

Detailed Concerns With Rocky View County's Draft Aggregate Resource Plan Prepared By Rocky View Gravel Watch – January 11, 2017

This document has been prepared by a number of people active in Rocky View Gravel Watch. It highlights concerns in key areas of the County's draft Aggregate Resource Plan (ARP), including:

- Health risks
- Traffic safety
- Impacts on the County's water table and water aquifers
- Cumulative effects from multiple gravel pits in the same area
- Setbacks between gravel operations and other land users
- Constraints on non-gravel development for much of the County's land
- Impact on quality of life
- Reclamation
- Performance standards
- Preferred locations for new sites
- General regulations
- Monitoring and enforcement
- Alternatives to gravel in Rocky View

If you have any questions about the material included here, please feel free to contact Rocky View Gravel Watch at rockyviewgravelwatch@gmail.com.

HEALTH RISKS

The risk to health and potential for loss of life is real. This risk comes from the release of dust and Crystalline Silica into the air as well as increased risk of trauma from large gravel trucks traveling on roads heavily used by the families of RVC.

* Crystalline Silica (CS), a known carcinogen, is released from gravel pits. This fine-particulate CS penetrates indoor – your home will not provide a safe environment. CS will infiltrate the heating and cooling systems of buildings. PM2.5 (small) particles of CS can stay in the air for days/weeks and travel hundreds of miles

* CS clings to inanimate objects like homes, playground equipment, trees, plants, and grass and vehicles.

* The closer you are to the source, the higher the concentration and the greater negative health effects. The health effects from dust are cumulative. Many of us already live in areas with multiple pits close to our neighbourhoods and schools.

* CS can impede breathing and cause respiratory irritation, cough, airway obstruction and poor lung function. Chronic or long-term exposure can lead to lung inflammation, bronchitis and emphysema/COPD and produce a severe lung disease known as silicosis. Silicosis has no cure. Silicosis is an incurable, progressive lung disease caused by overexposure to dust containing silica.

- * Studies have also linked CS to diseases such as rheumatoid arthritis, systemic lupus erythematosus, scleroderma and kidney damage. Exposure to high levels has also been linked to heart problems, since the heart must work harder when pulmonary tissues are injured.
- * Workers exposed to silica in other industries have a higher risk of lung cancer, which has prompted government and international health agencies to declare silica a known human carcinogen.
- * A recent study published in the Journal of Occupational Environmental Medicine looked at Silica exposure and silicosis in Alberta. It stated “Many Alberta workers may be over-exposed to airborne respirable crystalline silica, and the incidence of work-related silicosis in Alberta may not be adequately represented by the official statistics.”
- * The US Department of Labour states: If it’s Silica it’s not just dust...Every year, more than 250 workers in the United States die with silicosis, an incurable, progressive lung disease caused by overexposure to dust containing silica. Hundreds more become disabled by this disease.
- * If workers are overexposed it leads to the next question: are current exposure levels acceptable to human life? If a worker is required to wear a respiratory yet still can fall ill to the effects of CS, it is clear the exposure limits are inadequate to protect the workers fully. So one needs to ask how can it be expected that a child can play outside across the street? 500m away? 1000m away?
- * Children have smaller airways than adults and breathe more air on a body weight basis, penetration and deposition of particles in the airways and alveoli in children is greater than that in adults exposed to the same concentration.”
- * Studies clearly state that Children with asthma have exacerbations from air pollution. Multiple, documented, scientific studies support these real, known risks to life.
- * In addition to dust, of which CS is a part, diesel exhaust has also been implicated in exacerbation of breathing problems in children and as another potential carcinogen. These cancers include bladder, larynx (voice box), esophagus, stomach, and pancreas. Studies have also looked for links to blood system cancers such as lymphomas and leukemias (including childhood leukemia)
- * The evidence within the scientific literature clearly states that there is no acceptable threshold level to ensure no adverse risk to health. Studies conducted in Alberta state workers may be overexposed. This would call into question the levels that are currently being used to gauge safety. If workers are being over exposed the defined levels are clearly not safe for human health.
- * **Workers are protected by respirators yet have ongoing health concerns related to Silica exposure. The question becomes how can our children be allowed to live in a County where knowingly and willingly CS will be released into the air next to residential acreages?**
- * The World Health Organization estimates that air pollution contributes to approximately 800,000 premature deaths per year, ranking it as the 13th leading cause of death worldwide.

