

**AFFORDABILITY AND CHOICE TODAY (A•C•T)
REGULATORY REFORM PROJECT**

**How Cape Breton Regional Municipality
Streamlined Residential Building Plans Approvals
by Improving the Quality of Plans Submitted for Review**

**Fire-Rescue and Building Services Department
of the
Cape Breton Regional Municipality, Nova Scotia**

Prepared for:

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Prepared by: **Word-Works Communications Services, Kanata, Ontario**

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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 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 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 the development of a method or an 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 a 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

Cape Breton Regional Municipality took a different approach to streamlining its residential building permit approval process. Where others focussed on relaxing standards or reorganizing their bureaucracy for greater efficiency, Cape Breton put its emphasis on the front-end of the system. It decided to improve the quality of the plans coming in for review.

The Region believed that if plans could be drawn up that were consistently compliant with the building code, then the plans examination process could be less detailed and therefore faster.

Prior to streamlining it took, on average, about 14 days to complete the approval process for Cape Breton urban area projects. If reviewers spotted problems, the time might stretch to a month or longer. A protracted process consumes excessive municipal staff time, has the potential to cause economic loss to builders and can generate hard feelings between builders and municipal staff.

The solution adopted by the Region was a training program to teach home builders and their designers how to complete and submit plans that are consistently code correct. Graduates of the course would be certified as “code-qualified” and plans submitted by them would require only a low-level review, meaning they could clear the system faster. For all practical purposes, their plans would arrive pre-approved.

The project got underway in the spring of 1996 when the Region set up two committees:

- a technical committee, composed solely of industry representatives, to develop the training curriculum,
- a procedural committee, composed of both industry and municipal representatives, to implement the program in the workplace.

The training program is run by the Building Inspectors' Association of Nova Scotia. The course adapts the building inspectors' training program to the purpose of teaching people how to produce code-compliant building plans.

The Region's permit processing system was overhauled to accommodate plans submitted by course graduates. Its main feature is fast-track processing. Plans from “code-qualified” individuals are spot checked against key compliance criteria rather than examined in detail. “Code-qualified” individuals also get a discount on their permit fee—recognition that their plan reviews consume less administration time—and the privilege of being invoiced for permit fees rather than paying at the time of application.

Cape Breton conducted a trial run of its program in 1996 and began full implementation in the 1997 building season. The Region's average processing time for applications from “code-qualified” applicants has dropped to six days compared to an average of 14 days for the non-certified.

The Cape Breton experience can be easily duplicated in other municipalities since all municipal building departments basically do the same things. Other municipalities could expect to reap the same benefits as Cape Breton. Staff would spend less time reviewing building plans and handling permit fee payments at a counter, so they would be free to do other work. The work environment for inspectors would improve because there would be fewer conflicts with builders over code violations.

There are also benefits for builders. They pay less to have their plans reviewed and significantly reduce the possibility of having to make expensive job-site corrections when inspectors spot code violations during construction. They can also use their “code-qualified” status for marketing purposes. It signals consumers that this builder is a professional striving to produce a quality product.

1.0 PROJECT DESCRIPTION

The Cape Breton Regional Municipality (CBRM) is not the first jurisdiction to streamline its residential building permit application process. What makes this East Coast undertaking notable is the Region's innovative approach.

In recent years, many municipalities have sped up their building permit application process by introducing organizational efficiencies, by relaxing plan review criteria and by writing greater flexibility into building bylaws. CBRM focussed on the front end of the process—the quality of the plans coming in for review. It is the detailed examination of plans to ensure building code compliance that accounts for most of the time taken up by the typical building permit approval process. If you reduce the need for such intense scrutiny, you can save time and get approvals out faster.

This hypothesis was the launch point for CBRM's pre-approved residential building plans project. Municipal officials reasoned that builders and their designers, trained to draw up plans that consistently meet code requirements, would encounter fewer problems of the type that bog down the approval process. In fact, the Region felt this idea could do much more than merely help applicants avoid trouble. It could be the mechanism for fast-tracking applications from qualified individuals to achieve some truly dramatic time-savings. Perhaps the Region could turn around applications in two or three days instead of 14 days.

