



It is anticipated that the Town will conduct an in-depth review of the Town's Engineering Standards within the next two years. One of the priorities will be to review the standard road cross sections and streetscape. At the same time that standard cross sections are established, areas will be delineated where the standard road cross sections will be permitted to avoid mismatched road cross sections.

The development and adoption of a Rural Estate Standard Road Cross Section is recommended because it provides flexibility and options to the development community to provide the character of developments a portion of future Town residents are seeking and some existing residents wish to maintain.

### Modified Rural Estate Standard Road Cross Section – Residences of Peaks Bay

Although the Town has not had an opportunity to develop a Rural Estate Standard Road Cross Section, the impending development of The Residences of Peaks Bay subdivision necessitates the Town addressing the adoption of a rural style cross section with full municipal services. The primary reason for the use of a revised cross section within this subdivision is to allow the development to proceed without having to fill significant portions of the heavily treed and environmental sensitive area.

The draft plan approval of the subject lands by the Ontario Municipal Board imposed stringent requirements on the Developer to maximize tree preservation, maintain or enhance water quality and infiltration, and to minimize overall grading, all in an effort to protect the existing wetlands on the subject property.

The Rural Estate Road Standard allows the subdivision roads to naturally blend into the existing site grades. Grading of the site is confined to the road allowance and building aprons which would not be the case for the Urban Road Standard. In fact, applying the Urban Road Standard would require raising the profile of the roadways and requiring grading to extend into the proposed lots to facilitate lot drainage. This is counter to the objectives of the NEC and GSCA (voiced during the OBM proceedings) to preserve existing tree cover and minimize site alteration as much as possible.

The sandy nature of the site is also conducive to the Rural Estate Road Standard. Under existing conditions, rainwater readily infiltrates on the site. Significant infiltration will continue in the grassed ditches of the Rural Estate Road Standard. Water quality benefits are well documented (MOE 2003) through the use of grassed ditches and are preferred over storm sewers which readily transfer debris and containments.

Historical high water levels on Georgian Bay pose a design constraint to the stormwater quality options available to the subject lands. This is compounded by the shallow bedrock depth in proximity the shore line. Consequently, stormwater management ponds for water quality purposes are not practical for the subject lands. The use of vegetated ditches is supported by the MOE as a suitable stormwater conveyance treatment technique for water quality control.

One significant change from the Town's typical standard road cross sections is that the storm sewer is placed along the centreline of the road. Typically, the sanitary system is in this location but given that the storm sewer outlet is limited by the historical high water level in the

Bay, the storm sewer was placed in the centre of the road to maximise cover over the pipe and to minimise importing fill. Therefore, the cross section for the Residences of Peak Bay development is referred to as "modified". The sanitary system will be a pumped system which lends itself to the sanitary system being relocated to the edge of the pavement. The typical sections are attached.

Typically the width of the road right-of-way (ROW) is 20m. To permit the installation of a trail, a 23m ROW is also proposed for a portion of the subdivision to facilitate the construction of a trail without impeding the flow carrying capacity of the ditch. For this reason, a 20m and 23m ROW cross section is proposed.

Given the site constraints, it is recommended that the attached Modified Rural Estate Road Cross Section for the Residences of Peaks Bay for both the 20m and 23m ROW's be approved in principle to facilitate the development proceeding while minimising environmental impact. The cross section is not fully finalised and may be subject to slight modifications for technical reasons.

**C. The Blue Mountains' Strategic Plan** (Statement(s) identifying how actions further the goals of the Strategic Plan)

The adoption of a Rural Estate Standard Road Cross Section furthers:

- Strategic Goal 2 – "Addressing the Town's municipal infrastructure needs" by providing standard road cross sections requested by future residents
- Strategic Goal 3 – "Preserving and enhancing the natural and environmental features, and cultural heritage of the community" by permitting flexible design options to better match the environmental challenges of a site

**D. Budget Impact** (cc: Treasury if required)

The cost of maintaining the Rural Estate Cross Section will be higher than the urban section however replacement costs will be lower.

Maintenance will be higher mainly due to the added costs of cleaning ditches, clearing ditch inlets and removing debris from the storm sewers. Some of these costs can be mitigated, especially by lessening the debris that enters the storm sewer system because in-sewer blockages can be avoided. It is more cost effective to remove debris and blockages above ground than below.

Due to low lying ground levels and constraining high water level in the Bay, the Peaks Bay development requires the storm sewer to be laid at slopes down to 0.2%. The Town does not dictate a minimum slope however the minimum sewer slope is typically 0.5%. Slopes less than 0.5% are difficult to achieve for every piece of pipe and localised ponding and debris settling will be expected especially after some post construction pipe settlement has taken place. It may be necessary to flush or clean these sewers more often than would normally be expected. Increased monitoring will be needed in the first few years to ascertain the extent of increased maintenance. Any problems will be most evident during low flow periods; however

during high flow events a scouring velocity of 0.8 m/s will be achieved which will aid in cleaning the sewer system


From a cost avoidance standpoint, the implementation of the proposed cross section allows quality control to occur in the vegetated ditches thereby not requiring the construction of water quality works that will need to be maintained by the Town. Given the proximity to the Bay, a storm water management pond is not needed for flow control and therefore those associated maintenance costs are not incurred.

