# INTEGRATED DESIGN CHARRETTE REPORT

## Parkdale United Church Foundation
## Parkdale Liberty Economic Development Corporation
## Green Phoenix Project

**Phoenix Place**
**January 27-28, 2005**

**By**

**Sustainable Buildings Canada**

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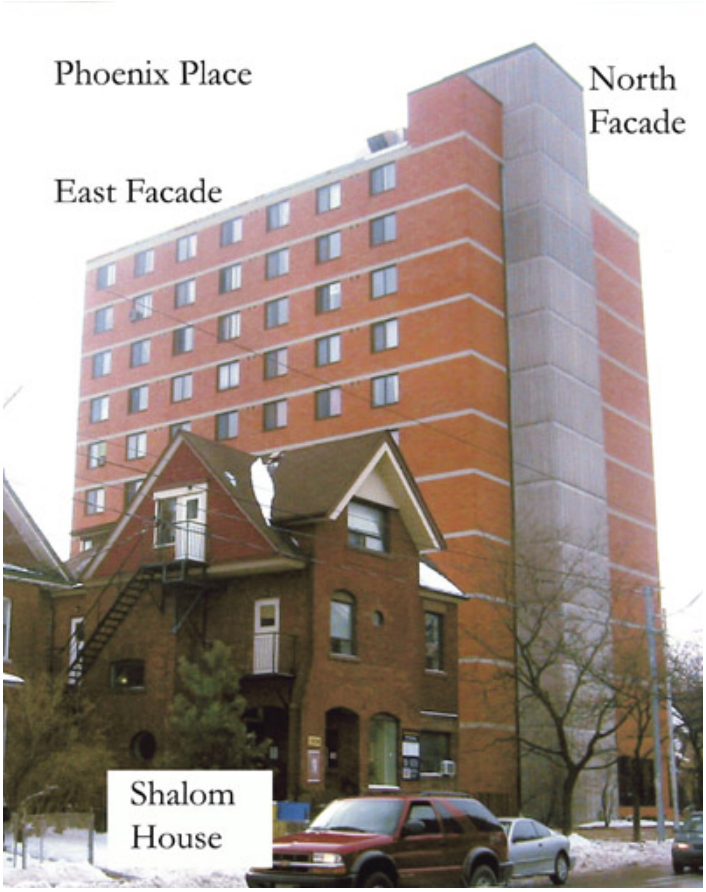



## 1.0 INTRODUCTION

On January 27-28, 2005, Parkdale Liberty Economic Development Corporation (PLEDC) organized and held a two day Design Charrette for sustainable, affordable housing. Organizational assistance was provided by CMHC and Sustainable Buildings Canada (SBC) and key funding support came from CMHC, Enbridge and NRCan.

The challenge was to add 20 rental units to a site with two existing buildings either through renovation or new construction. The Charrette attracted more than 40 participants, representing architects, engineers, planners, housing workers, building operators and a variety of technology specialists. Each team consisted of approximately 10 core members, with floating experts circulating among the teams.

Design Charrettes use the "integrated design process" (IDP) to create more environmentally friendly and efficient designs. The integrated design process is a method where designers collaborate in the initial design stages, rather than working in isolation.
It challenges them to consider new strategies, systems and products that more appropriately support a sustainable design scheme. An integrated team formed early at the concept stage, can maximize the potential benefits. This is when concepts can change easily as new ideas are considered.

An integrated team includes members with diverse expertise and experience to inform the process including property managers, energy simulators, costing experts, energy efficiency experts, envelope specialists, municipal engineers and planners and alternative energy

specialists along with the design team members. These team members work together to achieve a higher performance, value-added building. This multi-disciplinary relationship should continue throughout the design and construction phases.

Sustainable Buildings Canada is pleased to provide the following report and wishes to thank all those involved in making this important event happen, in particular the building owner, Parkdale United Church, and the developer, Parkdale Liberty Economic Development Corporation, as well as the core funders mentioned above, the facilitators, modelers and experts. Thank you to all.

## 1.1 Organizational Context

Parkdale United Church Foundation:
The Foundation is a legal entity whose voting membership is the congregation of Parkdale United Church. The Foundation owns all the property occupied by the apartment building, the church, and 1339 King St. W. The church provides various services to the apartment building, including social programs, food donations, hot meals, counselling and referral services.

Parkdale Liberty Economic Development Corporation (PLEDC):
The Foundation has entered into a memorandum of agreement with Parkdale Liberty Economic Development Corporation (PLEDC) to develop its new housing project. The agreement provides for the Foundation to participate in the design of the new housing as a "green" project, and then to own and manage the new housing. The agreement provides for PLEDC to give professional assistance to the development of the project, and to direct development funding toward the project.

Population
The population of Phoenix Place contains several affinity groups including:

- People in transition from shelters or homelessness
- a significant number of tenants originating in Ethiopia
- tenants who are part of the caseload of CAMH (Centre for Addiction and Mental Health), living independently instead of in an institution or group situation

## 1.2 History

In the summer of 2003, PLEDC received a SCPI grant for pre-development work, and was exploring sites for new housing in Parkdale. The group set up a competitive interview process and retained the services of Hilditch Architect and Jon Harstone, a development consultant.

At the same time, Parkdale United Church Foundation decided to convert Shalom House into housing. The building manager, Adam Czerechowicz, contacted Jennifer Penney of PLEDC with the idea that the conversion to housing could be designed green, that is, on an ecologically-sustainable basis, and that PLEDC could help.

## 1.3 Neighbourhood Context

Parkdale is a vibrant, diverse area with a large percentage of immigrants. Tenants make up 95% of South Parkdale. The neighbourhood has had a recent history of low-income residents

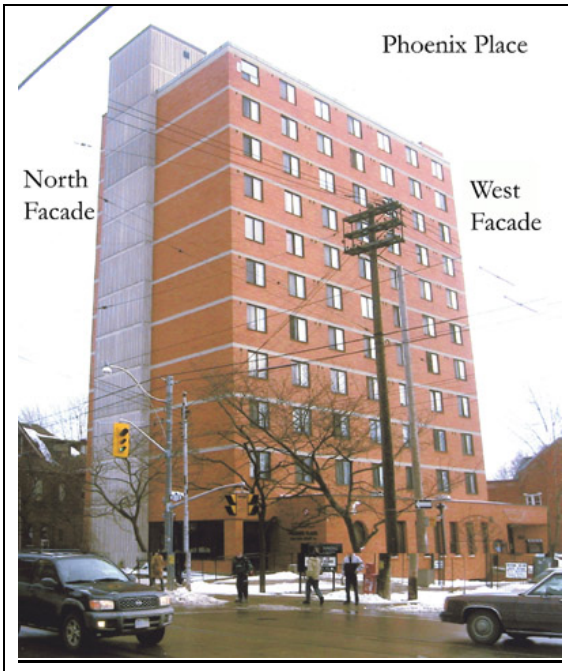
and a reputation in the city as an area of crime, drugs and prostitution. In fact, the area is in transition and even showing signs of gentrification. It has a strong identity, thriving arts and culture scene and a healthy population of young families.

Queen Street is the retail spine with a very eclectic mix of commercial. The area of Queen just to the east is the new Arts strip of the city. East and south of King is Liberty Village, a new media hub and developing neighbourhood. Exhibition Place is to the south-east and Lake Ontario to the south. King is served by a streetcar line and Dufferin by buses. Phoenix Place has a positive reputation locally, due to its good management.

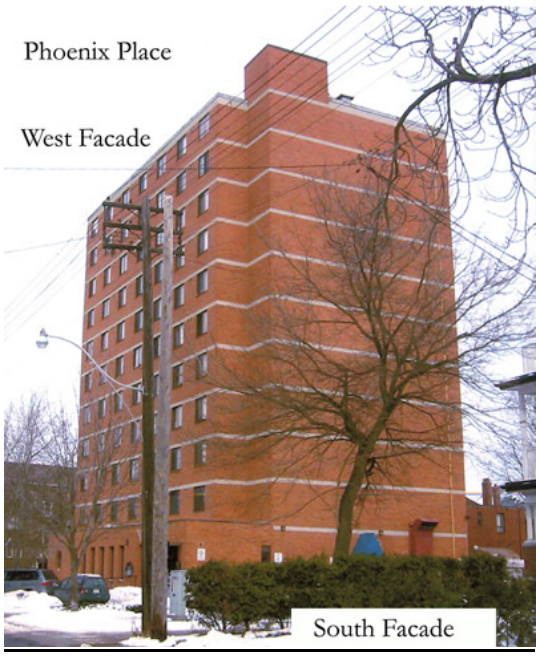
## 1.4 Description of the Buildings

The property is situated on the south-east corner of King and Dunn streets in Toronto's Parkdale neighbourhood and contains two buildings; Phoenix Place, an 11-storey apartment tower from the 1978 (on the corner) and Shalom House, a 3-storey former residence from the mid-to-late 19th century (a few meters east of the tower facing north onto King Street) with a recent poorly constructed addition on the back. The rear of the property is mostly dedicated to parking with access for garbage pick-up behind the tower and a small garden behind the house. The tower's long axis runs south from King along Dunn and units face either east or west.

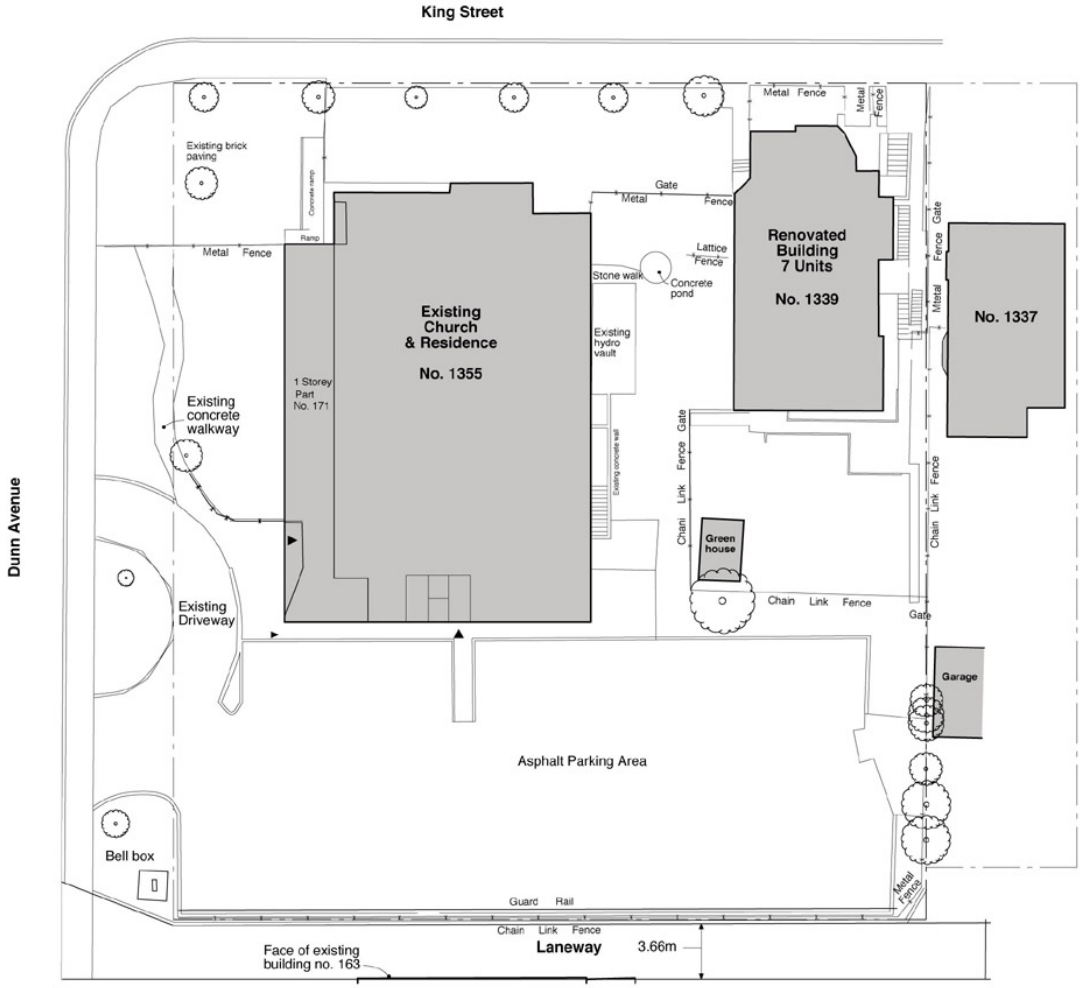
The tower is comprised of 136 bachelor apartments on floors 2-11 (14 per floor), a chapel and administration offices on the ground floor, and a community hall and mechanical rooms in the basement- a relatively new boiler system heats the building's water and baseboard heaters serve the units. A laundry room on the 11th floors serves the building. The house is used as program space with services for the community and lacks wheelchair accessibility.




