

1

WATER AND WASTEWATER CAPACITY AND SERVICING ASSIGNMENT PROTOCOL

The Joint Transportation and Works Committee and Planning and Economic Development Committee recommends the following:

- 1. The presentation by Michael Garrett, Chief Administrative Officer and Neil Garbe, Director, Community Planning, be received;**
- 2. The recommendations contained in the following report, June 3, 2005, from the Commissioner of Planning and Development Services and the Commissioner of Transportation and Works, be adopted subject to recommendation 3 being amended as follows:**
 - 3. Servicing capacity be distributed to the local municipalities as outlined in Attachment 2 and 3 with a reserve for 6,000 people as outlined in section 4.1.3, noting that any future distribution of the 6,000 person reserve be subject to Regional Council approval.**

1. RECOMMENDATIONS

It is recommended that:

1. The current YDSS service capacity of 913,000 persons as approved by Council on October 21, 2004 be increased to 970,000 persons.
2. The protocol for servicing assignment to the local municipalities contained in this report and Figure 1 be adopted.
3. Servicing capacity be distributed to the local municipalities as outlined in *Attachment 2 and 3* with a reserve for 6,000 people.
4. Prior to capacity release by the Region to the local area municipalities for development, the local area municipalities shall confirm:
 - i) The enactment of a municipal-wide by-law under Section 34(5) of the Planning Act to prohibit building permits if servicing is not available,
 - ii) The adoption or reconfirmation of local sewer and water allocation policies, including “use it or redistribute it policy”.
 - iii) All allocation of the servicing capacity shall include conditions in accordance with *Attachment 1* (Table 4 – Short Term Servicing Requirements by Municipality).

5. Staff work with Local Area Municipalities and the development industry to further refine the conditions and triggers based on the specific pieces of infrastructure.
6. Staff be directed to continue discussions with the local municipalities with respect to the mix of unit types in the allocation and the persons per unit (ppu) used in the calculations between population count and unit count.
7. The Minister of the Environment be requested to provide timely approvals as required for the infrastructure as outlined in this report through a letter from the Regional Chair.
8. The Regional Clerk circulate this report to the local municipalities, the Minister of the Environment, the Minister of Public Infrastructure and Renewal, and Minister of Municipal Affairs and Housing.

2. PURPOSE

The purpose of this report is to:

- Confirm available servicing capacity in the YDSS conveyance and treatment systems.
- Recommend a protocol for the distribution of servicing capacity to the local municipalities.
- Assign servicing capacity to the local municipalities based on the protocol and revised capacity limits and conditional upon specific infrastructure triggers occurring.

3. BACKGROUND

At its meeting of October 21, 2004, Regional Council approved a distribution of wastewater capacity to the local area municipalities to an overall YDSS capacity of 913,000. This distribution resulted in a total of 47,618 units being available to the local municipalities for allocation which should provide for growth to 2009 Region wide varying from municipality to municipality. Regional Council further directed staff to prepare a protocol for release of future water and wastewater capacity, in consultation with area municipal staff, to meet planned Regional and area municipal growth objectives.

Since October 2004, staff have been continuing to analyse YDSS system capacity in cooperation with the area municipalities. The analysis included a more detailed review of both the transmission capacity of the YDSS and the available treatment capacity at the Duffin Creek WPCP. The analysis has resulted in the following findings:

- The YDSS transmission/conveyance capacity at the Regional boundaries is 972,000 persons. This is based on capacity available through the Peel diversion and the existing Southeast Collector.
- This service capacity corresponds to a regional planning population projection which is expected to be reached by the end of 2010 for the YDSS serviced area.
- York Region's portion of the Duffin Creek WPCP capacity combined with the available capacity from the Peel Diversion is sufficient to accommodate 970,000 persons to the end of 2010. Additional capacity will accrue through incremental increases in Peel on an annual basis, and a significant increase at Duffin Creek once the expansion is completed.
- Completion of both the Southeast Collector and the Duffin Creek WPCP is expected to occur by the end of 2010 at which time significant increases in available capacity will occur.

In April 2005 staff recommended to Council that a report be brought back to Council in June 2005 to:

- Confirm available capacity of both the YDSS conveyance system and the treatment capacity at the Duffin Creek WPCP.

