

W idening the P 2 C ircle

# GREEN OFFICE DESIGN

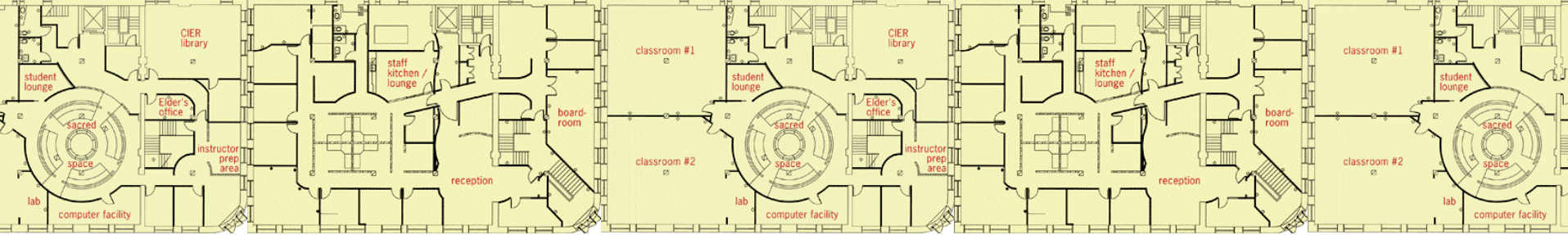
6<sup>th</sup> C anadian P ollution P revention R oundtable

Q uébec C ity, Q uébec, 25 April 2002

R odney C .M cD onald

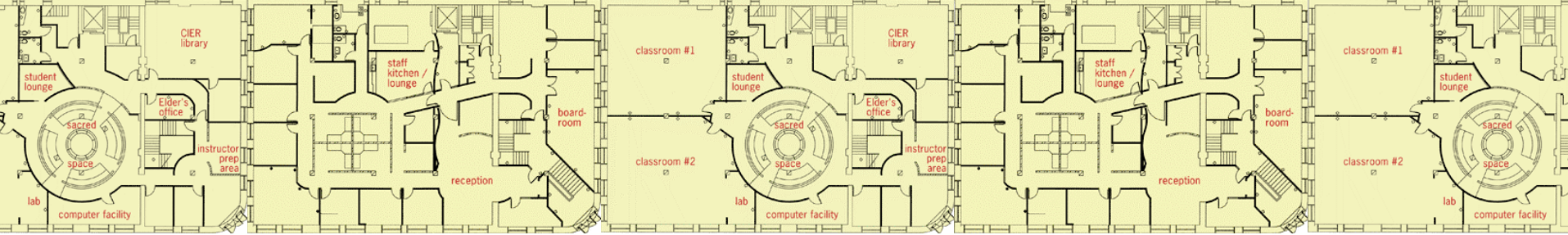
Sustainability S trategist

C entre for I ndigenous E nvironm ental R esources



# Outline

- Green Building – a P2 strategy
- CIEER's Green Office Design Rational
- CIEER's Green Office Design Considerations
- Tour of CIEER's Green Office
- CIEER's Office as Demonstration Facility
- Operating a Green Office



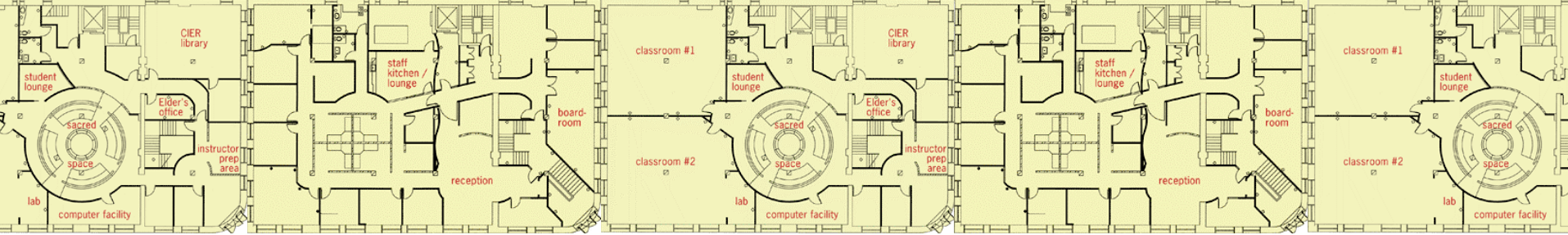
# Green Building – a P2 strategy

## What?

- Minimize impacts on surrounding environment.
- Increase energy and resource material efficiency.
- Sensitive to occupant health and community.

