

COMMITTEE REPORT TO COUNCIL: ENGINEERING & PUBLIC WORKS COMMITTEE

MEETING DATE: January 27, 2009
LOCATION: BVCC, Small Hall
PREPARED BY: Heather Drane
Clerk / Receptionist

A. Recommendations

THAT this Engineering & Public Works Committee recommends that:

C.1 EPW.09.008 Toilet Replacement Program – Water Conservation Initiative

THAT Council approves the implementation of a toilet replacement program, at a cost of \$5,000, as outlined in Report EPW.09.008 entitled "Toilet Replacement Program – Water Conservation Initiative", as included in the 2009 budget subject to council's acceptance of the 2009 budget. CARRIED

C.2 EPW.09.007 Mountain Drive Phase II – Consultant Fee Increase

THAT Council approves increasing the upset fee estimate to provide final design and contract administrative services for the reconstruction of Mountain Drive from Carmichael Crescent to 100m west of Scenic Caves Road by \$87,000 from \$110,000.00 to \$197,000.00 as outlined in Report EPW.09.007 "Mountain Drive Phase II – Consultant Fee Increase". CARRIED

D.1 EPW.09.003 Thornbury Water Treatment Plant Construction Update

THAT Council receives Report EPW.09.003 entitled "Thornbury Water Treatment Plant Construction Update" for their information. CARRIED

D.2 EPW.09.006 Construction / Development Status Report

THAT Council receives Report EPW.09.006 entitled "Construction / Development Status Report" for their information. CARRIED

D.3 EPW.09.005 Arlberg Crescent Wastewater Servicing

THAT Council receives Report EPW.09.005 entitled "Arlberg Crescent Wastewater Servicing" for their information. CARRIED

E.1 Report A.08.08 (Revised) Ministry of Transportation Expropriation – Highway 26 (deferred at Council to EPW)

THAT Council approves this report A.08.08 entitled Ministry of Transportation Expropriation – Highway 26. CARRIED

B. Staff Reports (Attachments)

C.1 EPW.09.008 Toilet Replacement Program (Revised) – Water Conservation Initiative

C.2 EPW.09.007 Mountain Drive Phase II – Consultant Fee Increase

D.1 EPW.09.003 Thornbury Water treatment Plant Construction Update

D.2 EPW.09.006 Construction/Development Status Report

D.3 EPW.09.005 Arlberg Crescent Wastewater Servicing

C. Background

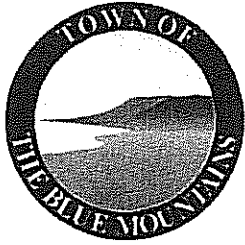
None.

D. Deputations/Presentations

E. Next Meeting Date

Tuesday, February 10, 2009, 7:00pm at the Beaver Valley Community Centre, Small Hall

STAFF REPORT: ENGINEERING AND PUBLIC WORKS DEPARTMENT



REPORT TO: Engineering and Public Works Committee
MEETING DATE: January 27th, 2009
REPORT NO.: EPW.09.008 (Revised)
SUBJECT: Toilet Replacement Program – Water Conservation Initiative
PREPARED BY: Adam McMullin, Environmental Initiatives Coordinator

A. Recommendation

THAT Council approves the implementation of a toilet replacement program, at a cost of \$5,000, as outlined in Report EPW.09.008 entitled "Toilet Replacement Program – Water Conservation Initiative".

B. Background

In concert with the Great Lakes and St. Lawrence Initiative, The Blue Mountains (TBM) passed a resolution on April 11, 2007 stating it will "work toward achieving a 15 percent reduction in total water usage per user unit below 2000 water consumption levels by the year 2015". This target aims to reduce usage from 2000 consumption levels of 0.672 m³ per unit per day to 0.572 m³ per unit per day, which corresponds to a daily reduction of 100 litres per unit. Additionally, the TBM is currently in the process of producing a Climate Change Action guide for distribution to the residents of the community. The guide, in part, focuses on water conservation measures. The Climate Change project is being funded under a Ministry of the Environment (MOE) Community Go Green Fund (CGGF) initiative. Under the CGGF agreement, the TBM is required to partner with a local business to provide an in-kind contribution to the project in return for advertisement within the guide.

The TBM proposes the implementation of a toilet replacement program to promote water conservation and partially fulfill the requirement of local partnership outlined within the CGGF agreement.

High-volume, older toilets have a typical flush volume of 13 litres. A current low and dual-flush toilet requires 6.5 litres or less of water per flush as established in the Ontario building code in 1996. The replacement of older toilet models presents a significant water conservation opportunity.

Program Configuration

Under the toilet replacement program, qualified residents that purchase a low-flow toilet would receive a \$50 credit on their water account. To qualify, the following criteria must be met:

- Residents must have a water account with the TBM.

- Residents must purchase and install a low-flow toilet from a TBM-selected list of eligible toilet models.
- Resident must be replacing a high-flow toilet.
- The applicant's residence must have been built before January 1, 1996.

To implement the program, the following is proposed;

1. Qualified residents purchase and install an eligible toilet from the TBM-selected list.
2. The residents fill out 'Toilet Replacement Application Form' that will be mailed to all residents with their water bills and will be available on the Town's website.
3. The resident submits the completed form and original bill of sale for the eligible toilet to the TBM, and should they qualify, receives a credit on their water account.
4. TBM to conduct random inspections.

Eligible toilets have been based on approved listings used for the City of Toronto, Region of Peel and Region of Waterloo toilet rebate programs. Approved toilets have passed the 'Maximum Performance' standardized testing protocol endorsed by the Canadian Water and Wastewater Association.

There will be a limit of two rebates per qualified resident. Only residents with houses built prior to January 1, 1996 will be eligible, as changes to the building code (in 1996) required low-flow toilets for all new installations. The TBM will reserve the right to inspect any installation for verification purposes.

