AFFORDABILITY AND CHOICE TODAY (A•C•T) STREAMLINED APPROVAL PROCESS PROJECT

Case Study

Pre-permit Demolition–O'Bee"s Steam Bath

Winnipeg Housing Rehabilitation Corporation
Winnipeg, Manitoba

Prepared for:

Federation of Canadian Municipalities

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Canada Mortgage and Housing Corporation

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FOREWORD

The project documented in this case study received funding assistance under the Affordability and Choice Today (A•C•T) Program. A•C•T is a joint initiative, managed by the Federation of Canadian Municipalities, the Canadian Home Builders' Association, and the Canadian Housing and Renewal Association, together with the funding agency Canada Mortgage and Housing Corporation. The A•C•T Program is administered by the Federation of Canadian Municipalities.

A•C•T, which was launched in January, 1990, was designed to foster changes to planning and building regulations and residential development approval procedures in order to improve housing affordability, choice and quality.

Through A•C•T, grants are awarded to municipalities, private and non-profit builders and developers, planners and architects to undertake innovative regulatory reform initiatives in municipalities across Canada. Three types of projects are awarded grants under the A•C•T Program: Demonstration Projects, Streamlined Approval Process Projects, and Case Studies (of existing initiatives).

- *Demonstration Projects* involve the construction of innovative housing that demonstrates how modifications to planning and construction regulations can improve affordability, choice and quality.
- *Streamlined Approval Process Projects* involve development of a method or approach that reduces the time and effort needed to obtain approvals for housing projects.
- *Case Study* grants are awarded for the documentation of existing regulatory reform initiatives.

Change and innovation require the participation of all the players in the housing sector. A•C•T provides a unique opportunity for groups at the local level to work together to identify housing concerns, reach consensus on potential solutions, and implement action. Consequently, a key component of A•C•T-sponsored projects is the participation and cooperation of various players in the housing sector in all phases of each project, from development to realization.

All projects awarded a grant under the A•C•T Program are documented as case studies in order to share information on the initiatives and the benefits of regulatory reform with other Canadian communities. Each case study discusses the regulatory reform initiative, its goals and the lessons learned. Where appropriate, the cost savings resulting from modifications in various planning, development, and construction regulations are calculated and reported.

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PROJECT OVERVIEW

As cities grow older, the supply of older buildings increases. However, the demand for these buildings often decreases; the intended use may be outdated, and the building may deteriorate and become dilapidated. When a building is no longer required, it can be entirely demolished to make way for a new structure or it can be converted and rehabilitated to sustain its useful life. By converting an older structure into housing, the character of older city areas can be retained, buildings can acquire a unique flavour, and necessary housing can be made available. Old warehouses, churches, and school houses can be turned into residences or office space.

The Winnipeg Housing Rehabilitation Corporation (WHRC), in cooperation with Manitoba Housing and the City of Winnipeg, have developed and implemented a pre-permit demolition approach to facilitate rehabilitation projects. This approach involves preparing construction drawings and performing selective demolition *concurrently* rather than *sequentially*. Building permit approvals follow the selective demolition.

The conversion and rehabilitation of the 80-year-old O'Bee's Steam Bath into a housing complex of 12 apartments was the first project to use the pre-permit demolition approach. It was found that, by performing the demolition earlier on in the approval process,

- unknown building features, such as changes in elevation, were uncovered, minimizing the need to change construction plans after approval;
- the time between building permit approval and construction was reduced; and
- tenders for construction contracts were more accurate, reducing the need for contingency sums in estimates.

The results of these changes in the approval process were so positive that all 1992 WHRC projects will attempt to use the pre-permit demolition approach.

1.0 PRE-PERMIT SELECTIVE DEMOLITION - O'BEE'S STEAM BATH

The Winnipeg Housing Rehabilitation Corporation (WHRC) is a municipal, non-profit housing corporation established by the City of Winnipeg in 1978. A significant portion of the Corporation's work involves the rehabilitation and conversion of existing buildings into affordable housing. Because the WHRC is a non-profit corporation, it is absolutely essential to minimize costs. One cost-saving approach considered was to change the building permit approval process regarding selective demolition. Because existing building walls and floors, for example, sometimes hide structural details such as changes in elevation, it is often not possible to accurately assess the structural condition of an existing building until parts of the building are removed. Therefore, it made sense to prepare building plans after selective demolition, which exposes the nature and the condition of the structure. The WHRC's objective was to identify a method which allowed:

- the preparation of building plans when all building features were known, thereby saving time and effort from having to change plans if problems became apparent after these features were uncovered;
- a reduction in time between the application for a building permit and the beginning of construction, and consequent savings in taxes, insurance, and interest costs; and
- a realistic basis on which contractors could estimate construction costs, thereby reducing the need for incorporating contingency sums and negotiating change orders.