## Why?

- > 40% of resources go into buildings.
- > 40% of energy is used by buildings.
- > 40% of landfill waste from buildings.

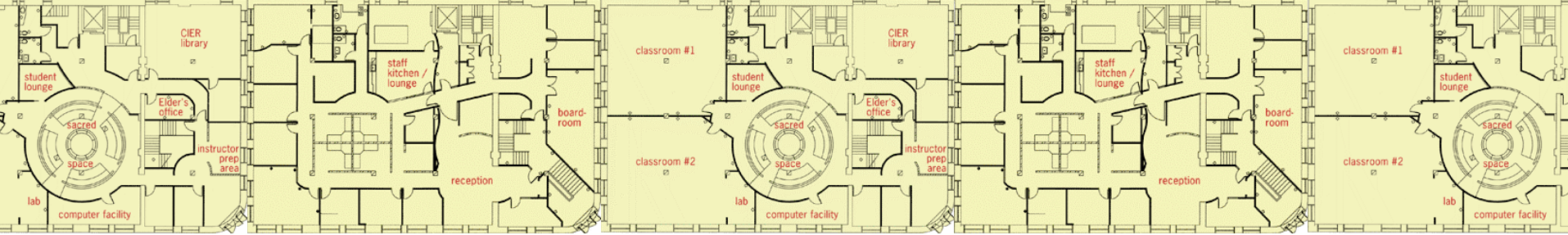


## Green Building – Why?



Brady Road Landfill  
Winnipeg

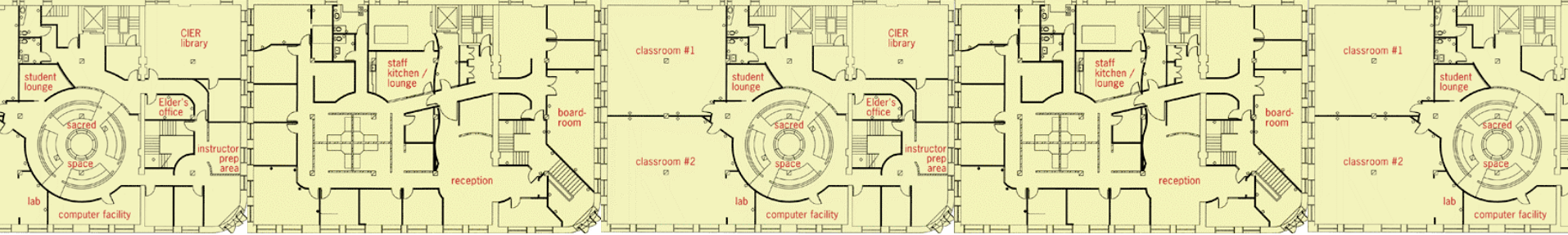
April 22, 2002 (Earth  
Day)



## Green Office Design Rational

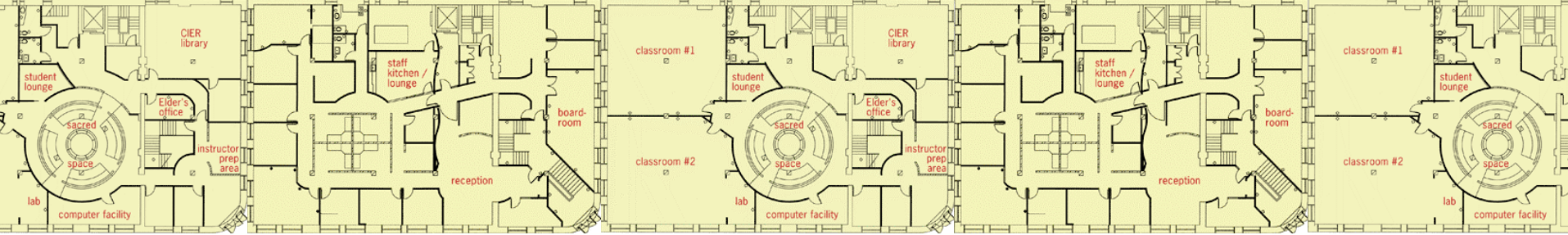
- CIER – First Nation environmental organization
- Provide environmental education & training, research and consulting services to First Nation and non-First Nation communities and organizations.
- Mandate and culture to foster sustainability
- Part of downtown revitalization
- Developing in-house expertise