3.1 Consultation

Regional staff consulted with each of the local municipalities individually to discuss the principles of the servicing protocol, local growth priorities and update staff on infrastructure delivery. Common themes from these discussions included:

- The importance of consistency and equity.
- Support in establishing a common base year and planning horizon for servicing capacity
- Recognition that total available capacity may be better managed if released in increments.

Discussions have also taken place with the development community. Discussions will also continue with local staff with respect to the mix of unit types and persons per unit (ppu) used in the calculations between population count and unit count as infrastructure is designed on a populations basis, whereas development approvals occurs on a unit basis.

4. ANALYSIS AND OPTIONS

An objective set out in the Regional Official Plan is "to provide adequate water and sanitary sewer services to residents and businesses". The specific policy 6.7.5 states "that no draft approval of a plan of subdivision or plan of condominium proceeds in advance of the confirmation of allocation of appropriate sewer and water servicing capacity." The

servicing protocol is intending to bring more certainty to the development approval process by tying the approvals more closely to the delivery of the required infrastructure.

In this regard, as additional wastewater and water capacity becomes available through the completion of required infrastructure, a protocol provides a clear guideline as to how servicing capacity is assigned to the local municipalities. The local municipalities through their own phasing plans and priorities in turn allocate capacity to the individual developments. The allocation for the servicing is for residential development only, as servicing for industrial, commercial, and institutional is factored into the residential allocations. As always, high water industrial, commercial and institutional users should be flagged to ensure there are no negative impacts to water consumption factors.

Based on the demand and supply for servicing in each of the local municipalities, the goals of the servicing assignment protocol are to:

- Determine what is a reasonable expectation for growth in the Region.
- Determine how the servicing capacity should be divided among the local municipalities.
- Determine how much servicing capacity should be provided at one time.
- Determine when the servicing capacity should be made available for allocation by the local municipalities – i.e. what are the triggers/conditions.

The protocol has been developed based on:

- Determining Regional growth forecasts and corresponding local municipal growth forecasts.
- Ensuring there is a reserve to accommodate the growth rate and unexpected needs.
- Establishing principles to assign capacity.
- Identifying required infrastructure and triggers tied to the construction of the infrastructure that allow planning approvals to proceed.
- Encouraging area municipalities to establish protocols for local allocation.
- Ensuring appropriate planning tools are in place.

4.1 Capacity Update and Infrastructure Status

4.1.1 Confirmation of Additional Capacity

The capacity analysis completed since October 2004 has concluded that the treatment capacity is available to service 970,000 persons through the combined capacity of York Region's portion of the Duffin Creek WPCP and the capacity available from the Peel diversion. This capacity is available provided the conveyance system that can provide capacity to 972,000 is also available. Table 1 illustrates the YDSS capacity available for new hook ups to service population. Based on this, we have a picture of how many people we can accommodate in terms of servicing through the year 2010. This does not mean new planning approvals, but just physical hook ups to the YDSS system.

Table 1
Total YDSS Capacity Available for Additional Population

Description	Servicing Capacity (Persons)
Total YDSS Capacity	970,000
Less:	
Existing YDSS Connected to mid 2005	(783,000 people)
Capacity for Population Growth	187,000

Subsequent to the April 2005 Council presentation staff have confirmed availability of this capacity of 970,000 persons by undertaking the following actions:

- Staff have confirmed with Durham Region that the total available capacity at Duffin Creek will be sufficient to service growth within the Duffin Creek sewershed areas both for York Region and Durham Region.
- The Duffin Creek WPCP management committee (senior staff from both York and Durham) have committed to monitoring flows and reviewing any interim treatment improvement that could increase system capacity prior to completion of the expansion.
- Staff have confirmed the availability of the Peel diversion based on continued progress of the necessary infrastructure to initiate the diversion in 2005.
- Staff have identified critical infrastructure internal to the YDSS system that will be required to allow available capacity to be assigned to the specific municipal service areas.
- Staff have undertaken additional water system analysis to verify that there is sufficient water supply available to match wastewater capacity and have identified infrastructure components that will be required to allow water capacity to be assigned to the specific municipal service areas.

A separate report titled “Water and Wastewater Infrastructure Status Report” is being submitted concurrently with this report and provides further details on the required infrastructure in support of the triggers that will be presented within the protocol discussion of this report.

