RESEARCH REPORT

External Research Program

Beyond the Home Office: An Exploratory Study of the Residentially-Based, Shared Telework Centre

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BEYOND THE HOME OFFICE: An Exploratory Study of the Residentially-Based, Shared Telework Centre

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1997

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This project was carried out with the assistance of a grant from Canada Mortgage and Housing Corporation under the terms of the External Research Program (CMHC File 6585-J012-2). The views expressed are those of the authors and do not represent the official views of the Corporation.

BEYOND THE HOME OFFICE: An Exploratory Study of the Residentially-Based, Shared Telework Centre[1]

Final report, External Research Project, Canada Mortgage and Housing Corporation

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July, 1997

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ABSTRACT

This study recasts the home office so that can provide many of the supports of a well-resourced corporate office. Qualitative research methods are used to explore the feasibility of a new type of shared workplace facility to support home-based work using computer-mediated telecommunication. The residentially-based telework centre would be a multi-user workspace located in a local residential community. Such a telework centre could offer nearby residents a telecommunications-equipped workspace combining individual workstations with shared equipment, services and facilities. Training and child care are among the services that might be provided. A review of published literature on home-based work highlights the value of a telework centre near home, particularly for women balancing employment and family responsibilities. Most existing telework centres receive some form of financial subsidy in addition to rents or user fees. Some are created in response to policy initiatives, e.g. reduction of automobile travel or support for local economic development and job training. A set of twenty case studies of shared workspaces is examined, and a typology of shared workspaces is developed. Some are in the information technology sector, others support work in various other fields including the arts. Key dimensions include whether space is assigned or made available on a drop-in basis, whether it is used by a single or multiple employers, and whether it is a live/work facility. Public response to the concept is favourable. It is the notion of "social synergy", in particular, that respondents find appealing.

BEYOND THE HOME OFFICE:
An Exploratory Study of the Residentially-Based, Shared Telework Centre

EXECUTIVE SUMMARY

This research concerns rethinking the boundaries between home and workplace, and the time and space between them. It is also about the role of the work environment -- physical and social dimensions -- in supporting the work process.

Advances in telecommunications technology have meant that work is increasingly location-independent. Growing numbers of Canadians are working from home using computer-mediated communication. Telecommuting carries environmental benefits in terms of reduced automobile commuting, and social benefits including increased flexibility in scheduling. For employers, home-based work may result in significant real estate savings. A review of social research on homeworking indicates that locating the workplace in the home can have significant costs for home-based workers and their families. Co-locating work and family responsibilities can increase stress for workers -- especially women -- who must juggle competing demands.

This study explores the concept of a residentially-based telework centre as a support for home-based workers. This facility represents a cross between a satellite office and a business incubator. A set of twenty case studies of existing models of shared workspaces is examined, and a typology of shared workspaces is developed. Some are in the information technology sector, some are professional offices, others support work in various other fields including the arts. Key dimensions include whether space is assigned or made available on a drop-in basis, whether it is used by a single or multiple employers, and whether it is a live/work facility.

Case study elements were used to construct five prototypical scenarios for telework centres. These scenarios locate the facilities in a variety of building forms and community contexts. In conjunction with the author's community work on the telework centre concept with the organization Women Plan Toronto, public reaction to these alternative scenarios was assessed. Focus group results indicated strong interest in the social synergy which a telework centre would offer. Other factors of importance were: proximity to home; state-of-the art equipment; quality services; safety and security.

A significant finding of this research is that none of the existing high-tech telework centres is self-sustaining. Looking more generally at the case study shared workspaces, most receive some sort of subsidy or other external support. This support may come from various levels of government, from churches, or from private funding sources. A number of the workcentres have been developed to meet policy objectives, e.g., job creation and economic development; support for the arts; or the preservation of heritage buildings.

At the level of physical design, the challenge of the shared telework centre is to develop a facility that will support both privacy and community. The various case studies and the prototype models suggest a number of approaches to this challenge. There are several elements common to

most of the designs. All have a meeting or conference room; most have a reception area of some sort. Many have a kitchen or food preparation/service area.

Accessibility and security are important issues in the design of shared work facilities. There is strong support for centres to be accessible on a 24-hour, 7 day per week basis. In some instances this requirement may translate into a need for convenient, safe, affordable parking. In general, the facility should be within easy walking distance of the workers' homes and be accessible by public transportation. A main street may provide the optimum location for a telework centre. Safe and secure storage of information is essential.

The residentially-based telework centre is a new concept, and one which presents numerous challenges. This study addresses the issues of design, management model, target market, funding and -- in particular -- regulatory barriers. Existing zoning and building code regulations in many jurisdictions would prohibit the development of telework centres in a residential environment. Such regulations typically segregate residential from commercial activities. While numerous jurisdictions are reviewing such regulations, it can be anticipated that this will be one significant source of opposition to the residentially-based telework centre model.

AU-DELÀ DU BUREAU À DOMICILE :
Une étude exploratoire sur les centres de télétravail partagés en milieu résidentiel

RÉSUMÉ

Cette recherche a pour but de repenser les frontières qui séparent la maison et le lieu de travail ainsi que le temps et l'espace qu'il y a entre eux. Elle porte aussi sur le rôle du milieu de travail, tant dans sa dimension physique que sociale, dans le soutien du processus de travail.

Grâce aux progrès technologiques réalisés en télécommunications, le travail est de moins en moins assujetti à un lieu fixe. Un nombre croissant de Canadiens travaillent à domicile en recourant aux outils de communication qu'offre l'ordinateur. Le télétravail comporte des avantages environnementaux, puisque les déplacements en automobile sont moins fréquents entre la maison et le lieu de travail, et sociaux, compte tenu par exemple de la flexibilité accrue dont dispose le télétravailleur dans l'organisation de son horaire. Pour les employeurs, le télétravail peut entraîner des économies considérables au chapitre des propriétés immobilières. Un examen des recherches sociales menées sur le travail à domicile indique que le fait de travailler chez soi peut occasionner des coûts appréciables pour les travailleurs à domicile et leur famille. En devant gérer sous un même toit les responsabilités familiales et professionnelles, les travailleurs, en particulier les femmes, risquent de subir un plus grand stress lorsqu'ils doivent jongler avec des impératifs incompatibles.

Cette étude explore le concept des centres de télétravail situés en milieu résidentiel qui servent de soutien aux travailleurs à domicile. Ces centres sont un croisement entre les bureaux satellites et les pépinières d'entreprises. On a examiné une série de 20 études de cas portant sur des modèles existants d'espaces de travail partagés, puis on a élaboré une typologie de ce genre d'espace. Certains de ces espaces sont utilisés par des travailleurs du secteur des technologies de l'information, certains par des professionnels, d'autres viennent en aide à divers autres travailleurs, notamment des artistes. Parmi les aspects clés de ce genre de centre, il faut considérer si l'espace est assigné ou mis à la disposition des travailleurs pour qu'ils s'en servent de façon ponctuelle, s'il est utilisé par un seul employeur ou par plusieurs, et s'il s'agit d'installations mixtes où les gens peuvent non seulement travailler mais aussi habiter.

Des éléments d'étude de cas ont été utilisés pour élaborer cinq scénarios de centres de télétravail prototypes. Ces scénarios situent les installations dans divers genres de bâtiments et de contextes communautaires. La réaction du public par rapport à ces scénarios possibles a été sollicitée dans le cadre du travail communautaire effectué par l'auteur sur le concept du centre de télétravail en collaboration avec un organisme appelé *Women Plan Toronto*. Les résultats de l'examen mené par un groupe de discussion ont indiqué un intérêt marqué à l'égard de la synergie sociale qu'un centre de télétravail offrirait. D'autres facteurs importants ressortent aussi : la proximité de la maison, l'équipement à la fine pointe de la technologie, la qualité des services, la sécurité.

Cette recherche a fait ressortir un élément important : aucun des centres de télétravail de haute technologie n'est autosuffisant. En règle générale, la plupart des centres de télétravail sur lesquels a porté l'étude de cas reçoivent une quelconque subvention ou d'autres types de soutien externe. Ce

soutien peut provenir de divers paliers de gouvernement, des églises ou de fonds privés. Un certain nombre de centres de télétravail ont été mis sur pied afin d'atteindre des objectifs gouvernementaux tels la création d'emplois et le développement économique, le soutien des arts ou la préservation des bâtiments patrimoniaux.

Au chapitre de la conception architecturale, le défi posé aux centres de télétravail partagés est d'offrir des installations où les utilisateurs peuvent trouver à la fois intimité et communauté. Les diverses études de cas et les modèles prototypes proposent un certain nombre d'options pour relever ce défi. Plusieurs éléments sont communs à la plupart des concepts. Tous possèdent une salle de réunions ou de conférences; la plupart offrent une aire de réception; bon nombre d'entre eux disposent d'une cuisine ou d'une aire pour la préparation ou le service des repas.

L'accessibilité et la sécurité sont des critères importants pour la conception d'installations de travail partagées. On appuie fortement l'idée que ces centres puissent être accessibles 24 heures par jour, sept jours par semaine. Dans certains cas, cette exigence pourrait se traduire par la nécessité de disposer d'un stationnement pratique, sûr et abordable. En général, un centre devrait se trouver à distance de marche raisonnable du foyer des télétravailleurs et être accessible par les transports en commun. Une rue principale pourrait constituer un emplacement de choix pour l'implantation d'un centre de télétravail. Il est également essentiel de prévoir des mesures destinées à assurer la sécurité de l'information stockée sur place.

Le centre de télétravail en milieu résidentiel est un nouveau concept qui présente de nombreux défis. Cette étude aborde les questions inhérentes à la conception, au modèle de gestion, au marché cible, au financement et, en particulier, aux obstacles de nature réglementaire. Les règlements de zonage et les codes du bâtiment en vigueur dans bien des territoires interdiraient l'aménagement de centres de télétravail en contexte résidentiel. Ces règlements séparent habituellement les activités résidentielles des activités commerciales. Bien que de nombreuses régions soient en train de revoir leurs règlements, on peut s'attendre à ce que ce facteur constitue le principal obstacle à la création de centres de télétravail en milieu résidentiel.

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Final report, External Research Project, Canada Mortgage and Housing Corporation

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Laura C. Johnson Associates Inc.

1. INTRODUCTION

This is a study about rethinking the boundaries between home and workplace, and the time and space between them. This is also a study about the nature of the work process, and the role of the work environment in supporting the work process. In an era of redefinition of the nature of work, the nature of work environment is also in question. This study examines one new model for a redefined workplace.

The concept is illustrated by a look at the "journeys to work" taken by six individuals in a variety of locations who are redrawing these boundaries. Their journeys represent alternatives to the typical pattern in which home and work locations are separated by a long commute. They also represent an approach that allows for a clear demarcation between work and non-work activities, to avoid the stress engendered when work and family life encroach on each other's turf.

In downtown Toronto, a management consultant travels by elevator down from his home office in his 17th floor condominium apartment to a business meeting he has booked into the boardroom in the building's basement level business centre. Even further downtown, in that city's Harbourfront area, a potter also uses the elevator to travel to from his 5th floor apartment to a ground floor-level studio where he spends the morning and early afternoon glazing pots for an upcoming exhibit, and then at 4 p.m. teaches a Raku pottery class to a small group of students. In a small upstate New York town a computer consultant finishes breakfast at home and then walks across a courtyard to an office located in the common house of a new cohousing community.

On days when she is sufficiently well organized to get herself and her two school-age children out of her suburban Vancouver house promptly by 8:15 a.m. a programmer at a large telecommunications firm can walk -- her preferred mode of travel -- the 15-minute journey to the company's suburban satellite office. On more hectic mornings she can cycle. Only when she is really pressed for time, or if she wants to be able to drop in to the children's school during the day, does she resort to driving to work.

An architect in downtown Manhattan has the shortest journey to work. His live/work loft environment serves as both home and workplace for him, and workplace for the several employees who work in his studio office.

A Cambridge Massachusetts lawyer and her lawyer husband both work from offices in a four-storey brick building in Cambridge, Massachusetts office. The couple lives in the upper two

floors with their pre-school age son. It is an easy couple of flights of stairs down to their offices which are among the five law offices located on their building's first two floors.

1.1. The Residentially-Based Shared Telework Centre Concept

The residentially-based telework centre offers an alternative to the home office. The neighbourhood telework centre offers the potential to utilize the advantages of telework and other forms of home-based work, while minimizing the risk of isolating those who work from home. This concept, which has its origins in Sweden in the early 1980s[1], locates work stations in the residential community, close to workers' homes. A telework centre might form part of a housing environment, or it may be provided by a community organization, or maintained as a satellite office by one or more employers.

A telework centre can provide a physical, technical and social infrastructure to support work activities and foster community economic development. Such a centre can provide workers -- employees and the self-employed -- with a variety of support services, including child care centre, fitness facilities, and food service.

The facilities provided by a workcentre might include: reception and message services, computer and telecommunications equipment, meeting and conference rooms. The workcentre might also serve as a business incubator, offering fledgling and small businesses technical support, advice, training, and networking opportunities.

Users of a neighbourhood-based telework centre might combine this locale with numerous other venues, including home office, corporate head office, automobile and/or clients' offices.

While the concept of the residentially-based workcentre is a new one, there are a number of models already in existence for such a facility. These include: business incubators which may be funded by public or private sector sources; formal and informal arrangements for small firms to share workspaces and resources; drop-in or just-in-time office spaces in which employees book office space according to the requirements of a current assignment; artists' cooperative studios.

1.2. A Timely Concept

The residentially-based workcentre concept has its source in three emerging trends: the growth of homework; the redefinition of the office; and North Americans' renewed search for community.

- **The growth of home-based work**
  Telecommunications advances have lead to a steady increase in the proportion of jobs that can be done outside a corporate head office setting. In Canada the 1991 Census

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[1]International Labour Office, 1990. Telework. **Conditions of Work Digest**. Geneva, 135-137.

indicates that just over 6% of the employed labour force worked from home. The corresponding figure a decade earlier was 3%.[2] In the U.S., transportation planner Patricia Mokhtarian reports a continual rise in the number of telecommuters, with a 1994 total amounting to some 6% of the workforce.[3]

The redefinition of offices
Increasingly, employers are reducing real estate costs by closing or decreasing costly office facilities and equipping employees with portable notebook computers and communications equipment to enable them to work from homes, cars, or, in some cases, on clients' premises. Other employers are eliminating dedicated office space as an entitlement, and moving toward the assignment of corporate head office facilities as a resource to be allocated on an as-needed basis through programs known variously as "hotelling", "just-in-time offices", or "nonterritorial offices".

- **The search for community**
  There is renewed interest in the idea of the *village*, a community in which neighbours know one another, help and care about one another. Suburban and urban residents are increasingly seeking alternatives to anonymous, automobile-based development patterns. Developers are offering neo-traditional style subdivisions, with dwellings built in closer proximity to one another, with laneways and front porches and pedestrian pathways to promote social interaction among neighbours. A more extreme manifestation of this trend is the growing interest among North American in cohousing developments. Cohousing involves residents in the design and management of communities that combine private living space with shared, community facilities[4].

1.3. Research Methods

This is a study of a model that exists only in fragments in a variety of forms in a number of diverse settings. The study involves putting together these various fragmentary examples, from artists' live/work to consultants' offices to high-tech satellite offices, and using qualitative research techniques to determine the feasibility the model's implementation in a residential setting.

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[2] R. Nadwodny, "Canadians Working at Home" Statistics Canada, **Canadian Social Trends**, Spring 1996, pp.16-10.

[3] P. Mokhtarian, "Country Report - USA" in F. van Reisen and M. Tacken (eds) **A Future of Telework: Towards a New Urban Planning Concept?** Utrecht/Delft: Delft University of Technology, 1995, 97-98. Figures cited are from 1994 Link Resources Work at Home Survey.

[4] For information on cohousing see: D. Fromm, **Collaborative Communities**. NY: Van Nostrand Reinhold, 1991 and K. McCamant & C. Durrett, **Cohousing: A Contemporary Approach to Housing Ourselves**. 2nd Edition. Berkeley: Ten Speed Press, 1993.

The first stage of the research was a review of literature and consultation with key informants. The literature review covers published studies of telework centres, including available cost estimates, as well as a more general overview of trends and implications of home-based work and telework. Three original qualitative data sources were then utilized in this study of the residentially-based telework centre concept:

First, a series of case study analyses were conducted of 20 workcentres that incorporate various elements of the conceptual model[5]. These elements have been distilled into five prototype shared telework centres.

Second, a multi-disciplinary expert round table was convened to elicit opinion on the feasibility of establishing a residentially-based telework centre[6]. Invited experts first completed a survey[7] and then spent an afternoon exploring the concept in various forms, including the five prototypes.

Third, a public meeting was organized under the auspices of a non-profit community group, Women Plan Toronto, for the purposes of eliciting public reaction to the concept[8]. Some 25 people attended the meeting -- some of them were themselves homeworkers, others were interested in the issues. The public meeting was followed up by two focus groups with home-based teleworkers to explore in greater depth reactions of various potential target groups to the telework centre concept[9].

A detailed description of research methods used in this study appears in Appendix E to this report.

1.4. Organization of this Report

Following this Introduction section, the remainder of this project report is organized as follows:

Section 2: Concept development, Literature Review and Consultation
This section reviews published literature on trends in home-based work in general and telework in particular. It also reviews trends in the design and use of office facilities. Information is reviewed on public reaction to the residentially-based telework centre concept. Data from

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[5]Appendix A lists the 20 case study sites and identifies information sources for each.

[6]Appendix B contains a listing of Expert Round Table participants.

[7]See Appendix C for a copy of the survey.

[8]A copy of the flyer announcing this meeting appears as Appendix D.

[9]A detailed description of the focus group results is available under separate cover in the forthcoming Women Plan Toronto A·C·T project report: **The Residentially-Based Telecentre: A Feasibility Study**, forthcoming 1997.

several reviews of telework centres in various jurisdictions are presented to consider financial implications and patterns of usage of such facilities.

Section 3: The Case Studies
First, the 20 case study sites are examined and organized into a shared workspaces typology. Descriptions of 20 case study sites, including assessment of the social and physical dimensions of workspaces with actual or schematic floor plans, where available; qualitative data from interviews with workers and managers in these live/work and shared work centres and, where available, cost data from telework spaces.

Section 4: Five prototypes
Case study data are then synthesized to produce five prototype shared live/work scenarios. The regulatory feasibility of the various models are reviewed. Public reaction to the concept in its various forms is assessed through focus group discussions.

Section 5: Conclusions
A summary of findings from literature review, interviews and consultation around the case studies and sounding out expert and public opinions on the prototypes.

2.0. LIVING SPACE AND WORKING SPACE: A REVIEW OF RESEARCH

2.1. Introduction: The effects of work locale on work process and on quality of life.

The residentially-based workcentre is a construct that fits part way between a home office and a well-resourced corporate office. We can envision it as something like a satellite work centre in a neighbourhood environment. It is anticipated that the residentially-based workcentre will build on the strengths of home-based work and counter some of its disadvantages. It is useful to review the existing research literature on the impact of work locale on the work process and on the work/family balance. What are the differences in between home-based work and work in a conventional corporate office location? In addition, it is useful to review research on workspace design, and, finally, to consider research that deals specifically with telework centres, and to summarize what is known about the financial, social and work-related outcomes of this work locale.

2.2. Work-at-Home: General Issues, Women's Issues and Work-Family Links

Home-based telework recasts the boundaries between work and private life. There is a division of opinion among researchers looking at work and family issues as to the potential social impact of telework.

Some researchers view work-at-home, particularly telework as a liberating, "family–friendly" work option. Among the positive features claimed are flexibility in scheduling. Based on

extensive surveys of Canadian private and public sector workplaces, management studies researchers Duxbury and Higgins identify flexibility in work location as a work option which can reduce role overload and work-family interference (Higgins, Duxbury & Lee, 1992; Duxbury, 1994). They observe that "Work time and work location flexibility have the potential to balance work and family by increasing an employee's ability to control, predict and absorb change in work and family roles." While their private sector workplace survey found both work time and location flexibility to be greater for higher-level employees, they found relatively few workplaces using the work-at-home option. They conclude: "Despite research linking this work arrangement with increased productivity and morale and reduced stress levels, few private sector employers have embraced the idea of work-at-home as a feasible work option for their employees" Higgins, et al. 1992, 53.

A recent union-sponsored qualitative investigation of telework within the federal public service, while focusing on the liabilities associated with this work option, did find that teleworkers viewed it as one way to address the challenge of balancing competing work and family responsibilities (Public Service Alliance of Canada, 1993, 1996).

There is a growing body of research indicating that, particularly for females, homeworking can be isolating, exploitative, and stressful as women struggle with the double burden of work and family under one roof (Allen & Wolkowitz, 1987; Johnson & Johnson, 1982). In the U.S. Christensen combined a large quantitative survey women doing home-based work with qualitative interviews to understand how women reconcile the demands of the home environment and of the job (1988). Christensen gives homeworking mixed reviews, but finds, overall, that the disadvantages predominate. Homeworking does offer women flexibility and autonomy that are missing from standard employment. However it is isolating, can have a negative impact on women's long-term employment prospects, and demands particular management skills to avoid role overlap. "To work effectively at home a work environment must be established and protected by distinct boundaries" (1988, 162).

To a number of critics of the employment conditions of homeworkers, it is the fact of gender, and the conditions of women's homework that is of primary importance. Some critics view homeworking, particularly by women, as a form of sub-standard, contingent employment in which existing labour standards are rarely enforced. This interpretation sees homeworking not as an employment option, but as a compromise accepted by women who are saddled with dual responsibilities for family and waged labour. Dagg, a trade union official and Fudge, who teaches employment law at York University's Osgoode Hall, write specifically about industrial homework by women, but argue the importance of looking generally at homework in the context of economic restructuring and the increase in non-standard employment. They contend that homework is most appropriately viewed as "the most extreme example[...] of precarious employment" (Dagg & Fudge, 1992, 25). British sociologists Allen and Wolkowitz also stress the importance of viewing homeworking within the larger context of women's employment: "Homeworking is a particularly appalling example of women's position in the labour-market, not a contrast to it.[...] In looking at homeworking labour, therefore, one is not seeing the position of

a marginal few but the effects of pervasive ideological and material constraints which limit the work options of a large proportion of the labour force." (1987, 85).

