



A Church Extension Planning Guide

Church Building and Renovation

Part 1—Working with the Architect: From Dream to Design

The Building Committee is responsible for the creation of adequate architectural plans based on a study and evaluation of the building needs for the congregation's program. (This would be the first phase of the committee's work utilizing Church Extension's Building Planning Workbook.)

The committee will function until construction is completed and the building has been accepted by the committee and the resident architect. It is recommended that the committee work within the financial capacity established with help from a Church Extension consultant.

The committee will be responsible for interviewing prospective architects and recommending employment of the architect they deem is best qualified for their project. They will see that a contract is executed once the board has approved their recommendation.

The 7-9 people who are appointed members of the Building Committee should have several qualifications. They should be willing to dedicate themselves to regular attendance at meetings and should be representative of the congregation from the standpoints of interests and age. Technical knowledge of construction is not as important as good judgment and open-mindedness. The chairperson of this committee is extremely important for the success of the effort. This person should be respected for having leadership and organizational skills. The chairperson

must be able to work harmoniously with a group and must be neither passive nor dictatorial in leadership style.

Usually attendance at meetings is limited to committee members. The inclusion of persons who are not acquainted with previous discussions can unnecessarily delay decision making. Minutes should be kept of all meetings, thus enabling absent members to keep abreast of decisions reached as well as permanently recording basic decisions and activities of the committee from beginning to end. Most importantly, Christ should be at the heart of all meetings.

The Architect

All states require the examination and registration of architects. Most states further require the construction drawings, specifications and supervision of construction of public buildings be the work of a registered architect who must certify that plans meet all public health and safety regulations of the state, county and city.

The principal reason a qualified architect should be employed is to obtain his/her planning skills to provide an attractive and functional building. The architect is trained to plan space, to handle people effectively and to accommodate the particular church's program. The architect has a broad knowledge of building materials and construction methods. The architect can show the relationship of one phase to future

buildings and site usage. The architect brings artistic skills that will provide a building of beauty as well as utility. The architect is the agent of the congregation. He/she will attempt to understand the unique needs of the client congregation and design the space that can best service these needs. He/she will protect the congregation's interests by seeing that the contractor follows all specifications. In the long run, the cost of an architect's services will be worth the investment.

Admittedly all architects do not possess equal skills and abilities. Some are better technicians than others. Some are more artistic than others. Many architects do not design churches while others specialize in churches. Some will seek to understand the church's needs more than others. Some are easy to work with; some are not. While one architect may stress economy in construction, another may emphasize quality. In addition, architects will have preferences about construction delivery methods. Some may prefer a traditional bid process, while others prefer a design-build approach in which a contractor is selected early in the process to be a part of the team. (Note: This is different from a design-build company. With most of these companies, the Building Committee will be employing a firm that provides architectural services as a part of the total package and may not offer the "checks and balances" a separate architectural contract affords. Part 2

of this Planning Guide, "From Design to Dedication," should be consulted for a full explanation of design and construction delivery methods.)

While the architect's role is central in the design of the church building, he/she does not have divine powers to determine the program requirements and the theological understanding of the congregation's mission. A Building Committee has the responsibility to study the congregation's needs before the architect is employed. It must then interpret these requirements to the architect. In like manner, church leaders should have some understanding of the congregation's financial ability before the architect is employed. The architect will need to know the financial parameters before he/she can do satisfactory work.

Selection of the Architect

Selection of the architect should be done carefully and without haste. The Building Committee is responsible for representing the congregation faithfully and should undertake a careful plan of selection to see that the architect most fitted for the job is retained. While training and ability are important, do not overlook personality characteristics. The committee will spend a great deal of time with the architect, developing ideas and spending thousands of dollars. What the church receives in the form of planning, good construction, low maintenance costs and aesthetic appeal will largely depend on the judgement, ability, character and sincerity of the architect selected.

Usually three or four architects will be interviewed before a selection is made. A personal interview with prospective architects will be the initial step. The committee will then collect references, visit a project or two, and obtain a record of the architect's performance with previous clients. In the interview the committee should not expect the architect to provide immediate plans or solutions. Nor should a committee expect free services prior to employment. To assist the committee in its selection, a systematic interview process will be aided by the use of question-

naires included in this planning guide. The first list would be used for the interview process. The second list is a reference sheet to be completed by an architect's past clients to provide information on the architect's performance.

