CASE IN POINT 2008

Integrated Design Process

A participatory tool for planning, design and construction.

Marcella Poirier **MCP Candidate**
Wins Bridgman **MAA**
Michael Robertson **M.Arch, MRAIC**

making public work

Abstract

Integrated Design Process (IDP) is an emerging best practice in sustainable design and construction. It brings multiple voices to the project table to achieve excellence in energy modeling for long term building sustainability. An IDP team can include: client representatives, architects, engineers, energy modeling specialists, construction managers, planners and a project manager. IDP is a collaborative business tool that enables client and user participation from visioning to project completion.

IDP can be a strategy for placemaking. Linda Schneekloth and Robert Shibley state that '"A placemaking practice suggests that all participants in any construction event come together with their respective knowledges, and collaboratively construct a world through

Table of Contents

confirming and interrogating each other's experiences"[1]. This represents the spirit of the IDP, but there are pragmatic challenges to authentic implementation of this ideal.

Placemaking theory can only become IDP praxis though a process of valuing community experience equally with professional expertise and ensuring both are documented and implemented. IDP has the potential to provide a model that emphasizes social and environmental sustainability equally. To achieve this there must be a collective shift in mindset to a shared set of knowledge, skills and values of social, environmental and economic sustainability. This means approaching the IDP with the needs of a community first and critically evaluating checklists for "green" building that may or may not serve people.

How can planners participate with architects other professions to achieve this? Opportunities and next steps emphasize collaboration over confrontation, dialogue over debate and the role of the facilitator in the IDP process[3]. This exploration considers who participates in an IDP and how participation is sustained throughout the process. Independent planning consultants may emerge as facilitation leaders in the IDP process.

This case study examines the IDP methodology of BridgmanCollaborative Architecture. Two projects are described that highlight opportunities for social sustainability in the IDP model.

"In order to make space for multiple knowledges, placemaking requires collaboratively open processes. This does not imply that everybody makes decisions about everything"

- Schneekloth & Shibley, 2000.

Facts about IDP

The primary goal of the IDP is to develop architectural solutions that maximize energy efficiency to support the long term sustainability of a building. Solutions must meet the needs of the client and end users in both budget and programme. In IDP "success is measured by the degree to which common goals are achieved"[4]. The approach is unique because it emphasizes the process of collaboration equally with new building science and technology. IDP teams are comprised of professionals with different expertise. Client participation is integral throughout the IDP to ensure that the approach meets the goals that were defined in project planning. Client participation must occur early and at every step of the IDP.

Key roles in an IDP are a LEED® certified energy modeling specialist, architect, mechanical/structural/electrical engineer, construction manager and the client or client groups. A holistic IDP approach may also include a combination of professionals and supporting participants. These individuals may not necessarily attend every IDP meeting. As participation will vary, it is integral to ensure the process is well documented and all stakeholders receive regular and updated information.

Key participants will meet with more frequency and comprise the core decision making body. Meetings will follow a pre-determined schedule and clearly highlight project milestones. Ultimately the team will determine how decisions will be made and devise a strategy for emergency meetings if there are circumstances that require immediate attention. Communication protocol should also be determined at an early stage. Ensuring a key participant is responsible for documenting and disseminating all information can reduce miscommunication and ensure the project history is clearly recorded. All participants will be subject to a confidentiality agreement.

IDP does not add costs, it increases long term benefits for communities and the environment. Both the federal and provincial government of Canada support IDP projects. IDP is promoted by Natural Resources Canada through the research and development branch of CANMET Energy Technology Centre at the federal level. The Green Building Policy for the Government of Manitoba supports IDP projects with funding at the provincial level[5]. Integration is emerging as a methodological best practice to ensure life cycle costing[6].

Reducing energy consumption and water use are direct outcomes of IDP. Demolition, construction, operation and maintenance of buildings consume tremendous amounts of natural resources[7].

Simulation modeling is an important service that projects efficiency of the building. Building Information Modeling (BIM) is partnered with early and ongoing collaboration with a client/ client group to build literacy for better building choices. This research helps test and illustrate how the needs of the client, the vision of the architect and the systems of the engineers function as an integrated whole for energy efficiency. The approach enables participants to see how their choice to pursue sustainable solutions can reduce energy consumption with more responsible building technology.

