Roughening 50 mm Witness Point 5 * breaking up the surface, forming keys in the subsoil and incorporating the ameliorants. | |  |  |
| Cl 8.4.2.1 | * Has topsoil been installed: * Within three days of completing the subsoil operations? * To the required depth? **Witness Point 6** * Contained areas, Medians and Separators 300 mm * Broadacre areas 150 mm * >1:4 slopes, Basins, Seeding areas 75 mm * With the finished level approximately 100 mm below adjoining paths, back of kerb, edging and so on to allow for mulch layer to finish below adjacent surfaces? | |  |  |
| Cl 8.5.3.1  SD1653  SD1643  SD1647 | * Has the topsoil been moistened with water and wetting agent prior to applying mulch? * Has a mulch been installed: * to a minimum 100 mm depth? * with finished level of mulch slightly below the edge of adjoining paths, back of kerb, edging and so on? * Where nominated, has organic mesh has been installed: * in accordance with Standard Drawing 1647‑2? * taught with consistent contact to the mulch surface below? * regularly pinned in accordance with the drawings or manufacturers specifications? * with pins of adequate length to ensure the pin is secure and firmly embedded into the subsoil? | |  |  |
|  | * Prior to planting, has the Contractor: * determined the location of services and other design constraints, particularly clearzone and sight visibility areas to identify potential planting conflicts? * set the plants out in accordance with the drawings and notified Administrator of inspections to confirm setout? Clause 8 of MRTS01? Hold Point 11 * Have plants been installed: * within two days of delivery to Site? * soaked 1‑2 hours prior to planting? * with fertiliser to the planting hole? * with rootballs level with or slightly proud of the surrounding surface? * with mulch pulled away from the stem? * with nursery supplied stakes and clips removed? * Has the planting area been watered on the day of installation, sufficiently to soak the topsoil layer? | |  |  |
| Cl 8.5.3.1  Cl 8.3 | **Planting – Installation of <25L Containers to contained areas (raised medians and separators)**   * Prior to the commencement of ground preparation, have all weeds been sprayed or manually removed from the area? Witness Point 2 | |  |  |
| Cl 8.4.1.1 | * Have amelioration agents been spread over the subsoil surface at the specified rates? Hold Point 8 | |  |  |
|  | * After the application of amelioration agents to the subsoil, has the relevant ground preparation operation occurred parallel to the contour, incorporating the ameliorants into the subsoil? | |  |  |
| Cl 8.4.1.2 | * ≤1:4 slopes and compacted, Ripping 300 mm Witness Point 3 * operation has shattered the subsoil * operation is followed by cultivation | |  |  |
| Cl 8.4.1.3 | * ≤1:4 slopes and ripping areas, Cultivation 150 mm Witness Point 4 * breaking up the surface and incorporating the ameliorants * Has topsoil been installed: * within three days of completing the subsoil operations? * to the required depth? Witness Point 6 * Contained areas, Medians and Separators 300 mm * Broadacre areas 150 mm * >1:4 slopes, Basins, Seeding areas 75 mm * with the finished level approximately 100 mm below adjoining paths, back of kerb, edging and so on to allow for mulch layer to finish below adjacent surfaces? | |  |  |
| SD1643  Cl 8.5.3.1 | * In the contained planting area: * has subsoil drainage been installed as per detail Standard Drawing 1643, to allow areas to drain freely and not pool for extended periods? * backfilled with backfill material (areas deeper than 300 mm)? * installed with a minimum 300 mm depth of topsoil (upper 300 mm) with the finished level approximately 100 mm below adjoining back of kerb to allow for mulch layer to finish below top of kerb level? Witness Point 6 | |  |  |
