

August 18, 2005

EXECUTIVE SUMMARY OF STAFF REPORT

RE: DECISION OF CONSOLIDATED JOINT BOARD – THE DUFFERIN AMENDMENT

On July 21, 2005 the Niagara Escarpment Commission (NEC) requested that the Commission staff provide an opinion on the Dufferin decision and the petitions which have been made to the Lieutenant Governor in Council, including any responses to the petitions.

Staff had already provided its evaluation of the Joint Board decision based on the NEC position established in 2002 and carried forward at the Joint Board Hearing. This evaluation was presented to the NEC on June 16, 2005. The staff view was that the 2002 Position had been met.

The NEC did not direct staff to make a further recommendation on the 2002 Position. The direction was for staff to provide a “fresh” planning opinion on the undertaking, setting aside the 2002 Position from the discussion. Relevant reports and decisions are found in the Document Book.

The issues the NEC requested an opinion on were as follows:

1. The implications of land exchanges/ Plan additions as conditions of approval;
2. The implications of maintaining a perpetual pumping arrangement to maintain environmental features;
3. The reliance on engineered solutions to maintaining critical aspects of the mining and rehabilitation plans;
4. An evaluation of the impact of the entire Dufferin application on the principle of “maintaining a continuous natural environment”.

The opinions follow as taken from the Report:

ISSUE 1:

There is no policy basis in the NEP to provide for the exchange of lands to facilitate the approval of an amendment, where such lands do not already lie in the NEP.

The finding that the Joint Board views the land addition as essential to the approval, lead to the conclusion that the Dufferin Application does fragment the “substantially continuous natural environment “ of the Escarpment Plan, otherwise the addition would not be a prerequisite. This is a critical planning test within the Escarpment Corridor.

The trade off, if approved, will inevitably not be confined to the Dufferin Application but will be used as justification for other applications along the Escarpment. The land exchange is precedent setting and therefore, cannot be restricted to one specific Amendment situation.

The addition to the NE Planning Area cannot be guaranteed since the addition is subject to approval of the Legislature. The willingness of Dufferin to add lands may not necessarily lead to the lands being added to the NE Planning Area. The outcome is speculative, at this stage.

The NE Planning Area boundary was set by the cabinet in 1985 after lengthy hearings and reviews. To undo the boundary in one specific instance suggests that the natural environment of the Niagara Escarpment is malleable and can be moved on the basis of specific applications. This also calls into question the permanence of the protection afforded to the NEP envisaged at the time the Plan was approved by the Province.

A further concern is that this could lead to the NEP being modified on a piece meal basis. Boundary adjustments must be undertaken as part of comprehensive planning and/or legislative reviews. They should not be driven by site specific applications.

Finally, the requirement from Planning Area addition would constitute a new direction for the NEP in accommodating amendments and their related developments. Developments should be tailored to the policies of the Plan, not the Plan to the development.

ISSUE 2 AND 3 (which the staff see as related):

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In its most basic terms staff finds it difficult to accept that the system proposed can or will be managed in perpetuity. Such a concept is unlikely given the scale of time that “in perpetuity” suggests. The conclusion must be, that at some point in the future, management will cease. It is presumptuous to assume that, future generations, cultures or civilizations will feel obliged to maintain a system put in place to allow the mining of aggregate for a relatively short span of time. A more reasonable view is that after an indeterminate amount of time water management will cease and whatever environment exists in the area will then be impacted. It will either adapt or fail with associated environmental consequences and costs on surrounding natural features.

The Adaptive Management Plan is a strategy that is required because there is still some doubt about whether the engineering will work as designed. Given this doubt, adjustments may be needed in the future, if the projections on how the environment will be impacted are incorrect. Thus, the need for an AMP.

The original staff reports summed up the staff opinion on perpetual pumping and engineering solutions, as follows:

“This application is one of the most technical, complex and detailed ever submitted. The environmental management and manipulation required is detailed through the necessity of perpetual pumping and monitoring. Engineering solutions of this magnitude run counter to the natural ecologic processes and principles encouraged and promoted in the Plan corridor”.

This statement is still valid and reflects the purpose and objectives of the NEPDA and NEP and their underlying ecologic principles and directions.

ISSUE 4:

The staff opinion remains that the Amendment represents a significant fragmenting or breaking of the continuity of the remaining natural corridor above the Escarpment in the Halton portion of the Planning Area. Much of the area is already substantially disturbed by mining. The expansion to the Dufferin Quarry will mean that virtually all of the Plan from the Quarry set back along the Escarpment brow north to the edge of the Plan area will have been mined.

Comprehensive rehabilitation of the area is anticipated to take a very long period of time. It is not accepted that rehabilitation can return the landscape or environment to what it was before quarrying occurred.

Staff does not accept that the narrow quarry set back along the Escarpment brow, including the Escarpment face and Escarpment Protection Area lands to the south within the NEP, constitute the “maintenance of the continuous natural environment” as set out in the NEPDA and the NEP. Adding lands outside the NEP to try and ensure continuity is a band aid approach to protection of the Escarpment corridor.

Additionally the Escarpment face is already cut by the existing access to the quarry. This gap breaks the continuity on the face and therefore, the existing currently undisturbed lands north of the quarry must now be relied upon to provide the “continuous natural environment” that is critical to meeting the environmental planning principles set out in the NEP.

