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10.1.9

Halifax Regional Council  
August 2, 2005

TO: Mayor Kelly and Members of Halifax Regional Council

SUBMITTED BY:

  
George McLellan, Chief Administrative Officer

  
Peter Stickings, Acting Director, Real Property and Asset Management

DATE: July 19, 2005

SUBJECT: Dartmouth Community Integration Fund - Trail Construction

**ORIGIN:**

Halifax Regional Council Minutes, July 9<sup>th</sup>, 2002:

**8.11 Moved by Councillor Hetherington, seconded by Councillor Sarto that:**

1) Council endorse the Dartmouth Community Liaison Committee's Community Integration Plan (CIP) for the integration of the Dartmouth WTP site into the surrounding community and, once the Harbour Solution Project (HSP) agreement with the private partner is approved by Council, request HSP staff to bring to Council for approval the Dartmouth Community Integration Fund (CIF) budget as part of the overall HSP budget.

**Motion put and passed:**

**RECOMMENDATIONS**

It is recommended that Halifax Regional Council:

1. Award Dexter Construction Company Limited the construction of the Dartmouth Harbourfront Trail from Cuisack Street to Tupper Street, for a total cost of \$499,394 including net HST;
2. Award Dexter Construction the construction of the retaining wall at Cuisack Street for a total cost of \$292,592 including net HST.

Funding for the above to come from Capital Account No. CSE00397, Dartmouth Community Integration Fund. Funding is to be authorized as per the Budget Implications Section of this report.

**BACKGROUND:**

On July 9, 2002 the Community Liaison Committee (CLC) for the Dartmouth Treatment Plant recommended to Regional Council that the Community Integration Fund be allocated to the development of the Dartmouth Harbourfront Trail. This trail is a primary multi-use regional trail eventually connecting Woodside Ferry to the Dartmouth Ferry (See Attachment A) with a possible future connection to the MacDonald Bridge. The trail will provide recreation and active transportation opportunities to large numbers of citizens on both sides of the harbour and connect into a larger regional alternative transportation network. The trail also provides public access to the harbour, new community college and serves to help integrate the Dartmouth Treatment Plant into the community through HRM's parks and open space system. The Dartmouth Harbourfront Trail project is a joint venture with the Waterfront Development Corporation which has already completed a length of trail from the Woodlawn Ferry to the Dartmouth Sewage Treatment Property. Under guidelines established by the CLC, the Dartmouth Harbourfront Trails Association, a sub-committee of the CLC, and Harbour East Community Council have agreed that the funds be directed to the next portion of trail between Cuisack Street and Old Ferry Road. The phase identified in this report accomplishes part of that and extends from Cuisack Street to Tupper Street. It is situated on property acquired and owned by HRM for purposes of the Treatment Facility and eventual municipal parkland.

As this section of trail is directly on lands currently under construction for the Dartmouth Treatment Plant, staff and the Dartmouth Harbourfront Trails Association explored cost, management and time savings associated with combining construction of the trail with treatment plant site works.

**DISCUSSION:**

The Harbourfront Trail, the plant access road, and the sewage collection system are all linear in nature and substantial physical overlap exists among the projects. The underground wastewater distribution system and the Dartmouth Harbourfront multi-use trail are located essentially in the same corridor, in some instances one directly above the other. As well, the access road to the plant and a good portion of the planned phase one section of the trail plant intersect or share the same corridor.

Given the overlap of these projects, staff entered into negotiations with Dexter Construction Company Limited, who are building the Dartmouth Treatment Plant, collection system and associated site works. Dexter was requested to prepare a fee proposal for construction of this section of trail between Cuisack and Tupper Streets, based on the Dartmouth Harbourfront Trail Implementation Strategy.

The scope of the work includes the development of the main 3 metre wide multi-use trail with an a secondary 1.5 metre wide trail connecting to adjacent neighbourhoods. Included are retaining walls and fencing, lookoffs at Boundary, Stephen and Arthur Streets, and all trail amenities and landscaping.