# Green Office Design Considerations

- Is the material/item necessary?
- Can it be obtained used?
- What is the material made of?
- How is it made?
- Where is it made?
- How long will it last?
- What are the disposal options?

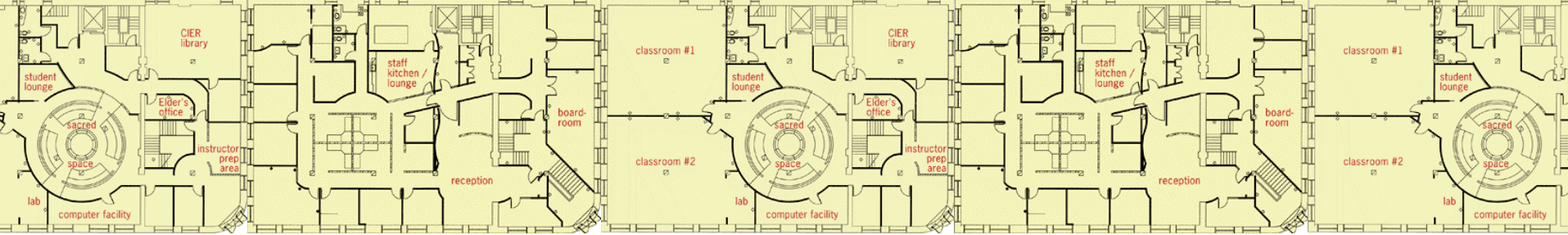


# C I E R 's G reen O ffice

## The Building



- Built in 1893.
- Mostly used for dry goods sale/storage.
- 90% vacant until C I E R signed lease in 1999 for top two floors.

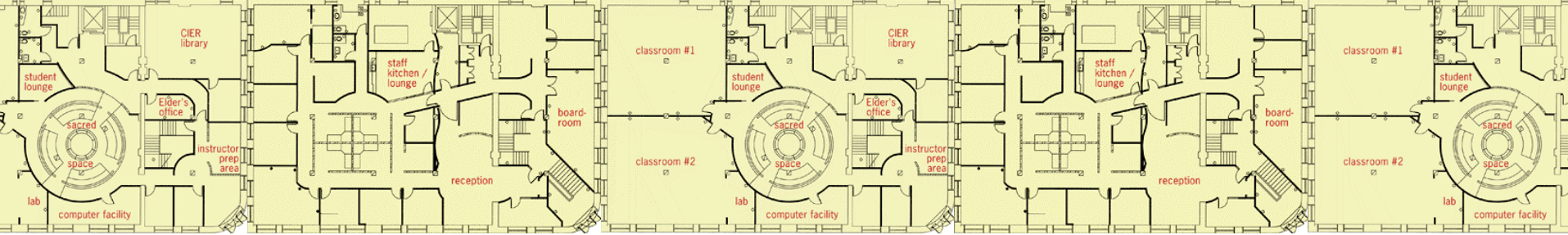


# CIER 's Green Office

## The Location



- Winnipeg's historic Exchange District.
- Collection of early 1900's warehouse buildings and low rise office blocks.
- City is trying to revitalize area.

