

Comments on an Application for a Zoning By-law Amendment for a Proposed Grain Milling and Blending Facility

Submitted by: Conrad Richter, owner of 357 Regional Highway 47 and president of Richters Herbs

Subject property: 351 Regional Highway 47

Applicant: Grainboys Holdings Inc.

File no.: ZBA 2018-07

We are opposed to the project for the following reasons:

- 1. Excessive noise levels likely, and noise impact study is severely lacking.**
- 2. Benefits to local agriculture are overstated.**
- 3. Risk of spread of prohibited noxious weeds and danger posed to our CFIA/USDA regulated seed and plant export business.**
- 4. Air quality issues related to fine particulate matter PM_{2.5} was not addressed.**
- 5. Fire suppression plan depends on unreliable water stored in a storm water pond.**
- 6. Inconsistent and possibly deliberately misleading scale of operation information provided.**

Background

The applicant, Grainboys Holdings Inc., owns and operates Port Royal Mills, a grain milling business located in Aurora. The company specializes in milling and blending a variety of imported and domestic grains. Its products are sold to bakeries and food processors nationally. According to notes made available at its presentation before the Planning Committee on June 4, the company plans to continue to serve the markets it currently serves once the proposed facility is built to replace the Aurora operation. Its business activities, while expanded and made more efficient with new equipment, will operate largely in the same fashion as it is now at its Aurora mill. It is therefore useful to look at what Port Royal Mills is doing now in order to understand what it will do at the new site.

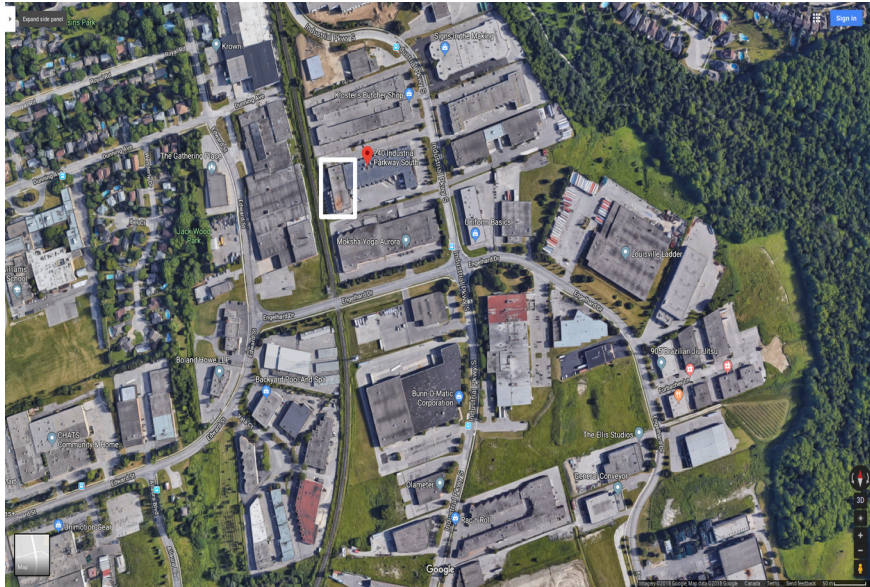


Figure 1. Aurora mill shown in box at 240 Industrial Parkway South. Nearest residential areas are 250 m to the west and 350 m to the northeast. Treed areas buffer the residential areas from the industrial area.

Port Royal Mills occupies the west end of a building at 240 Industrial Parkway South. The property is zoned E2¹. Among permitted uses, according the Town of Aurora By-law 6000-17, are “Food Processing Establishment” and “Industrial uses”². All of the neighbouring buildings are commercial and industrial (Fig. 1). The nearest residential areas are 350 m to the northeast and 250 m to the west, and these residential areas are separated from the industrial area by wooded areas.

Excessive Noise



Figure 2. Silos at back of Port Royal Mills in Aurora.

My wife, my son and I visited the Aurora facility on evening of June 15, 2018. The mill appeared to be in full operation when we arrived at after 9 pm. There was a loud continuous humming noise coming from the silo area (Fig. 2). As we walked toward the silos the sound got louder. At about 10 m in front of the middle silo the sound averaged 68 decibels as measured by a sound meter app on my phone (Fig. 3).



Figure 3. Sound levels recorded at 9:14 PM about 10 m in front of the silos.

