New Standards-All Alive and Well in Ontario

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The Ministry of Housing's report, **Urban Development Standards,** shows how substantial savings can be made in the cost of housing with new approaches to planning and engineering.

What is significant about the report's conclusions is that the new standards were not developed in a theoretical vacuum: all of them are in use in some area or other of the province.

In order to determine potential savings, several subdivision designs were prepared for a typical site found around Ontario urban centres. Two designs were developed using current conventional practice: the first employing a housing mix and development pattern similar to that found in the major urban centres; and the other, more representative of the rest of the province.

Next, two designs were prepared with the same two housing mixes but using a new set of proposed site and proposed site and engineering standards. The total of four designs were then costed—both in total and for the main components of cost—and the results compared.

The consultants on the study were careful not to opt for standards which would exaggerate the cost savings—that is, the standards used represent neither the highest (or most conservative) nor the lowest.

According to the study, the bulk of the savings—75 per cent—can be achieved by reducing lot sizes. (See fig. 1 for conventional and proposed lot sizes for Ontario and Metro areas).

The proposed standard of a 30 ft. by 80 ft. lot for a single detached home in a metropolitan area effectively cuts the land areas of the lot to less than half the conventional area. The proposed lot sizes, may at first glance seem rather small, but a recent CMHC site planning handbook was used to ascertain the new standards. The study notes that problems with smaller lot sizes can be minimized by using Comprehensive Planning Development (CPD) procedures where the design and location of the individual dwelling units form an integral part of the preparation of the overall site design.

In addition, design control is extended to external materials and color of the houses, as well as siting and landscaping to achieve consistent quality of treatment since increased density requires increased design quality to ensure an acceptable environment.

The smaller lot sizes recommended by the study would increase densities in metropolitan areas from the present seven units per acre to ten units; and for other areas in Ontario from the present five units to eight units per acre.

The reduced lot sizes in turn affect other standards, specifically minimum yard distances, dwelling configurations and areas, and dwelling sizes.

The proposed standards for minimum yard distances conform to CMHC recommendations expanded to cover the setback of garages and carports from the lot line, depending on whether there is a sidewalk or not. Where no sidewalk is provided, one of the two parking spaces per unit is provided on the driveway which is set back 14 ft. from the property line and 23 ft. from the roadway curb under minimum boulevard width conditions. Under this provision, parking space for a second car would be provided partially outside the lot area. The parking of the second car on boulevards without sidewalks is commonplace in many subdivisions.

Where a sidewalk is provided, the distance from carport garage to the lot line is the conventional 20 ft. These minimums occur only in the proposed metropolitan standards and on crescents, p-loops, or cul-de-sacs where boulevard widths can be as low as 9 ft. On other types of roads the space provided for the second car will be greater.

The study also looked at standards used for minimum floor areas of the dwelling units and their coverage of the lot (not including basements and garages or carports). Moderate-sized dwellings of 1000 - 1200 sq. ft. living area were used in the site testing models. In many instances, larger floor areas could be achieved. All study designs satisfy the CMHC requirement that a minimum landscaped outdoor living area be provided at least equal to 50 per cent of the total floor area of the dwelling unit.

The study notes that many of the proposed site standards are, in fact, better than those already employed in older (and in many cases high demand) neighborhoods in our largest cities. By adopting the proposed standards, the study emphasizes, the municipality is permitting its developers greater flexibility in fitting the "house plus land package" to the purchaser's needs and ability to pay.

The study notes that engineering standards vary considerably across the province. However, they are far from innovative, representing rather a consolidation of related standards already in use to varying degrees across the province.

Cost studies showed that three key standard areas account for 80 per cent of savings through altered engineering standards: the system and design for storm drainage, the road cross-section, and the method of providing water and sanitary service to individual lots.

The conventional storm drainage designs have a storm drainage system with a service connection to each lot (and therefore a pipe along the length of every street). The service connection provides drainage for run off from roofs and for weeping tiles around basement footings. Street and rear lot catchbasins pick up the surface run off and feed into the storm sewers at intervals. This is the common storm system throughout most of Eastern Ontario and Toronto.

In the proposed guideline standards, all storm service connections to individual lots are eliminated. Roof drains discharge to the ground and footing drains are intended to be installed only when there is a high water table, in which case drainage could be to a sump in the basement, with a pump provided to discharge to the ground surface, where required.

Road drainage is again provided through catchbasins as in the conventional designs but with spacings adjusted to reflect gutter and inlet capacities. Since there are no service connections, storm sewers become required only as needed to drain street and rear lot catchbasins. Thus the total sewer length is reduced by eliminating initial legs.

The rationale for using this approach is that it has been successfully employed in areas of western Ontario for a number of years, as for example, Brantford and Kitchener-Waterloo, and other areas such as London and Cambridge employ variations of the approach which also eliminate service connections.

Further savings can be realized through use of double rather than single service connections for water supply and sanitary sewers.

The use of double connections is uncommon, but installation in a common trench with the sanitary and/or storm connection is, for example, permitted in Gloucester Twp., Brantford, Cambridge, Durham and Halton.

In the proposed approach, storm service connections are eliminated and therefore the sanitary service is laid in common, trench with the water service, one for every two units.