Staff, with the assistance of Ekistics Planning and Design, have reviewed the fee proposal and are recommending HRM enter into a contract with Dexter Construction to build this section of trail (see Attachment C) owing to the benefits in cost, schedule and management which are attributable to combining the trail and site works associated with the treatment plant.

Three benefits to this approach have been identified; A) cost savings associated with trail construction now rather than after the plant is completed B) a savings in management requirements and C) an earlier delivery of the trail project than would be realized if the Plant construction and trail construction were to occur sequentially.

### **A) Cost Savings**

The review of the Dexter Proposal shows that there is a current cost savings of 9.4% above anticipated market prices for the work as laid out in the Dexter proposal based on combining the Dartmouth Treatment Plant and the Dartmouth Harbourfront Trail (Phase I) projects. The majority of these savings are found in the trail construction itself which is 26% lower than the Waterfront Development Corporation's portion of the Dartmouth Harbourfront Trail built on adjacent property. This savings is attributable to mobilization costs, management costs, efficiencies in construction scheduling and combining gross supply of materials and services. Prices for other associated works are commensurate with industry standards. These other works (walls, landscaping, etc.) are generally elements which are not associated with the Harbour Construction Project and were not necessary in the Waterfront Development Corp's section of trail due to a more gentle topography. The table in Attachment B demonstrates that, under market conditions, HRM would be getting a more than fair value for its dollar by employing Dexter.

The real cost savings are found in comparing the Dexter Proposal to a scenario whereby the Plant and associated site works are carried out first and then the Trail project commences after the Plant work is completed. Ekistics estimates this scenario would see an increase in overall trail project costs of 20% for this phase of the project. The increase in costs under this scenario is attributable to the requirement to rework areas which had been already been brought to a condition where they met Harbour Solutions contract requirements but would not accommodate the trail. Essentially the scope of required work, and therefore the cost, for the trail project would increase under this scenario.

A third scenario is possible but was not explored in any great detail. That scenario would see a separate tendered contractor carry out trail work on the site at the same time as Dexter is carrying out the Plant works. In staff's experience this scenario has the real potential of costing both the Harbour Solutions Project and the Harbourfront Trail Project large amounts of time and money as each project is delayed waiting for elements of the other project to be sequenced, coordinated and completed. The anticipated costs and management time associated with this approach would most likely mean an increase in costs to the Trail Project. The potential legal and cost ramifications of this scenario to the Harbour Solutions Project contract mean that staff are not even comfortable entertaining the idea.

### **B) Management Efficiencies**

The resources required to manage a combined approach to the plant site works and the trail represent a savings over the trail project proceeding on its own after the plant is built. The savings are derived through management efficiencies of day to day on site works resulting in a requirement for less in-house and consulting management services. This has been substantiated by a recent proposal from Ekistics for on site design and construction services.

### **C) Delivery Date**

The expected completion of the Dartmouth Plant is approximately the summer of 2007. By combining the two projects the trail project would be delivered at the same time. It is possible with the proper safety measures to open the trail sooner with the understanding that there will be periods which will require a temporary closure due to plant construction requirements. Under a sequential scenario the trail project would not commence until after the Plant Site Works are completed. Allowing a full season for construction this would mean that the trail delivery date would be one year after the plant opens.

Associated with these works, but kept separate from the trail work, is the construction of a retaining walls and grading of slopes associated with the new access road to the plant. The trail plan calls for neighbourhood connections to give local people access to the multi-use trail and harbourfront. These connecting trails must be at the top of the slopes on the plant property. This requires an upwards extension of the walls and additional safety features associated with the walls necessary to allow the new access road to reach the plant. The costs of this wall extension is directly attributable to the trail and therefore should come from the Community Integration Fund. The cost of this wall extension is \$292,592 net HST. O'Halloran Campbell Engineering, Consulting Engineers to the Harbour Solutions Project, have reviewed this price and scope of work and find it commensurate with unit prices involved with similar wall construction. (See Attachment C).