**THE IDEAL ANSWER IS NO EMISSIONS
IF WE CANNOT GUARANTEE NO EMISSIONS THEN THE ONLY ANSWER IS DISTANCE**

TRAFFIC SAFETY

The ARP addresses traffic issues in its Performance Standards which states that gravel operations will be supported where: *"The proposed access arrangements would be safe and appropriate to the proposed development and the impact of the traffic generated would not be detrimental to road safety to an unacceptable degree; and The road network is able to accommodate the traffic that would be generated and the traffic generated would not have an unacceptable impact on local resident or the environment."*

These performance standards are far too subjective and raise the following questions:

Q - What are safe and appropriate access arrangements?

Q - What is an acceptable level of impact on road safety from traffic generated from gravel pits. Is one family vehicle collision with a gravel truck ok?

Q - What about the safety of the many cyclists who use Rocky View roads?

Q - What is an acceptable impact on local residents and the environment from traffic generated from gravel pits?

Q - What would be the proposed haul route for gravel trucks carrying their load from the potential Lehigh Hanson property to market? I understand that Rocky View has had a road north of their property upgraded. For what purpose? Is this the potential haul route to 262 then Simons Valley Rd?

Q - Will shoulders on proposed haul routes be a prerequisite of an application?

Q - Are county roads sufficiently wide enough?

Q - Are the turn lanes onto proposed pits sufficient?

Q - Who pays for intersection expansion?

Q - How many more gravel trucks will be on the road daily if a new gravel pit opens? How many trucks if there is multiple pits in the area?

For example, the recent application from Lehigh Hanson proposes an additional 500 trucks a day. However, the Star Pit (which is a third of the proposed size of the Lehigh site) has in excess 425 trucks a day (as per a TIA performed by D.A. Watt Engineering Consulting Firm).

- To put these volumes in perspective, 500 trucks per day over a 12-hour hauling day (7am – 7pm), is more than 40 trucks per hour.

Q - How will the noise pollution and dust from gravel truck traffic be measured and what is an acceptable limit on local residents?

Q - What is the projected cost of road repair to the municipality from the damage that the gravel trucks will cause?

- The County only collects about \$1 million per year from existing gravel companies under the Community Aggregate Payment Levy, a provincially authorized levy intended to provide communities with a “tangible benefit” from gravel operations. This amount doesn’t come close to the amount needed to repair wear and tear on County roads.

Q - What compensation will the residents receive for the increased risk that they will incur from driving on neighbourhood roads with an increased number of bulk haulers? What is the increase in chance of collisions that result in injury and death for Rocky View residents? **How do you mitigate loss of life?**

Q - What will be done to protect the wildlife in the area from collisions with gravel trucks?

IMPACT ON WATER TABLES

When you lose overburden (the sub-surface gravel and soil) – you lose the natural protection that keeps water clean. It filters dirty surface water into clean water in the County’s aquifers. Some of these pits claim to be dug down to 200’ yet many residents’ wells are dug to 100-150’. Thus the risk for contamination is great.

The ARP deals with water quality issues in Policy 3.10 Surface and Ground Water which states that “Applications that would not have unacceptable adverse impacts up surface and ground water flows shall be supported.”

The word “unacceptable” needs to be clearly defined for all stakeholders to let companies know what they can and cannot do.

There are also a number of important concerns/questions that are not addressed in the ARP. These include:

Q – What happens if there is a spill at a pit that infiltrates the water table? Given many residents rely on well water should this water become contaminated how would this be mitigated?