The Region's strategy was to develop and deliver a course in code compliant design. Graduates of the course would be certified as code-qualified and plans submitted by them would require only a low-level review, meaning they could clear the system faster. For all practical purposes, their plans would arrive pre-approved.

The idea had obvious attractions for both builders and regional officials.

- Fast approvals are important in an area that has a relatively short building season. If construction cannot be completed in good weather, builders face added costs.
- There is also a goodwill factor. Any measure that helps avoid disputes and hard feelings between officials and builders is desirable for the harmonious business life of a tightly-knit community such as Cape Breton.
- From an operational viewpoint, CBRM concluded that the less time its staff spent on detailed plan reviews, the better. Staff could be freed for the many additional tasks landing in the Region's lap as a result of senior government downloading.

1.1 Objectives

The A•C•T funded CBRM project, that got underway in the spring of 1996, began with two main goals:

- reduce the time frame for building permit issuance,
- increase the knowledge of builders and designers regarding building code compliance.

Regional officials realized the training course was their key to success. It would teach builders and designers how to make their plans meet the requirements of the local building code. Presumably, if plans arriving for review were code correct, they could be fast-tracked and the objective of lopping time off the review process could be attained. Therefore, setting up the course and devising administrative procedures to handle code-compliant plans, became the centrepiece of the program.

1.2 Strategy

Municipal officials knew success hinged on bringing industry representatives into the design and implementation of the program right from the outset. Accordingly, they set up two committees:

- a technical committee, composed solely of industry representatives, to develop the training curriculum,
- a procedural committee, composed of both industry and municipal representatives, etc, implement the program in the workplace.

Technical Committee—For about eight weeks, members met regularly to discuss the skills needed for “code-qualified” designation, how to teach those skills and how to test student knowledge to see if they qualified for certification. The committee decided training should be offered through the Building Inspectors' Association of Nova Scotia. The association enjoys a province-wide reputation for the delivery of quality training to, building inspectors. The committee felt this popularity would give the course instant credibility in the home construction business.

The committee relied on the expertise of the inspectors' association to develop course content. The training manual that eventually emerged adapted large portions of the building inspectors' training program to the purpose of the program.¹ Material related to proper construction techniques such as foundations, framing, roofs, elevations, floor plans, section detail, exteriors, insulation, vapour barriers and ventilation came straight from the inspectors' manual. The committee deleted material extraneous to drawing up proper house plans and added a module dealing with the Region's zoning and land-use regulations.

The length of the course is 30 hours and the registration fee is \$350, payable to the building inspectors' association. In addition, participants must own the most recent version of the National Building Code. To be awarded the “code-qualified” designation, a participant must pass the exam with a minimum mark of 70 per cent.

Procedure Committee—Assigned to make the program work administratively, the procedure committee recommended that when people attained “code-qualified” status, they should be registered into the municipality's automated permit system. The system captures essential data about the person and issues them with individual licence numbers. Each person also gets a special rubber stamp bearing that number.

¹ Copies of the Cape Breton training manual, *National Building Code: Houses and Small Buildings for Plans Examiners and Designers*, prepared by the Building Inspectors' Association of Nova Scotia can be obtained on loan from the **Canadian Housing Information Centre, 700 Montreal Road, Ottawa ON K1A 0P7, Tel: (613) 748-2367, Fax: (613) 748-4069, TTY (613) 748-2143.**

When they submit plans for review, “code-qualified” applicants would use the stamp to identify their plans. Municipal officials could then use the number to call up the basic data required on the



Imprint of special stamp used to identify plans from “code-qualified” applicants.

computerized application form. This procedure would mean faster service for “code-qualified” applicants because the need to key in the basic data each time would be eliminated.

The committee also believed licenced applicants should have the privilege of being invoiced for the fee, which non-licenced individuals must pay on the spot. They should also be charged less in recognition of the fact that it takes municipal plans examiners less time to review drawings from “code-qualified” applicants.

