

The Basics of Construction Accounting & Financial Management

ABC & CFMA Webinar

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Today's Presenter:



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Basics of Construction Accounting and Financial Management

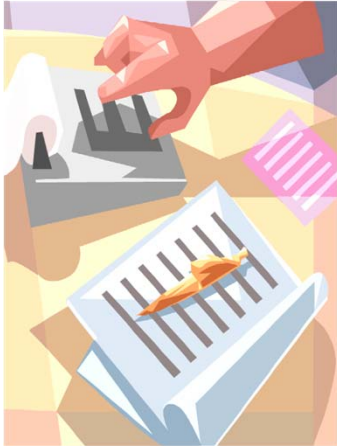
This webinar focuses on basic construction accounting concepts and will provide an overview

- from job costing to financial reporting**
- as well as construction-specific practices that introduces contractors to construction accounting fundamentals.**

These fundamentals include: debits and credits and how they work, accounting for job cost, work-in-progress (WIP) schedules, percentage-of-completion revenue recognition, and developing financial statements.

Construction Industry Basics

ACCOUNTING is the **ART** of:



Recording & Summarizing
business & financial transactions

AND

Analyzing, Verifying & Reporting
the results.

Merriam Webster's Collegiate Dictionary
10th Edition

Current Construction Market

- Dealing with the realities of a Recovering Construction Market:
 - **Sound Financial Management practices help weather**



Unique Industry Characteristics

- Each project is different.
- Industry is dominated by small, local, family, or privately owned firms < \$10-\$50M.
- Revenue is dominated by multi-billion \$\$\$ international & publicly traded corporations.
- A/E/C industry is estimated at 5% of U.S. GDP.

Construction Industry Participants

- Owners
- Architects/Engineers (A/Es)
- General Contractors (GCs)
- Construction Managers (CMs)
- Specialty Trades (Subs)
- Suppliers



Key Financial Partners

- **Management Accountants**
- **Public Accountants/CPAs**
- **Sureties**
- **Insurance Agents**
- **Bankers**
- **Management Consultants**

