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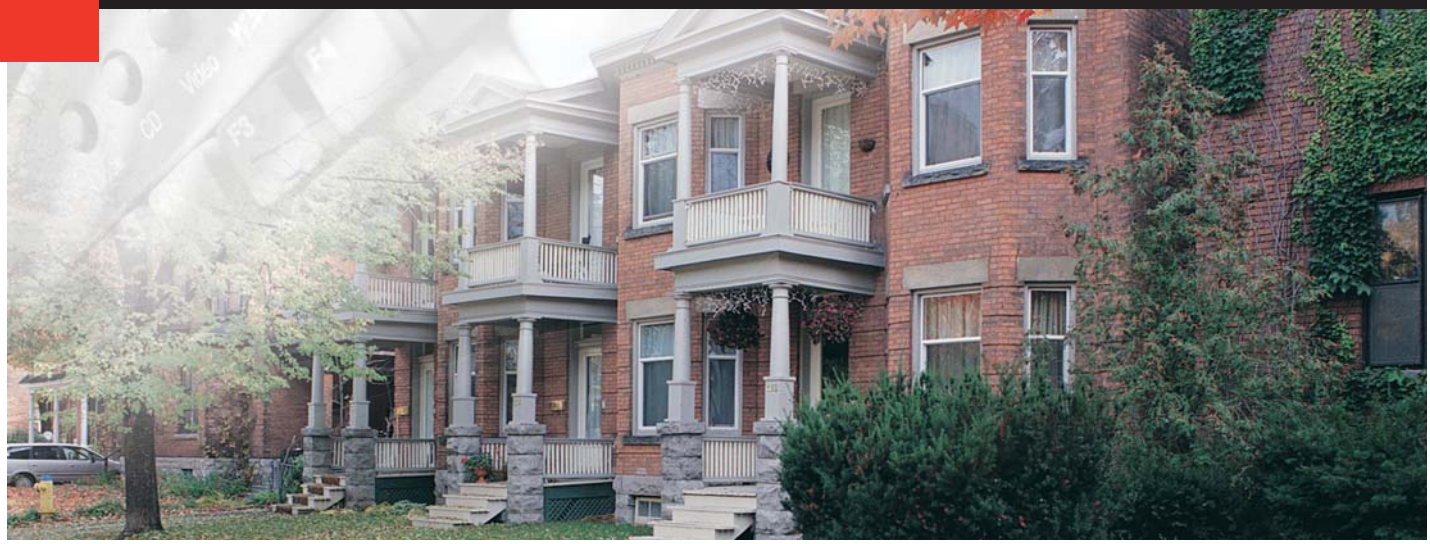

CMHC Sponsored Feasibility Study On: Using the Private Home Inspection Industry to Collect Data on Physical Condition of Canada's Existing Housing Stock

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CMHC Sponsored Feasibility Study on:

Using the Private Home Inspection Industry to Collect Data on the Physical Condition of Canada's Existing Housing Stock

CR FILE NO.: 6702-8

Study time period: April 2000 to Sept. 2000

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FINAL REPORT (PROPERTY OF CMHC)

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o) Copies of 14 Calgary Pillar To Post completed home inspection surveys (2 copies from each of 7 Calgary Pillar To Post inspectors done on CHILD 2000 internet site)

* p) CMHC contacts: data collection wish list

* q) Computer consultant benchmark comparison sheet

* r) Computer consultant reports on SHEU, STAR,SOFT-Q, HOT-2000, R-2000, and CHILD2000, and final recommendations

s) Energuide database collection form from NRCan.

t) Alberta Home builders data input form for the R-2000 and HOT 2000 programs

u) Letter of request to Lennox Industries re: possible home inspector data uses

v) Letter of request and response to/from Leviton re: possible home inspector data uses

w) Article in ASHI reporter re: home inspector data help with Leviton GFCI failure rate study

x) Letter of request and response to/from IAO-Sentinel Insurance re: their home inspection insurance related database and survey sheet on what data they collect.

y) Letter of potential interest from Pillar To Post regarding developing computer data retrieval system for their Canadian network and survey sheet on what data presently on computer.

z) List of Pillar To Post Canadian franchise owners and geographic locations

A) Calgary Home Inspection 2000 Conference exhibitor info

B) Letter of legal opinion from James Maxwell of MacLeod / Dixon

* Signifies the appendices included in this copy of the report. All other appendices are kept on file.

Feasibility Study on Using the Private Home Inspection Industry to Collect Data on the Physical Condition of Canada's Existing Housing Stock

Executive Summary

A preliminary feasibility study was done between April and August 2000 on the possibility of using the Canadian home inspection industry to supply data obtained in the normal course of their home inspection work, for a large active databank. The main purpose of this databank would be to track and study housing characteristics, physical condition, and developing trends in the Canadian housing stock. This report will briefly summarize the study.

The first task was to determine if there was a match between CMHC's desired information needs and the information collected in a typical home inspection. About 15 CMHC people, and a further 10 people identified as likely having an interest in the project were canvassed and interviewed, and a "wish list" of information needs was prepared. A study of the home inspection professional association's Standards of Practice, and a number of actual home inspection reports were reviewed. It was determined that there was very good reliable data being gathered by home inspectors on a daily basis that answered most of the information needs identified in the initial "wish list". It is estimated that between 130,000 and 200,000 home inspections are done in Canada annually, and that these inspections cover every geographic area and home price range. It was obvious that the home inspectors were collecting a "treasure trove "of information.

Existing data collection systems such as SHEU, STAR, Soft-Q, and Hot 2000/Hot2XP were examined by a computer consultant but were judged to be unsuitable for use with this project, and in the end a new Internet based survey system was created: the Canadian Home Inspection Logistical Data (CHILD 2000) system. Designing an efficient system to record home inspection data was shown to be a daunting undertaking due to the great diversity in home inspector reporting systems. Even though almost all home inspectors are collecting similar information – based on their ASHI/CAHI professional association standards – the actual reporting formats are almost as numerous as home inspection companies. An initial survey was designed to enable any home inspector to enter in the needed information no matter what reporting format was being used. A contact list of forty-five experienced Canadian home inspectors was drawn up. This list covered almost every area of Canada and was a good mix of single inspector, multi-inspector, and franchise firms – giving an excellent representation of the Canadian home inspection community. These inspectors were then contacted by phone, and an initial explanation of the project and a request for their input was discussed. All of them agreed to participate at some level. The "Preliminary Survey of Canadian Home Inspectors" was then e-mailed, or faxed to them. Thirty-nine of the forty-five returned the surveys, and all but two of the forty-five participated in the follow up phone survey. It became a giant brainstorming session with the home inspection representatives. Generally there was very good support for the idea of establishing the database, but there were some cautionary notes sounded

by the participants. Most specifically, they felt the information being entered in the database has to be non- address identifying. There was also much discussion on the best format to collect the information. The survey now residing on the Internet site at: http://www.canadahomeinspection.com/, is the result of much work reviewing the results of the returned surveys and brainstorming with home inspectors and industry leaders. Private industry and NGO's were also approached to investigate their needs and support, at the suggestion of a number of participants. Some very encouraging preliminary work was done in this area.

In the end it was recommended the project proceed in the following manner:

1) Finish developing the http://www.canadahomeinspection.com/ web site and build a sophisticated data query capability into the system. This will enable the majority of home inspectors to participate in the data entry no matter what reporting system they use.
2) Team up with some of the larger franchise and private reporting system companies to work with their networks to develop an efficient data capture system unique to them. This will be computerized with some and a manual fax-in checklist with others.
3) Roll out the program through the home inspection professional associations in each Province, and do a database mail out of all Canadian home inspector contacts. Utilize the Canadian annual home inspection conference by being an exhibitor and place some articles in the quarterly home inspector magazine "The Home Front"
4) Design a "State of the Art" computer and matching manual home inspection reporting system that can be given to home inspectors at a subsidized rate or for free, in return for them agreeing to enter the home inspection data into the CMHC data base. CAHPI should be approached to receive their input and endorsement. It is recommended that the report only be made available only through the Provincial home inspection associations and only used by fully certified home inspectors. CAHPI may have additional stipulations before endorsing this idea.
5) Do a full study of possible participation in this project from NGO's and private industry. There are likely some good mutual benefits and overlapping information desires. There could be some good cost sharing benefits in addition to helping society by allowing private and public organizations access to the data.

It was estimated that to develop all of these areas would likely cost in the $300,000 range to do properly. In addition a minimum amount that home inspectors would expect to be paid for the data entry would be around $10 per report entered, assuming that the data entry took around 10 minutes or less per report. If a reasonable goal for data entry numbers- to give the database value- was 50,000 entries per year, this would translate into $500,000 to simply obtain the data. Based on this figure I would estimate an annual budget of around $1 Million once the project is established.

Assuming that one of the main goals in doing this feasibility study was to ensure that the Canadian home inspection community would support the implementation of a home inspection based data collection system, the study was successful and showed the project to be very feasible. There seemed to be very good acceptance from the home inspection leaders. An 87% response rate to the written survey and a 95% response rate to the phone survey speaks for itself. Anyone who has an interest in seeing this project develop, is encouraged to read the complete feasibility study report, to more fully understand the rational and details behind this summery.

Étude de faisabilité sur l'utilisation des inspecteurs de biens immobiliers pour recueillir des données sur l'état du parc résidentiel canadien

Résumé

On a procédé à une première étude de faisabilité entre les mois d'avril et d'août 2000 sur la possibilité de recourir aux services des inspecteurs canadiens de biens immobiliers dans le but de fournir des données obtenues dans l'exercice de leurs activités normales pour alimenter une imposante base de données active. Cette base de données servirait à suivre l'évolution et à faciliter l'examen des caractéristiques des habitations et de leur état, et de dégager des tendances propres au parc résidentiel canadien. Ce rapport donne un bref aperçu de cette étude.

Les responsables de l'étude ont d'abord cherché à savoir s'il existait une correspondance entre les renseignements requis par la SCHL et les données recueillies lors d'une inspection résidentielle typique. On a rencontré environ 15 employés de la SCHL, plus 10 autres personnes susceptibles de s'intéresser aux résultats de l'étude, et on leur a demandé de dresser une liste de données qu'elles souhaiteraient idéalement obtenir grâce à ce processus. On a également passé en revue les normes de pratique de l'association professionnelle des inspecteurs de biens immobiliers ainsi qu'un certain nombre de rapports d'inspection réels. On a déterminé que les inspecteurs recueillaient quotidiennement des renseignements très utiles et fiables qui pouvaient combler la plupart des besoins d'information mentionnés dans la première liste établie par les personnes interrogées. On estime qu'il se fait entre 130 000 et 200 000 inspections de bâtiments résidentiels chaque année au Canada et que ces inspections couvrent toutes les régions géographiques et les fourchettes de prix des maisons. Il est apparu évident que les inspecteurs accumulaient des trésors de renseignements.

Un consultant en informatique a étudié les systèmes actuels de collecte de données comme SHEU, STAR, Soft-Q et Hot 2000/Hot2XP, et il les a jugés inappropriés dans le contexte du projet en question. On a finalement décidé de créer un nouveau système fonctionnant à partir d'Internet : Canadian Home Inspection Logistical Data (CHILD 2000). La tâche de concevoir un système efficace pouvant saisir les données recueillies par les inspecteurs s'est avérée plutôt lourde en raison de la grande diversité des outils utilisés dans ce milieu pour produire des rapports. Même si tous les inspecteurs de biens immobiliers recueillent des renseignements similaires, dans le respect des normes de leur association professionnelle (ASHI/CAHI), les méthodes employées sont presque aussi nombreuses que les entreprises de ce secteur d'activité. Un premier outil a été conçu pour permettre à n'importe quel inspecteur de saisir les données requises peu importe le genre de rapport utilisé. On a par la suite constitué une liste de 45 inspecteurs expérimentés provenant de presque toutes les régions du pays et constituant un bon éventail d'inspecteurs autonomes, de groupes d'inspecteurs et d'entreprises franchisées afin que le milieu de l'inspection résidentielle au Canada soit uniformément représenté. On a alors téléphoné à ces inspecteurs pour leur expliquer les grandes lignes du projet et solliciter leur participation. Ceux-ci ont tous accepté de prendre part à l'initiative d'une façon ou

d'une autre. On leur a ensuite envoyé un sondage préliminaire par courriel ou par télécopieur. Trente-neuf des quarante-cinq inspecteurs sollicités ont retourné les sondages, et tous sauf deux ont participé à l'enquête téléphonique qui a suivi et qui s'est transformée en gigantesque séance de remue-méninges. En général, on se disait en faveur du principe de la base de données, mais des réserves ont été exprimées par certains participants. Par exemple, on a mentionné que les renseignements versés dans la base de données devaient omettre toute référence à l'adresse de l'habitation. On a également beaucoup discuté de la meilleure façon de recueillir les renseignements. Le sondage, qui est maintenant hébergé dans le site Web suivant http://www.canadahomeinspection.com/, est le résultat d'un travail considérable d'analyse des réponses données au sondage et des consultations menées auprès des inspecteurs et des leaders de l'industrie. Comme l'ont suggéré quelques participants, on a aussi cherché à connaître les besoins et la volonté de collaboration du secteur privé et des organisations non gouvernementales. Un travail préliminaire très encourageant a été accompli en ce sens.

En fin de compte, on a recommandé que le projet soit mis en œuvre de la façon suivante :

1) Terminer la construction du site Web http://www.canadahomeinspection.com/ et y placer un outil perfectionné de saisie et de recherche de données. Cela permettra aux inspecteurs en bâtiment de contribuer à l'introduction de données peu importe la méthode qu'ils utilisent pour rédiger leurs rapports.
2) Faire équipe avec certaines des grandes entreprises franchisées et privées de production de rapports afin de collaborer avec leurs réseaux et de mettre au point un système efficace de saisie de données qui leur soit propre. Pour certains, ce système prendra la forme d'un outil informatique, pour d'autres, il s'agira d'une simple formule à télécopier.
3) Introduire le programme progressivement par l'entremise des associations professionnelles de chaque province, et effectuer un envoi postal relatif à la base de données à tous les inspecteurs canadiens servant de personnes-ressources. Monter un stand d'exposition à la conférence annuelle de l'inspection des biens immobiliers du Canada et publier quelques articles dans la revue trimestrielle de l'industrie : « *The Home Front* ».
4) Concevoir un système hautement perfectionné de production de rapports d'inspection, en version informatisée et papier, qui sera remis aux inspecteurs à un prix réduit ou tout à fait gratuitement s'ils acceptent de saisir les données d'inspection dans la base de données de la SCHL. On devra obtenir l'avis et l'assentiment de l'Association canadienne des inspecteurs de biens immobiliers (ACIBI). On recommande de ne rendre le rapport accessible que par l'intermédiaire des associations provinciales d'inspecteurs de biens immobiliers et qu'il ne soit utilisé que par des inspecteurs certifiés. L'ACIBI pourrait poser d'autres conditions avant de souscrire à cette idée.
5) Étudier dans le détail la participation possible des ONG et du privé. Tous pourraient en bénéficier et obtenir les renseignements souhaités. Les partenaires pourraient aussi partager les coûts en plus d'aider la société en autorisant des organisations privées et publiques à accéder aux données.

On évalue à quelque 300 000 $ le coût requis pour mettre sur pied tous ces volets. En outre, les inspecteurs pourraient s'attendre à recevoir au moins 10 $ par rapport saisi, en supposant que la saisie des données nécessite au plus 10 minutes par rapport. Donc, si on

envisage un nombre raisonnable de 50 000 saisies par année, pour que la base de données soit valable, il en coûterait 500 000 $ simplement pour obtenir les données. On peut par conséquent estimer le budget annuel de ce projet à environ 1 million de dollars une fois qu'il sera lancé.

Si l'un des principaux objectifs de cette étude de faisabilité était de s'assurer que le secteur canadien de l'inspection des biens immobiliers appuierait la mise en place d'un système de collecte de données d'inspection, alors l'étude est un succès et a montré que le projet est réalisable. En effet, les chefs de file du milieu semblent tout à fait ouverts à cette idée. À preuve, le taux de réponse de 87 % obtenu pour le sondage écrit et de 95 % pour le sondage téléphonique. Quiconque pourrait tirer avantage de la réalisation de ce projet est invité à lire le rapport complet sur l'étude de faisabilité afin de bien comprendre la raison d'être de ce projet et les détails sous-jacents à ce résumé.

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Nature of Feasibility Study and Content Synopsis of Final Report

From April to September 2000, a feasibility study was conducted on "Using the Private Home Inspection Industry to Collect Data on the Physical Condition of Canada's Existing Housing Stock." This study assessed the type of information CMHC would like to obtain, and then studied and surveyed the Canadian home inspection industry, to determine if CMHC's "wish list" could be substantially filled by information gathered during a typical home inspection. A review of the existing home inspector Professional Associations, CAHI/ASHI Standards of Practice, various home inspection reporting systems, and phone interviews with 45 experienced representatives of the Canadian home inspection industry, led to the conclusion that there was a very good match. A survey was then designed that was completed by 39 of the selected home inspection representatives. An additional phone survey was completed with 43 of the 45 representatives, to finish off the home inspector community input. Estimates of the numbers of annual private home inspections were shown to be in the 130,000 to 200,000 range, and it was clearly shown that home inspections are now considered a normal part of most Real Estate transactions in all major Canadian cities in houses of every price range. Additional investigation into some private industry contacts was carried out to establish if this sector would be interested in participating in the home inspection database project, should it be established. Ultimately it was concluded that there was substantial interest both from the home inspection community, and from private industry, in seeing this project continue.

The most effective way of gathering the data from the home inspectors was examined. Four existing computerized information gathering systems were analyzed, SHUE, STAR, Soft-Q, and the Hot 2000 and Hot XP – Energuide systems were all reviewed. Ultimately a new data capture system was designed, the Canadian Home Inspector Logistical Data (CHILD 2000) system. The design of a new system specifically developed for this project made the most sense for a number of reasons. Much of the work done reviewing the initial home inspector surveys returned during the first phase of the work, and brainstorming sessions with the 43 home inspectors during the phone interviews, was incorporated into the present Internet version of the survey. The current version of the home inspector survey can be accessed at: http://www.canadahomeinspection.com/ Further work on this project would see this site improved with a sophisticated web site and data query analysis feature added to the system. Additional methods for obtaining reliable home inspection data were also recommended.

The feasibility study concluded that there was good support for the establishment of a CMHC sponsored database using the Canadian home inspection profession as the data-gathering vehicle. The project was judged to be eminently feasible. It ended by making a number of recommendations as to what the logical next steps would be to bring the project to realization.

The 27 page final report broke the information into the following subject areas:

a)Introduction and scope of work

1) Availability of useful information from the home inspection community:

- The information was found to be both available and reliable

2) Willingness of home inspection community to participate in data collection:

- Home inspectors were found to be generally willing to participate as long as the data entered in the system was not address specific. Some concerns also arose as to time needed, payment rates, and having an efficient method of entering data into the system.

3) Information gathering method used for this study:

- because of the many individual types of home inspection reporting systems, an Internet version of the survey was designed using input from the "preliminary" survey etc.

4) Information gathering options for further home inspection data gathering study:

- A review of existing system showed the CHILD 2000 to be the best solution. Some ideas for its future development and some additional data gathering ideas were presented.

5) Possible interest from the private sector in purchasing home inspector data:

- Some encouraging preliminary study was done to gauge private industry interest in the proposed database. Contacts with Lennox Ind., Leviton, IAO-Sentinal Insurance, etc.

b) Review of the existing Canadian home inspection industry

- a review of the professional organizations and major companies that are at the forefront of the Canadian home inspection industry. Some history and stage setting for background info, and suggestions as to how to best approach the industry (through the leaders).

c) Study of existing Canadian home inspection reporting systems

- The vast array of reporting systems is discussed and 10 of the largest home inspection entities are identified. Some strategy for developing a workable data-collecting network.

d) Study of desired data collection needs from CMHC and other interested parties

- A review of the process involved in selecting the data collection needs for the survey

e) Design of preliminary home inspection survey

- A review of the process and thought process involved in selecting the questions for the first survey sent to the 45 home inspection representatives. Some ideas for future revisions.

f) Geographic and inspector type make up of surveyed inspectors

- A list and profile of the surveyed home inspection representatives.

g) Results of home inspector surveys

- Some interesting analysis of the "Preliminary" home inspection surveys returned by the 39 inspector respondents. Some costs to take the data entry system to the next stage.

h) Recommendations of surveyed home inspectors

- Random samplings of the surveyed home inspectors' views of the state of the industry.

i) Private industry response to possible value of data

- An overview of the inroads made by contacting private industry sources.

j) Analysis of possible data collection systems

- Review of existing computer data collection systems re: adaptation to CMHC project.

k) Recommended data collection system (CHILD 2000)

- Rational for building the CHILD 2000 as the best choice for the CMHC project.

l) Conclusions – strategy and recommendations

- A final wrap up of the goals and accomplishments of the feasibility study, and six specific recommendations on how to take the project to the next stage.

