



**PEER REVIEW OF AIR QUALITY ASSESMENT
Capital Paving Inc.
Montrose Aggregate Site**

Submitted to:

Township of Woolwich
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Prepared by:

A handwritten signature in black ink, consisting of several overlapping loops and horizontal strokes, positioned above a horizontal line.

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1.0 INTRODUCTION

AMEC was requested by the Township of Woolwich to undertake a review of air quality issues related to the proposed Capital Paving Inc. Montrose Aggregate Site. The review focussed on air quality issues raised in the proponent's application for an open pit sand and gravel operation. These issues were discussed in context of relevant legislation and guidelines. Sources of information included:

- Air Quality and Dust Management Plan for the Montrose Aggregate Site, Ortech Environmental. Dated July 15, 2008,
- Draft Summary Report, Capital Paving Inc; Harrington and Hoyle Ltd. July 2008,
- Air Quality Assessment Capital Paving, RWDI Air Inc., April 2008,
- Site Plans for the Montrose Aggregate Site, Harrington and Hoyle Ltd, (no specific issue date or revision date, but maps indicate plotted on Aug 21, 2008),
- Review of relevant environmental legislation, and Ministry of the Environment guidelines on land use compatibility and separation distances; and,
- Review of the relevant planning documents for the Township of Woolwich.

The predominant air quality issue related to open pit operations is dust (particulate matter). In any large materials handling operation, dust is generated from blasting, materials handling, crushing, wind-blown dust erosion, and truck traffic on paved and unpaved roads. The magnitude of these emissions is directly related to the amount of material handled and the level of activity. Mitigation for these types of emissions is possible, but needs to be carefully designed and implemented. Frequently, off-site impacts from these types of operations occur due to poor or inadequate operational procedures and mitigation.

Particulate matter is a variety of solid and liquid particles that remain suspended in the air. It includes smoke, fumes, dust, pollen, metals and soil materials. Impacts of particulate matter are related to health effects, effects on vegetation, visibility and effects on exposed materials (e.g. building materials, paint finishes). Emissions from quarrying and aggregate operations are predominantly crustal materials released by materials handling and metals contained in the ore and surrounding rock.

The health impacts of particulate matter are directly related to the composition of the particle as well as the size of the particle. Smaller particles (less than 2.5 μm) can penetrate deep into the human lung and at elevated levels, can lead to adverse effects (e.g. respiratory symptoms, decreased pulmonary functions).

Excessive quantities of deposited particulate matter can adversely affect vegetation. Particles can cover the leaves and plug stomata and cause a reduction in the growth and yield of some plants.

Fine particulates can also cause visibility reduction. Particles absorb and scatter light, thereby causing a reduction in long-range visibility. Moisture and particulate characteristics are important in assessing the extent of the visibility reduction.

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Particulate matter can also create environmental concerns related to the soiling and corrosion on surfaces. Deposited dust can require increased cleaning of surfaces. Also, the chemistry of the particle may be corrosive to some materials requiring, not only increased cleaning, but potentially replacement of damaged materials or use of more corrosion resistant surfaces.

2.0 LEGISLATIVE FRAMEWORK

2.1 Overview

Air quality in Ontario is regulated by the Ontario Ministry of the Environment (MOE). With a few exceptions, none of which are applicable to this project, the Federal government does not directly regulate air emissions. Municipalities and local governments also do not typically regulate or control air emissions, but do deal with air quality impacts through zoning and land-use.

The current quarry application to the Ontario Ministry of Natural Resources (MNR) is part of a larger process that leads from initial planning through to final approvals and operation. At this stage, consideration is being given to the proponent's application for a license under the Aggregate Resources Act. The Ministry of Environment and the local governments are able to raise concerns and issues through the consultation process, but are not responsible for approving the application. Such responsibility lies with MNR.

The proponent has also submitted rezoning applications through the Region and the Township.

A Certificate of Approval (Air) application will still need to be submitted through the MOE for the on-site operations. There is typically much overlap in timing with these applications. As well, even though the MOE does not have a specific approval capacity in the zoning activities at the local level, the MOE has established land-use compatibility guidelines to assist local governments with appropriate zoning and land-use planning. MOE will not issue a Certificate of Approval (Air) until MOE is satisfied that land-use and zoning issues have been settled with a municipality.