> *As is so often the case with rehabilitation work, discussion centred on the necessity of minimizing "unforeseeable" measurements, details, elevations, etc. and time delays and dollar losses inherent with these unknowns.*
>
> *- Al Ducharme, General Manager, WHRC.*

The idea to perform selective demolition and plan preparation concurrently arose from discussions between Al Ducharme, General Manager at the WHRC, and Jurgen Hartloper, architect at Magnus Johnson architectural firm. They determined that by improving the scheduling of the necessary tasks, more accurate information on building condition could be obtained and reflected in the working drawings, thereby saving a great deal of time and effort.

Implementing this idea, however, would require the municipality to change the building approval process–allowing an applicant to carry out selective demolition *before* submitting completed construction drawings to obtain a building permit for conversion and renovation work.

The municipality agreed, and the pre-permit demolition approach was first tested on a project to convert and rehabilitate O'Bee's Steam Bath. Located in the older, northern part of Winnipeg, at 588 Manitoba Avenue, this structure was built around 1915. It was used as a steam bath, and also accommodated a barber shop and apartment units, until it was damaged by fire in the late 1980s. The WHRC acquired title to the property in 1990, and proposed to develop a housing complex of 12 apartments complying with 1991 codes and standards.

To determine the feasibility of the pre-permit demolition approach, a demolition schedule and plan were prepared describing the scope and approach of the work, and illustrating the proposed demolition activities (see the examples shown in Figures 1 and 2).

Figure 1. Selective Demolition Schedule

APARTMENT RENOVATION — SELECTIVE DEMOLITION — SECTION 02112
201-203 McGregor Street — FOR RENOVATION WORK — Page 1 of 1.

1. GENERAL

1.1 WORK INCLUDED
- .1 Remove designated building equipment and fixtures.
- .2 Remove designated ceilings and walls.
- .3 Demolish and remove annex and wood balconies. Provide structural support as required.

1.2 RELATED WORK
- .1 Remove debris from building and site and leave the building in a broom clean condition.
- .2 Carpentry work as required to secure the building and support structural elements.

1.3 PROTECTION
- .1 Cease operations and notify the architect immediately if safety of structure appears to be endangered. Take all precautions to properly support structure. Do not resume operations until permission is granted by the architect.