Community Go Green Partnership

The TBM has discussed a partnership with Phil Havens from the Thornbury Home Hardware as part of a community-wide greenhouse gas reduction initiative. It has been proposed that Home Hardware offer a discount off of the retail price of two toilets, a low flush and dual flush model, in return for advertising space within the Climate Change Action guide of equivalent value. Tentatively, the following discount was verbally agreed upon;

- A Home Hardware discount of 20% (off the total retail price of \$189.99) for the Cadet 3 Toilet (Serial #3274-334).
- A Home Hardware discount of 25% (off the total retail price of \$379.99) for the EcoQuantum Conservation Toilet (Serial #3274-218).

Within the Climate Change Action guide, the water conservation initiative and Home Hardware discount will be highlighted and readers will be directed to the Town's webpage to access the toilet rebate application form or obtain more information on the program.

The program's success will be periodically evaluated and then if deemed necessary, the program will be repeated annually until the benefits diminish.

C. The Blue Mountains' Strategic Plan

This Report furthers the Town's Strategic Plan Goal # 3, "Preserving and enhancing natural and environmental features, and cultural heritage of the community" and #6 "providing a strong well managed municipal government".

D. Environmental Impacts

The toilet replacement program will reduce water and energy consumption. Assuming that each replaced toilet saves 6.5/litres per flush, and each toilet is flushed four times per day, the replacement of 100 high-volume toilets with low flush models would reduce water consumption by 949 m³ annually.

Additionally, the TBM would realize energy savings and correspondingly reduce greenhouse gas emissions. Water and wastewater operations account for 42% of corporate (Town own/operated emission sources) greenhouse gas emissions.

E. Budget Impacts

The program would issue a maximum of 100 credits, \$50 each, for a total of \$5,000.

There is \$40,000.00 allocated for water efficiency initiatives in the proposed 2009 Water Operating Capital Budget.

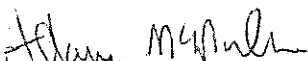
The program would reduce revenue by approximately \$2,106, assuming a 2008 charge of \$1.60/m³ for the supply of water, \$1.50/m³ charge for wastewater treatment and a total cost of \$0.88/m³ for water distribution.

Additionally, the program would increase the Town's water supply capacity by 0.03 litre/second, which could be utilized to serve future development and growth.

F. Attached

None.

Respectfully submitted,



Adam McMullin
Environmental Initiatives Coordinator

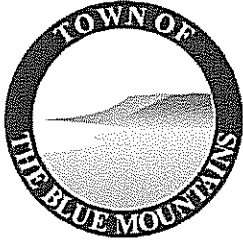


Rég Ruszwurm
Director, Engineering & Public Works

For more information, please contact:

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519-599-3131 x.264

STAFF REPORT: Engineering and Public Works



REPORT TO: Engineering and Public Works Committee
MEETING DATE: January 27, 2009
REPORT NO.: EPW.09.007
SUBJECT: Mountain Drive Phase II – Consultant Fee Increase
PREPARED BY: Reg Russwurm, Director of Engineering and Public Works

A. Recommendations

THAT Council approve increasing the upset fee estimate to provide final design and contract administrative services for the reconstruction of Mountain Drive from Carmichael Crescent to 100m west of Scenic Caves Road by \$87,000 from \$110,000.00 to \$197,000.00 as outlined in Report EPW.09.007 "Mountain Drive Phase II – Consultant Fee Increase".

B. Background

The Town retained The Ainley Group in May 2007 to complete the design and contract administrative engineering services related to the reconstruction of Mountain Drive from Carmichael Crescent to Scenic Caves Road. The upset fee estimate was approved at \$110,000. Report EPW.07.49 is attached for reference.

During the design and contract administration periods several events occurred that necessitated work outside of the original project scope contemplated by the Ainley Group and Staff. Staff have had in-depth discussions with The Ainley Group and negotiated a revised upset fee estimate. A summary description of additional fees is provided in Table 1.

Design Phase

Several modifications and enhancements to the original scope of the works occurred which necessitated additional design effort. The agreed to value of additional services during final design is \$33,629.92 less \$10,000.00 to resolve the fee issue for a final cost of \$23,629.92. Attachment 2 provides a letter from The Ainley Group dated December 8, 2008 detailing the various additional tasks and providing justification for the fee increase.

During the construction phase of the project, several design modifications were necessary that resulted in an additional \$7,760.00 in design fees. These fees relate to intersection modifications and drainage improvements and are detailed with cost justification in Attachment 3.

The total design fee increase is therefore \$31,389.92 (23,629.92 + 7,760.00).

Contract Administration

The original scope of work contemplated 12 weeks of construction for \$60,000.00 which translates to \$1000 per working day however an allowance was not included for non-working days. The tendered contract was for the full 60 working days. It is appropriate that a \$15,000 allowance, proportioned by \$5,000 in 2008 and \$10,000 in 2009, be provided for additional services during non-working days and after substantial performance is issued on the contract for warranty inspections and project closeout.

The tendered contract was for 60 working days however change orders resulted in an additional 15 working days being appended to the contract. In addition, the Contractor did not achieve substantial performance on the contract until 19 days after the agreed 75 working days was over. It is appropriate that The Ainley Group be compensated for an additional 34 (15 + 19) days of contract administration not anticipated at the start of the project. At \$1,000 / working day, the additional cost is \$34,000.

The total contract administrative fee increase is \$49,000 (\$34,000 + \$15,000) to \$109,000 however it should be noted that \$19,000 of the cost will be recovered through liquidated damages from the Contractor.

Geo-technical Disbursement

The costs of geo-technical inspections (materials, compaction, asphalt, etc) is being front-ended by The Ainley Group at no mark-up as a flow through cost. The estimated cost of geo-technical services is \$9,000.

Fee Summary

The sub-total of fees described above is \$194,889.92. With a contingency allowance of \$2,110.08, the total engineering fees on the project is \$197,000.00 which is an increase of \$87,000 from the original \$110,000.00 approved. Backing out the \$19,000 to be recovered through liquidated damages and the \$9,000 allowance for geo-technical; the net engineering fees are \$169,000.00 for a net increase of \$59,000 to The Ainley Group.

