



Association of
Land
Development
Engineers



STORMWATER
VICTORIA

WaterStudio.

Is Victoria Flooded with Drainage Guidelines? The Case for VUDM!

Jamie Tainton | Water Studio Pty Ltd





So Who am I?

Founder & Managing Director
Water Studio Pty Ltd

Civil and environmental engineer

ALDE Vice President

Founding technical partner of VUDM
since inception

Passionate about fixing Victoria's
fragmented drainage landscape

“


I've been working in drainage design in Victoria in Victoria for over 20 years. The quantum of of documentation we have to wade through is through is exhausting!

What a Victorian Drainage Practitioner Navigates. Every. Single. Project.


Australian Rainfall and Runoff (ARR) 2019




Infrastructure Design Manual (IDM)



Engineering Design & Construction Manual (EDCM)



Melbourne Water Land Development Manual (LDM)



Melbourne Water Wetland Design Manual



Melbourne Water Bioretention Guidelines



Melbourne Water Retarding Basin Guideline



Melbourne Water MUSIC Guidelines




Melbourne Water Waterway Corridors Guidelines




Melbourne Water Constructed Waterway Design Manual



Melbourne Water Healthy Waterways Practitioners Notes




WSUD Engineering Procedures (CSIRO 2005)




Urban Stormwater Best Practice Environmental Management Guidelines




EPA Urban Stormwater Management Guidelines



Austrroads Guide to Road Design Parts 5, 5A & 5B



DEECA Guidelines – Development in Flood Affected Areas




AUS-SPEC




Banyule City Council Stormwater Drainage Requirements



City of Frankston WSUD Guidelines




City of Greater Geelong MUSIC Modelling Guidelines



Knox City Council Stormwater Drainage Guidelines



Merri-bek City Council Drainage Design Criteria



Wyndham City Stormwater Requirements



+ Numerous CMA Floodplain Guidelines...



So What Is the Problem?

01

INCONSISTENCY

Different standards applied by different councils and authorities for identical design challenges — no two projects follow the same path.



02

NO SINGLE REFERENCE

No end-to-end guide covering planning, design, construction and maintenance for Victoria in one place.



03

INEFFICIENCY

Multiple design iterations, prolonged approval delays, and wasted resources on both sides of the table.



“

The present time delays in drainage approvals are directly impacting housing delivery and major infrastructure across Victoria.

”

What QUDM Taught Us

The Queensland Urban Drainage Manual is a proven model that demonstrates what a state-level drainage manual can achieve. Victoria's context, regulatory environment and challenges are distinct — but the QUDM approach has been a genuine inspiration for VUDM.



01

One authoritative manual works:

QUDM demonstrates that a consolidated state-level document drives consistency across councils and authorities.



02

Joint ownership is the key:

QUDM's partnership between IPWEAQ and the Queensland government is the governance model VUDM has drawn on. Industry and government together.



03

A living document stays relevant:

Regular updates through a structured review process keep QUDM current. VUDM takes this further with a continuous online subscription model.



04

Connected knowledge at a click:

VUDM is a live online document that actively links the 'how to' with the 'why' — practitioners can click directly from guidance to the underlying research and rationale.

Inspired by best practice. Built for Victoria.

Industry Spoke. We Listened.

Workshop 1 — ALDE WORKSHOP:



19 April 2023



In person



Approximately
80 attendees

Workshop 2 — STORMWATER VICTORIA WORKSHOP:



16 May 2023



Online Webinar



Approximately
100 attendees

Workshop 3 — IDM COMMITTEE WORKSHOP:



13 March 2025



In person



Over 20
participants

Workshop 4 — EDCM COMMITTEE ENGAGEMENT SESSION:



17 February 2026



Online



EDCM
councils



Discrepancy between authorities: the number one challenge cited in both workshops independently



Authority and council buy-in: the most critical success factor identified by both groups



End-to-end coverage from planning to maintenance: unanimous desire



Worked examples and case studies: strongly and consistently requested across both sessions

“ We did not design VUDM in a vacuum. The profession told us exactly what it needs.”