Specific requirements for the MNR quarry license application procedure have been provided by the proponent. Issues related to this license application and supporting documents are discussed in Section 3.

The following sections review each of the relevant pieces of legislation and guidance documents as they specifically apply to air quality and the current proposal.

2.2 Aggregate Resources Act

The Aggregate Resources Act of Ontario (as amended in 1997 by Bill 52) was established to provide management of the aggregate resources in Ontario. The act also has the listed purpose:

“to minimize adverse impact on the environment in respect of aggregate operations” (Aggregate Resources Act, RSO 1990, c. A.8, as amended, s. 2(d))

In the definition of the word environment, specific mention is made of the air environment.

“environment means the air, land and water or any combination or part thereof.....” (Aggregate Resources Act, RSO 1990, c. A.8, as amended, S. 1(1))

As part of the duties of the Minister (Section 12 (1) (a)), there must be consideration of “the effect of the operation of the pit or quarry on the environment” (which would include people impacted by the operations) and there must be consideration of “the effect of the operation of the pit or quarry on nearby communities” (Section 12 (1) (b)). These aspects are not further defined or clarified in the Act.

MNR provides further direction for license applications under the Provincial Standards (1997) that have been developed to support the Aggregate Resources Act.

Aggregate Resources Act - Provincial Standards

Provincial standards were developed to support the Aggregate Resources Act. The standards set requirements for:

- Site plan standards;
- Report standards;
- Prescribed conditions;
- Notification and Consultation;
- Operational standards; and
- Annual Compliance Reporting.

As noted in the Introduction of the Provincial Standards, these were developed to provide minimum requirements for delivery of the Act.

There are a few specific requirements in the Standards that address air quality issues. These are:

- I. *The Standards recommend that in the preparation of the reports that accompany an application, reference should be made to the Environmental Protection Act (EPA). The EPA and regulations under the EPA are very specific with respect to air quality issues (see Section 2.3 for further details).*
- II. *Prescribed Conditions in the Standards are minimum requirements that cannot be varied or rescinded by the Minister of Natural Resources or the Ontario Municipal Board (OMB), but on a site-specific basis additional conditions can be attached.*
- III. *Under the Prescribed Conditions for a Class “A”, Category 2 license the following conditions, that impact air emissions, are required:*
 - A. *Dust will be mitigated on site. (Condition 3.1)*
 - B. *Water or another provincially approved dust suppressant will be applied to internal haul roads and processing areas as often as required to mitigate dust. (Condition 3.2)*
 - C. *Processing equipment will be equipped with dust suppressing or collection devices, where the equipment creates dust and is being operated within 300 metres of a sensitive receptor. (Condition 3.3)*

- D. *If required, a Certificate of Approval will be obtained for processing equipment to be used on site. (Condition 3.8)*

No other specific air quality conditions are required under the Aggregate Resource Act Provincial Standards. There are also no specific details provided on the application of the above requirements.

Montrose Application

The site plans shown in the Planning Document contain some notes related to dust mitigation. The plans indicate dust will be mitigated on site and that watering roads will be undertaken. Unfortunately, these notes do not seem to reference the Best Management Plan (BMP) (Ortech 2008) that provides the details necessary to mitigate dust on site. We would recommend that the site plans specifically reference the BMP. In so doing, the BMP would be enforceable through MNR. As well, since the BMP should be a very extensive document detailing mitigation practices and reporting and record keeping, it would be difficult to include all that detail on site plan notes.

The various reports do not undertake a direct assessment of the 300 m requirement for dust control, as required by the ARA. The Ortech report does assess some distances to receptors in relation to MOE land use guidelines, and it would appear that the processing area is more than 300 m away from sensitive receptors, but the extraction cells are well within 300 m. This should be specifically considered and addressed to comply with the ARA. It should be noted that the Ortech report does not assess a number of the key sensitive receptors; a residence that is on the property (north east corner of site) and a second receptor just north-east of the site.

2.3 Environmental Protection Act

Air quality in Ontario is regulated under the Environmental Protection Act (EPA), through Section 14 (adverse effects), Section 9 (requirements for Certificates of Approval), Provincial Regulation 419 and the MOE's ambient air quality criteria (formerly Regulation 337).

Desirable ambient air quality levels in Ontario are set in the list of Ambient Air Quality Criteria (February 2008). Ambient air quality criteria are used to determine the acceptability of air quality in a given region. These criteria are not source specific and all contributing sources are considered. These are used by the MOE to determine areas that require specific air quality action. The MOE's monitoring network provides details on the existing levels of air quality in an area.

