Project Planning & Management for Professional Services: Managing Expert Work and Costs



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Project Planning & Management for Professional Services

INTRODUCTION

Project Management for Professional Services is for anyone who needs to understand the fundamentals of Project Management applied to professional services like consultants, designers, or attorneys. If you are a property owner or manager, builder or developer, designers, construction contractor, product manufacturer, insurance or legal professional, you probably manage the work of professionals. If you are like most people, you rely more on the "hope and prayer" management method. This presentation is a high-level outline of a step-by-step method for planning, executing, and comparing plan to performance during execution and after project conclusion.

Successful project management is challenging, especially when the requirements change over time, many parties and stakeholders are involved, and you need to not only track your own next actions, but the next actions of others. Utilizing a Project Management system is the closest thing to a guarantee of success. The science of project management is well developed for large projects.

At PFCS, we have targeted and concentrated this body of knowledge into a system and discipline that integrates planning, execution, change management, invoicing and performance measurement.

PROGRAM OUTLINE

- 1. Introduction
- 2. Project Management
- 3. Information Management
- 4. Meetings & Delegation
- 5. Time & Task Management
- 6. Performance to Plan
- 7. Conclusion

LEARNING OBJECTIVES

- Understand the purpose, scope and benefits of project planning and management
- Outline a project planning and management system for professional services
- Execution and management of expert work and project plans
- Demonstrate how to compare a plan to actual performance

BACK-UP MATERIALS

- Managing Expert Costs
- 2. Case Study Documents Plaintiff
- 3. Work Breakdown Structure
- 4. OMMA-Goodness Project Management Framework
- 5. MAMA Meeting Management Agenda
- 6. Project Status Meeting Agenda
- 7. Weekly Planning Forms
- 8. Project Plan Budget
- 9. Project Status Memo

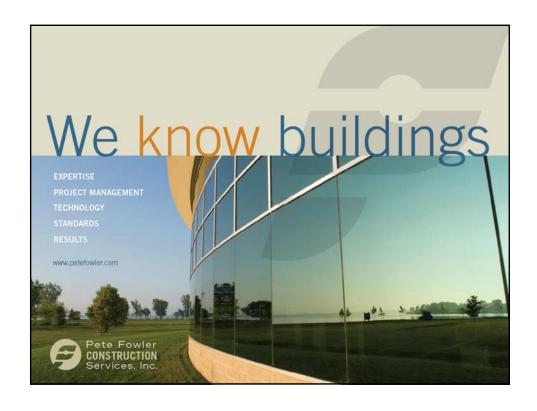


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 - C. OMMA Goodness Project Management Method
 - D. Project Overview
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- 7. Conclusion
 - A. Learning Objectives
 - B. Program Outline
 - C. Back-Up Materials
 - D. Webinar Materials / CE Certificates
 - E. Feedback



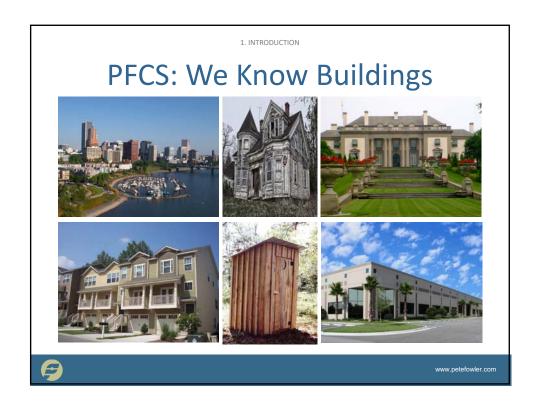
Project Planning & Management for Professional Services

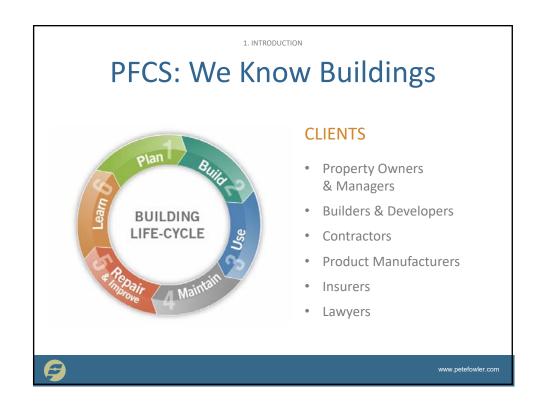


Wednesday, March 15th, 2017

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PFCS: Who We Are

SOLUTIONS

We create **Real Practical Solutions** to help our clients spend the right amount, on the right work, at the right time.



www.netefowler.com

1. INTRODUCTION

The PFCS Way: SOLUTIONS

- **EXPERTISE:** Technical experts who are focused on real practical solutions is surprisingly hard to find. We found them. And we work to keep that focus.
- PROJECT MANAGEMENT: To deliver valuable work with measurable return on investment (ROI), we have to manage the Scope, Budget and Schedule of our work.
- TECHNOLOGY: We use proprietary technology to create valuable work faster, better and cheaper, to make the information available to all applicable stakeholders, and to create a permanent digital record at no extra cost.
- STANDARDS: To help clients manage building lifecycle performance and costs, we compare each project to industry standards and best practices, then apply professional judgment to develop strategies and step-by-step plans for maximizing ROI for maintenance and repair expenditures.



CLAIMS & LITIGATION

PFCS Services

- Property Assessment
- Construction Defects
- Cost Estimating
- Injury Claims
- Construction Claims
- Construction Management
- Building Lifecycle Management



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ON ALL PROJECTS

How We Do It

Building performance analysis and evaluation services should begin with **collection**, **organization** and **analysis of documents** and other building-related information, often including meetings or interviews with key people. At the conclusion of the **inspection or testing** regimen is when all of the real value is added through structured analysis of the building elements, estimating costs, reporting and consulting so that the information we have created creates value that greatly exceeds it's cost.



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- 2. Project Management
- 3. Information Management
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- 7. Conclusion



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1. INTRODUCTION The Beginning

Introduction

- Presenter Information
- Webinar Materials
- CE Certificates
- Feedback
- Learning Objectives
- Program Introduction



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Whitney Costales

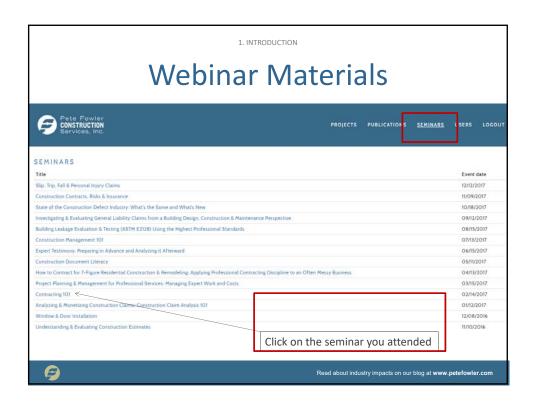
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Find her on LinkedIn!





CE CERTIFICATES WILL BE SENT OUT WITHIN 3-5 BUSINESS DAYS

(There is no need to contact us, Certificates of Attendance are sent to <u>all</u> who logged in for the seminar).



Your Feedback is Important

SURVEY SAYS!



You will receive a survey link immediately following the webinar. We put a lot of effort into providing these programs free of charge, we just ask that you take a few seconds to leave your feedback on today's presentation

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1. INTRODUCTION

Learning Objectives

- Understand the purpose, scope and benefits of project planning and management
- Outline a project planning and management system for professional services
- Execution and management of expert work and project plans
- Demonstrate how to compare a plan to actual performance

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Program Introduction

WHY THIS IS IMPORTANT

- Successful project management is challenging, especially
 when the requirements change over time, many parties and
 stakeholders are involved, and you need to not only track your
 own next actions, but the next actions of others.
- Utilizing a Project Management system is the closest thing to a guarantee of success. The science of project management is well developed for large projects.
- At PFCS, we have targeted and concentrated this body of knowledge into a system and discipline that integrates planning, execution, change management, invoicing and performance measurement.



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1. INTRODUCTION

Program Introduction

WHY THIS IS IMPORTANT

This presentation will cover:

- Difficulties and barriers to project management
- · Steps for successful project planning
- The science of project management
- Planning for and managing meetings while tracking accountability
- Time management and weekly plans
- Tracking your time for billing



"No plan can be considered complete - or satisfactory - until it produces measurable outcomes and incorporates mechanisms that allow mid-course corrections based on results."

- Judith Rodin

3. PROJECT MANAGEMENT

Project Management

- Terms
- Iron Triangle
- OMMA Goodness Project Management Method
- Project Overview
- Menu of Deliverables
- Project Plan & Budget



Project Management

PROJECT MANAGEMENT TERMS

- Project: A temporary endeavor, that includes a beginning and an end, to create a product or service.
- Project Management: The discipline of organizing and managing resources to deliver a defined outcome (Objective / Scope), within the constraints of the Budget and Schedule.
- Project Manager/Project Coordinator: Professional responsible for planning, budgeting, scheduling all project resources to deliver the project Objective.
- Project Plan: A document that defines the project Objective, Method, Milestones, and Actions



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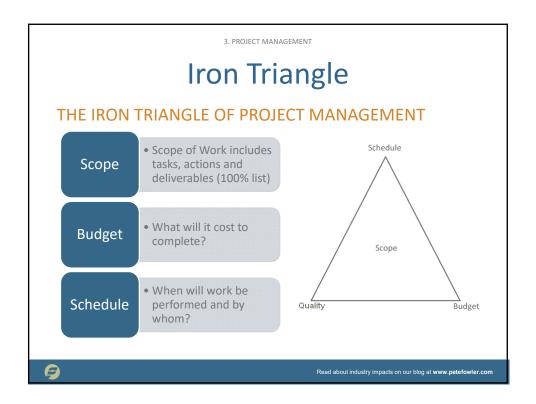
3. PROJECT MANAGEMENT

Project Management

PROJECT MANAGEMENT TERMS

- Objective
- Milestone
- Deliverable
- Action
- Hold-Point
- Problem Solving





OMMA-Goodness

- Objective: A concisely written goal.
- Method: A problem solving framework that we can apply to our project as an aid in project planning.
- Milestones: A deliverable or "Hold Point" on the project schedule to highlight completed work.
- Actions: Specific measurable task performed. The action should denote the person who will complete the action and the time (hours) it will take to complete the action.

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How it Works: Project Overview

- 1. Project Information
- 2. Project Planning
- 3. Project Plan
- 4. Approval of Work
- 5. Execution
- 6. Project Plan Updates
- 7. Project Status Memos (Optional)
- 8. Project Close Memo (Optional)



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3. PROJECT MANAGEMENT Menu of Deliverables Line Category Item Category / Document Collect, organize, summarize and understand all pertinent data Document Index tents for our project file. The ing. icture of the project (2.) Client do? s is often compiled from the entold before. ike the title, author and numbers, in the body of the o, what, when, where, why, re.], so that the reviewer of the compiler o imeline One Minute Summary 4 C Timeline reviated format than the page Document Summary . Makes following up and ation, Agenda (Old Business ng hand-written field notes. E Deposition Summary Meeting Notes (Minutes) building or project. Often G Inspection Documentation H Inspection Summary en they can be grouped Read about industry impacts on our blog at www.petefowler.com

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Menu of Deliverables

 A Project Plan is generally organized by Milestones or Deliverables.

We assume our initial work activities will include:

- <u>Preliminary document review</u>. Review project documentation and prepare preliminary inspection checklist based on Homeowner known issues. (Approx. 1-2 hours –Expert)
- <u>Site inspection and Homeowner interview</u>. Document inspection observations with photographs and written field notes. (Approximately 4-8 – Expert).
- Inspection Documentation. Processing of site inspection photographs and field notes into electronic format annotated with field notes and delivered to you electronically. (Approximately 2-3 hours -Assistant Consultant).
- <u>Preliminary Issues List</u>: Prepare preliminary list of issues based on inspection and Homeowner interview. (Approximately 2-4 hours – Expert)
- Meetings/Teleconferences: Provide verbal recommendations based on preliminary observations. (Approximately1 hour – Expert).