The CBRM department directly responsible for administering the pre-approved building plans program would be Building Services where the plans examiners work. They are, however, not the only officials involved in the permit approval process. The committee also looked at how it might speed up the work of the other municipal departments and the provincial agencies involved. These include:

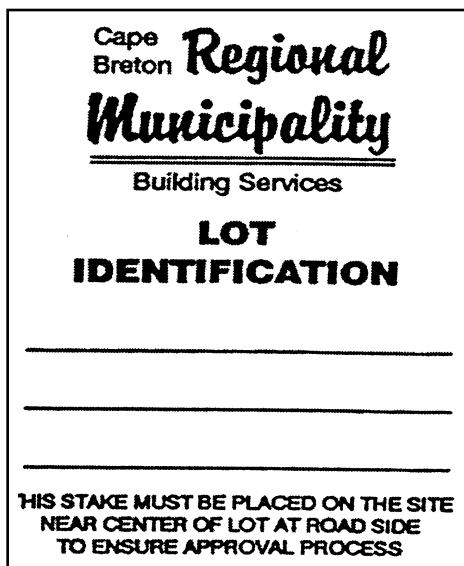
- the regional building inspector and development (zoning) office,
- the municipal engineer (water, sewers, streets),

- the provincial environment department (on-site sewage disposal),
- the provincial transportation department (rural provincial road access).

The committee believed it would be best if applicants themselves obtained sign-offs from these agencies prior to submitting their plans to building services for examination. Otherwise, it would be up to the plans examiners to circulate the drawings to these other departments and agencies and that would lengthen processing time.

In discussions with provincial transportation officials, the committee learned that departmental approvals for access to provincial roads could be obtained more quickly if it was easier for departmental inspectors to find the property in question. With that in mind, the committee decided that 94 “code-qualified” applicants would be issued roadside stakes, bearing identification stickers, that they can plant in the ground to pinpoint the property for transportation inspectors.

Discussions with the provincial environment department were less productive. Officials there informed the committee that departmental policy is first-come, first served and they could not put “code-qualified” applications at the front of the line. Since the committee had no power to change departmental policy, the best it could do was suggest builders and designers get environmental inspectors involved as



Sample roadside stake sticker.

early in the design process as possible so they can do their work while plans are being drawn.

Finally, the committee devised the fast-track, checklist process for examiners to use when they review plans from “code-qualified” applicants. Under the proposed system, plans would be approved if they were compliant with all 16 points on the checklist.² If mistakes were found, the plan would undergo a more thorough review. Licenced applicants who continued to make mistakes would find their plans undergoing the same detailed reviews non-licenced applicants experience. Eventually, if mistakes continued, the “code-qualified” designation would be revoked.

The committee also recommended that plans bearing the “code-qualified” designation should go to the head of the line for priority treatment. They reasoned that plans from “code-qualified” applicants demand less review time so staff can process more of them in a day—a boost in productivity.

The committee saw the fee reduction, invoicing privileges and priority treatment as benefits that would encourage builders, and others submitting plans to acquire the “code-qualified” certification.

1.3 Pilot Project

CBRM conducted a trial run of its program in 1996 and began full implementation in the 1997 building season.

For the trial run, the Region recruited course candidates from the local building industry by direct mail and, as an inducement for people to participate, waived the \$350 registration fee. The method worked. Of the 25 people contacted by

letter, 14 registered for training. A meeting room in a local hotel served as the inaugural classroom with instruction delivered by Rick Fraser, CBRM Manager of Building Services. In addition to serving as coordinator of the entire project, Mr. Fraser is a provincially-certified trainer. The 30 hours of instruction and two-hour exam required four eight-hour days.

Of the 14 candidates who wrote the exam, nine passed with the requisite 70 per cent mark or better. Each unsuccessful candidate was given the opportunity to rewrite the exam; one did so and succeeded. In the end, the pilot course produced 10 “code-qualified” individuals.