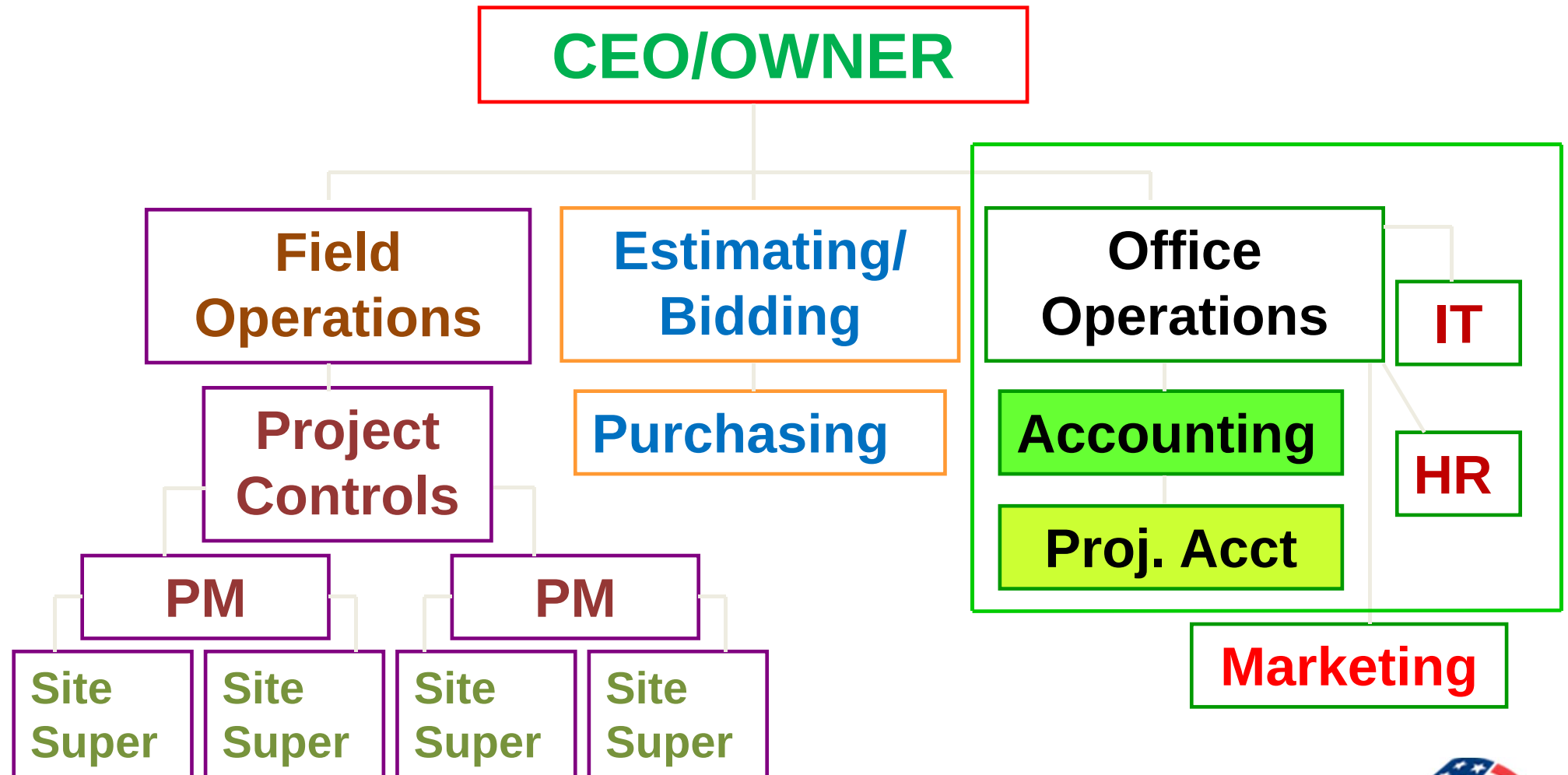


Types of Contracts – All Companies

- Fixed-Price / Hard Bid – 43%
- Fixed-Price Negotiated – 19%
- Cost-Plus-Fee with GMP – 11%
- Unit-Price – 10%
- Time & Materials – 7%
- Cost-Plus-Fee – 6%
- Construction Mgmt. – 3%



Typical Construction Company Setup



Basic Debits and Credits and How They Work

- DEBITS

- Assets

- Expenses

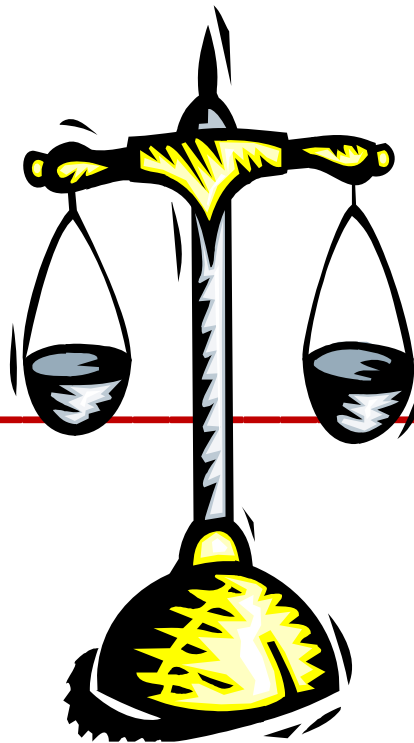
- CREDITS

- Liabilities

- Equity

- Revenue/Sales

- Net Income



Basic Equation

Assets - Liabilities = Owners Equity

Revenue - Expenses = Net Income

Double-entry accounting

- Every transaction affects and is recorded in two or more accounts
- Total amount debited must equal the total amount credited
- The sum of the debit account balances in the ledger must equal the sum of the credit balances
- If the debit and credit balances don't equal an error has been made
- Increases in assets are recorded on the debit side of the asset accounts



Double-entry accounting

- Why do assets have debit balances?
 - No specific reason – simply a matter of convention
- Since assets have debit balances then increases in liabilities and owners equity must be recorded as credits
- This results in the accounting equation, $A = L + OE$ and the requirement that debits must equal credits