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3. PROJECT MANAGEMENT

Project Plan & Budget

Line	Scope of Work / Deliverables	Original Plan	
		Hours	Costs
1	Level 1: Preparatory Work		
2	A. Client Access Information (including One Minute Summary)	2	\$ 290.00
3	B. Images and Information	1	\$ 145.00
4	C. Issues / Inspection Checklist	2	\$ 290.00
- 5	D. Document Index	2	\$ 290.00
6			
7	Level 2: Preliminary Investigation		
8	A. Document Review and Summary	4	\$ 580.00
9	B. Interviews with Key Players	2	\$ 290.00
10	C. Visual Inspection: Prepare, Execute, Process Documentation	16	\$ 2,320.00
11	D. Contract Summary	2	\$ 290.00
12	E. Meetings / Telephone Conferences	0	\$ -
13			
14	Level 3: Analysis		
15	A. Update Issues Lists	4	\$ 580.00
16	B. Preliminary Analysis (Issues-Discussion Matrix)	6	\$ 870.00
17	C. Opinion Letter w- Recommendations	10	\$ 1,450.00
18	D. Players List	2	\$ 290.00
19	E. Meetings / Telephone Conferences	0	\$ -

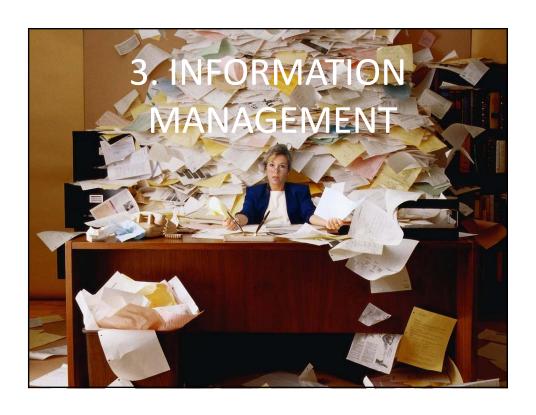


Project Plan & Budget

A SIMPLIFIED SCOPE, BUDGET AND SCHEDULE

Scope	Budget	Schedule
Item 1	\$XXX	Week 1
Item 2	\$XXX	Week 2
Item 3	\$XXX	Week 3
Item 4	\$XXX	Week 3
Item 5	\$XXX	Week 4
TOTAL	\$X, XXX	





Information Management

- A Sensible List
- Project Information
- PFCS First 10 Things
- Documents
- Timeline & Players
- Building Information: Images, Locations, Elements, Issues



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A Sensible List

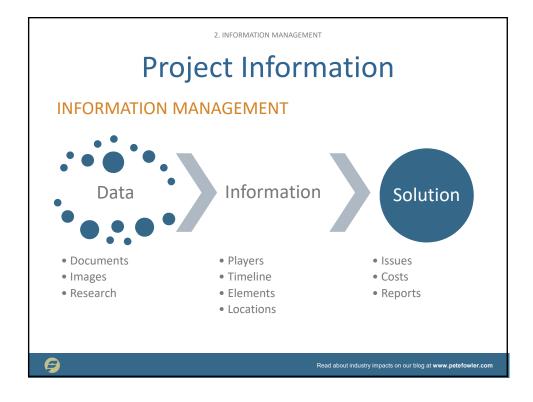
"A PROBLEM WELL STATED IS A PROBLEM HALF-SOLVED."

CHARLES KETTERING

© Lifehack Quotes

A Sensible List

- Work Breakdown Structure (WBS)
- 100% Summary
- Outline with 2 Levels



Project Information

ORGANIZATIONAL SCHEMES

There are lost of good ways to organize information and almost any system is OK.

- Legal Documents:
 - By Party
 - Chronologically
- Library: Dewey Decimal
 - Subject
 - Title
 - Author
- Master Format

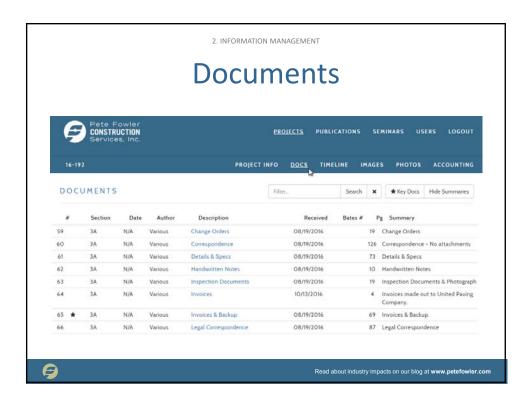


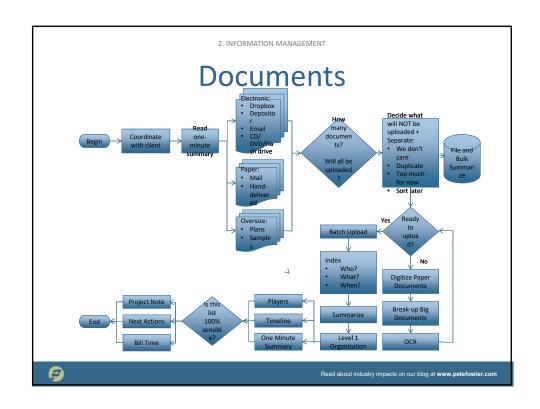
Project Information Project Information					
Collect					
Organize/Summarize					
Understand					
Make Available / "Client Access"					
9	Read about industry impacts on our blog at www.petefowler.com				

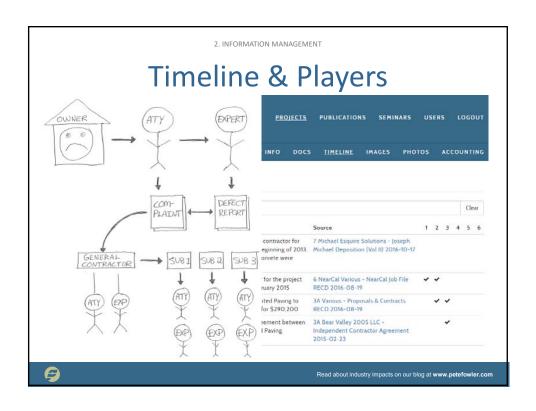
PFCS First 10 Things

- 1. Document Management
- 2. Project Images
- 3. Project Timeline (5-20 key events)
- 4. Project Players (3-15 key players)
- 5. Locations/Elements/Issues
- 6. Calendar key actions for the project team
- 7. Project Plan & Budget
- 8. Upload info including Project Images, Resumes, Proposal, etc.
- 9. If there is nothing current to do, calendar a note to contact the client within 30 days to check in
- 10. Review the project with the Technical Lead









Building Information

IMAGES, LOCATIONS, ELEMENTS & ISSUES

- Images: A collection of images for the project
- Locations: A sensible list that is the "where" for a given project.
- Elements: The components and assemblies that make up the "what" for a given project.
- Issues: Summary of issues as we understand them, collected from documents received, interviews or other sources.



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2. INFORMATION MANAGEMENT

Building Information

PROJECT: OTTO'S OUTHOUSE

Issues:

- The structure was constructed without a concrete foundation.
- The nailing of the siding is grossly inadequate.
- The doors leak, causing damage to the interior finishes.
- The conveying system (ladder) is defective in it's manufacture and the design does not meet minimum ADA requirements.
- The heating system is inadequate to heat the interior to 70 degrees 3 feet above the floor.
- Half the landscape planting died within the first year and required replacement.





4. MEETINGS & DELEGATION

4. MEETINGS & DELEGATION

Meetings & Delegation

- MAMA Meeting Management
- Delegation
- Power and Teamwork
- Handoffs
- Accountability

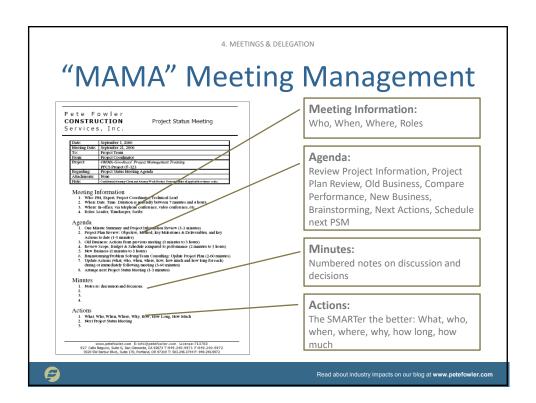
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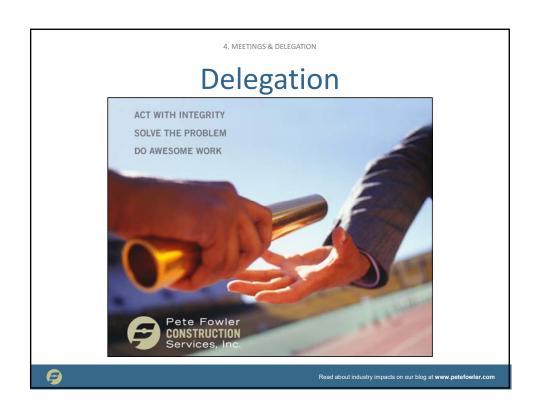
4. MEETINGS & DELEGATION

"MAMA" Meeting Management

- Our business is project based and every project is unique and has a new set of challenges for each member of the team. While a comprehensive project management system is an important tool set, getting the details right from day-to-day is done person-to-person.
- We have a meeting management method that everyone in the company is taught that helps us make meetings effective, offers a structure for delegating critical Action Steps, and has a built-in accountability mechanism. Our meeting agendas and minutes have 4 major components: Meeting information, agenda, minutes, and action steps (acronym M.A.M.A.).
- The heart of the system is to agree on SMART (specific, measurable action oriented, realistic, and timely) Action Steps at the end of a meeting, and then paste those action steps into the agenda for the following meeting as old business to make sure that each has been completed.











4. MEETINGS & DELEGATION

Executing Levels of Work

- Disciplined work focused on accomplishing milestones, creating deliverables described in the Plan.
- Presenting our work with professionalism.
- Our work is executed in various levels of depth, depending on the project and the exposure of the parties.
- We will be working toward the completion of approved milestones and actions only.
- When we realize that we need to perform analysis that is not on the plan, it's usually time to update the plan. It takes discipline to stop work, update the plan, and get approval before moving forward.



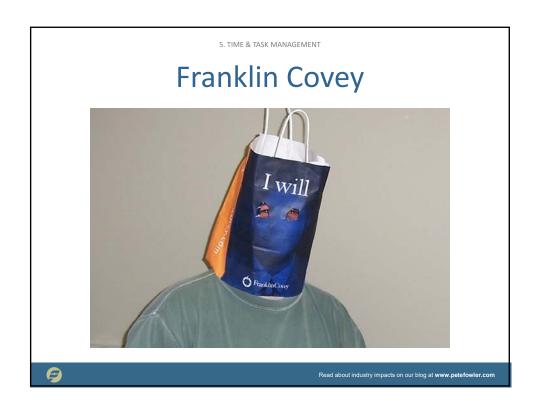


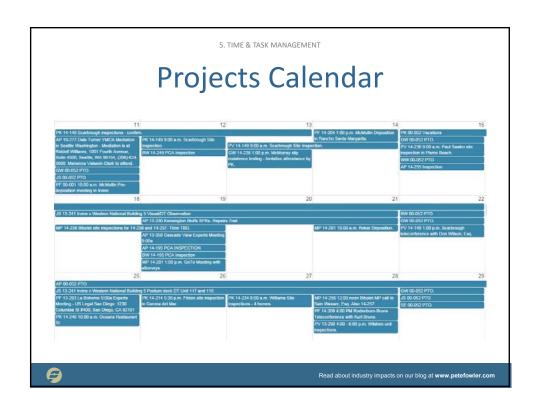
5. TIME & TASK MANAGEMENT

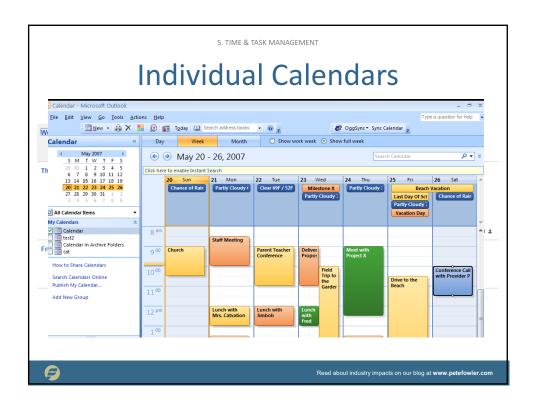
Time & Task Management

- Franklin Covey
- Company / Project / Projects Calendar
- Individual Calendars
- Project Task Management
- Individual Task Management

