TO: Chair and Members  
Public Works Committee  

WARD(S) AFFECTED: CITY WIDE

COMMITTEE DATE: March 1, 2010

SUBJECT/REPORT NO:  
Enhancement of Windermere Basin (PW08055a) - (City Wide)

SUBMITTED BY:  
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SIGNATURE:

RECOMMENDATION:

(a) That the City of Hamilton (“City”) enter into an Amending Agreement to the settlement agreement dated October 26, 2000, between the City of Hamilton and the Hamilton Port Authority (“HPA”) (formerly the Hamilton Harbour Commissioners) which removes the City’s obligation to dredge Windermere Basin and replaces it with the City’s obligation to dredge the portion of Hamilton Harbour in the vicinity of Pier 25 which is owned by the HPA and is also known as “Area B”;

(b) That the Mayor and Clerk be authorized and directed to execute the Amending Agreement referred to in subsection (a), in substantially the form set out in Appendix “A” to Report PW08055a, and all necessary associated documents, in a form satisfactory to the City Solicitor;

(c) That the City enter into a Memorandum of Understanding (MOU) with the HPA, which sets out their respective obligations regarding the dredging of Area B and which provides a framework for a ten year project management agreement (PMA) for the HPA to provide complete project management services to the City for the dredging of Area B;

(d) That the Mayor and Clerk be authorized and directed to execute the MOU referred to in subsection (c), in substantially the form set out in Appendix “B” to Report PW08055a, and all necessary associated documents, in a form satisfactory to the City Solicitor;

Vision: To be the best place in Canada to raise a child, promote innovation, engage citizens and provide diverse economic opportunities.  
Values: Honesty, Accountability, Innovation, Leadership, Respect, Excellence, Teamwork
(e) That the General Manager of Public Works be authorized and directed to negotiate and execute, on behalf of the City, a PMA with the HPA, which more comprehensively sets out the details of the obligations and liabilities of both the City and the HPA with respect to the dredging of Area B, and all necessary documents, in a form satisfactory to the City Solicitor.

**EXECUTIVE SUMMARY**

Windermere Basin (Basin) is located in the east end of the Hamilton Harbour (Harbour), at the mouth of the Red Hill Creek in the City of Hamilton. Located in the Harbour and immediately downstream of the Basin, are Piers 24 and 25, where significant shipping activity occurs under the control of the Hamilton Port Authority. Located approximately one kilometre upstream of the Basin is the Woodward Avenue Wastewater Treatment Plant, which discharges treated effluent directly into the Red Hill Creek.

In October 2000, the City of Hamilton (City) and the Hamilton Port Authority (HPA) (formerly the Hamilton Harbour Commissioners) entered into a settlement agreement which transferred ownership of the Windermere Basin (Basin) lands and lands under water to the City. As part of the agreement, the parties agreed that the HPA will no longer have any responsibility for maintenance dredging and greenscape development of the Windermere Basin lands and lands under water. Dredging of the Basin will be undertaken by the City in a timely manner to ensure the build-up of sediment will not impinge upon the shipping, navigation and transportation needs of the Harbour’s operations.

In 2005, the City retained C. B. Fairn & Associates to conduct a review of the existing conditions at the Basin, and evaluate feasible alternatives for a preliminary dredging plan to restore the sediment trap function of the Basin and ensure that the adjacent Harbour’s shipping and navigation operations are not adversely affected. A total of nine (9) alternatives were evaluated. The recommended alternative was to consider leaving the Basin as “status quo” and, instead, develop a dredging plan that removes the sediment deposits from the Harbour itself.

In 2007, the City retained Cole Engineering to undertake a Municipal Class Environmental Assessment (Class EA), preliminary and detailed design, and contract administration services for the Enhancement of Windermere Basin. The first phase was to undertake a Schedule “B” Class EA to study enhancements to the Basin that would address sediment issues and provide for naturalization opportunities. The Class EA for the project was completed in 2008 in which the preferred solution selected for the Basin was to construct a watercourse to direct sediment to Hamilton Harbour (Harbour) and create an aquatic habitat (Wetland) with the remainder of the Basin. The Class EA process was documented by the ‘Enhancement of Windermere Basin Project File’, dated May 2008. City Council approved the filing of the Project File in May 2008, which was presented as Council Report PW08055.

The approval of Report PW08055 provided the following direction to City staff:
(a) That the General Manager, Public Works be authorized and directed to file the Notice of Completion and issue the Project File for the Class Environmental Assessment for the Enhancement of Windermere Basin for the mandatory 30-day review period;

(b) That upon completion of the 30-day public review period, the General Manager, Public Works be authorized and directed to proceed with detailed design and implementation of the preferred solution of the Class Environmental Assessment for the Enhancement of Windermere Basin, provided that no substantial comments by the public or Part 2 Orders received by the Ministry of the Environment are received.

Upon approval of Report PW08055 and the filing of the Notice of Completion, the City proceeded with the preferred solution through the preliminary and detailed design process. The results of the detailed design process for the Enhancement of Windermere Basin project consist of the construction of an earthen dyke to create the watercourse and isolate the proposed wetland from the Red Hill Creek. Through the construction of a watercourse, sediment would by-pass the wetland and flow directly into the Harbour in the vicinity of Pier 25.

As part of the settlement agreement identified previously, the City is legally obligated and responsible for maintenance dredging of the Basin to ensure that the build-up of sediment will not impinge upon the shipping, navigation, and transportation needs of the Harbour’s operations. Due to the proposed works of creating a watercourse and wetland in the Basin, sediment will no longer settle out in the Basin and will be transported to the Harbour through the constructed watercourse. Therefore, the settlement agreement between the HPA and the City must be amended to remove the City’s obligations for maintenance dredging of the Basin and replace those obligations with obligations for maintenance dredging in the vicinity of Pier 25, identified as Area B in Schedule 15 to the Amending Agreement, which Amending Agreement is attached hereto as Appendix “A”.