To add perspective to the fee cost, a comparison to the construction value can be performed. In addition to the \$169,000.00 for net engineering fees described above, \$42,627.77 was expended on this portion of Mountain Drive over 2005 and 2006 for a total engineering fee of \$211,627.77. The tendered contract value is \$1,529,521.00. The net engineering fees as a percentage of construction cost are then 13.8%. Engineering fees in the range of 10 to 12% with an outside range up to 15% for this type of project can be expected. Therefore, fees in the range of 13.8% are appropriate given the challenges encountered on this assignment. If the fees recovered by liquidated damages and those incurred for geotechnical services are considered, the fee cost is 15.7% of the construction value.

Project Budget

The 2008 Capital Budget provided a total of \$1,813,000 for this project.

Within Report EPW.08.52 for the tender award (not attached), the total expected project cost was \$1,749,521 based on the table below. The resulting project budget had a \$63,479 surplus.

TBM-2008-13	\$1,529,521
Engineering	\$150,000
Utilities	\$20,000
Other Direct Costs	\$15,000
Contingency	\$35,000
Total Project Cost	\$1,749,521
Project Budget (2008)	1,813,000
Project Surplus	\$63,479

Based on the recommended fee increase, the revised project expenditures are outlined below with a project surplus of \$16,479. The overall project budget will therefore not need to be increased.

TBM-2008-13	\$1,529,521
Engineering	\$197,000
Utilities	\$20,000
Other Direct Costs	\$15,000
Contingency	\$35,000
Total Project Cost	\$1,796,521
Project Budget (2008)	1,813,000
Project Surplus	\$16,479

The 2009 Capital Budget anticipates expenditures of \$170,000 to complete the project. Unexpended project funds from the 2008 budget are rolled into the 2009 works.

**Table 1
 Mountain Drive Phase 2
 Recommended Engineering Services**

Design		
	\$ 45,500.00	Original Fee (April 2007)
	\$ 23,629.92	Final design scope changes
	<u>\$ 7,760.00</u>	Design modification during construction
	\$ 76,889.92	Sub-total
Contract Administration		
	\$ 60,000.00	Original Fee (April 2007)
	\$ 15,000.00	Allowance for services during non-working days and post substantial performance (2008 - \$5000, 2009 - \$10,000)
	\$ 15,000.00	Extra Working Days
	<u>\$ 19,000.00</u>	Fees associated with overrun in working days
	\$ 109,000.00	Sub-total
Geotechnical Services		
	<u>\$ 9,000.00</u>	
		<u>\$ 9,000.00</u>
		\$ 194,889.92
Contingency		
	<u>\$ 2,110.08</u>	
		<u>\$ 2,110.08</u>
Total Engineering Fees		\$ 197,000.00
Less Previous Approved Fees		<u>\$ 110,000.00</u>
Total Fee Cost Increase		\$ 87,000.00
Less		
Liquated Damages	\$ 19,000.00	
Geotechnical	<u>\$ 9,000.00</u>	
Net Ainley Fee Increase		\$ 59,000.00

C. The Blue Mountains' Strategic Plan

Town's Strategic Plan Goal # 2 "Addressing the Town's Municipal Infrastructure needs" is in part satisfied by the recommended action.

11

D. Environmental Impacts

none

E. Budget Impact

The Project Budget provides sufficient funds for this project as outlined above. This report has been reviewed by the Financial Services Department.

F. Attached

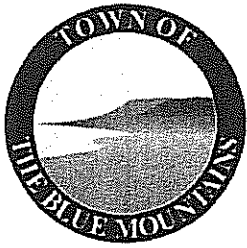
1. Report EPW.07.49 – Mountain Drive Road Reconstruction – Carmichael Crescent to Scenic Caves Road
2. Letter dated December 8, 2008 from The Ainley Group regarding Mountain Drive Phase 2 Scope Change
3. Letter dated November 14, 2008 from The Ainley Group regarding Mountain Drive Phase 2 Drainage Design and Intersection Design

Respectfully submitted,



Reg Russwurm
Director of Engineering and Public Works

STAFF REPORT: ENGINEERING AND PUBLIC WORKS DEPARTMENT



REPORT TO: Engineering and Public Works Committee
MEETING DATE: May 15, 2007
REPORT NO.: EPW.07.49
SUBJECT: Mountain Drive Road Reconstruction –
 Carmichael Crescent to Scenic Caves
 Road

PREPARED BY: Reg Russwurm, Director, Engineering and
 Public Works

A. Recommendations

THAT Council approve retaining The Ainley Group to provide engineering services to complete the final design and provide contract administration for the re-construction of Mountain Drive from Carmichael Crescent to Scenic Caves Road for an upset fee estimate of \$110,000.00;

THAT Council supports the exception to the Town Purchasing Policy; and,

THAT Council to authorize the Mayor and Clerk to execute the Engineering Agreement for this assignment.

B. Background

For a number of years Mountain Drive has been scheduled for reconstruction but has been delayed in anticipation of the re-development of the Orchard Hill area of the Blue Mountain Resort (BMR) ski hill. Since BMR has chosen to delay the construction of the new lodge and lift until at least 2008, the Town has elected to proceed with the reconstruction of Mountain Drive with a design that minimises the amount of duplicated work that will need to be done when the Orchard Hill re-development proceeds.

Significant intersection improvements at the County Road 19 / Mountain Drive / Scenic Caves Road intersections will be required for the Orchard Hill re-development. Although a number of design options are being considered, the most practical solution seems to be a round-about design. Reconstruction works on Mountain Drive will stop at Scenic Caves Road to minimize the amount of duplicate work. The completion of a watermain loop to the trunk watermain on County Road 19 will be constructed.

The construction schedule anticipates the completion of the work by the end of October to ensure that an asphalt road surface is available for the winter season.

The construction work will include the installation of a watermain, storm sewers, curb & gutter, 2m wide asphalt walkway and street lights. The lights will be pre-purchased and the Contractor will be required to assume the Purchase Order in order to avoid a delay in the delivery of the streetlights.

The Ainley Group has provided a work plan acceptable to Staff and an upset fee estimate of \$105,500 to complete the remainder of the works. A fee contingency of \$4,500 has been added for a total upset fee estimate of \$110,000. Prior to 2007, \$8,656.77 has been paid to The Ainley Group for this project.