FINAL REPORT

CMHC Sponsored Feasibility Study on Developing a Data Capture System Utilizing the Home Inspection Industry

a) Introduction and Scope of Work

This report will outline the results of a study of the Canadian home inspection industry done from April to September 2000. The goal of the study was to assess the possibility of setting up a data capture system that would enlist the Canadian home inspection community as the source of information to build a large and detailed data base on the Canadian residential housing stock. This would be very helpful in studying recurrent problems and identifying developing trends in the housing sector. Because of the continually changing nature of the housing stock due to ever changing types of building materials and construction practices, deferred maintenance, unpredictable material life-spans, etc, updated data is of great value.

The pre-purchase home inspection industry has emerged as a normal part of the Real Estate transaction over the last 10 years and has become a well-established industry, completing between 130,000 and 200,000 home inspections per year across Canada. Home inspections have become an established part of the Real Estate transaction in every city (with populations over 20,000) across Canada, and are now becoming more common even in the smaller centers and rural areas. Homebuyers in every price range now see getting a home inspection as just proper due diligence before finalizing their house purchase. The thoroughness of the home inspection report - often covering over 1000 items and taking around three hours per house to complete - makes this industry a very attractive source of reliable and up to date information on the Canadian housing stock. The emerging state of the home inspection industry - with the CAHPI/HRDC/CMHC funded task analysis presently shaping the future standards and direction of the industry - makes this a very opportune time to set up a home inspector data base.

In order to assess the practicality of setting up a data capture system utilizing the Canadian home inspection industry, the following parameters were set up and investigated.

1) Availability of useful information from the home inspection community:

The first task was to determine if the data presently collected by the home inspection community was indeed reliable, accurate, and addressed the perceived data needs of CMHC. To this end various reporting systems were reviewed[g,h], the Standards of Practice[e] and Code of Ethics[d] of the Home Inspector Professional Association were reviewed, completed inspection reports were reviewed from 7 different inspectors[o], and a survey was sent to 45 selected home inspectors across Canada[i,l], resulting in an impressive 39 completed responses for an 87% response rate. CMHC sources, home

inspectors, and industry leaders were asked to contribute their data needs wish list[p,] and this became the basis of the original survey sent to the home inspection community representatives[i,j]. The present registration survey and home inspection survey now residing on www.canadahomeinspection.com is the result of several months of discussions with home inspectors[m], industry leaders[t,u,w], and the preliminary survey results[n]. It was determined that there was definitely a wealth of valuable information being collected on a daily basis, but there was also an extremely varied number of reporting systems being used. This would greatly complicate the easy collection of this valuable information.

2) Willingness of home inspection community to participate in data collection:

The main tool designed to enlist the support of the Canadian home inspection community was to contact representatives from coast to coast[c] and thoroughly cover the geographic breadth of Canada – no small task. It was felt a minimum response rate of 20 influential home inspectors would be key to establishing support for this project should it be shown to be viable. To this end a contact list of 45 politically active members of the home inspection community[a] was developed, ensuring that all regions of Canada were well covered. The contact list included: Atlantic – 4, Quebec – 5, Ontario - 12, Manitoba – 3, Saskatchewan – 3, Alberta – 9, BC – 7, NWT – 2. A 50% response rate was expected, (about double the typical 20% – 25% expected rate) due to relationships with most of the surveyed individuals. The 87% response rate achieved was both gratifying and a little overwhelming. In the end, all but 6 inspectors completed and returned the written survey. Discussions took place with all 45 inspectors several times each on the phone, and therefore ideas and support were received even from those who didn't complete the written survey[z]. The geographic coverage was also very well rounded as the 6 who never returned the surveys were spread across the regions. There were 2 non-respondents from Ontario and 1 each coming from Atlantic, NWT, Saskatchewan and BC.

Although the home inspection community is probably in the very highest percentage – perhaps 98% - of the population when it comes to being hooked up to the internet and having e-mail, often the surveys had to be faxed or mailed back due to lack of computer knowledge to E-mail the completed surveys back. The extra work the inspectors took to ensure the completed surveys were returned speaks very positively to their commitment to this project. It also demonstrated the need to set up a very user-friendly Internet site.

Confidentiality requirements and use of data limitations were identified by the home inspectors participating in this project as a very important component of their eventual participation in providing information on a regular basis. The view expressed by a number of inspectors[z], was that any information delivered to the data bank could not be address specific. There is a feeling in the industry that creating an address specific data bank is both unethical and sets a dangerous precedent. Requests to supply address specific data to a third party without the homeowners and potential purchasers knowledge will not be supported by the home inspection industry. The creation of the EMILY system, largely with the cooperation of the appraisers and the resulting elimination of much of their work has also placed the home inspection profession on guard. As the

condition of a house is not static, it is felt that to create an address specific data bank would be very misleading and create a source of potential litigation to home inspectors. There was however, solid support for creating a generic database to help monitor Canadian housing trends etc. in general. It was felt that the information could be postal code, city, or community specific for more accurate analysis.

3) Information gathering method used for this study:

In the end it was concluded that there was very high support for this project from the home inspection community, but the information-gathering vehicle would be key to continuing successfully. Due to the large number of different home inspection reporting systems, it was felt the best way to proceed at this time would be to design an internet form that captured the required data in a very user friendly format. To this end, a form was designed that included most of the identified desired data fields, and which a home inspector can input information into with a simple click of the mouse[j,k]. When the form is completed another click of the mouse will submit it. This eliminates any needed computer expertise other than getting to the web site – a task which no home inspector has trouble with, (just don't ask them to return a completed form with anything more complicated than a mouse click system). As this was already considerably beyond the initial scope of this project, a very simple data query demo was set up to show what the next phase of the project should be if this option is the one decided upon. The ability to query the information fields in many different ways would be very important to managing a large data base such as the proposed home inspection CHILD 2000. It was already a very labour intensive task to tabulate the 39 responses entered from the participating home inspectors. To manually track the data for the next stage of this project would be unworkable. Therefore the very next stage in the development of this project would have to be to develop a sophisticated data tabulation system.

4) Information gathering options for further home inspector data gathering study:

As part of the study, a computer consultant was hired to not only help design the system described above, but also to help in researching what systems were presently available. As part of the study, the following systems[q,r s] were reviewed; 1) SHEU, 2) STAR, 3) HOT 2000[s], 4) ENERGUIDE[r], and 5) SOFT-Q. In the end the Canadian Home Inspector Logistical Data (CHILD 2000) system was developed as the best solution for this project. The main reason the CHILD 2000 was picked as the best solution was that it was far easier to develop a computer data capture system which was designed specifically for this project than to try to adapt an existing system. Advances in the computer field occur on a monthly basis, and it was judged more cost effective and the results far more efficient to build a system specifically for this project, utilizing the very latest in computer technology. All of the other systems reviewed were based on older computer technology and would need to be upgraded if adapted for use in this project. Designing the CHILD 2000 system also eliminated any ownership and/or control issues that could develop by partnering up with an already existing system. The biggest advantage to the CHILD 2000 type system is that it is accessible to almost all of the existing home inspectors no matter which reporting system they are using. The biggest disadvantage is that the participating

home inspectors will need to have good incentive to take the time to enter the inspection report information into the data capture form on a regular basis. The next stage of development should this method be chosen will be to develop a sophisticated data analysis component, and to recruit the home inspectors for data entry into the system.

Another option would be to team up with a few of the larger reporting system providers and create a data capture system that runs seamlessly behind the actual computer reporting systems their network is using. There was some interest in pursuing this option with the largest home inspection franchise company in Canada – Pillar To Post®.[x,y] A very rough unofficial estimate of the number of annual Canadian Pillar To Post inspections would be in the 25,000 to 30,000 inspection range. They have expressed willingness to develop a system that would capture data on every computer-generated inspection report. A letter to this effect is in the appendix[y]. The data could then be downloaded into the central data bank weekly by the individual inspectors. This type of arrangement could also be entertained with a number of other companies that are using a standardized computerized system. Some other companies to approach would be: HouseMaster, Amerispec, the InspectIt network, and once their systems are computerized, Carson Dunlop, Home Pro, and the Key To Your Home network. While it is unlikely that any great cost savings would be realized by using this method, the reliability and amount of information obtained may be improved by going this route. The down side is that it would effectively eliminate any inspector who is not part of a large standardized computer reporting system and this would eliminate the majority of inspectors and many of the most experienced individuals. More research into this option would be needed to assess the cost/benefits value.

A third option would be for CMHC to develop a standardized computerized home inspection reporting system and to make it available to the home inspection community at a subsidized rate or for free, in exchange for being able to have access to the inspection data. If this option were successfully implemented it would have the added advantage of helping to standardize the consistency of the home inspection report across Canada. In order to be successful a large segment of the home inspection community would have to use the system however, and this would likely be a controversial and time-consuming project to establish. Such a project should be developed with input from CAHPI from the very beginning. More study would be needed to assess the merits of this option as well.

Once the information-gathering vehicle is in place, a concentrated campaign should be undertaken to bring the project to the entire home inspection industry and gather a home inspection team for data entry. Working closely with all Provincial professional associations, using their data bases to mail out information on the project, and having a good presence at the annual home inspector conferences would all be good strategies to enlist home inspector input. This year the conference is in Calgary in November, if there is enough time to put together a promotion package and a booth, a set of forms is included in the appendix[A]. A more realistic plan would likely be to plan to attend the Toronto conference next year.

5) Possible interest from the private sector in purchasing home inspector data:

Although not part of the original mandate of this study, some preliminary research was done on interest from the private sector. An annual budget of around $1 Million is projected to operate this database. If the gathered information is of value to other parties, some cost sharing could help to provide the needed funds. To assess this possibility, Lennox Industries[t], Leviton[u,v], and IAO-Sentinel Insurance[w] were contacted. There seemed to be fairly good initial interest, and through the Lennox contact, Bill Vale, a call to the executive director of HRAI, Gord Arnott, produced an invitation to present the possibility of using a home inspector data base as a heating industry resource at the National HRAI conference in Kelowna, BC this September. Although this is obviously premature, it was very encouraging to receive such a positive reaction. Leviton gave an equally encouraging response, and indeed recently paid out $15,000 US to home inspectors participating in a study of failure rates of GFCI breakers in the United States[v]. IAO-Sentinel Insurance was contacted because they have been collecting data from home inspectors for many years through their inspector network. They claim to have close to 500,000 reports that they sell for between $15 and $95 per report[w]. All of the private industry contacts were very interested in further exploration of how they might be able to contribute and benefit from the eventual realization of this project. This is an area which should be given much more attention should the project proceed to the next stage.

b) Review of the existing Canadian home inspection industry

The growth of the Canadian home inspection Industry has been quite remarkable. No records are kept regarding how many home inspections are actually performed, so any estimates regarding numbers are simply educated guesses. Even among the home inspection surveys returned from the same Provinces, the estimates of numbers of home inspections being done in that Province varied widely between inspectors. In Ontario for example one inspector estimated 10,000, and another 100,000. In BC, one inspector estimated 13,600 and another 60,000. A rough average of the Provincial numbers given in the survey would put the Canadian numbers at around 200,000 per year. It is commonly felt that there are around 1000 full time home inspectors and many part time inspectors at the present time. Using a rough average of 300 inspections per inspector per year would give a figure of around 300,000. One identified benefit of the data collection project was to try to get a handle on the numbers of inspections actually being done annually in each region. One fact that no-one disputes is that the growth of the home inspection industry has been a steady upward climb for many years with no end in sight. Most major cities likely have around half of their MLS sales inspected, but that percentage is judged to be much lower in small towns and rural areas – perhaps as low as 10%. Who really knows?

The oldest Canadian home inspectors have been inspecting for just over 20 years, but the industry only started to become a known entity in the last 7 or 8 years. Before that, most Canadian home inspectors belonged to the United States home inspector professional association - The American Society of Home Inspectors (ASHI). ASHI recently celebrated its' 20th birthday. One of the ASHI's Past Presidents, Alan Carson, is a

Canadian. The ASHI standards of practice and Code of Ethics are still widely used as the defining documents for the home inspection profession right across Canada, and many of the older home inspectors still retain their ASHI membership. The Canadian Association of Home Inspectors (CAHI) began around 8 years ago tying together already existing Provincial associations such as Ontario (OAHI), BC (CAHI-BC), and the Prairies (CAHI-Prairies). A latter split in Ontario produced the Provincial Association of Certified Home Inspectors (PACHI) and a BC split produced the Western Alliance of Property Inspectors (WAPI). There are now also CAHI Provincial chapters in Alberta, Saskatchewan, Manitoba, and Atlantic Canada. There are around 1000 dues paying home inspectors belonging to these associations.

About 3 years ago CMHC initiated meetings to try to help the home inspection profession develop into a unified force across Canada. These "National Initiative" meetings gave birth to the Canadian Association of Home and Property Inspectors (CAHPI) whose membership is made up of voting members comprised of elected representatives from the various Provincial home inspection associations listed above. In addition there are 3 steering committee representatives made up of a home inspection franchise owner (Michael Brewer of Pillar To Post®), a Founding father representative (Moe Madsen), and a CMHC representative (Darrel Smith). The two main goals of CAHPI are: 1) to amalgamate the rival provincial home inspector provincial associations into one group per Province, and 2) to do a proper "task analysis" of the industry with the end goal of creating unified standards and educational requirements right across Canada for the home inspection profession. The first goal is almost complete with BC in effect now having only one professional association with the amalgamation of CAHI-BC and WAPI. All of the other Provinces except Ontario have only one professional association – CAHI Provincial chapters. The Ontario amalgamation of OAHI and PACHI is reportedly close to completion. The second goal is now also well underway with 3 full weeks of HRDC task analysis workshop sessions now slated for completion by the end of November 2000. It is hoped that a working document will be available for acceptance at the CAHI National Home Inspector conference at the end of November 2000 in Calgary, AB.

As the Canadian home inspection industry has developed over the last 10 years or so, there has been a general understanding that the ASHI standards are the very minimum requirements that a home inspection should include. Those who are serious about their profession and belong to their Provincial professional association have worked to ensure that this standard is upheld, and some Provinces – notably Ontario and Alberta - have developed Educational requirements that far exceed the ASHI requirements. Unfortunately, there has always been a sizable minority of home inspectors who choose to do home inspections in isolation and to not belong to their Provincial professional association. This has resulted in much confusion in the public's mind as to what a home inspection really covers. At the same time, many of the "pioneers" of the home inspection profession have taken great pride in developing their own unique reporting systems. While most all of these reporting systems not only meet but generally greatly exceed the requirements set out in the ASHI Standards of Practice, the result has been that there are almost as many reporting systems as there are individual home inspectors – with the exception of the franchised systems. There has been huge growth in the number of home

inspectors who now operate under a home inspection franchise type of system in the last 5 years. They enjoy the benefits of a tested marketing and training system, and so their growth has been far beyond, and often at the expense of the individual operators. This has created some friction in the past between the two segments of the home inspection community. However as credible home inspectors have come out of the ranks of the franchise operations and joined their Provincial professional associations, this friction has now been greatly reduced. The present CAHPI/HRDC/CMHC work on amalgamating and standardizing the industry is seen to be critical to ensuring that the home inspection profession evolves into a credible profession deserving of the public's trust and respect.

The present state of the home inspection industry presents a dilemma. It may be easier to simply partner with the franchise operators due to the standardized reporting systems they bring to the table. However by doing so you will miss out on a wealth of "pioneer" input as the vast majority of senior home inspectors are using individualized reporting systems.

Even the franchise operators are divided down the middle between computerized and manual reporting systems. The three largest Canadian home inspection franchise companies, Pillar To Post®, AmeriSpec®, and HouseMaster®, have all developed quite sophisticated computerized reporting systems. Their franchisees are all in the process of converting to these systems and likely ½ of their networks have already done so. The rest will undoubtedly follow in the next couple of years. These systems reportedly have cost in the $100,000 range to develop, but the actual development costs were not revealed by these companies. As these companies all had manual formats already well developed, it would not be all that helpful to try to anticipate what development costs might be for a new CMHC developed system based on their experience. A study pricing out the specific CMHC proposal would be needed, to come to any meaningful pricing. It is clear that the future will see more and more individual inspectors switch to computerized systems as well, but the present reality is that most of the individual and franchise home inspectors are using a manual reporting system. In addition, the largest non-franchise networks of inspectors, namely Carson Dunlop, Home Pro, and Key To Your Home are all presently using manual only reporting systems. A rough estimate of the percentage of home inspections presently being completed on computerized reporting systems would be around the 25% mark. For this reason, my recommendation at this time would be to continue on with the data collection project in the following prioritized order:

1) Fully develop the CHILD 2000 data collection Internet system and make it available to the widest number of home inspectors. By only allowing fully certified home inspectors to input data you will be ensuring both a more reliable data source, and be giving the non-certified home inspectors another good reason to complete their certification. This will in turn endure the project further to the leaders of the home inspection profession who all fully participate in their Provincial home inspection associations. A good way to inform the home inspection community of this project and to have a large number of home inspectors register for the program would be to piggy back on the 1200 mail outs that go out to announce the annual Canadian home inspection conference – this year in Calgary, next year in Toronto. Securing a booth at the home inspector conference is also a good way to get the word out.

2) Create an official CMHC computerized reporting system that is both state of the art and that you can provide to home inspectors at a subsidized rate. This could well develop into an industry standard product over the years and greatly help to unify the home inspection process. The rational for the subsidized rate is that you will have already built the data capture feature into the program, and the trade off to the home inspector for getting a very reasonably priced computer reporting system is that they agree to supplying the data to CMHC. This could eventually develop into the main source of home inspection data collection from independent home inspectors. It has the added advantage of reducing the potential price per inspection paid to inspectors for data.
3) Work with a few of the established larger home inspection franchise companies to develop a data-capture system for their computerized systems. Pillar To Post®, HouseMaster®, and Amerispec®, are all now in the process of switching over their franchisees to computerized reporting systems, so the timing is good to work with them to develop a seamless data capture system.

