Electrical Systems Rules of Thumb:

1. Electrical Room Requirements
   a. On larger facilities, the main room typically needs two doors, one at each end of room (not double doors at one location).
   b. Doors must open in the direction of egress from the room.
   c. Doors must have panic hardware.
   d. Rated Construction: It is not typical that this room be required to have a 1 hour rating. If the electrical engineer needs a large transformer (a transformer with a rating over 112.5KVA) in this room, they should notify the Architect that the room will be required to have a 1 hour rating due to the National Electrical Code requirements.

2. Electrical Room Sizing for Typical Facilities (recreation centers, multi-family, general commercial)

<table>
<thead>
<tr>
<th>Size of Facility</th>
<th>Main Elec Room</th>
<th>Remote Elec Rooms Rqd?</th>
<th>Remote Elec Room Size</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20,000 sf, one level</td>
<td>10’ x 20’</td>
<td>Typically not</td>
<td>N/A</td>
<td>(1)</td>
</tr>
<tr>
<td>20,000 – 40,000 sf multi-levels</td>
<td>15’ x 20’</td>
<td>One on main level and one per 20,000 sf on upper level(s)</td>
<td>8’ x 10’ each</td>
<td>(1)</td>
</tr>
<tr>
<td>+40,000 sf</td>
<td>15’ x 20’</td>
<td>On each level, one per 20,000 sf and space 200’ apart</td>
<td>8’ x 10’ each</td>
<td>(1)</td>
</tr>
</tbody>
</table>

(1) Additional remote electrical rooms should be considered for buildings with distinct space layouts which may benefit from additional localized distribution equipment. (i.e. An individual wing of building that is separated from the main building by multi-story open atrium).

3. Exterior Service Transformer (note that all specific electrical utility transformer requirements are to be coordinated with the local utility engineer for the project as most utility companies vary their requirements)
   a. Less expensive if transformer is located near electrical room.
   b. For medium to large facilities anticipate 8’x 8’ pad size.
   c. Provide 36” clear around three sides, and 12’ of clearance on front side.
   d. Typically drive up access is required for the utility company.
   e. It is desirable to locate the electrical room on an exterior wall, near the final utility transformer location.

4. Phone/data Rooms
   a. Typically at least one per level of any building type. Cable can be routed 300’ from device to room, so additional rooms would be required for buildings longer than 300’ in any direction.
   b. Room sizes vary based upon the IT department’s needs, but anticipate 10’x 10’ for main telephone rooms and 6’x 6’ for remote rooms.

5. Walls throughout the facility containing recessed electrical panelboards should be a minimum of 6” deep.