CATARAQUI NORTH, A CASE STUDY:

KINGSTON’S EXPERIENCE WITH THE IMPLEMENTATION OF A NEW URBANIST SECONDARY PLAN

A Master’s Report

By

Tony Gkotsis

A report submitted to the Graduate Program in Urban and Regional Planning in conformity with the requirements for the Degree of Master of Urban and Regional Planning

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EXECUTIVE SUMMARY

The late 1980s and early 1990s bore witness to the emergence of New Urbanist theories of neighbourhood development. New Urbanist development theory seeks to return development patterns to their Pre-War roots of grid patterned streets; away from conventional neighbourhood design that is built upon curvilinear streets and culs-de-sac. In Kingston Ontario, this movement appeared as the principles behind the 1993 Alternative Master Plan for the Cataraqui North Neighbourhood (see Map E-1) which replaced its predecessor the 1990 Master Plan for Cataraqui North (revised in 1991), which was based on conventional neighbourhood design.

Most research into New Urbanist neighbourhoods focuses on comparisons between New Urbanist communities and neighbouring conventional suburban development. Indeed, little research has focused on the implementation of New Urbanist plans. As such, this research examines the implementation of the Cataraqui North Neighbourhood to determine which elements of the Cataraqui North Alternative Master Plan have not been implemented and why. This case study research utilizes this information to propose recommendations for the completion of the Cataraqui North Neighbourhood and to propose ways to improve the implementation of future New Urbanist Secondary plans in Kingston.

This research was performed utilizing a mixed-methods approach and was executed in two phases (see Figure E-1). The first phase compares eleven elements between the 1993 Cataraqui North Alternative Master Plan with its predecessor to determine which of the two contain characteristics that are thought to increase active transportation. The second phase of the research is a single case study in three parts:

Map E-1: The Cataraqui North Neighbourhood within the City of Kingston.
1. **Conformity Testing** – Examined 54 elements from the 1993 Alternative Master Plan to determine if the elements of the Plan were implemented;

2. **Document Analysis** - Determine mechanisms which allowed for non-conformity;

3. **Semi-Structured Interviews** – Conducted with ten stakeholders including: municipal planners, proponent planners, developers and an engineer who were involved in various stages of the implementation of the Cataraqui North Neighbourhood so that the decision process which led to non-conformity could be better understood and lessons learned from the implementation of the neighbourhood could be assessed.

In the 1980s the Dacon Corporation began assembling a land owners group in what would become the Cataraqui North neighbourhood. Although landowners within the neighbourhood changed through the decade that followed the one constant within the developer group was Dacon acting as the lead developer. The result was a development proposal in 1990 (revised in 1991) based on conventional suburban design with curvilinear streets, central parkland running behind homes with schools and churches acting as the community focal point (see Figure E-2).
In 1992 the Township of Kingston halted review of the Cataraqui North Master Plan to undertake a review of the Kingston Township Official Plan. At the same time, planning consultants for the proponents had put together a new design for the neighbourhood as an academic exercise based on what would later be recognized as principles of new urbanism. The Official Plan review resulted in policies to develop walkable communities that were not as automobile dependant; diversification of land uses; a greater housing mix and; connectivity both within neighbourhoods and to the surrounding area.

Weinstein + Associates, the consultants retained to develop the Cataraqui North Master Plan, presented the new design to their clients. It was received warmly by Dacon who recognized an opportunity to market a neighbourhood as opposed to simply selling houses. The design was based on a grid pattern street network with a hierarchy of parks and a mixed-use community focal point (see Figure E-2 and E-3). This change in neighbourhood design methods from Clarence Perry’s conventional neighbourhood unit was reflected in designs by new urbanist firms such as Duany Plater-Zyberk.

The Cataraqui North Alternative Master Plan can be considered a more complete and superior Secondary Plan than its predecessor containing more characteristics that are thought to increase active transportation such as:

- A 77% greater intersection density which increases connectivity within the neighbourhood by providing alternate routes for pedestrian travel and improving pedestrian connectivity to local amenities (compare Figures E-4 and E-5).
• A 33% increase in street density which was partially responsible for more than doubling the neighbourhood residential density allowing for the wide variety of retail types that were proposed for the neighbourhood to be supported by local consumers.
• A greater mix of land uses that would allow people to live and shop close to where they work reducing dependence on the automobile.
• An almost equal proportion of medium and low density housing which could increase affordability within the neighbourhood and allow for aging in place providing services within walking distance for the elderly as well as young families.
• A redesigned community “hub” with a variety of land uses ensuring that the community would retain its focal point even in the event of a school site not materializing.

The 1993 Alternative Master Plan for Cataraqui North contributed to New Urbanist planning in Canada. The designers of the plan put forth their best ideas and developed theories on the neighbourhood unit through the creation of this plan. Alternative Master Plan was received by Township planning staff with great excitement and quickly approved.

Unfortunately, the Cataraqui North Neighbourhood was not implemented in conformity with the principles set out in the 1993 Alternative Master Plan. Only 26% of the 54 recommendations made by the Alternative Master Plan were implemented, while 50% where not in conformity and 24% were in partial conformity (see Table E-1 and Figure E-6).

Important features of the Plan that were not implemented include:

• Only 7 of 9 connections to boundary roads were built. The proposed traffic dispersion model may not come to fruition and major streets may act as collector streets instead;
• Breaking from the proposed street grid network by implementing 13 culs-de-sac;
• Failure to implement mixed-used corridor along Princess St;
• Not implementing the traffic circle in the heart of the neighbourhood or the associated ceremonial park;
• Building a few apartments at the centre of the community instead of community commercial convenience centre;
• No public elementary schools implemented within the neighbourhood;
• A shortfall of 2349 residential dwelling units within the neighbourhood;
• A failure to achieve an equal proportion of low and medium density housing units.

Table E-1: Summary of implementation conformity with the recommendations of the Cataraqui North Alternative Master Plan (1993).

<table>
<thead>
<tr>
<th>Criteria Questions</th>
<th>Conformity</th>
<th>Partial Conformity</th>
<th>Non-Conformity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Land Use</td>
<td>6</td>
<td>1 (17%)</td>
<td>1 (17%)</td>
</tr>
<tr>
<td>Parks and Open Space</td>
<td>9</td>
<td>2 (22%)</td>
<td>4 (44%)</td>
</tr>
<tr>
<td>Transportation</td>
<td>11</td>
<td>5 (46%)</td>
<td>1 (9%)</td>
</tr>
<tr>
<td>Housing and Density</td>
<td>19</td>
<td>5 (26%)</td>
<td>4 (21%)</td>
</tr>
<tr>
<td>Transit</td>
<td>4</td>
<td>1 (25%)</td>
<td>3 (75%)</td>
</tr>
<tr>
<td>Schools</td>
<td>5</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>14 (26%)</td>
<td>13 (24%)</td>
</tr>
</tbody>
</table>

Figure E-6: Comparison between the 1993 Alternative Master Plan (left) and the Cataraqui North Neighbourhood as of 2013 (right).
The true failure in the implementation of the plan was the failure to implement the focal point of the community, which was based on the combination of the commercial centre, ceremonial park and schools. Instead, the neighbourhood is left with a simpler and poorly-defined open space to fill that void (see Figure E-7).

Figure E-7: Comparison of the Community Hub, Planned (above) vs. Built (below). The Cataraqui North Alternative Master Plan (above), features convenience commercial, hierarchy of parks and school sites; Cataraqui North Neighbourhood as built (below) contains only open space as well as High and low density residential land uses.

Development in the Cataraqui North Neighbourhood did not build the complete streets found in the best new urbanist projects, but it did create a built form that fosters a more walkable streetscape than other conventional suburban developments in the former Kingston Township. This was accomplished by re-introducing pre-war streetscapes through reduced lot size, shallow front yard setbacks and requirements that garages be in line with housing. Furthermore, these requirements went on to be successfully replicated in other neighbourhoods throughout the City. However, one requires somewhere to walk to for the streetscape to reach its potential for fostering a walkable environment.

Archival research and interviews with stakeholders involved in the development of the Cataraqui North Neighbourhood revealed that the various factors that resulted in non-conformity can be characterized into four broad themes:

1. Flexibility in Official Plan and Zoning By-Law;
2. General nature of the Official Plan mapping;
3. Disconnect between various approval authorities; and
4. Political/Economic Concessions.

Table E-2 outlines how the four themes affected the community design principles that were examined for conformity from the 1993 Alternative Master Plan. These failures led not only to the obvious shortcomings of implementation such as a shortfall in the number of dwelling units; a lack of housing mix; partially realized grid network, but also created cascading effects as well such as a loss of school sites; poorly defined parks; and long-term transit costs to the municipality.

Table E-2: Factors Resulting in Non-Conformity of New Urbanist Principles.

<table>
<thead>
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<tr>
<td><strong>Commercial Land Use</strong></td>
</tr>
<tr>
<td>• Political/Economic Concessions</td>
</tr>
<tr>
<td>• Flexibility in Official Plan and Zoning By-Law</td>
</tr>
<tr>
<td>• General nature of Official Plan mapping</td>
</tr>
<tr>
<td><strong>Parks and Open Space</strong></td>
</tr>
<tr>
<td>• Disconnect between various approval authorities</td>
</tr>
<tr>
<td>• General nature of Official Plan mapping</td>
</tr>
<tr>
<td><strong>Transportation</strong></td>
</tr>
<tr>
<td>• Disconnect between various approval authorities</td>
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<td><strong>Schools</strong></td>
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<td>• Flexibility in Official Plan and Zoning By-Law</td>
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<tr>
<td>• Political/Economic Concessions</td>
</tr>
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This research resulted in recommendations for the future development of the Cataraqui North Neighbourhood that include:

1. Re-examination of remaining vacant lands;
2. Re-examination of the Princess Street corridor;
3. The creation of a transition zone between the Princess Street corridor and the Cataraqui North Neighbourhood; and
4. Improvement of pedestrian connectivity from the Cataraqui North Neighbourhood to the Princess Street corridor.
Lessons learned from the implementation of the Cataraqui North Alternative Master Plan led to recommendations for medium-sized communities such as Kingston for the creation and implementation of secondary plans based on the theories of new urbanism:

1. Secondary planning should be a municipally driven process;
2. Municipalities should be leaders and champions of the neighbourhood planning process;
3. Various approval authorities and all affected municipal departments should be stakeholders in the planning process from the outset;
4. The approval of a secondary plan and architectural controls should occur simultaneously and not left to a later date;
5. Developer input in the creation of neighbourhood design guidelines to ensure buy-in;
6. Municipal first right of refusal for school sites not optioned by school boards;
7. Provisions for neighbourhood functionality if school sites do not materialize;
8. Flexible zoning utilized only in conjunction with other development controls;
9. Use prescriptive zoning to meet neighbourhood objectives;
10. Secondary plan mapping should be detailed;
11. Re-examination of secondary planning area when dramatic change to the neighbourhood is proposed; and
12. Broad discussions and analysis about the potential long-term effects that proposed zoning amendments may have on the functionality of the entire neighbourhood.

The recommendations from this research are particularly appropriate for the suburbs of the City of Kingston. They may also be useful for development of atypical or innovative secondary plans in small to medium-sized municipalities. However, the majority of the recommendations are only pertinent for the implementation of any type of secondary plan within a small to medium-sized municipality such as Kingston. The applicability of the recommendations becomes limited for larger municipalities or those that experience rapid growth.

The findings of this research are a first attempt to examine factors that affect the implementation of the vision of secondary plans. Further case study research is required in similar municipalities (small to medium with slower growth rates) as Kingston to replicate the findings of this research. Similar case study research is needed for larger municipalities and those experiencing rapid growth to determine whether these findings are appropriate for those situations.
ACKNOWLEDGMENTS

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1. INTRODUCTION

In the late 1980s, New Urbanism developed as an alternative to conventional suburban development. The movement began through the design of Seaside, Florida in 1982 by Andres Duany and Elizabeth Plater-Zyberk.\(^1\) The principles of New Urbanism focused on recreating the housing mix, street patterns and physical attributes of traditional pre-war suburbs.\(^2\) The movement grew in popularity through the writings of Andres Duany and Elizabeth Plater-Zyberk, Peter Calthorpe and Peter Katz among others.\(^3\) The principles of New Urbanism were heavily promoted through the American Planning Association and the Urban Land Institute.\(^4\) A lecture series performed throughout North America by Duany was eventually transcribed into *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream*.\(^5\) This book brought New Urbanism into everyday parlance. The Congress for the New Urbanism (CNU) was formed to advocate the spread of the new design methods. All these actions culminated in Charleston, South Carolina with the signing of The Charter of The New Urbanism in 1994 by the 266 delegates in attendance at the fourth CNU congress.\(^6\)

Since the early 1990s, the principles of New Urbanism have gained acceptance and prominence in communities across Canada.\(^7\) In 1995, the Ontario Ministries of Housing and Municipal Affairs offered guidelines for new development techniques through the publication of *Making Choices: Alternative Development Standards*.\(^8\) Indeed, in Ontario alone 41 projects have claimed to be “New Urbanist” developments.\(^9\) The initial popularity of this movement may have influenced a group of developers in Kingston, Ontario, who in 1993, offered an Alternative Master Plan\(^10\) for the Cataraqui North area.\(^11\) This new design replaced the Master Plan they had

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put forth in 1990 and made technical revisions to in 1991. The new secondary plan, inspired by the tenants of New Urbanism, was adopted by the Township of Kingston in their 1995 Official Plan as the Cataraqui North Secondary Plan. It was subsequently transferred into the 2010 City of Kingston Official Plan, which was produced after the amalgamation of the local municipalities.

While much has been written about the principles of New Urbanism, most research has focused on comparisons between New Urbanist communities and neighbouring conventional suburban development. Similarly, the work of Nathan Hildebrand focused on evaluating New Urbanist plans and not their actual implementation. Furthermore, little work has been done to evaluate the implementation of New Urbanist plans. Indeed, gaps currently exist between a theoretical examination of plan evaluation and the evaluation plans in practice. As such, there have been no empirical studies to determine if the Cataraqui North Neighbourhood has been constructed according to criteria set out in the Cataraqui North Alternative Master Plan. This research examines the implementation of the Cataraqui North Neighbourhood to determine which elements of the Cataraqui North Alternative Master Plan have not been implemented and why to understand the effects of not implementing those elements.

New Urbanist developments are based on a different theoretical framework than conventional suburban development. As such, we should understand the challenges in implementing New Urbanist secondary plans to develop recommendations so that the goals and objectives of a community can be achieved in the future. This case study suggests recommendations for completion of the Cataraqui North Neighbourhood and makes further recommendations to improve the implementation of future New Urbanist Secondary plans in Kingston.

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18 Ibid
2. METHODOLOGY

This study had two phases of research and used mixed-method approaches. The first phase of this research was a comparative study to determine if the Cataraqui North Alternative Master Plan\(^{21}\) was superior to its predecessor, the Master Plan for Cataraqui North,\(^{22}\) in terms of envisioning physical characteristics that support active modes of transportation (see Figure 2-1). The second phase of this research was a single case study to evaluate if the Cataraqui North Alternative Master Plan\(^{23}\) was implemented according to the guidelines set out in that document.

An examination of the implementation of the Cataraqui North Alternative Master Plan\(^{24}\) as a case study is appropriate. Case study research is applicable when attempting to understand a set of decisions, their impact, why they were taken, as well as how they were implemented.\(^{25}\)

2.1 Phase I: Comparative Case Study

The first phase of the research compared elements found within the Cataraqui North Master Plan\(^{26}\) with those found in the Cataraqui North Alternative Master Plan,\(^{27}\) to determine optimality in regards to the policies of the 1995 Official Plan of the Township of Kingston.\(^{28}\) Section 1-3.1.4 of the 1995 Township of Kingston Official Plan\(^{29}\) envisioned communities with improved linkages to neighbourhood amenities and to the surrounding neighbourhoods so that greater access could be achieved by citizens. The goal of that principle was to increase connectivity for pedestrians and thus reduce the reliance on automobiles. Community Design Principles outlined in Section 2-3.2 of that Plan\(^{30}\) encourage the following in regards to new development:

- A variety of building types and design;
- Design that encourages walking, cycling, transit use;


\(^{24}\) Ibid


\(^{29}\) Ibid.

\(^{30}\) Ibid.
- Residential densities that support the cost-effective provision of support services and amenities;
- Design that encourages the consideration and possible use of alternative engineering and road design standards.

Although the terminology did not exist in 1993, in the planning parlance of today the aforementioned factors contribute to the creation of healthy communities through facilitating active transportation. To determine which of the two plans encompass these principles to a greater degree, a variation of the methods employed by Tomalty and Haider is used.\textsuperscript{31} The researchers found that neighbourhoods with New Urbanist physical characteristics increase

\begin{flushright}
\end{flushright}
active transportation. The physical characteristics utilized by Tomalty and Haider to evaluate Conventional and New Urbanist Neighbourhoods are also used in this research. However, a variation of the methods utilized to judge whether those characteristics is required because, while these researchers examined built-out neighbourhoods, the first stage of this research project compared alternative plans.

Table 2-1: Evaluative criteria utilized in comparison of the Cataraqui North Master Plan with the Cataraqui North Alternative Master Plan

<table>
<thead>
<tr>
<th>Categories</th>
<th>Criteria Questions</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neighbourhood Size</td>
<td>What is the size of the neighbourhood?</td>
<td>GIS/Plan Evaluation</td>
</tr>
<tr>
<td>Number of Units</td>
<td>What is the total proposed amount of units for each neighbourhood?</td>
<td>Plan Statistics</td>
</tr>
<tr>
<td>Density</td>
<td>What is the proposed overall density for the neighbourhood?</td>
<td>GIS/Plan Statistics</td>
</tr>
<tr>
<td>Housing Types</td>
<td>What is the proportion of each housing type by density?</td>
<td>GIS/Plan Statistics</td>
</tr>
<tr>
<td>Non-residential Land Uses</td>
<td>What are the proposed non-residential land uses within the Plan?</td>
<td>Plan Evaluation</td>
</tr>
<tr>
<td>Green and Open Space</td>
<td>What is the amount of public green and open space within the neighbourhood?</td>
<td>GIS/Plan Evaluation</td>
</tr>
<tr>
<td>Sidewalks</td>
<td>What sidewalk recommendations (None, Sidewalk Both Sides, Sidewalk One Side) are made within the plan?</td>
<td>Plan Evaluation</td>
</tr>
<tr>
<td>Street Density</td>
<td>What is the proposed Street Density, as measured by street length (km) per hectare of land, for each of the plans?</td>
<td>GIS/Plan Evaluation</td>
</tr>
<tr>
<td>Street Rights of Way</td>
<td>What are the recommendations street right of way widths within the respective plans?</td>
<td>Plan Evaluation</td>
</tr>
<tr>
<td>Pedestrian Connectivity</td>
<td>Do plans address pedestrian connectivity to local amenities?</td>
<td>Plan Evaluation</td>
</tr>
<tr>
<td>Intersection Density</td>
<td>What is the proposed Intersection Density, as measured by the number of intersections per hectare of land, for each of the plans?</td>
<td>GIS Plan Evaluation</td>
</tr>
</tbody>
</table>


32 Ibid.
The characteristics that were utilized to evaluate the two plans are as follows: neighbourhood size, housing types, total number of residential units, residential density, non-residential land uses, public green and open space, street density, sidewalks, street widths and pedestrian connectivity to local amenities (see Table 2-1). The measure of pedestrian connectivity utilized by Tomalty and Haider was supplemented by an analysis of intersection density utilized by Emily Talen, who argues that a higher proportion of intersections offers increased connectivity by providing alternate routes for pedestrian travel.

It is beyond the scope of this research project to evaluate Off-Street Civic Path Density and Building Setbacks and Employment. The evaluative criteria listed in Table 2-1 are examined through the performance of a literature review of the 1991 Revised Cataraqui North Master Plan and the 1993 Cataraqui North Alternative Master Plan.

2.2 Phase II: Single Case Study

The second phase of the research marks the beginning of the single case study of the Cataraqui North Secondary Planning area.

2.2.1 Phase II, Part I: Conformity Testing

Part I involves conformity tests to examine if the development “on the ground” conforms to the goals and objectives of the 1993 Cataraqui North Alternative Master Plan. Oliveira and Pinho suggest that there is currently a widespread belief that the planning profession has not “...developed the necessary criteria to assess the quality of its products and processes”. The authors respond to this argument by stating that “A consensual position in the debate is that the plan concept or the design criteria should provide the criteria for the plan assessment”. Furthermore, Alexander and Faludi argue that to evaluate a plan, researchers must be able to assess the success or failure of elements of a plan and be able to relate the reasons why to one’s audience. As such, the implementation of Cataraqui North Alternative Master plan is evaluated through criteria set out in the plan itself. Fifty-four evaluative criteria were identified

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33 Ibid.
37 Ibid.
39 Ibid.
through a review of the Plan.\textsuperscript{41} These criteria can be grouped into five broad categories: Commercial Development; Parks and Open Spaces; Street Network; Housing and Residential Density, and; Schools.\textsuperscript{42} The evaluative criteria are examined through the use of a parcel-based GIS (PBGIS) land use conformity tests based on the methods of Chapin, Deyle and Baker alongside with site visits.\textsuperscript{43} In general it is difficult to attribute weight to criteria utilized in qualitative research, particularly for urban design.\textsuperscript{44} Although criteria such as LEED for Neighbourhood Development\textsuperscript{45} have recently become available there were no such criteria available in 1994. As such the criteria utilized within this research were not weighted.

2.2.2 Phase II, Part II: Document Analysis

The final parts of the second phase of the research follows methods similar to those utilized by Jill Grant in her examinations of the challenges to implementing “mixed-use” developments and “new-urbanism”. Her research utilized a review of planning documents, site visits and interviews with planners, developers and municipal officials.\textsuperscript{46} The results of the first part of this phase in the research focus the in-depth archival research that formulates the second part of the case study. In areas where non-conformity was observed in the first part, further research is conducted by examining the 1995 Kingston Township Official Plan, The 2010 City of Kingston Official Plan, The Cataraqui North Zoning By-Law 97-102 (1997 amended to 2012) as well as the various plans of subdivision, to understand how incidents of non-conformity were allowed to occur.\textsuperscript{47} This part of the research informed “thematizing” for the semi-structured interviews that followed. Thematizing is the process of developing questions to be answered during the interview process.\textsuperscript{48}

2.2.3 Phase II, Part III: Semi-Structured Interviews

The third part of this phase of the research was based on interview questions that were developed from the results of the second and third part of the single case study. A wide spectrum of

\textsuperscript{41} Weinstein Leeming + Associates (1993).
\textsuperscript{42} For a detailed list of the evaluative criteria see Appendix A.
\textsuperscript{44} Yin, R.K. (2009).
stakeholders were interviewed from the people involved with the creation of the Alternative Master Plan (1993) or the development of the Cataraqui North Neighbourhood. In some cases interview participants were involved with both tasks. Nine semi-structured interviews were conducted, including: two developers; four former or current municipal planners, two proponent planners and one municipal engineer. Through these interviews, a deeper understanding of the challenges involved in the implementation of the Cataraqui North Alternative Master Plan (1993) were identified which facilitated an understanding of why non-conformity occurred within the Cataraqui North Neighbourhood in relation to the Alternative Master Plan (1993). Furthermore, lessons learned from the development of the Cataraqui North Neighbourhood were identified and then translated into recommendations in terms of future development within the Neighbourhood. Furthermore, these lessons learned were pertinent to the establishment of recommendations for secondary plan creation and implementation in Kingston, and may be relevant for neighbourhoods designed with theories based on non-conventional neighbourhood design principles that are located within other mid-sized municipalities in Canada.
3. **CASE STUDY HISTORY**

The following chapter will outline the history of the Cataraqui North Alternative Master Plan until its adoption by the 1995 Township of Kingston Official Plan as the Cataraqui North Secondary Plan and Cataraqui North Zoning By-Law No. 97-102. Events relating to the building of the Cataraqui North Neighbourhood will be examined during the discussion and analysis of Chapter 4.

3.1 **Location**

The Cataraqui North Neighbourhood in Kingston ON is geographically located in a central but northern location within the City’s urban area. It is bounded to the east by Sydenham Road, to the south by Princess Street to the west by Centennial Drive and to the north by Highway 401 (see Map 3-1).

![Map 3-1: The Cataraqui North Neighbourhood within the City of Kingston.](image)

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3.2 Early History

In the 1970s, the Cataraqui North Neighbourhood was a part of what was known as Development Area 1 within the Official Plan of the Township of Kingston. During that time, the Dacon Corporation purchased a large tract of land in the eastern portion of the future neighbourhood (see Figure 3-1). At that time the Dacon Corporation was one of the largest three home building companies in the Kingston area. The company acted as both a land developer and builder. It also utilized the building arm of the company as vehicle for selling land to other builders.

By the 1980s the Dacon Corporation began assembling a landowners group with the intent of creating a Master Plan for the Neighbourhood. The landowners principally consisted of: the Dacon Corporation, George Binnington, the Fraser family (lands later purchased by Jerome Taylor), G. L. Sands and Carlo Mazzolin. Smaller land owners included Bob Greenwood and Kinalea Development Corp whose lands were later purchased by Dacon (see Map 3-1).
3.3 Developing a Neighbourhood Master Plan

In the mid-1980s the landowner group, led by Dacon, initiated the Master Plan for Cataraqui North process by retaining the firm Johnson Sustronk Weinstein & Associates to prepare a secondary plan. Prior to the submission of the Cataraqui North Master Plan (1990), a major shift occurred within the ownership group. Jerome Taylor purchased a major tract of land from the Fraser family causing a change in the balance of power within that group (see figure 3-1). Up until that point, the landowners would follow the lead of Dacon. However, after the transfer of ownership the majority of lands were owned by local businessmen (Taylor and Binnington both in the automobile dealership business) whose primary concern was getting the property zoned as quickly as possible so that it may be sold.

By 1987 the responsibility for the preparation of the Cataraqui North Master Plan (1990), had shifted to the firm of Weinstein + Associates (later Weinstein Leeming + Associates). The firm produced the Master Plan for the neighbourhood in 1990 as well as a revised plan with minor adjustments in 1991.

The original Cataraqui North Master Plan (1990), was based on the principles of conventional suburban development similar to the rest of Kingston Township. The street network was based on a curvilinear collector road running through the neighbourhood (see Map 3-3, figure A) with schools and a church acting as the community focal point (see Map 3-2, figure B). The 1990 Plan, also highlights the separation of land uses with automobile oriented highway commercial land uses located along Princess Street (see Map 3-2, figure C) and general commercial/neighbourhood commercial land uses located at the intersection of Cataraqui Woods Drive and Centennial Drive (see Map 3-2, figure D). Even the neighbourhood convenience centre is located at the periphery of the neighbourhood (see Map 3-2, figure E). The open space system is based on a design which locates it behind houses. Furthermore, pedestrian connectivity to the open space system is to be based on the use of pedestrian walkways (see Map 3-2, figure F). This is the standard design paradigm for the majority of conventional suburban neighbourhoods. The roots of this design can be found in Clarence Perry’s 1929 classic neighbourhood unit diagram (see Figure 3-2).
3.4 Towards a New Paradigm

In early 1992 the Kingston Township Research and Planning Policy Department suspended further review of the Cataraqui North Master Plan (1991), because they had begun progress on conducting their Official Plan Review. During this time Weinstein, Leeming + Associates took another look at the neighbourhood plan and conducted an academic exercise. They asked themselves the question “If we put our best Ideas on the table what would this neighbourhood look like?”

They began the process with the realization from past experience that schools acting as the focal point of a neighbourhood as shown by Perry was unattainable in the long run. Often, because of demographic shifts, school sites would be abandoned leaving neighbourhoods with a void. Instead, they decided that a neighbourhood’s focal point should be based on a collection of integrated land uses including parks, schools as well as commercial uses. Furthermore, this community focal hub should be connected to the entire neighbourhood so that all residents could walk there. To facilitate this connection a collector street system should be eschewed for a grid

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61 Proponent Planner I, Personal Communication, June 20, 2013.
network based on major streets that would allow for greater pedestrian connectivity. We now recognize these theories as the basis of New Urbanism. The neighbourhood focal point theory designed by Weinstein + Associates is similar to Duany, Plater-Zyberk’s (DPZ) re-design of the neighbourhood unit (see Figure 3-3). Although, New Urbanist theory was at its infancy during this period, particularly in Canada, many groups were developing similar theories across North America.

The Kingston Township Official Plan review was completed in 1992 and the findings published in a report entitled *Focus 2020.* The document called for: a mixed land uses along Princess Street; greater densities to support transit; a “green community” that was not as heavily dependent on the automobile; a diversification of land uses; a greater housing mix and; connectivity both within neighbourhoods and to the surrounding area. As with the ideas drawn by Weinstein, Leeming + Associates, these principles were the basis of neo-traditionalism or new urbanism. These ideas that were formulated through public consultation indicated that the general public and the local government of Kingston Township were ready for something different from conventional neighbourhood design. Furthermore, the ideas generated from this report had strong backing from the Township Reeve. However, the developer group balked at the idea of incorporating these recommendations. The group had already incurred significant cost to develop the 1990 Cataraqui North Master Plan, as well as the 1991 update to it that was based on comments from the municipality. Furthermore, the developer group was also wary of incorporating these new ideas because as an industry, developers prefer not to innovate but to copy previous projects and learn from the mistakes of others.

At a meeting at the offices of Weinstein Leeming + Associates to discuss the future of the Cataraqui North Neighbourhood, partners at the firm pulled out a translucent “oilskin” with the ideas from the academic exercise that they had worked on. They placed the new design on top of the revised 1991 Cataraqui North Master Plan, land use map to show managing staff at Dacon what a neighbourhood designed from a different paradigm could look like. It was the first draft of what would later be known as the Alternative Master Plan for Cataraqui North (1993).
Map 3-2: Master Plan for Cataraqui North (1991) Land Use

Legend

- Neighbourhood Boundary
- Pedestrian Link

Land Use

- Low Density
- Medium Density
- High Density
- Commercial
- General/Business Commercial
- Neighbourhood Commercial
- Convenience Centre
- Open Space System
- School
- Church/Cemetery
- Community Centre
- Utilities
- Right of Way

Scale

0 125 250 500 Metres

Note:
To facilitate the cross-referencing of features described in text and shown on maps upper case letters are used to identify map features (example of text citation: Map 3-2, feature A)
Stormwater Detention Area mentioned in plan but location not specified in mapping.
Map 3-3: Cataraqui North Alternative Master Plan (1993) Land Use

Legend

- Neighbourhood Boundary
- Land Use:
  - Low Density
  - Medium Density
  - High Density
  - Mixed-Use
- Highway Commercial
- General Commercial
- Community Commercial Centre
- Convenience Centre
- Open Space System
- Formal Ceremonial Park
- Parkette
- School
- Church/Cemetery
- Stormwater Detention Area
- Utilities
- Right of Way

Scale

0 125 250 500 Metres

Note:
To facilitate the cross-referencing of features described in text and shown on maps upper case letters are used to identify map features (example of text citation: Map 3-3, feature A)
3.5 Comparison of the Two Plans

The central goal behind the creation of the Alternative Master Plan\(^{72}\) was to create a more pedestrian-friendly, well-connected, transit-supportive neighbourhood than the traditional development proposal presented previously.\(^{73}\) This goal was to be achieved through a variety of techniques. Firstly, the density level would approximate a residential density that would be considered “transit supportive” (37.5 units per net hectare) by the 2010 City of Kingston Official Plan by increasing the proposed number of dwelling units (1,650 vs. 4,335), as well as the overall neighbourhood density (16.9 vs. 36.2 units/net ha). This proposed increase in density was supported by the Kingston Township planning study *Focus 2020* which claimed “the vision of building neighbourhoods at higher densities is compatible with market forces which are expected to occur in the future given demographic forecasts.”\(^{74}\) Furthermore, the transit-supportive nature of the plan was enhanced by creating a medium density corridor along the central east-west major road (see Map 3-3, figure A). The Alternative Master Plan (1993), also recommended a shift towards more medium density housing (19.5% density to 49.3%) (see Chart 3-1).

![Chart 3-1: Comparative Proportion of Housing Types for the Master Plan Cataraqui North Kingston Ontario Revised Report (1991) and the Cataraqui North Kingston Ontario Alternative Master Plan (1993).](image)

Roadway design in the 1993 Cataraqui North Alternative Master Plan, was used as a way to promote connectivity. The Alternative Plan stated that “Roadway Design should optimize pedestrian, rather than car movement”.\(^{75}\) Although original plan specifically mentions walkways as one of the means to achieve connectivity, the Alternative Plan does not mention walkways,

\(^{72}\) *Ibid.*

\(^{73}\) For a complete analysis and discussion comparing The Master Plan Cataraqui North Kingston (1991) and The Cataraqui North Alternative Master Plan (1993) see Appendix B.

\(^{74}\) Kingston Township (1992) *Focus 2020*.

\(^{75}\) Weinstein Leeming + Associates (1993).
CHAPTER 3:
CASE STUDY HISTORY

implying that connectivity should be maintained through the roadways. The Alternative Master Plan also refers to major streets as “peopleways” and identifies streets as an extension of the open space system (see figure 3-3). This inference on connectivity is confirmed by an analysis of the street network that indicates a 33% increase in street density and a 77% increasing intersection density in the revised plan (see Figures 3-5 and 3-6).

The Alternative Master Plan for Cataraqui North (1993), takes a more thoughtful approach to integrating a variety of land uses than its predecessor. Medium Density Residential land uses are used in the North-East and southern portion of the plan to support pedestrian-oriented commercial activity (see Map 3-3, figures B and C). Furthermore, the types of commercial land uses that are proposed for the intersection of Cataraqui Woods Drive and Centennial Drive are ones more likely to generate pedestrian traffic (see Figure 3-7 comparing Maps 3-2, figure D and 3-3, figure B).

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Figure 3-4: Illustration of streets as an open space system from the Alternative Master Plan for Cataraqui North

Figure 3-5: Street Density and Intersection Density Cataraqui North Master Plan (1991).

Figure 3-6: Street Density and Intersection Density for the Cataraqui North Alternative Master Plan (1993). Street density is increased by 33% and intersection density is increased by 77% over the Master Plan (1991).

Street Density
0.09 km/ha
Intersection Density
0.22 /ha

Street Density
0.12 km/ha
Intersection Density
0.39 /ha
The Master Plan for Cataraqui North (1991) features Highway (Arterial) Commercial land use along the Princess Street corridor (see Map 3-2, figure C). In contrast, the Alternative Master Plan (1993), proposes a mixed-use, (ground floor commercial with residential uses above) streetscape (see Map 3-3, figure C). The proposed mixed-use corridor promotes a walkable community while at the same time increases the overall residential density of the neighbourhood. Furthermore, the medium density residential land uses provide a transition from the mixed use corridor to the low density residential housing behind. This is in contrast to the auto-centric commercial land uses that are “walled off” from the low residential land uses proposed in the Master Plan for Cataraqui North (1991) (see Figure 3-8 comparing Map 3-2, figure C and Map 3-3, figure C).
The original plan included an open space system located through the centre of the neighbourhood featuring residential lots which backed on to it. The Alternative Master Plan featured a hierarchy of parks which included: an open space system (with integrated stormwater facilities); parkettes to meet the needs of all residents within the neighbourhood (see figure 3-9), and; a formal ceremoniual park to act as a placemaking device in the centre of the neighbourhood, framed by a traffic circle (compare Map 3-2, figure F and Map 3-3, figures D, E and F).

Traditionally, the school was the focal point of neighbourhood has been the school.\textsuperscript{77} This is showcased in the Master Plan for Cataraqui North (1991), (see Map 3-2, figure B). However, the creators of this plan wanted to change this paradigm. While schools initially achieve their goal of acting as “community hub”, often after the critical mass of school age children have left the neighbourhood, residents, school boards and city officials struggle with how to maintain the site’s role as community hub. The thoughtfulness of the design of the Alternative Plan (1993) is made clear when examining the central portion of the neighbourhood. A community hub has been created by integrating a ceremoniual park, a convenience centre, the open space system, schools, a church, as well as medium-density housing to create a sense of place (see Map 3-3, figure E and Figure 3-10). All these uses are placed centrally in a location that is easily accessible.

\textsuperscript{77}Silver, C. (1985).
accessible by the majority of residents in the neighbourhood. In this way, the neighbourhood is not reliant only upon its schools to act as community hub. Furthermore, this plan increased the odds of the central portion of the neighbourhood acting as a community hub far into the future.

A higher proportion of intersections increases connectivity within a neighbourhood by providing alternate routes for pedestrian travel.\(^78\) At the same time a greater number of intersections improves pedestrian connectivity to local amenities. The Alternative Master Plan offered a 77% increase in intersection density over the Master Plan for Cataraqui North. The Alternative Master Plan also offered a 33% increase in street density which was partially responsible for more than doubling of the neighbourhood residential density. This in and of itself would allow for the wide variety of retail types that were proposed for the neighbourhood to be supported by local consumers. The increased mix of land uses that was proposed for the neighbourhood would allow people to live and shop close to where they work reducing dependence on the automobile.\(^79\) The Alternative Master Plan also advocated for a higher proportion of medium density housing within the Cataraqui North Neighbourhood. An increase in the residential housing mix increases affordability within a neighbourhood and allows for aging in place within a community, providing services within walking distance for the elderly and young families.\(^80\) At the same time the redesigned community “hub” of the Alternative Master plan would ensure that the community would retain its focal point even in the event of a school site not materializing.\(^81\)

It is for all the aforementioned reasons that the Cataraqui North Alternative Master Plan can be considered a more complete and superior Secondary Plan than its predecessor.