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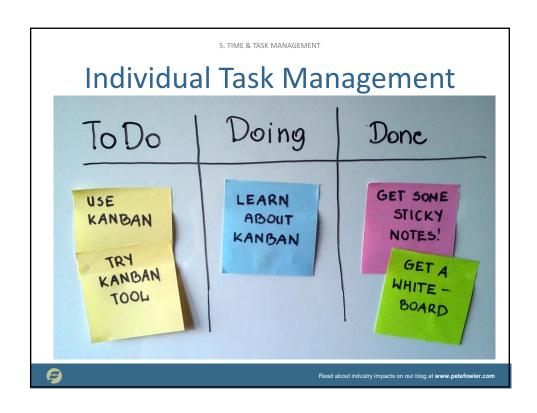
5. TIME & TASK MANAGEMENT

Project Task Management

EACH PROJECT WILL HAVE SPECIFIC TASKS

- Collect, organize and summarize documents
- Meet with property managers, maintenance staff, owners, etc
- Compile a list of addresses, locations, issues, elements
- Prepare for Inspection (dispatch, inspection checklist)
- Attend visual inspection
- Annotate and process inspection photos
- · Analysis of issues and elements
- Estimate the order of magnitude of costs
- · Publish a Project Summary Memo or report







6. PERFORMANCE TO PLAN

Performance to Plan

- Comparing Plan to Performance
- Plan Updates
- Updating a Project Plan
- Invoices



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6. PERFORMANCE TO PLAN

Comparing Plan to Performance

- The planning process cannot be 100% predictable.
- Plans and budgets are updated when figuring out what analysis is required and requesting approval so "return on investment" (ROI) decisions can be made.
- As changes become necessary, we re-estimate the time to completion and seek approval of the revised plan.



6. PERFORMANCE TO PLAN

Comparing Plan to Performance

Scope	Budget	Actual
Item 1	\$XXX	\$XXX
Item 2	\$XXX	\$XXX
Item 3	\$XXX	\$XXX
Item 4	\$XXX	\$XXX
Item 5	\$XXX	\$XXX
TOTAL	\$X, XXX	\$X, XXX

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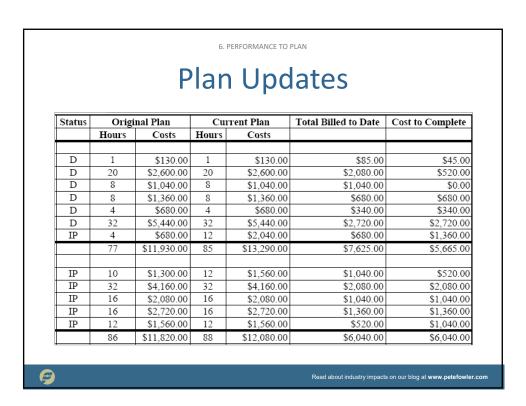
Plan Updates

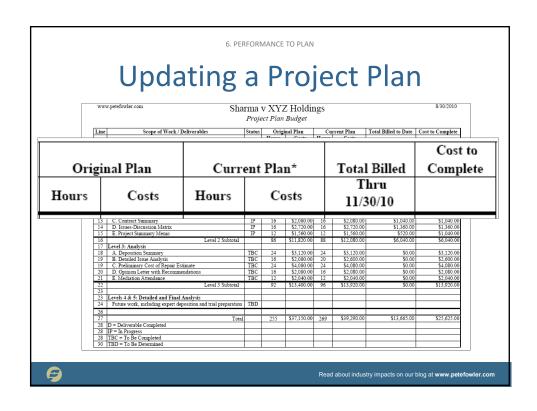
"Change is inevitable. Progress is optional."

- Tony Robbins









6. PERFORMANCE TO PLAN

Updating a Project Plan

APPROVAL OF REVISED PLAN AND BUDGET

- · Written or verbal approval by the bill payer
- · Changes to plan can be requested and integrated
- Established before beginning work
- Each time the Project Plan Budget is updated/revised as the project progresses, it is forwarded to the client for discussion and approval



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6. PERFORMANCE TO PLAN

Invoices

Proposal

- Deliverable A \$500
- Deliverable B \$1,000
- Deliverable C \$3,500
- Total \$5,000

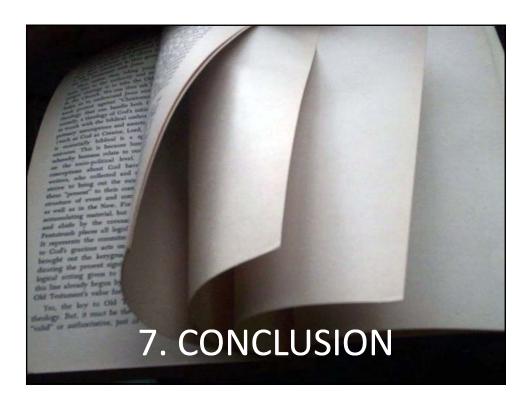
Invoice #1

- Deliverable A \$500
- Deliverable B \$500
- Deliverable C \$0
- Total \$1,000

Invoice #2

- Deliverable A DONE
- Deliverable B \$500
- Deliverable C \$3,500
- Total \$4,000





7. CONCLUSIO

Conclusion

- Learning Objectives
- Program Outline
- Back-Up Materials
- Webinar Materials/CE Certificates
- Feedback



7. CONCLUSION

Learning Objectives

- Understand the purpose, scope and benefits of project planning and management
- Outline a project planning and management system for professional services
- Execution and management of expert work and project plans
- Demonstrate how to compare a plan to actual performance



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7. CONCLUSION

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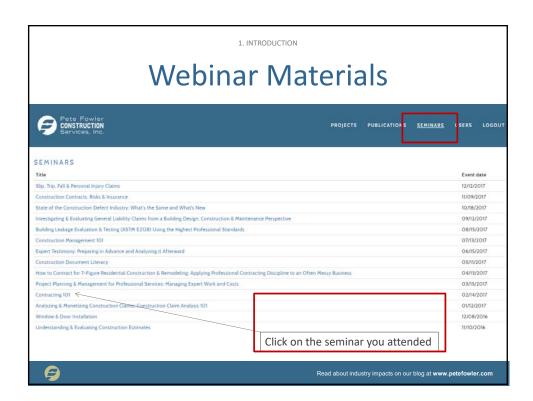


7. CONCLUSION

Back-Up Materials

- 1. Managing Expert Costs
- 2. Case Study Documents Plaintiff
- 3. Work Breakdown Structure
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- 6. Project Status Meeting Agenda
- 7. Weekly Planning Forms
- 8. Project Plan Budget
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7. CONCLUSION

CE CERTIFICATES WILL BE SENT OUT WITHIN 3-5 BUSINESS DAYS

(There is no need to contact us, Certificates of Attendance are sent to <u>all</u> who logged in for the seminar).



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7. CONCLUSION

Your Feedback is Important

SURVEY SAYS!



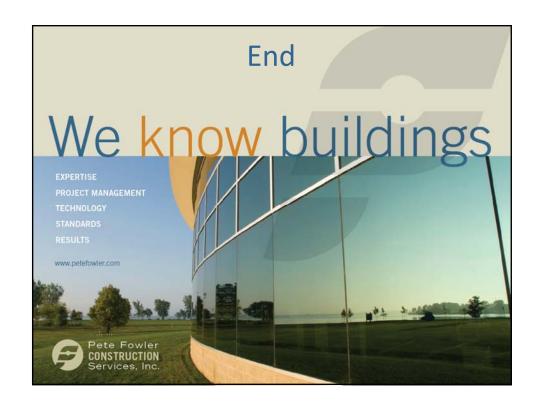
You will receive a survey link immediately following the webinar. We put a lot of effort into providing these programs free of charge, kindly take a few seconds to leave your feedback on today's presentation—Thank you!







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Pete Fowler CONSTRUCTION Services, Inc.

Managing Expert Costs

Date:	December 1, 2008
To:	Whom It May Concern
From:	Pete Fowler Construction Services, Inc.
Regarding:	Managing Expert Costs System
Note:	Copyright 2008 Pete Fowler Construction Services, Inc.

Introduction

PFCS has been working for years to create a system for delivering consulting services at the highest level of professionalism while controlling expenses. This document contains an overview of our system. The entire system is summarized on this single page. The additional pages are more discussion and attachments.

You are welcome to distribute this document to your clients for their thoughts. Also, we would be glad to come to your office to discuss this system with your staff. PFCS is a registered CA State Bar MCLE provider and this material can be used as a training course so attorneys can receive continuing education units.

System Components Summary

- 1. <u>Project Information</u>: At the beginning of a project (case) you deliver information like project name, description, name of who we will represent and scope of work, a brief "why we are here", outline of available information, etc. PFCS will organize the information and make it available online on our Client Access system.
- 2. <u>Project Planning</u>: An internal, structured process by technical expert(s) and project managers using our (1.) 10-Step *Solving Building Problems* method which includes a "Menu of Deliverables", (2.) our "Analysis Levels" document (attached) and (3.) our proprietary on-line planning and management tools.
- 3. <u>Project Plan</u>: Memo that describes the objective, milestones, deliverables, estimated time and budget for execution. Available to all decision makers on Client Access.
- 4. <u>Approval for Work</u>: Written or verbal approval of work described in Project Plan. Changes to the plan can be requested and integrated at this point.
- 5. <u>Execution</u>: Disciplined work focused on accomplishing the milestones, creating deliverables described in the Plan, and presenting our work with professionalism.
- 6. <u>Project Plan Updates</u>: Naturally, litigation can be messy. No amount of planning can make the process 100% predictable. But control can be exercised when assumptions change by updating the Plan (memo), figuring out what analysis is required, and requesting approval so "return on investment" (ROI) decisions can be made.
- 7. <u>Project Status Memos (Optional)</u>: On more complex or expensive projects we can compare performance to plan on a periodic (monthly or quarterly) basis.
- 8. <u>Project Close Memo (Optional)</u>: A final Project Status Memo where we compare performance to plan so learning opportunities can be gleaned.

Detailed Discussion

1. Project Information

- A. At the beginning of a project (case) you deliver information like project name, description, name of who we will represent and scope of work, a brief "why we are here", outline of available information, etc. PFCS will organize the information and make it available online on our Client Access system.
- B. Structured information that is available to all applicable stakeholders on PFCS Client Access system minimizes duplicative work.
- C. Maintaining Client Access information allows all parties to get up-to-speed quickly.
- D. We often compose an "Images and Information" file with big picture information, satellite and aerial images, exterior photographs and other internet-available data.

2. Project Planning

- A. An internal, structured process by technical expert(s) and project managers using our (1.) 10-Step *Solving Building Problems* method which includes a "Menu of Deliverables", (2.) our "Analysis Levels" document (attached) and (3.) our proprietary on-line planning and management tools.
- B. In a Project Planning Meeting (PPM) we identify the Objective, Method, Milestones, Deliverables and Actions required to move the project from where it is to the best available alternative as quickly and inexpensively as possible.
- C. PFCS has a standard Project Planning Meeting Agenda and method from our Project Management training. Copies available upon request.
- D. Our planning method for litigation projects is explained in an article called *Solving Building Problems* (Copies available upon request) that includes a multi-level, 10-step method, which includes a "Menu of Deliverables", for analyzing and solving problems on construction projects and buildings.
- E. We plan and execute investigations at the highest level of professionalism by using our program *Building Wall Inspection and Testing* (Copies available upon request), which integrates the most important building industry standards for analysis of building performance.
- F. We know our work requires ROI and we consider this during planning.
- G. We can plan various "Analysis Levels" and "Exposure Analysis" points at increasing levels of depth and accuracy (Level 1 = Early, Level 5 = Final Analysis). Our "Analysis Levels" document (attached) describes how we work depending on the value of the project. We work with clients to make ROI decisions about the quantity and depth of information and its relative value at various times during the project.

