

# TRIWAVE SYSTEMS

June 09, 2019

Dr. Craig Scratchley  
Dr. Andrew Rawicz  
School of Engineering Science  
Simon Fraser University  
Burnaby, British Columbia  
V5A 1S6

RE: ENSC 405W/440 Functional Specifications for Arkriveia Beacon

Dear Dr. Scratchley and Dr. Rawicz,

The following document contains the Requirement Specification for Arkriveia Beacon - The Indoor Location Rescue System created by TRIWAVE SYSTEMS. The Arkriveia Beacon focuses on locating persons trapped in buildings during small scale disasters such as fires and low magnitude earthquakes. This is achieved by incorporating a combination of advanced Ultra-wide-band radio modules and microcontrollers to create a dependable indoor positioning system using trilateration. We believe our system allows search and rescue operator to safely and reliably locate victims during an emergency or disaster.

The purpose of this document is to provide a detailed description for the overall system architecture and requirements of the product according to the different development stages (proof-of-concept- prototype, and final product). This document consists of a system overview, system requirements, engineering standards, as well as safety and sustainability overviews.

TRIWAVE SYSTEMS is composed of five dedicated and talented senior engineering students. The members include Keith Leung, Jeffrey Yeung, Scott Checko, Ryne Watterson, and Jerry Liu. Coming from various engineering concentrations with a diverse set of skills and experiences, we believe that our product will truly provide a layer of safety and reliability to search and rescue operations.

Thank you for taking the time to review our requirement specifications document. If there are any further questions or comments, please direct them to our Chief Communications Officer Jeffrey Yeung at [zjyeung@sfu.ca](mailto:zjyeung@sfu.ca)

Sincerely,  
Jerry Liu  
Chief Executive Officer



Enclosed: Requirements Specification for Arkriveia Beacon