Dufferin Aggregates
2300 Steeles Ave W, 4th Floor
Concord, ON L4K 5X6
Canada

Meeting Minutes

Event:	Community Advisory Panel (CAP) Paris Pit CAP # 2 Water
Date & Time:	Tuesday, May 8, 2012 7:00- 9:00 PM
Place:	Paris Fair Grounds
Chair:	Linda Smith, Facilitator
Participants:	Alex Faux, Neighbour Bill Telfer, Neighbour Ross Moore, Neighbour John McAllister, Neighbour Michael H Fox, Neighbour Robb Edwards, Neighbour Dale Lukas, Neighbour Gary Strauss, Neighbour Fred Natolochny, Grand River Conservation Authority Murray Powell, Ward 3 Councilor, County of Brant Steve Schmitt, Ward 1 Councilor, County of Brant Jake Vanderburg, Neighbour Elizabeth Norris, Neighbour Sean Routledge, Dufferin Aggregates, Site Manager Rafael Chocomeli, Dufferin Aggregates Susan Melchin, Dufferin Aggregates Andrea Bourrie, Holcim Canada
Guests:	Richard Murphy, Conestoga-Rovers & Associates Alan Kelley, Neighbour, husband of Marilyn Sewell
Minutes:	Courtney Somers, Facilitator
Regrets:	Marilyn Sewell, Neighbour Cyril Parsons, Neighbour

Minutes

Part One: Welcome and approval of April 24th minutes

Linda Smith welcomes CAP members and introduces Richard Murphy from Conestoga-Rovers & Associates (CRA), an engineering firm, as the guest speaker for the evening.

The CAP begins to review the minutes:

- Note is added to Question 12
- Change is made to Question 20 regarding site locations
- Added question/answer on Bank Swallows and wildlife
- Note is added to Question 26 regarding truck traffic street approval
- Minutes received final approval after changes were ratified.

Dufferin Aggregates
2300 Steeles Ave W, 4th Floor
Concord, ON L4K 5X6
Canada

Part Two: Update since last meeting

Andrea Bourrie reiterates that Dufferin is interested in maintaining ongoing dialogue with CAP members and the community. Andrea points out that Dufferin has conducted additional meetings with County Staff and presented before the General Committee for a Special Education Session. Andrea points out that as Dufferin moves forward with operating the site, it will only be operating the site in accordance with today's standards. Dufferin is focused on addressing the concerns of the community and is open to discussion regarding any community concerns.

- Question 1: What is your impression of the concerned citizens experiment video? This video will stick in people's minds and can make a certain impression. Could you elaborate on the reality?
    - Andrea: Our discussion topic tonight is to delve into the water concerns and that is why we have brought in a hydrogeologist to discuss it. The video was a good attempt to demonstrate what happens with aggregates and water. Two things should be added to the video to tell the entire story:
        - Recharge – there was no representation/documentation of natural precipitation, which allows for natural ground recharge. A watering can could have been used to represent the natural precipitation and show how this loss is dealt with and how the model functions.
        - The pumping or consumption factor that was mentioned suggests that it happens all the time. That is not the situation we are dealing with – a majority of extraction is above the water table. There is only one time extraction below the water table to create the pond. There will be a recirculation of water.
        - These are the two things I feel should be added to the video. I think the idea of trying to explain the complex topic was a very good tool; we just need ensure we have all the right information and we hope you will all ask additional questions regarding that.

Part Three: Reiteration for CAP Members

Andrea Bourrie explains that Holcim is committed to being a responsible corporate citizen and open with citizens in the community. Andrea addresses that there has been discussion that people are concerned about the dated license, and explains that the issues being raised about the license are resolvable. Dufferin will work with the community and Council to resolve any concerns.

Andrea discusses 'why here' in Paris:

- Paris and the surrounding communities have a projected demand for aggregate that cannot currently be met
- Dufferin needs to be in this location because many renewal projects and private development projects will start and there is a need for high quality materials. Dufferin is here to supply the product to the end consumers as close as possible to the job to reduce the environmental impact and do so in an economically feasible way.