3. Project Plan

- A. Memo that describes the objective, milestones, deliverables, estimated time and budget for execution. Available to all decision makers on Client Access.
- B. The Project Plan memo will be as concise as possible; usually 1-2 pages plus a budget worksheet for easy comparison of original plan, current / revised plan, and performance compared to plan.

- C. For small projects the Plan will generally be organized by Project Milestones or Deliverables with approximate times for each. For example:
 - 1. <u>Document Index</u> and update as necessary (1-3 Hours)
 - 2. <u>Issues List</u> (includes inspection check-list and interviews) (5-8 Hours)
 - 3. <u>Visual Inspection and Documentation</u> (preparation, execution and processing) (16-18 Hours)
 - 4. Issues List UPDATED (4 Hours)
 - 5. Opinion Letter with Recommendations (12-14 Hours)
- D. Large Project Plans are organized in a Work Breakdown Structure, like a construction scope of work or estimate, with several main categories (Level 1) and specific deliverables listed below each category (Level 2). See attached Managing Expert Costs Project Plan sample.
 - 1. <u>Level 1: Preparatory Work</u>: (A.) Client Access information (including One Minute Summary) (B.) Images and Information (C.) Issues / Inspection Checklist
 - 2. <u>Level 2: Preliminary Investigation</u>: (A.) Document Review and Summary (B.) Interviews with Key Players (C.) Visual Inspection_(Prepare for Inspections, Execute Inspections, Process Documentation) (D.) Contract Summary
 - 3. <u>Level 3: Analysis</u>: (A.) Update Issues Lists (B.) Preliminary Analysis (Issues-Discussion Matrix) (C.) Opinion Letter with Recommendations (D.) Players List
 - 4. <u>Level 4: Detailed Analysis</u>: (A.) Testing Protocol (B.) Coordinate and Conduct Testing and Process Documentation (C.) Issues List Update (D.) Finalize Analysis (Issues Summary Report) (E.) Construction Cost Estimate (Level 4)
 - 5. <u>Level 5: Final Analysis</u>: (A.) Presentation Outline (B.) Presentation (C.) Meetings (D.) Deposition Testimony (E.) Trial Testimony
- E. Either method allows easy comparison of performance to plan.

4. Approval of Work

- A. Written or verbal approval of work described in Project Plan. Changes to the plan can be requested and integrated at this point.
- B. The approval mechanism should be established in writing before beginning work.
- C. The "approval of changes" mechanism should be established before beginning work.
- D. The payment process and timing should be agreed upon before beginning work.

5. Execution

- A. Disciplined work focused on accomplishing the milestones, creating deliverables described in the Plan, and presenting our work with professionalism.
- B. As discussed above, our work is executed in various levels of depth, depending on the project and the "exposure" of the parties.
- C. We will be working toward the completion of approved milestones and actions only.

6. Project Plan Updates

A. Naturally, litigation can be a messy. No amount of planning can make the process 100% predictable. But control can be exercised when assumptions change by updating the Plan (memo), figuring out what analysis is required, and requesting approval so "return on investment" (ROI) decisions can be made.

- B. As changes become necessary, like when an increase in the time required for analysis occurs due to unforeseen or new circumstances, PFCS will re-estimate the time to completion and seek approval of the revised plan at the earliest practical time.
- C. If changes are requested we will update the Plan and seek approval.
- D. Like a kitchen remodel that includes (1.) demolition, (2.) new cabinets, (3.) paint and (4.) flooring, consulting work can be broken down into a similar, simple "work breakdown structure" and managed. If a professional remodeling contractor believes more work is required, the additional work should be approved by the payor prior to execution whenever possible. So too with consultants. Also, Owners in construction often ask for lots of small changes without recognizing the accumulated impact, and then at the end of the project they get an unpleasant surprise. It therefore behooves the professional contractor to update the plan and have it approved. So too with consultants.

7. Project Status Memos (Optional)

- A. On more complex or expensive projects we can compare performance to plan on a periodic (monthly or quarterly) basis.
- B. Format similar to the Project Plan memo so that performance can be compared to plan.
- C. This is generally used on medium to large projects.
- D. The Project Status memo will sometimes be a prompt for a multi-party Project Status Meeting.
- 8. Project Close Memo (Optional): Similar to the Project Status Memo. A final Project Status Memo where we compare performance to plan so learning opportunities can be gleaned. Used to compare performance to plan so learning opportunities can be discussed with the entire team.

References and Standards

- 1. PFCS *Analysis Levels Deliverables and Durations* spreadsheet (Attached)
- 2. PFCS *Managing Expert Costs Project Plan* sample (Attached)
- 3. PFCS Client Access brochure (Attached)
- 4. PFCS OMAA-Goodness! Project Planning and Management Framework
- 5. PFCS Solving Building Problems
- 6. PFCS Building Wall Inspection and Testing
- 7. PFCS Building Wall Design & Construction
- 8. PFCS Contracting 101

PFCS Analysis Levels

Deliverables and Durations

Line	PFCS 10-Step Solving Building Problems Method	Level 1: Preparatory Work	Level 2: Preliminary Investigation	Level 3: Analysis	Level 4: Detailed Analysis	Level 5: Final Analysis
1	Collect, Organize & Understand	Images and Info.	Document Index, Project Summary memo	Document Summary	Deposition Summary, Document Index UPDATE (with LOTS of documents the Index may require re-organization)	See Level 4
2	Plan	5-15 points on One Minute Summary, Project Plan memo	Project Plan Update, Project Status Memo	Project Status Memo	Earned Value Analysis	Earned Value Analysis
3	Scope of Work	1 sentence to 1 paragraph on One Minute Summary	Contract Summary, Players List	Scope of Work Matrix (Multiple Parties), Scope Hypothesis Memo	See Level 3	See Level 3
4	Issues	5-15 points on One Minute Summary, Issues List, Plaintiff Issues List	Timeline	See steps 7 and 8	See steps 7 and 8	See steps 7 and 8
5	Locations	1 sentence to 1 paragraph on One Minute Summary, Aerial Images	Locations Matrix, Inspection Summary, Site Map	Locations Matrix with additional data: Inspections, Testing, etc, Elevation Drawings (Marked-Up), Floor Plans (Marked-Up)	Complete Quantity Take Off for L3-4 Estimate	See Level 4
6	Costs	1 sentence to 1 paragraph on One Minute Summary	Plaintiff Estimate Summary, PFCS Order of Magnitude Estimate	PFCS Level 2-3 Cost Estimate	PFCS Level 4 Detailed Estimate	PFCS Level 5 Bid-Level Estimate
7	Issues-Locations Analysis	None	Visual Inspection Documentation	Issues List w- Locations, Visual Inspection Analysis	Testing, Testing Summary Matrix, Issues-Locations Matrix	See Level 4
8	Issue-By-Issue Analysis	None	Limited to None	Issues-Discussion Matrix, Scope of Work (Repairs)	Issues Summary report, Allocation Matrix	Testimony Outline
9	Hypothesize	Initial Reaction, Exposure Analysis (L1)	Opinions in Opinion Letter or verbal talking points, Exposure Analysis (L2)	Opinions in Issues-Discussion Matrix, Exposure Analysis (L3)	Exposure Analysis (L4)	Exposure Analysis (L5)
10	Present	Telephone Call, Proposal	Opinion Letter, Investigation Recommendation	Meeting Agenda / Minutes	Powerpoint Presentation, Detailed Issue Analysis, Detailed Issue Response	Deposition, Arbitration and / or Trial Testimony
11	Total Time	1-10 Hours	8-80 Hours	60-160 Hours	100-200 Hours	200 Hours +

Managing Expert Costs

Project Plan

Line	Scope of Work / Deliverables	Original Plan		Current Plan		Month 1	Month 2	Month 3	Month 4	Month 5		
1	•	Hours		Costs	Hours		Costs					
1	Level 1: Preparatory Work											
2	A. Client Access Information (including One Minute Summary)	2	\$	290.00	2	\$	290.00					
3	B. Images and Information	1	\$	145.00	1	\$	145.00					
4	C. Issues / Inspection Checklist	2	\$	290.00	4	\$	580.00					
5	D. Document Index	2	\$	290.00	8	\$	1,160.00					
6												
7	Level 2: Preliminary Investigation											
8	A. Document Review and Summary	4	\$	580.00	16	\$	2,320.00					
9	B. Interviews with Key Players	2	\$	290.00	4	\$	580.00					
10	C. Visual Inspection: Prepare, Execute, Process Documentation	16	\$	2,320.00	20	\$	2,900.00					
11	D. Contract Summary	2	\$	290.00	3	\$	435.00					
12	E. Meetings / Telephone Conferences	0	\$	-	8	\$	1,160.00					
13												
14	Level 3: Analysis											
15	A. Update Issues Lists	4	\$	580.00	4	\$	580.00					
16	B. Preliminary Analysis (Issues-Discussion Matrix)	6	\$	870.00	16	\$	2,320.00					
17	C. Opinion Letter w- Recommendations	10	\$	1,450.00	24	\$	3,480.00					
18	D. Players List	2	\$	290.00	4	\$	580.00					
19	E. Meetings / Telephone Conferences	0	\$	-	8	\$	1,160.00					
20												
21	Level 4: Detailed Analysis											
22	A. Testing Protocol				4	\$	580.00					
23	B. Testing: Coordinate, Conduct and Process Documentation				32	\$	4,640.00					
24	C. Issues List Update				8	\$	1,160.00					
25	D. Finalize Analysis (Issues Summary Report)				24	\$	3,480.00					
26	E. Construction Cost Estimate (Level 4)				24	\$	3,480.00					
27												
28	Level 5: Final Analysis											
29	A. Presentation Outline				8	\$	1,160.00					
30	B. Presentation				32	\$	4,640.00					
31	C. Meetings				16	\$	2,320.00					
32	D. Deposition Testimony				40	\$	5,800.00					
33	E. Trial Testimony				40	\$	5,800.00					
34												
35												
36	Total	53	\$	7,685.00	350	\$	50,750.00	-	-	-	-	-

Plaintiff Case

Project Plan Budget

#	Scope of Work / Deliverables		Current Plan			
	-		Hours		Costs	
1	Level 1: Preliminary Investigation					
2	A. Document Review and Index	D	4	\$	520.00	
3	B. Inspection Documentation	D	8	\$	1,200.00	
4	C. Preliminary Issues List	IP	4	\$	680.00	
5	D. Photo Analysis and Verbal Recommendations	IP	2	\$	340.00	
6	Subtotal Level 1		18	\$	2,740.00	
7	Level 2: Analysis					
8	A. Research	TBC	2	\$	340.00	
9	B. Locations Matrix	TBC	2	\$	340.00	
10	C. Estimate Comparison	TBC	4	\$	680.00	
11	D. Meetings / Teleconferences / Correspondence	TBC	2	\$	340.00	
12	Subtotal Level 2		10	\$	1,700.00	
13						
14	Levels 3 -5 - To Be Determined					
15	Not Included					
16	Total		28	\$	4,440.00	
17						
18	Notes:					
19	IP = In Process					
20	DONE = Deliverable Completed					
21	TBC = To Be Completed					

Photographs

Plaintiff Case

Site Inspection Photographs

PF 01.001 - 01.036 November 02, 2006



PF 01.001 PF 01- 001.jpg North Venice Boulevard; PF 01. Site: building at corner of North Venice and Speedway.



PF 01.002 PF 01- 002.jpg Site: building at corner of North Venice and Speedway.

www.petefowler.com Telephone 949.240.9971



PF 01.009 PF 01- 009.jpg

Right elevation: on Speedway.