|  | * Has the topsoil been moistened with water and wetting agent prior to applying mulch? * Has a mulch been installed to a minimum 100 mm depth? * With finished level of mulch slightly below the top of kerb? * *Note it can be beneficial to install mulch at greater depth (for example, 150 mm) to eliminate the requirement to top up the mulch, during the Establishment / Monitoring period, prior to handover.* | |  |  |
|  | * Prior to planting has the Contractor: * determined the location of services and other design constraints, particularly clearzone and sight visibility areas to identify potential planting conflicts? * set the plants out in accordance with the drawings and notified Administrator of inspections to confirm setout? Clause 8 of MRTS01? Hold Point 11 * Have plants been installed: * within two days of delivery to Site? * soaked 1‑2 hours prior to planting? * with fertiliser to the planting hole? * with mulch pulled away from the stem? * with nursery supplied stakes and clips removed? * Has the planting area been watered on the day of installation, sufficiently to soak the topsoil layer? | |  |  |
| Cl 8.5.3.1  Cl 8.3  Cl 8.4.1.1  Cl 8.4.1.4  Cl 8.4.2.1  Cl 8.5.3.1  SD 1647 - 1 SD 1647 - 2 | Planting - Installation of <25L Containers to drainage structures and drains   * Prior to the commencement of ground preparation, have all weeds been sprayed or manually removed from the area? Witness Point 2 * Have amelioration agents been spread over the subsoil surface at the specified rates? Hold Point 8 * After the application of amelioration agents to the subsoil, has roughening occurred, breaking up the surface and forming keys in the subsoil and incorporating the ameliorants? Witness Point 5 * Has topsoil been installed: * within three days of completing the subsoil operations. * to 75mm depth? Witness Point 6 * Has organic matting been installed: * taught with consistent contact to the surface below * with matting roll lengths perpendicular to contours with 200 mm overlaps with abutting rolls * regularly pinned in accordance with the drawings or manufacturers specifications? * with pins of adequate length to ensure the pins are secure and firmly embedded into the subsoil? * Has the Contractor determined the location of services and other design constraints, particularly clearzone and sight visibility areas? * Has the Contractor set the plants out in accordance with the drawings and been inspected Clause 8 of MRTS01? Hold Point 11 * Have plants been installed * within two days of delivery to Site? * soaked 1-2 hours prior to planting? * with fertiliser to the planting hole? * with root balls level or slightly proud of the surrounding surface?   Has the planting area been watered on the day of installation, sufficiently to soak the topsoil layer? | |  |  |
| Cl 8.5.3.2 | **Planting – Installation of >25L Containers (Pit Planting)**  *Installation approach may vary slightly with location of tree and conditions of soil. Refer Standard Drawings 1654 and 1643.*   * Has the Contractor determined the location of services and other design constraints, particularly clearzone and sight visibility areas to identify potential planting conflicts? * Has the Contractor set the plants out in accordance with the drawings and notified Administrator of inspections to confirm setout? Clause 8 of MRTS01? Hold Point 11 | |  |  |
| Cl 8.3 | * Prior to the commencement of ground preparation, have all weeds been sprayed or manually removed from the area? Witness Point 2 | |  |  |
