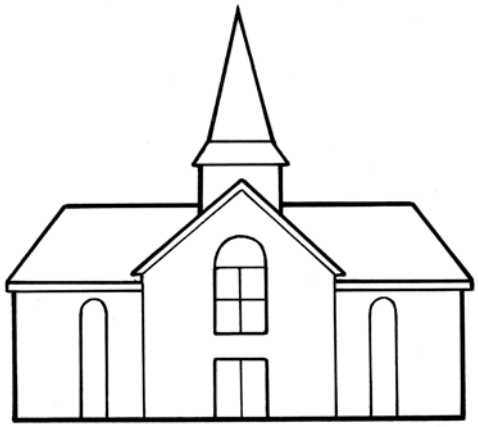
Westminster Institute AP Placement Report

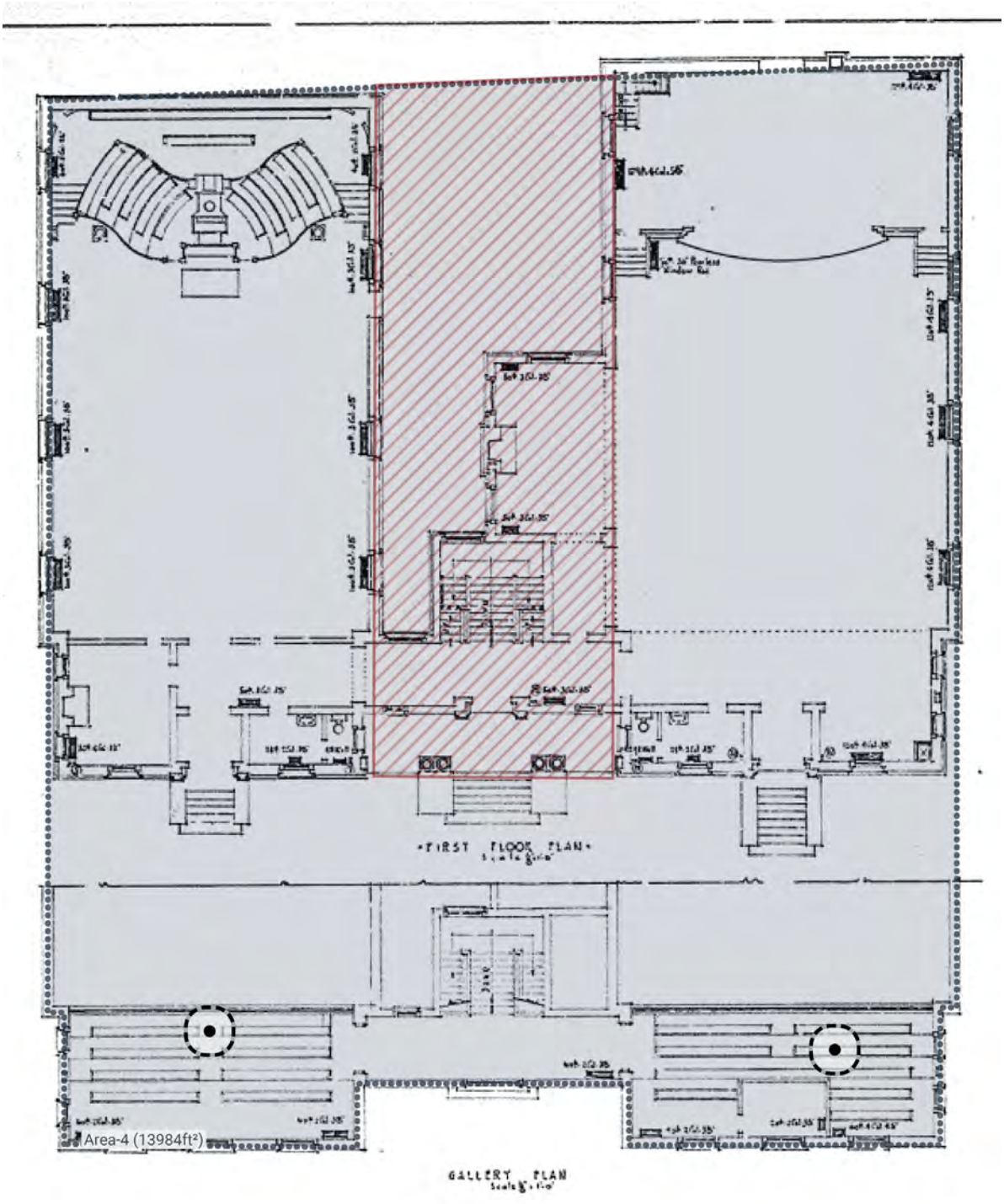


Completed by: **Jon Loutensock**
Completion Date: 09/02/2025

Project description
The AP placement and signal strength predictions are based on assumptions made for signal propagation through interior wall materials. Based on those assumptions there will be a greater margin of error between the prediction and what may be experienced. Interior wall material was set as hollow block (cinderblock). The only plans available to show complete floor plans and details were from 1924. Without measured attenuation and AP signal deviation measurements, the actual signal propagation will vary. The AP placement was made based on optimizing 5 GHz signals for primary signal strength. Secondary coverage was not a requirement. The C9172I access point is represented in this prediction. NOTE: The Gallery Level has an open view of both the Chapel and Cultural Hall areas. Some of the coverage for the Chapel and the Cultural Hall is leveraging the signal bleeding through from access points on the Lower Level and from the Gallery areas.

Westminster - Gallery Plan (overlooks the Chapel and Cultural Hall areas)

Survey routes and Access Points for Westminster - Gallery Plan



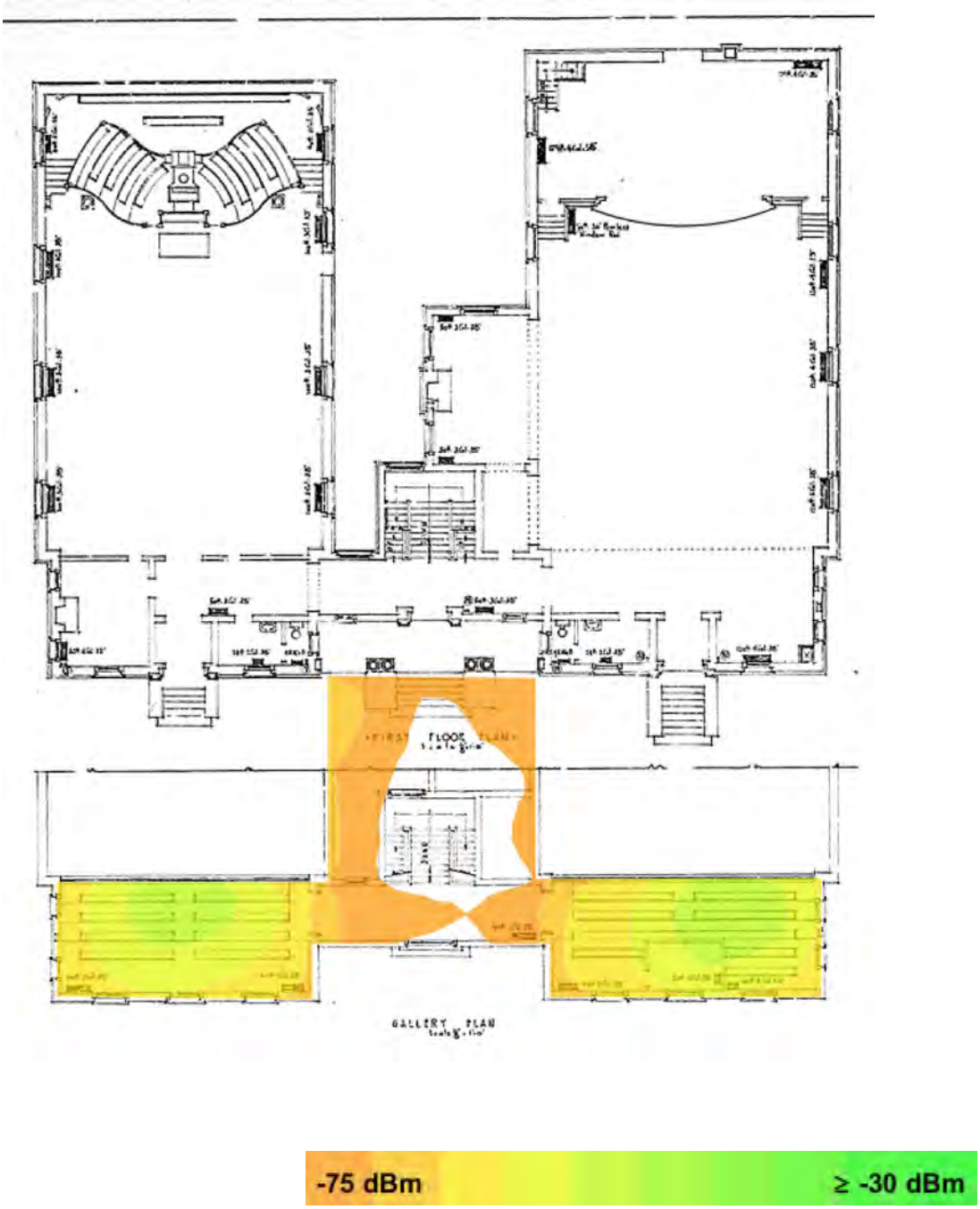
View as / Project Offset:	Mobile Device

Area-4 (2,834 ft²)

