



# Before You Build

## A Guide to the Purchase of Construction Services

The construction or renovation of a facility is a major undertaking that requires the investment of significant financial and organizational resources. You will achieve the greatest value for this investment by securing a basic understanding of the design and construction process before you begin.

Long before construction begins, you, as facility owner, and your design and construction team must make a myriad of planning decisions. The quality of your facility and the efficiency of construction depend on the timeliness of these decisions.

The decision making process will require a great deal of time. It can take from six months to more than a year to organize & focus your professional team, find satisfactory land & financing, design your project, and secure approvals. Clear project goals, good team cooperation, regular progress meetings, and timely decision-making are the tools that can shorten this pre-construction phase and get construction started more quickly.

The Washtenaw Contractors Association (WCA) has prepared an educational template that provides information on the planning process, from the identification of the need for a facility to the beginning of construction. This outline summarizes the major decisions you and your professional team must consider in a sequential manner. While some decisions and tasks may overlap, none of them can be skipped.

WCA volunteers are available to provide your organization with a full presentation. Please contact the WCA by telephone at 734.662.2570 or send an e-mail to [info@wcaonline.org](mailto:info@wcaonline.org).

### 1 Identification of Need

- a) Review current program, goals and future needs
- b) Budget and funding parameters
- c) Schedule parameters
- d) Other opportunities (e.g. economic development, project enhancements, sustainability, federal, state and local incentives)

### 2 Establishment of Owner Internal Team

- a) Review possible team structures
- b) Identify potential team members with needed skills
  - i. Finance
  - ii. Facilities management, safety, and security
  - iii. Legal
  - iv. Real Estate
  - v. Marketing/Communications
  - vi. Architecture/Engineering
  - vii. Construction

- c) Establish team member time commitments
- d) Define team authority and lines of communication
- e) Early decisions
  - i. Renovate or new building construction
  - ii. Existing site or new site
  - iii. Explore financing options

### 3 Selection of Professional Design and Construction Team

- a) Choose delivery method
  - i. General Contracting for agreed upon price (Owner hires Architect, Architect finishes design, Owner obtains bids – see section 19)
  - ii. Construction Management where the Construction Manager is the constructor (“CMc”) (Construction Manager provides early estimating, scheduling and design recommendations to maintain or improve Owner’s budget and schedule)



- iii. Construction Management where the Construction Manager is not the constructor but is an advisor to the owner ("CMa") (Similar to CMc, but the Owner has more responsibility by holding the trade contracts)
- iv. Design-Build, where the Design-Builder provides both design and construction services (Key trades are hired early to assist with design, pricing and schedule, while fewer trades are competitively bid)
- b) Hire A/E firm (unless Design-Build delivery method is chosen)
  - i. Qualifications criteria (experience in project type, recommendations, services required)
  - ii. Selection process (Requests for Proposal, interviews, team chemistry)
  - iii. Value offered, fees and form of agreement
- c) Hire Construction Manager through negotiation
  - i. Qualifications criteria (experience in project type, recommendations, services required)
  - ii. Selection process (Requests for Proposal, interviews, team chemistry)
  - iii. Value offered, fees and form of agreement
- d) Hire Design/Build Firm
  - i. Qualifications criteria (experience in project type, recommendations, services required)
  - ii. Selection process (Requests for Proposal, interviews, team chemistry)
  - iii. Value offered, fees and form of agreement

## 4 Clarification of Need with Assistance of Professional Design and Construction Team

- a) Understand owner's need
  - i. Listen to owner's description of need, budget and schedule
  - ii. Validate owner's needs
  - iii. Verify owner's commitment to process
- b) Survey existing facility
  - i. Understand owner's process
  - ii. Quantify owner's existing facility
- c) Offer evaluation and options
  - i. Present statistical analyses
  - ii. Discuss net vs. gross square feet
  - iii. Identify steps to long-term, "ideal" facility
  - iv. Present first round of conceptual solutions
  - v. Refine conceptual designs
- d) Sustainability and Leadership in Energy and Environmental Design (LEED) Green Building System™

