



File: 3028

By: Email

May 27, 2013

James Dick Construction Limited  
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Attention: Mr. Greg Sweetnam

Dear: Mr. Sweetnam

**Re: Hidden Quarry – Response to MNR Comments**

With respect to MNR comments on our level II Natural Environment Technical Report we offer the following explanations in the same order as given by MNR

2.2.4 & Figure 5

During our spring site visits standing water was not observed in MAM3-2 so there was little merit in listening for calling amphibians at this location. Furthermore, when wood frogs were reported at Station A1 on April 28, 2011 they were actually heard calling from an upstream area in the vicinity of MAM3-2 which is only about 150 m from this Station.

3.1

Our apology for any confusion caused by the discussion of locally designated natural features, but we felt it was important to note those features which had previously been identified as being important on the local landscape. In retrospect, this discussion could have perhaps been included in Section 5.0.

3.1.2 & 5.1.1 and Figure 6

GWS and MNR agree that the wetland should not be included in the PSW and the proposed 20m buffer will provide ample protection for this wetland. See above comment regarding amphibian surveys.

4.5.5

MNR and GWS agree that the property is not an important deer wintering area.

5.13

Although the intermittent stream may possibly provide a seasonal source of insect food for downstream fish it does not support an on-site fish population. The existing ecological function of this stream will nonetheless be maintained during aggregate extraction.

5.14

James Dick Construction Limited is prepared to discuss the feasibility of forest compensation at another site.

## 5.16

We acknowledge that a small population of deer utilize the subject property and surrounding lands during the winter and anticipate they will continue to do so in the future even though the amount of on-site forest cover will be reduced.

## 7.1

Figure 10, the Operations Plan and Figure 11, the Progressive and Final Rehabilitation Plan were provided to MNR as a separate attachment instead of being enclosed in the report

### Species at Risk Surveys.

#### 1. Little Brown Myotis

As noted by MNR, this species was not listed as Endangered when the surveys were undertaken. Nonetheless, a special survey was completed for this and other species of bats, recognizing that several bat species were in decline and likely to be protected under the *Endangered Species Act, 2007*.

The Little Brown Myotis hibernates in caves. There is no suitable hibernation habitat on site, and it is likely that local bats hibernate in caves near Rockwood. Maternal roosts occur most commonly in buildings and less frequently in natural habitats (van Zyll de Jong 1985). The only on-site building is a house fronting on Highway 7. This house appears to be relatively intact and it is unlikely that bats can access the interior of the house, although they may be able to enter the garage through a hole in the door. If the site is being used for maternal roosts, it is more likely that they are using natural cavities on site. According to the MNR (2011) bat monitoring protocol, maternity roosts are likely to occur in deciduous and mixed forests (FOD, FOM). Single deciduous and mixed forest stands occur on the subject lands close to the abandoned building. Both of these forest stands will be retained.

We conclude that there will be no impact on the Little Brown Myotis as a result of the proposed Hidden Quarry. There are no areas present that provide suitable hibernation sites. All potential natural maternal roosts will be retained. In the event that some bats are roosting within the existing building, alternative natural roosts will be available to them once the house is removed. Maternal roosts may be used from April when bats come out of hibernation until September (van Zyll de Jong 1985). It is recommended that the house be removed outside of this window when bats are likely to be absent from the site.

#### 2. Rusty-patched Bumble Bee

Although the Rusty-patched Bumble Bee was listed as Endangered in September 2010, it was not on MNR's list of Species at Risk in Wellington County when we did most of our inventories in 2011. Consequently, we were not aware that specific surveys should have been undertaken for this species.

We are of the opinion that this species is absent from the site. The Rusty-patched Bumble Bee is typically associated with large deciduous forests and it may be found both within forested habitat and around forest margins. Although once a very common species in southern Ontario, it has declined significantly and appears to be confined to large habitat patches that are remote from agricultural operations. All recent records are from Pinery Provincial Park. From 1971 to 1973, the Rusty-patched Bumble Bee represented 14% of all bumble bees collected at Guelph and Rockwood. Extensive targeted searches for this species from 2005 to 2008 found only three specimens. A sample of 1,195 bumble bees from Guelph and Rockwood during that period did not contain any Rusty-patched Bumble Bees (Colla 2010; Colla and Taylor-Pindar 2011).

Our conclusion that the Rusty-patched Bumble Bee is absent is based on two factors. The on-site habitat is poor for this species and bumble bees in general. The forest cover is predominantly coniferous plantation which is unsuitable habitat for the species. There are two deciduous/mixed forest stands, but these are very small remnants that are unlikely to provide sufficient habitat for the species. The site is also situated within an agricultural setting that is likely to expose this species to deleterious chemicals.

The second reason why we are of the opinion that the Rusty-patched Bumble Bee is absent is that targeted searches in Guelph and Rockwood from 2005 to 2008 failed to find this species. These surveys were undertaken in locations where the species was formerly common and it was locally extirpated.