Pursuant to Section 14 (1) of the EPA, "no person shall discharge a contaminant or cause or permit the discharge of a contaminant into the environment that causes or is likely to cause an adverse effect." An adverse effect is defined in the EPA as, among other things:

- *impairment of the quality of the natural environment for any use that can be made of it;*
- *injury or damage to property or to plant or animal life;*
- *harm or material discomfort to any person;*

- *an adverse effect on the health of any person;*
- *interference with normal conduct of business; and,*
- *loss of enjoyment of normal use of property (EPA, RSO 1990, c. E.19, as amended, s.1(1)).*

Any discharge to the air, requires a Certificate of Approval (Air) under Section 9 of the EPA. A Certificate of Approval (C of A), (Air) is required prior to the construction and operation of a process that will emit to the atmosphere. The C of A (Air) is obtained from the MOE and will indicate the terms and conditions of the MOE's approval. These conditions can include emission limits, operating conditions and maintenance requirements. Compliance with a C of A does not imply overall compliance with the Act. Sources are still governed by other provisions in the Act, including not causing an adverse effect (S.14).

Regulation 419 also requires that specific sources cannot cause exceedances of specific air quality criteria provided in the Regulation and subsequent lists published by the MOE. These criteria are applied against specific modelled concentrations (point-of-impingement) determined at a location away from the source. These points-of-impingement are typically at the fence-line for near-ground level emissions and at the maximum off-property concentrations for elevated sources. MOE requires this to be demonstrated through a site specific Emission Summary and Dispersion Modelling Report.

The MOE requires a facility to meet Reg. 419 point-of-impingement criteria for the combined emissions from a facility, not just for a single emission point; however, background or existing air quality is not considered in Reg. 419.

This demonstration of compliance with numerical standards through modelling, does not have to include fugitive dust emissions, if the facility provides an acceptable dust management plan (Best Management Plan (BMP)) for fugitive dust control (MOE's Air Emission Summary and Dispersion Modelling Report guidance material (Guideline A-10)).

2.3.1 Montrose Application

The Montrose operation will require a full Emission Summary and Dispersion Modelling (ESDM) report and a Section 9 Certificate of Approval for air emissions. This approval will be required prior to construction. The RWDI report has been written as an ESDM report for submission. As an MOE application support report, the ESDM does not model fugitive dust or roadways (discussed further below).

Capital Paving should obtain a Certificate of Approval. This should be included as a condition in the ARA application and plans. The Certificate of Approval will require the detailed Best Management Plan and conditions of operations. This will ensure that MOE will have specific environmental enforcement requirements for the site and operations emissions.

2.4 Land Use and Zoning

The property will require re-zoning to allow for aggregate extraction. As such, there are specific planning requirements for both the Region and the Township.

The MOE does not exercise any direct jurisdiction in land use issues. Instead, MOE provides local governments with guidelines related to environmental issues and land use planning.

These are reviewed in the following sections.

2.4.1 Official Plans

There are various parts of both the Regional and Township official plans that address air quality and impacts. These are:

1. The Regional Official Policy Plan (ROPP) (Section 5.3.14 b) states.

“confirmation from the Ministry of Environment that all requirements of the Ministry with respect to noise, vibration and dust related concerns have been addressed to their satisfaction;”

2. The Woolwich adopted OPA 13 Policy 11.11.1(i), 11.11.11, 11.11.14(b) and 11.11.14 (c) states:

11.11.1 The Dust and Air Quality Impact Study as described in Section 11.11.11) which satisfactorily demonstrates that the proposal will not have any unacceptable impacts;

11.11.11 The Dust and Air Quality Impact Study as described in Section 11.11.1 (i) shall provide the following information;

a) an identification of the policy framework which is aimed at addressing dust and air quality impacts, and an analysis of how this policy framework is being satisfied by the subject proposal;

b) an assessment of background levels of dust and a modeling of additional dust contributions that can be expected from the proposed operation;

c) the nature of dust impacts on air quality, how these impacts can be mitigated, the risks associated with mitigation, and the remaining impacts after mitigation; and