As a result of the above, City staff, including the Legal Services Division, have been working in a collaborative manner with the HPA to identify opportunities and details associated with amending the October 2000 settlement agreement and developing a memorandum of understanding (MOU). This collaboration with the HPA has resulted in an opportunity for the City to alleviate immediate and long-term maintenance costs associated with the dredging of Windermere Basin, will allow the City to meet their legal obligations to the satisfaction and approval of the HPA, and will allow the Enhancement of Windermere Basin project to be constructed.

In order to evaluate the financial feasibility of conducting dredging operations at Area B of Pier 25 instead of within the Basin, net present value analyses were undertaken for a 50-year period. As identified in the Analysis/Rationale For Recommendation section of this Report, the estimated net present value of dredging the Basin, as per the existing settlement agreement, will cost anywhere from $59.4 million to $79.4 million over 50 years, depending on the dredging frequency. This estimate is significantly higher than
the net present value of dredging at Area B (which is staff’s recommended approach),
which is estimated between $19.1 million and $40.3 million over the same time period.

The source of funding for the initial dredging of Area B and the Enhancement to
Windermere Basin project has been approved and will be funded from Account No.
5160766711. The City will be required to allocate budget for future Pier 25 dredging
operations. It is estimated that the City will be required to budget approximately $2.5
million yearly, based on the worst case sediment loading of 12,500 $m^3$/yr. However, this
budget allocation will be tracked and refined as required to realize any possible savings.

In recent discussions with the HPA, dredging of Area B will be required in 2010 while
the Enhancement of Windermere Basin project is ready for implementation with
construction estimated to begin in the spring of 2010. The project is scheduled to be
substantially completed by September 2012 to comply with Canadian Strategic
Infrastructure Fund (CSIF) requirements.

Based on the above, City staff is seeking Council approval on the following:

- **Amending Agreement**
  By entering into and executing the Amending Agreement to the original settlement
  agreement dated October 26, 2000, the City will no longer be legally obligated to
dredge the Basin, but will be required to dredge Area B. The entering into of this
Amending Agreement will allow the construction of the Enhancement of Windermere
Basin project (which has previously been endorsed by Council) to proceed. The
amending Agreement has been endorsed by the HPA and is attached hereto to
Report PW08055a as Appendix “A”.

- **Memorandum of Understanding (MOU)**
  The MOU sets the framework for a ten-year project management agreement (PMA)
to be developed between the City and HPA. Particularly, the MOU outlines that the
City will retain the HPA as a full service provider to undertake complete project
management services, including contracting with consultants and contractors for all
required services for the dredging, unloading, dewatering, trucking and disposal of
the dredgeate at full cost to the City. In consideration of the HPA providing complete
project management services to the City, the City shall pay to the HPA a project
management fee of ten (10%) percent of all project and project-related costs. The
MOU has been endorsed by the HPA and is attached hereto to Report PW08055a
as Appendix “B”.

- **Project Management Agreement (PMA)**
  The authority for the General Manager of Public Works to negotiate and execute a
PMA which more comprehensively sets out the details of the obligations and
liabilities of both the City and the HPA with respect to the dredging of the Basin.

**Alternatives for Consideration - See Page 13**
FINANCIAL / STAFFING / LEGAL IMPLICATIONS

Financial:
The financial costs of the maintenance dredging of Area B are as follows:

**Initial Pier 25 Dredging Costs**
Based on an estimate of approximately 37,000 m$^3$ of sediment that is to be removed within Area B, the initial dredging, dewatering, and disposal costs to address sediment accumulations in this area is approximately $6.5$ million. As stated in the “Analysis/Rationale for Recommendation” and “Alternatives for Consideration” sections of this Report, the HPA will be seeking reimbursement from the City for the costs associated with the initial dredging, regardless of an approved Amending Agreement.

**Future Pier 25 Dredging Costs**
The estimated cost for the dredging, dewatering, and disposal of sediment within Area B is approximately $4.5$ million.

The budget for the initial dredging of Area B and the Enhancement to Windermere Basin has been approved and will be funded from Account No. 5160766711. The City will be required to allocate budget for future Pier 25 dredging operations. It is estimated that the City will be required to budget approximately $2.5$ million yearly, based on the worst case sediment loading of 12,500 m$^3$/yr. However, this budget allocation will be tracked and refined as required to realize any possible savings.

Staffing:
The implementation of the recommendations contained in this Report will require a City staff member from the Public Works Department to serve as the respective liaison person with the HPA for each required dredging operation of Area B. It is anticipated that this effort can be accommodated within the existing staffing complement.

Legal:
The City has a current legal obligation to the HPA to undertake maintenance dredging of the Basin. Maintenance dredging of the Basin will no longer be possible after construction of the Enhancement of Windermere Basin project. Therefore, the Amending Agreement is required to be executed prior to commencement of the construction of the Enhancement of Windermere Basin project. The attached Amending Agreement and Memorandum of Understanding will set out a requirement for the City to dredge Area B instead of the Basin and for the HPA to provide complete project management services for such dredging to the City. Subsequent to the approved Amending Agreement and MOU, a ten-year project management agreement (PMA) will need to be drafted to reflect fully the agreement reached between the City and HPA.

HISTORICAL BACKGROUND
Windermere Basin (Basin) is located in the east end of the Hamilton Harbour (Harbour), at the mouth of the Red Hill Creek in the City of Hamilton. Located in the Harbour and
immediately downstream of the Basin, are Piers 24 and 25, where significant shipping activity occurs under the control of the Hamilton Port Authority. Located approximately one kilometre upstream of the Basin is the Woodward Avenue Wastewater Treatment Plant, which discharges treated effluent directly into the Red Hill Creek.

