

CASE STUDY

Transforming School Connectivity with Enterprise-Grade Wireless Infrastructure

River Valley School · Calgary, AB · K-6 Elementary · 500+ Student Devices

43%

Fewer access points
with better coverage

500+

Devices connected
iPads, MacBooks & Chromebooks,
seamlessly

100%

Dead zones eliminated
across both floors



Legacy wireless couldn't keep pace with a one-to-one classroom

River Valley School, a K–6 elementary campus in Calgary, Alberta, faced significant wireless networking challenges that were impacting daily teaching and learning. With over 500 devices in use — including iPads, MacBooks, and Chromebooks — the school's aging Aerohive wireless infrastructure could no longer keep pace with modern educational demands.

A comprehensive pre-installation wireless survey conducted by RIPEDA Consulting revealed critical shortcomings across both floors of the building. The existing deployment of 21 Aerohive access points suffered from widespread coverage gaps, dead zones, and inadequate signal-to-noise ratios in key instructional areas.

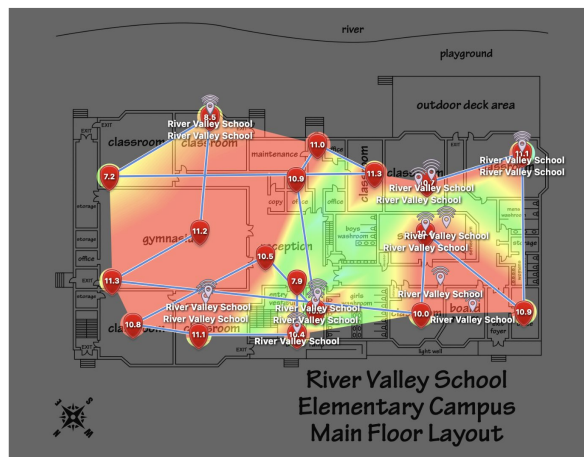
- ➕ Persistent Wi-Fi dead zones across both floors of the school
- ⓘ Inadequate throughput for 500+ simultaneously connected devices
- ✗ Poor signal-to-noise ratios disrupting classroom instruction
- ⓘ Aerohive equipment unable to support consistent 2.4 GHz and 5 GHz connections
- ✗ Unpredictable maintenance costs and frequent service disruptions

Visualization #2.1.8: Download speed

Zone and snapshot:
Upper
#1 Jan 28, 2022

Visualization settings:

Min download speed 0Mbps
Max download speed 10Mbps



Requirements: 0Mbps 5Mbps 10Mbps

Figure 2.1.8: Upper > #1 Jan 28, 2022 > Download speed

Pre-installation signal assessment. Areas in green and yellow indicate weaker signal coverage and dead zones under the legacy Aerohive deployment.

THE SOLUTION

A complete network transformation, built on three pillars



Ruckus Wireless

12 high-performance Ruckus access points with adaptive antenna technology replaced 21 Aerohive units.



Fortinet Switching

Managed PoE switches with VLAN segmentation and integrated Security Fabric protection.



FortiGate Firewall

Unified threat management purpose-built for K-12 educational environments.

METHODOLOGY

Survey, predict, validate

RIPEDA's approach followed a proven methodology: a detailed pre-installation wireless survey mapped every coverage gap and interference source, a wireless prediction plan optimized access point placement for maximum efficiency, and a post-installation validation survey confirmed that all performance targets were met or exceeded.



**Pre-Installation
Survey**



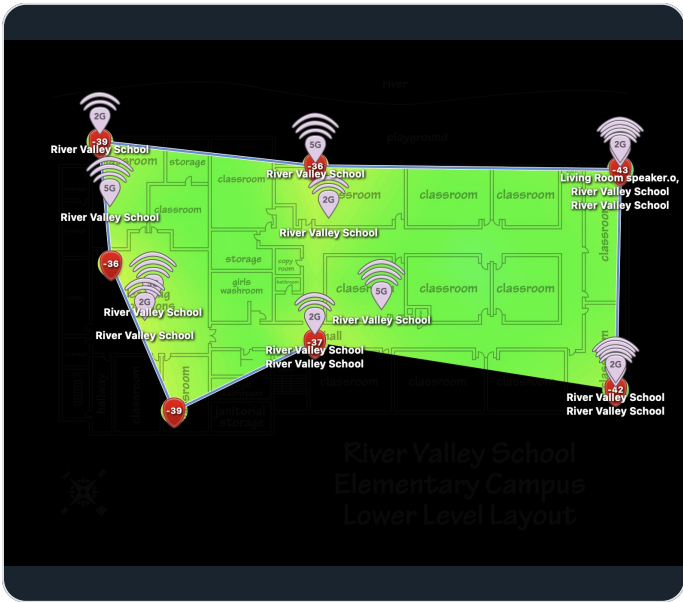
**Wireless Prediction
Plan**



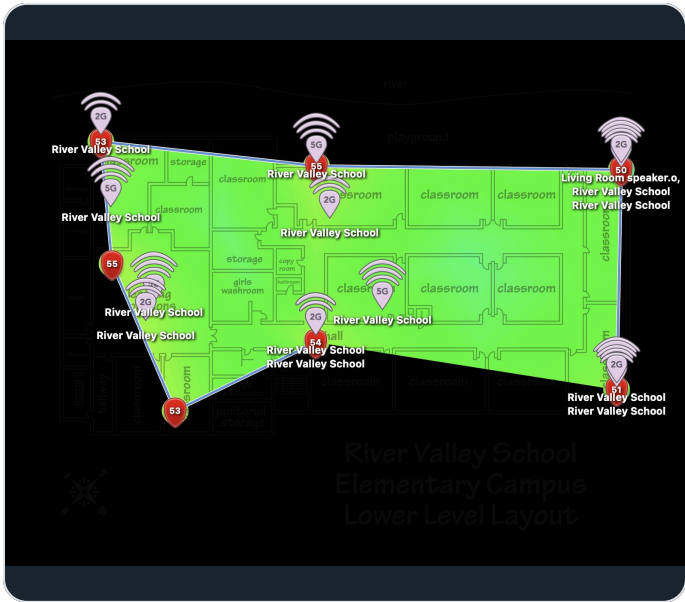
**Post-Installation
Validation**

Green, everywhere, on both floors

RIPEDA's post-installation validation survey confirmed dramatic improvements across every measured metric. The heatmaps below are the actual signal data from that survey — green coverage indicates strong, reliable signal levels throughout all instructional areas.



Lower Level — Signal Strength



Lower Level — Signal-to-Noise Ratio



Main Floor — Signal Strength



Main Floor — Signal-to-Noise Ratio

THE RESULTS

From dead zones to 42-55 dB, everywhere

METRIC	BEFORE	AFTER
Access points	21 Aerohive units	12 Ruckus APs
Wi-Fi dead zones	Numerous, across both floors	Completely eliminated
SNR performance	Poor / inconsistent	42-55 dB (excellent)
Device support	Unreliable for 500+ devices	Seamless for all devices
Frequency bands	Limited 2.4 GHz / 5 GHz	Full dual-band optimization
Network security	Basic wireless security	FortiGate UTM + Security Fabric

“With fewer access points delivering significantly better coverage, Ruckus and RIPEDA proved that smarter technology design always outperforms simply adding more hardware.”

River Valley School

RIPEDA Consulting is a Canadian IT services firm specializing in Apple IT solutions and enterprise networking for education, business, and government. As a Ruckus Big Dog Partner and Fortinet solutions provider, RIPEDA delivers complete, turnkey networking backed by proactive monitoring and all-inclusive managed service agreements.