Each of the 10 received certificates³ from the Building Inspectors' Association of Nova Scotia on Aug. 13, 1996 and a stamp to affix to their plans and roadside stakes and markers. Their names were entered into the CBRM Building Services automated permit system and they were assigned a licence number. They were also eligible for a fee reduction of \$30—the plans examination component—of the typical \$250 home building permit application charge.

The next step in the trial run was to track results. The Region wanted to, compare the processing time needed for code-qualified applicants to the time required for regular applicants. Staff were told to examine plans submitted by qualified applicants using the 16-point checklist.

Results—Up to Dec. 31, 1996, the Region received eight applications from “code-qualified” individuals. These were reviewed by the plans examiners in the building services and by the zoning and engineering departments.

² See checklist in Appendix A

³ Certificate reproduced in Appendix B

In plans examination, the average time for approvals was nine days—a 35 per cent reduction in processing time compared to regular applications. In zoning, the average time was 13.5 days. This figure was skewed, however, by one set of plans that required a minor variance that took 45 days to resolve. When that plan was excluded from the mix, zoning's average was also nine days - another 35 per cent reduction.

In engineering, it was a different story. Processing time there actually increased from an average of 14 to 14.5 days. Amalgamation was blamed for this outcome. The department was still involved in organizing eight public works departments into one and had undergone two moves in a short period of time. Everyone felt confident engineering could do better when life returned to normal.

Conclusion—The Region's target was to approve “code-qualified” applications in five to six days. While trial run results showed real time savings were achieved, this target was missed. Mr. Fraser was not discouraged, though. He felt the target would be achieved when the program went into full operation in 1997.

“Engineering needed time to settle down and the pilot project helped the rest of us get the kinks out of the system. It also made us familiar with the requirements of handling “code-qualified” applications,” he said.

1.4 Full Implementation

Since full implementation got underway in April, 1997, the Region has not run any additional courses. It has, instead, focussed on refining the system and results have improved. The average processing time for code-correct applications has dropped to six days

compared to an average of 14 days for the non-certified. As expected, the engineering department made dramatic improvements and cut its average processing time in half.

In rural areas, where road access and sewer approvals are under provincial jurisdiction, the provincial transportation department did improve its response time—a result of using roadside stakes to identify properties and a new departmental emphasis on customer service. The transport department now turns applications around in an average of seven days, down from 12. The environmental inspectors, experiencing organizational upheaval as they moved from the jurisdiction of the health department to agriculture, actually lost ground; their processing time went from 13 to 15 days.⁴

The original notion of having “code-qualified” applicants obtain approvals directly from zoning, engineering and the provincial agencies before submitting their plans for examination never really got off the ground. Builders and designers said it would take significant amounts of their own time to pursue these approvals and their clients were not willing to pay them for this time. So they saw no point in doing it. Most are still handling this requirement the traditional way by letting Regional Building Services staff circulate plans to these approval authorities. At the end of the day, the reluctance of applicants to obtain these approvals means building services does not expect to realize its ultimate dream of routinely turning “code-qualified” applications around in two to three days.

In spite of this glitch, the Region judges the program a success. Regional officials are able to process “code-qualified” applications faster

⁴ The provincial agencies are not part of the code-qualification program so their processing times apply equally to code-certified and non-certified applicants.

than others and implemented the invoicing process recommended by the procedure committee and have lowered application fees for certified applicants.

The Region also permits “code-qualified” applicants to begin work without prior approval on jobs involving non-structural repairs valued at \$15,000 or less. Repairs of this type do not alter the structure of the building in any way—window replacements and new roofs are common examples.

Certified applicants use a special permit application for these jobs, which they can phone or fax to the Region's Building Services office. They are invoiced for the fee on a monthly basis. The application form used by “code-qualified” individuals for non-structural repairs is one page long.⁵ In contrast, the computerized form for non-certified applicants fills six computer screens.

⁵ Reproduced in Appendix C

2.0 BACKGROUND

Cape Breton Regional Municipality came into being in 1995 when eight municipalities were amalgamated by the province. Where there had been eight separate municipal building permit approval authorities, each with distinctive procedural wrinkles¹ and turnaround times, there was now one.