The British research of Huws and her colleagues has documented the substandard working conditions and conditions of employment of home-based teleworkers when compared with counterparts in office settings, Huws (1984; Huws et al. 1990).

More recently, British researchers Phizacklea and Wolkowitz have reviewed existing research on the impact of gender, race and class on home-based work. With regard specifically to gender issues within the category of information and communication technology (ICT) homeworkers they observe that women are considerably more likely than men to consider the ability to look after children as an important advantage of homeworking :

> "What is striking about the results [of these surveys] is the extent to which the centrality of child-care as a motivating factor to tack up ICT homeworking varies by gender"... Nevertheless, when the respondents were asked which aspect of their working situation they most wanted to change, better child-care and nursery facilities were mentioned most frequently...What this highlights is the underlying tension for most women homeworkers, the desire to combine work and child-care but the difficulties in doing so." (Phizacklea and Wolkowitz, 1995, 110).

The Phizacklea and Wolkowitz review does indicate that the choices involved in home-based work for professional women differ from the options of clerical homeworkers. Homeworking is viewed as more of a positive choice for women whose work is: "...secure, well-paid, involves some time outside the home interacting with colleagues or clients, and they are able to afford paid child care" (Ibid, 116).

In a recent survey of Canadian home-based workers, Gurstein finds that male and female homeworkers differ in location of their home work areas. While men tend to work out of an area "that provides them uninterrupted concentration when working", women "...are more likely to choose an area that allows them access to supervision of the activities of the household when working." (Gurstein, 1995, 27).

2.3. Live/work Design Considerations

When the workplace is moved into the home, separation, togetherness and privacy all need to be renegotiated. Home-based work can occupy a substantial proportion of household living space (Bulos, 1989). The teleworking house may no longer be a retreat. British researchers Bulos and Chaker conducted detailed analyses of five home-based workers. They describe a process of "negotiation" of boundaries between work and non-work activities:

> "Negotiating and claiming space and the outcome of that process is vital to the stability of homeworking. Being able to use space in order to get work completed on time and to the

> standard required is a major question for anyone who works in their home. In distinction to the normal workplace, the nature of management of work requires that the individual can retain notions of a 'proper' home. Where space is organised such that there is a visual and functional overlap between activities, retaining an adequate sense of home is perceived as hard to achieve and creates conditions where the dividing line between public and private spheres is constantly in need of defence and redefinition." (Bulos and Chaker, 1993, 67.)

From the environmental psychology perspective, a number of researchers are addressing the issue of how the physical design of the home workspace can influence the extent to which work and family responsibilities can be balanced successfully. A recent Canadian qualitative case study research project analyzed the allocation of space by function in 30 live/work environments (Duff and Cadotte, forthcoming 1997). Most successful were those designs which allowed for both visual and acoustic separation between private and work spaces. Housing units with only one storey or with much open and unpartitioned space had the least potential for good separation between work and non/work functions.

Ahrentzen has surveyed intentionally-designed live-work spaces in the U.S., and developed a 16-fold "hybrid house" typology according to structural characteristics including the floor plan, location of work space in relation to other rooms in the house, and circulation patterns (1991, 21). One of Ahrentzen's categories is non-structural, and describes a functional pattern of interest in the present study: the office atelier. Here the home incorporates a large workspace that accommodates several employees (1991, 96). One of the case studies included in the present study, Eisner Design, is of this type.

In Canada, a consultant study of live/work opportunities in Toronto's Garrison Common considers the issues involved in designing live work spaces in five specific sites (Waterfront Regeneration Trust, 1994). The focus of that study is largely on the need to eliminate policy and regulatory barriers to live/work units. Based on analysis of specific case study sites in downtown Toronto, the study emphasizes the economic social benefits of the live/work form, and takes a strong stand in support of combined employment and residential uses:

> "We believe the genius of live/work is in its flexibility to respond to changes in a household's needs as the family and business evolve". (Waterfront Regeneration Trust, 1994, insert: A Note to Our Readers).

In considering the design implications of live/work units, the waterfront study distinguishes three interior "zones" of all such units: public; private; and 'crossover', which may be either public or private, depending on the activity. The authors point out that in larger live/work units, the public and private spaces might remain fairly exclusive. Smaller live/work units, they note, are more likely to rely on "crossover" space to achieve the economies that make live work attractive. The report therefore argues against any formal zoning or building code requirements of minimum percentages of dedicated space (Ibid., 23).

The changing nature of work and the liberation of work from the confines of the office setting have resulted in a re-design of offices (Becker & Steele, 1995). New trends toward flexibility in work station design and office space assignments, including moves toward "hotelling" and "just-in-time" offices instead of dedicated offices, are equally relevant to telework centre locales as to corporate office settings.

2.4. Neighbourhood/Community Implications

Home-based work is viewed by some researchers as a work mode which may strengthen community and neighbourhood ties (Mackenzie, 1986; Gurstein, 1989,1995). Mackenzie, who studied self-employed female homeworkers in northern British Columbia and eastern Ontario observed that "...homeworkers are redesignating their neighbourhoods as workplaces, assessing the local and wider communities in terms of demand for their product or service and in terms of facilities to assist their work. Women using their neighbourhoods as workplaces are also actively redesigning these environments" (Mackenzie, 1986, 93). The homeworkers also incorporated into homes public spaces to support their work, such as sites of children' s playgroups...cooperative craft shows, stores and networks to purchase materials needed by the homeworkers in both their paid work and their domestic roles (Ibid). Ahrentzen attributes this phenomenon to homeworkers' search for leisure and professional contact outside the home to reduce the potential strains of the role-intensive situation in the home" (1990, 748).

It should be noted, however, that results from Gurstein's 1994 national survey of Canadian homeworkers for Canada Mortgage and Housing Corporation found little evidence of increased neighbourhood contacts by homeworkers. That study also found that, in general, home-based workers use the services in their community about the same as when they are not working at home, or before they worked at home (Gurstein, 1995, 41-42). There was some difference between homeworkers' use of business-related services (e.g. post office, copy shops, and banks), which tended to increase in usage with home-based work, and leisure-related community resources (e.g. cafes, recreation centres and gyms) which tended to be used less (Ibid.). Gurstein argues that home-based workers may simply have less time for leisure activities.

2.5. Telework Centres/Satellite Offices

The neighbourhood-based telework centre is an alternative to the home office. Its closest existing model, the satellite office concept, which has its origins in Sweden in the early Eighties, locates work stations in the residential community, close to workers' homes (International Labour Office, 1990,135-137). A neighbourhood telework centre equipped with advanced telecommunications and computer equipment can provide employees with a variety of support services, including child care centre, kitchen and/or cafeteria, and fitness centre. A number of different employers can accommodate their employees in such a facility. The neighbourhood work centre has the potential to utilize the advantages of teleworking, while minimizing the risk of creating an underclass of homeworkers.

There are, as yet, no examples of such telework centres in Canada organized on a residential neighbourhood basis and incorporated into a housing environment. A growing number of North American employers are developing satellite offices/telecommuting centres (Bagley, M.N., Mannering, J.S. & Mokhtarian, P.L., 1994). Several private sector companies in the telecommunications field have given some of their employees the option of working out of a satellite office. British Columbia Telephone (BC TEL), the first Canadian company to implement such a model, has a small satellite location in suburban Vancouver for 15 of its employees. In Kingston, Ontario, Bell Canada has a Telecommuting Centre with six workstations to support its teleworking employees. IBM maintains several satellite offices in the Greater Toronto Area. In the public sector, both the Canadian and U.S. federal governments have established satellite office programs. In Newfoundland, the Enterprise Network Inc., a non-profit corporation, operates a network of telework centres to support local economic development.

Proponents of satellite offices claim substantial productivity gains over either head-office or home office settings. Canadian researcher David Tippin (1994) observes, however, the limitations of making such evaluations in the absence of agreed-upon measures of either quality or productivity of work.

Recent Canadian survey research conducted by Gurstein (1995) for CMHC suggests that significant numbers of homeworkers support the idea of a neighbourhood-based telecentre or satellite office. That survey found that over one-quarter (27%) of those who currently work from home would be interested in working out of a neighbourhood telework centre or satellite office. Teleworkers and independent contractors expressed the greatest interest; self-employed consultants and home-based business operators were found to be less enthusiastic (Ibid, p. 43).

A survey of housing-related attitudes among young families living in Canada's three largest metropolitan areas probed levels of interest in a shared, equipped office facility that would be available to residents of a housing development. That study, which was conducted by Johnson for CMHC (1995), found a fair amount of interest in the concept which was described as:"Equipped office space for home-based income earners to share". On a bi-polar 10- point scale of interest in which 1 indicates *not at all interested* and 10 indicates *extremely interested*, the shared office centre had an average score of 6.

Two reviews, one from the U.S. and one from the U.K., provide information on the experience of the various telework centres that have been established in various locations in Europe and North America. These various telework centres tend to provide a variety of services including: office space and facilities on a rental basis; access to the Internet and a variety of databases; office and telecommunications equipment; training; video-conferencing; administrative support and services, including accounting/book-keeping.

In the U.S., a study sponsored jointly by the California Department of Transportation (Caltrans) and Federal Highway Administration (Bagley, et al., 1994.) reviewed 8 multi-employer telework

centres, 7 in the U.S., and one in Scandinavia. These are remote work centres that were typically created in response to policy objectives, generally to reduce automobile commuting, to stimulate economic development, or to support research.

The Caltrans study is a source of comparative data on operating costs for such telecentres. While noting that few of the case study sites made available complete breakdowns of income and costs, the Caltrans study makes some general observations on costs[10]:

> "Multiple-employer telecenters that involved a separate facility ... had start-up budgets ranging from $120,000 to $425,000. Employer participants paid from zero to $850 per month to rent a space at the telecommuting centers, with $100/month being the amount charged most often. Rent was held considerably below market values to encourage facility usage. Monthly operating expenses for the centers reporting this information varied widely, from about $6,600 to $18,900. *None of the telecommuting centers studied are financially self-supporting at this time.*" [Italics supplied]. (Bagley, et al., 1994, ES-3).

It is significant that the centres described in the Caltrans study tended to be created in response to policy objectives, and, consequently, to receive considerable amounts of public funding. The report observes that the proportion of start-up costs provided by the public sector ranged from around 30% to 100%. Private sector companies also made in-kind donations. (Ibid, S-14).

A 1993 Cornell University International Workplace Studies Program (IWSP) study of telework centres provides additional information on costing of telework facilities from one Washington State pilot project. Employers who located their employees in the subsidized telework facility paid approximately $1,500 (U.S.) annually for each workstation. The non-subsidized cost of each workstation was estimated in the range of $9,000 (U.S.) (Becker, et al.1993, 23).

With regard to potential sources of revenue for telework centres, the Cornell IWSP study reports that user fees for rental of individual telecommunications-equipped workstations, which as noted are subsidized and cover only partial costs, range from no charge up to approximately $100 U.S. per month (Ibid.) The Caltrans study reports that $100 per month per workstation represents the modal (most frequent) fee paid by employers, with a range from 0 to $850 (Bagley et al., S-14).

An August 1994 survey of some 50 telecottages, business centres, and telework centres in the United Kingdom and Ireland provides information on organization and operations; ownership and support; size; staff and users; and equipment (TCA, 1995). Half of these centres were in rural locations, half in large cities or smaller towns. With regard to ownership, a minority of the centres (22.4%) were privately owned. The majority received support from some level of government, including the education sector, or were organized as charities or co-operatives, or

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[10]Note that these cost figures are expressed in U.S. currency.

received support from a combination of sources. Among those centres not currently receiving direct public subsidies, some received support in the form of seconded staff, premises leased below market rates, or free equipment. Thus this survey also showed the importance of government support for these telework centre facilities.

With regard to staffing, 60% operated with 5 or fewer staff members, though 22% had 10 or more staff. Many of the centre staff worked part-time. The average telecentre was staffed by 1.5 full-time staff, 2 working part-time, 2 volunteers, and two sub-contractors.

The TCA survey concluded that telecottages tend to be used as a supplementary work location, rather than as a regular workplace.

3.0. CASE STUDY SITES

This project has examined a number of examples of shared work spaces. The purposes of this case study analysis have been: first, to collect sufficient descriptive examples to be able to distill five prototype models, and second, to derive a set of principles to guide development of a residentially-based, common work centre.

These case study sites support a wide variety of work activities. The basic kinds of work supported in the study sites include: creative arts such as fine art, music, crafts, design work and writing; computer-mediated telecommunication; professional work including legal and accounting work and various types of counselling and therapy; a variety of consulting and small business activities; and community and advocacy work.

Users' access to the various case study facilities is based on a variety of roles and affiliations including: member; resident; employee; tenant/resident; owner; and client. Some of the case study sites are live/work environments, others are not. All of the case study sites have some applications to a live/work telework centre model.

3.1. A Typology of Work Centres

A typology of work facilities has been utilized to organize the various case study workplaces according to key distinguishing characteristics. The typology has been adapted from one developed in the 1993 study of telework centres conducted by the International Workplace Studies Program at Cornell University[11]. The Cornell study classified telework centres according to two dimensions: type of occupancy (use by single or multiple tenants) and patterns of use (full-time, part-time/assigned days, or flexible usage). The present study has added a third dimension to distinguish live/work from non live/work facilities. Table 1 below organizes the present twenty case study sites according to these three dimensions:

- **TABLE 1: TYPOLOGY OF SHARED WORK FACILITIES**

			TYPE OF OCCUPANCY	
			Single Employer	**Multiple Employers**
Use Patterns	**All Assigned**	**Live/ work**	Eisner Design	Cambridge, MA law offices EcoVillage CoHousing-Ithaca Blue Heron Farm, NC Sorauren Ave Artists' lofts
		Not Live/work	BCTel Telework	Fashion Incubator Toronto Business Dev't. Centre Centre for Peace & Justice Old Courthouse Arts Centre Vocational Rehab. Assoc. Allen Room 42nd St. Library
	All Drop-in	**Live/work**		The Summit Arcadia Artists' Co-op
		Not Live/work		Empress Lounge Clarenville Telecentre
	Mixed Assigned and Drop-in	**Live/work**		
		Not Live/work	Bell Telecommute Centre Arthur Andersen	Open Studio Atelier Circulaire

[11]Franklin Becker, Andrew J. Rappaport, Kristen L. Quinn and William R. Sims, **Telework Centers: A Evaluation of the North American and Japanese Experience**. Ithaca New York: Cornell University International Workplace Studies Program. 1993, p. 13.

The case study workspace facilities have been categorized into the four following groups, which are not entirely mutually exclusive.

- Drop-in or non-territorial workspace
- Assigned workspaces combined with common resources
- All common workspaces
- All assigned workspaces

3.2. The Case Studies

A brief description of each facility and, where available, site plan for each is presented below:

3.2.1. The drop-in, non-territorial workspace

According to this model, 'my office is where I hang my hat', rather than where one's family photographs decorate the walls. These have the essential characteristic that users of a space claim only "squatter's rights" to it for as long as needed. Users reserve workspace in advance. Storage may be provided. The user's affiliation may vary, from resident, to traveller, to employee. Some have only private work space, others provide for common areas/meeting rooms. Five of the case studies are of this type. Following are case study descriptions of these five case study work centres:

1. Bell Telecommuting Centre
2. The Summit
3. Empress Lounge
4. Arthur Andersen
5. Clarenville Telecentre (ENI)

1. Bell Telecommuting Centre, 449 Princess St. Kingston, Ontario. Joy E. Vokey, Manager, Telecommuting Centre.

Among all of the case study sites, this Bell Canada teleworking centre is the closest to the model of a telework centre to support home-based workers. Opened on January 25, 1994 with six workstations and a dial-up video conference facility, the telework centre offers a variety of workstations to serve primarily Bell employees. Some of the centre's facilities are also available to outside clients. The Kingston site was selected by Bell Canada as a location that would be convenient to the major metropolitan areas of Montreal, Ottawa and Toronto. The telecommuting centre facilities can be reserved in advance for the amount of time required. One of the workstations also serves as a showroom to demonstrate the high-tech home office.

A flyer advertising Bell's First Telecommute Centre to Bell employees lists the various services available at the Kingston facility[12]:

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[12] Bell Canada flyer: "Bell's 1st Telecommute Centre, Kingston, Ontario". 1994.

- Workstations can be reserved for a day or weeks at a time
- Computer at each workstation for word processing, desktop publishing, electronic mail...
- Phone lines with features such as voice mail, handsfree
- Visit video for high-speed file transfer, screen sharing, desk top video conference
- Dial-up video conference facility for full-motion, colour, group video conference...
- Audio conference for small groups...
- Standard office services: Mail and courier services, stationery, fax and copying facilities
- Centrally located between three major Bell Canada cities.

Interviews with Bell employees using the Kingston Telecommuting Centre revealed a variety of motivations for their use of the facility. One software designer who generally telecommuted from a home office, cited the value of social interaction with colleagues as his reason for arranging occasionally to work from the Centre:

> "Well, number one, I think one of the things that you really lack telecommuting is the social interaction. You can lose touch with people...just people."

A manager of operator services does most of her work from a home office, but occasionally requires equipment and services available at the telecommuting centre.:

> "I have a complete home office... with three phone lines...I have a line for my computer which is dedicated, and my home office telephone line and a fax line...a beautiful desk...and I've got my laptop, I've got my printer. I have my favourite walnut-cherry wall unit (...my Dad made it...it's supposed to hold my Royal Doulton) ...But it's my office supply cupboard...And I have all my files, I'm completely independent of this location. Except I come in here, usually at night, once a week for (high speed laser) printer and the Xerox. And if I'm going to do any travelling and I need extra copies, I make them in here rather than do them at home on my little printer, and I come in here to get my mail and to mail stuff."

One of the most regular users of the telecommuting centre is a manager in the company's billing department. When she is not travelling to other Bell business offices across Ontario --about half of each week is occupied by business travel-- she works out of the Kingston Telecommuting Centre. While her work is "location independent" and could be done equally well from a home office, family obligations make that not a realistic option in her case:

> "I've thought about it [a home office] but I didn't think about it for too long. For several reasons...I've got two teenagers and a husband that works shiftwork, so there are always people around the house....So working at home I would get far too many interruptions and I couldn't concentrate. I have to come to work. It has to be structured and I have to separate the two [work and family]."

Another user of the telecommuting centre was doing so on a short-term, drop-in basis, planning only to use the facility for a week. A personal family problem had brought her from her head office location to the Kingston area. While she spent about half of each day attending to this personal family matter, there were some hours in each day when she was available to work. Her temporary office assignment in the Centre provided a secure base of operations with easy telecommunications links to her clients and colleagues.

It is instructive to consider the costs of establishing and operating the Bell centre teleworkstations. Cost figures are available for both computing equipment and furnishings as well as miscellaneous one time startup expenditures on a per workstation basis[13]. The company's 1994 calculations are based on setting up and operating individual telecentre workstations of 75 square foot in size.

One-time start-up cost calculations include computing system, office equipment and furnishings, construction and decorating. Hardware and software costs per workstation are estimated at approximately $8000. Costs for furniture, including ergonomic desk chair, and fax machine are approximately $4000. per workstation. One-time construction charges, including electrical work and decorating costs are calculated at approximately $4000. per workstation.

Calculations of monthly operating expenses include real estate costs per individual 75 square foot workstation, along with local telephone charges and photocopier machine. These costs are estimated at approximately $1350 per workstation.

The one-time set-up costs for computer systems, furniture and equipment were amortized over a three year period, producing an additional monthly charge of approximately $335. When this is added to regular operating costs of $1350, the result is a monthly total of approximately $1685 per workstation. The daily rate for a fully equipped workstation, based on calculation of 21 workdays per month, was estimated at approximately $80.

2. The Summit, condominium housing, 701 King Street West, Toronto, Ontario M5V 2W7
This private market condominium has an office centre which serves residents of three high-rise towers in downtown Toronto. Located on the basement level, this facility includes 6 open carrels and two small, enclosed offices, one of which is equipped with a computer, the other an electric typewriter. The facility also has a reception desk and a conference room, which was about to be used for a scheduled meeting at the time of the site visit. Information conveyed at the time of the site visit indicated that the facility was not heavily used. Among the case studies, this is the only example of a workspace which is offered as an amenity in a housing development.

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[13]These costs are derived from an October 1994 Telework Centre Cost Configuration worksheet obtained from Bell Canada. The costs figures reported here represent averages and approximations derived from that worksheet.

3. Empress Lounge, Canadian Airlines International Ltd., Toronto Lester B. Pearson International Airport, P.O. Box 69, Toronto, ON L5P 1A5.
This airline maintains a lounge for its business class, frequent-flyer members. One of the two levels of this facility is an office space equipped for short term use by business travellers. The facility includes 8 partially - enclosed workstations with a fax machine and laser printer, two conference rooms, one for smaller, one for larger meetings (these require 24 hours advance booking), and four small enclosed telephone rooms which offer acoustic privacy. There is also an area with comfortable furniture and coffee tables for informal conversation. Refreshments are available, including alcoholic beverages. The facility is equipped with washrooms and cloakroom. Corporate contact: Anna Fong, Corporate Communications. Supervisor and on-site contact: Madalena Gage, Customer Service Lead, Canadian Airlines International Ltd. Lester B. Pearson International Airport. Floor plan sketched (see Figure 1).

4. Arthur Andersen & Co. Toronto Dominion Centre, 1900-79 Wellington Street West, Toronto M5K 1B9, and other locations.
Both units of this international company, Arthur Andersen & Co., an accounting firm and Andersen Consulting, an information technology consultancy, employ what they term the "Just-in-Time" (JIT) office concept, which involves shared and flexible assignment of corporate head office space.[14] The program was initiated in response to a 1990 finding that the firm's office space being underutilized -- in part, because so much of the firms' work was done off-site in clients' offices, and in part due to the increase in telecommuting opportunities. Under this system, employees reserve the type and amount of office space according to their needs at a particular time. A by-product of telecommunications technology, this concept represents a saving to the employer on office real estate costs and introduces flexibility for employees based on their project assignment needs.