Assets

Debits for Credits for
Increases Decreases

Liabilities

Debits for Credits for
Decreases Increases

Owner's Equity (OE)

Debits for Credits for
Decreases Increases

T – Accounts

Cash

Debits

Contract Receipts	\$100,000
Loan Receipts	150,000

Total increases	\$250,000
Less decreases	<u>(150,000)</u>
Balance	<u>\$100,000</u>

Credits

Rent Payment	\$ 20,000
Payment of Wages	100,000
Payment of Taxes	30,000

Total decreases	\$150,000
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The Four Most Common Accounting Methods for Contractors

- Cash
- Accrual
- Completed contract
- Percentage-of-completion

Cash Method

- **Cash basis accounting records transactions based upon the timing of cash flows i.e. income when deposited and expenses when paid**
- **Simple to maintain because billings and accounts payables are not recorded**
- **Low administrative costs**
- **Doesn't give true presentation of profitability**
- **Not a Generally Accepted Accounting Principal (GAAP) Method**

Accrual Method

- Simple -- billings posted as revenue; costs posted as expenses
- Method used by most contractors until converted to Percentage of Completion (PCM)
- Easy to convert to percentage of completion method
- Provides good information on cash flow
- This Methodology is required by Generally Accepted Accounting Principles (GAAP)

Completed Contract Method

- No revenue or expense (net income) is recognized until project is “substantially” complete
- Revenues/expenses recorded in balance sheet accounts
- Simple to maintain
- May be available for income tax purposes
- Profitability not accurately presented by general ledger
- Can be an acceptable GAAP method

Percentage of Completion

- The concept under which a contractor recognizes income from fixed-price contracts as the work progresses rather than the amounts billed or collected
- This methodology is required by GAAP for contractors
- Revenue recognized based on extent of costs incurred
- Work-in-process schedule ties into general ledger
- Shows as Underbillings/Overbillings

Provision for Contract Losses

- The expected loss on an individual contract must be recognized in full when it becomes apparent that there will be a loss
- This is regardless of the percentage of completion

The Four Most Common Accounting Methods

Contract Information:

Total contract amount	\$1,000,000
Total estimated costs	<u>\$800,000</u>
Estimated profit	<u>\$200,000</u>
Costs incurred to date	\$600,000
Billed to date	\$700,000
Cash collected to date	\$450,000
Costs paid to date	\$400,000