Coverage Requirement: **Ekahau Best Practices**		
2.4 GHz	Signal Strength Min	**-75.0 dBm**
	Signal-to-Noise Ratio Min	**20.0 dB**
	Data Rate Min	**24 Mbps**
	Channel Interference Max	**2 at min. -85.0 dBm**
	Round Trip Time (RTT) Max	**200 ms**
	Packet Loss Max	**0.0 %**
5 GHz	Signal Strength Min	**-75.0 dBm**
	Secondary Signal Strength Min	**-67.0 dBm**
	Signal-to-Noise Ratio Min	**25.0 dB**
	Data Rate Min	**24 Mbps**
	Channel Interference Max	**1 at min. -85.0 dBm**
	Round Trip Time (RTT) Max	**200 ms**
	Packet Loss Max	**0.0 %**
6 GHz	Signal Strength Min	**-75.0 dBm**
	Secondary Signal Strength Min	**-67.0 dBm**
	Signal-to-Noise Ratio Min	**25.0 dB**
	Data Rate Min	**24 Mbps**
	Channel Interference Max	**1 at min. -85.0 dBm**
	Round Trip Time (RTT) Max	**200 ms**
	Packet Loss Max	**0.0 %**
Capacity Requirement	No capacity devices for this area	
Notes		

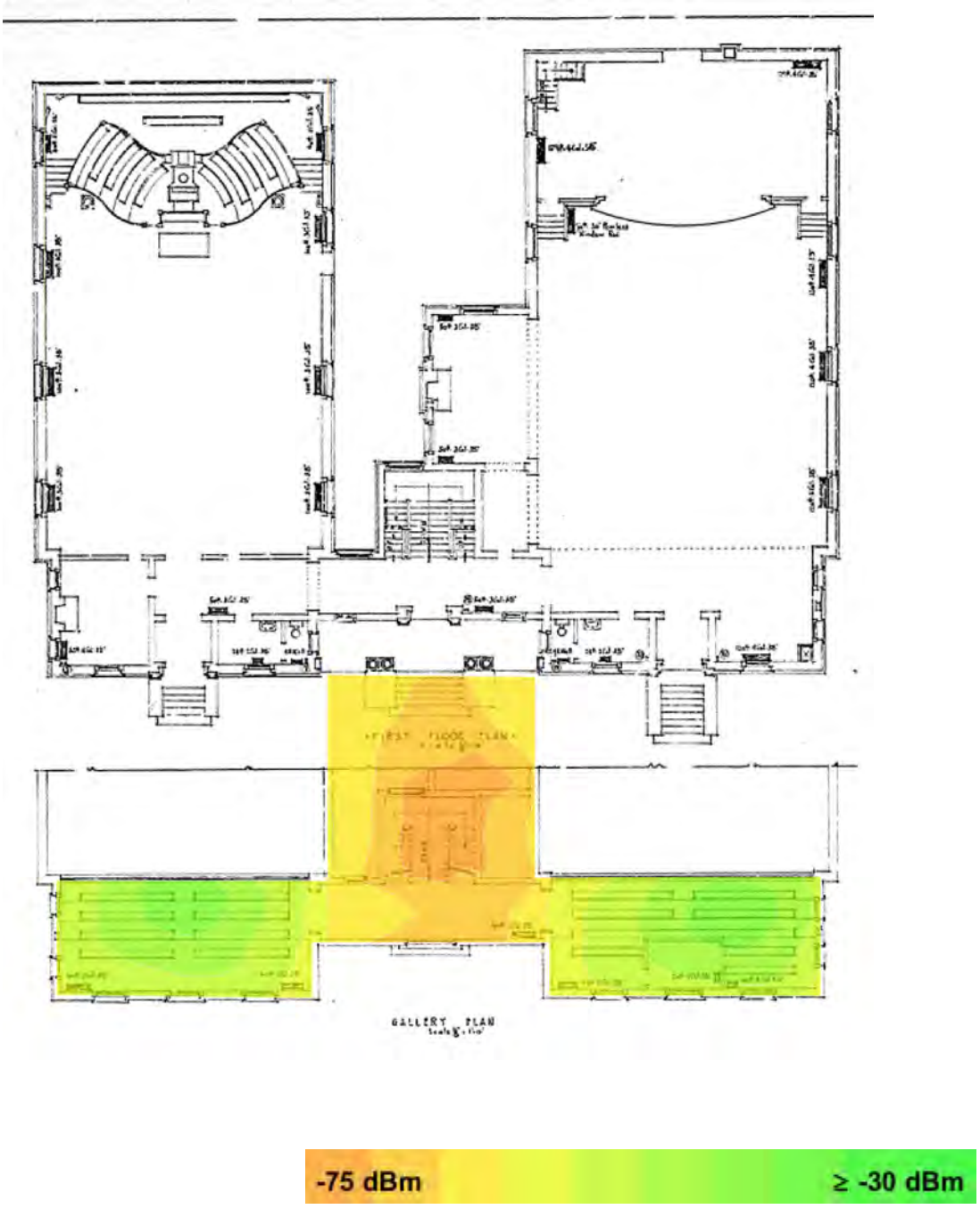
Signal Strength for Westminster - Gallery Plan on 2.4 GHz band

Signal Strength - sometimes called coverage - is the most basic requirement for a wireless network. As a general guideline, low signal strength means unreliable connections, and low data throughput.