3.6 Stakeholder Reaction to the New Plan

It was a risky proposition for the consultant planners to present this plan to their clients, as consultants have been fired for less startling proposals. Indeed, the consultants did not know whether they would be fired or not when developers from Dacon took the plan back to the ownership group. However, some of the principals at Dacon recognized that the 1993 Alternative Plan represented an opportunity to market a neighbourhood to potential buyers as opposed to simply marketing houses. They convinced the rest of the ownership group that a change in plan was the right course of action.\(^82\) This sequence of events bears highlighting because it required internal resolve from all parties involved. The consultants presented a plan

\(^78\) Talen, E. (2011).
\(^80\) Ibid.
which they believed could get them fired because they believed this was a needed shift in the paradigm of neighbourhood design and the developer group accepted this advice even though it would require that they restart not only their planning study but also the associated stormwater and servicing studies.

Although some members of the landowners group required convincing, the response from the planning department of the Township of Kingston was very enthusiastic. Public consultation meetings were held and there was a general sense of excitement. This excitement was especially focused on the prospects for the ceremonial park and the types of uses it may include. In fact, that period of excitement is remembered fondly twenty years later by those who took part in the planning of the neighbourhood.

Originally, the neighbourhood had not been designed with rear laneway housing in mind. However, representatives of the landowners group and their planners visited Kentlands Md. a new urbanist neighbourhood then under construction, to better understand the functionality of a new urbanist neighbourhood (see Figure 3-11).

![Figure 3-11: Plan of Kentlands MD. Designed in 1988 by DPZ, it was one of the first communities built on the principles of New Urbanism in North America. Source: www.DPZ.com](image_url)

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85 Proponent Planner I, Personal Communication, June 20, 2013.
For some staff within Dacon this solidified the idea of creating an entire neighbourhood based on the idea of rear laneway housing. This idea was greeted with skepticism from many of the other landowners who were reluctant to innovate and attempt to build something that had rarely been attempted in Ontario at that time. To assuage their fears, a compromise was reached amongst the landowner group that zoning for the neighbourhood would be flexible enough to allow either type of development.  

The ramifications of developing this flexible zoning by-law and an analysis of the successes and failures during the implementation of a new urbanist vision will be recounted in Chapter 4. However, we should close this chapter by celebrating the act of creating and approving the Alternative Master Plan for Cataraqui North (1993). Even in a large metropolis, these innovations would require strength of conviction from its designers and vision from both the developers and municipal officials in 1993. To do so in a small suburban Township was impressive to say the least. Furthermore, the 1993 Alternative Master Plan for Cataraqui North should be remembered for its contribution to New Urbanist Planning in Canada. The designers of the Plan put forth their best ideas and developed theories on the neighbourhood unit through the creation of this Plan. Indeed, one of the designers signed the Charter of the New Urbanism at the fourth Congress for the New Urbanism in Charleston, South Carolina in 1996. is a founding Director of the Council for Canadian Urbanism and went on to work on more recognizable Canadian New Urbanist projects such as Angus Glen and Corneli in Markham as well as Regent Park in Toronto.  

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4. ANALYSIS AND DISCUSSION

4.1 Did the implementation of the Cataraqui North Alternative Master Plan (1993) follow the intent of the Plan?

Overall, 54 principles were examined to determine if their implementation was in conformity with the recommendations made by the Cataraqui North Alternative Master Plan (1993). Although no attempt was made to attribute a weight to those 54 items, we can form general ideas as to the overall implementation of the Plan (1993). Of the 54 recommendations only 26% were implemented in conformity with the Alternative Master Plan (1993), while 50% where not in conformity and 24% were in partial conformity (see Table 4-1).

Table 4-1: Summary of implementation conformity with the recommendations of the Cataraqui North Alternative Master Plan (1993).

<table>
<thead>
<tr>
<th>Number of Criteria Questions</th>
<th>Conformity</th>
<th>Partial Conformity</th>
<th>Non-Conformity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Commercial Land Use</strong></td>
<td>6</td>
<td>1 (17%)</td>
<td>1 (17%)</td>
</tr>
<tr>
<td><strong>Parks and Open Space</strong></td>
<td>9</td>
<td>2 (22%)</td>
<td>4 (44%)</td>
</tr>
<tr>
<td><strong>Transportation</strong></td>
<td>11</td>
<td>5 (46%)</td>
<td>1 (9%)</td>
</tr>
<tr>
<td><strong>Housing and Density</strong></td>
<td>19</td>
<td>5 (26%)</td>
<td>4 (21%)</td>
</tr>
<tr>
<td><strong>Transit</strong></td>
<td>4</td>
<td>1 (25%)</td>
<td>3 (75%)</td>
</tr>
<tr>
<td><strong>Schools</strong></td>
<td>5</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>54</td>
<td>14 (26%)</td>
<td>13 (24%)</td>
</tr>
</tbody>
</table>

Of the six categories that were evaluated, Transportation achieved the highest score in terms of conformity with 46% of the criteria conforming to the principles set out in the Alternative Master Plan (1993). However, the proportion of principles that conformed was equal to those that did not, indicating that recommendations were implemented or they were not implemented and there was very little grey area. Conversely, Transit achieved a partial conformity score of 75% and a conformity score of 25% indicating that all the principles related to Transit were totally or partially adhered to. Schools, Commercial Land Use and Housing and Density fared the worst in terms of conformity, with non-conformity scores of 100%, 67% and 53% respectively. Housing and Density achieved almost equal scores in terms of conformity and partial conformity (26% and 21% respectively) indicating that many of the principles of the

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90 For an in-depth analysis of all 54 principles, see Appendix C: Phase II Analysis and Discussion.
Altimate Master Plan (1993), were partially adhered to. Finally, Parks and Open Space achieved conformity of 22%, partial conformity of 44% and non-conformity of 33% to the recommendations of the Alternative Master Plan (1993).

4.2 Contributing Factors Allowing Non-Conformity in the Cataraqui North Neighbourhood and Resulting Outcomes

Archival research and interviews with stakeholders involved in the development of the Cataraqui North Neighbourhood revealed various factors that resulted in non-conformity in terms of the development of the Cataraqui North neighbourhood (see Table 4-2). These factors can be characterized into four broad themes: Flexibility in Official Plan and Zoning By-Law; General nature of the Official Plan mapping; Disconnect between various approval authorities; and Political/Economic Concessions. A discussion follows which will describe these themes, the decision making process that led to these themes and the resulting non-conformity.

Table 4-2: Factors Resulting in Non-Conformity

<table>
<thead>
<tr>
<th>Factors Resulting in Non-Conformity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Land Use</td>
</tr>
<tr>
<td>• Political/Economic Concessions</td>
</tr>
<tr>
<td>• Flexibility in Official Plan and Zoning By-Law</td>
</tr>
<tr>
<td>• General nature of Official Plan mapping</td>
</tr>
<tr>
<td>Parks and Open Space</td>
</tr>
<tr>
<td>• Disconnect between various approval authorities</td>
</tr>
<tr>
<td>• General nature of Official Plan mapping</td>
</tr>
<tr>
<td>Transportation</td>
</tr>
<tr>
<td>• Disconnect between various approval authorities</td>
</tr>
<tr>
<td>• Political/Economic Concessions</td>
</tr>
<tr>
<td>Housing and Density</td>
</tr>
<tr>
<td>• Flexibility in Official Plan and Zoning By-Law</td>
</tr>
<tr>
<td>• General nature of Official Plan mapping</td>
</tr>
<tr>
<td>• Disconnect between various approval authorities</td>
</tr>
<tr>
<td>• Political/Economic Concessions</td>
</tr>
<tr>
<td>Transit</td>
</tr>
<tr>
<td>• Flexibility in Official Plan and Zoning By-Law</td>
</tr>
<tr>
<td>Schools</td>
</tr>
<tr>
<td>• Flexibility in Official Plan and Zoning By-Law</td>
</tr>
<tr>
<td>• Political/Economic Concessions</td>
</tr>
</tbody>
</table>

4.2.1 Flexibility in the Official Plan and Zoning By-Law

By far the largest contributing factor to non-conformity in the development of the Cataraqui North Neighbourhood was too much flexibility within the Cataraqui North Secondary Plan and Cataraqui North Zoning By-Law. Flexibility took on a variety of forms, the first of which being cumulative zoning. Whereas the Alternative Master Plan (1993) was prescriptive in terms of the location of medium density so that the neighbourhood would be able to support the Commercial Convenience Centre (see Map 4-1, figure A) as well as be transit supportive, the Cataraqui
North Secondary Plan and Zoning By-Law utilized cumulative zoning with the goal of creating a desired housing mix throughout the neighbourhood\(^9^1\) as well as to provide developers and builders the flexibility to respond to market conditions.\(^9^2\) Cumulative zoning is a method of zoning in which a variety of densities are permitted within any zone so as to achieve a mix of housing types. However, the use of cumulative zoning without supplemental tools such as block plans, architectural controls and housing charts was a product of the times in which the plan was developed and reveals a lack of sophistication of that period.\(^9^3\) Furthermore, while design guidelines were created for the neighbourhood they were never implemented by the Municipality.\(^9^4\) Instead, a departmental policy was instituted that each developer would create design guidelines for their subdivision. However, this policy was not implemented universally and was subsequently dropped.\(^9^5\)

When examining the proportion of housing types by density between the recommendations made by the Alternative Master Plan (1993), and the density that was implemented in the Cataraqui North Neighbourhood it is apparent that the implemented density within the neighbourhood falls short of the equal relationship between low and medium density that was recommended by the plan (6.4% vs. 49.3%, or 5.9% of the target). Even when utilizing the more generous 2010 Official Plan definition of medium density, the implementation within the neighbourhood still falls short of the recommendations made by the Alternative Master Plan (1993) (17.3% vs. 49.3%, or 5.9% of the target) and is mostly achieved through the development of single detached homes on small lots (see Chart 4-1, Table 4-3 as well as Figures 4-1 and 4-2).

<table>
<thead>
<tr>
<th>Density Type</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Units</td>
<td>1,935</td>
<td>2,135</td>
<td>265</td>
<td>4,335</td>
</tr>
<tr>
<td>Proportion</td>
<td>44.6%</td>
<td>49.3%</td>
<td>6.1%</td>
<td>100%</td>
</tr>
<tr>
<td>Proportion, As Built, Classified by Alternative Master Plan (1993) Density Targets</td>
<td>1,818</td>
<td>127</td>
<td>41</td>
<td>1,986</td>
</tr>
<tr>
<td>Percent of Target</td>
<td>91.5%</td>
<td>6.4%</td>
<td>2.1%</td>
<td>100%</td>
</tr>
<tr>
<td>Percent of Target, As Built, Classified by Official Plan (2010) Density Targets</td>
<td>94%</td>
<td>5.9%</td>
<td>15.5%</td>
<td>45.8%</td>
</tr>
<tr>
<td>Number of Units, As Built, Classified by Official Plan (2010) Density Targets</td>
<td>1,602</td>
<td>344</td>
<td>41</td>
<td>1,986</td>
</tr>
<tr>
<td>Proportion, As Built, Classified by Official Plan (2010) Density Targets</td>
<td>80.7%</td>
<td>17.3%</td>
<td>2.1%</td>
<td>100%</td>
</tr>
<tr>
<td>Percent of Target, As Built, Classified by Official Plan (2010) Density Targets</td>
<td>88.1%</td>
<td>16.1%</td>
<td>15.5%</td>
<td>45.8%</td>
</tr>
</tbody>
</table>

\(^{91}\) Municipal Planner IV, Personal Communication, May 2, 2013.
\(^{93}\) Proponent Planner I, Personal Communication, June 20, 2013.
\(^{94}\) For Cataraqui North Design Guidelines see Appendix D; Developer II, Personal Communication, May 1, 2013.
\(^{95}\) For Lyndenwood Design Guidelines see Appendix E; Municipal Planner III, Personal Communication, April 3, 2013.
\(^{96}\) Medium Density for Cataraqui North Alternative Master Plan (1993) also includes 885 Mixed-Use apartment units.
Map 4-1: Cataraqui North Alternative Master Plan (1993) Land Use

Legend

- Neighbourhood Boundary
- Land Use:
  - Low Density
  - Medium Density
  - High Density
  - Mixed-Use
- Highway
  - Commercial
- General
  - Commercial
- Community
  - Commercial Centre
- Convenience Centre
- Open Space System
- Formal
  - Ceremonial
  - Park
- Parkette
- School
- Church/
  - Cemetery
- Stormwater
- Detention Area
- Utilities
- Right of Way

Scale

0 125 250 500 Metres

Note:
To facilitate the cross-referencing of features described in text and shown on maps upper case letters are used to identify map features (example of text citation: Map 4-1, feature A)
Residential density categories are divided according to the Cataraqui North Alternative Master Plan (1993). Low Density up to 45 upnh, Medium Density 45 to 75 upnh and High Density 75 to 124 upnh.
Figure 4-1: Residential Density in the Cataraqui North Neighbourhood by Alternative Master Plan Standards: low density: < 45 uph; medium density 45-75 uph; high density: > 75 uph.

Figure 4-2: Residential Density in the Cataraqui North Neighbourhood by City of Kingston Official Plan (2010) Standards: low density: < 30 uph; medium density: 30-75 uph; high density: > 75 uph.

Chart 4-1: Comparative Proportion of Housing Density between the Cataraqui North Kingston Ontario Alternative Master Plan (1993) and the Cataraqui North Neighbourhood using Density Classifications of the Alternative Master Plan (1993) and the City of Kingston Official Plan (2010).
The Cataraqui North Alternative Master Plan predicted that when the Cataraqui North Neighbourhood was “built out” it would contain 4,335 dwelling units. The planned/built number of units within the neighbourhood is currently 1,986 units or only 45.8% of the desired goal with only a few areas left to be developed, mostly slated for low density housing. After eliminating other causes for the shortfall in units\(^97\) it can be argued that cumulative zoning is responsible for approximately 1,123 medium density residential units that did not materialize within the neighbourhood.

The stated purpose of using cumulative zoning which was to achieve a desired housing mix was likewise a failure. The housing mix within the Cataraqui North neighbourhood was projected to be 44.6% for single and semi-detached homes and an almost equal proportion of townhome and apartment units\(^4\) (28.8% and 26.5%). This differed from the proportionate density mix due to mixed-use apartment units being considered medium density as opposed to high density. The actual housing mix within the neighbourhood features single and semi-detached dwelling units occupying 80.8% of the residential units, while townhomes are at 12.5% and apartment units 6.6% (see Chart 4-2 and Table 4-4).

\(^97\) Other causes include: Disconnect between various approval authorities; and, Political/Economic Concessions.
Table 4-4: Projected and Actual Housing Mix in the Cataraqui North Neighbourhood.

<table>
<thead>
<tr>
<th>Housing Type</th>
<th>Target Number of Units</th>
<th>Proportion</th>
<th>Number of Units</th>
<th>Proportion</th>
<th>Percent of Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single/Semi-Detached</td>
<td>1,935</td>
<td>44.6%</td>
<td>1,605</td>
<td>80.8%</td>
<td>82.9%</td>
</tr>
<tr>
<td>Townhome</td>
<td>1,250</td>
<td>28.8%</td>
<td>249</td>
<td>12.5%</td>
<td>19.9%</td>
</tr>
<tr>
<td>Apartment</td>
<td>1,150(^98)</td>
<td>26.5%</td>
<td>132</td>
<td>6.6%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Total</td>
<td>4,335</td>
<td>100%</td>
<td>1,986</td>
<td>100%</td>
<td>45.8%</td>
</tr>
</tbody>
</table>

When comparing maps of a neighbourhood that feature, on the one hand, residential density and on the other, dwelling unit type, the conventional practice would dictate that maps would line up in a similar fashion: single and semi-detached dwellings with low density, townhomes with medium density and apartments with high density. However, a comparison of these types of maps for the Cataraqui North neighbourhood indicates a change has occurred (compare Figures 4-3 and 4-4).

\(^98\) Apartment units for Cataraqui North Alternative Master Plan (1993) also includes 885 Mixed-Use apartment units.
In many instances, townhomes that are found along Crossfield Ave. and within the Walnut Grove subdivision are considered low density (see Figures 4-5 and 4-6), while single and semi-detached homes located within the north east portion of the neighbourhood are considered medium density (see Figure 4-7) by the standards of the City of Kingston Official Plan (2010). In the case of the townhomes located on Crossfield Ave. the use of a single stacked laneway is the culprit as the laneway is included in the net density calculation. However, for the townhomes within the Walnut Grove subdivision large lots were used resulting in many of the residential units falling in the category of low density development. For the single and semi-detached residential units located in the north east quadrant of the neighbourhood the inverse is the case, large homes on small lots. Density should be a tool to regulate the efficient use of land resources, while building type should be used to ensure that housing mix is achieved. Otherwise, the result may be large single detached homes on lots meant for townhomes and vice-versa. This situation highlights the failure of relying solely on cumulative zoning to achieve desired results. Instead, tools such as design guidelines, block plans and housing charts need to be implemented along with zoning to achieve desired results.

Figure 4-5: Low density row houses located on Ellesmeer Ave.
Figure 4-6: Townhome units on Crossfield Ave. considered low density because of the inclusion of the single stacked laneway in the calculation of net density.
Figure 4-7: Single detached homes on Amanda Crt. considered medium density in the Official Plan because of small lots.
If the Cataraqui North Neighbourhood had achieved the number of dwelling units proposed by the Alternative Master Plan (1993) it would have achieved a neighbourhood density of 37.7 units per net hectare. Instead the 1,986 residential dwelling units achieve a net density for the neighbourhood of 18.2 units per net hectare, well below the City of Kingston average residential net density of 25.01 units per net hectare. In fact, the total number of residential dwelling units that were implemented in the Cataraqui North neighbourhood more closely resembles the 1,650 total residential dwelling units projected by the Master Plan for Cataraqui North, Revised Report (1991).

The reduced density of the neighbourhood that was a product of the use of cumulative zoning led to cascading effects of non-conformity with the original intent of the Cataraqui North Neighbourhood Alternative Master Plan. The lower than expected number of dwelling units and the resulting lower population density was a contributing factor in the Limestone and Separate School Boards’ decisions not to exercise options for school sites within the neighbourhood and made it more difficult to implement a neighbourhood convenience centre in the heart of the neighbourhood (compare Maps 4-1, figure B and 4-2, figure A). Furthermore, due to the Limestone School Board not exercising their option on the school site the integrated park system was broken apart with the effect being that a “remainder” park is left in the backyard of houses (see Map 4-2, figure B). This park was completely contrary to what the Alternative Plan (1993) was trying to achieve and leaves the neighbourhood with a potentially dangerous, semi-private park with no “eyes” on it from adjacent streets (See Figure 4-8).

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99 Net density defined as the number of residential units per hectare of residential lots and excludes other uses such as churches, schools, parks, roads and convenience commercial. Net density was determined by counting the number of residential units within the neighbourhood and dividing by the area of the residential lots contained within the neighbourhood. The area of the residential lots was calculated through the use of GIS.

100 Kingston, City of (2013) City of Kingston 2010 Urban Residential Growth and Density Study. Figure represents 2010 City of Kingston residential average density.


102 Proponent Planner I, Personal Communication, June 20, 2013.
While transit does run through the centre of the Cataraqui North Neighbourhood, it is not because the area’s density is transit-supportive,\textsuperscript{103} it is due to the City’s commitment to providing transit service. As such, maintaining ideal routing through the neighbourhood will result in a cost deficit to the municipality.

Flexibility in the Zoning By-Law took on other forms as well. The Cataraqui North Zoning By-Law allowed for alternative design standards while at the same time offered builders the option to build conventional suburban housing.\textsuperscript{104} The compromise which allowed either type of housing form was a result of the reluctance of the ownership group to innovate. This led to the compromise solution that zoning would be made flexible to allow for traditional or New Urbanist housing form to be built.\textsuperscript{105} The purpose being that if rear laneways did not work, flexibility in the zoning By-Law would allow developers to react to market conditions.\textsuperscript{106} The result of which was that the majority of the neighbourhood was developed with front driveways except for the area immediately adjacent to the intersection of Augusta Dr. and Crossfield Ave. (See Map 4-2, figure C and Figure 4-9).

Builders and developers tested market conditions by building model homes. Their results indicated to them that the Kingston market did not respond well to rear laneway housing.\textsuperscript{107} However, it has been argued that these were token efforts.\textsuperscript{108} And in fact, the majority of builders who bought land were only concerned about maximizing profit and did not care about new urban design concepts. They wanted to build what they were familiar with.\textsuperscript{109} Furthermore, this flexibility in housing style had the effect of allowing, in one area of the neighbourhood, houses with rear laneways to be opposite houses with front driveways. This design results in a streetscape with radically different properties on either side of the road, which

\begin{flushright}
Figure 4-9: New Urbanist housing form on Augusta Drive.
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\textsuperscript{103} Transit supportive neighbourhoods are identified in the City of Kingston Official Plan (2010) as those with a net density of 37.5 units per hectare.
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\textsuperscript{105} Developer I, Personal Communication, May 31, 2013.
\end{flushright}

\begin{flushright}
\textsuperscript{106} Developer II, Personal Communication, May 1, 2013.
\end{flushright}

\begin{flushright}
\textsuperscript{107} Developer II, Personal Communication, May 1, 2013; Proponent Planner II, Personal Communication, February 5, 2013.
\end{flushright}

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reduces the visual cohesion of the neighbourhood.\textsuperscript{110} Instead, it appears that two plans of subdivision have been stitched together. Good neighbourhood design looks at both sides of the street as a whole, visualizing the centreline of a street as a place and not an edge and implementing changes in street and block structure along the mid-block lines to encourage coherent streetscapes not at the centreline of the street (compare Figures 4-10 and 4-11).

![Figure 4-10: The centreline of the street as an edge an example of an inappropriate transition. Crossfield Ave. view west from Baldwin Crt. Rear laneway access dwellings facing driveway access dwellings.](image)

![Figure 4-11: The centreline of the street as a place an example of an appropriate transition. Crossfield Ave. view across Andersen Dr. Transition from rear laneway access dwellings (foreground) to driveway access dwellings (background) occurs on both sides of the street simultaneously.](image)

As opposed to traditional theories on neighbourhood development which utilized schools as the focal point of the neighbourhood, the designers of the Cataraqui North Alternative Master Plan utilized the convenience commercial centre as one of the focal points of the neighbourhood. Their justification for this shift was the observation of neighbourhoods being left with no focal point when school sites closed due to demographic changes.\textsuperscript{111} Flexibility within the Cataraqui North Zoning By-Law which did not require that the property be developed with commercial use but instead allowed for the development of the property for residential use as an alternative, resulted in the development of a condominium complex on the site (see Figure 4-12 and Map 4-2, figure D). Because the Zoning By-Law permitted the development of the property without commercial uses at grade as of right, a commercial market study was not required to justify the

\textsuperscript{110} Developer II, Personal Communication, May 1, 2013.

\textsuperscript{111} Proponent Planner I, Personal Communication, June 20, 2013.
alteration from the vision that was set out by the Alternative Master Plan. And while the condominium complex helps to increase the corridor density of the neighbourhood and its design is sympathetic to the new urbanist inspiration of the neighbourhood, it does not have the ability to act as the focal point for the neighbourhood. The failure to implement the school sites and the convenience commercial centre requires that the central park act as focal point for the neighbourhood. It is unlikely, but remains to be seen if the park will be able to function in this manner.

![Figure 4-12: Rendering of Condominium development in the central portion of the Cataraqui North neighbourhood. Source: http://geertsma.com/index.php/communities/augusta-glen-condominiums/](http://geertsma.com/index.php/communities/augusta-glen-condominiums/)

Many of the non-conformities that occurred within the Cataraqui North Neighbourhood in terms of the policies of the Cataraqui North Alternative Master Plan (1993), have been attributed to change that includes: the amalgamation of Kingston Township and the City of Kingston; the resulting change in municipal staff;\(^{112}\) as well as change of ownership of the lands.\(^{113}\) For these reasons, one would expect that the variety of players involved in the implementation of a secondary plan should be categorized as one of the causes of non-conformities in terms of the implementation of the plan. However, it can be argued that change, in terms of the stakeholders involved in the implementation of a secondary plan is essentially guaranteed. Developers sell land to builders, new councillors are voted in and municipal employees change positions. The only constants in the development of a neighbourhood are the Official Plan and Zoning By-Law, and while they may be amended, it is only after thorough analysis that this should occur. As such, the root cause of non-conformities is not a change in stakeholders, but instead, an Official Plan and Zoning By-Law that through purposeful flexibility, allow fundamental change to occur without the analysis that would be required through municipally approved amendments.


4.2.2 Over Simplification of Official Plan Mapping

In terms of the categorization of factors that caused non-conformity with the Cataraqui North Alternative Master Plan (1993), the over simplification of Official Plan mapping would appear, at the outset, to be a form of flexibility. However, the importance of Official Plan mapping requires that it be a category all its own. When comparing mapping for the Alternative Master Plan (1993) and the Cataraqui North Secondary Plan (1995) mapping, the general nature of the later is quickly made apparent (compare Maps 4-3 and 4-4). Missing from the Official Plan (1995) schedule is any differentiation in terms of residential density or types of commercial use, there is no indication of the optimal location of parkettes, schools or community facilities. Furthermore, the future location of connection streets other than Cataraqui Woods Drive and Centennial Drive are completely missing.

The Alternative Master Plan (1993), utilized higher densities along Crossfield Avenue to facilitate the creation of a transit supportive corridor and help to support the commercial convenience centre (see Figure 4-13 comparing Map 4-1, figure C and Map 4-2, figure C). At the same time, higher densities in the north east corner of the plan were proposed to support the neighbourhood commercial uses at the corner of Crossfield Avenue and Cataraqui Woods Drive (see Figure 4-14 comparing Map 4-1, figures D and E and Map 4-2 figure J).114 It is no coincidence then that transit supportive densities are not apparent along Crossfield Avenue and the neighbourhood commercial anticipated for the north east corner of the neighbourhood has been slow to materialize.

The location of schools, community facilities and major street connections were likewise not indicated in the Secondary Plan mapping (compare Maps 4-3 and 4-4). The reason being was that it was seen that the Official Plan be high level providing broad policy and to allow the zoning by-law to be the mechanism to implement the plan.115 However, the generality utilized for the secondary plan mapping is akin to what one would expect for city-wide land use schedules. Even then, there should be a differentiation in types of permitted commercial uses. The purpose of secondary plan mapping is to provide a more detailed look at the functionality of a neighbourhood. By mapping out the different pieces, including: schools and community centres, the various types of commercial uses, connection streets as well as targeted densities, one can, at a glance understand the interrelation between the various land uses within a neighbourhood. This was not done for the Cataraqui North Neighbourhood and as a result, when changes were proposed that varied from the original intent of the Plan there was no visual reminder of the potential repercussions to the overall planning area.

115 Municipal Planner III, Personal Communication, April 3, 2013
Figure 4-13: Comparison of land uses along Crossfield Ave. corridor. 1993 Cataraqui North Alternative Master Plan (top) features medium density residential land uses to support commercial centre and create transit-supportive densities along the corridor. Cataraqui North Neighbourhood (bottom) as of 2013 medium density residential land uses are not present along Crossfield Ave. corridor.

Figure 4-14: Comparison of land uses at the intersection of Centennial Dr. and Cataraqui Woods Dr. 1993 Cataraqui North Alternative Master Plan (left) features medium and high density residential land uses to support community commercial centre. Cataraqui North Neighbourhood (right) as of 2013, high density and majority of medium density residential land uses are not present to support commercial uses.

4.2.3 Disconnect between Various Approval Authorities

A disconnect between the various approval authorities led to non-conformities at the very earliest stages of the implementation of the Cataraqui North Alternative Master Plan (1993). The plan recommended that 12 connections to boundary roads be implemented to create a traffic dispersion model, as opposed to a hierarchical model predicated on collector streets. The authors of the plan acknowledged that the approval of 12 access points would be unlikely
therefore, they recommended that a minimum of 9 connections to boundary roads be implemented to allow for a dispersion model to still be effective (see Figure 4-15). The use of a dispersion model would reduce loading onto major streets within the neighbourhood creating a safer, pedestrian-friendly environment.\textsuperscript{116} Almost immediately there were objections by Frontenac County Engineers who had approval authority over connections to County roads. These objections were mirrored by the City of Kingston Engineering Department when they took over as approval authority for the roads.\textsuperscript{117}

The result of the disconnect between planning and the various engineering departments was that the Cataraqui North neighbourhood has been developed with only seven connections to boundary roads (see Figure 4-16). The two missing connections were those to the southern portions of Centennial Dr. and Sydenham Rd. Furthermore, developers and builders did not resist this change as fewer connections meant more buildable lots.\textsuperscript{118} This has resulted in the major streets within the neighbourhood acting as collector streets. This assertion is validated by a report to the City of Kingston Environment, Infrastructure & Transportation Policies Committee (EITP) indicating that the traffic volume on Crossfield Ave. that was recorded in September of 2012 was between 2300 to 2800 vehicles per day, well within the range of a minor

\textsuperscript{116} Proponent Planner I, Personal Communication, June 20, 2013.
\textsuperscript{117} Developer II, Personal Communication, May 1, 2013.
\textsuperscript{118} Municipal Planner II, Personal Communication, March 18, 2013.
collector street (1000 to 5000 vehicles per day). However, it must be noted that these measurements were taken before the connections of Augusta Ave. and Andersen Dr. to Catarqua Woods Dr. have been established and it remains to be seen if these connections are enough to establish the proposed traffic dispersion model. As a result of the limited number of access points to the surrounding boundary roads only four of the proposed six key streets, or “peopleways” were implemented within the Catarqua North neighbourhood (compare Figures 4-15 and 4-16).

One of the most often cited regrets of those involved in the development of the Catarqua North Neighbourhood was that the traffic circle and the Ceremonial Park located within it were not implemented (see Figure 4-13 comparing Maps 4-1, figure F and Map 4-2, figure E). The proposed traffic circle was an almost immediate point of contention between planners (both municipal as well as proponent) and the Kingston Township Engineering Department. Disagreements over the traffic circle continued after amalgamation between the City of Kingston Engineering and Planning Departments to the point of dysfunction. Although disagreements over the traffic circle persisted, it was not removed from the plan until 2002. Dacon, who up until 1999 had acted as lead developer in the neighbourhood made a decision to scale back home building operations. As such, Dacon sold all of their residential land holdings in the neighbourhood with the exception the proposed Walnut Grove Subdivision (located in the southeast corner of the neighbourhood) to Graham Pye a developer from England. The new developer and their consultant planners believed that North American drivers might be confused about how to navigate a traffic circle safely and that it would cause pedestrian safety issues given that a large park was planned for the centre of the circle. These arguments were picked up by both Parks and Engineering Departments and so in the end, the Ceremonial Park that was defined by the traffic circle, became connected to the Open Space System and what was to be one of the central defining elements of the neighbourhood was lost.

120 Municipal Engineer I, Personal Communication, February 18, 2014.
123 Ibid.
At that same time Pye was informed by the City of Kingston that although laneways were permitted within the neighbourhood, the City would not assume responsibility for them. The result of this decision was that any developer who wanted to develop houses with rear laneways would have to create a condominium type regime for the laneways. This proved to be an arrangement that was not favored by many of the prospective homeowners as it added extra costs to what was otherwise a freehold form of housing. The reason for the City’s unwillingness to take ownership of the laneways originated in the Public Works Department and was based on the perceived operational difficulties of snow removal for laneways. In essence, the snow plows used by the City were too large to clean laneways. This policy was in stark contrast to the policies of the Town of Markham ON which supported laneways in new urbanist neighbourhood developments located within their jurisdiction such as Cornell. As a new form of housing, many builders had reservations about implementing rear lane housing. Furthermore, the disconnect between Planning and Public Works acted as a disincentive for builders and developers to innovate and create rear lane housing, essentially guaranteeing that it would not be implemented throughout the neighbourhood.

The development of the stormwater detention facilities within the Cataraqui North Neighbourhood did not indicate a disconnect between Planning and Development Departments but did highlight that a disconnect existed between planning processes and engineering functionality. The Cataraqui North Alternative Master Plan (1993), recommended that stormwater detention facilities form part of the integrated park system of the neighbourhood. Stormwater plans developed at the same time suggested that facilities be located within the adjacent creek to the west of Centennial Drive. This type of stormwater detention is considered an “in-line” system in which all runoff is directed towards an existing basin. Off-line systems are designed so that only a portion of the runoff is directed to the basin. In one of the earliest subdivisions a decision was made to use the inline facilities as opposed to placing a small stormwater facility within the neighbourhood. However, theories on stormwater management changed during that period resulting in the Cataraqui Conservation Authority not approving the use of inline facilities for stormwater management. As a result, a site was chosen to east of Centennial Drive for its topographical location and the willingness of the landowner for his property to be used as a stormwater facility. However, negotiations for the site became extremely acrimonious between the various landowners over concessions and the

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134 Municipal Engineer I, Personal Communication, February 18, 2014; Municipal Planner II, Personal Communication, March 18, 2013
City found itself in the position of facilitator. Although, the large stormwater detention facility now located in the western portion of the neighbourhood was designed to form part of the integrated open space system, it is located where the Alternative Master Plan (1993) recommended high and medium density residential units (See Figure 4-17 comparing Maps 4-1, figures D, G, H and Map 4-2 figure F, J). As such, during the process of relocating stormwater facilities an analysis was not performed to examine how the new location of those facilities would affect the functionality of the neighbourhood in terms of supportive land uses. And indeed, there were impacts. Medium and high density land uses were proposed for that specific location to facilitate the implementation of both the Community Commercial Centre in the North West corner of the planning area as well as schools which were to be adjacent to the higher density land uses (see Figure 4-17). Alternative locations to place higher density land uses to support these facilities were not examined. Instead, the solution to relocating the stormwater facilities only went so far as to examine what could functionally get done to get development moving.

4.2.4 Political/Economic Concessions

A central principle of the Cataraqui North Alternative Master Plan (1993), was the establishment of a mixed-use corridor along Princess Street (see Map 4-1, figure H). However, the owners of properties along Princess St. were not party to the creation of the Alternative Master Plan (1993) with the exception of two centrally-located parcels of land along Princess St. and an automobile dealership at the corner of Centennial Dr. and Princess St. As such, only the two centrally located parcels were included in the Cataraqui North Zoning By-Law. That being said, the

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The central location of those parcels meant that they could act as a catalyst to the creation of a mixed-use corridor. Furthermore, those parcels were owned by Dacon, the lead developer who, up until that point in time had championed the development of a neighbourhood based on new urbanist principles. However, in 2000 the developer received an offer from a large format retail company requesting to locate at the two centrally located sites. The developer purchased the lot in between the two already owned by the company and in 2001 applied for a zoning amendment to remove these properties from the Cataraqui North Zoning By-Law and place them within the Kingston Township Zoning By-Law which permitted large format retail. The justification for this was that due to the amalgamation of the properties there was now split zoning on the newly created property. The amendment was approved by council because at the time (2001) the City of Kingston was desperate for development. The large-format retailer demanded that specific site so in the end political pressure was applied to ensure that it would be approved (compare Figures 4-18 and 4-19 and see Map 4-2, figure G).

While the development of a mixed use corridor along Princess St. was always envisaged as a long term goal, the implications of that decision was that it may have delayed the development of a mixed use corridor by decades. Indeed, it took an additional 15 years for the first mixed-use development to appear on Princess St. (see Figure 4-20). It is ironic that its location at the south-eastern portion of Princess St. and Centennial Dr. place it just outside the boundary of the Cataraqui North Secondary Planning Area. The decision allowed an incompatible form of retail use to be located adjacent to a residential street. The mitigation measures involved the creation of a “living fence” which was the name given to the vegetative

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142 Proponent Planner I, Personal Communication, June 20, 2013.
screening. However, the result was that it walled off the neighbourhood. Whereas, the Alternative Plan (1993) envisaged the creation of an active streetscape. The outcome in the words of one participant was that: “The neighbourhood’s tucked in behind and you’ve got these commercial sentinels at the gateways that aren’t terribly welcoming. It’s certainly degraded the whole concept.”

Figure 4-20: Mixed-use development on the south-eastern corner of Princess St. and Centennial Dr.

However, the implications of this decision were far greater than delaying the development of a mixed-use corridor. The Alternative Master Plan (1993) suggested that 885 dwelling units could be achieved through the development of a mixed-use corridor along Princess St. which equates to 20% of the entire 4,335 predicted dwelling units for the neighbourhood. It can therefore be argued that the decision to allow large format retail, thus, delaying the implementation of a mixed use corridor also delayed the implementation of 20% of the projected dwelling units for the Neighbourhood. While these dwelling units may be implemented in the future the decision on whether to implement the school sites has already been made. As such, by the time that the neighbourhood requires schools there will likely be no sites available to accommodate those needs.

