West Lincoln
Your Future Naturally

SCHEDULE 'A'

Township of West Lincoln
Site Alteration By-law Application

Please complete all applicable sections of the application form. An incomplete application will not be processed. Please return forms to the Director of Planning & Building and/or the Director of Public Works & Engineering.

1) PROPERTY INFORMATION:

MUNICIPAL ADDRESS:

LOT NO.: 4 PLAN NO.: 30R11882 CONCESSION NO.: 4

ROLL NO.: 2602-010-003 -01530 TOWN LOT NO.: 16 CURRENT ZONING: R1A

LAND OWNER (CHECK ONE): X PERSON ____ COMPANY

2) REGISTERED LAND OWNER: (Please Print)

Castellan | David | P
SURNAME | FIRST NAME | INITIAL

[redacted]
ADDRESS

TELEPHONE | FAX

[redacted]
CELL | EMAIL

3) CONSULTANT INFORMATION: (Please Print)

Soil-Mat Engineers and Consultants Ltd.
COMPANY NAME

905-318-7440
TELEPHONE | FAX

CELL | EMAIL

401 Grays Rd, Hamilton, ON
ADDRESS

LEGAL NAME (For use with agreements)

DESIGNATE (To which all correspondence will be sent)

4) CONTRACTOR INFORMATION: (Please Print)

To be determined
COMPANY NAME

TELEPHONE | FAX

CELL | EMAIL

ADDRESS

LEGAL NAME (For use with agreements)

DESIGNATE (To which all correspondence will be sent)

available to the public, and specifically any application to Council relating to a site alteration in excess of 1,000 cubic metres shall become part of the public record.

In submitting this application and any supporting materials or information, I hereby acknowledge the above-noted and provide my consent.

Further, I understand and acknowledge that my application will be shared with the Niagara Peninsula Conservation Authority.

Signature: _____ Date: 03/05/25

Printed Name: David Castellan Title: ASO

Note: Original signature(s) are required for the record. In the case of a corporation, the signature(s) must be that of an officer(s) with authority to bind the corporation.

9) PERMISSION TO ENTER:

The applicant acknowledges that a site walk may be required in order to view the property and its relation to the surrounding lands, and in this regard authorizes members of Council (or a representative thereof), Township staff, Peer Review Consultants retained by the Township, and relevant External Agency Review Staff to enter onto the subject property for the purpose of evaluating the merits of the application, at an arranged time.

OWNER(S) / AGENT(S) SIGNATURE

Signature: _____ Date: 03/05/25

Printed Name: David Castellan Title: ASO

Note: Original signature(s) are required for the record. In the case of a corporation, the signature(s) must be that of an officer(s) with authority to bind the corporation.

IMPORTANT INFORMATION

- The security deposit will be refunded to the individual/company who provided initial payment following a final inspection by Township staff. Please note that the deposit will be applied to any unpaid taxes and/or water and sewer charges. Any application fee, municipal services fee, and agreement preparation fee are non-refundable. The deposit will be refunded upon cancellation of a permit, less the administration fee, provided that no work has been commenced.
- The owner hereby authorizes the Township of West Lincoln to enter onto the subject lands for the purposes of inspection or with labour and equipment to complete or repair any works as deemed necessary by the Township.
- The Township of West Lincoln may engage legal, engineering, hydrology, environmental, arborists, landscape or any other consultant as deemed necessary by the Director of Planning and Building in order to evaluate studies and/or agreements in which case the costs incurred for such evaluations shall be charged back to the applicant.
- Fees shall be adjusted upon completion of work where required to reflect totals based on accurate fill volumes verified by a professional engineer prior to final clearance.
- It is the landowner's responsibility to obtain all necessary approvals from any federal, provincial, regional or municipal agencies, including the conservation authority, prior to providing application for a site alteration permit.

1664 ABINGDON ROAD

Biotekt Homes

Project Summary

1664 is the first of its kind in Canada, it will be a 2,436 square foot bungalow, situated on a spacious 4-acre lot located in the Township of West Lincoln in the beautiful Niagara Region. Its design and construction prioritize sustainability, energy efficiency, and environmental consciousness.