Staff are therefore recommending that the overall available serviceable population for the YDSS serviced area be increased from the October 21, 2004 limit of 913,000 persons to a revised limit of 970,000 persons which is anticipated to provide sufficient servicing to match the Regional growth projections for the YDSS serviced area until 2011. Conditions for release of this capacity are to be related to the status of infrastructure projects internal to the YDSS and York Water systems such that service can be provided to the benefiting

communities in a timely manner. Status of these infrastructure “triggers” will be provided through a quarterly report to Region Council so that the municipalities are fully aware of infrastructure timing required to meet these conditions.

4.1.2 Demand for YDSS Servicing

Considering that the YDSS serviced areas have been growing at a rate of 10,500 units per year (35,500 persons/year) for the past five years, it may be reasonable to expect that this rate will not change significantly in the near future, if anything we expect growth to soften over the longer term. If growth does occur at this continued rate over the next 5 years, it would result in 177,500 (5 x 35,500) additional people serviced by the YDSS as illustrated in Table 2.

Table 2
Demand for Additional Population/Growth

Description	Servicing Capacity (Persons)
Total YDSS Capacity	970,000
Less: Existing YDSS Connected to mid 2005	(783,000 people)
Capacity for Population Growth	187,000
Demand for Population Growth 5 years x 35,500	177,500
Difference	9,500

It is anticipated that the demand for growth can be met by the overall system-wide capacity through to the end of 2010 when the treatment capacity is significantly increased. The demand is estimated to mid 2010 at this time, however, it should be understood that as we get closer to the completion date for the Duffin Creek WPCP and Southeast Collector we will have a clearer picture of how supply and demand are matching up as it as the demand is based on estimates at this time. It is expected that building permits may be issued continuously through to the time this infrastructure come on line in 2010 due to a number of factors including:

- Capacity reserve availability.
- Further refinement of the persons/per unit calculation – anticipated they will continue to decline.
- Continued flow monitoring.
- Monitoring and review of projected growth vs. actual population growth.
- Exploration of further optimization of infrastructure.

4.1.3 Capacity Reserve Requirements

The Region is not currently maintaining reserve capacity for the YDSS primarily due to the short term constraints and demand pressures that exist. However, in considering the planning horizon to the end of 2010, staff is recommending that a portion of the available capacity be held in reserve for the following reasons:

- The Seaton lands are intended to be serviced by the Duffin Creek WPCP and are currently included in the overall capacity analysis. However, Durham Region has indicated that the timing and build-out rates for the Seaton lands in the assumptions may be too conservative (*Attachment 4*). It is therefore prudent to reserve some of the overall capacity should the Seaton lands occur sooner than expected or build out faster than expected. This reserve is being managed jointly by Durham and York and is being included in York's capacity as Durham has committed to transfer this reserve capacity to York should the accelerated needs in Seaton not occur.
- The Holland Landing Lagoon system in East Gwillimbury has been slated for decommissioning for a number of years contingent on YDSS servicing being extended into this community. Considering the advanced state of this lagoon and the continued capacity constraints within Holland Landing, it is prudent to reserve capacity for Holland Landing should an extension to the YDSS occur prior to 2011. The current serviced population is 4,148 persons.
- Reserve for unforeseen growth and servicing issues. It is prudent to reserve capacity for the 2008-2011 time period to permit servicing for unexpected circumstances until such time as additional capacity is made available through the completion of the priority infrastructure.

Staff recommend that a reserve of 6,000 persons be maintained to provide capacity for the above and reviewed annually to ensure the principles are consistent.

4.1.4 Additional Servicing Capacity Available for Distribution

A large portion of the 970,000 capacity has already been assigned to the local municipalities. The remaining additional capacity available for distribution to the municipalities serviced by the YDSS is summarized in Table 3.

Table 3
Net Available Capacity

Description	Servicing Capacity (Persons)
Proposed Capacity	970,000
Less:	
Oct 21, 2004 Commitments	(913,000)
Reserve	(6,000)
Net Available Capacity for Distribution	51,000

This additional 51,000 persons is equivalent to about 15,200 units. The October 21, 2004 capacity release was equivalent to 47,618 units resulting in an overall unit count of 62,818 to service growth from the period of 2004 to 2010.

4.2 Servicing Protocol

The purpose of the protocol is to provide a process for assigning new servicing capacity to the local municipalities and provide a common guideline for the local municipalities in terms of planning tools and local allocation policy. In developing a servicing assignment protocol, a set of principles were developed and formed the basis of discussion with the local municipalities. The October 21, 2004 assignment to local municipalities addressed the higher priority needs associated with potential for surcharging, development agreement obligations, and ensuring compliance and health issues were addressed.