Q – Close proximity to septic fields could be problematic if the water table is compromised and fecal matter leaks into it – how does the County propose mitigating such an event? Must have setbacks.

Q – Gravel washing is a given in these operations as is using water for dust mitigation – where is this water coming from?

Q – What about asphaltic materials – the run-off of these goes into the aquifer – how is this mitigated?

Q – There are currently provisions for 2 test wells – this is not sufficient – need a minimum of 4.

Q – Current provisions state that the site should be monitored for 5 months – at a minimum, these should be monitored over the course of 1 full year to understand impact of all 4 seasons.

CUMULATIVE EFFECTS

The impacts of gravel operations increase significantly as the number of gravel pits in close proximity to each other increases. The following are just some of the questions that need to be answered in looking at these cumulative effects.

Q – What is an acceptable impact on an area with respect to noise, air quality, and traffic, visual and environmental impacts? This needs to be defined. More pits within an area will dramatically increase the cumulative effect of all performance standards.

Q- What is an acceptable impact on the quality of life for residents in an area over the life of a pit or multiple pits?

Q – Can the applicants show the current impacts of the active gravel pits (including pits within bordering jurisdictions) and then the additional impact with their extraction site(s) added?

The cumulative effects of multiple gravel pits include a number of negative impacts on residents' quality of life. These include but are not limited to:

HEALTH (see separate section for more detail)

Q - What is an acceptable amount of crystalline silica and dust to be released into the air over time?

- Residents have health concerns with regards to the cumulative effects of dust and crystalline silica (carcinogenic and causes silicosis) being released in the air.

Q - What are the cumulative effects of crystalline silica being released by multiple pits within a certain radius?

Q - How much exposure does a person need to start the process of silicosis or cancer in the body?

Q - What is an acceptable amount of dust in the air for a person that has asthma when dust is their trigger?

Q - How many asthma attacks by residents are acceptable?

SAFETY (see separate section for more detail):

Q - What is an acceptable amount of collisions with gravel trucks for humans and wildlife?

Q - What are the cumulative effects of sharing neighbourhood roads with thousands of gravel trucks?

PROPERTY VALUE:

Q - What is the cumulative effect on residential property values with multiple pits in an area?

Q - What is an acceptable impact on the property values of the residents in the area?

Q - What is an acceptable “resident to gravel pit ratio” in Alberta? Rocky View?

Q – Are there any case studies or other communities that have documented the cumulative impacts of an area from one pit or multiple pits?

Cumulative effects should be assessed over all areas impacted by the activity. They should not be restricted to some artificially constrained geographic area.

Cumulative effects need to address the long term impact on residents within a certain radius of a pit, or multiple pits, regardless of jurisdiction. Gravel pits can operate for many decades. Because of the vast changes within a community and the extraction sites, over time these cumulative effects need to be re-visited and should be done at the expense of the gravel company. As a result, the ARP should require that the cumulative effects are re-evaluated multiple times over the life span of any pit.

SETBACKS & SITE LOCATION

The draft ARP deals with setback issues in Section 4 – locational criteria. This section states that “by specifying criteria on where aggregate development should be located, residents, adjoining land users, and the environment are protected from being unduly affected.” Rocky View Gravel Watch seriously questions the validity of this assertion since the proposed setbacks between gravel operations and residential properties are far too weak.

There should be clear wording on exactly where gravel pits can be located. The ARP must include provisions that prohibit the siting of gravel pits in the proximity of residential neighbourhoods. The County Plan provides restrictions on locating feedlots close to residential areas, comparable protection for residents from the greater harm from gravel pits needs to be ensured.

After appropriate site location criteria have been established, then adequate setbacks from those locations can be determined. The ARP seems to require a 500-metre setback from occupied dwellings for aggregate operations – a distance that is far too small to be meaningful. These setbacks are from the actual house to the equipment, not from property line to property line. **We have just learned that the 100-metre setback which had appeared to apply to things like landscaping/berms may well also apply to equipment including crushers. This makes the ARP’s setback provisions completely meaningless.**

There are no setbacks from environmentally sensitive areas or riparian areas. But there are 800-metre setbacks from boundaries of provincial parks. It is not clear why parks should have a greater setback distance than people.

