Get Ready for Construction
SAWA Management Conference 2017

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Design Phase

We assume that you’ve had a successful Capital Campaign and that the following steps have been completed:
• Needs Assessment
• Programming
• Concept Drawings
• Project Funded

PLANNING & DEVELOPMENT CONSIDERATIONS

G Garcia
ASSEMBLING PROJECT TEAM

• Identify Key Project Stakeholders
  • Owner's Representative(s)
  • Owner's Agent(s)
  • Project Manager/Construction Manager

• Select A/E Team & Contractor with relevant Design & Construction Experience
  • Make selections based on qualifications and experience (not solely on cost)
  • Request and check references

• Define Roles and Responsibilities
• Establish Lines of Communication

BUILDING PROGRAM VERIFICATION

• Building Program is Key Document Serving as Basis for Design

• Confirm Building Program is Comprehensive and Current
  • Operational/Functional Requirements
  • Physical Space Requirements
  • Furniture, Fixtures, and Equipment (FF&E) Requirements
  • Building System Requirements
  • Low Voltage Systems Requirements
  • Site Requirements (Parking, Outdoor Get-Acquainted, and Exercise Pen Areas)
  • Sustainable Design Requirements (LEED Certification?)
  • Civic Art Requirements (if any)

SITE SELECTION/ZONING/ENTITLEMENTS

• Establish Site Selection Criteria
  • Location
    • Centrally and conveniently located in service area
    • Highly visible with access to public transportation
    • Increase public awareness and accessibility of the facility
  • Size
    • Current needs based on building program
    • Area for future expansion if possible
SITE SELECTION/ZONING/ENTITLEMENTS

• Identify Preferred Site Characteristics
  • Soil Conditions
     Support conventional spread footing foundations
     Conducive to storm water infiltration
  • Utilities Readily Available
     Power, gas, water, sanitary sewer, and storm drain
  • Topography
     A level, flat site with no significant slopes
• Goal Is to Minimize Site Development Costs

SITE SELECTION/ZONING/ENTITLEMENTS

• Perform Due Diligence of Potential Sites
  • Conduct Title Search
  • Perform Environmental Site Assessments
  • Conduct Site Studies (Geotechnical and Topographic Surveys)
• Verify Selected Site is adequate for Proposed Building Program
• Work with Planning Department to ensure selected site is zoned for intended use

PROJECT BUDGET VERIFICATION

• Verify Project Budget is Reasonable and Comprehensive
  • Include Contingencies
  • Hard Costs
     Land Acquisition
     Construction
     Site Development
     Change Order Contingency (Owner-Requested Changes, Unforeseen Site Conditions, and Errors and Omissions)
  • FF&E
  • Civic Art
### Project Budget Verification

- **Soft Costs**
  - A/E Fees (Design and Construction Administration)
  - Zoning/Entitlement/Plan Check fees
  - Project Management/Construction Management fees
  - Construction Inspection/Deputy Inspection fees
  - Other Consultant fees (Soils and Materials Testing & Commissioning Agent)

- **Operating Costs**
  - Staffing
  - Utilities

### Project Schedule Verification

- Verify Project Schedule is Realistic
- Allow Enough Time
  - Entitlement Process
  - CEQA Environmental Documentation Process (EIR, MND)
  - Design and Jurisdictional Agency Reviews

- Assume Reasonable Construction Period based on Project Size
- Include and Plan for Seasonal Periods of No Construction
- Include Contingencies (Change Orders and Inclement Weather Delays)
- Include Move-In Period (Equipment, Staff, and Animals)
Designing and Building Your New Shelter

Tony Cochrane, AIA

Pre-Design Information

- Wish List
- Program Spreadsheet
- Bubble/Adjacency Diagram
- Concept/Test-Fit Plans

Schematic Design

SD = Schematic Design

- Translates Pre-Design info into first accurate layout of the building
- More developed, but still conceptual
- Typical Deliverables:
  - Floor Plan(s)
  - Exterior Elevations
  - Site Plan
Schematic Design

SD = Schematic Design
• Process takes 1-2 months depending on size, complexity, owner review time
• About 10% of architectural effort and fee