As previously mentioned the proposed road network for the Cataraqui North Neighbourhood eschewed culs-de-sac and pedestrian passageways for a grid network (See Figure 4-23). By 1997 Braebury, a local homebuilder had purchased lands from both Taylor and Binnington. Together with Dacon and Binnington, Braebury began the draft subdivision approval process. These applications included the Kings Landing, Lyndenwood, Binnington, Walnut Grove and Forest Hills subdivisions (see Figure 4-21). However, only the southern portion of the lands included actual lotting and were to be the first phases of development. The remainder of the

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144 Ibid.
lands were “red line” plans, included to indicate the built-out street network. The proposed network followed the principles of a grid network in all but three locations where culs-de-sac were proposed (compare Figures 4-21 and 4-23). However, one subdivision approval application in particular has been blamed for completely going against the principles of the new urbanist inspired Alternative Master Plan (1993), and opening the floodgates that resulted in a total of 13 cul-de-sacs within the Cataraqui North Neighbourhood (compare Figures 4-21 and 4-22). This resulted in an 8.3% decrease in the proposed street density and a 17.9% decrease in intersection density impacting the pedestrian connectivity of the neighbourhood (see Figures 4-23 and 4-24).

By 2000 Graham Pye had purchased the Lyndenwood lands from Dacon, who retained the Walnut Grove subdivision. When Pye bought the land from Dacon, it already had draft plan of subdivision approval on the entire parcel. However, the remainder of the lands required plan of subdivision approval to indicate the lotting pattern. At the same time, Dacon abandoned their initial proposal for Walnut Grove, beginning a new draft subdivision approval process based on a retirement village concept, refined from a similar concept that they had implemented in a different part of the City. The Walnut Grove concept met certain goals of the Alternative

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146 Ibid.
Master Plan (1993), including housing that allowed for aging in place as well as housing mix that included single detached, semi-detached and row houses, it achieved those goals in ways that the Plan (1993) did not intend.\textsuperscript{148} The retirement community abandoned the grid network and instead was based on a private park behind three culs-de-sac (see Map 4-2 as well as Figures 4-22 and 4-24).

While a mix of housing types was created all lots within the subdivision are single detached size lots which for the most part equates to low density housing. The resulting approval of this subdivision was so contrary to the New Urbanist principles set out in the Alternative Master Plan (1993), it disempowered staff when more builders came forward with cul-de-sacs and other development proposals based on conventional suburban ideas in subsequent subdivision approval applications.\textsuperscript{149} Council’s approval of the Walnut Grove Subdivision in 2002 was the result of economic pressures of that time.\textsuperscript{150} Indeed, the state of planning in Kingston at that time was summarized by one research participant who suggested that:

\textsuperscript{148} Proponent Planner I, Personal Communication, June 20, 2013.
\textsuperscript{149} Municipal Planner II, Personal Communication, March 18, 2013.
\textsuperscript{150} \textit{Ibid.}
At the time, there was not a whole lot of regard for the importance of land use planning as a necessary municipal function. It was seen more as an evil, something to be shortcutted and worked around at every angle. Planners did not have a lot of sway at the time within the municipal power structure. The development community and the development interests in this particular subdivision area were very strong, very powerful and that pressure was exerted on council.\textsuperscript{151}

This sentiment was echoed by another research participant who suggested that if this same proposal was to come before Planning Committee today its approval would be far from certain, indicating that Councillors today are asking questions in terms of walkable and complete communities.\textsuperscript{152} However, it is not yet know if this shift represents changes in Councillors or evolving societal concerns.

4.3 \textbf{Successes in the Cataraqui North Neighbourhood}

To date this paper has focused on failures in the implementation of the Cataraqui North Alternative Master Plan (1993). However, it is important to speak to successes within the neighbourhood. While the approval of the large format retail site along Princess St. has hampered the development of a mixed-use corridor, a community commercial has been built at the north-west intersection of Princess Street and Augusta Drive. It includes a book store, coffee shop, restaurant and ice cream shop (see Map 4-2, figure H and Figure 4-25). While the bookstore does take the form of large format retail it is not done so in a way that is intimidating to pedestrian residents of the neighbourhood. This type of development acclimates residents with using Princess St. for commercial as pedestrians and fosters the future development of a mixed-use corridor.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{image}
\caption{Neighbourhood Commercial Centre located at the intersection of Princess St. and Augusta Dr. Source: Google Streetview.}
\end{figure}

\textsuperscript{151} \textit{Ibid}
\textsuperscript{152} Proponent Planner II, Personal Communication, February 5, 2014.
The development of smaller planned public parks has likewise been successful. Other than the remainder park, smaller parks tend to have street frontage and a fairly high degree of visibility, which is difficult to achieve in any municipality (see Map 4-2, figure K and Figure 4-27). A network analysis of the five minute walking distance to all parks indicates that 89% of residential units within the neighbourhood fall within this measure (see Figure 4-26). Furthermore, the majority of those units that fall outside of a 5 minute walking distance to parks are those that existed prior to the development of the neighbourhood. However, it must be noted that this heightened connectivity is due to the use of pedestrian pass-through and not the street connectivity that was the vision of the Alternative Master Plan (1993).

Figure 4-26: Five minute walking distance to parks.

Figure 4-27: Parkette featuring high visibility in the Cataraqui North Neighbourhood. Source: Google Streetview.

Quite possibly, the greatest legacy that the Cataraqui North Neighbourhood left on development within the City of Kingston is redefining the urban form for single and semi-detached homes within subdivisions. Prior to the development of the Cataraqui North Neighbourhood the typical suburban single detached home was built on a 50 to 60 foot lot with garages protruding in front, creating a streetscape of garages instead of homes (see Figure 4-28). When the neighbourhood was proposed with 35 to 50 foot lots there was concern that it would not be

153 Proponent Planner I, Personal Communication, June 20, 2013.
155 Developer II, Personal Communication, May 1, 2013.
Figure 4-28: Cataraqui Neighbourhood (early 1990s) Muirfield Cres. Single-detached homes on 60 foot lots with garages protruding. Source: Google Streetview.

Figure 4-29 Cataraqui North Neighbourhood (mid 2000s) Cooke Cres. Single-detached homes on 45 foot lots with garages in line with home. Source: Google Streetview.
Figure 4-30: Greenwood Park Neighbourhood (Late 2000s) Rainbow Cres, Single-detached homes on 35 foot lots with garages in line with home. Source: Google Streetview.

Figure 4-31: Sunnyside Neighbourhood (1930s) Traymoor St. Single-detached homes on 40 foot lots with garages in rear yard. Source: Google Streetview.
accepted by suburban homebuyers. And although there was an initial shock to residents who first moved into the neighbourhood, they were replicated with success in new neighbourhoods throughout the City. Furthermore, the Cataraqui North Zoning By-Law was strict in regulating front yard requirements to ensure that the trend of garages in front of homes was reversed by bringing garages back in line with the front wall of the house. This policy was successful and was likewise replicated in later subdivisions within the City (compare Figures 4-29 and 4-30).

While it has been argued earlier in this research that policies to create rear laneways were, for the most part, a failure within the neighbourhood. That is partially due to the fact that the neighbourhood was not originally designed with laneways in mind. Indeed, while laneways were located surrounding the traffic circle in the original design, the design of the neighbourhood predated the province-wide discussion on designing for laneways that came a few years later. In essence, the use of laneways was superimposed on the neighbourhood after its initial design. In fact, the Cataraqui North Neighbourhood was partially successful in terms of providing a new urbanist built form. It successfully reintroduced the pre-war 1930s built form by replicating the lot size of the period. It updated that form by attaching the garage to the house instead of locating it at the rear of the house (compare Figures 4-29 and 4-31). By reintroducing this building style the Cataraqui North Neighbourhood was successful in creating a more walkable urban landscape that has been replicated in other areas of the City (compare Figures 4-29 and 4-30). While built form is only one component of creating a walkable community it is an important first step in the right direction for Kingston.

4.4 Summary

Failures in the implementation of the principles of the Cataraqui North Alternative Master Plan (1993), were the result of four overarching factors: Flexibility in Official Plan and Zoning By-Law; General nature of Official Plan mapping; Disconnect between various approval authorities, and; Political/Economic Concessions.

Although no systematic attempt at weighting was performed, interviewees identified obvious major implementation shortcomings (ie. remainder parks, long-term transit costs to the municipality, loss of school sites). This research indicated that a superficial view of the failure of Cataraqui North is the argument that it failed to implement new urbanist housing forms (ie. rear laneways). In fact, the success of the neighbourhood is that it heralded a return to an updated pre-war (1930s) built form. It indicated that a return to the old paradigm was not only

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159 Developer II, Personal Communication, May 1, 2013
160 Proponent Planner I, Personal Communication, June 20, 2013.
feasible but sought after and in doing so brought back one of the cornerstones of creating walkable communities. Furthermore, interviewees indicated that the true failure in the implementation of the plan was that the aforementioned factors all led to the dismantling of the focal point of the community which was based on the combination of the commercial centre, ceremonial park and schools. Instead, the neighbourhood is left with centralized open space to fill that void. Although a built form that fosters a walkable streetscape has been re-introduced one requires somewhere to walk to for the streetscape to reach its potential.
5. Recommendations and Lessons Learned

Based on Background Research and the analysis, the recommendations and lessons learned are as follows:

5.1 Recommendations for the Future of the Cataraqui North Neighbourhood

5.1.1 Re-examination of Remaining Vacant Lands

As of 2014, the Cataraqui North Neighbourhood is almost completely built out. As such, there are few interventions that can be performed that will reinforce the vision set out in the Alternative Master Plan (1993). That being said, it is imperative that the remaining vacant lands within the neighbourhood be re-examined to determine how their development can contribute to a connected and cohesive community.

5.1.2 Re-examination of the Princess Street Corridor

The Princess Street corridor continues to contain potential for intensified redevelopment as a variety of underutilized and vacant properties exist along it. Its development potential should be re-examined so that appropriate policies may be introduced to encourage the development of a mixed-use corridor. In the meantime, its large format retail buildings and parking lots should be considered as temporary uses.

5.1.3 Creation of Transition Zone between Princess Street Corridor and Cataraqui North Neighbourhood.

The appropriateness of current lot sizes along the Princess Street Corridor needs to be examined. In their current form, lot depths along the Princess Street Corridor are optimized for Arterial Commercial land uses with depths ranging from 100 to 200 metres. There may be a need to introduce policies that will reduce the block depths so that a transition zone may be created between the future mixed-use corridor and low density residential housing within the neighbourhood. This transition zone may be an optimum location for upper medium density housing. In fact, this transition zone was envisaged in the Alternative Master Plan (1993), but was never translated into Official Plan (1995) policies, its mapping, or zoning by-law regulations.
5.1.4 Improvement of Pedestrian Connectivity from Cataraqui North Neighbourhood to Princess Street Corridor.

Pedestrian travel to the community commercial centre located at the corner of Centennial Drive and Princess Street is an indication that there is a willingness to do so. Therefore, new policies to create a mixed-use corridor along Princess Street should also focus on ways to improve pedestrian connectivity to Princess Street.

5.2 Lessons Learned from the Implementation of the Cataraqui North Secondary Plan

5.2.1 Secondary Planning as a Municipally Driven Process

Traditionally, secondary planning for greenfield sites in the former Township of Kingston area was a developer-driven process and this approach was carried forward to the new City of Kingston. However, in many municipalities in Ontario the process is more tightly controlled by the municipality. The implementation of the Cataraqui North secondary plan highlights the need for secondary planning to be a municipally-driven process. Multiple land owners, with different interests, or no interests in innovation were responsible for developing the secondary plan. Some land owners were forward-thinking and innovative while others simply wanted to get zoning in place as quickly as possible so that they may sell their land to builders. The result of this was that there was no strong voice for the public agenda, and the local government was mostly reacting to the proposals of developers.

5.2.2 Municipalities as Leaders and Champions of the Neighbourhood Planning Process

By understanding and creating a vision for the community through strong stakeholder participation, which includes the development community, municipalities need to lead and champion the neighbourhood planning process. This is especially true if they are trying to lead the development industry ahead of its development cycle or in a direction that it is not familiar with or comfortable with. This will empower municipalities to decline proposals that are not based on the planning theories that underpin the goals and objectives of the particular neighbourhood. What may be acceptable for a conventional suburban neighborhood may completely derail the development of a neighbourhood designed with different planning principles. Strong developer and landowner participation in the process may limit the need for municipalities to act as a later arbitrator of developers’ disagreements after a secondary plan has been implemented.

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161 Developer II, Personal Communication, May 1, 2013.
164 Ibid.
already been implemented. This is accomplished by addressing potential conflict between landowners and developers early in the process. The designers of Cornell and Kentlands used design charrettes with strong stakeholder input that included surrounding residents. This approach strengthens a municipality’s position when defending the plan’s principles when changes are proposed or during short-term economic down turns.

5.2.3 Approval Authorities and Municipal Departments as Stakeholders in the Planning Process

In the case of the Cataraqui North Neighbourhood, approval of the secondary plan prior to buy in or approval from other municipal departments or approval authorities led to an unrealized traffic dispersion roadway system, dis-incentivising the use of rear laneways and an unrealized traffic circle at the heart of the neighborhood. Stakeholder involvement in the development of a secondary plan should also include the various approval authorities and municipal departments that will be involved in the implementation and servicing of the neighbourhood. This is particularly important when a new or innovative neighbourhood design is proposed. As such, all municipal departments need to be on the same page prior to the approval of the secondary plan. In the design of Kentlands and Cornell, design charrettes proved an effective tool to creating buy in from a variety of municipal departments and various approval authorities.

5.2.4 Simultaneous Approval of Secondary Plan and Architectural Controls

The implementation of the Cataraqui North Neighbourhood also taught us that design guidelines and other architectural controls should be implemented at the same time as the secondary plan instead of pushing it to a later date where funds to do so may no longer be available.

5.2.5 Developer Input in the Creation of Neighbourhood Design Guidelines

Neighbourhood design guidelines should be created with developer input at the outset. This will ensure their feasibility from a developer perspective as well as create developer/builder buy in.

5.2.6 Municipal First Right of Refusal for School Sites

Since the approval of the Cataraqui North Secondary Plan (1995), nearly 20 years has passed and the neighbourhood is still not completely built out. Eventually, higher density land uses will be built along the Princess Street corridor. Traditionally, these higher density land uses are the

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166 Municipal Planner III, Personal Communication, April 3, 2013
last to be built in a neighbourhood, regardless of whether the neighbourhood is based on traditional or new urbanist neighbourhood design. Unfortunately, by the time the higher density land uses are built and the neighbourhood reaches a residential density that requires a public school there will be no site available for one. Furthermore, in 2002 as construction was beginning in the Cataraqui North Neighbourhood the Limestone District School Board closed the existing school in the Cataraqui North Neighbourhood. As of 2011 the Cataraqui North Neighbourhood contains approximately 345 children between the ages of 5 and 14\textsuperscript{167} and currently those students are required to travel to Cataraqui Woods Elementary School, located in the Cataraqui Woods Neighbourhood 3 km to the west of the centre of the Cataraqui North Neighbourhood with an industrial park laying between the two. Because of this it is virtually guaranteed that no students within the Cataraqui North Neighbourhood will ever experience walking to school. As of 2013, between 246 and 425 students are enrolled in each of the elementary schools surrounding the Cataraqui North Neighbourhood with projected maximum enrolments for those schools between 325 and 550 students.\textsuperscript{168} As such, the 345 students within the Cataraqui North Neighbourhood approaches a student population that would warrant a public school within the neighbourhood.

As a result of this hard lesson that was learned from the development of the Cataraqui North Neighbourhood, provisions were included in the Cataraqui West Secondary Plan that the City of Kingston has a first right of refusal on the proposed school sites for community uses if the school boards decide they do not want them.\textsuperscript{169} This policy is worth repeating in future secondary plans, particularly for smaller municipalities or those experiencing slower growth to ensure that if school sites are required in the future they are still available and do not require schools to make a decision early in the development of a neighbourhood.

5.2.7 Provisions for Neighbourhood Functionality if School Sites do not Materialize

In the Cataraqui North Neighbourhood, a lack of foresight led not only to none of the three proposed schools being implemented, but also resulted in a remainder park. As well the integrated park system was fractured. As such, along with policies to ensure that the future needs of the neighbourhood are met in terms of schools. Secondary planning needs to make provisions, which include alternative design, for what the neighbourhood outcome will be if school sites do not materialize.\textsuperscript{170}

\textsuperscript{167} Statistics Canada (2011) Census DA Data.
\textsuperscript{168} Limestone District School Board, Email Communication, March 4, 2014.
\textsuperscript{169} Municipal Planner I, May 2, 2013.
\textsuperscript{170} Municipal Planner III, Personal Communication, April 3, 2013
5.2.8 Flexible Zoning Utilized Only in Conjunction With Other Development Controls

Dacon was the driving force behind the development of the Alternative Master Plan (1993). As such, they deserve praise for undertaking such an innovative plan, particularly in an industry that is known for its unwillingness to innovate. However, due to economic circumstances and a shift in their business philosophy, they were the first developers to propose developments within the neighbourhood that were contrary to the intent of the Alternative Master Plan (1993). This research has indicated how flexible zoning allowed Dacon, as well as other developers and builders to implement development that was contrary to the vision of the Cataraqui North Alternative Master Plan (1993). Flexible zoning need not be detrimental to the implementation of a secondary plan. In many cases, in fact, it may be desirable as it allows developers and builders to react to market conditions. However, checks and balances need to be integrated into the process to ensure that one sort of housing does not dominate. These checks should take the form of implementation tools such as: design guidelines, block plans, architectural controls and housing charts. Through the use of these types of tools flexibility can be integrated into a zoning by-law.

5.2.9 Use Prescriptive Zoning to Meet Neighbourhood Objectives

In certain geographical areas of a secondary plan, zoning by-laws need to remain prescriptive to ensure that densities are in line with those prescribed in the Secondary Plan to support such elements as transit, schools and commercial uses. Changing landowners and municipal officials should not be cited as a cause for dramatic change from a secondary plan during the development of that neighbourhood. It is virtually guaranteed that both public and private stakeholders will change over the course of the twenty-year development of a neighbourhood. This is especially true in the case of smaller municipalities in which neighbourhoods take longer to reach buildout. As such, the aforementioned additional development controls, as well as prescriptive zoning within certain areas of the neighbourhood act as a safeguard against changing stakeholders (both public and private) who may not be familiar with (or care) what the original intent and vision of the secondary plan was attempting to create. By the use of both prescriptive and flexible zoning the needs of both the neighbourhood and developers can be achieved.

171 Proponent Planner I, Personal Communication, June 20, 2013.
172 Municipal Planner IV, Personal Communication, May 2, 2013
173 Proponent Planner I, Personal Communication, June 20, 2013.
5.2.10 Secondary Plan Mapping Should be Detailed

Official Plan land use mapping is intended to be general in nature. However, Secondary Plan mapping provides an opportunity to create more detailed land use mapping within the Official Plan so that one can quickly see the interrelation between various land uses. The Cataraqui North Secondary Plan mapping contains even less detail than the land use maps in the current City of Kingston Official Plan (2010). This is flexibility to the extent that the plan means nothing.

Although secondary plan mapping does not necessarily need to be prescriptive in nature it should provide greater direction than the mapping for the Cataraqui North Secondary Plan provided. As such, secondary plan mapping should include such features as: the location of future connection streets to boundary roads; school sites; parks and parkettes; a gradation of commercial categories; higher residential density land uses when they are required to support associated land uses or policies such as (but not limited to): a community commercial centre or a transit corridor similar to the Cornell neighbourhood in Markham.

5.2.11 Re-examination of Secondary Planning Area When Dramatic Change to Neighbourhood is Proposed

When dramatic alterations are proposed to a developing neighbourhood, broader discussions and a re-analysis needs to occur in terms of what effect the proposed alterations will have on the neighbourhood. Technical discussions to resolve issues of functionally tend to come at the cost of the original vision of the neighbourhood and its functionality from a planning perspective. In the example of stormwater detention facilities within the Cataraqui North Neighbourhood, theories as to the location and size of stormwater facilities changed dramatically during the course of the implementation of the Plan which necessitated changes as to the location of stormwater facilities within the neighbourhood. Changes of this magnitude require a reassessment of the functionality of the surrounding land uses and the entire neighbourhood. If new facilities are to alter the location of proposed land uses such as higher density residential land uses which are located in a way to support a neighbourhood commercial centre and schools within the neighbourhood, then a discussion needs to occur as to how those changes in land uses can be mitigated so as not to effect the overall functionality of the plan. This may include Official Plan amendments to change the land use designation of other sites within the neighbourhood to ensure that functionality is maintained. The re-examination of a planning area may require municipalities to utilize tools such as interim control by-laws and holding zones. This may result in short term costs to a municipality but will help ensure that development occurs in an appropriate manner in support of the long term goals of neighbourhood development.
5.2.12 Broad Discussions and Analysis as to the Effects of Proposed Zoning Amendments

Finally, Amendments to a zoning by-law are commonplace during the development of a neighbourhood. However, a broader discussion needs to occur as to the possible long term ramifications of amendments. By approving amendments that result in lower residential densities for neighbourhoods councillors need to be made aware of the potential long term implications on the neighborhood which may include no schools within the neighbourhood and the failure of commercial centres. Furthermore, a discussion needs to occur as to the immediate vs. long term financial implications on municipalities if these types of amendments are approved. At the same time this analysis would inform neighborhood residents who have purchased homes under the impression that the neighbourhood would develop in a certain manner that may include: schools, shops and community parks of the long term ramifications of the proposed amendments and allow them to provide informed comments at public meetings.

5.3 Limitations of the Research

The recommendations that are a product of this research are particularly germane to the suburbs of the City of Kingston. They may also be useful for development of atypical or innovative secondary plans in small to medium-sized municipalities or those that experience slower growth rates. However, the majority of the recommendations are only pertinent for the implementation of any type of secondary plan within a small to medium-sized municipality such as Kingston. The applicability of the recommendations becomes limited for larger municipalities or those that experience rapid growth.

The findings of this research are a first attempt to examine factors that affect the implementation of the vision of secondary plans. Further case study research is required in similar municipalities (small to medium with slower growth rates) as Kingston to replicate the findings of this research. Similar case study research needs to be conducted on larger municipalities and those experiencing rapid growth to determine the veracity of these findings for those situations.
6. CONCLUSION

The designers of the Cataraqui North Alternative Plan put forth their best ideas and developed theories on the neighbourhood unit through the creation of this Plan. Furthermore, one of the designers signed the Charter of the New Urbanism at the fourth Congress for the New Urbanism in Charleston, South Carolina in 1996 and went on to work on more recognizable Canadian New Urbanist projects such as Angus Glen and Cornell in Markham as well as Regent Park in Toronto. As such, the 1993 Alternative Master Plan for Cataraqui North contributed to the development of New Urbanist planning in Canada.

The Alternative Master Plan contributed more to the creation of active transportation than its predecessor through a variety of features within its design including:

- Transit supportive residential density (36 units per net hectare), almost 3 times the residential dwelling units proposed by its predecessor;
- An almost equal proportion of low (45%) and medium density (49%) residential dwelling units a stark contrast to the 1991 Master Plan for Cataraqui North that proposed 75% low density and 19% medium density residential dwelling units;
- Mixed-use residential/commercial land uses as well as commercial land uses focused on pedestrians as opposed to the autocentric commercial land uses proposed by the 1991 Plan.
- A hierarchy of parks including: an Open Space System, Ceremonial Park as well as Parkettes;
- A reduced right-of-way for local streets to 18 m, as well as a 33% increase in street density; and
- A 77% increase in intersection density over the Master Plan for Cataraqui North.

Of the 54 recommendations made by the Alternative Master Plan only 26% were implemented in conformity with the Plan, while 50% where not in conformity and 24% were in partial conformity. As such, it can be argued that overall the Cataraqui North Neighbourhood was not implemented in conformity with the principles set out in the 1993 Alternative Master plan.

Non-conformity with the Alternative Master Plan was the result of four broad themes that include:

- Excessive flexibility in Official Plan and Zoning By-Law;
- Over simplification of the Official Plan mapping;
- Disconnect between various approval authorities; and
- Political/Economic Concessions.
The greatest failure in the implementation of the Plan was that the aforementioned factors all led to the dismantling of the focal point of the community, which was based on the combination of the commercial centre, ceremonial park and schools. Instead, the neighbourhood is left with a simpler and poorly-defined open space to fill that void.

This research resulted in recommendations for the future development of the Cataraqui North Neighbourhood that include:

1. Re-examination of remaining vacant lands;
2. Re-examination of the Princess Street corridor;
3. The creation of a transition zone between the Princess Street corridor and the Cataraqui North Neighbourhood; and
4. Improvement of pedestrian connectivity from the Cataraqui North Neighbourhood to the Princess Street corridor.

Lessons learned from the implementation of the Cataraqui North Alternative Master Plan guided recommendations for medium-sized communities such as Kingston for the creation and implementation of secondary plans based on the theories of new urbanism:

1. Secondary planning should be a municipally driven process;
2. Municipalities should be leaders and champions of the neighbourhood planning process;
3. Various approval authorities and all affected municipal departments should be stakeholders in the planning process from the outset;
4. The approval of a secondary plan and architectural controls should occur simultaneously and not left to a later date;
5. Developer input in the creation of neighbourhood design guidelines to ensure buy-in;
6. Municipal first right of refusal for school sites not optioned by school boards;
7. Provisions for neighbourhood functionality if school sites do not materialize;
8. Flexible zoning utilized only in conjunction with other development controls;
9. Use prescriptive zoning to meet neighbourhood objectives;
10. Secondary plan mapping should be detailed;
11. Re-examination of secondary planning area when dramatic change to the neighbourhood is proposed; and
12. Broad discussions and analysis about the potential long-term effects that proposed zoning amendments may have on the functionality of the entire neighbourhood.
The implementation of the Cataraqui North Neighbourhood was successful in returning the lot size and setbacks of residential development to their pre-war (1930s) built form in Kingston. This has been replicated in other neighbourhoods in Kingston indicating that a return to the previous model of development is not only feasible but sought-after and in doing so has brought back one of the cornerstones of creating walkable communities (see Figures 6-1 and 6-2).
Works Cited


Kingston, City of. 2013. *City of Kingston 2010 Urban Residential Growth and Density Study*


CATARAQUI NORTH, A CASE STUDY: KINGSTON’S EXPERIENCE WITH
THE IMPLEMENTATION OF A NEW URBANIST SECONDARY PLAN
CATARAQUI NORTH, A CASE STUDY:

KINGSTON’S EXPERIENCE WITH THE IMPLEMENTATION OF A NEW URBANIST SECONDARY PLAN

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A.1 Sources

A.1.1 Data Sources

- Cataraqui North Alternative Master Plan (1993) and Land Use Map;
- City of Kingston GIS Database (2013).

A.1.2 Criteria Source

- Cataraqui North Alternative Master Plan (1993)

A.2 Analysis Criteria

The following tables list the evaluative criteria and methods utilized to determine the implementation conformity of the 1993 Cataraqui North Alternative Master Plan.

Table A-1: Commercial Conformity Criteria

<table>
<thead>
<tr>
<th>Categories</th>
<th>Criteria Questions</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed use Urban Corridor</td>
<td>Was the Mixed Use Corridor with density at 45-75 units per net hectare along Princess Street Implemented?</td>
<td>GIS, Site Visits</td>
</tr>
<tr>
<td>Mixed Use</td>
<td>Have mixed use buildings with density at 45-75 units per net hectare been implemented in Cataraqui North?</td>
<td>GIS, Site Visits</td>
</tr>
<tr>
<td>Community Commercial Centre</td>
<td>Has the Community Commercial Centre at the intersection of Cataraqui Woods Drive been implemented?</td>
<td>GIS, Site Visits</td>
</tr>
<tr>
<td>Community Commercial</td>
<td>Has a Community Commercial Centre been implemented in Cataraqui North?</td>
<td>GIS, Site Visits</td>
</tr>
<tr>
<td>Neighbourhood Convenience Shopping</td>
<td>Has the Neighbourhood Convenience Shopping in the center of Cataraqui North been implemented?</td>
<td>GIS, Site Visits</td>
</tr>
<tr>
<td>Neighbourhood Convenience</td>
<td>Has a Neighbourhood Convenience Centre been implemented in Cataraqui North?</td>
<td>GIS, Site Visits</td>
</tr>
</tbody>
</table>
Table A-2: Parks and Open Spaces Conformity Criteria

<table>
<thead>
<tr>
<th>Parks and Open Spaces Conformity</th>
<th>Criteria Questions</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Parkland Implementation</td>
<td>Has the Principal Parkland been implemented in the centre of Cataraqui North?</td>
<td>GIS, Site Visits</td>
</tr>
<tr>
<td>Principal Parkland Community Facilities</td>
<td>Has the Principal Parkland provided major active sports facilities for the community?</td>
<td>Site Visits</td>
</tr>
<tr>
<td>Central Island Park Implementation</td>
<td>Has the Central Island Park been implemented as per the Cataraqui North Alternative Master Plan Proposed Land Use Map?</td>
<td>Site Visits</td>
</tr>
<tr>
<td>Parkette Implementation</td>
<td>Does the location of smaller park areas conform to their proposed location in the Cataraqui North Alternative Master Plan?</td>
<td>GIS</td>
</tr>
<tr>
<td>Parkette Size</td>
<td>Are Smaller Park Areas approximately half an acre (.2 hectares) in size?</td>
<td>GIS</td>
</tr>
<tr>
<td>Parkette Accessibility</td>
<td>Are all neighbourhood residents within a five minute walk of a Smaller Park Area?</td>
<td>GIS</td>
</tr>
<tr>
<td>Parkland Visibility</td>
<td>Are parks open and visible?</td>
<td>GIS, Site Visits</td>
</tr>
<tr>
<td>Stormwater Detention Areas \ Text</td>
<td>Are stormwater detention areas located as proposed in Alternative Master Plan Proposed Land Use Plan?</td>
<td>GIS</td>
</tr>
<tr>
<td>Stormwater Detention Areas \ Text</td>
<td>Are stormwater detention areas incorporated into open space system?</td>
<td>Site Visit</td>
</tr>
</tbody>
</table>

Table A-3: Transit Conformity Criteria

<table>
<thead>
<tr>
<th>Transit Conformity</th>
<th>Criteria Questions</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium Density and Transit</td>
<td>Has the medium density (45-75 units per net hectare) area in Cataraqui North that is located on the major east-west street as specified by the Alternative Master Plan Proposed Land Use Map facilitated the implementation of transit service?</td>
<td>GIS, Transportation Master Plan, Site Visit</td>
</tr>
<tr>
<td>Location of Transit on Key East-West Street</td>
<td>Are transit stops located at three to four minute walking intervals along the major east-west street?</td>
<td>GIS</td>
</tr>
<tr>
<td>Transit Boundary Roads</td>
<td>Is transit service present or proposed for the four boundary roads which delineate the Cataraqui North Neighbourhood?</td>
<td>GIS, Site Visit</td>
</tr>
<tr>
<td>Distance to Transit</td>
<td>Are all residents within a five minute (400m) walk of a transit stop?</td>
<td>GIS</td>
</tr>
</tbody>
</table>
## Table A-4: Street Network Conformity Criteria

<table>
<thead>
<tr>
<th>Categories</th>
<th>Criteria Questions</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collector Streets</td>
<td>Are collector streets eliminated in Cataraqui North?</td>
<td>Archival Data</td>
</tr>
<tr>
<td>Reverse Frontage Lots</td>
<td>Has reverse frontage been barred from local streets?</td>
<td>GIS, Site Visits</td>
</tr>
<tr>
<td>Road Grid Access Points</td>
<td>Have a minimum of 9 points of access to boundary roads been implemented?</td>
<td>GIS</td>
</tr>
<tr>
<td>Community Gateways</td>
<td>Have access points been treated like gateways through the use of plantings or other such means?</td>
<td>Site Visits</td>
</tr>
<tr>
<td>Roadway Land Use</td>
<td>Do the road right of ways occupy approximately 24% of the Neighbourhood area?</td>
<td>GIS</td>
</tr>
<tr>
<td>“Peopleways”</td>
<td>Have the six key streets been implemented as per the Cataraqui North Alternative Master Plan Proposed Land Use Plan Map?</td>
<td>Site Visits, GIS</td>
</tr>
<tr>
<td>Tree Planting Program</td>
<td>Has a street tree planting program been implemented on the key streets?</td>
<td>Site Visits</td>
</tr>
<tr>
<td>Reduced Right of Way</td>
<td>Was a reduced right of way width (less than 20m) utilized for local streets within Cataraqui North?</td>
<td>GIS, Site Visits</td>
</tr>
<tr>
<td>Housing and Solar Orientation</td>
<td>Are east west streets maximized to optimized solar orientation?</td>
<td>GIS</td>
</tr>
<tr>
<td>Traffic Circle</td>
<td>Was the proposed traffic circle implemented?</td>
<td>GIS, Site Visits</td>
</tr>
<tr>
<td>Stop Signs</td>
<td>Are either 2 or 4 way stop signs located at each intersection within the Cataraqui North Neighbourhood?</td>
<td>Site Visits</td>
</tr>
</tbody>
</table>

## Table A-5: Schools Conformity Criteria

<table>
<thead>
<tr>
<th>Categories</th>
<th>Criteria Questions</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary School Implementation</td>
<td>Was a public elementary school located at the site specified by the Alternative Master Plan Proposed Land Use Map?</td>
<td>GIS</td>
</tr>
<tr>
<td>Elementary School within Neighbourhood</td>
<td>Was a public elementary school established within the Cataraqui North Neighbourhood?</td>
<td>GIS, Site Visit</td>
</tr>
<tr>
<td>Separate School Implementation</td>
<td>Was a separate elementary school located at the site specified by the Alternative Master Plan Proposed Land Use Map?</td>
<td>GIS</td>
</tr>
<tr>
<td>Separate School Within Neighbourhood</td>
<td>Was a separate elementary school established within the Cataraqui North Neighbourhood?</td>
<td>GIS</td>
</tr>
<tr>
<td>School Location</td>
<td>Are elementary schools located at a central location making them easily accessible to all residents?</td>
<td>GIS</td>
</tr>
</tbody>
</table>
### Table A-6: Housing and Density Conformity Criteria

<table>
<thead>
<tr>
<th>Categories</th>
<th>Criteria Questions</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Density Housing Implementation</td>
<td>Is a high density (75-125 units per net hectare) area present in Cataraqui North that is in conformity to the location specified by the Alternative Master Plan Proposed Land Use Map?</td>
<td>GIS</td>
</tr>
<tr>
<td>High Density Housing and Commercial Uses</td>
<td>Are high density areas (75-125 units per net hectare) located in such a way to support a Community Commercial Centre?</td>
<td>GIS, Site Visit</td>
</tr>
<tr>
<td>Implementation of Proposed Amount of High Density Housing.</td>
<td>Were approximately 2.2 ha of high density residential units (75-125 units per net hectare) implanted in the Cataraqui North Neighbourhood?</td>
<td>GIS</td>
</tr>
<tr>
<td>Existence of High Density Housing</td>
<td>Are any high density (75-125 units per net hectare) areas present within Cataraqui North?</td>
<td>GIS</td>
</tr>
<tr>
<td>High Density Maximum Height</td>
<td>Are high density area (75-125 units per net hectare) buildings capped at a height of six storeys?</td>
<td>Site Visit</td>
</tr>
<tr>
<td>Medium Density Housing Implementation on East-West street</td>
<td>Is a medium density (45-75 units per net hectare) area present in Cataraqui North that is located on the major east-west street as specified by the Alternative Master Plan Proposed Land Use Map?</td>
<td>Non-Conformity</td>
</tr>
<tr>
<td>Housing and Street exposure.</td>
<td>Does the housing that is located on the major east-west street as specified by the Alternative Master Plan Proposed Land Use Map utilize rear lanes or shared drives to limit access to the street?</td>
<td>GIS</td>
</tr>
<tr>
<td>Medium Density Housing Implementation</td>
<td>Have the medium density (45-75 units per net hectare) areas specified by the Alternative Master Plan Proposed Land Use Map been implemented?</td>
<td>GIS</td>
</tr>
<tr>
<td>Total Medium Density Housing</td>
<td>Was approximately 23.5 ha of medium density housing (45-74 uph) implemented in the Cataraqui North Neighbourhood?</td>
<td>GIS, Site Visit</td>
</tr>
<tr>
<td>Upper Range Medium Density Housing</td>
<td>Was approximately 3.5 ha of upper range medium density housing (approx. 74 uph) types such as duplex and walk-ups implemented in the Cataraqui North Neighbourhood?</td>
<td>GIS, Site Visit</td>
</tr>
<tr>
<td>Medium Density Housing</td>
<td>Has any medium density (45-75 units per net hectare) housing been implemented within the Cataraqui North Neighbourhood?</td>
<td>GIS</td>
</tr>
<tr>
<td>Low Density Implementation</td>
<td>Have the low density (less than 45 units per net hectare) areas specified by the Alternative Master Plan Proposed Land Use Map been implemented?</td>
<td>GIS</td>
</tr>
<tr>
<td>Apartment Unit Implementation</td>
<td>Do approximately 265 residential apartment units exist within the Cataraqui North Neighbourhood?</td>
<td>GIS, Site Visit</td>
</tr>
</tbody>
</table>
## Housing and Density Conformity Continued

<table>
<thead>
<tr>
<th>Categories</th>
<th>Criteria Questions</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed Use Implementation</td>
<td>Do approximately 885 mixed use residential apartment units exist within the Cataraqui North Neighbourhood?</td>
<td>GIS, Site Visit</td>
</tr>
<tr>
<td>Townhome Implementation</td>
<td>Do approximately 1250 townhome units exist within the Cataraqui North Neighbourhood?</td>
<td>GIS, Site Visit</td>
</tr>
<tr>
<td>Single and Semi-detached</td>
<td>Do approximately 1935 single detached and semi-detached dwelling units exist within the Cataraqui North Neighbourhood?</td>
<td>GIS, Site Visit</td>
</tr>
<tr>
<td>Implementation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Dwelling Units</td>
<td>Do approximately 4335 dwelling units exist within the Cataraqui North Neighbourhood?</td>
<td>GIS, Site Visit</td>
</tr>
<tr>
<td>Housing Mix</td>
<td>Does the Cataraqui North residential area provide a mix of housing types including single and semi-detached homes, townhomes and apartments?</td>
<td>GIS</td>
</tr>
<tr>
<td>Higher Density Supporting Aging in Place</td>
<td>Do higher density land uses support aging in place.</td>
<td>GIS, Site Visit</td>
</tr>
</tbody>
</table>
APPENDIX B: COMPARATIVE CASE STUDY ANALYSIS AND DISCUSSION

Was the Cataraqui North Alternative Master Plan (1993) a superior plan in comparison to its predecessor?