- Materials and Construction Techniques:

  The building's construction involves the utilization of cutting-edge materials and techniques. It is primarily built using Biotek Biocomposite recycled PET panels, an environmentally friendly material made from recycled PET (polyethylene terephthalate) that offers durability and sustainability benefits. These panels serve as the foundational elements for the structure.

- Insulation:

  To optimize energy efficiency, the structure is encased in 6 inches of closed-cell spray foam insulation providing a minimum R-42 shield encasing the house, then covered with 8 to 24 inches of soil which will slow the exchange of heat from the structure to the outside. This insulation method helps maintain a comfortable indoor environment while reducing energy consumption by providing excellent thermal insulation and airtightness.

- Green Roof:

  A distinctive feature of 1664 is its unique green roof design. The building's exterior is covered with 8 to 24 inches of soil and grass. This living roof not only provides natural insulation but also offers several environmental advantages. It helps regulate temperature, create an aerodynamic flow, mitigate stormwater runoff, reduce the urban heat island effect, and promotes biodiversity.

- Interior Design:

  The interior design aims to complement the unique structure by incorporating modern amenities with a variety of stylish touches. Our goal is to create a bright, open space that does not feel like its underground. Key features will include;

  - a large chef's kitchen and pantry (375sqft+100sqft) featuring a 90" work station/sink, 60" gas stove, and almost 90sqft of usable counter space
  - a main corridor that will ground the structure in nature with amazing views of the forest, a greenhouse space and natural finishes.
  - a Moroccan inspired primary ensuite complete with riad style entry, and a large spacious shower

Background

- After the severe ice storm in the winter of 2012, I began the search for a piece of vacant land where I could build a house and reduce my reliance on the grid. The property at 1664 Abingdon Road was purchased in March 2013. It offered excellent southern exposure, seclusion from the road, and was just a 22-minute drive from the QEW. Following the land purchase, I began researching sustainable homes and eventually settled on a concept called an 'Earthship'. However, due to the labor-intensive construction involved, I opted for an alternative method. This alternative entailed incorporating key components of an 'Earthship', such as passive solar features, greywater recycling, and earth insulation. I collaborated with Biotekt to design ***1664***, incorporating these principles into the home's construction.

During my research I began believing constructing homes to suit the environment and embracing sustainable living offers numerous advantages. These types of homes reduce reliance on traditional energy sources, decreasing the carbon footprint and contributing to a healthier planet. By integrating passive solar features like large windows for natural light and heat or incorporating materials that regulate temperature, these houses inherently consume less energy for heating and cooling. Moreover, building with sustainability in mind fosters a deeper connection to the surrounding ecosystem. Utilizing as many local and recycled materials in construction not only minimizes environmental impact but also supports local economies and reduces transportation emissions.

Land Usage

Our vision for the property revolves around sustainable living through the application of permaculture and homesteading principles. To maximize self-sufficiency and create a harmonious ecosystem, we have allocated specific areas for various purposes.

- Food Forest:

Embracing the concept of permaculture, approximately one acre of the land will be transformed into a diverse food forest. This area will feature an assortment of food-bearing trees and shrubs, strategically planned to mimic natural ecosystems, fostering biodiversity, and providing a perennial abundance of fruits, nuts, and edible plants. Careful consideration will be given to guild planting, intercropping, and companion planting, optimizing the use of space and resources while minimizing maintenance needs.

- Vegetable Gardens:

Spanning half an acre, our vegetable gardens will employ regenerative agricultural practices. Utilizing organic and no-till methods, we aim to cultivate a wide array of seasonal vegetables, incorporating crop rotation, companion planting, and mulching techniques to enhance soil fertility and promote a thriving, self-sustaining vegetable production system.