2.1 The Issue

A building permit approval process protects the community by ensuring that construction adheres to prescribed standards for material quality and building techniques. The residential plans examination process is the centre-piece of the approval process. It gives trained inspectors the opportunity to review the plans and spot potential code violations before construction begins. Every detail of a plan must be examined to ensure building code and land-use compliance.

Prior to the amalgamation, area builders complained about lengthy approval times that sometimes created economic hardship for them and relationships with permit approval authorities that occasionally veered to antagonism. The municipal merger made it necessary to create a single building permit approval authority. It also provided an opportunity to address these chronic problems.

CBRM Fast Facts	
Amalgamated:	
	Sydney
	Glace Bay
	North Sydney
	Sydney Mines
	New Waterford
	Dominion
	Louisbourg
	County of Cape Breton
Area:	2,384 sq km
Population:	130,000
Construction:	Mostly residential

Training builders and designers to submit plans that were consistently compliant with building code requirements was the priority objective. The examination of plans in technical detail to verify compliance consumes most of the time in the approval process so that is where Regional officials hoped to gain their most dramatic time reductions.

Compliance with land-use regulations and zoning bylaws was another concern for them. Plans that did not properly address issues such as set-backs and lot lines, driveway locations, and distances from watercourses could stall in the approval process, wiping out gains achieved through better building code compliance. For this reason, the course also included direction on how to meet zoning and land-use regulations.

3.0 COMMUNITY SUPPORT AND KEY PLAYERS

As described earlier, the work of establishing a training course and integrating code-certification into the municipal permit approval machinery was the job of two committees working in tandem. The members of those committees were appointed from a list of individuals who had responded to a general mail-out to 150 persons and businesses active in the Cape Breton building industry. The letter described the Region's intentions and asked recipients if they wanted to help build the new, streamlined system.

The development of training program content was the responsibility of the technical committee formed by representatives of the following groups:

- the Building Inspectors' Association of Nova Scotia,
- the Canadian Home Builders' Association of Cape Breton,
- independent builders from the community,
- local residential designers,
- the Cape Breton Regional Municipality.

A procedural committee took on the task of making the administrative changes to the permit approval process required for fast-tracking code-correct applications. Its members included representatives from:

- the building services department, Cape Breton Regional Municipality,
- the finance department, Cape Breton Regional Municipality,
- three appointees from the technical committee.

Rick Fraser, CBRM building services manager said:

“What I see as the most significant aspect of this project is the team approach to regulation. Many times in the past builders and inspectors were on opposite sides of the fence and often in conflict. On this project, both sides worked together and found ways to meet the needs of everyone involved.”

4.0 REGULATORY REFORM INITIATIVES AND IMPACT ON HOUSING COST, CHOICE AND QUALITY

4.1 Cost

It is hard to determine what impact, if any, the CBRM reforms have on housing costs. There are too many other significant variables that factor into the equation. The reforms have, however, lowered costs to builders both directly and indirectly. With lower input costs, there is an opportunity for builders to pass these on to consumers thereby improving the affordability of housing.

- Direct cost reduction: “Code-qualified” permit applicants get a \$30 discount on their permit application fee.
- Indirect cost impacts: Reduced approval times help builders get their products to market faster which, in turn, can lower their financing charges. “Code-qualified” builders are also less likely to commit the sort of job-site code violations that are expensive to fix.

Correct plans also permit more accurate estimates of material requirements and costs, thereby helping builders keep their projects on budget.

4.2 Quality

Mr. Fraser cites anecdotal evidence to support his conclusion that the reforms have had a positive impact on the quality of house construction in the region.

“Our inspectors are reporting that builders who are “code-qualified” are doing better work. Compliance has improved and the inspectors are issuing fewer correction notices,” he said.

4.3 Reform Benefits

The CBRM experience brought benefits that could induce other municipalities to embark on similar reforms.

1. It frees staff to do other work. Pre-approved residential building plans reduce the amount of time staff must spend assessing permit applications. “Code-qualified” applicants can be invoiced so staff spend less time at the counter handling cash and cheques.
2. The work environment is improved. Because the pre-approval process is the joint creation of both industry and officials, trust and mutual respect is enhanced.

