



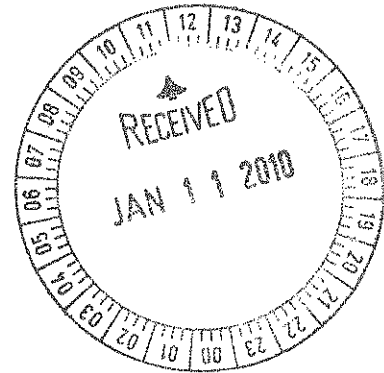
# CAPITAL PAVING INC.

*Quality Construction by Quality People*  
P.O Box 815 Guelph, Ontario N1H 6L8

January 8, 2010

**Grand River Conservation Authority**  
400 Clyde Rd.  
P.O Box 729  
Cambridge ON N1R 5W6

**COPY**



**Attention:**                   **Melissa Larion, B.E.S, M.A**  
Resource Planner

**RE:**                           **Response to GRCA Comments (Nov. 13, 2009)**  
Capital Paving Inc. – Montrose Pit  
Part of Lots 71, 74 & 75 Concession G.C.T  
Township of Woolwich, Region of Waterloo

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Dear Ms. Larion,

Capital Paving is in receipt of your letter dated November 13, 2009 regarding the above noted application. Capital is pleased that the GRCA are now satisfied with all prior engineering comments.

Please note that the locations of the sections on drawing 5 (Sections & Details) previously identified in drawing 3 (Operational Plan) have been removed for clarity. The locations of the sections are illustrated on drawing 2 (Existing Features). Drawing 2 has a higher areal extent and accurately represents the sectional drawings on drawing 5. This is in response to the engineering advisory comments outlined in the November 13<sup>th</sup> letter.

Enclosed with this letter, is a response letter dated January 7, 2010, prepared by Capital's consultant Stantec Consulting Ltd. (Stantec), to address the remaining terrestrial resources concerns of the GRCA. We are confident the responses provided by Stantec will address the remaining issues arising from the GRCA letter.

We have also enclosed a set of revised Site Plans that incorporates recommendations and comments from both the GRCA and MOE. Please note the changes to the groundwater/surface water monitoring plan in the technical recommendations section on drawing 4. The monitoring plan has been enhanced as a result of the recommendations provided by the MOE and GRCA

as well as includes additional monitors (DP5 & DP6) as a result of the recently submitted Montrose Pit Scoped Subwatershed Study completed for the Region of Waterloo in September 2009.

Also included in this package and for information purposes for the GRCA, Capital is including a letter prepared by Stantec dated January 8, 2010. The letter addresses questions raised by the Township of Woolwich regarding the proposed agricultural rehabilitation plan for the subject site. It was also suggested in an engineering advisory comment in the GRCA's letter dated June 25, 2009; that the agricultural rehabilitation plan be reviewed by an agricultural specialist.

It should also be noted that all concerns of the MNR and MOE have now been satisfied regarding the proposed Montrose Pit. Enclosed is a copy of the MOE letter to Capital, dated November 20, 2009 and MNR letter dated May 4, 2009, for the GRCA's records.

Capital is confident that the responses provided to your November 13, 2009 letter will satisfy all remaining technical concerns of the GRCA. The prompt review of the Site Plans and response will be greatly appreciated by Capital.

Should you have any questions or concerns, please do not hesitate to contact me at (519) 822 – 4511 or email at [glourenco@capitalpaving.on.ca](mailto:glourenco@capitalpaving.on.ca)

Yours truly,  
CAPITAL PAVING INC.



George Lourenco  
Resources Manager

- Encls.
- Technical Response letter - January 7, 2010 (Stantec Consulting Ltd.)
  - Revised Site Plans - December 9, 2009 (HarringtonMcAven Ltd)
  - List of revisions to Site Plans
  - MOE letter - November 20, 2009
  - MNR letter – May 4, 2009
  - Technical response letter to Woolwich Township agricultural restoration questions – January 8, 2010 (Stantec Consulting Ltd.)

CC. Diane Schwier, Ministry of Natural Resources  
Jeremy Vink, Township of Woolwich  
Brenna MacKinnon, Region of Waterloo

E.C. Glenn Harrington, HarringtonMacAvan Ltd.(Formerly Harrington & Hoyle Ltd.)  
Bernie Janssen, HarringtonMacAvan Ltd.(Formerly Harrington & Hoyle Ltd.)  
Andrew Pentney, Groundwater Science Corp.  
Dan Eusebi, Stantec Consulting Ltd.



**Stantec**

**Stantec Consulting Ltd.**  
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January 7, 2010  
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Capital Paving Inc.  
P.O. Box 815  
Guelph, Ontario  
N1H 6L8

**Attention: Mr. Nick Toth**

Dear Mr. Toth:

**Reference: Capital Paving Inc., Montrose Pit  
Part of Lots 71, 74 & 75, Concession G.C.T.  
Township of Woolwich, Region of Waterloo  
GRCA Letter to Capital Paving (November 13, 2009)  
Stantec Consulting Ltd. Technical Response**

Stantec Consulting Ltd. (Stantec) is in receipt of the November 13, 2009 letter to Capital Paving Inc. (Capital), which provided additional technical comments with respect to the Montrose Site and in particular the additional information provided in letters prepared by Groundwater Science Corp. (GWS) and Stantec (dated October 2, 2009). We have prepared the following commentary to address the GRCA's stated comments as follows.