The Escarpment Rural area objectives which lend themselves to protecting the remaining “continuous natural environment” associated with the NEP in this area will be substantially lost should the redesignation to Mineral Resource Extraction Area take place. These objectives are:

1. *To maintain scenic values of lands in the vicinity Escarpment*
2. *To maintain the open landscape character by encouraging the conservation of traditional cultural landscape and cultural heritage features.*
3. *To encourage agriculture and forestry and to provide for compatible rural land uses.*
4. *To provide a buffer for the more ecologically sensitive areas of the Escarpment.*

The ultimate return of these lands to open space will not balance out the landscape and environmental cost to the NEP. The over-riding public interest is in the protection of the undisturbed Escarpment corridor, not the rehabilitated landscape that is returned after mining is complete, nor is it in the public interest to allow the associated perpetual pumping of water to artificially maintain an environment where the natural system have been disrupted, thus requiring engineering intervention on a major scale.

CONCLUSION:

The above opinions as requested, are provided to the NEC for its review and consideration.

The 2002 Commission minutes and related material are attached as Appendices.

August 18, 2005

STAFF REPORT

RE: DECISION OF CONSOLIDATED JOINT BOARD APPROVING:

NIAGARA ESCARPMENT PLAN AMENDMENT 135 AND DEVELOPMENT PERMIT APPLICATION H/E/00-01/314,

And,

APPLICATIONS TO AMEND THE HALTON REGIONAL OFFICIAL PLAN (AMENDMENT NO. 18); THE TOWN OF HALTON HILLS OFFICIAL PLAN (AMENDMENT NO. 103); THE TOWN OF MILTON OFFICIAL PLAN (AMENDMENT NO. 16); THE TOWN OF MILTON ZONING BY-LAW (ZONING BY-LAW 98-203); AND, FOR A CATEGORY 2, CLASS "A" (QUARRY BELOW WATER TABLE) LICENCE PURSUANT TO THE *AGGREGATE RESOURCES ACT*

**(DUFFERIN AGGREGATES – Milton Quarry Extension)
Pt. Lots 13 & 14, Concession 1 (Town of Halton Hills), and
Pt. Lots 12, 13 & 14, Concession 7 (Town of Milton),
Halton Region**

A. BACKGROUND:

The decision of the Consolidated Joint Board ("Joint Board") dated June 8, 2005 approved the Amendment to the Niagara Escarpment Plan ("The Dufferin Amendment"), the associated Development Permit Application ("DPA"), and other various amendments to planning documents under the *Planning Act* and the *Aggregate Resources Act* ("ARA"). The purpose was to license approximately 82.54 ha (205 acres) of a total 242 ha (598 acres) land holding. Of the total area to be licensed, 35.5 ha (87.7 acres) is in the Town of Milton and 47.17 ha (116.56 acres) in the Town of Halton Hills.

Of the total area to be licensed, approximately 68.6 ha (169.5 acres) correspond to lands within the Niagara Escarpment Plan ("NEP"). Amendment 135 proposes to amend the NEP designation from "*Escarpment Rural Area*" to "*Mineral Resource Extraction Area*" to permit the aggregate resource extraction. Parts of the Amendment would also see adjustments to the Escarpment Natural Area on lands currently designated Escarpment Rural and the redesignation of parts of the existing "*Mineral Resource Extraction Area*" on the Dufferin lands to Escarpment Natural Area and Escarpment Protection Area.

The Joint Board decision is petitionable to Cabinet under Section 13 of the *Consolidated Hearing Act* ("CHA") within 28 days of the day the decision was made.

Two petitions were received: one jointly from the Coalition on the Niagara Escarpment (“CONE”) and Protect our Water and Environmental Resources (“POWER”) and the other by a private citizen (Robin Denman).

At the Niagara Escarpment Commission (“NEC”) meeting of June 16, 2005, a staff report summarizing the Joint Board decision (Board decision is appended to the staff report at **TAB 1** in the Document book, in relation to the NEC position at the hearing and the process for petitioning a decision to Cabinet (the staff report presented at the June 16th meeting is appended at **TAB 2**) was considered. The NEC received the decision and report as an information item and elected to take no action, as per the staff recommendation. However; if a petition was received, the NEC could decide whether and how to respond when the opportunity was presented.

At the July 21st NEC meeting, copies of the petitions were provided to the members. Copies of the CONE/POWER and Denman petitions are appended at **TAB 3 and 4**.

In regards to the petitions, the NEC met in camera and decided to request that a staff opinion be provided, focused on four areas:

5. The implications of land exchanges/ Plan additions as conditions of approval;
6. The implications of maintaining a perpetual pumping arrangement to maintain environmental features;
7. The reliance on engineered solutions to maintaining critical aspects of the mining and rehabilitation plans;
8. An evaluation of the impact of the entire Dufferin application on the principle of “maintaining a continuous natural environment”.

Prior to commencing with this exercise, a staff report on the position to be taken by the NEC on the Dufferin Amendment presented at the meeting of October 17, 2002 wherein the principle of the Dufferin Amendment was approved. The recommendation of staff was to **oppose** the Dufferin Amendment. In the alternative, if the staff recommendation was not accepted, the NEC could approve the Dufferin Amendment with conditions, **which it did accept**.

A copy of the staff report dated September 19, 2002 is appended at **TAB 5**.

The report, on pages 76 and 77, listed factors that the NEC could interpret as justification for the amendment being approved if the staff recommendation to oppose was not accepted. The alternative recommendation (with conditions) is found on pages 78 and 79.

Second, the NEC is also advised that on page 17 of the Joint Board decision (see TAB 1), staff agreed under cross-examination that the alternate recommendation, with conditions added, resulted in the application conforming to the NEP and *Niagara Escarpment Planning and Development Act (NEPDA)* in the context of the alternative

recommendation having been accepted by the NEC. This must be weighed carefully with respect to this final conclusion on the four issues identified by the NEC.

Third, at time of writing, this report is written without benefit of a review of any responses to the petitions of CONE/ POWER and Denman from either Dufferin or the other parties to the Joint Board hearing (i.e., Region of Halton ["The Region"] and Conservation Halton ["The CH"]) though it is a virtual certainty that a Dufferin response will be made. If a response is received prior to the August 18th meeting date, it will be copied and made available for the review of the NEC. It is less certain whether the Region and CH will elect to respond, however; copies will also be made available for the NEC if they are received prior to the meeting date. It may be difficult for staff to offer an opinion to any of these other responses considering the timelines.

