

WASTEWATER MANAGEMENT

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ADELAIDE

NEW TRENDS IN WASTEWATER MANAGEMENT

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Department of Health

New trends and changes

- ***Change in Perception***
- ***Change in Regulatory Approach and in Standards & Guidelines***
- ***Change in Technology***

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Change in Perception

- **By General Public**
 - Reduce, Recycle and Reuse – more widely accepted
 - Environmentally Sustainable Development
- **By Governments (Local, State, Federal)**
 - A Holistic Approach to Resource Management
 - Water Proofing Adelaide / Water Proofing South
 - GoGO (greening of Gov Op – energy efficiency)
 - Office of Sustainability
 - Adaptive Reuse Principles by Federal DEH – architecture!

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Change in Regulatory Approach

- Performance based standards
 - Draft SA Onsite Wastewater Management Code
 - Plumbing Code of Australia
 - Draft National Guidelines for Water Recycling
 - AS/NZS Standards on wastewater
- Risk Assessment
 - Hazard identification, Dose response, Exposure
- Monitoring
 - Baseline, Validation, Operational and Verification
 - Quality Control, Auditing

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Change in Technology - 1

Technology has advanced in all areas of Wastewater Systems:

Collection

Treatment and

Reuse Systems

Taking into account:

Structural considerations

Operational considerations

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Change in Technology

- Advances in Wastewater Collection Systems
 - Vacuum sewage collection
 - Pressure sewage collection
 - Hybrid collection : Combination of STEDS and pumped systems etc
- Difficult terrains are reachable in a more cost effective manner

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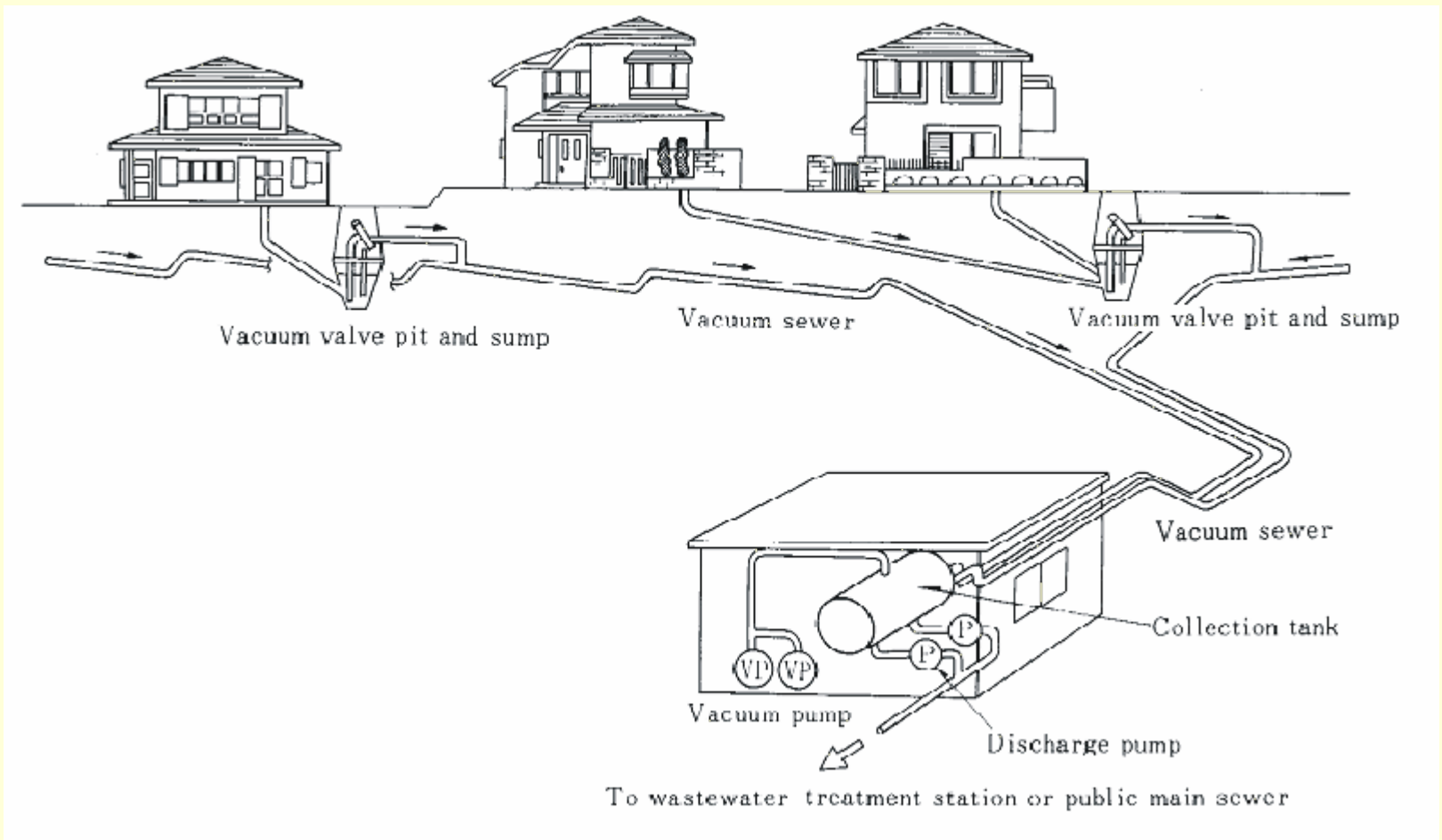
Pressure Sewage Collection