Corner of King and Dunn



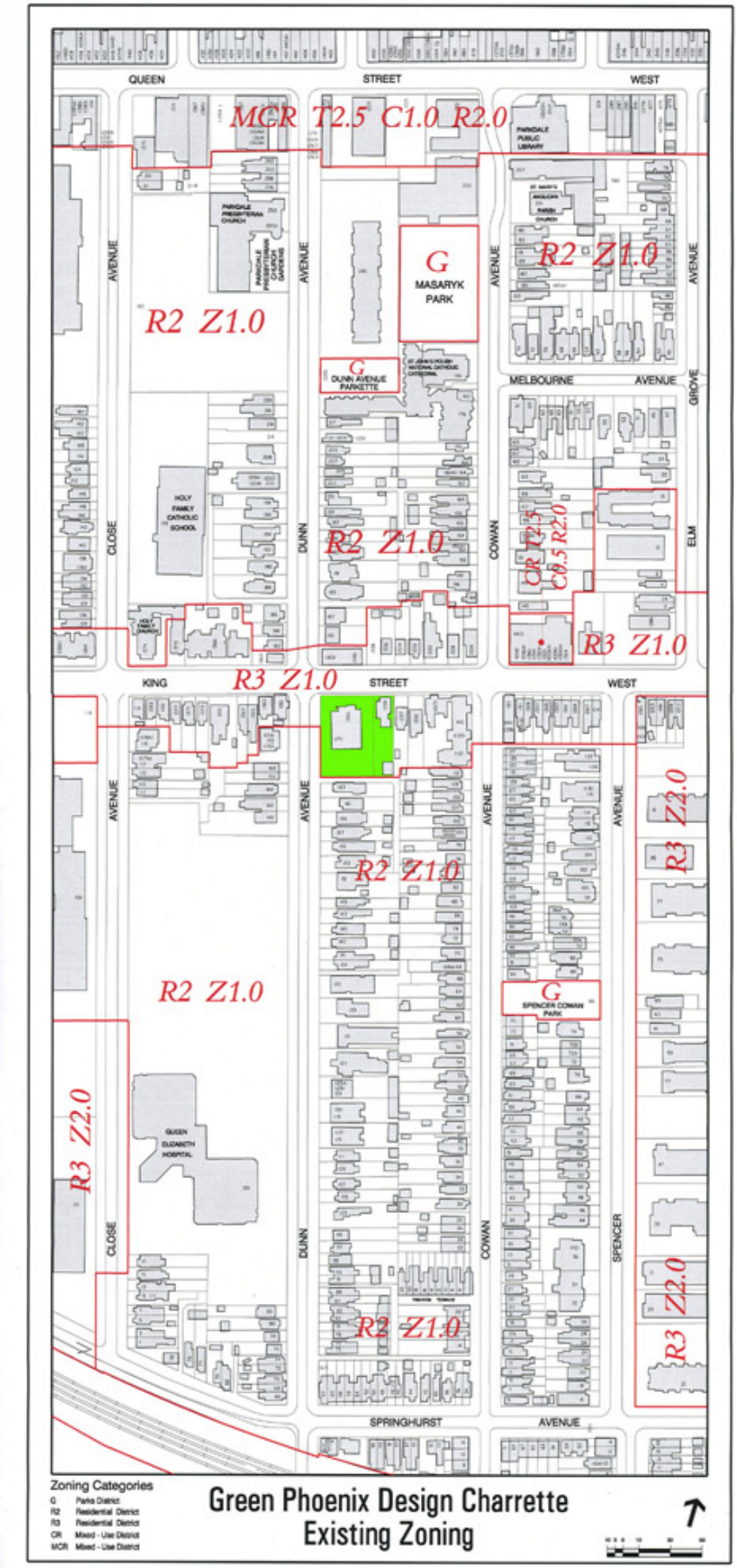

Phoenix Place south face




**Existing Site Plan**

**Parkdale United Church/Phoenix Place**
**Green Affordable Housing Project**
*with support from*
**Parkdale Liberty Economic Development Corporation**

Note:
All site dimensions are approximate.


QUEEN STREET WEST
MCR T2.5 C1.0 R2.0
R2 Z1.0
G MASARYK PARK
G DUNN AVENUE PARKETTE
MELBOURNE AVENUE
GROVE
ELM
CR T2.5 C0.5 R2.0
R3 Z1.0
KING STREET WEST
R2 Z1.0
R3 Z2.0
G SPENCER COWAN PARK
SPRINGHURST AVENUE
AVENUE
CLOSE
DUNN
COWAN
SPENCER
Zoning Categories
G Parks District
R2 Residential District
R3 Residential District
CR Mixed - Use District
MCR Mixed - Use District
Green Phoenix Design Charrette
Existing Zoning

## 2.0 Energy Model and Issues

Phoenix Place 1355 King St.

- typical residential floor; 7 units on the east and 7 on the west face of the building.
- laundry on the 11th floor with 4 front loading washers and 4 electric dryers
- relatively small apartments at approximately 230 sq-ft each, electrically heated, each with a 1500W baseboard heater
- a 4800 cfm gas-fired make-up air unit delivers air to the central corridor
- operable windows but no cooling in the upper floors of the building and there is a significant overheating problem – especially in the west-facing units.
- a small number of packaged room air conditioning units (estimated by the building management as about 20 – there is a small annual fee charged for running the units).
- a packaged gas-fired DX unit serves the church and offices on the ground floor.
- a second packaged gas-fired DX unit serves the lounge and storage areas of the lower floor.
- total floor area of Phoenix Place is about 52,000 sq-ft.
- original electric DHW heaters have been replaced with 6 x 100 gallon tanks and 4 Hydrotherm MultiPulse 75,000 BTU/hr boilers.

Shalom House 1339 King St

- a 3 storey brick structure with an addition on the rear of the building built in 1988.
- Shalom House totals almost 4,300 sq-ft.
- heated by hot water heaters served by a single 225,000 BTU/hr Lochinvaar atmospheric boiler with an indoor/outdoor controller. (20ºF loop – leaving at 170ºF, returning at 150ºF at time of walkthrough ~ 25ºF outside)

### New Building Preliminary Description

A preliminary plan of the new housing units was developed with a view to secure funding. This design was prepared by Steve Hilditch of Hilditch Architect. Preliminary constraints concerning setback, parking and garbage area access lead to a grade related, 2 storey design located at the south side of 1355 King St., suspended over the existing parking lot. This design added almost 7,000 sq-ft to the facility with seven units on each floor of the new construction. The preliminary plan also envisioned restoring and converting 1339 King St. into seven 1 and 2 bedroom apartments.

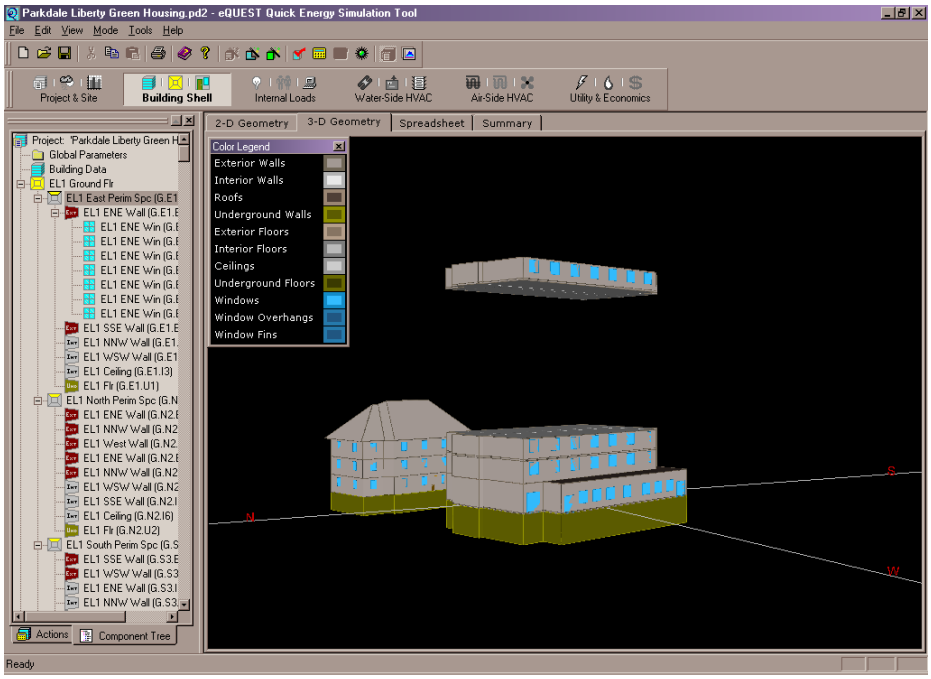
### Existing Energy Use and Simulation

Utility (gas, electricity and water) data was provided for 1355 King St. for the period of January 2001 to October 2004. The building is using approximately $130,000 in utilities at present. No utility data was available for 1339 King St.

A building energy simulation model of the existing buildings was developed in order to evaluate the current energy utilization and to quantify the energy savings of the potential energy retrofits.

The eQUEST software was used to develop the energy model. eQUEST is an hourly building energy simulation tool. It uses the DOE-2.2 calculation engine. DOE-2 is a widely used and

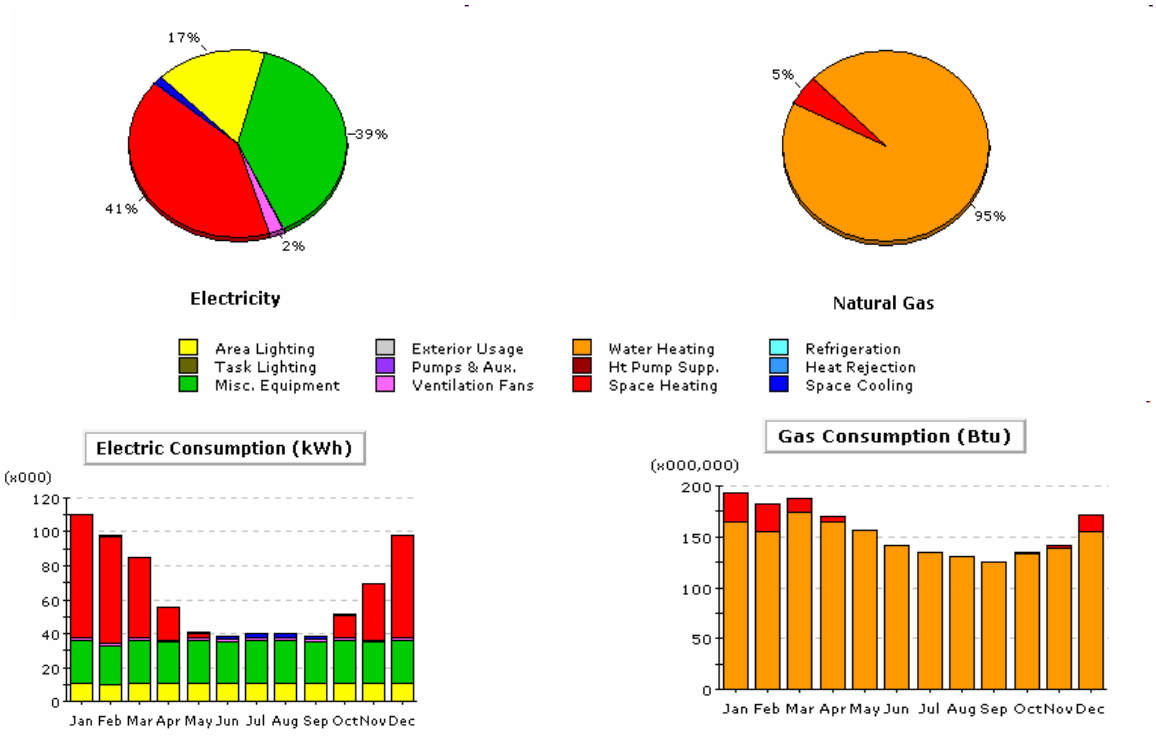
accepted building energy analysis program that can predict the energy use and cost for all types of buildings. DOE-2 uses a description of the building layout, constructions, usage, conditioning systems (lighting, HVAC, etc.) and utility rates, along with hourly weather data, to perform an hourly energy simulation of the building and to estimate utility bills. DOE-2 was developed in a collaborative effort between Lawrence Berkeley National Laboratory (LBNL) and James J. Hirsch & Associates, with major support from the U.S. Department of Energy and the Electric Power Research Institute (EPRI). Further details on the eQuest software are available at www.doe2.com.



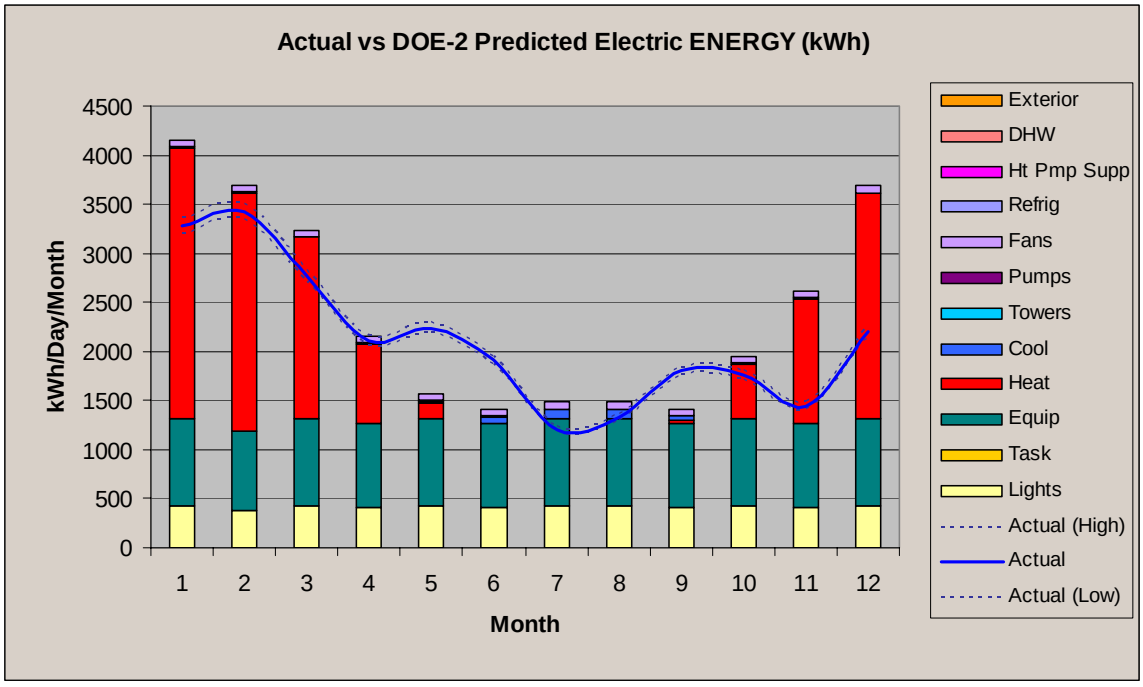

A three-dimensional model of the building is generated, comprised of all exterior surfaces and internal energy loads. For each space in the building, the simulation calculates hourly internal heat gains, solar loads and building envelope loads. It then calculates the energy required to condition the building to the required setpoints and to provide required ventilation. The hourly values are totaled up to give monthly and annual utility use projections.