B.1 Residential Land Uses

As expected, the size of both neighbourhood plans are relatively the same. However, the proposed amount of residential dwelling units in the Cataraqui North Alternative Master Plan (1993) is more than double that of the Master Plan for Cataraqui North (1991) (4,335 vs. 1,650). As such, the net residential density of the Cataraqui North Alternative Master Plan (1993) is higher than that of the Master Plan for Cataraqui North (1991) (36.2 units per net hectare vs. 16.9 units per net hectare) (see Table B-1). This density level approximates the residential density which would be considered “transit supportive” (37.5 units per net hectare) by the current City of Kingston Official Plan (2010).174

Table B-1: Neighbourhood Size and Neighbourhood Residential Density

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size of Neighbourhood</strong></td>
<td></td>
</tr>
<tr>
<td>Neighbourhood Size</td>
<td>204.3 ha175</td>
</tr>
<tr>
<td><strong>Proposed Amount of Residential Units in Neighbourhood</strong></td>
<td></td>
</tr>
<tr>
<td>Number of Proposed Units</td>
<td>1,650177</td>
</tr>
<tr>
<td><strong>Proposed Overall Neighbourhood Density</strong></td>
<td></td>
</tr>
<tr>
<td>Gross Residential Area (ha)</td>
<td>150.5 ha</td>
</tr>
<tr>
<td>Gross Density (units/ha)</td>
<td>11 units/ha</td>
</tr>
<tr>
<td>35% of Gross Area (ha)</td>
<td>52.7 ha</td>
</tr>
<tr>
<td>Net Area (Gross Area – 35%)</td>
<td>97.8 ha</td>
</tr>
<tr>
<td>Net Density (units/ha)</td>
<td>16.9 units/ha</td>
</tr>
</tbody>
</table>


175 Area size determined from using site description found in section 3.1 of Master Plan Cataraqui North Kingston Township Ontario Revised Report, as well as comparing similar language in Cataraqui North Kingston Township Ontario Alternative Master Plan (1993) and comparing language, to Figure 2 in the later plan which delineates the area to understand meaning of description. Area was then plotted in GIS and calculated.

176 Area determined by imputing Figure 2 from Cataraqui North Kingston Township Ontario Alternative Master Plan (1993) into GIS database and calculating area of neighbourhood boundary.

177 Number of Units also includes existing units and development potential of lands not controlled by development group.
While both Secondary Plans are consistent in terms of recommending a modest proportion of high density housing (5.5% vs. 6.1%), the Cataraqui North Alternative Master Plan (1993) recommends a more balanced approach in terms of low and medium density housing. In fact, the Cataraqui North Alternative Master Plan recommends a slightly higher proportion of medium density housing than low density housing (see Chart B-1 and Table B-2). As such, the range of housing types presented in the Cataraqui North Alternative Master Plan (1993), aligns more closely with the policies of the Official Plan of the Township of Kingston (1995) in terms of both being transit supportive and with the principles of community design.\textsuperscript{178}


Table B-2: Neighbourhood Residential Density Proportions.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>1,230 74.5%</td>
<td>1,935 44.6%</td>
</tr>
<tr>
<td>Medium</td>
<td>320 19.4%</td>
<td>2,135\textsuperscript{179} 49.3%</td>
</tr>
<tr>
<td>High</td>
<td>90 5.5%</td>
<td>265 6.1%</td>
</tr>
<tr>
<td>Total</td>
<td>1,650 99.4%</td>
<td>4,335 100%</td>
</tr>
</tbody>
</table>


\textsuperscript{179} Medium Density for Cataraqui North Alternative Master Plan (1993) also includes 885 Mixed-Use apartment units.
B.2 Non-Residential Land Uses

B.2.1 Commercial Uses

Both plans approach non-residential land uses in very different ways (see Maps B-1, B-2, note: land uses may have different names according to the various plans. However, maps are color coded to reflect similar land use categories). In terms of commercial uses, the greatest difference between plans is not the location of commercial activity but the types of commercial activity (see Table B-3). The Master Plan for Cataraqui North (1991) features Highway (Arterial) Commercial land use along the Princess Street corridor (see Map B-1, A), while the Alternative Master Plan (1993) proposes a mixed-use, (ground floor commercial with residential uses above) street and general commercial uses at the corner of Centennial Drive and Princes Street (see Map B-2, figure A). The proposed mixed-use corridor promotes a walkable community while at the same time increases the overall residential density of the neighbourhood and provides customers for the commercial uses. General Commercial and Highway Commercial land use types are both auto-centric. However, general commercial uses are more compatible with residential uses than highway commercial uses are. The Alternative Master Plan for Cataraqui North (1993) only allows for Highway Commercial land use at the Northern portion of Sydenham Road, adjacent to Highway 401.

Differences also exist in the proposed commercial development at the intersection of Cataraqui Woods Drive and Centennial Drive. The Master Plan for Cataraqui North (1991) features auto-centric General Commercial uses throughout the intersection except for the South-East corner where pedestrian friendly Neighbourhood commercial uses are proposed (see Map B-1, figure B). While the Alternative Master Plan for Cataraqui North (1993) proposes a pedestrian friendly community Commercial Centre throughout the intersection and a Mixed-Use (commercial/residential) land use at the South-East corner of the intersection (see Map B-2, figure B).

Both plans provide for a Convenience Centre. However, the Master Plan for Cataraqui North (1991) locates this commercial use at the entrance of the residential neighbourhood off Sydenham Road (see Map B-1, figure C). Where the previous secondary plan recommended a Convenience Centre be located, the Alternative Master Plan for Cataraqui North (1993) proposed a mixed-use (commercial/residential) building and proposed that the Convenience Centre be located in the central portion of the residential neighbourhood so that it is easily accessible by the majority of residents (see Map B-2, figure C).
Map B-1: Master Plan for Cataraqui North (1991) Land Use

Legend

- - Neighbourhood Boundary
- - Pedestrian Link

Land Use

- Low Density
- Medium Density
- High Density
- High Density Commercial
- Neighbourhood Commercial
- Highway
- Commercial
- General/Business Commercial
- Stormwater Detention Area

Legend

- Convenience Centre
- Open Space Centre
- System
- School
- Church/
Cemetery
- Utilities
- Right of Way

Scale

0 125 250 500 Metres

Note:
To facilitate the cross-referencing of features described in text and shown on maps upper case letters are used to identify map features (example of text citation: Map B-1, feature A)
Stormwater Detention Area mentioned in plan but location not specified in mapping.

Legend

- Neighbourhood Boundary
- Church/Cemetery
- Stormwater Detention Area
- Utilities
- Right of Way

Land Use
- Low Density
- Medium Density
- High Density
- Mixed-Use

- Highway Commercial
- General Commercial
- Community Commercial Centre
- Convenience Centre
- Formal Ceremonial Park
- Parkette
- School
- Open Space System
- Concession
- Formal Ceremonial Park
- Parkette
- School
- Open Space System

Scale

0 120 240 480 Metres

Note:
To facilitate the cross-referencing of features described in text and shown on maps upper case letters are used to identify map features (example of text citation: Map B-2, feature A)
### Table B-3: Proposed Non-Residential Land uses

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Commercial</strong></td>
<td></td>
</tr>
</tbody>
</table>
| • General Commercial/ Business Commercial  
(Cataraqui Woods Drive, East of Centennial Drive)  
o Car-Oriented Retail (ex. Furniture)  
o Retail Stores | • General Commercial/Business Commercial  
(Arterial fringe of Community)  
o Car-Oriented Retail (ex. Furniture) |
| • Highway Commercial  
(Princess Street) | • Urban Corridor  
(Princess Street, southeast corner of Cataraqui Woods Drive and Centennial Drive, Sydenham Road mid-Block)  
o Mixed-Use Commercial/ Residential |
| • Neighbourhood Commercial  
(southeast corner of Cataraqui Woods Drive and Centennial Drive)  
o Retail Stores  
o Convenience Stores | |• Community Commercial Centre  
(Intersection of Cataraqui Woods Drive and Centennial Drive)  
o Banking  
o Restaurants/Food outlets  
o Dry Cleaners  
o Shoe Repair  
| • Convenience Centre  
(Sydenham Road mid-Block) | • Convenience Centre (centre of residential area)  
o Jug of Milk Store  
o Post Office |
| **Institutional** |  |
| • Public Elementary School  
• Separate Elementary School  
• Community Centre  
(converted from existing Public Elementary School)  
• Church  
• Hydro Facilities  
• Cemetery | • Public Elementary School (Medium Density Residential if not utilized by school board)  
• Separate Elementary School /Church  
(Medium Density Residential if not utilized by school board)  
• Community Centre or Public Elementary School (depending on population)  
• Hydro Facilities  
|  
o Cemetery |  |
| **Open Space** |  |
| • Open Space System  
o Community Park  
• Stormwater Detention Areas (active sports fields) | • Open Space System  
o Community Park  
• Parkettes  
• Formal Ceremonial Park  
• Stormwater Detention Areas (passive/informal play areas) |
| **Environmental Protection Area** |  |
| • Environmental Protection Area | • Environmental Protection Area |
Appendix B: Comparative Case Study

Analysis and Discussion

B.2.2 Institutional Uses and Open Space

The types and amount of institutional uses are similar in both plans, except that that Cataraqui North Alternative Master Plan (1993) suggests that three primary school sites be provided for the neighbourhood due to the projected population. However, this plan is deficient to its predecessor in that it decreases the provisions for community facilities.

The proportion of open space is very similar for both plans (5.58% vs. 6.79%), With the Alternative Master Plan for Cataraqui North (1993) possessing the slightly higher proportion (see Table B-4). The slightly higher proportion of open space for the Alternative Master Plan (1993) is misleading because the projected number of units within that plan is more than double that of its predecessor. However, what differentiates the two plans is the quality of open space proposed. The Master Plan for Cataraqui North (1991) simply proposes an Open Space System that will contain community parks (see Map B-1, figure D). Whereas, the Alternative Master Plan for Cataraqui North (1993) establishes a hierarchy of parks including, an Open Space System (see Map B-2, figure D), a Formal Ceremonial Park (see Map B-2, figure E) as well as Parkettes (see Map B-2, figure F). Importantly, the arrangement of parks is such that they are not hidden behind houses but are facing them so that “eyes” are always on the park.

Table B-4: Amount and Proportion of Open Space.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Space (ha)</td>
<td>11.4 (8.9) ha(^{180})</td>
<td>14.3 (13.6) ha(^{180})</td>
</tr>
<tr>
<td>Neighbourhood Size</td>
<td>204.3 ha</td>
<td>210.5 ha</td>
</tr>
<tr>
<td>Proportion of Open Space</td>
<td>5.58%</td>
<td>6.79%</td>
</tr>
</tbody>
</table>

B.3 Pedestrian Connectivity

Neither plan mentions recommendations for the amount and placement of sidewalks. However, the Cataraqui North Alternative Master Plan (1993) states that “Roadway Design should optimize pedestrian, rather than car movement” and while the Master Plan for Cataraqui North (1991) specifically mentions walkways as one of the means to achieve connectivity, its replacement does not mention walkways implying that connectivity should be maintained through the roadway. This is confirmed by an analysis of street density that indicates the plan for the New Urbanist development calls for approximately .03 km per ha more streets than its predecessor does (see Figures B-1, B-2 and Table B-5).

\(^{180}\) Note Open space measured within GIS land use map. Brackets indicate developer minimum requirements from report.
Facilitating the creation of higher street density are policies within the Alternative Master Plan (1993) limiting the placement of collector streets to the boundary streets that surround the residential neighbourhood as opposed to its predecessor that utilizes a collector street within the residential neighbourhood. Furthermore, the Alternative Master Plan (1993) proposes that all streets should use a reduced right of way (less than 20m), and that 6 major streets with a right of way of 20m should be implemented as “people ways” to facilitate the movement of pedestrians (see Table B-5). In fact pedestrian connectivity is mentioned a total of 20 times in the Alternative Master Plan (1993) as opposed to only 4 times in the Master Plan for Cataraqui North (see Table B-5). The proposed increased connectivity of the Alternative Master Plan (1993) can be quantified through an analysis of Intersection Density which indicates that the
later plan the features a higher Intersection Density than its predecessor (.37 intersections/ha vs. .22 intersections/ha) (see Figures B-1, B-2 and Table B-6).

Table B-6: Number of Times Plan Addresses Connectivity and Street Density Analysis.

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Times Plan Addresses Pedestrian Connectivity</td>
<td></td>
</tr>
<tr>
<td>Pedestrian connectivity to commercial activity</td>
<td>1</td>
</tr>
<tr>
<td>Pedestrian connectivity to schools</td>
<td>2</td>
</tr>
<tr>
<td>Pedestrian connectivity to open spaces</td>
<td>1</td>
</tr>
<tr>
<td>Pedestrian connectivity to entire neighbourhood</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
</tr>
<tr>
<td>Street and Intersection Density</td>
<td></td>
</tr>
<tr>
<td>Neighbourhood Size</td>
<td>204.3 ha</td>
</tr>
<tr>
<td>Total Number of Intersections</td>
<td>44</td>
</tr>
<tr>
<td>Intersection Density (Intersections/ha)</td>
<td>.22/ha</td>
</tr>
</tbody>
</table>
B.4 Land Use Integration

The Master Plan for Cataraqui North (1991), integrates land uses very poorly, especially in the southern portion where Highway Commercial Land uses are adjacent to Low Density Residential land uses (see Map B-1, figure A). The integration of land uses is only marginally better in the north-western portion of the plan where medium and high Density Residential land uses are adjacent to neighbourhood commercial, institutional and the open space system (see Map B-1, figure B). However, upon examination it is apparent that the open space system and institutional uses act as a buffer between low density and medium density residential land uses.

The Alternative Master Plan for Cataraqui North (1993) takes a more thoughtful approach to integrating a variety of land uses (see Map B-2). Medium Density Residential land uses are used not only in the North-East and southern portion of the plan to support pedestrian-oriented commercial activity (see Map B-2, figure B), but is placed on either side of the Major east-west street to support the implementation of transit (see Map B-2, figure E). Furthermore, Medium and Low Density residential development is placed side by side to promote a mix of housing types. The thoughtfulness of the design is made clear when examining the central portion of the Secondary Plan. A community hub has been created by integrating a Ceremonial Park, a
Convenience Centre, the Open Space System, Schools, a Church, as well as Medium Density Residential housing to create a sense of place (see Map B-2, figures C, D and E and Figure B-3). All these uses are placed centrally in a location that is easily accessible by the majority of residents in the neighbourhood. It is for all the aforementioned reasons that the Cataraqui North Alternative Master Plan (1993) can be considered a more complete and better Secondary Plan than its predecessor.

APPENDIX C: SINGLE CASE STUDY CONFORMITY TESTING ANALYSIS AND DISCUSSION

Did the implementation of the Cataraqui North Alternative Master Plan (1993) follow the intent of the Plan?

C.1 Commercial Uses

A central principle of the Cataraqui North Alternative Master Plan (1993), was the establishment of a mixed-use corridor along Princess Street (see Map C-1, figure A). Furthermore, the plan proposed mixed-use buildings at the south-east corner of the intersection of Centennial drive and Cataraqui Woods Drive, as well as the north-west corner of the intersection of Sydenham Road and Crossfield Avenue (see Map C-1, figure B). An analysis of the current land uses at these locations indicates non-conformity (see Table C-1). The Princess Street corridor is comprised of a mix of mostly Highway and General Commercial land uses with Community Commercial and Institutional land uses also present along the corridor (see Map C-2, figure A and Figures C-1 and C-2). Furthermore, no mixed-use land uses are present in the Cataraqui North neighbourhood (see Map C-2).

Figure C-1: General Commercial land use in place of Mixed-Use development. Source: Google Streetview

Figure C-2: Highway Commercial land use along Princess St. Source: Google Streetview
A community commercial centre was proposed by the Alternative Master Plan (1993) at the intersection of Cataraqui Woods Drive and Centennial Drive (see Map C-1, figure C). The development of that community commercial centre is partially developed and therefore is considered to be in partial conformity with the Alternative Master Plan (1993). A dental centre has located at the north-east corner of the intersection but the north-west and south-west corners of the intersection have not been developed as of yet (see Figure C-3, Table C-1 and Map C-2, figure B). However, one commercial centre at the edge of the Cataraqui North neighbourhood has been built at the north-west intersection of Princess Street and Augusta Drive. It includes a book store, coffee shop, restaurant and ice cream shop (see Table C-1, Map C-2, figure C and Figure C-4).

Figure C-3: Dental Centre at intersection of Cataraqui Woods Dr. and Centennial Dr.

Figure C-4: Neighbourhood Commercial Centre located at the intersection of Princess Street and Augusta Drive. Source: Google Streetview.
A neighbourhood convenience store was proposed for the central core of the Cataraqui North neighbourhood (see Map C-1, figure D). However, in its place a 41 unit condominium building is currently under construction (see Map C-2 figure D and Figure C-5). Unfortunately, no convenience store is located within the neighbourhood (see Table C-1 and Map C-2). As such, the development of the neighbourhood conveniences within the neighbourhood is considered to be in non-conformity with the Alternative Master Plan (1993).

Figure C-5: Rendering of condominium development in the central portion of the Cataraqui North Neighbourhood. Source: http://geertsma.com/index.php/communities/augusta-glen-condominiums/

<table>
<thead>
<tr>
<th>Categories</th>
<th>Criteria Questions</th>
<th>Conformity</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Commercial</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed use Urban Corridor</td>
<td>Was the Mixed Use Corridor with density at 45-75 units per net hectare along Princess Street Implemented?</td>
<td>○</td>
</tr>
<tr>
<td>Mixed Use</td>
<td>Have mixed use buildings with density at 45-75 units per net hectare been implemented in Cataraqui North?</td>
<td>○</td>
</tr>
<tr>
<td>Community Commercial Centre</td>
<td>Has the Community Commercial Centre at the intersection of Cataraqui Woods Drive been implemented?</td>
<td>◆</td>
</tr>
<tr>
<td>Community Commercial</td>
<td>Has a Community Commercial Centre been implemented in Cataraqui North?</td>
<td>●</td>
</tr>
<tr>
<td>Neighbourhood Convenience Shopping</td>
<td>Has the Neighbourhood Convenience Shopping in the center of Cataraqui North been implemented?</td>
<td>○</td>
</tr>
<tr>
<td>Neighbourhood Convenience</td>
<td>Has a Neighbourhood Convenience Centre been implemented in Cataraqui North?</td>
<td>○</td>
</tr>
</tbody>
</table>

Table C-1: Conformity of Commercial Land Use within the Cataraqui North Neighbourhood. Conformity = ●; Partial Conformity = ◆; Non-Conformity = ○.
Map C-1: Cataraqui North Alternative Master Plan (1993) Land Use

Legend

Neighbourhood Boundary

Land Use
- Low Density
- Medium Density
- High Density
- Mixed-Use

Highway
- Commercial
- General Commercial
- Community Commercial Centre
- Convenience Centre

Open Space System
- Formal
- Ceremonial
- Park
- Parkette

School

Church/Cemetery

Stormwater Detention Area

Utilities

Right of Way

Scale

Note:
To facilitate the cross-referencing of features described in text and shown on maps upper case letters are used to identify map features (example of text citation: Map C-1, feature A)
Note:
To facilitate the cross-referencing of features described in text and shown on maps upper case letters are used to identify map features (example of text sitation: Map C-2, feature A)
Residential density categories are divided according to the Cataraqui North Alternative Master Plan (1993). Low Density up to 45 uphn, Medium Density 45 to 75 upnh and High Density 75 to 124 upnh.
C.2 Parks and Open Space

Land for the principal parkland (see Map C-1, figure E), has been set aside within the neighbourhood (see Map C-2, figure E) in conformity with the Alternative Master Plan (1993) (see Table C-2). However, the park has not been developed and it cannot be determined if active sports facilities will be implemented within the park (see Table C-2). Furthermore, the proposed central island park has not been implemented to be a central identifying feature of the neighbourhood as was proposed by the Alternative Master plan (1993) (see Map C-1, figure F). Instead, the land originally envisioned for this purpose has been integrated into the principal parkland of the neighbourhood (see Table C-2 and Map C-2, figure E).

Three parkettes (see Map C-2, figure F and G), of the five proposed by the Alternative Master Plan (1993) (see Map C-1, figure G) have been implemented in the Cataraqui North Neighbourhood. Two of the parkettes are located within close proximity to where they were originally envisaged. The two parkettes that were proposed for the north and north-east areas of the neighbourhood have been combined into one larger park at the proposed north-east location. The parkette proposed for the north-west portion of the neighbourhood has instead been replaced by a major stormwater detention facility and although there is a parkette located in close proximity to where this parkette was proposed, it is in fact a remainder park that was cut off from the proposed open park system when the proposed public school site (see Map C-1, figure H), was developed as low density residential housing (see Map C-2, figure J and compare Map C-1, figure G and Map C-2, figures G, H and N). As such, the parkettes are considered to be in partial conformity with the Alternative Master Plan (1993) (see Table C-2).

An additional small park has been established in the south-east corner of the Cataraqui North neighbourhood (see Map C-2, figure K). Although this park is small in size, it cannot be considered a parkette do to its shape and location behind the residential units that border it. The size of the small park areas within the neighbourhood vary between 0.51 ha and 0.68 ha, which does not conform to the recommended 0.2 ha size for parkettes suggested by the Alternative Master Plan (1993).

The Cataraqui North Alternative Master Plan (1993) recommended that all residents within the neighbourhood live within a 5 minute walking distance to a small park. Utilizing the street network and pedestrian passageways to perform a network analysis of the 5 minute walking distance to the various smaller parks indicates that only partial conformity is achieved as roughly 59% of the residential units within the neighbourhood conform to this particular recommendation of the Alternative Master Plan (1993) (see Table C-2 and Figure C-6). However, a network analysis of the five minute walking distance to all parks indicates that 89% of residential units fall within this measure (see Figure C-7). Residential units that fall outside of a 5 minute walking distance to parks are those that existed prior to the development of the
neighbourhood as well as those on the eastern portion of Crossfield Ave. and around the northern and southernmost portions of Augusta Drive. It appears that a lack of park access for those on the eastern portion of Crossfield Ave. is a result of the closing of the existing public school and the integrated park that was to be associated with it. For those residential units with a lack of access to a park located around the northernmost portion of Augusta Dr. the culprit appears to be the decision to combine the two proposed smaller park areas into one larger park in the northeast portion of the neighbourhood. Finally, the decision not to implement the southern most portion of the integrated park system resulted in residents along the southern most portion of Augusta Dr. being outside a five minute walking distance to parks (compare Maps C-1 and C-2).

The visibility of the parks within the Cataraqui North neighbourhood varies greatly. As such, the visibility of parks and open spaces was considered to be in partial conformity with the intent of the Alternative Master Plan (1993) (see Table C-2 and Figure C-8). Only the south-east portion of the

Figure C-6: Five minute walking distance to smaller parks

Figure C-7: Five minute walking distance to all parks

Figure C-8: Visibility of Cataraqui North Neighbourhood parks.
central parkland is highly visible (see Figure C-8, figures B and E). Of the three parkettes that have been implemented in the Cataraqui North neighbourhood only one features a high degree of visibility proposed in the plan (see Figure C-8, figure F and Figure C-9). Another, limited visibility (see Figure C-8, figure D), and not surprisingly, the parkette featuring the least visibility is the “remainder park” (see Figure C-8, figure A and Figure C-10).

The stormwater facilities placed on the edges of the Cataraqui North Neighbourhood conform to the recommendations of the Alternative Master Plan (1993). However, the stormwater facility located on the western edge of the neighbourhood and does not conform to the size or location proposed by the plan (compare Maps C-1 and C-2 and Table C-2). Furthermore, The Cataraqui North Alternative Master Plan (1993) recommended that stormwater detention facilities form part of the integrated park system of the neighbourhood (see Map C-1, figure L). Instead, the large stormwater detention facility in the western portion of the neighbourhood, which replaced the more centrally located facility in the proposal does not form part of the integrated open space system because it was cut off due to not implementing the school site and associated park. Therefore, the location of stormwater facilities can only be considered in partial conformity to
the plan, while their integration into the open space system of the neighbourhood did not conform to the recommendations of the Alternative Master Plan (1993) (see Table C-2).

Table C-2: Conformity of Parks and Open Space within the Cataraqui North Neighbourhood. Conformity = ●; Partial Conformity = ◐; Non-Conformity = ○.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Criteria Questions</th>
<th>Conformity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5.2 Parks and Open Spaces</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principal Parkland</td>
<td>Has the Principal Parkland been implemented in the centre of Cataraqui North?</td>
<td>●</td>
</tr>
<tr>
<td>Implementation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principal Parkland</td>
<td>Has the Principle Parkland provided major active sports facilities for the community?</td>
<td>○</td>
</tr>
<tr>
<td>Community Facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Island Park</td>
<td>Has the Central Island Park been implemented as per the Cataraqui North Alternative Master Plan Proposed Land Use Map?</td>
<td>○</td>
</tr>
<tr>
<td>Implementation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parkette Implementation</td>
<td>Does the location of smaller park areas conform to their proposed location in the Cataraqui North Alternative Master Plan?</td>
<td>◐</td>
</tr>
<tr>
<td>Parkette Size</td>
<td>Are Smaller Park Areas approximately half an acre (.2 hectares) in size?</td>
<td>●</td>
</tr>
<tr>
<td>Parkette Accessibility</td>
<td>Are all neighbourhood residents within a five minute walk of a Smaller Park Area?</td>
<td>◐</td>
</tr>
<tr>
<td>Parkland Visibility</td>
<td>Are parks open and visible?</td>
<td>◐</td>
</tr>
<tr>
<td>Stormwater Detention Areas</td>
<td>Are stormwater detention areas located as proposed in Alternative Master Plan Proposed Land Use Plan?</td>
<td>◐</td>
</tr>
<tr>
<td>Implementation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stormwater Detention Areas</td>
<td>Are stormwater detention areas incorporated into open space system?</td>
<td>○</td>
</tr>
<tr>
<td>&amp; Open Space</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
C.3 Street Network

The Cataraqui North Alternative Master Plan (1993) recommended that 12 connections to boundary roads be implemented to create a traffic dispersion model, as opposed to a hierarchical model predicated on collector streets. The authors of the plan acknowledged that the approval of 12 access points would be unlikely therefore, they recommended that a minimum of 9 connections to boundary roads be implemented to allow for a dispersion model to still be effective (see Figure C-11). However, the Cataraqui North neighbourhood has been developed with only 7 connections to boundary roads (see Figure C-12). This has resulted in the major streets within the neighbourhood acting as collector streets. This has been validated by a report to the City of Kingston Environment, Infrastructure & Transportation Policies Committee (EITP) indicating that the traffic volume on Crossfield Ave. that was recorded in September of 2012 was between 2300 to 2800 vehicles per day, well within the range of a minor collector street (1000 to 5000 vehicles per day).\footnote{Kingston, City of. 2010. “Information Report to Environment, Infrastructure & Transportation Policies Committee, Report No.: EITP 12-027. Kingston Ontario.} However, it must be noted that these measurements were taken before the connections of Augusta Ave. and Andersen Dr. to Cataraqui Woods Dr. was established and it remains to be seen if these connections are enough to establish the proposed traffic dispersion model.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure_c_11_12.png}
\caption{Figure C-11: Alternative Master Plan proposed street configuration. Figure C-12: Cataraqui North Neighbourhood street configuration.}
\end{figure}
Entranceways, into the Cataraqui North neighbourhood have not been treated as gateways into the neighbourhood through the use of planting or other means. Of the seven entranceways only the access point of Crossfield Ave. from Centennial Dr. features any sort of gateway, but it serves more as an advertisement for that particular subdivision than a “gateway” into the neighbourhood (see Figure C-13 and Table C-3). In fact many of the subdivisions within the neighbourhood feature similar “advertisements”. However, gateway features have been created on Crossfield Ave. and Augusta Dr. just prior to reaching the central portion of the neighbourhood (see Figure C-14).

As a result of the limited number of access points to the surrounding boundary roads only four of the proposed six key streets, or “peopleways” were implemented within the Cataraqui North neighbourhood (compare Figures C-11 and C-12). To reinforce the key street’s function as “peopleways” it was recommended that these streets do not feature reverse frontage lots and that a tree planting program be implemented along them. In conformity with the recommendations the key streets within the Cataraqui North Neighbourhood do not feature lots with reverse frontage lots. However, Atkinson Ave. and the western portion of Crossfield Ave. lack appropriate tree plantings. Therefore the neighbourhood only achieved partial conformity in terms of the implementation of a tree planting program (see Table C-3).

To maximize their use as pedestrian travel routes, The Alternative Master Plan (1993) recommended that streets within the neighbourhood occupy 24% of the land area dedicated to residential uses and that local streets utilize a reduced right of way. Streets within the Cataraqui North neighbourhood exceed this requirement occupying 30.26 ha of the 117.4 ha, or 26% of the land area dedicated to residential uses (see Figure C-15 and Table C-3). Furthermore, all

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182 For the calculation of percentage of street area, only new residential areas and streets were utilized.
CATARAQUI NORTH, A CASE STUDY: KINGSTON’S EXPERIENCE WITH THE IMPLEMENTATION OF A NEW URBANIST SECONDARY PLAN

Minor streets utilized a reduced right of way (18 m). The Alternative Master Plan (1993), contained other measures to increase the use of streets by pedestrians. Culs-de-sac are not present in the proposed street network (see Map C-1) and as previously mentioned the Plan (1993), specifically omits pedestrian walkways as a tool to facilitate pedestrian movement. However, the implementation of streets within the Cataraqui North neighbourhood did not follow this example, being comprised of 12 cul-de-sacs and 9 pedestrian walkways within the neighbourhood (see Map C-2).

The Cataraqui North Alternative Master Plan (1993) recommended that east-west streets be maximized to optimize solar orientation. Of the approximate 19 km of roadway proposed by the plan, 9.2 km or 48% of the streets by length were oriented east-west. By comparison the optimization of east-west streets in the Cataraqui North neighbourhood proved to be superior to that of the Plan. In actuality, of the approximate 16.6 km of roadway within the neighbourhood 9.1 km, or 55% of the streets by length are oriented east to west. However, this may have come at the cost of north south connectivity due to the presence of culs-de-sac within the neighbourhood (compare Figures C-11 and C-12). The traffic circle that was proposed by the Alternative Master Plan (1993) was not implemented. The north-west portion of the circle was eliminated in favour of two way traffic along the remaining portions of the proposed traffic circle (see Figure C-12). This traffic circle was to “frame” the formal ceremonial park and has resulted in the amalgamation of the formal ceremonial park with the open space system (compare Maps C-1, figure F and C-2, figure E).

The presence of 2 or 4 way stop signs at each 4 way intersection meets the recommendations of the Cataraqui North Alternative Master Plan (1993). However, there is only one four way stop sign within the neighbourhood located at the intersection of Crossfield Ave. and Andersen Dr. This provides almost unfettered access for motorists traveling on the major streets and may contribute to high vehicle speeds on these streets.
### APPENDIX C: SINGLE CASE STUDY CONFORMITY

#### TESTING ANALYSIS AND DISCUSSION

Table C-3: Conformity of street network and transportation within the Cataraqui North Neighbourhood. Conformity = ●; Partial Conformity = ◐; Non-Conformity = ○.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Criteria Questions</th>
<th>Conformity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transportation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road Grid Access Points</td>
<td>Have 9 points of access to boundary roads been implemented?</td>
<td>○</td>
</tr>
<tr>
<td>Collector Streets</td>
<td>Are collector streets eliminated in Cataraqui North?</td>
<td>○</td>
</tr>
<tr>
<td>Community Gateways</td>
<td>Have access points been treated like gateways through the use of plantings or other such means?</td>
<td>○</td>
</tr>
<tr>
<td>“Peopleways”</td>
<td>Have the six key streets been implemented as per the Cataraqui North Alternative Master Plan Proposed Land Use Plan Map?</td>
<td>○</td>
</tr>
<tr>
<td>Reverse Frontage Lots</td>
<td>Has reverse frontage been permitted on streets?</td>
<td>●</td>
</tr>
<tr>
<td>Tree Planting Program</td>
<td>Has a street tree planting program been implemented on the key streets?</td>
<td>◐</td>
</tr>
<tr>
<td>Roadway Land Use</td>
<td>Do the road right of ways occupy approximately 24% of the Newly Developed Neighbourhood Residential area?</td>
<td>●</td>
</tr>
<tr>
<td>Reduced Right of Way</td>
<td>Was a reduced right of way width (less than 20m) utilized for local streets within Cataraqui North?</td>
<td>●</td>
</tr>
<tr>
<td>Housing and Solar Orientation</td>
<td>Are east west streets maximized to optimized solar orientation?</td>
<td>●</td>
</tr>
<tr>
<td>Traffic Circle</td>
<td>Was the proposed traffic circle implemented?</td>
<td>○</td>
</tr>
<tr>
<td>Stop Signs</td>
<td>Are either 2 or 4 way stop signs located at each intersection within the Cataraqui North Neighbourhood?</td>
<td>●</td>
</tr>
</tbody>
</table>
C.4 Housing and Density

The location of high density residential dwelling units at a net density of 75-125 dwelling units per hectare was recommended for the north-west corner of the Cataraqui North neighbourhood by the Alternative Master Plan (1993) (see Map C-1, figure H). Instead, stormwater detention facilities and low density residential units were implemented in this location (see Map C-2, figure N and Table C-7). The Alternative Master Plan (1993), also recommended this location for high density housing so that their proximity to the proposed Community Commercial Centre (see Map C-1, figure C) could support those activities. It is no surprise then, that for the most part, the Commercial Community Centre has not been implemented as of yet (see Map C-2, figure B). Furthermore, the Plan (1993) called for 2.2 ha of high density residential uses to be implemented within the neighbourhood. Only one three-story 41 unit, high-density apartment building was implemented on .5 ha of land within the centre of the Cataraqui North neighbourhood, at a density of 82 units per net hectare (see Map C-2, figure D; Figure C-5 and Table C-7).

The Cataraqui North Alternative Master Plan (1993), recommended that the central east-west major street (Crossfield Ave.) be developed with medium density residential units at a net density of 45-75 units per net hectare. The overall net density for the residential units in this area is 27.06, far short of the minimum 45 units per net hectare recommended by the plan (see Table C-7). This figure includes the one apartment building previously mentioned in the centre of the neighbourhood (see Map C-2, figure D). Even its density of 82 units per net hectare is not enough to increase the overall density of the area to that recommended in the Alternative Master Plan (1993). Furthermore, along Crossfield Ave. the Alternative Master Plan (1993), recommended that rear laneways be used to limit automobile access to the street. Rear laneways were partially implemented along Crossfield Ave. with the exception of the eastern and western most portions and one section of homes on the north side of Crossfield Ave. between Augusta Ave. and Baldwin Crt. (see Map C-2 and Table C-7).

The Cataraqui North Alternative Master Plan (1993), also proposed that medium density residential units should be located in the north-west quadrant of the neighbourhood as well as along the southern portion, abutting the mixed-use corridor (see Map C-1). Only a small portion of the medium residential density units proposed for the area in the north-
west corner of the neighbourhood were implemented. The development is a 91 unit, 4 storey apartment building style, retirement home with a density of 69 units per net hectare (see Map C-2, figure B; Figure C-16 and Table C-7). Medium density residential units are also present along Jennifer Crt. and Ellesmeer Ave. (see Map C-2 and Table C-7).

