

Fit in a Fitness Center

By Robert N. Roop, P.E.,
Lockatong Engineering, Inc.



Your fitness center is crowded, or maybe the association board has decided that owners should have improved amenities. In either case, it's time to repurpose some existing interior space or build something new to accommodate fitness equipment. For purposes of this article, we will assume shower, bathrooms and changing areas already exist in the building or are not in the scope of the project.

First, you need to determine what type of equipment and how many pieces you want to install. If you have identified a location to repurpose, existing building drawings could help to provide measurements of the space and the capacity of heating, cooling, and ventilating systems already installed. With the dimensions in hand, you could begin a preliminary discussion with a representative of a fitness equipment supplier. Find out the type of equipment suitable for the demographics of your association population. The equipment representative can provide recommendations on type and number of pieces of equipment, a preliminary layout and an equipment budget. Be careful to not crowd too much into a space. Owners will not appreciate having to squeeze through narrow spaces to move around the fitness center.

Once the equipment is identified, you can start to determine how the space will need to be modified to support the new use. Here is where you will need professional help from an architect or engineer. Start with the structure. Code specified floor live loading for the existing floor could be as little as 40 pounds per square foot. For fitness equipment, plan on floor loading to be 100 pounds per square foot. Spaces above basements, and spaces on higher floors, may well require structural modifications. Since those modifications will be expensive, the proposed project may become cost prohibitive. Increasing floor loading capacity can be accomplished by adding floor joists, but that becomes difficult if there is plumbing or HVAC ducts in the way. The easiest locations to make structural improvements are over an unfinished basement. Better still, look for a location where the floor is a slab on grade.

Next to consider is HVAC. If an existing space is proposed for use, its installed ventilation may not be suitable. The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) publishes standards for ventilation for different occupancies. An office space recommended fresh air rate is 5 cubic feet per minute per

CONTINUES ON PAGE 42

FITNESS CENTER...

from page 40.

person. For a health club/aerobics or weight room, it's 20 cubic feet per minute per person. More outside air may very well be required in a converted space. Heating and cooling which requires substantially greater air volume could be beyond the capacity

of the existing air handlers. Then, there is humidity. Let's face it, sweaty bodies put a lot more water into the air than quiet ones. Occupied space relative humidity is recommended to be less than 65%. The cooling system must be designed appropriately to remove that water. Installing a new HVAC system dedicated to the new fitness center might be better than trying

to modify the existing HVAC system

What is the adjacent occupancy to the proposed fitness center? Will the sound of equipment next door impact them? Soundproofing is important. Fortunately, there are engineering controls and materials that can be built into walls and floors to reduce sound transmission. Sometimes, two walls with two sets of studs are the solution to prevent sound transmission directly from one side of the wall to the other. Insulation and sound absorbing sealants also contribute to reduction of sound transmission. Sound is like water: it will seep through a crack like where a wall meets the floor. Special caulks are available to reduce sound penetrating cracks and



"Soundproofing is important."

joints in building materials to isolate one room from the next.

Floors are something else. They must resist the transmission of constant noise like a treadmill running or a loud TV program, as well as the impact of weights dropped on the floor. Again, there are engineering solutions, resilient materials, and sound-absorbing insulation that should be employed. If structural modifications need to be made to the floor, soundproofing can be designed in. But again, if a slab on grade is the floor, sound is much less of an issue.

The last piece of important infrastructure for a fitness center is electric and data distribution. Many cardio devices are filled with electronic screens, controls and video entertainment. Others

Who can YOUR
Association count on
today for guidance?

Hueston McNulty
ATTORNEYS AT LAW
A PROFESSIONAL CORPORATION

Value - Experience - Quality

We provide our Association clients with quality and value. We strive to solve the problem - resolve the issue - and make life easier for our Associations and their property managers.

Hueston McNulty
Certified Civil Trial Attorneys and
Qualified Mediators

Samuel J. McNulty, Esq.
smcnulty@huestonmcnulty.com

www.huestonmcnulty.com
Tel: 973-377-0200 / Fax: 973-377-6328
Offices: Florham Park, NJ; Toms River, NJ;
Blue Bell, Pa; and New York, NY

Super Lawyers

have audio ports linked to multiple large HD wall-mounted video screens. Careful planning of the distribution network and flexibility for new equipment and changing technology will be needed. Fortunately, electric power supply is more straightforward. Almost all equipment only needs standard 120V grounded receptacles. Often, the most you will require is a subpanel and feeder for fitness equipment and lighting. But be prepared for heavier electric loads if an HVAC upgrade is needed.

With a good understanding of the infrastructure needed to have a comfortable and well-functioning fitness center, you will be able to have a successful project. Next up, select the paint colors, placement of mirrors and defibrillator. You don't need an engineer for that. ■

Talk to us about your community association needs. We can help.



Popular Association Banking exclusively serves the community association industry. We offer:¹

- Financing for building repairs & capital improvements.
- Competitive fixed rates with terms up to 15 years.
- Excess FDIC insurance coverage limits, available with ICS[®] and CDARS[®].²

Contact our Mid-Atlantic Relationship Officer today!

David Shahrabani, V.P.
917.656.1156

Toll-free: 800.233.7164
DShahrabani@popular.com



POPULAR
ASSOCIATION BANKING
www.AssociationBankers.com



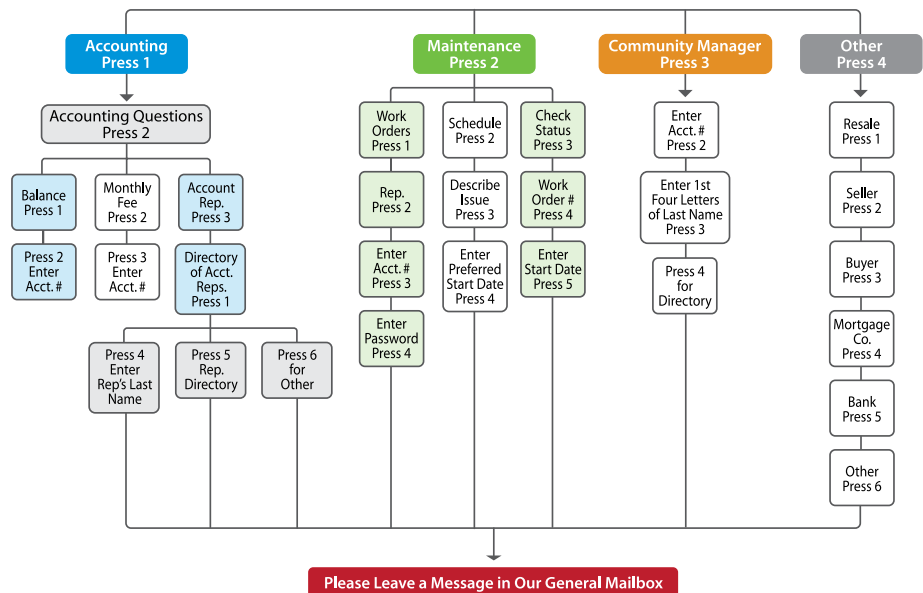
1. Subject to credit approval. 2. ICS[®] and CDARS[®] are registered service marks of Promontory Interfinancial Network, LLC. Copyright © 2018 Popular Bank. Member FDIC.

Ours

You Call

We Answer

Theirs



ACCESS
PROPERTY MANAGEMENT
Innovative People. Creative Solutions.

30 YEARS
INSPIRING PARTNERSHIPS

NJ Offices | Flemington, Edison, Paramus, Mt. Laurel
PA Offices | Lehigh Valley, Horsham

908.237.9900
610.791.1600



accesspm.com