As this is such a pivotal period in the history of the Canadian home inspection profession, it is also an excellent time to create and introduce the home inspection data capture project. The home inspection community should view this project with enthusiasm. It increases the value of their work both at an individual level, and as a contribution to the knowledge base of the housing stock for society as a whole. There will likely be many changes coming out of the CAHPI board work, and the time to introduce this project is in conjunction with these changes.

c) Study of existing Canadian home inspection reporting systems

There are a great many individual home inspection-reporting systems presently in use. Many home inspectors have developed their own home inspection reporting system that they are extremely proud of. This has resulted in literally hundreds of different home inspection reporting systems presently being used throughout Canada. As they are all at least loosely based on the ASHI/CAHI standards of Practice, it makes the most sense to study this document when determining if any particular data requirement is commonly reported upon. One of the great benefits that franchise companies extol to their prospective franchisees is: "the best reporting system in the business" Indeed, franchise companies generally do have very well developed systems due to the very nature of having a large number of professionals available to help develop and continually improve the system. Most franchise companies have full time technical trainers, lawyers, and support staff on hand. The franchise operations also have the benefit of having a great number of daily home inspections to base their revisions on. For example, the Canadian Pillar To Post® network probably does between 75 and 150 home inspections per day. There are three large franchise networks and four large reporting system networks in use across Canada. Pillar To Post®, HouseMaster,® and AmeriSpec® all have home inspectors in most major Canadian cities using their reporting systems. There are other smaller franchise operators such as National Property Inspections Inc. (NPI), The BrickKicker Home Inspection, and The HomeTeam Inspection Service that are also found in a number of cities. The four biggest reporting system networks are; Carson and Dunlop, Home Pro, Inspectit, and Key To Your Home. Thorough-Fair is also making

some inroads. If you were to take all of the inspections done on one of the above systems, it would likely represent somewhere over half of the inspections being done. The other half would be done on individually developed or modified inspection formats. Needless to say, it is very confusing for everybody involved, most especially the home inspection client trying to sort out which of these formats is truly the "best system going". Most home inspection professional associations have a special "verification committee" set up to review the incoming potential members reporting formats to ensure that they are complying with the bare minimum of the ASHI/CAHI standards. This becomes a very big job in every Province. In addition, even the comparative uniformity of the franchised systems is presently split between computerized and manual reporting formats. The largest Canadian home inspector franchiser, Pillar To Post® is presently attempting to switch all of their franchisees over to the computerized reporting system, but this will likely take another couple of years. Pillar To Post is the largest Canadian home inspection entity, likely followed by the Carson Dunlop reporting system. If it were decided to only work with these two report formats for ease of development for the data capture system, it would be estimated that you would only be accessing around 25% to 35% of the number of inspected homes in Canada. This may be an option to pursue, but as stated earlier in the report, it would make more sense to pursue it in conjunction with a general CHILD 2000 type capture system, and possibly developing a CMHC supplied home inspection reporting format. Should CMHC decide to develop a standardized home inspection reporting system it would be very important that it only be made available through Provincial home inspection professional associations (CAHPI), to eliminate concerns from the home inspection community about homeowners attempting to use the forms to do their own home inspections. All home inspectors would concur that it is the experience and proper tools that make for a proper home inspection. Good forms are only helpful in properly trained hands. Allowing inexperienced people to use the forms would likely result in liability and grief for CMHC.

In the end, rather than attempting to assemble and review hundreds of different reporting systems, the two largest were studied – Pillar To Post and Carson and Dunlop, and copies of both are included in the appendices[g,h]. In addition the ASHI standards were reviewed, these are also found in the appendix[e]. It was decided that the best way to find out what information home inspectors could easily supply was to get the survey out to a good cross section of home inspection representatives across Canada and have them respond. There are a number of questions that were included in the initial survey that were not expected to be answered by home inspectors - as they were not required by the ASHI/CAHI standards. These questions were identified as desirable data fields. They were placed in the survey simply to see how many home inspectors may be able to answer them. One example is square footage of the house. When a home inspector reports this information, it is not considered to be very reliable, as home inspectors do not do any square footage measurements as part of the typical home inspection. However, they may often have this information available as they may record it as pricing information when the client or Realtor phones to book the inspection. Of the 39 returned surveys, 22 indicated they did not have access to the square footage of the home. This would likely be because the home inspector would be reluctant to trust the pricing information - as clients frequently under-report the square footage hoping to get a better home inspection price. However when the

actual home inspection information was entered in the second part of the survey, only 14 didn't enter the square footage. On the IAO insurance forms, participating home inspectors were supposed to measure the square footage of the rooms. As they were only to be paid an extra $10 for the work of measuring the square footage, many elected not to bother. A breakdown of the other questions receiving a poor response rate can be found on the tally sheet, and in section (g) Results of the home inspection survey - found later in this report.

d) Study of desired data collection needs from CMHC and other interested parties

Once a review of the type of information presently being gathered by the home inspection industry had been completed, a review of the type of data that would be considered valuable by CMHC and other sources was undertaken. Darrel Smith the CMHC project coordinator for this project contacted 14 CMHC technical people and asked for their "wish list". The five-page list is included in the appendix[p]. Many of the desired information items are a standard part of all home inspection reports. Some others are not generally collected, but could be added to a home inspection report with little extra work. Examples of these are: solar collectors, wind generators, energy efficient upgrades, security system in place, etc. Still others would not be able to be collected due to the nature of a typical home inspection. These types of data requests would be those that involved interviewing the homeowners. As the homeowners are seldom home during the home inspection process, this would not be workable. Some examples of these types of requests were: last renovation or remodeling done? any occupant health problems?, etc. Still another category of hard to collect data would be that which would involve a substantial amount of extra work such as determining how much carpet area is in the house, accurate square footage of various rooms, what percent of house is re-modeled, etc. Another set of questions which would not be well received are those that may add liability to the home inspector if it were represented that he was doing work beyond the normal scope contracted for by the home inspection client. Examples of this would be doing IAQ type investigations, reporting on the absence or presence of: lead paint, asbestos, high EMF readings, etc. (home inspectors will often recommend doing further investigation to determine if these things are present after stating they are likely present, but will seldom hold themselves out as the final determining authority in these areas)
A further source of survey questions came from contact with a few non-CMHC sources. Interviews were conducted with Professor Tang Lee of the U of C, Dr. Corbett, a public health researcher, Halyna Tataryn on maternity leave from CMHC, Lennox Industries, HRAI, and Leviton. In the end it was thought that rather than getting into too much pre-judging of what home inspectors would be able to answer, if there was any doubt about a questions inclusion, it would be best to simply include the question in order to get a reaction from the home inspectors. Once the home inspection surveys and phone interviews with the home inspectors had been completed, and some further research into private industry needs had been done, the present version of the internet survey was re-worked into the current version at http://www.canadahomeinspection.com/

e) Design of preliminary home inspection survey

The design of the "Preliminary Survey of Canadian Home Inspectors" was done after reviewing the data requests as stated in the section above. The two main purposes were to: 1) Enlist the support of the Canadian home inspection community, and 2) to discover what data the home inspectors would be able to supply without a major re-working of their existing reporting formats. I also saw it as a way to engage the Canadian home inspection profession in a giant brain storming session regarding the project. In designing the initial questions, there were some areas that were explored in a general one-time response type manner. These in an expanded form are now the "Registration Form" on the Internet site. These questions helped to profile the respondents and also helped to identify some common themes currently running through the Canadian home inspection community. To enlist the support of the industry through the representatives, there had to be a win/win type of proposal put forth. The questions on present and future problem areas of houses, and present and future problem areas in the industry, were very revealing to help to analyze the present state of the industry. Another question that the home inspection community would like answered is how many home inspections are actually being done throughout the different regions and across Canada in general. The range of answers shows what a mystery this is. These are some of the areas that home inspectors themselves would like to have data on, and so these questions were included to help enlist the support of the home inspection representatives surveyed. A number of surveyed home inspectors indicated an interest in using the database to eventually identify areas of weakness in home inspectors and so be able to create training specifically to address identified weaknesses. It was felt that a more comprehensive home inspector profile should be collected on the registration form to better be able to query information to specific home inspector profiles, should this project continue to develop. Therefore the Internet registration form includes a number of additional questions not included on the preliminary survey form. Additional questions are:
-Type of inspection company? – single operator, multi inspector, franchise, etc.?
- How many inspectors? How many homes does the company inspect? How long inspecting? What type of reporting system? Professional affiliation? Executive service?
- Three top concerns in different age houses? Do you have any information requests from the data bank?

The main survey form sent out to the 45 home inspection representatives across Canada had 37 questions which were selected largely from the preliminary study of CMHC "wish list" The survey was repeated twice, once the inspectors were asked to simply place an X in the areas which they felt they could easily enter data into from their home inspection reports as they now existed. The home inspectors were then asked to take a recent report and to fill in the survey and time themselves. Often the results showed that even though the home inspectors were unwilling to admit that they had the desired information, when they filled in an actual report on a specific home they actually did have the information. In addition to the square footage example cited earlier, the questions on: if they reported on security systems or on handicapped provisions, received a NO answer from 23 of the respondents, yet when they filled in the survey with an actual home inspection report,

only 7 never answered for security system, and only 10 never answered for the handicapped provisions. Another question: "Is there smart house wiring/technology?" received a "can't answer" response from 27 home inspectors in the X portion but was actually answered by all but 11 when filling in with an actual home inspection report. The large discrepancy is likely explained by the fact that most home inspectors have the items excluded from a home inspection - by virtue of not being part of the ASHI/CAHI standards - well identified in their own minds. Even though they may be well able to answer basic questions - such as whether or not certain home features are in place - they will not readily admit to this, due to fear of over-stepping into an area they could later be held accountable for. Most home inspectors are very wary of any potential liability they may be incurring. Sadly, it is an ever-present reality in the business.

The time factor in filling out the survey was a big question, as if this data is going to be collected in a great volume the old adage "time is money" will certainly apply. Of the respondents, 17 completed the form within 10 minutes or less, another 15 took between 10 and 20 minutes, and only 4 reported taking longer than 20 minutes. It is anticipated that as the form is streamlined and the home inspectors become more familiar with it the vast majority should be able to complete it in less than 10 minutes. There will obviously be a far better response from home inspectors if they see this exercise as a legitimate way to add an extra income stream to their businesses. The value of the data must be assessed by CMHC. Some benchmarks need to be set regarding how much data is required to give a statistically relevant data sample. If it is estimated that perhaps 150,000 home inspections are being completed per year across Canada, it may be decided that 1/3 of these inspections would be a reasonable goal to have entered into the data base. Based on paying participating home inspectors $10 per report entered, a price of $500,000 would be needed simply to pay the home inspectors for the data. Based on this, a budget of close to $1 Million per year would seem to be a reasonable figure to operate this system. The fundamental question then becomes: "What is the perceived value of this data to CMHC and other possible users?" I have no way of answering this question as this is clearly an internal matter which would need to be assessed by the management of CMHC. The one avenue in which some preliminary investigation was done – even though beyond the scope of the original parameters of this study – was to contact some private industry sources to see if there was some interest in cost sharing. There seemed to be good interest in this database, especially if specific questions could be added to the system, which would be of explicit value to the company. It is one thing to get good response from the leaders of the home inspection industry for a feasibility study. This does not automatically translate into industry wide support for an ongoing cost-effective data collection system. The survey results demonstrated that $75 per hour or $15 per inspection report would need to be paid to obtain the participation of enough home inspectors. However, there were enough home inspectors who indicated in the $10 range to make this price feasible. A few of the inspectors may opt out at this lower rate, but enough would likely participate to be able to achieve the 50,000 annual data entries.

In order to make the data collection process cost effective, the system would have to be as user friendly and non-time consuming as possible. Given the diversity of reporting systems presently in place, if obtaining data from the largest number of home inspectors

was identified as the desired goal, the CHILD 2000 system would be the only logical type of system to develop. It is not dependent on any one reporting system, but is based more on identified data needs, and a broad cross section of what common elements all home inspection-reporting systems cover. The form sent to the home inspector representatives was the first draft, and a large part of the exercise was to obtain suggestions for streamlining it from the respondents. There were some comments regarding it being awkward to fill out. This depends largely upon how an individual home inspectors report is structured. The new version on the Internet should be somewhat simpler and therefore take less time to fill out as it is can be filled out by mouse clicks. Some additional work needs doing even to make the existing Internet form more accurate, and an initial suggested revision page is included with the form in the appendix[j]. Due to budget constraints, the form in its present format is developed as far possible for this project. Once again there were some additional questions added, largely suggestions from the home inspection respondents, and also from the interviews with private industry people. Additional questions added to the Internet form are:
(1) Approximant sq. footage with ranges, (6) Any structural problems noted, (15) Number of roof layers, (17) Attic access? (18) Ventilation concerns, (19) Insulation type? (20) Vapour barrier, (21) Insulation R-value, (29) Evidence of Pyrite backfill, (38) Condition of Heating Unit, (39) Condition of filter, (61) Numbers of GFCI's not functional, (65) Non-complying wood stove?

It is recommended that for the next stage of this project, a professional form designer be hired to work with CMHC to ensure that their data needs are being captured in as efficient a manner as possible. It is also recommended that CMHC do some internal brainstorming to try to connect a good practical application to each data field that is entered by the home inspector. If home inspectors are able to clearly see the value of the data they report into the system, they will be much more likely to take the time to fill in the survey fully and accurately, improving the reliability of the reported information.

f) Geographic and inspector type make up of surveyed inspectors

The make up of the home inspectors who where chosen for the survey was very carefully considered. Three main criteria were used to select potential respondents: (1) to cover Canada effectively geographically, (2) to chose home inspectors who are considered well established in the home inspection industry, (3) to get a good mix of home inspectors who are individual operators, multi inspection firm operators, and franchise operators. This would evenly represent the present state of the Canadian home inspection industry. It was critically important to involve experienced representatives of the industry from the beginning, as they ultimately would be the key to gaining the needed support of the home inspection community. Originally it was hoped that 20 responses to the survey could be obtained, and a 50% response rate was hoped for. To this end a list of 45 home inspectors representative of the criteria stated above was created, and an initial phone call was made to each of them. The purpose of the initial call was to gauge their likely response to the project and hopefully to gain their support for the idea. Some preliminary brainstorming was also done on these initial calls. These first calls were very encouraging, and the initial explanation of the project was met with good acceptance from the home inspectors

contacted. Some inspectors were not approached simply because there were so many good candidates in their geographic area. This was notably the case in BC, Alberta, and Ontario. As stated earlier, a surprising 87% or 39 of the 45 home inspectors contacted completed the surveys to varying degrees. Four of the remaining representatives were phone interviewed to give a 95% completion rate for information received. The geographical breakdown of the inspectors contacted was as follows: BC – 7 inspectors, Alberta – 9 inspectors, Saskatchewan – 3 inspectors, Manitoba – 3 inspectors, Ontario – 12 inspectors, Quebec – 5 inspectors, Atlantic – 4 inspectors, Northern Territories – 2 inspectors. The following list gives a Regional breakdown and a brief highlighting of the home inspector survey respondents:

British Columbia

1) Owen Dickie – Okanogan Valley – Home Pro Systems (multi inspector)- Past President of CAHI –BC, BC - CAHPI board representative, Stephen Greenford award recipient, (annual award given to one inspector for doing the most to help the Canadian home inspector profession)
2) Phil Goddard – Langley – multi inspector -Founding President WAPI, BC – President of CAHPI board
3) Tony Kazoleas – multi inspector firm -Vancouver- Current President CAHI - BC
4) Bill Parkinson – Victoria – Pillar To Post (single inspector) – performed over 15,000 insurance inspections – candidate for HRDC task analysis
5) Bruce Riddick – Delta – Pillar To Post (multi inspector) – Current President WAPI – CAHI-WAPI amalgamation team – BC Pillar To Post advisory representative
6) Bjorn Rygg – Surry – Pillar To Post (single inspector) – CAHI Board of Directors

Alberta

1) Brent Applegate – Calgary – ex-Pillar To Post first Franchise owner (multi inspector) – recipient Chairman's award and highest volume office Pillar To Post 1999 – Past president CAHI (AB) – Past Vice-President CAHI (Nat) – Alberta rep. On CAHPI Board
2) Michel Bourgeois – Edmonton – Pillar To Post (multi inspector)– CAHI (AB) Board of Directors – CAHI National Alberta representative
3) Rick Clark – Calgary – single inspector -Past CAHI (AB) secretary – Chair of CAHI 2000 conference – Membership chair – CHIBO (HRDC) committee
4) Alfred Freiberg – Fort McMurray - single inspector – CAHI National representative
5) Doug Horsley – Calgary – single inspector – CAHI (AB) Bylaw committee – IAO rep
6) Doug MacDonald – Red Deer – Pillar To Post (multi inspector)
7) Moe Madsen – St. Albert – multi inspection – Past President CAHI (AB) – CAHPI steering committee – Recipient Stephen Greenford award
8) Peter Salmon – Calgary – multi inspector firm and franchiser (HomeAlyze) – Founding president CAHI (AB) – Recipient Stephen Greenford award
9) Bridget Wingate – Stoney Plain – single inspector - Current President CAHI (AB)

Saskatchewan and Manitoba

1) Gil Chacun – Winnipeg – multi inspection – current President CAHI (Man) – CAHPI Board
2) Greg Kindred – Regina – multi inspection – Founding president CAHI (Sask)

3) Craig Merriam – Winnipeg – HouseMaster (multi inspector) – CAHI National Representative – CAHI National Web-Master
4) Bob Schmidt – Regina – Pillar To Post (multi inspector) – Current President CAHI (Sask) – CAHPI board member – Pillar To Post Prairie advisory representative
5) Tom Van Leeuwen – Winnipeg – Pillar To Post (multi inspector) – CAHI National board member

Ontario
1) Brian Callighan – Ottawa – single inspector – OAHI board of directors – chapter chair
2) Alan Carson – Toronto – Owner/Partner Carson Dunlop (large multi inspector and largest Canadian home inspection report system and education system) – Founding President OAHI – Past President ASHI – Recipient Stephen Greenford award - acknowledged home inspection legend
3) Jeff Clark – Toronto – Owner/Partner Key To Your Home inspection report network (multi inspector) – Past President OAHI – Past President CAHI (Nat) – Recipient Stephen Greenford award
4) Alden Gibson – Breslau – single inspector – current Vice-President and Tres. OAHI
5) Robin Green – Oakville – multi inspector – current President OAHI, 1998 CAHI conference National Chair
6) Harry Janssen – Brampton – single inspector – Past President OAHI for several terms – Past President CAHI (Nat) for several terms – Recipient Stephen Greenford award
7) John Lueck – Petersborough – single inspector – current OAHI Secretary - current CAHI (Nat) Treasurer
8) Bill Mullen – Sarnia – multi inspector –current Treasurer SW OAHI Chapter – current Secretary CAHI (Nat)
9) Ron Nokes – Newmarket – multi inspector – OAHI chair for Board of Examiners and Education – CAHPI board – CHIBO (HRDC) committee
10) Trevor Welby Solomon – Mississauga – single inspector and head of technical training for Pillar To Post corporate – current President PACHI – board of CAHPI

Quebec
1) Albert Arduini – Montreal – large multi inspector – Past President AIBQ
2) Peter Bishin – Montreal – single inspector – Secretary AIBQ
3) Brian Crewe – Notre-Dame – Past President AIBQ – CAHPI board member – CHIBO (HRDC) committee – recipient Stephen Greenford award
4) Germain Frenchette – Kirkland – current President AIBQ
5) Jean Jacques Vereault – Quebec City – large multi inspector – AIBQ

Atlantic
1) Richard Gorham – Fredricton – single inspector – Founding Sec/Tres CAHI (Atlantic) – CAHI (Nat) board
2) Brian Hutchinson – Dartmouth – Pillar To Post (multi inspector) – CAHI (Atlantic) Treasurer – PR chair
3) Charles Wood – Moncton – HouseMaster (single inspector) – Founding President CAHI (Atlantic) – Past CAHPI board member

Northern Territories
1) Paul Curren – Yellowknife – single inspector – Director R-2000 program – contract work for CMHC and HBA "Avoiding Common Construction Problems"

These are the 39 home inspectors who responded to the survey. In addition the following 6 home inspectors were contacted by phone and 5 were interviewed, but never completed the written survey:

1) Saskatoon Saskatchewan – Gerry Hudon – Pillar To Post – multi inspector
2) Iqaluit Nunivet – Keith Irving – single inspector
3) Coquitlam BC– Roland Klann – Home Pro (single inspector)
4) Ottawa Ontario – Norm Lecuyer – multi inspector – OAHI board
5) Bedford Nova Scotia – Marc Rubarth – multi inspector – current President CAHI (Atl)
6) Hamilton Ontario – Mike West – single inspector – PACHI membership registrar

g) Results of home inspector surveys

Due to the impressive response rate the surveys generated, tallying the data turned into a very big job. The tally sheets are included in the appendices, so any additional information desired from the survey can be searched out fairly easily. One big lesson learnt from the amount of time needed to tally the results from the 39 surveys, was how critical a proper computerized data capture query system is to the continuance of this project. The very next step in continuing this project would be to build a streamlined survey that has a sophisticated data-compiling feature built into the survey. A very rough estimate of the cost to do this would be in the $38,000 range. This would include $12,000 for web site design and structuring, $6,000 per year for hosting and maintenance, $14,000 to build the data structure including the new version of the survey form and the unlimited data query capability, and $6,000 for consultant and miscellaneous costs. Even if the next stage of this project were to open up the survey to the entire Canadian home inspection industry on a volunteer basis, the data would be unworkable and therefore of questionable value without a proper computerized data capture system put in place.

