MASSIVE WOOD USE IN INSTITUTIONAL BUILDINGS: LESSONS-LEARNED FROM 3 RECENT CASE-STUDIES

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ABSTRACT: Using 3 recent projects as examples, this lecture will explore the reasons behind the choice of massive wood construction, the challenges and the successes.

1 INTRODUCTION

The last few years have seen an increase in the use of massive wood in the construction of institutional buildings, resulting from: 1. a demand for more sustainable buildings, 2. government support towards local wood industry and 3. the emergence of engineered wood products that allow us to use wood in ways that were not previously possible.

One such new engineered wood product in Canada is cross laminated timber commonly known as CLT, used in Europe for decades, but only introduced here in the past few years. Our practise has now been involved in several projects that incorporate CLT panels and other massive wood products; we have chosen 3 of these projects to discuss the lessons that we have learned, the benefits of massive wood construction and the challenges that we have faced.

The 3 projects are:

1. The Bioenergy Research and Demonstration Facility at the University of British Columbia (UBC) campus in Vancouver (see figure 1), a project that aimed at demonstrating the use of CLT in a medium hazard industrial application, for the first time in North America.

2. The Wellness and Fitness Centre at the Kelowna Campus of UBC (see figure 2), a project that also aimed at demonstrating innovative uses of CLT.

3. The Wind Turbine Training Tower at the Dawson Creek Campus of Northern Lights College in Northern BC (see figure 3), a project aimed at exploring the use of wood for the construction of wind turbine towers, again a first in North America.

For each of these 3 projects, we will highlight the advantages and disadvantages of using massive wood and CLT construction and briefly discuss successes and challenges.

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Figure 3: Wind Turbine Training Tower at the Dawson Creek campus of Northern Lights College.