- Workshop and Storage:

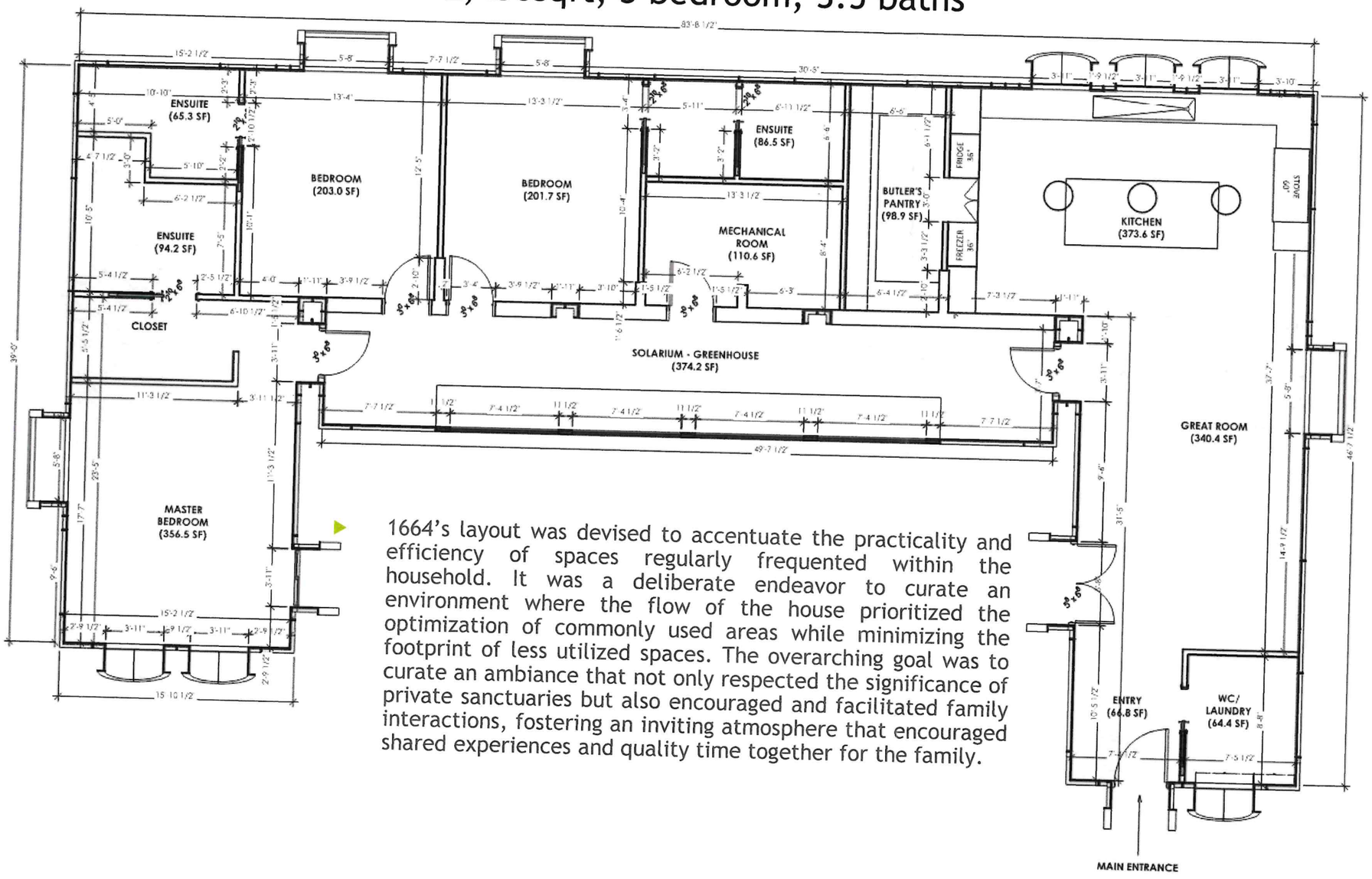
A 30'x50' workshop, proposed in the southwest corner of the property, will serve as a multipurpose space that will not only function as a hobby shop but also as a storage area for tools and equipment essential for maintaining the homestead.

- Integration of Livestock and Pollinators:

In line with our commitment to holistic land use, plans are underway for a chicken coop and apiary, pending municipal approval of by-law changes. The integration of chickens for their role in pest control, soil fertilization through rotational grazing, and the establishment of an apiary for pollination services aligns with our vision of a regenerative and diversified homestead ecosystem.

Through these initiatives, our goal is to not only cultivate a bountiful harvest but also to foster a resilient and regenerative ecosystem that nurtures both the land and its inhabitants while adhering to the principles of permaculture and sustainable homesteading.