**ENGINEERING ADVISORY COMMENTS:**

The line showing the location of the Section B transect has been removed from Drawing 3 of the Site Plans given that the scale of this drawing does not allow for the complete length of the section to be properly shown. The location of this Section is clearly illustrated and referenced on drawing #2.

**TERRESTRIAL RECOURCES COMMENTS:**

**GRCA Terrestrial Resources Comments #1 and #5 (pg. 2 of 3)**

***Response***

Stantec agrees that prolonged hydroperiods can affect wetland and forest tree species' survival, especially when aerobic conditions that are needed seasonally for the trees to survive are not realized and the roots remain submerged and subject to constant anaerobic conditions. The tolerance of trees to periods of inundation is variable; Cedars tend to tolerate a wide range of conditions.

GWS has provided detailed information with respect to the assessment of water related impacts to the wetlands on site. The water that supports these wetlands is interpreted to be generally from spring and fall flooding associated with the Grand River, and diffuse groundwater contributions. The surface water component, that offers the primary source of water to the wetlands, and the incident precipitation will remain unaffected.

Predicted changes at the Montrose site to groundwater input to the wetland, which represents a relatively smaller component of the wetland moisture regime, are relatively minor in nature and would be expressed

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primarily as discharge in the lower elevation areas (i.e. in the wetland zones, and, primarily along Tributary B). The total expected increase in groundwater input is relatively small and will be distributed over a large area. As a result, no significant change in groundwater elevations are expected across the entire wetland area and, therefore, no overall change in hydroperiod is expected within treed portions of the wetland (at slightly higher elevations than the discharge areas). This conclusion is supported by our monitoring experience at other above water table extraction areas. As such there is no concern with potential affects to the upland forest complex portion of the woodlands found along the Grand River.

With respect to the wetland trees, the predicted change resulting from the creation of the cattle pond is very small in magnitude and would not be of a degree to compromise the aerobic period seasonally needed by the tree species in the wetland. Furthermore the swamp wetland is described as a complex of coniferous and mixed swamps, including conifer swamp (SWC1-1) where white cedar is dominant in the woody strata; and white cedar-hardwood mineral mixed swamp (SWM1-1), where mature white cedar dominate and green ash and American elm occur as minor associates.

The predominant tree species in this wetland area are noted to be Cedars and these trees can tolerate a significant range of hydroperiods as is currently demonstrated by the great diversity of hydroperiods seen from the swamps immediately west of the Subject Property to the cedar swamps that extend well beyond Buggy Lane to the south in the Regional Study area. These Cedar swamps range from areas that are seasonally very wet, with extended hydroperiods, to relatively dry zones that are wet only for short periods of the year.

In summary, the Cedar swamp areas immediately west of the site will not be negatively affected because the change in total groundwater inputs is very minor and would result primarily in some (limited) additional discharge within low-lying areas and at Tributary B. The change, however, will not affect water table elevations significantly across the entire wetland and, therefore, will not create an influence that would cause permanent, or extended seasonal inundation within treed areas. In addition, the dominant cedar community in the swamp can tolerate a wide range of wetness and would only be susceptible under extreme conditions. Extreme conditions, where the water regime of the area is significantly changed, are not predicted based on the hydrogeological and hydrological assessment of impacts and changes. As such, there will be no adverse impact on the wetlands associated with the potential minor change in discharge.

The groundwater monitoring information from the drivepoints DP5 and DP6 that were installed as part of the Scoped Subwatershed Study have been incorporated into the study assessment. Monitoring results since August 2009 indicate that the water table has remained 1.0 m or more below ground surface at these two locations to date (late summer and fall). The additional data supports the previous findings. The DP5 and DP6 wells have been established as part of the monitoring program, this program will be included on the Site Plan, and, annual monitoring reports will submitted to the MNR for distribution to the regulatory agencies including the GRCA.

**GRCA Terrestrial Resources Comments #2 (pg 3 of 3)**

***Response***

Capital Paving has provided further details with respect to the pond configuration on the accompanying Site Plan revisions (see Rehabilitation – Sheet 6 of 6). It should be noted that the pond will operate as an aggregate washing area and sediment basin only during the operating period of the pit. Post extraction the

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sediment pond will be reduced in size as illustrated on the Site Plans. The pond will serve three purposes as follows:

1. Provide a viable water station for livestock needed to support an active dairy farm;
2. Provide a shallow wetland environment to support various wildlife species; and
3. Provide an area, incidentally, to accommodate stormwater flow, as addressed in detail in previous correspondence.

The pond has been established of a size to support both an isolated livestock watering area (access restricted by fencing) and a wildlife habitat area that will not be subject to cattle influence. The pond will be of a depth of less than 2 m as noted on the Rehabilitation sheet of the Site Plans.