Without trust based collaboration, the success of an IDP will be at risk. Information must be shared freely and participants must be accountable to each other for the information provided. Ten key principles of IDP are[8]:

1. Mutual respect and trust;

2. Mutual value and reward of the collaborative process;

3. Collaborative and innovation decision making where all voices are equal;

4. Early and ongoing involvement of key participants;

5. Early definition of goals for all participants;

6. Intensified planning and design development to reduce costly changes in construction;

7. Open and honest communication with a clear plan for conflict resolution;

8. Best use of appropriate technology;

9. Clearly defined roles for the project team to ensure organization and leadership; and

10. Promote quality documentation and achievements of the collaborative IDP process.

It is integral that project milestones and deliverables are clearly outlined by the schedule.

Large-Scale IDP

The Manitoba Hydro Building is an example of a high profile IDP project backed by a substantial budget. Seventeen professional teams representing a range of expertise collaborated on this $278 million dollar project scheduled for completion in May 2008[9]. The project website communicates the history, budget, schedule and progress and is equipped with a construction site web-cam. Three public meetings were held for the Manitoba Hydro building and external committee members included representatives from the Social Planning Council, the Institute of Urban Studies, Planning Property and Development and a Project Manager for Community Economic Development for the Province of Manitoba[10].

How does IDP work on small or medium sized projects?

There is no cookie-cutter model for an IDP. Project size and programme requirements will determine who should be participating in an IDP communication loop. Although the AIA guide does not state a minimum budget for the process, projects under $5 million dollars may struggle to ensure all roles are fullfilled while maintaining a separation of leadership from professional interests. This may be a barrier to the process.

Project size should not deter sustainability goals. However, the Integrated Design Process is still emerging as an approach for smaller and mid-size projects and should be evaluated more significantly going forward.

Challenges to IDP

Currently, economic and social sustainability do not receive the same priority as energy modeling in the IDP process. True cost accounting should reflect the total benefits of IDP collaborations. Incorporating fund-raising as a milestone on the project time-line may be integral for some client groups.

The second challenge relates to the competitive bid process. Construction partners who provide cost estimates during the IDP may be considered to have an unfair competitive advantage when the project goes to tender. A policy for the tender process needs to be re-evaluated specific to IDP bids.

The third challenge is ensuring documentation of the project history is ongoing. The rich information learned in the early participatory workshops should not be diluted by time. If a stall in the IDP occurs (often, but not always related to fund-raising), maintaining both the momentum and the story of the project can be a challenge. Once the IDP meetings resume, it is integral to ensure that all voices continue to be heard and acknowledged.

A member of the IDP team should be designated to ensure transparent and ongoing documentation and communication of the process to illustrate how the original shared vision was honoured throughout the process.

Individuals trained in documentation, participation and facilitation would best serve a client group. Objectivity may necessitate that the facilitator is external to all other stakeholders in the process. However, for many client groups the cost of additional consultant is unrealistic. Integrative architectural offices may find they are in a position to offer this service as part of their architectural fee.

BridgmanCollaborative Architecture is currently exploring the role of the professional planner as a facilitator in this process. This experiment is not without challenges to subjectivity. Allied with the architectural partner, the planner is not an outsider to the process. However, planners are trained to listen, document and describe participant needs using a variety of methods. Our professional ethic may enable us to work across disciplines for sustainable community development in the role of facilitators in an IDP. We may also serve the client, community and interdisciplinary partners as communicators throughout the process.

Case Study: SISTARS

BridgmanCollaborative Architecture strives to facilitate rich client consultation in all projects. Through participatory design workshops, focussed programming interviews and intensive consultation, clients and potential users actively inform design at several stages of design development. New approaches for communicating project histories and milestones are being implemented. This includes community photo-narrative documentation and project web-sites.

In 2005 Sisters Initiating Steps Towards a Renewed Society (SISTARS), a Community Economic Development Co-Operative, began as a group of grassroots activists determined to make a positive change in their community. They initiated a community based research project that determined that a daycare, improved access to education and training and housing were all components that were desperately needed in Point Douglas.