Section 16 of the Purchasing Bylaw entitled "Purchase by Negotiations" permits the Department Head, in cooperation with the CAO, to negotiate with a supplier for goods and services and the requirement for inviting Tenders or Quotations is waived. The sub-clause of Section 16 which applies in this instance is 16 b) because The Ainley Group has extensive knowledge of the project and had prepared a significant portion of the design in early 2006.

C. The Blue Mountains' Strategic Plan

This engineering assignment furthers the Town's Strategic Goal #2, "Addressing the Town's municipal infrastructure needs".

D. Budget Impact

The 2007 Capital Budget for the reconstruction of Mountain Drive included \$120,000.00 for Engineering Fees with a total project budget of \$1,540,000.00.

The Master Development Agreement with Intrawest includes clauses which specify that Intrawest is responsible for 30% of the works. The remaining 70% is funded from Development Charges.

E. Attached

1. Location Map of proposed reconstruction limits.

Respectfully submitted,

Reg Russwurm
Director, Engineering and Public Works

14



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December 8, 2008

File: 104200

"By E-mail"

Town of the Blue Mountains
26 Bridge St. E., Box 310
Thornbury, Ontario
N0H 2P0

Attn: **Mr. Reg Russwurm, MBA, P.Eng.**
Director of Engineering & Public Works Department

Ref: **Mountain Dr. II, Scope Change**

Dear Reg:

Further to our meetings and exchange of correspondence in June, July and August to address the scope changes which have occurred on this assignment, we provide this letter. The scope changes are related to the original design assignment. Previous letters between our offices were exchanged in March and April to review items which were considered to be additional work. This letter has been structured as a listing of additional tasks 1 through 11 with an associated description engineering and fees. Further to our meeting held in August, we have removed items of work that we have agreed are associated with overall design effort and not part of a scope change. These items are outlined in the listing of tasks described with each scope change where required. The fees are the based on actual effort spent by staff in completing the scope change. Detailed accounting records for the project are available upon request.

Scope Change 1 - further to the meeting of May 15/07

Contract Design Scope Enhancements Including:

- Watermain adjustment to depth of burial with the intent to utility impacts.
- AutoCAD enhancements and geometric design improvements to incorporate traffic island and lay-byes
- Replace and relocate existing watermain at north end of project in area of 2004 work

The total construction value of the work related to the watermain design is \$38,400 and for the laybys is \$28,619. Engineering fees as a percentage of capital are in the order of

8% on assignments. We would therefore request compensation of \$5,362 as a reasonable amount for this work.

Scope Change 2 - BMR Meetings

Additional project meetings were held with BMR to discuss streetscaping elements.

- 3 additional progress meetings were held in addition to regular monthly progress meetings.
- The meeting effort involves preparation for the meeting including developing pertinent materials, meeting attendance, preparation of minutes and follow up discussions/e-mails/fax etc.

The fees associated with the scope change are \$1,304.62.

Scope Change 3 - Public Information Centre

Instead of a single pre-construction meeting for the public, a Public Consultation Centre (PCC) process was held.

- Advertising, pre-consultation
- 2 PCC's (drawing prep. Displays, comments) held on Thursday June 29/07 and Saturday June 30/07
- address follow up comments

Note a pre-construction meeting was not held as it was deemed not necessary for the project although this was part of the original assignment. The key difference that was not anticipated was the preparation and attendance of staff for the meeting as well as preparation of a roll plan drawing for the Town utilization at a public meeting for Plan 915 in December 2007.

The total fees associated with scope change 3 are therefore \$3,150.

Scope Change 4 - further to the meeting of July 10/07

Contract Design Scope Enhancements Including:

- Reduce length of watermain – stop the watermain south of Weider property
- Identify and add provisional items at south end of project

The fees associated with the scope change are \$3,155.17.

Scope Change 5 – Change in Construction Schedule

Deferral of construction project until 2008 by BMR and Intrawest.

- prepare and circulation of notice to the area property owners that the project was being deferred.

The fees associated with the scope change are \$1,384.20.

Note that based on our discussions, we realize that the assignment progression was somewhat impacted by the above noted scope changes. We are willing to offer a reduction in fees associated with a delayed assignment progression. We proposed to share the above noted effort with the Town.

The total fees associated with scope change 5 are therefore \$692.10.

Scope Change 6 - further to the meeting of Sept 19/07

Contract Design Scope Enhancements at northerly project limits Including:

- Modifications to suit BMR's requirements
- Change location of some street lights
- Directed to investigate a new alignment north of the end of the project

The fees associated with the scope change are \$5,878.31.

Scope Change 7 - further to the meeting of September 28/07

Contract Design Scope Enhancements Including:

- Streetscaping at the request of BMR incorporate relocation of some streetlights, relocation and removal of some fire hydrants and minor design changes to the lay-byes

The fees associated with the scope change are \$2,122.18.

Scope Change 8 - Encroachments and Property Issues

Contract revisions related to existing property conditions:

- Property purchase design for Town to acquire some road widening at select BMR locations along the west side of the road.
- Meeting with Town on November 1/07 to discuss the property issues and preparation of plans identifying the locations.
- November 8/07 - initiated the process to prepare and issue a request for quotations for legal surveys as required by the Town Purchasing By-law and recommend an award of the works.
- Meeting with a local OLS, the Town and its solicitor to review a number of options resulting in a final plan for road widening and a draft letter of intent/committal for BMR to execute to move the project forward.

The fees associated with the scope change are \$5,261.49.

Scope Change 9 - Change In Road Alignment At North End Of Mountain Drive further to meeting of September 19/07

Contract Design Scope Enhancements Including:

- Reviewed the existing road geometry attributes of the curve area, guidelines on sight distances, vehicle turning templates, various curve geometry based on design speeds and resulting property requirements.
- Prepared a number of alternatives
- Meeting with Town November 16/07
- Generation of additional alignment options and submission on November 21/07.
- Final alignment, property requirements and a commitment for a letter or memorandum of understanding for property was presented to and discussed with BMR at a meeting on November 30/07.

The fees associated with the scope change are \$3,469.69.