(from e/one website)



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Vacuum Sewage Collection



FROM AIRVAC PUBLICATIONS

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Change in Technology

- Treatment
 - Class A - all wastewater
 - Class A - greywater
 - Use of hybrid systems: eg. wetlands & micro-filtration
- Light- weight treatment units for difficult terrains
- New technologies becoming more & more applicable to small systems

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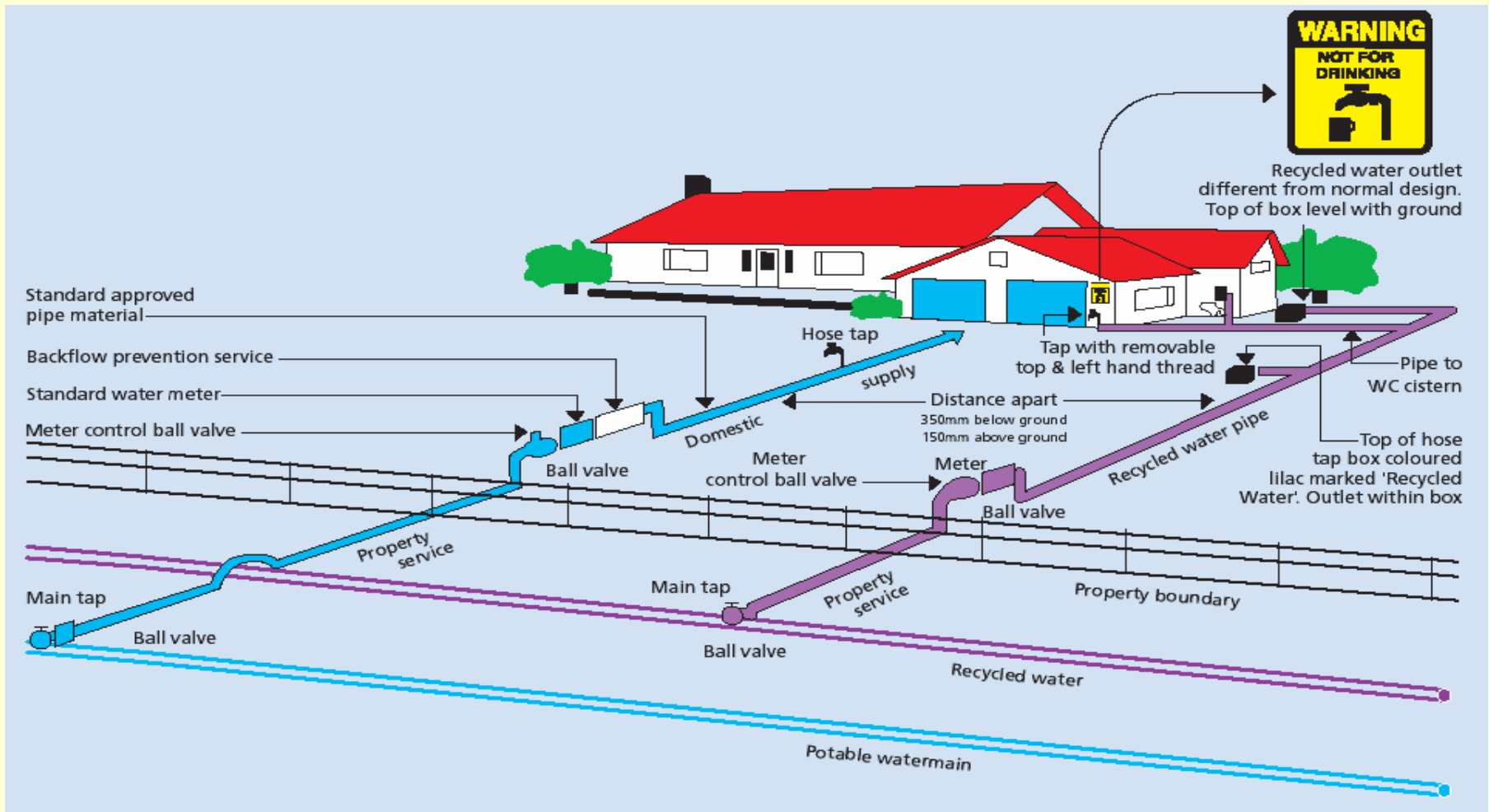
Change in Technology

