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"So You Want to Build a Fire or EMS Station?"
Part One: Getting Started

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The idea of starting a new construction project, particularly one as complicated as a public safety facility, can evoke a great deal of tension along with the obvious excitement. Small projects can require countless hours of planning, coordinating and nail-biting. How do you start? What will you spend? How long will it take? Who can you talk to about it?

Some of you have the advantage of working on a commercial building project in the past. So you have a pretty good idea of what you may encounter on your new project. The purpose of this article is to provide a "laundry list" of some very basic issues that need to be addressed as you proceed. I will, by no means, answer all the questions you have about your "big adventure". But if you know the major issues to address, the minor questions should be easier to answer. So strap yourself in and lets get started!

Property

Whether your planned facility is "brand spanking new" or a renovation and addition, you are going to need somewhere to put it. There are many things that may drive the rough location of the new facility - like population growth projections or ISO ratings – but once you have located some real estate there are a lot of questions still to be asked.

What is the property going to cost you? I don't just mean the purchase price. If the property is offered to you free it may be time to look the gift-horse in the mouth. Some really great properties have been given before, but sometimes the reason its free is because it will cost a fortune to make "buildable". It has been said that often the most important part of the property is what's *below* the dirt line. Buried debris, rock, bad soils, high ground water, multiple utility easements, abandoned underground tanks, etc., are all unseen conditions that may require you to spend thousands of dollars just to get the site ready to build. These have to be considered a *property cost* and may be enough to point you to another location. A Phase I environmental report and soil borings can help to identify some of these problems. Knowing the history of the site can also provide good indicators of what you can expect to encounter once a shovel goes in the ground.

Once the property is yours you need to get a survey. This is more than the *boundary plat* that came with the deed. However, the same surveyor may be able to provide the comprehensive survey for a good price. Make sure the surveyor is going to produce the drawing with CAD, Computer Aided Drafting. The future designer will likely need computer drawings in order to provide their services.

Some of the things that need to be included in the survey are:

Boundaries: These are the property lines with all the *meets and bounds*, that's surveyor talk, identified.

Topography: That's those squiggly lines that run all over the survey. It reveals the elevations and amount of slope on the property. Shown topography is just as important for you *flatlanders* as it is for the mountain folk, although the degree of precision is more critical with steeper slopes.

Utilities: Water lines or wells, sewer lines or septic tanks and drain fields, gas, electric, power poles, telephone lines, fire hydrants, easements, etc., all need to be shown in order to tie into them or avoid them with your new facilities.

Major Trees or Tree lines: Some of you live in communities that won't let you cut a limb without permission and some of you live where clear-cutting is a way of life. Either way, it is better to avoid the destruction of major trees when possible. The more *restrictive* permitting jurisdictions will require a *landscape survey* in order to justify your future landscape plan, or lack thereof. Identifying the major vegetation will enable the designer to use it as an attractive design feature.

Existing Structures: If your new property has existing structures on it you need to plan to upgrade them, avoid them or demolish them. Either way you need to show their locations and elevations. Existing structures that are to be upgraded or demolished will have to be certified "environmentally friendly" ahead of time. Part of that is, yes, that's right, the "A" word. ASBESTOS. (Ouch! You should have thought of that before you bought it!) It is a major legal no-no to *not* address asbestos, if it is an issue. If you don't address it and it is *disturbed*, everyone in a fifty mile radius can be fined *major* dollars. That includes Owner, Architect, and Contractor.

If your project is a renovation and addition to an existing building now is the time to determine if the project will require additional property acquisition. Once acquired, the new property will need to be added to the total survey.

Architect

Being an Architect myself, I would have much preferred to put this *first* on the list. All kidding aside, it is never too early to involve an Architect. Notice I said *involve*, not necessarily *hire.* Any Architect worth their salt will be happy to give you some direction, advice, and input even before you agree to start writing checks. At this point we have already discussed *property*, but an Architect can help you evaluate property before you purchase or invest in it.

The Architect needs to have plenty of expertise and experience *in the area of Fire/EMS facility design*. Just because a dermatologist is a M.D. doesn't mean I want him performing heart surgery on me! Any Architect should be able to design an adequate station with enough practice. But do you really want to be the one *paying* him to learn a new building type? Find an Architect that has extensive, successful experience with public safety projects.

There are many things that you should consider when trying to select an Architect. Part Two of this series will cover those issues in greater depth.

Money

The two most important parts to any project are *time and money*. And *time* will take a back seat to *money* almost every time. Before you get into any serious investigations, design or construction, you need to have an idea of your budget. Where will you get your money? When will you need it? How much of it can you get your hands on?