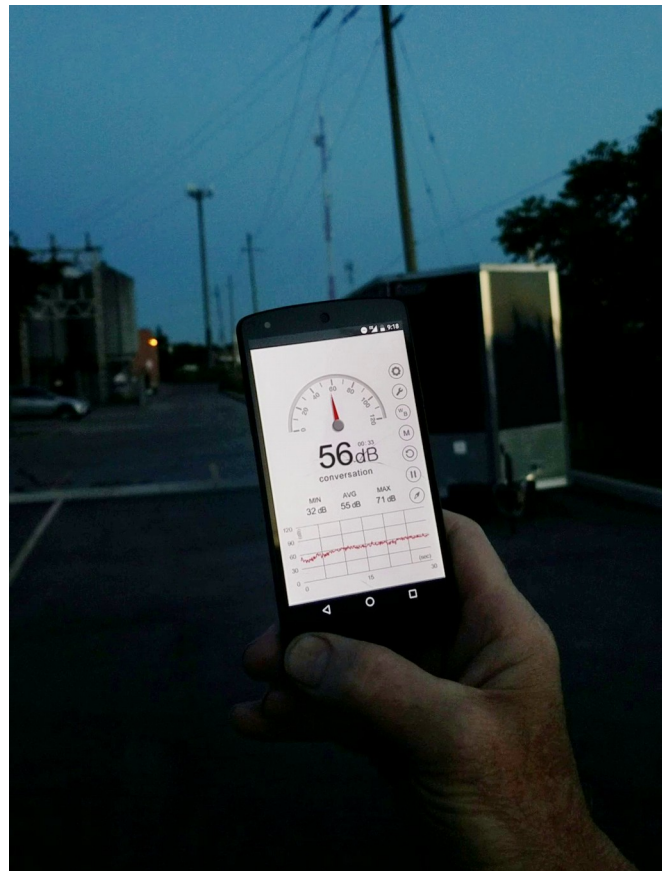


Figure 4. Sound levels recorded at 9:18 PM on the neighbouring property about 100 m to the north of the silos.

Even as we stood on the neighbouring property approximately 100 m away, the sound was about 55 decibels (Fig. 4). On the east side of the mill standing in the middle of the loading area (Fig. 5) at least 50 m east of the mill, we recorded sound levels around 65 decibels (Fig.6).



Figure 5. Truck at Royal Port Mills loading dock in the loading area on the east side of the mill.

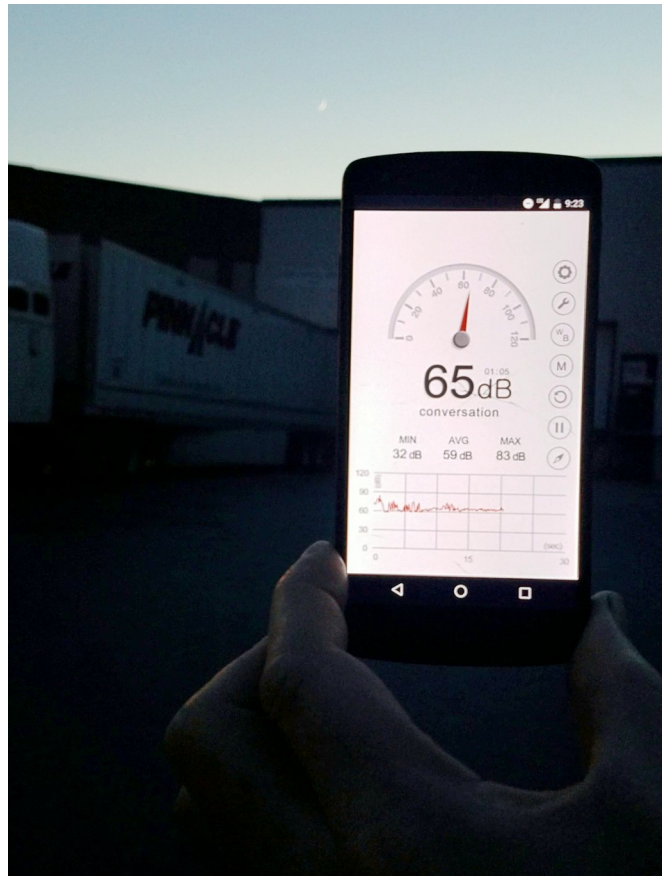


Figure 6. Sound levels recorded at 9:23 PM in the loading area about 50 m east of the mill. Like all other recordings, sound level charts are relatively flat which is typical of continuous noise.

