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Bernie Amell, BLA, CSLA

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PROFESSIONAL SUMMARY

Mr. Amell has a 39 year career focusing for the first 19 years on “normal” landscape architecture relating to his bachelors degree from the University of Guelph. In the last 20 years his practice has evolved into an environmental design specialty where he has become recognized as an expert in the design of constructed wetlands for water treatment, and in the restoration of streams and riparian habitats. To date, he has designed over 135 such projects throughout Alberta and in British Columbia, and has presented his work at national and international water management professional conferences.

EDUCATION

- Bachelor of Landscape Architecture, University of Guelph, 1975

PROFESSIONAL FOCUS

A particular focus of Bernie’s work is mitigation and enhancement designs which incorporate human uses and engineered systems (e.g. stormwater management facilities) within sustainable landscape ecosystems. This draws on his particular specialties include urban ecology incorporating native species, and water quality enhancement including constructed wetlands and other natural systems.

Mr. Amell serves as a team leader for environmental design projects. Particular specialties include urban ecology incorporating native species, and water quality enhancement including constructed wetlands and other natural systems. In recent years, he has been at the forefront of the adaptation of sustainable urban drainage (SUD) techniques to suit Alberta conditions. Mr. Amell serves multidisciplinary teams in developing concept design plans for pond and/or wetland facilities, for low impact development (LID) features and for irrigation water re-use systems, as well as related performance prediction, and estimation of capital and operating costs of these facilities. He is also aware the process of implementation of such facilities may substantially affect their effectiveness. He advises project teams on crucial technical features and quality control required to ensure that the facilities perform reliably as intended.

On many projects, Mr. Amell’s most valuable role emerges from his capabilities as a creative force in interdisciplinary teams. He has repeatedly seen opportunities for designs that engage interdisciplinary integration in unforeseen ways. In the past 5 years, his creative partnership with Cory Albers (Source2Source Inc. Co-Owner) has generated several innovations that are precedent setting stormwater treatment system technologies.



During the past two decades, Bernie has been engaged in environmental design research at the University of Calgary related to water treatment systems based upon ecological processes. This work has included trials of natural systems to treat urban stormwater and feedlot runoff.

Bernie's current focus of research work includes:

- Design and development of the Nautilus Pond™ (optimization of sediment removal);
- Design of precision dredge equipment to allow contaminant removal from water bodies without disturbance to aquatic or riparian ecosystems;
- In-situ hydraulic conductivity of soils and soil mixes (generating data to be used in the adaptation of SUD/LID techniques to Alberta conditions); and
- Monitoring of SUD test site in Edmonton.

Mr. Amell has extensive riparian environment experience in the Calgary area, most often as a component of other projects along rivers and streams. Four projects of note that included major restoration within the Elbow River and Bow River floodways are:

- East Prince's Island wetland and associated riparian zone;
- Discovery Ridge – bioengineered banks to protect sewer force main and stormwater outfalls;
- Cranston – riverbank stabilization associated with deconstruction of a major outfall; and
- Pearce Estate Park – design of Bow River side channel stream and associated paths and pedestrian bridges.

All of these projects were subjected to and withstood the 2013 Bow River flood with minimal damage.

SELECTED PRESENTATIONS / PUBLICATIONS / AWARDS

- Albers, C., Amell, B., (2010), "Changing the Stormwater Pond Design Game", NOVATECH 2010 Conference, 10 pages, 27 June - 1 July 2010, Lyon, France.
- Presentation on City of Calgary Stormwater Quality Retrofit Program, International Committee on Urban Drainage, Edinburgh, 2008.
- Consulting Engineers of Canada, National Award of Excellence 2007, McLean Creek Wetlands for Suncor Ltd.
- "Natural Processes and Urban Form", essay in Coyotes Still Sing in My Valley, R. Wein ed., 2006 Spotted Cow Press,
- IWA Watershed Conference, Calgary, 2005, paper on Alternative Design Procedures for Stormwater Ponds and Wetlands, co-authored with Dr. Angus Chu and Paul Jacobs.
- Calgary Experimental Wetland – Report on 6 Years of Data, presented to several seminars and conferences during 2005/2006.
- Urban Stormwater Management Website – Bow Basin Council: co-chair and a principal author of the website www.urbanswm.ab.ca.
- Deerfoot Trail Stormwater Innovations – article published in Stormwater Journal, March 2002.
- Constructing Wetlands for Water Treatment in Western Canada, Canadian Society of Landscape Architects Merit Award 1996.