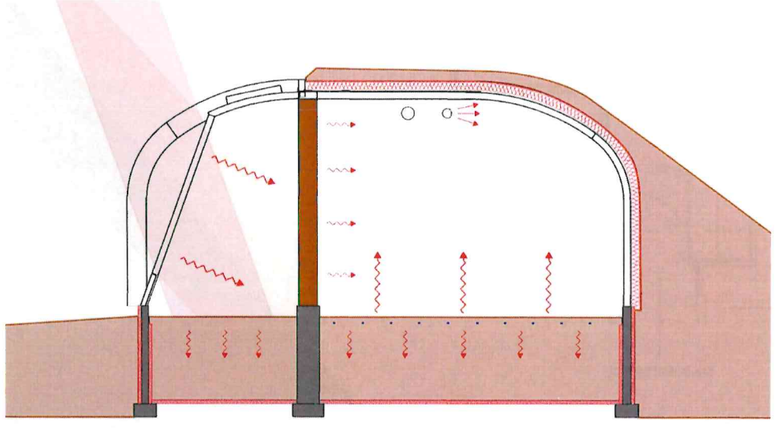
Floor Plan - 2,436sqft, 3 bedroom, 3.5 baths

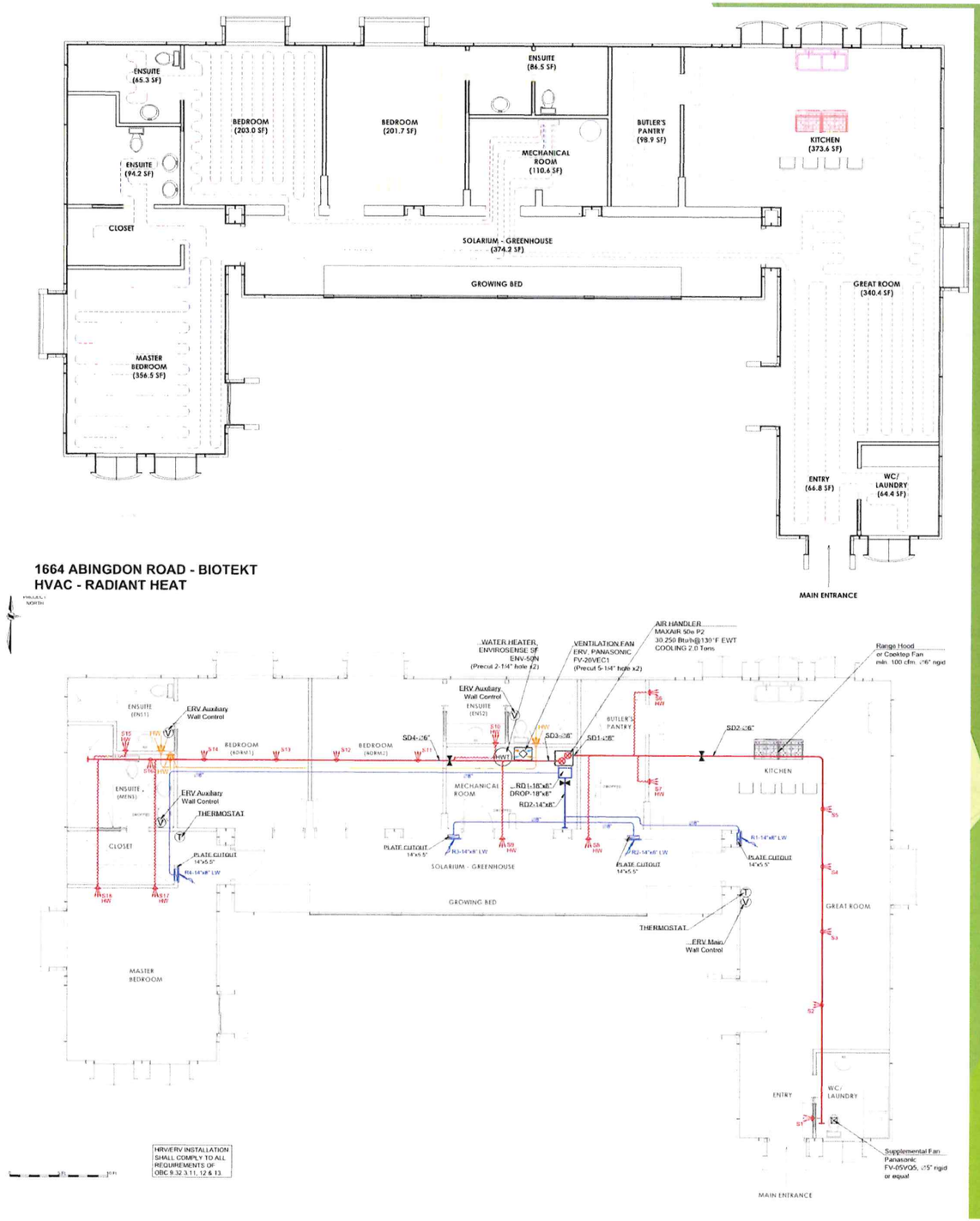


1664's layout was devised to accentuate the practicality and efficiency of spaces regularly frequented within the household. It was a deliberate endeavor to curate an environment where the flow of the house prioritized the optimization of commonly used areas while minimizing the footprint of less utilized spaces. The overarching goal was to curate an ambiance that not only respected the significance of private sanctuaries but also encouraged and facilitated family interactions, fostering an inviting atmosphere that encouraged shared experiences and quality time together for the family.

Systems - HVAC

- 1664 will utilize multiple HVAC systems in order to maintain consistent temperatures with minimal input.
- Passive Solar – the southern exposure combined with the rammed earth wall will provide a no input heat source. The clay floors and rammed earth wall will store heat during the day and release the stored heat into the living space in the evenings.
- Radiant In-floor Heating – the floor substrate will consist of 40+ inches of compacted clay insulated from the surrounding earth, the in-floor radiant system will heat the space above while charging the earth battery below, eventually reducing the input required to bring the space to a comfortable temperature.
- Forced Air – The air system is designed by John Godden, the forced air system will round out the two other systems while providing air circulation and ventilation. The arched roof in the living space assists in reducing the volume of unused space being heated.





Systems - Greywater

- 1664 is taking an innovative approach towards sustainable water management. The **Greyter** system is designed to effectively filter and recycle wastewater originating from various sources, namely showers, bathroom sinks, and the washing machine. By implementing this system, the aim is to harness and repurpose "grey water" - wastewater that doesn't contain sewage - for a specific purpose: supplying the toilets. Grey water, after undergoing filtration via the Greyter system, will be diverted and used in flushing toilets. This forward-thinking strategy not only conserves freshwater resources but also minimizes the strain on the main water supply by repurposing otherwise discarded water.