In 1988, a remedial program to reconfigure and rehabilitate the Basin as a sediment trap was conducted by Public Works Canada on behalf of The Hamilton Harbour Commissioners (HHC). The work, which was completed in 1990, involved the construction of a series of eight dyked containment cells situated around the perimeter of the Basin, the dredging of the Basin to remove a large quantity of contaminated sediments which were deposited into the newly constructed containment cells, and the additional dredging of a portion of the Basin which created a sediment trap to capture future sediments entering the Basin.

Following the completion of the rehabilitation project in 1990, no additional remedial activities have been conducted in the Basin, except for the capping of the dredged sediments in the containment cells which occurred over several years. Out of the eight containment cells, only Cell #4 remains open. The capped disposal cells have created large areas of reclaimed lands surrounding the Basin that are presently vacant and unoccupied. Although the 1990 rehabilitation project served to remove sediment from the Basin, it did not address the upstream sources of sediment. The goal of the 1990 rehabilitation project was to encourage sedimentation within the Basin, which would be dredged periodically.

In October 2000, the HHC transferred ownership of the Basin and surrounding lands to the City. As part of this agreement, the City assumed responsibility for maintenance dredging of the Basin, to be undertaken in a timely manner to ensure that the build-up of sediment does not impinge upon the shipping, navigation, and transportation needs of the Harbour’s operations. The HHC also acknowledged and agreed that the City will be permitted to deposit dredgeate in the prepared cell (Cell #4) on the western edge of the Basin, including encroachment on adjacent HHC lands. As part of the transfer of ownership, the City received a sum of approximately $10 million from the HHC, to be utilized for the maintenance of the Basin.

In 2005, the City retained C. B. Fairn & Associates to conduct a review of the existing conditions at the Basin, and evaluate feasible alternatives for a preliminary dredging plan to restore the sediment trap function of the Basin and ensure that the adjacent Harbour’s shipping and navigation operations are not adversely affected. A total of nine alternatives were examined, ranging from dredging the full quantity of accumulated sediments from the Basin and sediment trap, to providing no dredging within the Basin and conducting dredging activities only at Pier 25 within the Harbour. The costs of the various options ranged up to $24 million. The dredging of the entire Basin with mechanical dewatering of the dredgeate was found to be most expensive alternative, while dredging the Pier 25 area and leaving the Basin “as is” was found to be the least expensive. C. B. Fairn recommended that the City consider leaving the Basin as the “status quo” and, instead, develop a dredging plan that removes the sediment deposits from the Harbour itself.
In 2007, the City initiated a Schedule “B” Municipal Class Environment Assessment (Class EA) to study enhancements to the Basin that would address sediment issues and provide for naturalization opportunities. The Class EA, conducted by Cole Engineering Group Ltd. (CEG) and AECOM Canada (AECOM), prepared an inventory of existing conditions of the terrestrial and aquatic environment, surface water quality, sediment quality, social environment, and archaeology. Four alternative solutions were developed in order to address the identified problem and opportunity and were evaluated based on criteria that reflect the definition of “environment” provided in the Ontario Environmental Assessment Act and the specific circumstances associated with the project. As a result of a comparative evaluation that was undertaken, a preferred alternative was determined for the project. The Class EA concluded that the preferred alternative that should be considered for preliminary design is the construction of a watercourse to direct sediment to the Harbour and the creation of an aquatic habitat (wetland) within the remainder of the Basin by re-working accumulated sediment. The preferred alternative would see maintenance dredging occurring in the Harbour in the vicinity of Pier 25, and not within the Basin. The Class EA process was documented by the ‘Enhancement of Windermere Basin Project File’, dated May 2008. City Council approved the filing of the Project File in May 2008, which was presented as Council Report PW08055.

Upon filing the Notice of Completion for the Class EA, as approved by Council, the City proceeded with the preliminary and detailed design of the Enhancement of Windermere Basin. The preliminary design used the preferred alternative that was selected during the Class EA process and refined the conceptual design in more detail. The preliminary design outlined detailed design, construction, and operations and maintenance considerations/recommendations that were incorporated in the detailed design.

In 2009, CEG and AECOM prepared and completed the detailed design for the Enhancement of Windermere Basin. The detailed design used the proposed natural environment and sediment management design concepts, presented in the Preliminary Design Report, and advanced them to detailed drawings and contract documents.

The Enhancement of Windermere Basin project is ready for implementation with construction estimated to begin in the spring of 2010 and be completed by September 2012.

During the development of the Enhancement of Windermere Basin project, City staff, including the Legal Services Division, have been working in a collaborative manner with the HPA to identify project opportunities and details associated with an Amending Agreement and Memorandum of Understanding (MOU). This collaboration with the HPA has resulted in an opportunity for the City to alleviate immediate and long-term maintenance costs associated with the dredging of Windermere Basin, will allow the City to meet their legal obligations to the satisfaction and approval of the HPA, and will allow the Enhancement of Windermere Basin project to be constructed.

The result is the development of a negotiated Amending Agreement and MOU that satisfies the needs, concerns, and provides benefits to both the City and the HPA. Both documents have been endorsed by the HPA and are attached to this Report.
POLICY IMPLICATIONS

There are a number of policies, regulations, and statutes that are related to dredging activities, including:

- Lakes and Rivers Improvement Act
- Fisheries Act
- Development, Interference with Wetlands and Alterations to Shorelines and Watercourses: Regulation 161/06 under Ontario Regulation 97/04
- Ontario Regulation 347
- Ontario Water Resources Act

The execution of the amending agreement keeps with the Vision Statement for Windermere Basin, developed in September 2001, by the Windermere Basin Steering Committee:

*Windermere Basin will be a restored estuarine ecosystem, providing a sanctuary for wildlife and passive recreational use. With improved water quality and habitat regeneration, Windermere Basin will be a healed area; a source of community pride; a place where citizens and visitors can witness the ongoing regeneration of the area to a healthier environment*