PF 01.010 PF 01- 010.jpg

Right elevation: on Speedway.

www.petefowler.com Telephone 949.240.9971

Plaintiff Case

Project Plan Budget - Revised

#	Scope of Work / Deliverables	Ori	l Plan	Current Plan			
		Hours		Costs	Hours		Costs
1	Level 1: Preliminary Investigation						
2	A. Document Review and Index	4	\$	520.00	4	\$	520.00
3	B. Inspection Documentation	8	\$	1,200.00	8	\$	1,200.00
4	C. Preliminary Issues List	4	\$	680.00	4	\$	680.00
5	D. Photo Analysis and Verbal Recommendations	2	\$	340.00	2	\$	340.00
6	Subtotal Level 1	18	\$	2,740.00	18	\$	2,740.00
7	Level 2: Analysis						
8	A. Research	2	\$	340.00	2	\$	340.00
9	B. Locations Matrix	2	\$	340.00	2	\$	340.00
10	C. Estimate Comparison	4	\$	680.00	4	\$	680.00
11	D. Meetings / Teleconferences / Correspondence	2	\$	340.00	2	\$	340.00
12	Subtotal Level 2	10	\$	1,700.00	10	\$	1,700.00
13	Level 3: Detailed Analysis						
14	A. Preliminary Scope of Repair				8	\$	1,560.00
15	B. Preliminary Cost of Repair				10	\$	1,700.00
16	C. Issues List with Responses				10	\$	1,700.00
17	D. Meetings / Teleconferences / Correspondence				2	\$	340.00
18	Subtotal Level 3				30	\$	5,300.00
19	Level 4: Final Analysis						
20	A. Opinion Letter				12	\$	2,040.00
21	B. Project Deposition Preparation				2	\$	260.00
22	C. Expert Deposition Preparation				8	\$	1,360.00
23	D. Meetings / Teleconferences / Correspondence				2	\$	340.00
24					24	\$	4,000.00
25							
26	Total	28	\$	4,440.00	82	\$	13,740.00
27							

Issues List with Discussion

1 0			Issue / Description	Photo Reference	Discussion
	1 93		Maintenance		
2			ATY Question: Your opinion, based on your inspection, as to whether there are any signs of		Yes: Levi unit on top floor, neighboring unit on top floor, and garage at
			damage due to roof leakage in any other areas of the building?		first floor.
3			ATY Question: Your opinion as to the usual and customary frequency, if any, of common area		Roof maintenance should occur periodically and as problems arise. The
			drain clean out needed to avoid drain backup in lower level areas?		frequency should increase as the roof gets closer to the end of it's service
					life.
4		_	Deck Surfaces Need Maintenance	PF01.041-PF01.51	Private decks require maintenance.
5			Paint Needs Maintenance	PF01.040-050,	Repainting of building exterior is required.
6		E	Rusting Sheet Metal	PF01.040-PF01.050	Repainting of building exterior is required and some sheet metal is
					deteriorated to the point that replacement is required. If maintenance is
					not performed the rate of deterioration will increase.
	7 25		Waterproofing - Decks (Roof-Top Decks)	PF 01.127-128, 132	
8		A	Bubbling Deck Coating	PF01.135-PF01-141	Remove and replace deck coating with new, in strict conformance with
					manufacturer's recommendations and in conformance with specialty
					design.
9			Peeling Deck Coating	PF 01.182	See 07 25 A
10			Deteriorating Deck Coating	PF 01.183	See 07 25 A
11			Improper Transitions from Deck to Roof	PF 01.172	See 07 25 A
12			Unworkmanlike application (coating material on building walls)	PF 01.190	See 07 25 A
13				PF 01.191	See 07 25 A
14			Deck coating not applied with regard to installation instructions. (Note: Roofer stated he did		See 07 25 A
15 0			not know what water-proofing product was used at deck areas, says he used about four coats.)		
15 0 ′	7 30		Roofing		
16		A	ATY Question: Did it meet the standard of care for an HOA board to delay action to replace		Once it has been determined that the service life has been exhausted and
			the roof for 4 years?		poor performance is reasonably expected the roof on a multi owner/user
17		D	ATTX O		building should be replaced.
17 18		B C	ATY Question: What risks are inherent in failing to promptly replace a failing flat roof ATY Question: What standard of care exists with respect to the selection of a roofing		Leakage Contractor's licensing requires a minimum level of professionalism in
18			contractor to perform a roof replacement?		contractor's incensing requires a minimum level of professionalism in contracting and this minimum threshold was not met.
19			ATY Question: What is the importance, if any, of whether or not the contractor is licensed?		Unlicensed contracting is against the law (for good reason).
19		D	ATT Question: what is the importance, if any, of whether of not the contractor is needed?		Officensed contracting is against the law (for good feason).
20		Е	ATY Question: What is the importance, if any, of whether or not a permit is obtained for the		Municipal permits are a minimum standard for the verification of
20			work?		contract performance in significant construction projects.
21			ATY Question: What is the importance, if any, of the financial wherewith all of the contractor.		Guarantees from unlicensed, uninsured contractors with no assets who do
21		1	1111 Question. What is the importance, if any, of the imalicial wherewith an of the contractor.		bad work and/or cause damage are meaningless. If there is nothing to
					lose, then there is no incentive to perform to the contract / performance
					requirements.
22		G	ATY Question: What is the standard of care regarding supervision or inspection of a		There needs to be some mechanism for verification that the work
			contractor's work by an HOA board?		conforms with some reasonable standard.
23		Н	ATY Question: What is the standard of care, if any, regarding having standby tarps available		Protection of the property during re-roofing is always the responsibility
			to protect residents when a roof is removed during the rainy season.		of the roofer.
24		I	ATY Question: Based on your inspection, was the roof installed in a manner meeting standards		No. The roof leaks and there are many variations from the manufacturer's
			in the industry?		instructions.
25			ATY Question: Based on your inspection, does the roof still leak?	PF01.158-PF01.163	Yes.
26			Leaks at Levi Unit - 2004-Present		Remove and replace with new in strict conformance with manufacturer's
		-			recommendations and in conformance with specialty design.

Issues List with Discussion

#	CSI	Item	Issue / Description	Photo Reference	Discussion
27			Leaks During and After Testing	PF 01.158	Repair interior damage.
28		M	Leaks at Neighboring Unit	PF 01.280	Repair interior damage.
29		N	Leaks at Elevator	PF 01.299	Repair interior damage.
30		O Deteriorated Sheet Metal		PF 01.170, PF 01.198	
31			Lack of Transition Flashing at Parapet Walls		See 07 30 J
32			Membrane: Ponding and end laps are not staggered minimum 3 fee	PF 01.137	See 07 30 J
33		R	Inside and Outside Corners: Do not conform with manufacturer's instructions	PF 01.198, PF 01.211	See 07 30 J
34			Penetrations: Do not conform with roofing manufacturer's instructions		See 07 30 J
35			Edge Flashing: Does not conform with roofing manufacturer's instructions		See 07 30 J
36			Counter Flashing: Deteriorated and does not conform with manufacturer's instructions		See 07 30 J
37		V	Roof to Wall: Does not conform with manufacturer's instructions	PF 01.166	See 07 30 J
38					See 07 30 J
39				PF 01.202, PF 01.209	See 07 30 J
40			Deck to Roof Transition: Does not conform with manufacturer's instructions	PF 01.148	See 07 30 J
41		Z	<u>~</u>	PF 01.234	See 07 30 J
	08 50			PF01.222-PF01.229	
43			ATY Question: Whether or not the skylights installed by Odett above his unit 4 (or D)		The skylights sit in the middle of the roof section.
			interfere with the development of that area for roof deck use:		
44		В	ATY Question: Whether or not the skylights caused to be installed by Odett are improvements		The skylights do require a permit.
			that require city permit?		
45			ATY Question: Whether or not engineering consultation should have occurred before the		May have; depending on the condition of the framing and the
			cutting through and removal of ceiling joists to accommodate the skylights?		requirements of the building department.
46		D	ATY Question: Whether or not it would be feasible to remove the skylights installed by Odett		The skylights can be removed, framing repaired, permit procured for
			and repair the section of the roof through which they were cut and the estimated cost of doing		repairs etc.
			so?		
47		E	ATY Question: Whether or not the skylights installed by Odett invade the space reserved to		Yes, the skylights invade the space reserved to Plaintiff for roof deck
			Plaintiff in the First Amendment to the Condominium Plan for roof deck purposes?		purposes.
48	09 00		Interior Finishes		
49		A	Interior ceiling damage at Levi Unit	PF01.069-71, 083-	Repair interior damage. See estimates by others.
				085, 236-259	
50			Cabinet damage	PF01.076-PF01.087	Repair interior damage. See estimates by others
51			Unit 'D' drywall damage at ceiling, walls and windows	PF01.284-PF01.289	Repair interior damage. See estimates by others
52			Water Damage at Level 1 Unit C Garage	PF01.318-PF01.328	Repair interior damage. See estimates by others
53			Damaged Furniture	Per Owner	Repair interior damage. See estimates by others
54			Damaged Appliances	Per Owner	Repair interior damage. See estimates by others
	50 21		Estimating/ Budgeting		
56			ATY Question: Your opinion as to the cost of repair of Plaintiff's Unit 3 necessitated by water		See Repair Estimate Summary document
			damage from roof leakage?		
	99 99		Other		
58			Vents removed from side wall of elevator shaft at roof level and plastered over	PF 01.196	Investigate issue and repair as necessary.
59			Electrical Problems	Per Owner	Included in the interior estimates
60				PF 01.196	See Issue 99 99 A and Stucco repair in estimate.
61		D		PF 01-036	Included in the interior estimates
62				PF 01-067	Included in the interior estimates
63		F	Plumbing Problems at Level 1 Studio	PF 01.308	Investigate issue and repair as necessary.

Pete Fowler CONSTRUCTION Services, Inc.

Opinion Letter

Date:	April 4, 2007
To:	Client
From:	Pete Fowler Construction Services, Inc.
Project:	Plaintiff Case
Regarding:	Opinion Letter
Note:	Confidential Attorney-Client and Attorney Work Product. Protected under all applicable evidence codes.

Dear Mr. Smith:

Pete Fowler Construction Services, Inc. (PFCS) has analyzed documents and information related to roofing, waterproofing and water damage at North Venice Blvd, Venice, CA. Our findings are summarized in this preliminary report.

I. Project Summary

The project is a 3-level, 4-unit condominium building near the beach in Venice, CA constructed around 1988-89. The building occupies the entire lot except for minimum set-backs (5 to 10-feet) at all four elevations. Level 1 consists of individual parking garages accessed at the back elevation, storage rooms, a studio and an entry foyer to access the elevator to the second floor (Units A and B or 1 and 2) and the third floor (Units C and D or 3 and 4). The building has a low slope roof, roof-top deck areas, wood siding and stucco exterior building walls, and a slab-ongrade foundation. There are four balcony decks on front and four on the back elevations.

The owner of the top right unit (Unit C or 3) purchased the building before completion and sold three of the units as condominiums. Low-slope roof replacement work and replacement of the roof-top deck areas was performed by an unlicensed roofer hired by the HOA during the winter of 2004-05. Ms. Levi reported dramatic leakage into her unit. There was additional leakage into the neighboring unit and the garage during the winter of 2005. This was due in part to the removal of the old roof and lack of protection during the rains. Although some repairs have been made the roof continues to leak into Units C and D (3 and 4). The owner is suing the HOA due to the leaks. There is interior damage and Ms. Levi has received estimates in the range of approximately \$100,000 for the interior repairs.

Page 2 of 7 5C Opinion Letter 07-04-04

Observations

PFCS attended a visual inspection of building on November 2, 2006. At that time PFCS observed opposing party's expert's water testing on the roof. Our on-site investigation included visual inspection of the building exteriors and the interiors of the two top floor units.

ROOF AND ROOF TOP DECK AREAS: The contractor who performed the work appears to have made no attempt to conform to industry or manufacturer's installation standards (see PFCS Issues List for details). The roof leaked dramatically during the rainy season of 2004 during the roofing work, and continues to leak to this day, as evidenced by the defense expert's testing in November 2006. In addition, the building is not being maintained in a way that will lead to acceptable performance going into the future.