### ***Other Considerations***

In working on the trail proposal, Dexter has offered to change its fill site for excavated materials to the Arthur Street Extension. This road leads to the Coast Guard Base and is on the Plant property but is slated to be abandoned. Filling of this road cut was a commitment made to areas residents during community discussions. Dexter will shape and grade these materials to fill in the old road cut enabling the area to be made into future parkland and allow any future trail connections to easily cross. Dexter agreed to carry out this filling and finish with hydro seeding at no cost to the Harbour Project. Dexter is committed to do this regardless of the trail work going ahead or not. This synergy represents a savings of \$49,200 toward the development of a community park and solves an issue for the trail. This work is not included in any analysis of Dexter's proposal as it has been negotiated separately under the Harbour Solutions Project.

### ***Summary***

Staff are making two recommendations to Council. The first is to take advantage of the opportunity to combine the Treatment Plant Project with the current phase of the Dartmouth Harbourfront Trail Project by awarding the trail work to Dexter Construction after an analysis of the proposal requested by staff. The second is to extend the scope of work associated with the wall works below Cuisack Street in order to accommodate the planned connecting trails above. Approval of this constitutes an extension of Dexter's work associated with the Harbour Solutions Project. This is allowable under HRM procurement practices when it is in the best interest of the municipality (cost, timing, management) and there is only one supplier positioned to provide the service. In this case Dexter is clearly in that position as they are designing, engineering and managing the construction of the lower portion of the Cuisack Street retaining wall and they are carrying out the site works associated with the plant. No other contractor is in this position. The analysis shows that HRM is getting a better than expected value for dollar by combining the projects, a more efficient project management system and a sooner project delivery for the trail project. It is anticipated that waiting until the end of the Dartmouth Plant Project to tender the trail project would cause an overall increase in costs owing to an increase in scope associated with necessary renovations to the finished plant site to accommodate the trail. The two recommendations have been separated as the wall work is already within the scope of Dexter's Harbour Solutions contract while trail work clearly is not.

### **BUDGET IMPLICATIONS:**

Regional Council, as part of the Harbour Solutions Project budget, has approved a total of one million dollars under the Dartmouth Community Integration Fund. Prior to approving the HSP budget, Regional Council also approved that up to \$30,000 could be withdrawn from the Parkland Reserve so that detailed design and construction plan preparation could begin on the Dartmouth Harbourfront Trail and that this amount would ultimately be reimbursed from the Community Integration Fund. To date, \$13,555 has been spent on design and

plan preparation.

Based on Dexter Construction Company Limited's quoted prices of \$482,838, plus net HST for a total project cost of \$499,394 to construct the trail between Cuisack and Tupper Streets and \$282,892, plus net HST for a total project cost of \$292,592 to perform additional retaining wall work, funding is available from Account No. CSE00397, Dartmouth Community Integration Fund. The budget availability has been confirmed by Financial Services.

Budget Summary:	Capital Project No. CSE00397-Dartmouth Community Integration Fund	
	Approved Budget	\$1,000,000
	Less: Expenditures to Date	\$ 13,555
	Cumulative Unspent Budget	\$ 986,445
	Less: Trail (Cuisack - Tupper)	\$ 499,394
	Less: Redesign of Wall to Accommodate Trail	\$ 292,592
		\$ 194,459

Ekistics reviewed and recommended acceptance of the quote. The Dartmouth Harbourfront Trails Association who is HRM's trail delivery partner approved the recommendation at its meeting on June 20, 2005. That approval is provided in Attachment D.

There are no anticipated maintenance implications for the Trail corridor in the 05-06 fiscal year. However in the year following completion, operational budgets will be impacted for the newly acquired park properties in the vicinity of the Plant. Trail maintenance costs will be considered as part of the overall park maintenance costs during the upcoming budget review process.

Total project costs of the Dartmouth Harbourfront Trail are estimated at \$1,988,230. The Dartmouth Community Integration Fund will first be applied to the Phase One Development between Cuisack and Tupper Streets. The remaining balance of the Community Integration Fund will be applied to the Phase Two Development between Tupper Street and Old Ferry Road.