*Windermere Basin will be a green area in an industrial waterfront. As a unique feature of the eastern gateway to the City of Hamilton, the Basin will be an area where people can learn and understand about the area’s natural and cultural history. Trails will connect the Basin with other natural and cultural attractions in the surrounding area, thus facilitating public access and linkages across the entire Hamilton Waterfront.*

The Public Works Business Plan, Innovate Now -

The implementation of the Enhancement of Windermere Basin project, and amendment of the agreement to facilitate dredging at Pier 25 will assist in meeting the Public Works Department’s key goal: *to be recognized as the centre of environmental and innovative excellence in Canada*. In addition, implementing the Enhancement of Windermere project will also assist Public Works in building on Strategic Vision Drivers as follows:

- **Communities (Services our communities connect with and trust)** -
  Approving the Amending Agreement and implementing the Enhancement of Windermere Basin project will improve the local environment. The transparent and consultative nature of the Class EA process builds trust within the community and Review Agencies, demonstrating Hamilton’s and Public Works’ commitment to service excellence.

- **People (Skilled teams, ready for any situation)** -
  This program demonstrates the ability of City staff to respond to an important and complex opportunity that affects the community. Implementing the proposed enhancement requires the knowledge and skill of many staff who work with the system
on a daily basis. Through an extensive consultation process, stakeholders (including many City employees) were invited to provide their input and contribute throughout the process of decision making. The proposed solution represents forward thinking and contemporary practice. Projects such as this contribute to the positive image that Hamilton seeks to maintain, and will promote a sense of pride in staff.

- **Process (Smart processes to match our needs)** -

Throughout the development process, plans have been formulated to ensure that all aspects of the City’s “Triple Bottom Line” approach to problem solving were considered. Social, Environmental, and Economic impacts were all assessed to provide a balanced approach. A detailed scoring and evaluation process was employed in order to effectively arrive at the optimal solution that meets Hamilton-specific goals and objectives. The result is a sustainable long-term approach that addresses all aspects of the “Triple Bottom Line”.

- **Finances (Sound finance management for the long haul)** -

Government policy and legislation have been considered in the development of the Amending Agreement, memorandum of understanding, and the Enhancement of Windermere Basin project. The economic impact to the City was a significant factor in the decision-making process.

### RELEVANT CONSULTATION

The City has been working together with the HPA throughout the Enhancement of Windermere Basin project. Using a collaborative approach, both the City and HPA have developed the Amending Agreement and Memorandum of Understanding to realize the benefits of the Basin project while ensuring the City meets its obligations associated with the October 2000 settlement agreement.

In addition to the above, during the Class EA conducted as part of the Enhancement of Windermere Basin project, the requirement for amending the City’s agreement with the HPA was identified. Dredging at Pier 25 was a key component of the preferred alternative. One of the alternatives that were not selected was to continue with maintenance dredging in the Basin. The Amending Agreement and dredging at Pier 25 were identified and discussed at two public information centres and four Project Advisory Group (PAG) meetings held as part of the Enhancement project. Members of the PAG included the following groups:

- City of Hamilton
- Hamilton Conservation Authority
- Conservation Halton
- Canadian Wildlife Service, Environment Canada
- Hamilton Port Authority
- Stelwire
- Environment Canada
- Department of Fisheries and Oceans
- Hamilton Naturalists’ Club
- Lafarge Canada
- SteelCare
- Six Nations EcoCentre
- Hamilton Beach Neighbourhood
- Hamilton Beach Preservation Committee
ANALYSIS / RATIONALE FOR RECOMMENDATION

The City’s current legal obligations to the HPA are to dredge Windermere Basin in a timely manner to ensure the build-up of sediment will not impinge upon the shipping, navigation, and transportation needs of the Harbour’s operations. Since 1990, approximately 270,000 m$^3$ of sediment have accumulated within the Basin, over an approximate area of 17.7 ha. As outlined in Report PW08055, the estimated cost for the initial dredging and disposal of sediment from the Basin was estimated at $31 million. Further to the previous estimate, the estimated cost has been refined through preliminary and detailed design to be approximately $34 million. The cost estimate to dredge the Basin in the future, to meet our current legal requirements, is approximately $18 million (based on a maximum allowable accumulation of 125,000 m$^3$).

By executing the amending agreement, the City has an opportunity to reduce immediate and long-term maintenance costs associated with Windermere Basin. After approval and execution, the City will be responsible for dredging Area B of the Harbour. Dredging Area B offers several advantages over dredging in the Basin, including dredging over a smaller area, having more flexibility in dredging methods due to increased water depths, and better site access by water.

**Initial Area B - Pier 25 Dredging Requirements**

The total volume of sediment that had accumulated in Area B between 2003 and 2008, based on recorded bathymetry data in Pier 25 is 26,650 m$^3$. Based on average accumulations between 2003 and 2008, we estimate that sediment in Area B will accumulate at a rate of 5,330 m$^3$/yr. In recent discussions with the HPA, dredging of Area B will be required in 2010. Therefore, it is estimated that a volume of approximately 37,000 m$^3$ will be required to be dredged and disposed of in 2010, at an approximate cost of $6.5 million.

It should be noted that, regardless of City Council’s approval of the Amending Agreement, the HPA will be seeking reimbursement from the City to pay the full cost of the initial dredging and disposing of sediment in Area B. The rationale is that based on the current agreement, the City is required to dredge Windermere Basin as not to impact shipping and navigation of the Harbour operations. Considering that the City has not dredged the Basin since 2000, whereas the HPA had last dredged Area B in 2003, it is their opinion that sediment is flowing through the Basin (as the Basin has reached its capacity) and settling in the Harbour which is having impacts on shipping and navigation operations. As such, sediment has settled in Area B, which will require dredging in 2010.
Long-term Area B - Pier 25 Dredging Requirements

The cost estimate to dredge and dispose of sediment in Area B in the future is estimated at $4.5 million, based on a maximum allowable accumulation of 25,000 m$^3$.