Background information has been obtained from the company's Washington DC office on a case study of Andersen's experience with the JIT office. A site visit was made to the firm's Toronto offices, and a JIT office section was observed and a floor plan sketched (see Figure 2).

5. Clarenville Area Telecentre, second floor, Eastern College, Clarenville, Newfoundland, Mailing address: P.O. Box 387, Clarenville, NF, A0E 1J0.
Clarenville is one of seven widely dispersed telecentres that make up the St. John's-based Enterprise Network Inc (ENI). ENI is a crown corporation which fosters rural economic development through application of information technology.

Clarenville is a rural telecentre providing both walk-in and dial-in access to technology, business information support services, training and consulting on the application of information technology. Loosely modelled on the European "telecottage" which provide technical training

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[14] Sources: John J. Dues "The Re-Engineering of Corporate Real Estate". Arthur Andersen Real Estate Services Group, May. 19, 1992 and John J. Dues "Innovative Office Concepts: A Virtual Reality Case Study Using Just-In-Time Concepts", Arthur Andersen & Co., Washington, D.C.(no date).

and support to rural workers, these telecentres provide support to small, home-based businesses in Newfoundland and Labrador.

Specific resources available at the Clarenville Telecentre include: Electronic mail; Internet access; IBM compatible and Macintosh computer workstations; desktop scanner; PaintJet and LaserJet printers; photocopier and fax machines; CD roms; graphic, word processing and financial software; an in-house library including Internet technology-focussed books, magazines and periodicals, manuals and resource guides; and a variety of Internet and software training videos. The telecentre also offers access to numerous databases including: commercial, provincial, business opportunities and public tenders.

Opened in March 1990, the Clarenville Telecentre has the distinction of being Canada's first telecentre. Like other ENI telecentres, Clarenville charges its clients on a fee for service basis, with different rate structures for private businesspeople, government bureaucrats, and non-government organizations.[15] Telecentre staff provide individual instruction and offer seminars on accessing databases.

Issues specific to the drop-in workspace

- Security is an important consideration for users of drop-in workcentres.
- Secure storage must be provided.
- Planning a drop-in facility requires coordination of usage. The costs of unused or underused facilities must be balanced against the risks of overcrowding.
- Shared equipment implies requirements for quality control and maintenance standards. Shared computers raise particular problems due to the hazard of viruses.
- The drop-in workspaces permit various levels of affiliation or classes of membership.

3.2.2. Dedicated, individual workspaces combined with some common resources

The most numerous among the case studies, these workspaces combine private offices or other workspaces with shared territory and shared amenities available to those in the private office workspaces. The ten case study work centres in this category are identified and then described below:

6. Live/work law offices, Cambridge, Massachusetts
7. Toronto Fashion Incubator
8. Toronto Business Development Centre
9. EcoVillage CoHousing, Ithaca, New York
10. Blue Heron Farm, Chatham County, North Carolina

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[15]"Newfoundland's ACOA Enterprise Network traveling the electronic highway" Andrew Safer, **Atlantic Business Report**, 2 (9), September 1993.

11. Centre for Peace and Justice, Toronto
12. The Old Courthouse, Owen Sound, Ontario
13. Sorauren Avenue artists' and live/work loft office, Toronto, Ontario
14. Vocational Rehabilitation Associates, Toronto, Ontario
15. Eisner Design, New York City

6. Live/work law offices 52 Western Avenue, Cambridge Massachusetts 02139, USA.
Lawyer Richard Klibaner and his lawyer wife Jamie Sabino and their 3-year old son, Sam, live on the third and fourth floors of a turn of the century brick row house, above a two-storey law office complex. Their own law offices are located downstairs, along with 3 additional law offices rented out to other lawyers. The facility also has an office for a full-time receptionist/legal secretary, a legal resource centre/library, and some space for food preparation. The facility operates as a convenient live/work space for Klibaner and Sabino, and as a set of law offices that combine private offices with shared facilities for other lawyer-tenants. (See Figures 3A and 3B for floor plans.)

From the perspective of the building's owners, this is a live/work situation. On week days their son is cared for in a near-by family day care home. When either parent works evenings or week-ends, Sam has the choice of accompanying them down to their offices. He is familiar with the space, and is comfortable playing there. They value the services of the receptionist/legal secretary -- services which are much more affordable with the contributions made by the three tenants. Similarly, the legal resource centre and office equipment are more affordable when shared among five lawyers.

This shared workspace is also a convenient, economical and collegial arrangement for their tenants. From the perspective of their "original" tenant who has rented her law office in their building for ten years, it is a healthy mix between the privacy of her own office and the collegiality of a larger firm. She has an office which measures 130 square feet, for which she pays $635 (U.S.) monthly rent, plus a flat monthly fee of $75 (U.S.)/month for receptionist/message service. In addition, she uses the secretarial services on an as-needed basis for which she pays an hourly rate of $12 (U.S.).

7. The Toronto Fashion Incubator / Toronto Centre for the Promotion of Fashion Design.
325 Adelaide Street West, Ground Floor, Toronto, Ontario M5V 1P9.
The Toronto Fashion Incubator (TFI), the popular name given to the Toronto Centre for the Promotion of Fashion Design, was founded in 1988 in response to the need of Toronto's fashion industry to support gifted new designers[16]. Funded by a variety of sources including the municipality, the industry and individual designers, the TFI offers up to nine designers the opportunity to rent studio space in a complex that offers a variety of services and supports to

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[16] This description is based on information in **Toronto Fashion Incubator: General Information**, June, 1995.

fledging fashion designers, the "residents". Located in the ground floor of an old bank building on a main street in downtown Toronto's Fashion District, the TFI has seven full-sized private workshop studios and two half-sized studios organized around a large, central common work space with cutting tables and production equipment including a high-tech computerized pattern-making system, a resource library which receives current fashion publications from international sources, a board/seminar room and a kitchen area.

The TFI offers two categories of membership: on-site resident Designers, the "residents" and Outreach Members.

Resident Designers

Applicants for admission as a Resident Designer must demonstrate their ability by submitting a portfolio of their work. Applicants are required to have a three year business plan, and demonstrate "great potential, creative talent, a co-operative spirit."[17] The program is geared toward new designers who have already had some work experience in the Canadian fashion industry, and with a company which is in a "start-up" position. For successful applicants the usual tenure at the Incubator is 6 months. Studio rental rates in 1994 were approximately $450./month. The full-sized studios measure approximately 250 square feet; half-sized studios are 125 square feet. Residents enjoy 24-hour, 7-day per week access to the Incubator premises. The benefits for on-site Resident Designers, in addition to the actual facilities, include access to mentors who have achieved success in this highly competitive field, media contacts, opportunities to exhibit their designs in fashion shows, production space for those who wish to hire staff to produce sample garments, and a variety of marketing contacts. The TFI hosts and coordinates a "New Labels" show at the Toronto Ready-to-Wear Designer Collections, which showcases TFI talent.

Designers working at the TFI talk with enthusiasm about the creative energy that comes from working in the company of other designers. The "down side" of this is the visibility of all work-in-progress; any of the tenant designers' new fabric discoveries, new techniques, or other design ideas are on view for all competitors to see.

One of the resident designers described the synergy that developed in the incubator:

> "Working here at the Fashion Incubator, there's a kind of energy that drives my work. It isn't a competitiveness, but somehow I just work harder, faster when I'm in my Incubator studio. It is very different when I try to do my work at home, which I do on occasion. I design formal dresses and wedding gowns, so I work with fine silks and satin fabrics. Working at home I may find myself sewing the fabric by hand. It may be an enjoyable, sensuous experience -- but I'll be working away and suddenly it is lunch time, and the

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[17] Ibid, p. 1.

whole morning is gone and all I've done is some hand sewing. When I'm at the Incubator I use my time more carefully, work more productively."

Outreach Members
Outreach Members include those beginning designers who may not be able to afford the monthly rent, and, at the other extreme, designers who may have outgrown the need for the small, subsidized facilities available at the Incubator. Outreach Members pay an annual membership fee which was $120. in 1995. Outreach Members can utilize all TFI equipment and services, Monday to Friday between the hours of 9:00 a.m. and 5:00 p.m. on a pay per use basis.

The ***TFI Newsletter*** is published monthly and sent to all Outreach Members, schools, associations, media, and industry representatives. Site visit and interviews with Acting Director and one designer.

8. Toronto Business Development Centre, 1071 King Street West, suite 113, Toronto, Ontario M6K 3K2.
A business incubator developed in a four-storey, 95-year-old foundry building renovated in a "factory renaissance" architectural style, located in Toronto's downtown. The facility was developed by the Ontario Ministry of Economic Development and Trade, The City of Toronto Economic Development Corporation (TEDCO) and the King Business Centre. Three categories of affiliation are offered with the Centre: tenant company, on a short-term lease with access to all services; associate member, by paying an annual fee and pay per use of services; identity member, a monthly fee for those who do not require space but want a business address and all of the tenant services.

The facility can accommodate up to 59 fledgling businesses in rental spaces from 105 to 1600 square feet with short-term leases. Since its inception this business incubator has recruited business tenants in all areas of services and light manufacturing. More recently, a decision has been made for the incubator to begin to focus its resources in the areas of communication, arts and technology, and to begin to recruit core tenant base from these fields.

The Toronto Business Development Centre has some 18,000 square feet of rentable space. The building has a freight/passenger elevator, central air conditioning, and a card-access security video system. Tenants have 24-hour, 7-day access to their individual suites. The Centre offers complete office support services and on-site advisory help in all aspects of business planning and development for tenants and non-resident clients. Services offered on a no-cost or user-pay basis include: photocopier, fax, telephone answering and message service, laser printing, bindery, seminar room, board room, meeting room and resource library. (See Figures 4A, 4B and 4C for Floor plans.)

Publications: ***CentrePieces***, Quarterly Newsletter, and a set of fact sheets, titled ***Modules***, describing the incubator concept and its various aspects.

9. EcoVillage Common House office space, Ithaca New York. EcoVillage is a cohousing project that is building office space into a common house, with costs of such on-site office facilities borne by those who opt for that amenity. Approximately one-quarter (900 sf) of the total common house (3600 sf) will accommodate offices. In accordance with an agreement with the local planning authority, no office will exceed 200 sf, and no office will have more than two employees from outside the EcoVillage residential community. The office space will have a direct connection to the interior of the common house. It is on two levels, with the upper level (ground floor) having an outside entrance. This level will accommodate those with clients who come to the office (therapist, lawyer). Computer consultants and others who travel off-site to clients' premises will work downstairs. Individual office owners are expected to provide their own desks, chairs and other furnishings, but it is expected that they will share copiers, faxes and some other equipment.

10. Blue Heron Farm, Chatham County, North Carolina.
Blue Heron Farm is a rural sustainable community cohousing/cooperative which is currently under construction on a 64 acre site. Four of the seven members' houses are complete or under construction. Members include a mix of professionals (psychotherapists and massage therapists) and artists (musicians and dancers). Several of the community members require work space for teaching. A community office space is planned where they can all see clients and students. It will have several small counselling type offices, a large movement space, and some practice rooms for musicians.

The group owns land on both sides of a county road. Their community office space is planned to be near the road, across from the residences and their planned common house. This siting is designed to preserve residents' privacy in this live/work setting: "[We] felt that strangers wandering into the centre of the community would be intrusive and disruptive. We have the ability to cluster homes on part of our 64 acres, leave fields and woodlots for harvest, and still put commercial buildings away from the residential ones to preserve personal privacy."

11. Centre for Peace and Justice, 736 Bathurst St., Toronto, Ontario M5S 2R4. Lois Eaton, Executive Administrator.
An under-utilized mid-town Toronto United Church building has been converted to offices available to non-profit organizations doing advocacy and community education work on issues which relate to the broad objectives of peace, social justice, human rights and educational and environmental concerns. At a monthly rental cost of $1.06/ square foot, groups can obtain private, lockable office space and have access to receptionist, mail and other office services on a cost-recovery basis. Office services offered include: mail and courier pick-up; photocopying charged per page; stationery supplies available for purchase during office hours; fax machine with a monthly fee and a per page charge. There are storage facilities in the form of storage lockers, available to Occupant groups on a rental basis. The basement level of the building also contains a large "studio"space which is available on a rental basis to both Occupant and Outside community groups. (See Figures 5A, 5B and 5C for plans.)

12. The Old Courthouse Arts Building, 1235 Third Avenue East, Owen Sound, Ontario. N4K 2L6. Sandy Tomlin, Old Courthouse Co-ordinator.
In 1985 the City of Owen Sound leased a historic courthouse building to the Grey Bruce Arts Council for the purpose of creating a facility for studios and offices for local artists and cultural groups. The restored heritage building in the small city's downtown area currently provides rental studio and office space for a mix of artists and non-profit and local organizations. The handsome stone building has a strong visual presence.

The Courthouse contains mostly private studio/office spaces. A 1990 consultant's feasibility report on future use of the Courthouse identified a number of problems in its operation, and recommended specific changes geared to increasing its visibility as a dynamic centre for the arts, and broadening its use by the larger community.[18] The consultant's study involved comprehensive consultation with resident artists and with a variety of organizations in the community. It is significant for the present study that among the consultant's recommendations for future use of the Courthouse were the following:

- "The areas of the building accommodating artists' studios should be accessible to the tenant artists on a 24 hour basis.

- A room or rooms in the building could be designated as an 'open studio'. In this arrangement a room or rooms would be set up with the rare, expensive or otherwise unavailable equipment sometimes required by artists but normally beyond the means of the individual. .. This equipment could be made available to local artists and perhaps to the entire community. This arrangement would have the advantage of making expensive and scarce equipment readily available to the Grey-Bruce arts community. It would also reinforce the role of the building as a centre for arts activity in the area by centralizing these resources under one roof. "[19]

(See Figures 6A and 6B for floor plans.)

13. 347 and 369 Sorauren Avenue live/work loft spaces, Toronto.
This case study is an example of a controversial trend toward 'guerilla conversions' of downtown Toronto warehouse space into live/work studios for artists and others. Tenants typically provide sweat equity to convert spaces not zoned for residential use.

The appeal of old loft buildings is the spaciousness in both floor area and high ceiling height and the open plan flexibility which allows tenants to configure the space as needed. Many of the units combine a ground floor area with an elevated "mezzanine" loft level. In spaces used for

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[18]Christopher Borgal Architect, **Feasibility Study: Future Use of the Old Grey County Courthouse.** Phase I Report (Draft) May, 1990.

[19]Ibid. Recommendations c and e, respectively, p. 94.

artists' studios, the usual plan is to locate studio and kitchen spaces on the ground level, with bedroom spaces on the upper loft level. A bi-level live/work office space typically locates the office on the upper level.

There are a number of policy issues surrounding the loft conversions. The live/work concept challenges the convention -- and often the legal requirement -- of segregation of residential and commercial land uses. Municipal zoning by-laws tend to prohibit co-location of residential and commercial activities. The incorporation of live/work facilities in residential districts would require examination of regulations in a number of areas, including: Official Plan policy, zoning, site plan, urban form, access, parking, compatibility of surrounding uses and building code. The City of Toronto's new Cityplan and accompanying zoning by-law have recognized and permitted some live/work combinations. That municipality has a particular interest in finding ways to permit artists' live/work without compromising health and safety standards, or, in the particular case of the Sorauren area loft studios, risking a process of gentrification that would increase the studio rents and drive out the artist tenants.

Rental rates are widely variable in this "grey market" real estate situation, where records are informal and in-kind payments and sweat equity may replace more conventional payment modes. Among the tenants interviewed, monthly rents ranged between $250 and $695 for spaces which generally combined ground-floor and upper level loft areas.

14. Vocational Rehabilitation Associates 253 Danforth Avenue, suite 200, Toronto, Ontario M4K 1N2.

The office arrangements of this vocational rehabilitation consultancy are illustrative of one approach to sharing of office services. Vocational Rehabilitation Associates (VRA) provides case management services for insurers and lawyers, as well as providing physical capacity evaluations and assistance with job search and placement. After outgrowing his initial home office arrangements, Robert Katz, VRA's Director, rented a small office in a low-rise office building on a mid-town Toronto main street. The office was a short bicycle ride from his home. His initial costs were for office rental, cleaning and utilities. He had a telephone line installed and brought his own computer and printer. He and other tenants rented a central space for secretarial/reception services, hired a secretary jointly, and established a clerical workstation with a photocopier and fax machine, which were charged out on a fee-for-service basis. He initially contracted for 25% of the secretarial time; this percentage has increased.

VRA's business has grown, creating an increase in staff needs at the case manager level, and an additional need for office facilities and services. The company utilizes the services of freelance case managers on a fee for services basis. These consultants work out of their own home-based offices, which they equip with a computer and telephone line. VRA gives the consultants access to office space which they can use to interview clients or write reports, and gives them access to secretarial/receptionist services.

15. Eisner Design 30 West 15th Street, suite 3N, New York, NY 10011. USA.
Joseph Eisner is a registered architect and furniture designer who has incorporated an office workspace with living space in his New York City loft[20]. The social aspects of spatial design are of interest to Eisner both as the subject of his work, and as they relate to his home office workplace. The Eisner Design workplace supports Eisner, one full-time employee, and up to four additional freelance staff, according to the needs of current projects. The firm's work is approximately 70% architectural design and 30% furniture design. The live/work office also serves as a showplace for furniture designs, which are also shown in galleries in New York and Los Angeles.

The Eisner live/work space integrates the office/studio space with the loft's living area. A feature recent article by interior design writer Marilyn Zelinsky Syarto describes Eisner's integrated workspace:

> "He sits back-to-back with his three freelancers, who work at an 11-foot-long surface that's wide enough to allow them to spread out architectural plans. To help create the illusion that the office flows into the rest of the loft, Eisner built a four-panel sliding window into the dividing wall unit that also allows him to interact with staff stationed outside the office proper." [21]

Eisner has occupied the current space for three years, and it is his third live/work location. He feels it is the most successful for balancing living and working:

> "This is the first one where I'm part of the world. In the other locations I got cabin fever."

Eisner attributes the success of the current space partly to the downtown Manhattan location (in the Chelsea neighbourhood) and partly to factors of spatial design. Experience has also improved his ability to protect his non-work time. The office is only used on week days, and only up to 7 p.m. (See Figure 7 for floor plans).

Issues relating to private workspaces and common facilities

- It is important to establish and enforce ground rules around respecting personal property, including intellectual property.
- A system must be developed to allocate costs to users of services, facilities according to patterns of use.
- Shared equipment must be maintained and serviced, and supplies kept stocked.
- Live/work spaces must guarantee residents' privacy..

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[20]source:"Don't Fence Me In", **Home Office Computing**, September 1995, pp. 42-43, article by Marilyn Zelinsky Syarto.

[21]Ibid. p.42.

- A work centre for a particular occupational or professional niche may present more opportunities for collaboration than might be provided in a generic "business centre".
- Of the four types of workcentre considered in this report, this is the model with the greatest potential for educational and training functions.
- A number of these workcentres are developed in response to social visions, environmental or arts-related objectives.
- Many of these have facilities receive external funding support.
- This is the model which would most likely be used to "recycle" heritage properties.
- In its live/work version, this is the model which presents the biggest zoning challenge, since it combines residential with commercial land uses. An illustration of one possible response is provided by the planning authority in Ithaca NY, in response to the plan to incorporate offices in the EcoVillage cohousing development in that community. In that instance there was a limit placed on the numbers of non-residents who would be permitted to work in the on-site offices.

3.2.3. All common workspace

These workspaces consist entirely, or almost entirely of shared territory and facilities and equipment. There are three study sites in this category. All are artists' or craftspersons' workspaces; one of the three is a live/work facility.

16. Arcadia Artists' Cooperative Housing
17. Open Studio
18. Atelier Circulaire (includes a few private studios, mostly common workspace)

16. Arcadia Artists' Housing Co-operative, 680 Queen's Quay West, Toronto, Ontario M5V 2Y9.

Arcadia is a non-profit artists' housing co-operative with 150 adult members and 50 children located in Toronto's downtown Harbourfront neighbourhood. The definition of an artist for co-op membership purposes is "one who is actively pursuing a career in the arts". To support the work of artist members, the high-rise building includes a number of shared studio workspaces. These studio workspaces include a workshop for clay and woodworking, a performance space/dance studio, musicians' rehearsal space, as well as an art gallery.

Among the resident professional artists using these on-site studios, at the time of the site visit in September 1995 there were two using the facilities as their primary studio space on a full-time basis, and five who worked there regularly part-time. An estimated 20 additional residents used the facility on an occasional basis for their work. These artists had studios of their own -- including some whose co-op apartments were live/work studio spaces -- but who often required the tools and facilities and of the co-op's large workspaces. Among these occasional users are a painter who uses the workshop to construct frames and a sculptor who builds packing crates.

The workshop spaces are used regularly by resident members to teach classes. Pottery and woodworking classes are taught at various levels to adults and youth. The classes attract students from within the co-op as well as from the broader community.

Various short-term instructional workshops are also offered in these studio workspaces. These classes tend to attract mostly resident cooperative members. The teachers are mostly co-op members, and the workshops offer resident members a chance to learn new skills, practice old ones, and to interact with neighbours. Among the workshops offered recently have been: apartment renovation; bicycle repair and maintenance; furniture restoration; clothing repair and alteration; and bread baking.

Training sessions are offered regularly to instruct residents on the safe operation of power tools and equipment in the workshops. Only those who have completed such training have access to the facilities.

(See floor plans in Figures 8A and 8B.)

