

## Case Study: Healthcare

Lakes District Hospital operates on  
Wirewerks high-speed cabling system



## State-of-the-art Regional Hospital relies on Wirewerks structured cabling as the 'central nervous system' of their new Health Centre.



### PROJECT OVERVIEW

Lake District Hospital and Health Centre (LDHHC) brings a complete set of modern healthcare services closer to the residents of British Columbia's expansive central interior region. The vehicle for the delivery of these services is the new state-of-the-art hospital and health centre in Burns Lake, BC.

LDHHC's two-storey, disaster-proofed, LEED-certified 65,000ft<sup>2</sup> building supports a medical clinic offering primary care, acute care and outpatient services; emergency services, maternity and neonatal services, palliative care, addiction and mental health services as well as diagnostic imaging, lab services and a dispensing pharmacy.

To provide these services and improve patient outcomes, the facility is saturated with advanced clinical and non-clinical technologies, including HD videoconferencing capabilities that facilitate practitioner collaborations, remote diagnostics, and distance-medicine procedures.

Finally, the entire project offers an excellent example of a successful Public Private Partnership (P3) venture that was delivered on spec, on budget, and eight months ahead of schedule.

## CUSTOMER'S CHALLENGES

For any new regional hospital, planners must define and design a facility that provides a complete range of clinical services for the community, with quality-of-care equivalent to that of their big city counterparts. The new structure must facilitate the specific requirements of each clinical service and support general hospital operations now and well into the future. Certainly a key consideration for planners is to ensure that the new building's core infrastructure systems, including electrical, plumbing, HVAC and structured cabling have the reliability, performance and capacity to meet the hospital's 24/7/365 mission-critical operations initially and in the decades to come. Proper planning for these systems is particularly important as infrastructure upgrades are expensive, disruptive and dangerous in healthcare

environments. The structured cabling system, acting as the equivalent of the hospital's 'central nervous system', supports and connects the many different clinical and non-clinical technologies found throughout the facility and must be especially well planned to accommodate the inevitable evolution of these technologies over time.

LDHHC recognized and accepted these challenges right from the first moment of planning their new hospital; mapping out a strategy that leveraged both clinical and non-clinical technologies to streamline operations, maximize their medical resources, optimize patient outcomes, and minimize the effects of their remote location.

## THE WIREWERKS SOLUTION

In a collaborative effort between LDHHC, the P3 general contractor, the prime electrical contractor and the consulting engineers, a detailed specification was developed for the hospital's mission-critical structured cabling infrastructure.

To ensure the proper functionality, performance and capacity of the structured cabling system, the spec called for a **Category 6A U/UTP cabling system** with an OM4 optical fiber backbone supporting IEEE 10GBASE-T Ethernet (10Gb/s Ethernet) per industry standards ANSI/TIA-568-Series for Telecommunications Cabling, and ANSI/TIA-1179 for Healthcare Telecommunications Infrastructure.

Through a competitive bidding process, a complete 1,200 channel Wirewerks Cat6A/OM4 Structured Cabling System was selected by LDHHC. The Wirewerks solution exceeded all specifications for the project, provided value-added features beyond the spec, and is fully compliant with all requirements of both ANSI/TIA-568-Series and ANSI/TIA-1179 industry standards.

The two TIA Standards complement each other, with TIA-568-C setting the baseline for the premise structured cabling system, and TIA-1179 defining the special considerations and requirements for network cabling in healthcare environments. Their complementary effect is most evident in the requirements for Work Area outlets, where TIA-1179 goes far beyond the minimum requirements of TIA-568-C.

Work Area outlet density at LDHHC fully complies with TIA-1179 Healthcare Standard.