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Selecting an architect on the basis of fee alone is dangerous. An unusually low fee should raise questions. However, the fee percentage is usually lower with the increasing size of the project. Fees for remodeling work are usually higher than those for new construction since there are so many unknown factors in remodeling older buildings. The fee is based on project construction cost and usually ranges from 7% to 12%, depending on the size and type of project. In some instances, a flat fee may be negotiated for a specific task. Fees are generally invoiced on a monthly basis as the planning progresses. On projects of limited size, the fee might be based on an hourly charge rather than a fixed percentage. A clear understanding of fees should be spelled out in a written contract. There should be some protection of the client if bids are received that are significantly above the estimated cost. If redesigning is necessary due to excessively high bids, the architect should have some responsibility for redesigning at minimal or no cost to the church. This should be clearly stated in the contract. Many architects use standardized American Institute of Architects (AIA) contracts. These contracts are fair to both congregation and architect.

It is strongly recommended that the following paragraph be included in all architectural contracts, including standard AIA contracts:

The architect agrees to work within the budget specified by the church. If actual bids for construction of the building exceed this budget by 10% or more, the architect will make

revisions in or re-draw the plans to meet the budget without additional cost to the church. The maximum budget is \$..... which shall cover all costs including, but not limited to, the following: building (including mechanical trades), furnishings and equipment, site improvement, utilities and permits, construction loan interest and architect's fees.

Many Building Committees are unpleasantly surprised when bids are opened to reveal a significant difference between budget and bid. Such a paragraph will protect the congregation from paying additional design fees to redesign a project.

Usually after a committee has agreed on a specific architect it will make the recommendation to the church board to employ the person as its resident architect.

Plans Development

There are several stages in plans development. Each is built on the other. The committee can proceed from one stage to the next satisfactorily only if they have come to agreement on each stage. Speed of planning will depend on the complexity of the problem and quality of communication established between the committee and the architect. There should not be a rush to get a plan, since it will be the basis of the building's utility for many years. The basis of the plan is a description of the building requirements as developed by the Building Committee. This will be translated by the architect into his/her "program" for the congregation's facilities.

Initial Stage: Master Planning

Most congregations should have a master plan developed for all buildings ultimately needed and their placement on the site. This will be done after the committee has developed its overall needs with future projections. It does not need to be a highly complicated or detailed plan, but a basic outline of site and building development to show the relationship of all buildings and site development. A fee, usually in addition to building

design services, can be negotiated for the master plan. The fee should not be paid as a percentage of the total master plan's building costs, since master plans usually will be modified over the years to allow for changes. Normally a simple schematic outline of future buildings will be adequate with minimal detail of future units. However, it should allow the committee to see the spatial and aesthetic relationships of the total facility and site use.

Stage I: Preliminary Design

Once a master plan is prepared showing the first phase to be undertaken, the architect can proceed in developing the preliminary or schematic design of the first phase. This will be a floor and site plan, rough elevations and an estimated cost. According to most architectural contracts, 15% of the total fee would be payable at the completion of the schematic design. Therefore, if the first phase is estimated to cost \$300,000 and the architect's fee is 9% of the total cost, or \$27,000 for complete services through construction, 15% of \$27,000, or \$4,050, would be due at this time. Renderings and models used in this phase, if requested by the church, may be an additional cost.

It is important that there be general agreement by the congregation at this point before proceeding. A clear estimate of costs (including fees and furnishings) will be included with this presentation. **Consultation with Church Extension may be advantageous at this time to review the congregation's financial capacity.** In most instances the congregation can raise building funds at this stage even though it is not a final plan. This

phase provides an idea of what can be accomplished, and large sums will not have been expended before it is known what the members can afford.

Stage II: Design Development

After the schematic design has been approved by the committee (and congregation), the architect will develop the plan in detail, showing sections and elevations (drawings that show internal and external design in addition to the floor plan). Also, the internal systems (electrical, plumbing, etc.) will be developed. For this service an additional 20% of the fee will be payable. In the case of a \$300,000 program, this means \$5,400 additional payment due (20% of the total \$27,000 fee).

Stage III: Construction Documents

These will be working drawings and specifications that include architectural, structural, mechanical and electrical elements required. The architect will utilize engineers to complete these documents, which will be provided to contractors for bids. Since an additional 40% of the \$27,000 fee (based on the above example), or \$10,800, will be due at completion of construction documents, the Building Committee and congregation will need to be certain that costs are within the capability of the congregation. **Authorization to complete construction documents should never be given until the congregation has completed a capital fund campaign and is assured it can finance the program.**

Stage IV: Bidding

The Building Committee will confer with the architect in selecting possible bidders. If a general contractor was selected earlier in the process and has been working with the committee, only subcontractors will be selected in this phase. (Note: eliminate unqualified bidders BEFORE bidding, not after.) **The successful general contractor bidder should be required to provide a Performance and Payment Bond on projects over \$200,000.**

Bidding proposals and contract forms for builders or contractors are prepared by the architect and necessary legal clearances are obtained. Then the documents can be placed in the hands of bidders. An additional 5% of the architectural fee is due for this work.