17. Open Studio 520 King Street West, third floor, Toronto, Ontario M5V 1L7. Internet: openstudio@intacc.web.net.
The Open Studio in Toronto is a non-profit printmaking facility whose mission is to provide artists with safe, affordable and well-equipped studio facilities for lithography, screenprinting and etching[22]. Artists unfamiliar with a particular print process can work collaboratively with an Open Studio masterprinter. The Open Studio has a volunteer board of directors and staff that includes a director, administrator, technical director and assistant, and coordinators of print sales/ archives and fundraising. Over time the organization's structure has undergone changes; the mission has not. It is the longest-lived among the case study projects -- in 1996 Open Studio celebrated its 25th anniversary.

In addition to operating artists' printmaking facilities and providing custom printing services, the Open Studio mounts numerous exhibitions in its gallery which is open to the public, and offers a variety of educational programs for its members and the larger community through workshops, visiting artists' programs, and various lectures and demonstrations. Other Open Studio services include print sales and framing.

Open Studio is supported by self-generated income, in combination with public sector financial support from arts agencies at various levels of government including: the Canada Council, the Ontario Arts Council, the Toronto Arts Council, the Municipality of Metropolitan Toronto and the Province of Ontario. Private sector funding is received from numerous corporations, foundations and individuals. The Studio's membership ranges between 30 and 80 individuals.

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[22] The catalogue from the Open's Studio's Tenth Anniversary Exhibition documents the studio's early history. **Open studio: ten years**, Toronto, Ontario: Open Studio, 1980.

At the time of the February 1996 interview, there were 60 artists accessing studio space. Monthly fees for studio use are $125., including supplies. Those using the studio space are expected to volunteer an average of two to three hours per month to assist with studio operation and maintenance.

The studio publishes a newsletter, ***Newsprint*** .

18. Atelier Circulaire, 40, rue Molière est, 4e étage, Montréal (Québec) H2R 1N8, Jean-Pierre Sauvé, Director. Litho studio next door, Mel Boyaner, Director.

Atelier Circulaire is a co-operative print-making studio in an old factory loft building in the city of Montreal. In operation for twelve years, the studio provides a large, common workplace equipped with a total of five presses of various sizes, surrounded by smaller enclosed private studios which members can rent, an office, public gallery space, and a kitchen/dining area for artists.

Sharing work space is not easy, and a successful shared facility requires developing procedures and conventions for working jointly. Respecting the privacy of co-workers is understood to be as important as keeping equipment and facilities clean and in good working order.

There are currently 42 members. The studio employs a director and a printer. The studio is open 24 hours per day. The gallery exhibits 10 shows per year. Funding support for the studio comes from provincial and municipal levels of government and from user fees and rents.

Issues Relating to the Common Workspace

- These workspaces offer users high visibility, networking and marketing opportunities.
- These facilities can accommodate large numbers of users, since some use the workspaces on a short-term or drop-in basis.
- Some government subsidy is involved with these facilities. Two receive arts funding, one is a social housing program.
- Arcadia Artists' Housing Cooperative in this group represents the only social housing program among all of the case studies.

3.2.4. All assigned workspaces

The two work centres in this category consist entirely of dedicated, allocated work spaces. The users of both of these workspaces work independently. Following are the two workspaces in this category, for which more detailed descriptions are provided below:

19. BCTel
20. Frederick Lewis Allen Room, New York Public Library

19. BCTel Satellite Centre, Langley, British Columbia
The BCTelephone Satellite Office is a branch office of BCTel's main corporate headquarters in Burnaby, British Columbia. The satellite accommodates 15 full-time teleworking employees working in assigned individual workstations. The facility is equipped with a food preparation and eating spaces, as well as a reception area.

The 15 teleworking employees include five managers, five professionals including engineers and systems analysts, and five unionized clerical workers. All of the 15 employees are connected electronically to colleagues, clients and managers. These employees network with others to do their jobs. They access data from a central data bank; they work with remote partners, using the newest computer–mediated technologies.

Located in a suburban strip mall, this facility is remarkable for its ordinariness. Despite its futuristic implications, the floor plan of this open-concept office with modular workstations looks like many other mid-sized private and public sector offices.

Employees based at the suburban satellite office value the time saved from their previous long commutes to the company's head office. Some travel to work by bicycle, some walk. Although these employees tend to work regular daytime, week-day schedules, the satellite office allows flexibility that they did not previously enjoy. Week-day visits to children's schools for parent-teacher conferences or daytime medical appointments are easily arranged when these workers are based in their own residential community.

A number of the satellite-based employees expressed the opinion that their productivity had increased since being assigned to that location. This view is supported by B.C.Tel's own evaluation of the satellite office[23]. While some expressed a concern that their "invisibility" to head-office managers might translate into missed promotional opportunities, all felt that the benefits of the satellite office outweighed the possible costs.

20. Frederick Lewis Allen Memorial Room at The New York Public Library, Fifth Avenue and 42nd Street, NY, NY 10018-2788. Wayne Furman, Office of Special Collections.

The Frederick Lewis Allen room is a marble and wood-panelled study located on the first floor of New York City's main public library in Manhattan. A research centre reserved for writers, The Allen Room measures 17 ½ feet by 32 feet. Writers with a signed copy of a current publisher's contract can apply for one of its eleven workstations which are shared by the occupants of the room (individual desk assignments are not made.) There is nearly always a waiting period of 4-6 weeks for the Allen Room.

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[23]British Columbia Telephone/Bentall (1992). **BC TEL/Bentall satellite office trial: Final report and recommendation**. Burnaby, B.C.: B.C. Telephone. July.

Writers using the Allen Room get a key to the workspace and have assigned their own carrel/workstation to which they can check out library materials. They have access to the employees' cafeteria in the library basement, and, mainly, a workspace in which to write in the company of other writers. The initial room assignment is for 6 months, with one 6-month renewal possible upon request. Notebook computers and typewriters may be used in the room.

Numerous writers of note have used the Allen Room. It was there that Betty Friedan wrote **The Feminine Mystique**, Theodore H. White wrote **The Making of the President: 1964**, and Nancy Milford wrote **Zelda**. Robert Caro, who wrote his Pulitzer Prize winning biography of Robert Moses, **The Power Broker** in the Allen Room, wrote an appreciation of the facility for the New York Times on the occasion of the Library's 100th anniversary. In that piece Caro recalls the value of the feeling of fellowship created there:

> "After a while, the writers of the Allen Room invited me to lunch, which we thereafter ate almost every day in the employees' cafeteria in the library basement. These writers included not just some who were already famous, but some who were, at the time, little better known than I was...
>
> The cafeteria setting could hardly have been more grubby --or more gratifying. The talk was often about problems of research and writing: about the mysteries of our craft, our shared craft. Suddenly, just by being given a desk in the Allen Room, I had been made to feel a part of the community of writers."[24]

(See Figure 9 for floor plan.)

Key Issues Among All -Assigned Workspaces

- Social synergy.
  While neither of these workspaces has much common physical space, users in both describe a kind of camaraderie which develops among those who work independently -- but together. What seems to be a key element in this model is that the social element is available -- but optional -- for workers in these workspaces.

- Formal selection criteria
  It is notable that both of these facilities utilized a selection procedure whereby applicants were reviewed according to established criteria.

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[24]Robert A. Caro, "Sanctum Sanctorum for Writers", **The New York Times**, May 19, 1995, p.1.

4.0. PROTOTYPE RESIDENTIALLY-BASED SHARED WORKSPACES

Elements of the various case studies have been distilled to produce five composite prototypical shared workspaces. The prototypes are more than reconfigured case studies. Some of the features have no basis in existing case study examples, but emanate instead from concerns expressed in interviews with users and managers, or arise from the review of literature. Figures 10 - 14 depict the basic scenario for each prototypical workspace, including a plan, layout and streetscape.

The regulatory feasibility of the prototype scenarios was explored in the 1996-1997 Women Plan Toronto A·C·T study discussed above.[25] In order to determine regulatory feasibility, that project found it useful to picture the various scenarios on particular sites in Metropolitan Toronto. The regulatory feasibility has been determined according to the policy framework found in Ontario's Planning Act, the Metropolitan Toronto Official Plan, and the Official Plans of the individual Metro Region municipalities. Regulatory feasibility of the scenarios was determined through consultation with local planning authorities regarding possible implementation of the prototypes on these designated sites.

4.1 Five Prototypes

- **The High-Tech Suburban Community**
  "Wired", modestly-sized townhouse development with a community workspace and child care facility located on greenfield, suburban site. This prototype would combine individual work areas with common resources. At a minimum, the common facilities would include a conference room and reception area. Most likely it would also include office equipment such as a photocopier, scanner, printer(s) and fax machine. Space would be booked on an as-needed basis, with the option of long-term allocation of a dedicated workspace. This community workcentre could be might be privately or commonly owned by residents of the development.

  This would be a particularly attractive option for community residents who telecommute to work on a full or part-time basis. The facility might also be open to the wider population of individuals and/or businesses located nearby who might require office facilities.

  Regarding the regulatory feasibility of this scenario, planning officials from a suburban Toronto municipality suggest that the most feasible approach would be for a subdivision developer to make such a facility part of an initial development proposal, since residentially-zoned land is generally governed by site-specific zoning, which would

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[25] A detailed description of the regulatory feasibility of hypothetical telework centre scenarios will be available in the Women Plan Toronto A·C·T report: **The Residentially-Based Telecentre: A Feasibility Study**, forthcoming 1997.

otherwise exclude such an amenity -- particularly one which would attract users from the broader community beyond the subdivision.

Converted Heritage Building
Located on a main street, this shared workplace is a historic building converted into a wired workplace with Internet access and educational resources provided through a local community college. This workplace can support diverse types of work, and would attract residents from the town as well as surrounding rural areas. This project might be initiated by local government or a non-profit community organization.

This facility would also combine individual work areas with common facilities, including a classroom/seminar room with networked computers. In terms of allocation of workspace, this prototype could also combine long-term assignment with short-term usage.

Existing use of this structure is as a restaurant; according to planning authorities, conversion into a workcentre would present relatively few regulatory obstacles. The main issue is that this scenario does not combine residential with commercial land uses, but rather locates the workcentre in close proximity to existing housing.

- **High-rise Condominium with Business Centre**
Located on the ground floor of a condominium complex, the business centre offers a variety of private offices, conference facilities, workstations and business services on a drop-in basis to condominium residents. Charges for the facility would be included in basic condominium charges.

Among the various live/work prototype scenarios, this would most likely present the fewest regulatory obstacles. Designation of ground floor space as commercial in a residential high-rise on a main street would not likely be a barrier. Parking is available for building residents and customers of existing commercial retail establishments. This sort of vertical mix of land uses, with residential on upper floors and commercial at grade, is common on main streets.

- **Strip Mall Telework Centre**
Retail space in a suburban mall adjacent to a residential area could be converted to office space with reception/message services and meeting space. Child care services could be available in adjacent premises. The facility could serve independent entrepreneurs and telecommuting employees who live in the vicinity. The facility could be operated privately with services charged on a pay-per-use basis. Space in this workcentre could either be reserved for a specified time period, or be used on a drop-in basis.

The drop-in version of this concept is already being implemented commercially by some providers of photocopying and other business services.

Since it does not mix residential with commercial land uses, this scenario presents no regulatory barriers.

Converted House in Residential Area
The ground floor of a large house in older urban residential neighbourhood could be converted into a shared workplace for residents of the building. Private living quarters could be located on the top floor, common spaces could be situated on the second floor. The office facilities could also be accessed by members of the larger community, on an as-needed and fee-for service basis. This project might be cooperatively owned or operated under the sponsorship of a non-profit community agency.

This scenario presents the greatest regulatory barriers. It is a live/work model, and it would offer business services to the surrounding community as well as to on-site residents. This scenario would require a zoning variance.

4.2 Reactions to the Concept and the Prototype Scenarios

Focus groups were held with two target groups of female home-based workers to gauge reaction to the general concept and to details of the specific scenarios.[26] One group was composed of home-based workers drawn from a particular downtown Toronto neighbourhood, and included self-employed and employed professionals, business persons and artisans, working full or part-time from home. The other group drew participants from across the city of Toronto, and included professionals who were employed and self-employed, and who worked from home on a full or part-time basis using computers and telecommunications equipment.

General Response

The majority of participants from both groups reacted positively to the general concept. Most could see themselves using such a facility on at least a part-time basis. There was particular interest in having access to office facilities, services and equipment not available in their home office settings, such as conference or meeting rooms, or secretarial services on an as-needed basis. A receptionist was seen as an important benefit. It was also felt that the shared workplace setting could yield valuable "networking" contacts or opportunities for collaboration or joint ventures. The following specific issues were raised by participants:

- **Synergy**

Participants felt that working among others produces a synergy that has the effect of increasing their productivity. This is a major advantage which the telework centre has over the home office.

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[26]These two focus groups were among three groups conducted as part of the author's work with a Women Plan Toronto A·C·T demonstration project. A detailed description of results from that project will be available in the report: **The Residentially-Based Telecentre: A Feasibility Study**, forthcoming 1997.

- **Quality equipment and facilities**

The facility must offer high quality, up-to-date equipment. Most participants would prefer to use their own computers, fearing the risks of viruses from shared equipment usage.

- **Proximity to home**

It was considered very important that the facility be located within close walking distance from home. The appeal of the telework centre was diminished considerably if it became necessary to commute to the facility.

- **Security**

Security was seen as an important prerequisite--both for safety of workers and clients or visitors who might use the facility, as well as for secure storage of information and equipment at the telework centre.

4.3 Organizational Structure

These various scenarios offer a variety of alternative options for ownership and organizational structure. Some might lend themselves to being non-profit organizations, others might be developed as commercial ventures or owned cooperatively. Some might be public facilities, others might be developed as housing amenities in a real estate development.

To the extent that they serve the general public, the first four prototype workplaces require staffing; in the fifth model-- the large house converted to a live/work environment -- the on-site residents might manage the facility cooperatively.

4.4 Discussion

All of the five prototype scenarios combine individual work areas with some sort of shared or common resources. The prototypes incorporate the live/work idea to various degrees. All bring the workplace at least into the community. Some locate the workplace within the residential dwelling/building, others situate the workcentre in close proximity to the home. A key issue in planning a telework centre will be to determine what building form will yield enough users within walking distance to make the centre financial viable.

All of the prototype scenarios offer users the benefits of a physical separation between their work and their non-work activities.

5.0. CONCLUSIONS

5.1. Research Findings

The following section incorporates feedback obtained on the various case study models and the resulting five prototypes. The conclusions are derived from three sources: interviews with workers and managers of existing facilities; the expert round table; and the focus groups and community consultation. The following five areas are reviewed: concept development; social factors; management and cost issues; design considerations; and evaluation objectives.

5.1.1. Concept development

An essential aspect of the telework centre model is its combination of a number of individual workspaces with common resources, either space, equipment, human resources, training opportunities, communications infrastructure, or all of these. The target audience for the facility would be individuals who telecommute on either a full-time or part-time basis. The telework centre located in or near a residential environment offers a number of resources which could make home-based work a more attractive and more productive work option. A telework centre could be utilized on a short-term drop-in basis by many users, or it could provide a longer-term, dedicated workspace for a smaller number of users. The former model would be more appropriate to a facility that was a publicly-funded community resource; the latter model would more appropriately be a live/work facility to be used primarily or exclusively by residents.

Integral to the model are the economies of scale from sharing equipment, facilities or other resources. Costly equipment can be shared more economically among many workers. The case study workplaces provide numerous examples of the benefits of shared equipment.

The research reveals wide variation in ways of establishing eligibility to utilize shared workcentres. The facilities and resources may be available to residents, to employees, to members. Some membership organizations have several levels of affiliation, distinguishing between on-site users and associates who enjoy more limited benefits. In programs supported by public funds, it may be desirable for the general public to have access to at least some of the available resources.

All sources consulted indicate that security is an important issue in shared work facilities. Centres which support computer-mediated communications have concerns about the security of proprietary information. Most workcentres have valuable equipment, and security is an important consideration.

Training is an important part of the workcentre model. Formal instruction and less formal mentoring and consultation are delivered through many of these shared workspaces. In some instances, a workcentre may be a source of training opportunities for the broader community, not just for those who work on the premises.

Most of the shared workspaces under study offer more than a place to work. Gallery exhibitions, publications, fashion shows and media exposure are examples of some of the numerous marketing opportunities available to users of these various facilities. On a less formal basis, many of the shared workspaces offer participants valuable opportunities for networking.

5.1.2. Social Factors

The residentially-based work centre addresses issues relating to both the quality of life and the quality of work life. On the quality of life dimension, locating work in a workcentre and outside the home helps to preserve boundaries between work and non-work activities. Those with young children, teen-age children, elderly or sick relatives, and those with partners working shift work emphasize the value in keeping work and family in separate locations. The need to reinforce work/family boundaries helps to guard against two kinds of role interference: it is less likely that family demands will impinge on work, and there is less chance that work demands will expand to occupy one's entire life.

The telework centre can also have a positive impact on the quality of work life. In contrast to the social and professional isolation of home-based work, the telework centre introduces a social dimension to telework. The positive value placed on colleagues was expressed in a number of forms, including a synergy from working in the company of others; opportunities for consultation or joint problem solving; general feelings of fraternity, collegiality; "networking" and joint-venturing opportunities. This argues for organizing telework centres along particular occupational or professional lines, rather than just having generic workspaces.

The study also indicated the importance of establishing "ground rules" to limit unwanted interference from colleagues. While acknowledging the social dimension of work, those working in a shared workspace value the opportunity to work without unwanted interruption or distraction.

5.1.3. Management and Cost Issues

At the level of administration, it is clear that shared workcentres do not "run themselves". Whether through full-time paid staff supervisors, managers who include responsibility for a workcentre among their other duties, or volunteer structures with clear lines of responsibility, it is critical to delineate management responsibility. The experience of the longer-running shared workcentres also suggests the importance of maintaining formal, written records of roles and responsibilities.

A significant finding of this research is that none of the existing high-tech telework centres is self-sustaining. Looking more generally at the case study shared workspaces, most receive some sort of subsidy or other external support. This support may come from various levels of government, from churches, or from private funding sources. A number of the workcentres have

been developed to meet policy objectives, e.g.: job creation and economic development; support for the arts; or the preservation of heritage buildings.

Even in the two satellite office workcentres developed by telecommunications firms, it should be noted that these employers have an interest in the remote work concept which extends beyond merely providing alternative work arrangements for their own employees. As the developers and vendors of hardware and software supports for teleworking solutions and telecommunications services, these firms have a vested interest in developing their own telework facilities to demonstrate the viability of the concept.

5.1.4. Design Considerations

At the level of physical design, the challenge of the shared workcentre is to develop a facility that will support both privacy and community. The various case studies and the prototype models suggest a number of approaches to this challenge. There are several elements common to most of the designs. All have a meeting or conference room; most have a reception area of some sort. Many have a kitchen or food preparation/service area.

When a shared workspace is part of a home environment, there are additional concerns about protection of private space and presentation of a professional environment. Again, a number of the case studies offer specific resolutions to this problem. A related issue, the need for secure storage is of concern, particularly among "non-territorial" workspaces that may be used on an occasional or drop-in basis.

Access is an important issue in the design of shared work facilities. There is strong support for centres to be accessible on a 24-hour, 7 day per week basis. In some instances this requirement may translate into a need for convenient, safe, affordable parking.

5.1.5. Evaluation Objectives

The shared telework centre as a support for home-based workers is a new concept. As various versions of this model are implemented, it will be important to evaluate these programs in terms of costs, social impacts, levels of use and characteristics of user populations, effects on productivity and evaluation by users.

5.2 Future Directions

This report deals with a new and emerging concept: the residentially-based, shared telework facility. Among the case study sites there are a number that are still at the development stage. It will be important to monitor their progress and, if they develop as planned, to evaluate their experiences.

In 1997 the EcoVillage Cohousing development in Ithaca is scheduled to complete construction of their common house which will incorporate office spaces. It will be instructive to monitor the progress of this example of office workspaces incorporated into a housing environment. It will also be of interest to track the progress of the planned workcentre at Blue Heron Farm to see how a community develops workspace near --but not in -- the community centre. In addition to the case studies, various real estate projects currently under development in Ontario have been promoted as "wired communities". At least one has indicated long-range plans for an on-site telecentre facility. It will be useful to follow the progress of such private sector developments.

The Women Plan Toronto community group is continuing to work with Laura C. Johnson to study the need for and interest in the residentially-based workcentre. Early in 1997 Women Plan Toronto will host a public meeting to present the results of the feasibility study to a wide audience of potential users of such a facility. This session will provide additional information on the level of interest in the concept.

The residentially-based telework centre is a new concept, and one which presents numerous challenges. This study has dealt with a number of challenging issues of design, management model, target market and funding. When these issues have been resolved, there will still be challenges and barriers in the external environment.

Existing zoning and building code regulations in many jurisdictions would prohibit the development of telework centres in a residential environment. Such regulations tend to segregate residential from commercial activities. While numerous jurisdictions are reviewing such regulations, it can be anticipated that this will be one significant source of opposition to the residentially-based telework centre model.

Commercial providers of a variety of services may be another anticipated barrier. To the extent that the proposed model would involve non-profit providers of services which are currently provided commercially, a variety of business interests might oppose the new model as unfair competition. An alternative approach might forge partnerships between private sector and non-profit program sponsors.

REFERENCES

Ahrentzen, S.(1991). **Hybrid Housing: A Contemporary Building Type for Multiple Residential & Business Use**. Milwaukee, Wisconsin: Centre for Architectural and Planning Research. December.

Allen, S. & Wolkowitz, C. (1987). **Homeworking: Myths and Realities**. London: Macmillan.

Bagley, M.N., Mannering, J.S.; and Mokhtarian, P.L., (1994). **Telecommuting Centres and Related Concepts: A Review of Practice. Summary**. Institute of Transportation Studies, University of California, Davis. Sponsored by: California Department of Transportation and the Federal Highway Administration. Davis, CA: March.

Becker, F., and Steele, F. (1995). **Workplace by Design: Mapping the High-Performance Workscape**. San Francisco: Jossey-Bass.