Overall the response from the home inspection community was very positive. There were some strong messages that came out of the survey and the phone discussions with the home inspectors. One of the clearest was that if an active database were to be built through the data collected on individual home inspections it must be non-address specific. There was much concern expressed regarding the potential inaccuracy, confidentiality requirements, and possible misuse of any database that identified the home inspection data entered by a specific address. A general location, perhaps identified by a postal code prefix or a city quadrant was considered to be the most identifiable information that could be attached to a home inspection entry. Thirty of the 39 respondents indicated a willingness to participate in a database collection system with 2 maybes giving an initial acceptance rate of 75% to 80%. Of those who indicated they didn't wish to participate further, the majority had no philosophical problems with the project but simply felt their slates were already too full to consider adding anything extra.

Overall, if the main goal of the study was to elicit the support of the home inspection leaders in this project it met with resounding success.

An analysis of the questions in the survey follows. As these results are extrapolated from a sample of 35 to 40 home inspectors – depending on how many answered a particular question, they likely will give only a rough idea of the present Canadian home inspection scene. However as these respondents truly represent the majority of the leaders in the industry, the results should be very instructive. Additional analysis can be done from the actual surveys and the survey tally sheets in the appendices. The average home inspector in this survey personally inspected around 377 homes last year. The break down as to percentage of homes inspected in various age groups and rural vs urban are as follows:

Rural: 13%
Urban (over 20,000 population): 87%

Estimate of the percentage of homes inspected annually in the following age groups:
Built before 1920: 7%
1920 – 1945: 12%
1945 – 1960: 17%
1969 – 1975: 21%
1975 – 1990: 27%
1990 – 1999: 13%
New houses: 3%

Problems associated with the following house age groups:
Built before 1920: (1) Structural, (2) Basement/Crawlspace moisture, (3) Electrical
1920 – 1945: (1) Basement/Crawlspace moisture, (2) Structural, (3) Plumbing
1945 – 1960: (1) Basement/Crawlspace moisture, (2) Electrical, (3) Property/Site
1960 – 1975: (1) Windows, (2) Basement/Crawlspace moisture, (3) Property/Site
1975 – 1990: (1) Roof, (2) Basement/Crawlspace moisture, (3) Heating/Air Cond.
1990 – 1999: (1) Property/Site, (2) Basement/Crawlspace moisture, (3) IAQ
New Houses: (1) IAQ, (2) Exterior (siding etc.) (3) Electrical

The most common overall problem present in homes you inspect?
(1) Basement/Crawlspace moisture, (2) Attic/Insulation/Ventilation, (3) Electrical

The biggest future problem anticipated in homes you inspect?
(1) IAQ – mold issues, (2) Basement/Crawlspace moisture, (3) Roof

The most pressing concern for the home inspection profession?
(1) Liability concerns - 19 responses, (2) Proper standards and certification – 17 responses, (3) Public recognition and credibility – 15 responses, (4) Strong professional association – 13 responses.

Clients having trouble obtaining insurance?
(1) 60 Amp electrical services – 24 responses, (2) galvanized plumbing lines – 15 responses, (3) aluminum wiring – 8 responses, (4) PWF wooden basements – 6 responses, (5) knob and tube wiring – 6 responses, (6) old furnaces and/or oil tanks – 3 responses, no problems encountered – 8 responses. There were also 12 additional categories picked having only 1 or 2 responses.

How many homes would you estimate are being inspected annually in your Province?
Averages of responses by Province:
BC – 33,000
AB – 18,000
SK – 3,600
MB – 5,000
QC – 65,000
ON – 53,000
AT – 10,000

Total 187,600

Respondents reported having on average 2 hours per week to participate in a data capture project. The average expected remuneration was $75 per hour or $15 per inspection. It is estimated that the majority of home inspectors would be willing to start at $10 per inspection even though this may only work out to around $40 per hour for averaging a 15 minute entry time at first, as long as they felt the learning curve would enable them to gradually work up to 6 to 8 entered inspections per hour.

In the second part of the survey the home inspectors were asked first if they felt they could easily enter the following data fields from their present home inspection format. They were then were asked to take a home inspection and actually fill out the survey with the information. The purpose of this second data entry exercise was not to actually begin to collect data – as the data sample would be too small and geographically diverse to have any meaning. The main reason for its inclusion was to get an idea of how long it would take to complete a data entry form. A secondary reason was to check to see if the fields that were originally rejected as hard to enter data into would actually be filled out during a real inspection data entry session. There is a very prevalent mind set among the home inspection community that if something is not included in the ASHI/CAHI standards, it shouldn't be commented on. It was felt that even though certain information was not part of the report, most home inspectors would be able to recall it for future data entry. Should this project progress, it may also be an option to create a short (one-page) data checklist which could be filled out and kept with the home inspector's report but not given to their client. This extra information could include some of the items not generally reported on by a home inspector – often for fear of creating potential liability – but which would be easy to collect for the data entry project. A complete summary of response rates to the individual fields can be found in the tally sheet, but the highlights are included here. Five of the 39 surveys were sent back partially incomplete (missing a page etc). Those fields that received a "no" rating from 10 or more inspectors in the 1st section – the X section -

and the comparisons to the actual fill in rates for the home inspection data entry portion in the 2nd section are:

1) Square footage of house? – 1st section: 22 – no,.....2nd section: 11 - no
6) Number of bedrooms? – 1st section: 13 – no,.....2nd section: 7 – no
7) Number of bedrooms? 1st section: 11 – no,.....2nd section: 6 – no
13) Basement living area % finished? 1st section: 14 – no,.....2nd section: 6 – no
16) Security system? 1st section: 23 – no,.....2nd section: 10 –no
17) Handicap usage provisions? 1st section: 23 – no,.....2nd section: 7 – no
20) Type of Hot water tank? 1st section: 11 – no,.....2nd section: 1 - no
22) Elevated CO levels in home? 1st section: 18 – no,.....2nd section: 15 – no
23) Dehumidifier? 1st section: 21 – no,.....2nd section: 12 – no
24) High moisture readings in home? 1st section: 11 – no, ...2nd section: 7 - no
29) Energy efficient upgrades? 1st section: 12 – no,.....2nd section: 9 – no
30) Environmental concerns? 1st section: 15 – no,.....2nd section: 11 – no
31) Insects, rodents? 1st section: 12 – no,.....2nd section: 8 – no
36) Smart house wiring/technology? 1st section: 27 – no,.....2nd section: 11 – no
37) Remodeling in last 10 years? 1st section: 14 – no,.....2nd section: 7 – no

As can be seen, the actual rates for answering a questionable data field are much higher when filling in an actual report. Fifteen questions received 10 or more "can't enter" responses in the first section, but only six of the questions had 10 or more respondents fail to answer when doing an actual survey with home inspection information. All 15 of the questions that had a 30% or higher rate of "can't answer" in the first portion had considerably lower rates when the survey was actually done in the second part. They were often quite graphically reduced such as with Question (17) "Handicap provisions?" Falling from 23 non-respondents to only 7, or with Question (36) "Smart house wiring?" Falling from 27 non-respondents to 11. The main goal of the survey was to establish if the type of information required by CMHC and the type of information presently being collected by Canadian home inspectors was a good match. It would appear that there is a very good match indeed. The only question to receive less than a 60% response rate was (22) Signs of elevated CO in the home? This question received a 57% response rate. As more home inspectors use a high quality CO meter the response rate to this question will also undoubtedly improve as well. The majority of the 50 questions asked received a response rate of over 85%. As the nature of home inspections is to give very accurate information to the client or else risk being sued, the reliability of the information should also be considered to be very good. Most importantly, the response from the home inspection representatives, in taking their time to voluntarily contribute to the furthering of this project, shows very good acceptance and even some degree of guarded enthusiasm- a fairly rare initial reaction to anything new in the home inspection industry.

h) Recommendations of surveyed home inspectors

In this section I will simply quote directly from some of the home inspectors interviewed regarding this project. Names of individuals quoted will not be given. These are in no particular order of significance and are only meant to be interesting random samplings of

the feelings of Canadian home inspectors about the present state of their industry and/or this project.

Notable Quotes

- " Deterioration of the concrete in the foundation walls is going to become more common over time, and the replacement of entire foundation walls will be required "
- "Legal cases take many years to filter through the system–big problems in the future"
- Biggest future concern? "A flood of the market with unqualified people"
- "Need to amalgamate all the inspection organizations to form one strong professional organization"
- " Consumer confidence is being eroded by careless or unqualified practitioners"
- " Data base could also be of great value to NGO's such as the lung association, insurance actuarial departments, furnace and other manufacturing companies"
- "We need to work on eliminating Realtors from the loop"
- " We could be facing decimation of the industry due to legal claims and public miss-perception of what a building inspector really is"
- "Need consistency between Canadian cities regarding inspection formats"
- "Data collection project would be a good opportunity to identify needs and develop literature which addresses those needs to give to our clients"
- " I believe the answer lies in education, certification, and standardization"
- "Home inspectors will continue to respond to the project as long as useful information is given back to them"
- "Data must be truly representational, so need a large enough sample base to be meaningful – not 3 houses in Quebec"
- "Info would be fascinating, too bad we couldn't see it all (you would find that one inspector will consistently tend to find more concerns/issues in one area than another etc.)
- "Low income bracket people need a home inspection the most but they get one the least because they can't afford it – sad situation"
- Biggest future concern – "Too many incompetent inspectors and lack of control over this new profession"
- Biggest future concern – " Possible failure of the National Initiative"
- "Appraisers cooperated with the creation of EMILY and it ended up doing in their business – Be Careful!"
- Biggest future concern – to quote 19 independent inspectors directly "legal liability"
- "...Need to consolidate disparate industry organizations, universality of both inspection and credential standards, (National and/or North American), rigorous and recognized professional training, and governance within a legislative framework such as a right to practice act..."
- "Too many fly by night "Joes" who under cut prices to get business"
- "We would to wrestle with the idea of who we are working for and who the information belongs to"
- "Who is going to use this info – it shouldn't be address specific"
- " How is the glue in the glue lam beams and TJI's going to hold up?"
- "Pressing need to educate the public in order to deflate over-expectations"
- "Database should be flexible to address future concerns not presently thought of"

- "I do not feel that inspectors should be involved with the square footage of a dwelling. Too many lawsuits against Realtors due to errors.
- "Professional designation badly needed to protect public"
- "Relocation companies are allowing non-qualified opinions from appraisers because it is cheap and doesn't threaten the deal"
- "IAQ is becoming a bigger and bigger issue"
- "Poor profit margins mean good inspectors are leaving the field. Fly by night operators are driving prices down"
- "At 15 minutes per inspection this is an onerous way to collect data...suppose inspectors were given a free tear off sheet and they could fax them to a central location"
- "Concerned about Revenue Canada and CMHC teaming up"
- "Liability largest upcoming issue due to non-experienced inspectors screwing up"
- "Developing National standards and gaining public credibility most important goals"
- "Many have failed through poor ability, giving the serious inspectors a less than reputable name."
- "Poor consumer and media awareness of home inspection limitations is bad news"
- "Can't have address specific info or would have to disclose to all future owners that their house is on a data base."
- "Can't have identifying data – look at the HRDC horror story when it was discovered they were keeping data bases on individuals without their knowledge, -"Big Brother" is watching"
- "See insurance issue arising if we don't get a handle on liability management – we need to quit caving in on frivolous claims"
- " There should be no way of connecting information with the house"
- "I think this program should be contingent on CAHI/CAHPI approval"
- "When filling in IAO reports on paper it took about 10 minutes and was straight forward, when they went automated it took 35 minutes and was frustrating and I quit. CMHC will not avoid the same problem"
- "CMHC data base a good idea" "Go for it"

i) Private industry response to possible value of data

During the initial phone calls to discuss this project with the selected home inspectors, one of the more visionary members of our home inspector community, Jeff Clark, had some very good suggestions regarding approaching non-government organizations - (NGO's). This thought had already been suggested by Halyna Tataryn in a preliminary in person interview and was further discussed with Darrel Smith at CMHC. Even though this was not part of the original scope as laid out in the CMHC contract, it was felt that it had too much merit not to explore, and with Darrel's approval some preliminary investigation was done. It went very well, and should definitely be explored much further should this project continue.

Lisa Allan, a researcher with the "Vital Signs Research Project" was contacted. They are doing research in the greater Toronto area on housing and income statistics and are headed up by David Crombie. They are looking for reciprocal data sharing arrangements

with Real Estate boards, and the like, and are very interested in talking further should this project continue to the next stage. They have private funding from the United Way, Laidlaw Corp. and others.

A very positive reply was received from Steve Campolo of Leviton Ind. in response to arequest for input. His response, which is in appendix[v], indicated that he felt that home inspectors had a "treasure trove of data of interest to many industries". This was especially encouraging, as Mr. Campolo had recently published a very informative study on GFCI failure rates, found in appendix[w], which was largely based on $15,000 US worth of purchased home inspector data. He was very helpful in suggesting other potential data users such as roofing manufacturers, concrete associations, Home Depot and other large construction material suppliers, and the National Electrical Safety Foundation.

Another good contact came from Bill Vale, the head of Product/Technical for Lennox Industries in Canada. Mr. Vale was consulted several years earlier on the Lennox G-8 dura-curve heat exchanger crack controversy, and he was very helpful. He referred Gord Arnott of the HRAI, the National Association for heating contractors and manufacturers, who suggested that the National conference in September in Kelowna be attended and addressed to get input from all of the Canadian manufacturers. Mr.Vale also wished to have his lab people and the head of marketing for Lennox Canada contacted regarding ways in which Lennox Ind. may be able to participate. As this part of the project was already an extra that had taken a fair bit of time, these further opportunities were deferred. They should be followed up on should this project continue. It quickly became obvious that to pursue the private industry and NGO side of this project would be a very large undertaking all by itself. While it is highly recommend that this be done should CMHC feel this is appropriate and should this project continue to develop, it would likely take a fairly substantial budget and some very concentrated effort to develop.

Several discussions with Judy Corbett of IAO-Sentinel Insurance took place. She was kind enough to eventually send a list of the questions, which their large (500,000 entries) database can answer. Her response and the list of questions answered in their database are included in appendix[x]. They are a little suspicious of any database type project due to the fact that they have one as a part of their business operations. She indicated that should things continue with this project they would like to talk further, but that a confidentiality agreement would need to be signed first.

These contacts gave enough input to be very encouraging and it is highly recommend that they be followed up on for the next phase of the project - should this meet with CMHC's objectives. There are undoubtedly many others that could also be investigated. Some cost sharing could be one tangible benefit of such work.

j) Analysis of possible data collection systems

As part of the terms of reference, a study of several existing computer reporting systems was done. Mathew Hargrave was hired to do this work, and his reports on the individual systems studied are included in the appendices[q,r]. A one page "Software Benchmark"

synopsis follows on the next page. The systems reviewed were: Soft-Q, SHEU, STAR, and Hot 2000/HotXP – Energuide. The system eventually developed for this project, the CHILD 2000 (Canadian Home Inspector Logistical Data) is also included in the benchmark sheet for easy comparisons. Soft-Q had the best "state of the art" capabilities and was also web based. It is privately owned and is just now going public on the Alberta/BC based Venture Exchange (CDNX). It is an integrated software multi-module system, which can be readily expanded to include new modules that will then interact with all existing modules. It presently has dozens of modules for organizing data such as medical history, books and recipes, etc. Ultimately it was judged to be the best second choice. The biggest down side is the need for every inspector to load special "Soft-Q" software on their computer. An additional concern is that they appear to be very overworked and have more on their plate already than they can properly handle – working with us to develop an Internet survey form did not appear to be very great priority. SHEU was developed by Statistics Canada for the 1994 "Survey of Household Energy Use" and would need substantial customization and modifications to be adapted for use in this project. It is not an Internet based system at this time, and it was judged to be a poor option for this project. STAR was developed for CMHC in 1991. It is a static system that runs queries on data from about 1100 homes. It is not Internet enabled and has not been updated or added to for many years. It was also judged to be a poor option for this project. The Hot 2000/Hot 2XP systems are two separate programs but are both used to enter the Energuide data at Energy and Natural Resources. Grant Ainsley, the executive director for the AHBA was very interested in the project and asked to be kept in the loop. He was contacted as the Alberta head of the R-2000 project and helped by sending out the Energuide data entry forms included in the Appendices. These forms were studied to see if there were any areas that could be mutually helpful. It was decided that the projects were not compatible The Energuide program involves blower door testing and very extensive energy audit type analysis. It is far too specialized and time consuming to fit with a general home inspector database. The costs of software and configuring etc. were also issues. It was judged to be not suitable for partnering with this project. One interesting discovery that came out of the research into the R –2000 side of things was the fact that in some areas such as Atlantic Canada, HRV's are mandatory and R-2000 homes have become the expected standard - in Alberta, there are less than 50, R 2000 homes. A simple Excel spreadsheet Internet interface was not considered to be a suitable option due to the volume of information that would be entered and queried. Excel is suitable for running mathematical equations between fields, but is not designed to be used as an extensive database query program. Data output from the database query program selected could possibly be interfaced to be usable in an Excel based format.

k) Recommended data collection system (CHILD 2000) analysis

In the end it was determined that a new format to collect the needed data would be the best option to pursue. This would enable the use of state of the art computer technology and be less work and give a better final product than trying to work an existing program. This option also gave the advantage of leaving the system completely in the hands of CMHC, which was judged to be far better for security and eliminated any potential partnership conflict. An Internet Provider was hired to help design the new Internet forms

Software Benchmark

Benchmark	CHILD 2000	Soft-Q	Sheu	Star	Hot 2000/Hot 2XP
System Requirements					
Easily distributed to the Home Inspection Community as well as other potential clients	Web Based • .com address • Accessed via the Internet • Form available on the web	Web Based • .com address • Accessed via the Internet • Software needs to be installed for on client computer	Not configured for data entry via the Internet • Configured to operate using software built to run on the client computer	Not configured as a traditional database. Data entry is very difficult	Web Based • E-mail to database • Accessed via the Internet
Easily accessed by Home Inspectors	Yes	Yes	No	No	Yes
User specific, providing access based on privileges set-up for specific users/groups	Yes • Users can be configured and modified at will	Yes	Yes	Yes	Yes
Data entry is easy and efficient for all data types	Yes	Would have to be configured to allow such data entry	Would have to be configured to allow such data entry	Would have to be configured to allow such data entry	Would have to be configured to allow such data entry
Data is easily accessed by CMHC and other potential clients	Yes • Can be modified to include any changes in the future	Yes	Would have to be configured to allow such data entry	Would have to be configured to allow such data entry	Yes
State of the Art, providing all efficiencies available today and upgradeable to include those of tomorrow	Yes • Will include multiple reporting types.	Yes • Very well equipt and upgradeable	No • Constructed for a specific function and is cumbersome to upgrade	No • This database is static and does not currently allow functional data entry	Yes
Configured and user/client specific for the Home Inspection Industry	Yes	Yes	No	No • Designed for CMHC	No • Designed for Energy and Natural Resources Canada
Expandable to include possible modifications for the future	Yes • Upgrades are limited to Future Internet Advances	Yes • Upgrades are limited	No	No	Yes • Upgrades are limited

and to host the site. The completion of a fully functional data query system was far beyond the scope of this project, but an Internet site was secured and an Internet survey form was designed. This form can be filled out with mouse clicks and then submitted, also with a mouse click. It was named the CHILD 2000 for Canadian Home Inspector Logistical Data. The form was developed after receiving substantial input from the first E-mailed survey, the "Preliminary Survey of Canadian Home Inspectors." There are still some revisions that should be done to this form, but once again, the budget was far exceeded by the time the form took shape in the current version - now on the web at: http://www.canadahomeinspection.com/. It is quite workable in its present state and 15 home inspections have been entered into it as sample data. The hard copies of these inspections are included in the appendices for comparison to the data entered into the Internet survey. Should this project continue, the very next stage would need to be to develop the data query capabilities of this system and to further streamline the survey question format. A very rough estimate of the cost to do this would be in the $38,000 range. This would include $12,000 for web site design and structuring, $6,000 per year for hosting and maintenance, $14,000 to build the data structure including the new version of the survey form and the unlimited data query capability, and $6,000 for consultant and miscellaneous costs. All of these costs relate to the first action item only in the executive summary – "Finish developing the web site and build a data query system...". The computer consultant's final recommendation letter for the CHILD 2000 option can be found in the appendix[r]. The main points of recommendation are:
1) Built specifically for this use.
2) No special software needed by home inspectors.
3) Easily adaptable to changing data requirements.
4) Data able to be entered from any location with Internet hook-up.
5) Incorporates the very latest in computer technology
6) No possibility of conflict with users from a different project
7) Individually designed for this project allows far greater data security control

l) Conclusions – strategy and recommendations

The final deliverable requested by CMHC was to not only deliver a report on the findings of the feasibility study, but also to include a strategy and recommendations for CMHC on how to proceed to obtain data from the private home inspection industry. Although these recommendations are already scattered throughout this report, they are concisely summarized here. They are listed in the order that they should be undertaken should it be decided that this project should be further pursued. Some very general ballpark figures have also been included. These may be helpful for preliminary budgeting but may prove to not be all that accurate in the end. Obviously these recommendations are only based on work resulting from research for this project over the last four months, and the authors personal views of what would be a good strategy. It is uncertain how these recommendations may fit in with CMHC's overall plans or budget.

