



**LANDFORM
DESIGN
INSTITUTE**

Spring 2023

Landform Design Quarterly

Annual General Meeting celebrates growth

As LDI members began logging on to this year's Annual General Meeting on Feb. 27, the number of landform designers and other reclamation specialists following the LDI news feed on the LinkedIn professional network was approaching 1,000.

Growing awareness of, and engagement with, the LDI was a take-home message delivered to Institute members who attended the AGM. The approximately 100 individual and student members and 10 corporate members also mean the LDI is now collecting sufficient income from dues that significant progress is being made toward covering its operating expenses.

Both milestones — widespread awareness and sustainable finances — were

“Phase 1” targets of the LDI's strategic plans.

Those who attended the virtual meeting also heard about the LDI's latest achievements, including the publishing of a Deep Deposit Design Guide for Canada's Oil Sands Innovation Alliance (COSIA); creation of an outline for an introduction to landform design certificate course at the Colorado School of Mines in Golden, Colorado; an early draft guide for writing a design basis memorandum (DBM); eight episodes of the Getting Closure podcast; and a sold-out short course on landform design at the University of Calgary in November.

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Short-course participants review their landform design exercise.

Making landform design routine worldwide

The Landform Design Institute is dedicated to creating and supporting a community of landform design practitioners. Its intention is to help their teams design and build truly sustainable mining landscapes. Its mission is to make landform design routine in the mining industry worldwide by 2030.

AGM highlights: governance and future prospects

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On governance responsibilities, the attending members chose to approve the re-appointment of four of the current members of the Board of Directors (**Anne Naeth, Gord McKenna, Lois Boxill, and Mike O’Kane**) along with the addition of **Christine Daly**.

The board, which will continue to be chaired by McKenna, is still hoping to fill a sixth seat, preferably by a member of a First Nations.

Another six members are also being sought to join the existing 13 experts on the Technical Advisory Panel, which is co-chaired by O’Kane and June Pollard. The TAP is now dominated by Canadians with a geotechnical focus, and expanding its

breadth of expertise to a more global and diverse perspective will be a goal for the panel in 2023.

As for the future priorities, LDI members agreed to continue producing the podcast, newsletter, and other communications projects, complete the DBM document, begin organizing a case-history symposium to be held in Vancouver in 2024, and devote more resources to attracting more members and corporate sponsors.

Following the business portion of

the meeting, newly appointed Board Member **Christine Daly** delivered a special presentation on “Co-Reclamation: Gesturing Towards Intercultural Collaboration and the Renewal of Indigenous Cultural Landscapes in the Fort McKay Traditional Territory, Treaty 8, Alberta, Canada” (see accompanying story below). Minutes and a video recording of the entire AGM, along with a financial statement and a PDF of the presentations are available on the members site (landformdesign.net).

Reclaiming landscapes through inter-cultural collaboration

The keynote speaker at the 2023 Annual General Meeting of the LDI was **Christine Daly**, a conservation, reclamation, and community engagement specialist who was recently appointed to the Institute’s Board of Directors.

The principal of **Daly Reclamation & Reconnection Inc.** and a sessional lecturer at the University of Calgary, **Daly** has carved out a niche as a leading expert on collaborative approaches to reclamation in the oil sands industry. Her work focuses on tailings pond and reclamation and fen construction —

building on work reclaiming wetlands at Suncor, where she worked for 13 years, most recently as senior sustainability adviser.

Recently, **Daly** co-created a participatory and inclusive strategy for mine reclamation and closure planning with **Fort McKay First Nation** co-researchers, called “co-reclamation.” Her presentation to AGM attendees was titled “Co-Reclamation: Gesturing Towards Intercultural Collaboration and the Renewal of Indigenous Cultural Landscapes in the Fort McKay Traditional Territory, Treaty 8, Alberta,

Canada.”