- i. Determine whether to strive for LEED™ certification
- ii. Clarify sustainability goals

## 5 Preparation of Preliminary Budget

- a) Determine who is to prepare budgets
- b) Understand and insure preparation of "real" budgets
  - i. Include non-construction costs
  - ii. Understand "hard" vs. "soft" construction costs
  - iii. Include contingencies in all budgets
- c) Prepare conceptual estimates
- d) Research available tax credits and incentives

## 6 Development of Project Schedule

- a) Develop schedules that support the Owner's need for the project
  - i. Owner must accurately convey own needs
  - ii. Project team members fill in schedule details to assure timely completion
- b) Reconsider options if desired project timetable is not feasible
  - i. Downsize the scope of work
  - ii. Phase the work
  - iii. Expand/remodel an existing facility as an alternative to a new building
  - iv. Merge/purchase another company that has excess space
  - v. Expand amount of time allocated for the project
- c) Expect unforeseen problems that affect schedule
  - i. Provide owner with regular schedule updates
  - ii. Build "float time" in schedules for likely problem areas
  - iii. Communicate all schedule problems openly
  - iv. Identify alternative schedules
  - v. Balance additional costs with need to maintain schedule

## 7 Determination of Project Location

- a) Use assistance of Professional Design and Construction Team
- b) Determine important location factors
  - i. Transportation accesses (rail, trucking etc.)
  - ii. Closeness to current facility
  - iii. Closeness to public transportation, employee amenities
  - iv. Closeness to employees, members, customers, vendors etc.
- c) Identify available land or buildings
  - i. Consult with realtors





- ii. Use Washtenaw Development Council site/building database
- iii. Conduct self research (drive around!)
- d) Conduct research on potential locations (team members or others such as realtors, WDC etc.)
  - i. Suitability for identified need
  - ii. Master plan designation
  - iii. Zoning designation
  - iv. Requirement for variances or special use permits and time required to obtain them
  - v. Site plan approval requirements and time required to obtain approval
  - vi. Building restrictions (e.g. height, set backs, signage, outdoor storage etc.)
  - vii. Availability of utilities
  - viii. Environmental impact requirements (e.g., storm water detention regulations)
  - ix. Likelihood of political/neighborhood resistance
  - x. Room for future expansion
  - xi. Incentives available from state/local government
- e) Execute purchase agreement for land or building
  - i. Secure financing (see section 6)
  - ii. Condemn property (governments)
- f) Secure required site plan approval, variances and/or special use permits
  - i. Do not close on property until site plan is approved

## 8 Financing for Land Acquisition

- a) Sell unsuitable donated or pre-owned property to finance suitable land
- b) Seek commercial loan from an institutional lender
  - i. May be difficult to obtain
  - ii. Environmental surveys will be required
- c) Purchase with seller financing (land contract)
  - i. Negotiate low down payment and pay off over time
  - ii. Repay early as part of permanent post-construction financing
- d) Issue bonds to raise funds for purchase (governments)
- e) Seek grants to raise funds for purchase (governments, non-profits)
- f) Conduct fund raising campaign (non-profits)
- g) Avoid need for financing
  - i. Use previously owned adjacent land for addition to existing facility
  - ii. Lease land and/or building
- h) Show availability of financing to contractors

## 9 Preparation of Preliminary Site Plan

- a) Solve Owner's needs
  - i. Optimization of flow and process
  - ii. Allowance for growth
  - iii. Image and approach to building
- b) Respond to local jurisdiction requirements and infrastructure
  - i. Relationship to adjacent properties (e.g. setbacks)
  - ii. Conservation of natural features
  - iii. Storm drainage
  - iv. Location and capacity of utility systems
  - v. Vehicle access and parking
  - vi. Handicap access to building
  - vii. Historical requirements

## 10 Preparation of Preliminary Facility Plan

- a) Solve Owner's needs
  - i. Optimization of flow and process
  - ii. "Image experience" for visitors and staff
  - iii. Required technology infrastructure
  - iv. Mechanical system requirements
- b) Respond to jurisdictional requirements
  - i. Federal requirements
  - ii. State requirements
  - iii. Local requirements
  - iv. Health requirements
  - v. Historical requirements