Net Present Value Analysis

In order to evaluate the long-term feasibility of conducting dredging operations at of Area B instead of within the Basin, net present value analyses were undertaken for a 50-year period. As sediment accumulation rates are highly variable, scenarios were analyzed for different amounts of sediment accumulation. Accumulation rates of 12,500 and 5,000 m$^3$ per year (worst and best case scenarios, respectively) were selected based on historical accumulations at Pier 25 and within Windermere Basin. It is noted that, based on recent and future improvements within the watershed and at the Woodward Wastewater Treatment Plant, sediment and solids loadings to Red Hill Creek and the Hamilton Harbour should decrease in the future.

These scenarios included:

- Dredging of Area B (3.7 ha) at Pier 25 every 2 years (based on a sediment accumulation of 12,500 m$^3$ per year);
- Dredging of Area B (3.7 ha) at Pier 25 every 5 years (based on a sediment accumulation of 5,000 m$^3$ per year);
- Dredging of the Basin (17.7 ha) every 10 years (based on a sediment accumulation of 12,500 m$^3$ per year); and
- Dredging within the Basin (17.7 ha) every 25 years (based on a sediment accumulation of 5,000 m$^3$ per year).

The results of the net present value analysis, based on the quantity and costs identified above, are summarized below.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Net Present Value Over 50 Years</th>
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<tbody>
<tr>
<td>Area B Dredging every 2 years</td>
<td>$40.3$ M</td>
</tr>
<tr>
<td>Area B Dredging every 5 years</td>
<td>$19.1$ M</td>
</tr>
<tr>
<td>Basin Dredging every 10 years</td>
<td>$79.4$ M</td>
</tr>
<tr>
<td>Basin Dredging every 25 years</td>
<td>$59.4$ M</td>
</tr>
</tbody>
</table>

Dredging of Area B, as per the Amending Agreement, offers significant long-term cost savings over dredging of Windermere Basin, as per the City’s current obligation.

In addition to the opportunity for reduced maintenance costs, the Amending Agreement allows the construction of the Enhancement of Windermere Basin project to proceed. The Enhancement project will see the creation of an 11 ha coastal wetland that has been endorsed by the Hamilton Harbour Remedial Action Plan and will assist in the delisting of Hamilton Harbour as an Area of Concern. The new wetland will also increase diversity of habitat within the Basin, and offer opportunities for passive recreation for City residents and tourists.
The Enhancement of Windermere Basin project provides a significant opportunity to provide benefits in the key areas of environment, economy, and society, or the “triple bottom line”.

The local environment of the Basin will be significantly improved over the existing conditions. The enhanced Basin will provide a more diverse wetland, offering improved aquatic and terrestrial habitat that will benefit fish and other wildlife. The improvement in habitat conditions will contribute to the delisting of Hamilton Harbour as an Area of Concern.

The enhanced Basin will provide substantial benefits to the City, its residents and tourists. The wetland, in comparison to its existing conditions, will offer a greater variety of bird watching and lookout opportunities, and will tie-in to the previous work conducted by the Hamilton Waterfront Trust on the eastern property of the Basin lands. The project will assist in creating a natural eastern gateway to the City and a significant positive public profile will be generated.

**ALTERNATIVES FOR CONSIDERATION:**

Given the City’s current obligations to the HPA under the October 26, 2000 settlement agreement, should Council elect not to approve the staff recommendation, the only feasible alternative to the current proposal is to respect the original settlement agreement and undertake dredging within the Basin. The implications, pros and cons, of undertaking dredging within the Basin are outlined below.

**Financial Implications:**

The financial costs of conducting maintenance dredging within the Basin are as follows:

**Initial Pier 25 Dredging Costs**

As discussed within the Analysis/Rationale for Recommendation section, based on an estimate of approximately 37,000 m$^3$ of sediment that is to be removed within Area B, the initial dredging, dewatering, and disposal costs to address sediment accumulations in this area are approximately $6.5 million. The HPA will be seeking reimbursement from the City for the costs associated with the initial dredging, regardless of an approved Amending Agreement, and therefore the financial implications of the initial dredging would be potentially the same for this alternative and the recommended plan.

**Initial Basin Dredging Costs**

In order to restore the efficiency of the Basin as a sediment trap, extensive dredging of the Basin would be required. Since 1990, approximately 270,000 m$^3$ of sediment have accumulated within the Basin, over an approximate area of 17.7 ha. The estimated cost to undertake the dredging project is approximately $34 million.

**Future Basin Dredging Costs**

The cost estimate to dredge the Basin in the future, to meet our current legal requirements, is approximately $18 million (based on a maximum allowable accumulation of 125,000 m$^3$). Depending on long-term Basin sediment loading...
estimates (between 5,000 and 12,500 m³/year), the Basin will require dredging every 10 to 25 years.

Net Present Value Costs

The estimated net present value of dredging the Basin, as per the existing settlement agreement, will cost anywhere from $59.4 million to $79.4 million over 50 years, depending on the dredging frequency. This estimate is significantly higher than the net present value of dredging at Area B, which is estimated between $19.1 million and $40.3 million over the same time period.

Staffing Implications:

The implementation of this alternative would require a City staff member from the Public Works Department to serve as the liaison person with the HPA for each required dredging operation of the Basin. It is anticipated that this effort can be accommodated within the existing staffing complement.

The staffing implications of this alternative would be similar to the recommended solution.

Legal Implications:

The implementation of this alternative would have minimal legal implications, as the City has a current legal obligation to the HPA to undertake maintenance dredging of the Basin.

