Project Summary Table			
Proponent name:	Rajan Ahluwalia	Date:	2019/08/14
Project name:	Paper factory from hemp fiber and wheat straw	Company contact name and information:	Rajan Ahluwalia CEO rbs@uhwinc.com 780-670-1313
Name of company that will hold approval:	Ultimate Hemp World Inc	Company website:	www.uhwinc.com
Type of project (e.g., water management, hydroelectric, etc.):	N1/2 Sec. 31 Twp 47 Rge 12 W4M Paper factory	New project, expansion, additional phase or modification:	New Project
Project location (legal land description and municipality):	Viking	Total project area (ha):	58.4
Indicate whether the project is on private, federal or provincial land:	Industrial Area designated land of the Town of Viking	If project is on or adjacent to public land, list any parks/protected areas/conservation areas, etc., that may be impacted:	NO
Nearest First Nation Reserve(s) and Métis Settlements (name and km):	Ermineskin Cree Nation 136km	Nearest waterway/ water body (name and km):	Road leading to Thomas lake 600m
Nearest provincial highway (# and distance):	Highway 36 (1.5 Km)	Potential annual water usage and source:	42 million Gal/year 95% will be recycled Source: Local Viking well water Harvesting rain-water
Expected types of air emissions (e.g., SO_2, NO_x, CO_2, etc.):	Annexure A	Types of wastes generated and disposal location:	Annexure A

Brief Project Description

Include major project processes and products, components including capacity and size, infrastructure requirements and general project location.

Consider the terminology and capacities/sizes listed in *Environmental Assessment (Mandatory and Exempted) Activities Regulation* and the *Activities Designation Regulation* when writing the description.

Process to manufacture Paper of Different grades using wheat straw and hemp fibres

The Wheat Straw and Hemp Fibres are fast growing source of cellulose. The conventional Wood Pulp is in use from many decades but it involves de-forestation on a large scale to keep regular supply of wood to pulp & paper plants.

While the wood takes many- many years to get maturity to become suitable for pulp making, Wheat straw and hemp fibres are renewed every year as the crops hardly takes few months to grow.

In Canada Wheat Straw & Hemp Fibres are becoming the main sources for making pulp suitable to make high grades Writing / Printing paper, Office papers, Tissue Paper, Beverage Cups and Shopping Bags

Wheat Straw Pulping Process:-

As the Wheat Straw arrives the pulp mills directly from Agricultural fields, it has to be de-dusted first in a hammer mill with screen to remove dry dust and thereafter washed in washer chest to get rid of remaining attached dust / sand etc.

The washed straw is then cooked in screw type continuous digester with Potasium Hydroxide along with steam at 7bar pressure. The cooking cycle is of around 30 minutes & the cooked pulp is continuously blown to a tank known as Blow Tank. This cooked pulp is screened to separate out any knots and then washed on washers in a counter current manner. This brown pulp is then bleached in various stages using Oxygen, Peroxide and Dioxide without using Elemental Chlorine. This is known as **ECF pulp** which is globally accepted from environmental angles.

Chemical Recovery Plant:-

The spent liquor from Brown Stock Washer is having the Potasium Hydroxide which can be recovered in the **Chemical Recovery** plant having fine membrane system know as VSEP which is the latest alternate to evaporators, Recovery Boilers and Re – Causticizing plant. This VSEP technology is used to separate the solids and liquid. The solids which containe mainly Potasium Hydroxide, lignin from the wheat straw is the washed and sold back to the farmers as a natural fertilizer. The separated liquid is again cleaned by the membrances and reused in the processing. Thus making the process waste free.

Paper Making:-

The Wheat Straw pulp so produced is successfully used for making Printing Papers & Office Papers. A blend of 10% of wood pulp along with 90% Straw pulp helps to achieve any high standard of paper.

Around 2.3Tons of wheat straw produces 1.0 Ton of white bright paper. In other words use of each Ton of straw will save similar quantity of Forest wood.

Co - Generation:-

The Co – Generation in pulp & paper mills based on agro Wastes is highly viable as the steam cycle is well balanced similar in case of wood pulp plants.

A Turbo set of 7.5MW is to be planned to become self sufficient on power front. Suitable high pressure steam boiler to be installed. The Recovery boiler also extracts the organic heat of spent liquor (from washers) & supplies steam to the evaporators in addition to recover chemical.

Viablity of the Project:-

The minimum viable size for a green field project is 300 TPD of wheat straw bleached pulp and and Hemp Fibres.

Project at a Glance:-

Plant Capacity ---------- 100,000 TPA of Paper

Pulping Capacity ---------- 350TPD of Straw Pulp

Land Required ---------- 155 Acers (135,000Sq. M.)

Main Raw Material ---------- Wheat Straw / Hemp Fibers

Quantity of W. Straw Reqd. ---------- 598 TPD

Water Required ---------- 11,000KLD

Power Required ---------- 12.5 MW

Steam Required ---------- 110 TPH

Paper Machine Deckle ---------- 4500 mm

Paper Machine Speed ---------- 500 MPM

GSM range of Paper ---------- 60 – 300 GSM

Capacity of Recovery Membrane system. ---------- 500 Gallons per day.

Steam Boiler Capacity ---------- 60 TPH

Project Cost:- ---------- 160 Million CAD Dollars

Waste Generation:

Water :

Process Water is 97 % recycled and used again in the Process. 3 % of process water will be evaporated in the steam formation process.

