

OP-ED: On Sharing a Vision for “Sustainable Watershed Systems, through Asset Management”

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Collaboration between Asset Management BC and the Partnership for Water Sustainability in British Columbia had its genesis in a workshop hosted by the Regional District of Nanaimo in September 2010. In the years since, we have aligned efforts to advance our shared vision for *sustainable service delivery*. The journey is ongoing. Our shared mission is to champion standards of practice that will create a water-resilient future. The branding for this desired outcome is:

Sustainable Watershed Systems, through Asset Management.

Pathway to a Water-Resilient Future: The Water Balance of watersheds in urban areas is out of balance. A legacy of past community planning and infrastructure servicing practices is the failure to protect the natural Water Balance. A watershed is an integrated system. Restoring hydrologic integrity, and thus the Water Balance, is the pathway to a water-resilient future. Achieving this will require a long-term commitment by the community at large, successive Municipal Councils and Regional Boards, and generations of land AND water professionals.

Asset Management for Sustainable Service Delivery: A Framework for BC is the lynch-pin for a water-resilient future. The BC Framework makes the link between local government services, the infrastructure that supports the delivery of those services, and watershed health.

Cathedral Thinking: In embarking on this journey to a water-resilient future, we can learn from our ancestors. The grand creations of antiquity were not designed with a quarterly report or 4-year election term in mind. The builders of great cathedrals in medieval times thought in terms of multiple generations carrying out their work, to complete a dream that would not be realised until long after the originator’s death.

When we think of a cathedral two aspects come to mind: a soaring aspiration; and a grounded structure firmly planted throughout time. Cathedral thinking aptly describes the vision for Sustainable Watershed Systems!

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In the beginning.....

When the Partnership organized, and the Regional District of Nanaimo hosted the **Worth Every Penny Workshop** in 2010, this provided the Province and Asset Management BC with a forum to float the vision for ‘sustainable service delivery’. This event also launched a national *Primer on Worth Every Penny Workshop Series*.

Worth Every Penny had an impact. Its legacy is that it set in motion a chain of outcomes that is rippling through time. It jump-started our conversation. It got us thinking and talking about how local governments could move beyond the engineering and finance perspectives in order to fully integrate land use planning into asset management. It provided us with the inspiration to redefine and frame **unfunded infrastructure liability** in a way that would resonate with Councils and Boards.

On Starting a Conversation about a New Approach: The Comox Valley was our pilot region for exploring a new way of thinking about municipal infrastructure. In designing a seminar series in spring 2011 that was open to all local governments on Vancouver Island, the four Comox Valley local governments arrived at this consensus: *All those involved in land development have a role to play in achieving Sustainable Service Delivery. The players include land use and infrastructure professionals.*

We then showcased the Comox Valley learnings at the **2011 State of Vancouver Island Economic Summit**. Our “forum within the Summit” celebrated Comox Valley collaboration, started an Island-wide conversation about Sustainable Service Delivery, and painted the big picture for water sustainability.

Today, it is no accident that asset management and water sustainability are both top priorities for local governments not only on Vancouver Island but across the Province and gaining traction in the rest of the country.

The challenge is 'integration' and getting every discipline to recognize each others' contribution plus get the organization working together on a common path.

The other challenge is communicating and understanding the message. The work environment is changing with time as are the methods of communicating and the form of the messages.

We will tackle that challenge between now and the September issue of this newsletter. What are your thoughts on communicating the message? Provide your thoughts, views and suggestions to help with what we hope will be a very stimulating article. Send your thoughts to: info@assetmanagementbc.ca

Get It Right at the Front-End

Choice of words can make or break one's ability to open minds to a new or different way of thinking. Commencing with the 2011 Comox Valley seminars, we changed HOW we communicate with our local government audiences. Emphasis on the 80-20 life-cycle rule for infrastructure costs proved very effective in capturing and focussing attention. It was a 'watershed moment' in our history.

We observed audience *Aha moments* when we would point out that the initial capital cost of infrastructure is about 20% of the life-cycle cost, the other 80% largely represents a future liability, and each year the funding shortfall grows. If communities are struggling to finance

replacement or renewal of core infrastructure for essential water and sewer services, we would add, why would any Council also knowingly take on an unfunded drainage liability (due to impacts on the Water Balance)?

AMBC and the Partnership connected the dots between asset management and water sustainability. Everyone should know that the time to shape future life-cycle costs is at the community planning front-end. Our message was explicit: *get it right at the front-end; avoid a liability.*

As early as 2011, it was becoming clear that protection of a community's natural resources would emerge as a foundation piece for Sustainable Service Delivery. To promote a holistic approach to infrastructure asset management, the Partnership framed three objectives for Sustainable Service Delivery: 1) pay down the legacy cost of engineered infrastructure; 2) reduce the life-cycle cost of new infrastructure; and 3) **mimic the natural Water Balance to forestall life-cycle liabilities.**

Watershed Systems are Infrastructure Assets

Fast forward to 2016. Over the years, the BC approach to asset management has learned from and built upon Australian experience, and has now gone to another level with our evolution to **sustainable service delivery**. BC's ability to achieve this bold leap was made possible by the close collaboration between Asset Management BC and the Institute of Public Works Engineering Australasia.

Sustainable Service Delivery is the singular aim. Asset Management is the means to achieve the aim. Suffice to say, BC is at the dawn of a new era.