### **FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN**

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

### **ALTERNATIVES**

Council could direct staff to proceed to tender either or both pieces of work under consideration for award to Dexter Construction Company Limited. This option is not recommended as the Dartmouth Wastewater Treatment Plant access road and the related Sewage Collection System are now moving into the construction phase. Coordinating trail work with the access road and Sewage Collection System would become more difficult with an additional contractor and further delays in awarding the work would exacerbate the coordination task.

ATTACHMENTS

Attachment A- Proposed Trail Map

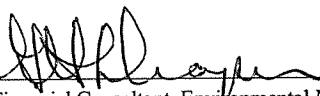
Attachment B- Analysis fo Dexter Proposal from Ekistics Design for Trail Work

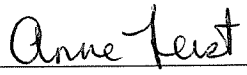
Attachment C - Analysis of O'Halloran Campbell Ltd for Cuisak Street Retaining Wall

Attachment D - Dartmouth Harbourfront Trails Association Meeting, June 20, 2005 - Approval of Ekistics' recommendation

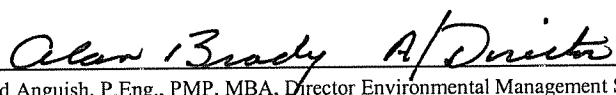
Additional copies of this report, and information on its status, can be obtained by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Paul Euloth, Regional Trails Coordinator, Real Property & Asset Management 490-4415  
Holly Power-Garrett, CGA, Financial Consultant, Harbour Solutions Project 490-4488

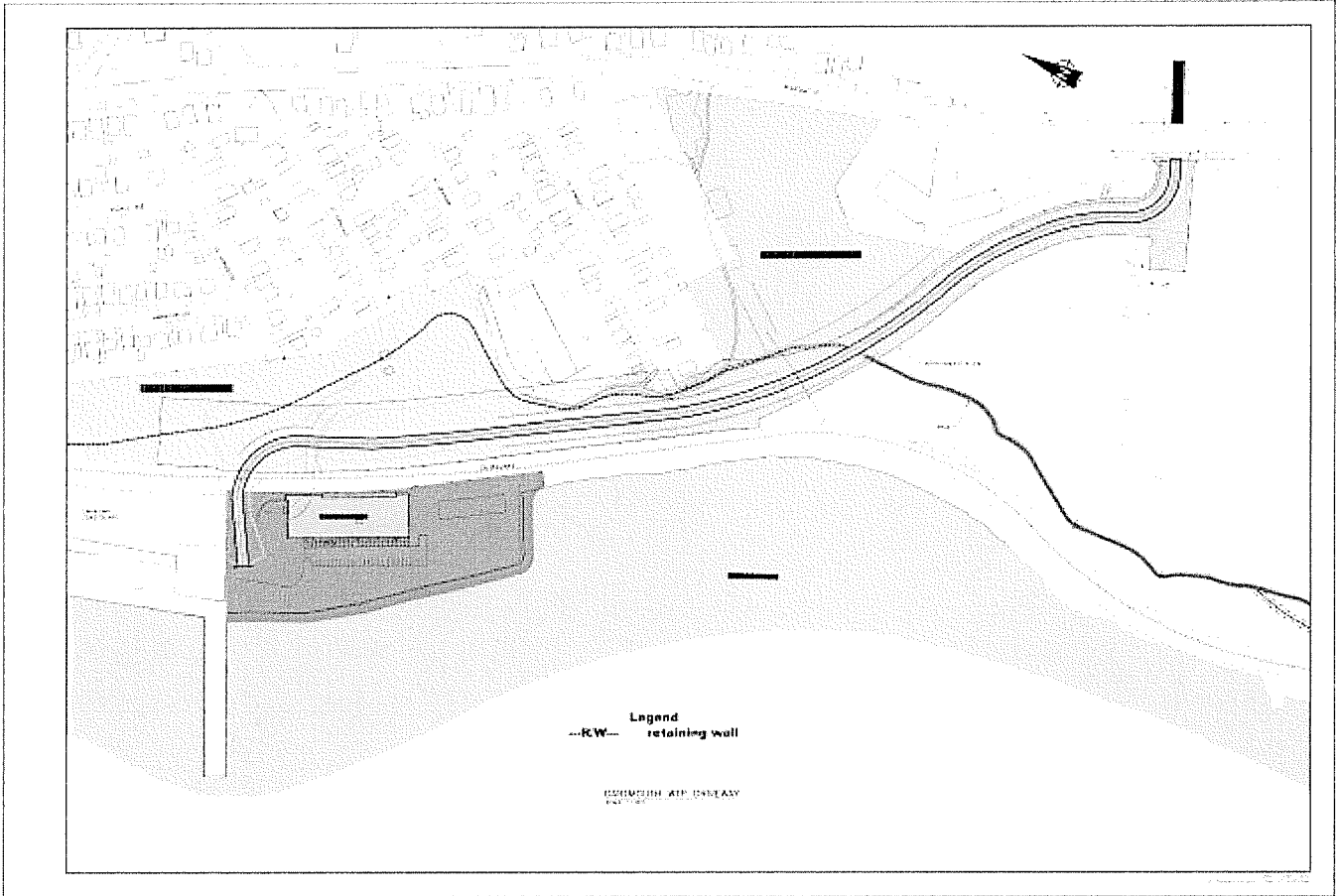
Financial Review:   
Gary Draper, CA, Financial Consultant, Environmental Management Services 490-6902