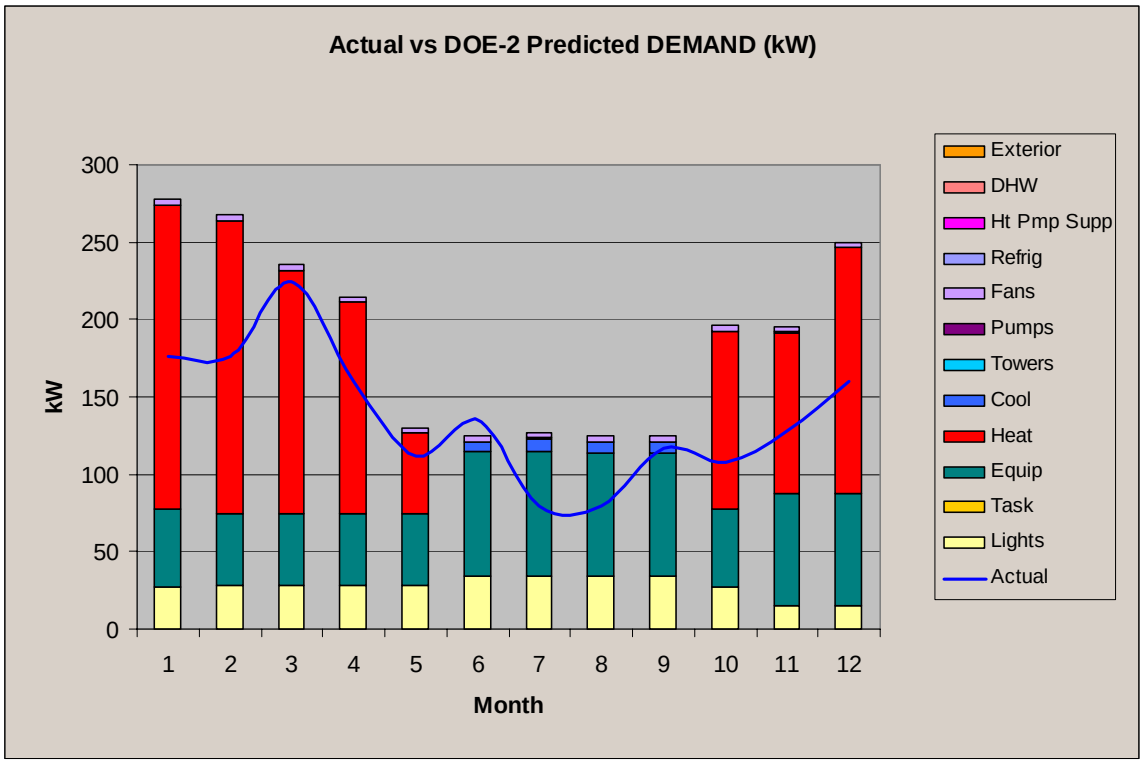
The weather used for the simulation is the Canadian Weather for Energy Calculations (CWEC) for Toronto, Ontario. This is a compiled hourly weather set from Environment Canada which uses the most typical values for a number of weather parameters including temperature, humidity, solar radiation and wind speed and direction, based upon a thirty year sample set. This provides the "most average" weather patterns upon which to predict energy savings.

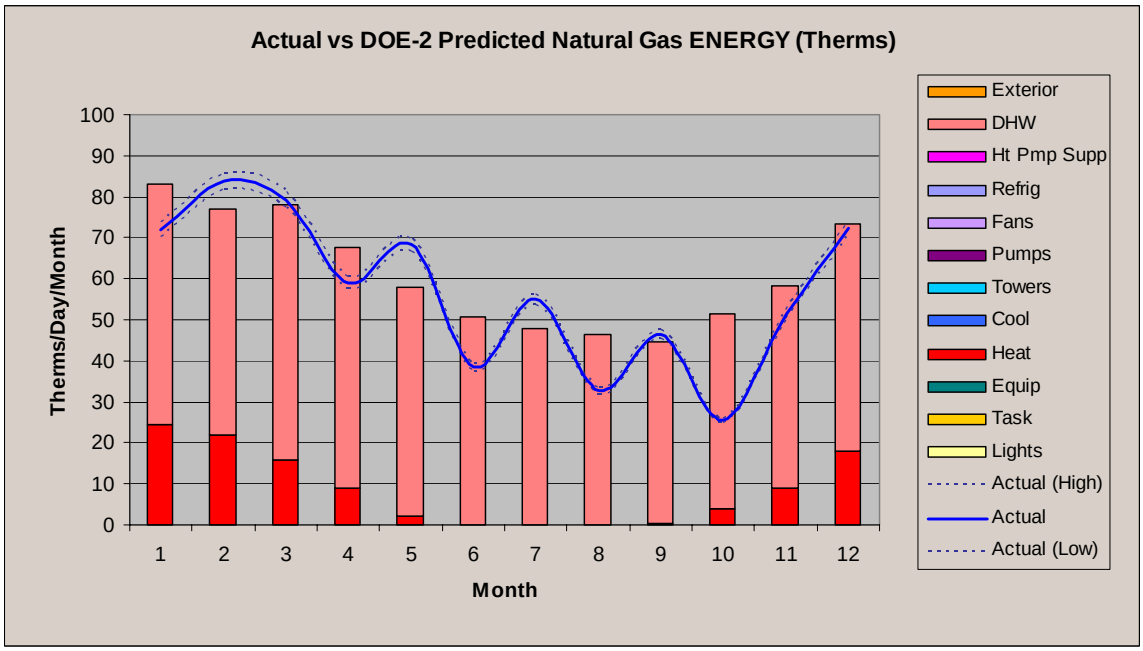
The following shows the summarized output of the energy model of the existing buildings. Space heating is making up the largest portion of the electrical load at 41%. Domestic hot water heating is dominating the gas use for the building.




In order to examine the validity of the model, the energy use for July 2003 to June 2004 was superimposed over the model energy use. The following graphs show this comparison. The lines are the actual use while the bar graphs are the model's predicted energy utilization.





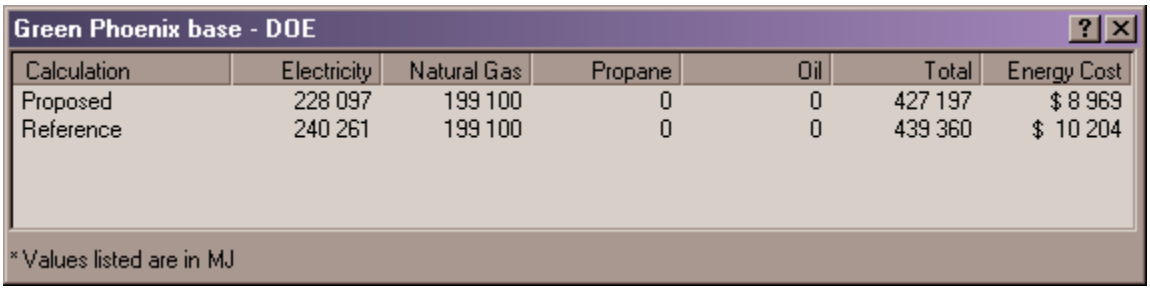




(Therm = 100,000 BTU/hr)

## New Building Energy Use

An EE4 building energy model was developed for the new building construction.

Standard engineering design was found to be 93.7% of MNECB



Green Phoenix base - DOE

| Calculation | Electricity | Natural Gas | Propane | Oil | Total | Energy Cost |
|---|---|---|---|---|---|---|
| Proposed | 228 097 | 199 100 | 0 | 0 | 427 197 | $ 8 969 |
| Reference | 240 261 | 199 100 | 0 | 0 | 439 360 | $ 10 204 |

* Values listed are in MJ

Reference building energy use was forecast as follows:

| | | ELECTRICITY | NATURAL-GAS |
|---|---|---|---|
| UNITS: MBTU<br>CATEGORY OF USE | AREA LIGHTS | 40.8 | 0.0 |
| | MISC EQUIPMT | 42.5 | 0.0 |
| | SPACE HEAT | 0.0 | 278.3 |
| | SPACE COOL | 0.0 | 0.0 |
| | VENT FANS | 19.6 | 0.0 |
| | DOM. HOT WATER | 0.0 | 188.7 |
| | **TOTAL** | **103.0** | **467.0** |

TOTAL SITE ENERGY 570.00 MBTU 81.4 KBTU/SQFT-YR GROSS-AREA

## Existing Building Retrofits

- A simulation investigating the impact of the slab edges of the existing building penetrating the building envelope and being exposed to ambient conditions found that the energy savings due to insulating these edges would be $3000/year.
- Adding 2" rigid insulation to the existing Phoenix Place walls would reduce the electricity used for space heating by 25% from 400,000 to 300,000 kWh/yr.
- Adding shading elements to the West face of the building reduced the extreme overheating hours by 800-1000 hours per year.

# 3.0 Green Phoenix Charette Notes: Yellow Team

## 3.1 Sustainability

- Plan for a sustainable site interconnected with a sustainable building eg zero run-off, capturing stormwater, collecting greywater for reuse.
- Sunny spaces of the site for gardens and greenhouses, possibly entrepreneurial production of food.

## 3.2 Site

- Phoenix Place does little to engage the street or contribute visually to the neighbourhood. The project should address these issues.

- An attractive addition on the King St. side (rather than to the south of the building) would link the building better with the community both physically and aesthetically, and contribute to the vibrancy of the neighbourhood. This meets the intent of the new Official Plan by intensifying use on a major corridor (King) and would provide ground floor commercial or other services accessed from the street.

- Ground floor suites could provide services or amenities that already exist at Shalom House and in Phoenix Place, such as a lounge linked to a laundry area. Later, commercial services such as a café and laundromat might be developed to employ building residents and provide services both to residents and the neighbourhood.

## 3.3 Energy

- passive and active energy opportunities for the building.

- building on the King St. side of Phoenix Place would improve insulation and better protect the northwest exposed slab edges from prevailing winds.

- significant solar potential on the south side of Phoenix Place, eg solar thermal and a solar wall application for water and space heating costs

- strong support for radiant heating, possibly connected to a geothermal heating system

- photovoltaic cells, roof-mounted wind energy systems, and stationary hydrogen fuel cells generally seen as not cost effective options.

Geo-Thermal

Option One: tap into an underground aquifer to circulate water from the aquifer through a heat pump and reinject it into the aquifer. Since the water underground maintains a constant temperature, it can serve as a source of heat in winter, and cool in summer.
Considerations:

- Need to filter sand out of the water
- Reinjection of water requires more area than the area from which the water is initially drawn.

- System is high risk, requires an environmental assessment.
- Costs less to drill three wells for suction and injection.
- Heating and cooling the existing building plus the new units would require an estimated 100 tons of heating and cooling (at three gallons per ton, requires moving 300 gallons of water per minute through a filter and heat exchanger)

Option Two: a closed loop system using a circulating methanol solution in tubes.
Considerations:

- multiple bore holes, typically to about 200 feet. The constant ground heat (typically 13-15°C) is transferred to the methanol solution, and into the building.
- 100 tons requires 100 bore holes (should be possible on this site)
- wells typically cost $7-10 per foot to drill.
- More than $100,000 up front for the field.
- Phoenix Place pays $30,000 per year for energy now.

The coefficient of performance depends on the temperature of the ground. This system can combine with a solar heating system and a high efficiency, condensing boiler for peak requirements. This technology is being considered for Regent Park, and has been done for the High Park Lofts project on Roncesvalles.

**3.4 Waste / Waste Reduction / Recycling**

- Garbage truck access to the southeast corner of the building is problematic. Options considered included a compactor, removal of the garbage room to the southwest corner of the building, enhanced sorting and separation, composting organics on site, and the possibility of collecting valuable recyclables and using the income to opt out of the city's waste collection system.

- Deconstruction and reuse or recycling of parts of Shalom House, a possible 95% diversion of waste by weight.

- Pay more up front for durable new materials for longer life cycle and lower maintenance.

- Reuse high-grade salvaged materials, eg Habitat for Humanity's ReStore or kitchens installed recently in Regent Park (to be demolished); potential $3000 saving per kitchen.

- Design new construction to standard sizes to reduce waste

**3.5 Parking**

The emphasis of the City on a minimum number of parking spaces is incompatible with sustainable development.

Six parking spaces that are surplus to current needs could be eliminated. New residents will be homeless or at risk of homelessness and unlikely to own a car. The site is well served by transit.

Include accessible and secure bicycle storage for the new construction. Reduce or eliminate parking lot's stormwater run-off. Expand green space on the south side of the property, and reduce the visual blight of the existing asphalt lot.

Consider volunteers and trainees in demolition and/or construction:
- concerns: safety and insurance issues, time and effort needed to manage them, more time required to build with volunteers.
- pluses: achieving the support of community members for the project, increasing the commitment of future residents, and in some cases, reducing costs.

Financial considerations: FCM Green Municipal Funds available to run pilots for new approaches to green construction that aren't sufficiently proved and/or are more expensive than conventional construction.

Green Phoenix as a showcase of green affordable housing with comparable capital costs.

## 3.6 Seven Building Form Alternatives

Shalom House has a footprint of 1700 square feet, with space for six to seven apartments, including some one- and two-bedroom units.