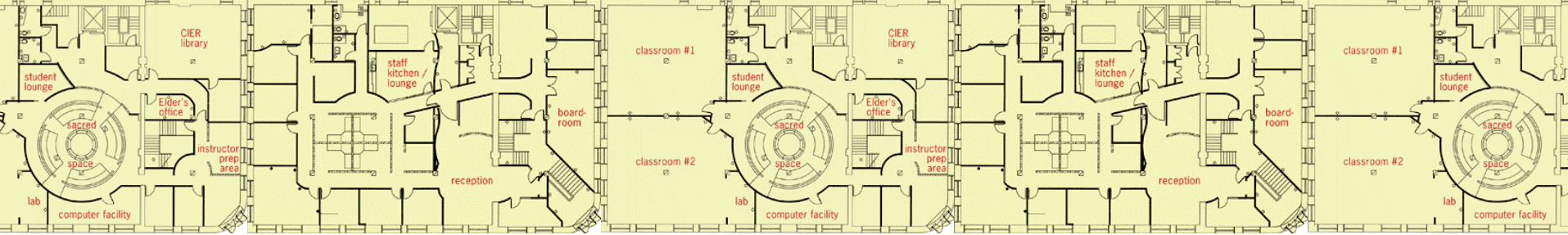


# CIEP 's Green Office

Pre-Restoration (Oct 1999)



- Many windows missing on 3<sup>rd</sup> floor.
- Initial clean-up complete.
- An undivided space.

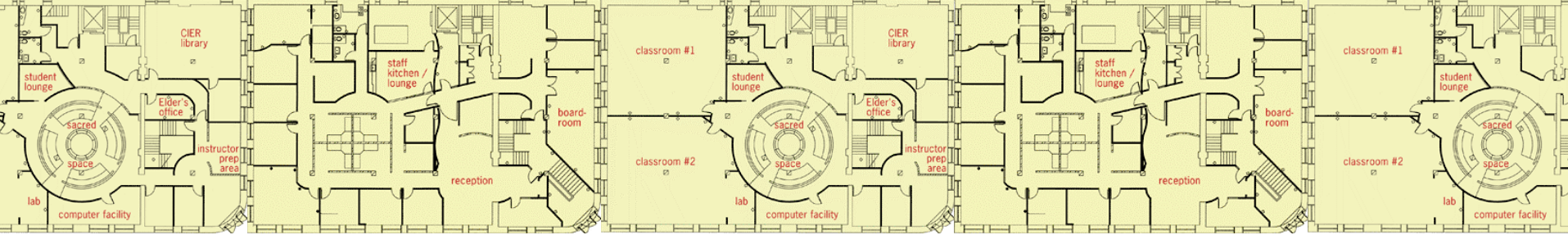


# CIEER 's Green Office

## Reception (3<sup>rd</sup> floor)



- Occupy January 2000 .
- Paint is EcoLogo certified, produced < 5 km from office .
- Vibrant colours used in place of expensive finishing materials .
- Carpet used sparingly .

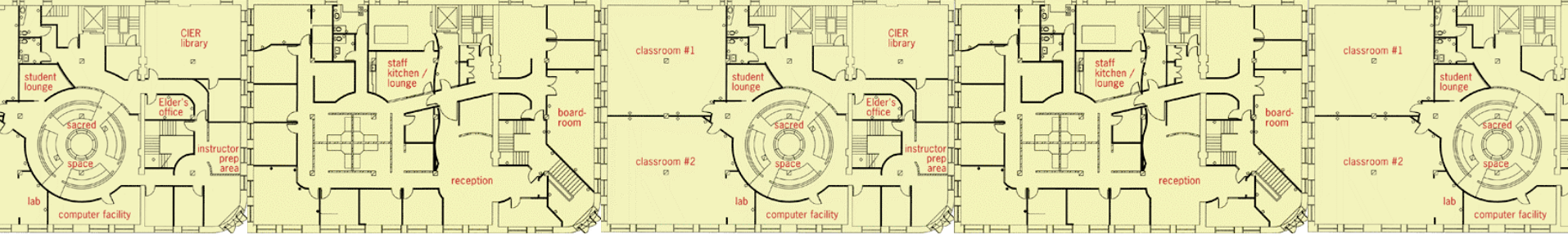


# C I E R 's G r e e n O f f i c e

## Prim ary W ork Spaces (3<sup>rd</sup> floor)



- O p e n d e s i g n g e t s m a x b e n e f i t o f d a y l i g h t .
- C o m p a c t f l u o r e s c e n t f i x t u r e s a n d t a s k l i g h t i n g o n d e s k s p r o v i d e s u f f i c i e n t a r t i f i c i a l l i g h t .