Scope Change 10 – Removal of Lighting designs for Further Analysis and Watermain Changes – meeting of November 30/07

Contract Design Scope Enhancements Including:

- Delete streetlights, poles, power sources and wiring from contract design.
- The drawings would only show duct locations and we were to make the necessary changes to the drawings and documents.
- watermain size change from a 250mm diameter to 200mm diameter

The fees associated with the scope change are \$1,734.84.

Scope Change 11 – Completion of Tend Documents – meeting of February 13/08

Contract Design Scope Enhancements Including:

- Further to submission of final drawings and tender documents to the Town in late December, adjustment of minor notation changes and provision for cathodic protection.

The fees associated with the scope change are \$1,500.

Summary

The following summary of fees is provided to outline the work noted items 1 to 11:

Item Number	Fees (\$)
1	5,361.52
2	1,304.62
3	3,150.00
4	3,155.17



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November 14, 2008

File: 104200

"By E-mail"

Town of the Blue Mountains
26 Bridge St. E., Box 310
Thornbury, Ontario
N0H 2P0

Attn: **Mr. Reg Russwurm, MBA, P.Eng.**
Director of Engineering & Public Works Department

Ref: **Mountain Dr. II, Drainage Design and Intersection Design Scope Change Request**

Dear Reg:

At the end of June and during the month of July we spent a great deal of effort involving redesigning the drainage system on the above noted project. In addition, at the request of the Town, we are currently working on redesigning the intersection of Plater and Carmichael Streets. We had discussed our effort several times during the course of the work regarding compensation. I understand that the Town does have reservations with compensating Ainley for work, which can be attributed to correcting a design error. This letter is provided for the Town's consideration and approval for compensation of effort not related to correcting a design error. In addition, this letter also addresses the construction administration assignment and additional working days required to complete the work resulting from approved change orders, which were finalized during August and September.

Drainage Design

The drainage issue with the possibility of controlling a 100-year storm event on Mountain Drive at the South Lodge was brought to our attention after the contract had been awarded. We responded immediately to the Town's concerns to resolve the issue in order to avoid a potential contractor delay claim. Our work involved assessing the previously created drainage mosaic and making adjustment for catchment areas not originally identified followed by a sizing review of a storm sewer system not to be replaced as part of the contract. The system was later found to be undersized. Several drainage evaluation meetings were held at the Town's offices and in the field, which included one meeting with representatives of Intrawest and BMR. At the end of the review and design analysis, the contract design was revised to provide a new storm sewer system to replace the undersized system in the area of the South Lodge, grading revision along Mountain Drive with an additional gutter outlets and grading on BMR lands.

The drainage system in question was not impacted originally and not included in the contract. Without a contract change, the major overland flow route would overtop Mountain Drive and then continue to the nearest outlet. The Town's main concern is that prior to the contract, the

road overtopped and the water ran down the ditches to a nearby watercourse. With the addition of curb & gutter, the water is directed into Plater Street, which cannot accommodate the water. The present design of Plater Street does not meet current design standards. We agree with the need to enhance the drainage design in the area to address the more recent storm events, which appear to be exceeding historical drainage patterns. We would however request compensation for our efforts.

Our work did involve re-visiting the previously developed drainage model and making adjustment to catchment boundaries, which were not identified by the original fieldwork. We do not believe the Town should be responsible for this effort. Our work also involved changing grading along Mountain Drive and changing gutter outlets to convey a possible storm that would overtop Mountain Drive to a defined watercourse outlet rather than down Plater Street, which cannot accommodate the flow. The reconstruction requirement of Plater Street was not within the scope of our design assignment although we will not request compensation for the minor effort to change the grading along Mountain drive and to provide enhanced gutter outlets. We would however request some compensation for drainage analysis to replace the existing (BMR installed) storm sewer system, various design review project meetings and adjustment of the contract package for issue to the contractor. During the course of the work, our Senior Drainage Engineer was involved with independent review to assess originally developed catchment areas as well as developing an independent hydrology model to verify the results. We also believe this is an effort that would have been carried out as part of the original assessment and do not request compensation for this effort.

Our total effort spent to date to resolve the drainage issues is \$11,201.48. The total change order for the work was \$72,000. Engineering fees as a percentage of capital are in the order of 8% on assignments. We would therefore request compensation of \$5,760 as a reasonable amount for this work.

Intersection Design – Plater and Carmichael Streets

Following award of the contract, the Town requested that we re-visit the intersection geometry of Plater and Carmichael Streets. The streets intersect with Mountain Drive at less than perpendicular angles and are not perfectly centred within the right of way. The Town requested a redesign of these streets including services extending to the end of intersection radii to adjust the intersection angles and center the roadways within the right of way. The work has a dual impact in terms of engineering effort on the designs of the street alignments since R.J. Burnside is developing these for the Town. We coordinated the design effort to ensure that there were no potential contractor delays. I understand that our original design effort involved matching the reconstruction of Mountain Drive to the existing alignments of the sidestreets. We agree that the geometric adjustments will improve the intersections although would request compensation for our efforts. This work has now been completed and the effort involved for our work is \$2,000.

Contract Administration – Additional Working Days

The contractor was authorized to carry out construction work with an additional 15 working days in addition to the 60 original working days. The work is outlined in our letter and various correspondence issued to the Town. Our office prepared a change order for the additional working days. The items extending additional working days include adjusting storm sewer catch basins and manholes due to utility conflicts, removal of asbestos cement sanitary sewer, gas main relocation, adjustment of storm sewer outlet headwalls due to abandoned buried concrete

footings, field adjustments to connect to existing storm sewers, installation of 1800mm diameter storm sewer structures and culvert cleanout.

Our effort involved with construction administration was outlined in a letter to the Town dated April 23, 2008 and provides the following distribution of staff effort during the construction phase:

Item	Senior Eng. (Hrs)	Site Staff (Hrs)	Supp. Staff (Hrs)	Cost
Construction (60 days)	1.5 / day (Avg.)	10 / day	3 / week (Avg.)	\$60,000

Our effort involved with providing an additional 15 days of construction administration is therefore \$15,000.

