

ATTACHMENT A

This forms part of application

A17-0007

Planner
Initials

SS



August 29, 2017

To: Whom it may concern

RE: Gravel Placement

1.0 Introduction

Art and Linda Scheffler have asked me to provide a professional report in support of their application to apply gravel fill on their property known as:

That Part of Lot 11, Shown on Plan B16248, Block 15, Sections 3 and 10,
Township 23, Osoyoos Division, Yale District, Plan 1068, PID 008-590-
834, at 841 Curtis Road, Kelowna, BC.

The location of the property is shown in Figure 1:

Figure 1: Location of the Scheffler Property



2.0 Qualifications

I am a licensed Agrologist and have been a full member of the B.C. Institute of Agrologists since 1971 (except 2001-2002). I am a graduate from the University of British Columbia with a Bachelor of Science degree in 1967, specializing in Agriculture Economics, and a Master of Science degree in 1972, specializing in Farm Management. My thesis for my Master's degree was entitled *Resource Allocation for the Median Peace River Farm in British Columbia*

2533 Copper Ridge Drive, West Kelowna, BC, V4T 2X6,

Phone: 250-707-4664, Cell: 250-804-1798, email: bholtby@shaw.ca

During my years in both public and private practice, Courts and Review Boards have accepted me as an expert regarding farming practices in British Columbia.

I am currently a member of the Environmental Appeal Board and the Forest Appeals Commission. Following these appointments, I have received training in Administrative Law and the Rules of Natural Justice.

The reader should note that I do not act as an agent in the normal use of the term. That is, I have no fiduciary responsibility to the applicant.

Section 3 of the Code of Ethics of the BC Institute of Agrologists includes the paragraph:

- ensure that they provide an objective expert opinion and not an opinion that advocates for their client or employer or a particular partisan position.

3.0 The Proposal

The purpose of the placement of gravel fill is to facilitate “flushing” of salts from the soils in their pasture. Specifically, the low lying area to the North West of the parcel have been identified as containing high levels of Potassium, Magnesium, Sodium and Sulfate. In addition, the pH of the soils as a result of the salts is 8.3, clearly alkaline and not conducive to good plant growth.

These levels were identified in a soils report from Griffin Laboratories Inc. in May, 2002. I know of no remedial action having been taken in the intervening years and therefore feel confident in assuming that these levels still exist.

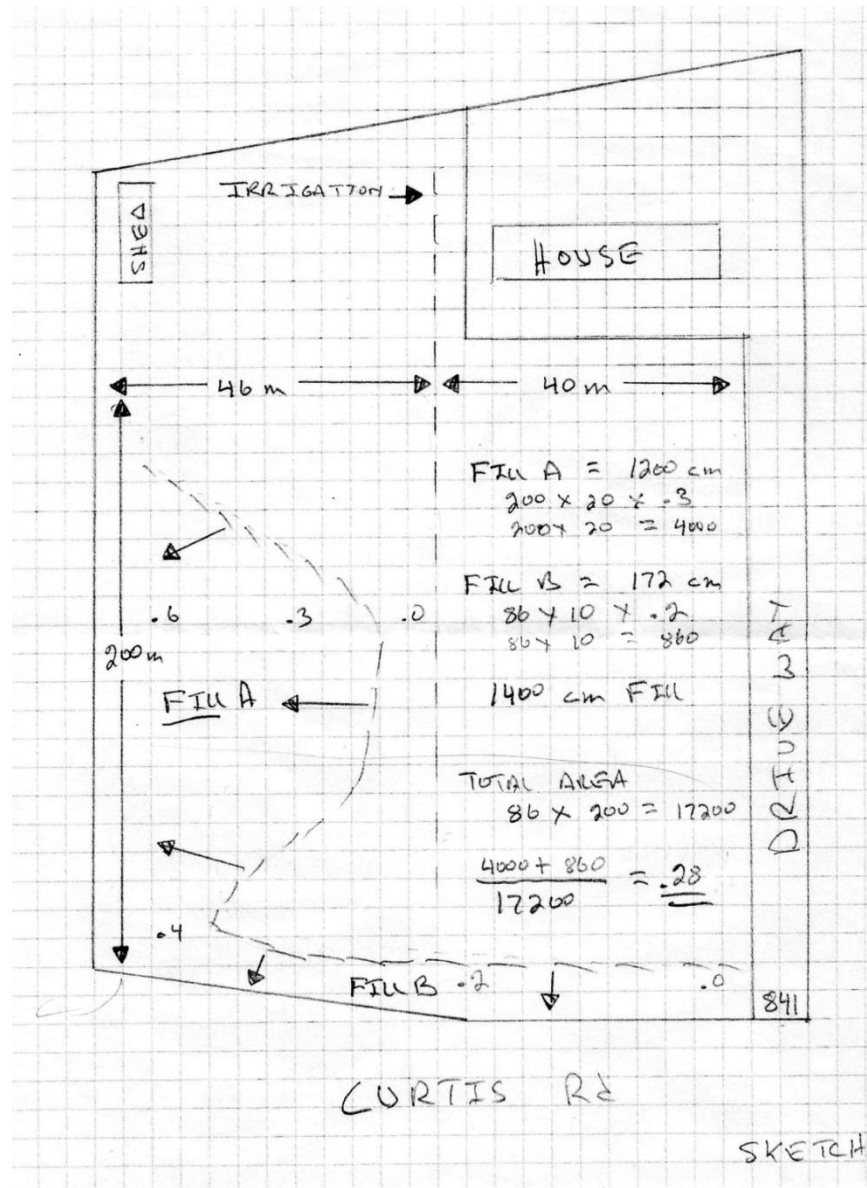
Flushing the salts over time is the known remedy for this action. Normally, the farmer uses tile drainage to remove the salts which are dissolved in the irrigation water. While effective, tile drainage is also expensive. In addition, the Scheffler property contains heavy clays (see Photograph 1) and the ability for water to drain through the clays is suspect. The higher knolls on the property on the south along the driveway do not exhibit the same effect of alkalinity or salt saturation. Water from these knolls will drain along the surface to the lower part of the pasture which is the subject of this proposal.