INTERIORS: We observed damage from leakage at both interior units we visited. The unit has not been repaired since the rains of 2004 and shows signs of significant water intrusion. The neighboring unit has been repaired but shows signs of continued leakage.

II. Analysis

Documents Reviewed

- 1. First Amended Complaint
- 2. Answer to First Amended Complaint (HOA, Espsteins, Heitz)
- 3. Repair estimates obtained by Plaintiff
- 4. First Amendment to the Condominium Plan
- 5. CD-Rom of roof, water leakage, skylights and air conditions photographs

Issues Summary – See Issues List for more details

- 1. Maintenance
- 2. Waterproofing Decks (Roof-Top Decks)
- 3. Roofing
- 4. Skylights
- 5. Interior Finishes
- 6. Estimating/Budgeting
- 7. Other

Conclusions

The owner received proposals from several contractors for the interior repairs which are all approximately \$100,000. In addition, we estimate the cost to replace the roofing and roof top decks to be approximately \$133,000, including the design and coordination of this complicated work.

Page 3 of 7 5C Opinion Letter 07-04-04

Recommendations

1. Hire a construction manager to coordinate all of the work of the various parties (Owners, Designer(s), Bidders, Contractor(s), Inspection, Manufacturer's Warrantee, Third Party Inspection, etc.)

- 2. Compose initial budgets and coordinate financing.
- 3. Hire an architect, roof consultant or building consultant to design the repairs.
- 4. Design and specify repairs. Compose a complete set of project drawings and documents.
- 5. Update Budget and initial (conceptual) schedule.
- 6. Pre-Qualify contractors for availability, interest, qualifications, references, etc.
- 7. Compose RFP documents and put the project out to bid
- 8. Contract with a single general contractor or multiple prime contractors including scope, costs, schedule, and terms. Coordinate this work with HOA's legal counsel.
- 9. Procure permits with the local municipality
- 10. Coordinate work
- 11. Coordinate third party inspection service or designer to verify the work is being installed in conformance with the design.
- 12. Coordinate final inspection.
- 13. Collect all project documentation and package for reference.
- 14. Compose maintenance program and coordinate.

III. PFCS Documents and Deliverables

- 1. OB Document Index
- 2. 5A Inspection Documentation
- 3. 5C Issues List
- 4. 5D PFCS Repair Estimate
- 5. 5E Estimate Summary

Work Breakdown Structure

From Wikipedia, the free encyclopedia

A (WBS) is a fundamental project management technique for defining and organizing the total scope of a project, using a hierarchical tree structure (see example below). The first two levels of the WBS (the root node and Level 2) define a set of planned outcomes that collectively and exclusively represent 100% of the project scope. At each subsequent level, the children of a parent node collectively and exclusively represent 100% of the scope of their parent node. A well-designed WBS describes planned outcomes instead of planned actions. Outcomes are the desired ends of the project, and can be predicted accurately; actions comprise the project plan and may be difficult to predict accurately. A welldesigned WBS makes it easy to assign any project activity to one and only one terminal element of the WBS.

History

The concept of the WBS developed with the Program Evaluation and Review Technique (PERT) in the United States Department of Defense (DoD). PERT was introduced by the U.S. Navy in 1957 to support the development of its Polaris missile program. [1] While the term "work breakdown structure" was not used, this first implementation of PERT did organize the tasks into product oriented categories.[1]

By June of 1962, DoD, NASA and the aerospace industry published a guidance document for the PERT Cost system which included an extensive description of the WBS approach. [2] This guide was endorsed by the Secretary of Defense for adoption by all services. [3]

In 1968, the DoD issued "Work Breakdown Structures for Defense Materiel Items" (MIL-STD-881), a military standard

mandating the use of work breakdown structures across the DoD. [4] This standard established top-level templates for common defense materiel items along with associated descriptions (WBS dictionary) for their elements. The document has been revised several times, most recently in 2005. The current version of this guidance can be found in "Work Breakdown Structures for Defense Materiel Items" (MIL-HDBK-881A). [5]

It includes guidance for preparing work breakdown structures, templates for the top three levels of typical systems (Appendices A through H), and a set of "common elements" that are applicable to all major systems and subsystems (Appendix I)

Defense Materiel Item categories from MIL-HDBK-881A:

- Aircraft Systems
- Electronic/Automated Software Systems
- Missile Systems
- Ordnance Systems
- Sea Systems
- Space Systems
- Surface Vehicle Systems
- Unmanned Air Vehicle Systems
- Common Elements

The Common Elements identified in MIL-HDBK-881A, Appendix I are: Integration, assembly, test, and checkout; Systems engineering; Program management; Training; Data; System test and evaluation; Peculiar support equipment; Common support equipment; Operational and site activation; Industrial facilities; and Initial spares and repair parts

In 1987, the Project Management Institute (PMI) documented the expanion of these techniques across non-defense organizations. The Project Management

Body of Knowledge (PMBOK) Guide provides an overview of the WBS concept, while the "Practice Standard for Work Breakdown Structures" is comparable to the DoD handbook, but is intended for more general application.[6]

WBS Design Principles

THE 100% RULE

One of the most important WBS design principles is called the 100% Rule. The Practice Standard for Work Breakdown Structures (Second Edition), published by the Project Management Institute (PMI) defines the 100% Rule as follows:

The 100% Rule...states that the WBS includes 100% of the work defined by the project scope and captures all deliverables – internal, external, interim – in terms of the work to be completed, including project management. The 100% rule is one of the most important principles guiding the development, decomposition and evaluation of the WBS. The rule applies at all levels within the hierarchy: the sum of the work at the "child" level must equal 100% of the work represented by the "parent" and the WBS should not include any work that falls outside the actual scope of the project, that is, it cannot include more than 100% of the work... It is important to remember that the 100% rule also applies to the activity level. The work represented by the activities in each work package must add up to 100% of the work necessary to complete the work package. (p. 8)

PLANNED OUTCOMES, NOT PLANNED ACTIONS

If the WBS designer attempts to capture any action-oriented details in the WBS, he/she will likely include either too many actions or too few actions. Too many actions will exceed 100% of the parent's scope and too

few will fall short of 100% of the parent's scope. The best way to adhere to the 100% Rule is to define WBS elements in terms of outcomes or results. This also ensures that the WBS is not overly prescriptive of methods, allowing for greater ingenuity and creative thinking on the part of the project participants. For new product development projects, the most common technique to ensure an outcome-oriented WBS is to use a product breakdown structure. Feature-driven software projects may use a similar technique which is to employ a feature breakdown structure. When a project provides professional services, a common technique is to capture all planned deliverables to create a deliverable-oriented WBS. Work breakdown structures that subdivide work by project phases (e.g. Preliminary Design Phase, Critical Design Phase) must ensure that phases are clearly separated by a deliverable also used in defining Entry and Exit Criteria (e.g. an approved Preliminary Design Review document, or an approved Critical Design Review document).

MUTUALLY EXCLUSIVE ELEMENTS

In addition to the 100% Rule, it is important that there is no overlap in scope definition between two elements of a WBS. This ambiguity could result in duplicated work or miscommunications about responsibility and authority. Likewise, such overlap is likely to cause confusion regarding project cost accounting. If the WBS element names are ambiguous, a WBS dictionary can help clarify the distinctions between WBS elements. The WBS Dictionary describes components of the WBS with milestones, deliverables, activities, scope, etc.

LEVEL OF DETAIL

A question to be answered in the design of any WBS is when to stop dividing work into smaller elements. A common way of deciding the detailing level is the time between status reports/meetings. If the team reports biweekly the largest work package should be 80 hours. Then at reporting time a package is either not started, finished or late. This way makes it easy catching delays.

A work package is a piece that:

- Can be realistically estimated
- Cannot be logically subdivided further
- Can be completed quickly
- Have a conclusion and deliverable
- Can be completed without interruption (without the need for more information)
- Will be outsourced or contracted out

DECOMPOSITION CONSIDERATIONS (BREADTH VS. DEPTH)

A WBS will tend to be most useful for project management when its breadth and depth are thoughtfully balanced. A common pitfall is to inadequately group related elements, resulting in one or more nodes of the WBS becoming "too wide" to support effective management. This can make it difficult for management to find riskrelevant roll-up points within the WBS, requiring manual subtotaling of nodes or eventual restructuring of the WBS in order to make useful cost data more readily accessible. While no concrete standard exists for optimal depth or breadth, a common rule-of-thumb is to avoid having more than 7 immediate sub-elements below any given node of the WBS. This rule-ofthumb appears to be derived from psychological studies indicating that an average human brain is only capable of processing about 7 to 9 considerations simultaneously. The relevance of that psychological consideration to any particular WBS elaboration is left to the discretion of the WBS designer. At a minimum, the existence of more than 7 sister-nodes at any point in the WBS should prompt the designer to carefully consider whether those

sub-elements might not best be expressed (and tracked) in more logical sub-groupings.

WBS CODING SCHEME

It is common for WBS elements to be numbered sequentially to reveal the hierarchical structure. For example 1.3.2 Rear Wheel identifies this item as a Level 3 WBS element, since there are three numbers separated by a decimal point. A coding scheme also helps WBS elements to be recognized in any written context.

Common Pitfalls and Misconceptions

A WBS is not an exhaustive list of work. It is instead a comprehensive classification of project scope.

A WBS is not a project plan or a project schedule and it is not a chronological listing. It is considered poor practice to construct a project schedule (e.g. using project management software) before designing a proper WBS. This would be similar to scheduling the activities of home construction before completing the house design. Without concentrating on planned outcomes, it is difficult to follow the 100% Rule at all levels of the WBS hierarchy.

A WBS is not an organizational hierarchy. Some practitioners make the mistake of creating a WBS that shadows the organizational chart. While it is common for responsibility to be assigned to organizational elements, a WBS that shadows the organizational structure is not descriptive of the project scope and is not outcome-oriented. See also: responsibility assignment matrix (also called a Staffing Matrix).

WBS updates, other than progressive elaboration of details, require formal change control. This is another reason why a WBS

should be outcome-oriented and not be prescriptive of methods. Methods can, and do, change frequently, but changes in planned outcomes require a higher degree of formality. If outcomes and actions are blended, change control may be too rigid for actions and too informal for outcomes.

See Also

- List of project management topics
- Project planning
- Product breakdown structure
- Project management software

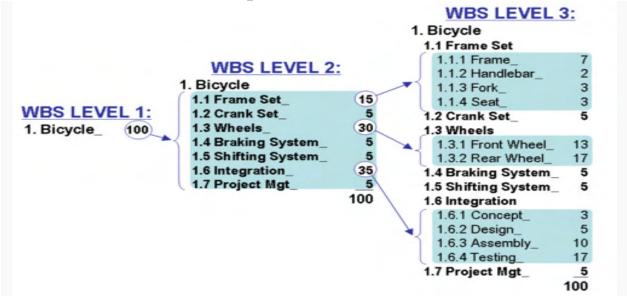
Figure 1 shows a WBS construction technique that demonstrates the 100% Rule quantitatively. At the beginning of the design process, the project manager has assigned 100 points to the total scope of this project, which is designing and building a custom bicycle. At WBS Level 2, the 100 total points are subdivided into seven comprehensive elements. The number of points allocated to each is a judgment based on the relative effort involved; it is NOT an estimate of duration. The three largest elements of WBS Level 2 are further subdivided at Level 3, and so forth. The largest terminal elements at Level 3 represent only 17% of the total scope of

work. These larger elements may be further subdivided using the progressive elaboration technique described above. In this example, the WBS coding scheme includes a trailing "underscore" character ("_") to identify terminal elements. This is a useful coding scheme because planned activities (e.g. "Install inner tube and tire") will be assigned to terminal elements instead of parent elements. Incidentally, this quantitiative method is related to the Earned Value Management technique.

It is recommended that WBS design be initiated with software (i.e. spreadsheet) that allows automatic rolling up of point values. Another recommended practice is to discuss the point estimations with project team members. This collaborative technique builds greater insight into scope definitions, underlying assumptions, and consensus regarding the level of granularity required to manage the project.