Dufferin Aggregates
2300 Steeles Ave W, 4th Floor
Concord, ON L4K 5X6
Canada

Andrea Bourrie discusses the kind of questions that Dufferin has acknowledged from the last meeting and the community, surrounding water. Andrea explains that Richard's presentation will try to address those concerns. The presentation is meant to touch on all the concerns that have been raised to date and any additional questions that come up.

Andrea Bourrie passes the meeting on to Richard Murphy.

Part Four: Technical Discussion on Water
Please note: PowerPoint presentation is attached for reference

Richard Murphy outlines the Agenda for the discussion:

- Background on the relations between aggregates and water.
- Drinking Water Source Protection and how it fits in with Paris
- Water Management at the Paris Pit

Andrea expresses her hopes that Dufferin will be able to address all concerns, but that Richard will be available to come back for further discussion if the CAP members need.

Water 101: Where does the water come from?

Richard Murphy provides an overview of precipitation and the flow of water in the Grand River (Note: River is not being used for municipal drinking water in this area):

- Water in the local area primarily comes from precipitation (rain or snow). The majority of the precipitation water evaporates and transpirates (from plants). The remaining water runs into local creeks as 'surface water' or infiltrates into the ground to become 'ground water.'
- The infiltrating water moves vertically down to the water table and will then move horizontally where it can be discharged to a surface water feature, such as the Grand River or is pumped out of a well.
- The underground water system in the aquifer supports the water wells, livestock wells, and municipal wells and can also support creeks and wetlands.

Key Point made by Richard Murphy: The aquifer is a flowing ground water system, water is constantly moving and being replenished by the infiltration of precipitation and flow of groundwater from other areas. Pumping water out of the ground does occur but it is constantly being naturally replenished.

In Paris

Richard Murphy explains that the geology of the area is composed of glacial outwash deposits, which makes the area North of Paris a provincially recognized source of aggregates.

- Outwash deposits are important for aggregates because outwash contains cobble stones and gravel, which are good for creating high performing aggregates and are generally a 'cleaner' material, meaning they have relatively few fine particles of soil

Dufferin Aggregates
2300 Steeles Ave W, 4th Floor
Concord, ON L4K 5X6
Canada

attached to them because the fine particles were washed away during the glacial deposition process.
- When outwash deposits occur below the water table, they provide an ideal location for municipal wells because the water moves readily through the gravel and cobbles and there can be enough water to supply a large amount of people.

Richard Murphy explains the difference between a 'pit' and a 'quarry':
- A Pit has unconsolidated material such as sand and gravel; material that can be shoveled out, or dug out with a loader.
- A quarry has competent rock, which requires blasting in order to get pieces out of the ground for further processing (crushing).

Richard Murphy explains Hydrogeology and Dufferin's monitoring of the water in the area:
- Dufferin has been monitoring the groundwater around the pit since the 1980's – water movement is towards the Grand River.
- Water also discharges into Gilbert Creek, where it comes to surface and contributes to the flow of the creek
- Richard Murphy shows a graph that represents the water levels have maintained the same levels – with the exception of some seasonal variations due to climate conditions.

Part Five: Aggregates and Water

Richard Murphy explains that aggregate operations consume a very limited amount of water. Operations have water permits to pump large amounts of water to accommodate the closed loop wash plant system and in case of a large storm event. These large flows are recirculated within the closed loop washing system. The actual consumption or loss of water is very small, usually, retention of moisture on some product and evaporation. These small losses are naturally topped up in the washing source water pond by the flowing groundwater and precipitation.

Richard goes on to explain the different types of aggregate extraction:

- Above water extraction
  - Sand and gravel is only being removed from above the water table, and above the aquifer.
  - This type of extraction will not lower the ground water around the site
  - The ground water may actually increase because the topsoil and vegetation is removed reducing the amount of run-off and evapotranspiration, causing the water to instead infiltrate into the ground.

- Below water extraction
  - Sand and gravel is 'scooped out' below the water table, this extraction creates a pumping effect; gravel particles are being removed from below the water table and water comes in to replace the stone.
  - This is much like getting out of the bathtub: the water level changes if there is no water flowing in or out.