| Cl 8.4.1.1  Cl 8.5.3.2  SD1643‑ 2  SD1654‑ 1  SD1654‑ 2  SD1654‑ 3  SD1654‑ 4 | * Has hole been excavated: * to the depth of the container? * a diameter of the hole at least 2 x the width of the container? * the base of the hole been ripped, the sides of the hole roughened, and the whole inner surface been ameliorated? Hold Point 8 * In contained areas, has subsoil drainage been installed as per detail Standard Drawing 1643‑2, to allow the planting areas to drain freely and not pool in the planting hole for extended periods? * Have plants been installed: * within two days of delivery to Site? * soaked 1‑2 hours prior to planting? * with fertiliser to the planting hole? * with nursery supplied stakes and clips removed? * guyed with a below ground system (≥ 200 L or ex‑ground only) | |  |  |
|  | * Has the planting hole been: * backfilled with backfill material (areas deeper than 300 mm)? * installed with topsoil (upper 300 mm)? * Has mulch been: * installed a minimum 100 mm depth in mass planted areas? * installed a minimum 150 mm depth to a 1000 mm diameter around stem in turfed or seeded areas? * pulled away from the stems of plants?   *Note it can be beneficial to install mulch at greater depth (for example, 150 mm) to eliminate the requirement to top up the mulch, during the Establishment / Monitoring period, prior to handover.* | |  |  |
|  | * Has the tree been staked with appropriately sized stakes and has the tree been tied to the stakes (25 L–100 L)? * Has the planting area been watered on the day of installation, sufficiently to soak the topsoil layer? | |  |  |
| **Additional issues for consideration** | | | | |
|  | |  | | |

Delete below section if not required

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| Hydromulch Standard – 4000 kg/ha Loading Sheet | | | | | | | | | | | | |
| First Pass @ 1000 kg/ha | | | | | | |  | Second Pass @ 3000 kg/ha | | | | |
| Fibre in Tank  Kg¹ | Additional Materials² | | | Coverage | | | Fibre in Tank  Kg¹ | Additional Materials² | Coverage | | |
| Binder\*  % | Seed Mix  % | Fertiliser  % | m² | ha | Tanks / ha | Binder  % | m² | ha | Tanks / ha |
| 50 | 1.25 | 5.0 | 5.0 | 500 | 0.05 | 20 | 50 | 1.25 | 167 | 0.02 | 60 |
| 100 | 2.50 | 10.0 | 10.0 | 1000 | 0.10 | 10 | 100 | 2.50 | 333 | 0.03 | 30 |
| 150 | 3.75 | 15.0 | 15.0 | 1500 | 0.15 | 6.66 | 150 | 3.75 | 500 | 0.05 | 20 |
| 300 | 7.50 | 30.0 | 30.0 | 3000 | 0.30 | 3.33 | 300 | 7.50 | 1000 | 0.10 | 10 |
| 500 | 12.50 | 50.0 | 50.0 | 5000 | 0.50 | 2 | 500 | 12.50 | 1667 | 0.17 | 6 |
| 1000 | 25.00 | 100.0 | 100.0 | 10000 | 1.00 | 1 | 1000 | 25.00 | 3333 | 0.33 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Hydromulch BFM – 5000 kg/ha Loading Sheet | | | | | | | | | | | | |
| First Pass @ 1000 kg/ha | | | | | | |  | Second Pass @ 4000 kg/ha | | | | |
| Fibre in Tank  Kg¹ | Additional Materials² | | | Coverage | | | Fibre in Tank  Kg¹ | Additional Materials² | Coverage | | |
| Binder\*  % | Seed Mix  % | Fertiliser  % | m² | ha | Tanks / ha | Binder  % | m² | ha | Tanks / ha |
| 50 | 1.00 | 5.0 | 5.0 | 500 | 0.05 | 20 | 50 | 1.00 | 125 | 0.0125 | 80 |
| 100 | 2.00 | 10.0 | 10.0 | 1000 | 0.10 | 10 | 100 | 2.00 | 250 | 0.0250 | 40 |
| 200 | 4.00 | 15.0 | 15.0 | 2000 | 0.20 | 5 | 200 | 4.00 | 500 | 0.0500 | 20 |
| 400 | 8.00 | 30.0 | 30.0 | 4000 | 0.40 | 2.5 | 400 | 8.00 | 1000 | 0.1000 | 10 |
| 500 | 10.00 | 50.0 | 50.0 | 5000 | 0.50 | 2 | 500 | 10.00 | 1250 | 0.1250 | 8 |
| 1000 | 20.00 | 100.0 | 100.0 | 10000 | 1.00 | 1 | 1000 | 20.00 | 2500 | 0.2500 | 4 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| The above is provided as a calculation guide based on volume of fibre applied to each tank.  Based on the fibre loaded per tank, the ratio of the nominated binder, seed and fertiliser should be loaded  1 The quantity of fibre a hydromulch truck can hold per load varies.  2 The kg/ha quantity of fertiliser, seed and binder needs to be adjusted in accordance to the volume of fibre being applied in each load.  \* Some products have binder premixed in fibre. | | | | | | | | | | | | |