Figure 1: WBS Construction Technique. This exemplary WBS is from PMI's Practice Standard for Work Breakdown Structures (2nd Edition). This image illustrates an objective method of employing the 100% Rule during WBS construction.

WBS Construction Example (Figure 1)



Pete Fowler CONSTRUCTION Services, Inc.

OMMA-Goodness!™ Project Management Framework: In-Brief

Summary

Successful management of projects is hard, especially with lots of parties involved and more things to do than you can keep together in your mind, or even in your day-planner. A Project Management system is the closest thing we have to a guarantee of success. The *OMMA-Goodness!* TM *Project Management Framework* is a simple process that distills the fundamentals of effectively bringing people together to accomplish a project objective. You will not only succeed in accomplishing your objective, the people you work with will say "OMMA-Goodness! TM, what a great Project Manager!"

"OMMA-Goodness!TM" is a memory aid (mnemonic device) that stands for Objective, Method, Milestones and Actions. The OMMA-Goodness!TM Project Management Framework begins with a clearly stated Objective and a One Minute Summary, which are used to orient the team and help maintain focus. We step through a proven Method in a Project Planning Meeting to refine our Project Plan in multiple passes, keeping our critical data organized in the Milestones section, and clarifying the Scope with a Work Break-Down Structure. We then identify Actions required to complete the Milestones. From there we estimate durations and decide when and by whom Actions will be performed, which gives us Budget and Schedule data. At the end of the Project Planning Meeting we set the date and time for the first of our regular Project Status Meetings where we compare progress to plan, which creates a natural feed-back loop that leads toward success without relying solely on hope, the force genius, or on natural organizational skill. The Method naturally lends itself to building-in a quality control mechanism using Hold-Points.

Planning Steps

Read straight through the steps. Return after reading the Example, referring to definitions of the <u>Project Management Terms</u> as you go.

- 1. Select a <u>Project Manager</u> (or Coordinator) who will accept full responsibility for management and execution of the Plan. Print, open or draw a <u>Project Plan</u> form.
- 2. Write your <u>Objective</u>; then "<u>One Minute</u> <u>Summary</u>" the basic project info.
- 3. Select a Method or use 7-W's: Who, What, When, Where, Why, How, and How Much.
- 4. Make a first-pass brainstorm of <u>Milestones</u> and Deliverables.
- 5. Quickly list <u>Actions</u> to complete the known Milestones; don't linger in details yet.
- 6. Convene a <u>Project Planning Meeting</u>. Begin with the One Minute Summary. Update the Objective. Brainstorm more Milestones and Actions. Refine the <u>Scope</u> into a <u>Work Break-Down Structure</u>. Brainstorm the <u>Schedule</u> and <u>Budget</u>. Finalize Milestones, assign Actions and estimate durations. Set the Project Status Meeting date.
- 7. Following the planning meeting, update the Project Plan; refine the Objective, use the Method check-list to ensure the Plan is complete, update Milestones including Hold-Points, complete the list of Actions and assign "Priority, Who, When, Duration and Cost" for each.
- 8. Organize, lead, direct and manage execution of the Actions.
- 9. Compare progress to the Scope, Budget and Schedule in an <u>Earned Value Analysis</u>.
- 10. Conduct a <u>Project Status Meeting</u>; compare performance to plan; update the Plan.
- 11. Repeat steps 8-10 as necessary. The last "Project Status" is a "Project Close".

Example

- 1. Carl's Construction is planning their next Project, called *Otto's Outhouse*, using their Project Management Framework. Pepe is a new Project Manager. To avoid the distraction of struggling with a technology-based solution, Pepe will use a new spiral notebook, which will also serve as his project diary, instead of a Project Plan form. He formatted the Plan on two opposing pages; Objective, Method and Milestones on the left, Actions on the right including columns for Description, Priority, Who, When, Duration and Cost.
- 2. Pepe modified the standard company Objective: "We will complete the *Otto Outhouse* as promised, within budget and schedule. We will earn referrals from the client and the planned profits." (See attached Project Plan form)
- 3. Pepe's used the 7-W's Method. He summarized his project using each line in the method: (1.) Who: Owner = Otto. GC = Carl's Construction. Roofer = Ron's Roofing. (2.) What: New outhouse 4 feet square, 8 feet tall. (3.) When: Next Week. (4.) Where: 100 feet from existing residence. (5.) Why: Old one blew over. (6.) How: Two doors and one interior seat. Wood frame, wood siding, wood shingle sloped roof. (7.) How Much: Fixed price contract for \$4,693.95.
- 4. Pepe's first-pass brainstorm of Milestones and Deliverables was easy since he composed the estimate, Carl already signed the contract with the Owners, and the company always begins with a Scope, Budget and Schedule on the list. Estimate categories included: Grading & Excavation, Framing, Roofing, and Final Clean-Up so Pepe added these as Milestones. He also knew they needed to get a permit and have a final inspection.
- 5. Pepe listed Actions to complete the known Milestones, but didn't linger in details yet.

- 6. Pepe and Carl met for a Project Planning Meeting and began with the One Minute Summary. They updated the Objective and brainstormed more Milestones and Actions, including adding the Estimate and Contract with the Owner both marked as DONE, as well as the contract with the Roofer that was not yet complete. They decided to use the list of Milestones as the Work Break-Down Structure which would serve as their Scope summary for what they agreed to in the Contract with the Owner. Pepe used the WBS as the outline for a Budget and Schedule. They set a date and time for the first Project Status Meeting which Carl insisted happen before construction started, so the meeting became a Hold-Point.
- 7. After the Planning Meeting, Pepe updated the Plan, refined the Objective, used the Method as a check-list to ensure the Plan was complete, updated the Milestones, and completed the list of Actions, assigning "Priority, Who, When, Duration and Cost" for each item.
- 8. Pepe organized and managed execution of the Actions, marking those completed as DONE.
- 9. Pepe completed all pre-construction activities, updated the Plan, Scope, Budget and Schedule, and prepared an Earned Value Analysis. He prepared an Agenda for his meeting with Carl.
- 10. As planned, Pepe met with Carl to compare his progress to plan in a Project Status Meeting. Carl was thrilled! They walked through the agenda and composed and prioritized a list of actions to move through construction, including: a Project Kick-Off Meeting, beginning and inspecting grading & excavation, beginning and inspecting framing, Project Status Meeting #2, beginning and inspecting roofing, final signoff of the permit, final clean-up, Project Status (Close) Meeting #3 and sending all project documents to storage.

Example Project Plan

Objective: "We will complete the Otto Outhouse as promised, within budget and schedule. We will earn referrals from the client and the planned profits."

Method

- 1. What: New outhouse 4 feet square, 8 feet tall.
- 2. Who: Owner = Otto. GC = Carl's Construction. Roofer = Ron's Roofing.
- 3. When: Next Week.
- 4. Where: 100 feet from existing residence.
- 5. Why: Old one blew over.
- 6. How: Two doors and one interior seat. Wood frame, wood siding, wood shingle sloped roof.
- 7. How Much: Fixed price contract for \$4,693.95.

Milestones & Deliverables

1. PRE-CONSTRUCTION

- A. Estimate (DONE)
- B. Contract with Owner, including the Scope (DONE)
- C. Budget
- D. Schedule
- E. Permit: Get it.
- F. Contract with Roofer
- G. Agenda for Project Kick-Off Meeting
- H. HOLD-POINT: Project Status Meeting #1

2. CONSTRUCTION

- A. MILESTONE: Project Kick-Off Meeting
- B. Grading & Excavation
- C. Framing
- D. Project Status Meeting #2
- E. Roofing
- F. Final Clean-Up

3. PROJECT CLOSE

- A. Permit: Final Sign-Off
- B. Application for Payment
- C. Project Status (Close) Meeting #3

Actions

#	Description	Priority	Who	When	Time	Budget
1	Compose Estimate	DONE	PP	Mon	4.0	0.00
2	Compose and execute Contract with Owner	DONE	CC	Tue	4.0	0.00
3	Project Planning: Initial	DONE	PP	Fri	1.0	0.00
4	Project Planning Meeting	DONE	CC/PP	Fri	2.0	0.00
5	Update Project Plan (per Project Planning Meeting)	DONE	PP	Mon	1.0	0.00
6	Compose Budget	DONE	PP	Mon	0.5	0.00
7	Compose Schedule	DONE	PP	Mon	0.5	0.00
8	Permit: Get it.	DONE	CC	Mon	3.0	82.61
9	Compose Contract with Roofer	DONE	CC	Mon	2.0	0.00
10	Project Kick-Off Meeting Agenda	DONE	PP	Mon	2.0	0.00
11	HOLD-POINT: Project Status Meeting #1		CC/PP	Mon	1.0	0.00
12	Project Kick-Off Meeting		ALL	Tue	2.0	0.00
13	Begin Grading & Excavation		MM	Tue	8.0	1,111.00
14	Inspect completed Grading & Excavation		CC	Wed	2.0	0.00
15	Begin Framing		MM	Wed	16.0	912.00
16	Inspect Framing		CC	Thu	2.0	0.00
17	Project Status Meeting #2		CC/PP	Wed	1.0	0.00
18	Roofing		RR	Thu		445.00
19	Inspect Roofing		CC	Thu	2.0	0.00
20	Permit: Final Sign-Off		MM	Fri	1.0	0.00
21	Final Clean-Up		MM	Fri	16.0	610.00
22	Compose and deliver Application for Payment		PP	Fri	2.0	0.00
23	Project Status (Close) Meeting #3		CC/PP	Mon	1.0	0.00
24	File all project documents in storage		PP	Mon	1.0	0.00
25	TOTAL				75.0	3,160.61

Project Management Terms

- 1. <u>Project</u>: A temporary endeavor, that includes a beginning and an end, to create a product or service.
- 2. <u>Project Management</u>: The discipline of organizing and managing resources to deliver a defined outcome (Objective / Scope), within the constraints of the Budget and Schedule.
- 3. Project Manager (or Coordinator): A PM (or PC) is a professional responsible for planning, budgeting, scheduling and managing all project resources, including personnel, to deliver the project Objective; one who executes and follows-up on the Project Plan and reports Project Status.
- 4. Project Plan: A document that defines the project Objective, Method, Milestones, and Actions; contains a list of documents that define 100% of the Scope, Budget and Schedule.
- 5. Scope: The Scope of Work is the sum total (100%) of all a project's products and their requirements or features, including all labor, materials and equipment required to complete it; a Scope document is the written representation (100%-summary) of the scope, often best depicted in a Work Break-Down Structure.
- 6. <u>Budget</u>: An itemized list of expected costs or available funds for a project or specified Scope, often based on the Work Break-Down Structure. A control mechanism to compare to actual expenses.
- Schedule: A list or graphic of activities and associated dates, often based on a Work Break-Down Structure; may include who is responsible and how activities relate to each other. Common forms are the Bar (Gantt) Chart or Critical Path Method.
- 8. <u>Objective</u>: A concisely written goal of specific, measurable outcomes including a 100%-summary of the Scope, Budget and Schedule.
- 9. <u>Milestone</u>: An event that marks the completion of a Deliverable, a Hold-Point on a schedule, or a flag in the Project Plan to highlight completed work; often used to ensure project progress.
- 10. <u>Deliverable</u>: A measurable, tangible item produced during project execution. Some are external and subject to approval, but some are internal only.
- 11. <u>Action</u>: A discrete, specific, measurable task, often performed by an individual, usually between 1/10-hour and 8-hours and rarely more than 80-hours.
- 12. <u>Hold-Point</u>: Milestone or critical stage in a project for verifying conformance with plan or quality standards.
- 13. Problem-Solving: A learning situation involving more than one alternative from which a selection is made in order to attain a specific goal (Objective); usually to move the situation from where it is to the best available alternative. One METHOD: (1.) Define the Problem (2.) Identify Options (3.) Identify the Best Solution (4.) Plan How to Achieve the Best Solution (5.) Evaluate Results.