As indicated earlier, the questions that now need to be answered for servicing assignment are:

- What is a reasonable growth rate.
- How much should be provided at one time.
- When the capacity will be made available for development purposes.
- How should the capacity be divided.

The main principles considered to make these determinations were:

- Aggregate growth expectations of all municipalities should be aligned with overall Regional growth demand and make sense from a Regional perspective.
- Water and wastewater servicing capacity to be aligned.
- Reserve capacity held for future needs.
- Annual monitoring is important.
- Additional planning controls are needed.
- Building permits are the appropriate measuring tool.

4.2.1 Measuring Tools

Building permit issuance is a good measuring tool since it represents a firm commitment to connect population in each municipality, and every municipality tracks building permits and sends the information to the Region monthly. The use of the Canada Mortgage and Housing Corporation (CMHC) completion data is too late in the process and the registrations of plans of subdivision is too early and misses buildings only subject to the site plan process that include some of the high density buildings.

The first step in calculating the common year, to which growth can occur in each local municipality, is ensuring that there is an annual determination of the serviced population. Serviced population can be calculated annually using building permit data submitted to the Region monthly by the area municipalities.

4.2.2 Determining Growth Demand

Starting with an aggregate Regional growth that is reasonable and recognizes both growth demands and the infrastructure supply is the starting point. The second step is determining an appropriate growth rate for each local municipality. Staff have examined three methods of predicting growth which produces a range of figures. The three methods examined were:

- Regional Forecasts for YDSS
- Last 5 Year Average Annual Building Permits
- Last 10 Year Average Annual Building Permits

The first methodology utilizes Regional Forecasts which are based upon several assumptions including fertility and mortality rates, levels of net migration, housing occupancy patterns and employment. It has the benefit of looking at a variety of factors rather than just one indicator such as building permits. The forecasts are based on accepted methodologies that produce accurate results. The forecasts are less sensitive to spikes and valleys from year to year.

The second methodology examines the last 5 year building permit activity which represents the highest growth years that the Region has ever experienced and projects the rate forward. This captures the recent history of accelerated growth, but does not allow for any softening in the markets that happen in the long term cycle of the economy.

Thirdly, a 10 year building permit activity average looks at a longer economic cycle which captures more of the variable growth cycle.

Based on these three methods for predicting growth in the Region, a range of growth scenarios is provided. It is recommended that this range serve as a target range to guide the assignment of capacity to each local municipality and determine the target base year.

The assignment then needs to be adjusted within this range to recognize local infrastructure conditions and Regional and local priorities.