Dufferin Aggregates
2300 Steeles Ave W, 4th Floor
Concord, ON L4K 5X6
Canada

- To manage this, Dufferin is mindful of the rate at which the aggregate is being removed from the below the water table and when it's done.
- Below water extraction can have a much greater effect if this is done during a dry period, with a lower water levels, and much less affect in the Spring when water levels are high.

Operational use of water is also something Richard explained:

- The removal of water from the actual system is small, water is used in the washing process and to control dust.
- The initial pond is created to make a reservoir for the water, and will be naturally filled by the actual flowing ground water as well as precipitation.
- The water is used to wash the material; it is then re-circulated back into the source water pond after passing through a 'settling pond' to allow the fine soil particles to settle out, thereby 'cleaning' the re-circulating water.
- There is a natural replenishment that occurs from precipitation

Richard Murphy explains that the Paris Pit is only an above water extraction site (only removing from above the water table), with two exceptions:

- Source water pond for the washing operations – a one-time creation.
- Final stage of operation, getting material from below the water table. This happens in the last stage of extraction (Phase 8), 30 to 40 years from now.

Richard Murphy explains that Dufferin is committed to evaluating this final operating stage of below water table extraction further and that Dufferin has started discussion with the County, to ensure that Dufferin can extract safely.

Part Six: Aggregate Operations & Use of Chemicals

Richard Murphy explains that aggregate operations do not use chemicals. Because no chemicals or contaminants are being used in the operations, there is low risk to water quality in the area.

Richard Murphy details that there is fuel handling on the site to run the machinery, but that it is heavily regulated. There are very strict measures in place for how fuels are stored. Further, aggregate companies (including Dufferin), are very entrenched into how to handle fuel, fuel storage and how to deal with a spill.

- Fuels are handled and stored in accordance with the TSSA regulations
- Because of the precautions and regulations in place, it gives the community a very high level of protection of the water source from contamination
- There is no known example of an aggregate operation resulting in groundwater contamination and no example of contamination of a municipal drinking water supply.

Andrea Bourrie points out that Dufferin is aware that there has been some discussion in the community that chemicals are used in the operation, but that the information is not factually correct and Dufferin is willing to discuss this topic further and encourages anyone interested in clarifying these facts to ask questions.

Dufferin Aggregates
2300 Steeles Ave W, 4th Floor
Concord, ON L4K 5X6
Canada

- Question 2: I need a guarantee that if there is a spill of fuel, are we ensured that we, the community, is not responsible financially.
    - Andrea Bourrie: It is highly unlikely that that a spill would cause contamination of a well, but Dufferin would take full responsibility for any fuel spill or contamination in the area. As Richard said, fuel storage and handling is highly regulated. Any fuel storage that does happen on site we have moved away from the sensitive areas (WHPA) of the site. There will be concrete pads in place where the fuel is stored. If there ever were a spill resulting in contamination of the well, absolutely, Dufferin would take full responsibility.

- Question 3: Would the Ministry be coming to inspect that these precautions are being taken and are consistent?
    - Andrea Bourrie: Yes, we are required under law (TSSA standards) to ensure that we can account for the quantity of fuel that should be in the tank. We ensure that this is done every day. We report on this and Sean at the site would know daily if there was a discrepancy and be able to investigate any issue immediately. There is a Ministry-audited process in place along with our own on site environmental management system to ensure that all precautions are met.

- Question 4: I understand you do not use chemicals, but the farmers around the pit, use nitrates, fertilizers and what not. If these blow into the pit, or rain comes into the pit, is that a possibility of contamination, what then?
    - Andrea Bourrie: I think we need to save this question for the end in order to get into more detail on this. Richard should complete the technical discussion and we will bring this up at the end. (Please see answer provided at question 17)

- Question 5: What is the inspection protocol that is in place on site to ensure that trucks are not spilling fuel? How rigorous is the inspection process?
    - Andrea Bourrie: We do regular checks of the trucks, it is standard protocol. The quantity of that kind of spill would be very small and a plant clean up will take place. Certainly, there can be mechanical issues with the trucks. We have very strict truck maintenance requirements and do safety blitzes to ensure that the trucks are maintained. If there ever was an incident related to that, the quantity would be small and we could address that immediately before travelling to wells.