- The excess water produced by the Greyter system undergoes an additional eco-friendly treatment step before ultimately being discharged into the septic system. This excess water, post-filtration, is channeled through a designated planter bed within the greenhouse space. The planter bed serves a dual purpose - it functions as a natural filtration system and as a green space within the greenhouse. As the water percolates through this planter bed, it undergoes a biofiltration process, where plant roots and beneficial microorganisms present in the soil assist in further purifying and cleansing the water. This natural filtration process not only ensures that any remaining impurities are removed but also enriches the soil and promotes a healthier ecosystem within the greenhouse. Only after this secondary treatment does the water flow into the septic system, minimizing the environmental impact and ensuring that the discharged water is cleaner and less harmful.

Flooring: Earthen Floor

- Earthen floors, offer an array of advantages, both practical and health-related. These floors, crafted from natural elements like clay and sand, exhibit remarkable environmental friendliness by reducing reliance on manufactured materials and minimizing carbon footprints. Their exceptional thermal mass properties ensure a consistent indoor temperature, fostering energy efficiency by naturally moderating heat in varying seasons. In addition to these practical benefits, earthen floors contribute to a concept known as grounding, establishing a direct connection between individuals and the Earth's natural energy. Furthermore, their breathable nature prevents moisture accumulation, mitigating the risk of mold and fostering a healthier indoor environment. This amalgamation of functional attributes and the holistic aspect of connecting to the Earth makes earthen floors an appealing choice for eco-conscious homeowners seeking sustainability and a serene, healthy living space.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