Photograph 1: Soil Pit in Area to be Drained

Mr. Scheffler has provided a sketch map for his property that identifies the area to be drained. These are identified as Fill A or Fill B. This map is shown in Figure 2:

Figure 2: Sketch Map for the Drainage Plan



In this case, there are two proposals which, depending on the nature of the gravel fill to be imported, can be effectively and economically used, in my opinion.

If the gravels to be brought into the land contain a large amount of fine material, the best approach in my opinion is to layer the material above the existing low lying area. Layers of topsoil can then be placed above the gravels to ensure a drained seedbed.

This process will allow the flushed water to drain through the now higher ground and will connect to the existing drainage ditch on the property boundary on the north side of the property. This drained water will follow the normal course through the ditch to the lake.

If the gravel material is relatively clean, I would recommend trenching the land in a herring bone pattern with a plow at about a one foot depth and filling the trench with the clean material. This process would be much cheaper to perform since less material is handled. The trenches are best described as “French drains” which are commonly used for water management.

Again, the water will flow to the existing ditch (see Photograph 2) and follow the normal path to the lake.



Photograph 2: Interception Ditch on North of Parcel

Improving drainage on a property is considered a “normal farm practice” according to the Farm Industry Review Board.¹

"normal farm practice" means a practice that is conducted by a farm business in a manner consistent with

(a) proper and accepted customs and standards as established and followed by similar farm businesses under similar circumstances, and

¹ Section 1, *Farm Practices Protection (Right to Farm) Act*, RSBC 1996,

(b) any standards prescribed by the Lieutenant Governor in Council,
and includes a practice that makes use of innovative technology in a
manner consistent with proper advanced farm management practices and
with any standards prescribed under paragraph (b).

In the decision in *Hall vs Rohrer*, the Panel of FIRB declared that:²

We accept that a landowner has the right to improve drainage, subject to
any applicable land use regulation, to more effectively use his property
and maximize the profitability of his land.

This decision is contingent on no adverse effect of the drainage improvements on
neighbouring properties. Given the use of existing ditches, I know of no such adverse
effects on neighbouring properties.

The plan of Mr. and Mrs. Scheffler can in my opinion, meets the criteria of “normal farm
practice.”

I will be pleased to answer any questions that may have been raised by my opinion.

Respectfully submitted,

A handwritten signature in dark ink, appearing to be 'R.G. Holtby', with a long, sweeping horizontal stroke extending to the right.

R.G. (Bob) Holtby, P.Ag.