Dredging within the Basin would require permits from various regulatory agencies such as the Hamilton Conservation Authority, Ministry of the Environment, Ministry of Natural Resources, Department of Fisheries and Oceans, and Transport Canada, and would require additional consultation with the HPA.

Policy Implications:

In September 2001, the Windermere Basin Steering Committee developed a broad Vision Statement for Windermere Basin:

Windermere Basin will be a restored estuarine ecosystem, providing a sanctuary for wildlife and passive recreational use. With improved water quality and habitat regeneration, Windermere Basin will be a healed area; a source of community pride; a place where citizens and visitors can witness the ongoing regeneration of the area to a more healthy environment.

Windermere Basin will be a green area in an industrial waterfront. As a unique feature of the eastern gateway to the City of Hamilton, the Basin will be an area where people can learn and understand about the area’s natural and cultural history. Trails will connect the Basin with other natural and cultural attractions in the surrounding area, thus facilitating public access and linkages across the entire Hamilton Waterfront.
Maintenance dredging of the Basin would not comply with the Vision Statement. No improvements to water quality or habitat would be realized. In addition, maintenance dredging would not assist in the vision for the eastern gateway to the City.

**Advantages of this Alternative**
- Would not require any amendments to the existing agreement

**Disadvantages of this Alternative**
- Higher capital costs
- Higher long-term costs
- Not consistent with the Vision Statement for Windermere Basin
- No improvements to water quality or habitat conditions
- Does not assist with the vision for an eastern gateway to the City

This alternative is not recommended for implementation as the disadvantages significantly outweigh the advantage.

**CORPORATE STRATEGIC PLAN**


**Skilled, Innovative & Respectful Organization**
- A culture of excellence
- A skilled, adaptive and diverse workforce, i.e. more flexible staff
- More innovation, greater teamwork, better client focus
- An enabling work environment - respectful culture, well-being and safety, effective communication
- Opportunity for employee input in management decision making
- Council and SMT are recognized for their leadership and integrity

**Financial Sustainability**
- Financially Sustainable City by 2020
- Delivery of municipal services and management capital assets/liabilities in a sustainable, innovative and cost effective manner
- Sustainable Tri-party Government Agreement

**Intergovernmental Relationships**
- Influence federal and provincial policy development to benefit Hamilton
- Maintain effective relationships with other public agencies

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**Vision:** To be the best place in Canada to raise a child, promote innovation, engage citizens and provide diverse economic opportunities.  
**Values:** Honest, Accountability, Innovation, Leadership, Respect, Excellence, Teamwork
Growing Our Economy
- A visitor and convention destination

Social Development
- N/A

Environmental Stewardship
- Natural resources are protected and enhanced
- Reduced impact of City activities on the environment
- Remove Hamilton Harbour from Great Lakes area of concern list by 2015
- Reduce the impact of Hamilton's industrial, commercial Private and Public operations on the environment
- Aspiring to the highest environmental standards

Healthy Community
- Plan and manage the built environment
- An engaged Citizenry
- Adequate access to food, water, shelter, income, safety, work, recreation and support for all (Human Services)

APPENDICES / SCHEDULES

Appendix “A” to Report PW08055a - Amending Agreement
Appendix “B” to Report PW08055a - Memorandum of Understanding
APPENDIX “A” to Report PW08055a

THIS AMENDING AGREEMENT made as of the 3rd day of December, 2009

BETWEEN:

CITY OF HAMILTON
(the “City of Hamilton”)

and

HAMILTON PORT AUTHORITY
(“HPA”)

WHEREAS The Corporation of the City of Hamilton and The Hamilton Harbour Commissioners entered into an agreement dated October 26, 2000 in settlement of all litigation, actions and disputes between the parties and to provide a framework and vision for future harbour developments (“Agreement”);

AND WHEREAS pursuant to the City of Hamilton Act, 1999, The Corporation of the City of Hamilton was dissolved on January 1, 2001 and the City of Hamilton stands in the place of The Corporation of the City of Hamilton for all purposes, including for purposes of all contractual obligations and benefits of the former Corporation of the City of Hamilton under the Agreement;

AND WHEREAS pursuant to letters patent made effective May 1, 2001 and published in the Canada Gazette, Part 1 on April 28, 2001, The Hamilton Harbour Commissioners were automatically continued as a port authority under the name of Hamilton Port Authority (“HPA”) under the Canada Marine Act and therefore HPA stands in the place of The Hamilton Harbour Commissioners for all purposes, including for purposes of all contractual obligations and benefits of the former The Hamilton Harbour Commissioners under the Agreement;

AND WHEREAS the City of Hamilton and HPA wish to amend the Agreement to reflect a new dredging plan with respect to Windermere Basin and the area of Hamilton Harbour in the vicinity of Pier 25 adjacent to Windermere Basin;

NOW THEREFORE, in consideration of the mutual covenants contained in this Amending Agreement and of other good and valuable consideration (the receipt and sufficiency whereof is hereby acknowledged), the parties hereto agree as follows:
1. All references in the Agreement to “The Corporation of the City of Hamilton” shall be read as “City of Hamilton”.

2. All references in the Agreement to “The Hamilton Harbour Commissioners” or “HHC” shall be read as “Hamilton Port Authority” and “HPA” respectively.