The following is a list of the proposed best way to continue with this project. The list is grouped in priority sequence from the first and most important next steps, to the following and increasingly more optional steps.

1) Review this report internally with all interested parties in research, information transfer, etc. at CMHC and ensure that all of the data fields in the Internet version of the "Registration Form" and the "Home Inspection Survey" are relevant and address a specific information need. Eliminate any that are not considered useful. Add any data fields to the revision list which are not presently included but that are identified as being important and obtainable from the typical home inspection report. Make an internal decision as to the value of pursuing private sector NGO type involvement in the project. Discuss the $1 Million estimated budget to set this database up and run properly vs value of information obtained. Decide if the project should advance to the next stage.

2) Build the CHILD 2000 into a proper data capture system with a good web page to encourage home inspectors to participate. Some good links of interest to home inspectors, etc. should be incorporated into the web page housing the Internet survey. Have a very accessible survey and web page completed before inviting the home inspector community to participate. Estimated budget: $38,000.

3) Contact the entire home inspection industry through the Provincial professional associations. Arrange to present the project to all boards of executive and then to all members at regular meetings. Place an article explaining the project in "The Home Front" – the Canadian home inspectors quarterly magazine. Do a database mail out to the 1200 or so home inspectors who are on the Conference 2000 mail out list. Make sure to reserve a booth for the next annual CAHI conference – Calgary or Toronto. Survey all of the provincial professional associations to also do a mail out to their recent contact list in order to catch those inspectors just beginning or just thinking of entering the home inspection field. Estimated budget - $20,000

4) Design an industry standard type computerized inspection-reporting format that has a data capture capability built into it. Build a matching manual reporting system with a data capture fax in checklist component. These systems must be very high quality and only available to practicing home inspectors belonging to their professional associations. Make both of these systems available to Canadian home inspectors for a subsidized rate or free in exchange for a reciprocal agreement with the home inspector that they must regularly submit the non-identifying home inspection data required into the CMHC database. Estimated budget - $100,000 - $200,000.

5) Contact the bigger home inspection reporting system providers. Start with Pillar To Post®, Carson / Dunlop®, HouseMaster®, AmeriSpec®, NPI®, Home Pro Systems®, Inspectit®, 3-D Reporting Systems®, and Key to Your Home Reporting System. Enter into discussions regarding working together to create a data capture system that would collect data behind their computer programs. Also discuss methods to collect data from their inspector networks where they are still using manual reporting systems. May wish to create a 1 or 2 page checklist sheet that could be filled out after each inspection, and then faxed in once a week as an option to using the Internet site. Estimated budget for initial contact work to arrange working relationships - $10,000. Estimated budget to design 5

different computerized data capture systems and 4 different manual fax in checklist reports - $100,000.

6) Do a full-fledged study of private industry and NGO interest in participating with CMHC in this project. Recommend giving authorization to the entity doing the study to enter into some preliminary agreements with those contacted, by enabling them to be in close contact with CMHC or actually have a CMHC staff member undertake to do this portion of the project. The goal of the project should be to assess how much cost sharing might reasonably be expected from non-CMHC sources, and how big a public service this database could become. (Eg. Info could help to identify areas of good potential business development for entrepreneurial type individuals). Additional brainstorming regarding generating potential revenue from the database in order to help make the project more self-sustaining should also be in the mandate of this section of the project. Estimated budget: $25,000 - but project should more than pay for itself by identifying potential revenue sources that could help support the ongoing operation of the database.

In conclusion, this preliminary feasibility study answered some very fundamental questions. It established that the type of information desired by CMHC and the type of information currently being gathered by home inspectors was a good match. It identified that the biggest challenge to obtaining the needed information was the plethora of home inspection reporting systems. A good strategy was laid out to overcome this obstacle and to enable this valuable database to be established. It showed that between 130,000 and 200,000 homes are being inspected annually in every price range and geographic location across Canada and therefore demonstrated that the home inspection community is a "treasure trove" of useful information on the Canadian housing stock. The reliability of the information was shown to be of the highest standard, due to the extreme importance of home inspectors giving their clients accurate information or else risk being sued. It also pointed out a couple of areas such as square footage where the information may not be so reliable. An anticipated cost to continue on and set up this project was estimated to be in the range of $300,000, and an annual budget to run the database, based on obtaining around 50,000 home inspection entries per year was estimated at around $1Million. There was no analysis done regarding cost/benefits, as this must be an internal CMHC decision. Finally it was shown that confidentiality of the information, use limitations, and potential contractual arrangements would not likely be a big issue due to the fact that the information entered into the system would have to be non-identifying for the home inspection community to consider supplying the data from their home inspections. Should it be felt that having the information be address specific was a needed requirement, the issues of confidentially, use limitations, and necessary contractual arrangements would be huge. The costs to obtain this information would likely increase at least four fold due to having to bring all parties involved in the home buying transaction into the loop. The information available would also be greatly reduced, as the majority of home inspectors would simply choose not to participate in the project. There would need to be some contracts drawn up especially between CMHC and the major home inspection report suppliers should item (5) above be pursued. It would also be wise to have a strong contract in place with any home inspectors using a CMHC developed home inspection format as described in item (4) above. If the estimated $500,000 annual

cost of gathering the data from home inspectors were to be reduced, the CMHC inspection form development option (4), would be the best option to pursue. The cost of developing and supplying the inspection forms to willing home inspectors would be considerably less than the $10 per inspection fee proposed for data collection for each home inspection entered. The most important objective achieved was to elicit a positive response to the project from the Canadian home inspection leaders. Their response exceeded all initial expectations, and the stage is now set to develop this project with the full cooperation of the Canadian home inspection community. The feasibility study shows the project to be very feasible.

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Home Inspector Respondents: Geographical and Background Analysis

The geographical breakdown of the inspectors contacted was as follows: BC – 7 inspectors, Alberta – 9 inspectors, Saskatchewan – 3 inspectors, Manitoba – 3 inspectors, Ontario – 12 inspectors, Quebec – 5 inspectors, Atlantic – 4 inspectors, Northern Territories – 2 inspectors. The following list gives a Regional breakdown and a brief highlighting of the home inspector survey respondents:

British Columbia

1) Owen Dickie – Okanogan Valley – Home Pro Systems (multi inspector)- Past President of CAHI –BC, BC - CAHPI board representative, Stephen Greenford award recipient, (annual award given to one inspector for doing the most to help the Canadian home inspector profession)
2) Phil Goddard – Langley – multi inspector -Founding President WAPI, BC – President of CAHPI board
3) Tony Kazoleas – multi inspector firm -Vancouver- Current President CAHI - BC
4) Bill Parkinson – Victoria – Pillar To Post (single inspector) – performed over 15,000 insurance inspections – candidate for HRDC task analysis
5) Bruce Riddick – Delta – Pillar To Post (multi inspector) – Current President WAPI – CAHI-WAPI amalgamation team – BC Pillar To Post advisory representative
6) Bjorn Rygg – Surry – Pillar To Post (single inspector) – CAHI Board of Directors

Alberta

1) Brent Applegate – Calgary – ex-Pillar To Post first Franchise owner (multi inspector) – recipient Chairman's award and highest volume office Pillar To Post 1999 – Past president CAHI (AB) – Past Vice-President CAHI (Nat) – Alberta rep. On CAHPI Board
2) Michel Bourgeois – Edmonton – Pillar To Post (multi inspector)– CAHI (AB) Board of Directors – CAHI National Alberta representative
3) Rick Clark – Calgary – single inspector -Past CAHI (AB) secretary – Chair of CAHI 2000 conference – Membership chair – CHIBO (HRDC) committee
4) Alfred Freiberg – Fort McMurray - single inspector – CAHI National representative
5) Doug Horsley – Calgary – single inspector – CAHI (AB) Bylaw committee – IAO rep
6) Doug MacDonald – Red Deer – Pillar To Post (multi inspector)
7) Moe Madsen – St. Albert – multi inspection – Past President CAHI (AB) – CAHPI steering committee – Recipient Stephen Greenford award
8) Peter Salmon – Calgary – multi inspector firm and franchiser (HomeAlyze) – Founding president CAHI (AB) – Recipient Stephen Greenford award
9) Bridget Wingate – Stoney Plain – single inspector - Current President CAHI (AB)

Saskatchewan and Manitoba

1) Gil Chacun – Winnipeg – multi inspection – current President CAHI (Man) – CAHPI Board
2) Greg Kindred – Regina – multi inspection – Founding president CAHI (Sask)
3) Craig Merriam – Winnipeg – HouseMaster (multi inspector) – CAHI National Representative – CAHI National Web-Master
4) Bob Schmidt – Regina – Pillar To Post (multi inspector) – Current President CAHI (Sask) – CAHPI board member – Pillar To Post Prairie advisory representative
5) Tom Van Leeuwen – Winnipeg – Pillar To Post (multi inspector) – CAHI National board member

Ontario

1) Brian Callighan – Ottawa – single inspector – OAHI board of directors – chapter chair

2) Alan Carson – Toronto – Owner/Partner Carson Dunlop (large multi inspector and largest Canadian home inspection report system and education system) – Founding President OAHI – Past President ASHI – Recipient Stephen Greenford award - acknowledged home inspection legend
3) Jeff Clark – Toronto – Owner/Partner Key To Your Home inspection report network (multi inspector) – Past President OAHI – Past President CAHI (Nat) – Recipient Stephen Greenford award
4) Alden Gibson – Breslau – single inspector – current Vice-President and Tres. OAHI
5) Robin Green – Oakville – multi inspector – current President OAHI, 1998 CAHI conference National Chair
6) Harry Janssen – Brampton – single inspector – Past President OAHI for several terms – Past President CAHI (Nat) for several terms – Recipient Stephen Greenford award
7) John Lueck – Petersborough – single inspector – current OAHI Secretary - current CAHI (Nat) Treasurer
8) Bill Mullen – Sarnia – multi inspector –current Treasurer SW OAHI Chapter – current Secretary CAHI (Nat)
9) Ron Nokes – Newmarket – multi inspector – OAHI chair for Board of Examiners and Education – CAHPI board – CHIBO (HRDC) committee
10) Trevor Welby Solomon – Mississauga – single inspector and head of technical training for Pillar To Post corporate – current President PACHI – board of CAHPI

Quebec
1) Albert Arduini – Montreal – large multi inspector – Past President AIBQ
2) Peter Bishin – Montreal – single inspector – Secretary AIBQ
3) Brian Crewe – Notre-Dame – Past President AIBQ – CAHPI board member – CHIBO (HRDC) committee – recipient Stephen Greenford award
4) Germain Frenchette – Kirkland – current President AIBQ
5) Jean Jacques Vereault – Quebec City – large multi inspector – AIBQ

Atlantic
1) Richard Gorham – Fredricton – single inspector – Founding Sec/Tres CAHI (Atlantic) – CAHI (Nat) board
2) Brian Hutchinson – Dartmouth – Pillar To Post (multi inspector) – CAHI (Atlantic) Treasurer – PR chair
3) Charles Wood – Moncton – HouseMaster (single inspector) – Founding President CAHI (Atlantic) – Past CAHPI board member

Northern Territories
1) Paul Curren – Yellowknife – single inspector – Director R-2000 program – contract work for CMHC and HBA "Avoiding Common Construction Problems"

These are the 39 home inspectors who responded to the survey. In addition the following 6 home inspectors were contacted by phone and 5 were interviewed, but never completed the written survey:

1) Saskatoon Saskatchewan – Gerry Hudon – Pillar To Post – multi inspector
2) Iqaluit Nunivet – Keith Irving – single inspector
3) Coquitlam BC– Roland Klann – Home Pro (single inspector)
4) Ottawa Ontario – Norm Lecuyer – multi inspector – OAHI board
5) Bedford Nova Scotia – Marc Rubarth – multi inspector – current President CAHI (Atl)
6) Hamilton Ontario – Mike West – single inspector – PACHI membership registrar

Dear Fellow Home Inspectors;

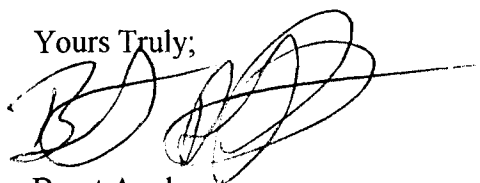
Thank you for being willing to take the time out of your busy schedule to fill out this initial home inspection survey. As we discussed on the phone, this is a preliminary work, and meant to give you a chance to put in your input and help forge the direction of this project. You have been asked to help because you are a recognized leader in our profession in your geographic area. Beyond the valuable expertise this adds to this project, you have also earned a National reputation for getting things done, and so I thank you in advance for once again stepping up to the plate and getting this work done. The preferred method of reply is by E-mail to apple@therockies.com . A web site is also being developed which you may use to fill out additional surveys etc. should you wish. It will be at canadahomeinspection.com. Please also feel free to call me anytime for clarification or discussion. I will be phoning you once again after I have reviewed your survey results and your comments. Please be assured that all information will be kept in the strictest confidence.

What we are presently envisioning is to establish a vehicle to gather data on National housing characteristics and condition, using the home inspection industry as the information source. This is the preliminary investigative stage and as such, we are especially looking for your ideas. What would be an effective way to enlist home inspectors to contribute to this information gathering process on an ongoing basis? What regional information would you like to be able to access? What would be the best way to gather identified data fields, - through your existing reporting system or through a specific additional report? What remuneration do you feel would be fair to participating inspectors, - monetary? - Information exchange privileges? Your thoughts overall will be greatly appreciated.

Should this project continue, I would see participating home inspectors inputting data on a weekly basis from right across Canada. This would likely be done through the Internet. The data would be able to be studied for developing trends, housing types, regional problem areas, numbers of homes being inspected, etc. and could be a valuable resource to our industry as well as to the Canadian housing authority CMHC. CMHC is funding this very preliminary study – to determine whether there is sufficient value and interest to continue along and develop this system.

The following survey is my first crack at trying to design a suitable information-gathering vehicle. It will be greatly streamlined and improved – largely through your suggestions as this work progresses. Please take the time to add any information fields, suggestions for improvements, etc. you may have at the end of the survey. Thank you once again for your help. I'll be in touch again soon.

Yours Truly;



Brent Applegate

Preliminary Survey of Canadian Home Inspection Leaders

Prepared by Brent Applegate for CMHC initial feasibility study on gathering National home inspection data

Please respond to the following questions by selecting the appropriate choice, should you wish to comment specifically on the question, please enter your comment under the question. Any general comments can be entered at the end of this survey.

What region of Canada do you work in?

1) Atlantic_____
2) Quebec_____
3) Ontario_____
4) Prairies (Sask. & Man.)_____
5) Alberta_____
6) B.C._____
7) Northern Canada_____

What percentage of your work is: Rural_____
Cities (over 20,000 population)_____

Approximately how many homes per year do you personally inspect?
1 to 100_____ 100 to 200_____ 200 to 300_____
300 to 400_____400 to 500_____ 500 or more_____

What percentage of homes would you estimate you inspect?

1) built before 1920_____

2) between 1920 and 1945_____

3) between 1945 and 1960_____

4) between 1960 and 1975_____

5) between 1975 and 1990_____

6) 1990 to 1999_____

7) New homes_____

Please choose from the list below and fill in the letter corresponding to the most common problem/deficiency you encounter in homes you inspect in each of the 7 age groupings listed above. If you wish to be more specific, write a short description in the age box.

a) Property and Site, b) Exterior (siding etc), c) Roof, d) Structure, e) Windows, f) Basement/Crawlspace moisture problems g) Attic/Insulation/Ventilation, h) Plumbing, i) Heating/Air-Conditioning, j) electrical, k) interior/fireplace, l) air quality

Overall what is the most common problem area in houses you inspect_____?
(If more than 1 list them in order of concern)
What do you see as the biggest potential future problem in the homes you inspect?_____

What do you see as the most pressing concern(s) for the home inspection profession at this time? (try to be reasonably brief)_____

What is the biggest potential future concern you see arising in the home inspection field?_____

Have you encountered clients whom have had difficulty obtaining insurance or mortgaging for: a) 60 amp or less electrical services, b) aluminum wiring, c) galvanized plumbing lines, d) Poly B plumbing lines, e) PWF wooden basements, f) other items (please list)_____

How many homes would you estimate are inspected yearly: a) in your immediate inspection area?_____, b) in your Province?_____

Would you be willing to participate in regularly entering data into a National home inspection database?_____ If yes, how much time would you have on a weekly basis to do so_____. What type of remuneration would you expect to receive to make this work worth doing?_____

Which of the following areas of inspection would you find it easy to report on without changing the present format of your inspection report? Mark with an X.

1) Square footage of house_____

2) Age of house_____

3) Location of house: a) rural, b) rural subdivision c) small community – up to 20,000, d) busy street, f) urban subdivision,_____

4) Style of house: a) bungalow/ranch, b) 2-storey, c) 3-storey, d) condo/apt, e) bi-level, f) split-level, g) other _____

5) Construction type: a) wood frame, b) masonry, c) trailer/modular, other_____

6) Number of bedrooms_____

7) Number of bathrooms_____ mold suspected_____

8) Exterior cladding type_____age_____condition_____

9) Roof covering type_____age_____condition_____

10) Attic access?_____adequate ventilation?_____signs of mold, moisture? _____Type and R value of insulation_____

11) Type of foundation? a) full concrete, b) full PWF wood, c) concrete crawl space, d) mixed material (wood, rubble, etc) crawlspace, e) other _____

12) Signs of negative exterior drainage?_____inadequate eavestrough?_____

13) Basement living area?_____active signs of mold, moisture,_____ previous signs of moisture, mold_____percent finished_____

14) Basement/Crawlspace floor type, a) concrete, b) uncovered dirt, c) dirt with vapour barrier, d) wood, e) other_____

15) Floor joists; a) wood, b) engineered, c) other_____

16) Smoke alarms? _____C.O. alarms?_____Security system?_____

17) Any handicap usage provisions – ramps, grab bars, etc_____

18) Type of Windows, a) older single pane, b) double pane, c) triple pane, d) low E__

19) Type of heating system, a) natural gas, b) oil burner, c) propane, d) wood fired, e) electric, f) solar, g) hot water, h) other_____age_____

20) Hot Water Tank; a) natural gas, b) propane, c) electric_____size?_____

21) Outside combustion air source?_____Evidence of potential back drafting?_____

22) Elevated CO levels in home?_____Attatched garage?_____

23) Functional humidifier?_____De-humidifier?_____

24) High moisture meter readings in home?_____

25) Air Conditioning?_____condition?_____

26) Type of plumbing? a) copper, b) galvanized, c) poly B, d) PEX, e) PVC, f) other_____

27) Type of water supply? a) Municipal, b) well, c) holding tank/cistern_____

28) Sump pump?_____

29) Energy efficiency upgrades? a), HRV, b) solar collectors, c) wind generators, d) high efficiency furnace, e) genuine R-2000 home, f) other_____

30) Environmental concerns? a) lead water line, b) lead paint, c) mold contamination, d) high voltage power lines, e) radon, f) high CO levels, g) others_____

31) Insects, rodents, etc._____

32) Electrical System a) aluminum wire, b) knob and tube wiring, c) 60 amp or less service, d) GFCI's – locations_____

33) Main panel: a) breakers, b) fuses, c) main shut off_____

34) Type of stove? a) natural gas, b) propane, c) electric, d) wood, e)other_____

35) Outside venting? a) kitchen fan, b) bathroom fan(s), c) Jenn air type, d) HRV, e) power furnace intake air fan, f) other_____

36) Smart house wiring/technology?_____

37) Re-modeling/renovations in the last 10 years?_____

Could you please now take a recent inspection report and enter the information into the appropriate spots for the questions below. Please track how long this takes for the section below only and enter the time taken at the end in question 38.