Report Approved by:   
Peter Ross, MBA, Manager of Procurement 490-6499

Report Approved by:   
Peter Stielings, Acting Director Real Property & Asset Management 490-7129

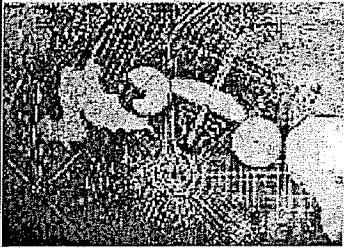
Report Approved by:   
Brad Anguish, P.Eng., PMP, MBA, Director Environmental Management Services 490-4825

**Attachment A**  
**Proposed Trail Map**





July 26, 2005



Mr. Paul Euloth  
Regional Trails Coordinator  
Halifax Regional Municipality

**Subject: Dexter Harbour Solutions' Dartmouth Harbour Trail Proposal  
June 17, 2005**

LANDSCAPE ARCHITECTURE

ENVIRONMENTAL PLANNING

VISUAL RESOURCE MANAGEMENT

URBAN DESIGN

Ekistics Planning and Design has been engaged by the Dartmouth Trails Association and Halifax Regional Municipality to aid in the design and construction management of the Harbourfront Trail from Cuisack Street to Tupper Street. Ekistics has reviewed the Dexter Harbour Solutions fee proposal for construction of this trail section, which is based upon the *Dartmouth Harbourfront Trail Implementation Strategy* (Ekistics, 2004).

**SCOPE OF WORK**

The Dartmouth Harbour front trail from Cuisack Street to Tupper Street requires construction of 570 linear metres of 3m wide main trail, and another 525 linear metres of 1.5m wide side trails, which form links to adjacent streets. Three lookout parkettes will be constructed at the interface with local streets to provide the public with a place to enjoy the panoramic views of Halifax harbour. Landscape planting at trail head and rest locations is proposed, as well as greening along the retaining walls to be constructed. Due to the steep topography along this trail section, extra retaining walls are needed to support the trail base, as well as safety railings to protect trail users. The design of the trail from Cuisack Street to Tupper Street conforms to HRM standards for regional trails, and guidelines for combined bicycle pedestrian trails articulated by recognized Canadian authorities (Velo Quebec).

After slight reductions in the scope of work made by the Dartmouth Harbour Trails Association, the Dexter Proposal amounts to \$448,050 plus HST. This represents a contract addition of less than one-half of one percent, and is well within normal limits associated with HRM construction administration and contracting practice.

**QUALITY**

The Dexter proposal accurately reflects the scope and quality of work recommended in the trail master plan, which is consistent with the completed trail work between the Woodside Ferry Terminal and Cuisack Street. We believe Dexter's proposal will achieve the quality and character of trail development which the community has supported.