### 1. Taking Down Shalom House and Rebuilding

Advantages:

- nine to ten units of grade-related construction on the same footprint
- better design
- much more energy-efficient than a renovation could achieve
- may be less expensive than renovating.

Disadvantages:

- Loss of the façade of an attractive historic building
- Loss of embodied energy and materials in the existing building
- New construction would be subject to additional setback and overlook constraints (especially windows on the east side of Shalom House) that wouldn't apply to a renovation project.

### 2. Renovating Shalom House

Renovating would retain the historic façade, embodied energy and materials and avoid the setback and overlook constraints that would apply to new construction. Third floor of the house could be extended over the existing south-facing addition to the building, to expand the housing available on this floor.

### 3. Reconstructing and Adding Units to the South Side of Shalom House

In the 1980s, a poorly constructed unattractive addition was built on the south end of Shalom House. Problems include cracks and leaks.

Removing and rebuilding this addition could be a good compromise between options 1 and 2 above. New construction on the south side could take advantage of passive solar heating.

The potential to build the whole 20 unit project by combining renovations and additions to Shalom House and leaving Phoenix Place alone would be difficult with the setback requirement from the east side of the property as well as from Phoenix Place on the west.

4. **Adding One or Two Floors to Phoenix Place**

Given the "neighbourhood" designation of the area in the new official plan, adding to the height of Phoenix Place was not likely to get serious consideration by City planners.

5. **Building Along the Front Wall of Phoenix Place on King Street**

The existing building presents mainly a brick and concrete face to the street.

Advantages:

- Building here would be in keeping with the principles of the new Official Plan to intensify along main street corridors
- Create a better link between the building and the street.
- Potential for neighbourhood services on the ground floor and apartments above.
- Easily integrated with the existing building.
- Could go as high as five stories, covering much of the north wall and improving the insulation of the existing building, leaving the south wall for solar applications.

Disadvantage:

- As an addition to the existing tower it would require more expensive non-combustible construction.

6. **A "Bit of Everything"**

- Building 2 to 3 new stories on the north (King Street) side of Phoenix Place, extended eastwards but not connecting to Shalom House.
- Renovating Shalom House.
- A walkway running between the new construction and Shalom House, possibly with a covered archway leading into a courtyard between Phoenix Place and Shalom House.
- South end of the building for some combination of parking and green space.

Some participants commented this might be the most expensive alternative discussed so far.

7. **Wrapping the North and Northwest Sides of Phoenix Place**

A further development of the sixth idea:

- extending the new construction on the north side of Phoenix Place down Dunn Avenue as a glazed element.
- provides protection for the existing stained glass windows on the west side of the sanctuary while still allowing light in.
- provide a welcoming, light-filled entrance to the church hall below
- possible use as a greenhouse

- expands the current, very tight lobby, which serves as a kind of meeting space for tenants, making it more welcoming.

## 3.7 Building Form

Option Seven became the favoured solution. According to project architect Steve Hilditch, this scheme would go a long way towards dealing with the problems that City planners had with previous site ideas. New construction on the north could be a first phase, leaving the current parking and garbage pick-up in place, and resolving them in a second phase.

Keeping the front end of Shalom House would please the neighbours, and keep much of the embodied energy/materials in the building.

For the south side, Brad Peterson strongly recommended that desired functions be stacked so that every element of the building serves multiple purposes. Expanding green space on the south end of the site would make it more attractive to the community, allow for gardening and food production by residents, and reduce the heat island effect of brick and asphalt. Permeable pavers in the parking lot provide a surface for cars, but also allow rainwater infiltration.

Garbage pickup requires very long (55 foot) trucks driving in off Dunn Avenue to the south east corner of the building, picking up the waste container, then backing out using a three-point turn. The trucks require a significant amount of turning space. Currently, this is all managed on the large parking lot south of the building. To move the parking lot to make it less obtrusive and make way for more green space requires another way to manage waste pickup.

One option: have trucks (and cars) enter off the laneway at the southeast end of the property and relocate parking lot to the southeast side of the site, leaving the southwest side for green space. Works Department has insisted that garbage trucks will not enter a site from a laneway. Another idea was to cut a deal with the nearby Queen Elizabeth Hospital to take waste from the project, and purchase a small truck to take it there, solving the whole problem.

The garbage chute could be relocated to the southwest corner of the building, and a new garbage room constructed there, reducing the need for garbage trucks to enter and turn on the property.

A one-storey extension off the back of Phoenix Place could provide a secure space for bicycle storage on the east corner, and waste sorting and storage on the west side. Trucks would pull up to the south west corner of the building, rather than circling the whole south side. The truck still has to have turning room on the property, requiring a substantial amount of paving. However, the team felt that this was the best of several bad choices.

A greenhouse structure built on the second storey, extending down over the front (south side) of the new waste storage/bike parking extension was proposed and would link to new garden space south of the building, taking advantage of a composting system for organics in the new waste room below and the southern exposure. A "living machine" in the greenhouse could process grey water or even black water from the building. A "solar system" of five stories of solar panels for pre-heating water for the building sits above, and above that a solar wall that could preheat air used in the central core of the building. Green roof options were considered.

Parking would move to the area behind Shalom House with entry from the laneway to the south of the property rather than from Dunn Ave. If necessary, PUCF should offer the City a strip of land on the south end of the property to widen the laneway

Green space freed up to the south of Phoenix Place should be put into gardens for residents and include infiltration swales where moisture-loving plants can grow. Plastic infiltrators below ground collect excess water and avoid stagnant pools of water where mosquitoes could breed. Berms or raised beds, particularly along the edge of the laneway, provide areas for growing produce and introduce some interest into what is now a very flat landscape.

A patio in the area to the west of Shalom House and south of the new construction on King could serve a coffee shop on the ground floor of the new construction, or could simply provide a mostly shaded outdoor space for residents of Phoenix Place on hot summer days.

### 3.8 Energy Considerations

Solar panels

- solar panels on the south side of Phoenix Place to preheat hot water, above the proposed greenhouse angled at about 70° (visually mediated by the greenhouse)
- takes considerable load off the energy requirements for the building (40°C water)
- more storage tanks for heated water required

Waste water pre-heat
- needs a vertical pipe, (harder in retrofits)

Slab heating preferable

Retrofit from electric to hot water heating is very difficult due to small suites, poured concrete floors, block walls (could run piping within a curtain wall).

Heating mains along the halls, fan coils above the door (like hotels) costs roughly half of current electric costs - requires gas-fired boiler system.

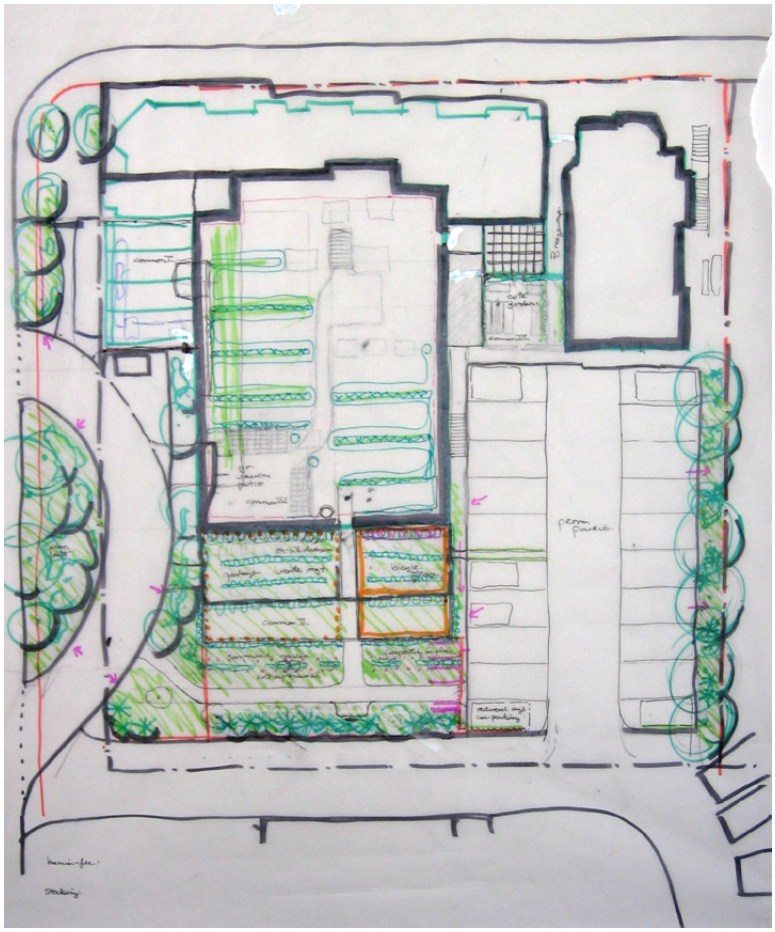
New Building
- slab heating and cooling
- evaporative cooling tower - $50.00 per ton
- green house gases from heat pump, better than conventional system
- 2-pipe changeover is difficult
- could combine heating systems of Phoenix Place and Shalom House

### Yellow Team key energy model results:

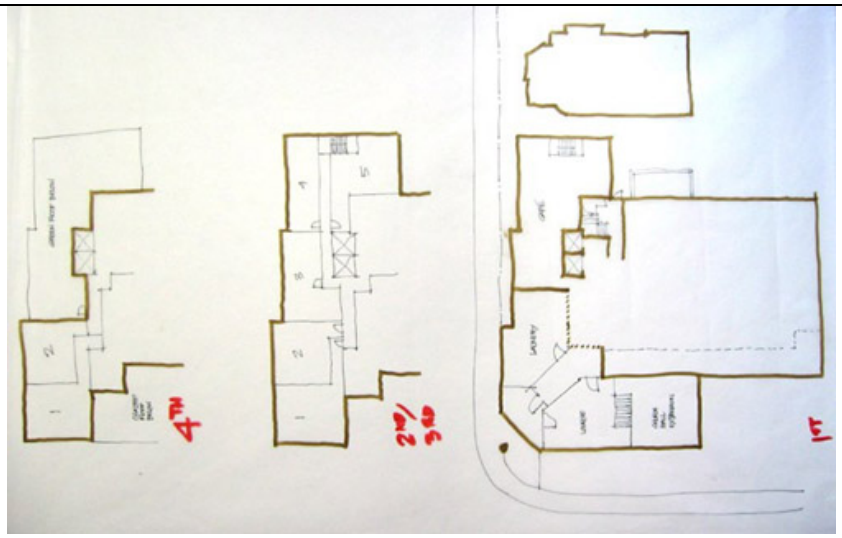
- Ground source heat pump would provide hot water heating and it would be delivered using in-slab heating
- Solar thermal hot water collectors on the south wall of the existing building would provide partial heating to the hot water loop.
- Solar wall air heating on upper portion of south wall for corridor ventilation air preheating.

**Yellow Team Projected Energy Performance:**

- It is estimated that this design would use between 60 & 65% of the National Energy Code reference building design and achieve 5 LEED points for energy performance.
- It could meet the mandatory LEED requirements

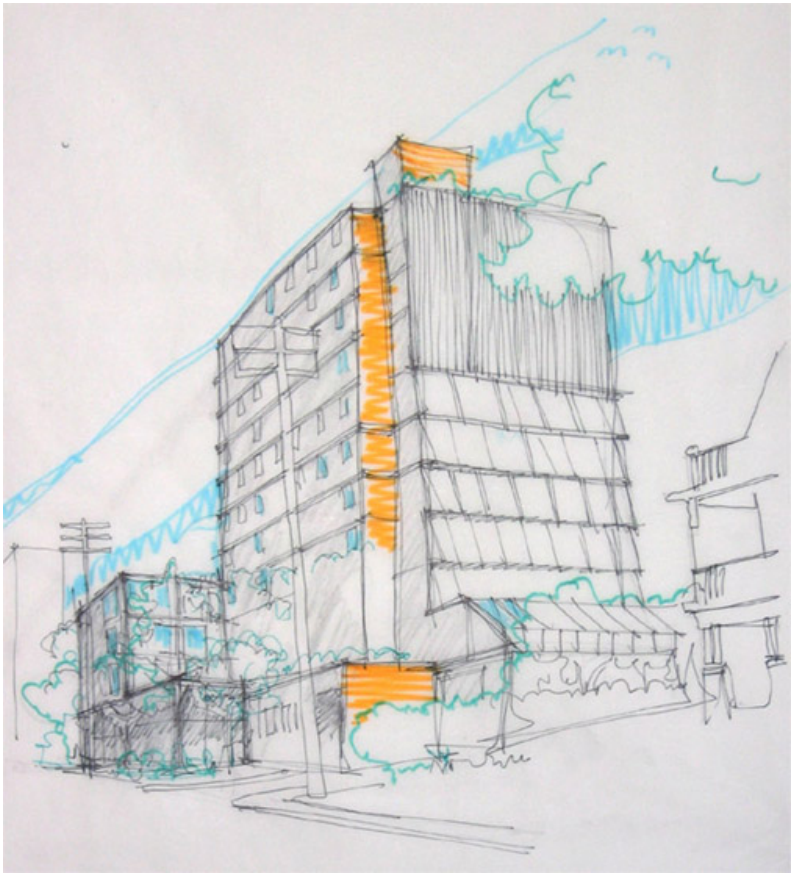


**Yellow Team – Site Plan**



**Yellow Team – Floor Plans**

**Yellow Team – view from north-west**



**Yellow Team – view from south-west**

# 4.0 Green Phoenix Charette Notes: Blue Team

### Topics of Consideration

1. Community
2. Site Design Issues
3. Structure/Envelope
4. Energy/ Mechanical Systems
5. Indoor Environment
6. Lighting and Utilities
7. Water Management
8. Materials and Resources
9. Construction and Commissioning
10. Info to Tenants/Occupant management
11. Main Elements in Blue Team Final Presentation

### Goals in Consideration

12. 20+ new units
13. Green building showcase
14. Green options/technologies as realistic
15. Accessible design that is inclusive and integrative to occupants and their requests/needs

## 4.1 Community

### Overall

- Need to accommodate new housing and try to keep or create community space for existing programs
- Housing a priority for the church board and congregation though they would like sanctuary to be more recognized and accessible to community

### Details

- Use space between Shalom and tower to link building mechanicals and provide commercial space – possible way to get around issue of commercial zoning? (eg. food produced organically on site could act as demonstration project to teach others, and distributed through on-site food bank office)
- Alternatively, use linked space as green house common area that is shared with laundry facilities for all buildings
- Relocation of garbage to curb at King St.
- Reconfiguring drive-through on Dunn (with green space as island) so city truck doesn't have to turn around in parking lot – garbage chute redirected and small sorting room added to existing garbage room where bins could be stored and rolled out on pickup day(s).