Fourth, a copy of the Dufferin response to the June 16, 2005 staff report summarizing the Joint Board decision was received at the July 16th NEC meeting. This is appended at **TAB 6**. Dufferin focused on two components in that staff report, items 9 and 10 found on page 2 at **TAB 2**.

Lastly, there was a considerable amount of evidence in chief and in cross, and reply, produced at the hearing on matters that were not necessarily known to the NEC at the time its position on the Dufferin Amendment was made. It is problematic for staff to determine whether these matters may have affected the NEC position. For example, the Water Management Agreement (and Adaptive Management Plan) had been prepared and executed jointly by Dufferin, the Region and the CH in the period leading up to the hearing. The NEC had supported the Dufferin Amendment, subject to conditions on satisfactory agreements being executed between the applicant, the Region and the CH for the purposes of long-term management, monitoring and implementation of the water system.

What is referred to as the Stoplight Chart had been an unknown in 2002. This is contained in the Adaptive Management Plan (AMP), the purpose of which is for Dufferin to be able to demonstrate that it can maintain water levels at the appropriate pre-determined target levels, using a series of operating zones established to clearly define what actions have to be taken by Dufferin and when. Operating in a green zone means that water level showing up in the monitoring wells is at or above the target level. If the water level drops to either a yellow or red zone, a series of steps and response actions are initiated within certain time limits to deal with the problem. This gave the NEC staff some additional comfort in knowing that certain actions and measures would take place if problems were encountered in keeping the groundwater at established target levels (page 16 in **TAB 1**).

Suitable financial arrangements had to be satisfactory to the Region and the CH to implement the operation of the water management system post extraction and post surrender of the license such that financial responsibility for its operation was not borne by the public. Staff is not expert in the fields of finance and actuarial principles. All that can be said is that the financial arrangements had been executed and declared satisfactory to both the Region and CH. It is suggested that the NEC must come to its own conclusion by referencing pages 35 through to 37 in **TAB 1** and pages 64 through 67 in **TAB 3**. Mr.

Denman also deals with the issue of financial liability and risks to the public in his petition appended at **TAB 4**.

There was evidence presented, and cross examination on both sides as to the possible existence of karst features on the Dufferin lands. Evidence presented by experts on the Dufferin side was that the site did not exhibit any karst tendencies while experts for CONE/ POWER submitted evidence to confirm the existence of karst. There was also evidence heard in reply to the evidence presented by CONE/ POWER that the site contains, in the words of the petitioner at the top of page 25 in **TAB 3**, “*a modest amount of karst*”. The reply evidence was not heard by staff. Staff is not expert in either of the fields of karst topography or karst hydrogeology and the NEC will have to draw its own conclusions on this issue.

There was extensive evidence and reply given, and cross examination, on the aspect of the rock pillars. These are the rock walls to remain in place following extraction that essentially act as divides or containment devices (i.e., dams) to hold the lake levels at the different elevations from east to west and to keep the lakes separated. The stability and the integrity of these features related mostly to the protection of the water resource. Staff is not expert in the field of rock mechanics and engineering and was not present for reply evidence. The NEC will have to draw its own conclusions based on a review of the passages beginning on page 29 through to 33 of the Joint Board decision in **TAB 1** and CONE’s view of the treatment of the rock pillar issue beginning at the bottom of page 34 to the middle of page 39 in **TAB 3**.

There was also considerable evidence and reply presented, and cross examination, of expert witnesses on both sides on the aspect of rock stress which was presented in the review of the rock pillars. Staff is not expert and the NEC will have to draw its own conclusions.

B. JOINT BOARD DECISION

At the outset, the NEC is advised that the Joint Board decision (**TAB 1**) reflects the NEC position at the hearing (which was supportive, subject to conditions, of the Dufferin Amendment, the DPA, and the various other applications related to the quarry expansion). The Joint Board eventually (in staff’s view) included conditions over and above those requested, though the NEC has asked for further clarification on certain findings.

The NEC was represented and evidence on the NEC position was submitted to the Joint Board hearing panel by staff. The main author of the September 19, 2002 report (**TAB 5**) was under subpoena by CONE.

On page 5 of **TAB 1**, the following statement is noted:

“All government agencies and the municipalities were in support of the applications, subject to conditions”.

On page 19, **TAB 1**, the following statement is noted:

“From a land use planning perspective, the application complies with the NEPDA and the NEP. In arriving at the foregoing conclusion, the Board had regard for the Provincial Policy Statement (PPS)”.

As set out on pages 3 and 4 of **TAB 2**, the Joint Board included the NEC conditions in its decision though there were some issues requiring clarity raised by staff. This prompted the NEC to accept Recommendation 3 on page 6 directing that its legal counsel contact the Joint Board to request clarification of the nine conditions (Conditions 36 through 44 on page 69 of **TAB 1**).

On page 39 of **TAB 1**, the following statement is noted:

“The Board has not taken lightly the concerns expressed by POWER, CONE, and the many public presenters. It is evident that the Joint Aggregate Review Team (“JART”) process; the concerns raised relating to rock stability; the quality of the recharge water; the protection of environmentally sensitive areas; and, the protection of habitat of many species, has resulted in conditions that will result in a much more environmentally sound quarry operation and rehabilitation”.

C. NEC ISSUES OF JULY 21, 2005

A series of pros and cons will be provided for each identified issue and the relative merits of each issue can then be assessed by the NEC. Staff will as directed, be providing an opinion but not a recommended course of action, as to whether the petitions should/ should not be supported, thereby possibly altering the original NEC position.