Chronic environmental noise exposure causes non-auditory health effects such as annoyance, sleep disturbance, hypertension, heart disease and reduced school performance in children.^{3 4} Such effects can be caused by noise even at moderate levels when noise is continuous. The World Health Organization warns that at average night-time levels of 40-55 decibels:

“Adverse health effects are observed.. Many people have to adapt their lives to cope with noise at night. Vulnerable groups are more severely affected.”

And at average night-time levels above 55 decibels:

*“The situation is considered **increasingly dangerous for public health**. Adverse health effects occur frequently, a sizable proportion of the population is highly annoyed and sleep-disturbed. There is evidence that the risk of cardiovascular disease increases.”⁵*

The proposed Goodwood mill has more than twice the floor space of the Aurora mill: 3,700 square metres compared to the current 1580 square metres at Aurora⁶. We observed that all of the noise emanating from the Aurora mill on the evening of June 15 was coming from within the building itself and not, for example, from the adjacent silos or loading areas. Therefore the increased size of operation will necessarily increase noise emissions. Despite promises that engineering design will mitigate noise emissions, we have no confidence that the increased noise emissions will be controlled adequately.

The four bedrooms of our single family residence are located at the west end closest to the proposed mill. They are 125 m from the proposed new mill. Based on the noise emissions we witnessed on June 15, we can expect at least as much noise as the Aurora mill emits, and likely more than the 55 decibels we observed 100 m away on the neighbouring property. Continuous noise levels at 55 decibels (or more) for 18 hours a day is dangerous for health.

I measured noise levels just outside my bedroom on the morning of June 16, a Saturday. At 6:16 AM I began recording and ambient noise and the average of seven 30 second samples was 33 decibels, the low being 31 and the high being 39. Two of the 30 second samples are shown in Figs. 7 and 8. Although short and longer peaks are visible, likely due to sources such as wildlife, dogs, and road traffic, the baseline levels outside my bedroom were all below 30 decibels. This would be the natural sound profile that humans have experienced for generations in rural areas.



Figure 7. A 30 second sample of ambient noise levels outside the Richter residence bedroom at 6:16 AM June 16.



Figure 8. A 30 second sound sample outside Richter residence bedroom recorded at 6:24 AM June 16.

If a new source of noise comes from the proposed plant, the sound profile observed above will change significantly. The baseline will shift up to at least 55 decibels and the pleasurable ambient sounds will no longer be noticeable.

We are troubled by the methodology of the noise impact study prepared for the applicant by HGC Engineering.⁷ study. The biggest problem is that no baseline measurements were taken at the Aurora plant despite the applicant's intention to continue the same kind of business in the new location utilizing similar processes and equipment. Such measurements can provide information about the actual sounds emitted by the equipment. The projections provided in the study are therefore completely theoretical. It is perhaps not surprising that the predicted facility sound levels are all conveniently within limits. Had the projections been informed by actual measurements at the Aurora facility we believe the projections would have exceeded the limits. It is hard to imagine any justification for not making such easy-to-take measurements.

Although no measurements were taken at the existing mill, the study did measure sound levels at the proposed Goodwood site. A week of recordings were taken at a single roadside site on the north side of Highway 47 opposite the proposed mill property. Using that one set of roadside sound level data, sound levels were calculated throughout the area including the neighbouring properties. These calculated sound levels – instead of actual measurements -- were taken to be the baselines to which the projected noise from the mill were compared. For my property, around the area of my residence, the study calculated a baseline sound level of 45 decibels. In fact, as I have demonstrated with my measurements outside my bedroom, baseline sound levels are actually much lower. This is a critical point because the applicant would want us to believe that the noise from the mill will be comparable to ambient sound levels in the area.

In thinking about the impact of noise one needs to consider the fact that the true human equivalent occupation of my property is much higher than a single family dwelling. There are five family members living in my residence, but there are also up to 50 employees working on our premises seven days a week, and over the course of the year thousands of customers come to buy herb plants, seeds and herbal products at our business, Richters Herbs, spending an average an hour on the premises. At peak times during our busy spring season, the equivalent daily human occupation can be calculated as $16\text{h}/24\text{h} \times 5 \text{ residents} + 8\text{h}/24\text{h} \times 50 \text{ employees} + 1\text{h}/24\text{h} \times 100 \text{ customers} = 24.2$ humans spending their entire 24 hour days on the property. This is the equivalent of a small apartment building. We believe Uxbridge Town Council needs to give weight to our concerns about the noise impact on our property.