The Alternative Master Plan (1993), recommended that a total of approximately 23.5 ha of land be developed as medium density housing at 45-75 units per net ha, with 3.5 ha of the total being developed at the upper range of medium density. In total, only 2 ha were developed as medium density at the range of 45-75 units per net hectare, 1.5 ha of the total in the upper range (69 uph). The plan called for flexibility to allow developers to build stacked townhomes and walk up apartments. However, the neighbourhood does not feature any of these types of dwelling units.

The range of 45-75 units per net hectare for medium density residential units is higher than the categorization of medium density for the rest of Kingston as found in the City of Kingston Official Plan (2010), which considers medium density to be in the range of 30-75 units per net hectare. When using this figure, medium density units are much more prevalent throughout the neighbourhood, the total increasing to 9.4 ha (compare Figures C-17 and C-18). However, this figure is still far short of the 23.5 hectares recommended by the Alternative Master Plan (1993).
Low Density residential at a net density less than 45 units per net hectare has been implemented as per the Alternative Master Plan (1993), with the exception of the lands north of Cataraqui Woods Dr. which have not yet been developed (compare Maps C-1 and C-2). In fact, it appears that a greater proportion of land has been dedicated to low density residential units than was originally proposed by the Alternative Master Plan (1993) (see Table C-7).

When examining the proportion of housing types by density between the recommendations made by the Alternative Master Plan (1993), and the density that was implemented in the Cataraqui North Neighbourhood it is apparent that the implemented density within the neighbourhood falls short of the equal relationship between low and medium density that was recommended by the plan. Even when utilizing the more generous Official Plan (2010), definition of medium density the implementation within the neighbourhood still falls short of the recommendations made by the Alternative Master Plan (1993) (see Chart C-1 and Table C-4).

Chart C-1: Comparative Proportion of Housing Density between the Cataraqui North Kingston Ontario Alternative Master Plan (1993) and the Cataraqui North Neighbourhood using Density Classifications of the Alternative Master Plan (1993) and the City of Kingston Official Plan (2010).
Table C-4: Neighbourhood Residential Density Proportions.

<table>
<thead>
<tr>
<th>Density Type</th>
<th>Number of Units</th>
<th>Proportion</th>
<th>Number of Units</th>
<th>Proportion</th>
<th>Percent of Target</th>
<th>Number of Units</th>
<th>Proportion</th>
<th>Percent of Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>1,935</td>
<td>44.6%</td>
<td>1,818</td>
<td>91.5%</td>
<td>94%</td>
<td>1,602</td>
<td>80.7%</td>
<td>88.1%</td>
</tr>
<tr>
<td>Medium</td>
<td>2,135[^183]</td>
<td>49.3%</td>
<td>127</td>
<td>6.4%</td>
<td>5.9%</td>
<td>344</td>
<td>17.3%</td>
<td>16.1%</td>
</tr>
<tr>
<td>High</td>
<td>265</td>
<td>6.1%</td>
<td>41</td>
<td>2.1%</td>
<td>15.5%</td>
<td>41</td>
<td>2.1%</td>
<td>15.5%</td>
</tr>
<tr>
<td>Total</td>
<td>4,335</td>
<td>100%</td>
<td>1,986</td>
<td>100%</td>
<td>45.8%</td>
<td>1,986</td>
<td>100%</td>
<td>45.8%</td>
</tr>
</tbody>
</table>

The Cataraqui North Alternative Master Plan (1993), proposed that a total of 4,335 residential dwelling units be created within the Cataraqui North neighbourhood. These dwelling units were to be broken down into 265 apartment units, 885 mixed-use residential apartment units, 1,250 townhome units and 1,935 single or semi-detached units. This would have achieved a neighbourhood density of 37.7 units per net hectare. Within the Cataraqui North neighbourhood 132 apartment units, 0 mixed-used apartment units, 249 townhome units and 1,605 single or semi-detached units were implemented for a total of 1,986 residential dwelling units achieving a net density for the neighbourhood of 18.2 units per net hectare, well below the City of Kingston average residential net density of 25.01 units per net hectare[^184] (see Table C-7). In fact, the total number of residential dwelling units that were implemented in the Cataraqui North neighbourhood more closely resembles the 1,650 total residential dwelling units projected by the Master Plan for Cataraqui North, Revised Report (1991).

Of the various types of dwelling units, the implementation of apartment units is in partial conformity with the recommendations of the Alternative Master Plan (1993). The implementation of single or Semi-detached units is in conformity with the Alternative Master Plan (1993), especially considering that the lands north of Cataraqui Woods Dr. have yet to be developed. The implementation of townhome units and mixed-use apartment units are in non-conformity with the Alternative Master Plan (1993) (see Table C-7). However, of the two, the greatest possibility of future conformity rests with the development of mixed-use apartment units, which may become implemented when (or if) the lands along Princess St. redevelop in the future.

[^183]: Medium Density for Cataraqui North Alternative Master Plan (1993) also includes 885 Mixed-Use apartment units.
[^184]: Kingston, City of (2013) *City of Kingston 2010 Urban Residential Growth and Density Study*. Figure represents 2010 City of Kingston residential average density.
The housing mix within the Cataraqui North neighbourhood was projected to be 44.6% for single and semi-detached homes and an almost equal proportion of townhome and apartment units\(^{185}\) (28.8% and 26.5%). This differed from the proportionate density mix discussed earlier due to mixed-use apartment units being considered medium density as opposed to high density. The actual housing mix within the neighbourhood features single and semi-detached dwelling units occupying 80.8% of the residential units, while townhomes where at 12.5% and apartment units 6.6% (see Chart C-2 and Table C-5). As such, the housing mix of the neighbourhood is not in conformity with the projections made by the Cataraqui North Alternative Master Plan (1993) (see Table C-7).

\[\text{Table C-5: Projected and Actual Housing Mix in the Cataraqui North Neighbourhood.}\]

<table>
<thead>
<tr>
<th>Housing Type</th>
<th>Number of Units</th>
<th>Proportion</th>
<th>Number of Units</th>
<th>Proportion</th>
<th>Percent of Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single/ Semi-Detached</td>
<td>1,935</td>
<td>44.6%</td>
<td>1,605</td>
<td>80.8%</td>
<td>82.9%</td>
</tr>
<tr>
<td>Townhome</td>
<td>1,250</td>
<td>28.8%</td>
<td>249</td>
<td>12.5%</td>
<td>19.9%</td>
</tr>
<tr>
<td>Apartment</td>
<td>1,150(^{185})</td>
<td>26.5%</td>
<td>132</td>
<td>6.6%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Total</td>
<td>4,335</td>
<td>100%</td>
<td>1,986</td>
<td>100%</td>
<td>45.8%</td>
</tr>
</tbody>
</table>

\(^{185}\) Apartment units for Cataraqui North Alternative Master Plan (1993) also includes 885 Mixed-Use apartment units.
When comparing maps of a neighbourhood that feature, on the one hand, residential density and on the other, dwelling unit type, the conventional practice would dictate that maps would line up in a similar fashion: single and semi-detached dwellings with low density, townhomes with medium density and apartments with high density. However, a comparison of these types of maps for the Cataraqui North neighbourhood indicates a change has occurred (compare Figures C-19 and C-20).

In many instances townhomes that are found along Crossfield Ave. and within the Walnut Grove subdivision are considered low density (see Figure C-21), while single and semi-detached homes located within the north east portion of the neighbourhood are considered medium density (see Figure C-22) by the standards of the City of Kingston Official Plan (2010). In the case of the townhomes located on Crossfield Ave. the use of a single stacked laneway is the culprit. However, for the townhomes within the Walnut Grove subdivision large lots were used resulting in many of the residential units falling in the category of low density development. For the single and semi-detached residential units located in the north east quadrant of the neighbourhood the inverse is the case, large homes on small lots. This indicates that relying on either density targets or housing types does not properly predict the type of residential

Figure C-19: Residential Density in the Cataraqui North Neighbourhood by City of Kingston Official Plan (2010) Standards.

Figure C-20: Residential Dwelling Units by Type in the Cataraqui North neighbourhood.

Figure C-21: Residential Dwelling Units by Type in the Cataraqui North neighbourhood.
development that will occur. Instead, these categories should be used in conjunction, as tools to develop requirements for desired housing types. Density should be a tool to regulate the efficient use of land resources while building type, should be used to ensure that housing mix is achieved. Otherwise, the result may be large single detached homes on lots meant for townhomes and vice-versa.

The Alternative Master Plan for Cataraqui North (1993), recommended that higher densities be utilized to facilitate aging in place. That is to say, that density be used to facilitate the creation of a neighbourhood that allowed for people to remain within a neighbourhood as their housing needs change. Young families could begin in apartment style units, transition to starter homes, move on to a second home and finally, as empty nesters move back into apartments. Although the Cataraqui North neighbourhood contains features that allow for aging in place, for the most part this was not achieved through higher densities (see Table C-7). Apartment style units exist within the central portion of the neighbourhood for young families and empty nesters (see Figures C-5 and C-24). However, this only constitutes one condominium building consisting of 41 units and 2% of the overall housing stock (see Table C-6). Townhome units that are geared towards starter families comprise 9.3% of the housing stock (188 units) and as previously discussed, fall within both, Low and Medium density categories (see Figures C-23, C-24 and Table C-6). Dwelling units that can be classified as second home purchases constitute 74.3% of the total housing stock (1,476 units). Higher density was utilized in the creation of the Waterford Retirement Residences located in the north-west corner of the neighbourhood (see Figures C-16 and C-24). However, 9.6% of the total dwelling units within the neighbourhood
(190 units) were developed to be geared towards empty nesters as low density housing (see Table C-6). These include the Emerald Adult Community and the Walnut Grove Retirement Community (see Figures C-21 and C-24).

Table C-6: Age in Place Housing, number and proportion of units within Cataraqui North Neighbourhood.

<table>
<thead>
<tr>
<th>Age in Place Housing</th>
<th>Number of Units</th>
<th>Proportion of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starter Home</td>
<td>188</td>
<td>9.3%</td>
</tr>
<tr>
<td>Second Home</td>
<td>1,476</td>
<td>74.3%</td>
</tr>
<tr>
<td>Condominium</td>
<td>41</td>
<td>2%</td>
</tr>
<tr>
<td>Emerald Adult Community</td>
<td>55</td>
<td>2.8%</td>
</tr>
<tr>
<td>Walnut Grove Retirement Community</td>
<td>135</td>
<td>6.8%</td>
</tr>
<tr>
<td>Waterford Retirement Reference</td>
<td>91</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

Table C-7: Conformity of housing and density within the Cataraqui North Neighbourhood. Conformity = ●; Partial Conformity = ◐; Non-Conformity = ○.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Criteria Questions</th>
<th>Conformity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing and Density</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Density Housing Implementation</td>
<td>Is a high density (75-125 units per net hectare) area present in Cataraqui North that is in conformity to the location specified by the Alternative Master Plan Proposed Land Use Map?</td>
<td>○</td>
</tr>
<tr>
<td>High Density Housing and Commercial Uses</td>
<td>Are high density areas (75-125 units per net hectare) located in such a way to support a Community Commercial Centre?</td>
<td>○</td>
</tr>
<tr>
<td>Implementation of Proposed Amount of High Density Housing.</td>
<td>Were approximately 2.2 ha of high density residential units (75-125 units per net hectare) implanted in the Cataraqui North Neighbourhood?</td>
<td>○</td>
</tr>
<tr>
<td>Categories</td>
<td>Criteria Questions</td>
<td>Conformity</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Existence of High Density Housing</td>
<td>Are any high density (75-125 units per net hectare) areas present within Cataraqui North</td>
<td>●</td>
</tr>
<tr>
<td>High Density Maximum Height</td>
<td>Are high density area (75-125 units per net hectare) buildings capped at a height of six storeys?</td>
<td>●</td>
</tr>
<tr>
<td>Central East-West Medium Density Housing</td>
<td>Was the medium density (45-75 units per net hectare) area in Cataraqui North that is located on the major east-west street as specified by the Alternative Master Plan Implemented?</td>
<td>○</td>
</tr>
<tr>
<td>Housing and Street exposure.</td>
<td>Does the housing that is located on the major east-west street as specified by the Alternative Master Plan Proposed Land Use Map utilize rear lanes or shared drives to limit access to the street?</td>
<td>●</td>
</tr>
<tr>
<td>Medium Density Housing Implementation</td>
<td>Have the medium density (45-75 units per net hectare) areas specified by the Alternative Master Plan Proposed Land Use Map been implemented?</td>
<td>●</td>
</tr>
<tr>
<td>Total Medium Density Housing</td>
<td>Was approximately 23.5 ha of medium density housing (45-75 uph) implemented in the Cataraqui North Neighbourhood?</td>
<td>○</td>
</tr>
<tr>
<td>Upper Range Medium Density Housing</td>
<td>Was approximately 3.5 ha of upper range medium density housing (approx. 75 uph) types such as duplex and walk-ups implemented in the Cataraqui North Neighbourhood?</td>
<td>○</td>
</tr>
<tr>
<td>Medium Density Housing</td>
<td>Was any medium density housing (45-75 units per net hectare) implemented in the Cataraqui North Neighbourhood?</td>
<td>●</td>
</tr>
<tr>
<td>Low Density Implementation</td>
<td>Have the low density (less than 45 units per net hectare) areas specified by the Alternative Master Plan Proposed Land Use Map been implemented?</td>
<td>●</td>
</tr>
<tr>
<td>Apartment Unit Implementation</td>
<td>Do approximately 265 residential apartment units exist within the Cataraqui North Neighbourhood?</td>
<td>●</td>
</tr>
<tr>
<td>Mixed Use Implementation</td>
<td>Do approximately 885 mixed use residential apartment units exist within the Cataraqui North Neighbourhood?</td>
<td>○</td>
</tr>
<tr>
<td>Townhome Implementation</td>
<td>Do approximately 1250 townhome units exist within the Cataraqui North Neighbourhood?</td>
<td>○</td>
</tr>
</tbody>
</table>
## APPENDIX C: SINGLE CASE STUDY CONFORMITY
### TESTING ANALYSIS AND DISCUSSION

<table>
<thead>
<tr>
<th>Categories</th>
<th>Criteria Questions</th>
<th>Conformity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing and Density continued…</td>
<td>Do approximately 1,935 single detached and semi-detached dwelling units exist within the Cataraqui North Neighbourhood?</td>
<td>●</td>
</tr>
<tr>
<td>Single and Semi-Detached Implementation</td>
<td>Do approximately 4,335 dwelling units exist within the Cataraqui North Neighbourhood?</td>
<td>○</td>
</tr>
<tr>
<td>Total Dwelling Units</td>
<td>Does the Cataraqui North residential area provide a mix of housing types including single and semi-detached homes, townhomes and apartments?</td>
<td>○</td>
</tr>
<tr>
<td>Housing Mix</td>
<td>Do higher density land uses support aging in place.</td>
<td>●</td>
</tr>
</tbody>
</table>

### C.5 Transit

The Cataraqui North neighbourhood is served by four transit routes, one of which runs through the neighbourhood (Route 14), the other three run along Princess St, (Express, 4 and 7) (see Figure C-25). The Alternative Master Plan (1993), called for increased density along Crossfield Ave. to facilitate the implementation of transit along the central portion of the neighbourhood. As indicated previously, Crossfield Ave. is for the most part low density by the standards of the Alternative Master Plan (Less than 45 uph). Therefore, even though transit runs along Crossfield Ave. the likely reason is that it is a major street with a wider right-of-way that bisects the neighbourhood (see Table C-8). However, for the most part transit stops located along Crossfield Ave. do fall within the requirements of the Alternative Master Plan (1993), of being between 300 to 400 m apart giving ideal transit coverage to the route (see Figure C-25 and Table C-8).
The Plan (1993), further recommended that transit routes be located on all the boundary roads. As previously mentioned, the Princess St. corridor is well serviced by transit. However, of the other boundary streets only northern portion of Centennial Dr. is serviced. The result being, that residents along Sydenham Rd, the southern portion of Centennial Dr. and the north east portion of the neighbourhood are not well serviced by transit. In fact, after performing a network analysis that includes pedestrian connectivity through passageways and parks only 76% of the residential dwelling units are within a five minute walk to a transit stop (see Figure C-25 and Table C-8).

Table C-8: Conformity of transit within the Cataraqui North Neighbourhood. Conformity = ●; Partial Conformity = ◆; Non-Conformity = ○.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Criteria Questions</th>
<th>Conformity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium Density and Transit</td>
<td>Has the medium density (45-75 units per net hectare) area in Cataraqui North that is located on the major east-west street as specified by the Alternative Master Plan Proposed Land Use Map facilitated the implementation of transit service?</td>
<td>◆</td>
</tr>
<tr>
<td>Location of Transit on Key East-West Street</td>
<td>Are transit stops located at three to four minute walking intervals along the major east-west street?</td>
<td>●</td>
</tr>
<tr>
<td>Transit Boundary Roads</td>
<td>Is transit service present or proposed for the four boundary roads which delineate the Cataraqui North Neighbourhood?</td>
<td>◆</td>
</tr>
<tr>
<td>Distance to Transit</td>
<td>Are all residents within a five minute (400m) walk of a transit stop?</td>
<td>●</td>
</tr>
</tbody>
</table>

C.6 **Schools**

As a result of population projections performed by the Alternative Master Plan (1993), it was recommended that the one existing elementary school site be retained within the Cataraqui North neighbourhood and that an additional two elementary school sites would be required within the neighbourhood (see Map C-1, figures H, J and K). Neither of the two school sites were implemented within the neighbourhood (see Map C-2, figures J and L). Furthermore, the existing school site was relinquished by the School Board (see Map C-2, figures M and Table C-9). As well, neither of the two proposed school sites were retained for community facilities, but instead were developed as low density residential units (see Map C-2, figures J and L).
However, private community facilities were created for the Emerald Adult Community and the Walnut Grove Retirement Community (see Map C-2, figures F and K as well as Figures C-26 and C-27). The existing school site that was present at the time the Alternative Master Plan (1993), was created, was converted to a house of worship (see Map C-2, figure M).

To fill the void left by a lack of elementary schools within the neighbourhood the Lakeshore School, a private elementary school serving pre-kindergarten to grade 8 opened in 2012 (see Map C-2 and Figure C-28). Although this school is located within the Cataraqui North neighbourhood, as a private school that charges tuition fees its benefit to local residents is likely limited to those that can afford a private school.
Table C-9: Conformity of schools within the Cataraqui North Neighbourhood. Conformity = ●; Partial Conformity = ◐; Non-Conformity = ○.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Criteria Questions</th>
<th>Conformity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary School Implementation</td>
<td>Was a public elementary school located at the site specified by the Alternative Master Plan Proposed Land Use Map?</td>
<td>○</td>
</tr>
<tr>
<td>Elementary School within Neighbourhood</td>
<td>Was a public elementary school established within the Cataraqui North Neighbourhood?</td>
<td>○</td>
</tr>
<tr>
<td>Separate School Implementation</td>
<td>Was a separate elementary school located at the site specified by the Alternative Master Plan Proposed Land Use Map?</td>
<td>○</td>
</tr>
<tr>
<td>Separate School Within Neighbourhood</td>
<td>Was a separate elementary school established within the Cataraqui North Neighbourhood?</td>
<td>○</td>
</tr>
<tr>
<td>School Location</td>
<td>Are elementary schools located at a central location making them easily accessible to all residents?</td>
<td>○</td>
</tr>
</tbody>
</table>

C.7 Conclusion

Overall, 54 principles were examined to determine if their implementation was in conformity with the recommendations made by the Cataraqui North Alternative Master Plan (1993). Although no attempt was made to attribute a weight to those 54 items, we can form general ideas as to the overall implementation of the Plan (1993). Of the 54 recommendations only 26% were implemented in conformity with the Alternative Master Plan (1993), while 50% where not in conformity and 24% were in partial conformity (see Table C-10).

Of the six categories that were evaluated, Schools, Commercial Land Use and Housing and Density fared the worst in terms of conformity achieving scores of 67%, 53% and 46% for non-conformity. Transportation achieved a conformity score of 46%, equal to its non-conformity score, indicating that recommendations were implemented or they were not implemented and there was very little grey area. Conversely, Housing and Density achieved almost equal scores in terms of conformity and partial conformity (26% and 21% respectively) indicating that many of the principles of the Alternative Master Plan (1993), were partially adhered to. Even more so, Transit achieved a partial conformity score of 75% and a conformity score of 25% indicating
that all the principles related to Transit were totally or partially adhered to. Finally, Parks and Open Space achieved conformity of 22%, partial conformity of 44% and non-conformity of 33% to the recommendations of the Alternative Master Plan (1993). This analysis can only indicate which recommendations that were made by the Alternative Master Plan (1993), were, or were not implemented. The chapters that follow will illustrate which mechanisms were responsible for failures to implement the recommendations of the Plan (1993) and why those mechanisms were put into place.

Table C-10: Summary of implementation conformity with the recommendations of the Cataraqui North Alternative Master Plan (1993).

<table>
<thead>
<tr>
<th>Criteria of Conformity</th>
<th>Number of Questions</th>
<th>Conformity Proportion</th>
<th>Partial Conformity Proportion</th>
<th>Non-conformity Proportion</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Land Use</td>
<td>6</td>
<td>17%</td>
<td>17%</td>
<td>67%</td>
<td></td>
</tr>
<tr>
<td>Parks and Open Space</td>
<td>9</td>
<td>22%</td>
<td>44%</td>
<td>33%</td>
<td></td>
</tr>
<tr>
<td>Transportation</td>
<td>11</td>
<td>46%</td>
<td>9%</td>
<td>46%</td>
<td></td>
</tr>
<tr>
<td>Housing and Density</td>
<td>19</td>
<td>26%</td>
<td>21%</td>
<td>53%</td>
<td></td>
</tr>
<tr>
<td>Transit</td>
<td>4</td>
<td>25%</td>
<td>75%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Schools</td>
<td>5</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>26%</td>
<td>24%</td>
<td>50%</td>
<td></td>
</tr>
</tbody>
</table>
CATARAQUI NORTH, A CASE STUDY: KINGSTON’S EXPERIENCE WITH THE IMPLEMENTATION OF A NEW URBANIST SECONDARY PLAN
APPENDIX D: CHRONOLOGY

Early 1970s - Dacon Corporation purchases large tract of land in what will become Cataraqui North. At the time Dacon Corporation one of the three largest home building companies in Kingston.

1974 - Official Plan of the Township of Kingston Planning Area approved. Cataraqui North referred to as planning area #1.187

1979 - Sole owner of Dacon perishes in a plane crash resulting in an ownership group at Dacon.188

Early 1980s - Dacon Corporation begins assembling landowners group consisting of the three principal land owners including: Dacon Corporation, George Binnington, and Fraser Family.189

Mid 1980s - Major landowners initiate the Master Plan for Cataraqui North process retaining the firm of Johnson Sustronk Weinstein & Associates to undertake the task. Landowners also includes Bob Greenwood Ltd., Kinalea Development Corp., Carlo Mazzolin, and G.L. Sands.190

1987 - Weinstein + Associates assumes responsibility for completing Master Plan.191

Late 1980s - Jerome Taylor purchases property from Fraser Family causing a shift in the balance of power in land owner group. As the only land developer Dacon Corporation finds dealing with Jerome Taylor and George Binnington (both local businessmen) difficult.192

July 1990 - Master Plan for Cataraqui North submitted to Kingston Township along with Stormwater Plan.193

1990-1991 - Dacon purchases lands from Kinalea Development Corp. and Bob Greenwood Ltd.194

189 ibid.
191 Weinstein + Associates assumes responsibility for completing Master Plan
- Kingston Township completes review of Master Plan and forward comments to ownership group.  

Nov. 1991
- Cataraqui North Master Plan Revised Report submitted to Kingston Township having incorporated comments from the municipality.

1992
- Kingston Township Planning Department begin Official Plan review and suspends further review of Cataraqui North Master Plan.
- Weinstein and Leeming + Associates perform an academic exercise and redesign the proposed Cataraqui North neighbourhood with their best ideas.
- Kingston Township review of Official Plan results in document *Focus 2020*. Ideas presented in document are the very basics of New Urbanism.
- Focus 2020 receives strong backing from Township Reeve.
- Township insists that Cataraqui North Neighbourhood be designed with principles found in document.
- Developer group hesitant to incorporate recommendations of *Focus 2020*. At a meeting at the offices of Weinstein Leeming + Associates, partners of the firm presents new plan for Cataraqui North. Managing staff at Dacon recognizes that this plan represents an opportunity to market a neighbourhood as opposed to houses.
- Managing staff at Dacon take plan back to ownership group at Dacon who approve of new direction.
- Dacon Corporation takes new plan back to Cataraqui North ownership group. Reluctance of ownership group to innovate results in compromise amongst group that zoning will be made flexible to allow for traditional or New Urbanist housing form to be built.

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197 *Weinstein Leeming + Associates (1993).*
198 *Proponent Planner I, Personal Communication, June 20, 2013.*
201 *Weinstein Leeming + Associates (1993).*
Jan. 1993  - Cataraqui North Alternative Master Plan presented to Kingston Township Planning Department as a package along with Update to the Stormwater Plan.


1993-1995 - Developer group visits Kentlands MD to better understand New Urbanism.


1995-1997 - Braebury Homes purchases residential lands from Jerome Taylor and the majority of Binnington’s residential holdings.

1997  - Cataraqui North Zoning By-Law prepared by Planning Partnership is approved. Only lands owned by Dacon are within Zoning By-Law.

- Dacon, Braebury and Binnington begin Draft Subdivision process with Kings Landing, Lyndenwood, Binnington and Walnut Grove Subdivisions.


Jan. 1998  - Kingston Township amalgamated with City of Kingston.


Sept. 1999  - Plan 13M-16 Binnington is first Registered Subdivision in Cataraqui North Neighborhood and all of former Binnington lands are also rezoned to be a part of the Cataraqui North Zoning By-Law.

Oct. 1999  - Plan 13M-18 King’s Landing Phase I subdivision is Registered and lands are rezoned to be a part of the Cataraqui North Zoning By-Law.

Dec. 1999  - Plan 13M-21 Lyndenwood 1-1 subdivision is Registered.

---


210 Kingston, City of. D-12 Subdivision Files.

211 Ibid.

212 Ibid.

213 Ibid.
2000
- Cataraqui Conservation Authority does not approve of the use of in-line stormwater facilities. Previously proposed off-line location on Binnington lands have already been developed. Developers begin to look for a solution.\textsuperscript{215}

- The primary owner of Dacon, decides that Dacon would severely cut back homebuilding arm of company and sells lands in Cataraqui North to J.A. Pye Holdings with the exception of the Walnut Grove Subdivision.\textsuperscript{216}

- J.A. Pye Holdings takes over Lyndenwood subdivision approvals process.\textsuperscript{217}

- Dacon abandons original Walnut Grove subdivision and begins new Draft Plan of Subdivision process for Walnut Grove based on a retirement community concept with culs-de-sac and a private park located behind homes.

2001
- Dacon’s zoning amendment to remove lands along Princess St. from Cataraqui North Zoning By-Law and place them back into Kingston Township Zoning By-Law to allow for big box development (Rona) approved.

2000-2003
- Acrimonious negotiations between developers over relocating stormwater facilities to Taylor lands. Taylor demands and receives vacant commercial land value from other developers for lands.\textsuperscript{218}

2002
- City of Kingston informs J.A. Pye Holdings that City will not take ownership of laneways.\textsuperscript{219}

- J.A. Pye Holdings and Parks Department believe traffic circle to be a potential safety hazard and it is subsequently removed from plan.\textsuperscript{220}

Sept. 2002
- Plan 13M-39 Walnut Grove subdivision is Registered.\textsuperscript{221}

Oct. 2002
- Plan 13M-41 Lyndenwood 1-2 subdivision is Registered.\textsuperscript{222}

\textsuperscript{214} Kingston, City of. D-12 Subdivision Files.
\textsuperscript{215} Developer II, Personal Communication, May 1, 2013; Municipal Engineer I, Personal Communication, February 18, 2014.
\textsuperscript{217} Proponent Planner II, Personal Communication, February 5, 2014.
\textsuperscript{219} Proponent Planner II, Personal Communication, February 5, 2014.
\textsuperscript{221} Kingston, City of. D-12 Subdivision Files.
April 2003 - Plan 13M-44 King’s Landing Phase 3 subdivision is Registered.\textsuperscript{223}

May 2003 - Remaining residential Taylor lands are brought into Cataraqui North Zoning By-Law including new Stormwater facility.\textsuperscript{224}

June 2003 - Plan 13M-46 Jennifer Crt subdivision is Registered.\textsuperscript{225}

March 2004 - Plan 13M-50 Lyndenwood 2A subdivision is Registered.\textsuperscript{226}


May 2005 - Plan 13M-58 Lyndenwood 2B & 3 subdivisions are Registered.\textsuperscript{227}

2006 - Tamarack Homes purchases remaining residential Taylor lands.

May 2006 - Plan 13M-68 Tamarack Phase 1&2 subdivisions are Registered.\textsuperscript{228}

Oct. 2006 - Plan 13M-69 Lyndenwood Phase 4 subdivision is Registered.\textsuperscript{229}

April 2007 - Plan 13M-70 King’s Landing Phase 2 subdivision is Registered.\textsuperscript{230}

July 2007 - Separate School Board declines school site.\textsuperscript{231}

- Plan 13M-72 Taylor Remainder commercial subdivision in the north west corner of the neighbourhood is Registered.\textsuperscript{232}

June 2008 - Plan 13M-76 Forest Park subdivision (former Mazzolin lands) is Registered.\textsuperscript{233}

Nov. 2009 - Plan 13M-80 King’s Landing Phase 4 subdivision is Registered.\textsuperscript{234}

June 2012 - Plan 13M-87 Lyndenwood Phase 4, Stage 5 subdivision (formerly proposed Separate School Board site) is Registered.\textsuperscript{235}

\textsuperscript{222} Ibid.
\textsuperscript{223} Kingston, City of. D-12 Subdivision Files.
\textsuperscript{224} Ibid. Kingston, City of (1997).
\textsuperscript{225} Ibid. Kingston, City of. D-12 Subdivision Files.
\textsuperscript{226} Ibid.
\textsuperscript{227} Ibid.
\textsuperscript{228} Ibid.
\textsuperscript{229} Ibid.
\textsuperscript{230} Ibid.
\textsuperscript{231} Municipal Planner IV, Personal Communication, May 2, 2013.
\textsuperscript{232} Ibid.
\textsuperscript{233} Ibid. Kingston, City of. D-12 Subdivision Files.
\textsuperscript{234} Ibid.
\textsuperscript{235} Ibid.
2012 - Limestone District School Board declines site.

Oct. 2012 - 1380 Crossfield Ave. subdivision (formerly proposed public school site) receives Draft Subdivision approval.236

2013 - Condominium that replaces neighbourhood commercial begins site plan approval process and Lyndenwood Phase 5 begins Draft Subdivision Approval.237

235 Ibid.
236 Kingston, City of. D-12 Subdivision Files.
237 Kingston, City of. D-12 Subdivision Files.
APPENDIX E:
MASTER PLAN
for
CATARAQUI NORTH
CATARAQUI NORTH MASTER PLAN

For: Dacon Corporation Ltd.
George Binnington
Jerome Taylor
Bob Greenwood Ltd.
Kinalea Development Corp.
Carlo Mazzolin
G. L. Sands

Philip Weinstein + Associates Limited
160 Pears Avenue
Suite 402
Toronto, Ontario
M5R 1T2

July 1990
87-33
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction</td>
<td>1</td>
</tr>
<tr>
<td>2. Site Description</td>
<td>1</td>
</tr>
<tr>
<td>3. Master Plan Proposals</td>
<td>2</td>
</tr>
<tr>
<td>3.1 Land Use Concept</td>
<td>2</td>
</tr>
<tr>
<td>3.2 Housing and Population</td>
<td>3</td>
</tr>
<tr>
<td>3.3 Schools and Open Space</td>
<td>4 &amp; 5</td>
</tr>
<tr>
<td>3.4 Commercial Uses</td>
<td>5 &amp; 6</td>
</tr>
<tr>
<td>3.5 Industrial Uses</td>
<td>7 &amp; 8</td>
</tr>
<tr>
<td>3.6 Arterial and Collector Roads</td>
<td>8</td>
</tr>
</tbody>
</table>
CATARAQUI NORTH MASTER PLAN (1990)

1. Introduction

In 1974 the Official Plan of the Township of Kingston Planning Area was approved and has had subsequent amendments since that time. It established the land use and roads plan for the Township and specified areas for development including a residential and industrial community bounded by Highway 401 to the north, Highway No. 2 to the south, Highway No. 38 to the west, and Sydenham Road to the east, referred to in this report as Cataraqui North. In 1987 the major landowners of the south-east section of this area agreed to the preparation of a mutually satisfactory conceptual plan which would determine the location of open space, local roads, development parcels and schools within the area.


The Master Plan for the area directly south of the Study Area and Highway No. 2, referred to as Cataraqui, was prepared by Johnson Sustronnk Weinstein & Associates in April 1987. The preparation of the Cataraqui North Master Plan has adhered to a similar process. As in the presentation of the Master Plan Cataraqui Ontario, this report incorporates the proposals of the Developer Group which are consistent with the objectives and provisions of the Official Plan of the Township of Kingston Planning Area (1983). It is intended that this plan will be the subject of review by municipal staff and council, and that it will form the basis for an approved secondary plan for the area.

2. Site Description

The study area is approximately 567 ha (1400 ac.) bounded by Highway 401 on the north, Highway No. 2 on the south, Highway No 38 on the west and Sydenham Road on the east. Principal landowners in the area include: Kingston Township and the Developer Group which includes Dacon Corporation Ltd., George Binnington, Jerome Taylor, Bob Greenwood Limited, Kinalea Development Corp., Carlo Mazzolin, and G. L. Sands. Their holdings are shown on Figure 1.

Approximately 54% of the development area is designated as an industrial park originally and principally owned by the Township and now in part sold and developed. Generally, existing industrial uses are located on lots fronting Highway No. 38 and on those lots south of Cataraqui Woods Drive west of Centennial Drive. The remainder of the industrial lands owned by Kingston Township, plus holdings owned by the Developer Group north of Cataraqui Woods Drive and east of Centennial Drive, remain vacant.

The Developer Group, in addition to ownership of a portion of the industrial lands, own the majority of lands in the south-eastern section of the community which is designated as a low density residential neighbourhood in the Official Plan.
Existing uses in the residential area of the community are located along the frontage of Sydenham Road and include some highway commercial uses, a cemetery, a public school and a Hydro facility. However, the predominant existing use on Sydenham Road is residential.

Along Highway No. 2 the existing uses comprise highway commercial establishments such as motels, restaurants and car dealerships. In 1984, the Master Plan for the area to the south of Highway No. 2, referred to as Cataraqui, was adopted by Kingston Municipal Council. This area is to be developed as a residential community with commercial uses in three areas; along Highway No. 2 which includes the Sentry Shopping Centre; adjacent to Gardiners Road and Highway No. 38; and at the intersection of Taylor-Kidd Boulevard and Centennial Drive which is to be a neighbourhood commercial centre.

3. Master Plan Proposals

3.1 Land Use Concept

The Master Plan details to a secondary plan level the development of the industrial and residential sectors of the community. Figure 2 illustrates the overall land use concept. The residential area of the community is designated roughly between Highway No. 2, Cataraqui Woods Drive, Sydenham Road and just west of the proposed northerly extension of Centennial Drive.

To the north and west of the residential area, the plan proposes a basic circulation system in the industrial park. Business commercial uses along the northern edge of Cataraqui Woods Drive are proposed to provide a buffer between the industrial uses to the north and residential area of the community south of Cataraqui Woods Drive. To the west of the residential area the existing water course maintained by the Cataraqui Region Conservation Authority for flood control and designated as an Environmental Protection Area in the Official Plan provides a buffer between the residential and industrial uses.

The core of the community is a commercial centre proposed at the intersection of Cataraqui Woods Drive and the extension of Centennial Drive. This centre is intended to serve the overall community which is comprised of both the residential and industrial areas.

To the south, the residential area is bounded by the existing highway and general commercial uses along Highway No. 2 which are located on both sides of the road.

The overall distribution of major land uses, existing and proposed, is enumerated in Table 1. Tables 2 and 3 provide estimates of the distribution of land uses amongst the Developer Group, as well as a calculation of open space requirements within the Developer Group.
3.2 Housing and Population

Lands within the study area could potentially yield approximately 2000 units including redevelopment of existing residential lands at 5upa. Of these units about 1950 will be developed by the Developer Group. The balance consists of the western frontage to Sydenham Road and a 2.8 ha (7 ac.) site in the north-west corner of Sydenham Road and Highway No. 2 which would yield (say) 30-40 units.

Multiple densities are proposed in that portion of the residential area nearest the neighbourhood centre. This has the twofold effect of providing a convenience facility within walking distance of the greatest concentration of population as well as providing that concentration to help support the centre.

Units are proposed to be provided in 3 forms: single family and semi-detached, town houses both street and condominium, and low rise apartments. Multiple densities are proposed in that portion of the residential area nearest the neighbourhood centre. This has the twofold effect of providing a convenience facility within walking distance of the greatest concentration of population as well as providing that concentration to help support the centre. This report has calculated total unit generation by assuming that low density will average 12.3 units/ha (5upa), town housing at 24.7 units/ha (10 upa) and apartments at 61.7 units/ha (25 upa).