What VUDM Is — and Is Not

VUDM IS:

- ✓ A practical, prescriptive how-to manual
- ✓ A living online document, continuously updated
- ✓ An integrated framework from planning through to maintenance
- ✓ Guidance on which method to use, at what scale, and how
- ✓ A consolidator drawing together existing knowledge
- ✓ Supported by worked examples, case studies and guided solutions

VUDM IS NOT:

- ✗ Another standalone silo
- ✗ A replacement for ARR, Melbourne Water guidelines or the IDM
- ✗ A static PDF that gathers dust
- ✗ A reinvention of the wheel

One Manual. The Full Lifecycle of Drainage.



✓ No other document in Victoria covers this full arc in one place.

VUDM — Seven Chapter Structure

1



Chapter 1:
Introduction & Scope

5



Chapter 5:
Stormwater Design —
Flow, Volume, Water Quality,
Waterways, Safety in Design

2



Chapter 2:
Integrated Water
Management Approach
& Principles

6



Chapter 6:
Construction
Considerations

3



Chapter 3:
Planning & Legal
Framework —
Victorian Context

7



Chapter 7:
Operation &
Maintenance

PLUS



Standard drawings



Worked examples &
case studies



Training modules



Template checklists

Not a Publication. A Platform.



01

Live online document:

Accessible via subscription.
Always current, always accessible.



02

Continuously updated:

Evolves as standards,
research and legislation
change. No more outdated
manuals.



03

Linked training modules:

Webinars, in-person
sessions and video
content hosted on
the platform.



04

**Standard drawings
integrated:**

Practical reference
material embedded
alongside guidance.



05

Funded by subscription:

Revenue model funds
ongoing maintenance,
updates and
governance.



06

Dedicated VUDM website:

Central hub for access,
training, updates and
community
engagement.

“Think less textbook, more living knowledge base — always current, always accessible.”

Real Momentum. Real Milestones.



2023
Framework Report:

Completed by Water Technology & E2Design Lab – needs assessment, literature review, governance recommendations.



2023
Industry Workshops:

ALDE (approximately 80 attendees) and Stormwater Victoria (approximately 100 attendees) workshops confirm strong industry support.



2024
DEECA Funding Secured:

Chapter 4 fully drafted.
Chapter 5 partially drafted.
Victorian government investment confirmed.



2025
Governance Formalised:

Steering Committee appointed.
VUDM website development underway.



2026
New Funding Confirmed:

Remainder of Chapter 5 and additional components now in progress. Momentum building.

We have a structure, a team, funding and content. VUDM is real.

The Working Group Behind VUDM



Alice Lisitsa

President, Stormwater
Victoria
Principal | [FloodPlan](#)



Jamie Tainton

ALDE Vice President
Founder | Water Studio



Jon Griffin

President, LGIDA
Coordinator | Greater
[Shepparton](#) City
Council



Chris Beardshaw

Principal | Afflux



Karl Velasco

Senior Engineer |
SMEC



David Moret

Principal | DPM
Consulting Group

“

This is a practitioner-led initiative. The people building VUDM are the same people who use drainage guidelines every day.

”

Introducing Our Steering Committee

Governance with credibility, breadth and independence



Michael Yule

Chair | Principal,
Integrated Water |
Spiire

 CHAIR



Quok Ho

ALDE Committee |
Principal Consultant |
Precinct Land

 ALDE COMMITTEE



Ronak Rahimi

Technical Expert |
Surface Water
Management Leader |
Aurecon

 TECHNICAL EXPERT



Ian Leopando

Local Government |
Council Representative |
Wyndham City Council

 LOCAL GOVERNMENT



Tim Fletcher

Academia | Professor |
University of
Melbourne

 ACADEMIA



Anthony Stevens

Water Authority |
Authority Representative |
Melbourne Water

 WATER AUTHORITY




Joint governance modelled on the proven QUDM partnership —
Stormwater Victoria and ALDE, with broad-based independent technical oversight.





Chapter 4: Stormwater Management Planning

The strategic backbone of VUDM — and something no current Victorian document delivers comprehensively.