Schematic Design
This is the time to:
• Have or bring a contractor on board
• Develop team relationship
• Better understanding of costs
• Get on their schedule
• Fully understand project scope
  • Size
  • Spaces
  • Cost
• Make final changes
  • Easy to do
  • Less time and money
  • Fewer errors

Contract Documents
CD = Contract Documents
• Based on approved Schematic Design package
• CD Package will be basis of contractor’s "contract"
• Used for:
  • Construction
  • Contractor bid
  • City/Country/government permit review and approval
• Three - 6 months depending on size, complexity, budget, owner review time
• About 60% of architectural effort and fee
Contract Documents

- Contract Documents commonly split into two phases:
  - DD = Design Development
  - CD = Construction Document phases
- DDs = about 40% and CDs = about 60% of the Contract Documents

Contract Documents

- DD = Design Development
  - SD drawings moved up to higher level of completeness and accuracy
  - Building better defined with dimensions, details and finishes
  - Engineers and other consultants start their work
  - DDs commonly used by Contractors to refine their bids

Contract Documents

CD = Construction Documents
- Final package of drawings, specifications and other information
- Lots of detailing, coordination between trades, selection of equipment, etc.
- Final CD packages commonly 100 or more sheets of drawings and over 500 pages of specifications.
Contract Documents

CD = Contract Documents
• Process can take 3 - 6 months depending on size, complexity, budget, owner review time
• About 60% of architectural effort and fee

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Bidding and Permitting

Bidding
• Contractor bidding can take 1-2 months
• Can be several weeks if already involved with project.

VE – Value Engineering
• Adjustments to CDs to meet project budget.

Bidding and Permitting

Permitting
• Government review and approval of CD package
• Approval can take weeks to over a year
• Typically 3-4 months
Bidding and Permitting

- Entire process can take months to over a year
- About 10% of architectural effort and fee

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2 months - 1 year

Construction

- Sign Contract
- Groundbreaking
- Contractor Mobilization
- Start Construction!

Construction Administration

CA: Construction Administration

- Reduced architect involvement
  - Answering questions/Request For Information (RFI)
  - Issuing clarifications and changes
  - Reviewing shop drawings
  - Job-site meetings
  - Review and approve monthly pay requests
  - Assist with final “punch list” and project close out
- Contractor responsible for construction “means and methods”
Construction Administration

• Construction can take 10 to 18 months depending on project size and complexity
• About 20% of architectural effort and fee

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10 - 18 months

Project Closeout

• Punch List and Final Touches
• Certificate of Occupancy
• Commissioning
• Final Payments

Post-Construction

• Final Touches and Project Close-Out
• Move In
• Warranty Review
The Sheltering Perspective  
Gary Willoughby & Betsey Webster

Broad Concepts
- Environment
  - Compliance
  - Earth friendly recommendations
  - Designing for severe conditions
  - Designing for disaster preparedness
  - Future proofing

The Details
- Design recommendations
- Do sweat the small stuff
- Operational suggestions
The Community

• Impact of your project on the community: perceptions and reality
  - Improved outcomes for the animals
  - Improved and more pleasant experience for people and animals
  - Community excitement and involvement
  - Greater efficiency and reduced operational costs
  - Safe for the public, staff and animals

The Project Team

• Who should be on the team?
• Understanding what the project team does
• Individual Roles of team members
• The project schedule
• The budget
  - Construction
  - Operations
  - FF&E
  - Keep sweating the details

Effective Communication is key to success!

After Construction

• Technical
  - Punch list, final touch-up before substantial completion
  - Start-up/commissioning of building and systems
  - Adjusting, trouble shooting and fine tuning of systems
  - Warranty review

• Operational
  - Staff Orientation
  - Developing an operational model that works best with your staff and new facility
  - Volunteer/Staff Recruitment
  - Move in
    - Move in or relocation of equipment and FF&E
    - Move in of animals and staff
Celebration!

- Ground Breaking
- Soft Opening
- Grand Opening
- Fundraising after the Project

Lessons Learned

- What Worked
- What Didn’t
- Helpful Hints
- Be Realistic

Take Aways

- Build in plenty of time
- Predesign through fundraising can take months to years
- Design and construction can take up to 2 years
- Get the right people on board
- Manage expectations
- This is a prototype
- Enjoy the experience