- Question 6: My concern is, that with that amount of trucks, over the years, you will eventually get some soil contamination.
    - Andrea Bourrie: I agree, there are lots of trucks over time. Management can address this. Valid point, but something that proper management of spills can address.

Part Seven: Drinking Water Source Water Protection in Ontario and Paris

Richard Murphy outlines the Drinking Water Source Protection Plan:

Dufferin Aggregates
2300 Steeles Ave W, 4th Floor
Concord, ON L4K 5X6
Canada

- It identifies the sources of municipal drinking water and contamination that could threaten our drinking water.

The *Clean Water Act* came into effect in 2006 and deals with potential threats to both water quantity and water quality for municipal water supplies. The Source Water planning process is in its final stages. It is done by Source Protection region and Paris is part of the Lake Erie Source Protection region. Richard explains what the Source Protection research includes:

- Geology/hydrogeology – groundwater systems
- Land use in the area
- Water budget: Water availability in the area versus how much is used
- Vulnerability of the aquifer system
- Delineated well head protection areas

This research is documented in the Watershed Characterization Report and the Assessment Report which have been completed.

Study Findings

- Paris is an area that has been assigned a low potential for water quantity stress, which means that there is sufficient water in Paris for all scenarios outlined by the study (current use of the water, the future consumption and a drought scenario)
- There are two existing water quality threats that limit the capacity of water for use; nitrates and sulphates.
- It can be concluded that the aggregate extraction would not impact the municipal water supply in Paris, given that there is low consumption of water and no use of nitrates and sulphates.

Richard Murphy points out the two different well fields that are within the area of the Dufferin Paris Pit site; the Gilbert Well Field and the Telfer Well Field. Richard also points out the Fairview Heights Well Field and the planned Bethel Road Well Field.

Richard Murphy explains the Wellhead Protection Areas (WHPA's) that have been identified as a part of Source Protection. These are areas where the groundwater flows to the wells, the image shows Wellhead Protection Areas A, B, C, and D.

The study shows that there is enough water in the wells for this area, but the reality is that there is a quality issue (not quantity) with the municipal water restricting its use. Aggregate operations will not contribute to these issues (nitrates, sulfates, etc.) as neither is used in the Pit.

Richard provides a summary of this part of his presentation:

- The Source Protection research is coming to an end
- Activities that will occur at the pit will not change the vulnerability of the aquifer
- There are no activities proposed by Dufferin that are Provincially Significant Threats to drinking water

Dufferin Aggregates
2300 Steeles Ave W, 4th Floor
Concord, ON L4K 5X6
Canada

Part Eight: Paris Pit Operation and Water Management

Richard shows an image that represents the closed-loop wash plant process that will be used at the Paris Pit operations. This operation will be re-circulating water; the only consumption or loss of water is a result of evaporation and the water that will drain from the stockpiles. Richard Murphy details the process from excavation to wash plant, settling pond and stockpile. The source water pond is created once at the beginning of the operation. It entails digging below the water table so that water will naturally flow into the excavation area. The rate of extraction is gradual and will have limited effect on the ground water flow.

Richard Murphy clarifies the 'rate of pumping' for the Permit to Take Water 'water taking'

- It is the pumping that is required to recirculate the water from the source pond through the wash plant.
- The Ministry of the Environment regulates the rate at which the pump can pump water. It outlines how much can be pumped on an instantaneous basis, the number of hours per day and days per year. Dufferin's application for the Permit To Take Water will outline the Paris Pit operation process (closed-loop) that the MOE will use to evaluate Dufferin's application.
- Rate of pumping is not the consumption of water value, as has been suggested in some community discussions on this issue.