When plans are placed for bidding, the architect sets a date when all bids will be in hand for consideration. The Building Committee will report results of the bidding. Upon acceptance of plans, bids and contractor, a Construction Sub-Committee is appointed to assume responsibility for the construction phase.

The Construction Sub-Committee

When bids are received from contractors and found to be within budget limitations, the chairperson of the official board appoints a Construction Sub-Committee composed of three persons, namely, the chairperson of the Building Committee, building fund treasurer and one additional person. It is this sub-committee that functions as the only liaison group between the congregation and the construction team, i.e., architect and contractor. It does not assume duties of the Building Committee.

The chairperson of the Building Committee is also chairperson of the Construction Sub-Committee and is the SOLE AUTHORIZED SPOKESPERSON in dealing with the architect and the contractor during the construction period.

This sub-committee maintains a cost-control budget showing expendi-

Stages in Plans Development

Master Plan

Preliminary Design

Design Development

Construction Documents

Bidding

Administration of the Construction Contracts

tures to date and 30-day projections secured from the contractor by the architect. It also approves payments during the construction period—to both the contractor and the architect—upon certification of the architect. The building fund treasurer is a member of this committee and must request construction loan advances from the lender.

Stage V: Administration of the Construction Contract

This will include the architect's advisory services in awarding the bid to a contractor, general oversight of the construction, authorization of payment to the contractor as construction proceeds, and certification that the job was completed according to plans. The final 20% of the fee will be paid after completion and acceptance of the building.

After contracts for construction have been signed, the architect meets with the contractor to review planning for the project and requests a breakdown of construction costs that are used to assist the architect in determining the amount of payment to the contractor as work progresses. The contractor may be given the list of required inspection points in order to advise the architect 24 hours in advance of readiness for inspection.

The architect arranges with the Construction Sub-Committee to provide the contractor with copies of the Certification of Fire Insurance coverage (protecting the contractor's interest as well as the church's). Also required are certificates from the contractor's insurance company showing that policies for workmen's compensation insurance and liability insurance are paid up and are in full effect before the work is started.

The architect sees that building permits are secured, explains to the contractor procedures to be followed in filing requests for payment, and requests for inspections and personnel in his/her office to be contacted on various items.

Suggestions for the Construction Sub-Committee

DO . . .

- Express your concerns to the architect.
- Ask questions of the architect.
- Alert the architect if something appears to be wrong.
- Expedite payments to both contractor and architect.
- Advise the treasurer of the anticipated monthly billing 30 days in advance.

DON'T . . .

- Give instructions to the contractor; communicate through your architect instead.
- Get too many church members involved with construction.
- Make changes unless they are necessary.

Shop Drawings

One of the most important phases of the architect's supervision is the checking of shop drawings that are furnished by fabricators and suppliers of equipment or materials. These include laminated beams or arches, structural steel, window sashes and other factory-prepared materials such as hardware, lighting and plumbing fixtures. The architect checks these drawings for accuracy against working drawings and specifications, calls for corrections and approves final shop drawings for the contractor. This checking does not relieve the contractor of responsibility for doing his/her own checking as to job conditions and job measurements.

Inspection

Architectural administration as he/she deems necessary will ascertain whether work is being executed in conformity with working drawings and specifications or directions. Such supervision is separate from the continuous personal supervision of a construction manager, but should include no less than two or three visits to an active construction site weekly.

It is within the architect's authority to cause the contractor to tear out work improperly done and require it to be done correctly. The architect's greatest contribution during construction is to foresee the problem points and discuss them with the contractor. This will prevent mistakes that cause delays, increase

costs, and cause disagreements.

If a project is a considerable distance from the architect's office, he/she may have stipulated in the contract that compensation for inspection travel expenses, or for those beyond a specified number of visits, will be reviewed.

Architectural inspections may be made without notice to the church. Inspections may last a few minutes or many hours. They may occur any time of day or even at night, depending upon the work to be done. The architect will meet with the Construction Sub-Committee or its chairperson when there is a specific reason. Consulting engineers and representatives of the contractor may accompany the architect to work out problems jointly.