11.11.14(b) Assess cumulative impacts from other existing or proposed aggregate extraction operations in the vicinity. For the purposes of this policy “proposed” shall be understood to mean applied for under the Planning Act and/or the Aggregate Resources Act;

11.11.14(c) Provide, where appropriate, a monitoring plan this is adequate.....proposed monitoring plan will make provisions for monitoring results to be provided to the Township, the Region of Waterloo, Ministry of Natural Resources, Grand River Conservation Authority and a public liaison committee if one should exist. It is understood that the requirement for monitoring will, where appropriate, verify that the levels of impacts indicated by the studies required by Section 11.11.1 are not being exceeded or that regulatory requirements are not being exceeded. A proposed monitoring program plan shall address the effect of the changes to the operation as a result of phasing or changes to equipment being used. A proposed monitoring plan shall also indicate what steps will be taken to address exceedances of levels of impacts should they occur.

2.4.2 Montrose Application

The air quality reports do not address the requirements of the Townships policy; specifically clauses 11.11.11 b) 11.11.14 b) and (c). Background air quality has not been considered or any

discussion of monitoring or confirmation of expected dust levels has been provided. Clause 11.11.11 a) (policy framework) is not addressed in the air quality reports nor is it addressed in the planning summary report.

It is not clear what ROPP intends with the requirement for MOE “confirmation”. MOE will not issue Certificates of Approval for air and noise until any zoning issues have been resolved.

The specific details of meeting the Woolwich policy requirements are addressed further in Section 3.0.

2.4.3 Ministry of the Environment - Land Use

Though the MOE is not directly involved in land use planning, MOE has realised that many environmental issues can result due to incompatible land uses. The MOE has developed a series of guidelines to be used when a change in land use is proposed. Specifically, the MOE has developed guidelines to minimize or prevent adverse effects through the use of buffer zones. These guidelines are:

- D-1: “Land Use and Compatibility”;
- D-1-1: “Land Use Compatibility: Procedure for Implementation”;
- D-1-2: “Land Use Compatibility: Specific Applications”;
- D-1-3: “Land Use Compatibility: Definitions”;
- D-6: “Compatibility Between Industrial Facilities & Sensitive Land Uses”;
- D-6-1: “Industrial Categorization Criteria”; and,
- D-6-3: “Separation Distances”.

The guidelines and associated procedures are applicable under circumstances when a new facility is proposed and an existing sensitive land use (which includes residential properties) is within the facility’s potential influence area. Specifically the guideline states:

“If a proposed use is permitted in the official plan, but rezoning is required, or if both redesignation and rezoning are required, then this guideline shall apply.” (Guideline D-1 s 2.3.2).

The guidelines and procedures focus on the use of separation distances from the proposed facility to the sensitive land uses. It is the proponent’s responsibility to determine the zone of influence for the facility. Specifically, Procedure D-1-1 requires the proponent to evaluate the severity of the impacts both before and after mitigation.

In the absence of site-specific studies (D-6), the MOE recommends that pits and quarries be treated as a Class III industrial facility and that the potential influence area and minimum separation distances for such a facility be used in land use planning. Class III facilities are defined as facilities having a high probability of fugitive emissions. For Class III facilities, the MOE has identified the potential influence area, wherein adverse effects may occur, to be 1000 m. Even with mitigation, the MOE suggests a minimum separation distance of 300 m. It is important to note, that in this guideline, the MOE recommends that these distances be measured from property line to property line, not from specific source to residential building.

2.4.4 Montrose Application

The Ortech report discusses the issues surrounding the MOE's recommended land use designations and separation distances. Ortech assumes that the site can be classified as a Class II facility. Ortech provides little justification for considering this a Class II facility; especially in light of MOE documentation stating that pits and quarries be considered Class III facilities. On smaller pits, the Class II designation can sometimes be warranted due to the size of the operations and daytime only operations. The proposed Montrose pit is a large operation and in the planning document, RWDI report and site plans indicates that 24-hour per day shipping of product might occur. As such, we would consider the Class II designation inappropriate and a Class III designation more applicable to this operation.

It should be noted that the Ortech report does not consider two of the nearest sensitive receptors; the residence that remains on the property to the NE and a second residence next to the dedicated haul road just north-east of the site. The Ortech report also does not consider the dedicated haul road to Katherine St. in it's assessment of influence area.

3.0 AIR QUALITY ASSESSMENT – REVIEW

There are a number of questions and issues related to the Air Quality reports that should be clarified or improved.