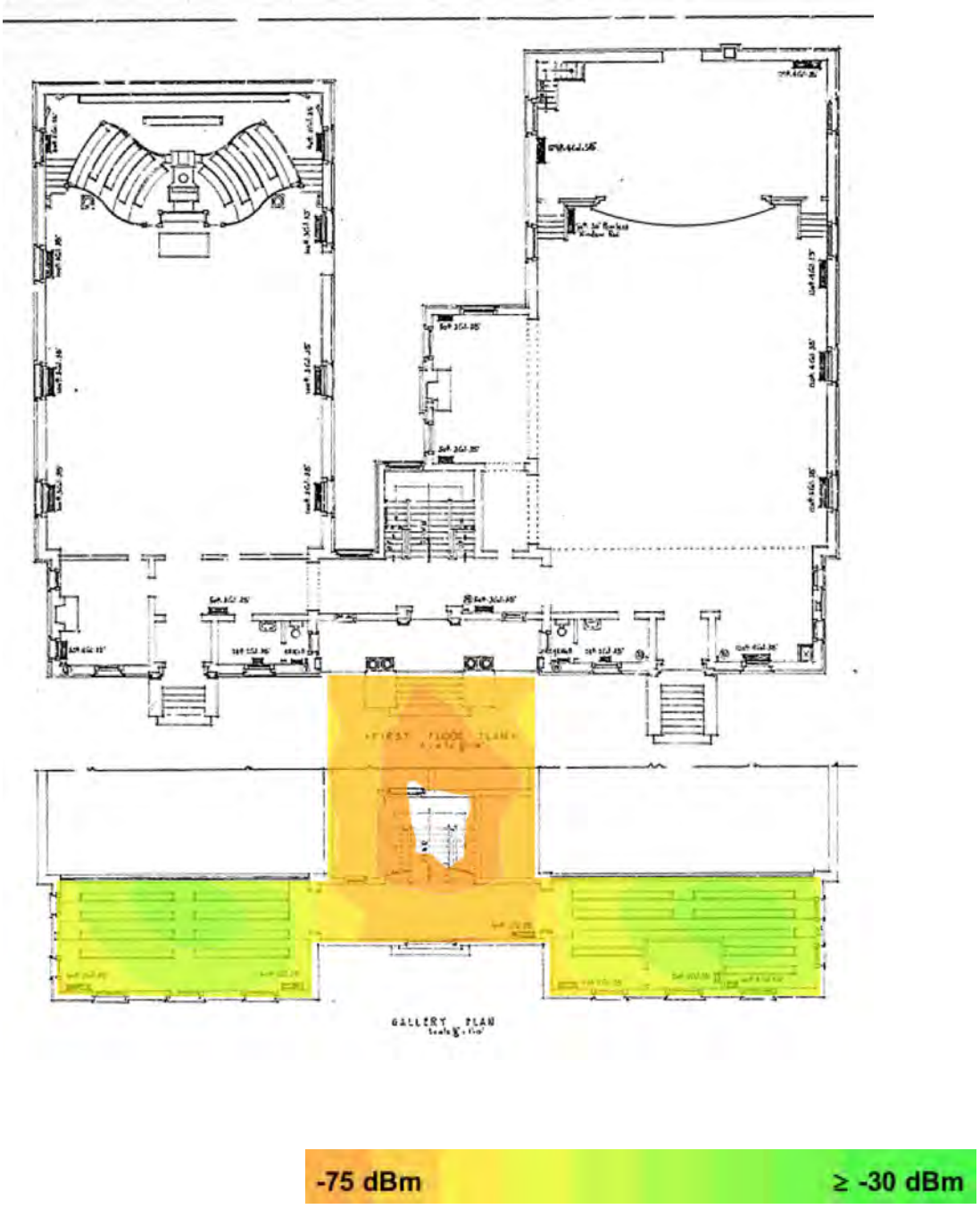
Signal Strength for Westminster - Gallery Plan on 5 GHz band

Signal Strength - sometimes called coverage - is the most basic requirement for a wireless network. As a general guideline, low signal strength means unreliable connections, and low data throughput.

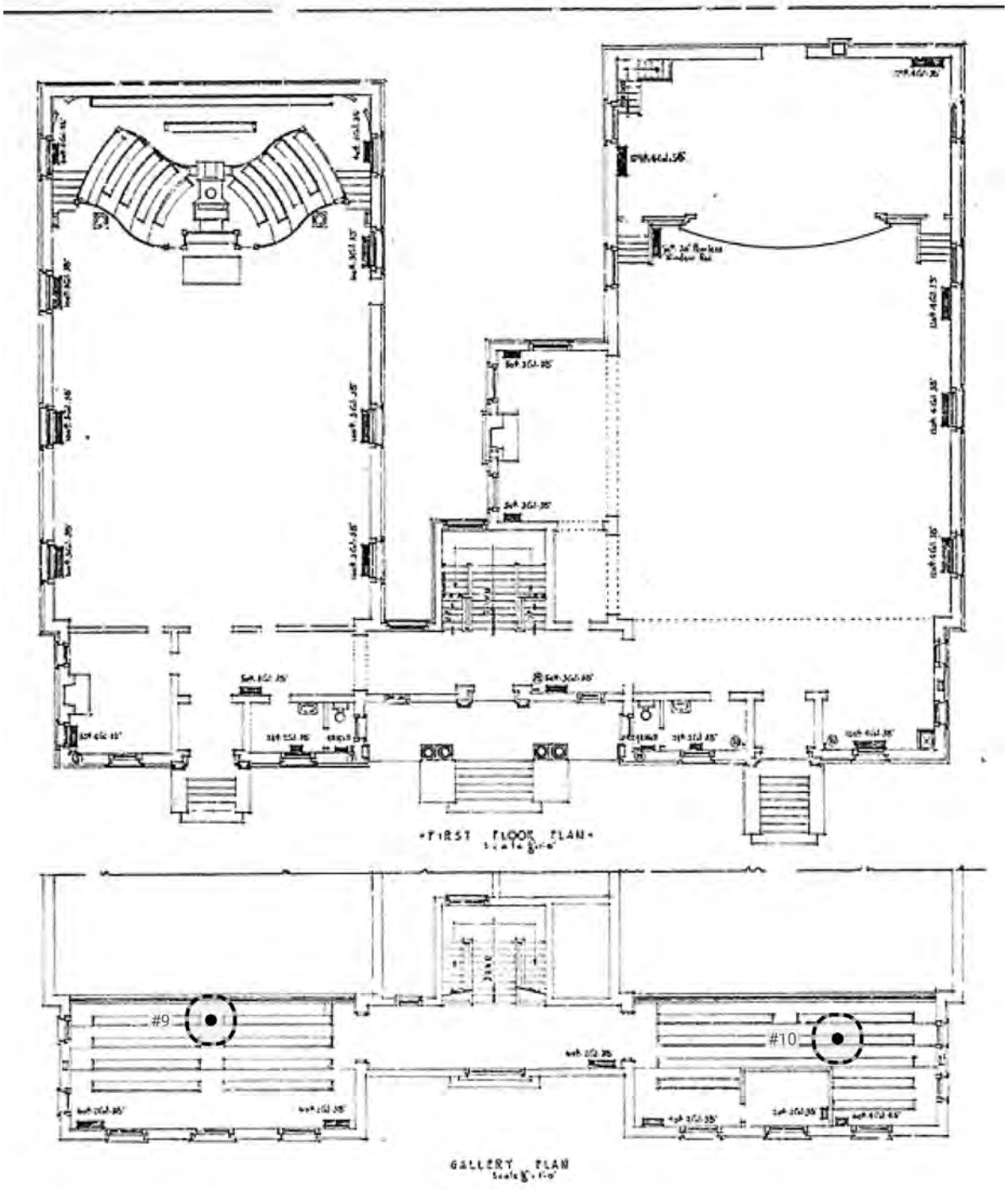


Signal Strength for Westminster - Gallery Plan on 6 GHz band

Signal Strength - sometimes called coverage - is the most basic requirement for a wireless network. As a general guideline, low signal strength means unreliable connections, and low data throughput.



Access Points on Westminster - Gallery Plan



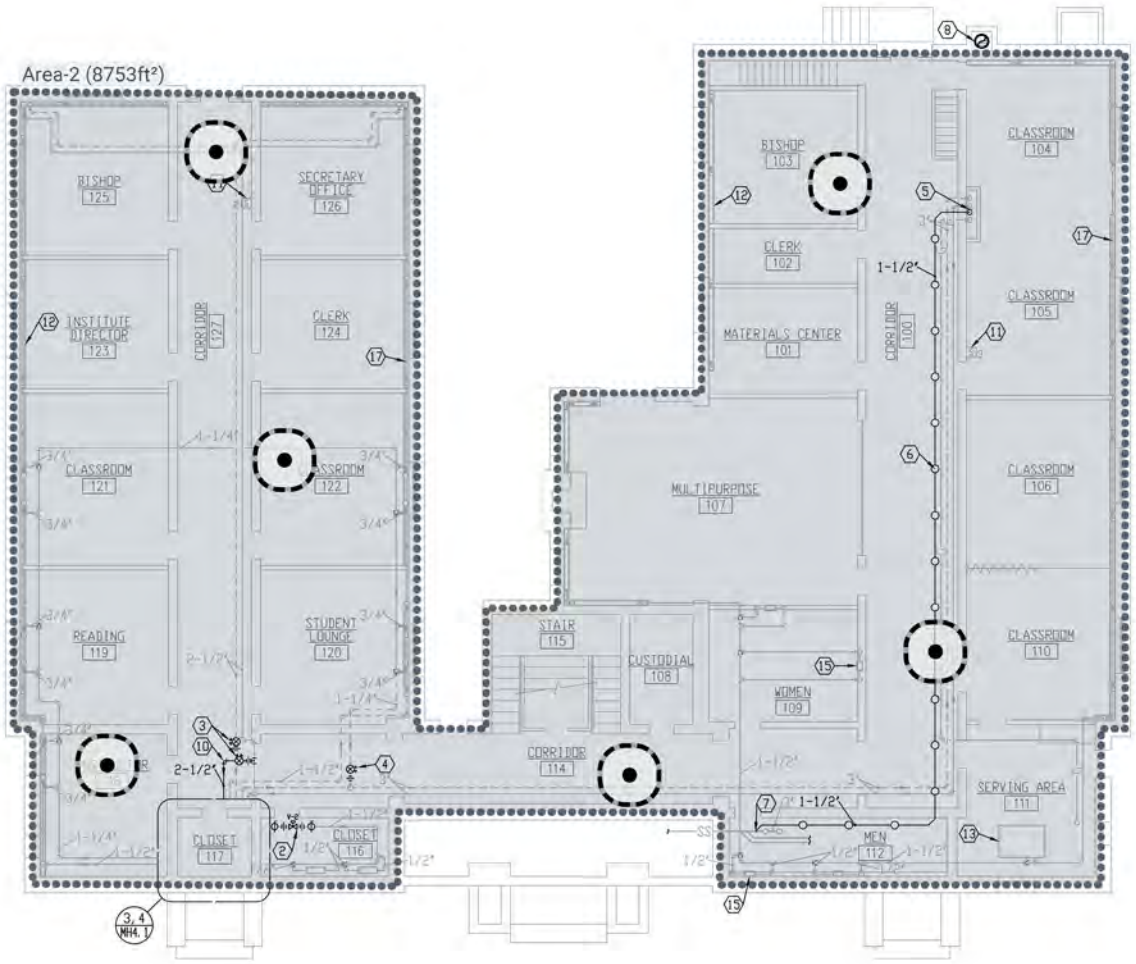
Access Points on Westminster - Gallery Plan