Road widths were also defined as areas of cost savings and the study recommended road widths which would vary according to the type of road and the population to be served. Local roads—those serving up to 150 units—would be 56 ft. wide reduced from the conventional 66 ft. Smaller roads, crescents, cul-de-sacs, and p-loops serving less than 100 units would be 50 ft. wide, while minor collector roads serving from 150 to 350 units would remain 66 ft. wide. Neighborhood collector roads serving up to 450 units would be 70 ft. wide and collector roads serving more than 450 units would be 50 ft. wide.

Using these proposed standards, plans were prepared for a 50-acre corner section of the 200-acre site. The plans were then analysed and costed in detail, and the costs were incorporated into cost estimates for the entire 200 acre neighborhood in order to arrive at estimates of total cost savings resulting from the comparison of conventional and proposed standards.

The layouts used are typical of the subdivisions now being built in Ontario. They were not meant to represent innovative design concepts. The report notes many forms of non-conventional layout could have been used but, since the purpose of the study was to examine standards and cost savings, it was felt that using conventional layouts would be most illustrative.

Lot designs were varied to provide not only the desired mix of housing types, but also a range of dwelling sizes and configurations (bungalow, split level, and 1-, 1½- and 2-storey units each with single attached garage). A total of 13 house types and designs up to a maximum of 1500 sq. ft. are included.

To develop a measure of the differences in serviced land costs between costs per housing unit for the 200 acre site, the costs included:

—residential servicing costs

—other servicing including schools, collector roads and perimeter road improvement

—land costs, and recoveries from the sale of school land using assumed land values of $35,000/acre for the Ontario comparison and $100,000/acre for the Metropolitan comparison

—municipal levies on a per acre and per unit basis

—other development costs, overheads and profits, estimated at 25 per cent of total costs

—additional landscaping, grading and screening costs for the individual lots in the proposed designs as well as landscaping for the local parks or communal amenity spaces.

Taking these total costs and dividing by the number of units on the site gives, in effect, the serviced land cost plus land cost per unit. (See fig. 2 and 3)

The study notes that while it may be hazardous to draw general conclusions from these specific comparisons, justification for doing so comes from the magnitude of the savings demonstrated and the conservative approach used.

In discussing the implications of its findings, the study notes that the use of the reduced lot size is the single most important factor in cost savings. This means that the zero lot line and comprehensively planned developments hold considerable potential for reducing housing costs.

The study points out that a $6500 reduction, if wholly passed on to the homebuyer would reduce his monthly carrying charges by $70 on a 25 year, 12 per cent mortgage. On a 50,000 mortgage, this would amount to a 14 per cent reduction in payments.

The study also emphasizes that standards presented in the report were merely a compendium of the most progressive current practice in the province.

In the case of site planning, standards were those recommended by the largest mortagagors of subdivision housing, CMHC. As a result the designs prepared are not limited to a small selection of housing types but demonstrate solutions for a wide range of lot sizes and housing types applicable to all but luxury subdivisions.

The report also notes that there will be a problem in passing on the cost savings to the consumer. The tighter the housing market the less likely that the full savings will be reflected in lower market values and the greater the likelihood that the developer will intercept some of the savings before they reach the consumer.

But the essential point is that modified yet realistic, standards will provide greater flexibility to match the house to the owner's ability to pay. There is unquestionably a market for lower priced units and if allowed to, many developers would build to lower standards in order to attract this market.

Finally, the report notes that many municipalities will be wary of adopting the standards. In many instances, the concern appears to be not with the standards themselves but with their implications for municipal costs and revenues. The problem is that smaller houses on smaller lots appear to require much the same level of municipal services as more expensive housing, particularly in terms of education which accounts for a large share of the municipal budget. Some municipalities also claim that social, police and fire protection services are greater. On the other hand tax revenues are lower because of the lower assessments on smaller lots.

But the study points out that while some municipal costs and revenues are clearly adversely affected by new standards, for other the reverse appears to be true. For example, many municipal services are more closely related to length of streets rather than to the number of units, e.g. road and sewer maintenance, public transit and garbage collection. However, to convince many municipalities of the advisability of reducing standards further the report suggests studies on the impact of altered standards on municipal economics.

Another important point about altered standards is that they will not mean that all housing will be built to the new minimums—rather they will provide greater flexibility in matching the housing package and its cost to the consumer's needs and budget.

SURVEYORS ON THE MOVE

Art McKnight retires as City Surveyor in Ottawa, May 2. Our best wishes to him in his retirement.

Tudor Jones was appointed Chief Surveyor of the City of Ottawa as of that date.

The sunny climes are beckoning to to many of the surveyors. **Bill Card** has been vacationing in Hawaii for the past many weeks while Vice-President Endleman enjoys sunny Florida.

Citations were presented to Ralph Smith (Councillor), Jack Monteith (Councillor), Jim Dearden (President, Councillor etc.) and Al Allman (Secretary) in the Presidential Suite following a dinner with their wives at Trader Vic's on Tuesday, February 22.

Ron Logan presented a paper regarding Land Registration in Ontario at the A.C.S.M. Meeting in Washington D.C. Feb. 28 to March 4, 1977.

Andrew Cameron formerly of Gibson and Cameron, Arnprior, has just opened an office in Ottawa.