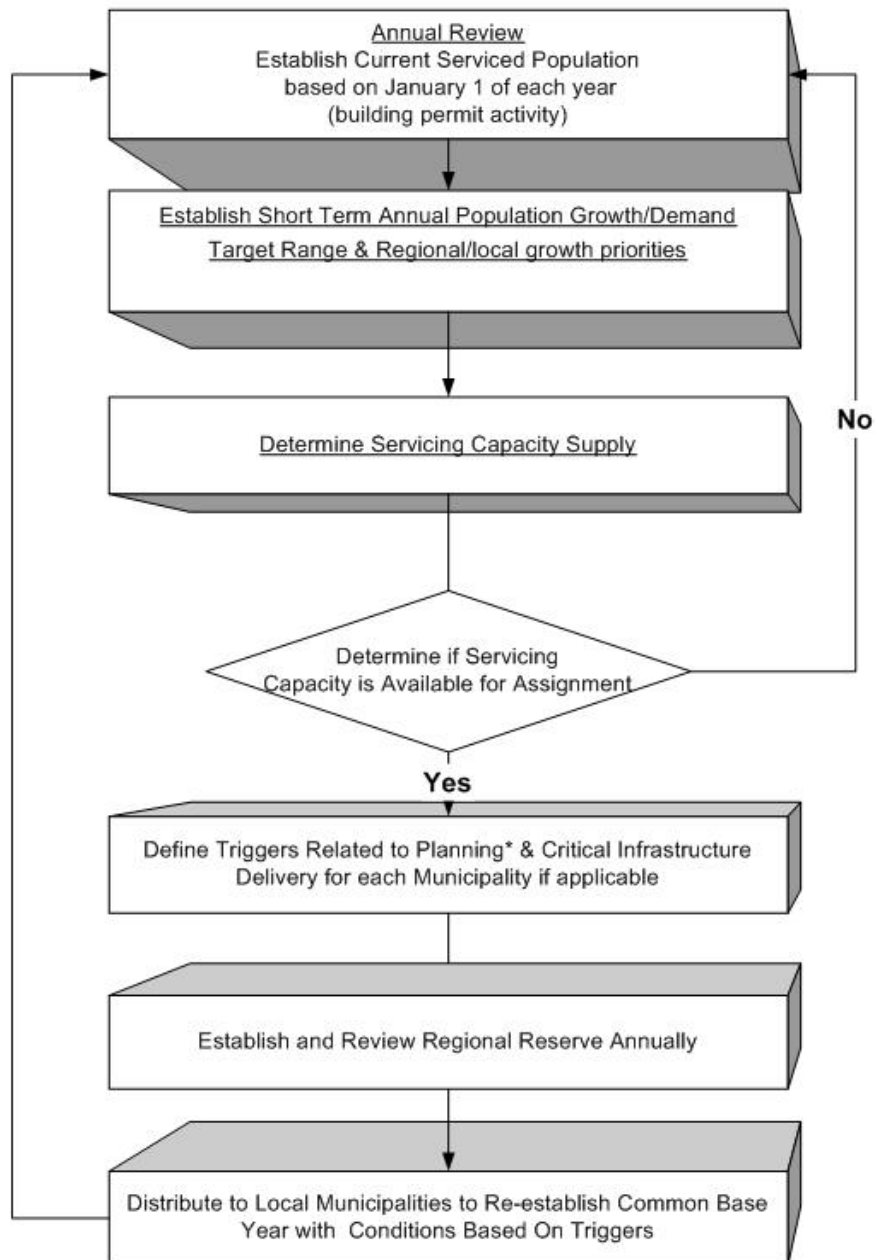
The results must always add up to a reasonable Region-wide growth rate based on the forecast of 35,500 people/year (10,500 units).

4.2.3 Consistent Horizon Year – Supply Needed

Upon determination of the growth rates, a common point in time needs to be determined, which provides for growth in each municipality to that time given the existing capacity supply – i.e., the consistent horizon year. This would then form the consistent horizon year on which servicing assignment is based. This methodology brings to the forefront the principle of fairness and equity, by ensuring that building activity can continue in each municipality. The average annual unit growth from 2005 – 2010 by municipality is outlined in *Attachment 7*.

The overall process is illustrated in Figure 1.

Water and Wastewater Capacity Assignment Protocol



*Planning - refers to planning by setting out local growth priorities and phasing plans in a local allocation protocol, and putting planning controls in place

Figure 1

4.3 Distribution of Capacity to Local Area Municipalities

The growth demand in each municipality varies depending on local priorities which in turn must be matched with actual supply of servicing. The growth demand for each municipality to be serviced by the YDSS needs to align with the Region-wide growth rate and reflect local growth priorities. The assignments are outlined in *Attachment 2 and 3* and are based on the established growth ranges, local growth priorities, and maintenance of the aggregate Region growth forecast. The overall capacity of approximately 15,000 units to be assigned to the local municipalities is premised on conditions tied to infrastructure and planning controls and policies being in place.

4.4 Triggers for Capacity Tied to Infrastructure

There are two key points the Region wants controlled:

- Pre-sale of housing where no certainty of infrastructure delivery exists.
- Building permit issuance without infrastructure capacity being available.

The pre-sales point had been previously considered in the recommendations of a report entitled “Management of Servicing Capacity Allocation” adopted by Regional Council on June 26, 2003. The primary focus of the report was with the process for development approval relative to servicing availability.

A key element of the previous approach involved proceeding with draft plan of subdivision approval if completion of servicing was expected within 2 years. This servicing expectation was based upon the following being in place for the required Regional infrastructure:

- The EA being approved
- Acquisition of needed land being complete
- Funding being in place.

Not all municipalities have chosen to use this approach and some such as Newmarket and Georgina do not draft approve subdivisions until the capacity is available.

The triggers did not securely address the two control points of pre-sales and building permit issuance as uncertainties could still occur in the delivery of the required infrastructure. Given the uncertainties experienced in the approvals process for some of the critical infrastructure required, it is recommended that the triggers be revised to provide more certainty. The triggers for development approval now need to be infrastructure specific to ensure infrastructure completion occurs by the time occupancy is required.