STORMWATER MANAGEMENT PLANS:

-  WSUD objectives spanning all design elements
-  Flow management targets
-  Water quality management
-  Waterway management considerations
-  Amenity outcomes
-  Worked examples throughout

INVESTIGATIONS:

-  Catchment hydrology
-  Hydraulic behaviour
-  Water quality & flow regime baseline
-  Modelling options & recommended uses
-  Waterway, ecology & cultural considerations
-  Worked examples throughout



The planning layer that no current Victorian document delivers comprehensively.

Development Requirements

VUDM stormwater pathway from pre-development checks to planning requirements

STEP 1

Pre-development Checklist

1. Describe the development
2. Review site layout
3. Identify outfall and downstream impacts.
4. Run VicPlan Property Report.

STEP 2

Do I need a SWMP?

- Exempt from planning permission
- Works under 50 m²?
- Extension, outbuilding or single dwelling?
- VicSmart, 2-lot subdivision or boundary realignment?

No SWMP applies

STEP 3

Planning & Authority

- Check zone and apply the clause:
- Like Industrial 53.18-5 and Residential 56.07-4
- Plus Planning Controls: flood overlays, MW/CMA, PSP/DCP, waterways.

SWMP applies
(simple or complex?)

Chapter 4 — What It Actually Delivers

Clear, defensible guidance on the questions practitioners debate every week.

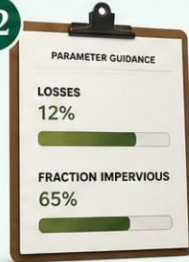
01



Modelling guidance:

When to use 1D vs 2D modelling and which software — with clear recommendations by scale and complexity.

02



Key parameters settled:

Recommended values for losses and fraction impervious — currently applied inconsistently across Victoria.

03



Ecology & culture integrated:

Guidance on incorporating ecology and cultural heritage considerations into investigations from the start.

04



WSUD linked to targets:

Framework connecting WSUD objectives directly to flow and water quality targets for each project type.

05



Downstream impacts addressed:

Guidance on interim and temporary works, downstream flow and volume effects, and how to document these.

06



Planning to approvals pathway:

Clear framework showing how the planning investigation phase feeds into detailed design and the approvals process.

“

Finally — consistent guidance on the parameters and methods that every practitioner debates on every project.

”

This Is Where You Come In

IPWEA members are exactly who VUDM is built for — and exactly who it needs.



01

ADOPTERS:

Reference VUDM in planning controls, permit conditions and technical specifications from day one of launch.



02

CONTRIBUTORS:

Flag content gaps, test guidance against real projects, and bring local knowledge from your councils and authorities.



03

ADVOCATES:

Champion VUDM adoption within your organisations, procurement requirements and development assessment processes.



04

TRAINING PARTICIPANTS:

Upskill your teams through VUDM-linked training modules designed for both designers and approving officers.

“

Buy-in from authorities was the number one critical success factor in our 2023 consultation. That is you. You are that buy-in.

Training & Capacity Building

The manual is only as useful as the people who can apply it.



Webinars: Regular sessions covering updates, new content releases and key guidance changes. Accessible nationally.



In-person sessions: Targeted workshops for designers and approving officers multiple locations, multiple times per year.



Video modules: Short-form video content hosted on the VUDM platform. Learn at your own pace.



Cross-disciplinary content: Covering both the design and review/approval perspectives so both sides of the table speak the same language.



All levels targeted: From graduate engineers through to senior practitioners and technical managers.



Training was one of the most consistently requested elements across both our 2023 consultation workshops.

What We Need From You

01



GET INVOLVED:

Through Stormwater Victoria or ALDE. Practitioners, asset owners and authority representatives all have a role to play.

02



PROVIDE INPUT:

Feedback on Chapter 4, guidance on chapter prioritisation, and flagging your local gaps and challenges.

03



CHAMPION ADOPTION:

Start conversations now in your organisations about referencing VUDM when it launches.



One Manual. Whole of Life. Victoria-Wide.

Inspired by best practice. Built for Victoria.

Questions & discussion welcome.