It is, we believe, telling that neither the applicant, Mr. Kresho Petrovich, nor his son(s) have indicated any intention to live on the property. The small existing residence understandably will be demolished, but there is no reason why a new residence could not be built. We believe that the owner knows that once the mill is built and is in operation, the noise levels, the 18 hour a day business activity, and the possible air quality issues will not be to his liking. Those of us who are living next door will bear the brunt of the loss of quality of life, loss of property values, and negative impact on business if noise levels are excessive.

Local Economic Benefits

On page 1 of the *Planning Justification Report*,⁸ it is stated that putting the new grain mill on the proposed Goodwood site will benefit farmers in Uxbridge Township and Durham Region. It is claimed in the that “[a]pproximately 80% of the grain is supplied from the grain producing Counties and Regions in Ontario including Durham Region.” How true this statement is we cannot know because the information to support this claim is proprietary. But the claim is central to the applicant’s justification for the project. If the mill is not helping local farmers then it may not meet the “agriculture-related uses” requirement under the *Oak Ridge Moraine Conservation Plan 2017* and the *Provincial Policy Statement 2014*.

At the hearing before the Uxbridge Council Planning Committee on June 4, Mr. Petrovich said “the majority of the grains come from Ontario; I’m thinking 70% if I could guess...”⁹ After the meeting when I asked Mr. Petrovich how much grain is imported into Canada, he did not give me a number, preferring to emphasize the local grain that is used.

According to Industry Canada’s *Canadian Importers Database*¹⁰, Port Royal Mills is listed as a “major Canadian importer” for six grain-related Harmonized System codes. (Table 1). To qualify as a “major importer” the company must be among a group of importers that account for 80% of all Canadian imports for that commodity. Because data is not available for about half of HS classified grain commodities, it is possible that Port Royal Mills is a major importer of other grains.

Table 1. Port Royal Mills, Major Canadian Importer of Grains	
HS Code	Commodity Description
100829	Millet: Other
100890	Other Unmilled Cereals Nes
120600	Sunflower Seeds Whether or Not Broken
120740	Sesamum Seeds Whether or Not Broken
120791	Poppy Seeds Whether or Not Broken
121299	Vegetable Products Used Primarily for Human Consumption

The extensive list of grains used by Port Royal Mills¹¹ is listed in Table 2. Of the 28 distinct grains, seeds and grain products listed, 25 are raw or minimally processed grains or seeds that could be supplied directly from a farm. Of those, only six are found in OMAFRA’s database of field crops

produced in Ontario.¹² Some grains and seeds such as poppy seed (illegal to grow in Canada), millet, rice and sesame are not grown in Canada. Others are likely not sourced from Ontario, such as flax brown and flax golden, since these are produced in Western Canada.

Table 2. Port Royal Mills Product List		
Whole Grains	Seeds	Organic
Amaranth	Chia	Amaranth
Barley	Flax Brown	KAMUT® Brand Wheat
Barley Malted	Flax Golden	Quinoa
Buckwheat	Millet Hulled	Spelt
Bulgor	Poppy Seed	Millet Hulled
Corn	Sesame White	Sunflower Hulled
Oats	Sesame Natural	Flax Brown
Quinoa	Sunflower Hulled	Wheat Soft
Rice		Red Fife
Rye		
Spelt		
Soy		
Teff		
Triticale		
Wheat Hard		
Wheat Soft		
Wheat Malted		
Hulless Barley		

The *Planning Justification Report* suggests that local growers will be “encouraged to grow specialty grains to meet growing demand.”¹³ Growing a new crop is a risky and often expensive undertaking for farmers, and they have to learn how to grow the crop and harvest it, and may need to acquire new equipment. That some specialty crops such as amaranth and quinoa may not provide the yields that are achieved in other climatic zones is key risk for local farmers. Establishing new crops in an area requires a significant degree of commitment from buyers to help foster the development of the crop. However, at the end of the hearing before the Planning Committee on June 4, I asked Mr. Petrovich why he imports sunflower seeds, a crop that is easily grown in Ontario, and is currently grown in Canada according to the Food and Agriculture Organization (FAO) *FAOSTAT* database.¹⁴ He said that

it is cheaper to import them from abroad. This, we feel is a significant statement. It reveals that the company's commitment to encouraging local farmers to grow specialty crops only goes as far as price.