This community will start to sell houses in or about 1992 and will probably not be completed until after the year 2000. While this report sets out a table to indicate lands available for the 4 basic forms of housing (single and semi-detached, row and apartment) within the plan, we feel that the municipality should put into place legislation which will permit enough flexibility to allow development to continue to respond to changing housing market demands over the next decade.

The Official Plan restricts medium density to 124 persons/hectare or, say, 35 to 40 units/hectare depending on persons/unit count. Calculations are made on a gross acreage basis. It is difficult to project actual development densities and housing forms using this formula. However, on a net basis this density (14-16 upa) is, in fact, only town housing densities. Walkups - 2-1/2 storey apartment units, which we feel would be perfectly appropriate at the core of this community, would be approximately 50% higher (say, 50-60 units/hectare) than the O.P. permits within the medium density category. It is these kind of units which can most readily respond to affordability and this density has been proposed within the study plan.

Based on a person/unit ratio of 3.2 for single family and detached units, 3.0 for townhouse units, and 2.7 for apartment units, the Cataraqui North Community will house approximately 6000 persons.
3.3 Schools and Open Space

The estimated elementary school population based on the projected community population and on available pupil generation ratios is 700. Approximately 340 public secondary school students are generated. Approximately 300 separate elementary students and 140 separate secondary students are generated.

Calculations are based on the following data:

<table>
<thead>
<tr>
<th>Public Elementary</th>
<th>Public Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single family</td>
<td>0.4 students/unit</td>
</tr>
<tr>
<td>Townhouse</td>
<td>0.45</td>
</tr>
<tr>
<td>Apartment</td>
<td>0.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Separate Elementary</th>
<th>Separate Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>All units</td>
<td>0.16 students/unit</td>
</tr>
</tbody>
</table>

An existing public school is located on Sydenham Road. The Frontenac County School Board has indicated that the school will not be expanded and that a new school site is desired for the community. The Board is proposing to retain the existing school for other institutional community-related uses. The plan proposes a series of linked open spaces, streets (sidewalks) and walkways which link this existing school through the central spine of open space to the valleyland at the western edge of the residential community.

Both a public and separate school are proposed on sites approximating 2 ha (5 ac.) each. Their location is central to the residential area and they are consolidated with the proposed community park. The overlap of school and parkland allows greater flexibility in designing sports facilities on combined school-park sites. The central location places these facilities within the most convenient walking distance for the majority of the residents. The community park and school sites are located on the major residential collector street which circulates through the area and connects to the adjoining major collector and arterial system.

A total of 16.3ha (40.4 ac.) of open space is included in the Cataraqui North Community. The development group has provided 10.1ha (24.9 ac.) of this total. The open space system is based on a centrally located community park with additional open space located adjacent to stormwater detention areas, valleyland and institutional uses. The stormwater detention areas total 12.1ha (29.9 ac.) and provide surplus open space for the community: this space should be able to be utilized for such activities as active sports fields for all but a few days during the year.

In determining the amount of open space to be provided within the Study Area the plan has had regard for the Official Plan which states that where densities are less than 15 units/ha (6upa) open space will be dedicated on the basis of 5% of total land. Where densities exceed 15 units/ha open space is to be provided on the basis of one hectare for each 300 units.
The Planning Act also requires that open space be provided for industrial and commercial uses on the basis of 2% of the total lands proposed for such use. Based on these requirements the total open space required for the community is 14.5ha (35.9ac.).

The Official Plan designates that community parks should generally be provided on the basis of 0.6 hectares (1.5 acres) per thousand persons and serving a population ranging from 9000 to 16000 people. The projected community population of approximately 6000 persons would require a community park of 3.6 ha (8.9 ac.). The community park provided is 5.8ha (14.3 ac.) plus a contiguous stormwater detention area of 1.2ha (3 ac.); this overage is made up of dedications required by the application of the Official Plan and the Planning Act requirements.

The rationale for the amount and distribution of open space is based on the provision of a centrally located community park which provides an optimal allocation of space based on projected population. The additional open space provides a system for pedestrian access throughout the community as well as combined school-park sites.

3.4 Commercial Uses

Commercial uses are proposed in 4 principal locations:

1. Highway 2 east of Centennial Drive; this area presently contains existing highway commercial uses mainly serving travellers and is similar to uses facing on the south side of the highway. Redevelopment would continue these uses.

2. Highway 2 west of Centennial Drive.

3. Cataraqui Woods Drive east of Centennial; the interface between the industrial and residential areas is proposed to upgrade uses from industrial to those less detrimental to the visual environment of a residential community. These are proposed as business commercial uses to include: retail stores providing durable goods to the surrounding community and region; car-oriented retail and service commercial uses such as furniture and carpet warehousing, lighting fixture and drapery stores etc., as well as offices serving both residential and industrial areas.

This zone should contain uses which permit it to serve as the commercial centre of the entire community uniting the residential and industrial areas by providing facilities which serve the needs of both. In this matter a clear connection and focus for the entire community can be established.
4. Neighbourhood Commercial Centre; this area is located on the southwest corner of Cataraqui Woods Drive and Centennial Drive. This area will contain general commercial uses which include retail and convenience stores serving the everyday needs and personal service and goods requirements of the residential community. It is important that these uses be concentrated in this zone in order to maintain this location as a strong focal point for convenience shopping for the local residential community. The anticipated scale for this centre would be between 20 to 30 thousand square feet.

The Official Plan designates the areas along Sydenham Road to the north and partly to the south of Cataraqui Woods Drive as highway commercial. The following considerations have contributed to the consideration of this area and its proposed uses:

1) Some existing Highway commercial uses are located along Sydenham Road; however, the predominant uses are housing and institutional (school, cemetery, Hydro facility).

2) The new 401 interchange to the east for the John A. MacDonald Blvd. will introduce a new entry route into the City of Kingston. Consequently, Sydenham Road will assume less importance as a connection between the overall Kingston urbanized area and the regional highway.

3) Proximity to the cemetery lands provides the area with an attractive setting for residential uses.

4) This location has significant heritage structures (original stone buildings); the area should be developed in a manner sensitive to the enhancement of these heritage uses.

On the basis of these considerations, the Master Plan concept therefore is to promote this area of Sydenham Road primarily for residential uses. It was our understanding when the study commenced that this was an unofficial planning policy within the Municipality. The existing Official Plan shows land uses from the 401 interchange to the cemetery on the west side of Sydenham to be designated for highway commercial. A revised designation to residential which permitted existing commercial uses to continue could be an appropriate method of effecting this change. An exception to this policy should permit a small convenience centre to locate at the Sydenham Road - mid block entry to the inner collector ring.
3.5 Industrial Uses

The Master Plan (Fig. 2) perpetuates the basic existing disposition of industrial and residential lands with one exception (see below). It is proposed that "cleaner" industrial uses which do not require exterior storage and do not produce noxious or odorous emission are located in those areas immediately surrounding the proposed residential community. Indeed, since prevailing winds are from the northwest, even if less desirable uses are located in the northwest corner of the Study Area at the greatest distance from the new community, prevailing winds might still create nuisance for residential development. Care should be taken to screen potential users and monitor industries post development.

The industrial lands located north of the properties owned by Jerome Taylor and George Binnington and adjacent to the 401 have particular importance to the community. These lands have prime exposure to the 401 and potential for showcase frontage similar to that in the Belleville area. The proposed feeder or minor collector road serving the industrial area establishes lot sizes in this area at an average of ±75m (250 ft.) depth. Showcase industrial sites require greater lot depths of approximately ±185m. (600 ft.). It is proposed that the municipality, which owns the strips of lands adjacent to Highway 401 with an average depth of approximately

The existing Official Plan shows the west side of Centennial to be designated for general industrial use. This study proposes that residential uses are developed in this area because:

1. The area adjoins the valleylands and could be designed as a prime up-scale housing area. Industrial uses could not take advantage of this contiguity with valleylands. The flood plain creates a natural separation between residential and industrial uses. Industrial uses are small scale and could be readily screened at their western boundary from the proposed residential subdivision. This would have the added advantage of making the conservation area into a real recreational facility.

We do not consider the proximity of the residential area to be detrimental to the proposed subdivision; some of the highest real estate values in Kingston lie in the shadow of the Kingston Penitentiary.

2. It is doubtful that business commercial uses proposed as the northern interface between residential and industrial use would be able to take advantage of adjoining open space. Moreover, many alternative locations for these uses exist in the urban region while a pressing demand for housing has become apparent, particularly in the last several years. The Study Area is in the next servicing phase of development in the Municipality and proposed uses should respond to current needs.
3. Considerable care has been taken in a detailed design of the neighbourhood (see our plan 200' = 1" dated April 1990) to minimize pedestrian crossing points over Centennial and into the balance of the neighbourhood. These have been limited to 3; one at each of the local-collector road intersections and one which is part of the open space continuum linking the valleylands to the heart of the community.

3.6 Arterial and Collector Roads

The Master Plan concept continues the 2 major collector roads through the new development. These are Cataraqui Woods Drive and Centennial Drive and are proposed with 25 metre (82 ft.) R.O.W.'s which is equivalent to the Official Plan’s minimum requirement for four lane collector roads. These roads provide access to the major collector roads serving both the residential and industrial sectors of the community.

Two minor collector roads or feeder roads of 23m (75 ft) R.O.W. are proposed. Both are located east of Centennial Drive; one serves the residential area located south of Cataraqui Woods Drive and the second serves the industrial area located north of Cataraqui Woods Drive.

One major arterial road, Gardiners Road, passes through the community and primarily serves the industrial area.

Preliminary Study designs located Centennial Drive north of Highway 2 so that land uses were consistent with the Official Plan, restricting commercial industrial uses to the west of Centennial Drive. With this land use disposition school children would not need to cross the major collector to get to the proposed school sites.

The Developer Group considered that there was a considerable competitive land supply both locally and regionally for the kind of uses which might be attracted to these sites: Such uses have located on Gardiners Road; dry cleaners, plant nurseries, snowmobile dealers, builders supply, fast food services etc. These uses would not only be slow to market but were not considered suitable by the Developer Group to be located on a major road to the community.

As in the Cataraqui South development project, it is possible to have residential units on the west side of Centennial Drive while simultaneously ensuring the safety of children crossing the road to the east side to attend school. The revised Master Plan for Cataraqui North provides only three possible ways to cross Centennial: these can be signalized or patrolled.
TABLE 1

DISTRIBUTION OF MAJOR LAND USES

(ACRES)

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Existing</th>
<th>Development Potential</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>23.0</td>
<td>284.0</td>
<td>307.0</td>
</tr>
<tr>
<td>Open Space</td>
<td>-</td>
<td>40.5</td>
<td>40.5</td>
</tr>
<tr>
<td>Commercial</td>
<td>41.0</td>
<td>67.5</td>
<td>108.5</td>
</tr>
<tr>
<td>Industrial</td>
<td>28.0</td>
<td>733.0</td>
<td>761.0</td>
</tr>
<tr>
<td>Institutional</td>
<td>19.0</td>
<td>11.5</td>
<td>30.5</td>
</tr>
<tr>
<td>Other</td>
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<td>162.0</td>
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<tr>
<td><strong>Totals</strong></td>
<td><strong>171.0</strong></td>
<td><strong>1238.5</strong></td>
<td><strong>1409.5</strong></td>
</tr>
<tr>
<td>LAND USE</td>
<td>TAYLOR</td>
<td>BINNINGTON</td>
<td>DACAON</td>
</tr>
<tr>
<td>---------------</td>
<td>--------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>Residential</td>
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<td>44.9</td>
<td>80.1</td>
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<td>Commercial</td>
<td>32.0</td>
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<td>9.4</td>
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<td>Industrial</td>
<td>46.6</td>
<td>42.8</td>
<td>-</td>
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<tr>
<td>Institutional</td>
<td>4.7</td>
<td>-</td>
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</tr>
<tr>
<td>Open Space</td>
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</tr>
<tr>
<td>Stormwater Detention/ESA</td>
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<td>3.0</td>
</tr>
<tr>
<td>Collector/Arterial R.O.W.</td>
<td>17.8</td>
<td>4.6</td>
<td>5.6</td>
</tr>
<tr>
<td>Hydro R.O.W.</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>Pipeline R.O.W.</td>
<td>1.0</td>
<td>1.0</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>171.0</strong></td>
<td><strong>113.9</strong></td>
<td><strong>110.3</strong></td>
</tr>
</tbody>
</table>
### TABLE 3

OPEN SPACE REQUIREMENTS: DEVELOPER GROUP (Acres)

<table>
<thead>
<tr>
<th>Land Owner</th>
<th>TAYLOR</th>
<th>BINNINGTON</th>
<th>DACON</th>
<th>GREENWOOD</th>
<th>KINALEA</th>
<th>MAZZOLIN</th>
<th>SANDS</th>
<th>TOTAL</th>
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</thead>
<tbody>
<tr>
<td>Residential (Density less than 6upa - 5%)</td>
<td>1.9</td>
<td>1.0</td>
<td>4.1</td>
<td>0.6</td>
<td>1.8</td>
<td>0.9</td>
<td>1.3</td>
<td>11.6</td>
</tr>
<tr>
<td>Residential (Density greater than 6upa - 1ha/300u)</td>
<td>3.2</td>
<td>2.2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5.4</td>
</tr>
<tr>
<td>Commercial/Industrial (2%)</td>
<td>1.6</td>
<td>1.1</td>
<td>0.2</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>1.6</td>
<td>4.6</td>
</tr>
<tr>
<td>All Other Uses Excluding Valleylands (5%)</td>
<td>1.6</td>
<td>0.7</td>
<td>0.9</td>
<td>0.2</td>
<td>0.2</td>
<td>-</td>
<td>1.1</td>
<td>4.7</td>
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<tr>
<td>Total Required</td>
<td>8.3</td>
<td>5.0</td>
<td>5.2</td>
<td>0.9</td>
<td>2.0</td>
<td>0.9</td>
<td>4.0</td>
<td>26.3ac</td>
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<tr>
<td>Total Provided</td>
<td>8.3</td>
<td>5.0</td>
<td>5.2</td>
<td>-</td>
<td>2.0</td>
<td>-</td>
<td>4.4</td>
<td>24.9ac</td>
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</table>
### TABLE 4
**PROPOSED UNIT MIX**
(Existing Development Lands at 5 upa)

<table>
<thead>
<tr>
<th>HOUSING TYPE</th>
<th>ACRES</th>
<th>DENSITY</th>
<th>UNITS (ROUNDED)</th>
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</thead>
<tbody>
<tr>
<td>Apartments</td>
<td>14.0</td>
<td>25u/a</td>
<td>350</td>
</tr>
<tr>
<td>Town Housing</td>
<td>30.0</td>
<td>10u/a</td>
<td>300</td>
</tr>
<tr>
<td>Single/Semi</td>
<td>263.0</td>
<td>5u/a</td>
<td>1300</td>
</tr>
</tbody>
</table>

**TOTAL UNITS**  
307.0 ac.  
2000± units
APPENDIX F: MASTER PLAN FOR CATARAQUI NORTH REVISED REPORT

APPENDIX F:
MASTER PLAN
for
CATARAQUI NORTH
REVISED REPORT
Master Plan
Cataraqui North
Kingston Township
Ontario

Revised Report

For:    Dacon Corporation Ltd.
        George Binnington
        Jerome Taylor
        Carlo Mazzolin
        G. L. Sands
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2. Site Description ......................................................................... 1

3. Master Plan Proposals ............................................................. 2
   3.1 Land Use Concept ............................................................... 2
   3.2 Housing and Population ...................................................... 3
   3.3 Schools and Open Space ....................................................... 4 & 5
   3.4 Commercial Uses ............................................................. 5 & 6
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1. Introduction

In 1974 the Official Plan of the Township of Kingston Planning Area was approved and has had subsequent amendments since that time. It established the land use and roads plan for the Township and specified areas for development including a residential and industrial community bounded by Highway 401 to the north, Highway No. 2 to the south, Highway No. 38 to the west, and Sydenham Road to the east, referred to in this report as Cataraqui North. In 1987 the major landowners of the south-east section of this area agreed to the preparation of a mutually satisfactory conceptual plan which would determine the location of open space, local roads, development parcels and schools within the area.


The Master Plan for the area directly south of the Study Area and Highway No. 2, referred to as Cataraqui, was prepared by Johnson Sustronk Weinstein & Associates in April 1987. The preparation of the Cataraqui North Master Plan has adhered to a similar process. As in the presentation of the Master Plan Cataraqui Ontario, this report incorporates the proposals of the Developer Group which are consistent with the objectives and provisions of the Official Plan of the Township of Kingston Planning Area (1983). It is intended that this plan will be the subject of review by municipal staff and council, and that it will form the basis for an approved secondary plan for the area.

A report and plan were submitted in July 1990. Continuing discussion with the Municipality has resulted in minor changes to the plan. These have been incorporated in this (November 1991) revision.

2. Site Description

The study area is approximately 567 ha (1400 ac.) bounded by Highway 401 on the north, Highway No. 2 on the south, Highway No 38 on the west and Sydenham Road on the east. At the commencement of the study principal landowners in the area included: Kingston Township and the Developer Group which includes Dacon Corporation Ltd., George Binnington, Jerome Taylor, Bob Greenwood Limited, Kinalea Development Corp., Carlo Mazzolin, and G. L. Sands. Greenwood and Kinalea lands were subsequently acquired by Dacon. Present holdings are shown on Figure 1.

Approximately 54% of the development area is designated as an industrial park originally and principally owned by the Township and now in part sold and developed. Generally, existing industrial uses are located on lots fronting Highway No. 38 and on those lots south of Cataraqui Woods Drive west of Centennial Drive. The remainder of the industrial lands owned by Kingston Township, plus holdings owned by the Developer Group north of Cataraqui Woods Drive and east of Centennial Drive, remain vacant.
CATARAQUI NORTH MASTER PLAN (1991)

The Developer Group, in addition to ownership of a portion of the industrial lands, own the majority of lands in the south-eastern section of the community which is designated as a low density residential neighbourhood in the Official Plan.

Existing uses in the residential area of the community are located along the frontage of Sydenham Road and include some highway commercial uses, a cemetery, a public school and a Hydro facility. However, the predominant existing use on Sydenham Road is residential.

Along Highway No. 2 the existing uses comprise highway commercial establishments such as motels, restaurants and car dealerships. In 1984, the Master Plan for the area to the south of Highway No. 2, referred to as Cataraqui, was adopted by Kingston Municipal Council. This area is to be developed as a residential community with commercial uses in three areas; along Highway No. 2 which includes the Sentry Shopping Centre; adjacent to Gardiners Road and Highway No. 38; and at the intersection of Taylor-Kidd Boulevard and Centennial Drive which is to be a neighbourhood commercial centre.

3. Master Plan Proposals

3.1 Land Use Concept

The Master Plan details to a secondary plan level the development of the industrial and residential sectors of the community. Figure 2 illustrates the overall land use concept. The residential area of the community is designated roughly between Highway No. 2, Cataraqui Woods Drive, Sydenham Road and the proposed northerly extension of Centennial Drive.

To the north and west of the residential area, the plan proposes a basic circulation system in the industrial park. Business commercial uses along the northern edge of Cataraqui Woods Drive are proposed to provide a buffer between the industrial uses to the north and residential area of the community south of Cataraqui Woods Drive. To the west of the residential area the existing water course maintained by the Cataraqui Region Conservation Authority for flood control and designated as an Environmental Protection Area in the Official Plan provides a buffer between the residential and industrial uses.

The core of the community is a commercial centre proposed at the intersection of Cataraqui Woods Drive and the extension of Centennial Drive. This centre is intended to serve the overall community which is comprised of both the residential and industrial areas.

To the south, the residential area is bounded by the existing highway and general commercial uses along Highway No. 2 which are located on both sides of the road.

The overall distribution of major land uses, existing and proposed, is enumerated in Table 1. Tables 2 and 3 provide estimates of the distribution of land uses amongst the Developer Group, as well as a calculation of open space requirements within the Developer Group.
3.2 Housing and Population

Lands within the study area could potentially yield approximately 1650 units. Of these units about 1500 will be developed by the Developer Group. The balance consists of the western frontage to Sydenham Road, a 2.4 ha (6 ac) site in the southeast corner of the proposed community and a 2.8 ha (7 ac) site in the northwest corner of Sydenham Road and Highway No. 2.

Units are proposed to be provided in 3 forms: single family and semi-detached, townhouses - both street and condominium, as well as other forms of ground contact multiples, and low rise apartments. Multiple densities are proposed in that portion of the residential area nearest the neighbourhood centre. This has the twofold effect of providing a convenience facility within walking distance of the greatest concentration of population as well as providing that concentration to help support the centre. This report has calculated total unit generation by assuming that low density will average 12.3 units/ha (5 upa), town housing at 24.7 units/ha (10 upa) and apartments at 61.7 units/ha (25 upa).

This community will start to sell houses in or about 1993 and will probably not be completed until after the year 2000. While this report sets out a table to indicate lands available for the 4 basic forms of housing (single and semi-detached, medium density and apartment) within the plan, we feel that the municipality should put into place legislation which will permit enough flexibility to allow development to continue to respond to changing housing market demands over the next decade.

The Official Plan restricts medium density to 124 persons/hectare or, say, 35 to 40 units/hectare depending on persons/unit count. Calculations are made on a gross acreage basis. It is difficult to project actual development densities and housing forms using this formula. However, on a net basis this density (14-16 upa) is, in fact, only town housing densities. Walkups - 2 -1/2 storey apartment units, which we feel would be perfectly appropriate at the core of this community, would be approximately 50% higher (say, 50-60 units/hectare) than the O.P. permits within the medium density category. It is these kind of units which can most readily respond to affordability and this density has been proposed within the study plan.

Based on a person/unit ratio of 3.2 for single family and detached units, 3.0 for medium density units, and 2.7 for apartment units, the Cataraqui North Community will house approximately 5100 persons.
3.3 Schools and Open Space

The estimated elementary school population based on the projected community population and on available pupil generation ratios is 645. Approximately 315 public secondary school students are generated. Approximately 264 separate elementary students and 116 separate secondary students are generated.

Calculations are based on the following data:

<table>
<thead>
<tr>
<th></th>
<th>Public Elementary</th>
<th>Public Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single family</td>
<td>0.4 students/unit</td>
<td>0.2</td>
</tr>
<tr>
<td>Townhouse</td>
<td>0.45</td>
<td>0.2</td>
</tr>
<tr>
<td>Apartment</td>
<td>0.1</td>
<td>0.05</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Separate Elementary</th>
<th>Separate Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>All units</td>
<td>0.16 students/unit</td>
<td>0.07</td>
</tr>
</tbody>
</table>

An existing public school is located on Sydenham Road. The Frontenac County School Board has indicated that the school will not be expanded and that a new school site is desired for the community. The Board is proposing to retain the existing school for other institutional community-related uses. The plan proposes a series of linked open spaces, streets (sidewalks) and walkways which link this existing school through the central spine of open space to the valleyland at the western edge of the residential community.

Both a public and separate school are proposed on sites approximating 2 ha (5 ac.) each. Their location is central to the residential area and they are consolidated with the proposed community park. The overlap of school and parkland allows greater flexibility in designing sports facilities on combined school-park sites. The central location places these facilities within the most convenient walking distance for the majority of the residents. The community park and school sites are located on the major residential collector street which circulates through the area and connects to the adjoining major collector and arterial system.

A total of 15.2 ha (37.5 ac.) of open space is included in the Cataraqui North Community. The development group has provided 8.9 ha (22.0 ac.) of this total. The open space system is based on a centrally located community park with additional open space located adjacent to stormwater detention areas, valleyland and institutional uses. The stormwater detention areas total 12.1ha (29.9 ac.) and provide surplus open space for the community; this space should be able to be utilized for such activities as active sports fields for all but a few days during the year.

In determining the amount of open space to be provided within the Study Area the plan has had regard for the Official Plan which states that where densities are less than 15 units/ha (6 upa) open space will be dedicated on the basis of 5% of total land. Where densities exceed 15 units/ha open space is to be provided on the basis of one hectare for each 300 units.

- 4 -
The Planning Act also requires that open space be provided for industrial and commercial uses on the basis of 2% of the total lands proposed for such use. Based on these requirements the total open space required for the community is 14.4 ha (35.5 ac.).

The Official Plan designates that community parks should generally be provided on the basis of 0.6 hectares (1.5 acres) per thousand persons and serving a population ranging from 9000 to 16000 people. The projected community population of approximately 5000 persons would require a community park of 3.2 ha (8.0 ac.). The community park provided is 6.1 ha (15.1 ac.) plus a contiguous stormwater detention area of 1.2 ha (3 ac.); this overage is made up of dedications required by the application of the Official Plan and the Planning Act requirements.

The rationale for the amount and distribution of open space is based on the provision of a centrally located community park which provides an optimal allocation of space based on projected population. The additional open space provides a system for pedestrian access throughout the community as well as combined school-park sites.

3.4 Commercial Uses

Commercial uses are proposed in 4 principal locations:

1. Highway 2 east of Centennial Drive; this area presently contains existing highway commercial uses mainly serving travellers and is similar to uses facing on the south side of the highway. Redevelopment would continue these uses.

2. Highway 2 west of Centennial Drive

3. Cataraqui Woods Drive east of Centennial; the interface between the industrial and residential areas is proposed to upgrade uses from industrial to those less detrimental to the visual environment of a residential community. These are proposed as business commercial uses to include: retail stores providing durable goods to the surrounding community and region; car-oriented retail and service commercial uses such as furniture and carpet warehousing, lighting fixture and drapery stores etc., as well as offices serving both residential and industrial areas.

This zone should contain uses which permit it to serve as the commercial centre of the entire community uniting the residential and industrial areas by providing facilities which serve the needs of both. In this manner a clear connection and focus for the entire community can be established.
4. Neighbourhood Commercial Centre; this area is to be located on the southeast corner of Cataraqui Woods Drive and Centennial Drive. This area will contain general commercial uses which include retail and convenience stores serving the everyday needs and personal service and goods requirements of the residential community. It is important that these uses be concentrated in this zone in order to maintain this location as a strong focal point for convenience shopping for the local residential community.

The Official Plan designates the areas along Sydenham Road to the north and partly to the south of Cataraqui Woods Drive as Highway Commercial. The following considerations have contributed to the proposed uses in this area:

1) Some existing Highway Commercial uses are located along Sydenham Road; however, the predominant uses are housing and institutional (school, cemetery, Hydro facility).

2) The new 401 interchange to the east for the John A. MacDonald Blvd. will introduce a new entry route into the City of Kingston. Consequently, Sydenham Road will assume less importance as a connection between the overall Kingston urbanized area and the regional highway.

3) Proximity to the cemetery lands provides the area with an attractive setting for residential uses.

4) This location has significant heritage structures (original stone buildings); the area should be developed in a manner sensitive to the enhancement of these heritage uses.

On the basis of these considerations, the Master Plan concept therefore is to promote this area of Sydenham Road primarily for residential uses. It was our understanding when the study commenced that this was an unofficial planning policy within the Municipality. The existing Official Plan shows land uses from the 401 interchange to the cemetery on the west side of Sydenham to be designated for highway commercial. A revised designation to residential which permitted existing commercial uses to continue could be an appropriate method of effecting this change. An exception to this policy should permit a small convenience centre to locate at the Sydenham Road - mid block entry to the inner collector ring.
3.5 Industrial Uses

The Master Plan (Fig. 2) perpetuates the basic existing disposition of industrial and residential lands. It is proposed that "cleaner" industrial uses which do not require exterior storage and do not produce noxious or odorous emission are located in those areas immediately surrounding the proposed residential community. Indeed, since prevailing winds are from the northwest, even if less desirable uses are located in the northwest corner of the Study Area at the greatest distance from the new community, prevailing winds might still create nuisance for residential development. Care should be taken to screen potential users and monitor industries post development.

The industrial lands located north of the properties owned by Jerome Taylor and George Binnington and adjacent to the 401 have particular importance to the community. These lands have prime exposure to the 401 and potential for showcase frontage similar to that in the Belleville area. The proposed feeder or minor collector road serving the industrial area establishes lot sizes in this area at an average of ±75m (250 ft.) depth. Showcase industrial sites require greater lot depths of approximately ±185m. (600 ft.). It is proposed that the municipality, which owns the strips of lands adjacent to Highway 401 with an average depth of approximately 250 ft., sell these lands to the adjoining owners so that 500 ft. depth lots can be created for upscale industrial users.

3.6 Arterial and Collector Roads

The Master Plan concept continues the 2 major collector roads through the new development. These are Cataraqui Woods Drive and Centennial Drive and are proposed with 25 metre (82 ft.) R.O.W.'s which is equivalent to the Official Plan’s minimum requirement for four lane collector roads. These roads provide access to the major collector roads serving both the residential and industrial sectors of the community.

Two minor collector roads or feeder roads of 23m (75 ft) R.O.W. are proposed. Both are located east of Centennial Drive; one serves the residential area located south of Cataraqui Woods Drive and the second serves the industrial area located north of Cataraqui Woods Drive.

One major arterial road, Gardiners Road, passes through the community and primarily serves the industrial area. Centennial Drive north of Highway 2 is located so that land uses were consistent with the Official Plan, restricting residential uses to the east of Centennial Drive.
<table>
<thead>
<tr>
<th>Land Use</th>
<th>Existing</th>
<th>Development</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>23.0</td>
<td>268.0</td>
<td>291.0</td>
</tr>
<tr>
<td>Open Space</td>
<td>-</td>
<td>37.5</td>
<td>37.5</td>
</tr>
<tr>
<td>Commercial</td>
<td>41.0</td>
<td>80.5</td>
<td>121.5</td>
</tr>
<tr>
<td>Industrial</td>
<td>28.0</td>
<td>733.0</td>
<td>761.0</td>
</tr>
<tr>
<td>Institutional</td>
<td>19.0</td>
<td>11.5</td>
<td>30.5</td>
</tr>
<tr>
<td>Other</td>
<td>60.5</td>
<td>107.5</td>
<td>168.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>171.5</strong></td>
<td><strong>1238.0</strong></td>
<td><strong>1409.5 ac</strong></td>
</tr>
</tbody>
</table>
### TABLE 2

**DISTRIBUTION OF MAJOR LAND USES BY OWNERSHIP (In Acres)**

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Land Owners</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TAYLOR</td>
</tr>
<tr>
<td>Residential</td>
<td>40.6</td>
</tr>
<tr>
<td>Commercial</td>
<td>52.2</td>
</tr>
<tr>
<td>Industrial</td>
<td>46.6</td>
</tr>
<tr>
<td>Institutional</td>
<td>5.0</td>
</tr>
<tr>
<td>Open Space</td>
<td>5.4</td>
</tr>
<tr>
<td>Stormwater Detention/ESA</td>
<td>3.0</td>
</tr>
<tr>
<td>Collector/Arterial R.O.W.</td>
<td>18.0</td>
</tr>
<tr>
<td>Hydro R.O.W.</td>
<td>-</td>
</tr>
<tr>
<td>Pipeline R.O.W.</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>171.8</strong></td>
</tr>
</tbody>
</table>
### TABLE 4

**PROPOSED UNIT MIX**

*(Existing Development Lands at 5 upa)*

<table>
<thead>
<tr>
<th>HOUSING TYPE</th>
<th>ACRES</th>
<th>DENSITY</th>
<th>UNITS (ROUNDED)</th>
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</thead>
<tbody>
<tr>
<td>Apartments</td>
<td>3.5</td>
<td>25u/a</td>
<td>90</td>
</tr>
<tr>
<td>Town Housing</td>
<td>32.0</td>
<td>10u/a</td>
<td>320</td>
</tr>
<tr>
<td>Single/Semi</td>
<td>255.5</td>
<td>5u/a</td>
<td>1230</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>291.0 ac.</strong></td>
<td></td>
<td>± 1650 units</td>
</tr>
</tbody>
</table>
APPENDIX G:
CATARAQUI NORTH
ALTERNATIVE
MASTER PLAN
CATARAQUI NORTH
KINGSTON TOWNSHIP, ONTARIO
ALTERNATIVE MASTER PLAN

WEINSTEIN LEEMING + ASSOCIATES
JANUARY 1993
CATARAQUI NORTH
KINGSTON TOWNSHIP, ONTARIO
ALTERNATIVE MASTER PLAN

JANUARY 1993

Prepared for:

DACON CORPORATION
GEORGE BINNINGTON
JEROME TAYLOR
CARLO MAZZOLIN
G.L. SANDS
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1.0 INTRODUCTION

In 1974 the Official Plan of the Township of Kingston Planning Area was approved and has had subsequent amendments since that time. It established the land use and roads plan for the Township and specified areas for development including a residential and industrial community bounded by Highway 401 to the north, Princess Street to the south, Highway No. 38 to the west, and Sydenham Road to the east, referred to in this report as Cataraqui North. In 1987 the major landowners of the south-east section of this area agreed to the preparation of a mutually satisfactory conceptual plan which would determine the location of open space, local roads, development parcels and schools within the area.

The major landowners retained Johnson Sustronk Weinstein & Associates to prepare the Master Plan for Cataraqui North. Subsequently, in November 1987, Weinstein Leeming + Associates assumed responsibility for completion of the Master Plan. The Master Plan for the area directly south of the Study Area and Princess Street, referred to as Cataraqui South, was prepared by Johnson Sustronk Weinstein & Associates in April 1984. The preparation of the Cataraqui North Master Plan has adhered to a similar process.

In July 1990 a report and plan were submitted to the municipality which incorporated land use programs which had been discussed and agreed on by the major landowners in the study area. The plan was also consistent with the objectives and provisions of the Official Plan of the Township of Kingston Planning Area (1983). This plan was circulated by the Municipality to the principal public agencies affected by the proposal who, in turn, commented on its merits as a proposed Neighbourhood Plan. The Municipality did not comment on the proposal.

At the same time as this submission was presented and accepted by the Municipal Council, and during the ensuing two years, the Kingston Township Research and Planning Policy Department commenced its Official Plan Review and suspended the plan's further progress. By August 1992 adequate public input had been obtained to evaluate the original submission against new criteria. The proposed municipal plan considered a veneer of mixed uses along Princess Street previously not envisioned as well as higher densities overall, disposed so that a transit system could be supported. The proposed Official Plan contemplated a "green community" where "opportunities for non-automobile travel" were increased. Diversified land uses and housing mixes were to be established and connections within the neighbourhood and between this and other neighbourhoods were to be facilitated.
The preparation of this Alternative Master Plan and accompanying report responds to the principles outlined in the Official Plan review, comments received from circulated agencies and current market realities. The Alternative Master Plan illustrates the broader framework by which these goals and specifications can be achieved and is intended to be adopted by the Township of Kingston Council as an amendment to the existing Official Plan. Specific plan details can be dealt with at the time of Draft Plan, Site Plan and Zoning By-law submission.
2.0 SITE DESCRIPTION

The initial overall study area was approximately 567 ha. (1400 ac.) bounded by Highway 401 on the north, Princess Street (Highway No. 2) on the south, Highway No. 38 on the west and Sydenham Road on the east. Approximately 200 ha. (500 ac.) of this area are proposed for residential and ancillary land uses with the balance of 360 ha. (900 ac.) as industrial lands. While the site still includes this original overall area, other issues have focused the Alternative Master Plan on the residential community alone. These issues include:

- the critical demand for serviced residential lands necessary to supply the Township’s housing needs in the short and longer terms;
- the inclusion of the new principles for community design as prescribed by the Official Plan review process, "Connections", and;
- the general agreement that the earlier Master Plan layout for the industrial land use was suitable and of a less pressing priority.

Approximately 64% of the overall study area is designated as an industrial park, principally owned by the Township and now in part sold and developed. Generally, existing industrial uses are located on lots fronting Gardiners Road and on those lots south of Cataract Woods Drive west of Centennial Drive. The remainder of the industrial lands owned by Kingston Township, and by the Developer Group north of Cataract Woods Drive and east of Centennial Drive, remain vacant (see Table 1 in the appendix).

The Alternative Master Plan area is approximately 200 ha. (500 ac.) and is located in the southeast quadrant of the overall study area. The site is defined by Sydenham Road on the east, Princess Street on the south, Centennial Drive to the west and the east-west Hydro Electric Utility Corridor and a portion of residential lands fronting Sydenham Road, south of the 401, as the northerly limit. The principle landowners remain Kingston Township, and representing the Developer Group; Dacor Corporation Limited; George Binnington, Jerome Taylor, Carlo Mazzolin, and G.L. Sands with the more recent addition of J. Sousa (see Figure 1 in the back pocket of this report).

The Developer Group, in addition to ownership of a portion of the industrial lands, own the majority of lands in the south-eastern section of the community which is designated for low density residential neighbourhood and highway commercial lands in the Official Plan. Existing uses in the residential area of the community are located along the frontage of Sydenham Road and include some highway commercial uses, a cemetery, a public school and a Hydro facility. However, the predominant existing use on Sydenham Road is residential.

Along Princess Street the existing uses comprise highway commercial establishments such as motels, restaurants and car dealerships. In 1984, the Master Plan for the area to the south of Princess Street, referred to as Cataract South, was adopted by Kingston Municipal Council. This area is to be
developed as a residential community with commercial uses in three areas; along Princess Street which includes the Greater Kingston Home Centre; adjacent to Gardiners Road; and at the intersection of Taylor-Kidd Boulevard and Centennial Drive which is to be a neighbourhood commercial centre.