The architect usually plans to visit the job at the following specific points in construction (or may visit it at other times as conditions warrant):

1. Upon completion of footing excavation after forms and reinforcing steel are in place but before concrete is poured.
2. When sub-surface wall forms and reinforcing steel are in place but before concrete is poured.
3. After installation of underfloor ducts or lines but before they are covered with concrete.
4. Upon completion of subgrade, gravel, vapor barrier and wire mesh reinforcing but before concrete slab is poured, or upon completion of wood joists and sub-floor installation.
5. At the time arches, trusses or

other primary structural members are to be installed.

6. At the time wood roof decking is delivered to job site for moisture content check.

7. For approval of sample masonry wall and at the beginning of masonry work.

8. For roof surface acceptance and for approval of specified material samples prior to roof installation.

9. Periodic inspection at job site of all mill work and hardware.

10. Before application of any interior wall or ceiling finish material.

11. After completion of all interior wall and ceiling applications for acceptance of finished surfaces prior to prime coat or other specified finishes.

12. For approval of exterior finish materials (siding, paneling, etc.).

13. Prior to back filling for inspection of drain tile installation and waterproofing of foundation walls.

14. At completion of construction to develop completion check list.

Interpretation

As work progresses, the contractor or material suppliers will request interpretations from the architect's office. These must be made promptly by those on the architect's staff most familiar with the work. Interpretations are normally made without notice to the church. Any interpretations that effect a change from the contract plans and specifications will be reported to the sub-committee. Interpretation will in some cases be additional drawings to clarify the working drawings. At other times conferences must be held among the architect's staff, consulting engineers and contractor to work out acceptable construction procedure.

Change Orders

When items are discovered as having been omitted from the plans or when the architect and the Construction Sub-Committee feel a change in the building is required or desirable, a change order proposal is prepared, submitted to the contractor for completion of the added cost or reduction in cost and for signature,

and then submitted through the Construction Sub-Committee to the church for acceptance of the change order. Each party receives a copy of the change order for his/her record.

One of the most common types of unforeseen items is the encountering of soil conditions that require deeper footings, rock excavation or unusual

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drainage. Normally, a "unit" cost for additional excavation and concrete is called for in the specifications to make computations of additional cost easier.

Additional Services

Additional services (not included in the basic contract) can be provided by the architect, including interior decoration and design and selection of furnishings. Landscape architects and civil engineers may be necessary for proper site development. Other costs not included in the architectural services are site survey and soil tests.

Furnishings and Equipment

The selection and design of all other church equipment and furnishings (drapes, carpets, furniture, etc.) should be cleared with the architect and the color consultant to be certain they are compatible. Seating and chancel furnishings may be provided in one of two methods. The architect will design them and recommend a reputable cabinet maker to submit prices and show work samples. Or, the architect will request capable church furniture manufacturers to submit bids and samples for both pews and chancel equipment. In either case, the architect should direct the process, inform the sub-committee of progress and submit both design and bids to them for approval. Furnishings and other special installations such as art or stained glass may be in the construction contract or furnished by the

church. In either case the architect must be compensated for his/her contribution to the items.

Volunteer Labor

While the use of volunteer labor has been important to the erection of some church buildings, in a majority of cases it has not been very successful. Original enthusiasm soon dissipates and a few loyal members must carry the burden of completion. All decisions for the use of volunteer labor should be made prior to signing contracts.

If volunteer labor is to be considered, a survey should be made of skills available. The architect normally will help in planning a program that will use these skills to best advantage. The call for bids will exclude that work which is to be done with volunteer labor. The architect's fees will need to be calculated on the market value of the work done by volunteer labor. Additional alternatives might be taken to determine if these sections might be included in the basic contract and, if not possible, serve as a basis for figuring the architect's fees on those sections of work.

Mechanical Systems

Detailed plans of the heating, plumbing and electrical work are very carefully worked out by those skilled in these special fields. During construction and at the completion of construction, the same persons will check the building under the architect's direction.

The contractor is required to include as part of the contract an allowance for the cost of "balancing" the mechanical system. Because duct work and piping noise are very objectionable, proper balancing for the distribution of heat and for elimination of undue noise is important. When projects are finished during the off-season, it is necessary to wait until the start of the next season before final balancing can be accomplished.

Arbitration

If disputes arise between the church and the contractor, the architect will attempt to settle them fairly and justly. The committee should remember that an architect has a professional responsibility to be fair to both parties even though the architect is being paid by the church. Courts of law have long respected this position.