Issue 1. The implications of land exchanges/ Plan additions as conditions of approval.

To assist the NEC in arriving at its own conclusions, it is suggested that some references in **TAB 5** can be found in certain passages on pages 7, 8, 10, bottom of page 39, 62, top of 72, 2nd to last paragraph on 73, 76 and 77, that relate to this matter.

The NEC can also refer in **TAB 1** to the last few paragraphs on page 14, the top of page 15, 2nd paragraph on page 17, item no. 3 and the paragraph beneath on page 40. The Joint Board acknowledges on page 40 that the additional lands to the NE planning area and re-designations were essential, and positive factors considered in approving the applications.

The NEC can refer in **TAB 3** to page 10, the second and fifth bullets on page 48, the last bullet on page 52, and the first bullet on page 53, for the CONE/ POWER view concerning the land addition.

Pros

- The land addition was one of a number of contributing factors to the NEC originally supporting the Dufferin Amendment.
- It is described by the Joint Board as an essential and positive factor in approving the applications.

- Staff agreed, in cross examination, that the addition of these lands serving as a continuous natural environment would help ensure natural area and wildlife linkages between ecologically sensitive areas, and supports the alternative recommendation conforming to the NEP and NEPDA.
- The lands to be added are ecologically significant and have much the same visual and environmental components of other areas that are already governed by the NEP. Therefore, protection of significant lands on the periphery but not currently in the Planning Area can be afforded through an expanded Plan Area.
- In this instance, the lands are owned by a single property owner rather than multiple owners. The single owner (in this case Dufferin) supports and formally commits through an undertaking to the area's inclusion in the NEP.
- In a somewhat related case, land exchange (relinquishing a license on lands adjacent to Escarpment brow and re-designation to Escarpment Protection Area in exchange for re-designation from Escarpment Rural Area to Mineral Resource Extraction Area on lands further removed from Escarpment brow) was seen as a positive contributing factor in a 2002 staff recommendation and NEC approval of the Vineland Quarries and Crushed Stone Amendment in Niagara Region. In this example, the purpose and objectives of the NEP and *NEPDA* were deemed satisfactorily fulfilled.
- Land exchanges as part of land use/ development exercises can sometimes occur as positive review mechanisms in other jurisdictions (e.g., municipal).
- Such “land exchanges” can be considered on a very limited case-by-case basis.

Cons

- Land addition/ exchange can be seen to set a less than desirable precedent which could be used on any number of future applications.
- The NEP Area is not meant to be easily reduced and, in the converse, should also not be considered easily expandable to facilitate development.
- The NE Planning Area is fixed by legislation. Any changes must be approved by the Legislature. In this instance, while it is hoped that the Legislature will support the Planning Area expansion, there is no guarantee. Historically, it has proven to be very difficult to change the NE Planning Area.
- Land exchange/ addition may be viewed by some as being a significant factor but the focus should always be on the conformity of the application with the purpose and objectives of the NEP and *NEPDA*, *as it currently exists*.
- Land addition/ exchange could be used to circumvent an NEP policy and lead to the public impression, that the NEC makes “deals” on significant development matters.
- Should the land exchange not occur, the Joint Board’s decision suggests that, the application would be deficient. As noted, historically it has proven to be very difficult to change the NE Planning Area.

Staff Opinion (Issue 1 is):

There is no policy basis in the NEP to provide for the exchange of lands to facilitate the approval of an amendment, where such lands do not already lie in the NEP.

The finding that the Joint Board views the land addition as essential to the approval, leads to the conclusion that the Dufferin Application does fragment the “substantially continuous natural environment “ of the Escarpment Plan otherwise, the addition would not be a prerequisite. This is a critical planning test within the Escarpment Corridor.”

The trade off, if approved, will inevitably not be confined to the Dufferin Application but will be used as justification for other applications along the Escarpment. The land exchange is precedent setting and therefore, cannot be restricted to one specific Amendment situation.

The addition to the NE Planning Area cannot be guaranteed since the addition is subject to approval of the Legislature. The willingness of Dufferin to add lands may not necessarily lead to the lands being added to the NE Planning Area. The outcome is speculative, at this stage.

The NE Planning Area boundary was set by the cabinet in 1985 after lengthy hearings and reviews. To undo the boundary in one specific instance suggests that the natural environment of the Niagara Escarpment is malleable and can be moved on the basis of specific applications. This also calls into question the permanence of the protection afforded to the NEP envisaged at the time the Plan was approved by the Province.

A further concern is that this could lead to the NEP being modified on a piece meal basis. Boundary adjustments must be undertaken as part of comprehensive planning and/or legislative reviews. They should not be driven by site specific applications.

Finally, the requirement for a Planning Area addition would constitute a new direction for the NEP in accommodating amendments and their related developments. Developments should be tailored to the policies of the Plan, not the Plan to the development.

Issue 2. The implications of maintaining a perpetual pumping arrangement to maintain environmental features.

Issue 3. The reliance on engineered solutions to maintaining critical aspects of the mining and rehabilitation in plans.

These two issues are related and will therefore, be discussed together.

To assist the NEC in arriving at its own conclusions, references in **TAB 5** can be found in passages on pages 12 (Regional Council decision), 19, top of page 20, 28 and 29 (Halton Hills/ Milton comments), passages from the Ministry of the Environment and Energy (MOEE) letter on pages 33, 34, 35, bottom of page 44, 45, 46, 47, top of page 48, 52, bottom of page 57, 2nd paragraph from bottom of page 58, 61, bottom of page 62, 63, 64, 68, 69, 74, 75 and 76 concerning the aspect of perpetual pumping.

The NEC can also find references in **TAB 1** on pages 4, 2nd and 6th bullets on page 11, 16, top of page 17, 22, 23, 24 through 29, 35 (funding), 36, 37, 40 and 41 on this issue.

