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# Wiring Constant Hall

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# Overview

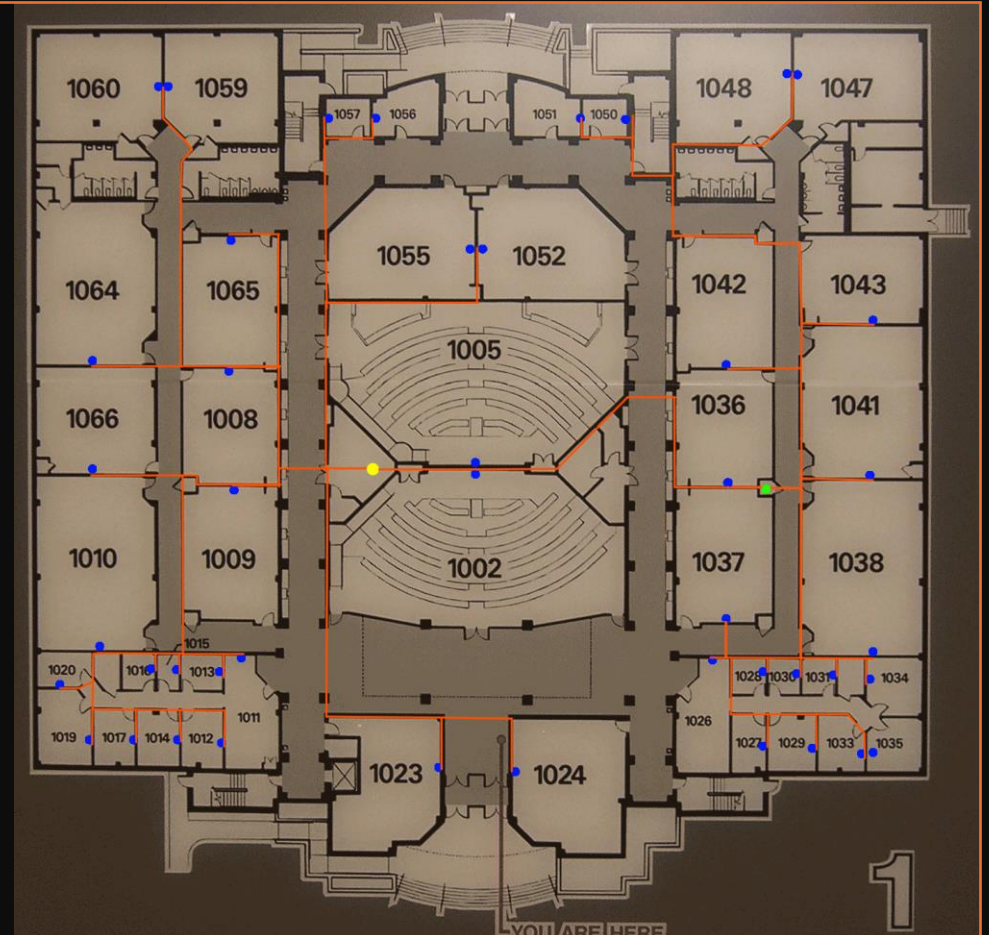
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To estimate the total amount of Cat 5e cable needed to rewire Constant Hall, I took into account both horizontal cable runs and the 3-meter ceiling height required for vertical cabling, along with additional connections between the telecom closets and main equipment rooms on each floor. Using a scale of 1 inch = 10 meters, I calculated the longest and shortest cable runs on each floor, then added 3 meters to account for the ceiling height. On the first floor, the longest run, including ceiling height, measured 81 meters, and the shortest run was 6.75 meters, giving an average run length of 43 meters. On the second floor, the longest run was 78 meters and the shortest was 10.5 meters, resulting in an average length of 44 meters. In combining both floors, I estimated a total cable requirement of around 16,780 meters. This approach provides proper coverage for the building and ensures that all connections meet Cat 5e standards.

# The First floor

For the first floor, with 44 rooms each requiring two cables, I calculated a total of 88 cables, each with an average length of 43.875 meters, totaling approximately 3,860 meters. I also factored in two additional cables running from the first-floor telecom closet to the main equipment room, adding 87.75 meters, which brought the total for the first floor to about 3,947 meters.