For builders, being “code-certified” has marketing advantages. The fact they are “code-qualified” speaks well of their professionalism and signals consumers that they are committed to delivering a quality product.

4.4 Knowledge Transfer

The Cape Breton Pre-Approved Residential Building Plans program can be easily adapted by any other municipality in Canada.

“We all basically work the same,” said Mr. Fraser.

“We receive plans, we review them and we approve them or send them back for corrections. So the benefits we have realized from our program can be duplicated elsewhere.”

Appendix A

Building Code and Land Use Compliance checklist For Pre-Approved Residential Building Plans

Note: This is the 16-point checklist used by plans examiners to review plans submitted by “code-qualified” builders and designers.

		ACCEPTED	
		Yes	No
1.	Bedroom windows shall provide an unobstructed opening of not less than 15" in height and width and 3.8 sq. ft. in area (9.7.1.3)	<input type="checkbox"/>	<input type="checkbox"/>
2.	Head room required for stairs located within dwelling units shall be not less than 6'4', and 6'T' for all other stairs (9.8.3.4). Handrails required for interior stairs with more than two (2) risers, or exterior stairs having more than three (3) risers. Handrails on stairs and ramps shall be not less than 32" and more than 36" (9.8.7.1).	<input type="checkbox"/>	<input type="checkbox"/>
3.	Mechanical ventilation required for every dwelling unit must be capable of providing 1/3 air change per hour (9.32.3.1).	<input type="checkbox"/>	<input type="checkbox"/>
4.	Electric smoke detectors required for every dwelling unit, located adjacent to bedrooms. Where more than one smoke detector is required, they shall be interconnected (9.10.18) (1), (2) & (4).	<input type="checkbox"/>	<input type="checkbox"/>
5.	a) Required ventilation for every roof space or attic shall be 1 sq. ft. of unobstructed vent area for every 300 sq. ft. of ceiling area (9.19.1.1).	<input type="checkbox"/>	<input type="checkbox"/>
	b) Low slope roof or roofs constructed of roof joists require a minimum ventilation of 1 sq. ft. of unobstructed vent for every 500 sq. ft. of ceiling area (9.19.1.2).	<input type="checkbox"/>	<input type="checkbox"/>
6.	Every attic space is required to have an access hatch with minimum size of 22" X 28" (9.19.2.1).	<input type="checkbox"/>	<input type="checkbox"/>
7.	Floor joists supporting roof load shall not be cantilevered more than 16" beyond their support when 2" X 8" joists are used and not more than 24" when 2" X 10" joists are used (9.23.9.9).	<input type="checkbox"/>	<input type="checkbox"/>
8.	Step footings shall conform to 9.15.3.8, maximum rise 24", minimum run 24".	<input type="checkbox"/>	<input type="checkbox"/>
9.	Floor joist size, spacing and span.	<input type="checkbox"/>	<input type="checkbox"/>
10.	Beams, bearing walls, lintels.	<input type="checkbox"/>	<input type="checkbox"/>

ACCEPTED

Yes No

11. Zoning confirmed as _____

12. Lot area and frontage

13. Front yard _____ Rear yard _____

Side yard _____ Flanking _____

14. Daylight triangle.

15. Driveway location.

16. Maximum floor area _____

APPENDIX B

Reproduction of the certificate issued to builders and designers who successfully complete the code qualification course

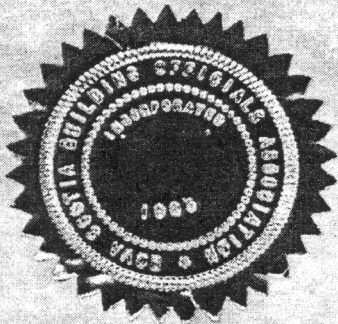


This is to acknowledge that

Jane Doe

has successfully completed the prescribed training in

***Home Designers
Code Qualified Program***



Ken MacLeod, President

May 25, 1998

Building Safety is Public Safety