Ultimate replacement costs will be lower than a typical urban section mainly because the surface works are not as extensive.

**E. Attached** (Relevant documentation not personal information about an identifiable person)

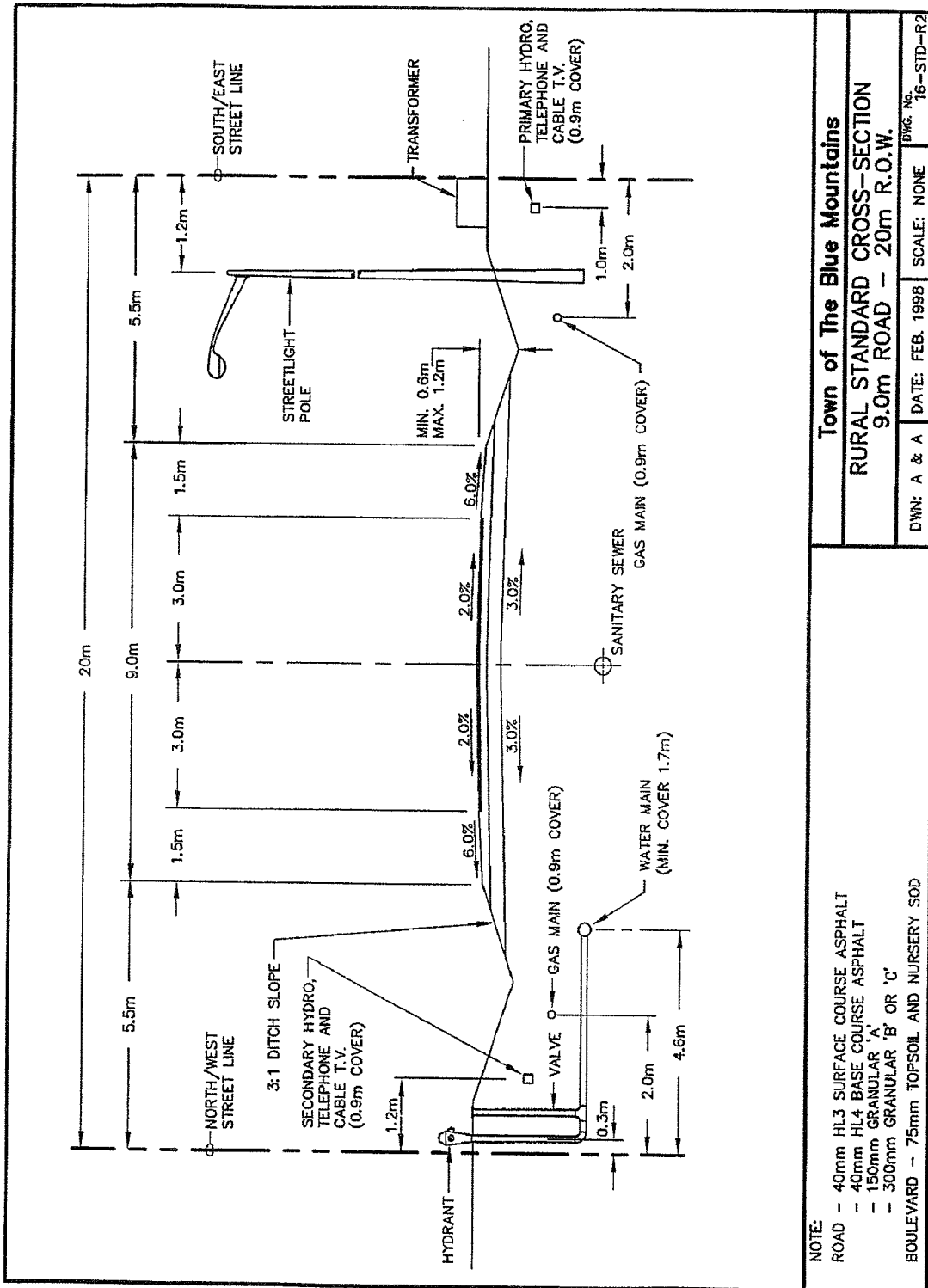
1. The Town of the Blue Mountains Rural Cross Section
2. The Town of the Blue Mountains Urban Cross Section
3. Modified Rural Estate Cross Section – The Residences of Peaks Bay (20m ROW)
4. Modified Rural Estate Cross Section – The Residences of Peaks Bay (23m ROW)