These are discussed in detail in the following tables.

Table 1: Review of RWDI Air Quality Assessment Report

Statement or Issue	Location in Air Quality Study	Discussion	Significance
1. background air quality and other sources	Throughout report	<p>Though Section 6 is labelled “and Background Air Quality”, there is no discussion of background air quality in the RWDI report. While this is considered appropriate of a Certificate of Approval application, it is not for Environmental Assessments or for impact assessments to determine land use. MOE assumes all land use and compatibility issues have been resolved prior to considering approval. As such, cumulative impacts need to be assessed to determine land use compatibility.</p> <p>There are currently at least 2 other pit proposals for the area. This air quality study does not consider this. It is not clear how this should be addressed in any specific study.</p>	<p>Important. Impact decisions related to land use changes need to consider cumulative impacts. This would require an assessment of current background air quality and nearby sources</p> <p>There are also other proposals for pits in the area. The cumulative impact of all proposed pits needs to be assessed.</p> <p>Very significant, but not clear how any specific application should address two other proposed pits. These are not existing, but proposed. Township should discuss with various proponents how to address the cumulative impact</p>
2. Fugitive Emissions	Throughout report	<p>Actual emissions from the site include emissions from fugitive emissions such as on-site truck movements and stockpiles. This has not been considered. As well, the facility is using a dedicated haul road that will run from the site to Katherine St. This too has not been assessed, even though it runs past two homes.</p> <p>While this is considered appropriate of a Certificate of Approval application (assuming an appropriate Best Management Plan is developed), it is not acceptable for Environmental Assessments or for impact assessments to determine land use. MOE assumes all land use and compatibility issues have been</p>	<p>Very significant. Impacts are not just due to specific selected sources, but due to all emissions from the site and related activities. In not considering these emissions, impacts to sensitive receptors are underestimated and appropriate decisions on acceptability cannot be made. Impact decisions related to land use changes need to consider all possible impacts.</p>

Statement or Issue	Location in Air Quality Study	Discussion	Significance
		resolved prior to considering approval. Impacts of fugitive dust need to be considered.	
3. Haul Road to Katherine	Throughout report	A dedicated haul road is proposed from the site to Katherine St. This has not been assessed. This is not a public road and will create a new potentially significant source (i.e. impact) on nearby receptors. The road goes past two residential properties and can potentially impact other nearby properties.	Very significant. This is a new source that has not been assessed. Impacts are underestimated and decisions on acceptability cannot be made.
4. Operations - conveyor	Page 4	Capital is proposing to use a conveyor to move material from the working face to the processing area. This is an excellent approach to minimizing dust and traffic. RWDI has considered the conveying to be a negligible source. This is acceptable for the main conveyor runs, but any conveyor drops or transfer points cannot be considered insignificant. It is not clear that the conveyor from the face to the process area will be one straight conveyor run or whether drop/transfer points will be needed for changes in elevations or direction.	Potentially significant. Uncontrolled transfer points on conveyors can be significant dust sources.
5. PM ₁₀ /PM _{2.5}	Page 5	Report indicates that PM ₁₀ and PM _{2.5} are only minor fractions of total particulate and as such, if total particulate is controlled, then the finer fractions are also below standards. Given that fine particulate are a health based concern, this should be supported by calculations. (note: all the issues discussed above should also be considered for fine particulate)	Potentially significant.
6. Dust Fall	Through out	MOE continues to have an air quality criterion related to dust fall. This can often be a very noticeable impact on nearby receptors and should be considered.	Significant. Dust fall is often the most noticeable impact of dust emissions.
7. Operations	Through out	The operations at the face seem to consist only of a front end loader, loading material to the grizzly on the	Clarification. The modelling and impact assessment assumed very specific