- Drive in to parking area using existing lane (widened by 3-4 feet with city approval)
- Make parking (it accounts for 1/3 total site space) double as community space by using permeable materials that can be designated in different ways according to required use (ie. demarcations are not permanent)
- Capture rain water from rooftops, slow down and flow through limestone filtration (to level ph of acid rain) and collect in a cistern, to be used to irrigate green spaces on site and possibly for toilets (depending on infrastructure changes for intake)
- Landscaping opportunities exist in web of spaces between buildings on site, on rooftops, and south and west walls (ie. suspended wires for vertical systems) that can capture rain and sun, provide shade and offer opportunity for food production, sanctuary and interactive common areas as well as provide soft green areas that would be more aesthetically pleasing to neighbourhood

### Existing building (Phoenix Place)

- Occupants like to participate in the running and management of building (ie. Responsive to recycling where opportunity exists). Potential programming opportunity.
- Besides relocating the garbage, it was considered important to create/provide a space for sorting recyclables as well as green bin/compost drying/sorting
- Occupants would enjoy shared spaces where there are activities to do such as laundry – current laundry is on the 11th floor and is at capacity (4 pairs of appliances)
- Laundry space relocated would free up additional bachelor unit on 11th floor and provide room for additional appliances for new units
- Occupants have expressed interest in common workshop area and assistance in 'handy work' in their apartments such as affixing shelves, adjusting cabinetry etc. A program to teach handy work could involve occupants and community members, and may even be able to provide a service both internally and externally to support the purchase/upkeep of tools etc.

### Shalom House

- Replace back addition and add 3rd floor, retrofit to create larger residential units
- Maximize lot limits that already exist for Shalom House and add new construction along King. St. with visual character of Shalom House to integrate new and existing styles harmoniously
- Initially a 1 story atrium that could have units added above over time as funding appeared

### New construction

- Design for universality to make entrances accessible (ie. at grade) to residents and visitors eg addition on south and possible west sides of tower with accessible units on ground level
- Use new construction as a way to insulate first 4 floors of tower
- Existing units that meet addition could be made larger or have view/access to terraced green roof

## 4.2 Site Design Issues

### Overall

- Hybrid heating system of solar and geothermal with hydronic distribution – Shalom set up with existing hot water radiators, tower would need to be outfitted with hydronic distribution system but boilers could be kept in basement
- Due South wall ideal for solar collectors for hot water makeup and cooling/insulating walls
- Clad West wall to protect from winter wind and add living wall and solar collectors
- Possibility of geo-thermal wells in spaces between and under linked spaces between network of buildings (vertical, possible open loop to aquifers) – approx. 13 wells needed to provide energy to hybrid system – approx. 2 weeks of drilling at 8 hours/day.

### Existing building

- Roof hybrid of solar collectors and horizontal vine system/green roof (ie. Cooling and rain collecting)

### Shalom House

- Current rear addition replaced with addition that has terraced green roofs/balconies to create different topography and privacy from parking/common outdoor space
- Retrofit includes 3rd floor allowing for 8 new 1 bedroom units
- Current walls are double brick without insulation – any new construction wrapped around building would add to R value
- large decorative windows are currently single pane but could be incorporated for decor into retrofit with double glazed windows

### New Construction – Phoenix Place

- Green roof on new 4 story structure (with combo of bachelor and 1 bedroom units where addition meets existing units) at south end of tower. Second phase could continue to wrap around west side of building with terraced green roof
- Skylights added on sanctuary roof for more natural light

## 4.3 Structural/Envelope

### Overall

- Currently the tower is insulated with polystyrene between 2 concrete walls
- to avoid flywheel effect (ie. where walls are too thick, heat doesn't have time to penetrate and retreats to exterior of the wall), walls need to be insulated without being too thick
- Depending on roof load (22lb/sq foot dead load – 60lb/sq ft considered best option) of tower and new construction, apply thermal green roof (to be thermal soil has to be 6 inches deep).

## Tower

- "Smart Mass" insulation on west and south faces where solar collectors or addition do not protect existing tower walls
- Reduce west wall heat gain by shading windows with solar screen material
- For south wall alternate between solar collectors (attached 4 inches from wall provides space for some insulation) and hang cables from roof for vertical vine system for cooling in summer

## Shalom

- Terracing on back deck areas for privacy and separation from parking/community outdoor space, green house and overlook from neighbouring buildings
- Green roof possible up to slope of roof of 40 degrees

## New Construction

- LEED insulation value at R30 minimum for walls and double glazed fiberglass frame windows

### 4.4 Energy/Mechanical Systems

## Overall

- If goal is to provide higher level of care, then backup or assured power system needs to be incorporated (ie. Possibly duel fuel version – natural gas with diesel, or fuel cell in future)
- Flow through capital cost allowance (to non-profit) – half of the cost can be tax deductible in 1st year
- Canadian geo-exchange provides funding for geo-thermal to lease equipment over amortized period with a charge of a flat rate fee for utility cost
- South wall with hybrid system – solar provides 60% of hot water heating for existing tower with approx. $20,000 in gas savings/year*
- * Please see Blue Team charts as experts also provided approximate cost estimates and secured some more specific modeling of possible energy savings.

## Tower

- Air from bathroom vents redirected into ducts in central corridor and connected to central HRV (roof mounted for 60% efficiency minimum)
- Hot water recovered from drains in new plumbing (GFX systems) between units
- Annual storage system in basement

## Shalom

- radiators in Shalom house incorporated into larger shared hydronic system with floor heating over cold space(s)

## New Construction

- Connect one system to all buildings centralized in basement of new construction
- Existing boilers are operating at approx. 50-60% efficiency could be upgraded to 80-90% efficiency – booster may be needed if all buildings connected

### 4.5 Indoor Environment

## Overall

- Sound consideration for occupants during new construction considered – drilling of wells for geothermal would take approximately 2 weeks at 8 hours/day)
- Solar collectors/awning would require patience re: privacy during installation process
- Construction of addition on south (and perhaps west) side of tower would require temporary relocation of occupants to 2nd, 3rd and 4th floor tenants while units were integrated into addition

## Tower

- HRV system on each floor with rough filter and extended surface or pleated filter needed – has space implications if in each unit and cost of venting to hallways with roof for central HRV to be determined
- Approximate savings on heat recovered - $ 2,000/year in gas*
- * see numbers modeled for Blue team for exact figures

## Shalom

- Atrium/Greenhouse link space to promote gathering space with green, light and activity (as well as humidity if water feature included)
- Atrium would also slow down or block wind that currently prevents use of space between buildings

## New Construction

- Low sound exhaust fans for bathrooms to be used (.5 or lower is best)

### 4.6 Lighting and Utilities

## Overall

- T12 currently supplied in kitchens, CFLs in suite halls (when occupants ask for change), bathrooms currently have 1-2 incandescent bulbs, exit lights are LEDs, Hallways and common spaces fluorescent, parking high sodium, sanctuary has halogen to light up windows
- Most units have bar fridges 4.5 – 9 cubic fee (312 energuide rating)
- Upgrade T12 to T5s
- Wait 2-3 years to replace all incandescent with LEDs (once price goes down and instead of making 8 year commitment to CFLs)
- Use LED strip lights for sanctuary or point lights upward (reduces glare and events light distribution)
- Laundry machines could be timed for different rates at different times in the day/evening
- Use stacked washer/dryers to gain floor space
- For emergency lighting –European-style laser light for universal access

- Consider LEDs for all exterior lighting

### Tower and Shalom House

- North stairs - put in occupancy sensor

### New Construction

- Transfer heat recovered from laundry to atrium/green house common area
- GFX system to recover hot water from drains (3-4 year return) in wall between suites
- Change elevator to Eco Elevator – self-propelled "box" (ie. Traction unit with wheels instead of large motor)

## 4.7 Water Management

### Overall

- City of Toronto is hosting a symposium on storm water harvesting May 24th, 2005 at Metro Hall and would consider funding a water harvesting applied design concept to showcase at symposium
- Recovery of water from all roofs and permeable parking/paving requires filtration (limestone for PH neutrality of acid rain and separation of oil from parking areas + treatment)
- Cistern storage between buildings of water that can be reused. Delayed run-off from green roofs could be collected and used in toilets (would require new isolated toilet feeds)
- Solar collectors would be best utilized to collect thermal energy to boost hot water production and save on energy costs*
- * Please see modeling requested by Blue team for more precise estimates

### Tower

- Low flow toilets and aerated shower heads installed in 2001

### Shalom

- Low flow toilets and aerated shower heads to be incorporated into new units in Shalom House

### New Construction

- Compost toilets or waterless urinals for new units

## 4.8 Materials and Resources

### Overall

- Use more durable materials in new construction and modular design in units so they may be made larger or smaller over time to accommodate changing needs of occupants with minimal waste and demolition costs
- Provide sorting areas in each kitchen unit to make different recycling and green bin collection more convenient
- Vermiculture for management office paper waste
- Use of Dow corn husk walls where replacing/installing drywall

- Incorporate City diversion goal for 2010 into a waste management plan as a 'bargaining chip" for city approval of Green Phoenix
- LEED points for using materials that are from within 50 miles or 1500 miles by rail or sea

## Tower

- Given possible expense of insulating tower from the outside – it may be economical to wait 5 years for a better and more accessible technology (easily investment return of 20 years)
- Evacuated panels also considered if cost decreases
- Using 2nd hand radiators was considered although warranty by trades might be less ( 1-2 years instead of 10 years with new radiators) if converting tower to unified hydronic system

## Shalom

- Retrofit of Shalom house seen as way of minimizing waste and impact on community
- Consider used kitchen kits for new units

## New Construction

- Utilize LEED and R2000 guidelines as best strategy for acquiring funding (and not reinventing the wheel)
- Workshop space and shared tools may address occupant requirements that are beyond management capacity to meet (eg. Modifying/repairing of furniture that is made available for free to occupants)

### 4.9 Construction and Commissioning

## Overall

- Leed requires durability credit and Commissioning Officer -if included from the beginning 2 credits are available
- Non-profit has generally neglected commissioning
- Education and training for board and managers
- NRCan funds available to train management on R2000 program
- Green Manager's Association, Canada Green Building Council (LEED in Canada) BOMA, Green Globes Certification, Better Buildings Partnership as champions of project to raise awareness and prestige of design that could garner support with planning/zoning department approvals
- Cleaning and maintenance using Energy Star, EcoLogo, Energuide and Green Seal
- Pursue feature on "Structures" program for favorable showcase to community and city departments
- Single greatest success factor – site foreman – good reference, LEED certified, construction manager ideal
- CBIP, FCM and SCPI funding available as well as Social Housing Service Corp. Grants and CMHC RAP funds

### 4.10 Info to Tenants

## Overall

- Ground rules on recycling communicated by management with assistance from volunteers in affinity groups
- Possible training from paid coordinator to set up social marketing programs such as "how to compost", "how to grow food organically" etc.

- Minimize disturbance to occupants during construction and communicate forecast impacts during construction and changes to prepare occupants adequately
- Hold meeting to evaluate plans and changes with all occupants
- See Doug Mackenzie Moore for approaches to communications strategies in affecting behaviour (eg. Social marketing) if recycling or composting is problematic in initial stage of implementation

### 4.11 Main Elements in Blue Team Final Presentation

- 9 new units (1 and 2 bedrooms) in Shalom house with 3rd floor and terraced garden decks
- laundry in atrium/green house that links Shalom house and Tower
- Hybrid (solar and geothermal) hydronic system connecting Shalom House, Tower and new 4 story addition on south side of tower (west side 4 story addition could be added in Phase II, front addition along King St. could be Phase III)
- 4 story addition (12 bachelor units, including 3 accessible 1 bedrooms) on south side of tower that would improve insulation and could be added onto later
- Solar collectors on South and West walls to supply 60% hot water approx. installation cost 400k*
- Geothermal drilling of 130 wells (40% energy supply to all buildings) approx. $150 – 200k*
- Parking accessed through lane with permeable paving with ability to re-designate parking spaces according to need
- Earth tub composting and sorting room added that could also store garbage bins for easy rollout on pickup days
- re-routed garbage pick up at King St. curb
- Green roofs on tower, new addition and terraced balconies on new addition on Shalom House
- Green roof and sky lights on sanctuary roof
- Iron obelisk or church tower covered in vines at King St. curb in harmony with iron gate and path to bring further attention to sanctuary and housing ministry to community
- South wall to be shared by solar collectors and vertical living wall (will cool in summer and add some insulation in winter)
- Solar screens on west facing wall to shade units in summer

Solar DHW heating: peak DHW load: 400,000 BTU/hr; total load 1,360MBTU/yr. Using 120 sq-m of collector would provide 27% of the total domestic hot water heating load.