1) Square footage of house?_____

2) Age of house?_____

3) Location of house? a) rural, b) rural subdivision c) small community – up to 20,000, d) busy street, f) urban subdivision,_____

4) Style of house? a) bungalow/ranch, b) 2-storey, c) 3-storey, d) condo/apt, e) bi-level, f) split-level, g) other _____

5) Construction type? a) wood frame, b) masonry, c) trailer/modular, other_____

6) Number of bedrooms?_____

7) Number of bathrooms?_____ mold suspected?_____

8) Exterior cladding type?_____age?_____condition?_____

9) Roof covering type?_____age?_____condition?_____

10) Attic access?_____adequate ventilation?_____signs of mold, moisture? _____type and R value of insulation?_____

11) Type of foundation? a) full concrete, b) full PWF wood, c) concrete crawl space, d) mixed material (wood, rubble, etc) crawlspace, e) other _____

12) Signs of negative exterior drainage?_____inadequate eavestrough?_____

13) Basement living area?_____active signs of mold, moisture?_____ previous signs of moisture, mold?_____percent finished?_____

14) Basement/Crawlspace floor type? a) concrete, b) uncovered dirt, c) dirt with vapour barrier, d) wood, e) other_____

15) Floor joists; a) wood, b) engineered, c) other_____

16) Smoke alarms? _____C.O. alarms?_____Security system?_____

17) Any handicap usage provisions – ramps, grab bars, etc?_____

18) Type of Windows? a) older single pane, b) double pane, c) triple pane, d) low E__

19) Type of heating system? a) natural gas, b) oil burner, c) propane, d) wood fired, e) electric, f) solar, g) hot water, h) other_____age_____

20) Hot Water Tank; a) natural gas, b) propane, c) electric_____size?_____

21) Outside combustion air source?_____Evidence of potential backdrafting?_____

22) Elevated CO levels in home?_____Attatched garage?_____

23) Functional humidifier?_____De-humidifier?_____

24) High moisture meter readings in home?_____

25) Air Conditioning?_____condition?_____

26) Type of plumbing? a) copper, b) galvanized, c) poly B, d) PEX, e) PVC, f) black iron, g) other_____

27) Type of water supply? a) Municipal, b) well, c) holding tank/cistern_____

28) Sump pump?_____

29) Energy efficiency upgrades? a), HRV, b) solar collectors, c) wind generators, d) high efficiency furnace, e) genuine R-2000 home, f) other_____

30) Environmental concerns? a) lead water line, b) lead paint, c) mold contamination, d) high voltage power lines, e) radon, f) high CO levels, g) others_____

31) Insects, rodents, etc?._____

32) Electrical System a) aluminum wire, b) knob and tube wiring, c) 60 amp or less service,_____ GFCI's? – locations_____

33) Main panel: a) breakers, b) fuses, c) main shut off_____

34) Type of stove? a) natural gas, b) propane, c) electric, d) wood, e)other_____

35) Outside venting? a) kitchen fan, b) bathroom fan(s), c) Jenn air type, d) HRV, e) power furnace intake air fan, f) other_____

36) Smart house wiring/technology?_____

37) Re-modeling/renovations in the last 10 years?_____

38) Please enter how long this form took you to fill out_____

Thank you for your help with this project. Please list any comments, suggestions, concerns, etc. below. Please e-mail the completed form back as soon as you can get to it. I'll be in touch in the next week or so to do a follow up interview and to discuss any ideas you may have to make this potential work more useful to both CMHC and the home inspection community. Thanks for helping our home inspection profession develop once more! If you know of other active home inspectors whom you feel would be open to helping in the future and would have a good understanding of our profession, please list their names, phone numbers, and e-mail addresses below. You may also access this form at **canadahomeinspections.com** should you wish to enter data from more than one inspection report. Please do not enter in any information, which could compromise client confidentiality, by allowing the actual home for which you are entering data to be identified. Talk to you soon!

Brent Applegate
PH: (403) 660-1348
FAX: (403) 217-5154
E-mail: apple@therockies.com

391 Killarney Glen Court S.W.
Calgary, AB., T3E 7H4

Canadian Home Inspector Logistical Data collection feasibility study

Welcome to the CMHC sponsored Canadian Home Inspector Logistical Data (CHILD 2000) feasibility study web-site. At this time we are looking for voluntary participation from the Canadian Home Inspection community to help us assess the benefits VS the costs of setting up a Canadian home inspector database system. Your help is greatly appreciated. We are asking for your input especially on the initial home inspector registration form. Once you have completed this initial survey, you will be registered as a participant in the pioneer stage of this project, and will be kept informed of all future developments. Completion of the **"Initial home inspector registration survey"** will generate an I.D. number that you may then use to directly access the actual home inspection data collection form. Once you have your ID #, please use it to log into this form and then enter the data from an individual home inspection you or your company have completed. You may access the form as many times as you wish to enter different completed home inspections. Each separate home inspection you enter will be credited to you through your ID number. Thanks again for your help, should you have any questions regarding this project, please E-mail me at: apple@canadahomeinspection.com or phone me at (403) 660-1348.

Brent Applegate

Registration Form

Home Inspection Survey

Database Demo

Registration Form on Internet

The following survey is a one time questionnaire which also serves to register you for the CMHC sponsored home inspector data collection feasibility study. Completing the questionnaire will give you user ID number. This ID number will allow you access to the home inspection data survey form. Once have access to this form, please enter the data for as many separate home inspections as you wish, to he us in analyzing the potential benefits of setting up a permanent data collection center. Your registration and participation is greatly appreciated and as this project develops you will be kept at the front of the l to receive information and opportunities to participate in this project. Your ID number will be unique t you and will permit you immediate access to the data collection form and to any data base information fields you are authorized to view. Please keep it private but accessible for you to use on future occasion Should you wish to update any of this information in the future, simply access the form through the nev inspector icon. All information will be held in the strictest confidence. Thanks for participating. Shoulc you wish to discuss this further please contact Brent Applegate at **(403)660-1348** or E-mail me at apple@canadahomeinspection.com.

---

0. Email:

1. Name:

2. Inspection Company:

3. What region of Canada do you work in?: Atlantic

4. (a) What percentage of your work is: Rural: 5 %
(b) Cities (over 20,000 population): 5 %

5. (a) Are you a one inspector company? yes
(b) or part of a multi-inspection firm? yes
(c) If part of a multi - inspection firm are you
an owner of a private inspection company

(d) If you are part of a multi inspector company, how many active inspectors are employed? 1 How many support persons? 1

6. Approximately how many homes per year do you personally inspect? 1 to 100

7. Approximately how many homes per year does your company inspect? 100 to 300

8. How long have you been doing home inspections? less than 1 year

9. How many home inspections would you estimate you have done? 1 to 100

10. How many home inspections would you estimate your

10. How many home inspections would you estimate your company has done? [100 to 300]

11. What type of reporting system do you presently use?
- ☐ Computerized
- ☐ Manual
- ☐ Checklist
- ☐ Narrative
- ☐ Combination
- ☐ Commercially purchased
- ☐ Personally created
- ☐ Franchise supplied
- ☐ Other

12. What is your professional affiliation? [CAHI]

13. Have you ever served on the board or a committee of your professional organization? [yes]

14. What percentage of homes would you estimate you inspect?

built before 1920 [ ] %
between 1920 and 1945 [ ] %
between 1945 and 1960 [ ] %
between 1960 and 1975 [ ] %
between 1975 and 1990 [ ] %
between 1990 and 1999 [ ] %
New Homes [ ] %

---

15. Please choose from the list below and fill in the letter corresponding to the most common problem/deficiency you encounter in homes you inspect in each of the 7 age groupings.
Enter your top 3 concerns starting with the geatest for each age group.

a) Property and Site,
b) Exterior (siding etc),
c) Roof,
d) Structure,
e) Windows
f) Basement/Crawlspace moisture problems
g) Attic/Insulation/Ventilation,
h) Plumbing,
i) Heating/Air-Conditioning,
j) electrical,
k) interior/fireplace,
l) air quality

built before 1920 - choice 1. [a] 2. [a] 3. [a]
between 1920 and 1945 - 1. [a] 2. [a] 3. [a]
between 1945 and 1960 - 1. [a] 2. [a] 3. [a]
between 1960 and 1975 - 1. [a] 2. [a] 3. [a]
between 1975 and 1990 - 1. [a] 2. [a] 3. [a]
between 1990 and 1999 - 1. [a] 2. [a] 3. [a]
New Homes - 1. [a] 2. [a] 3. [a]

16. Overall what is the most common problem area in houses you inspect?
(If more than 1 list them in order of concern)

---

17. What do you see as the biggest potential future problem in the homes you inspect?

18. What do you see as the most pressing concern(s) for the home inspection profession at this time? (try to be reasonably brief)

19. What is the biggest potential future concern you see arising in the home inspection field?

20. Have you encountered clients whom have had difficulty obtaining insurance or mortgaging for: (Check all that apply)

a.) ☐ 60 amp or less electrical services
b.) ☐ aluminum wiring
c.) ☐ knob & tub
d.) ☐ buried oil tanks
e.) ☐ galvanized plumbing lines
f.) ☐ Poly B plumbing lines
g.) ☐ PWF wooden basements
e.) other items (please list)

21. How many homes would you estimate are inspected yearly:

a) in your immediate inspection area?

b) in your Province? (your best guess)

22. Would you be willing to participate in regularly entering data into a National home inspection database? yes

a.) If yes, how much time would you have on a weekly basis to do so? 1 hour (hours)

b.) What type of remuneration would you expect to receive to make this work worth doing?

23. Is there any data information statistics you would like to access? yes

24. Is there any other information you feel would be helpful to gather for the home inspection industry? (Please add any comments or question suggestions you feel would be useful)

Submit Clear

Brent Applegate

From: apple@iglide.net
Sent: August 16, 2000 6:56 PM
To: apple@canadahomeinspection.com
Subject: Registration Completed

email:
apple@iglide.net
name: Brent
Applegate
Inspection_Company: Pillar
To Post
region_worked_in:
Alberta
percent_of_rural_work: 5
select: 90
are_you_a_one_inspector_company: no
multi-inspection_firm: yes
if_part_of_a_multi-inspection_firm_are_you:: an
owner of a territory for a franchise operation
active_inspectors_employed: 6
number_of_support_persons: 1
personally_inspected_homes_per_year: 1 to
100
homes_inspected_by_company_per_year: 2000
to 3000
how_long_have_you_been_doing_home_inspection:
between 5 and 10 years
home_inspections_done: 600 to
1000
number_of_homes_inspected_by_company: 6000
to 10,000
hiddenField:
type_of_reporting_system
computerized:
checkbox
manual:
checkbox
combination:
checkbox
franchise_supplied:
checkbox
professional_affiliation: CAHI
served_on_board_or_committee: yes
percentage_of_homes_inspected_by_year_of_home:
percent_inspected_built_before_1920: 3
percent_inspected_between_1920_and_1945: 12
percent_inspected_between_1945_and_1960: 15
percent_inspected_between_1960_and_1975: 25
percent_inspected_between_1975_and_1990: 25
percent_inspected_between_1990_and_1999: 18
percent_inspected_new_homes: 2
most_common_breakdown/deficeincy_by_year_of_home:
top_concerns_1920_choice_1: f
top_concerns_1920_choice_2: d
top_concerns_1920_choice_3: l
between_1920_and_1945_choice_1: d
between_1920_and_1945_choice_2: h
between_1920_and_1945_choice_3: f
between_1945_and_1960_choice_1: f
between_1945_and_1960_choice_2: h
between_1945_and_1960_choice_3: g

between_1960_and_1975_choice_1: j
between_1960_and_1975_choice_2: h
between_1960_and_1975_choice_3: f
between_1975_and_1990_choice_1: c
between_1975_and_1990_choice_2: b
between_1975_and_1990_choice_3: f
between_1990_and_1999_choice_1: e
between_1990_and_1999_choice_2: b
between_1990_and_1999_choice_3: f
new_homes_choice_1: a
new_homes_choice_2: b
new_homes_choice_3: l
overall_most_common_problem_area:
most_common_problems:
basement leaks, untreated pine shakes
what_do_you_see_as_the_biggest_potential__future_problem_in_the_homes_you_inspect?:
biggest_potential_future_problem::
stucco, exterior building envelope problems
most_pressing_concerns_for_home_inspection_profession_at_this_time:
concerns_for_profession::
Liability, insurance problems, unqualified inspectors being picked up on by media
future_concerns_for_home_inspection_profession:
concerns_for_profession::
Possible failure of National initiative, legal case lawe going the wrong way, media grief
clients_whom_have_had_difficulty_btaining_insurance_or_mortaging:
60_amp_or_less_electrical_services: on
knob_&_tub: on
PWF_wooden_basements: on
other_items:
estimate_of_homes_inspected_yearly_in_immediate_inspection_area: 22,000
estimate_of_homes_inspected_yearly_in_province: 48,000
willing_to_perticipate_regularly: yes
time_available_on_a_weekly_basis: more
than 5 hours
remuneration_expected: $10
per report, or $75 per hour
access_to_other_information: yes
Information_that_might_be_useful:
statistics on most common problems for area, developing problem trends, how long
inspections are taking, what tools etc. inspectors are useing, legal cases lost and won

Preliminary changes to Internet home inspection survey form in the next revision

The following questions need revision:
1) Add – "Not Known"
3) Default to – "urban subdivision", add as selection "1/2 duplex
6) Any structural problems noted? – needs multiple answer capability, should also have "no" as default selection. Add – "exterior"
7) Default to – "3 bedroom"
8) Default to – "2 bathroom"
9) Default to – "no"
10) Needs multiple answer
16) Add "snow covered" as option
19) Add "Not viewed" as an option
20) Add "Not viewed" as an option
21) approximate R-value of attic/ceiling insulation? add "attic/ceiling" and add "not known"
25) Add "extend downspouts" and add "damaged/leaks"
27) Signs of mold, moisture? – needs multiple answer capability
29) Possible signs of Pyrite? – default answer should be "no"
30) Add "concealed"
32, 33, & 34) CO alarms, security systems, handicap provisions – should all have "not tested" as an option, and should all default to "NO"
35) Windows? CTRL to choose multiple selections not working, need multiple selection
42) add "Blocked off"
43 & 44) Potential backdrafting and elevated CO levels should both have "no" as default
46 & 47) Functional humidifier and De-humidifier – should have "needs cleaning/ servicing" and "Not checked" as an options. Default to "No"
50) Air conditioning? Should have "no air conditioning" as default option
51 & 52) Type of water and Sewer material? Should have multiple selection capabilities, and add "cast/black iron" as selection
55 & 56) Energy efficient upgrades and Environmental concerns? Should have "none" as default answer
60) Should have multiple answer selection
64) Default should be "Electric"
66) Outside venting? Should have multiple selection capabilities and add "Not observed"
69) Add "not checked"

Internet Survey Form

Welcome to the CHILD 2000 (Canadian Home Inspector Logistical Data) project. Please complete the data entry form below as completely as possible for each individual inspection report you wish to enter. If your inspection report format does not allow you to easily answer any question just move on to the next one. Should you have any suggestions for how to improve the ease of entering data, additional question suggestions, or other comments, add them at the end of the form. Please track how long this takes and enter the time taken at the end in question 42. Your help is greatly appreciated, and you will be kept abreast of developments in this CMHC sponsored project. Should you wish to talk about anything relating to this project, contact Brent Applegate @ (403) 660-1348 or E- mail to: apple@canadahomeinspection.com

---

Please enter the registration number you received by email.

0. Email:

1. Approximate Square Footage of house [under 1000]

2. Approximate Age of house [before 1920]

3. Location of house [Rural]

4. Style of house [Bungalow/Ranch]

5. Construction type [Wood Frame]

6. Any structural problems noted? [foundation]

7. Number of Bedrooms [one]

8. Number of Bathrooms [one]

9. Bathroom leaks and/or mold suspected? [yes]

10. Exterior finish type [stucco]

11. Approximate age of exterior finish? [0 to 5 years]

12. Condition [excellent]

13. Roof Covering type [asphalt/fiberglass shingles]

14. Age of roof covering? [0 - 5 years]

15. Number of layers? one

16. Condition excellent

17. Attic Access? yes

18. Ventilation concerns? no

19. Type of Insulation? fiberglass batts

20. Vapour barrier in place? yes

21. Approximate R-value? R- 40 or greater

22. Type of foundation? full concrete

23. Foundation condition? excellent

24. Signs of negative exterior drainage? yes

25. inadequate eavestrough? no

26. Percent of basement developed? none

27. Signs of mold, moisture? no

28. Basement/Crawlspace floor type? concrete

29. Possible signs of pyrite backfill? yes

30. Floor Joists? wood other (explain)

31. Smoke Alarms function on test? no smoke alarms

32. C/O Alarm(s)? yes

33. Security System? yes

34. Any handicap usage provisions – ramps, grab bars, etc? yes

35. Windows? (choose applicable types(s) hold ctrl to choose more than one)
double pane other (explain)

36. Type of Heating System? conventional natural gas forced air
other? (explain)

37. Approximate age of heating unit? 0 - 5 years

38. Condition of heating unit? excellent

39. Condition of filter? clean

40. Hot water tank? natural gas

41. Size of hot water tank? typical 33-1/3 Imp. Gal

42. Outside combustion air source? yes

43. Evidence of potential back drafting? yes

44. Elevated CO levels in home? yes

45. Attatched garage? yes

46. Functional humidifier? yes

47. De-humidifier? yes

48. High moisture meter readings in home? no
other (explain)

49. Air Conditioning? yes

50. Condition? excellent

51. Type of water distribution plumbing material? copper
Other: (explain)

52. Type of drain line plumbing material? ABS
other (explain)

53. Type of Water Supply? Municipal

54. Sump pump? yes

55. Energy efficiency upgrades? HRV

Other: (explain)

56. Possible Environmental concerns? lead water line

Other: (explain)

57. Oblivious signs of Insects, rodents, etc.? no

58. Electrical System? typical for region

59. Number of GFCI's? none

60. GFCI locations? bathrooms

other (explain)

61. Number of GFCI's non-functional? none

62. Main electrical panel? breakers

63. Main shut-off in place? yes

64. Type of stove? natural gas

Other:

65. Non-complying wood burning unit on premises? no

66. Outside venting? kitchen fan

Other: (explain)

67. Venting concerns? no

68. Smart house wiring/technology? no

69. Re-modeling/renovations in the last approximately +/- 10 years? no

70. Please enter how long this form took you to fill out.

Submit Clear

Thank you for your help with this project. Please list any comments, suggestions, concerns, etc. you may have to make this potential work more useful to both CMHC and the home

inspection community.

Thanks for helping our home inspection profession develop once more! If you know of other active home inspectors whom you feel would be open to helping in the future and would have a good understanding of our industry, please pass along the web site info: http://www.canadahomeinspection.com/ so they may log in. Please do not enter in any information, which could compromise client confidentiality, by allowing the actual home for which you are entering data to be identified. You may contact me at the numbers below should you wish to discuss this project.

Brent Applegate
PH: (403) 660-1348 FAX: (403) 217-5154
E-mail: apple@therockies.com

391 Killarney Glen Court S.W.
Calgary, AB., T3E 7H4

Internet Database demo - Initial Registation

Preliminary Survey of Canadian Home Inspection Leaders

Prepared by: Brent Applegate for CMHC initial feasibility study on gathering National home inspection data. Please respond to the following questions by selecting the appropriate choice, should you wish to comment specifically on the question, please enter your comment under the question. Any general comments can be entered at the end of this survey.