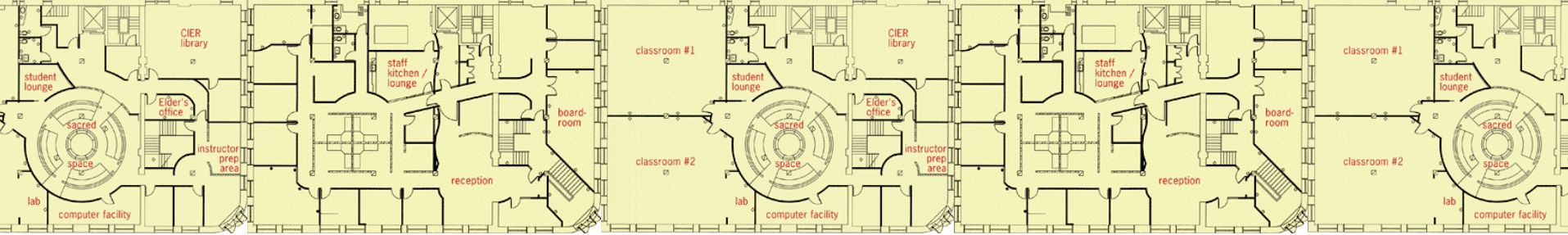


# C I E R 's G reen O ffice

## Boardroom (3<sup>rd</sup> floor)



- More benefit from natural daylight.

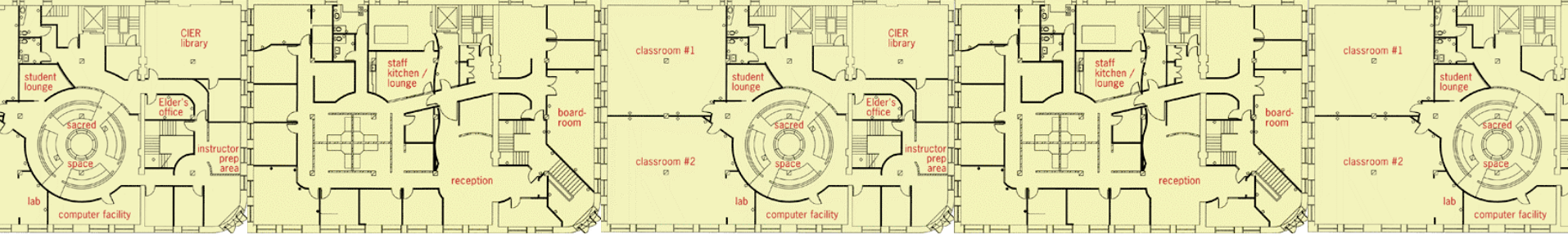


# C I E R 's G reen O ffice

## S taff K itchen (3<sup>rd</sup> floor)



- I S O B O R D used for all millwork, including cupboards, window and door frames.
- Made from straw at a facility < 200 km west of Winnipeg.