Only water from the septic tanks will have to be trucked to the Site earmarked by the Town of Viking

Ground Contmination:

There will be no ground contamination. Every effort will be taken to see that the whole process is done above ground and with no leakages or drains to the ground.

Air Emissions.

The only emissions in the air will be the exaust from burning natural gas.

CO2 generated will be used in the process to convert Potassium into Potassium Carbonate, which is a good fertilizer for the farmers.

The balance of emissions will be well below the Canadian Standards for Air emissions.

Infrastructure Requirements:

Pulping Building for wheat straw complete with piping, steam and drainage.

Pulping Building for Hemp straw complete with piping, steam and drainage.

Building for rolling paper into writing paper, tissdue paper, beverage cups and shopping bags.

Power Generation Unit.

Water Recycling System.

Pond for storage of natural water and Rain water.

Conversion of paper rolls to various products building.

Project Components:

Pulping Mills 2 nos.

Paper Mill for rolling Writing Paper

Paper Mill for rolling tissue Paper

Paper Mill for rolling Beverage Cups Paper and Shopping Bags

Power Generation Unit.

Combined Heat and Power Unit

Waste Water Treatment Plany.

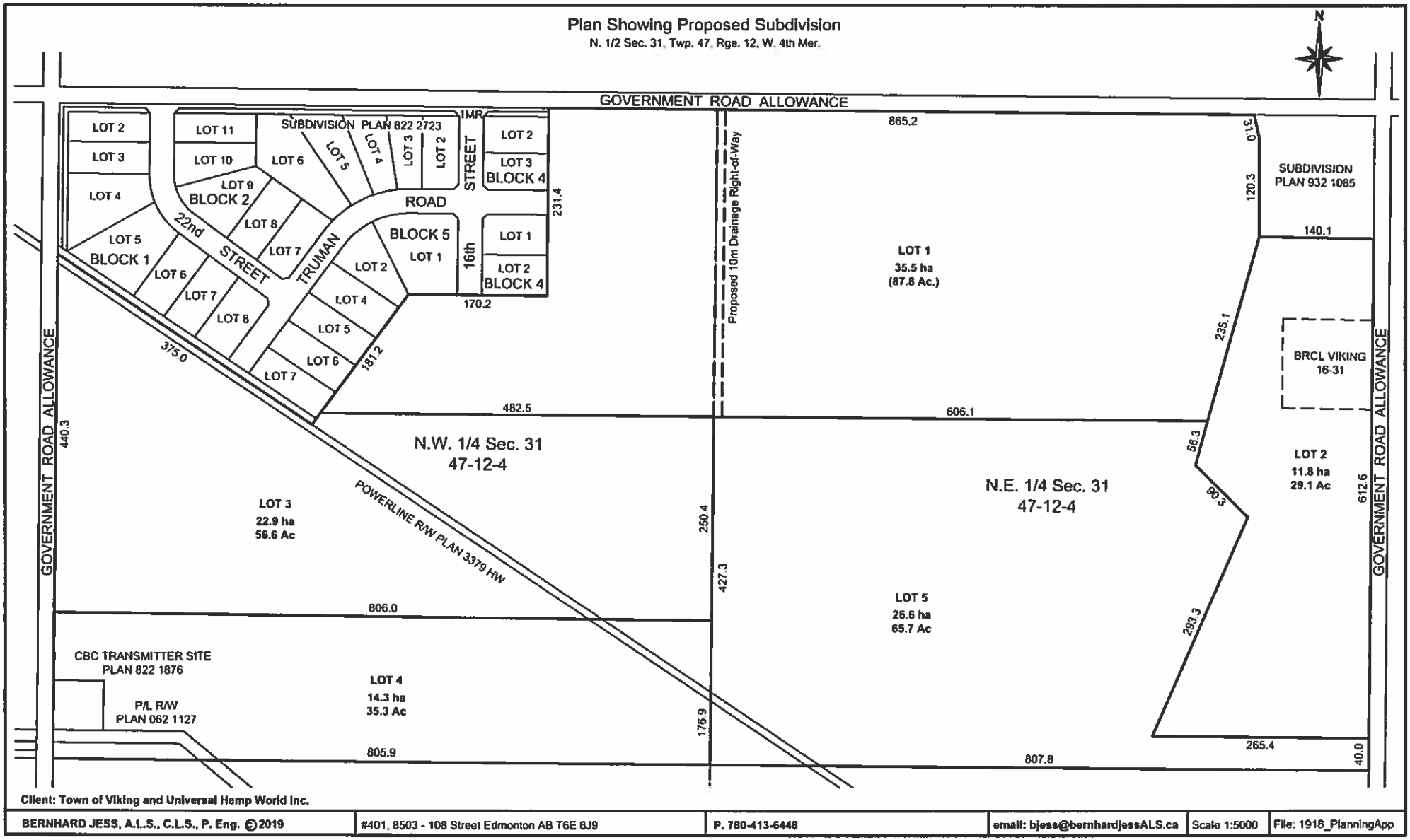
Recovery Membrane System.

Boilers.


East Industrial Park N 1/2 31-47-12W4
Legend
NE 31-47-12W4 154.71 acres
Transfer Station
5.29 acres
remaing area app 86.42 acres
NW 31-47-12W4 - 119.75 acres
Lagoon area approximately 63 acres
remaing area approximately 86.25 acres
South of channels 33.5 acres
Google Earth
N
600 m

Plan Showing Proposed Subdivision

N. 1/2 Sec. 31, Twp. 47, Rge. 12, W. 4th Mer.



Client: Town of Viking and Universal Hemp World Inc.

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