



## Establishing Technical Standards for Organic Biofiltration Media

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The presentation will communicate the results of deliberations by a Standards Committee of expert stakeholders established to create defensible technical standards for Organic Biofiltration Media. The standard includes Performance Based Standards (PBS) to establish performance criteria and Performance Validation Standards (PVS) for substantiating performance claims.

The Standards project is supported by EPA NSW as part of the Waste Less, Recycle More initiative and is funded from the waste levy. Formal collaborators under a Deed of Agreement involved Centre for Organic Research & Education (CORE) and Stormwater Australia (SA).

Organic bio-filtration media shall contain at least 25% organic matter and be made from at least 25% (v/v) recycled materials to support sustainable procurement practices. Harnessing physical, chemical and biological mechanisms and processes, organic bio-filtration media should meet specified performance requirements including treatment of conservative and non-conservative pollutants, manage infiltration rates and support sustainable plant establishment and growth.

The standard addresses these factors by describing general media characteristics, establishing pollutant removal performance benchmarks, providing measurement for vegetation integrity and setting standards and guidelines for maintenance and monitoring. Validation measures include test methods applicable under varying circumstances.

### Objectives

1. Establish independently developed performance and validation standards for organic bio-filtration media.
2. Specify descriptors that define effective organic bio filtration media system performance.
3. Establish evidence based, consistent and verifiable performance benchmarks.
4. Specify methods and protocols for validating performance claims.
5. Provide performance standards for organic bio-filtration media that ensure they are fit for purpose and perform as expected when in use.
6. Encourage sustainable procurement principles and the increased use of recycled materials in bio filtration media systems.

### Methods

#### A. Inception

1. Form subcommittee.
2. Develop Terms of Reference.
3. Develop communications plan.

4. Circulation of Expression of Interest (Eoi) for standards committee members – through SIA Bulletin
  5. Process responses to Eoi.
  6. Finalise standards committee including deed execution.
  7. Hold face to face quality function deployment workshop with committee members.
  8. Develop document structure.
  9. Allocate responsibilities.
- B. Development of standard
1. Commence draft standard with input from committee members.
  2. Finalise first draft.
  3. Issue exposure draft to committee members.
  4. Receive and analyse comments
  5. Incorporate mutual comments into draft document.
  6. Conduct meeting to resolve any anomalies identified.
  7. Incorporate final resolutions into the draft document.
  8. Construct exposure draft.
  9. Conduct peer review
  10. Incorporate comments into document.
  11. Publish Standard.
- C. Consultation & continuous improvement
1. CORE and SIA boards to review governance processes.
  2. Conduct independent field studies to refine the standard.
  3. Update standard to reflect field studies.
  4. Issue updated standard for industry review.
  5. Standards committee to review and resolve comments.

## Results

The Standard sets out performance requirements and methods of validating performance for organic biofiltration media, used in systems to manage storm water run-off in vegetated and non-vegetated systems. Standards of performance and validation of organic bio filtration media systems are provided. The standard covers the following areas that relate to the performance in a biofiltration media system.

1. General Requirements
2. Sustainable Procurement
3. Pollutant Removal
4. Hydraulic Conductivity
5. Vegetation Integrity
6. Maintenance
7. Monitoring
8. Validation of Performance

## Conclusions

Technical standards for organic biofiltration media provide consistent methods for establishing and validating performance. The project builds industry capacity, changes awareness, knowledge, behaviours and practices around the use of organic bio filtration among stormwater practitioners and influencers including providing sustainable procurement options.

Standards adoption will support the stormwater industry in the rapidly emerging national green infrastructure policy environment. Internationally organic filter media is being used in landscape features to manage pollutant removal, drainage, hydraulic control (e.g. nuisance flooding), increase verdancy, improve asset life span and resilience and reduce climatic effects. Simultaneously organic filter media is lowering costs through extended lifespan, improved retention (water holding capacity and reuse) and the use of effective but low cost materials.