2. PRODUCTS
NOT APPLICABLE

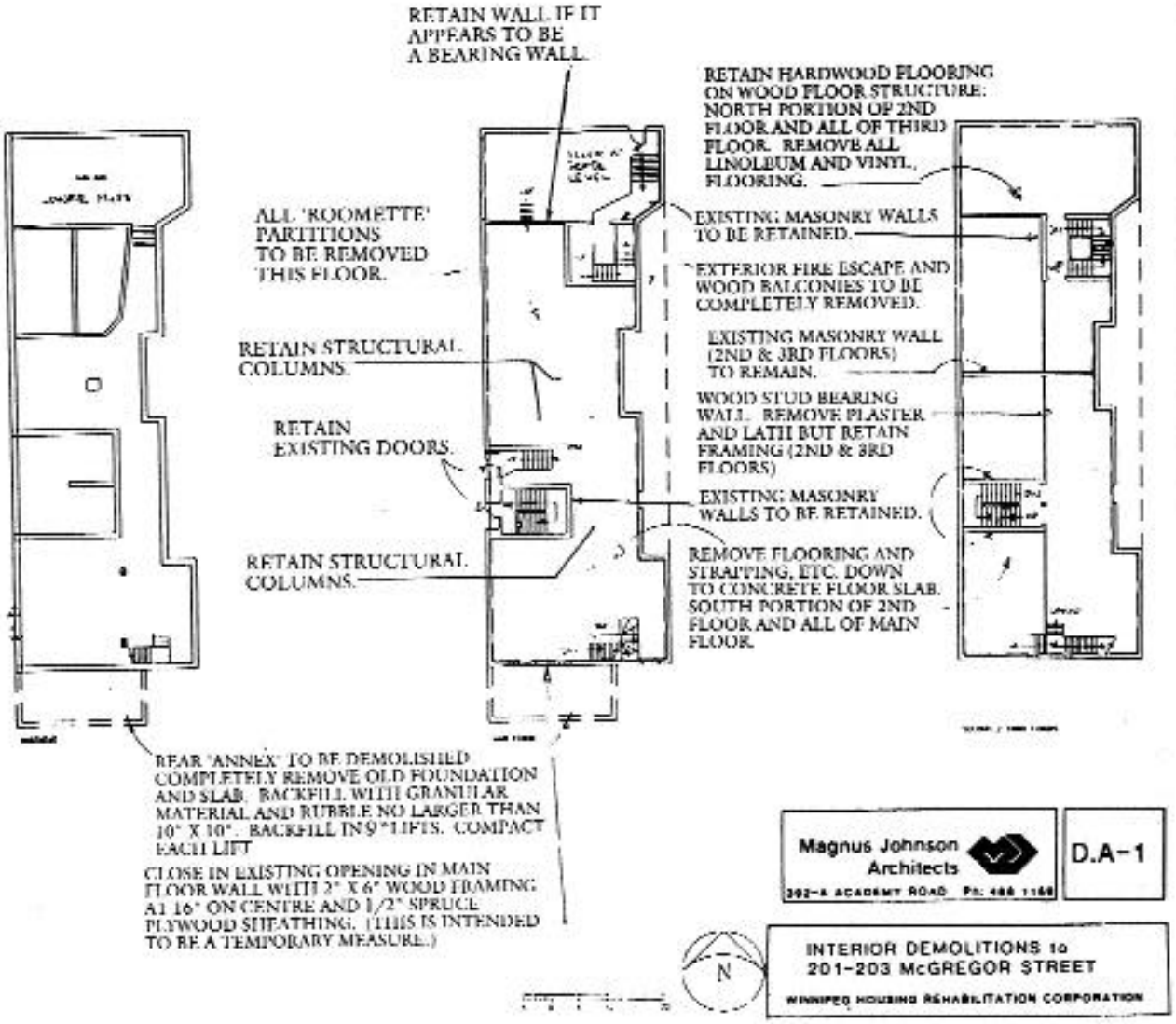
2.1 MATERIALS
- .1 Except where noted otherwise, maintain possession of all materials being salvaged, immediately remove from site all salvage items rejected by the owner.
- .2 Carefully remove, store and protect for re-installation the materials and equipment noted on drawings or specified to be re-used.

3. EXECUTION

3.1 PREPARATION
- .1 Erect and maintain temporary fencing and protective barricades to protect the public from harm from the demolition operation of the annex and balconies.

3.2 DEMOLITION
- .1 Demolish to extent indicated on drawings and required to accommodate new work. Take particular care to protect existing structure. Demolish in an orderly and careful manner.
- .2 Perform demolition in accordance with applicable local and provincial authorities having jurisdiction.
- .3 Repair all demolition performed in excess of that indicated or required, to the approval of the architect and at no cost to the owner.
- .4 Remove all demolished materials, tools and equipment from site on completion of work. Leave site in a condition acceptable to the architect.

Figure 2. Selective Demolition Plan



GENERAL NOTES

1. ALL MASONRY, CONCRETE, AND STEEL MEMBERS FOUND (AND NOT NOTED ON DRAWINGS) SHOULD BE LEFT IN PLACE. NOTIFY CONSULTANT OF FINDINGS.
2. REMOVE ALL FINISHED PLASTER & LATH EXTERIOR WALLS THROUGH OUT THE BUILDING.
3. REMOVE PLASTER & LATH FROM ALL INTERIOR PARTITIONS BEFORE DEMOLISHING ANY PARTITIONS. INFORM CONSULTANT, WHO SHALL CONDUCT AN INSPECTION TO DETERMINE WHICH PARTITIONS MAY BE STRUCTURAL. CONSULTANT SHALL INFORM CONTRACTOR WHICH PARTITIONS ARE TO BE REMOVED.
4. STRIP OFF ALL PLASTER & LATH FROM CEILINGS AT ALL FLOORS.
5. ALL STAIRWAYS SHALL BE LEFT IN PLACE UNLESS OTHERWISE NOTED.
6. REMOVE ALL EXTERIOR WINDOWS, WINDOW FRAMES, TRIMS, SILLS, ETC. COVER OPENINGS WITH PLYWOOD FOUND ON SITE.
7. ALL EXTERIOR DOORS SHALL BE LEFT IN PLACE UNLESS OTHERWISE NOTED.