3. Paragraph 1(e) of the Agreement is hereby repealed and the following substituted therefor:

With the transfer to the City of Hamilton of the Windermere Basin lands and lands under water, the parties agree that HPA will no longer have any responsibility for maintenance, dredging and greenscape development of the Windermere Basin lands and lands under water. The City of Hamilton will be responsible for the maintenance and greenscape development of the Windermere Basin lands and lands under water. However, the City of Hamilton will no longer have any dredging obligations in the Windermere Basin. Instead, dredging will be undertaken by the City of Hamilton in Hamilton Harbour in the vicinity of Pier 25, adjacent to Windermere Basin, which lands are owned by HPA and are identified as Area “B” in Schedule 15 attached hereto, so as to allow the City of Hamilton to pursue the possibility of establishing a wetlands area or other type of naturalized area within Windermere Basin. The vertical and horizontal dredging limits, frequency of dredging and sediment quantity required to trigger dredging will be established jointly by HPA and the City of Hamilton, so as not to impinge upon the shipping, navigation and transportation requirements of the Harbour’s operations. HPA hereby agrees to provide the City of Hamilton with irrevocable and reasonable non-exclusive access to Pier 25 South Gateway and Part of Pier 24 Gateway to allow the City of Hamilton to meet its obligations under this Agreement, and will execute such documents as are reasonably necessary to provide such access. Further, HPA acknowledges and agrees that the City of Hamilton will be permitted to deposit dredgeate in Cell 4 on the western edge of Windermere Basin, including, for such purposes, encroachment onto adjacent HPA lands forming a part of Cell 4, but only for so long as such adjacent HPA lands are not required by HPA for other uses.

4. Schedule 15 attached to this Amending Agreement shall form an integral part of the Agreement.

5. This Amending Agreement shall come into full force and effect as of the 3rd day of December, 2009.

6. The remaining provisions of the Agreement shall continue to be in full force and effect.
7. This Amending Agreement shall be interpreted in accordance with the laws of Ontario and the laws of Canada applicable in the Province. Each of the City and HPA irrevocably submits to the exclusive jurisdiction of the courts of the Province of Ontario.

IN WITNESS WHEREOF, the parties hereto have executed this Amending Agreement.

CITY OF HAMILTON

Approved as to Content
Public Works Dept.

Mayor - Fred Eisenberger

Clerk – Kevin C. Christenson

We have the authority to bind the City of Hamilton.

HAMILTON PORT AUTHORITY

President & CEO – Bruce Wood

Chief Administrative Officer – Bob Hart

We have the authority to bind Hamilton Port Authority
NOTES:
1. HORIZONTAL COORDINATES SHOWN ON THIS PLAN ARE NAD'83 UTM ZONE 17 AND ARE DERIVED FROM MONTHEITH AND SUTHERLAND POST DREDGE SURVEY COMPLETED ON NOVEMBER 24, 2003.
2. ELEVATIONS ARE REFERENCED TO INTERNATIONAL GREAT LAKES DATUM 1985 (IGLD'85) FOR LAKE ONTARIO (74.2 m ABOVE MEAN SEA LEVEL.
3. THIS PLAN IS FOR DISCUSSION PURPOSES ONLY. ALL AREAS AND DIMENSIONS ARE APPROXIMATE.
APPENDIX “B” to Report PW08055a

THIS MEMORANDUM OF UNDERSTANDING made as of the 3rd day of December, 2009

BETWEEN:

CITY OF HAMILTON
(“City”)

and

HAMILTON PORT AUTHORITY
(“HPA”)

WHEREAS The Corporation of the City of Hamilton and The Hamilton Harbour Commissioners, the predecessors of the City of Hamilton and Hamilton Port Authority respectively, entered into an Agreement dated October 26, 2000 in settlement of all litigation, actions and disputes between the parties and to provide a framework and vision for future harbour developments (“the Agreement”);

AND WHEREAS pursuant to the Agreement, the City of Hamilton is responsible for the dredging of Windermere Basin;

AND WHEREAS pursuant to an Amending Agreement between the parties dated December 3, 2009 (“the Amending Agreement”), the City and HPA have agreed that as the City is pursuing the possibility of developing Windermere Basin into a wetlands area or other type of naturalized area, instead of dredging within the Windermere Basin, the City will be responsible for dredging within Hamilton Harbour in the vicinity of Pier 25, which area is owned by HPA;

AND WHEREAS pursuant to the Amending Agreement, HPA has agreed to provide access to the City to allow the City to meet its obligations described in the Amending Agreement;

AND WHEREAS pursuant to the Amending Agreement, having regard to shipping and navigation requirements and HPA’s operational requirements within Hamilton Harbour in the vicinity of Pier 25, HPA and the City will jointly determine the vertical and horizontal dredging limits, and sediment quantity required to trigger dredging, and the frequency of dredging;

AND WHEREAS the City proposes to retain the services of HPA, including but not limited to the provision of project management services for the City in respect of such dredging operations, for a term of ten years;
AND WHEREAS the purpose of this Memorandum of Understanding is to set out the framework for a project management agreement to be developed between the City and HPA ("PMA");

NOW THEREFORE, in consideration of the mutual covenants contained in this Memorandum of Understanding and of other good and valuable consideration (the receipt and sufficiency whereof is hereby acknowledged), the parties hereto agree as follows:

1. The City, for its own account, is pursuing the possibility of establishing a wetlands area or other type of naturalized area within Windermere Basin.

2. As a result of the City’s activity as set out in Section 1 above, pursuant to the Amending Agreement, the City is no longer responsible for dredging within Windermere Basin and in lieu thereof will be responsible for dredging within Hamilton Harbour as represented by Area B in Schedule 15 (as per the Amending Agreement) attached hereto. The vertical and horizontal dredging limits, as detailed in Schedule 15, and frequency of the proposed dredging in the vicinity of Pier 25 adjacent to Windermere Basin, including the sediment elevation (sediment quantity) required to trigger dredging will be established jointly by HPA and the City, having regard to the shipping, navigation and operational requirements of Hamilton Harbour.