Becker, Franklin, Andrew J. Rappaport, Kristen L. Quinn and William R. Sims. 1993. **Telework Centers: An Evaluation of the North American and Japanese Experience**. Ithaca, NY: Cornell University International Workplace Studies Program.

British Columbia Telephone/Bentall (1992). **BC TEL/Bentall satellite office trial: Final report and recommendation**. Burnaby, B.C.: B.C. Telephone. July.

Bulos, M. (1989). The use of Space and Home Adaptations by Home Based Workers: A report of a survey among home owners in two London boroughs. Paper presented to the International Housing Symposium, Älvkarleby, Sweden, August.

Bulos, M., and W. Chaker, W (1993). "Homebased workers: Studies in the adaptation of space". In M. Bulos and B. Teymur (Eds.) **Housing: Design, Research, Education**. Aldershot: Avebury, U.K. chapter 4, pp. 55-79.

Christensen, Kathleen (1988). **The New Era of Home-Based Work: Directions and Policies**. Boulder, CO: Westview Press.

Dagg, A. and Fudge, J. (1992). "Sewing Pains". **Our Times**. June. pp.22-25.

Duff, J. and Cadotte, F. (1997 forthcoming) **Travail À Domicile et Adjustements Résidentiels**.Ottawa: Canada Mortgage and Housing Corporation.

Duxbury, L. (1994). Taking the Canadian Pulse. In The National Work and Family Challenge: Issues and Options. Conference Record. Conference Board of Canada. Vancouver, B.C.

Gurstein, P. (1989) "Emerging scenarios of 'Home' in the 'Information Society'". Paper presented at the International Housing Symposium, Älvkarleby, Sweden, August.

Gurstein, P. (1995). **Planning for Telework and Home-Based Employment: A Canadian Survey on Integrating Work into Residential Environments**. Ottawa; Canada Mortgage and Housing Corporation.

Higgins, C., Duxbury, L.,Lee, C.(1992). **Balancing Work and Family: A Study of Private Sector Employees**. London, Ontario, University of Western Ontario: National Centre for Management Research and Development. December.

Huws, U.(1984) The New Homeworkers: **New Technology and the Changing Location of White Collar Work**. London: Low Pay Unit.

Huws, U. , Korte, W., & Robinson, S. (1990). **Telework: Towards the Elusive Office**. UK: Wiley.

International Labour Office (1990). Telework. **Conditions of Work Digest 9** (1) .

Johnson, L.C. (1995). **Housing the New Family: Reinventing Housing for Families**. Ottawa; Canada Mortgage and Housing Corporation.

Johnson, L.C. with Johnson, R.E. (1982). **The Seam Allowance: Industrial Homework in Canada.** Toronto: The Women's Press.

Mackenzie, S. (1986). "Women's responses to Economic Restructuring: Changing Gender, Changing Space". In R. Hamilton and M. Barrett (Eds.) **The Politics of Diversity**. Montreal: Book Center Inc. pp. 80-100.

Mokhtarian, P. (1995). "Country Report --USA" In. F. van Reisen and M. Tacken (Eds.) **A Future of Telework: Towards a New Urban Planning Concept?**. Utrecht/Delft: Delft University of Technology, Faculty of Architecture, 97-98.

Nawodny, R. (1996). "Canadians Working at Home". **Canadian Social Trends**. Ottawa: Statistics Canada. Spring, 16-20.

Phizacklea, A. and Wolkowitz, C. (1995). **Homeworking Women: Gender, Racism and Class at Work.** London: Sage Publications.

Public Service Alliance of Canada. (1996). **Delivering Public Services from Home: Telework in the 90's**. Ottawa: PSAC.

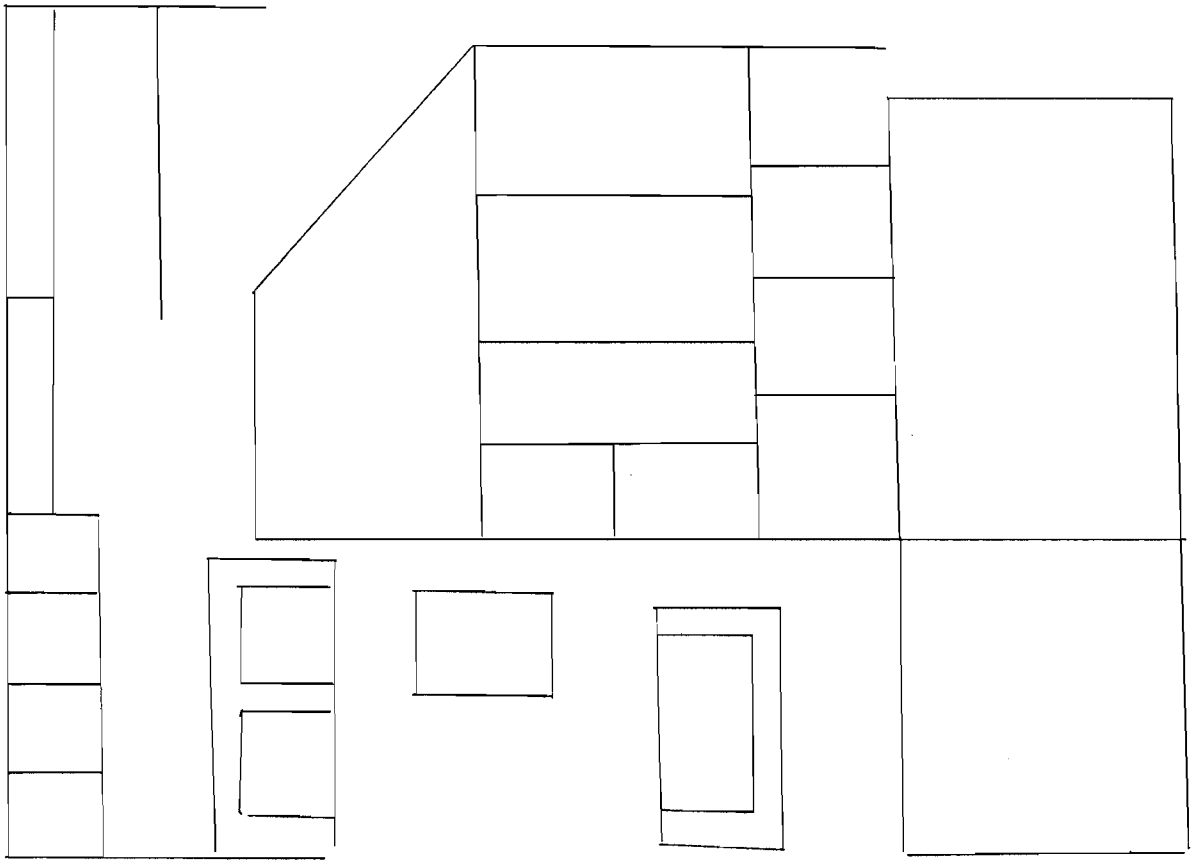
Public Service Alliance of Canada. (1993). **Go Home...and Stay There?: A PSAC Response to Telework in the Federal Public Service**. Ottawa: PSAC. August.

TCA (1994). The Teleworker Telecottage and Telecentre Association. **Telecottages and Telecentre Set-Up and Services Overview**, U.K. (Survey report can be obtained over the Internet).

Tippin, D. (1994). "Control processes in distance work situations: The case of satellite offices". Paper presented at the Annual Meeting of the Canadian Sociology and Anthropology Association, Calgary, Alberta. June 11.

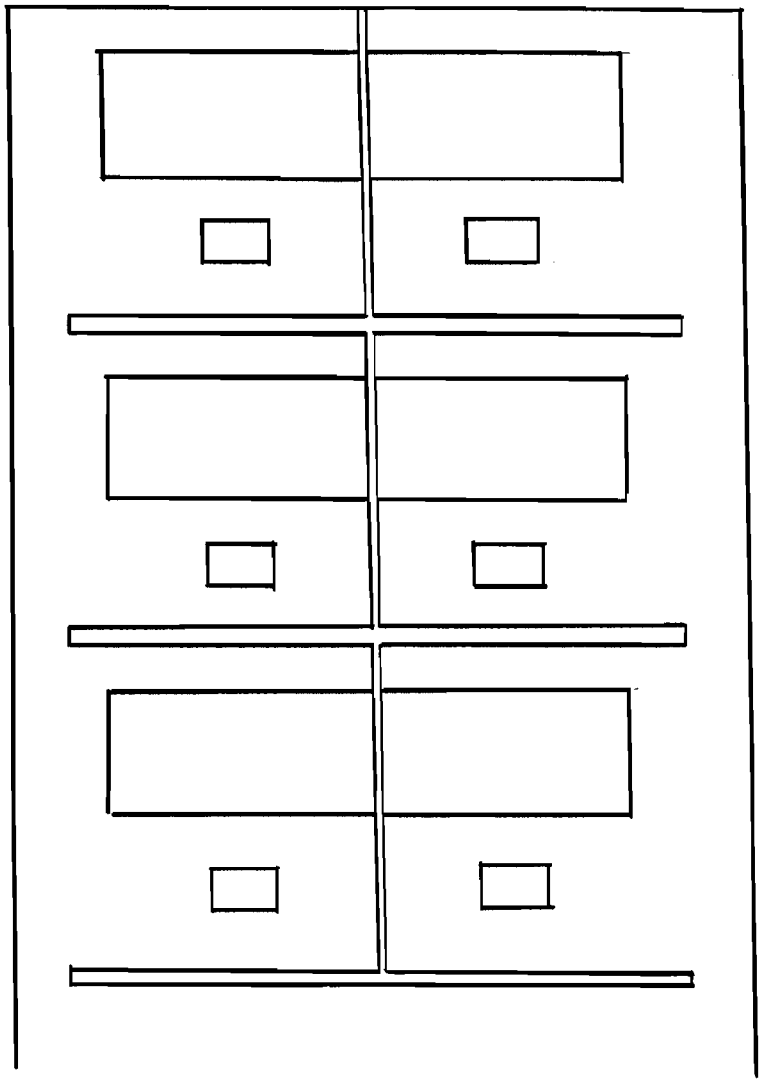
Waterfront Regeneration Trust (1994). **Live/Work Opportunities in Garrison Common**. Prepared by Fish, S., Kurtin, K., & Nasmith, C. March.

Figure 1



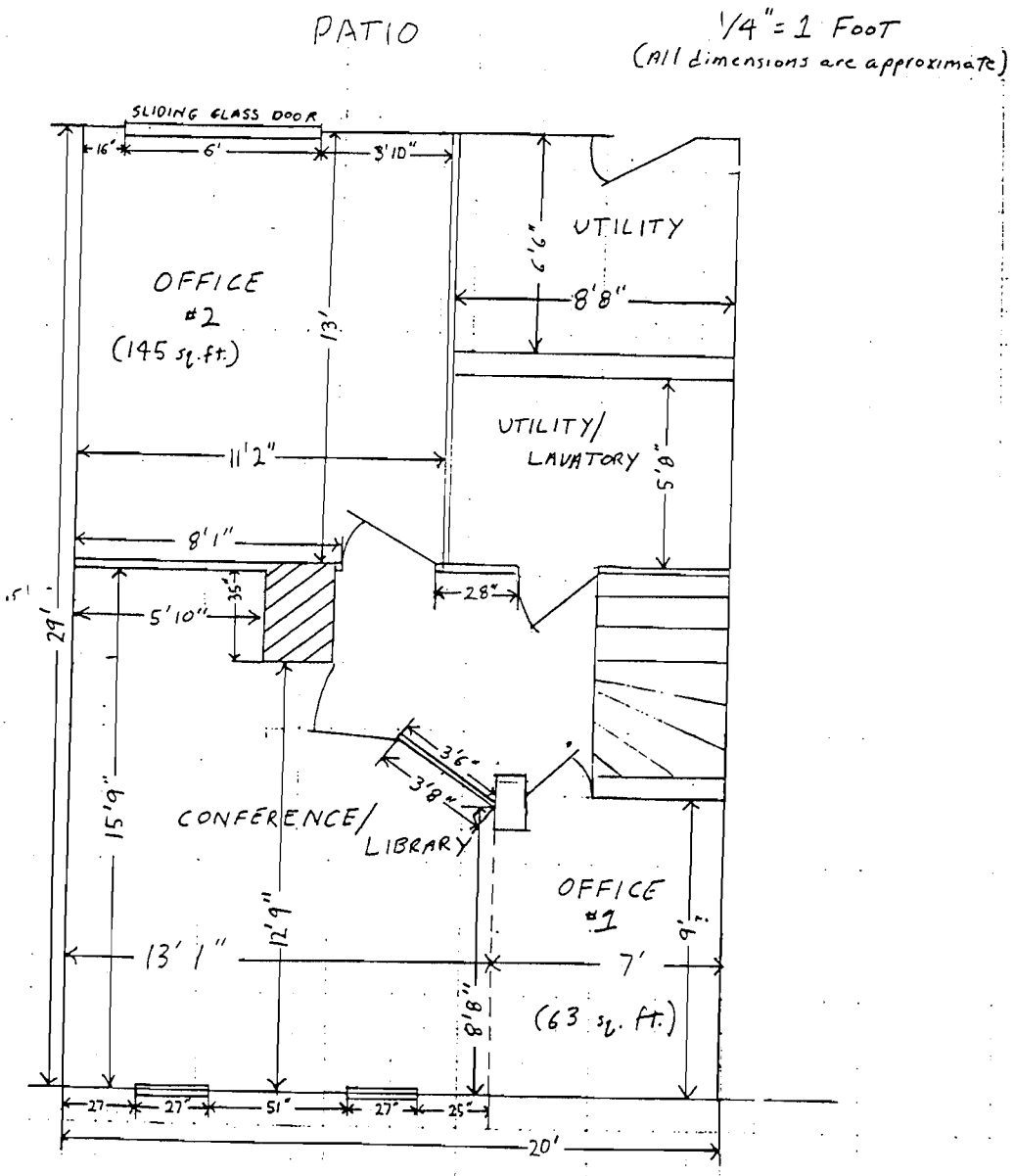
Canadian Airlines International Ltd. Empress Lounge
(Schematic diagram-- L. Johnson)

Figure 2



Arthur Andersen "Just In Time" Work Area
(Schematic diagram -- L. Johnson)

Figure 3A



52 WESTERN AVE., CAMBRIDGE, MA.
LOWER LEVEL

Figure 3B

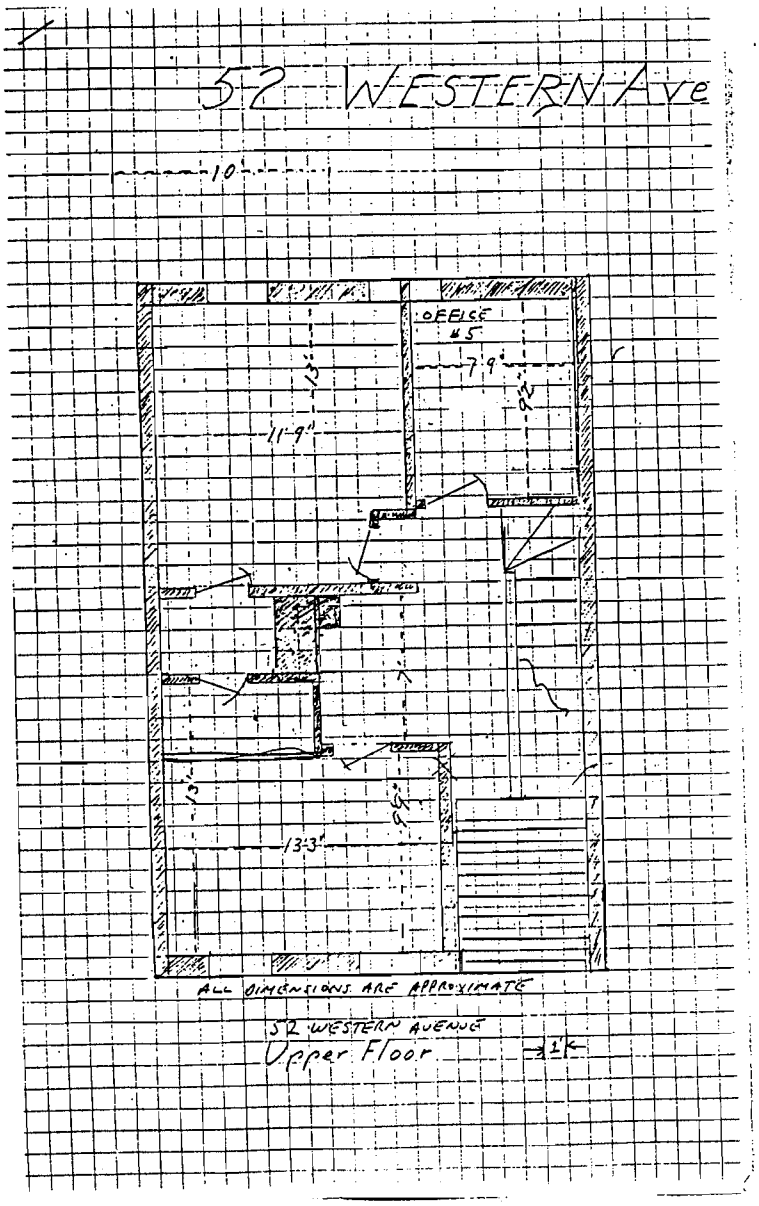

52 WESTERN Ave
10'
OFFICE
#5
7'9"
13'
11'9"
13'
9'6"
13'3"
ALL DIMENSIONS ARE APPROXIMATE
52 WESTERN AVENUE
Upper Floor
1/4"