- Question 7: Could you comment on bacteria and pathogens getting into the water? I'm assuming about 20 feet of material is going to be removed, and now there is a direct source to the drinking water, so what affect will that have on the communities' water?
    - Richard Murphy: Removing material above the water table reduces that flow path for the water. Dufferin will be leaving about a meter of material intact above the high water table level. The first part of the water flow path (approximately first 10 meters) is the vertical path that the water will take. The second flow path (horizontal) stays intact during the extraction. The flow path from the pond to off-site may be hundreds or thousands of meters. The bulk of the path, including the horizontal portion, remains intact and therefore the bulk of the filtration opportunity also remains intact.

- Question 8: Does that affect the two-year travel time (removing the material)?
    - Richard Murphy: No, as the vertical flow path is negligible relative to the horizontal flow path. The 2-year travel time capture zone (WHPA-B) is based on the horizontal component of the flow path. Dufferin also has made some changes to reposition the plant area and the settling pond outside WHPA's to further protect the municipal wells.

Andrea Bourrie explains that the wellhead protection areas are defined based on the amount of time contamination would take to get from the above area to the municipal wells. Something at surface level at the new plant location, would take about 25 years to get the municipal well (if it ever did). In other areas this could be much more. Dufferin's plant is outside any of the wellhead projection areas. Richard points out that Dufferin was not required to do this; there is

Dufferin Aggregates
2300 Steeles Ave W, 4th Floor
Concord, ON L4K 5X6
Canada

nothing in the source protection protocol to force them to move but Dufferin did offer this additional protection.

Andrea Bourrie explains that aggregates are recognized as a provincially significant resource, and that aggregate extraction as a land use does not fall onto the Provincially Significant Threat list under Source Protection. Things associated with the activities of extraction, like fuel, could have affect, and the Source Protection Plan includes policies to address this issue. Dufferin is proactively addressing this by moving the plant area outside of the most sensitive source protection areas.

- Question 9: Where you are extracting, you are in WHPA B, so when you extract, what does that do to the timeline for the water to move, how does it affect the water getting to the wells?
    - Richard Murphy: The pathway has been split into two sections – vertical and horizontal. These images show the ground water flow pathway. The level of vulnerability in this area is high because of the nature of the material (granular). Extraction will not substantially change the rate of ground water movement. The time of travel of the water is very short (vertically). It is not going to take months for the water to come down (to the water table). The Source Protection process also looked at the horizontal movement – we want to be careful of what happens on the ground area to ensure that horizontal distance between a potential threat and a municipal drinking water source offers adequate protection.
    - Andrea Bourrie: The Source Water Protection mapping already recognized the high vulnerability of the area. The future aggregate land use was recognized in the process. This area is still WHPA A,B,C – Extraction does not change those characterizations

- Question 10: What about the future, what are they going to put on top of that area? So start farming it, 40 years from now? What impact does that have?
    - Richard Murphy: That falls to Dufferin. But what does happen is that they have looked at the vulnerability and will ensure that there is no change to the vulnerability. In the future, other land uses will have to comply with the Source Protection policies.

- Question 11: It is a high vulnerability area, so if we take out this stuff it won't change it? If there was a spill, a meter above the water source, if it was undetected, you have hours to react, not days, correct?
    - Richard Murphy: No, it would take months/years because when it hits the water table it does not show up in a well immediately. That is the importance of understanding the horizontal pathway.

- Question 12 Well what do you do if it does get in the water table, how do you get it out?
    - Richard Murphy : You pump it out. It takes a large volume of spill to migrate to the ground water. The aggregate operation will come and scoop out that area immediately and if they are concerned about the spill penetrating the water,

Dufferin Aggregates
2300 Steeles Ave W, 4th Floor
Concord, ON L4K 5X6
Canada

the company will take a water sample to ensure that contamination does not expand. This is a very straight forward situation to deal with.

Andrea Bourrie explains that this is an example of how we can continue to discuss this topic. Aggregate extraction does not automatically fall on the threats list for source protection.

Richard Murphy reiterates that there has been no known example of groundwater contamination or a contamination of a municipal drinking water supply due to aggregate extraction.

- Question 13: What about after the fact?
    - Richard Murphy: That is a matter of land use. What others do with the land after the fact will be determined through policies in place.