The ARP would also allow the County, at its discretion, to relax these setbacks. There are no constraints on how that discretion would be applied. Any relaxation of residential setbacks must include

resident input and full agreement. In other municipalities, setbacks can only be relaxed with the unanimous consent of affected residents.

The draft ARP also would allow new residential developments closer than 500 metres from existing sites zoned for gravel operations so long as the residential development “acknowledges the presence of that site” – whatever that means.

To determine more appropriate setbacks, the following are some of the points that should be considered:

- Need to look at other municipalities’ standards.
 - For example, Lac Ste Anne has setbacks of 800m from residential property lines for general operations and 1500m for dirtier operations that include crushing.
- The County has indicated that the majority of responses that it received in the earlier round of consultations indicated a preference for a 1-3 mile setback. How can the draft plan only include 500m?
- Peace County recommends protecting lands that are residential.
- Population density difference between Rocky View County and other gravel-producing municipalities should be taken into consideration. Other municipalities that have significant gravel production also tend to have far fewer people to be negatively impacted by the gravel.
- Climate differences are also relevant – Rocky View County has very high winds and very short growing seasons, both of which make mitigating harm
- The County Plan currently restricts locations for feedlots in the County. There may be comparable provisions that would be appropriate for gravel pits.

CONSTRAINTS ON NON-GRAVEL DEVELOPMENT

The ARP proposes to “safeguard” aggregate resources in the County (Policy 4.3). To do this the County has identified “potential aggregate deposit areas” and will restrict all non-aggregate development on those lands. To obtain approval for any redesignation, first parcel out, subdivision or any other development on land identified as a “potential aggregate deposit area” the land owner will have to prove, at their own expense, that the development “would not affect an aggregate resource of any value or potential value”.

This places a serious constraint on the potential uses for somewhere between one-third and half of the land in the County that is not currently in approved Area Structure Plans.

IMPACT ON QUALITY OF LIFE

People live in Rocky View County to have cleaner air, quieter lifestyles, less traffic, dark night skies, and the many other qualities that make living in a more rural environment attractive. Allowing gravel pits close to where people live seriously erodes the very reasons why people live here. Residents should be able to expect the County will fulfill its obligations to protect the interests of all residents. To do otherwise through actions such as permitting gravel pits in inappropriate locations, breaches this fiduciary duty and the implied social contract between the County and its residents.

The ARP, as currently drafted, is so severely biased in favour of the gravel industry that it clearly breaches this fiduciary duty and implied social contract that residents have with the County.

RECLAMATION

The ARP deals with reclamation issues in Policy 3.17. It states that applications shall be supported where “satisfactory provision has been made for the progressive and final reclamation of the affected land.”

The ARP suggests that reclaimed land will be able to be put back into suitable agricultural uses and would only be considered for redesignation to non-agricultural uses in accordance with the then-current planning policies. However, it is almost impossible to return a pit to its pre-extraction condition, let alone to something better than it was.

The overburden is gone and typically gravel companies spread some topsoil over the bedrock. This does not replace the filter membrane that had been provided by the sub-surface gravel. As a result, it cannot be used agriculturally as it cannot filter water or pesticides or the likes sufficiently. Therefore, the land becomes permanently sterilized.

Q- are there any examples of gravel pits in RVC that have been properly reclaimed?

PERFORMANCE STANDARDS

The ARP’s performance standards are rife with words like "unacceptable impacts", "unacceptable degree" and other words that carry no specific meaning. As such they need to be replaced with stronger, clearer language. Currently, the ARP’s performance standards are subjective whereas good performance standards should be objective. These are issues with all the performance standards.