Figure 4A

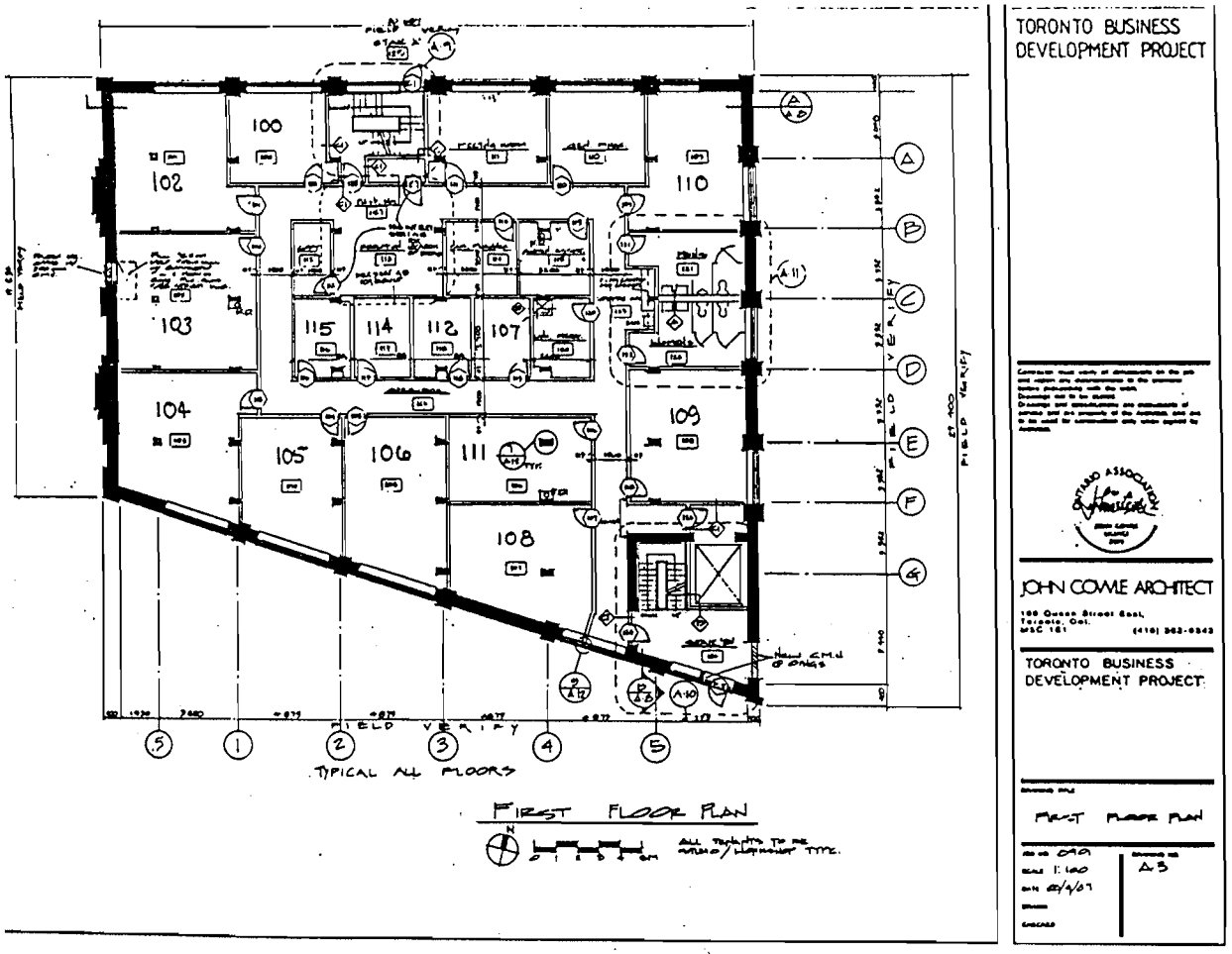
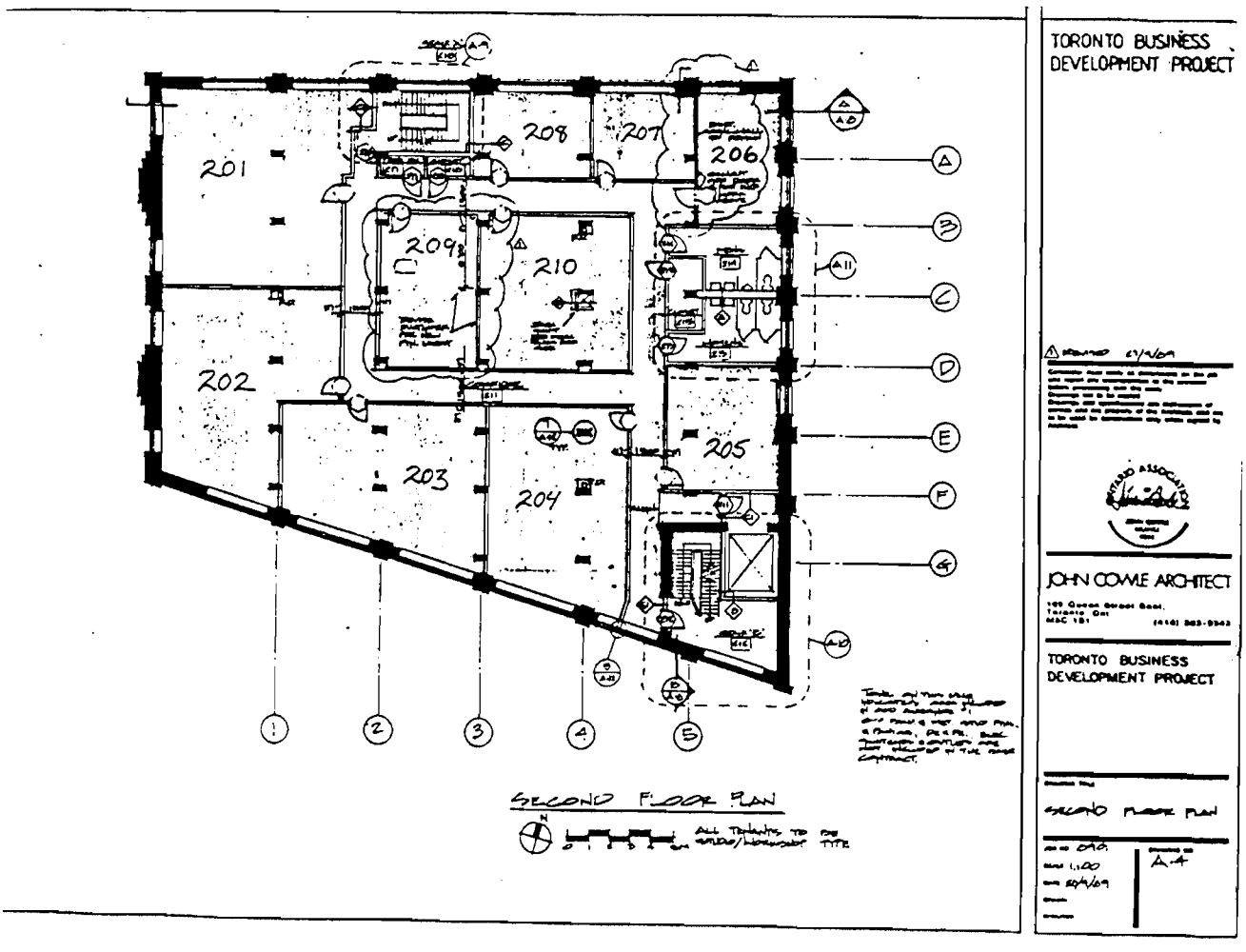
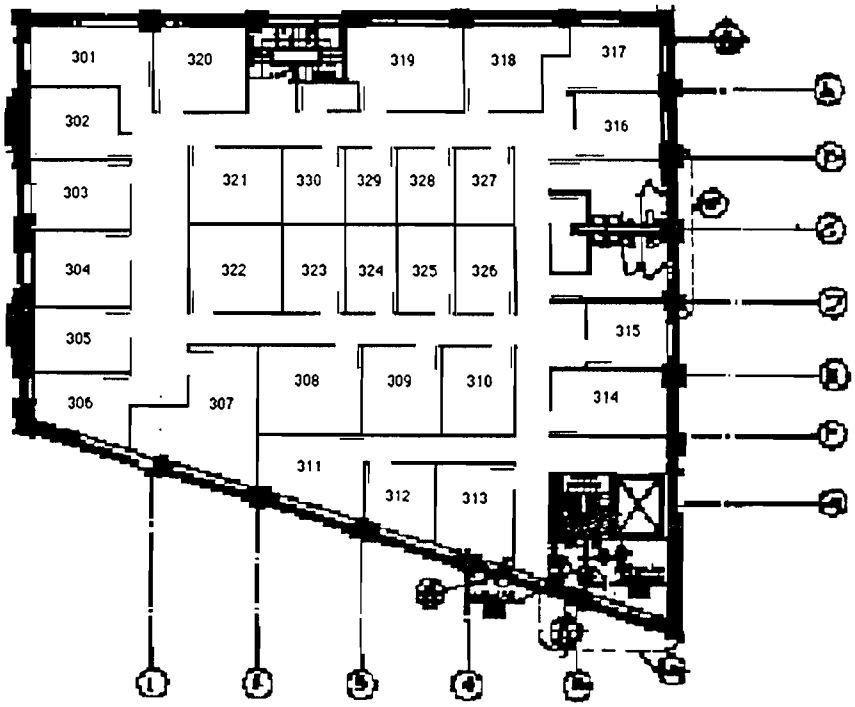

100
102
110
103
115
114
112
107
104
105
106
111
109
108
FIELD VERIFY
TYPICAL ALL FLOORS
FIRST FLOOR PLAN
TORONTO BUSINESS DEVELOPMENT PROJECT
JOHN COMLE ARCHITECT
TORONTO BUSINESS DEVELOPMENT PROJECT
FIRST FLOOR PLAN
A3

Figure 4B


201
208
207
206
209
210
202
205
203
204
SECOND FLOOR PLAN
TORONTO BUSINESS DEVELOPMENT PROJECT
JOHN COWLE ARCHITECT
TORONTO BUSINESS DEVELOPMENT PROJECT
SECOND FLOOR PLAN
A-4

King Street



Third Floor Plan

Figure 4C

Figure 5A

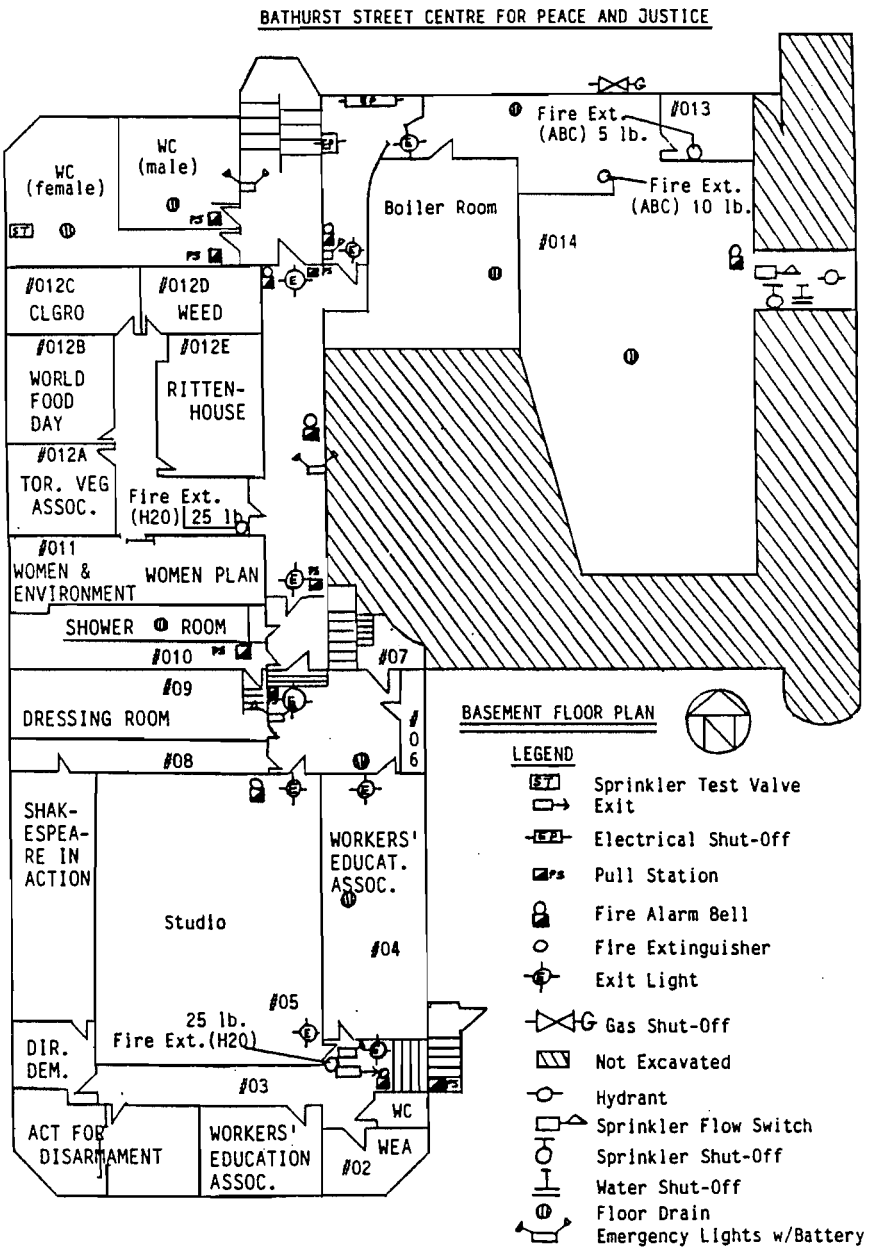
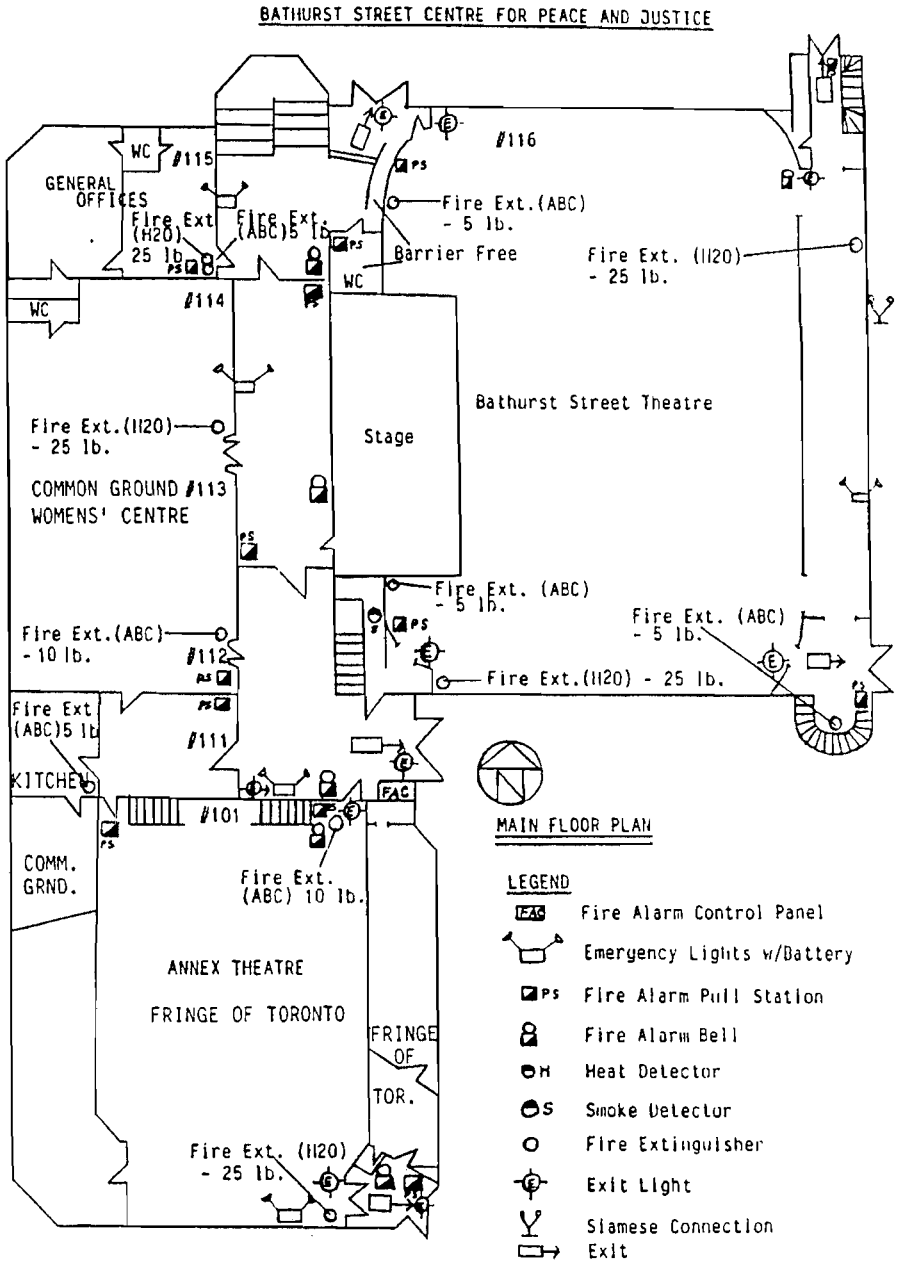

BATHURST STREET CENTRE FOR PEACE AND JUSTICE
WC (female)
WC (male)
Fire Ext. (ABC) 5 lb.
#013
Fire Ext. (ABC) 10 lb.
Boiler Room
#014
#012C CLGRO
#012D WEED
#012B WORLD FOOD DAY
#012E RITTEN-HOUSE
#012A TOR. VEG ASSOC.
Fire Ext. (H20) 25 lb
#011 WOMEN & ENVIRONMENT
WOMEN PLAN
SHOWER ROOM
#010
#07
#09
DRESSING ROOM
#06
#08
SHAK-ESPEA-RE IN ACTION
Studio
WORKERS' EDUCAT. ASSOC.
#04
#05
25 lb. Fire Ext.(H20)
DIR. DEM.
#03
WC
ACT FOR DISARMAMENT
WORKERS' EDUCATION ASSOC.
WEA
#02
BASEMENT FLOOR PLAN
LEGEND
Sprinkler Test Valve
Exit
Electrical Shut-Off
Pull Station
Fire Alarm Bell
Fire Extinguisher
Exit Light
Gas Shut-Off
Not Excavated
Hydrant
Sprinkler Flow Switch
Sprinkler Shut-Off
Water Shut-Off
Floor Drain
Emergency Lights w/Battery

Figure 5B



Feb 93

Figure 5C

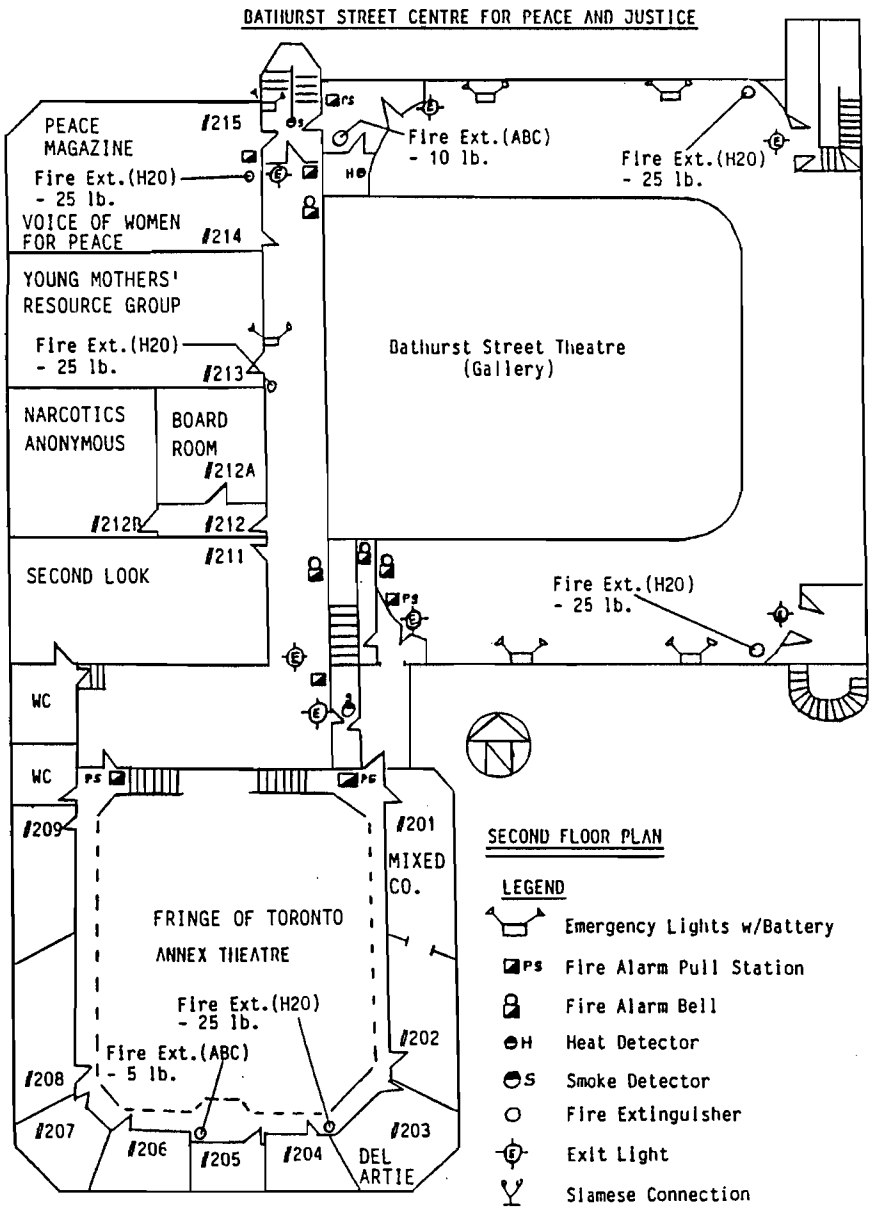

BATHURST STREET CENTRE FOR PEACE AND JUSTICE
PEACE MAGAZINE
#215
Fire Ext.(H2O) - 25 lb.
VOICE OF WOMEN FOR PEACE
#214
YOUNG MOTHERS' RESOURCE GROUP
Fire Ext.(H2O) - 25 lb.
#213
NARCOTICS ANONYMOUS
BOARD ROOM
#212A
#212B
#212
#211
SECOND LOOK
Fire Ext.(ABC) - 10 lb.
Fire Ext.(H2O) - 25 lb.
Bathurst Street Theatre (Gallery)
Fire Ext.(H2O) - 25 lb.
WC
WC
#209
FRINGE OF TORONTO ANNEX THEATRE
Fire Ext.(H2O) - 25 lb.
Fire Ext.(ABC) - 5 lb.
#208
#207
#206
#205
#204
DEL ARTIE
#203
#202
#201
MIXED CO.
SECOND FLOOR PLAN
LEGEND
Emergency Lights w/Battery
PS Fire Alarm Pull Station
Fire Alarm Bell
H Heat Detector
S Smoke Detector
Fire Extinguisher
Exit Light
Siamese Connection