Prohibited Noxious Weeds

According to a recent study by the Canadian Food Inspection Agency looking at the presence of weed seeds in grains imported for domestic food use, the risk of introducing weeds “should not be ignored.”¹⁵ In the study 947 samples of imported grain lots examined in a sampling program 2007-2015 revealed that 198 samples contained weed seeds. Of those 198 samples, 64 contained what is classed in Canada by the *Weed Seeds Order 2016*¹⁶ as “prohibited noxious weed seeds”.

Prohibited noxious weeds are quite unlike the weeds that ordinarily come to mind when one thinks of weeds such as dandelions. They are considered so potentially harmful to agriculture and to society that the government has established zero tolerance standards for their presence in agricultural and horticultural seeds. If a single seed is present in an imported seed lot for planting purposes, the entire seed lot must be destroyed. As a seed merchant specializing in herb seeds for more than 40 years we have seen seed lots normally cleaned to a higher standard than food-use grains arrive contaminated with prohibited noxious weed seeds such as dodder (*Cuscuta* spp.). As required by law, such seed lots have to be destroyed.

As a participant in the USDA's Canadian Seed Import Program, we are audited annually by the CFIA on behalf of the USDA. The USDA program allows us to freely ship seeds to United States. There are only a few Canadian seed companies that qualify for this program. Our seeds must comply with weed seed standards in the U.S., including the total absence of prohibited noxious weed seed defined under federal and state laws.

We are also one of the few greenhouse operations in Canada that participates in the Canadian Greenhouse Certification Program. Like the seeds program, this program allows us to freely ship plants to the U.S, and is administered by the CFIA on behalf of the USDA. Our greenhouses are audited four times a year and must be free of noxious pests including prohibited noxious weeds.

For the purpose of this discussion we will focus on the prohibited noxious weed dodder (*Cuscuta* spp.) (Fig. 9). This weed is a plant parasite that entwines itself around host plants and feeds off them. It has

little or no chlorophyll and therefore depends almost exclusively of the host plant for nutrients. An infestation of dodder in a forage crop, for example, will result in reduced forage yields and unsaleable seed crops. Farmers must eradicate dodder infestations at considerable expense. If an infestation takes hold in a nearby meadow, that area will be a reservoir for future infestations. It only takes a single seed for infestation like that shown, and it only takes one contaminated bag to release the weed. We have actually seen this happen when a sack of seeds from Egypt broke on a gravel driveway and dodder seeds germinated and started to infest nearby plants.



Figure 9. Dodder infestation on a sage plant. (Wikimedia)

According to the CFIA study cited earlier, dodder was found in imported grain for food use so the risk is not theoretical but real.

Where the applicant's current operation is sited – in an industrial park with paving all around – the chance that stray prohibited noxious weed seeds will germinate and take hold in an area is much less than on the proposed property. About half of the Goodwood property will remain much the way it is now with vegetation and could potentially become a reservoir for weeds such as dodder. In addition, the property abuts a farm to the south, a landscaping business to the west and our herb business to the east.

If we take the applicant's word that 80% of its grains and seeds come from Ontario and perhaps another 10% come from the rest of Canada, about 10% of the proposed mill's tonnage will come from abroad. If we accept the applicant's claim that the new mill will process 11,000 tonnes of grains and seeds a year, then there could be over a thousand tonnes of imported material passing through the mill annually. Given that Port Royal Mills is a major importer of grains and seeds, the likelihood that contaminated seeds from abroad will pass through the mill, and potentially spill on the grounds, is a significant concern.

From a planning point of view it should be "best practice" to locate operations that handle large quantities of foreign grains and seeds on industrial lands where paved surfaces surround the buildings, loading docks, storage areas and driveways, and where there are no potential reservoirs nearby where weeds can establish. With this in mind, we believe Port Royal Mills should locate on an industrial site that possesses these features.

At the public hearing before the Planning Committee on June 4 the applicant's representative described two examples of grain mills located in rural Ontario settings to demonstrate to Committee members that the idea of placing an industrial scale mill in a rural area has been done before. In thinking about the risks of prohibited noxious weed seeds there is a key difference between what is proposed for Goodwood and what has been done before. Both Brant Flour Mills in Oakland, Ontario, and Nith River Milling in Wellesley, Ontario, process only Canadian grains. Nith River Milling processes oats, barley and wheat¹⁷ and Brant Flour Mills processes rye and spelt (an heirloom wheat)¹⁸. All these grains are grown in abundance in Ontario. Neither of these mills is listed as a major importer on the Industry Canada *Canadian Importers Database*. The risk of these operations spreading prohibited noxious weed seeds is low despite their rural settings.