ANSI/TIA-1179 Work Area Types and Required Outlet Density			
Work Area Category	Work Area Type		
	Low Density (2 to 6 outlets)	Medium Density (6 to 14 outlets)	High Density (>14 outlets)
Patient Services	Consultation, Family Lounge, Waiting Rooms	Administration, Registration, Library	Nurse Stations, Patient Rooms
Surgery, Procedures, Operating Rooms	Sterile Zones, Sub-sterile Zones	Anesthesia, Prep, Hold, Recovery	Intensive Care, Operating Rooms
Emergency	Ambulance Bay	Eval/Exam Rooms	Observation, Operating Rooms
Ambulatory Care	Biopsy, Patient Holding, X-Ray	Exam Rooms, Mammography, Procedure Rooms	Outpatient Surgery
Women's Health	Lactation, Ultra Sound	Nursery	Delivery Suites, Infant Bays
Diagnostic/Treatment	Fluoroscopy, Radiation Processing, Radiograph, X-Ray	Labs	CT Scanner, Linear Accelerator, MRI, Operating Rooms, Procedure Rooms, Simulator
Caregiver	Exam Rooms, Galley, Soiled Utility	Charting, Clean Utility Nourishment, Reading Rooms, Workrooms	Nurse Stations
Service/Support		Blood Bank, Pharmacy	
Facilities	Building Utility Rooms, Comms/ Tech Rooms, Electrical Rooms, Elevator Mech Rooms, Janitor Closets, Mechanical Rooms, Specialty Storage	Fire Command	Security Command
Operations	Cafeteria, General Storage, General Office Laundry, Locker Rooms, Lounges, On-Call Suites, Retail Areas	Administration, Central Sterile, Conference Rooms	
Critical Care			ICU, Neonatal ICU, Recovery

The Wirewerks solution is engineered to support any current or future healthcare application designed to operate over a **Category 6A UTP cabling system**, including:

### Clinical Applications

- EHR/EMR
- Clinical Decision Support
- Patient Monitoring
- Diagnostic Imaging
- Others

### Non-Clinical Applications

- RFID (Patient and Asset Tracking)
- BAS (Building Automation)
- Nurse Call
- Security
- Access control
- Pharmaceutical Inventory
- Others

Wirewerks Products in this Application		
1,200+ Channel ANSI/TIA-568-Series + ANSI/TIA-1179 Category 6A UTP/OM4 Structured Cabling System		
Product	Part Number*	Data Sheet*
Wirewerks Category 6A U/UTP 4-pr Cables	6540-2PBL-L305	PDS-0155
Wirewerks KEYWERKS™ Cat6A Modular Jacks & Connectors	KW-C6A-45B-xx	PDS-0153
Wirewerks KEYWERKS™ 1U/2U Rack Mount Patch Panels	WW-000040/41	PDS-0109/0110
Wirewerks KEYWERKS™ Wall Mount Patch Panels	WW-000830	PDS-0058
Wirewerks KEYWERKS™ Cat6A U/UTP Patch Cords	CA40-6M-YY-NNN	PDS-0154
Wirewerks KEYWERKS™ Boxes, Faceplates & Accessories	Please call for assistance*	
<p>*Please contact your Wirewerks Salesperson or Wirewerks Customer Service (1.888.993.4237 or customerservice@wirewerks.com) for assistance with Part Numbers, Data Sheets and other documentation.</p>		



Wirewerks' innovations in structured cabling have been recognized multiple times in recent years by industry authorities **Cabling Installation & Maintenance magazine and Broadband Technology Review.**

At Wirewerks, we believe that  
innovation is a process –  
not an event

## ABOUT WIREWERKS

Founded in 1991, Wirewerks is an industry-leading manufacturer of advanced optical fiber and copper structured cabling systems. Built on core values of quality, innovation, and integrity, Wirewerks is relentlessly customer-focused and entirely committed to complete customer satisfaction. From pre-sale project collaboration, documentation, technical support, and custom product development, Wirewerks works in partnership with an extensive network of distributors, consultants and authorized installers to provide end-users with the best networking solutions and the best value in the industry today.



sales@wirewerks.com  
www.wirewerks.com

19144 Avenue Cruickshank, Baie-d'Urfé, QC H9X 3P1  
T 1 888 993-4237 | F 1 888 893-4237

wirewerks.com

WCS-18006  
T 1 888 993-4237 | F 1 888 893-4237