Statement or Issue	Location in Air Quality Study	Discussion	Significance
		<p>conveyor. It is not clear if there will be more than one loader or if there will be a rock breaker on the grizzly. If there is no breaker, how will oversized materials be cleared?</p> <p>As well, in the process description, it states that there will be a "loader" at the plant. Based on the calculations, it would appear there will be three loaders at the plant.</p> <p>Since emissions are related to activity and number of sources, clarity is required w.r.t. number of operating equipment and operation process.</p>	<p>operational conditions and numbers of equipment. This needs to be clear and documented both in reports and the site plans. Equipment and operations beyond those modelled in the report will lead to greater air quality impacts.</p>
8. Night time operations	Page 15	<p>It is unusual for pits to operate at night. This must be considered in the modelling assessment and impact assessment. RWDI has suggested that on days with night operations, daytime activities be reduced.</p> <p>This may be an appropriate mitigation measure, but requires some careful modelling and assessment to determine how significantly daytime operations need to be curtailed to minimize impact. The exact operations for these conditions would need to be clearly defined in the site plans, BMP and C of A.</p>	Very significant.
9. Monitoring	Not discussed	<p>The Town of Woolwich OPA requires an assessment of monitoring. This has not been provided in any report.</p> <p>We would not recommend actual air quality monitoring for this site. Real time monitoring is very expensive and siting of the monitors to ensure maximum impacts are captured is always difficult. Integrating (i.e. standard hi-volume) monitors are not appropriate. They require days to obtain results and only provide a retrospective look at impacts and mitigation. Visual "monitoring" on an ongoing basis to ensure no visible plumes of dust come from operations and traffic is the most appropriate monitoring to ensure appropriate</p>	Visual "monitoring" and reporting must be included in the operation. This is the most appropriate mechanism to ensure appropriate mitigation.

Statement or Issue	Location in Air Quality Study	Discussion	Significance
		mitigation and minimize off-site impacts.	

Table 2: Review of Ortech Air Quality and Dust Management Report

Statement or Issue	Location in Air Quality Study	Discussion	Significance
10. Designation as Class II facility	Page 2	See Section 2.4.4 above. Site can operate at night and is a large operation. Class III designation, as suggested by MOE guidance might be more appropriate.	Significant. Separation distances to sensitive receptors should be greater
11. Dust Management Plan (DMP) – inspections and record keeping	Section 3.1.	<p>The plan provides an excellent framework for control of dust emissions, but some further details are required.</p> <p>A minimum daily inspection to observe dust emissions from traffic and operations. Visible dust from any operation needs to trigger mitigation. Using visual triggers allows both the operator and other agencies to determine if dust control is adequate.</p> <p>Record keeping of these observations and actions needs to be included.</p>	Significant. Dust can be well controlled, but requires a detailed plan for control triggers, initiation of mitigation and record keeping.
12. DMP – moisture of material	Section 3.1	<p>The aggregate is inherently moist. This reduces dust emissions. Any stockpiled materials and materials that have been exposed will dry and could cause potential dust emissions. A mechanism for watering these exposed areas should be included.</p> <p>It should be noted that the RWDI report assumes water spray bars are included on the process plant to ensure moisture content is retained. This should be included in the DMP.</p>	<p>Significant. Dry materials can be readily eroded by high wind and can also cause significant emissions when handled.</p> <p>DMP should include the spray bars and mechanism for watering stock piles and exposed areas.</p>
13. DMP – road surfaces	Section 3.2	Crushed asphalt is proposed to control dust on road surfaces. This is appropriate, but watering will still be required. No watering truck is discussed in this report.	Significant. An on-site watering /sweeping truck should be provided. This should be outfitted with a water cannon to allow wetting of stockpiles and

Statement or Issue	Location in Air Quality Study	Discussion	Significance
			exposed areas.
14. DMP – vegetation barriers	Section 3.1	<p>“tall mature trees....act as wind breaks”</p> <p>Trees and vegetation can act as dust barriers. Studies have shown that dust (especially fugitive dust from traffic) stays near the ground (within 2 m) and as a result, can be reduced by planting of appropriate vegetation. Appropriate plantings to provide “dust screens” in-line with sensitive receptors should be considered.</p>	Possibly significant. Could reduce impacts at receptors.
15. DMP – weather conditions	Section 3.1	<p>More intensive actions will be required during times of high wind, high temperatures or very dry conditions. More detail should be provided on increased inspection and mitigation during extreme conditions. .</p>	Significant. Dust can be well controlled, but requires a detailed plan for control triggers, initiation of mitigation and record keeping.
16. DMP – paved access road	Section 3.2	<p>DMP includes cleaning of the paved access road from the site to Katherine street. This should be part of the regular inspection, cleaning and record keeping. This can eliminate track-out to Katherine Street if the access road is well maintained.</p>	Significant. Dust can be well controlled, but requires a detailed plan for control triggers, initiation of mitigation and record keeping.
17. DMP – record keeping	Section 3.3	<p>Checklist and record keeping.</p> <p>No form has been provided for review. Details of this report are key in determining what routine actions will be undertaken and recorded.</p>	Significant. Record keeping is critical to demonstrating adherence to the management plan.
18. Receptors	Section 4	<p>Not all receptors indicated on site plans and assessed in the RWDI report have been considered. There is an on-site home at the north east corner of the site that was not assessed. As well there is a home just off-property north east of the site.</p>	Significant. Impacts have not been assessed at all nearby sensitive receptors.
19. DMP – complaint reporting	Through out	<p>No discussion of complaint response. A complete management plan should include complaint response form and procedures.</p>	Significant. Key part of a Best Management Plan.
20. Monitoring	Not discussed	We would not recommend actual air	Visual “monitoring” and