Submit Clear

Last Name:

First Name:

What region of Canada do you work in?:

- (•) Atlantic
- ( ) Quebec
- ( ) Ontario
- ( ) Praries (Sask. & Man.)
- ( ) Alberta
- ( ) B.C.
- ( ) Northern Canada

Internet Database demo - Preliminary Survey

Canada Home Inspection

Login ID: [ ] Submit Clear

Preliminary changes to Internet home inspection survey form in the next revision

The following questions need revision:
6) Any structural problems noted? – needs multiple answer capability, should also have "no" as default selection.
21) approximate R-value of attic/ceiling insulation? add "attic/ceiling"
27) Signs of mold, moisture? – needs multiple answer capability
29) Possible signs of Pyrite? – default answer should be "no"
32, 33, & 34) CO alarms, security systems, handicap provisions – should all have "not checked as an option
35) Windows? CTRL to choose multiple selections not working, need multiple selection
43 & 44) Potential backdrafting and elevated CO levels should both have "no" as default
46 & 47) Functional humidifier and De-humidifier – should have "needs cleaning/ servicing" as an option
50) Air conditioning? Should have "no air conditioning" as default option
51 & 52) Type of water and Sewer material? Should have multiple selection capabilities
55 & 56) Energy efficient upgrades and Environmental concerns? Should have "none" as default answer
66) Outside venting? Should have multiple selection capabilities

What region in Canada do you work in?

1) Atlantic	3		
2) Quebec	5		
3) Ontario	9		
4) Prairies	4		
5) Alberta	10		
6) B.C.	7		
7) N. Can.	1	**Total**	**39**

What % of your work is Rural?

0%	2	**Average**	**13%**
0.50%	3		
2%	2		
5%	5		
10%	10		
15%	4		
20%	1		
25%	1		
30%	2		
40%	3		

What % of your work is Cities (over 20,00 population) ?

60%	3	**Average**	**87%**
70%	2		
75%	1		
80%	1		
85%	4		
90%	10		
95%	5		
98%	2		
99.50%	3		
100%	2		

Approximately how many homes per year do you personally inspect?

1 to 100	3	**Average**	**377**
100 to 200	3		
200 to 300	6		
300 to 400	10		
400 to 500	7		
500 or more	6		
not marked	2		
none	1		

What % of homes would you estimate you inspect?

1) built before 1920	0%	4	**Average**	**7%**
	1%	3		
	2%	3		
	3%	3		
	5%	11		
	6%	1		
	8%	1		
	10%	6		
	15%	1		
	20%	2		
	25%	1		
	30%	1		
2) between 1920 and 1945	0%	2	**Average**	**12%**
	1%	1		
	2%	1		
	4%	1		
	5%	4		
	6%	1		
	7%	2		
	8%	2		
	10%	8		
	12%	2		
	15%	5		
	20%	5		
	25%	2		
	60%	1		
3) between 1945 and 1960	2%	1	**Average**	**17%**
	3%	1		
	5%	2		
	7%	1		
	8%	1		
	10%	6		
	12%	1		
	15%	4		
	20%	11		
	22%	1		
	25%	7		
	50%	1		
4) between 1960 and 1975	5%	1	**Average**	**21%**
	10%	5		
	12%	1		
	15%	3		
	20%	13		
	22%	1		
	24%	1		
	25%	6		
	30%	4		
	33%	1		
	40%	1		

5) between 1975 and 1990	5%	1	**Average**	**27%**
	7%	1		
	7.50%	1		
	10%	3		
	12%	1		
	15%	2		
	17%	1		
	18%	1		
	19%	1		
	20%	4		
	25%	5		
	30%	7		
	35%	1		
	40%	3		
	49%	1		
	50%	3		
	75%	1		
6) 1990 to 1999	1%	1	**Average**	**13%**
	3%	1		
	5%	4		
	7%	1		
	7.50%	1		
	8%	1		
	9%	1		
	10%	11		
	15%	7		
	18%	3		
	20%	2		
	25%	1		
	30%	1		
	35%	1		
	40%	1		
		2		
7) new homes	0%	6	**Average**	**3%**
	1%	5		
	2%	6		
	3%	2		
	5%	16		
	6%	1		
	15%	1		

Not marked or unuseable in this section- 2 of 39.

List of most common problems found by home inspectors in following age groups.

1) built before 1920

#1 Structural **#2 Basement/Crawlspace moisture** **#3 Electrical**

a) Propery and Site - one or first choice	2
b) Exterior (siding etc.) - second choice	1
d) Structure - one or first choice	8
- second choice	3
e) Windows - second choice	2
f) Basement/Crawlspace moisture problems - one or first choice	6
- second choice	1
- third choice	2
g) Attic/Insulation/Ventilation - one choice	1
h) Heating/ Air Conditioning - second choice	1
- third choice	1
j) Electrical - one or first choice	4
- third choice	1
k) Interior/ Fireplace - fourth choice	1

2) between 1920 and 1945

#1 Basement/Crawlspace moisture **#2 Structural** **#3 Plumbing**

a) Property and Site - one or first choice	2
b) Exterior (siding etc) - second choice	1
d) Structure - one or first choice	5
e) Windows - second choice	1
- third choice	1
f) Basement/Crawlspace moisture problems - one or first choice	9
- second choice	1
- third choice	1
h) Plumbing - one or first choice	3
- second choice	2
- third choice	1
I)Heating/Air Conditioning - third choice	1
j) Electrical - one or first choice	2
- second choice	4
k) Interior/ Fireplace - third choice	2

3) between 1945 and 1960

#1 Basement/Crawlspace moisture **#2 Electrical** **#3 Property & Site**

a) Property and Site - one or first choice	4
b) Exterior (siding etc) - second choice	1
d) Structure - one or first choice	3
e) Windows - one choice	1
- second choice	2
f) Basement/ Crawlspace moisture problems - one or first choice	5
- second choice	2
- third choice	1
g) Attic/ Insulation/ Ventilation - one or first choice	3
- third choice	1

3) between 1945 and 1960

#1 Basement/Crawlspace moisture **#2 Electrical** **#3 Property & Site**

...continued

h) Heating/ Air Conditioning - one choice	1
- second choice	3
- fourth choice	1
j) Electrical - one or first choice	4
- third choice	3
- fifth choice	1
k)Interior/ Fireplace - sixth choice	1
l) Air quality - one choice	1
- second choice	1

4) between 1960 and 1975

#1 Windows **#2 Basement/ Crawlspace moisture** **#3 Property & Site**

a) Property and Site - one or first choice	4
c) Roof - one choice	1
- second choice	1
d) Structure - one choice	1
e) Windows - one or first choice	5
- second choice	2
- third choice	1
f) Basement/ Crawlspace moisture problems - one or first choice	4
- second choice	1
- third choice	1
g) Attic/ Insulation/ Ventilation - one or first choice	3
- third choice	2
h) Plumbing - second choice	2
- fourth choice	1
l) Heating/ Air Conditioning - one or first choice	1
- second choice	1
j) Electrical - one or first choice	3
l) Air quality - second choice	1
- fourth choice	1

5) between 1975 and 1990

#1 Roof **#2 Basement/ Crawlspace moisture** **#3 Heating/ Air Conditioning**

a) Property and Site - one or first choice	3
- third choice	1
b) Exterior (siding etc) - one or first choice	3
c) Roof - one or first choice	5
- second choice	2
e) Windows - one or first choice	2
- second choice	1
- third	2
f) Basement/Crawlspace moisture problems - first choice	3
- second choice	3

5) between 1975 and 1990

#1 Roof **#2 Basement/ Crawlspace moisture** **#3 Heating/ Air Conditioning**

...continued

g) Attic/ Insulation/ Ventilation - one or first choice	2
- second choice	1
I) Heating / Air Conditioning - one choice	3
- second choice	2
- third choice	1
j) Electrical - first choice	1
- fourth choice	1
l) Air quality - second choice	1
- third choice	1
- fifth choice	1

6) 1990 to 1999

#1 Property & Site **#2 Basement/ Crawlspace moisture** **#3 IAQ**

a) Property and Site - one choice	5
- second choice	1
b) Exterior (siding etc) - one or first choice	2
- second choice	1
c) Roof - first choice	1
- second choice	1
d) Structure - one or first choice	2
- fourth choice	1
e) Windows - first choice	1
- third choice	1
f) Basement/Crawlspace moisture problems - one choice	4
g) Attic/ Insulation/ Ventilation - one choice	2
l) Air Quality - one choice	3
- third choice	1

7) New Homes

#1 IAQ **#2 Exterior (siding etc.)** **#3 Electrical**

a) Property and Site - one choice	1
- third choice	1
b) Exterior (siding etc) - one or first choice	3
c) Roof - second choice	1
d) Structure - one choice	1
f) Basement/Crawlspace moisture problems - one choice	1
I) Heating/ Air Conditioning - one choice	1
k) Interior/ Fireplace - one choice	1
l) Air Quality - one choice	4

15 were not filled out at all
2 were partially filled out

Most Common Problem Area in houses you inspect.

#1 Basement/ Crawlspace moisture	**#2 Attic/ Insulation/ Ventilation**	**#3 Electrical**

a) Propery Site	7
b) Exterior - brick deterioration, poor stucco	3
c) Roof -	4
d) Structure, Foundations	4
e) Windows	2
f) Bsmt/ Crawlspace moisture problems, & water infiltration, water problems in general	15
g) Attic/ Insulation/ Ventilation	12
h) Plumbing	3
I) Heating/ Air Conditioning	5
j) Electrical	9
Substandard maintainance, homeowner makeshift improvements	2
Safety Concerns	2
Outdated systems	1
Chimney	1

Biggest Potenial problems in homes you inspect?

#1 IAQ-mold issues	**#2 Basement/ Crawlspace moisture**	**#3 Roof**

a) Property and Site	1
b) Exterior	2
c) Roof	4
d) Structure	3
e) Windows	1
f) Basement/ Crawlspace moisture problems	6
g) Poor understanding of new ventilation by contractors and home inspectors	1
h) Plumbing (acetal pipe fittings)	1
I) Heating/ Air Conditioning - oil furnances	2
j) Electrical	1
l) Air Quality, mold	13
Manufactures standards going down	1
Poor workmanship ...	1
Substand maintainance	1
Building Envelop	2
Environmental	1
Not answered, wait and see, depends on age	5

Most pressing concern for the Home Inspection industry at this time?

#1 Liability Concerns -	**19 responses**
#2 Proper Standards and Certification-	**17 responses**
#3 Public Recognition and Credibility-	**15 responses**
#4 Strong Professional Association-	**13 responses**

1) People thinking this is a 'punch list' job.	2
2) Legal liability	1
3) Uniform standards and certification	3
4) Amalgamate all organizatons into one strong professional organization.	3
5) Establishing the profession as a viable consumer service - not fly by night.	4
6) Legal liability	1
7) Legal liability	1
8) Recognition within the industry(real estate & builders) as the authority to evaluate the home.	4
9) Legal liability, total inconsistancy between National and Provincial	1,4
10) Education of inspectors, National certification, Standardized reporting formats.	2
11) Lack of consistant knowledge/skill requirements in any given jurisdiction.	2
12) Need for mandatory inspections on all purchases.	3
13) Inspector liability and vulnerability due to lack of ongoing training.	1
14) Properly trained inspectors who can educate the homeowner to properly maintain the home.	2,3
15) Liability, uniform standards of practice and training	1,2
16) Legal liability, insurance problems, promotion of guarantees.	1,4
17) Legal liability	1
18) Legal liability	1
19) Consolidation and universality.	2,3
20) Liability,too many 'fly by night' Joes who undercut prices to get business.	1,3
21) Legal liability	1
22) Educating the public to deflate overexpectations.	4
23) Professional designation badly needed to protect public.	3
24) Legal liability,realtor involvement	1,4
25) Gaining credibility and respect.	4
26) Public confidence, standards and education.	2,4
27) Poorly trained, non professional inspectors.	2
28) Legal liability,professional legislation	1,3
29) Educating the public.	3,4
30) Legal liability, deflating public expectations	1,4
31) Legal liability,considered a profession	1,3
32) Consistant standards and training	2
33) Legal liability, standardized qualifications	1,2
34) National standards	2
35) Improvement of standards	2
36) Legal liability, poor consumer & media awareness of home inspectors limitations.	1,4
37) Legal liabilities, client expectation, education	1,2,4
38) Professional order, national certification, standards.	2,3
39) Fast growth and challenge of CAHI to be relevant to everyone.	2,4

Phone only surveys.

1) Influenced by realtors	4
2) Education important	2
3) Need a 'right to practice' act, professional standards, legal liability.	1,2
4) Need licensing, National initiative.	3
5) Need uniform home inspector association representing everyone, improved public credibility.	3,4

Biggest potential future concern you see arising in the home inspection field?

Being controlled by non-inspection individ. or groups whose area of expertise is not the H.I. Field	1
Client expectations	1
Lack of knowledge about owning a house	1
Descimination of the industry due to public perception of what a building inspection is	2
Warranty issues	1
Getting insurance	2
Credibility & Public recognition	2
Legal liability	8
Descimination of the industry due to legal claims	1
Education and Certification	1
Providing qualified inspectors	1
A flood of the market with unqualified people/ non-trained inspectors	3
Consumer confidence being eroded by careless and unqualified inspectors	1
Too many incompetant inspectors/ lack of control over this new industry	1
Low profit margins	2
Environmental Concerns / indoor airquality/ mold	6
Over supply of home inspectors	1
Failure of the National Initiative	1
Conflicts between other organizations	1
Competition by engineers and architects, & appraisers	2

Clients having difficulty getting insurance due to...

a) 60 amp or less electrical services	24
b) Aluminum wiring	8
c) Galvanized plumbing lines	15
e) PWF wooden basements	6
20+ year furnance	3
Above ground oil tanks	1
3+ layers of asphalt shingles	1
Knob and tube wiring	6
Insulbrick siding	1
Fireplace safety	2
Wood stove	1
Pyrite	2
DIY mod or add.	1
GI plumbing	1
Structual / foundaion problems	1
Private water	1
Private waste	1
Not aware of any insurance problems	8

How many homes would you estimate are inspected yearly...

a) in your immediate inspection area?

40,000	Ontario		1	30%	Ontario		1
35,000	B.C.		1	50%	Alberta-2	Quebec	3
30,000	Ontario		1	60%	Quebec		1
20,000	Atlantic		1	70%	B.C.		2
10-14,000	Alberta		1				
10,000	Alberta		1				
8,000	Alberta		2				
7,000	Alberta		1				
6-7,000	Atlantic		1				
5-6,000	Quebec		1				
5,000	Atlantic	Praries	2				
3,000	Praries	Ontario	2				
2,000	B.C.	Ontario	2				
1,500	Praries	Praries	2				
1,440	B.C.		1				
1,000	Ontario	Alberta	2				
600	Ontario		1				
500	Alberta		1				
300	Alberta		1				

b) in your province?

100,000	Ontario		1	30%	Alberta	Quebec	2
80,000	Quebec		1	40%	Quebec		1
75,000	Ontario		1	45%	Ontario		1
65,000	B.C.		1	50%	B.C.		1
50,000	Ontario		2	55%	B.C.		1
45-50,000	Quebec		1				
30,000	Ontario	B.C.	2				
22,000	Alberta		1				
18,000	Alberta		1				
16,000	Alberta		1		**Averages**		
13,000	B.C.		1		**B.C.**	**33,000**	
10,000	Ontario		1		**AB**	**18,000**	
6,000	Atlantic		1		**SK**	**3,600**	
5,500	Praries		1		**MB**	**5,000**	
4,500	Praries		1		**QC**	**65,000**	
4,000	Praries		1		**ON**	**53,000**	
3,200	Praries		1		**ATLAN**	**10,000**	
2,400	B.C.		1				
1,500	Alberta		1		**TOTAL**	**187,600**	
12-1400	Atlantic		1				

Would you be willing to participate in regularly entering data into a National home inspection db?

Yes	30
No	7
Maybe	2

If Yes, how much time would you have on a weekly basis to do so?

Depends on $$$	2	**Average 2 hours**
.5 hr	2	
1 hr.	9	
1.5 hrs.	1	
1-2 hrs.	2	
2 hrs.	4	
2-3 hrs.	2	
2-4 hrs.	2	
3 hrs.	1	
5 hrs.	1	
Depend on time of yr	1	
Very little	1	
A few	1	
???	2	

What type of renumeration would you expect to receive?

???	10	**Average Renumeration**
$25/hr	2	**$75/hour or $15/report**
$50/hr	1	
$50-75/hr.	1	
$50-100/hr ($5/report)	1	
$100/hr ($25/report)	1	
$20/report	1	
$6-80/ hr.	1	
$300/hr	1	
$65-Inspector or $35- admin	1	
Nil	1	
$12.50/hr	1	
$40/hr	1	
$75/hr	3	
$10/report	1	

Which of the following questions can you easily fill in from your current home inspection form?

	1st Section	2nd Section		1st Section	2nd Section
1)	22	11			
2)	2	0			
3)	6	5			
4)	3	3			
5)	4	0			
6)	13	7			
7)	11	6	mold??	8	10
8)	1	0	age	3	6
9)	1	0	age	2	3
10)	1	1	mold/moisture	3	4
			type of insullation	1	3
11)	1	0			
12)	0	1	inadequate eaves	0	5
13)	12	7	active m/m	2	6
prev. m/m	6	4	& finished	14	5
14)	3	2			
15)	4	1			

Which of the following questions can you easily fill in from your current home inspection form?

...continued

16)	6	3	CO alarms	5	6
			Security	23	10
17)	23	7			
18)	3	0			
19)	2	0			
20)	11	1	size	2	3
21)	4	3	Backdraft	4	6
22)	18	15	A. garage	10	7
23)	1	3	Dehumidifier	21	12
24)	11	7			
25)	1	0	Condition	2	1
26)	0	0			
27)	1	1			
28)	0	2			
29)	12	9			
30)	15	11			
31)	12	8			
32)	1	3			
33)	0	0			
34)	7	2			
35)	3	5			
36)	27	11			
37)	14	7			
38) Time to do survey					
	10 minutes or less	17			
	10 - 20 minutes	15			
	over 20 minutes	4			
	N/A	3			

X-Lotus-FromDomain: CMHC-SCHL
From: "Darrel Smith" <dsmith@cmhc-schl.gc.ca>
To: "James D Robar" <jrobar@cmhc-schl.gc.ca>,
"Ken Ruest" <kruest@cmhc-schl.gc.ca>,
"Chris Ives" <cives@cmhc-schl.gc.ca>,
"Virginia R Salares" <vsalares@cmhc-schl.gc.ca>, → IAQ - MOLD + ratio's
"Don Fugler" <dfugler@cmhc-schl.gc.ca>, → Furnaces - HRU's
"Thomas Green" <tgreen@cmhc-schl.gc.ca>,
"Mark Salerno" <msalerno@cmhc-schl.gc.ca>,
"Debra L Wright" <dwright@cmhc-schl.gc.ca>,
Jim Bechtel "William J Crawford" <wcrawfor@cmhc-schl.gc.ca>,
"Jacqueline I Meunier-Bureau" <jmeunier@cmhc-schl.gc.ca>, → Tech Services
"Andre Robichaud" <arobicha@cmhc-schl.gc.ca>,
"Aleta Fowler" <afowler@cmhc-schl.gc.ca>,
"Cam L Dupuis" <cldupuis@cmhc-schl.gc.ca>,
"David Brady" <dbrady@cmhc-schl.gc.ca>
cc: Apple@therockies.com
Date: Thu, 27 Apr 2000 11:44:50 -0400
Subject: Collecting Housing Information
Content-Disposition: inline

To: James D Robar, Ken Ruest, Chris Ives, Virginia R Salares, Don Fugler, Thomas Green, Mark Salerno, Debra L Wright, William J Crawford, Jacqueline I Meunier-Bureau, Andre Robichaud, Aleta Fowler, Cam L Dupuis, David Brady

I have recently contracted with Brent Applegate from Applegate Ventures Inc. to undertake a Feasibility Study on Using the Private Home Inspection Industry to Collect Data on the Physical Condition of Canada?s Existing Housing Stock

The purpose of this study is to investigate the use of the private home inspection industry, nationally, as a vehicle for gathering data on housing characteristics and physical condition. The study will investigate the type of information desired by CMHC and the type of information currently being gathered by the inspection industry. The study will consider the various reporting systems being used, the numbers and types of homes inspected annually, geographic coverage, reliability of the information, anticipated costs, confidentiality requirements, use limitations and potential contractual arrangements for obtaining this and other data for CMHC's purposes.