On page 18 of **TAB 1**, the Joint Boards considers that the final rehabilitated site will, among other things, provide a reservoir of water available to supplement streams, etc. and the conditions of approval will ensure that it is completed. On page 40, the Joint Board is satisfied that because of the water management system, the Adaptive Management Plan, Stoplight Chart and conditions that are attached, there are sufficient safety factors proposed to protect the wetlands. The Joint Board took comfort that water being pumped into the ground will be of an acceptable quality. The NEC staff report considered perpetual pumping to be a significant concern and against the natural ecologic processes envisioned as occurring in the NEP.

The NEC can refer in **TAB 3** to the 2nd and 5th bullets on page 7, 8, top of page 9, bottom of page 11 through page 14, 21, 22, 28 through 34, 40, 41, 45, 46, 6th bullet on page 54, 64 through 67, and 68 for the CONE/ POWER view concerning the perpetual pumping.

The NEC can refer to the whole petition in **TAB 4**.

The NEC refer in **TAB 6** to page 1.

Pros

- Sensitive ecologic features are to be maintained and protected in perpetuity.
- If water quality is an issue, Dufferin will treat it prior to injection into the ground.
- There is full agency support for the concept.
- A public agency as opposed to Dufferin (a private company) will be charged with perpetual management of the system following rehabilitation and license surrender.
- The concept has been tested on a limited basis in the Dufferin North Quarry with some success (reference on pg 47 in **TAB 5**).
- The water management system (piping, pumping of water through system, etc.) is compared to a municipal water system of which similar principles apply (water pumped through system of piping and availability for use in variety of ways). A municipal system is viewed as permanent.
- Financial obligations designed to manage the system in perpetuity are seen to be acceptable to all agencies.
- Suitable legal and financial arrangements for the perpetual management are satisfactory to the Region and the CH.
- The Adaptive Management Plan (“AMP”) recognizes the variability inherent in the natural environment and is designed to adjust to implement a flexible system of monitoring and mitigation to ensure ongoing protection of groundwater dependent features overtime.
- Ongoing testing is a requirement and an annual report must be produced on the performance of the AMP. At a five year interval, comprehensive assessments

will take place involving, at minimum, the Region and the CH to determine the success of the AMP in keeping groundwater at acceptable levels.

- The Joint Board was satisfied after hearing all the evidence that this system provides a sufficient safety factor to also protect wetlands and therefore, the need for long-term management.
- The Stoplight Chart ensures that if problems develop during recharge activities, the applicant is given time to solve the problem otherwise quarrying activity must stop. Staff agreed that this provided some additional comfort (see page 16 in **TAB 1**).
- Water management is an important mechanism in maintaining lake levels as part of end rehabilitation.
- Perpetual management will ensure that a source of water is available to supplement streams and reservoirs on the Sixteen Mile Creek owned, managed and/ or operated by the CH including Scotch Block, Hilton Falls, and Kelso to name three. These reservoirs are relied upon to provide consistent flow to the creek system during summer conditions. The lake system to be created following rehabilitation will be another added positive measure especially when the lands become public open space.

Cons

- See pages 75 and 76 in **TAB 5**.
- The environment can be “engineered” to certain extent but the Dufferin Expansion represents an engineering solution of unprecedented scale. This engineering of the environment runs counter to natural ecologic processes promoted by the Plan. (i.e., substantially continuous natural environmental).
- The NEC has considered no other engineered concept (past or present) that approaches the same magnitude required to maintain environmental features or assist in final rehabilitation. Failure is always a possibility.
- The notion of “forever” is suspect given the timescale “forever” suggests. Nothing like it exists in the NEP Area.
- Though the AMP is designed to monitor and mitigate for any problem that occurs, there still could be unforeseen potential for things to “go wrong”.
- The complexity of this system and concerns over language in the AMP makes enforceability of the Stoplight Chart problematic (petitioner cited on page 32 of **TAB 3**) even though the Region and the CH have endorsed the concept.
- A considerable unknown is the liability and responsibilities of succeeding generations. Will there be the “perpetual will” to continue management, monitoring and react to unforeseen events. The CONE Petition draws Cabinet’s attention to this scenario at the bottom of page 22 in **TAB 3**. Staff shares in the concern.
- Financial obligations are required in perpetuity.
- The CONE Petition on page 25 in **TAB 3** notes that the water management system was designed as if the aquifer was not “karstic” (Dufferin witnesses found little to no evidence of karst features whereas the CONE witnesses did). Serious issues were raised as to the overall effectiveness of the system. (Engineering and hydrogeological experts disagree).

With respect to NEC Issue 3 and the reliance on engineering solutions to maintain critical aspects of the mining and rehabilitation, the NEC should be aware that the AMP and water management system are also conditions of the operational plans and license to be issued by the Ministry of Natural Resources under the *Aggregate Resources Act (ARA)*. The requirements of the AMP are to be complied with by the CH following rehabilitation and the surrender of the license.

Water pumping and discharge are the usual activities associated with quarries where extraction below the water table is proposed. The Dufferin Milton Quarry is the only site on the Escarpment of which staff is aware where the groundwater resource is to be managed and monitored from extraction to rehabilitation in perpetuity. It is perhaps the only quarry in Halton Region of which staff has knowledge where ecologically significant groundwater dependent features such as Provincially Significant Wetlands (“PSW”) and Areas of Natural and Scientific Interest (“ANSI”) exist within 15 m of the area approved for extraction. Hence, the considerable volumes of technical documents that have been produced on groundwater recharge, the considerable time taken by agencies in the review, and the considerable hearing time involved in reviewing all decisions/ positions.