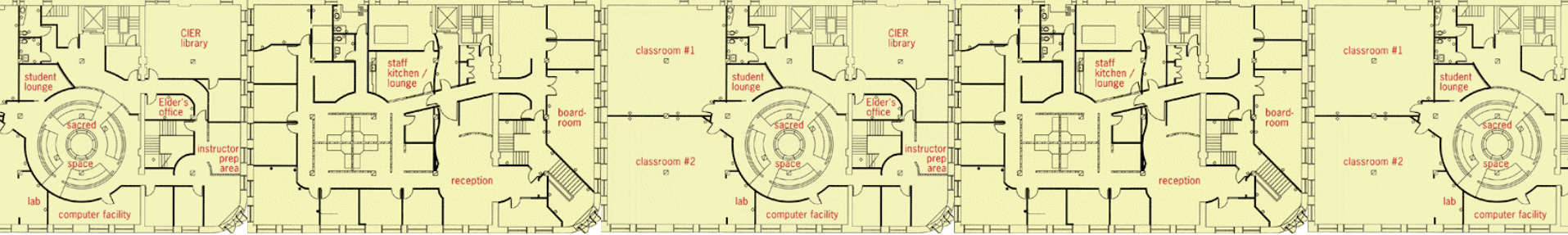


## CIER 's Green Office

### Primary Classroom (4<sup>th</sup> floor)



- ISOBORD also used in lab area of classroom .
- Overhead lighting rarely used in this room .
- Studies show that daylighting helps to improve learner performance .

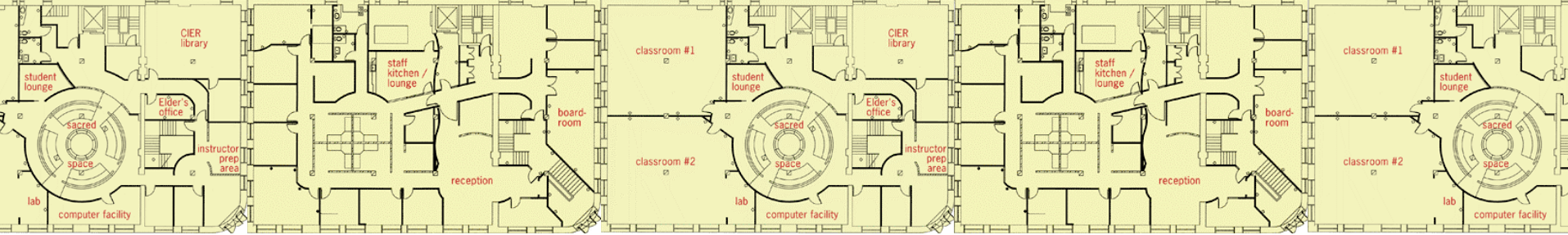


## C I E R 's G reen O ffice

### W ashroom s (3<sup>rd</sup> & 4<sup>th</sup> floors)



- > 50% of material content of tile is recycled glass. Minimal use of tile.
- Shower for staff.
- Waterless composting toilets – saving about 200,000 litres of H<sub>2</sub>O /yr.



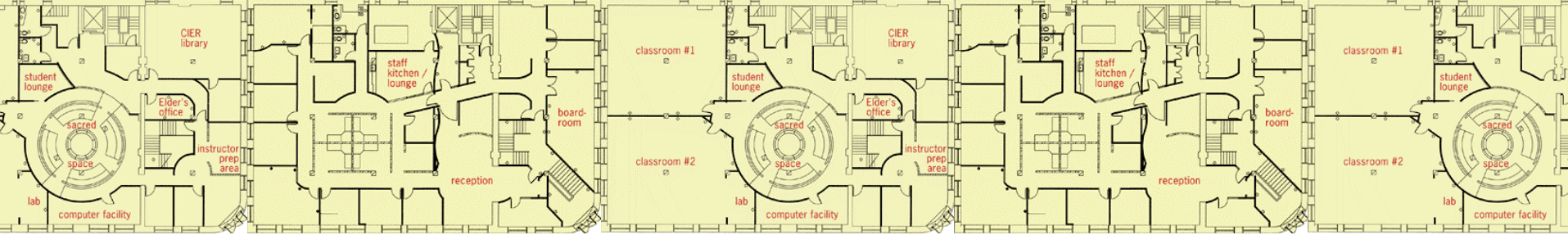
## CIER 's Green Office

Com posters (2<sup>nd</sup> & 3<sup>rd</sup> floors)