Simulated Access Points on Westminster - Gallery Plan

AP #	Access Point			
9	Simulated AP-009		Cisco CW9172I	
	Wi-Fi 7	1	8.0 dBm	Cisco CW9172I 2.4GHz
	Wi-Fi 7	36	14.0 dBm	Cisco CW9172I 5GHz
	Wi-Fi 7	1@80 (6 GHz)	14.0 dBm	Cisco CW9172I 6GHz
	Bluetooth	-	0.0 dBm	Cisco CW9172I BLE
10	Simulated AP-010		Cisco CW9172I	
	Wi-Fi 7	1	8.0 dBm	Cisco CW9172I 2.4GHz
	Wi-Fi 7	36	14.0 dBm	Cisco CW9172I 5GHz
	Wi-Fi 7	1@80 (6 GHz)	14.0 dBm	Cisco CW9172I 6GHz
	Bluetooth	-	0.0 dBm	Cisco CW9172I BLE

Westminster - Lower Level Floor Plan

Survey routes and Access Points for Westminster - Lower Level Floor Plan



View as / Project Offset:	Mobile Device

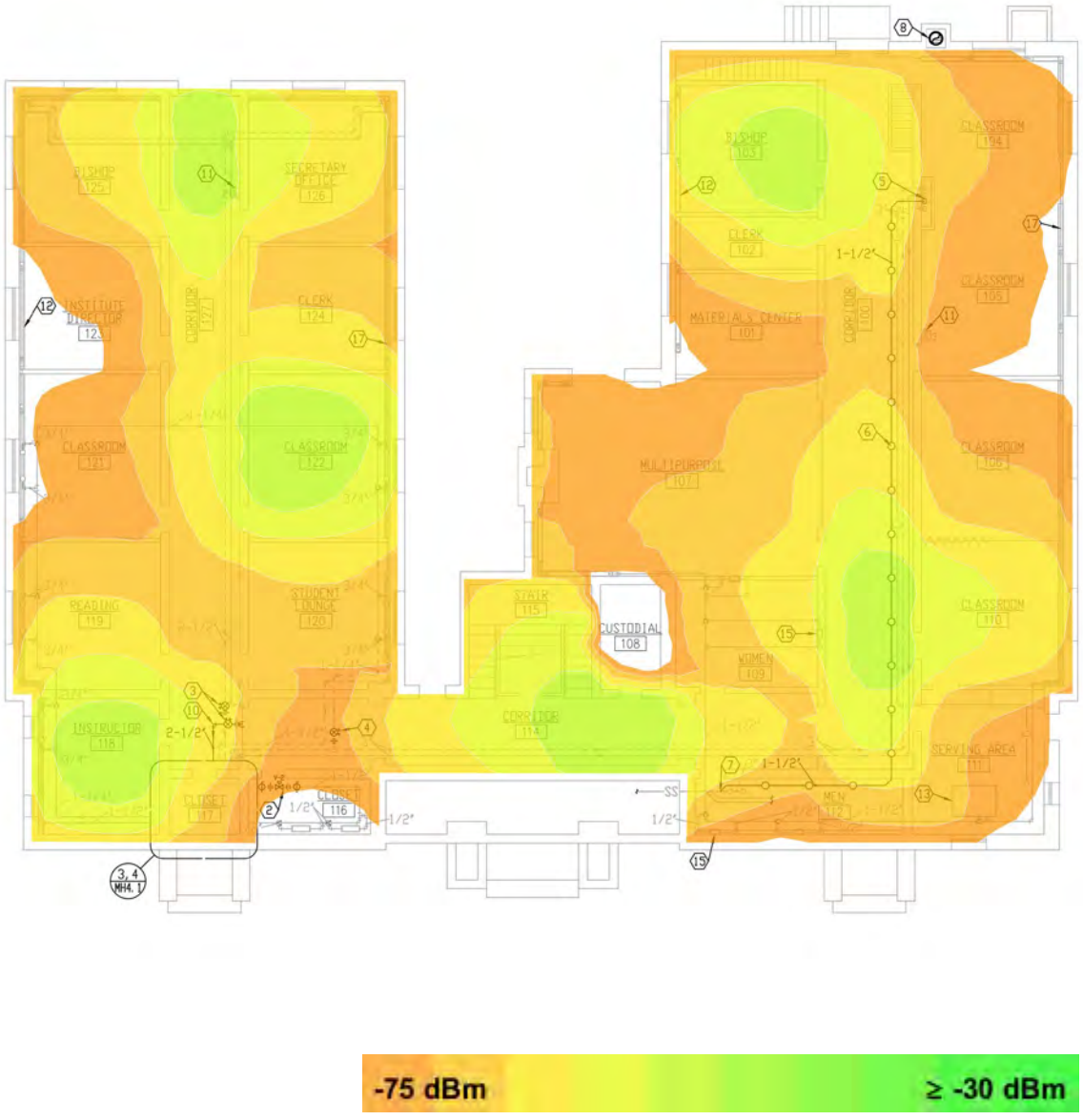
Area-2 (8,753 ft²)

Coverage Requirement: **Ekahau Best Practices**		
2.4 GHz	Signal Strength Min	**-75.0 dBm**
	Signal-to-Noise Ratio Min	**20.0 dB**
	Data Rate Min	**24 Mbps**
	Channel Interference Max	**2 at min. -85.0 dBm**
	Round Trip Time (RTT) Max	**200 ms**

	Packet Loss Max	**0.0 %**
5 GHz	Signal Strength Min	**-75.0 dBm**
	Secondary Signal Strength Min	**-67.0 dBm**
	Signal-to-Noise Ratio Min	**25.0 dB**
	Data Rate Min	**24 Mbps**
	Channel Interference Max	**1 at min. -85.0 dBm**
	Round Trip Time (RTT) Max	**200 ms**
	Packet Loss Max	**0.0 %**
6 GHz	Signal Strength Min	**-75.0 dBm**
	Secondary Signal Strength Min	**-67.0 dBm**
	Signal-to-Noise Ratio Min	**25.0 dB**
	Data Rate Min	**24 Mbps**
	Channel Interference Max	**1 at min. -85.0 dBm**
	Round Trip Time (RTT) Max	**200 ms**
	Packet Loss Max	**0.0 %**
Capacity Requirement	No capacity devices for this area	
Notes		