**COST**

Ekistics has examined the costs contained within the Dexter proposal, using industry standards and similar recent work as benchmarks for comparison. The table below sets out the Dexter prices along with those used as a comparison.

The nearby trail constructed by the Waterfront Development Corporation on relatively gentle terrain cost approximately \$70 per square metre to construct. This price was obtained through a competitive bidding process in 2004. For a similar product, the Dexter proposal seeks \$52.92 per square metre, 24.4% less than the actual cost of the same trail built last year.

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### Harbourfront Trail Cost Comparison

Item	Qty	Unit	Dexter	Total	"Market"	Total
Asphalt Trail	2,798.00	sm	52.95	145,125.00	70.00	195,860.00
Fencing 1		lump		42250		42250
Fencing 2		lump		22500		22500
600 mm walls	120	lm	252.5	30,300.00	241	28,920.00
1200 mm walls	120	lm	468	56,160.00	482	57,840.00
1m gabion walls	100	lm	328.5	32,850.00	300	30,000.00
Trail furnishings		lump		15390		16042
Landscape planting		lump		74400		75627
Lookouts		lump		44075		44075
Parking lot		lump		19788		19788
				<b>482,838.00</b>		<b>532,902.00</b>

Cost Differential 50,064.00  
 Percent saving over Market Cost 9.39%

\*Estimates based upon tender results for contracts designed and managed by Ekistics Planning and Design, and confirmed by reference to RS Means Building Construction Costs Data, 2005.

Because of the steep topography and need for considerable slope retention, another \$184,060 cost is incurred for retaining walls and safety rails. Dexter's unit costs for the various elements required are set out in the table above. These are generally comparable to current market prices for such works. The Dexter proposal also includes \$133,000 to cover the cost of lookouts and landscape planting. Again, we find these costs to be comparable to industry standards for such work.

The Dexter proposal does not mention opportunity to fill and rehabilitate the Arthur Street extension, which served as an emergency access to the coast guard site, but is no longer required. Dexter has agreed to fill this area with excess fill generated by construction of the sewage treatment plant access road. Placement of the fill in this location (rather than elsewhere on-site) provides the community with a benefit valued at \$49,200, at prevailing market prices for filling.

However, Ekistics feel the main cost advantage of the Dexter Proposal lays in the ability for work on the trail and the sewage treatment plant access road to be closely integrated. Construction of this trail section following completion of the access road would complicate access to the project site and the construction process. Because the construction of the access road involves many like procedures, it will be simpler and more economical for a single contractor to undertake rough grading, sub-grade preparation, walling, paving and seeding of the two projects together, rather than remobilizing crews at a later date to undertake the trail project separately.

Completion of the trail and access road at one time also ensures that the two projects which will be built on challenging terrain are well integrated and successfully fitted to the site. Later construction of the trail would increase the risk of having to rework elements of the road design to obtain a proper end result. Ekistics estimates that the increased cost of building the trail after the completion of the sewage treatment plant access road could easily amount to a 20% increase of the current price proposed by Dexter. Given the considerable complexity involved in constructing the trail section from Cuisack Street to Tupper Street, we feel that the Dexter Proposal provides a more than favourable opportunity to construct this trail section economically. We suggest that a lump sum agreement be reached based on their calculations to reduce the chance of surprise additions to the cost of this section of the trail.

**TIMING**

The added benefit related to this section of trail being built as an addition to Harbour Solutions existing contracts is that the work can be completed this construction season. This process could make the trail available from one to three years ahead of the time required for Dexter to complete their contract in this area before tendering this segment of trail as a separate contract. If tendered as a separate project, it is conceivable that this section of trail could open in 2007 or 2008 as opposed to 2005, as it may, if added to the current Dexter contract.