Figure 6A

Fig. 1 - EXISTING GROUND FLOOR PLAN

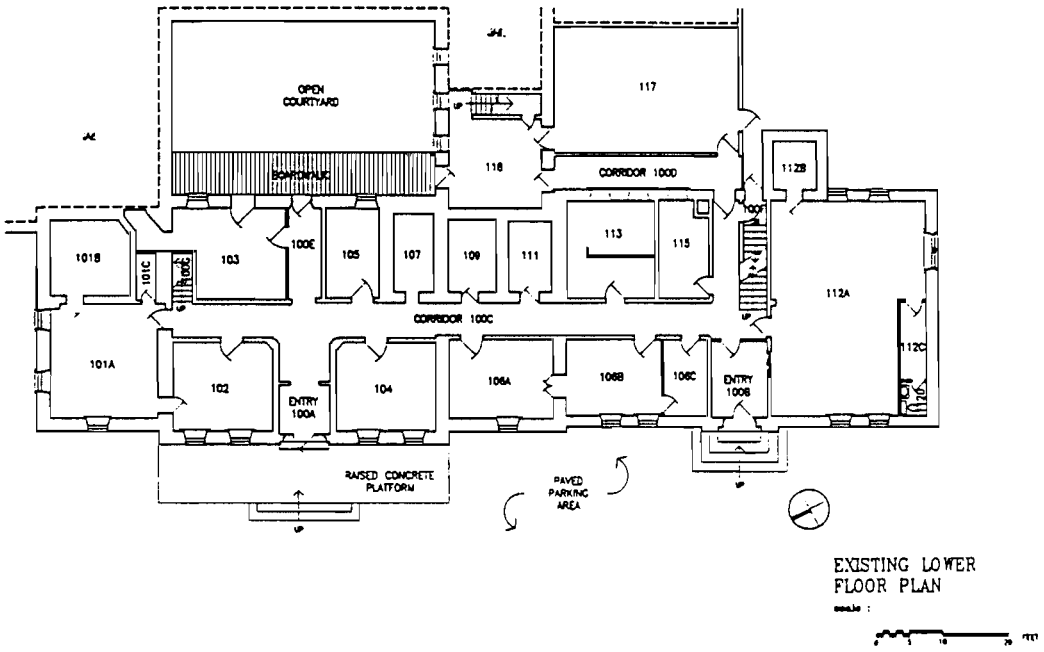


Figure 6B

Fig. 2 - EXISTING UPPER FLOOR PLAN

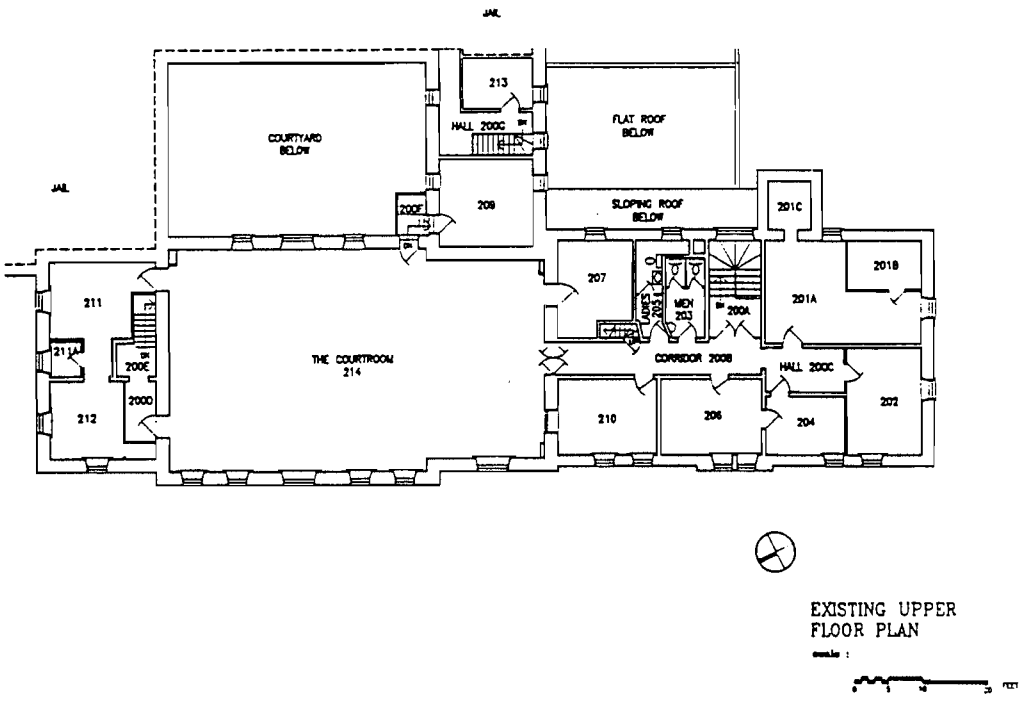
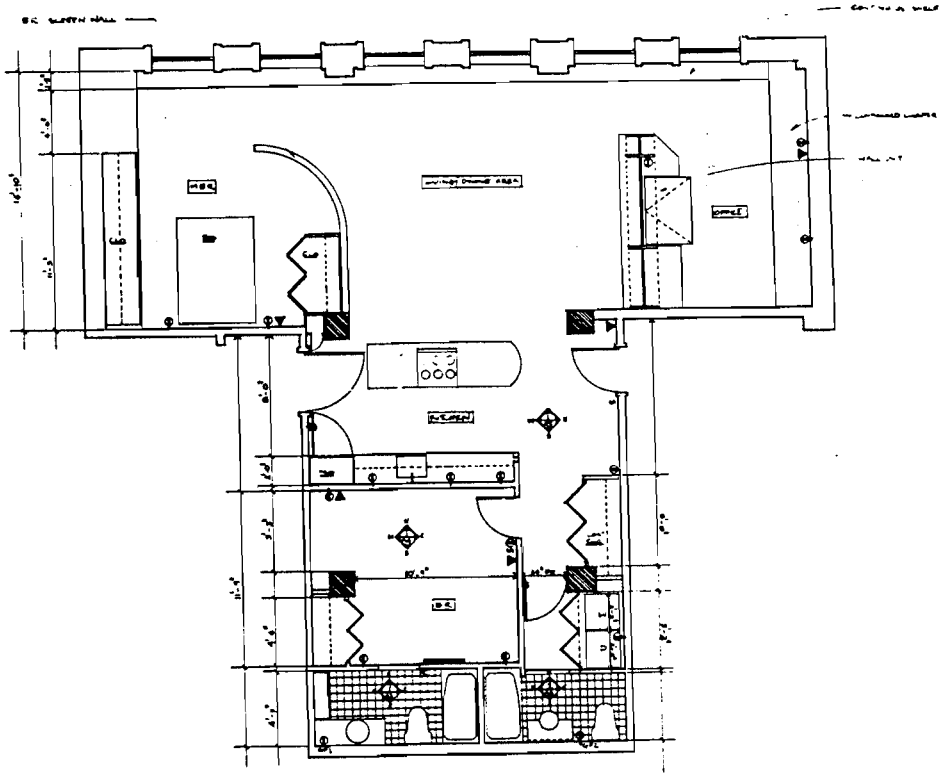


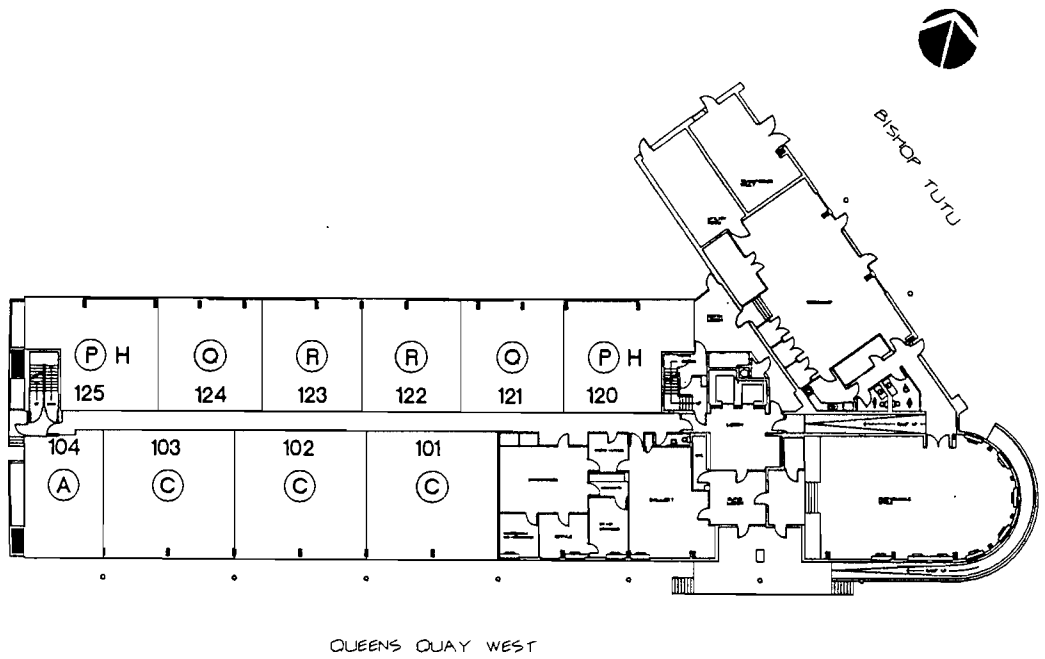
Figure 7



PROPOSED PLAN

EISNER RESIDENCE
30 WEST 15TH ST. NYC 4FT 3N
PLANS
A1

Figure 8A


BISHOP TUTU
P H
125
Q
124
R
123
R
122
Q
121
P H
120
104
A
103
C
102
C
101
C
QUEENS QUAY WEST
SCALE: 1/32" = 1'

igure 8B

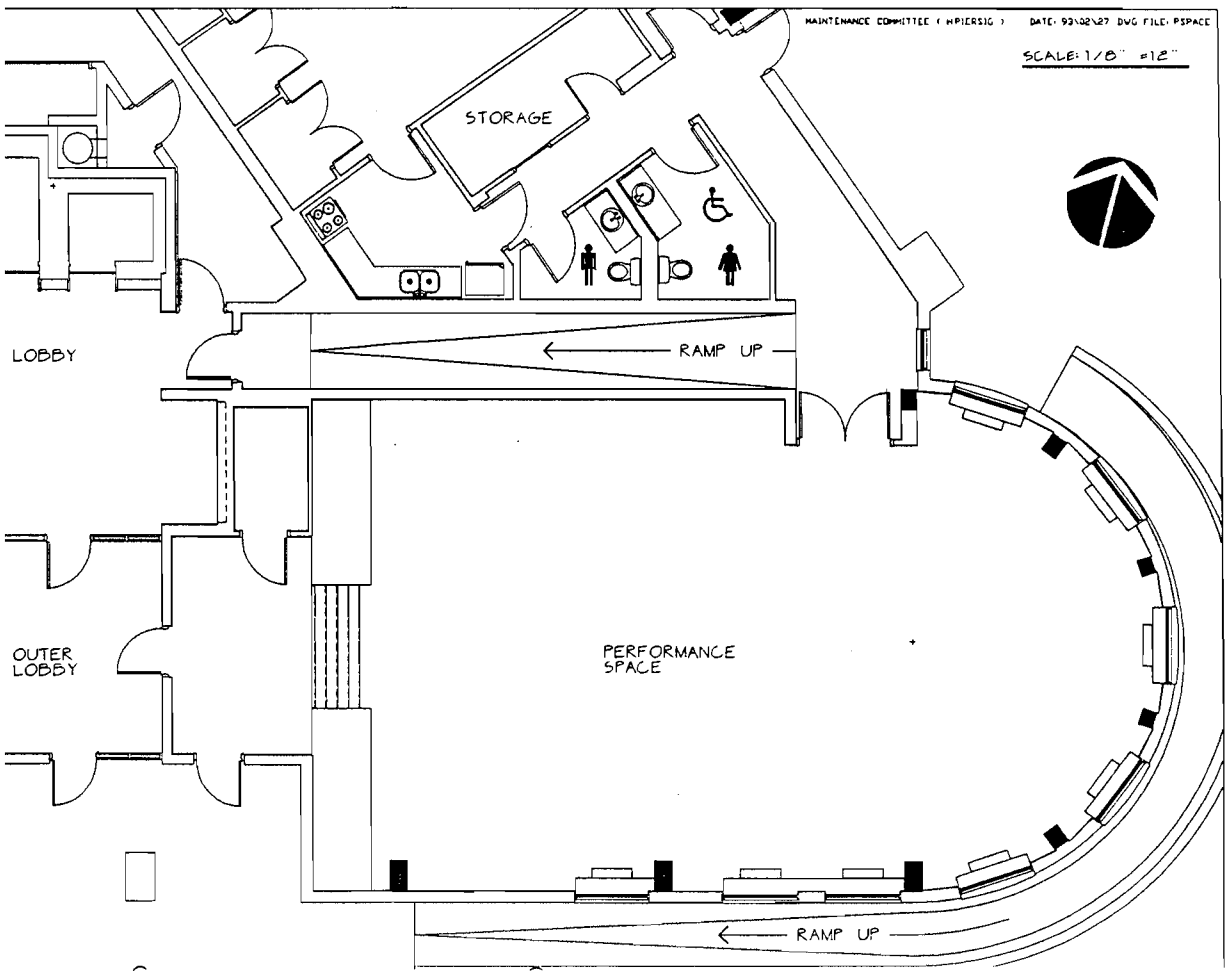
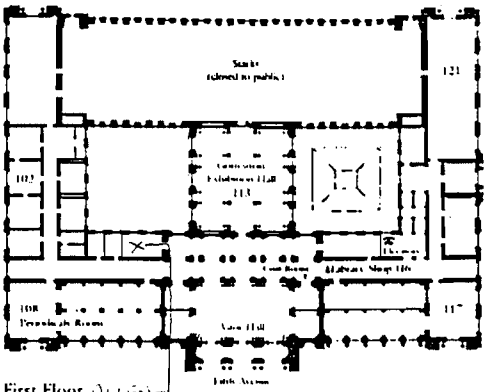

MAINTENANCE COMMITTEE (MPIERSIG)
DATE: 93\02\27 DWG FILE: PSPACE
SCALE: 1/8" =1'
STORAGE
LOBBY
RAMP UP
OUTER LOBBY
PERFORMANCE SPACE
RAMP UP

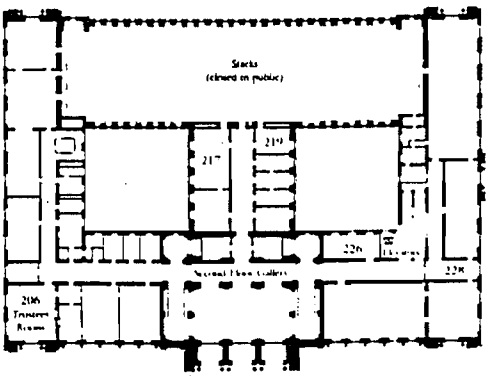
Figure 9

THE NEW YORK PUBLIC LIBRARY



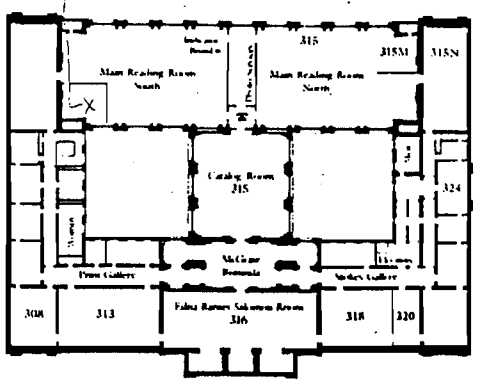
First Floor ALLEN Room

Lost and Found	102	Library Shop	116
DeWitt Wallace Periodicals Room	108	Map Division	117
D. Samuel and Jeane H. Gottesman Exhibition Hall	113	Science and Technology Research Center	121



Second Floor

Trustees Room*	206		
Slavonic Division	217		
Oriental Division	219	Economic and Public Affairs Division	



Third Floor

Prints and Photographs**	308	Cooperative Services	315
Art Reference Room	313	Edna Barnes Salomon Room	316
Microfilm Reading Room	315M	Berg Exhibition Room	318
U.S. History Local History and Genealogy Division	315	Berg Collection**	320
Reprographic Services	315	Rare Book Room**	324
Public Catalog Room/ Main Reading Room	315	Manuscripts & Archives Room**	
		Arents Collection**	

Ground Floor (not shown)

Jewish Division	84

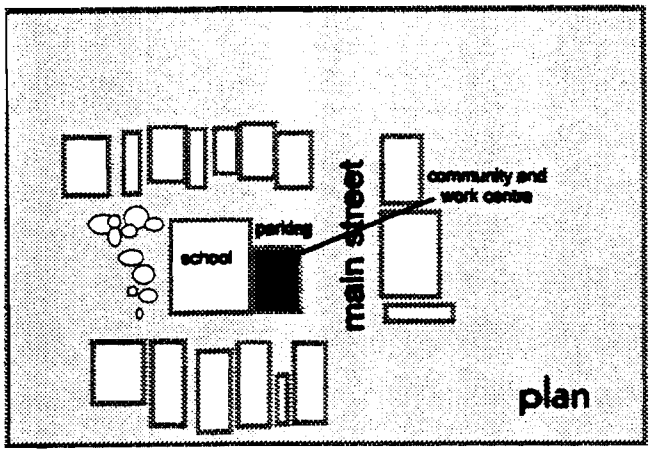
* Limited Access

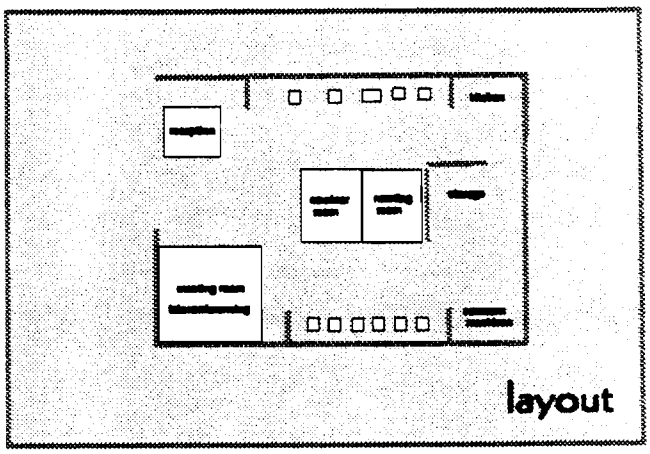
**Use of this facility requires special card of admission obtained in Room 316

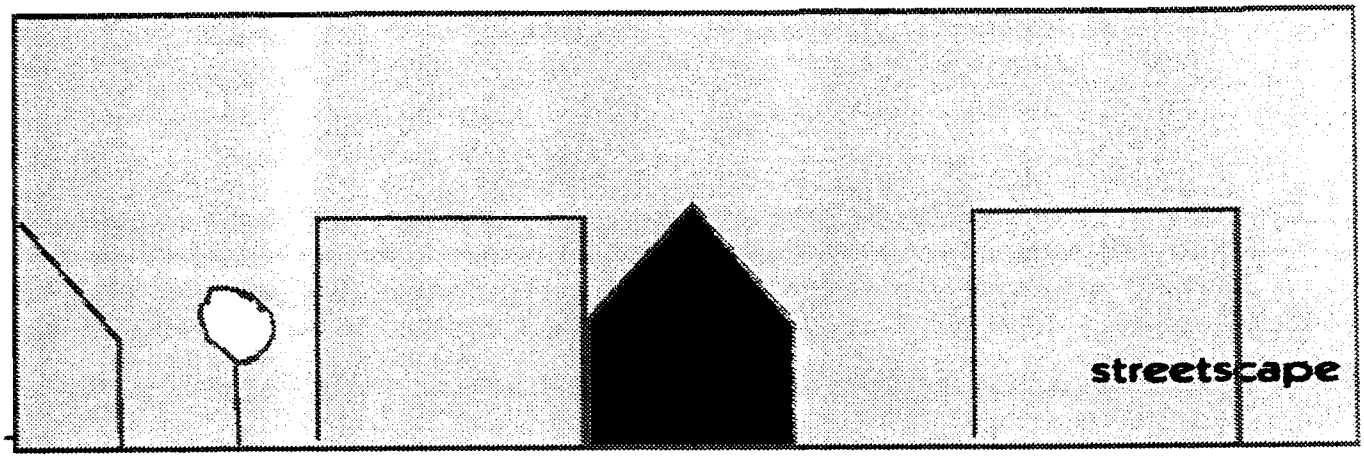
PLEASE NOTE:
Books in this building may not be checked out.
Please leave your own books, bags and coats in the check room.

Figure 10

scenario # 1 high tech suburban community







WHAT wired, affordable, freehold homes with a community work centre and child care facility located in existing community centre adjacent to school and library

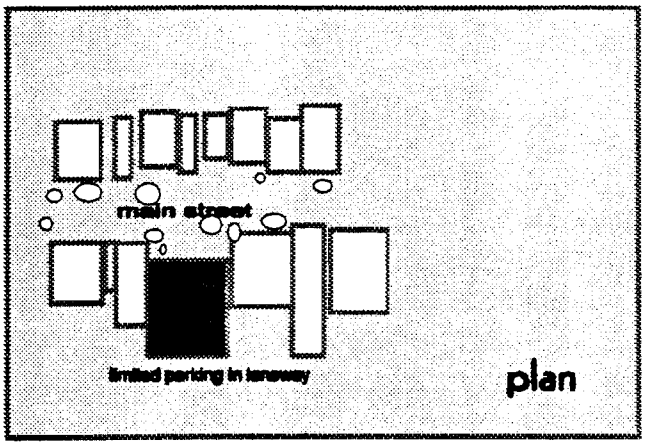
WHO serving community residents and local employers; first priority on a portion of the work centre and daycare spaces goes to residents of the development

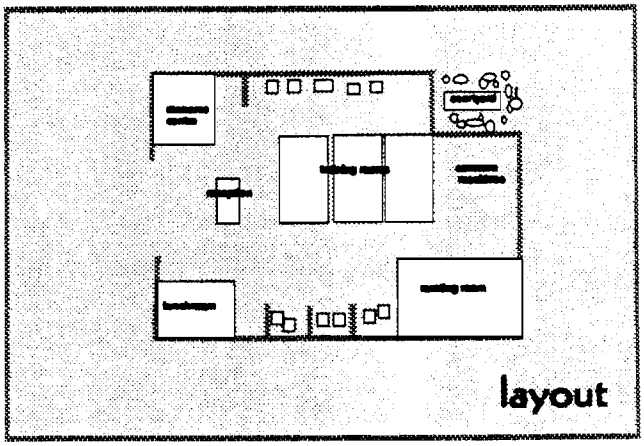
WHERE main street of a greenfields development

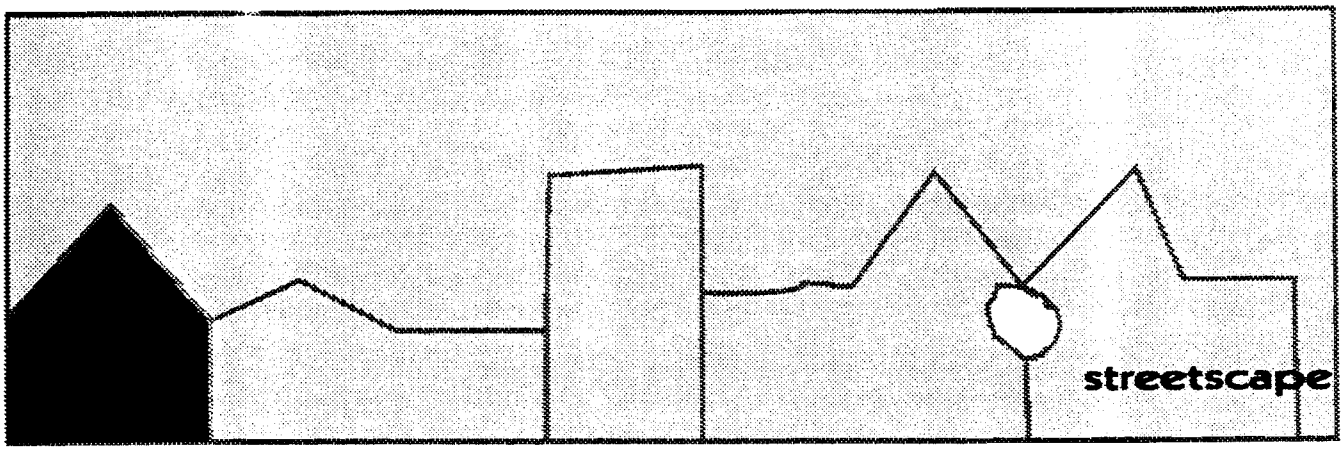
HOW work centre is developed and owned privately and open to the community

Figure 11

scenario # 2 converted heritage bank







WHAT bank building converted to a wired workplace with Internet and educational resources, training onsite