- Reuse
 - Class A - all wastewater uses
 - Dual Reticulation
 - Greywater Diversion or Reuse
 - Class A - Greywater uses
 - In-house uses from onsite systems
 - Sewer Mining

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Dual reticulation systems

From Prof Nicholas Ashbolt of Uni NSW- Water Recycling Seminar - Perth 2004



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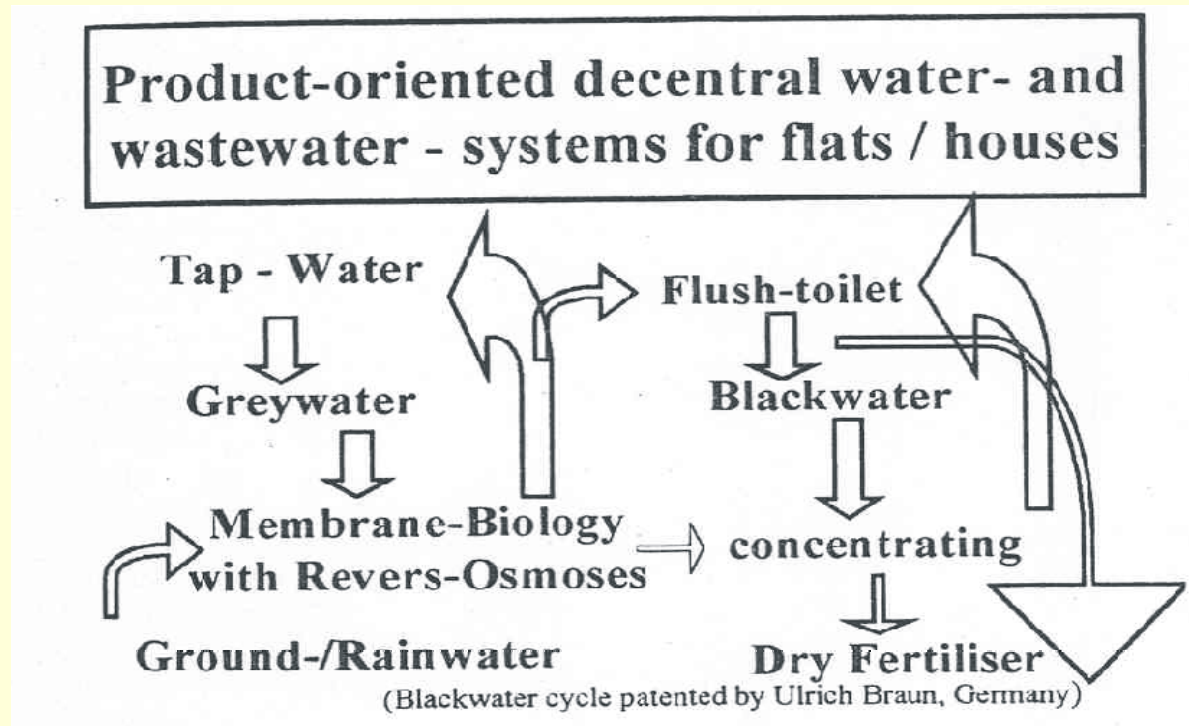
New Trends in SA

