This completed Tender Schedule (Waste to Resource Plan) must specify the products that include recycled materials (which are currently permitted by the Technical Specification listed) that the Contractor proposes to use to complete the Works.

The Department of Transport and Main Roads (department) prefers the use of recycled materials over conventional materials where they are:

* permitted in accordance with the department's Technical Specifications and the Contract
* cost competitive with conventional materials, and
* available in quantities applicable to the specific project.

Including recycled materials that are not currently permitted by the department's Technical Specifications (or at higher levels than currently permitted) may be considered under an alternative Tender proposal. In these cases, supporting information should be submitted with the alternative Tender. Information about the department's direction on engineering innovation and the types of factors the department considers when assessing innovations, is available at: <https://www.tmr.qld.gov.au/business-industry/Business-with-us/Engineering-innovation>.

Further information on the permissible uses of recycled materials and maximum allowable percentage, can be found in the department's Technical Specifications or as summarised in Technical Note 193 Use of Recycled Materials in Road Construction.

The permissible recycled materials and maximum allowable percentages listed, are for information only to assist with preparation of this Schedule. The requirements of individual Technical Specifications take precedence over the table.

Table 1 – Estimated Recycled Material Use

| Product | Specification | Potential recycled material | Maximum allowable percentage (per unit) | Percentage proposed to be used (per unit) | Amount planned to be used (approx.) – tonnes or cubic metres | Reason not used to maximum allowable percentage |
| --- | --- | --- | --- | --- | --- | --- |
| Unbound Pavement Materials | | | | | | |
| Subtype 2.1 and 3.1‡ | MRTS05 | Recycled Crushed Concrete | 100% ^ |  |  |  |
| Subtype 2.2 and 3.2‡ | MRTS05 | Recycled Crushed Concrete | 100% ^ |  |  |  |
| Recycled Crushed Brick | 15% ^ |  |  |  |
| RAP | 15% ^ |  |  |  |
| Subtype 2.3 and 3.3‡ | MRTS05 | Recycled Crushed Concrete | 100% |  |  |  |
| Recycled Crushed Brick | 20% |  |  |  |
| RAP | 20% |  |  |  |
| MRTS05 / MRTS36 | Recycled Crushed Glass | 20% |  |  |  |
| Subtype 2.4 and 3.4‡ | MRTS05 | Recycled Crushed Concrete | 100% |  |  |  |
| Recycled Crushed Brick | 45% |  |  |  |
| RAP | 20% |  |  |  |
| MRTS05 / MRTS36 | Recycled Crushed Glass | 20% |  |  |  |
| Subtype 2.5 and 3.5‡ | MRTS05 | Recycled Crushed Concrete | 100% |  |  |  |
| Recycled Crushed Brick | 45% |  |  |  |
| RAP | 45% |  |  |  |
| MRTS05 / MRTS36 | Recycled Crushed Glass | 20% |  |  |  |
| **Stabilised Pavements** | | | | | | |
| Insitu Stabilised Subgrade | MRTS07A | Existing subgrade | 100% |  |  |  |
| Insitu Stabilised Pavement | MRTS07B, MRTS07C | Fly Ash | # |  |  |  |
| Slag |  |  |  |
| Existing pavement material | 100% |  |  |  |
| Plant-mixed lightly bound and heavily bound pavement | MRTS08, MRTS10 | Fly Ash | # |  |  |  |
| Slag |  |  |  |
| MRTS05 – Unbound Material | Refer MRTS05 limits | Complete above for relevant MRTS05 Subtype | | |
| Plant-mixed foam bitumen pavement | MRTS09 | Fly Ash | # |  |  |  |
| MRTS05 – Unbound Material | Refer MRTS05 limits | Complete above for relevant MRTS05 Subtype | | |
| Reclaimed granular materials | 100%^ |  |  |  |
| Asphalt and Sprayed Seals | | | | | | |
| Sprayed Seal | MRTS11, MRTS18 | Crumb Rubber | 15% or 18% (by mass of bitumen) |  |  |  |
| Asphalt (dense graded: surfacing) | MRTS30, MRTS32, MRTS102 | RAP | 20% |  |  |  |
| MRTS30, MRTS36 | Recycled Crushed Glass | 2.5% |  |  |  |
| MRTS30 | Fly Ash | # |  |  |  |
| Asphalt (dense graded: base, intermediate, corrector) | MRTS30 | RAP | 40% |  |  |  |
| Recycled Crushed Glass | 10% |  |  |  |
| Fly Ash | # |  |  |  |
| High Modulus Asphalt (EME2) | MRTS32 | RAP | 15% |  |  |  |
| Concrete  (Structural, Non-structural and Pavements) | | | | | | |
| Concrete (Cementitious Material) | MRTS70 | Fly Ash \* | 35% |  |  |  |
| Slag \* | 70% |  |  |  |
| Recycled Crushed Glass | 20% of the fine aggregate component in normal-class concrete |  |  |  |
| Recycled Crushed Concrete and reclaimed aggregate | 20% of the coarse aggregate component in normal-class concrete |  |  |  |
| Combined Fly Ash & Slag \* | 50% |  |  |  |
| Concrete Pavement Base (Cementitious Material) | MRTS40 | Fly Ash | 40% |  |  |  |
| Slag | 65% |  |  |  |
| Lean-mix Concrete Sub-base (Cementitious Material) | MRTS39 | Fly Ash | # |  |  |  |
| Slag |  |  |  |
| Earthworks, Drainage and Landscaping | | | | | | |
| Subgrade Treatments using Unbound Granular Materials | MRTS04,  MRTS05, MRTS36 | MRTS05 – Unbound Material | Refer MRTS05 limits |  |  |  |
| Earth fill Verge Select Backfill | MRTS04 | Recovered pavement material (excluding RAP) | 100% |  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| Fill (won from site) |  |  |  |
|  |  |  |
| Free draining granular material  Sand / Coarse sand Bedding material and drainage  aggregate | MRTS04, MRTS36 | Recycled Crushed Glass | 100% |  |  |  |
| Topsoil | MRTS16 | Stripped site topsoil | 100% |  |  |  |
| Stripped site topsoil | MRTS16 | Organic Soil Conditioner (where required) | 20% |  |  |  |
| Mulch / organic soil conditioner Marketable timber Fauna furniture / habitat | MRTS04  MRTS16 | Cleared and grubbed site vegetation | 100% |  |  |  |