- Question 14: Can you comment on other regions not allowing aggregates being allowed over the source water protection areas. I believe they are not allowing it. I'm not sure if it's approved yet.
    - Richard Murphy: I am not an expert on this; I know debates have been going on. But MOE has been asked to consider aggregate operations as a threat, but they have come back and said no, that it is not appropriate but that there are specific activities that will be considered a threat, such as fuel storage.
    - Andrea Bourrie: We can give you the details of this. We have sites across Ontario that monitor this discussion. I am aware of the one you are commenting on. We can provide the commentary on this. The Ministry will determine if the concerns will be addressed. The province has been very strong on its stance. Aggregate extraction is not a threat to municipal drinking water sources in and of its self.

Comment from CAP member: It's part of their Official Plan review, not part of the source protection planning, it's done under different auspices, so we are talking about different processes, different areas.

- Question 15: It's just a question; they seem to be very concerned about it.
    - Andrea Bourrie: Yes, it is a definite concern with that area. And again, that is something we can have an entire meeting on if members agree.

Richard Murphy summarizes Dufferin's practices for the Paris Pit:

- Not using chemical
- Fuel storage outside wellhead protection area
- Environmental management system to keep track of operations and monitoring

Part Nine: Aggregate Operations

Richard Murphy explains that the Ministry of the Environment has significant oversight of the site operations. This is done through the Ontario Water Resources Act (OWRA) and the Permit to Take Water. Some details on this:

Dufferin Aggregates
2300 Steeles Ave W, 4th Floor
Concord, ON L4K 5X6
Canada

- No water can be taken unless the MOE is satisfied with Dufferin's plans
- The technical studies need to be completed in order to address all the water quality/quantity concerns
- There is regular monitoring; ground water and surface water area, water quality in the ground and surface water. Groundwater monitoring occurs at water monitoring wells

The monitoring is used to ensure that any issues that arise can be addressed immediately. If there is a problem, there are contingency measures in place that Dufferin will implement, these include:

- Temporary or immediate supply of water to neighbors
- Reduce or cease water taking
- Augment private water supplies
- Water treatment

Richard reiterates that Dufferin is responsible to rectify any issues that may arise with regards to water quantity and quality in the area as a result of their operations.

Richard takes questions from CAP members, these questions included:

- Question 16: How often will the water findings be submitted to the MOE?
    - Richard Murphy: The standard is annually. MOE's operating basis is that if there is something they should be apprised of, then operators should send that information right away.
    - Andrea Bourrie: We, at Dufferin, are collecting that information. Water monitoring happens monthly, if not more often. If there is an issue, we will report it immediately. Our standard protocol is to report it to the MOE and to who ever else wants it. We will make this information public.
    - Richard Murphy: The operation is also subject to inspection by the MOE who will ask to see all records. The MOE could show up at any time. Everything has to be reported and the site manager needs to have that information on hand.
    - Sean Routledge: We monitor our staff gauges daily (referring to our active sites).

- Question 17: The gravel pit is here, does the continuing farm operations have a bearing on the operations? And the pit is close to the golf course, which will be turned into a subdivision, how will this run-off material affects the area?
    - Richard Murphy: The site grading includes berming, so we do not have water run-off into the site, so no run off should be coming from the farmer fields and into the water table or site. It will not change the implication of agriculture practices on Source Protection. On the golf course, groundwater flows towards the Grand River, the portion of the well head protection area that encompasses the golf course will be a consideration to ensure that it compliant with the policies. The central area (outside the WHPA's), that system, anything that infiltrates there will move south and discharge into the Grand River.

- Question 18: I am in that flow, how will that affect me?

Dufferin Aggregates
2300 Steeles Ave W, 4th Floor
Concord, ON L4K 5X6
Canada

- Richard Murphy: I would have to look at the details, but I expect that the ground water is coming from this way to the Grand River, whereas you are over here. You're actually down gradient to the wetland. The only place you will see water persist is where the ground is below the ground water service. There are very large distances and filtration going on. That distance is about 500-600 meter.
- Andrea Bourrie: We don't expect an influence, there will not be an effect on quantity and with regards to the quality, and the risk of contamination is very low. Even with that distance, it will be filtrated naturally; we would be able to address it immediately.