3. The City hereby retains HPA as a full service provider to undertake complete project management services, including contracting with contractors and consultants for all required services for the dredging, unloading, dewatering, trucking and disposal (at a site or sites to be selected by the City) of the dredged material from Area B as shown in Schedule 15. In consideration of HPA providing complete project management services to the City, the City shall pay to HPA a project management fee of ten (10%) percent of all project and project related costs. HPA will also retain and contract for the services of all consultants necessary to perform and/or undertake required project design, environmental assessments, condition or quantity surveys and any other required consulting services in connection with the dredging, unloading, dewatering, trucking and disposal of such dredged material. It is understood and agreed that notwithstanding that HPA will be the contracting party for all of the foregoing services, within ten (10) days of HPA notification to the City of HPA approval of work done and invoices rendered to HPA by such contractors and consultants, the City shall pay to HPA the full amount of such invoices so that HPA may then pay such invoices of contractors and consultants on or before the required payment due dates of such invoices. In addition, upon written request of HPA, the City shall remit to HPA all amounts required to enable HPA to pay any required permit and/or application fees and all other directly and reasonably related and associated costs and expenses to be incurred by HPA in connection with the provision of its services to the City as a project management full service provider.
4. Based on sampling conducted to date, the City and HPA agree that the sediment in Area B is characterized as non-hazardous solid industrial waste. The City will take full responsibility for the identification of approved disposal sites for the dredged materials for the duration of the PMA, whether or not characteristics of the sediment and/or dredged materials change. Despite the foregoing, should the characteristics of the sediment and/or dredged materials change specifically as a result of non-City related operations within the Harbour and/or operations on non-City owned property in the vicinity of the Harbour, and not as a result of the change in the characteristics of the sediment entering the Harbour in the vicinity of Pier 25 and emanating from the Windermere Basin, such that the sediment and/or dredged materials are no longer a non-hazardous solid industrial waste, the City will only be responsible for the portion of the costs described above which are associated with a non-hazardous solid industrial waste.

5. It is understood that whenever reasonably possible, and with the prior agreement of the City, Area B dredging will be conducted in conjunction with HPA dredging projects elsewhere in Hamilton Harbour, with a view to economizing on contractor pricing to the extent reasonably possible. Where this occurs, the City is only responsible for the portion of the costs directly attributable to the dredging and associated costs (mobilization, demobilization etc) of Area B that the City is responsible for under the Amending Agreement.

6. The scope of services and associated costs for each dredging project in Area B will be established jointly by HPA and the City prior to undertaking such work, having regard to the vertical and horizontal dredging limits set out in Schedule 15 attached hereto and to the shipping, navigation and operational requirements of HPA and the Hamilton Harbour.

7. HPA will make available to the City a temporary unloading area for purposes of unloading the dredged materials.

8. Per the City of Hamilton's request to HPA to have the first Area B dredging project undertaken without impacting or using any City-owned Windermere Basin lands (for the purposes of ensuring that the City of Hamilton does not become the general contractor while working on the Windermere Basin wetlands project), the attached drawing entitled “Pier 24 Sketch” portrays a 2.2 acre +/- site on Pier 24. The purpose of the Pier 24 site is to store and manage the dredged material from Area B, as well as any required conditioning of the dredgegate to enable it to be loaded and transported off-site for disposal.

The City of Hamilton will pay to HPA a lump sum fee for the use of the Pier 24 site during the first Area B dredging commencing in 2010. The lump sum fee for the period October 1, 2009 through December 31, 2010 is $90,000. In the event that this project requires the use of the Pier 24 site beyond December 31, 2010, a per month rate will be negotiated by HPA and the City.
All costs associated with preparation of the Pier 24 site are to the account of the City of Hamilton.

It is understood that the Pier 24 site is contaminated, and that the City of Hamilton is not responsible for remediating existing surface &/or sub-surface contamination. However all costs associated with preparation of, and maintaining the existing site conditions and project-related cleaning/maintenance will be to the account of the City of Hamilton.

9. It is understood that HPA will not accept any additional responsibilities or liabilities related in any way to City property located within and around Windermere Basin, except only to the extent caused by the deliberate or negligent act or omission of HPA, its directors, officers, employees, agents, consultants and contractors, or any combination thereof.

10. The City and HPA will each appoint a staff member to serve as their respective liaison person for each required dredging project.

11. The term of the PMA will be for ten years, subject to rights of early termination for cause by either the City or HPA, to be described in the PMA. The PMA may be renewed for an additional term or terms upon mutual agreement of the parties. It is understood that the City’s obligation to dredge Hamilton Harbour in Area B pursuant to the Amending Agreement shall continue on an ongoing basis regardless of the continuation or the termination of the PMA.

12. The City and HPA agree that this Memorandum of Understanding provides a framework for the PMA and addresses the key issues at this time. Accordingly, the City and HPA agree that a comprehensive PMA and any necessary ancillary documents will need to be drafted to reflect fully the agreement reached between the parties. The PMA and ancillary documents will contain provisions consistent with good commercial practice. Upon the execution of this Memorandum of Understanding by the City and HPA, the parties undertake to incorporate the terms and conditions of this Memorandum of Understanding, together with all remaining required terms and conditions, into a PMA.

13. This Memorandum of Understanding shall be interpreted in accordance with the laws of Ontario and the laws of Canada applicable in the Province. Each of the City and HPA irrevocably submits to the exclusive jurisdiction of the courts of the Province of Ontario.

14. This Memorandum of Understanding comes into effect upon its execution by both the City and HPA.
15. Any disputes with respect to this Memorandum of Understanding that cannot be resolved by good faith discussion and negotiation, will go to non-binding mediation, and if not settled there, to binding arbitration from which neither party may appeal.

16. IN WITNESS WHEREOF, the parties hereto have executed this Memorandum of Understanding.

CITY OF HAMILTON

Approved as to Content
Public Works Dept.

Mayor - Fred Eisenberger

Clerk – Kevin C. Christenson

We have the authority to bind the City of Hamilton.

HAMILTON PORT AUTHORITY

Name: Bruce Wood
Title: President & CEO

Name: Bob Hart
Title: Chief Administrative Officer

I/we have the authority to bind Hamilton Port Authority.