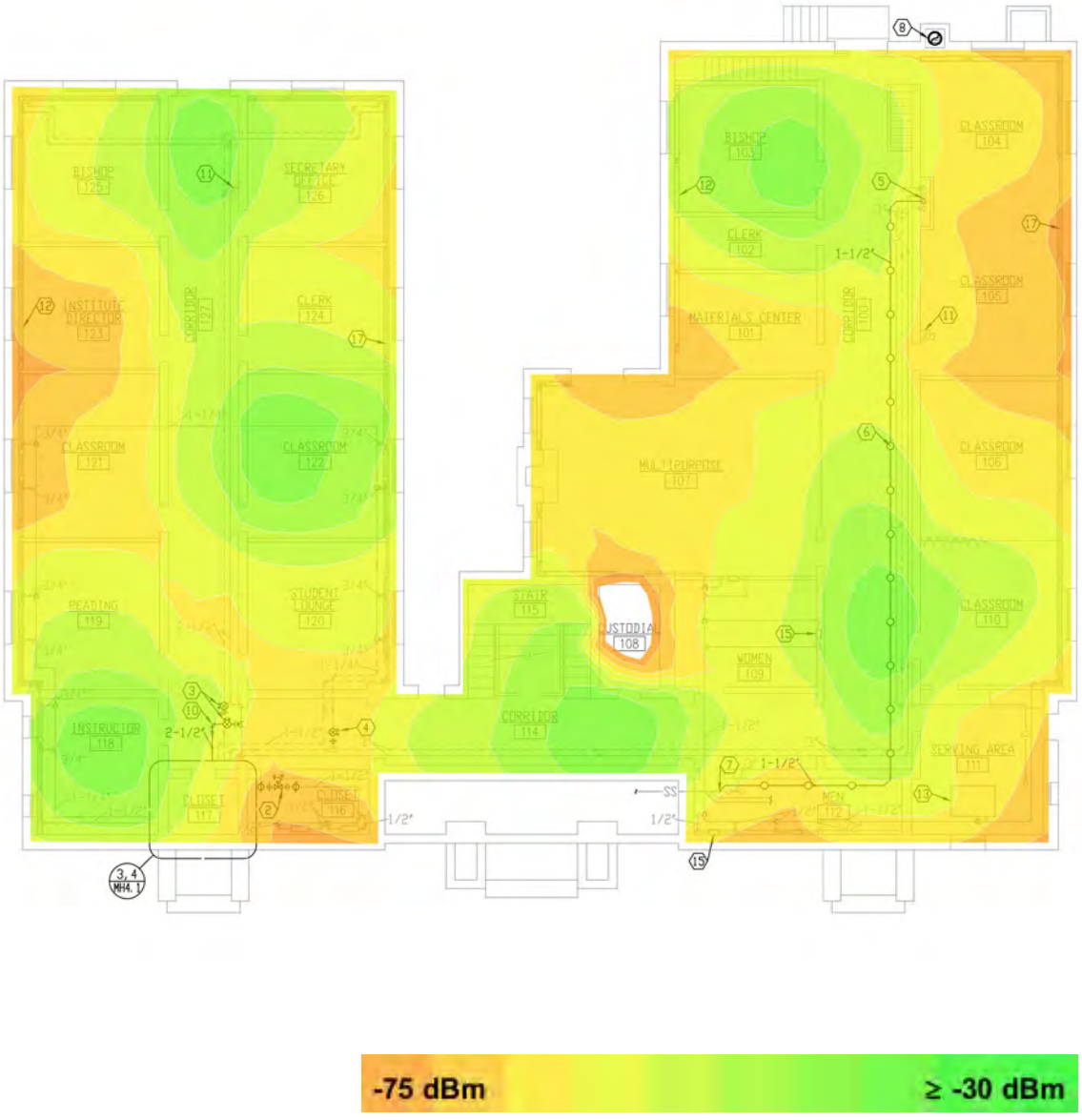
Signal Strength for Westminster - Lower Level Floor Plan on 2.4 GHz band

Signal Strength - sometimes called coverage - is the most basic requirement for a wireless network. As a general guideline, low signal strength means unreliable connections, and low data throughput.



Signal Strength for Westminster - Lower Level Floor Plan on 5 GHz band

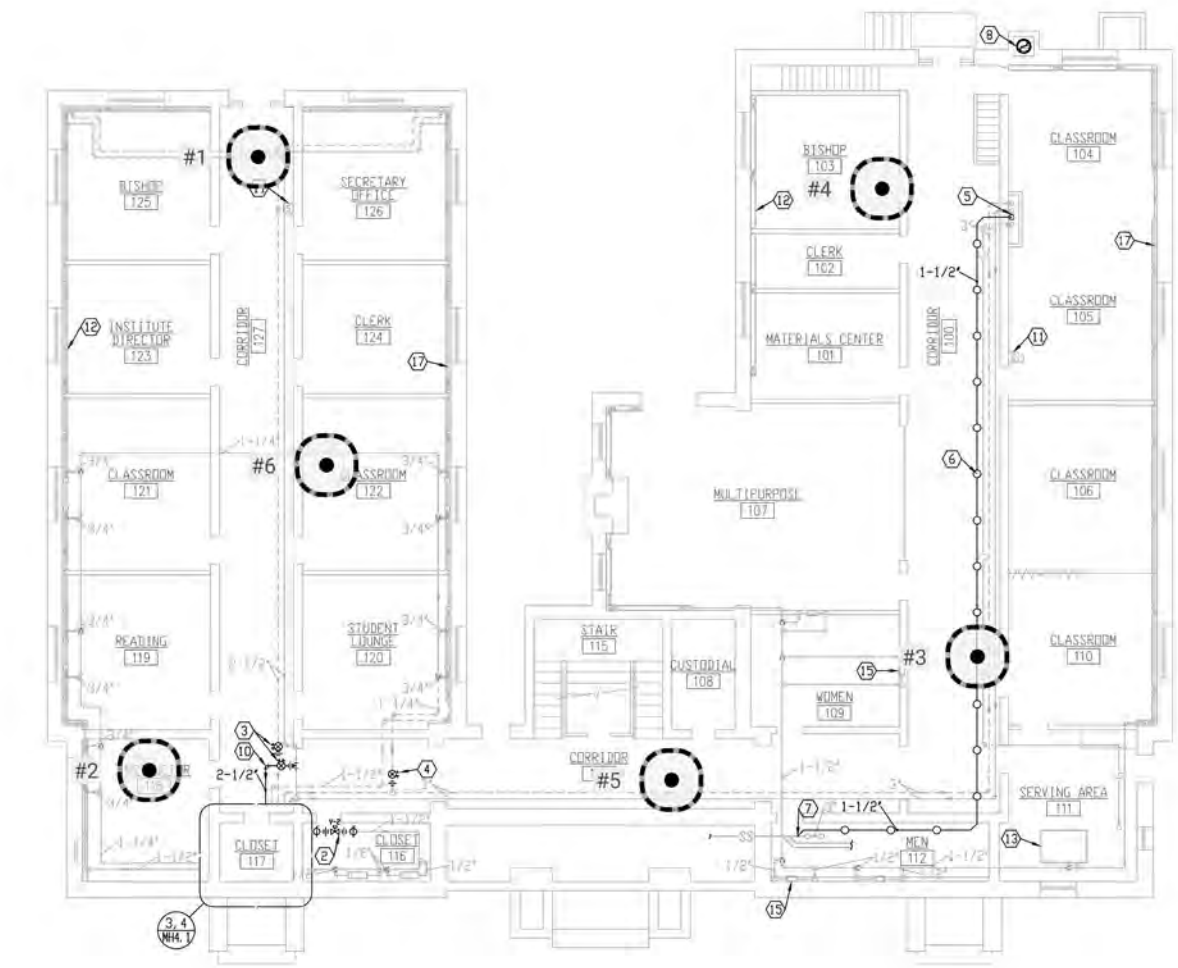
Signal Strength - sometimes called coverage - is the most basic requirement for a wireless network. As a general guideline, low signal strength means unreliable connections, and low data throughput.



Signal Strength for Westminster - Lower Level Floor Plan on 6 GHz band

Signal Strength - sometimes called coverage - is the most basic requirement for a wireless network. As a general guideline, low signal strength means unreliable connections, and low data throughput.