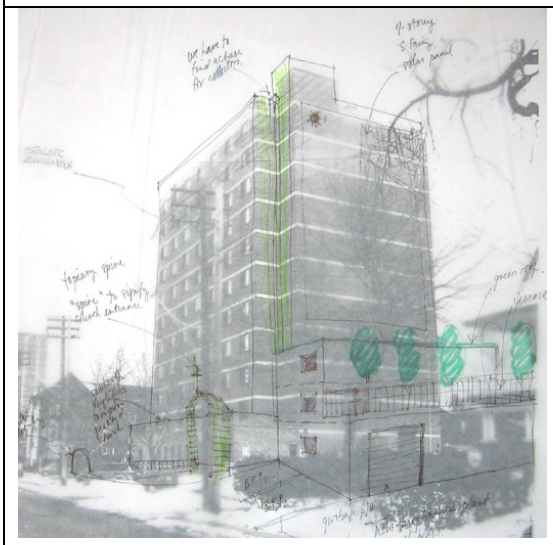
Blue Team key energy efficiency measures:

- The Blue Team proposed to construct a 4-storey addition to the south side of the Phoenix Place, and to retrofit the Shalom House. A 1-storey in-fill would span the space between Shalom House and Phoenix Place with laundry and other community spaces.
- Ground source heat pump in conjunction with hybrid solar water heating on south face of existing building.

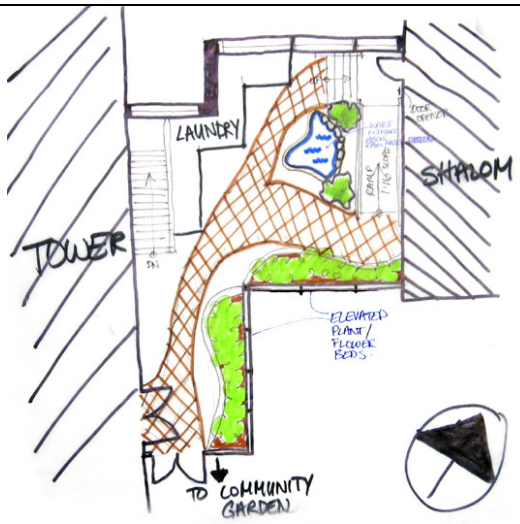
Blue Team Projected Energy Performance:

- It is estimated that this design would use between 60-65% of the National Energy Code reference building and achieve 4-5 LEED points.
- It could meet the mandatory LEED requirements

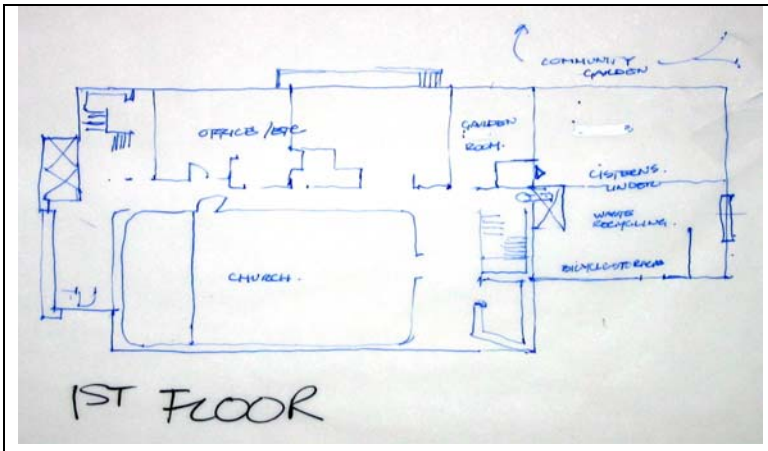

**Blue Team – Site Plan**

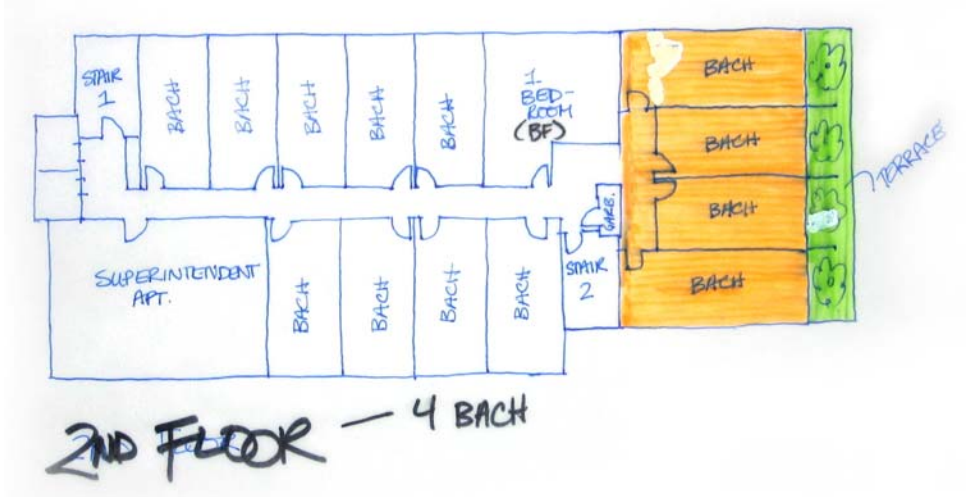


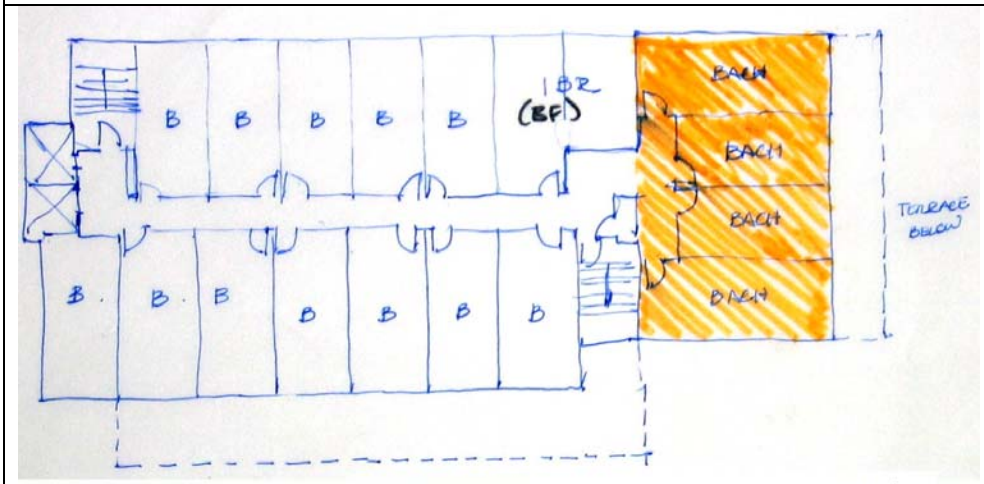
**Blue Team- view from south-west**



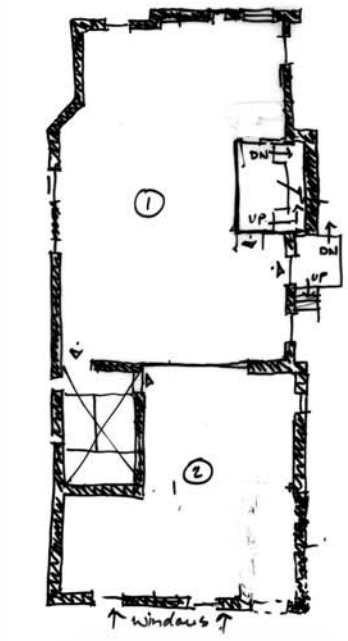

**Blue Team- courtyard plan**



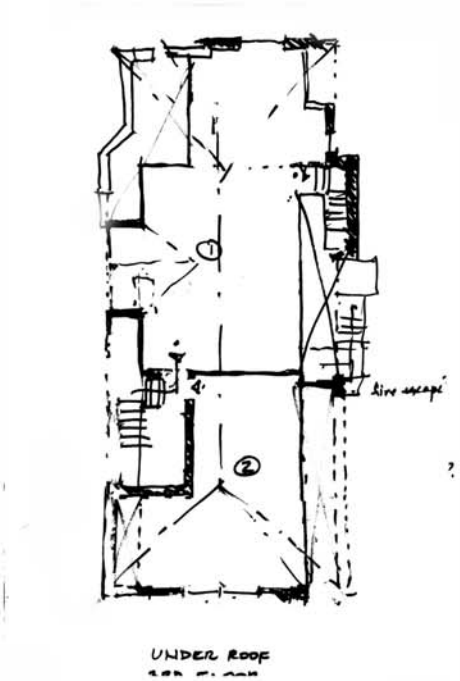



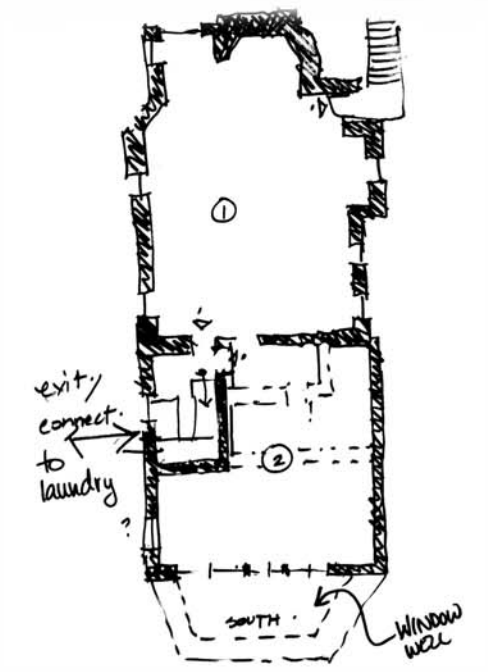

**Blue Team – Phoenix Place – Floors 1-4**



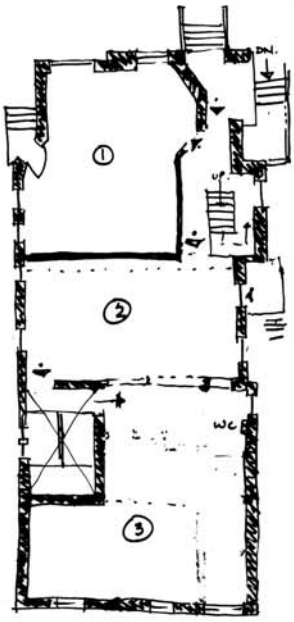

Second




Third




Basement




First

Blue Team - Shalom Unit Layout

# 5.0 Green Phoenix Charette Notes: Red Team

## 5.1 Shalom House

- Shalom House – residential – hard to convert to apt's –is a dead component on streetfront during day
- Needs commercial to keep street alive
- Renovating – expensive $2.4mil doesn't go far
- Energy cost is a big drain on PUC/Phoenix - $7000 gas bill
- PUCF – sell, lose, raze SH – sucks $ out of us

## 5.2 Phoenix Place

- Concentrate on Phoenix Place- has facilities already - elevators, waste management, laundry
- South wall is full of potential:
    - Habitation- 20 units, 10 floors
    - Energy
    - Greenhouse
    - Amenity space
    - Terraces

Potential

- A successful living example, not a museum – active
- Green programs in bldg for the community
- Design building with green economic development in mind –eg grow/sell organic food, produce energy to sell to the community, raise seedlings, run a green Laundromat
- The building/programs/businesses can become a catalyst to "green" the larger community
- For Phoenix residents- Conviviality, common/social spaces, secure, functional, place to meet neighbours, opportunity for people to define social life – help people to adapt – have people able to look in  on others

## 5.3 Problems

- Garbage collection
- Ventilation
- Overheating in summer- people leave units to sleep in park
- High water table- Phoenix runs sumps
- Much of the open space is asphalt

## 5.4 Ideas

- Adding to south face- minimum amount spent on foundation as opposed to renovating Shalom House and/or building vertically along King
- South face addition can accommodate 20 new units, add amenities, generate heat, enliven south façade, generate electricity.
- Outsulation on rest of bldg, increase R-value of envelope (watch for moisture problems)
- Change garbage to south-west corner of highrise
- Solariums important for isolated residents

- Passive solar orientation, thermal mass
- Heat recovery from grey water
- Being too green saddles bldg w/ mech & elec problems- leading edge suppliers may disappear
- Technology should be as passive, proven and dumb as possible
- Do it once – insulate heavily- don't need to do it again – minimal maintenance

## 5.5 Heating/cooling/energy Options

Boilers – already replaced 4 or 5 yrs ago - reasonably efficient

Geothermal:

- sandy permeable soil makes geothermal very efficient
- 1] glycol w/ exchange
- 2] closed loop in bldg - water + ethylene
- no intermix – go thru heat exchange
- heating and cooling possible
- dump heat in ground in summer and draw out in winter

Photovoltaics – currently 60 yr payback

Solar hot water -15 yr payback- size whole southern face as domestic hot water

Heat new parts hydronically
Cooling air-based – how to distribute cooling? Via corridors?
Embedded system is low maintenance and cleanest, consistent room temperature and comfort
Humidification becomes an issue
Selective low-e coating on new windows allows light, knocks out infra-red but loses gain in winter
Solar shading blocks high summer sun, allows low winter sun in for heat and bounce light into unit
Green wall strategies- vines for summer shading

## 5.6 Ventilation Options

- shaft up the outside – mech plant on roof – at top of each shaft coil glycol solution – air-to-air exchange
- Either HRV's or Central Air Supply – could do heat recovery and air filtration
- Supply + Return – could supply heat + a/c
- Mechanicals on exterior under outsulation – "varicose veins for the bldg"
- glass curtain wall with 6" vent space

## 5.7 Envelope Options

- Complete glazing retrofit of bldg.
- Best thing to do windows shading but may not work in cost-benefit terms
- Re-glazing and outsulation for tighter envelope
- Window + outsulation not much cheaper than curtain wall?
- Dominant heat loss through slab edge
- Energy Model shows: $5000 - $6000 savings/year for double glazed low-e