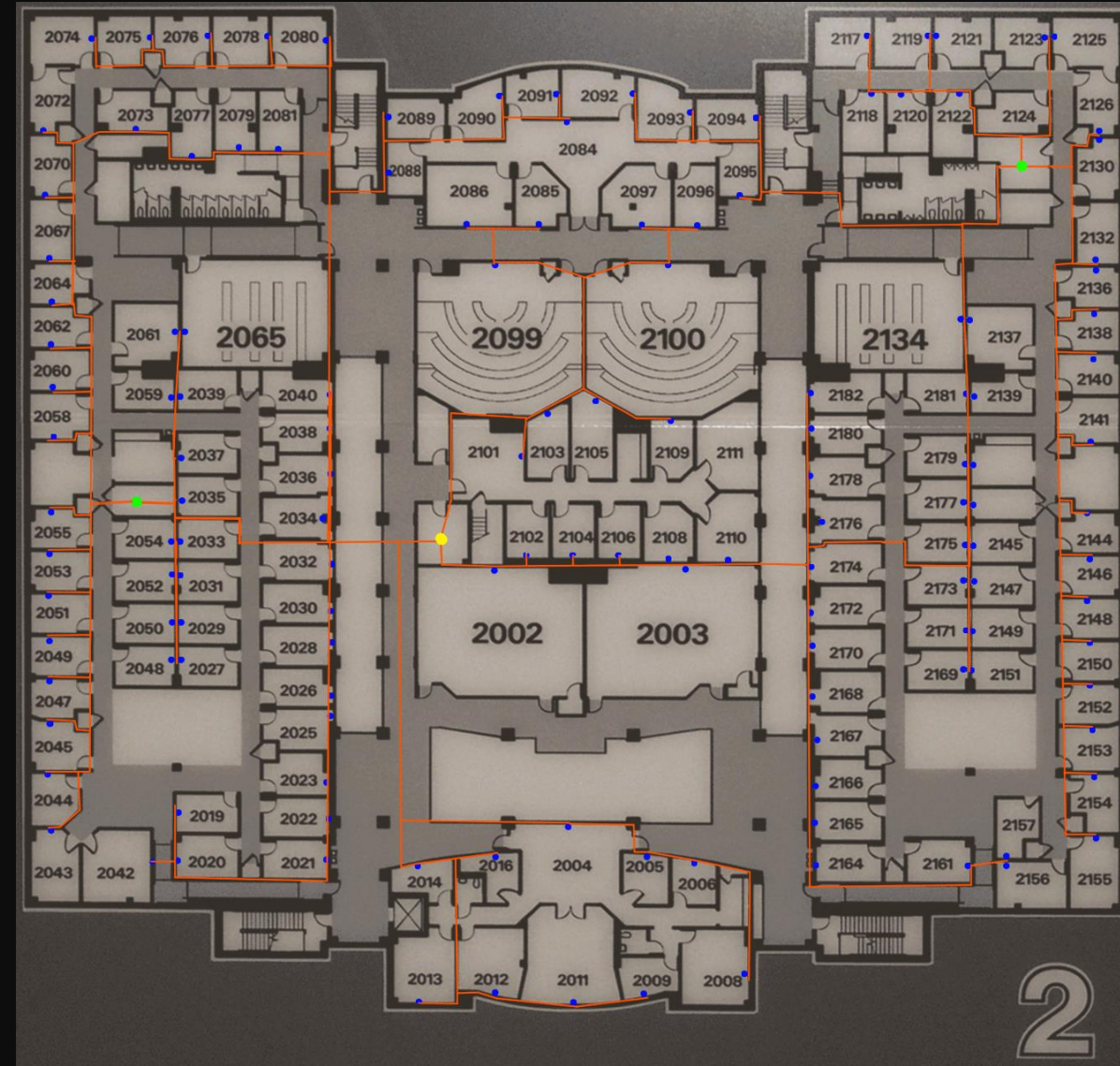
- Blue dots are outlets
- Yellow dots is the equipment room
- Green dots are the telecom closets
- Orange is the wires



# The Second floor

For the second floor, which has 143 rooms requiring two cables per room, I calculated a total of 286 cables, each with an average length of 44.25 meters, resulting in approximately 12,655 meters of cable. With four additional cables between the second-floor telecom closets and the main equipment room, adding 177 meters, the total for the second floor was about 12,832 meters.

- Blue dots are outlets
- Yellow dots is the equipment room
- Green dots are the telecom closets
- Orange is the wires



# Resources needed

| Item                        | Price   | Amount | Total          |
|-----------------------------|---------|--------|----------------|
| <u>Cat5 1000ft</u>          | \$64.49 | 56     | \$3,611        |
| <u>48-port patch panels</u> | \$26.11 | 10     | \$261          |
| <u>Outlets</u>              | \$15.49 | 187    | \$2,897        |
| <b>TOTAL</b>                |         |        | <b>\$6,769</b> |