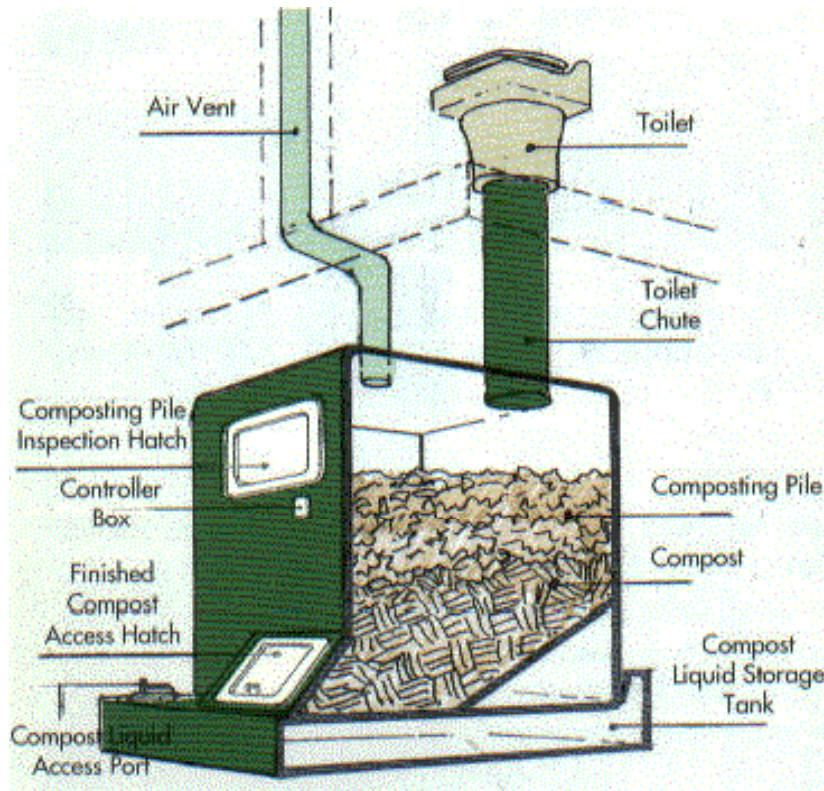
- 5-8 years until solid compost material is ready.



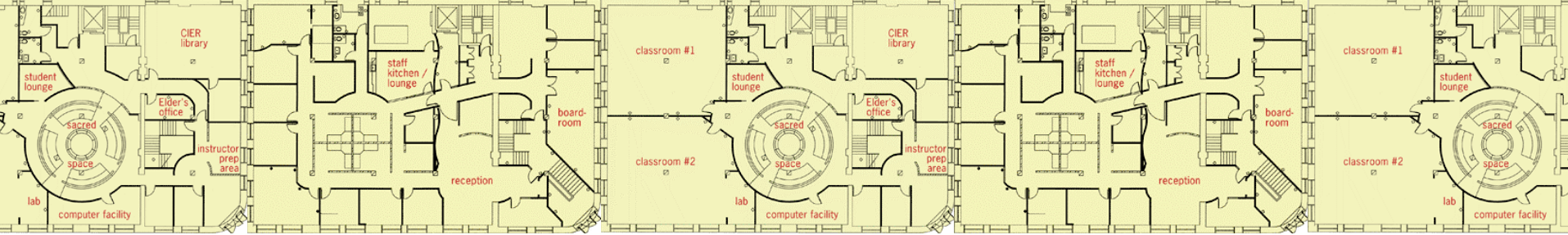


# CIER 's Green Office

## Remote Composting Toilet

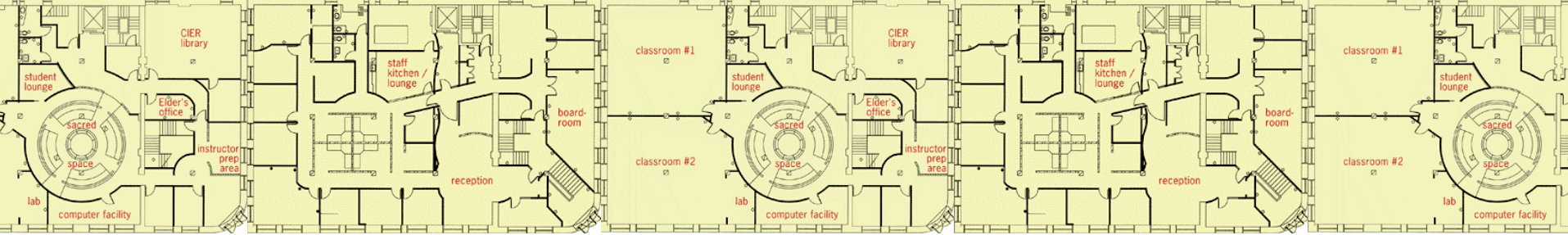


- THE ultimate P2 device .
- Transforms what is normally considered to be "waste" (pollution) into a very usable resource .
- Gaining acceptance in Canada .