There is a general bias in the performance standards that favours gravel operations over everything else. For many of the performance standards, it is completely at the County’s discretion to determine if the standards are being met. Residents should have input on determining how the performance standards will apply to specific gravel pits.

The ARP includes performance standards on the following:

- Health & amenity
- Cumulative impact
- Traffic
- Noise
- Air quality
- Visual & landscape
- Agriculture
- Environmental features
- Historical resources
- Surface & ground water
- Erosion & sediment control
- External lighting
- Hours of operation
- Weed control
- Site production & market appraisal
- Interim reclamation
- Reclamation
- Technical assessment of applications

Rocky View Gravel Watch's comments and concerns on many of these have been included in other sections of this document. We are highlighting just a few of our concerns with other performance standards here.

Noise and Air quality performance standards

These are both technical issues that require expertise to interpret. It is our understanding that the actual threshold levels for both noise and air quality reflect provincial standards. There are still significant improvements that should be made to these performance standards, including:

- There should be requirements that the gravel companies use best available control technology.
- There should be trigger points (maximum levels) that cause red flags and consequences. Average levels of noise and/or air quality are not sufficient.
- The noise standards allow for much higher noise levels for temporary operations. There needs to be much clearer and tighter controls on when these can occur and how they are monitored.
- The noise and air quality mitigation plans needs to be much more prescriptive. There should be certain mitigation measures that are required, not only optional choices. Compliance with these measures needs to be part of the enforcement process.
- The monitoring schedules for both noise and air quality need to be a requirement, not just a commitment on the part of the gravel operator. The technical details for monitoring also need to be more clearly specified to ensure they are performed adequately.

Agricultural lands:

The ARP includes a performance standard that "seeks to minimize the loss of the County's productive and versatile agricultural land." However, the actual requirements are unlikely to achieve this objective. There is no discussion of whether agriculture or aggregate extraction should take priority. The assumption that post-extraction restoration will return land to agricultural use is highly questionable. As is discussed in the "Reclamation" section, it is very difficult, if not impossible, to restore land to a useable agricultural condition after gravel extraction.

Hours of Operation

The ARP provides "guidelines" for hours of operations for extraction and processing: 6:00 a.m. – 10:00 p.m. Monday – Saturday, with slightly shorter hours for hauling. These hours of operation are very lenient and favour industry far too much relative to residents. They would have a severe negative impact on nearby residents and activities.

The absolute maximum operating hours should be on more than 12 hours per day, 7 am -7 pm. There needs to be strict controls and public buy-in for hours to be extended beyond these, rather than the County discretion that is proposed in the ARP.

Environmental & Historical Features

As with most of the performance standards, the language is far too subjective. Both of these refer to mitigation measures. What is appropriate mitigation? How would loss of an endangered species or historical resource be mitigated?

Site Production and Market Appraisal

The ARP requires applications to include information on anticipated production levels and markets to be served by the operation. Although this is not really a performance standard, it is included in this section of the ARP.

These provisions are to assist the County in assessing the timing and distribution of gravel operations. As such, the standard should require the substantiation of an identified need for more aggregate in the area. New applications should not be approved just because a company wants to produce it but because there is a demonstrated need. Either existing pits are running out and nearing their end dates or there is an identified need in the area due shortage.

It is our understanding that there are decades worth of gravel in existing pits in Rocky View and the immediate area. This suggests that there is no need for additional gravel operations, except to extend industry profits to additional companies – something that should not be a concern for the County.

PREFERRED LOCATIONS FOR NEW SITES

The ARP sets out criteria for determining priority of new gravel operations. These are: (1) expansions of existing sites; (2) sites located closest to markets; (3) site located closest to highways.

These provisions conflict with many other objectives, especially minimizing the negative impacts of gravel production on existing residents and land users. In Rocky View, the most populated areas are typically closest to the city. Since the bulk of Rocky View's gravel goes to the city does this not mean that it would push the gravel to the most densely populated areas?