Access Points on Westminster - Lower Level Floor Plan



Access Points on Westminster - Lower Level Floor Plan

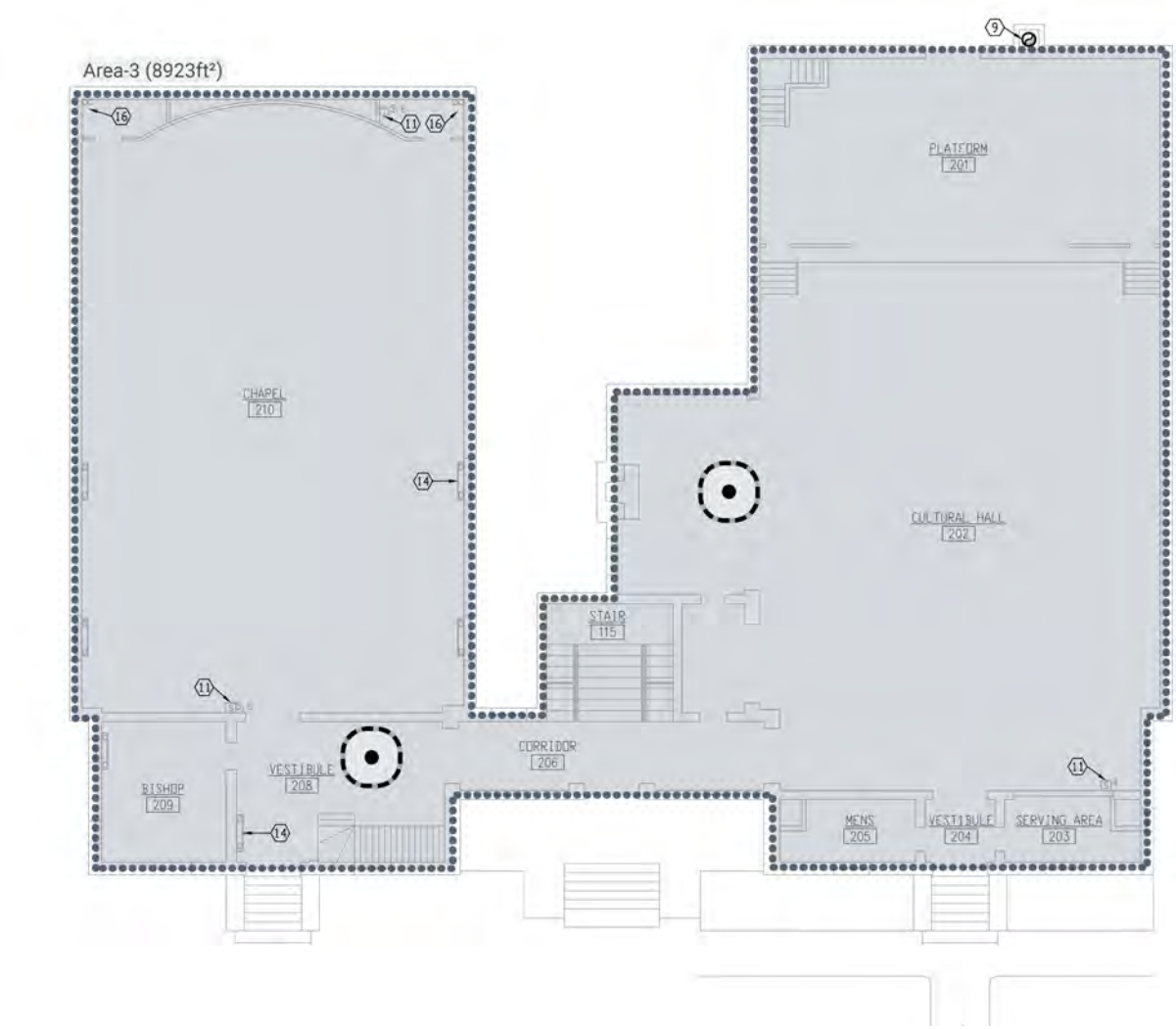
Simulated Access Points on Westminster - Lower Level Floor Plan

AP #	Access Point			
1	Simulated AP-001		Cisco CW9172I	
	Wi-Fi 7	1	8.0 dBm	Cisco CW9172I 2.4GHz
	Wi-Fi 7	36	14.0 dBm	Cisco CW9172I 5GHz
	Wi-Fi 7	1@80 (6 GHz)	14.0 dBm	Cisco CW9172I 6GHz
	Bluetooth	-	0.0 dBm	Cisco CW9172I BLE

2	Simulated AP-002		Cisco CW9172I	
	Wi-Fi 7	1	8.0 dBm	Cisco CW9172I 2.4GHz
	Wi-Fi 7	36	14.0 dBm	Cisco CW9172I 5GHz
	Wi-Fi 7	1@80 (6 GHz)	14.0 dBm	Cisco CW9172I 6GHz
	Bluetooth	-	0.0 dBm	Cisco CW9172I BLE
3	Simulated AP-003		Cisco CW9172I	
	Wi-Fi 7	1	8.0 dBm	Cisco CW9172I 2.4GHz
	Wi-Fi 7	36	14.0 dBm	Cisco CW9172I 5GHz
	Wi-Fi 7	1@80 (6 GHz)	14.0 dBm	Cisco CW9172I 6GHz
	Bluetooth	-	0.0 dBm	Cisco CW9172I BLE
4	Simulated AP-004		Cisco CW9172I	
	Wi-Fi 7	1	8.0 dBm	Cisco CW9172I 2.4GHz
	Wi-Fi 7	36	14.0 dBm	Cisco CW9172I 5GHz
	Wi-Fi 7	1@80 (6 GHz)	14.0 dBm	Cisco CW9172I 6GHz
	Bluetooth	-	0.0 dBm	Cisco CW9172I BLE
5	Simulated AP-007		Cisco CW9172I	
	Wi-Fi 7	1	8.0 dBm	Cisco CW9172I 2.4GHz
	Wi-Fi 7	36	14.0 dBm	Cisco CW9172I 5GHz
	Wi-Fi 7	1@80 (6 GHz)	14.0 dBm	Cisco CW9172I 6GHz
	Bluetooth	-	0.0 dBm	Cisco CW9172I BLE
6	Simulated AP-008		Cisco CW9172I	
	Wi-Fi 7	1	8.0 dBm	Cisco CW9172I 2.4GHz
	Wi-Fi 7	36	14.0 dBm	Cisco CW9172I 5GHz
	Wi-Fi 7	1@80 (6 GHz)	14.0 dBm	Cisco CW9172I 6GHz
	Bluetooth	-	0.0 dBm	Cisco CW9172I BLE