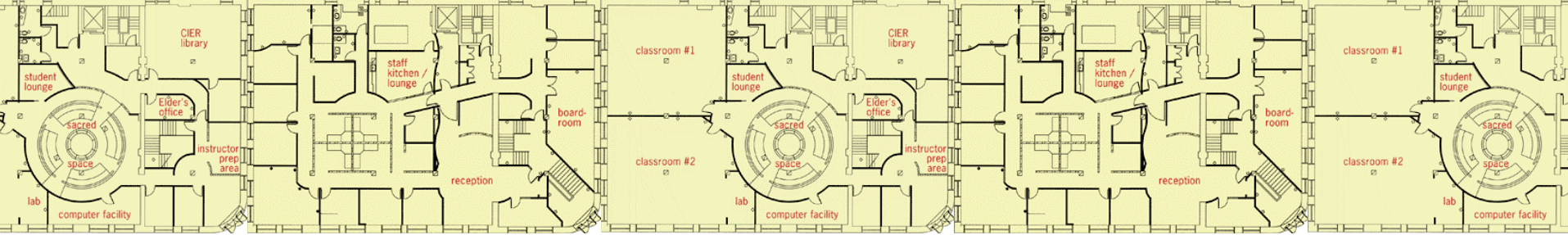
## CIEER 's Green Office – P2 in Action

- P2 – Transportation
  - Paint, ISO BOARD , shower for selfpropelled commuters .
- P2 – Electrical Energy Generation
  - Daylighting and compact fluorescent lighting .
- P2 – Water Resources
  - Waterless composting toilets , low flow shower .
- P2 – Material Throughput/Waste
  - Recycled content tiles , recyclable carpet , straw .



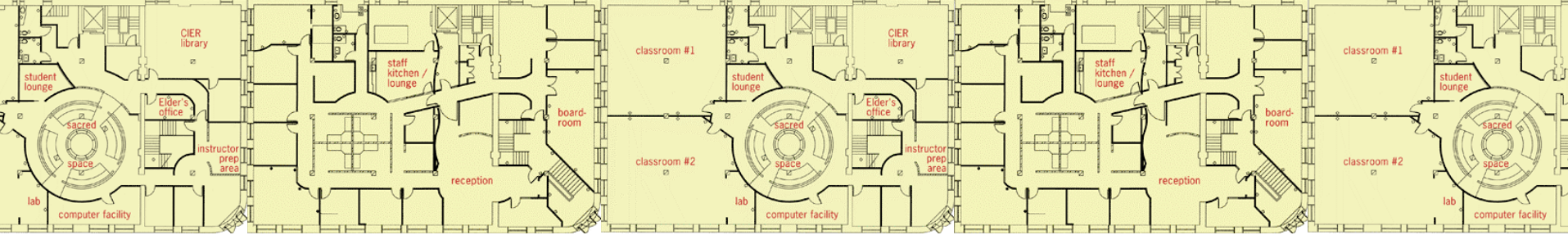
## Office as Demonstration Facility

- Over 2000 people have toured the green office since it opened 27 months ago, from government officials and architects to cottage owners and students.
- Individuals from across Canada, the United States and as far away as India and South America have visited.
- Mountain Equipment Co-op visited in 2001 - currently installing composting toilets in new Winnipeg store.



## Operating a Green Office

- Recycled content office paper and products.
- Duplex copying and procedure for paper reuse.
- Remanufactured printer toner cartridges.
- EcoLogo certified soaps and cleaners.
- 100% recycled paper products in washrooms.
- Bicycle courier service for deliveries within city.
- Environmentally responsible office caterers.



# Contact Information

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