When SISTARS began working with BridgmanCollaborative Architecture they had clear project goals in mind.

The first stage of the IDP was a series of community design workshops which included participants of all ages. These facilitated sessions were well attended and helped build momentum for the proposed Daycare and Community Hub. In the Canadian Centre For Policy Alternatives 2006 *State of the Inner City Report*, a participant was quoted saying "The amount of community involvement in this program has gone from that initial group of 14 women to over 100 people who have community involvement in the consultations... When that building goes up people in the community can actually say, 'I designed that.'"[11]

Maintaining project momentum can be challenging even for enthusiastic non-profit groups like SISTARS. Following planning and preliminary design phases, fund-raising was an immediate priority. Project architects Wins Bridgman and Michael Robertson were familiar with the grant and fund-raising process most non-profit groups must negotiate prior to taking the next steps towards experiencing a community vision come to life.

In the intervening years required for fund-raising, Robertson maintained a strong connection with the community to help ensure the community vision would be honoured in design and development. He reflects that putting resources into broader participation with more community members was favoured over sustained documentation.

As Robertson has continued on as a project steward, the community vision has been maintained during the fund-raising process.

The SISTARS project is now moving forward with the IDP following successful fund-raising by the grassroots organization. Community representatives continue to participate in the IDP and construction is scheduled to begin later in 2008.

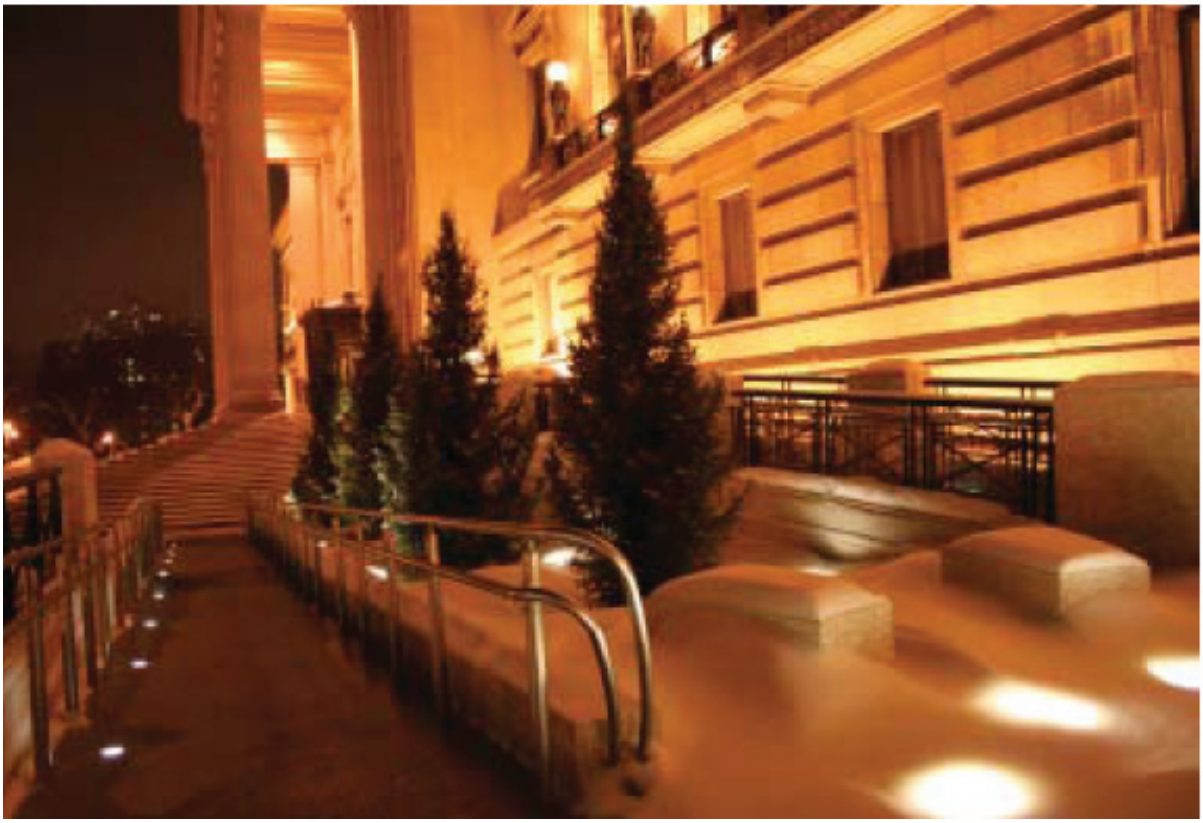
> *"The amount of community involvement in this program has gone from that initial group of 14 women to over 100 people who have community involvement in the consultations… When that building goes up people in the community can actually say, 'I designed that.'"*[11]
>
> -workshop participant