## 11 Planning for Furniture, Fixtures and Equipment

- a) Determine Owner's needs
  - i. Special and basic work processes
  - ii. Required technology level
- b) Balance needs with other concerns
  - i. Cost and size of budget for furniture and equipment
  - ii. Special demands on building infrastructure
  - iii. Lead time for delivery and installation
  - iv. When can sizes, colors, materials etc. be finalized?
- c) Respond to local jurisdiction requirements
  - i. Local fire codes
  - ii. Need for certification of any special equipment
  - iii. Environmental requirements

## 12 Identification of Permit Needs

- a) Determine who is responsible for obtaining permits
  - i. Who pays for permits?
  - ii. How much is included in budget for permits



- b) Identify required site permits and fees
  - i. Local jurisdiction requirements
  - ii. Local utility systems requirements
  - iii. Other agency requirements
- c) Identify required building permits and fees
  - i. Local jurisdiction requirements
  - ii. Other agency requirements

## 13 Design and Budget Confirmation

- a) Develop design development estimate
  - i. Prepare first detailed cost estimate after all building systems are defined
  - ii. Measure and estimate quantities of materials and apply "typical" unit costs
  - iii. Cross-check to historical SF for reality check
- b) Complete construction document review estimate(s)
  - i. Update detailed cost estimate as documents near completion
  - ii. Measure all quantities and apply "specific" unit costs
  - iii. Initiate "pre-bidding" to specialists
- c) Establish contingency to balance uncertainty

## 14 Establishment of Contingency

- a) Create contingencies to establish available dollars for unknowns (e.g. final design details, on-going construction problems, owner changes, future design)
  - i. Design contingency
  - ii. Construction contingency
  - iii. Owner contingency
  - iv. Bidding contingency
  - v. Special purpose contingency
- b) Determine who will control contingencies and what happens to these funds

## 15 Value Engineering

- a) Utilize value engineering to meet Owner's goals by using his money efficiently
- b) Involve all key players and make sure there is agreement among all players
- c) Begin value engineering at concept development with efficient space planning
- d) Evaluate and use alternate systems for the foundation, structure, architectural design ideas and electrical systems
  - i. Constantly evaluate design and performance alternatives to achieve proper balance between performance and cost

- e) Identify who is responsible for revising cost estimates
- f) Perform periodic budget confirmations throughout the design process to keep project on right path
- g) Document results of the value engineering and incorporate them into construction documents
- h) Repeat cycle to study new ideas, meet budget goals and achieve team agreement

## 16 Financing for Construction

- a) Complete financial feasibility study as a part of the initial evaluation of the viability of the project
  - i. Include in the amount to be financed the cost of furniture, fixtures and equipment
  - ii. Include contingency amount needed to provide for the cost of unknowns
  - iii. Complete additional financial feasibility reviews as anticipated costs are confirmed
- b) Prepare information that may be needed to secure financing
  - i. Financial feasibility studies
  - ii. Operating statements of your business
  - iii. Appraisal of property and existing structures, as applicable
  - iv. Cash flow analysis (current and projected)
  - v. Contract from a contractor stating the price of performance of the work
  - vi. Environmental surveys and documentation of site cleanup
  - vii. Evidence of you and your business' ability and desire to pay
- c) Secure a permanent financing commitment before finalizing construction loan
- d) Expect contractor to request evidence of financing for the project prior to start of construction

## 17 Preparation of Construction Contract Documents (drawings and specifications)

- a) Prepare documents that adequately describe the project
  - i. Level of detail required for the documents is dependent upon the type of professional team being used for the project
- b) Utilize these documents for
  - i. Bidding
  - ii. Municipal approvals
  - iii. Permits
  - iv. Appraisal
  - v. Construction