OMMA-Goodness!TM Components

- 14. One Minute Summary: An A to Z, 100%-summary "restatement of the obvious" to describe "who, what, when, where, why, how and how much" (7-W's), in 250 words or less to orient everyone to the bigpicture before emersion into the details.
- 15. OMMA-Goodness! TM Project Planning Form:
 Planning form with sections for writing the
 Objective, Method, Milestones & Deliverables, and
 Actions for a project. For use in Project Planning,
 Project Planning Meetings and Project Status
 Meetings.
- 16. Method: A problem-solving framework or check-list that we apply the specific facts of our project to, as an aid in Project Planning. Some Methods have a check-list or "Menu of Deliverables". EXAMPLES: Scientific Method, AA's 12 Steps, Deming's 14-Points, PMI's 9 Categories and even the 5-W's.
- 17. Menu of Deliverables (or Milestones): A list of common Deliverables (or Milestones) associated with a specific problem-solving method or project type, used as a check-list during project planning.
- 18. Project Planning Meeting: A meeting to perform a structured Problem-Solving session. AGENDA: 1. One Minute Summary, 2. Plan Review, 3. Review Scope, Budget & Schedule, 4. Method and Menu, 5. Brainstorming and Update Plan, 6. Update Actions, 7. Arrange Status Meeting. PM (or PC) deliver complete Project Plan following meeting.
- 19. Work Break-Down Structure (WBS): A project management technique for defining and organizing the total Scope using a hierarchical tree structure. The first two levels (the root node and Level 2) define a set of planned outcomes that collectively and exclusively represent a 100%-summary of the project Scope. At each subsequent level, the children of a parent node collectively and exclusively represent 100% of the scope of their parent node.
- 20. Earned Value Analysis (EVA): Technique for measuring progress which combines measurement of actual performance of Scope, Schedule, and Budget, organized using a Work Break-Down Structure, and compares them to plan in an integrated methodology.
- 21. Project Status Meeting: A meeting for a structured review of project progress compared to plan. AGENDA: 1. One Minute Summary, 2. Plan Review, 3. Review Scope, Budget & Schedule, 4. Old Business, 5. Method and Menu, 5. Performance Analysis, 6. New Business, 7. Brainstorming and Update Plan, 7. Update Actions, 8. Arrange Next Meeting. PM (or PC) deliver complete Project Plan following meeting.
- 22. <u>Brainstorming</u>: An activity used to generate many creative ideas that have no right or wrong answers and are accepted without criticism.

Pete Fowler CONSTRUCTION Services, Inc.

MAMA Meeting Management

Date:	September 1, 2011
Meeting Date:	September 21, 2011
To:	Project Team
From:	Project Coordinator
Project:	MAMA Meeting Management
Regarding:	Project Status Meeting Agenda
Attachments:	None

Meeting Information

- Who: PM, Expert, Project Coordinator, Technical Lead
- When: Date. Time. Duration is generally between 15 minutes and 4 hours.
- Where: In-office, via telephone conference, video conference, etc...
- Roles: Leader, Timekeeper, Scribe

Agenda

Old Business

- 1. A numbered list of all Action Steps from previous meetings
- 2. This is the stuff we committed to in the last meeting
- 3. You say: "Bob, you committed to finishing estimate, is that done and sent?"
- 4. This is what connects the meetings and creates accountability

New Business

- 5. A numbered, prioritized and organized list of all points that need to be discussed.
- 6. The discussion can jump from item to item and out of order.
- 7. Use these items as a check-list before the end of the meeting.
- 8. I continue from the numbering in Old Business, but the scheme doesn't matter.

Minutes

- 1. A numbered list of notes of what was discussed and decided.
- 2. These numbers don't necessarily need to correspond to the Agenda numbering.
- 3. These numbered items can be referred to in the Action Steps, for reference.

Action Steps

- 1. What, Who, When, Where, Why, How, How Long, How Much
- 2. Each Action Step should be discrete.
- 3. The SMARTer the better: <u>Specific</u>, <u>Measurable</u>, <u>Action oriented</u>, <u>Realistic</u>, and Time bound.
- 4. These will be pasted into the next Agenda as Old Business to ensure completion.
- 5. Next Meeting: Make sure you plan the next meeting to follow-up on commitments.

Pete Fowler **CONSTRUCTION** Services, Inc.

Project Status Meeting

Date:	September 1, 2006				
Meeting Date:	September 21, 2006				
To:	Project Team				
From:	Project Coordinator				
Project:	OMMA-Goodness! Project Management Training				
	PFCS Project 07-123				
Regarding:	Project Status Meeting Agenda				
Attachments:	None				
Note:	Confidential Attorney-Client and Attorney Work Product. Protected under all applicable evidence codes.				

Meeting Information

- 1. Who: PM, Expert, Project Coordinator, Technical Lead
- 2. When: Date. Time. Duration is generally between 7 minutes and 4 hours.
- 3. Where: In-office, via telephone conference, video conference, etc...
- 4. Roles: Leader, Timekeeper, Scribe

Agenda

- 1. One Minute Summary and Project Information Review (1-3 minutes)
- 2. Project Plan Review: Objective, Method, key Milestones & Deliverables, and key Actions to date (1-5 minutes)
- 3. Old Business: Actions from previous meeting (0 minutes to 3 hours)
- 4. Review Scope, Budget & Schedule compared to performance (2 minutes to 3 hours)
- 5. New Business (0 minutes to 3 hours)
- 6. Brainstorming/Problem Solving/Team Consulting: Update Project Plan (2-60 minutes)
- 7. Update Actions (what, who, when, where, how, how much and how long for each) during or immediately following meeting (3-60 minutes)
- 8. Arrange next Project Status Meeting (1-3 minutes)

Minutes

- 1. Notes re: discussion and decisions.
- 2.
- 3.
- 4.

Actions

- 1. What, Who, When, Where, Why, How, How Long, How Much
- 2. Next Project Status Meeting
- 3.

Weekly Plan

#	Done	ABC	Milestones / Deliverables / Big Rocks	Time	Project	Notes
1						
2						
2						
3						
4						
•						
5						
6						
7						
7						
8						
9						
10						
			Total Time			
			Discretionary Time (from your calendar)			
			Process			
		1	Values			
		2				
		3				
		4				
		5	` '			
		7	Discretionary Time			
		8				
		9				
		10				

Weekly Calendar

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8:00						
9:00						
10:00						
11:00						
12:00						
						Sunday
1:00						
2:00						
3:00						
3:00						
4:00						
5:00						
6:00						
0.00						
	Discretionary:	Discretionary:	Discretionary:	Discretionary:	Discretionary:	Discretionary:
	Daily Tasks					

Sharma v XYZ Holdings

Project Plan Budget

Line	Scope of Work / Deliverables Status		Original Plan		Current Plan		Total Billed to Date	Cost to Complete
			Hours	Costs	Hours	Costs		•
1	Level 1: Preparatory Work							
2	A. Images & Information Memo		1	\$130.00	1	\$130.00	\$85.00	\$45.00
3	B. Preliminary Document Review and Analysis		20	\$2,600.00	20	\$2,600.00	\$2,080.00	\$520.00
4	C. Document Index		8	\$1,040.00	8	\$1,040.00	\$1,040.00	\$0.00
5	D. Preliminary Issues List		8	\$1,360.00	8	\$1,360.00	\$680.00	\$680.00
6	E. Players List	D	4	\$680.00		\$680.00	\$340.00	\$340.00
7	F. Visual Inspection & Documentation	D	32	\$5,440.00		\$5,440.00	\$2,720.00	\$2,720.00
8	G. Meeting Agenda/Minutes	IP	4	\$680.00	12	\$2,040.00	\$680.00	\$1,360.00
9	Level 1 Subtotal		77	\$11,930.00	85	\$13,290.00	\$7,625.00	\$5,665.00
10	Level 2: Preliminary Analysis	IP						
11	A. Continue Document Review and Analysis		10	\$1,300.00		\$1,560.00	\$1,040.00	\$520.00
12	B. Timeline Document/Event Summary		32	\$4,160.00		\$4,160.00	\$2,080.00	\$2,080.00
13	C. Contract Summary		16	\$2,080.00		\$2,080.00	\$1,040.00	\$1,040.00
14	D. Issues-Discussion Matrix		16	\$2,720.00		\$2,720.00	\$1,360.00	\$1,360.00
15	E. Project Summary Memo	IP	12	\$1,560.00	12	\$1,560.00	\$520.00	\$1,040.00
16	Level 2 Subtotal		86	\$11,820.00	88	\$12,080.00	\$6,040.00	\$6,040.00
17	Level 3: Analysis							
18	A. Deposition Summary	TBC TBC	24	\$3,120.00	24	\$3,120.00	\$0.00	\$3,120.00
19	B. Detailed Issue Analysis		16	\$2,080.00		\$2,600.00	\$0.00	\$2,600.00
19	C. Preliminary Cost of Repair Estimate		24	\$4,080.00		\$4,080.00	\$0.00	\$4,080.00
20	D. Opinion Letter with Recommendations		16	\$2,080.00		\$2,080.00	\$0.00	\$2,080.00
21	E. Mediation Attendance TBC		12	\$2,040.00	12	\$2,040.00	\$0.00	\$2,040.00
22	Level 3 Subtotal		92	\$13,400.00	96	\$13,920.00	\$0.00	\$13,920.00
23								
23	Levels 4 & 5: Detailed and Final Analysis							
24	Future work, including expert deposition and trial preparation	TBD						
26								
27	Total		255	\$37,150.00	269	\$39,290.00	\$13,665.00	\$25,625.00
28	D = Deliverable Completed							
28	IP = In Progress							
28	TBC = To Be Completed							
30	TBD = To Be Determined							

Pete Fowler CONSTRUCTION Services, Inc.

Project Status

Date:	November 14, 2008
To:	Client
From:	Pete Fowler Construction Services, Inc.
Project:	Construction Management Project
Regarding:	Project Status Memorandum #3
cc:	All Parties Involved
Note:	Confidential Attorney-Client and Attorney Work Product. Protected under all applicable evidence codes.

Dear Mr. Smith:

The repair plan has been approved by the City of Los Angeles and a building permit has been obtained for the exterior stair repairs. We have scheduled a pre-construction meeting with the contractor and the property manager and hope to identify a start date very soon. We are looking forward to the commencement of the repair work.

This letter will serve as our third project status memo intended to keep all involved parties informed of the current status of this project. We will continue to provide periodic project status memos as the project progress.

Completed Actions

- ABC Construction has submitted repair plans and successfully obtained building permits for the stair repair work. A copy of the building permit is attached for your records.
- 2. PFCS has scheduled a pre-construction meeting on-site with the contractor and the property manager to review and coordinated the work in regard to the tenant access during repairs. The meeting is scheduled for Monday, November 17th at 10:00am.
- 3. ABC Construction has provided a written description of the areas of deck coating to be affected along with the manufacturer's specification and installation details.
- 4. PFCS has prepared the second application for payment, submitted to the owner for payment to ABC Construction for work completed to date. This application includes reimbursement for the plan check and permit fees paid by ABC Construction on the owners behalf.
- 5. PFCS has obtained additional insured endorsements for Owner as Trustee of the Owner and for Pete Fowler Construction Services, Inc., with copies attached for the owners review and acceptance. We expect to be receiving the additional insured endorsement for the Owner Trust in a few days and will forward to Owner upon receipt.

Telephone CA: 949.240.9971 OR: 503.246.3744

Next Actions

- 1. PFCS will review this information in comparison to the as built conditions to determine if any deviations are warranted. Any deviations that are required will be documented and presented to the owner for review.
- 2. Upon completion of the pre-construction meeting ABC will provide a written construction schedule for the repair work.
- 3. The owner shall review the attached additionally insured endorsement. No on-site work may commence prior to owners acceptance.
- 4. PFCS will work with ABC Construction and the property manager to coordinate a start date that is convenient for all parties.

Please feel free to contact us should you have any further questions regarding the status of this project.

Sincerely,

PETE FOWLER CONSTRUCTION SERVICES, INC.

John Callanan

Attachments:

- 1. Building Permit
- 2. Plan Check and Building Permit Receipts
- 3. Additional Insured Endorsements