Lake environments (as post rehabilitation features) are not a new concept and many examples exist along the Escarpment. What is different is the notion of perpetual management, including topping up of lake levels (assuming some water loss through the rock and the effects of evapotranspiration). Future climate changes (i.e., global warming) may have an unknown impact on the technical solutions/mitigation proposed.

Staff Opinion (Issues 2 and 3)

In its most basic terms staff finds it difficult to accept that the system proposed can or will be managed in perpetuity. Such a concept is unlikely given the scale of time that “in perpetuity” suggests. The conclusion must be, that at some point in the future, management will cease. It is presumptuous to assume that, future generations, cultures or civilizations will feel obliged to maintain a system put in place to allow the mining of aggregate for a relatively short span of time. A more reasonable view is that after an indeterminate amount of time water management will cease and whatever environment exists in the area will then be impacted. It will either adapt or fail with associated environmental consequences and costs on surrounding natural features.

The Adaptive Management Plan is a strategy that is required because there is still some doubt about whether the engineering will work as designed. Given this doubt, adjustments may be needed in the future, if the projections on how the environment will be impacted are incorrect. Thus, the need for an AMP.

The original staff reports summed up the staff opinion on perpetual pumping and engineering solutions, as follows:

“This application is one of the most technical, complex and detailed ever submitted. The environmental management and manipulation required is detailed through the necessity of

perpetual pumping and monitoring. Engineering solutions of this magnitude run counter to the natural ecologic processes and principles encouraged and promoted in the Plan corridor”.

This statement is still valid and reflects the purpose and objectives of the NEPDA and NEP and their underlying ecologic principles and directions.

Issue 4. An evaluation of the impact of the entire Dufferin application on the principle of “maintaining a continuous natural environment”.

To assist the NEC, the Commission should review references in **TAB 5** on pages 8, 61, top of page 65, 72, bottom of page 74, top of page 77 (as a condition of approval), and the agent letter in Appendix 1 to the staff report, concerning the aspect of the impact of the application on the principle of “maintaining a continuous natural environment”.

The NEC can also refer in **TAB 1** to certain passages on pages 9, 14 (reference to passages from the Bird & Hale Report on the aspect of “continuous natural environment”), 15, 16, 17 (staff agreement that alternate recommendation conforms to NEP and NEPDA in context of NEC position), 18, 38 and 40. On page 40, the Joint Board noted that the proposed addition of the proponent’s lands to the NEP will add a forested wildlife corridor to the NEP Area required to complete a natural corridor linkage of the existing forested areas. On page 17, this is reflected in the Joint Board conclusion that the long-term rehabilitation plan coupled with the land addition assures a continuous natural corridor. The Board was also mindful of the term “*substantially*” that is applied to the purpose of the NEP and NEPDA:

“To provide for the maintenance of the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment”.

The Joint Board also considered that the wording in Objective (d) under Section 8 of the NEPDA states:

“to maintain and enhance the open landscape character of the Niagara Escarpment in so far as possible”.

The reference to the Bird and Hale report is on page 10 of **TAB 1**. This is the report that was prepared in response to Provision No. 3 under the heading, Development Policies for Mineral Extraction, in Part 1.5 (Escarpment Rural Area) of the 1994 NEP that placed a temporary moratorium on amendments for pits and quarries until a mineral resource study was completed to allow its findings to be reflected in the review of such applications. The study was completed in 1995 and is considered as part of applications for, and the review of, new Mineral Resource Extraction Areas (“MREAs”).

The Joint Board noted that the report concluded that extraction may be able to occur in some Escarpment Rural Area locations. Included in this report were the checklists to be evaluated with amendment applications.

The report has contained within it the statement that is referenced by the Joint Board on page 14, as follows:

“In locations where, across the width of the Escarpment Plan Area (i.e. from side to side in the Plan Area), there is Escarpment Protection and/ or Escarpment Natural Area designations, retention of the continuous natural environment is assured”.

Staff considered the north/ south breach in the NEP as being significant. Dufferin’s consultants were drawing the Joint Board to this statement in the report because below the Escarpment (south of the quarry site), there is Escarpment Protection Area and a narrow band of Escarpment Natural Area across the width of the Plan, along the Escarpment edge and face. On page 14, the Joint Board concludes, in consideration of the Bird and Hale Report, that the lands to the south also include the Bruce Trail. Therefore, this is a continuous natural environment, albeit a narrow one, as the NEP and the NEPDA contemplated in its purpose and objectives. During cross-examination, staff agreed with that assessment (bottom of page 14). The CONE petition on pages 47 and 48 in **TAB 3** makes the point that the NEC staff argument relating to the north/ south fragmentation in the “continuous natural environment” represents just as significant a breach in the continuous natural environment as any east/west breach. This in their view, was not contemplated by the authors of The Bird and Hale Report, and should have proven worthy of more consideration.

This north/south fragmentation discussed on pages 8, 61, 74 and 75 in **TAB 5** (the NEC Staff Report) was one of the substantive reasons (No. 1 a) in the original staff recommendation, recommending that the NEC not support the Dufferin Amendment. The recommendation is found on page 78.

The Joint Board also considered a Development Policy for Mineral Extraction 1 (b) in Part 1.5. (Escarpment Rural Area) that states:

“(b) Opportunities for achieving the objectives of Section 8 of the NEPDA through the final rehabilitation of the site”.

In The Joint Board’s view, a final rehabilitated site will add to the NEP parks system (NEPOSS), provide a greenbelt, and a reservoir of water available to supplement streams, etc., when required. Conditions were attached to the decision to reflect this issue.

On page 15, the Joint Board was satisfied that, man-made lakes meet the criteria for the “open landscape character” and the final lakes after rehabilitation can be a part of the open landscape, particularly in a rural setting. The Joint Board discusses the NEP definition of “Open Landscape Character” on the same page and indicates that though man-made lakes are not specifically mentioned, the list, in its opinion, is not all-inclusive. Staff disagreed with this interpretation.