- Pumped sewer systems
- Vacuum sewer systems
- Greywater diversion and reuse
- Class A uses of greywater & all-wastewater
- Dual reticulation
- Sewer mining
- Decentralised systems—even SA Water trialling
- Telemetry and offsite operations of schemes

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Greywater Reuse in Europe

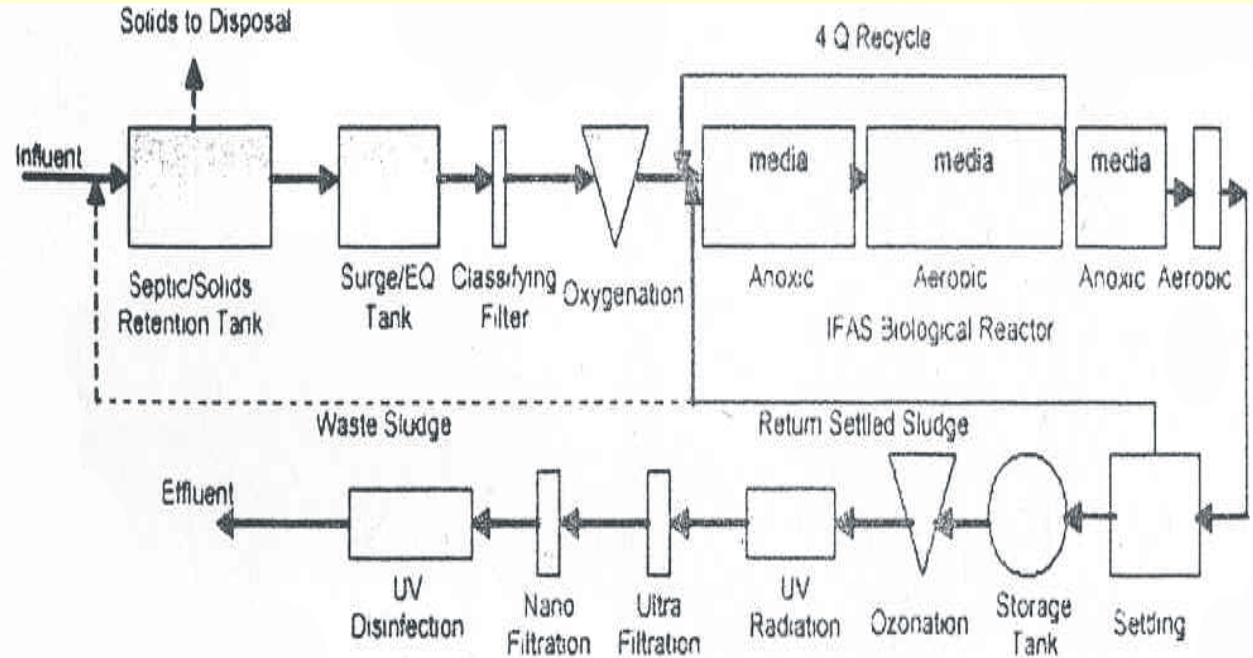
From Otterphol et al.,
“Innovative
technologies for
decentralised
wastewater
management in urban
and peri-urban areas -”
5th Specialised
Conference on Small
Water and Wastewater
Treatment Systems,
Istanbul - Turkey, 2002



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All wastewater recycling in houses in Europe

From Randall CW, "Changing needs for appropriate excreta disposal and small wastewater treatment methodologies or the future technology of small wastewater treatment systems" - 5th Specialised Conference on Small Water and Wastewater Treatment Systems, Istanbul - Turkey, 2002



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