Some of you work for Cities. Some of you work for Counties. Some of you work for Industry. And most of you are Volunteers. So the money issue is as varied as the organizations that you belong to. But here are some basic concepts. Money for a project can be divided into two groups; *Construction Costs* and *Soft Costs.*

Construction Costs are those costs that you pay for, actual *brick and mortar*. The money that you actually pay for materials and labor of the construction are usually the largest of your expenses. This money is usually paid to between one and four contractors, depending on whether it is a single prime or multi prime contract.

Soft Costs are all the other things that you will spend money for. That includes; land, testing, design fees, furnishings, fixtures, and equipment. If you have to buy land, it is usually the largest of your soft costs.

It is very unlikely that you will be successful in going to your city/county manager, fire board, etc., asking for a large sum of money to build a station and walking away with it. In this day of tight state and local budgets, finding money to build or renovate can be very difficult. It likely means that you need to be having this conversation with your *money provider(s)* for years. If they will start budgeting something each year, you can get off to a good start. This is true even if you plan to get your major construction dollars from bonds or borrowing.

Getting the ball rolling can often be accomplished with smaller financial outlays. For instance, after you secure the land you can hire an Architect to carry the project through a *partial design*. The Architect can develop a program that lists your needs and gives you an approximate size for your new facility and provide design development drawings. This means that you can have rendered site plans, floor plans, exterior elevations or perspectives and

accurate construction cost estimates for a fraction of his total fee. Then you can use these *fund raising tools* to go marketing. Like it or not, we are all salesmen. We have to convince the manager, board, commission or community that we need a new facility. These renderings and estimates helps excite them (a picture is worth a thousand words) and lets them see that you have done your homework for the project.

You can also have the Architect complete a *full design* package. This will carry the design all the way through construction documents which include specs and blueprints. This will allow you to get the best possible cost estimate and be ready to build when funding is available. You will not have spent a dime for construction but you will be ready to go to that stage.

Obviously, the best route is to have enough finances planned so that you can design, bid, and build without any stops. This will save you the most time and money in the long run.

As a side note, there seems to be more and more sources for Fire/EMS money, especially after 09/11/01. Reports are that the federal government will start increasing funding to Fire/EMS over the next few years until it comes much closer to the funds provided for Police. USDA and other government agencies have a history of providing low interest loans and grants to Fire/EMS, especially in rural areas. FEMA has a history of providing grants to Fire/EMS for hurricane and earthquake mitigation measures in new or existing buildings. And don't forget those VFD barbeques!

List of Needs

You already have a mental list of needs or you would not have seen your need for a new station. This is also something that you can compile very early in your process. The more time you spend thinking about it the better. There are three lists that you should consider writing. They will help you and your Architect.

Current Spaces and Activities: If you are going to relocate to this new facility or add to your existing, you already have spaces that you are using now. List them, how big they are and how you use them. Why is that important? Because you often don't realize all the different things that you do in the same space. You certainly don't want to build a new facility and not accommodate an activity that you have been doing already. How many offices do you have? How many sleep rooms? Where are you doing training? Don't forget to list all your personnel. Be sure to list all your vehicles and their lengths. Are you doing any outside training procedures now? What are they and what kind of staging areas do they require? If you have the blueprints or sketch plan of your existing facilities, add these to the package.

Current Needs: This is a different list than your *current spaces.* Otherwise, you would not need a new facility. List every space and activity that you can think of that needs to be accommodated today. If you think you know how big the spaces need to be, then show that also. Don't forget storage. Chances are you are storing things in a remote location. Now may be a good time to plan that space into the new building. Also list the equipment that you need as well. Things like hose dryers, SCBA units, turn-out gear washers, compressors, ice machines, etc., all take space and should be considered. Include spec sheets on equipment you have or want.

Future Needs: Chances are that you are already thinking ahead to that new vehicle two years from now or the personnel that are budgeted to be added next year. You may be anticipating a consolidation of two services that are not housed together now, like Fire and EMS. Increasingly popular is adding a police sub-station to remote fire stations. It is always wise to plan the building for as many years in the future as you can predict or afford. Beyond that, no one has a crystal ball. But you can attempt to plan a facility that can be added to or reconfigured in the future.

Conclusion

We have discussed a few things that you can get started on today. They don't require hiring a design professional to do them. If your group or funding authority see that you are laying a good foundation for your planned facility, they will take you much more seriously. Hopefully that will mean realizing your completed project sooner rather than later. So start planning now and maybe you will still have enough hair left to part at the project's end. Don't forget, we'll be discussing how to select an Architect next issue.