Respectfully submitted,

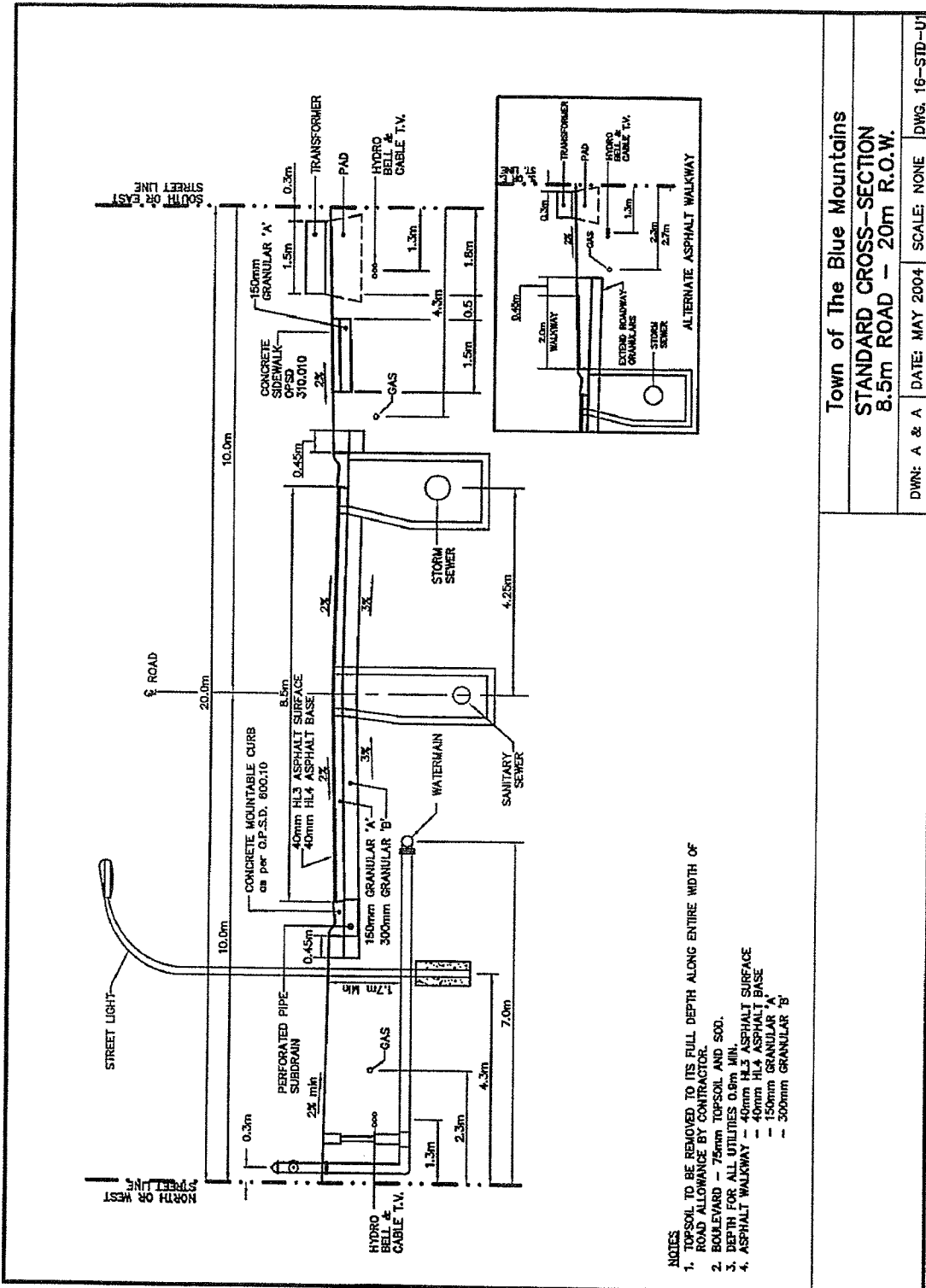


Reg Russwurm  
Director, Engineering and Public Works

# ATTACHMENT #1



# ATTACHMENT # 2



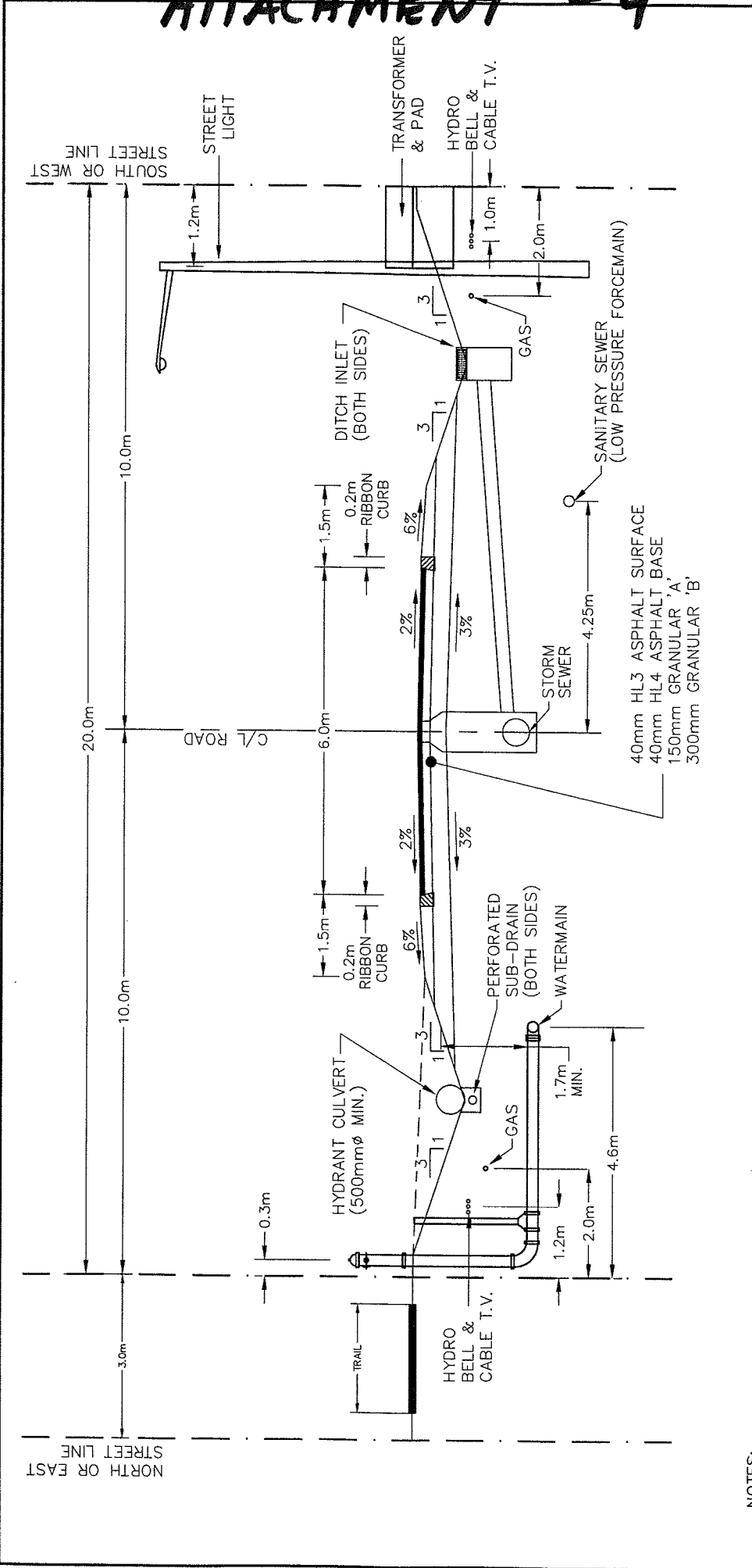
- NOTES**
1. TOPSOIL TO BE REMOVED TO ITS FULL DEPTH ALONG ENTIRE WIDTH OF ROAD ALLOWANCE BY CONTRACTOR.
  2. BOULEVARD - 75mm TOPSOIL AND SOO.
  3. DEPTH FOR ALL UTILITIES 0.5m MIN.
  4. ASPHALT WALKWAY - 40mm HL3 ASPHALT SURFACE  
- 40mm HL4 ASPHALT BASE  
- 150mm GRANULAR 'A'  
- 300mm GRANULAR 'B'

Town of The Blue Mountains  
STANDARD CROSS-SECTION  
8.5m ROAD - 20m R.O.W.

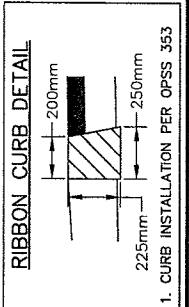
DWN: A & A DATE: MAY 2004 SCALE: NONE DWG. 16-STD-U1



# ATTACHMENT #4



**TOWN of THE BLUE MOUNTAINS**  
**"MODIFIED" RURAL ESTATE TYPICAL SECTION**  
 6.0m ROAD – 23m R.O.W.



- NOTES:**
1. TOPSOIL & ORGANICS TO BE REMOVED TO ITS FULL DEPTH ALONG ENTIRE WIDTH OF ROAD ALLOWANCE BY CONTRACTOR.
  2. BOULEVARD – 75mm TOPSOIL AND SOD.
  3. ALL UTILITIES TO HAVE MINIMUM 0.9m COVER.
  4. ROAD BASE TO BE CONFIRMED BY GEOTECHNICAL ENGINEER.