Attachment 1 (Table 4) illustrates the various pieces of infrastructure that are required to service a population of 970,000, which represents the available treatment capacity. The infrastructure includes both water and wastewater facilities. The triggers represent the

point in time prior to infrastructure being operational that allows various planning approvals to be issued. This timeframe will allow allocation by the municipalities to development and ensure infrastructure is available when occupancy of units occurs. Further safeguards can be provided through the Planning Act to ensure this is the case and a building permit does not get issued prematurely.

The new expectations for servicing being in place are outlined in *Attachment 1* – Table 4 using either tender award for projects that will take one year or less to construct or the infrastructure being within one year of completion (as determined by the Commissioner of Transportation and Works) for multi year projects, as the proposed trigger for Draft Approval or pre-sales. Further work needs to be done in consultation with the local municipalities and the development industry in defining what the trigger point is linked with. The link between the development/home building process and the planning approvals process and infrastructure delivery will then be further defined.

The use of infrastructure specific triggers brings additional certainty as to the infrastructure being in place prior to occupancy. This will also help to avoid sales of home and occupancy delays resulting in homeowner frustration.

4.5 Planning Controls

In addition to the servicing allocation trigger, the 2003 Management of Servicing Capacity Allocation report also set out conditions regarding the development approval process relative to servicing availability.

The development approvals were conditional upon:

- The application of an (H) zone
- Prohibition of pre-sales
- Inclusion of phasing conditions

It is recommended that these conditions continue to apply with the additional conditions of:

- Enactment of a municipal-wide by-law under Section 34(5) of the Planning which prohibits issuance of a building permit until municipal servicing is available.
- Formal “use it or redistribute it” policy in place.

This provides further assurance that building permits are not issued prior to servicing being available. This will also assist municipalities when the new Building Code Act regulations come into affect on July 1, 2005 which will make withholding a building permit difficult if zoning is in place and site plan approval has been granted. Richmond Hill and Markham have already passed such by-laws which are attached as *Attachments 5 and 6*.

4.6 Local Allocation Policies

The work done by the various affected municipalities and York Region to address the management of wastewater and water allocation can be built upon to develop a local allocation policy for water and wastewater capacity that best meets the growth objectives for the individual municipalities. Local policies will be required to be in place in each municipality prior to utilization of the servicing assignment outlined in this report.

Key elements of a protocol for allocation within the individual municipalities may need to include:

- Detailed monitoring of both wastewater and water allocation, development applications and effective reporting.
- Effective allocation to developments that are ready to use the allocation – “use it or redistribute it”.
- Determination of strategic priorities that best meet the growth management objectives of the individual municipality and the Region.
- Phasing plans for communities/secondary plan areas.
- Clear, transparent and fair criteria for allocation.
- Overall, municipal wide phasing plans.

4.7 Relationship to Vision 2026

The development of clear protocols for future apportionment of water and wastewater capacity supports the objective of taking a strategic approach to growth management through the co-ordination of the timing of infrastructure and service development and using land, infrastructure and services efficiently.

5. FINANCIAL IMPLICATIONS

Effective distribution of servicing in a prudent manner will help maintain an appropriate growth level across the Region and maintain the Region’s economic health.

6. LOCAL MUNICIPAL IMPACT

Management of infrastructure is a partnership between the Region and area municipality and a blend of local best practices. New measures for providing servicing capacity present opportunity for additional clarity and certainty in the assignment of additional wastewater and water capacity. Continued discussions and information exchange with the municipalities is essential in monitoring and reviewing the servicing capacity assignment on an annual basis.

7. CONCLUSION

A partnership between the Region and local municipalities is needed to ensure that servicing capacity is used efficiently. Firstly, the Region needs to take a strategic approach to providing servicing capacity to the area municipalities. The consideration of key elements such as growth priorities is important in this regard.

In support of a Regional strategic approach to providing servicing capacity, it is also important that local allocation protocols and a full range of planning tools such as municipal wide Section 34(5) By-laws be implemented by the local municipalities.

It is important that these strategies be pursued as early as possible as the recent constraints on both water supply and wastewater capacity have demonstrated the need for careful management of the finite servicing resource. Increasingly, there is a demonstrated need to provide more deliberate direction for growth. This needs to be in step with the provision of infrastructure including water supply and sewage capacity.

The Senior Management Group has reviewed this report.

(The attachments referred to in this clause are included with this report.)