Asset Management Continuum for Sustainable Service Delivery



As understanding grows, local governments will progress incrementally along the 'Continuum'

GROUND ZERO: In the beginning, there was no Asset Management Plan and a consequence is the 'unfunded infrastructure liability'

STEP ONE: They will embrace the BC Framework, with an initial focus on core engineered assets (water supply, sewage, roads, etc.) and embark on an Asset Management Strategy / Plan / Program process

STEP TWO: They will think holistically and implement a life-cycle approach to infrastructure decision-making so that Sustainable Service Delivery for engineered assets is standard practice

STEP THREE: For the drainage function, they will integrate natural systems thinking and account for the Water Balance Services provided by watershed systems

Asset Management for Sustainable Service Delivery: A Framework for BC is indeed a game-changer. Because it is strategically aligned with the province’s capital grants programs, the BC Framework is now transforming how local governments view asset management. This includes fostering an awareness at all levels of local government that **watershed systems are also infrastructure assets**, and therefore need to be protected and managed in the same way that engineered assets are managed.

Asset Management Continuum: The Partnership for Water Sustainability is the champion for Step Three as described in the graphic on the previous page. This illustrates the journey as understanding grows and local governments progress towards a **water-resilient future**. Making better decisions starts with an understanding of how to mimic the natural Water Balance through a blend of engineered assets and natural services. Yet, the nub of the educational challenge is this: *practitioner standards of practice are lagging behind science-based understanding.*

Watershed Systems provide Water Balance Services

The water-resilient future shown as Step Three on the Asset Management Continuum would be, by definition, a “Sustainable Watershed System”. This phrase is the short-form descriptor for *integration of natural systems thinking AND adaptation to a changing climate into Sustainable Service Delivery*. This outcome drives the curriculum design for the Georgia Basin Inter-Regional Education Initiative (IREI).

Beyond the Guidebook 2015: Moving Towards “Sustainable Watershed Systems, through Asset Management”, an IREI deliverable, is third in a series that builds on *Stormwater Planning: A Guidebook for British Columbia* (2002). The Guidebook initiated a science-based approach to mimicking the natural Water Balance. Branding of *Sustainable Watershed Systems* commenced with *Beyond the Guidebook 2015*.

On Moving from “Understanding” to “Implementation”: Educating practitioners about Sustainable Watershed Systems is our starting point for bringing standards of practice into line with science-based understanding. We are going back to basics to teach these related concepts:

- a watershed is an **integrated system**, and therefore must be managed as such if urban development is to mimic the natural Water Balance;
- the three Water Balance pathways by which precipitation reaches streams are, by definition, **infrastructure assets**; and,
- the three pathways provide **water balance services** that must be protected to avoid incurring expensive fixes and/or an unfunded liability.

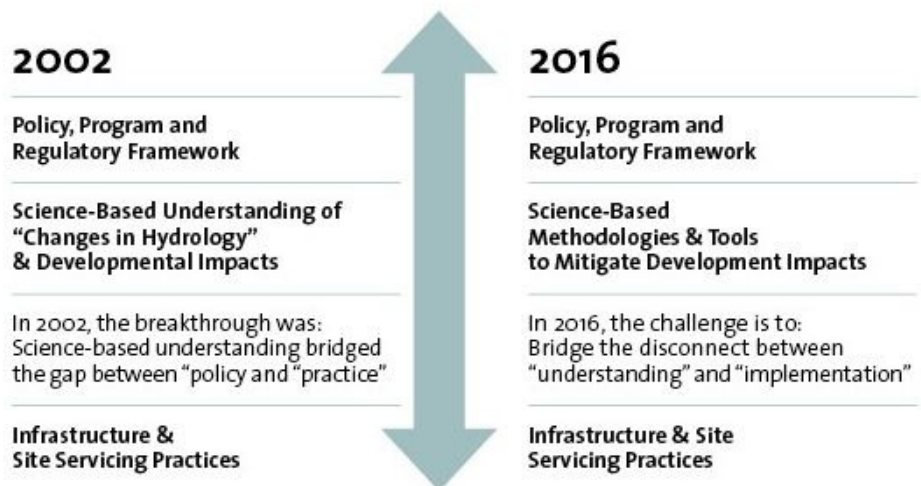
The graphic below conceptualizes the nature of the educational challenge in 2002 versus that in 2016.

Apply Science-based Understanding

In 2002, the breakthrough resulted from application of science-based **understanding** to develop the Water Balance Methodology. This allowed us to bridge what was then a yawning gap between POLICY and PRACTICE. This was a notable milestone in the process of creating a provincial policy, program and regulatory framework that makes possible Sustainable Watershed Systems.

Get It Right & Capitalize on Opportunities: As of 2016, BC is progressing. Yet, persistent challenges for practitioners to adopt, change or evolve standards of practice means there is still a substantive disconnect between UNDERSTANDING and IMPLEMENTATION. After a decade and a half, a pattern in the local government setting is one of missed opportunities to “get it right” at the time of planning and/or design. This perpetuates inadequate and/or uninformed practices by default.

Communities must capitalize on, not miss, opportunities. Think and act like a watershed. View each property through a watershed lens. Create cumulative benefits, not cumulative impacts! With this mind-set, communities can progress towards Sustainable Watershed Systems.



What It Means to be Enabled

The Province of BC enables local government. It does not prescribe solutions. The regulatory focus is on outcomes. This bottom-up approach relies on education, enabling tools and collaboration to turn ideas into action.

As the Asset Management Continuum illustrates, the requirements and conditions associated with **Asset Management for Sustainable Service Delivery: A Framework for BC** provide local governments with the financial incentive to re-focus, apply science-based **methodologies and tools**, and “get it right”.

The role of Asset Management BC is to ensure consistency of understanding and application of Sustainable Service Delivery methodologies and tools to meet the goals of the provincial policy and regulatory framework.

The BC Framework encourages an appropriate balance of regulation and education. Over time, the IREI program led by the Partnership for Water Sustainability would support implementation of fully integrated Sustainable Service Delivery by providing the technical foundation for Sustainable Watershed Systems.