- Question 20: How will that wetland survive? Will that wetland be on top of that hill, how will it survive, it will die, right?
  - Richard Murphy: No. The hill beside the wetland is being taken away. The hill is being removed inside the extraction limit

- Question 21: So you will not be going below the level pond?
  - Richard Murphy: No, the only area below the pond is the source pond area.

- Question 22: will that not affect the wetland area?
  - Richard Murphy: No. If we tried to lower levels in that area for 10 years, then we would be seeing an influence. But remember this is a closed-loop system, no removal of water.
  - Andrea Bourrie: We are ensuring that the technical work is done and that area will be monitored. There will be additional monitoring surrounding this wetland area. We believe that we can demonstrate that impact to the wetland will not happen. You as the community are important to helping us ensure that we understand the area and that the monitoring is done correctly.

- Question 23: This is our water source, any risk is a risk. I still feel that we live here, this is our water, we don't have any other water, I know Dufferin is responsible, but you cannot guarantee 100% that nothing will happen. And my next question, for the Clean Water Act, what was the reason that it was created?
  - Richard Murphy: It came out of Walkerton. There was livestock run-off and ecoli that ended up in the water supply.

- Question 24: But it was enough for them to create this act/policy?
  - Andrea Bourrie: Yes, these policies are in place to ensure that these situations do not happen again. Multi-barrier approach. Absolutely this is your water source, and how we deal with the risk, that is something we need the decision makers to help us determine to ensure that we can move forward accordingly. We may not always agree on the final outcome but we are committed to making sure we minimize any risk to the water. So hopefully some of Richard's comments have addressed your concerns.

Dufferin Aggregates
2300 Steeles Ave W, 4th Floor
Concord, ON L4K 5X6
Canada

- Question 25: Is there a technical report that your presentation is based on? What was the study? Can we see that study? There has to be some sort of report to back up this presentation?
    - Andrea Bourrie: Certainly. A lot of the information in Richards's presentation is our knowledge of the Source Protection Plan and is based on work undertaken to support the Permit to Take Water; this is where a lot of the technical information is. You will be advised before the PTTW application is submitted and can be provided a copy.

- Question 26: Is there a detailed study on the hydrogeological reports?
    - Andrea Bourrie: This information is available through the Source Protection Authority. I can provide all the links to you, if you do not have access.

- Question 27: So you are using other people's reports?
    - Andrea Bourrie: Yes, published Source Protection reports and the additional work we have done on hydrogeology will be included in our report supporting the Permit to Take Water application.

- Question 28: What is the timeline on the water travel (referring to the WHPA zones)?
    - Richard Murphy: 100 metres radius for A, two years for B, 5 years for C and 25 years for D.
    - Andrea Bourrie: You will see that the diagram has some weird shapes. It is based on the pattern and characteristics allowing that water to flow to the well and around the well.
    - Richard Murphy: it is not just a random calculation, they look at how much water infiltrates, all these are built into the ground water model.

- Question 29: Why can't they draw the water from the Grand River instead?
    - Richard Murphy: the Grand River requires more treatment; it is a very expensive source of water.
    - Andrea Bourrie: Why can't Dufferin use it? Is that what you mean? There are many regulatory issues to be addressed with that proposal
    - Richard Murphy: It is used for water supply up and down stream and the River is very challenged, it is already under stress.
    - Andrea Bourrie: We evaluated that, and it was determined to not be feasible, in terms of regulatory details.

- Question 30: What process does a homeowner with a private well what well need to undertake if the well has issues once aggregate removal has begun?

Part Nine: Closing/Next Steps/Topics

Linda Smith brings the question period to an end and addresses the upcoming CAP meeting topic and dates.

Next Meeting

Dufferin Aggregates
2300 Steeles Ave W, 4th Floor
Concord, ON L4K 5X6
Canada

- Tuesday June 19th at the Paris Golf Course River House
- Topic: Traffic

September CAP meeting

- Tuesday September 25th at the Paris Golf Course River House
- Topic: After use/rehabilitation and general ecology

Adjournment