Westminster - Main Level Floor Plan

Survey routes and Access Points for Westminster - Main Level Floor Plan



View as / Project Offset:	Mobile Device

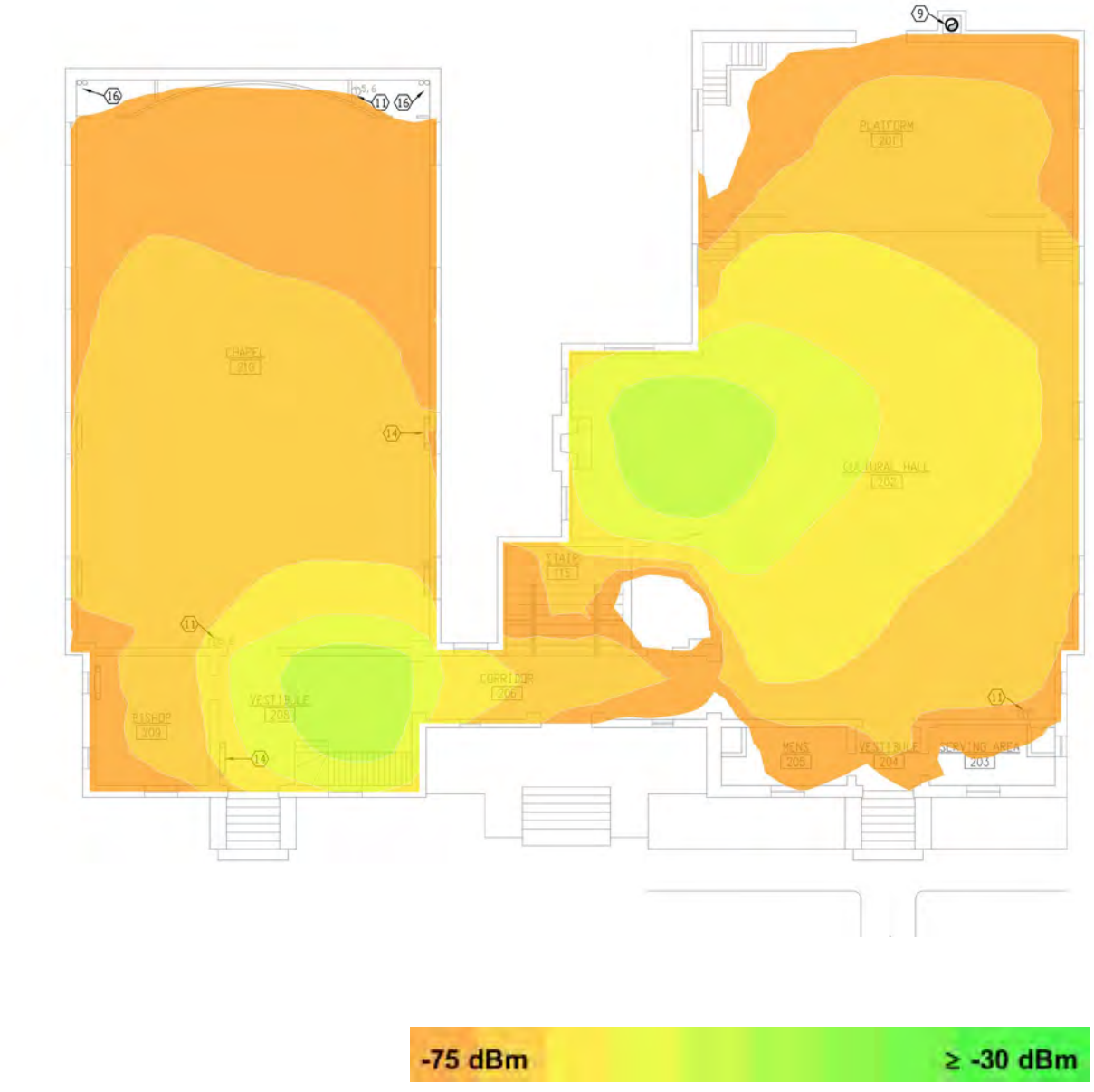
Area-3 (8,923 ft²)

Coverage Requirement: **Ekahau Best Practices**		
2.4 GHz	Signal Strength Min	**-75.0 dBm**
	Signal-to-Noise Ratio Min	**20.0 dB**
	Data Rate Min	**24 Mbps**
	Channel Interference Max	**2 at min. -85.0 dBm**

	Round Trip Time (RTT) Max	**200 ms**
	Packet Loss Max	**0.0 %**
5 GHz	Signal Strength Min	**-75.0 dBm**
	Secondary Signal Strength Min	**-67.0 dBm**
	Signal-to-Noise Ratio Min	**25.0 dB**
	Data Rate Min	**24 Mbps**
	Channel Interference Max	**1 at min. -85.0 dBm**
	Round Trip Time (RTT) Max	**200 ms**
	Packet Loss Max	**0.0 %**
6 GHz	Signal Strength Min	**-75.0 dBm**
	Secondary Signal Strength Min	**-67.0 dBm**
	Signal-to-Noise Ratio Min	**25.0 dB**
	Data Rate Min	**24 Mbps**
	Channel Interference Max	**1 at min. -85.0 dBm**
	Round Trip Time (RTT) Max	**200 ms**
	Packet Loss Max	**0.0 %**
Capacity Requirement	No capacity devices for this area	
Notes		

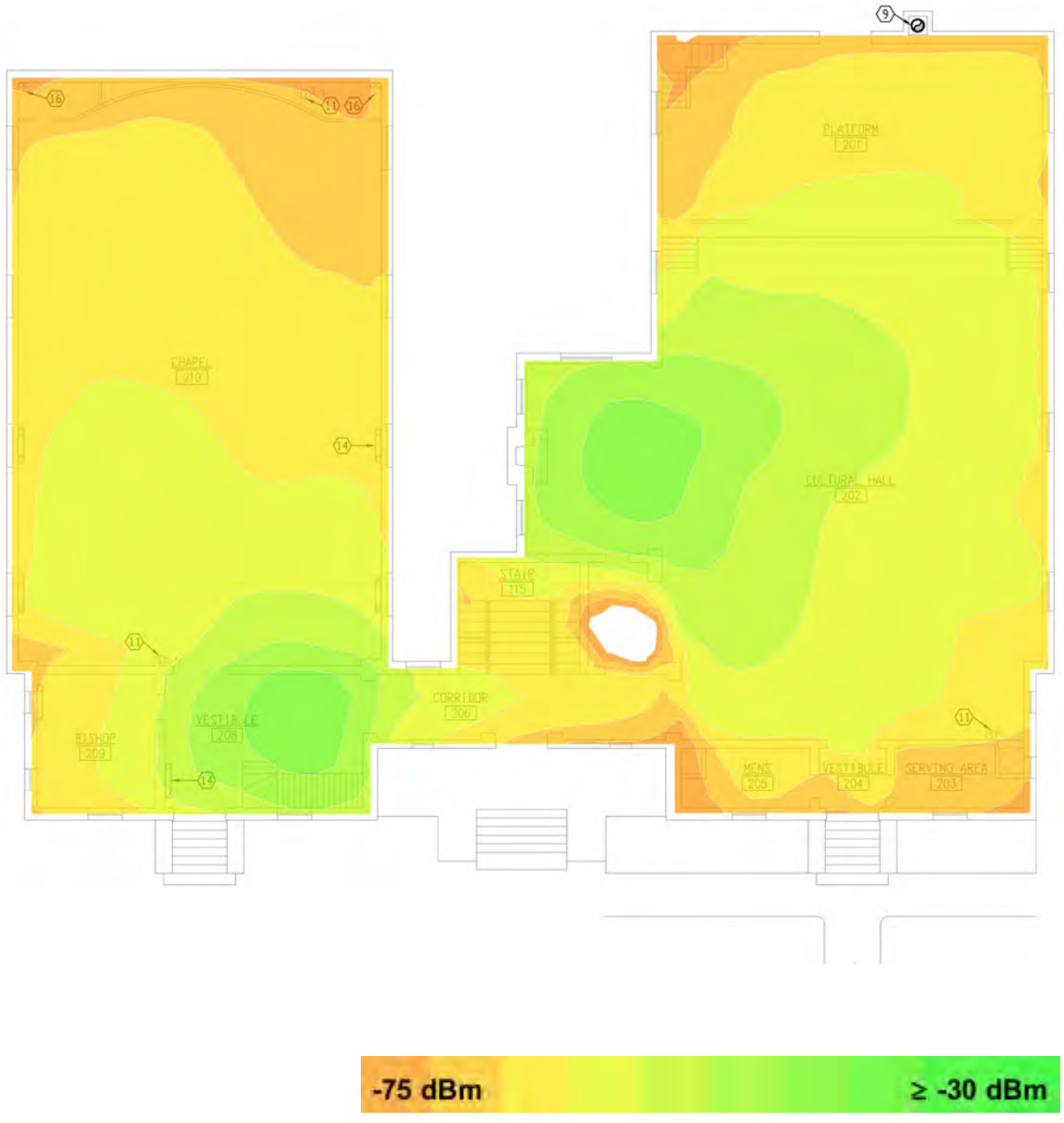
Signal Strength for Westminster - Main Level Floor Plan on 2.4 GHz band

Signal Strength - sometimes called coverage - is the most basic requirement for a wireless network. As a general guideline, low signal strength means unreliable connections, and low data throughput.