- Curtain wall \$50/ $ft^2$
- Outsulation \$8/$ft^2$

## 5.8 Waste Management Options

- Turtle Island pick-up of compost – alternatives?
- Take garbage to curb- only 2 hours per week at curb
- Garbage pick-up SW corner of bldg
- Solution has to be in SW Corner
- Tri-sorter – roll carts out
- On-site composting supporting garden. Worm composting in basement

## 5.9 Funding

Why not have more units? Build more – 2nd phase

- SHSC [Social Housing Service Corporation] will put 80% into pilot - not unreasonable to push for 50 new units
- manage reserve funds for Social Housing
- Affordable Housing programs. Federal and Municipal money available to make units happen

## 5.10 Scheme

### Site

Parking and access:

- Relocate community allotment gardens behind Phoenix Place
- Parking lot moves to south-east corner
- Parking access from lane - widen laneway with strip from green space
- Grasspave units for storm water management on parking lot
- Garbage trucks collect at expanded roundabout
- Dunn façade at grade- terrace to basement community space and make it welcoming to neighbourhood- visual connection to programs taking place
- Improve King/Dunn corner entrance and lobby space
- Enliven street with Community Economic Development businesses facing King
- Create place for people to sit outside - Market/chessboards/parkette on King
- Huge need for coffee place – nothing for blocks on King. Café – staffed by tenants – integrate with community
- Solar laundry for residents and community- moneymaker
- North wall – cable off of elevator shaft –Virginia Creeper

### Phoenix Place

**Phase 1**

South addition to tower – 2 bachelor units per floor or a variety of 1, 2 and 3 bedroom units floors 2-11
Ground floor greenhouse
Move offices to second floor
Reconfigure ground floor office space (east side of tower) into barrier-free units
Improve access to community space on Dunn (Terrace)
Expand entrance/lobby on north-west corner

Chapel entrance remains with better street presence
Waste handling moved to south-west corner
Gardening/bicycle utility room on south-east corner

## Shalom site

**Phase 2**

Demolish Shalom House – replace with mixed use residential/retail – 4 stories
Ground floor – retail
2nd – residential 4 2bdrms
3rd – residential 4 2 bdrms
4th – residential 4 2bdrms
Connected to Phoenix Place for circulation, elevator and mechanical

## Water

Intensive + extensive green roofs
Intensive: aesthetic/food production – deeper soil –access: dead load of roof plus live load
Water from roof for zero-net run-off goal – Greenhouse on ground floor under addition
Green roof Drain water to tank below
Gravel on parking
Holding chamber to infiltration trench to organic garden for irrigation

## Energy

Hybrid System serving all buildings-

Geothermal – primary source for HVAC
Use existing boilers – boiler does peak-shaving of geothermal– on south side use solar to heat water insulation [cladding] bldg reduces load – solar vacuum tube hot water plant
Awnings for south shading control are solar collectors
Grey water heat recovery
Solar wall on south face heats make-up air
Incoming water to solar, then boiler, then to storage

Solar DHW heating: peak DHW load: 400,000 BTU/hr; total load 1,360MBTU/yr. Using 120 sq-m of collector would provide 27% of the total domestic hot water heating load.

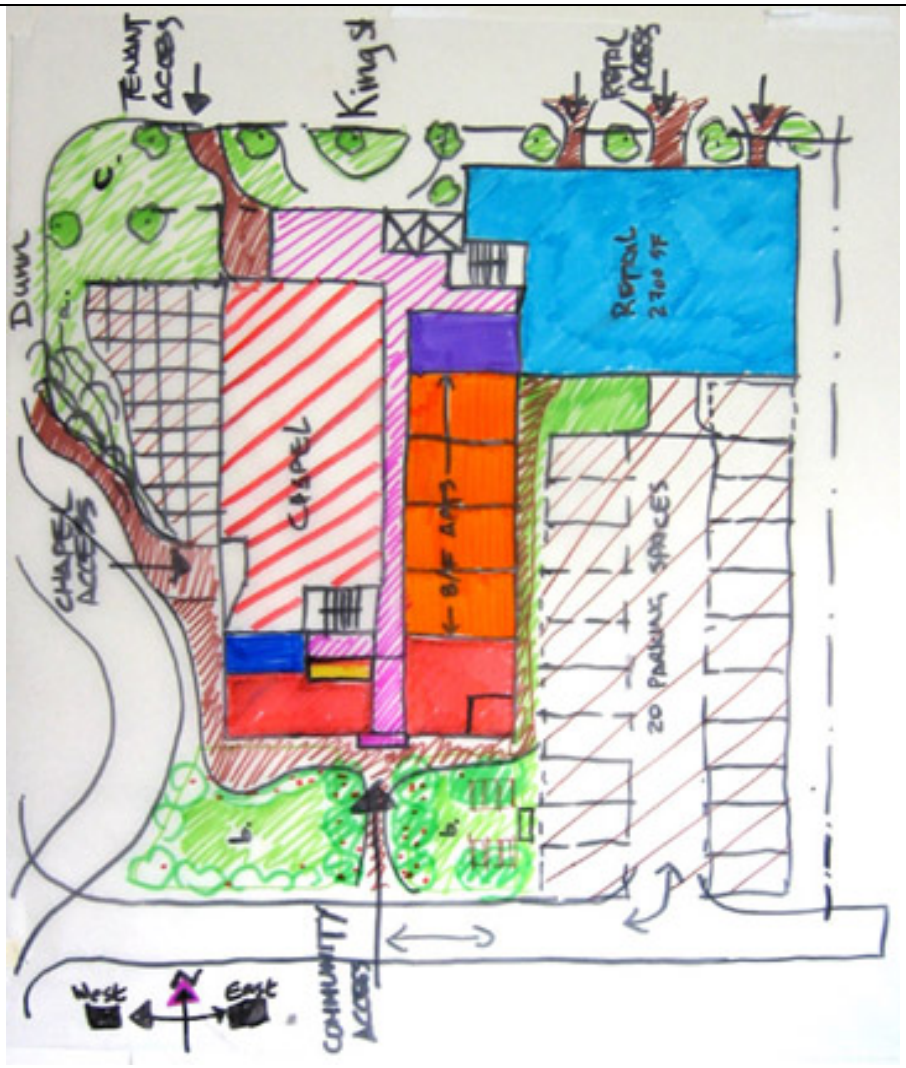
**Red Team key energy efficiency measures:**

- High performance building envelope for new buildings (R-30 walls & roof)
- High performance windows (heat mirror) for new addition.
- Ground source heat pump system providing hydronic heating to existing building and new additions.
- Solar hot water heating collectors up south face of building for domestic hot water heating and supplement heating for hydronic heating
- Shading elements on south and west facing windows.

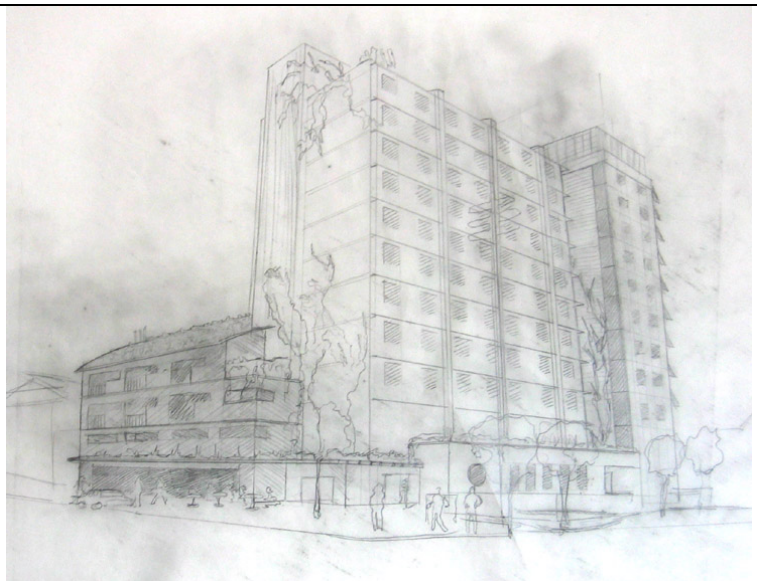
**Red Team design energy performance:**

- This design is projected to use between 55-60% of the energy of the reference building for the Model National Energy Code for Buildings.

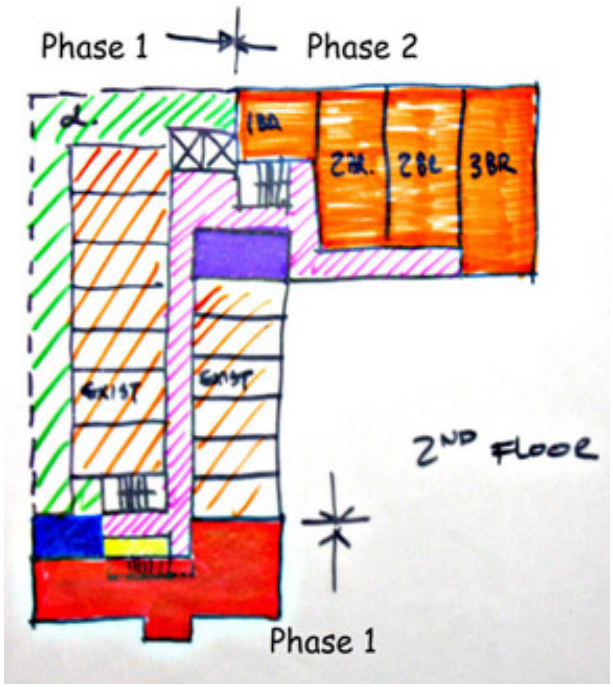
The design could meet the mandatory requirements of LEED-Canada and would likely achieve 6 LEED EA-1 credits for energy performance.