Notes:

# No limit is specified, however the allowable content will need to be determined through the mix design process.

\* These percentages represent the maximum percentage replacement of the GP Cement Component by fly ash and slag permitted in Concrete mixes to MRTS70 Unbound Pavements. Lower replacement limits in accordance with MRTS70 Unbound Pavements may be required to meet other specification and performance requirements.

^ Subject to allowable traffic loading when used in base course – refer pavement design supplement for details.

‡ Type 2 materials may be used where Type 3 materials are specified.

RAP = Reclaimed Asphalt Pavements.

Table 2 – Waste estimate (generated by the project)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Waste Material | Estimated Quantity[[1]](#footnote-1) to be generated from the Works | Estimated quantity for re-use or recycling on Site | Estimated Quantity to offsite recycling and reuse | Estimated Quantity to Landfill |
| Excess earthworks / Embankment / Fill |  |  |  |  |
| Cleared and Grubbed Vegetation (mulch / organic soil conditioner, marketable timber, fauna furniture / habitat) |  |  |  |  |
| Stripped Site Topsoil |  |  |  |  |
| Acid Sulphate Soils |  |  |  |  |
| Other Contaminated Earthworks |  |  |  |  |
| Reclaimed Asphalt Pavement (RAP) |  |  |  |  |
| Other Recovered or Reclaimed Pavement Materials (other than RAP) – For example, unbound or stabilised pavements |  |  |  |  |
| Concrete |  |  |  |  |
| Metal |  |  |  |  |
| Other construction Waste (timber, glass, plastic, bricks) |  |  |  |  |
| Tyres and Rubber |  |  |  |  |
| General Refuse |  |  |  |  |
| Office – food and general waste |  |  |  |  |
| Office – recyclables (excl. paper and cardboard) |  |  |  |  |
| Office – paper and cardboard |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| Authorisation | | |
| For and on behalf of the Tenderer | | |
| Name / Position | Signature | Date |
|  |  |  |
| Name of Tenderer | | |
|  | | |
| The Department of Transport and Main Roads collects personal information on this form so that you may authorise the Tender for and on behalf of the Tenderer. The information on this form is accessible by authorised departmental officers and external personnel who are engaged to assess Tenders and if your organisation is the successful Tenderer, the department may from time to time disclose your contact details to third parties as a point of contact. | | |

1. Tenderer's may elect to use the department's Waste and Recycling Calculator (<https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Project-waste-reporting>) to generate an estimate of waste. Tenderer's should review and verify the waste estimate based on the scope and schedule for the specific Contract. [↑](#footnote-ref-1)