2.0 PROJECT RESULTS

With pre-permit selective demolition

The regulatory reform saved WHRC both time and money. Time was saved because the construction drawings were prepared *during* demolition rather then *afterward*.

As well, details were unearthed that reduced plan changes after the drawings had been prepared. Demolition discoveries included:

- construction details, such as fire-damaged roof joists, and changes in elevations between adjoining areas of the same floor, and
- the requirement for reinforcement of deteriorated steel columns in the steam rooms, rebuilding of floors in previously planned elevator or stair opening, and redesign of column loads in north suites (through all three floors).

> *The design team (Magnus Johnson, Architect) was able to "fine-tune" the drawings, avoid unforeseen conditions and eliminate contingency sums during tendering. The bidding contractors were better able to estimate the costs because they had more accurate information.*
>
> *- Al Ducharme, General Manager, WHRC.*

Money was saved on the soft costs (taxes, insurance, etc.) and mortgage costs (for more details see section 4.0).

Without pre-permit selective demolition

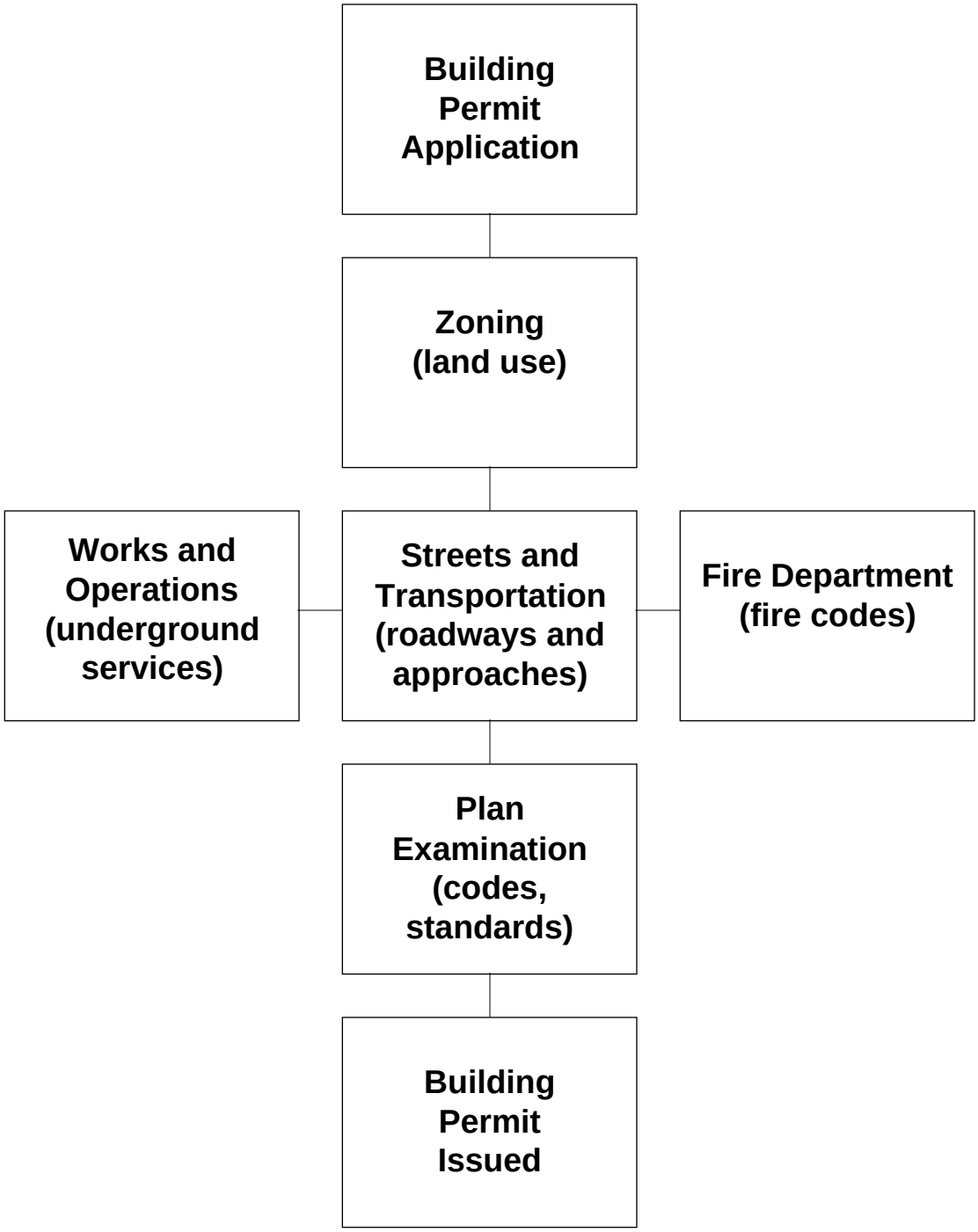
Prior to this initiative, a building permit was required before any demolition or construction work could begin on an existing structure in Winnipeg. To receive a building permit, the applicant would submit an application with completed construction drawings to the Department of Environmental Planning. Each application would be processed by the branches indicated in Figure 3, as appropriate, starting with zoning and ending with plan examination. The application processing could take between two and five weeks depending on the complexity of the project. Once the permit was issued, demolition could begin. However, the demolition often uncovered structural features and conditions that were previously unknown to the architects. Many discoveries required plan revisions and construction delays. The plan would not normally need to be resubmitted for approval after revisions, but it would require a change order.