Case Study:
Manitoba Legislative Ramp
The Path to Full Citizenship

In 2006-2007 BridgmanCollaborative worked with Manitoba Infrastructure and Transportation to envision, design and build the new Legislature ramp *The Path to Full Citizenship.* This project was socially significant because it provided an opportunity to create the first universally accessible ramp in Canada. The design made provisions for Manitobans with a range of abilities and enabled all people to enter the Manitoba legislative building though the front doors as intended.

The project began with IDP workshop sessions. Participants who had a range of needs collaborated to ensure the design accommodated all people. Best practices for access were incorporated throughout the ramp.

Due to the significance of the building as a national historic site, IDP participants included professionals from an urban design review,



the Premier of the province along with MIT staff, Gillis Quarries, Dustrial Sheetmetal and Jed's construction. A tight time-line and budget pressed the IDP team to work at a tremendous pace to ensure project completion. Project architect Jamie Kozak documented the process to ensure transparency and accountability for this tremendous achievement.

IDP enabled the ramp to come in on budget at 1.8 million dollars and on time. The total schedule was less than a year from announcement to completion. The process was celebrated as a highly successful IDP. Kozak was recognized as "hands down the best Consultant I have ever been involved with" by the MIT project manager.

Strengths & Opportunities

The collaborative process of IDP is a business opportunity to ensure participation. Challenges to the process relate specifically to the fact that traditional interaction between the professions has been competitive and individually focussed in terms of success. The silos that divide planning, design, energy modeling and construction do not disappear because IDP is adopted. Participants collaborating in an IDP are successful when they commit to achieve project milestones together.

Facilitating sustained client, community and user participation in the IDP is significant. Promoting quality documentation of the process from vision to construction is integral to the process. IDP goals for sustainability extend beyond checklists and strive to consider the social and economic sustainability of our architectural and planning practices. The IDP is supported by the Canadian government as a true cost-saving approach with benefits for communities and the environment.

IDP is a valuable strategy to achieve sustainable building. The process is much more than a guideline for energy modeling - IDP is the business side of participation.

Future Visions

For IDP to succeed as a placemaking tool it requires interdisciplinary participation. Communication with client and client groups as well as those who will use the facility is integral to the goal of achieving socially, and environmentally sustainable buildings. Independent planning consultants may emerge as potential facilitators in an IDP. LEED® certification would be an asset for these professionals. To achieve integrated practice, planners must work with our partners in architecture, construction, natural resource management, community health, education - in short we must work broadly and collaboratively if we are to participate in the creation of convivial and sustainable communities.

About the Collaborative

BridgmanCollaborative Architecture believes in *making public work*. The team of architects, planners and technologists work together to create dynamic places for people.

Wins Bridgman is Principal Architect of BridgmanCollaborative Architecture. He has over 25 years experience specializing in participatory planning and design with a focus on Heritage projects and sites.

Michael Robertson is the Director of Architecture at BridgmanCollaborative. He has developed a process for community participation with Aboriginal groups he describes as "an architecture of self determination".

Marcella Poirier is an MCP candidate at the University of Manitoba and Director of Planning at BridgmanCollaborative Architecture. She is a writer, storyteller and puppeteer.

References and Resources:

AIA National & AIA California Council. Integrated Project Delivery: A Guide (2007). www.aia.org/ipdg. (accessed April 15, 2008).