Though not reflected in the Joint board decision, staff recalls a line of questioning concerning whether the Kelso Reservoir could be considered part of the “Open Landscape

Character” though not necessarily how it concluded. The reservoir, which is man-made, can be viewed at certain points along Highway 401, with the Escarpment forming the backdrop behind.

It appears factor No. 2 on page 40 also guided the Joint Board to support the applications, in that, the rehabilitation plans resulting in three lakes including wetlands will all be made available for public use under management and ownership of a public agency (the CH). In concert with other lands in the vicinity already under CH ownership, this will result in a considerable resource base for both passive and more active recreational pursuits, in the future. This serves to complement an Objective in Section 8 of the *NEPDA* when the end rehabilitation plans are considered.

The Objective in question (c) states:

“To provide adequate opportunities for outdoor recreation”.

Staff agreed with this point in cross-examination in the context of the NEC position (i.e., the alternative recommendation). The other objective discussed was:

“(b) to maintain and enhance the quality and character of natural streams and water supplies”.

The rehabilitated lakes, in the opinion of the Joint Board, also serve as a supplementary reservoir system for release to streams, creeks, etc. Dufferin has agreements in place with the CH to discharge sufficient quantities of water into the tributary of the Sixteen Mile Creek and Sixth Line creeks and has committed to the continuation of those agreements.

CONE on page 23 of their petition (**TAB 3**) argues that the analysis conducted by the proponent on water temperature never considered the possibility that larger sized fractures in the rock could create greater and more significant water flow (and warmer water) that would replace cold water in the creeks and, thereby, adversely affect the cold water fishery. If this were to prove to be true, then the quality and character of natural streams and water supplies could be potentially compromised, thereby, detrimentally impacting the continuous natural environment.

At best, this is difficult to assess. Staff is not expert on hydrology and hydrogeology. Those who were gave evidence both in chief and reply and were cross-examined. On the totality of the evidence, the Joint Board preferred the evidence of Dufferin, the Region and the CH.

It seems evident that the Joint Board gave consideration to the benefits of the rehabilitation plan in achieving the objectives in Section 8 of the *NEPDA*.

On page 9, the Joint Board noted that there is a net gain of 177 ha (437 acres) to the Escarpment Natural Area and Escarpment Protection Area. The statement immediately preceding makes reference to lands owned by Dufferin to be added to the NEP.

This differs from the staff figure referenced on page 7 in **TAB 5** and, though staff cannot recall with certainty, this could be a reflection of revised figures brought to the hearing. On page 7, staff calculated the additional lands to be added to the NEP as 67 ha (166 acres) of which 54 ha (133 acres) would be re-designated to reflect site features, worked out portions of the quarry and the criteria in the NEP. The applicant's commitment to applications for amendment to the NEP (both land addition and re-designations proposed for currently licensed quarry lands) totalled 130 ha (321 acres).

CONE on the top of page 48 in **TAB 3** argues that Dufferin is already required by law to rehabilitate its mined out quarry and should not be using its legal obligation as a benefit for supporting its applications although, under Part 1.9 of the NEP, all after uses, if not identified as being permitted in the MREA, require an amendment to the NEP and shall be subject to a re-designation from MREA to the applicable NEP designation as determined through the application of the criteria contained in the NEP. Whether it was considered now as part of the applications or much later, it will be necessary to re-designate at some point in time, whether or not the Amendment is supported.

In deciding to support the Dufferin Amendment in 2002, the NEC accepted the applicant's commitment for re-designation of the existing mined out quarry lands following the completion of extraction and rehabilitation as required through the current license and site plans issued under the ARA.

The NEC should refer in **TAB 3** to pages 8, 9, 10, bottom of page 47 through 48, bottom of page 52 through 55, 56, and 64 for the CONE/ POWER view concerning the "continuous natural environment", some of which has been previously covered in this report.

Pros

- The Joint Board considered that the "continuous natural environment" was assured through corridor at the south end of NEP below the Escarpment thus meeting the test of the required Bird and Hale Report.
- The Joint Board considered that addition of lands to the north also assured that a continuous natural environment with wildlife corridor linking to adjoining ANSIs protects the continuity of the NEP.
- The Joint Board found that the alternative recommendation (i.e., Commission Position), complied with the purpose and objectives of NEP and *NEPDA*. Staff agreed in cross-examination in context of NEC position.
- From standpoint of future rehabilitation, which the NEP requires, the lands will eventually contribute to the continuous natural environment and will be a future asset to the Niagara Escarpment Parks and Open Space System ("NEPOSS") and a future benefit to the public, with respect to open space.
- The future public interest can be served by making available public access to the Escarpment and rehabilitated lands for outdoor recreation for the Greater Golden Horseshoe Area.
- Rehabilitation contemplates lakes, wetlands, vegetated cliffs and reforestation that will eventually contribute to the "natural environment".

- The lakes will serve as a supplementary supply of water to augment low summer flow conditions on nearby creek systems, a considerable benefit to the CH.
- Other quarries where excavation has taken place below the water table have been successfully rehabilitated to lake environments. This is not a new concept to the NEP Area.

