

## Property Value Losses from Quarrying Operations

The Centre for Spatial Economics produced an extensive analysis of many studies done on the impacts of quarrying and other undesirable industries on property values. It can be found here:

[http://www.town.caledon.on.ca/contentc/townhall/departments/planningdevelopment/Schedule B to CAO Report 2009-001.pdf](http://www.town.caledon.on.ca/contentc/townhall/departments/planningdevelopment/Schedule_B_to_CAO_Report_2009-001.pdf)

The Centre's analysis is titled, "*The Potential Financial Impacts of the Proposed Rockfort Quarry.*" The work of the following researchers is included:

- ▲ Professor Diane Hite of Auburn University in Alabama is an economist who has published widely in the area of property value impact analysis. Using a hedonic pricing model<sup>1</sup> procedure which separately accounts for the relative impacts on house values of a variety of attributes, Professor Hite examined the effects of distance from a gravel mine in Delaware County, Ohio on the sale price of more than 2,500 residential properties in the late 1990s.<sup>2</sup>
- ▲ George E. Erickcek of the W.E. Upjohn Institute for Employment Research recently used Professor Hite's model to assess the potential impacts of the proposed Stoneco Gravel Mine in Richland Township, Michigan on property values in the area.<sup>3</sup>

**CONCLUSION:** Properties closest to the gravel mine faced the largest value declines, and property value declines diminished with distance from the mine.

- ▲ Properties within 0.31 miles of the mine dropped in value by 25 percent or more.
- ▲ The decline 0.625 miles away was between 15 and 20 percent.
- ▲ The decline 1 mile away was just under 15 percent.
- ▲ The decline 1.25 miles away was just over 10 percent.
- ▲ The decline 2 miles away was just under 10 percent.
- ▲ The decline 2.5 - 3.1 miles away was between 5 and 7 percent.

It is important to note that these impacts are permanent. While it is true that properties within these ranges will increase in value in the future in line with increases in average property values in general in the broader area, it is equally true that the gap in values resulting from the negative impact of the quarry persists over time. Dr. Hite's further studies have shown that these drops in

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<sup>1</sup> A model identifying price factors according to the premise that price is determined both by internal characteristics of the good and external factors affecting it.

<sup>2</sup> Diane Hite, 2006. "*Summary Analysis: Impact of Operational Gravel Pit on House Values, Delaware County, Ohio,*" Auburn University.

<sup>3</sup> George A. Erickcek, 2006. "*An Assessment of the Economic Impact of the Proposed Stoneco Gravel Mine Operation on Richland Township,*" W.E. Upjohn Institute for Employment Research.

value are true regardless of the type of quarry.

A few quotes found in this extensive analysis:

- ▲ “the chance of a gravel mine not having an adverse effect on housing values is one in one thousand.”
- ▲ “There is an extensive literature applying hedonic models to study the effects of environmental disamenities on residential property values. These studies generally show that proximity to landfills, hazardous waste sites, and the like has a significant negative effect on the price of a residential property.”
- ▲ “People worldwide oppose proposals for the development of new quarries or the expansion of existing facilities in their neighbourhoods. The opposition is understandable. As the Pembina Institute<sup>4</sup> recently pointed out:

Operators of pits and quarries remove virtually all vegetation, topsoil and subsoil to access the resource. In so doing, they remove any natural habitat that may have been on site, and disrupt pre-existing stream flows . . .

The extraction of aggregate resources changes the slope of the land and alters water drainage patterns . . . Once the aggregate is extracted . . . water storage capacity is lost.

Aggregate operations . . . are characterized by the release of significant amounts of particular matter (i.e. dust) and noise pollution from extraction and processing activities as well as smog precursors and greenhouse gases from the operation of heavy equipment and machinery. The heavy truck traffic to and from aggregate sites is often a serious hazard and nuisance affecting people over wider areas, and is a significant source of air pollution itself.

The quality of life sought by rural residents reflects the sum total of the many desirable attributes of rural settings including peace, solitude, proximity to nature, etc.”

While the original study by Hite is not available online, much of her background information and work can be found here: <http://ideas.repec.org/e/phi45.html#articles>

Of special interest is this study by Sa Chau Ho and Diane Hite: “*Economic Impact of Environmental Health Risks on House Values in Southeast Region: a County-Level Analysis.*” Silica Sand Mining presents health risks related to exposure to Respirable Crystalline Silica. Few states have any regulations controlling emissions of silica to the ambient air. There are occupational standards and regulations, but none for protecting public health. With widespread sand mining occurring, should cancer rates or other health problems be documented at higher levels near sand mining, this may further reduce property values. This study may be found here: <http://ageconsearch.umn.edu/bitstream/19921/1/sp04ho05.pdf>

Another site offers good commentary about property value declines R/T nearby oil and gas facilities. While not specifically about sand mining, good points are made that may also apply to values near

quarries. From the website of a group fighting a proposed Liquid Natural Gas (LNG) facility in Vallejo, CA and the expected effect on property values: <http://www.vallejocpr.org/lng/proposal-faq.html>

Benicia is a "twin city" to Vallejo. Property values in Benicia are higher than Vallejo, even though Benicia has a refinery. The explanation from realtors there is this:

Benicia's higher property values are in spite of the refinery and because of several unique characteristics of the town. The Vallejo refinery is over the hill and to the East of Benicia, and not within view of the large majority of Benicia's residents. Indeed, passing through Benicia you would not even know there is a refinery.

Another major impact on home values is the fact that most Benicia homes come with a water view. Water views always increase the price of homes, and Benicia is no exception. While homes with a view of the water and the refinery will sell, homes with no water view and only a refinery view take the longest to sell and have the lowest property value. The few Vallejo homes with water views also enjoy higher values.

#### Reporting on other communities with LNG facilities:

Everett, Mass. has been home to the Distrigas LNG facility for almost 30 years -- so long that most residents can't remember what it was like without the facility. Their property values have slowly increased over the decades, as inflation and suburbanization have reached the town. But this increase has been markedly slower than other towns in the area.

Blight begets blight, and Everett proves it. Everett is dominated by heavy industry, including the Distrigas LNG plant and new nearby power plant. Despite being so near to Boston, an area rich with colleges, universities, computer, bio-tech and pharmaceutical industries, Everett has not been able to attract any of these types of businesses.

The problems caused by tanker trucks are well-known in communities with LNG plants and other plants where products must be shipped in or out. Trucks get a lot of complaints -- they're noisy, dirty, polluting, unsafe, they tear up the road, and they make it hard to cross the street.

Everett, Massachusetts struggles with nearly constant truck traffic from its LNG and other industrial facilities.

This is a rather old study from Wisconsin, about the added value of shoreline/waterfront property. Would sand mining operations near such properties reduce this added value?

[http://dnr.wi.gov/org/water/wm/dsfm/shore/documents/G3698\\_1.pdf](http://dnr.wi.gov/org/water/wm/dsfm/shore/documents/G3698_1.pdf)

Another study from Wisconsin - Osceola Plan Commission contacted Town Assessor. Responses were non-committal, but it looks like the best ways for nearby values to increase would be if the mining company would buy out buffer properties:

[http://www.communityhotline.com/upload/PropertyValue\\_GeneJohnsonResponseSummary\\_12-14-08.pdf](http://www.communityhotline.com/upload/PropertyValue_GeneJohnsonResponseSummary_12-14-08.pdf)