Daly has a BSc in environmental science and an MSc in biology from the University of Windsor and a PhD in environmental design from the University of Calgary’s School of Architecture, Planning and Landscape. She is also a sessional instructor at the University of Calgary, for which she also serves as an advisor on climate action, and has been a member of the LDI since 2020.

More details on the co-reclamation approach can be found in the Fall 2021 issue of the *Landform Design Quarterly*, which is available at landformdesign.net.



Christine Daly gave the keynote speech at the 2023 Annual General Meeting

LDI Founder receives award of merit

Gord McKenna, the founder of the LDI and Chair of the Board of Directors, was recognized recently by the Canadian Dam Association for his work on dam safety.

Presented regularly since 1993, the Inge Anderson Award of Merit is the CDA's most prestigious. Each recipient is a member of the association who has distinguished themselves by making significant contributions to dam-related knowledge and practice. Anderson, who passed away March 30 at the age of 89, was a founder of the CDA, worked for more than 30 years for the Alberta government and created the province's Dam Safety Branch. He later served as manager of mine development for SunCor.

McKenna's expertise in the geotechnical aspects of tailings dams has won him multiple invitations to contribute to international dam safety guidance documents and conferences, and ensures dam safety is a key objective of the LDI's core principles.



Gord McKenna, left, is the recipient of the 2022 Inge Anderson Award of Merit

Design basis memorandum guide nearing completion

The team responsible for writing the design basis memorandum (DBM) guide is getting ready to unveil its final draft. Almost a year in the making — the need for such a tool was identified at last year's LDI annual general meeting — industry should be able to take advantage of the team's collective wisdom in the fall of 2023.

The LDI hopes that DBMs will become standard practice in the mining industry as part of its mission of making "mining with the end of mind" widespread by 2030. While each DBM is specific to each mine — and even each landform within each minesite — there is no universal template for putting one together. This is the gap the LDI hopes to fill with its DBM guide.

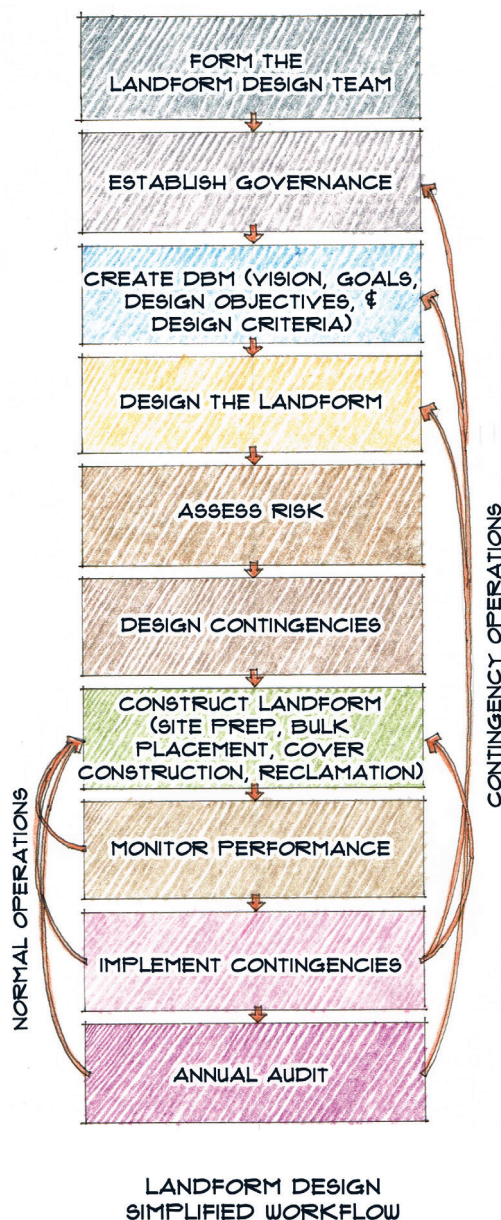
The final product is expected to be approximately 30 pages long. According to an early draft of the guide, it will give a project team and the stakeholders "a clear understanding of the vision, goals, objectives, design criteria, and constraints of the project." Because a landform design team will change over the life of a project, members of that team need a consistent set of references to guide their work and to pass what they learn to their successors as a project evolves.

