Northern Illinois Cancer Treatment Center  
*Dixon, Illinois*

For more than two decades, the Northern Illinois Cancer Treatment Center has enabled cancer patients in the Sauk Valley area to receive quality treatment without the stress of traveling more than an hour to the nearest hospital. A joint venture between KSB Hospital in Dixon and CGH Medical Center in Sterling, the Cancer Center recently underwent a major expansion to accommodate new technologies and continue providing the best possible care for the community.

The project included renovation of the existing 6,200-square-foot structure and a 10,000-square-foot addition, both of which are wood construction. Wood panels are used for the interior and exterior partitions, while the structural roof is comprised of wood trusses and wood engineered joists.

“The unique aspect of the project was the addition and renovation of three ‘vaults’ needed to contain radiation during various procedures. The word ‘vault’ refers to the required shielding, but they’re essentially concrete bunkers with 3-foot-thick walls and 6 to 7-foot-thick ceilings,” said project architect and principal Michael Mistele of the Larson & Darby Group. “The wood framing system gave us the flexibility to disguise the fact that patients are entering these vaults, thereby minimizing their anxiety.”

With the goal of creating a positive healing environment, the project team also chose wood for the casework, interior wall finishes and furniture.

Studies on biophilia, the innate attraction that humans have to living organisms and life-like processes, support the use of wood in a healing environment, while other studies have demonstrated the stress-reducing benefits of natural building materials. One recent example at the University of British Columbia and FPInnovations found that the visual presence of wood in a room lowers sympathetic nervous system (SNS) activation in occupants, further establishing the positive link between wood and human health. SNS activation is the way human bodies prepare themselves to deal with stress.
Volume of wood used: 100 cubic meters / 3,600 cubic feet of lumber, panels and engineered wood

U.S. and Canadian forests grow this much wood in: 18 seconds

Carbon stored in the wood: 90 metric tons of CO₂*

Avoided greenhouse gases: 190 metric tons of CO₂†

Total potential carbon benefit: 280 metric tons of CO₂

Equivalent to:

53 cars off the road for a year

Energy to operate a home for 24 years

Although the project team designed the expansion to be energy efficient, its carbon footprint was not identified as a separate objective. However, the expansion alone stores 90 metric tons of carbon in its wood products. And because wood was used instead of steel or concrete, which require large amounts of fossil fuel-based energy, the Center is also responsible for 190 metric tons of avoided greenhouse gas emissions.

Owner/Developer:
KSB Hospital, CGH Medical Center

Architect:
Larson & Darby Group

Structural Engineer:
Larson & Darby Group

Contractor:
Brown Construction


†CO₂ in this case study refers to CO₂ equivalent