In addition to the above noted design considerations, and with respect to the form and function of the feature, the target communities for the created wetland will be a combination of shallow water and shallow marsh and swamp thicket edge communities transitioning to cultural meadows in areas where cattle access does not occur. The proposed pond will be planted with trees and shrubs on the northwest, west and south sides, as illustrated on the Site Plans. The pond will be very shallow along its margins (<1 m). The intent of the design is to allow for natural colonization of the shallow aquatic margins as time progresses

The shallow water portions would be composed of sparse floating vegetation, submergent and emergent aquatic vegetation that would increase in density over time. The addition of this pond/wetland habitat type would complement the existing diversity of the wetlands in the local area. In particular, it would provide habitat for species with a greater affinity to these areas such as waterfowl and turtles. In addition, the shallow water and shallow marsh areas will contain standing water year round, providing habitat for species requiring permanent water bodies such as bull frogs and green frogs. The edges of the pond will have shallow slopes with irregular grading in order to create variable depths of water from approximately 10 cm below ground surface to less than 100 cm above substrate, where cattle access will be restricted. This approach increases the length of shoreline around the open marsh areas and provides many small bays of variable configuration and size. Generally, these areas have the ability to support a great number and wide range of both facultative and obligate wetland flora and fauna.

The landscape planting plans for the meadow areas near the pond have been revised to include only buckwheat as a nursery crop to be consistent with the comments offered by the GRCA with respect to avoidance of more invasive species. The side slopes, where agriculture will be permitted, will include nursery crop species that are commonly used in crop pasture mixes in the Region, such as alfalfa.

### **GRCA Terrestrial Resources (Advisory) Comment #3 (pg 3 of 3)**

#### ***Response***

Stantec is of the opinion that the removal of the two protrusions (0.5 ha) of woodland area found at the margins of the woodland would not be contrary to Section 2.1.2 of the Provincial Policy Statement, which states, as quoted by the GRCA, that "the diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored, or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features". Stantec also agrees with the GRCA that a holistic

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approach toward the establishment of extraction limits should be taken. Stantec, in conjunction with the study team, has adopted a holistic approach to the design, which involves considering the whole or complete systems rather than with the analysis of, treatment of, or dissection into parts. The following provides a description of the assessment with respect to the PPS and holistic approach.

The study team considered the potential effects to the natural environment, wise resource utilization and current landowner consideration in the design of the extraction footprint.

The greater majority of the woodland in the area of the proposed site will remain intact. Two small protrusions <0.5 ha are being considered for extraction; however the intent is to replant an area greater than the area covered by the two small woodland protrusions. The reason for adopting this management option at this location encompasses a number of considerations. Capital Paving requested that Stantec review the magnitude of potential impacts associated with proposed removal of the noted two woodland protrusions (<0.5 ha) and provide potential mitigation that could minimize any long term impacts. Capital understands that two woodland protrusions are part of a more extensive forest system and also that the Region of Waterloo and MNR are interested in the long term maintenance of forest cover in the Municipality, Township and watershed. Capital Paving's interest in the protrusions was directly related to the available aggregate at these locations, as well as a desire to provide a more linear agricultural edge for the landowner to facilitate farming.

Stantec reviewed the site for important wildlife and botanical interest and has noted that there are no notable species or specialized habitat associated with these two protrusions. These protrusions, along with other forest edges, exhibit a greater number of non-native species relative to the remainder of the woodland. Stantec also notes that such protrusions can be beneficial as they provide more predator-prey interactions at the limits where they extend into agricultural lands. The size and configuration of the protrusion would not affect potential interior forest habitat. The protrusions do not offer a connectivity component to the existing woodland feature or other natural heritage features. Their removal would not significantly affect the diversity or connectivity of the woodland.

In consideration of the characteristics of the two areas, including habitat provided, Stantec supports the removal of the protrusions, with the condition that replanting be completed along the entire post rehabilitation slope, with tree plantings that will provide more overall forest cover than the existing area covered by the two protrusions. This would be consistent with the PPS, as noted by the GRCA, in that "the long-term ecological function and biodiversity of natural systems, should be maintained, restored or where possible improved". Furthermore the new wooded area will provide a valuable warm, south facing slope habitat for wildlife which is considered an improvement to the areas wildlife habitat opportunities. South facing slopes tend to grow rapidly and can provide very good habitat for specialized activities such as denning or snake hibernacula.

In summary, the removal of the protrusions and implementation of the rehabilitation is deemed to be a reasonable and appropriate undertaking, in considering the character and function of the protrusions, the potential impact to the woodland as a whole, resource availability, farming considerations and the opportunity to mitigate any minor effects with a design to improve habitat function. The proposed replanting zone is illustrated on the Site Plans.

## **CLOSING**

Stantec Consulting Ltd. respectfully provides the foregoing response comments for the GRCA's consideration with regard to the proposed development. We trust this addresses the concerns expressed by the GRCA,

**Stantec**

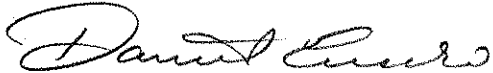
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however, should there be additional questions please do not hesitate to contact the undersigned at your convenience.

Sincerely,

**STANTEC CONSULTING LTD.**



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