The "regular" approval process requires four sequential steps before construction can begin:

- preparing the plans,
- building permit approval,
- demolition, and
- revisions to the plan.

The "revised" process allows at least partial demolition and plan preparation to occur simultaneously, before approval. There is still the possibility of required plan changes; however, they are likely to be minimal.

Figure 3. Building Permit Application Process



Comparing the two approaches

Comparing the two approaches (see figures 4, 5), the time to perform the regular process is the total time of each of the five steps, while the total time for the revised approach is the time to perform the longer of the demolition or the plan preparation, plus the building permit approval, plus minimal plan changes, plus the construction time. The time saving is the shorter of the demolition or the plan preparation.

With the regular process (building permit approval before demolition), bidding contractors would add large contingency sums into their tenders because of unknown building features and conditions which could affect the required work.

The revised process (demolition before building permit approval) allows for more background knowledge about the building and for more accurate cost estimates for the construction work. This also reduces the incidence of change orders and negotiated prices, and ensures that as much of the work as possible is covered by the competitive bids.

Figure 4. "Regular" Process

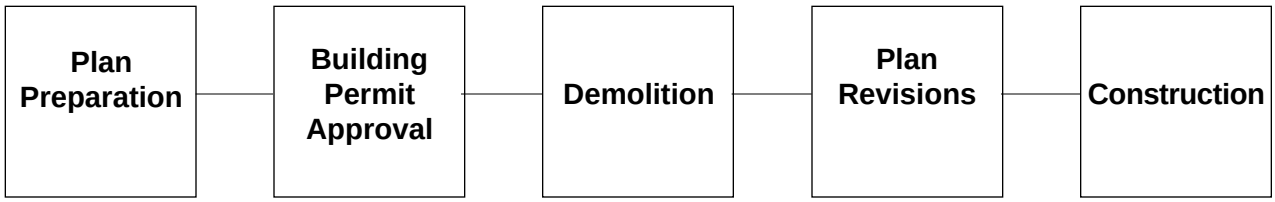


Figure 5. "Revised" Process

3.0 Description of the Community and the Key Players

3.1 The City of Winnipeg

The population of the City of Winnipeg was 610,300 in June 1990. Population growth was 5.6% for the Census Metropolitan Area between the 1981 and 1986 census. The total Winnipeg area is 57,053 hectares, with land area 56,130 hectares, and 923 hectares under water. The city is very flat and expansion is possible in all directions.

The residential resale average prices in this city have been around $80,000 for the last few years, with a peak of over $84,000 in 1989. The average price of a newly built single home in the city of Winnipeg was $137,314 in 1991. Housing starts were at a historic low in 1991 with the total at 1,349, including 1,006 single-family dwellings.

Affordable housing has been relatively easy to find in the city of Winnipeg, since housing prices are low relative to the rest of Canada. According to CMHC's January 1992 release of *Canadian Housing Markets* (for June to December 1991), 43.6 percent of renters in Winnipeg can afford to buy a home.

The rental vacancy rate for apartments in the city of Winnipeg was high at 6.6% in October 1991. Rental prices ranged from $318 for a bachelor unit to $427, $539, and $634 for one-, two- and three-bedroom apartments, respectively.