### 3. West Virginia White

As noted in the list of vascular plants (Appendix B), the two species of toothworts were observed during the 1997 inventories but not in 2011. It appears as though these species have become locally extirpated from the site. Consequently, there is no suitable habitat present for the West Virginia White. Even if toothworts were present, the habitat is very marginal for this species on the subject lands. The two forest patches that have the potential to support it are very small. The West Virginia White does not do well from a competitive standpoint when dealing with the cabbage white. The latter species is abundant on the site and the West Virginia white would be unlikely to persist in such small forest fragments where the cabbage white was present.

### 4. Blanding's Turtle and Spotted Turtle

We believe that the protocols for searching for these turtle species were developed after our surveys were completed, but are uncertain if this is correct. The protocols for surveying for Species at Risk do not appear to be readily available on the MNR's website.

#### a. Targeted Turtle Surveys

In addition to looking for amphibian egg masses during the April 18, 2011 search in the cattail marsh, turtles were actively searched for. Searching within ponds is an effective method of finding turtles and this search resulted in the snapping turtle observation. Without the in-pond search, it is unlikely that the snapping turtle would have been detected, as this is a highly aquatic species that seldom basks. In-pond searches are the best method for finding the snapping turtle. If this method were used more frequently, it would be realized that this species occurs in a very high proportion of permanent water bodies. However, it goes undetected in most of the areas where it is actually present.

Searching within the pond is also the most effective method for finding spotted turtles. We have searched for spotted turtles with Dr. Jackie Litzgus, who is one of the North American experts on this species. The method that she uses to detect this species is to walk through ponds to search for it within the water column or on the bottom. This is typically done in early to mid-April shortly after ice-out. This is another species that rarely basks and surveys conducted from the shoreline are unlikely to detect it. In addition, once temperatures rise, it often aestivates or remains buried within pond sediments where it will not be observed using standard shoreline surveys.

The April 18, 2011 survey of the cattail marsh was considered a targeted turtle survey as well as an amphibian egg-mass survey. Two individuals spent a total of 1.5 hours each searching for a total effort of 3 person-hours.

#### b. Weather Conditions during the April 3-8, 2011 Salamander Trap Observations

On April 4, it was overcast with a very light breeze, the temperature was  $-2^{\circ}\text{C}$ , and there were approximately 2 cm of snow on the ground. On April 5, it was calm and overcast with

a temperature of 2°C. On April 6, it was sunny with a light breeze, the temperature was 1°C, and ice had formed on the marsh and in-stream pool overnight. On April 7, it was overcast with a light breeze and a temperature of 1°C in the morning; the site was revisited in the afternoon and it was 8°C and sunny at that time. On April 8, it was overcast with no wind and the temperature was 5°C.

Weather conditions during most of these visits were not suitable for observing turtles, with the exception of the afternoon of April 7.

c. Weather Conditions during the June 7-10, 2011 Fish Trap Observations

The weather conditions were warm and sunny during days that the fish traps were checked. Mean daily temperatures on those days for Guelph taken from the National Climate and Information Archive website indicate that the mean temperatures were 20.5°C on June 7, 24.2°C on June 8, 17.8°C on June 9, and 13.1°C on June 10, 2011.

Conditions were suitable for turtle basking during the fish trap observation periods.

d. Snapping Turtle Observation

The snapping turtle was observed on April 18, 2011 during the targeted search within the cattail marsh. The weather was cloudy and calm during the survey and the air temperature ranged from -1 to 0°C.

e. Weather Conditions during Bird, Butterfly, and Odonate Surveys

It is correct that the marsh bird surveys were completed well before 9 a.m., but two of the three visits extended beyond that time. The following are descriptions of relevant visits made in 2011. The May 20 survey extended from 0722 to 0953 hours and the weather was sunny, the wind was 1-2 on the Beaufort scale, and the temperature ranged from 12 to 16°C. The May 30 visit was from 0640 to 1025 and the weather was a mix of sun and cloud, wind was 1-2, and the temperature was 18 to 22°C. The June 17 survey was from 0704 to 1138 and the weather was sunny, the wind was 1-2, and the temperature was 14 to 25°C. The June 26 visit was from 0643 to 1043 hours, the weather was a mix of sun and cloud, the wind was 1-2 early on and 2-3 later, and the temperature was 16 to 22°C. The July 27 visit was from 0953 to 1412 and the weather was mostly sunny, the wind was 0 to 1, and the temperature was 20 to 27°C.

Conditions were suitable for observing basking turtles on all of these visits. On almost every visit, the observer parked on the Sixth Line near the cattail marsh and the marsh was searched for all types of wildlife on each visit.

f. Conclusions Regarding the Blanding's Turtle and Spotted Turtle

We still consider these two species to be absent. The Blanding's turtle basks frequently and is typically highly conspicuous when it is present. It is highly unlikely that it would have been overlooked had it been present.

We consider the spotted turtle to be absent for three reasons: it was not observed, the habitat is not suitable, and there are no nearby records of this species. The latter two facts are very important given that this is an extremely difficult species to detect. In the one study that we were involved in, released turtles often disappeared immediately into the sediments and under the vegetation and could only be found again because they were radio-tagged.