Cons

- At best, maintaining the continuity of the “natural environment” is difficult with pits and quarries. Open quarrying does little to contribute to the maintenance and enhancement of the open landscape character either short term or long term. The landscape changes forever from what previously existed, even following rehabilitation.
- Dufferin’s total and complex planning package will have to be relied upon to maintain the “continuous natural environment.” Failure of the water management system will jeopardize the environment.
- The remaining Escarpment Natural Area and the Escarpment Protection Area, is insufficient in providing the necessary environmental buffers and protections to maintaining a “continuous natural environment,” once the majority of the Escarpment Rural Area is removed. (This is noted on page 14 of **TAB 1** in the context of the Bird and Hale Report).
- The Joint Board, on page 17, considered the long-term rehabilitation plan and Planning Area and addition as reasons that the continuous natural environment will be assured. Unstated is whether or not the Joint Board would have arrived at the same conclusion without the Planning Area addition.
- The rehabilitated state should not be the only consideration in whether a NEP Amendment serves to maintain the “continuous natural environment.” The extractive operation itself, must also be assessed in this first instance, in this regard. Staff agrees with the CONE petition in **TAB 3** on this point.
- A man-made heavily engineered rehabilitated environment does not lend itself to the natural processes involved in maintaining the continuous natural environment contemplated by the NEP.
- The Planning Area addition is problematic at achieving continuous natural environment sought under the NEP because, the lands that are already in the NEP represent the “continuous natural environment” associated with the Escarpment accepted by the Province, when the Plan was approved.

Staff Opinion (Issue 4)

The staff opinion remains that the Amendment represents a significant fragmenting or breaking of the continuity of the remaining natural corridor above the Escarpment in the Halton portion of the Planning Area. Much of the area is already substantially disturbed by mining. The expansion to the Dufferin Quarry will mean that virtually all of the Plan from the Quarry set back along the Escarpment brow north to the edge of the Plan area will have been mined.

Comprehensive rehabilitation of the area is anticipated to take a very long period of time. It is not accepted that rehabilitation can return the landscape or environment to what it was before quarrying occurred.

Staff does not accept that the narrow quarry set back along the Escarpment brow, including the Escarpment face and Escarpment Protection Area lands to the south within the NEP, constitute the “maintenance of the continuous natural environment” as set out in the NEPDA and the NEP. Adding lands outside the NEP to try and ensure continuity is a band aid approach to protection of the Escarpment corridor.

Additionally the Escarpment face is already cut by the existing access to the quarry. This gap breaks the continuity on the face and therefore, the existing currently undisturbed lands north of the quarry must now be relied upon to provide the “continuous natural environment” critical to meeting the environmental planning principles set out in the NEP.

The Escarpment Rural Area objectives which lend themselves to protecting the remaining “continuous natural environment” associated with the NEP in this area will be substantially lost should the redesignation to Mineral Resource Extraction Area take place. These objectives are:

- 5. To maintain scenic values of lands in the vicinity of the Escarpment*
- 6. To maintain the open landscape character by encouraging the conservation of the traditional cultural landscape and cultural heritage features.*
- 7. To encourage agriculture and forestry and to provide for compatible rural land uses.*
- 8. To provide a buffer for the more ecologically sensitive areas of the Escarpment.*

The ultimate return of these lands to open space will not balance out the landscape and environmental cost to the NEP. The over-riding public interest is in the protection of the undisturbed Escarpment corridor, not the rehabilitated landscape that is returned after mining is complete, nor is it in the public interest to allow the associated perpetual pumping of water to artificially maintain an environment where the natural systems have been disrupted, thus requiring engineering intervention on a major scale.

As last considerations, staff has the following general comments, although these do not form part of the staff opinions:

1. In reference to CONE’S passage on page 14 concerning the application of the “precautionary principle”. It is a rule of thumb for the precautionary principle to be applied through policies rather than administrative decisions. However; there is no disagreement with CONE’S basic point that the Joint Board could have taken a precautionary approach if it had felt that there was undo uncertainty. One can only presume that the Joint Board, based on totality and weight given to the overall evidence, concluded that there was only limited uncertainty. It would then have no
2. reason to justify its approach under a precautionary principle.
3. Various references are made by CONE, concerning the *Species At Risk Act* (“SARA”). CONE neglects to be explicit about the fact that there is no federal

- Cabinet order as mentioned in paragraph 52 on that page. SARA, therefore, does not yet apply on private lands in the province, which may be the reason why the word “likely” is used in paragraph 55. It is not correct that the conclusion can be drawn that there is contravention of the SARA.
4. Paragraph 155 on the same page. Staff disagrees with this CONE statement, since the province could offer protection under any provincial policy.
 5. Various paragraphs on pages 62 through 64 detail the Niagara Escarpment Plan vs. Provincial Policy Statement. Paragraph 202 states that the PPS does not take precedence over a Cabinet-approved plan, like the NEP. The statement “taking precedence” only applies in the case of a conflict between the PPS and NEP. In the case where there is no conflict, it is correct in staff’s view for a decision maker (NEC or other tribunal) to apply both the PPS and the NEP. In fact, the PPS is one of the matters to be taken into consideration in the review of a NEP Amendment and it appears that the petitioner is suggesting that no weight should be given to it because this is an application under the NEPDA. The Joint Board is required under Section 3(5) of the *Planning Act* to have regard for the PPS. Also, the Joint Board is to have regard for matters of provincial interest in Section 2 of the *Planning Act*. The Joint Board, on page 40 in **TAB 1**, is convinced that the applications and its decision, with conditions, satisfy the PPS. On page 39, the Joint Board stated that matters of provincial interest were considered in arriving at its decision. On page 41, the Joint Board states that it also had regard to the matters set out in Section 12 of the ARA. Therefore, it does appear that the Joint Board considered and applied the PPS, matters under the *Planning Act* and ARA, and the *NEPDA*, as required in arriving at its decision.
 6. A tribunal, such as the Joint Board, is not required to include in its decision an assessment of every part of the evidence and arguments for and against that it heard and rejected. If that were the case, Joint Board decisions could be years in the making and hundreds or thousands of pages in length. Staff has no reason not to believe that the Joint Board weighed all the evidence produced both in chief, reply and in cross, before producing its decision. The totality/ weight of the evidence led it to support the Dufferin case.

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