Based on the contractor's progress to date, the working days have been exceeded and on behalf of the Town we have advised the contractor that liquidated damages will be enforced. The total number of working days including change orders is presently at 75 days and expire on Thursday October 30. The contractor's schedule now indicates that all work is scheduled to be completed by Monday November 24, weather permitting. We therefore estimate that the working days may be exceeded by as much as 17 days. Working days would not be charged for rain days and the amount can be further reduced for days where only part time inspection was completed for work such as placing topsoil and sod.

We provide the following summary of fees related to the above-mentioned items:

Drainage Design	\$ 5,760.00
Intersection Design	\$ 2,000.00
Contract Administration (additional working days)	<u>\$ 15,000.00</u>
Total	\$ 22,760.00

Should you have any questions or wish clarification on any of the above, we would be pleased to meet with you at your convenience.

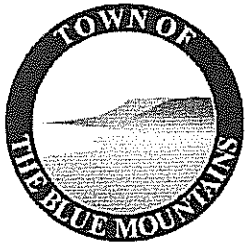
Yours truly,

AINLEY & ASSOCIATES LIMITED



**Mike Neumann, P.Eng.
Vice-President, Transportation Engineering**

STAFF REPORT: Engineering & Public Works Department



REPORT TO: Engineering & Public Works Committee
MEETING DATE: January 27, 2009
REPORT NO.: EPW.09.003
**SUBJECT: Thornbury Water Treatment Plant
 Construction Update**
**PREPARED BY: John Caswell, Manager of Water and
 Wastewater Services/Asst. Director**

A. Recommendations

THAT Council receives Report EPW.09.003 entitled "Thornbury Water Treatment Plant Construction Update" for their information.

B. Background

The upgrading of the Thornbury Water Treatment Plant is required to replace the existing conventional filters with microfiltration membrane units to bring the plant up to the "firm capacity" of 13,536 m³ /day. "Firm capacity" is the available daily capacity with the largest unit out of service and is recommended by Tenstate standards of which Ontario is a member. Also included in the project is the installation of 220m of 400mm diameter PVC DR18 watermain on Peel Street complete with valves and fittings and Arrowhead Pump Station revisions. The work at Arrowhead Pump Station was required to enable the water operators to utilize the Collingwood water supply in the Camperdown and Thornbury areas.

Wellington Construction Inc. was contracted under contract TBM-2008-01 *Thornbury Water Treatment Plant Upgrades* on June 20, 2008. Henderson Paddon and Associates Limited are the Engineering Consultants for this project.

Wellington Construction has completed the watermain installation on Peel Street and it is now in service. They are also approximately 50% complete with the installation of the membrane filters.

The two old Neptune filters have been removed. The piping and associated valving and two membrane filter trains are being completed. These membrane trains will be commissioned upon completion. Subsequent to the two membranes being placed in service, the one Trident Filter will be removed and the 3rd train will be installed and commissioned.

It is anticipated the works will be substantially complete by the end of February.

C. The Blue Mountains' Strategic Plan

This report furthers the Town's Strategic Goal #2 "Addressing the Town's Municipal Infrastructure Needs".

D. Environmental Impacts

With the additional capacity, there will be opportunity to have more residents connect to the Municipal system that are currently using wells and therefore there will be less of an impact on groundwater aquifers.

The installation of a new diesel generator and more efficient motors on pumps should have a lowering impact on energy consumption and greenhouse gas production. The membrane filtration process will not require the use of Aluminum Sulphate and therefore there will be less chemical use in the production of potable water and wasted in the backwash sludge.

E. Budget Impact

Overall expenditures will total \$4.75 million for the Thornbury Water Treatment upgrade. This is made up from the combination of 4.6 million for the membrane upgrades and \$160,000 for engineering.

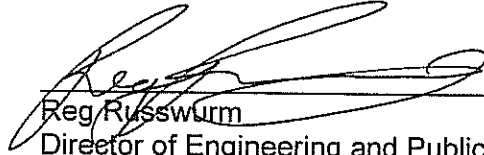
Engineering	160,000	Includes \$30,000 engineering contingency
Construction	<u>4,599,000</u>	Includes \$1,791,000 in Pall equipment and \$350,000 contingency
Anticipated overall cost	4,759,000	Not including GST, financing
Payment Certificates 1-4	582,255	Paid in 2008
Equipment costs	<u>1,791,000</u>	Pall membranes – invoice due
2008 expenditure	2,373,187	
2009 expenditure -anticipated	<u>2,750,113</u>	
Project Budget	5,123,300	

F. Attached

Respectfully submitted,



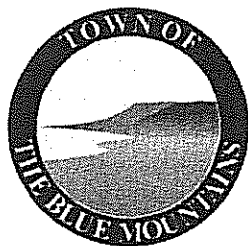
John Caswell
Manager of Water and Wastewater Services



Reg Russwurm
Director of Engineering and Public Works

For more information, please contact:
John Caswell
jcaswell@thebluemountains.ca
(519)599-3131 ext. 226

STAFF REPORT: Engineering and Public Works



REPORT TO: Engineering and Public Works Committee
MEETING DATE: January 27, 2009
REPORT NO.: EPW.09.006
SUBJECT: Construction/Development Status Report
PREPARED BY: Tom Gray, Engineering Design Technologist

A. Recommendations

THAT Council receives Report EPW.09.006 entitled "Construction / Development Status Report" for their information.

B. Background

Attached is the monthly report completed to keep Council apprised of the status of the current construction projects and the current development projects.

C. The Blue Mountains' Strategic Plan

The generation of this report furthers the Town's Strategic Goal #2 "Addressing the Town's municipal infrastructure needs", and Strategic Goal #6 "Providing a strong, well managed municipal government".

D. Environmental Impacts

The ongoing projects facilitate the ultimate sustainability of the community.

E. Budget Impact

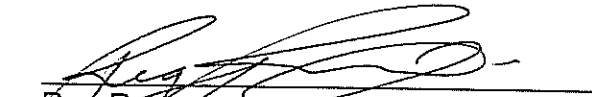
None.