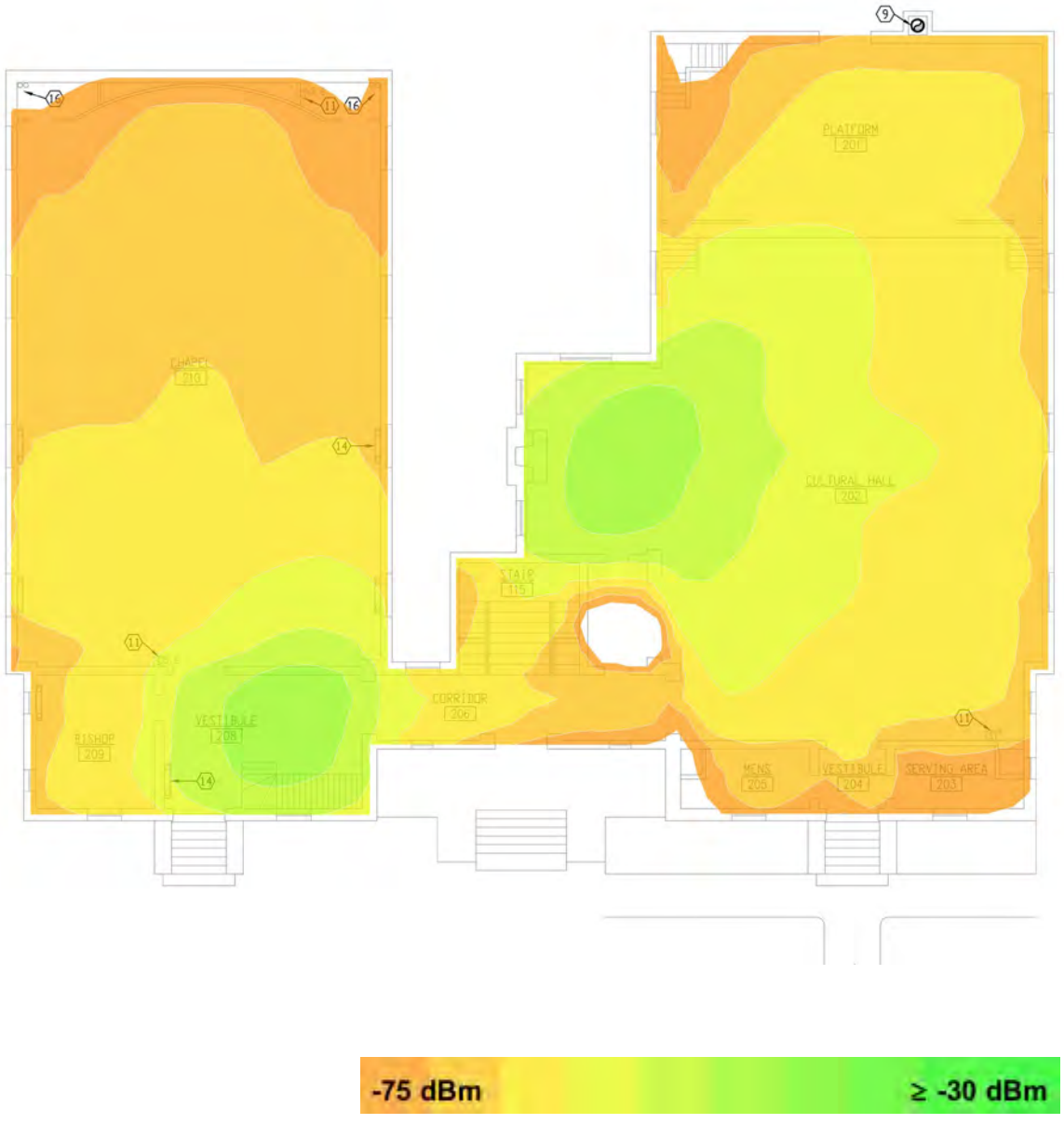
Signal Strength for Westminster - Main Level Floor Plan on 5 GHz band

Signal Strength - sometimes called coverage - is the most basic requirement for a wireless network. As a general guideline, low signal strength means unreliable connections, and low data throughput.

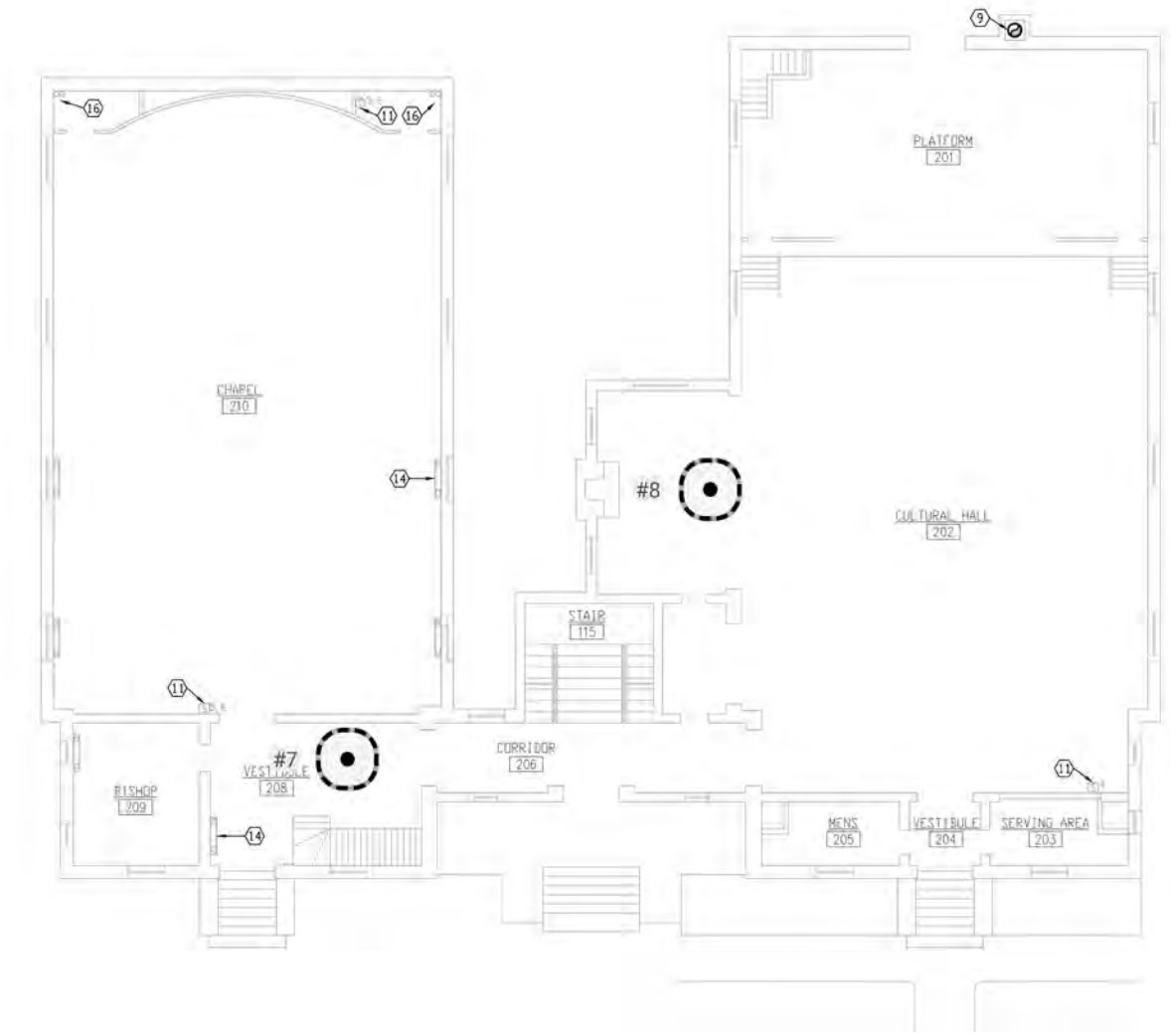


Signal Strength for Westminster - Main Level Floor Plan on 6 GHz band

Signal Strength - sometimes called coverage - is the most basic requirement for a wireless network. As a general guideline, low signal strength means unreliable connections, and low data throughput.



Access Points on Westminster - Main Level Floor Plan



Access Points on Westminster - Main Level Floor Plan

Simulated Access Points on Westminster - Main Level Floor Plan

AP #	Access Point			
7	Simulated AP-005		Cisco CW9172I	
	Wi-Fi 7	1	8.0 dBm	Cisco CW9172I 2.4GHz
	Wi-Fi 7	36	14.0 dBm	Cisco CW9172I 5GHz
	Wi-Fi 7	1@80 (6 GHz)	14.0 dBm	Cisco CW9172I 6GHz
	Bluetooth	-	0.0 dBm	Cisco CW9172I BLE
8	Simulated AP-006		Cisco CW9172I	
	Wi-Fi 7	1	8.0 dBm	Cisco CW9172I 2.4GHz
	Wi-Fi 7	36	14.0 dBm	Cisco CW9172I 5GHz
	Wi-Fi 7	1@80 (6 GHz)	14.0 dBm	Cisco CW9172I 6GHz
	Bluetooth	-	0.0 dBm	Cisco CW9172I BLE