² *Hall vs Rohrer*, FIRB Decision, August 26, 2010

October 24, 2017

Project: 17102

841 Curtis Road
Kelowna BC, V1V 2C9

Attention: Art and Linda Scheffler

Subject: Agriculture Drainage Plan: 841 Curtis Road, Kelowna

ATTACHMENT B	
This forms part of application # A17-0007	
Planner Initials	SS
 City of Kelowna COMMUNITY PLANNING	

1. Introduction

Art and Linda Scheffler submitted an application to the City of Kelowna to improve their agriculture land by bringing in fill, which was brought forward to the Agricultural Advisory Committee (AAC) on October 12, 2017. The purpose of the fill is to improve their agriculture land as the current soil has been identified as alkaline and has high levels of Potassium, Magnesium, Sodium and Sulfate. Flushing these salts through proper drainage is the only way to improve the productivity of the land, and ensure that the new cover soil does not become contaminated with the alkaline properties.

My understanding, based on conversations with Mr. Scheffler, is that the AAC recommended that a professional designed drainage system be included as part of his package to the City of Kelowna Council.

This letter provides a “professional” drainage design based on the report by Regency Consultants (August 29, 2017), personal conversations with Mr. Scheffler, a field assessment on October 16, 2017, and the B.C. Agriculture Drainage Manual (1997).

2. Recommended Drainage Design

The total area of land to be improved and that requires a drainage design is 0.9 Ha or 2.2 acres. The area measures 45m x 205m as shown in Figure 1. The change in elevation from the highest point along the south edge of the area to be improved to the north edge of the Scheffler property is ~0.60m. Because of the topographic layout and slope of the improved area a herringbone layout drainage system is recommended for the French Drain system.

The B. C. Agriculture Drainage Manual recommends that the minimum cover needed to protect a subsurface drain from collapsing under machinery weight is 0.6m for drains up to 150mm in diameter.

Based on my current understanding of the annual drainage concerns on the Scheffler property, the water table level, and the soil properties, a spacing of 10m between the lateral trenches is required as shown in Figure 1. The trenches are to be 450mm wide by 300mm deep, below the current soil elevation, with a 100mm perforated plastic pipe, wrapped in geotextile and the trench filled with clean coarse gravel material. Figure 2 shows a sketch of the lateral trench design and drain tile. Approximately ~510m of perforated plastic is required for the 13 lateral trenches. A new drainage ditch is to be constructed on the north side of the property to collect the water from the lateral drains to carry the drainage water to the west and into the main ditch. The constructed drainage ditch is to be lined with coarse gravel and cobble stone at a depth of 0.5m and 0.5m wide with a slope of 1% to the west.

If you have any questions or comments, please do not hesitate to contact me.



Prepared by S. Lapp, PhD, PAg, GIT

Encl:

Figure 1 and Figure 2



Figure 1. 841 Curtis Rd. The red lines mark the area to be improved with fill, the white lines represent the lateral drainage trenches at 10 m spacing and the blue line is the constructed ditch on the north side of the property.

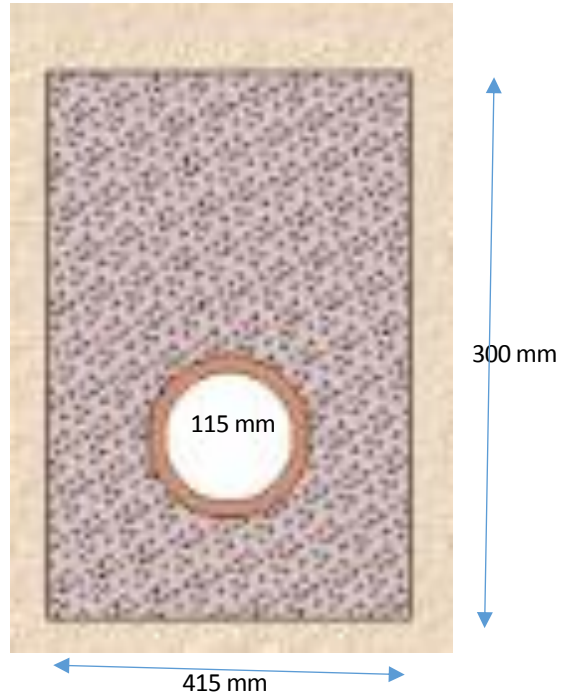


Figure 2. Diagram of lateral trench. 115 mm perforated pipe wrapped with geotextile and packed with clean coarse gravel and cobble.



10/09/2017



05/09/2017