

Tri-County Aggregates Ltd.

BEST MANAGEMENT PLAN FOR DUST CONTROL

July 18 2016

A large orange geometric shape, resembling a triangle or a trapezoid, is positioned in the bottom right corner of the page. It is composed of two overlapping triangles. A thin white diagonal line runs from the bottom-left corner of the shape to the top-right corner. A thin white horizontal line runs across the width of the shape, intersecting the diagonal line.

BEST MANAGEMENT PLAN FOR DUST CONTROL

Tri-County Pit Best Management Plan
for Dust Control

Prepared for:

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TRI-COUNTY PIT BEST MANAGEMENT PLAN FOR FUGITIVE DUST

The following presents potential sources of fugitive dust at the Tri-County Aggregate Resources Pit as well as actions to control and mitigate these sources. The intent of this dust management plan is for it to be an evolving document that will be modified as necessary once operations begin in order to sufficiently control dust such that there are no offsite impacts to the surrounding lands and residences.

1 POTENTIAL SOURCES OF FUGITIVE DUST

Due to the nature of activities at a sand and gravel operation, there are several on-site sources at the Tri-County Pit that could potentially contribute to fugitive dust emissions. These are as follows:

- truck travel on the unpaved on-site entrance road;
- loader and other vehicle travel on unpaved haul routes and processing areas; and
- material processing and handling (conveying, loading, crushing and screening of aggregate).

The fugitive dust generated by these sources and activities arises from processing or pulverizing crustal materials. Also, a significant portion of the fugitive dust from these sources is in the coarse fraction which tends to result in nuisance effects; only a small fraction of the dust is in the respirable range, which is of most concern from a health perspective.

In many instances, fugitive dust emissions are dependent on the wind speed at any given time as well as the activity rates. Thus the amount of effort necessary to control such emissions is greater during windy conditions than it is during calm conditions.

2 REQUIRED CONTROL ACTIONS

In general, most approaches for controlling fugitive dust involve the application of water to prevent the fugitive emissions from being generated. Depending on the source, there are other measures that are used to remove the source of the dust, and/or reduce the impact of the emissions when they occur. These are discussed in the following sections.

2.1 Site Entrance Road and Internal Haul Route

As required by the Ministry of Natural Resources and Forestry (MNR), water or dust suppressants will be applied to the site entrance road and internal haul/loader routes as necessary to mitigate fugitive dust. The internal haul road will be a hard surface initially composed of recycled asphalt pavement (RAP). For the Tri-County Pit, water may be imported from off-site for dust control purposes. In the assessment, sufficient water was assumed to be applied to achieve a control efficiency of 90% on all unpaved site roads travelled by non-road equipment (loaders, rock trucks, etc.) and by shipping trucks that will be used to ship finished materials off site. These levels of control are reasonably achievable, and necessary to prevent excessive off-property concentrations.

Best Management Plan for Dust Control

In order to achieve the level of control that is required to meet the levels that were used in the completion of this study, the following actions are recommended:

- all internal unpaved haul roads and processing areas will be watered at a sufficient frequency such that dust does not rise to a height above the wheel wells to control dust generation due to vehicle travel and other equipment;
- truck wheels shall be cleaned periodically using, for example, high pressure washing to prevent mud track out onto 17 Line and reduce dust generation off-property;
- 17 Line will be cleaned periodically in the vicinity of the main entrance using, for example, high pressure flushing if visible dust is seen as a result of track out; and
- stripping activities will not be conducted during adverse meteorological conditions, such as excessively hot, dry, or windy conditions.

Operators will be trained to assess the conditions and requirements for watering based on simple and clear visual cues such as the extent and height of dust plumes behind moving vehicles. For example, if dust plumes rise beyond the top of the wheel wells, the operators will apply another load of water. In addition, if there is little traffic, but the operators observe visible dust blowing from piles and open areas, water will be applied. During wet or rainy periods, water will generally not be applied.

2.2 Material Handling and Processing

In addition to road watering, most of the material processing equipment will be in an enclosure, which will significantly reduce fugitive dust emissions. Any permanent equipment not in the enclosure will have little to no dust emissions because the process is wet (i.e., wash plant).

2.3 Material Storage Piles

Depending on the amount of “fines” present in the material, windblown dust from material storage piles can occur. The assessment was completed assuming that wind erosion will only occur above a threshold wind speed of 5.4 m/s at a 10 m anemometer height. In addition, it was conservatively assumed that no controls will be specifically employed to control this source, since most piles on site will be comprised of washed materials, which contain essentially no fines. If emissions from storage piles become a problem, all disturbed piles will be sprayed with water or another approved dust suppressant on a daily basis to reduce windblown dust.

2.4 Record Keeping

A daily log of water applications and other dust control procedures and observations will be kept at the site to document the dust control actions that are being taken.

2.5 Control of On-site Contractors

On-site contractors will be required to meet the same requirements as set out in this Best Management Plan for Fugitive Dust at all times that they are on-site.

3 POTENTIAL ACTIONS FOR IMPROVED CONTROL

Tri-County will review the above BMP procedures, as necessary, and will consider the implementation of revised or additional dust control measures in consultation with the MNRF.

4 ENVIRONMENTAL COMPLAINT DOCUMENTATION AND RESPONSE PROCEDURE

A complaint documentation and response procedure will be established for the Tri-County Pit, such that standardized procedures are followed in the event that a complaint is made by a member of the public. The documentation will include the date and time of the complaint, the nature of the problem, and whether any follow-up action was taken. The complaint information will be maintained in an on-site log that is available for review by the MNRF, Ministry of Environment and Climate Change (MOECC) or the Township of Garafraxa, if requested.

A sample complaint form is included in Appendix A of this Plan.

5 UPDATING AND REVIEWING THE DUST MANAGEMENT PLAN

As operation conditions evolve, this Dust Management Plan will be reviewed and updated as necessary. Should any changes be required by the MOECC or MNRF, or if the plan is updated or changed, a copy of the revised plan shall be sent immediately to the Township of Garafraxa for review and approval.

APPENDIX A

Record of Environmental Complaint and Response



RECORD OF ENVIRONMENTAL COMPLAINT AND RESPONSE

1. Location: _____

2. Date and Time Complaint Received: _____

3. Name of Complainant: _____

Address: _____

Telephone Number: _____

4. Form of Complaint and Summary: Visit: Telephone Call: Letter: Attach Copy
Other _____

5. Complaint Referred to Technical Services: No Yes and provide details:

6. Contact Made With Government Official(s): No Yes
If Yes, Complete and Attach Record of Government Environmental Official Contact Form -- Yes

7. Details Concerning Investigation Made by Company Concerning Complaint:

8. Response to Complainant:
Letter Date _____ Attach copy of letter to this form.

Telephone Call Date _____ Time _____

Summary of Telephone Call:

9. Follow-up Action Required and/or Taken by Company: None Details:

10. Filed Original Form in the Plant Environmental Manual: Yes

Date _____

Employee Signature, Name & Position

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