3.2 Winnipeg Housing Rehabilitation Corporation

The Winnipeg Housing Rehabilitation Corporation is a municipal, non-profit housing corporation. The Corporation's mandate is

- to preserve and upgrade inner-city housing stock, and
- to increase the availability of safe, clean, and affordable housing to persons and families of low to moderate incomes.

Funding has been supplied by the federal government since 1978 and the provincial government since 1987. Annual allotments to mortgage funding and operating budgets granted by Canada Mortgage and Housing Corporation and Manitoba Housing (the provincial housing department) have made the WHRC possible.

As part of the Manitoba Housing Rent-to-Income Program, the WHRC provides new or fully renovated accommodation at rents that are usually less than comparable market rents, adjusted according to tenant income. The WHRC also manages these rental properties.

Approximately 500 units have been produced to date by the WHRC, including a mixture of new and rehabilitated units, ranging from single-family homes to apartment buildings with 70 dwelling units.

Winnipeg Housing Rehabilitation Corporation Objectives

- provide affordable housing in the inner city core through the conversion of existing buildings;
- retain historical character of existing buildings in the process of building conversion to housing stock;
- rehabilitate and consolidate surrounding housing stock in context with conversion, and
- contribute to revitalization of older core area neighbourhoods, through innovative selection of conversion stock.

Included in the 500 residential units are:

- 280 units created under the Rent-to-Income Program;
- converted warehousing (26 suites), and churches (7 suites, and 6 suites),
- a police station conversion, and two apartment rehabilitations, totalling 38 suites,
- a partnership for a church conversion (20 suites), where WHRC has acted as a resource for other groups desiring to develop housing, and 108 units of new construction.

3.3 Manitoba Housing

Manitoba Housing is the mortgage holder for WHRC projects under the public non-profit housing program. The WHRC is allotted a number of units of housing each year, and Manitoba Housing approves WHRC proposals for the rehabilitation of properties according to the provincial criteria.

Randy Romas, Technical Liaison to the WHRC at Manitoba Housing, accepted the pre-permit demolition proposal for the rehabilitation of O'Bee's Steam Bath.

3.4 The City of Winnipeg Plan Examination Branch

The decision to change the demolition timing was ultimately made by the City of Winnipeg Plan Examination Branch, in the Building Inspection Division of the Department of Environmental Planning.

The Plan Examination Branch was approached and shown the demolition sketches. John Frye, Superintendent of Plan Examination, gave approval for the selective demolition, allowing demolition where necessary prior to completion of the construction drawings. He felt that this process change would be positive for both the building permit applicant and the City of Winnipeg.

4.0 Regulatory Reform Initiatives and Impact on Cost, Choice and Quality

Converting and rehabilitating existing structures is an excellent method of utilizing existing building stock to provide affordable quality housing in central locations. This housing form increases residents' choice in location and style while ensuring that affordable housing meets current building standards. However, conversions pose a unique problem in the approval process: selective demolition, which is usually undertaken, often reveals unanticipated building conditions that require revisions to construction plans.

The main objective of this regulatory change to allow pre-permit demolition was to reduce the time elapsed between project start and construction start, and to realize financial savings from these time savings. Because funding for non-profit housing is difficult to secure, it is imperative that the WHRC minimizes costs. This revised process and the project costs saved increase the potential for more affordable housing.

In the O'Bee's Steam Bath project, scheduling the demolition process simultaneously with the preparation of construction drawings and specifications saved five weeks in demolition time. Although this rescheduling did not *eliminate* plan changes, revisions were *minimized* both during the final design process and later construction period. Overall, the total time from conceptualization to construction completion was 28 weeks. The project duration with the regular sequential process would have been 33 weeks.

The statement "time is money" holds true for this project. Because of reduced construction delay, the estimated total saving in taxes, insurance, and interest was between $4,600 and $5,600. According to Al Ducharme, "more importantly, while not quantifiable, by giving the contractors and sub trades a better opportunity to see the conditions upon which the estimates are based, a more competitive and advantageous price will be obtained than would have been the case if many change orders had to be issued after competitive bids had been obtained."

Undeniably this project is a success. After using the pre-permit demolition approach during the O'Bee's Steam Bath project in 1991, the WHRC has successfully utilized this technique in rehabilitating a 20-unit apartment block at 661 Sara Avenue, from 1925 to 1992 standards. All 1992 WHRC projects will attempt to use this revised approach.