F. Attached

1. Construction Projects – Status Report, as of January 27, 2009
2. Development Projects – Status Report, as of January 27, 2009

Respectfully submitted,


Tom Gray
Engineering Design Technologist


Reg Rugswurm
Director of Engineering & Public Works

For more information, please contact:
Tom Gray
tgray@thebluemountains.ca
519-599-3131 ext. 277

**ENGINEERING & PUBLIC WORKS COMMITTEE UPDATE
DEVELOPMENT PROJECTS**

As of January 27, 2009

1. Far Hills/Beaver Street –Deficiencies remain to be addressed in spring/summer.
2. Willow Creek/Monterra Ridge – AFC drawings are released. Services installed but not commissioned. Building Permit issued.
3. Timberwolf Lodge/Arrowhead Road - Plans have been approved and agreements are being finalized. The Town requires additional securities and the developer stopped all work with no schedule to continue.
4. Peaks Meadows – The underground services for water and sewer have been completed, curb is in place, base coarse asphalt on Streets A & B is complete. Model homes are under construction. Sewer and water have been connected to municipal system allowing building permits to be issued.
5. Georgian Glen/Sorichetti/Grey Road 40 – Work under the Pre-servicing Agreement has been completed. The Developer has submitted plans and is looking to enter into a Development Agreement in the new year.
6. Edgewater Estates/Highway 26 – Construction of foundation for Phase II almost complete.
7. Arrowhead at Blue/Grey Road 19 – Phase IV is under construction. Reached Substantial Completion and is under 2-year maintenance period.
8. Orchard at Craigleith – Work is continuing on a number of units under construction. There are a substantial number of permits taken out for this project. The developer has been granted substantial completion of the below ground works. Many deficiencies yet to be addressed. Developer is requesting L. C. reduction.
9. Thornbury Horse Park - A development submission is anticipated by February 2009.
10. Georgian Ridge/Camperdown Road – The development has entered into a Subdivision Agreement. Model homes have been constructed.
11. Georgian Bay Estates Block 42 -There are a number of outstanding items the Town is working on with the Consultant to resolve. MTO has stormwater and turning lane concerns. AFC drawings have been issued.
12. Peaks Bay – Servicing and internal road construction is complete. Road construction for entrance off Hwy 26 is underway. Town has entered into Development Agreement for Phase I only which consists of the 25 easterly Lots. Certificate of Completion for Basic Services has been issued which allows issuance of building permits but does not start Maintenance Period.
13. Keeper's Cove - A Development Agreement has been executed. Works are underway. Below ground works for Phase I amended and complete. A Certificate of Preliminary Acceptance has

been issued for Phase 1. Phase II is in Technical Review and has some drainage issues that the Consultant and Developer are working out.

14. Lora Bay - Phase 3 – A Subdivision Agreement is in place. Certificate of Preliminary Acceptance for water and sewer services has been issued. Under 2-year maintenance for underground services. The Town is working with the Developer in order to release a portion of the L.C. Lora Bay (Lower Block) – Drawings have been Approved for Construction and grading works underway. Developer has been issued Building Permit. Developer is constructing erosion control on site.
15. LCMC - Tyrolean Lane - Drawings under review. A recent submission has been approved for pre-servicing. Developer has stopped all work on this development.
16. 11 Bay Street – The Developer has received an amendment to Certificate of Approval for sanitary sewer extension. Phase 1 building construction is nearing completion.
17. Woodlands by Sierra – Water and sewer services construction almost complete.
18. Mill Pond – Waiting for re-submittal of site plan and servicing. Developer changing layout.
19. Thorncroft – Construction complete. Formal request for certificate of completion and inspection required to begin maintenance period with developer. Preliminary inspection complete, drainage issues noted and concerns conveyed to developer. Pavement repairs complete.
20. Second Nature Development – Awaiting further submission.
21. Ice River Springs Storage – Awaiting further submission.
22. Eden Oak – Drawings under review. Entered into Pre-Servicing Agreement for lot grading only.
23. Greystone – Drawings under review. Awaiting further submission.
24. Neighbourhoods of Delphi Point – Drawings under review for Phase 1A and 1B. Developer wishes to enter into a Pre-servicing agreement.
25. Lendvay Subdivision – Drawings under review. Awaiting further submission. Developer is very close to entering into Development Agreement.
26. Safrate Farms – Awaiting further submission.
27. Alta Phase II – Awaiting further submissions.

ENGINEERING & PUBLIC WORKS COMMITTEE UPDATE
CONSTRUCTION PROJECTS

As of January 27, 2009

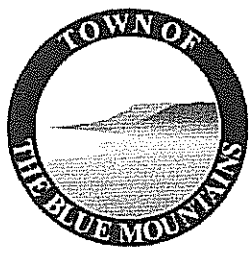
1. Highway 26, North Main - Restoration is complete with minor deficiencies. Due to issues with working in a cold water stream and the time of year, there is still 18m of watermain installation required to complete the connecting link. Ainley & Associates is preparing a tender for the installation of the remaining watermain.
2. Lora Bay – Phase 1B - Substantial completion issued on February 26, 2008. Significant pavement repairs required. Consultant (CRA) and Town have identified locations to be repaired by the Contractor at no cost to the Town in addition to the other minor deficiencies on site. Contractor has done asphalt padding and will resurface next spring. Deficiencies to Boulder Creek culvert have been completed. Consultant (CRA) and Town are looking at correcting deficiencies at 90° bend on Sunset Blvd and Lora Bay Road.
3. Thornbury Water Treatment Plant Filter Replacement - Construction began August 8, 2008. It is anticipated that substantial completion will take place early in 2009 and the project is approximately 40% completed. A technical memorandum outlining the Ultimate Plant capacity was received from Henderson Paddon in September 2008. In October, the amended MOE Certificate of Approval was received which included the 400 k emergency diesel generator set. The Peel & Bay Street watermain was commissioned in December.
4. Craigeith Road Sanitary Sewer - Warranty period ended September 7, 2008. Waiting on final inspection and record drawings.
5. Thornbury Wastewater Treatment Plant - In December 2008, we met to reviewed 90% report of the preliminary design, analysis and other engineering work. Key components of this expansion are upgraded headworks, the addition of 50% more aeration and clarifier capacity (one new aeration tank and one new clarifier), upgrades to the UV disinfection system, and the addition of a new emergency standby generation system).
6. Mountain Road Re-Construction Phase 2 - Contractor has substantially completed the Works. Final asphalt and restoration to be completed in spring 2009.
7. Camperdown Road - Major deficiencies include road surface, asphalt, and retaining wall. Some minor deficiencies also identified with curb and re-instatement. Discussions ongoing with Contractor and The Ainley Group regarding the correction of deficiencies.
8. Camperdown Sanitary Sewer / Drexler Construction - The contractor has filed a statement of claim in Ontario Superior Court. Town Staff have discussed this with the town solicitor from Aird and Berlis.
9. Plan 915 - Reconstruction of Carmichael Crescent, Plater Street, Campbell Crescent, and Kinsey Place. Design underway and construction of all four streets is scheduled to commence in 2009 subject to final consideration of financing.