C-2000 Integrated Design Process.www.sbc.nrcan.gc.ca/buildings/idp_e.asp (accessed may 9, 2008).

Canadian Architect. "Manitoba Hydro Head Office: A Model for Cold Climate Design", December 2006. www.canadianarchitect.com/issues/ISarticle.asp?id=181572&story_id=190273144535&issue=12012006&PC=no. (accessed April 17, 2008).

Canadian Centre for Policy Alternatives. "The North Point-Douglas Neighbourhood's Community Strengths" *State of the Inner City Report*, (2006): 3-4. www.policyalternatives.ca/documents/Manitoba_Pubs/2007/Point_Douglas.pdf. (accessed April 28, 2008).

CMHC IDP Guide. www.cmhc-schl.gc.ca/en/inpr/bude/himu/coedar/upload/Integrated_Design_GuideENG.pdf (accessed may 9, 2008).

Government of Manitoba News Media Service. "Expanded Access to Legislative Building a Canadian First: Opening of New Ramp Structure Celebrated With Community Groups". November 19, 2007. ndpcaucus.mb.ca/newCaucus/index.php?q=newsArticle&articl PageID=266. (accessed April 28, 2008.

Manitoba's Green Building Policy. www.gov.mb.ca/greenbuilding/pdf/green_building_policy.pdf (accessed April 25, 2008).

Manitoba Hydro. "Manitoba Hydro Welcomes You to Discuss the New Downtown Office Project" public meeting power-point presentation. April 9, 2003. www.hydro.mb.ca/projects/downtown/downtown_storyboards.pdf. (accessed April 17, 2008).

National Resources Canada. Integrated Design Process. www.sbc.nrcan.gc.ca/buildings/idp_e.asp (accessed April 28, 2008).

Schneekloth, L. & Shibley, R. "Implacing Architecture into the Practice of Placemaking" *Journal of Architectural Education,* (2000): 130-140.

Whole Building Design Guide. www.wbdg.org/design/engage_process.php (accessed April 25, 2008).

Endnotes

1 Schneekloth and Shibley. "Implacing Architecture into the Practice of Placemaking" *Journal of Architectural Education,* (2000): 130-140.

2. Rodney McDonald. Integrated Design Process presentation o the Ginger Group Collaborative. May 8, 2008.

3. AIA National & AIA California Council. *Integrated Project Delivery: A Guide*, (2007).

4. Community Places. www.gov.mb.ca/chc/grants/cpp.html (accessed April 30, 2008).

5. National Resources Canada. www.sbc.nrcan.gc.ca/buildings/idp_e.asp (accessed April 20, 2008).

6. Rodney McDonald. Integrated Design Process presentation o the Ginger Group Collaborative. May 8, 2008.

7. AIA National & AIA California Council. 2007. Integrated Project Delivery: A Guide. www.aia.org/ipdg (accessed April 15, 2008).

8. Canadian Architect. "Manitoba Hydro Head Office: A Model for Cold Climate Design", December 2006. www.canadianarchitect.com/issues/ISarticle.asp?id=181572&story_id=190273144535&issue=12012006&PC=no (accessed April 17, 2008).

9. Manitoba Hydro. "Manitoba Hydro Welcomes You to Discuss the New Downtown Office Project" public meeting power-point presentation. April 9, 2003. www.hydro.mb.ca/projects/downtown/downtown_storyboards.pdf (accessed April 17, 2008).

10. Canadian Centre for Policy Alternatives. "The North Point-Douglas Neighbourhood's Community Strengths" *State of the Inner City Report*, (2006): 3-4. www.policyalternatives.ca/documents/Manitoba_Pubs/2007/Point_Douglas.pdf (accessed April 28, 2008).

11. Government of Manitoba News Media Service. "Expanded Access to Legislative Building

Photo Credits:

Hands in the air. jeromesPOV flikr

SISTARS visioning workshop: BridgmanCollaborative Architecture

SISTARS rendering: BridgmanCollaborative Architecture

Premier Doer on the ramp: Government of Manitoba News Media Service

The ramp at night: BridgmanCollaborative Architecture