**CONCLUSION**

Construction of the Dartmouth Harbourfront Trail from Cuisack Street to Tupper Street is a complex project – brought about by the steep topography and limited space for trail construction. The visual prominence of this trail section provides a valuable opportunity to provide the public with an opportunity enjoy panoramic views of the harbour and downtown Halifax, and also requires that the trail be carefully integrated in the landscape to protect views from the west. The Dexter cost proposal provides a means to realize the quality of trail construction the community expects at a reasonable price. Deferring trail construction will likely cause substantial increase in cost, and unnecessary delay in completion of the trail. If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Robert LeBlanc  
Ekistics Planning and Design



**O'HALLORAN CAMPBELL**  
**consultants limited**

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July 25, 2005

Mr. Paul Euloth  
Trails Co-ordinator  
Halifax Regional Municipality  
40 Alderney Drive 6<sup>th</sup> Floor  
Dartmouth, NS B3J 3A5

Dear Mr. Euloth:

***HHS-DARTMOUTH STP DRIVEWAY - WALKWAY AND GABION WALL***

In order for the Dartmouth STP roadway to accommodate the proposed trail, a section of the driveway approximately 140 m long (from Sta 0+140 to Sta 0+280) has to be redesigned. A portion of the road will now require gabion retaining walls where none were previously required, and in other areas the height of the previously planned gabion walls has to increase to accommodate the proposed trail at an approximate elevation of 18.0 m. The profile of the Dartmouth STP roadway was not affected. The scope of work associated with accommodating the trail includes excavation for the gabions, preparing a base for the gabions, installing the gabion walls, backfilling behind the walls with granular free-draining backfill, and installing filter fabric.

We have reviewed Dexter's quotation and related breakdown of the gabion wall required on the east side of the STP access driveway to accommodate the upper trail. Included in our review of Dexter's quotation were costs associated with excavation and fill materials, wall foundation preparation, supply and installation of gabions, and reinstatement. Typical industry standard unit prices were used in the assessment. Dexter's quoted price was 3% higher than our calculated estimate and we would find this to be within an acceptable range. We therefore find that Dexter's proposed quotation is reasonable.

Mr. Euloth  
July 25, 2005  
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There is a definite advantage to HRM in awarding the additional gabion retaining wall work to Dexter, as the retaining wall can be completed in conjunction with the construction of the Dartmouth STP driveway and would provide cost and time savings due to reduced mobilization charges as crew and machinery would already be on site. There would also be savings to HRM in reinstatement as side slope reinstatement is partially covered in the STP driveway construction contract.

We trust that this is all you require. Thank you.

Yours very truly,

***O'HALLORAN CAMPBELL CONSULTANTS LIMITED***

MLD/lw  
1202

Marcel L. Deveau, P. Eng.

**Attachment D**  
**Dartmouth Harbourfront Trails Association Meeting, June 20, 2005**

Dartmouth Harbourfront Trails Association

22 Summit Street  
Dartmouth, Nova Scotia  
B2Y 3A2

June 24, 2005

Halifax Regional Municipality  
Alderney Gate 64  
40 Alderney Drive  
Dartmouth, Nova Scotia  
B3J 3A5

Attention: Paul Euloth Regional Trails Coordinator

Re: Dartmouth Harbourfront Trail

Dear Mr Euloth

As requested, the following is an excerpt from the minutes of the June meeting of the Dartmouth Harbourfront Trails Association:

*It was moved by Barry Lampier that the June 17, 2005 proposal of Dexter Construction to construct the trail between Cuisack and Tupper Streets be accepted subject to final review and negotiations by Ekistics (on behalf of DHTA) and approval of HRM and ongoing supervision of the work and costs to ensure final costs remain within the budget available. Seconded by Jean Llewelyn. Carried.*

Yours truly,

Barry Lampier, P. Eng  
Treasurer  
Dartmouth Harbourfront Trails Association

Copy: Jean Rennie  
Nancy Walters  
Becky Kent

*The Dartmouth Harbourfront Trails Association is an association within the regional trails system umbrella, committed to providing community input and guidance to the planning, development and management of a safe, clean and informative non-motorized multi-use trail between the two Dartmouth ferry terminals. We wish to maintain the environmental integrity of the surrounding green belt for all to enjoy.*