When situations arise that cannot be settled agreeably between the contractor and the church, either party has the right to request arbitration proceedings. These are arranged under procedures contained in the Owner-Contractor Agreement. However, both should remember that arbitration proceedings are expensive. Carrying a dispute to arbitration does not guarantee that the decision will go “your way.” Ninety-nine percent of disputes that arise on a job can be settled justly by an experienced architect.

Church's Records

The Construction Sub-Committee should secure for the church two sets of final plans and specifications (“as built drawings”) on which the contractor has recorded all changes that were made during construction and the location of supply and waste lines that are hidden from view. These can prove to be very valuable in future years when maintenance problems arise or when additions to the building are made.

Final Inspection

The architect will make a pre-final inspection of the building when the contractor states the building is finished. Buildings are checked for completeness and a “punch list” of items to be finished is developed. After the contractor has completed those items, the architect will ask the sub-committee chairperson to review the building and provide a list of items that are of concern to the committee. Such a list may contain items that are not a part of the contract so the architect must prepare the final “punch list” and deliver it to the contractor with a copy to the church. Upon completion of items on the “punch list,” the contractor will notify the architect who will make a final inspection according to plans and specifications.

When the building is completed to the architect's satisfaction, a “final certificate” will be prepared and whatever steps are necessary to protect the interest of the church in determining that the contractor's bills for labor and material have been paid completely will be taken.

Guarantees

Specifications will require the contractor to provide a guarantee, protecting the church from faulty workmanship on materials for two years. The warranty period usually begins at the date of the certificate of substantial completion.

If completion is prevented by non-delivery of certain items or the adjustment of control apparatus that does not prevent the use of the building, the architect may certify to the church that the building is in a state of “substantial completion.” In this case the hold-back of funds due the contractor is reduced to a reasonable amount to cover only the work yet undone.

During the 12-month period after accepting the building, the architect is usually available to review any problems that arise and to instruct the contractor if there are deficiencies. Problems should be reported promptly to the architect. If it is necessary for the church to contact the contractor or sub-contractor because of an emergency (such as leaking water pipe), the architect also should be advised.

Planning Guide

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Additional Planning Guides addressing a variety of facility planning issues are available from:
Church Extension
P.O. Box 7030
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Phone: 317.635-6500
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info@churchextension.org

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Reference from Architect's Clients

We are considering the architectural firm of

_____ to design our new church facilities. It would be most helpful to us if you would complete this questionnaire and return it in the enclosed envelope.

_____ Building Committee Chairperson

- Did the person representing the firm at the interview serve as the architect throughout the project?
Yes No If not, why not? _____

- Did the architect work well with your building committee? Yes No Most of time
- Did the architect work better in one-on-one relationships than with the total committee?
Yes No
- Did the architect have respect for research and the application of new ideas and materials?
Yes No
- Do you view his/her work as stereotyped?
Yes No
- Was the architect arbitrary or one who worked to develop a common understanding? Was the architect flexible or did all the "bending" have to be done by the committee?
Architect was flexible
Was flexible some of the time
Committee did all the "bending"
- Was the architect a "yes" person, rubber stamping the committee's desires rather than responsibly stating positions—when appropriate?
Architect stated positions
Stated positions some of the time
- Did the architect attend your various services to learn the flow of activities? Did the architect understand your operation and the way you do things?
Yes No
- Did the architect work within the agreed budget?
Yes No
- Did the architect help with the program study as developed, seeking to know the actual needs of the church to be housed? Did the architect attempt to understand the vital concerns of the church?
Yes No
- The approximate cost of your project was:
Up to \$100,000 \$500,000-\$1,000,000
\$100,000-\$250,000 Over \$1,000,000
\$250,000-\$500,000
- Did the architect produce the work on the proper schedule? Yes No
- Did the architect give proper attention to project supervision? Yes No
- Were the architect's on-site visits timely and in keeping with the contract? Did the architect's office act responsibly in construction matters, i.e., approving billings; having shoddy workmanship by contractor/sub-contractors redone? Yes No
- After the building was completed, did the architect follow up when building problems developed?
Yes No
- What has been your experience with the building maintenance costs?
Good Not so good Bad
- If problems exist in maintenance and function, are these the result of misjudgment by the architect?
Yes No
- Has your building served the purpose for which you built it? Yes No
- Using a rating scale of 1 to 10, with 1 being the lowest rating and 10 being the highest, how would you rate the overall performance of the architect? _____
How would you rate the architect's firm? _____
- Would you employ the architect and firm if you had another project? Yes No
If not, why not? _____

Name and address of person completing questionnaire _____

(Please attach sheet if there are additional comments.)