**ENGINEERING & PUBLIC WORKS COMMITTEE UPDATE
CONSTRUCTION PROJECTS**

As of January 27, 2009

10. Lake Drive Water and Wastewater Servicing Extension - A letter regarding the status of this project was mailed to owners in December. It is anticipated, subject to final cost estimates, that this project will be tendered in March 2009. The town is moving ahead with the relocation of hydro poles that is necessary for safety and construction.
11. Georgian View Estates - This project has been deferred due to financing difficulties. The project will be re-tendered once funding is in place.

STAFF REPORT: Engineering & Public Works Department



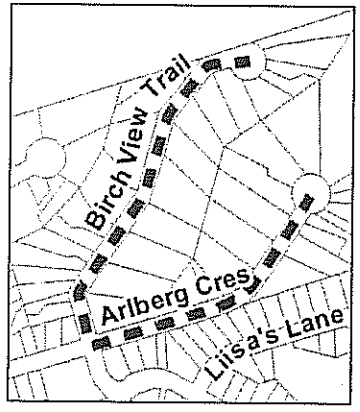
REPORT TO: Engineering & Public Works Committee
MEETING DATE: January 27, 2009
REPORT NO.: EPW.09.005
SUBJECT: Arlberg Crescent Wastewater Servicing
PREPARED BY: John Caswell, Manager of Water and Wastewater Services/Asst. Director

A. Recommendations

THAT Council receives Report EPW.09.005 entitled "Arlberg Crescent Wastewater Servicing" for their information;

B. Background

Mr. Sheldon Rosen has approached the municipality and is interested in front ending the cost of construction for the installation of sanitary servicing to existing dwelling units, including the vacant lots, along Arlberg Crescent. Tyrolean Village Resorts, the owner of a number of units on Arlberg Crescent, is also interested in contributing to this project.

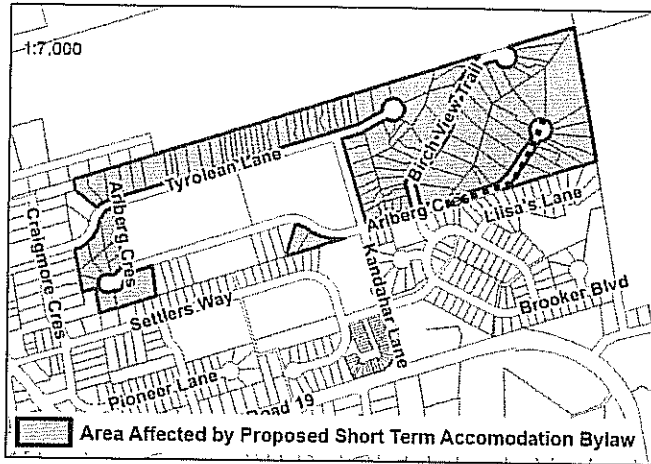


The draft 20 Year Servicing Extension Capital Plan contains a provision for servicing Arlberg Crescent as well as Birchview Trail within a timeframe of 5 – 10 years.

The works under this proposed project would only affect the Arlberg Crescent portion of the Capital Plan Extension. This would benefit the Town by extending the wastewater collections system and having properties connected which currently utilize older septic systems.

The Town will administer the consultant agreement and construction contract. This would be subject to Mr. Rosen making a \$5,000 deposit and entering into an agreement with the Town to initiate conceptual design and project pricing. This agreement will be approved by the Director of EPW and the Town Solicitor. Once the preliminary work is completed and the project scope and costing is understood, a subsequent agreement will be prepared for the approval of Council to stipulate the financial obligations and cost recovery by all parties. Cost recovery may be accomplished by enacting a bylaw which would determine the benefitting properties and the costs attributed to each property. Prior to passing a bylaw the Town will need to determine if the costs meet the Town's affordability policy.

The Town will engage the services of a consultant to act as project managers. These costs would be included in the overall cost of the project.



The area of the proposed project is subject to zoning Bylaw No. 2009-03 that affect these lands in regards to short term accommodation uses. Under Section 26 of the bylaw, subject to certain terms and conditions, short term accommodation use shall be permitted on the properties as indicated on the location map. This bylaw was passed on January 12th, 2009 but will not be in effect until Official Plan Amendment No. 11 is approved by the County of Grey.

C. The Blue Mountains' Strategic Plan

This report furthers the Town's Strategic Goal #2 "Addressing the Town's Municipal Infrastructure Needs".

D. Environmental Impacts

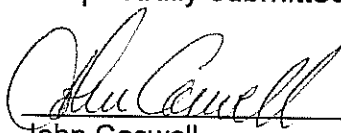
Elimination of septic systems will improve the ecosystem and groundwater quality. Residents will avoid future repairs and maintenance costs for septic systems. Prior to connection to the municipal services the septic tanks servicing these properties would either require removal or filling with concrete or gravel.


E. Budget Impact

The \$5,000 deposit is to be upfronted by the proponent. Staff time will be required and this expense will be recovered by the addition of a 2% fee to the proponent based on total construction costs of the project. Due to staff resource constraints, this project will not proceed unless an otherwise committed capital project is found to be no longer going forward. Most likely, it would be a developer driven project which would not proceed.

F. Attached

Respectfully submitted,


John Caswell
Manager of Water and Wastewater Services


Reg Russwurm
Director of Engineering and Public Works

For more information, please contact:
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