2.1 Existing Environmental Conditions

Conditions of the study area's natural environment were described by Millar Engineering Incorporated and Paul Wisner and Associates in the Cataraqui North Development Master Drainage Plan December 1992 Update. This section includes a summary of information contained in that report's ecological review.

Most of the study area consists of open agricultural fields planted with hay. Topography is generally level with gentle undulations. Intermittent watercourses drain runoff from the study area and connect with tributaries of the Little Cataraqui Creek. There is continuous baseflow near the railway track and near Highway 2. Most of the watercourses have minimal cover, little instream diversity and very shallow water (when present). Although there is limited suitable fish habitat, these watercourses could provide water and food for areas downstream.

Woody vegetation in the study area is confined to hedgerows and woodlots. The hedgerows are dominated by shrub and weed species with a few specimen deciduous trees. Much of the north and west portions of the study area are covered with second growth deciduous and coniferous forests. Woodlots are dominated by deciduous trees with sugar maple the most common species. There is a wetland located along the abandoned railway south of Highway 401, within the industrial lands, predominantly on Township of Kingston property. This area is outside of the Alternative Master Plan study area. The Wisner study suggests a more detailed ecologic review of this wetland prior to development in that location. The study area supports typical urban and agricultural wildlife species. Remaining small wooded areas are fragmented and the agricultural fields have very poor value for wildlife.

3.0 MASTER PLAN PROPOSALS

3.1 Land Use Concept

The Master Plan details to a secondary plan level the development of the industrial and residential sectors of the community. Figure 2 illustrates the overall land use concept. The residential area of the community is designated roughly between Princess Street, Cataraqui Woods Drive, Sydenham Road and the proposed northerly extension of Centennial Drive. It is this residential sector which the Alternative Plan addresses.

To the north and west of the residential area, the plan maintains the collector level circulation of the industrial park. Business commercial uses along the northerly edge of Cataraqui Woods Drive are proposed to provide a buffer between the industrial uses to the north and residential area of the community south of Cataraqui Woods Drive. To the west of the residential area the existing water course maintained by the Cataraqui Region Conservation Authority for flood control and designated as an Environmental Protection Area in the Official Plan provides a buffer between the residential and industrial uses.

Three levels of commercial activity are proposed within the plan. Princess Street frontage is a portion of the "urban corridor" of mixed land uses including commercial uses. These uses are intended to serve the Township as a whole, and were proposed in the Official Plan review and are consequently incorporated into the Alternative Plan. The configuration of the urban corridor would achieve urban design and transit supportive goals if it were designed in the manner as illustrated on page 6. The entire 1400 acre study area bounded by Highway 401, Highway 38, Princess Street and Sydenham Road, will ultimately include an industrial business park of approximately 900 acres. The future daytime population of this work place, estimated at between 10 and 12 persons/acre, will be in the order of 10,000 persons. Located centrally in the study area at the internal collector intersection between the industrial/business park and the residential area is a proposed commercial centre of approximately 15 acres, provided as a focus for both the residential and industrial/business park components. This centre would principally provide service shopping on a day to day basis: banking, restaurants and food outlets, service industrial uses such as dry cleaners, shoe repair etc. are the kinds of uses contemplated.

Three levels of commercial

In addition to the Township or sub regional commercial redevelopment of Princess Street and the community level of commercial uses at the intersection of Cataraqui Woods Drive and Centennial, a third and very localized focus is proposed at the centre of the residential area. It is envisioned that this location would provide only neighbourhood convenience shopping at the level of a jug milk store, a post office, a day care centre, a church or churches and any minor institutional uses.
**Urban Corridor Today:** Auto-oriented development - buildings set back from the street, parking areas adjacent to street, limited pedestrian amenities.

*Source: Transit Supportive Land Use Planning Guidelines, MOT, MMA, 1992.*

**Urban Corridor Tomorrow:** Transit-supportive development - buildings and entrances adjacent to the street and parking in the rear, create a more attractive pedestrian environment.

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**Neighbourhood convenience centre**

The plan locates this focus together with direct access (and street exposure) to the principle parklands of the community. This park links both schools and provides the major active sports facilities within the community. In addition to this parkland, smaller park areas of approximately one half acre in size are dispersed through the neighbourhood within five minutes walking distance of virtually all residents. These will serve to provide passive park space within convenient reach of most; they might also be used to accommodate communal mail boxes and further serve as a sub-neighbourhood meeting places.

The road system proposed within the subdivision is a modified version of the "neo-traditional" patterns which are becoming more prominent in contemporary suburban plans. A basic tenet of this form of street system revises the three level (local, collector, arterial) system where collector roads circle through neighbourhoods delivering traffic to a reduced number of locations on the arterial grid. The collector itself, usually proposed as reverse frontage, serves no one in the community well, except the motorist. "Neo-traditional" layout eliminates collector roads and strives to permit a greater degree of permeability through the neighbourhood so that all streets tend to become used equally and traffic is disbursed onto the arterial grid at many points. Pedestrian traffic is also facilitated because of this higher degree of permeability.
It is this latter function - the distribution of the traffic onto arterial roads - which remains frustrated in the revised plan. This has been proposed purposefully in the knowledge that the County and Province will not approve a greater number of access points onto Sydenham Road and Princess Street than are indicated. Draft planning of individual parcels should nevertheless allow for an increased number of future connections.

Within the community residential uses are intensified in several locations which support particular features of the plan. A small area of high density use proposed at 125 units per hectare *(50 units per acre), which is achievable even in three to five storey form, is proposed at the community level commercial centre. These units will provide a greater range of life cycle housing types within the community so that starter families or empty nesters need not move outside Cataract North. This location will also help to support the commercial centre with a walk-in market.

The mixed use area is contiguous to medium density 45 to 75 uph (18 to 30 upa) which will help support the municipality's proposal of "the urban loop" - the intensification of Princess Street with office, commercial and residential uses.

* all density calculations have been made on a net basis.

3.2 Housing and Population

Lands within the study area have the potential of yielding approximately 4300 new units (see Table 4 in the appendix). Of these units, about 3700 will be developed by the Developer Group. The balance of lands for potential redevelopment, (this does not include existing residential lands along Sydenham Road that will remain relatively unchanged), includes property to the west of existing residences on Sydenham Road and assorted holdings along the north side of Princess Street.

Units are proposed to be provided in three forms: single family and semi-detached, townhouses, both street and condominium, as well as other forms of ground contact multiples, and low rise apartments. Multiple densities are proposed in four different locations with the intention of supporting public transit, commercial and community facilities such as schools and parks. These higher density areas are also intended to locate a higher proportion of people within a short walking distance of the above facilities in order to reduce the amount of automobile dependence within the community.

Medium and high density locations include: (see Figure 2)

* medium density along both sides of the central east west roadway and around the
central circular park in the form of street town houses and villa units;

- high and medium density units to the south and east of the district commercial node at the intersection of Centennial and Cataraqui Woods Drive;
- medium density along the north edge of the central open space and school campus area, and;
- medium density as street townhouses serving as a transition between the urban corridor and the lower density area and mixed use apartment units over commercial facilities along the proposed urban corridor on the north side of Princess Street.

Wherever possible multiple family units have been proposed to orient to the street in order to create a building presence along local roadways in a manner sympathetic with adjacent low density units. The clustering of multiple units into isolated pods of development that insulate themselves from their neighbours has been intentionally avoided. Segregated land use areas that break new developments into parcels, rather than integrating them, one with the other, run contrary to the idea of creating a imageable and cohesive community.

This community will start to sell houses in or about 1994 and will probably not be completed until after the year 2000. While this report sets out a table to indicate lands available for the four basic forms of housing (single and semi-detached, medium density and apartment) within the plan, we feel that the municipality should put into place legislation which will permit enough flexibility to allow development to continue to respond to changing housing market demands over the next decade.

The existing Official Plan considers medium density to be up to 124 persons/ha. which might translate, depending on unit sizes, into approximately 35 to 40 uph (14 to 16 upa). This is really only town housing density; if a development goal is to intensify, then medium densities must become a greater component of housing stock, and developers must be given more latitude so that they can increase the range of housing forms they can provide to a medium density market. They should be allowed to study duplexing, and walk-up as well as other forms whose densities will be double that presently permissible. We propose that medium density should be any form of housing three storeys or less which does not exceed 75 uph (30 upa).

High density housing should have a height cap; this is subjective but a reasonable limit might be six storeys in which a maximum density would be 124 uph (50 upa). The Town of Oakville, Ontario has a new development of 220 uph (90 upa) which is under five storeys).
We have calculated populations from these units based on the areas of land provided for low, medium and high densities considered against a percentage program of generalized unit types within those categories. While present persons/unit are calculated across the board at 2.8 persons/unit, (based on the preparation of the Township's recent Municipal Housing Statement), we do not believe that single family units will accommodate the same number of people/unit as mixed use housing or apartments. We have estimated unit yields, we believe, generously to be 2.8 persons/unit for all low and street townhouse (ground contact) units, 2.2 persons/unit for medium density, (non-ground contact) units, and, 1.9 persons/unit for mixed use and apartments. Table 4 in the appendix shows that the total population (including all ownerships) within the Alternative Master Plan Study Area will be approximately 11,000 persons housed in 4,300 units.

The following paragraph is a quote from the Region of Halton Transit Opportunities Study, A.J. Diamond Donald Schmitt & Co., 1992. Its implications for this study are clear:

"The typical North American household is changing. The nuclear family household being formed by married couples represents approximately one in four households currently being formed. 51% of all new households are being set up by singles. 22% are single parent families and only 27% are made of married couples. The planning strategies which form the basis for the single family suburban neighbourhood are no longer directly relevant to our culture or our economy. A new pattern for growth should recognize the needs of a changing population with a significantly demographic and cultural profile" (page 7).

3.3 Schools

The estimated public elementary school population based on the projected community population and on available pupil generation ratios is 1380 students. Approximately 650 public secondary school students are generated. Approximately 695 separate elementary students and 300 separate secondary students are generated.

Calculations are based on the following data: (see Table 5 in the appendix)

**Public Elementary**
- Single family: 0.4 students/unit
- Townhouse: 0.45
- Apartment: 0.1

**Public Secondary**
- Single family: 0.2
- Townhouse: 0.2
- Apartment: 0.05

**Separate Elementary**
- All units: 0.16 students/unit

**Separate Secondary**
- All units: 0.07

An existing public school is located on Sydenham Road. The Frontenac County School Board has indicated that the school will not be expanded and that a new school site is needed for the community. The Board is proposing to retain the existing school for other institutional community - related uses. If projections of pupil generation of this plan are accurate, both sites will be required for schools. The plan proposes linked open space and streets (sidewalks) to connect this existing school through to the community centre. This same street connection is also intended to serve as a public transit route.

Both a public and separate elementary school are proposed on sites in excess of 2 ha. (5 ac.). Their location is central to the residential area and they are consolidated with the proposed community park. The overlap of school and parkland allows greater flexibility in designing sports facilities on combined school-park sites. The central location places these facilities within the most convenient walking distance for the majority of the residents. The community park and school sites are located on the central east-west street which inter connects with the grid system as well as connecting to the adjoining major collector and arterial system. The Frontenac County Board of
Education notified the Township of Kingston and the Developer Group on December 8, 1992 that if a 5.5 acre school in the central location, as proposed on the plan, is adjacent to the active open space area and the municipality reduce their parking requirements, the proposal is acceptable.

Kingston Township is anxious to have the development industry provide housing at higher densities than has historically been developed; the industry has been reluctant to do so. This intensification of development would be consistent with many provincial policies; Land Use Planning for Housing (Ministry of Housing), Growth and Settlement (Policy Guidelines), Transit Supportive Land Use Planning (Ministry of Transportation) and the report of the Commission on Planning and Development Reform in Ontario. If higher densities are a goal, it is important that incentives rather than penalties are provided to encourage the development industry to create higher density building forms.

The present Official Plan requires the more onerous open space requirement at a threshold which is still really a single family density, 15 uph (6 upa). Separate and detached units can be developed up to 20 or 22 uph (8 or 9 upa) and ground contact units in many forms to densities between 37 to 45 uph. (15 to 18 upa) net. Ground contact units provide private open space - backyards - and if developers are to be encouraged to intensify, it is logical and appropriate that the threshold at which open space per number of units, rather than open space as a percentage of the total site, should be increased. We have proposed 37 uph (15 upa) as a threshold. This is the same level at which Cities of Brampton and Markham require open space at 1 ha/300 units.

It is not standards which will create outstanding parkland in the community. The question of appropriate Provincial open space standards has a real world basis in geography and sociology and cannot be easily codified in a Planning Act. Sudbury, Sarnia and Kingston Township have different climates and residents who need and use open space in different ways. The delivery of quality open space in the Township will not be a function of any standard; it will come from a municipal philosophy about the kind, the location and the design treatment of municipal parks and a policy which assures residents that quality parkland will be delivered.

The Planning Act also requires that open space be provided for industrial and commercial uses

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on the basis of 2% of the total lands proposed for such use. Since the industrial areas owned by the participating owners are not part of the Alternative Plan and will be developed at a later date, open space contributions will be calculated at that time. Potential lands for redevelopment that are owned by parties other than the 6 participating developers accounts for approximately 5% of the total Alternative Master Plan area. Open space provision for these properties has not been made since it would be minor in extent, and does not detract from the creation of an effective open space hierarchy and linked system. The Township can still deal with the smaller holdings at a later date on a site by site application basis.

The Official Plan designates that community parks should generally be provided on the basis of 0.6 ha. (1.5 ac.) per thousand persons and serving a population ranging from 9000 to 16000 people. The projected population generated by the Developers Group lands of approximately 9,500 persons would require a community park of 5.8 ha. (14.3 ac.). The Alternative Master Plan designates this required area for the central community park area exclusive of adjacent school site lands.

As reviewed in the "Land Use Concept" chapter, the open space system is fundamental as a means of not only providing active and passive areas for sports and leisure activities but also as a means of designing a cohesive sense of community character. An hierarchy of open space uses has been incorporated in the Alternative Master Plan. All of these open space features have characteristics in common. They must be:

- open and visible and contribute to the overall image of the community;
- accessible within a reasonable walking distance of all residents; and,
- linked or provide linkage throughout the community.

Integrated Open Space System

The central community park provides the focus for active and passive uses that is intended to be integrated with the facilities of the 2 elementary schools and the church site. This is the single largest open space area and is centrally located to provide a reasonable walking distance from anywhere in the community. The layout of specific sports fields given as a program for development by the Parks and Recreation Department can be accommodated and is illustrated on the plan. The main east-west street along the community park's southern boundary is intended to support public transit in association with the medium densities along this route, in combination with the medium and high densities surrounding the park. Higher density
areas that have a greater need of open space are located in proximity.

Parkettes are proposed in 6 locations surrounding the community park and central to individual neighbourhood areas to act as focal points. These are intended to be:

- within a short walking distance of all residents within the neighbourhood;
- act as a gathering place for people of all ages;
- provide primarily passive uses such as pathways, park benches with some children's play structures; and,
- low in maintenance costs.

The central island park is a more formal, ceremonial open space. It is a recognizable landmark located at the centre of the community and the junction of the two main east-west and north-south roads. Its size of 0.6 ha. (1.6 ac.) and diameter of 90 m (300 ft.) allows for a variety of uses such as walkways, seating areas, floral beds, water features, a gazebo and a skating area in winter.

Roadways should form a primary network of public space, in addition to fulfilling the more functional requirements for pedestrian and vehicular movements. Road right-of-ways will occupy approximately 24% of the community land area, an area greatly in excess of other public lands such as parkland. It is fundamental to the design principles of the Alternative Master Plan that roadways serve multiple uses, that traffic is calmed to a level conducive with other neighbourhood activities and that appropriate housing and garage setbacks, in combination with a street tree planting program, creates a liveable park-like environment out of these street right-of-ways.
Roads as Open Space features

The last component of the parks hierarchy are the stormwater detention areas and valleylands. While these have been mentioned earlier, it is noteworthy that the stormwater ponding areas should not be segregated to serve only a single function but designed to be incorporated into an open space system. They can be used as walkway connections, as well as passive and informal play areas the majority of the year. The opening of the west side of Centennial Drive to the valleylands not only permits views in this natural environment area but access for uses such as hiking and bird watching.

3.5 Natural Environment

The location of roads and the disposition of land use responds to conditions of the natural environment. The following summarizes specific elements of the plan and the relation to the site’s natural features:

- east west streets are maximized to optimize housing with solar orientation;
- existing hedgerows are maintained (where possible) at rear lot lines or incorporated into road rights-of-way;
- a variety of open spaces: natural environment along the valley, central park for active recreation associated with the school, neighbourhood parks and an urban square have been provided in the Master Plan. Open spaces are dispersed throughout the development, with the largest park close to the highest density residential area. This encourages pedestrian accessibility and reduces automobile dependency;
- key streets are planted to provide continuous tree canopy to provide habitat connecting links among open spaces;
- deciduous street tree planting allows summer cooling and winter solar heating to reduce energy consumption;
- the walnut tree located north of Princess Street has been identified as having heritage quality. It can be protected within a mixed development area.

Schematic design preserving the "heritage" walnut tree

- control of the water quality of runoff will occur in stormwater management facilities to avoid impact on water quality and downstream fisheries;
- the stormwater management facility will be designed to control the quantity and quality of runoff (see Millar Engineering Incorporated and Paul Wisner and Associates, Cataract North Development Master Drainage Plan December 1992 Update);
• infiltration of runoff should be encouraged to replenish groundwater through such measures as roof disconnection with discharge to grassed areas and the use of roadside ditches.

3.6 Commercial Uses

The hierarchy and location of commercial centres and the kind of commercial uses they contain is set out in Section 3.1. It is important to note that car-oriented commercial uses including retail, office and service are kept on the arterial fringe of the community. The centre at Centennial and Cataraqui Woods Drive should be developed to serve both business and residential communities, the convenience node in the residential area to serve the residents.

The Official Plan designates the areas along Sydenham Road to the north and partly to the south of Cataraqui Woods Drive as Highway Commercial. The following considerations have contributed to the proposed use changes in this area:

• Some existing Highway Commercial uses are located along Sydenham Road; however, the predominant uses are housing and institutional (school, cemetery, Hydro facility).

• The new Highway 401 interchange to the east for the John A. Macdonald Blvd. will introduce a new entry route into the City of Kingston. Consequently, Sydenham Road will assume less importance as a connection between the overall Kingston urbanized area and the regional highway. Traffic on Sydenham Road can be expected to be further reduced when Centennial is extended to Bath Road and Cataraqui Woods Drive is connected to John A. Macdonald Blvd.

• Proximity to the cemetery lands provides the area with an attractive setting for residential uses.

• At the southern end of Sydenham Road there are heritage structures (original stone buildings); the area should be developed in a manner sensitive to the enhancement of these heritage uses.

On the basis of these considerations, the Master Plan concept is to promote this area of Sydenham Road primarily for residential uses. It was our understanding when the study commenced that this was an unofficial planning policy in the Municipality. The existing Official Plan shows land uses from the Highway 401 interchange to the cemetery on the west side of Sydenham Road to be designated for highway commercial. A revised designation to residential which permitted existing commercial uses to continue could be an appropriate method of effecting this change. An exception to this policy would permit a small convenience centre to locate at the Sydenham Road - mid block entry to the community.

Commercial uses are also retained from the existing O.P. designation on the west side of Sydenham Road south of the Highway 401 off ramp. These uses will provide a buffer to the expanded Sands residential subdivision north of Eunice Avenue.

3.7 Industrial Uses

The Master Plan (see Figure 2 in the pocket at the back of this report) perpetuates the basic existing disposition of industrial and residential lands. It is proposed that "cleaner" industrial uses which do not require exterior storage and do not produce noxious or odorous emission are located in those areas immediately surrounding the proposed residential community. Indeed, since prevailing winds are from the northwest, even if less desirable uses are located in the northwest corner of the Study Area at the greatest distance from the new community, prevailing winds might still create nuisance for residential development. Care should be taken to screen potential users and monitor industries post development.

The industrial lands located north of the properties owned by Jerome Taylor and George Binnington and adjacent to Highway 401 have particular importance to the community. These lands have prime exposure to Highway 401 and potential for showcase frontage similar to that in the Belleville area. The proposed feeder or minor collector road serving the industrial area establishes lot sizes
in this area at an average of $\pm 75$ m (250 ft.) depth. Showcase industrial sites require greater lot depths of approximately $\pm 185$ m (600 ft.). It is proposed that the municipality, which owns the strips of lands adjacent to Highway 401 with an average depth of approximately 75 m (250 ft.), sell these lands to the adjoining owners so that 500 ft. depth lots can be created for upscale industrial users.

3.8 Arterial and Collector Roads

The Master Plan concept continues the two major collector roads through the new development. These are Cataraqui Woods Drive and Centennial Drive and are proposed with 25 metre (82 ft.) R.O.W.'s. These roads provide access to the major collector roads serving both the residential and industrial sectors of the community.

Section 3.1 (Land Use Concept) outlines the approach to local road layout used within the residential area. This layout uses some of the basic principles of "neo-traditional" subdivision which eliminates collector roads & encourages traffic movement to evenly distribute itself over the entire local street network. This pattern requires a slight penalty of increased road length in order to ensure the greater degree of permeability through the neighbourhood for both pedestrians and cars.

About half the local streets are optimally located on an east-west grid to favour passive solar orientation. Independent ownerships and the consequent need for independent access as well as necessary land use location and configurations, has provided some constraints for a total scheme of east-west streets.

It is proposed that the entry point of all roads accessing the neighbourhood from the four boundary roads are treated as gateways. This treatment can take many forms; planted medians and right-of-ways, actual gate-like constructions on each side of the roadway, special paving and special planting etc.

At present nine access points to boundary roads are created by six roadways. It is proposed that at least another three points can logically be connected to the system in future when approving agencies are more favourably disposed to this idea; these points should be anticipated and protected at draft plan stage. The six roadways themselves are proposed to be treated differently from other local streets in the neighbourhood by design which might incorporate special landscaping. These are proposed to become the "people ways" envisioned in the Official Plan review.

Roadway design should optimize pedestrian, rather than car movement; in practice this would mean that the placement of two and four way stop signs at all intersections should be promoted. In initial presentations much attention has been paid, both by supporters and detractors, to the "round-about" at the centre of the neighbourhood. It was proposed for two reasons; as a traffic calming device and as a landmark which creates a strong sense of identity for this community both as a whole and as its' central focal feature. Subsequent research appears to validate its inclusion and this has been set out in the traffic report prepared by RGP Transtech, the developer's transportation consultants.

All local streets within the plan are envisioned to be contained within 20 m (66 ft.) right-of-ways. Certainly that standard would be appropriate for the six roadways described above. We would, nevertheless, recommend that reduced right-of-ways are investigated for most other roadways. The standards established in the Regional Municipality of Ottawa-Carleton recently suggest better urban design potential and savings in land with no reduction in service levels.

The community road design anticipates that bus routes will operate on all four boundary roads as well as through the centre of the community on the east-west roadway which passes through the round-about. In order to support this internal route medium density is proposed on both sides of its' entire length (see also concept section). If bus stops are located at all the access point roadways on the boundary roads as well as at three or four minute walking intervals along the east-west central roadway, then virtually every resident of the community will be within five minutes or less of a bus stop. This consideration, together with a road system designed to facilitate walking access to
these routes, will do much to break the car-
dependant nature of past suburban
 developments.

5,000 persons in the Cataraqui North Master
Plan area would only represent an increase of
approximately 1.75 cfs additional sewage flow
to the sanitary sewer system. There is more
than adequate capacity available in the existing
downstream system to accommodate the
proposed Alternative Master Plan population of
approximately 11,000 persons.

**Stormwater**

The original Cataraqui North Master Plan was
supported by the Master Drainage Plan for the
Cataraqui North Development Area, prepared
by Paul Wisner & Associates. The subsequent
changes to the site drainage system in the
Alternative Master Plan have resulted in only
the relocation of the central facility moving to
the south by 130 m (400 ft.) in order to
accommodate the new land use and right-of-
way design. The Master Drainage Plan has
been rewritten to address the plan's redesign
and is available as an independent document to
accompany this Master Plan.

**3.9 Services**

**Water**

The water distribution system within the master
plan area will be developed in accordance with
the 1976 Gore & Storrie Report on the Water
Distribution System for the Township of
Kingston. It identifies the need for two
pressure zones within the Township and is
compatible with the Townships Engineering
Department recommendation that the area near
the intersection of Cataraqui Woods Drive and
Centennial Drive be connected to the water
distribution system in Cataraqui Industrial
Estates. This is identified as Zone II in the
Gore & Storrie report. The Majority of
the land within the Alternative Master Plan would
be in Zone I, connected to the trunk main
existing on Highway No. 2 at Futures Gate.

**Sewer**

The 1975 Gore & Storrie Report on the
sanitary Sewage System for the Township of
Kingston has shown populations for the
Cataraqui North area as part of a total
population for the overall area of 7440 persons.
The main concentration of that population 65%
to 80% would be in the residential portion of
the Cataraqui North Master Plan area. These
percentages would represent approximately
5000 to 6000 persons. Using the Gore &
Storrie sewage flow figures, an additional
4.0 CONCLUSION

The current Official Plan for the Township of Kingston designates the Cataraqui North community within both Development Areas 1 and 2, (Section 5 (3) Phasing Policy). Development Area 1 within the study area is designated for General Industrial, General Commercial, and General Commercial Special Service Area. The development of these land use areas has already commenced on a site by site basis due to the prior allocation of municipal services.

![Map of Existing Official Plan Development area stages]

The Alternative Master Plan study area consists of mixed residential, commercial and institutional land uses and is located entirely within Development Area 2.

The Alternative Master Plan sets out an orderly and rational plan for the development of the study area. The preparation of the Master Plan has responded to the Townships Official Plan review recommendations, public agency comments, broader provincial policy statements and guidelines and an open interactive consultation process with Township staff, Planning Advisory Committee, Council and the public. This Master Plan has been prepared and extensively modified over the last five years, originally in conformity with the Township's existing Official Plan, and subsequently with the Official Plan review process "Connections". It provides the necessary framework for the preparation of detailed draft plans of subdivision. It is intended that this Master Plan be adopted by Township of Kingston Council as an amendment to the existing Official Plan prior to any development occurring in the Cataraqui North, Development Area 2, community.
APPENDIX
TABLE 1
CATARAQUI NORTH ENTIRE STUDY AREA DISTRIBUTION OF MAJOR LAND USES (IN ACRES)
January 25, 1993

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>TAYLOR</th>
<th>BINNINGTON</th>
<th>DACON</th>
<th>MAZZOLIN</th>
<th>SANDS</th>
<th>SOUSA</th>
<th>OTHER</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
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<td></td>
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<tr>
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(570.4 ha)
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<th>DACON</th>
<th>MAZZOLIN</th>
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</tr>
<tr>
<td>Pipeline ROW</td>
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<td>-</td>
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</tr>
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<td>130.2</td>
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* ALTERNATIVE MASTER PLAN AREA BOUNDARY IS WITHIN THE CATARAQUI NORTH MASTER PLAN STUDY AREA BOUNDARY.
<table>
<thead>
<tr>
<th>LAND USE</th>
<th>TAYLOR</th>
<th>BINNINGTON</th>
<th>DACON</th>
<th>MAZZOLIN</th>
<th>SANDS</th>
<th>SOUSA</th>
<th>TOTAL</th>
</tr>
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<tbody>
<tr>
<td>5% of residential density up to 15uha (37 uph)</td>
<td>0.6</td>
<td>0.6</td>
<td>3.2</td>
<td>0.3</td>
<td>1.0</td>
<td>0.1</td>
<td>5.8</td>
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<tr>
<td>1h/300u for residential density greater than 15 uha (37 uph)</td>
<td>6.5</td>
<td>5.5</td>
<td>5.1</td>
<td>0.9</td>
<td>0.8</td>
<td>0.7</td>
<td>19.6</td>
</tr>
<tr>
<td>Commercial Industrial (2%)</td>
<td>0.7</td>
<td>0.1</td>
<td>0.1</td>
<td>-</td>
<td>0.1</td>
<td>-</td>
<td>1.0</td>
</tr>
<tr>
<td>5% for all other uses excluding Valleylands, S.T.W. Facilities &amp; Hydro Lands</td>
<td>2.0</td>
<td>1.0</td>
<td>3.0</td>
<td>0.3</td>
<td>0.8</td>
<td>0.2</td>
<td>7.3</td>
</tr>
<tr>
<td>TOTAL REQUIRED</td>
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<td>1.0</td>
<td>33.7</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(13.6 ha)</td>
</tr>
<tr>
<td>Housing Type</td>
<td>Acres</td>
<td>Density</td>
<td>Units (Rounded)</td>
<td>At Number of Persons/Unit</td>
<td>Population</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>--------</td>
<td>---------</td>
<td>-----------------</td>
<td>---------------------------</td>
<td>------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Density</td>
<td>5.3 ac</td>
<td>50 u/ac</td>
<td>265 units</td>
<td>1.9 p/u</td>
<td>505 p</td>
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<td>Mixed Use</td>
<td>16.5 ac</td>
<td>30 u/ac</td>
<td>495 units</td>
<td>1.9 p/u</td>
<td>940 p</td>
<td></td>
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</tr>
<tr>
<td>Medium Density</td>
<td>8.5 ac</td>
<td>30 u/ac</td>
<td>255 units</td>
<td>2.2 p/u</td>
<td>560 p</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>48.0 ac</td>
<td>18 u/ac</td>
<td>865 units</td>
<td>2.8 p/u</td>
<td>2420 p</td>
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<tr>
<td>Low Density</td>
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<td>18 u/ac</td>
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<td>2.8 p/u</td>
<td>1500 p</td>
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</tr>
<tr>
<td></td>
<td>44.6 ac</td>
<td>15 u/ac</td>
<td>670 units</td>
<td>2.8 p/u</td>
<td>1875 p</td>
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<tr>
<td></td>
<td>29.7 ac</td>
<td>11 u/ac</td>
<td>325 units</td>
<td>2.8 p/u</td>
<td>910 p</td>
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<tr>
<td></td>
<td>44.6 ac</td>
<td>6.5 u/ac</td>
<td>290 units</td>
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</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>226.9 ac</td>
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<td>3700 units</td>
<td></td>
<td>9520 p</td>
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**POTENTIAL DEVELOPABLE RESIDENTIAL LANDS OWNED BY OTHERS**

<table>
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<tr>
<th>Housing Type</th>
<th>Acres</th>
<th>Density</th>
<th>Units (Rounded)</th>
<th>At Number of Persons/Unit</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Density</td>
<td>0.0 ac</td>
<td>50 u/ac</td>
<td>0 units</td>
<td>1.9 p/u</td>
<td>0 p</td>
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<td>Mixed Use</td>
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<td>30 u/ac</td>
<td>390 units</td>
<td>1.9 p/u</td>
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</tr>
<tr>
<td>Medium Density</td>
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<td>30 u/ac</td>
<td>30 units</td>
<td>2.2 p/u</td>
<td>65 p</td>
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<tr>
<td></td>
<td>5.5 ac</td>
<td>18 u/ac</td>
<td>100 units</td>
<td>2.8 p/u</td>
<td>280 p</td>
</tr>
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<td>Low Density</td>
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<td>18 u/ac</td>
<td>15 units</td>
<td>2.8 p/u</td>
<td>40 p</td>
</tr>
<tr>
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<td>1.2 ac</td>
<td>15 u/ac</td>
<td>20 units</td>
<td>2.8 p/u</td>
<td>55 p</td>
</tr>
<tr>
<td></td>
<td>0.8 ac</td>
<td>11 u/ac</td>
<td>10 units</td>
<td>2.8 p/u</td>
<td>30 p</td>
</tr>
<tr>
<td></td>
<td>1.3 ac</td>
<td>6.5 u/ac</td>
<td>10 units</td>
<td>2.8 p/u</td>
<td>30 p</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>23.5 ac</td>
<td></td>
<td>575 units</td>
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<td>1240 p</td>
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**EXISTING LOW DENSITY RESIDENTIAL LANDS**

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<th>Acres</th>
<th>Density</th>
<th>Units (Rounded)</th>
<th>At Number of Persons/Unit</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Density</td>
<td>25.8 ac</td>
<td>N/A</td>
<td>60 units</td>
<td>2.8 p/u</td>
<td>170 p</td>
</tr>
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<td><strong>TOTAL</strong></td>
<td>276.2 ac</td>
<td></td>
<td>*4335 units</td>
<td></td>
<td>*10930 p</td>
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</table>
TABLE 5
CATARAQUI NORTH
ALTERNATIVE MASTER PLAN AREA
SCHOOL POPULATION*
January 25, 1993

<table>
<thead>
<tr>
<th></th>
<th>PUBLIC ELEMENTARY SCHOOL</th>
<th>PUBLIC SECONDARY SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Single Family</td>
<td>0.40 students/unit @ 1385 units = 555 students</td>
</tr>
<tr>
<td></td>
<td>Medium Density</td>
<td>0.45 students/unit @ 1515 units = 680 students</td>
</tr>
<tr>
<td></td>
<td>High Density</td>
<td>0.10 students/unit @ 1435 units = 145 students</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1380 students</td>
<td>650 students</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>SEPARATE ELEMENTARY SCHOOL</th>
<th>SEPARATE SECONDARY SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All Densities</td>
<td>0.16 students/unit @ 4335 units = 695 students</td>
</tr>
</tbody>
</table>

* Student population generation based on gross unit count within the entire alternative master plan study area.
APPENDIX H:
DRAFT URBAN DESIGN GUIDELINES
for
CATARAQUI NORTH
1. Neighbourhood Convenience

- uses suitable for neighbourhood convenience include commercial, retail, and institutional such as day care and places of worship;

- the facade of buildings shall be within 1m of a build-to-line located 5m from the curb;

- upper storeys of the buildings may step back from the ground floor;

- buildings should be separated to allow pedestrian access from rear parking;

- building height is not to exceed 3 stories;

- streetscape design in the neighbourhood convenience area shall become more urban in nature, eliminating the grass boulevard in favour of special paving from the curb to building wall; street trees shall be planted in tree pits;

- rear lanes are to be provided for access, servicing, and parking;

- on-street parking shall be allowed next to the park, and in front of the convenience-commercial buildings as an extra parallel parking lane;

2. Mixed Use (Princess Street Corridor)

- uses may be mixed in adjacent sites or in one building;

- permitted uses include highway commercial, retail, service, office, and residential;

- residential density shall be between 75-125 uph net;
building height shall be a maximum of 8 storeys where they front Princess Street;

building height along the internal local road parallel to Princess Street, shall be a maximum of 4 storeys, to create a transition to the residential neighbourhood;

the majority of parking shall be located at the rear of buildings, or along their sides, so that its impact on the streetscape is minimized;

where parking and service areas are adjacent to residential units in the neighbourhood, site plan control shall ensure that there is an appropriate buffer between them (e.g. fencing and planting);

3. Streets

streets are the primary system of public space in the community, and should be designed to ensure pedestrian scale, comfort, safety, amenity and access;

a) **Main north south and east west street**

the main north-south and east-west streets, which cross at the Neighbourhood Convenience Centre and Central Park, shall have a right-of-way of 20m. This shall include two driving lanes and one parking lane within an 8.5m pavement width, and sidewalks on both sides of the street;
these roads will be the focus for transit, and residential densities fronting onto them shall be higher;

- rear lanes should be the predominant means of servicing buildings fronting the transit corridors;

- these roads shall have a central, planted median as they approach the Central Park, to emphasize the importance of this area and the roads themselves as the central elements within the community;

- bicycle routes or lanes should be considered for the major 20m right of way streets in Cataraqui North, and bicycle safety and friendliness should be considered when designing local roads;

d) **other major finder streets**

  - the other important north-south and east-west streets within the street network shall also have a right of way of 20m. Their streetscape treatment shall reflect their role as inter-community linkages to neighbourhood parkettes and to surrounding communities;

\[Cross\ section\ of\ major\ finder\ streets\]

\[Cross\ section\ of\ local\ street\]

c) **local streets**

- local neighbourhood streets shall have an 18m right of way to include two driving lanes, one parking lane, and a sidewalk on one side of the street;
d) Streetscape Treatment

- the level of streetscape treatment shall reflect the hierarchy of roads;
- road connections to the community shall be treated with hard or soft elements as appropriate to their scale as gateways, and to reflect the unique character of the Cataraqui North community;
- street trees shall be deciduous and selected and planted to form a continuous canopy along streets, which maintains itself (by planting younger trees as needed) over time;
- trees, poles, lights, signs, or other services should be located along a single line in the tree boulevard, to minimize clutter and present a unified street character;
- bikeracks, mailboxes, vending machines, trash cans, and recycling bins shall be consolidated in single locations, preferably at transit stops, where they can be integrated with a shelter and other special elements of seating, paving or planting;
- utilities and 'box' servicing shall be located at the rear of buildings, or unobtrusively where they can be screened by planting;
- lighting design shall have regard for pedestrian and automobile requirements;

4. Residential

- buildings shall have front walls parallel to the street with front doors, windows and porches on the street;
- buildings shall be encouraged to be located close to to the street, setback 3m from the edge of the ROW;
- porches, stairs, canopies and other entrance features shall be permitted to encroach up to 1m of the edge of the ROW;
- porches of corner units shall wrap around the corner of the facade into the sideyard;
- a streetwall shall be created, where all buildings facing onto a street shall have a consistent setback from the ROW varying by no more than 1.5m;
• garages shall be encouraged to be set back from the facade of the house and shall not be closer than 6m of the edge of the ROW;

• housing within the Cataraqui North community shall have a maximum height of 4 storeys; low density housing shall have a maximum height of 3 storeys;

• where buildings front greenspace (parkettes, neighbourhood parks, linear open space), a minimum height of 3 storeys shall be encouraged to contain and define the street and park space;

• fences around front yards shall not block the view of the sidewalk from the house; their height shall be limited to 1.2m, and shall be primarily open structures, not solid walls;

• where sides or flanking of buildings are visible, they should have windows or other appropriate architectural treatment;

a) Medium Density Housing

• medium density housing shall be developed around the Central Park and along the main east west corridor;

• buildings shall be located 3m from the edge of the ROW to form a continuous streetwall to contain and define the street and park space;

• medium density housing shall include townhouses, semi detached and duplexes;

• rear lanes shall be provided to access medium density housing around the Central Park;

• rear lanes could also be considered to provide access to medium density housing along the east west corridor;

b) Intersections

• at major intersections, coordinated urban design should be applied, including similar massing, orientation, and principle detailing (e.g. cornice height);

• end units shall be equal to or greater than the height of adjacent interior units, in both their total height and their cornice height;
an end unit shall address both streets in its facade treatment and architectural details; generally, the main entry shall be accessed from the main street;

Open Space

- all parks shall be visible from the street, and their entrances defined with landscape or architectural elements;
- buildings adjacent to parks should face them to maximize surveillance for safety and security. They should be well lit, contain easily visible routes by day and night, maintain clear sightlines, and create a welcoming image to encourage their use by a wide range of people;
- open spaces should be designed to be visually attractive through all seasons and comfortable for use during early spring and late fall;

a) Central Park

- the central park is the formal, ceremonial focal point for the neighbourhood, and should be appropriately designed with a mix of hard and soft surfaces, planting, seating, and special structural elements such as fountains or public art;
- street tree planting both in the park and around the outside shall reflect its civic importance and define the street space;

b) Parkettes

- parkettes shall be between 0.2 and 0.4ha in size;
- each parkette shall have significant frontage on fender roads and be located within a five minute walk of the residents it serves;
- parkettes can accommodate neighbourhood features such as a super box, community bulletin board, or gazebo;
- parkettes can be placed within the road ROW so that they act as significant traffic calming devices;
APPENDIX I:

ARCHITECTURAL DESIGN GUIDELINES

for

THE LYNDENWOOD NEIGHBOURHOOD
CATARAQUI NORTH, A CASE STUDY: KINGSTON’S EXPERIENCE WITH THE IMPLEMENTATION OF A NEW URBANIST SECONDARY PLAN
ARCHITECTURAL DESIGN GUIDELINES

for the

LYNDENWOOD NEIGHBOURHOOD

in the
New Urbanism Core
City of Kingston

Prepared for :
J.A. Pye (Ontario) Holdings
Prepared by:
CASSIDY & CO. ARCHITECTURAL TECHNOLOGISTS

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1. **INTRODUCTION**

1.1 **Scope & Context**

The Design Guidelines herein have been prepared by Cassidy & Co. Architectural Technologists as commissioned by J.A. Pye (Ontario) Holdings, the land owner and developer. The Guidelines are intended to be applied to all individual rear lane building lots specifically lots 70-80 & 121-128, Stage 1, Phase 2, Lyndenwood Neighbourhood, Cataraqui North Planning District, City of Kingston, Ontario. Refer to Figure 2.