The early draft includes guidance on how to establish time frames and milestones, elaborate visions of the end product, set realistic expectations, and work with communities to ensure long-term goals can be managed and adapted to changing conditions.

A key organizational tool identified by the DBM is the "RASCI" matrix — for Responsible, Accountable, Supporting, Consulted, or Informed team members. Other useful elements suggested for assembling a DBM include:

- » "Constraints mapping," which provides a visual illustration of the key limitations and considerations of each landform design
- » Technology readiness level, which ensures only those technologies that have been proven to work at commercial scale are recommended
- » Risk assessments, to minimize the chances of physical, geochemical, and ecological ofailure at any level of the project.

Members of the LDI will be the first to know when the new guide is ready for release.



Project workflow is a key element of a design basis memorandum.

Annual mine closure conference set for Reno, Nevada

The International Conference on Mine Closure has been a fixture on the calendars of many reclamation specialists. The 16th in the series is scheduled for October 2–5, 2023, in Reno, Nevada. The city's Nugget Casino will serve as the host venue.

The theme for this year's event is "Communities and Change."

Session topics include:

- » Planning, relinquishment and legacy management
- » Stakeholders and community
- » Engineering and landform design
- » Water management
- » Decommissioning and waste management
- » Ecosystem reconstruction
- » Financing and cost estimation
- » Site remediation and impact management
- » Project management and execution

Founded and organized most years by the Australian Centre for Geomechanics at the University of Western Australia, the conference features a broad spectrum of disciplines and fields of expertise. Last year's conference drew more than 500 attendees representing 22 countries, along with 32 sponsors and exhibitors.

Registration for the meeting is scheduled to begin soon at acgmineclosure.com. To stay on top of the latest news about the conference, follow the LinkedIn page: [linkedin.com/company/international-conferences-on-mine-closure](https://www.linkedin.com/company/international-conferences-on-mine-closure).



MineClosure

Imagining closure in science fiction novel

Review by David Wylynko

The worst conceivable notion of "closure" takes centre stage in a new dystopian science fiction novel by Canadian writer Thomas Wharton. In *The Book of Rain*, a post-mining community in northern Alberta is rendered completely uninhabitable but wryly nicknamed "The Park." The protagonist, Alex Hewitt, returns years later to search for a sister who disappeared while animals trapped in the restricted zone.

The book is billed as an account of nature, environmental stewardship, and the fate of the planet. In a CBC interview, the author said, "I hope I've written an exciting story

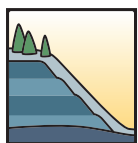
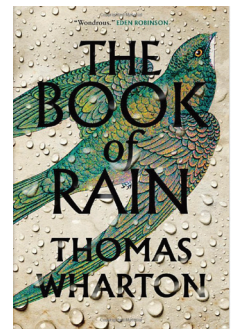
that will keep readers reading, but also make them see our damaged, wondrous planet with fresh eyes."

Professional practitioners of closure and landform design may find this scenario disquieting. While the fact it is science fiction allows readers to consider the story removed from current reality, this fictional portrayal of a post-mining environment will likely influence the perspective non-technical readers will have about mining.

Those unfamiliar with concepts of closure and returning the land to a usable state will take their impressions of the success of such efforts from this novel. A reviewer for *Quill*

and *Quire* writes that the novel shows how heavily humans have trod on the land, suggesting the scenario Wharton lays out is actually a viable portrayal of what mining has done to the land. This impression reveals the challenges landform design practitioners face in educating the public.

David Wylynko is the LDI Director of Communications, Principal of West Hawk Associates, and a PhD student in literature at the University of Guelph.



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