Habitat for the spotted turtle is considered unsuitable at the landscape level and marginal within the cattail marsh itself. As can be seen in the air photos presented in the Level II Natural Environment Technical Report, the on-site cattail marsh is isolated within an agricultural landscape. From probably the mid-1800s until the early 1980s, the landscape

was essentially devoid of substantial tree cover. Any spotted turtles that might have existed in the cattail marsh at that time would have been isolated from any other natural habitat by extensive expanses of agricultural land, which is unsuitable habitat for dispersal by this species. Although the spotted turtle has a relatively small home range, it migrates hundreds of metres among aquatic sites and between aquatic and terrestrial sites. Until tree planting occurred on the site and adjacent lands in the early 1980s, it is unlikely that spotted turtles would have been able to move among habitats given the intensive agricultural lands between potential habitat pockets. Even with the existing forest cover, intervening habitat is harsh for spotted turtles between potentially suitable habitat patches. It seems highly unlikely that an isolated population of this species could have persisted in this landscape, if such a population existed in the first place.

The cattail marsh is marginal habitat for the spotted turtle. It is typically associated with highly organic habitats, especially bogs and fens. It does occur in cattail marshes, but usually only those with a high organic content (Litzgus 2004). Soils within the on-site cattail marsh are mineral and may actually be gravel. The substrate was very firm while walking through it and these conditions are generally unsuitable for the spotted turtle. In addition, water levels in this marsh may become quite low during drought years, but it is unknown if it ever dries up completely.

The only records of the spotted turtle for Wellington County appear to be the observation by one of the team members at Luther Marsh on June 12, 1975 and another by MNR staff in June of another year in the 1970s. Although the current Ontario Reptile and Amphibian Atlas does not show a map of the distribution of the spotted turtle for confidentiality reasons, the Ontario Herpetofaunal Atlas on the NHIC website (which was updated in 2010) does. There are no records for the spotted turtle in Waterloo, Halton, Peel, or Hamilton. The nearest records for this species are in excess of 50 km away. There appears to be a broad swath through southern Ontario where the species is absent, including Huron, Perth, Waterloo, Brant, Hamilton, almost all of Wellington, Halton, and Peel. These are some of the more intensively farmed areas in the province. If the spotted turtle ever occurred within this general region, it was probably extirpated as a result of forest clearing and agricultural activities.

### Rehabilitation Plan

We agree that soil depth over bedrock must be of sufficient depth in tableland areas to ensure long-term tree growth and feel that this can be achieved by first of all applying overburden to side slopes followed by topsoil as stated on the Rehabilitation Plan. The objective should be to achieve a soil mass that is 50 to 100cm in depth with a topsoil layer that is at least 10cm in depth and preferably 20cm or more as recommended by MNR. We acknowledge that watering may be required during drought periods to ensure tree survival and agree that the final surface should be loose and rough with undulations so that soil depth over bedrock is variable and micro-habitats are created. If soil becomes significantly compacted deep ripping will be required to make it more permeable and plantable. The Rehabilitation Plan will be revised to reflect these desirable site preparation treatments.

With respect to the use of red pine for reforestation purposes on this site, we acknowledge that red pine generally does not sustain good long-term growth on calcareous sites. It has, however performed reasonably well on several properties located elsewhere in Wellington County that are characterized by well drained Dumfries sandy loam soil which is found on the subject property. The intent was to simply incorporate red pine as a minor component in the species mix to enhance biodiversity and help to provide a nurse crop for the eventual establishment of a native hardwood or mixedwood forest. It would not be used in monoculture blocks and it would mainly be planted on the warmer, dryer south facing

slopes. However, if MNR still feels that red pine should not be planted on this site it will be deleted from the species list.

It was anticipated that vegetation monitoring would be carried out to ensure that the survival and growth of planted trees, shrubs and groundcovers was sufficient to effectively restore desired woodland and wetland vegetation. It was assumed that monitoring would be carried out until trees and shrubs are considered free to grow which means their root systems are well established and their shoots extend above the height of competing herbaceous vegetation, particularly grass and goldenrod (i.e. about 3 feet in height). This usually takes about 5 years on most old field sites but may take somewhat longer on rehabilitated gravel pits. A seedling survival census will be carried out annually during late summer/early fall to determine the need for refill planting in fail areas the following spring. The same species will be used for refill planting as were used in the original planting unless there are good reasons for changing. Bareroot transplant stock 20-40cm in height is recommended for planting on these difficult sites. To ensure adequate stocking in reforested areas there must be at least 80% seedling survival after 5 years or when the trees are considered free to grow. Assuming an original planting density of 600 trees/acre at 80% survival = 480 trees/acre which qualifies the area for protection under the County's Forest Conservation By-law. The above details on reforestation procedures and follow-up monitoring can be added to the rehabilitation plan assuming MNR Staff concur with this approach.

We trust the above information adequately addresses the concerns raised by MNR.

Yours truly,

**GWS Ecological & Forestry Services Inc.**

A handwritten signature in black ink, reading "Greg Scheifele". The signature is written in a cursive style with a large, sweeping initial "G".

Greg W. Scheifele, M. A., R.P.F.  
Principal Ecologist/Forester

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