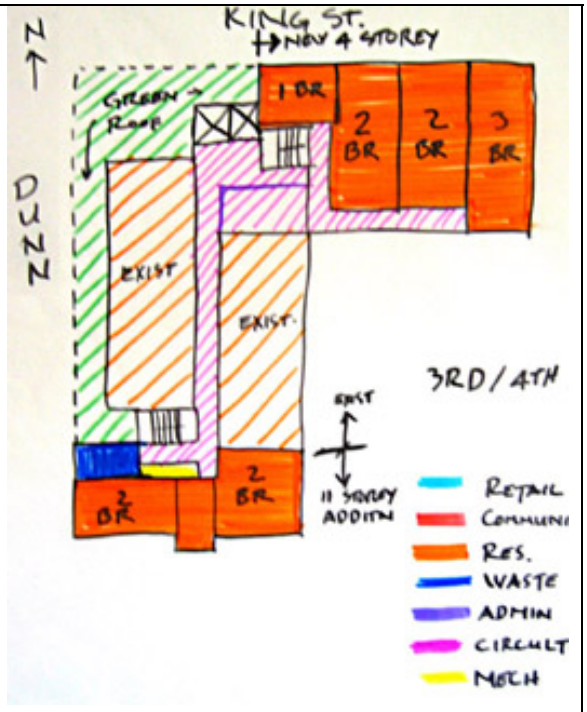

**Red Team – Site Plan**



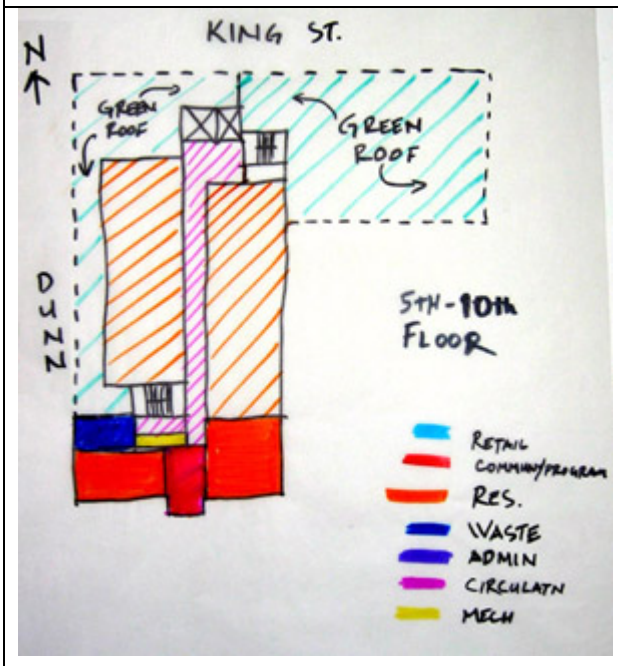
**Red Team – View from north west**



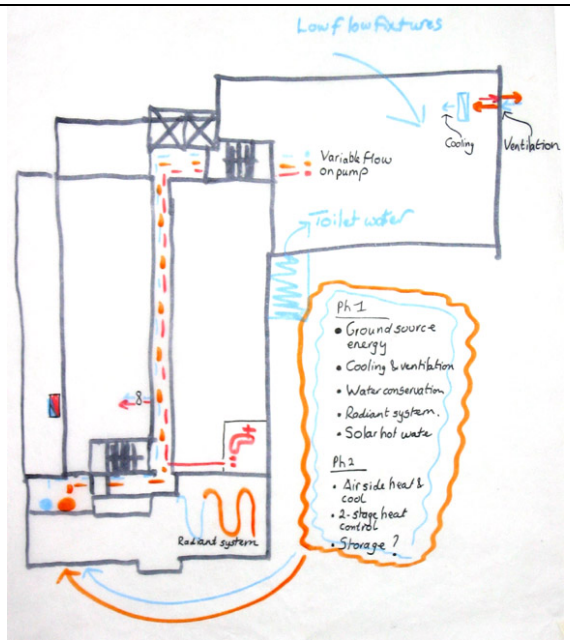

**Red Team - 2nd floor**



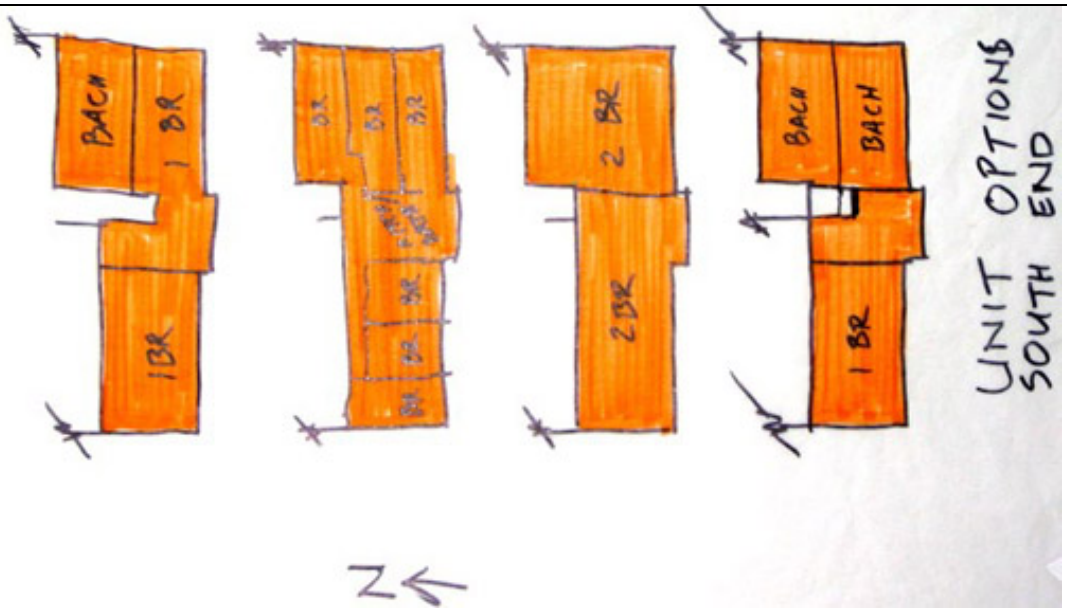

**Red Team – 3rd / 4th floor**



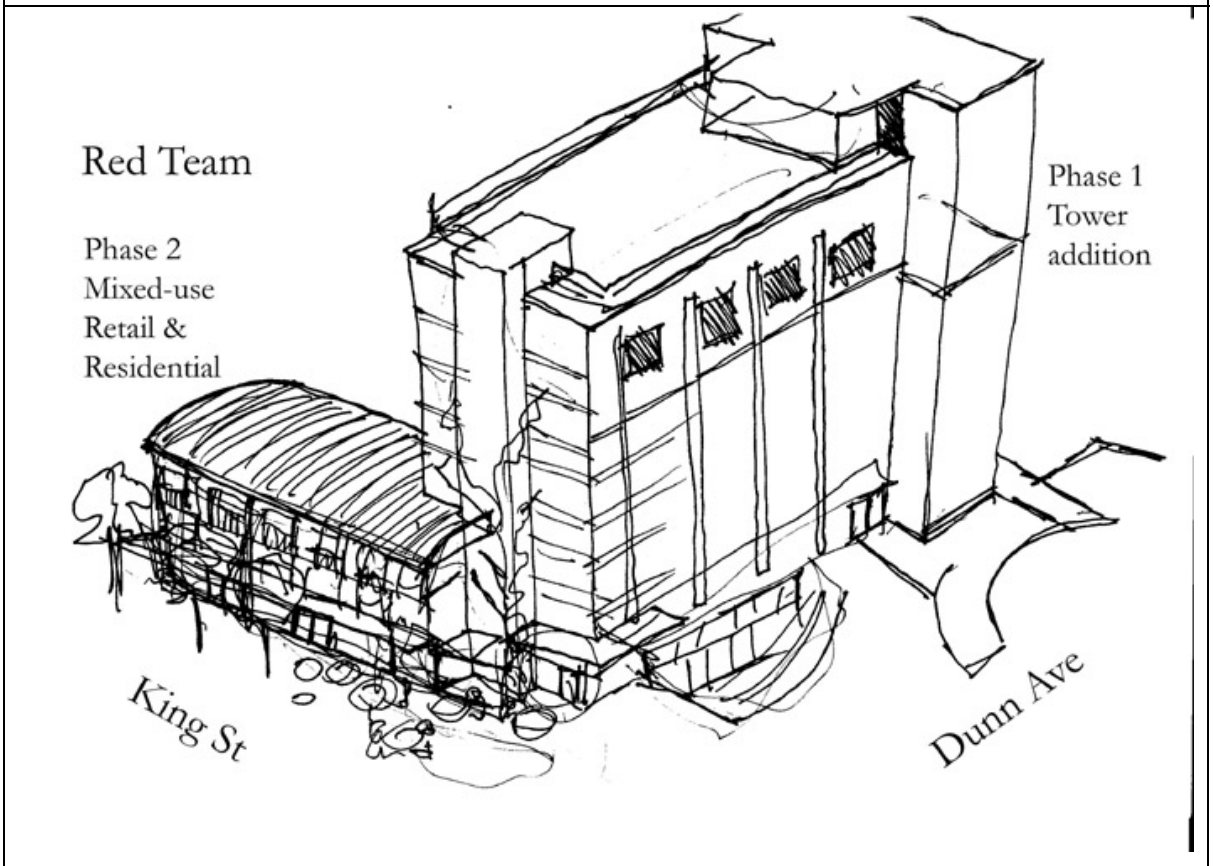

**Red Team – 5th – 10th floor**




**Red Team - mechanical**




**Red Team – layout options, Phoenix Place**




**Red Team - axonometric**

## 6.0 Evaluations

1. What did you particularly like about the charrette?

   The people! Fantastic cross-section of expertise and easy-going personalities.
   It was very well organized too.

2. What did you think didn't work so well?

   In the end, the desires of the prime owner – the Church – were not adequately stated to the participants. On hearing that the Minister wanted the Church re-oriented, I felt that we missed a HUGE opportunity to get it right. Absolutely deflating!

3. What suggestions would you make for improving the event in future?

   Can't think of anything I'd do differently. I know you were under pressure to extend the charrette, but I think that another day would have been too exhausting.

*Debbie Wadsworth*
*Larkin Architect Limited*

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1. What did you particularly like about the charrette?

   The people/participants were knowledgeable, interesting, enthusiastic, and fun to work with
   Well organized
   Well supplied

2. What did you think didn't work so well?

   Needed an extra day to resolve solutions and give more organised answers
   People coming and going from groups was hard and meant we didn't always either have the comments/skills when needed

3. What suggestions would you make for improving the event in future?

   3 day charrette

*Thea Brown*

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1. What did you particularly like about the charrette?

   Even though I was only there for one hour on Thursday and all Friday, I found the diversity and extensive knowledge of most participants impressive. This was also my first charrette and I found the process fascinating in drawing everyone toward creative ideas. I appreciated that the designs that had been submitted for grant funding were not released to the majority of participants as this would have limited creativity.

2. What did you think didn't work so well?

   I found that certain people seemed to dominate based on their previous involvement with this project or other charrettes. These opinions may have deterred others in feeling that they had much to offer to the process. Since I had not attended Saturday, I cannot critique the event as any other concerns I may have had relating to progress may have been accomplished on the final day.

3. What suggestions would you make for improving the event in future?

   Since I missed the first part of Thursday this may have been covered but I would have appreciated a bit of insight into what took place at other charrettes. (e.g. number of participants, what was accomplished each day and samples of designs that came out of a 2 ½ day Charrette)

   I felt the number of participants to be too large but this may actually have provided more creative ideas and so this is not a critique.

*Terry Petkau*

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1. What did you particularly like about the charrette?

   The skills. The quality of participants.
   The final product was very impressive.

2. What did you think didn't work so well?
   Costing costing costing. I think we got at the green part. And the community part. But were weak on the affordable part in terms of insuring we were inserting the notion into the process. I think that it would have been good to do some costing analysis a bit better. Having a costing person in each group who could do approximations would have been great.

3. What suggestions would you make for improving the event in future?
   See 2)

*Neil Spiegel*

1. What did you particularly like about the charrette?

The food really was the highlight. The diversity of professionals and their respective expertise was great. It is always nice to come away from the charrette gaining as much knowledge, if not more than what we were able to offer. It was particularly useful to have so many representatives of Government agencies and many experts from highly specialized fields.

The charrette was very well organized and stuck to it's timetable.

2. What did you think didn't work so well?

I think some of the parameters that were put forth as restrictions became restrictions on the creative process. Although our group smashed through those parameters, particularly the $2.4 million budget, it was not without reservation and considerable trepidation. The point of a charrette is to be without restrictions in order to reveal the inherent truths and realities of the project. Budgets and planning parameters are for the real world, the charrette is the dream world. Take the best of the dream and then make it fit reality, or better yet change reality to build the dream.

3. What suggestions would you make for improving the event in future?

As charrettes go, this was very good. The tenants probably could have been given more notice of the parking problems the participants created and a structural engineer would have been a welcome addition to our team. Other than that congratulations on a job well done.

*Graham Smith*

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1. What did you particularly like about the charrette?

The wide range of people and the expertise they bring to the whole group. The food. The positive, upbeat atmosphere.

2. What did you think didn't work so well?

I thought it worked quite well.
The parking (for participants)

3. What suggestions would you make for improving the event in future?

Can't suggest too much to improve. Perhaps having unique contributors circulate more regularly through the groups? Perhaps having the presentations earlier on the last day to have more time to tidy up loose ends – such as: hard looks at reality, rough costing, regulatory hurtles, prioritization, etc.

*Brad Peterson*

1. What did you particularly like about the charrette?

The energy and interest of all participants was terrific. The IDP process worked extremely well in our group-we were able to brainstorm together on many issues and also break into sub-groups to develop systems; then come back to the group and review the highlights.

Also, the food was healthy and delicious-good "brain food"!!

2. What did you think didn't work so well?

It was unfortunate that the client's priority or desire to give the Church more visible presence in the revitalized facility was not mentioned until
the end of the exercise, but this is still early days, in the entire process.

3. What suggestions would you make for improving the event in future?

It would have been good for each of the three groups to have similar exposure to the "energy/green experts"

Perhaps a short ½ hr seminar by the experts to all three groups would have been helpful and would have made better use to everyone, describing the best applications of their products/area of expertise with respect to this project: ie: green roofs, geothermal, solar, glazing, etc.

It would have been good to have a structural engineer available

*Diana Hamilton*

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1. What did you particularly like about the charrette?

I was very impressed with the whole event. I was astonished that it took the red team only about 20 minutes to conclude that the original Parkdale plan was not good enough. I liked the way that they were able to see the big picture and plan for the corner and the needs of all its inhabitants and not just the people who live in our building. I was also very impressed with the way that they strove to make the existing accommodation as comfortable and human a space as possible. The green elements in the building will go a long way to ensuring that we can sustain affordability, which has always been one of my big personal concerns.

2. What did you think didn't work so well?

The presentation was a mess but it was also kind of funny and informal and it worked in a kooky way. A presentation of the material to the congregation and the presbytery would go a long way towards ensuring a smooth ride for the project through the church. More participation from building residents would have been helpful.

3. What suggestions would you make for improving the event in future?

Your volunteers and camera people were outstanding. You should use them again.

Overall a great success and very useful for the future of our housing ministry. Now we know what we didn't know and that is important. Well done Jennifer and Adam

*David Elliot*

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I wanted to congratulate you on a great job. I was impressed with your attention to detail and care.

1. What did you particularly like about the charrette?
   The event organization and attention to detail.
   Detailed background material provided in advance including floor plans and energy data.
   Building tour.
   Chance to meet the residents
   The Minister's Opening Remarks

2. What did you think didn't work so well?
   Can't really think of anything

3. What suggestions would you make for improving the event in future?
   None.

*Mark Salerno*

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1. What did you particularly like about the charrette?

- Variety of expertise with whom to discuss concepts in depth
- There was a real hum of thought by the end of Friday.

2. What did you think didn't work so well?

Complex problems to resolve in so little time
Harder to focus on "a" solution when planning/zoning/funding approvals are not certain
A structural/civil engineer's input would have been helpful. Also costing for a reality check, also a city planner throught

3. What suggestions would you make for improving the event in future?

I thought it was excellent – it just needs to have follow through – What can work – What can be trimmed to fit

Congratulations – SM

Sandra Marshall - CMHC

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Congratulations – of the Charrettes I have been involved in, that was without a doubt the best! Best in terms of outcomes … all three groups prepared well thought out, concepts after excellent discussions. Best in terms of impact on the project – by having the city planners in the room the design team learned of proposed planning changes and city objectives that make a better design more feasible than was perhaps originally believed.

What made this one work so well?

- Having an aware, engaged and interested owner/client – their enthusiasm was infectious and their commitment obvious (e.g. video recording proceedings).
- Timing – having the Charrette at the earliest stage of the project with "no" preconceived notions on what to deliver, but with clear goals and objectives.
- Having the massing plans architect present and eager to work with the process. (Massing plans were never revealed in order not to limit ideas.)
- Having the Charrette at the site – was useful to visual the building and the surrounding community.
- Having the "right" people in the room – and the right numbers – all of the groups worked very well together and had very good discussions.
- Finally, the duration was right on. Thursday night introduced the project and constraints, then Friday and Saturday were working groups – it all came together quite well.

I really believe that this building will be much better for having participated in the Charrette process.

Because of the way we broke up on Saturday, I don't think many people will fill out the comment sheets from the package – it might be worthwhile to e-mail out a "debriefing" or evaluation survey to the attendees if you have contact information.

Congratulations!

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Brian Fountain, P.Eng.

Verbal Evaluations:

Ian Sinclair -- "This was the best charrette I've ever been in. Having 2 1/2 days really made a difference."

David Elliott -- "The charrette really helped me understand the green options for this project and made me much more enthusiastic about it."

## 7.0 LIST OF ATTENDEES

| Last Name | First Name | Organization | e-mail |
|---|---|---|---|

| | | | |
|---|---|---|---|
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