Statement or Issue	Location in Air Quality Study	Discussion	Significance
		<p>quality monitoring for this site. Real time monitoring is very expensive and siting of the monitors to ensure maximum impacts are captured is always difficult. Integrating (i.e. standard hi-volume) monitors are not appropriate. They require days to obtain results and only provide a retrospective look at impacts and mitigation. Visual “monitoring’ on an ongoing basis to ensure no visible plumes of dust come from operations and traffic is the most appropriate monitoring to ensure appropriate mitigation and minimize off-site impacts.</p>	<p>reporting must be included in the DMP. This is the most appropriate mechanism to ensure appropriate mitigation. See comments RE: DMP concerning record keeping.</p>
<p>21. Impact at nearest receptors</p>	<p>Page 5</p>	<p>“farmhouse immediately south...if farm house remains occupied, exemplary efforts to control dust may be required”</p> <p>As well, there are two receptors to the north east of the site that have not been assessed.</p> <p>Ortech does not indicate what “exemplary” efforts may entail. This should be detailed in the DMP.</p>	<p>Significant. There are a number of sensitive receptors very close to the site. Report recognizes extra effort required to minimize impacts, but details of the extra mitigation are not provided.</p>

4.0 CONCLUSIONS

The air quality aspects of the proposed operations were discussed and assessed in

- Air Quality and Dust Management Plan for the Montrose Aggregate Site, Ortech Environmental. Dated July 15, 2008.
- Draft Summary Report, Capital Paving Inc; Harrington and Hoyle Ltd. July 2008.
- Air Quality Assessment Capital Paving, RWDI Air Inc., April 2008.
- Site Plans for the Montrose Aggregate Site, Harrington and Hoyle Ltd, (no specific issue date or revision date, but maps indicat plotted on Aug 21, 2008).

There is no mention made in any report or on the site plans of off-site materials being brought to the site for crushing or processing. This is a common process at many sites; usually involving back-hauling from work sites. As this is not mentioned, we have assumed that this will not occur and if undertaken, would require appropriate amendments to all approvals and further consideration in impact studies.

At present, these reports do not comply with the Aggregate Resources Act requirements; nor the Township of Woolwich Official Plan. Some of these issues are relatively simple to address and document; others will require some additional assessment and effort.

The application considers the MOE Land Use Guidelines, but in our opinion does not appropriately categorize the operation due to the potential for 24-hour operations and the large size of operation. The site should be classified as a Class III operation, not Class II. A Class III categorization would require an increase in separation distances to sensitive receptors. As well, the studies do not address the impacts of 24-hour operations. Curtailing day-time operations to reduce total daily emissions may be an appropriate mitigation method, but this has not been assessed; nor have any operational constraints for including night time operation been specified in the site plans or Best Management Plans.

The impact assessment study (RWDI report) does not model all emissions from the site, nor cumulative emissions of other sources in the area (i.e. background). Though this is currently acceptable for a Certificate of Approval application, it is not sufficient to assess the appropriateness of land use changes. In issuing a Certificates of Approval, MOE assumes that land use and land use compatibility have already been addressed and resolved. Without a full assessment of all air quality impacts it is not possible to assess the appropriateness of the proposed land use change. Details are provided in the previous section.

The current Dust Management Plan provides a framework, but there are inconsistencies in the plan with other documents and further details on reporting, record keeping and complaint procedures are needed. Further details are provided in the previous section.

At present, there is insufficient detail and air quality impact assessment provided by the proponent to determine if the air quality impacts related to this proposed site are acceptable.