Locating close to markets reduces the gravel companies' operating costs. But, why does the County concern itself with the profit margins of companies? If it costs more to rail it in or truck from further distances how does that concern itself with the County?

These provisions in the ARP are seriously biased against residents since they would push new gravel pits into more densely populated parts of the County.

GENERAL REGULATIONS

Resubmission of Refused Applications:

The ARP restricts gravel companies from resubmitted a refused application for 18, except where Council has waived the 18 months. There should be much longer wait periods before a company can reapply. There should also be requirements that any re-application clearly addresses deficiencies in the earlier application.

Engagement Requirements:

The ARP requires notification to all landowners within a one-mile radius of any proposed gravel operation. This is not a wide enough notification range. Landowners within at least a 3 mile radius should receive notification.

ENFORCEMENT PROVISIONS

As a concept, the enforcement provisions in the ARP are a positive component. However, as currently drafted, they lack effectiveness.

The County is proposing industry-funded monitoring and enforcement of the ARP's performance standards. This is a big step forward from the current complaints-driven system that has no funding. However, monitoring and enforcement are only effective if the standards being enforced are adequate – the draft ARP standards are not. Enforcement is only effective if it provides meaningful deterrents – the draft enforcement provisions fall seriously short.

The draft monitoring and enforcement provisions provide the following:

- A maximum of 8 site visits per year – actual number to be determined in consultation with the gravel operator.
- The costs of each site visit will be charged to the gravel operator – the actual amount of the fee still to be determined.
- Non-compliance identified through the monitoring and/or site visits will be dealt with by the general enforcement provisions of the County's Land Use Bylaw.

Shortcomings in draft provisions:

Frequency of site visits

- The frequency of site visits should be determined by the County, not by the gravel operator.
- There should be provisions for both routine and complaint-driven site visits.
- There should be both a maximum and a minimum number of routine site visits each year.
- The air quality and noise performance standards require ongoing monitoring. It is critical that the monitoring schedules are appropriate and that monitoring and enforcement ensure this.

Costs of site visits

- Need to ensure that these are costed on a full-cost recovery basis, rather than as specified dollar amounts in a bylaw that become outdated rapidly.

Non-compliance enforcement needs to be dramatically strengthened.

- The basic enforcement provisions in the Land Use Bylaw provide for a minimum fine of \$750, unless otherwise specified. The fine doubles if there are two infractions within any 12-month period.
 - This would be a trivial additional "licencing fee" for gravel companies.
- The fine for non-compliance with the ARP performance standards need to be high enough to be meaningful – for example, \$50,000 for a first offence; doubling for each offence thereafter, with no maximum.
- The development permit renewal provisions also need to be strengthened to prohibit renewals for operators that have more than a specified number of compliance infractions over the life of the development permit – possibly more than two per year.

ALTERNATIVES TO GRAVEL PRODUCTION IN ROCKY VIEW

Most of the gravel extracted in Rocky View goes to Calgary. It is not clear why County residents should be expected to risk their health, safety, and quality of life so that Calgary can have gravel.

There are alternatives.

- Edmonton brings some of its gravel by rail from over 200 km away. Most of the externalities of that gravel production remain at its source, an area with very +low population density.
- Existing gravel operations should be exhausted before new sites are approved. Unless there is a proven demand for additional gravel, Rocky View should not approve new sites.
- Calgary and Rocky View should explore alternative sources for gravel. Both the Tsuu T'ina and Stoney bands have gravel. They would be glad to sell more. Their pits are located far away from where people live.

THERE NEEDS TO BE BALANCE – THERE IS NONE!

MITIGATION IS NOT ELIMINATION! NOT EVERYTHING CAN BE MITIGATED!

IN 1993, A DOCUMENT WAS SIGNED BY OVER 1,600 PEOPLE DEMANDING 2 MILE SETBACKS FROM GRAVEL PITS. NO ONE WANTED THEM NEXT DOOR TO THEM THEN...WE STILL DON'T.