- c) Consider impact of "Alternates" before utilizing them
  - i. Consider flexibility they provide to Owner in establishing the final scope of work
  - ii. Consider undesirable results they may produce during receipt of bids/award of contracts
- d) Consider impact of Addendums before utilizing them
  - i. Utilize only if needed during bidding to clarify documents or to incorporate last minute changes
  - ii. Do not use them to compensate for hastily prepared or poorly coordinated bid documents
- e) Develop construction contract
  - i. Use of standard contract documents (e.g. AIA, ConsensusDOCS)
  - ii. Have contract reviewed by attorney as early as possible

## 18 Ordering of Furniture, Fixtures & Equipment

- a) Involve the services of the Architect, Interior Designer, or both
- b) Complete early enough so that construction scheduling and "move in" objectives are met

## 19 Competitive Bidding

- a) Utilize for seeking prices from several General Contractors (Owner or CM)
  - i. Invitation to Bid may be through Public Notice
  - ii. Invitation to Bid may be through Private Notice
- b) Contractor pre-qualification
  - i. Determine criteria
  - ii. Identify trades to pre-qualify
- c) Utilize for securing subcontractors and suppliers (GC or CM)

- d) Be aware of conditions that affect time required to solicit and receive bids
  - i. Thoroughness of contract documents (drawings and specifications)
  - ii. Distribution of Contract Documents
  - iii. Scheduling of bid due dates
- e) Redesign and re-bid if necessary to meet budget

## 20 Final Construction Cost Analysis

- a) Conduct post-bid review (project budget and low responsible bidders)
- b) Adjust scope as necessary
- c) Document whatever design changes are made by revising drawings before construction begins

## 21 Contractor Selection and Award of Contracts

- a) General Contractor
- b) Trade Contractors
- c) Finalize Contracts
  - i. Agree on cost & scope
  - ii. Execute contracts

## 22 Permit Applications

- a) Make application for the permits to the appropriate units of government
- b) Applications to be made by the responsible parties

## 23 Construction Begins

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734.662.2570  
 info@wcaonline.org  
 www.wcaonline.org

# Recommended Sequence

Presented below is the recommended sequence for the activities outlined in this document. Activities listed together can be undertaken simultaneously. While this sequence will be applicable for most projects, your particular project may necessitate some revisions. Your professional team can advise you on what specific sequence will best meet the needs of your project.

|                             |  |
|-----------------------------|--|
| <input type="checkbox"/> 1  | Identification of Need   |
| <input type="checkbox"/> 2  | Establishment of Owner Internal Team   |
| <input type="checkbox"/> 3  | Selection of Professional Design and Construction Team                             |
| <input type="checkbox"/> 4  | Clarification of Need with Assistance of Professional Design and Construction Team |
| <input type="checkbox"/> 5  | Preparation of Preliminary Budget  |
| <input type="checkbox"/> 6  | Development of Project Schedule  |
| <input type="checkbox"/> 7  | Determination of Project Location  |
| <input type="checkbox"/> 8  | Financing for Land Acquisition   |
| <input type="checkbox"/> 9  | Preparation of Preliminary Site Plan   |
| <input type="checkbox"/> 10 | Preparation of Preliminary Facility Plan   |
| <input type="checkbox"/> 11 | Planning for Furniture, Fixtures and Equipment                                     |
| <input type="checkbox"/> 12 | Identification of Permit Needs   |
| <input type="checkbox"/> 13 | Design and Budget Confirmation   |
| <input type="checkbox"/> 14 | Establishment of Contingency   |
| <input type="checkbox"/> 15 | Value Engineering  |
| <input type="checkbox"/> 16 | Financing for Construction   |
| <input type="checkbox"/> 17 | Preparation of Construction Contract Documents (drawings and specifications)       |
| <input type="checkbox"/> 18 | Ordering of Furniture, Fixtures & Equipment  |
| <input type="checkbox"/> 19 | Competitive Bidding  |
| <input type="checkbox"/> 20 | Final Construction Cost Analysis   |
| <input type="checkbox"/> 21 | Contractor Selection and Award of Contracts  |
| <input type="checkbox"/> 22 | Permit Applications  |
| <input type="checkbox"/> 23 | Construction Begins  |