Air Quality

My family home and business are located downwind from the proposed new mill site. Air quality is a particular concern. The mill will purportedly dry-process 11,000 tonnes of grains and seeds a year according to the company's documents and statements, and this could emit dust to the air.

On our visit to the Aurora mill on June 15, we did not notice significant dust around the building and silos. It appears that the company is successfully capturing large particulate matter. But a worry remains about fine particulate matter less than 2.5 microns in diameter (PM_{2.5}) which is the particulate matter most dangerous to health. Serious adverse effects of this type of particulate matter include premature death, heart attacks, asthma, impaired lung function and respiratory distress, and can occur after both short-term or long-term exposure.^{19 20} Fine particulate matter does not settle to the ground immediately and can remain airborne for days to weeks and can travel long distances.²¹

A preliminary air quality report was prepared by MTE Consultants Inc.²² No measurements at the Aurora mill were made, and there was no visit to the proposed Goodwood site. The report relied solely on information provided by Mr. Petrovich and Zelinka Priamo Ltd. (author of the *Planning Justification Report*). At best, the report amounts to a list of recommended best practices and it did not assess the air quality impact of the proposed mill. This report provides no useful information of impact on air quality around the proposed mill, and, crucially, it does not address PM_{2.5} emissions.

According to the U.S. Environmental Protection Agency's (EPA) generalized particle distribution for grain processing,²³ about 23% of particulate matter emitted during grain processing will be 2.5 microns or less. Because of the adverse health effects of PM_{2.5}, a credible air quality impact study for the proposed mill must address this type of emissions.

Fire Suppression

The potential for explosions and fire on the site with large quantities of dust and grain has significant implications on fire suppression planning. According to the *Site Servicing and Development Review* prepared by Lassing Dibben Consulting Engineers, a "fire water storage pond" with a 750 cubic metre capacity is included in the proposal.²⁴ This pond will be fed by storm water; no new wells will be dug to feed this pond. The Lassing Dibben review makes reference to a storm water report prepared by G.D. Jewell Engineering Inc. This report was not made available for public review, but according to Lassing Dibben the report concluded that "the storm water design requirements for this site can be met."

I am skeptical that a pond of the stated size can be fed by storm water. In the 1970s my father attempted to create a pond for irrigation purposes at the back of our property (357 Highway 47). The

project failed because there was not enough run-off water to maintain water levels. If the fire suppression plan requires significant water to be stored on the property, and the proposed fire water storage pond fails to fill, then the applicant will likely seek to dig new wells to pump ground water in order to maintain water levels.

Scale of Operation

According to the *Planning Justification Report* prepared for the applicant by Zelinka Priamo Ltd., the Aurora mill processes approximately 10,000 tonnes of grain and seeds annually. The processing takes place on 1580 square metres of floor space. There are 7 grain bins and several loading docks.²⁵

The new operation will have 3,700 square metres of floor space plus 14 storage bins, 2 receiving bins, and 2 by-product bins. The *Planning Justification Report* does not give a number for the expected annual processing volume of the new mill. But it does say that 10 trucks a day are expected to bring 35 tonnes of grain from farms and suppliers each day. Assuming the daily arrival volumes equal the daily processing volumes, and assuming a five day work week, we can calculate the annual volume of the new mill to be about 9,000 tonnes. This number is *lower* than the current processing volume at the Aurora mill.

During the public hearing before the Planning and Economic Development Committee on June 4, the applicant's representative, speaking about the capacity of the new mill, told the committee that "our client figures that this plant if approved and constructed will be about 11,000 tonnes per year capacity."²⁶

These numbers – 9,000 and 11,000 tonnes a year – do not make sense. The projected capacities are either 1,000 tonnes less or greater than the current capacity in Aurora. It is inconceivable that such a fundamentally important number – the projected capacity – can be barely different from the current capacity at the Aurora mill. Otherwise why bother moving from the Aurora location?

With more than a doubling of floor space and silos, along with efficiency improvements, the capacity of the new mill will likely be much higher than claimed. This inconsistency in such a important number suggests that the lowball numbers were intentional. If the real capacity of the new mill is

22,000 or 25,000 tonnes a year then the much higher volumes have significant implications on noise, air quality, and road traffic – all of which will likely be much higher than claimed.

Because much of this application depends on the truthfulness of the material provided by the applicant, any doubts arising from project inconsistencies, study reports and oral statements must be carefully weighed against the merits of the proposal.

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