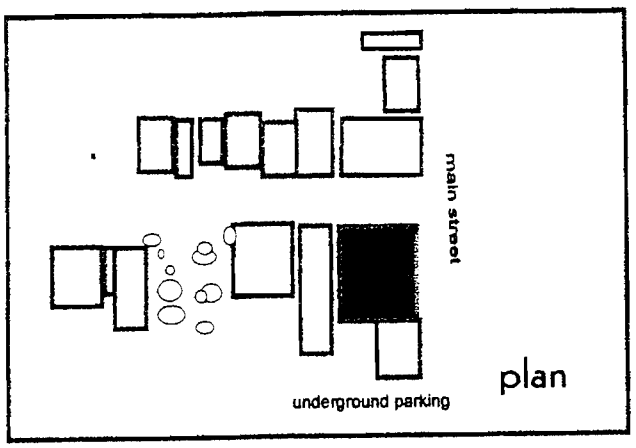
WHERE main street

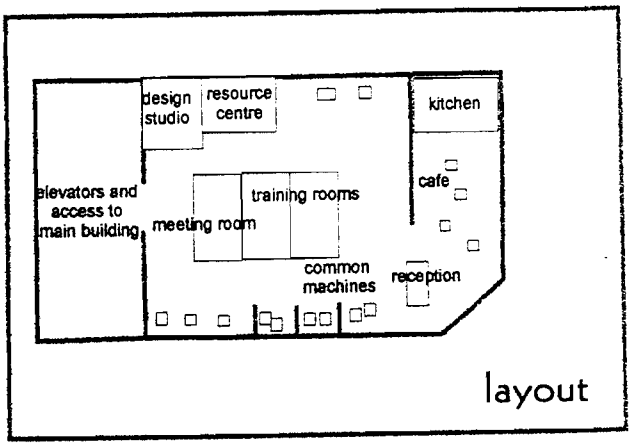
WHO serving local residents with a partnership with an educational institution

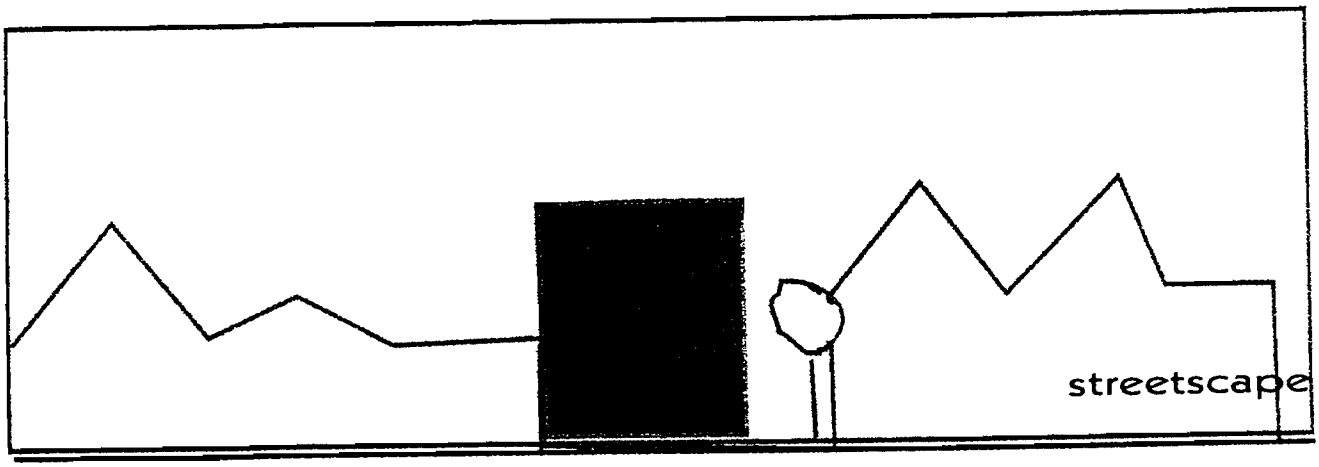
HOW not-for-profit membership organization with corporate sponsorship and public funding for training programs; paid staff; volunteer Board of Directors

Figure 12

scenario # 3 high rise with business centre







WHAT high-rise building with a business centre at grade. Includes mtg room; workstations; studio space; business infrastructure and a cafe open to the public

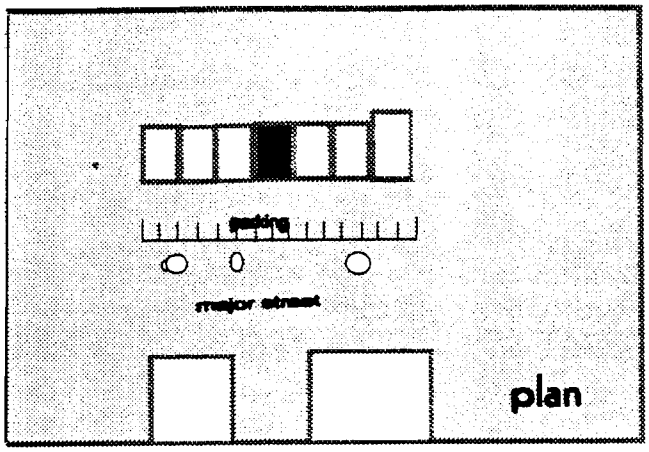
WHO residents of the building and public on a pay per user

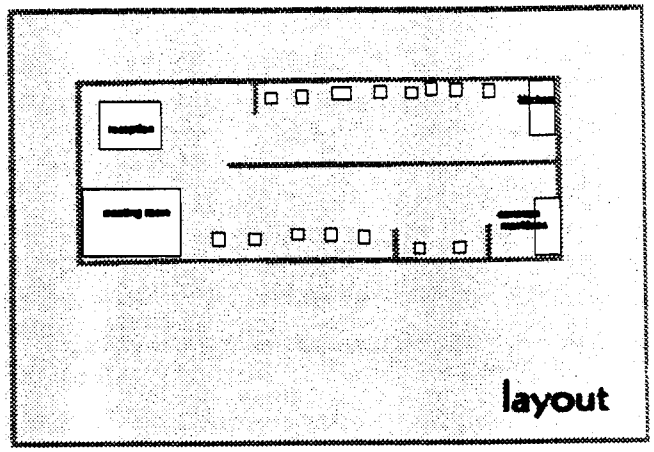
WHERE grade level of an existing high rise building

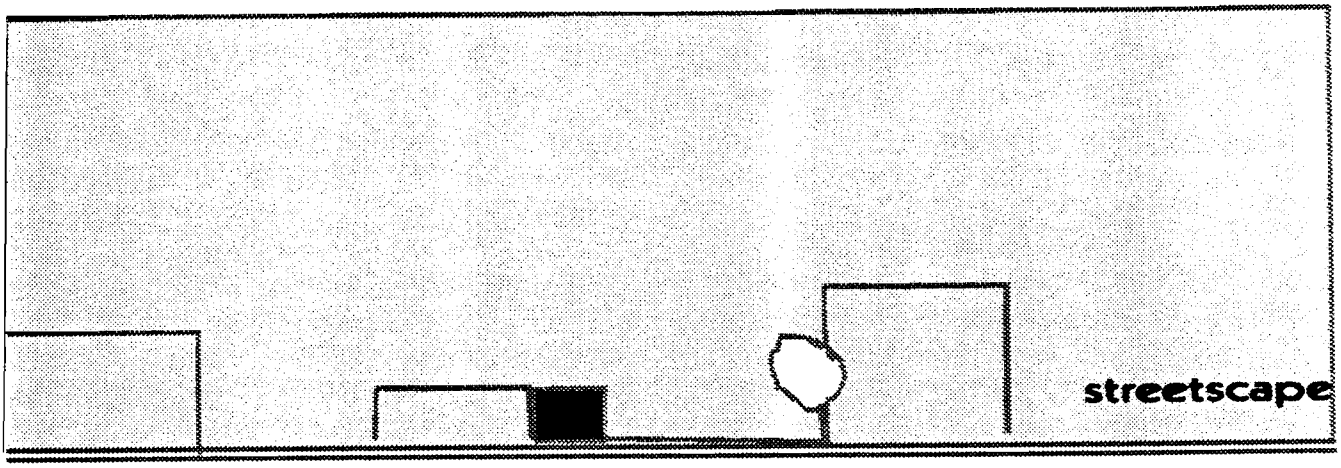
HOW equity or not-for-profit coop

Figure 13

scenario # 4 strip mall centre







WHAT converted retail space becomes office space with reception/message service and meeting space; next door is a child care or playdium

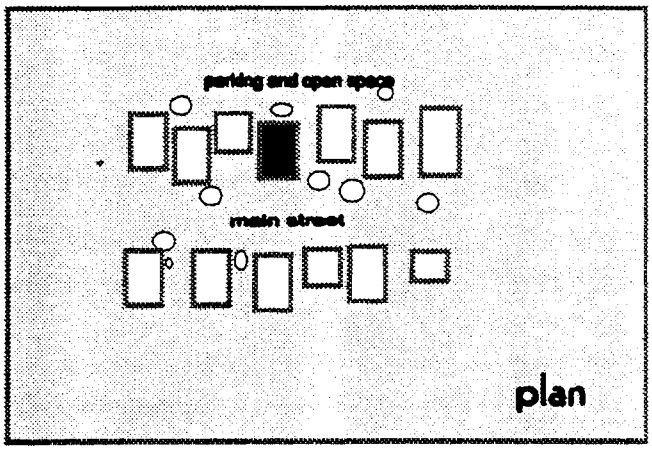
WHERE conventional strip mall adjacent to high debsity residential area

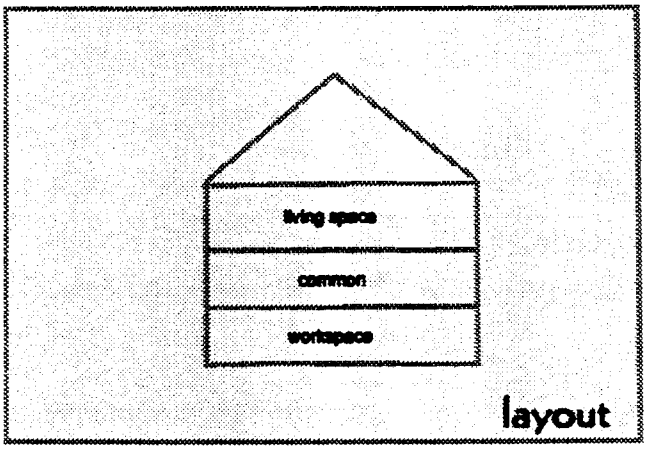
WHO independent entrepreneurs and telecommuting employees who live in surrounding community

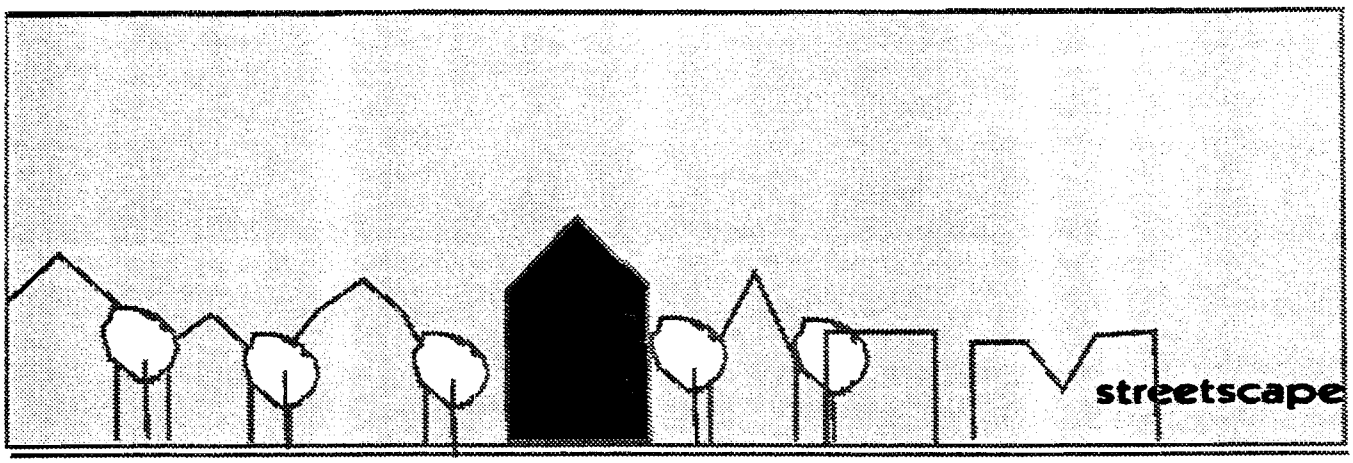
HOW not-for-profit organization which rents space and equipment and provides childcare service

Figure 14

scenario # 5 converted house in residential area







WHAT large converted house in which and floor is workspace and tenants live and work in the house

WHERE older urban residential neighborhood with oversized houses

WHO single women interested in home and work sharing options

HOW cooperatively owned or run by host agency such as WPT

Appendix A

Summary of Information Sources in Case Study Work Centres

Site	Interviews
1. BCTEL satellite office, Langley, BC	Site visit and tour; interview with manager and in-depth interviews with 5 employees.
2. Bell Telecommuting Centre, Kingston, ON	Site visit, in-depth interviews with Centre manager, and three employees who used the facility regularly, brief interview with drop-in visitor from Toronto.
3. Toronto Fashion Incubator	Site visit and observation. In-depth interview with one resident designer, brief interview with another designer, tour of premises by A/director.
4. Toronto Business Development Centre, Toronto	Site visit and tour of facility. Interview with executive director of the centre, and conversations with several tenants.
5. Arthur Andersen, Toronto	Site visit, observation of "JIT" office area. Interview with a manager from the Toronto office.
6. Empress Lounge, Canadian Airlines International Ltd., Pearson Airport, Toronto.	Tour and observation of facility, and interview with supervisor and person with direct responsibility for the Lounge. Brief conversation with one user of the space. Also telephone interview with representative of corporate communications department.
7. Arcadia Artists' Coop, Toronto	Toured premises, interviewed office manager and volunteer director of the pottery studio.
8. The Summit, Toronto	Toured premises with staff from building management office, observed use of business centre.

9. Live/work law office, Cambridge, Mass	Site visit, tour of office facilities and personal interviews with owners and one tenant and brief interview with a second tenant.
10. Centre for Peace and Justice, Toronto	Interviewed office manager, and toured offices of two tenant organizations (basement and second floor locations).
11. Joe Eisner Design, New York, NY	Live/work loft and office for 3-6. Telephone interview and correspondence.
12. 347 and 369 Sorauren Avenue, Toronto	Interviewed numerous resident artists with live/work studios and one tenant with home-based business. Toured both buildings.
13. Atelier Circulaire, Montreal.	Site visit, tour and personal interviews with member artist, and the directors of the two studios.
14. Open Studio, Toronto	Site visit, tour, and personal interviews with the current director and a founding member.
15. EcoVillage Cohousing, Ithaca, NY.	Internet communication with community member and prospective office owner.
16. Frederick Lewis Allen Room, New York Public Library, NY.	Published account (R. Caro in New York Times) and correspondence with library.
17. Old Courthouse Arts Centre, Owen Sound, Ontario	Correspondence with director, consultant's report on the facility, site visit, and telephone interview with prospective tenant.
18. Vocational Rehabilitation Associates, Toronto	Site visit and correspondence with director.
19. Blue Heron Farm, Chatham County, North Carolina	Communication via e-mail with a resident and founding member.

20. Clarenville Telecentre, Clarenville, Newfoundland	Mailed and e-mail communication with ENI Director and with Clarenville Telecentre Director.

APPENDIX B

EXPERT ROUND TABLE ON RESIDENTIALLY-BASED TELEWORK CENTRES

Sponsored by:
Women Plan Toronto

Co-Chaired by:
Laura C. Johnson
Melanie Hare

Location:
Boardroom, Berridge, Lewinberg Greenberg, Dark, Gabor Ltd.
257 Adelaide Street, suite 500
Toronto, Ontario

October 2, 1995

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Appendix C

Expert Survey: Ten Questions on Residentially-Based Tele-work centres

To: Invited participants, Expert Round Table
Re: Participant survey
Date: September 20, 1995

As indicated in our original invitation to the Expert Round Table, Women Plan Toronto is very interested in exploring the concept of the residentially-based work centre, a resource to serve the needs of local residents and businesses. We feel that this concept has the potential to build upon the advantages of telework, while minimizing the risks associated with home-based work. We are aware, however, that the idea may be controversial. While Europe has a growing number of local community-based "telecottages", there are virtually none in North America. We are interested to know your thoughts on the work centre concept in advance of our session. Please take a few minutes to answer these ten questions and fax (416-966-1925) or e-mail (lcjohns@epas.utoronto.ca) your replies back to Laura Johnson by Wednesday, September 27, 1995.

1. From your own perspective, what do you see as the potential advantages, if any, of a residentially-based work centre?

2. Are there geographic areas, (e.g. rural/suburban/urban; residential/commercial/mixed use) that would provide a particularly appropriate locale for a work centre?

3. Are there geographic areas which would not be an appropriate setting?

4. What effect(s) do you think a work centre would have on a residential neighbourhood?

5. What form(s) of work would most appropriately be conducted from such a facility?

6. Under what circumstances would a work centre be preferable to a home workspace?

7. Under what circumstances would a work centre be preferable to a head office locale?

8. Again, from your own perspective, please think about the risks and liabilities of the residentially-based work centre.

9. What are the barriers to developing a residentially-based work centre?

10. What mechanisms, if any, should regulate residentially-based work centres?

Thank you in advance for taking the time to reply to this survey, and I look forward to our Round Table discussion on October 2.

Appendix D

Women Plan Toronto

invites you

to explore the concept of a

RESIDENTIALLY-BASED TELEWORK CENTRE

Join us for a discussion on:

- *Current live/work initiatives*
- *Results of Laura Johnson's CMHC study on Live/work concept*
- *WPT's proposal for a Residentially-based Telework Centre for Women and Children*
- *Issues related to combined live/work situations*
- *Your input on where should the project go from here.....*

DATE: **MONDAY JANUARY 22, 1996**

TIME: **7:00 PM**

LOCATION: **WOMEN PLAN TORONTO OFFICE - 736 BATHURST ST.** (BATHURST SOUTH OF BLOOR AT LENNOX; RING DOOR OFF BATHURST ST.) 588-9751

APPENDIX E
RESEARCH METHODS

1. Case Study Methods

Case study examples were identified by various means including literature review, an Internet survey, and consultation with key informants. A particular effort was made to search for relevant examples which were part of cohousing projects, a housing form that combines private dwellings and common amenities. To this end, the following query was broadcast in September 1994 on a discussion forum dealing with cohousing:

> I am a Canadian sociologist interested in finding examples of common workspaces incorporated into cohousing. While current trends toward telework and home-based work offer some distinct advantages -- social, environmental, personal, etc.-- there are definite costs. Social isolation is one such risk that could be minimized in a shared work facility. Do any existing or planned cohousing projects incorporate common office or workshop or studio spaces? I would welcome any suggestions or leads. Thank you. Laura C. Johnson, lcjohns@epas.utoronto.ca.

This query was followed up with a November 1995 repeat request:

> Just over a year ago I broadcast a query on this list asking whether any existing or planned cohousing projects incorporate common office or workshop or studio spaces. I am a Canadian sociologist interested in finding examples of common work spaces integrated into cohousing. There were a number of interesting replies from groups with plans (long-range and immediate) to develop such work spaces. They ranged from high-tech telework facilities to studios for artists and musicians. I would like to follow up that query and inquire again whether there might now be examples of common work spaces incorporated into cohousing. Thank you. Laura C. Johnson, lcjohns@epas.utoronto.ca.

This survey yielded approximately 15 leads, there were at least that many examples of groups with an interest what one respondent termed making cohousing "lifestyle sustainable"--i.e. minimizing commuting and maximizing cooperation and resource sharing among the residents. Relevant examples were followed up at several points in time; most of the cohousing projects of interest are at various preliminary stages of development. The final sample of 20 case studies includes three examples that were identified through this method.

Information has been collected by a combination of site visits with interviews, correspondence and telephone and/or Internet communication and library research. Site visits and personal interviews have been conducted at a total of 16 case study sites. Information has been collected

by other means, including: electronic mail, telephone interviews, correspondence, and review of published documentation for an additional five case studies. Appendix A lists the respondents interviewed in this phase of the data collection.

The analysis draws upon all of these various sources to describe the issues opportunities, and barriers involved in development of this new concept.

2. Consultation

2.1. Expert Round Table

In conjunction with a Toronto-based voluntary organization, Women Plan Toronto, the principal investigator convened an expert round table to explore the concept of the residentially-based telecentre. Invited participants included representatives of the high-tech firms, developers, planners, planning and policy officials from three levels of government, academic researchers and housing advocates. The half-day session was held at the Toronto offices of planning consultants Berridge Lewinberg Greenberg Dark Gabor Ltd. on October 2, 1995. A list of the participants appears in Appendix B to this report, along with the one-page description of the telecentre concept which was distributed to participants. Prior to the Expert Round Table, the invited participants were asked to complete and return a survey questionnaire on "Ten questions about residentially-based telework centre" (see Appendix C.)

Following a welcome by Melanie Hare, representing Women Plan Toronto, Laura Johnson provided an introduction and background to the residential telecentre concept. This initiated discussion by the invited participants of the telework centre concept in terms of: issues/options. opportunities, and barriers/constraints.

Poster-sized schematic diagrams of the five prototypes shared workspaces were used to stimulate discussion about the relative advantages and disadvantages of each model.

The expert round table discussion yielded a mix of long-range, general discussion of fiscal, technology and employment trends, and very specific, practical considerations about regulation, cost factors, potential markets and potential support for and opposition to the telecentre concept. Conclusions from this discussion, along with results from the survey of experts, have been integrated into this report's discussion of the issues relating to implementation of the residentially-based telework centre model.

2.2. Community Meeting on The Residentially-Based Telework Centre

A consultation meeting convened by a community organization, Women Plan Toronto, which issued a public invitation to discuss the concept of the residentially-based workcentre as a support to home-based workers, particularly women. A copy of the announcement of this meeting appears as Appendix D to this report. Conclusions and observations from this community consultation have also been integrated into the discussion of issues relating to implementation of the telecentre model in a residential setting.