The Architectural Design Guidelines herein have been prepared as requested by the Planning and Development Services Planning Division, City of Kingston as a component document for of the Application for Amendment to Draft Plan and Zone Change Lyndenwood Subdivision, Cataraqui North, Phase 2. Refer to letter December 18, 2002, City of Kingston Planning Division to Lorelei Jones & Associates Planning Consulting.

The document is intended to be referenced in the Conditions of Draft Plan Approval to form part of the subdivision agreement.

The guidelines are provided and designed to compliment the urban design principles and goals established in the Official Plan November 6, 1997 and the Cataraqui North Community Urban Design Guidelines, April 1996, Weinstein Leeming Hinde and Leham & Associates.

1.2 **Goals and Objectives**

The goals of the Architectural Guidelines are:

- To establish a recognizable preferred identity for the Neighbourhood;
- To produce a comprehensively designed new residential neighbourhood providing a high level of visual quality within the public realm urban spaces.

This document provides design treatments, concepts and standards to guide the development on private lands addressing site planning, architectural and landscape issues.

The guidelines deal with those physical elements within the public and private realms that contribute to forming the visual character and a sense of place to the Phase 2 Neighbourhood, New Urbanism Core.

The report will illustrate the interrelationship between land blocks, roadways, individual properties, open spaces, built forms, and landscape elements.

At the time of writing this document the Neighbourhood Plan continues to be refined and revised to satisfy all interested parties. The report is therefore referenced as a guideline to be interpreted as the ultimate neighbourhood plan dictate.
As future draft plans are submitted in the Neighbourhood the lotting pattern and/or housing forms may differ from the present format. If so, the guidelines may require amending to accommodate the various development forms.

The objectives of the guidelines are to:

- Provide guidance for the builders in designing the development as a comprehensively planned neighbourhood
- Establish design standards which will result in finished streetscapes that are attractive and integrated within their environment

The guidelines apply only to the built elements on private lots that are viewed from public spaces (streets, parks, schools, open spaces) providing individual neighbourhood identity to the Phase 2 Neighbourhood.

The guidelines are to be applied in addition to requirements by all other authorities having jurisdiction over development.

The Design Guidelines and the Design Review Process are intended to be incorporated in the subdivision agreement and be privately administered by the land developer.

While the objectives of the guidelines remain constant, design solutions other than those established herein may be suggested and will be considered if deemed that the intent of the guideline has been maintained.

### 1.3 Urban Design Principles

The following design principles shall be maintained throughout the document to guarantee that the goals and objectives are achieved:

- Provide attractive streetscapes through attention to design within the public realm, built form and relationship between private development and public spaces;
- Encourage design which compliments the natural landscape;
- Consideration for the pedestrian in issues of siting, circulation and architecture shall take precedent over those of vehicles;
- Guidelines shall be compatible with standards established by the City of Kingston and other authorities having jurisdiction while remaining economically viable;
- Identify and categorize locations of high visual exposure as priority locations requiring specific design considerations;
- Identify all possible design opportunities that could be utilized to create a unique and recognizable neighbourhood character;
- Ensure that the built form is comprehensively designed by coordinating the design of the physical elements including site planning, landscape, architecture, engineering and site utility infrastructure.
1.4 Administration

The administration of the architectural guidelines applied to private development shall be the responsibility of the land owner. The land owner shall appoint a representative to administer the guidelines by way of the Design Review Process as outlined in Section 8.

Architectural Control approval shall be obtained for each building lot prior to application for building permit in the City of Kingston.

Approval of site plans and architectural drawings by the Design Control Consultant relates only to adherence of the architectural guidelines herein and does not imply compliance with, or approval from other authorities having jurisdiction including Municipal and Provincial levels.

1.5 Phase 2 Lyndenwood Neighbourhood

Phase 2 as indicated on the Neighbourhood Plan, Figure 1, will consist of:

- Augusta Drive and Crossfield Avenue forming the main streets of the Lyndenwood Community. As they converge at the Community Core Feature they are designed appropriately for their significance incorporating center landscaped islands, continuous building facades uninterrupted by private driveways, parking lay bys and broad treed pedestrian boulevards.
- Community Core feature and accompanying Open Space
- Local Commercial Block orientated to address the round about
- Residential Building lots all of which address the principle main streets
- Rear lanes and side lanes servicing the residential lots with vehicular access to rear lot garaging

Figure 2 indicates the Phase 2 area of the Lyndenwood Neighbourhood identified as per the current draft plan design.

1.6 Phase 2, Stage 1

Phase 2, Stage 1 consists of:

- 15 lots, numbers 70 to 76 and 121 to 128 fronting Augusta Drive
- Rear lot and side lot lanes servicing the lots
- Augusta Drive right of way fronting the above noted lots

Refer to Figure 2, Phase 2, Stage 1 Lyndenwood Neighbourhood
Figure 1
Phase II. Lyndenwood Neighbourhood
Figure 2
Phase 2, Stage 1 Lyndenwood Neighbourhood
2. **NEIGHBOURHOOD ELEMENTS**

The neighbourhood includes the following planning elements.

2.1 **Streetscape and Site Plan Guidelines**

The intent of the following guidelines is to provide direction as to:

- The orientation of buildings relative to adjacent public spaces;
- The composition of different building designs within each streetscape to insuire variety;
- The preferred pattern of access onto, and circulation within individual lots for pedestrians and vehicles;
- The grading relationship between the building and the topology of the lot;
- The consideration of landscape elements in the design of the site plan.

2.2. **Building and Driveway Orientation**

All dwellings proposed in the Lyndenwood Neighbourhood are intended to address the public street(s) onto which they front and flank in a traditional and formal manner as described below:

- On individual lots serviced with a private or public lane, vehicular storage, either parking pads, carports or garages shall be located adjacent to, and accessed from the lane;
- Pedestrian access should take precedent over vehicular access in terms of priority locations and building design focus;
- Dwellings shall be positioned within a streetscape to assist in defining the wall face of the street and be sited to compliment adjacent homes;
- Buildings identified as *Priority locations* should be designed and orientated to best support the Priority Location design intent (Section 3);
- Building design should include solutions for the installation of required utility equipment including hydro meters, gas meters and air conditioners.

2.2.1 **Lot Grading Considerations**

Building design should respond to the finished topography in a natural and complimentary manner as outlined below:

- Grading design on adjacent lots should be uninterrupted and complimentary;
- Individual house designs may require customization of the elevation to respond to individual lot grading configurations.
2.2.2 Landscape and Fencing Considerations

The importance of landscaping and fencing within the guidelines are outlined below:

- Maximize opportunities for homeowners to locate landscaped elements within private yards as viewed from public places i.e., between street sidewalks and future fences of rear yards at flanking lot conditions;
- Walkways shall be provided connecting public sidewalks, to the main dwelling entry, or porch;

2.2.3 Dwelling and Garage Relationship

The intent of the following guidelines is to support the preferred relationship between pedestrian components and vehicular components within the neighbourhood streetscape.

The vehicular design elements integral with suburban housing (curbside parking, driveways, site parking, garages) are identified and addressed in the Phase 2 Neighbourhood by way of:

- The zoning bylaw;
- The conditions of Draft Plan Approval;
- The Draft Plan street and lot layout;
- The Guidelines herein.

2.3 Guidelines For Siting Of Dwellings

The following guidelines are designed to ensure buildings are designed and sited to respond appropriately to the physical conditions and the relationship of the specific lot; within the streetscape, and to maintain design variety and compatibility between homes sited along a continuous streetscape.

2.3.1 Streetscape Variety and Composition

The frequency at which popular models are sited within a continuous streetscape is important. The following guidelines shall apply:

- A sufficient number of designs shall be commissioned, marketed and sited to create interesting, attractive streetscapes;
- All models will require at least two distinctly different elevations; additional elevations may be required for popular models as necessary;
- Identical elevations shall be separated by a minimum of 1 lot between;
- The architectural styles on alternative unit elevations should provide significant differences in the roof lines, street elevations massing, main entry, window treatment and detailing as befits the designated style;
- A variety of compatible cladding materials sited along a street block is encouraged, as appropriate to the architectural style utilized;
• A maximum of 50% of all units along any street block may be frame designs clad with materials such as clapboards or board and batten siding in an appropriate mix with masonry dwellings.
• There should be at least 3 different models regardless of elevation type, within any row of 10 dwellings on a street.

2.3.2 Building Response to Lot Configuration

• All buildings are expected to be designed, sited and graded to respond sensitively to specific lot conditions and environment.
• Unit designs shall be developed which respond to the specific lot grading conditions.
• The siting and grading of units along any streetscape shall provide a smooth transition from lot to lot with no disjointed floor level heights or extreme grading changes.
• Wall cladding and porch apron cladding on front elevations shall respond to finished grades of each lot so as not to expose more than 12" (300mm) of foundation wall.
• On side elevations exposed concrete foundation walls shall be limited to; 18"(450mm)
• Individual lot streetscape drawing submissions shall indicate accurate grading profiles and floor level relationships on each lot.

2.3.3 Lot Grading

• Dwellings shall be designed or modified to adapt to sloping sites. Elevated main entrances and related concentrations of entrance steps should be reduced by dividing and dispersing the steps into multiple terraces.
• To ensure the unrestricted use of outdoor space, pronounced bank slopes are to be avoided. This includes around rear patio areas. The use of retaining walls or decks may be necessary to provide an adequate flat rear yard amenity area.
• Site plans shall indicate all proposed walkways, fences, retaining walls, decks, and driveways within the private lot as well as all installations in the abutting public boulevards, walkways or other abutting public spaces.
• Lot grading design shall be integrated with the above noted public and private installations.
• All house roof eave trough downspouts, will where possible, be connected directly to the storm sewer laterals. If gravity flow is not possible, downspouts are to discharge to the ground surface at a position that will discharge to the front of the lot.
• All garage roof eave trough downspouts are to discharge to the rear lane.
2.3.4 Co-ordination of House Sitings with Streetscape Elements

Coordination of house sitings with streetscape elements such as community mailboxes, transformers, light standards and street trees and other street furniture is required by the Builder.

- Community mailboxes should be located toward the rear portion of corner lots, ideally at the common rear lot line between abutting corner lots, whenever possible; community mailboxes should be sited on the non-lotted side of service roads whenever possible;

- Transformers on the flanking side of corner lots should be located close to the rear of the lot; special care is to be taken to ensure the main entry doors on the flanking side of the house does not face out directly toward a transformer;
- It is the Builder's complete responsibility to ensure there are no conflicts in the siting of their dwellings with any street furniture or other streetscape elements.
3. PRIORITY LOT GUIDELINES

3.1 Intent

Priority locations include streets, open spaces, buildings, and view termini either on public or private lands that command a high level of public exposure within the community. All public buildings, by definition, location and function are priority locations and should enforce the identity of their community. Given the high level of visibility priority locations require special attention with regards to siting orientation, and architectural expression to ensure the preferred community character is maintained.

The following guidelines address detached dwellings within the Phase 2 Neighbourhood. The guidelines consider the following design elements within the priority location: building siting, garage design, building massing, façade treatment and landscape elements. Guidelines are provided for the following classifications of priority locations:

- Corner lots
- Exposed side and rear yard lots

Figure 3 indicates the Phase 2 Neighbourhood Priority Locations identified as per the current draft plan design.

3.2 Corner Lots

Corner lots afford the most commonly occurring opportunity to provide visual interest and punctuation in the community streetscapes. The distinctive character of the community can be most easily expressed at corner lots given the proportion of street frontage and multiple exposed building elevations as viewed from the front, flankage and rear elevations.

The following guidelines apply to the architectural design for corner lots:

- Special attention shall be provided to the unit design to ensure that the building addresses both street frontages with appropriate pedestrian friendly elevations;
- The corner lot allows the dwelling design to incorporate architectural features not afforded on interior lots such as flankage entry features, wrap around verandahs, side yard terraces, corner turrets, etc.;
- The Builder shall provide corner lot fencing as per Figure 4.
- Homes designed with front entries facing the flankage side yard shall include a walkway from the entry to the flankage street public sidewalk, where provided, as part of the landscape design.
Figure #3
Priority Lot Plan (Rear Lane Lots)
Phase II – Lyndenwood Neighbourhood
Figure 4
Corner Lot Privacy Fencing
3.3 Exposed Side and Rear Yard Lots

Building elevations that are viewed from public spaces including roads, parks, schools, walkways and other public open spaces should provide for a minimum level of architectural design appropriate to their exposure. The lots in the Phase 2 Neighbourhood included in this category are indicated on Figure 3 – Priority Lot Plan.

Architectural Guidelines for Exposed Rear and Side Yard Lots:
- Building elevations exposed shall be developed to a level suitable to public exposure and must reflect the same level of architecture as the front elevation;
- Interest for pedestrian viewing shall be provided by means of articulated building massing and varying the building mass on adjacent lots;
- Inclusion of points of interest at the second floor eave height such as roof gables and roof dormers;
- Maintaining a level of architectural detailing and application of building cladding materials appropriate to public exposure and supporting the community's architectural character;
- Coordinate the composition of the buildings facing the public view, to ensure compatibility of adjacent units and a balance of the entire composition.
4. DESIGN GUIDELINES FOR INDIVIDUAL DWELLINGS

4.1 Main Entrance, Porches and Verandahs

The composition of the facade should emphasize the location and dominance of the main entry. To be pedestrian friendly main entries should:

- Include a useable porch or verandah with a minimum depth of 1.8m (6')
- Provide shelter by way of covered porches, overhangs or recesses and verandahs
- Provide for natural light to the interior by use of transoms, sidelights or door glazing as befits the particular architectural style
- The detailing of the main entrance shall maintain the expressed house style for all elements including columns, frieze, roof detailing, brackets, railings, porch landings, steps, and skirt materials where used
- Beams supporting porch roofs and/or balconies shall be exposed or expressed
- Porch base materials shall extend to grade and be appropriate for the architecture
- Porch/verandah steps shall be poured concrete

All detailing of the main entrance shall maintain the character expressed of the house style. Columns, roofs, railings, steps and skirt materials shall be designed in scale, proportion and theme of the dwelling.

4.2 Building Projections

Projecting elements such as bay, bow and boxed bay windows on a foundation wall, entry stoops, porches, porticos, roof extensions, second floor cantilevered elements, roof dormers, balconies and alcoves are encouraged to be appropriate to the architectural style, to provide detail and articulation to the design.

4.3 Wall Cladding

The overall streetscape shall be considered and coordinated when determining colour and material selection of wall cladding for individual lots. The selection of cladding shall be appropriate to the architectural style employed. A minimum of 50% of all units within any street block shall be clad in masonry.
4.3.1 General Wall Cladding Requirements

The following requirements apply to all dwellings regardless of cladding material:

- Wall cladding should be consistent on all elevations of the house to avoid the effects of a false façade;
- Siding colour is compatible to the main brick colour;
- Siding panels and windows are framed in 75mm (3") min vinyl or aluminum clad trim board or prefinished wood.
- If stone is used, it should return a minimum of 1.2m (4’0") from the front corner to a logical stopping point such as an opening, downspout, or change in plane.
- Variations and accents in materials are encouraged with transitions occurring at appropriate locations, such as wall planes.
- Rear and side walls exposed to public view shall be of similar wall composition to front walls.
- Chimneys located on exterior walls shall be clad with the main wall material or be of masonry construction.
- Detailing, such as dentils, quoins, verge boards and brackets, where provided, should be used in a historically accurate manner.

4.3.2 Requirements for Dwellings Clad Primarily in Siding

Vinyl siding as a primary cladding material is permitted provided that appropriate design and detailing is provided. Its use is subject to the appropriate clustering of units with similar cladding material, as outlined see Section 2.3.1. The following requirements for dwellings clad primarily in siding shall apply:

- They shall be limited to a maximum of 50% of any street block;
- Detailing of houses clad in vertical siding, clapboard or board and batten shall be designed to be appropriate to the architectural style employed;
- Good workmanship practices shall be maintained by the Builder in the fit, finish and application of siding to avoid buckling;
- Dwelling designs should exhibit sufficient wall articulation to avoid large flat planes for any exposed facade; this can be achieved by:
  - stepping and varying the roof profile and the wall face;
  - providing projecting window treatments and/or accent windows;
  - providing a variety of detailing treatments such as the use of scalloped shingles, accent windows, vents, and sunbursts;
  - providing changes in wall materials and/or colours;
• A variety of steeper roof forms are encouraged - the pitch of street facing gables should be in the order of 10/12 for emphasis;
• Siding panels must be framed with trim at windows, corners, top and bottom lines on all vinyl elevations; Minimum 150mm (6") wide corner trim.
• Vinyl or aluminum clad trim should be accentuated by using a complimentary colour to that of the main siding;
• Garage door material, style and colour must be compatible with the house design;
• A minimum masonry plinth is required on front, side and rear elevations.

4.4 Roof Line, Shape, And Pitch

Roofs play a significant role in the massing of a dwelling and the overall built form of the community. A variety of traditional roof types and forms are encouraged, particularly for alternate elevations of a model. Roofs shall display the following design criteria:

• Two storeys homes shall have a minimum main roof pitch of 6/12;
• Single storey homes shall have a minimum main roof pitch of 7/12. To assist in massing compatibility with 2 storey dwellings steeper pitches are encouraged and expected;
• Roof features, such as gables, must have a minimum roof pitch of 8/12;
• All main roofs shall have a min. 300mm (12") overhang;
• Roof materials and colour must be in character with the building design;
• Roof flashing colour shall blend with the roof shingle colour;
• Frieze boards shall be used below house and garage roof eaves on front elevations;
• All roof vents and plumbing stacks shall be coloured to blend with roof colour and shall be located on the rear slope of the roof, where possible, away from the public view of the house;
• Skylights are permitted only on the rear or side slope of the roof and must have a flat profile. No skylights are permitted on corner lots.

4.5 Windows

Appropriate fenestration consistent with the architectural style of the dwelling is required to provide pedestrian friendly facades and “eyes on the street” neighbourhood security. Windows and doors should display the following characteristics:

• Proportion and placement shall be consistent with architectural style utilized. Consistent window shapes and styles must be used on all public facades;
• All windows on front, flanking and other high exposure elevations should be either casement or single-hung types;
• Muntin bars are encouraged; taped muntin bars are not appropriate;
• Windows on low exposure elevations may be a horizontal sliding style;
- Vertical window proportions are required to reflect traditional architectural styles;
- Large ground floor windows are encouraged;
- Where windows and doors are set into siding, casing or surrounds with a minimum width of 75mm (3") are necessary (even on low exposure side and rear elevations);
- Shutters, where used, must compliment the house and window style and be scaled appropriate to the application.

4.6 Exterior Colours and Materials

A sufficient variety of colour packages are encouraged to be offered by each builder to avoid monotony within the neighbourhood.

- Compatible material colours are required within each individual colour package.
- Soffit, eaves, fascia and frieze board will be the same colour within the individual colour package.
- Accent brick colours if used should subtly blend with the main wall cladding colour and should not be overused; starkly contrasting accent colours are not appropriate.
- Where siding is used, the colour of the corner trim and window/door casings should generally differ in colour but be harmonious to that of the main siding colour.
- Roof colour should complement the colour of main wall cladding; the use of very light shingle colours such as white, light grey, rainbow red or rainbow green is not appropriate.
- No two dwellings side by side shall have the same main wall cladding colour; no more than 3 identical colour packages will be permitted within any group of 10 dwellings and they should be separated by at least 1 dwelling unit.

4.7 Masonry Detailing

A variety of masonry detailing is encouraged and includes the use of brick quoining, banding and soldier coursing. Precast stone accents such as keystones, sills and impost are encouraged, as are the use of arched headers on windows and garage doors. Masonry detailing should be accentuated by projecting about 12mm (1/2") from the wall face.

4.8 Trim Detailing

The use of a variety of trim elements including frieze boards, gable posts, scalloped shingles, etc. is encouraged where architecturally appropriate. Frieze board should be provided on all exposed elevations and should return a minimum of 1.2m (4'-0") along elevations facing interior sideyards.
4.9 Foundation Walls

Exposed foundation walls are to be avoided. Main wall cladding shall be within 12” of finished grade on back to front draining lots and 24” of finished grade on split or front to back draining lots; therefore, foundation walls must be appropriately check-stepped along sloping grades. Special attention to this is required particularly on front and flanking elevations, porches and verandahs. Refer to Section 2.3.2 for guidelines of exposed foundation wall.

4.10 Utility and Service Elements

Utility and service elements shall be located discreetly on wall faces perpendicular to the street (interior sideyard). Gas meters may be recessed into the side of a porch or wall projection. Hydro meters are encouraged to be recessed into a wall face perpendicular to the street or in the side walls of any alcove provided for gas meters. Other solutions that achieve the intent of making utility elements less visible in the streetscape will be considered on their merits, including landscape screening provided by the Builder.

4.11 Effect of Adverse Grade Conditions on Dwelling Design

Where severely sloping grade conditions exist, the Builder should provide models designed or modified to adapt to sloping sites. Elevated main front entrances and related concentration of entrance steps may be reduced by dispersing the steps over a larger area, turning the steps to face the driveway or incorporating some risers inside the dwelling.
5. **ARCHITECTURAL DESIGN GUIDELINES FOR GARAGES ACCESSED FROM REAR LANES**

- Garages shall be located at the rear of lots and accessed from a laneway. Refer to the Zoning By-law for the City of Kingston requirements regarding locations and maximum size of accessory buildings and parking requirements.
- Building materials for garages on priority lots shall be clad in materials to match the main dwelling. Siding materials not utilized on the main dwelling may be utilized on garages for lots other than priority locations. However, all garages regardless of location must have colours and trim to be reviewed with the colour schemes of the respective houses.
- Variety of garage design as viewed from within the lane shall be provided principally by variation of roof designs, garage door design, cladding materials and colours.
- Garages shall generally be built with at least one wall as a party wall to maximize and consolidate the remaining open spaces separating garages.

5.1 **Garages on Priority Lots**

In locations of high public exposure including flankage lots, lots adjacent to walkways, end lots adjacent to side lanes, and lanes adjacent to public spaces, garages shall be designed to the same level as the main dwelling and finished with materials compatible with the front streetscape. Windows should be presented in the exposed elevations in support of the preferred pedestrian environment, where feasible.
6. ARCHITECTURAL STYLES

The architectural images envisioned for the community may be drawn from the historic domestic architectural references experienced in the Kingston area. The prescribed lot forms with rear lanes will allow the designer sufficient opportunity to reference traditional domestic architectural styles utilized in historic towns and villages within southern Ontario.

The building elements that contribute to distinguishing a particular residential architectural style include:

- Form, massing and organization of elements;
- Rooflines, slopes, roof features and materials;
- Composition and proportion of elevation components such as building planes, the main entry, fenestration design, eaves, and feature elements;
- Selection and application of building materials and colours;
- Architectural details utilized.

Effort should be made to appropriately match architectural styles to building forms and materials. Specific styles may lend themselves more appropriately to particular building forms and materials.

The design principles of a particular style should be applied to the massing, details, materials and colours of the building to maintain the most sincere response.

The brief descriptions of traditional styles below are intended to provide a common understanding of basic design elements. The examples are provided for information and assistance and are not intended as requirements or restrictions.
6.1 Victorian 1880-1910

Victorian houses are predominantly asymmetrical in plan with dominant and subordinate building massing. Roofs correspond to building planes with steep pitched gables and hips.

The four most common shape subtypes are distinguished by:

- Hipped main roof with lower cross gables – the hipped portions may have gable-on-hip feature, dormers and/or additional gables added;
- Cross-gables roof - usually in an L shaped plan, a tower, when present, is positioned at L;
- Front gabled roof - common in detached urban houses, a tower when included is normally placed at one corner of the front elevation;
- Townhouses - usually have front gabled feature bays providing identification to individual units within a block.
Distinguishing characteristics include:

- Doors and windows are placed freely but local symmetry is maintained below gables;

- Proportions for doors and windows are vertical. Single door entries, with or without sidelights, are not overly detailed;

- Extensive one-storey wood detailed porches or larger verandahs are common and accentuate the asymmetry of the façade while adding interest to the smooth clad wall faces;

- Verandahs may span across part or all of the front face and may also return along the side elevation.

Elevation features may include:

- Towers-round, octagonal or square;

- Bay windows at ground level or at second floor below decorated gables;

- Queen Anne designs can include elaborate wood detail designed into the verandah railings, columns and frieze, and into gable faces;

- Wall cladding materials were predominantly face brick in England and horizontal wood siding and/or wood shingles in North America;

- In masonry houses, texture is obtained by using different patterns of brick courses or brick of different colours;

- A variety of materials are also commonly used on different stories of Queen Anne homes (shingle over clapboard or over brick is most common.)
6.2 Georgian 1880-1955

Modeled after the Georgian (700-1780) and Adam (1780-1820) Styles
Massing subtypes include:

- Asymmetrical:
  most common after 1930 to accommodate attached garages;

- Hipped roof with full-width porch:
  can include: a one storey full-width porch with classical columns;
  two storey pilasters, common at the corners; hipped or gabled
dormers usually present;

- Hipped or side gabled roof without full porch:
  o No or small entry porch just covering doorway;
  o Most closely follows principles of Georgian or Adam precedents;
  o entries are framed with pilaster and pediment detail or with a
    small porch or canopy;

- Centre gable - centered front gable added to either a hipped or
  side-gabled roof mimicking high-style Georgian or Adam
  prototypes;

- Gambrel roof:
  o steeply pitched gambrel roof, either front or side facing, houses
    the second floor;
  o features separate dormers or a continuous shed dormer with
    several windows;
  o a full width porch may be included under the main roofline or
    added as a separate roof;

- Second-storey overhang:
  o Side-gabled roof having the second storey slightly overhanging
    the wall below.
  o Typically masonry-veneered ground storey with clapboard clad
    upper floor.
Identifying features of the Georgian style:

- Accentuated doorway with decorative pediment and pilasters or extended forward and supported with slender columns to form entry porch;

- Street elevation normally provides symmetry in organization of openings. Vertical proportioned windows, multi-pane glazing, and windows frequently in pairs;

- Window detailing can include louvered or panel shutters, flat masonry lintels, and flat or peaked wood pediment lintels.
6.3 Gothic Revival  1840-1880

Variations of composition include:

- Centered gable on a side-gabled or hip roof:
  can include smaller cross gables or gable dormers on either side of
  the dominant gable;
- Paired gables: sometimes extended forward forming projecting
  wings;
- Front-gabled Roof - may include additional side cross gables;
- Asymmetrical L shaped cross gables:
  small secondary cross-gables or gable dormers may accompany
  the two main rooflines.

Identifying characteristics are:

- Design elements emphasis the vertical;
- Steeple pitched main roof and cross gables;
- Wall face extending into gable without break;
- Windows commonly extend into gables and may include pointed-
  arch (Gothic) head. Bay windows common on the ground floor;
- One storey porch either entry or full-width typically with a shallow
  roof pitch, may be supported by flattened Gothic arches;
- Wall cladding in either masonry or wood siding in the form of
  clapboards or board and batten.
6.4 Edwardian 1900-1930

Common residential massing forms include:

- front facing gable:
  may include an attic cross gable. Full width single storey porch is traditional. Principle, street facing attic gable typically includes a feature window;
- hipped Roof:
  o street elevation may be symmetrical or asymmetrical in composition;
  o may have full width single storey porch or entry covered only;
  o centered attic dormer most common;
- L shaped plan with gable roofed wings:
  entry door facing the gable may be located in the fronting wing or the recessed side-facing wing.

Distinguishing characteristics:

- balanced façade, simplified roofs, smooth brick walling, generous fenestration;
- highlighted with a frontispiece or portico derived from classical tradition set against monochromatic smooth brick walls;
- emphasis on Classical motifs;
- extended roof eaves are supported on plain elongated blocks or cantilevered brackets;
- porch or portico columns may be full masonry, or stout wood columns on masonry plinths;
- windows are traditionally large-paned sash design with flat masonry lintels of brick or stone, single or two storey window bays are formed with angled masonry walls.
7.0 DESIGN GUIDELINES FOR LANDSCAPING ON PRIVATE PROPERTY

The design of front yard landscaping to provide for a secondary layer of streetscape treatment for the Phase 2 Community which is complimentary to the selected architectural designs. Both hard and soft landscaping treatments should be designed and coordinated to respond to the community streetscaping and infrastructure, including: the material and patterns of front walks; foundation plantings and accent shrub/small trees; the location and style of corner lot, flankage, and rear yard privacy fences; and, where appropriate, decorative front yard fencing.

The following guidelines are presented to provide greater detail in the integration of landscaping on private property as a significant design element for the Community.

7.1 General Landscape Design Guidelines

- Landscape designs should compliment, identify, accent and unify key areas of urban design including: corner lot architecture, entrances, pedestrian and vehicular site access points and circulation systems, signage, and streetscapes.
- Plant material shall demonstrate and emphasis on permanent and seasonal colour variations.
- Where possible, the placement and selection of plant material should migrate the micro-climate for pedestrians.
- Transformers shall be screened from view through the use of carefully selected and placed plant materials and, where appropriate, decorative fencing.
- Plant material used for screening shall include evergreen species and shall be effective year-round.

7.2 Front Yard Landscaping

- The design of front yard landscaping is to include both hard and soft landscaping elements.
- An accent specimen (i.e. a small flowering tree of large multi-stemmed shrub) shall be placed so as to provide for aesthetic views from the interior of the dwelling, and to compliment architectural elements in views from the street.
- In locations such as the outside corner lots or lots adjacent to laneways, the use of low fencing and/or hedging shall be used to define the edge of the property as it meets the public realm.
- All areas not landscaped with plant materials nor paved for pedestrian or vehicular uses shall be sodded to meet the curb or the public sidewalk.
7.3 Flankage Lot Landscaping Adjacent to Laneways

- Internal lots adjacent to lanes shall include a wood privacy fence along the flankage and walkway edge.
- Landscaping of the flankage areas shall include a low hedge along the flankage and at the outside corners of the lot, to compliment the privacy fencing to control pedestrian movement.

7.4 Gateways to Laneways

- Accent planting shall be provided on the yards of lots located at the entrance to a laneway to create and accent the gateway effect.
- Landscaping is encouraged to include design elements such as a low fence, to delineate the perimeter of the property where it meets the laneway.
- Where grading permits, additional hard landscaping may include a garden wall of dry stone or some other suitable material that compliments the materials and style of the architecture.

7.5 Corner Lot / Flankage Fencing

- A standard wooden privacy screen shall be provided for all corner lots and interior lots flanking walkway blocks and laneways.
8. **ARCHITECTURAL DESIGN CONTROL PROCESS**

8.1 **Implementation of Design Control (DC)**

The forgoing guidelines shall be implemented and monitored by way of a design review process privately administered by the developer through the use of a design control consultant (DCC). All development on private lots with lanes within Phase 2, Stage 1 of the Lyndenwood Subdivision, as defined herein, shall be subject to this design review and approval process. Building permits for development on private land shall not be submitted for, reviewed or issued by The City of Kingston without final approval by the design control consultant.

8.2 **The Design Control Consultant (DCC)**

The developer shall engage the resources of a qualified architectural design control consultant (DCC) approved by The City of Kingston Planning Department to implement the guidelines. The DCC shall communicate and advise the individual home builders participating in the subdivision regarding the intent of the guidelines to ensure that the vision for Lyndenwood Subdivision is achieved. The following procedures describe the design review process to be followed.

The DCC responsibilities include:
- Ensuring that the urban design vision and objectives are achieved
- Interpreting the architectural guidelines while maintaining their intent
- Providing comprehensive review and approval of submitted design in a timely and efficient manner
- Liaison between interested parties including The City of Kingston, the developer, the builder and the subdivision engineer,
- Monitoring the construction and completion of the development in conformance with approved designs.

The DCC shall review submitted designs with reference to the urban design vision and goals listed herein, the proceeding Architectural Guidelines, and the new urbanism objectives established by the City of Kingston.

The Guidelines shall be interpreted by the DCC when required while maintaining the intent of the guideline.

If, in the opinion of the DCC, submitted design does not meet the intent of the guidelines, the DCC shall identify which guideline(s) has not been met, and shall provide clear direction as to how to satisfy the intent of the guideline(s).
8.3 Reference Design Information

The following information shall be reviewed prior to and utilized when planning development on private lots with rear lanes within the Lyndenwood Subdivision.

- City of Kingston, Cataraqui North Secondary Plan
- Cataraqui North Alternative Master Plan (Jan. 1993)
- City of Kingston zoning bylaws having jurisdiction,
- Conditions of Draft Plan Approval, Proposed Plan Of Subdivision,
- Approved Noise Attenuation Studies,
- Subdivision Grading, Servicing and Electrical Distribution Drawings.

8.4 Approval Process

The City of Kingston has stipulated that application for building permits for private lots with rear lanes within the Lyndenwood Subdivision will not be accepted without prior approval by the DCC.

Approval by the DCC will be confirmed by a dated Final Approval stamp, with the DCC's signature provided on site plans, grading plans, and building elevation drawings submitted as part of the building permit application.

Approval by the DCC does not imply that the design conforms to the requirements of, or will be approved by The City of Kingston and/or any other authoritative bodies having jurisdiction.

Neither the architectural guidelines herein nor the approval by the DCC shall take precedence over other municipal and provincial government requirements or utility company regulations.

Building design approvals are required for the following stages of design process:

- Unit design preliminary approval
- Master streetscape elevation range
- Building Materials and Colour Specifications
- Unit Working Drawings final approval
- Individual Lot Site/Grading Plans
- Streetscape Composition Drawing