In order to inform the contractor as to what type of information is desired by CMHC, I am soliciting your input. I have started a list in this database (Document link not converted) and would appreciate if you would take the time to review and add anything you think would be useful to CMHC which could possibly be collected from the private home inspection industry. Also, please feel free to note beside any items which you do not think would be worth collecting. Your input by May 4, 2000 would be appreciated.

Thank you,

Darrel

Delete document after:

Darrel Smith

2000/05/05 09:02 AM

To: Apple
cc:

Subject: Wish list

Brent, please note that the following list is a result of brainstorming by myself and colleagues for possible information items which CMHC could find useful. I know the list is extensive and you may find that it will not be practical to collect all this information during your study. I hope you find this wish list useful. The list is not in any particular order and you may want to restructure or regroup the items.

Darrel

The following is a list of information which could possibly be collected from the private home inspection industry and would be useful for CMHC's purposes.

Area of house (square footage, excluding the basement)

Age of house

Location: urban, rural, subdivision, busy street

Style of house (bungalow, split-level, etc.)

Number of storeys

Construction type (wood frame, masonry, etc.)

Number of occupants

Number of bathrooms present: working, ducted to the outdoors?

Bathroom and Kitchen fans

Exterior wall cladding

- Type
- Age
- Condition

Roof

- Type (Flat, cathedral, pitched)
- Is the roof ventilated or unventilated (Hot Roof)
- Roofing materials
- Age
- Condition

Attic

- Type (open, trusses, multi-level, etc.
- Attic ventilation installed

Signs of moisture in attic

Signs of visible mold growth

Insulation type, coverage, condition

Ducting in attic? What condition?

Do any occupants have respiratory problems, asthma or allergies

Signs of mold

Musty odour (especially upon entry to basement)

Water stains on walls or ceilings

Are all rooms used and heated?

Percentage of house with carpet

Foundation

Slope of ground by foundation and other drainage comments

Type of foundation (full, crawl space, slab, pile (wood, steel, screw), surface foundation e.g., wood crib, space frame, etc.)

Material (concrete, block, PWF)

Age of foundation

Condition of foundation

Evidence of moisture (spalling, efflorescence, staining, etc.)

Degree of finishing

Basement floor

Concrete

Dirt without any moisture barrier

Other (e.g. PWF)

Finished : type of flooring

Insulation levels, types, e.g., rigid, batts, foam, loose fill and materials

Walls

Ceiling

Basement

Alarms (type, location, functioning?)

Smoke

Carbon Monoxide

Fire

Security system

Home office

- FlexHousing design features included
  - Wide door openings - 810mm (32")
  - Accessible bathroom
  - Ramps
  - Grab bars
  - Lever handles on doors and faucets
- Windows
  - Type of frame
  - Type of glazing
  - Condition
  - Age
  - Are high performance windows included, i.e., energy efficient
- Structural deficiencies
- Heating system
  - Type
  - Fuel
  - Age
  - Condition
  - Venting problems?
    - Air Conditioning: Age and maintained?
  - Signs of backdrafting
- Hot water heater
  - Type, fuel, age, etc.
- Oil tank (if applicable)
  - Age
  - Location (interior or exterior)
- Electrical system
  - Any safety issues
  - Service amperage
  - Type (knob and tube, aluminum etc.)
  - Energy efficient fixtures
  - Security system
- Plumbing system
  - Type of supply lines (lead, polybutylene etc.
  - Water conserving fixtures
  - Rainwater collection

Any visible leaks or water damage

Water: city water and sewer. well, septic, sump pump maintained?

Ventilation system

Type of ventilation system if any (exhaust fans, air exchanger, HRV etc. Is it working and used, maintained by the occupant?

Fresh air or make-up air provided

Distribution to all rooms

Presence of lead paint

Presence of cast iron piping (brittle - cracks and leaks can develop)

Presence of rodents and other nasties (mice, cockroaches, wood decay fungi, etc.)

Solar collectors

Wind generators

Water recycling/reclamation

Site

Soil conditions - sand , clay , permafrost , rock ,etc.

Site conditions - grading around structure , level , sloping , etc.

Location - above treeline , below treeline , remote , isolated

Services - trucked or connected (sewage , water)

General

When was their last remodeling or major renovation, if any

Was maintenance done on a regular basis?

Are there any energy efficiency upgrades

Are low VOC building materials used

Are any "smart house" features included

CMHC "Wish List" Analysis

The following items from the preceding "wish list" would be difficult or impossible for home inspectors to report upon:

- Square footage of house – not measured during a home inspection, often available from listing sheets at house or from office booking sheet, but not able to vouch for accuracy.
- Number of occupants – never identified during a home inspection.
- Occupants health – usually no contact with occupants during a home inspection.
- Percentage of house with carpet – not identified during a home inspection. Could be approximated as an extra item depending upon inspectors willingness to cooperate.
- Degree of finishing – "....."
- Carbon Monoxide – many home inspectors test for this and many feel that all should.
- Home office – room usage not generally identified.
- Flex housing features – wide door openings, grab bars, ramps, etc. – would need to be added to most reporting formats as presently not usually commented upon.
- Security system – not part of a home inspection but could easily comment on if present.
- Energy efficient features – electrical and water fixtures, energy efficient windows, solar collectors, wind generators, water recycling/reclamation, - not generally commented on.
- Lead paint – often commented upon as a possibility but not tested for.
- Soil conditions - geological conditions are far beyond the scope of a home inspection.
- Date of last re-modeling – not commented on and difficult to determine.
- Well maintained home – could be generally commented upon.
- Low VOC home – not inspected for.
- Smart housing technology – not generally commented on but could be easily identified.
- Toxic cleaning products, paints, etc. – not inspected for.

If an item from the preceding "CMHC "wish list" is not identified here, it should be considered a normal part of most home inspectors reports.

Software Benchmark

Benchmark	CHILD 2000	Soft-Q	Sheu	Star	Hot 2000/Hot 2XP
System Requirements					
Easily distributed to the Home Inspection Community as well as other potential clients	Web Based • .com address • Accessed via the Internet • Form available on the web	Web Based • .com address • Accessed via the Internet • Software needs to be installed for on client computer	Not configured for data entry via the Internet • Configured to operate using software built to run on the client computer	Not configured as a traditional database. Data entry is very difficult	Web Based • E-mail to database • Accessed via the Internet
Easily accessed by Home Inspectors	Yes	Yes	No	No	Yes
User specific, providing access based on privileges set-up for specific users/groups	Yes • Users can be configured and modified at will	Yes	Yes	Yes	Yes
Data entry is easy and efficient for all data types	Yes	Would have to be configured to allow such data entry	Would have to be configured to allow such data entry	Would have to be configured to allow such data entry	Would have to be configured to allow such data entry
Data is easily accessed by CMHC and other potential clients	Yes • Can be modified to include any changes in the future	Yes	Would have to be configured to allow such data entry	Would have to be configured to allow such data entry	Yes
State of the Art, providing all efficiencies available today and upgradeable to include those of tomorrow	Yes • Will include multiple reporting types.	Yes • Very well equipt and upgradeable	No • Constructed for a specific function and is cumbersome to upgrade	No • This database is static and does not currently allow functional data entry	Yes
Configured and user/client specific for the Home Inspection Industry	Yes	Yes	No	No • Designed for CMHC	No • Designed for Energy and Natural Resources Canada
Expandable to include possible modifications for the future	Yes • Upgrades are limited to Future Internet Advances	Yes • Upgrades are limited	No	No	Yes • Upgrades are limited

RAPID
CONSULTING TECH
Making Technology Work For You

Matthew J. Hargrave
telephone: (403) 862-1381
e-mail: rapid.tech@home.com

July 18, 2000

Brent Applegate
Applegate Ventures LTD
391 Killarney Glen Court SW
Calgary AB
T3E 7H4

Dear Brent Applegate:

Subject: Home Inspection Database Feasibility Study

After reviewing five possible software solutions for the CMHC Home Inspection Database Feasibility Study Rapid-Tech recommends **CHILD 2000** as the best solution. The 4 other software databases (SOFT-Q, SHEU, STAR, HOT 2000) were all competent databases, but they were all built for other purposes. A further disadvantage is that they were designed to use a pre-built interface to transmit data to a database; this restricts the software to a networked or custom configured environment. **CHILD 2000** is the only database that will not require any special software loaded on the Home Inspectors workstations and that can allow information to be entered from any location without configuration or set-up procedures.

Rapid-Tech is recommending the use of **CHILD 2000** as the best solution using the latest advances in Internet Technology to provide the Home Inspection Community with a simple and universal interface for data entry. **CHILD 2000** is a fully secure, upgradeable, and state of the art Internet based data collection system. Being specifically designed for this project **CHILD 2000** is clearly the best option for Nation wide data collection from the home inspection community.

Matthew J. Hargrave
Systems Consultant

CHILD 2000

Home Inspector Database Feasibility Study

Analysis

CHILD 2000

Home Inspector Database Feasibility Study

CHILD 2000 description

CHILD 2000 uses a method of data collection that enables users to enter data from any location in the world in a secure and efficient manner. With the advances in the Internet Technology Industry over the past decade transferring information over the World Wide Web with security has become commonplace allowing vast expansion and usability for transferring of critical and sensitive data.

1) Client is required to have access to the Internet

2) Database is completed on client (home inspector) computer using their web browser interface (Internet Explorer, Netscape Navigator).

3) Data collection is performed immediately as the Home Inspection is entered into the interface.

How it works

CHILD 2000 offers a full range of Internet features, simple to use interface to a fully secure backend system. In order for the Home Inspection Community to utilize the Internet based ***CHILD 2000*** they require Internet access and a browser of some kind (Internet Explorer, Netscape Navigator... etc).

The Home Inspector will register for access by filling out the registration form, which will be accessible through a link at **http://www.canadahomeinspection.com**. The Registration information will be forwarded directly to CMHC for verification, this process will help prevent users from being added to the system more than once and will also prevent erroneous users from being added at all. After the registration is complete the Home Inspector will receive a UserID via e-mail. This UserID will be needed to access the home inspection data system, and will also track data being entered into the system so that a history can be generated based on the UserID's.

Following the receipt of a UserID, the Home Inspector will have full access to enter information into the CMHC Database. By signing onto the system using the assigned UserID the database will keep a track record of accesses and data entries made by the user. Any data entered into the database can be queried and accessed to provide reports to CMHC.

CMHC will be given sole access to the entire database, allowing a full range of reports and query capabilities of the information collected based upon ongoing needs and requirements.

CHILD 2000 is fully upgradeable and will be very receptive of any technological advances in the future.

CHILD 2000 Advantages

- Uses the Internet as a communication and information transfer interface.
- Server Validates entries to be sure they are authentic.
- Security by UserID and Passwords.
- Keeps record of all entries received.
- Very easy for the Home Inspection to set-up, with no software to install all they have to do is request a UserID by filling out the registration form.
- Built specifically for this use.
- Easily upgradeable to meet future system requirements and demands.

CHILD 2000 Issues

- The system requires Internet access.

This system is recommended because of it's versatility and usability for this specific process.

Soft-Q

Home Inspector Database Feasibility Study

Analysis

Soft-Q

Home Inspector Database Feasibility Study

Soft-Q description

Still under construction ***Soft-Q*** is designed to connect information throughout multiple databases using one interface...***Soft-Q***.

1) Program is installed on client (home inspector) computer.

2) Database is completed on client (home inspector) computer.

3) Database entries sent via the Internet to the Database server.

How it works

Soft-Q is still under development making it one of the more technically advanced databases researched. ***Soft-Q's*** initiative is to provide small business with a system where contact data can be entered and accessed via a multitude of program types built into the system. ***Soft-Q*** has an extensive list of programs or "modules" designed to share information between on another. The programs range from Human Resources to a Recipe Manager.

Soft-Q is being developed using the Microsoft Database software *Access*. This software while somewhat limited in its database development capabilities *Access* is able to provide ample control for this type of development.

Soft-Q Advantages

- Uses the Internet as a communication and information transfer interface.
- Server Validates entries to be sure they are authentic.
- Security by UserID and Passwords.
- Keeps record of all entries received.
- Advanced Internet Technology

Soft-Q Issues

- Software must be installed on each workstation, which will be entering data into the database.
- The Home Inspector will have to be trained and able to use the interface.
- CMHC will have to have a server configured for the database entry and dedicated for such a purpose.

This software was not recommended because of the need to install software on the Home Inspectors workstations, and the need to set-up a dedicated CMHC database server.

SHEU

Home Inspector Database Feasibility Study

Analysis

SHEU

Home Inspector Database Feasibility Study

SHEU description

Sheu, developed for a survey performed in 1994 used for queries and for irregular updates and additions.

1) Database is located at server and is updated at location.

2) Information is added once every four years.

3) Not Internet enabled or capable at this time.

How it works

Sheu was a database set-up for the "Survey of Household Energy Use" in 1994. The information for ***Sheu*** was collected from about 15,500 dwellings across Canada by Statistics Canada. The Key information collected was; appliances, space heating and air conditioning, water heating, lighting, the thermal envelope as well as a profile of the dwellings' occupants. Plans were made to repeat this survey every four years, with small-scale surveys for the interim years.

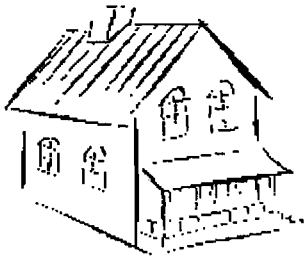
Information collected for the ***Sheu*** database was conducted via mail (postal) and telephone interviews, with a 72% response rate. Trained personnel entered information into the database during phone interviews or from the information received via mail using interface software set-up at the workstations.

Sheu Advantages

- Security by UserID and Passwords.

Sheu Issues

- Software must be installed on each workstation, which will be entering data into the database.
- ***Sheu*** would require extensive customization and modification in order to be useful for the CMHC Database project.
- CMHC will have to have a server configured for the database entry and dedicated for such a purpose.



SURVEY OF HOUSEHOLD ENERGY USE

The major areas covered by the Survey of Household Energy Use (SHEU) include: appliances, space heating and air conditionning, water heating, lighting, the thermal envelope as well as a profile of the dwellings' occupants. Appliances' make and model and household energy bills were also collected.

A detailed statistical report was published in November 1994. Plans are to repeat the survey every four years. Annual small scale surveys on household equipment, new housing and homeowner repair and renovation activity will supplement the SHEU in interim years.

Conducted by:	Statistics Canada
Sponsors:	Natural Resources Canada and the provinces of Saskatchewan, Manitoba, Ontario, New Brunswick, and Nova Scotia.
Type:	Survey with a cluster sample (supplement to Labour Force Survey)
Methodology:	Combination mail/telephone interview
Period:	March 1993, for the year 1993
Geographical coverage:	Canada-wide excluding the Territories
Sample size:	15,610 dwellings
Response rate:	72%

For more information, please contact:

Head, Data Development Group
Office of Energy Efficiency
Natural Resources Canada
580 Booth St., 18th Floor
Ottawa, Ontario K1A 0E4
Fax: (613) 947-4120
E-mail: neud.bnce@nrcan.gc.ca

Also available in French.

OEE Home Page | Previous Page | Next Page

STAR

Home Inspector Database Feasibility Study

Analysis

STAR

Home Inspector Database Feasibility Study

STAR description

STAR was designed for the analysis of energy data in homes across Canada.

1) Program was built in 1991 for CMHC.

2) Runs Queries to provide energy efficiency on the static data of about 1100 homes.

How it works

The ***STAR*** database was constructed for CMHC; the database was built in 1991 for the analysis of energy use in about 1100 homes across Canada. Information collected in ***STAR*** has not been altered or added to since its' conception in 1991. The database is strictly used for analysis and estimation purposes, with about 270 parameters to query and analyse.

STAR Advantages

- Awesome query capabilities.

STAR Issues

- The data located in this database is static and therefore is neither updated nor added to making the database unusable for the Home Inspector Database.

Hot 2000 / Hot 2XP

Home Inspector Database Feasibility Study

Analysis

Hot 2000 / Hot 2XP

Home Inspector Database Feasibility Study

Hot 2000 / Hot 2XP description

Hot 2000 and ***Hot 2XP*** are two separate programs but are used for the same function by Energy and Natural Resources Canada for the gathering of information on a project called *Energuide*.

1) Program is installed on client (home inspector) computer.

2) Database is completed on client (home inspector) computer.

3) Database information is generated by ***Hot 2000*** or ***Hot 2XP*** and sent to Energy and Natural Resources Canada Via E-mail.

4) Software cost is $150.00 per user as well as CMHC database would have to be configured.

How it works

Hot 2000 and ***Hot 2XP*** were developed for the *Energuide* project being implemented by Energy and Natural Resources Canada. The purpose of the programs was to gather information from Delivery Agents (field personnel – sub contractors). These Delivery Agents employ evaluators or advisors whose job it is to inspect a home and make appropriate recommendations for *Energuide* compliancy.

The data collected on each home is entered into ***Hot 2000 or Hot 2XP***, which then generates 2 special files. These files hold key data that is to be sent to Energy and Natural Resources Canada. To send these files to Energy and Natural Resources Canada they must be attached to an E-mail, which is sent directly to the Energy and Natural Resources Canada server located in Toronto. When the files reach the Energy and Natural Resources Server where it is processed and validated before it allowed to be merged with the existing database. If the server is unable to validate the information contained in the files it then forwards the files to a person who is responsible of allowing or disallowing the file to be entered into the database.

Each ***Hot 2000*** and ***Hot 2XP*** user has his/her own UserID and Password for authentication reasons, and also so that Energy and Natural Resources are aware of who is entering the information.

Hot 2000 and Hot 2XP Advantages

- Uses the Internet as a communication and information transfer interface.
- Server Validates entries to be sure they are authentic.
- Security by UserID and Passwords.
- Keeps record of all entries received.

Hot 2000 and Hot 2XP Issues

- The individual user copies of the software are $150.00 each and would have to be purchased for each user forwarding data to CMHC.
- Software must be installed on each workstation, which will be entering data into the database.
- The Home Inspector will have to be trained and able to rename, attach and send files via E-mail to CMHC.
- CMHC will have to have a server configured for the database entry and dedicated for such a purpose.

This software was not recommended because of the need to install software on the Home Inspectors workstations, and the need to set-up a dedicated CMHC database server.

Cost Estimate to complete CHILD2000 Project
Home Inspection Feasibility Study

Website Development/Structuring and Design	12,000
Database Construction and Query Configuration	14,000
Website Hosting and Maintenance	6,000
Consulting and Miscellaneous	6,000
Total Cost	**$ 38,000**

Rapid-Tech used many resources to provide this summarization of data required to make an informed and accurate recommendation for the Home Inspection Data Collection Feasibility Study.

Listed below are the contacts and sources of information for the recommendation and summarization previously stated.

CHILD 2000

Internet Service Provider and Host (403) 932-6146
IEI (Interact Enterprises Inc.) http://www.interactenterprises.com
Suite 505 Bay 1 206 5th Ave W
Cochrane AB, T0L 0W3
Michael Gawryletz mike@interactenterprise.com

Web Design and Solutions (403) 932-0723
http://www.interactenterprises.com/1stimpressions/
First Impressions
Printing and Graphic Design
Ron Sullivan 1stimpressions@home.com

Database Specialist (403) 283-1950
Silas Wittman swittman@telusplanet.net

Soft-Q

The Soft-Q website – http://www.soft-Q.com

VP Sales & Marketing
Soft-Q (403) 251-3007
Suite 217 11625 Elbow Dr. SW
Calgary, AB. T2W 1G8
Bud Melvin bmelvin@soft-Q.com
Sean Nason snason@soft-Q.com
Ken Prather kprather@soft-Q.com
Gord Williams gwilliams@soft-Q.com
Kelly Williams kwilliams@soft-Q.com

SHEU/STAR

SHUE Information found on the Internet – http://oee.nrcan.gc.ca/general/neud/fs14.html (Attached)

Database Consultant (613) 947-1959
Anil Parakh

Hot 2000 / Hot 2XP

Energy and Natural Resources Canada (613) 996-6750
Louis Roux