Cost to date \$600,000 = 75% X \$1,000,000 = \$750,000

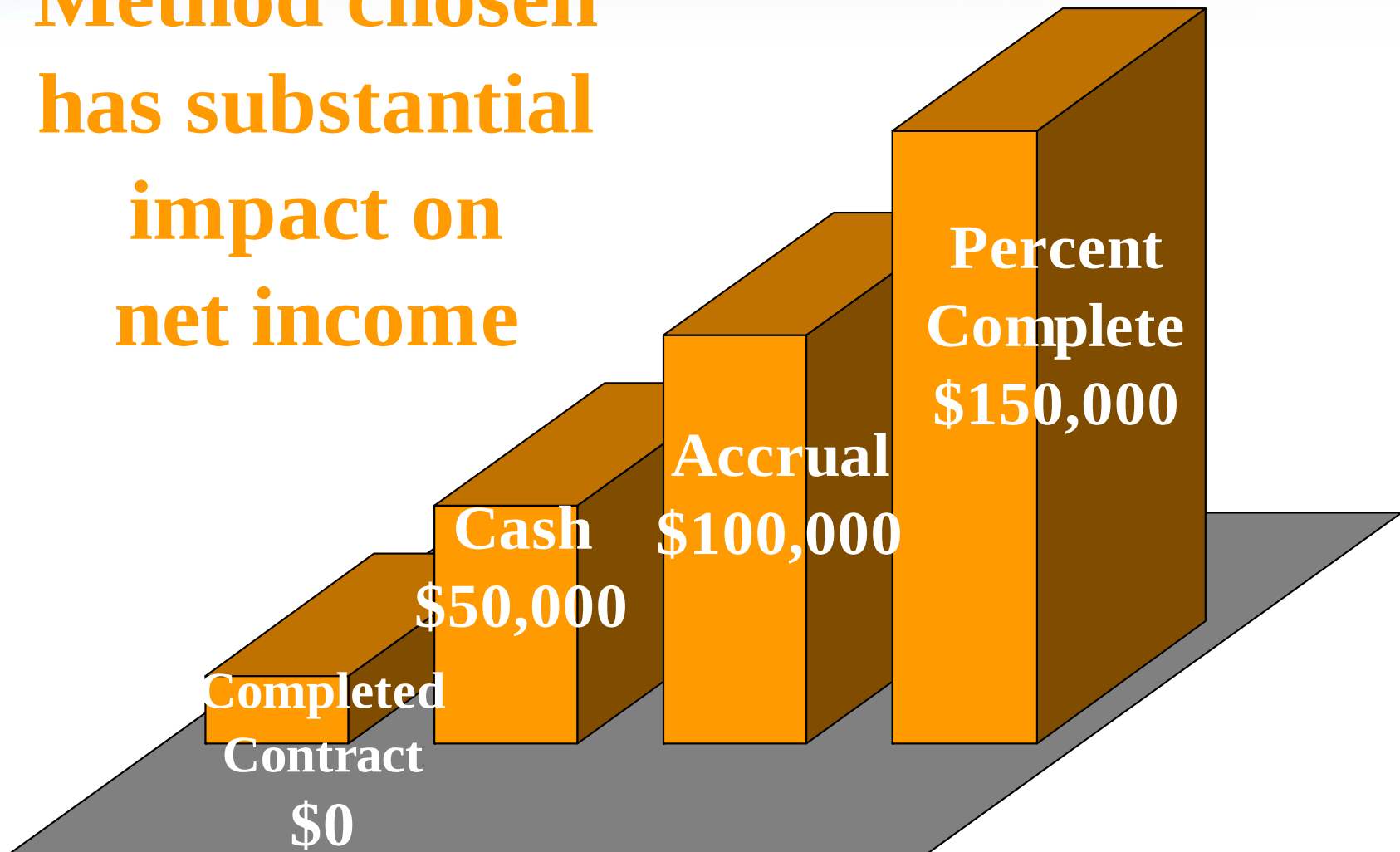
Total Est. costs \$800,000

\$750,000 - \$600,000 = \$150,000

Accounting Methods:

Cash	\$50,000
Accrual	\$100,000
Completed	
-Contract	\$ 0
Percentage –of	
-Completion	\$150,000

**Method chosen
has substantial
impact on
net income**



Policies & Practices Unique to the Construction Industry

- Every contract has unique terms.
- Every job has different “everything.”
 - Customer
 - Location
 - Drawings
 - GC & Subs
 - Project & Field Staff
- Estimating is an integral part of job procurement & revenue recognition.
- Change orders are unavoidable.

Importance of a Job Cost System

Goals

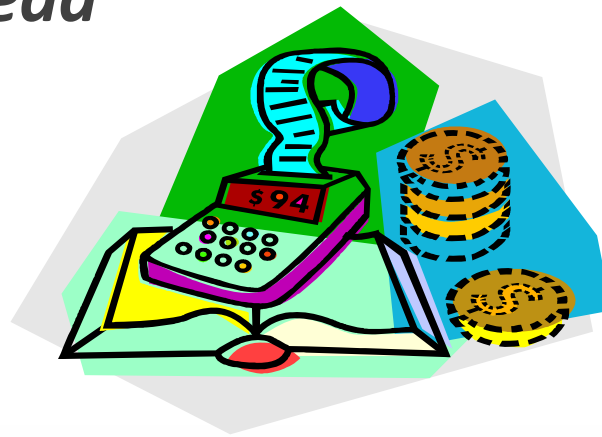
- Understand how accurate job costing fits into the whole construction process
- Understand the importance of knowing all your costs
- Learn what components make up job costs
- Learn what three major types of expenses make up indirect costs
- Learn the different methods of allocating indirect costs and covering general overhead costs

What is a Job Cost System?

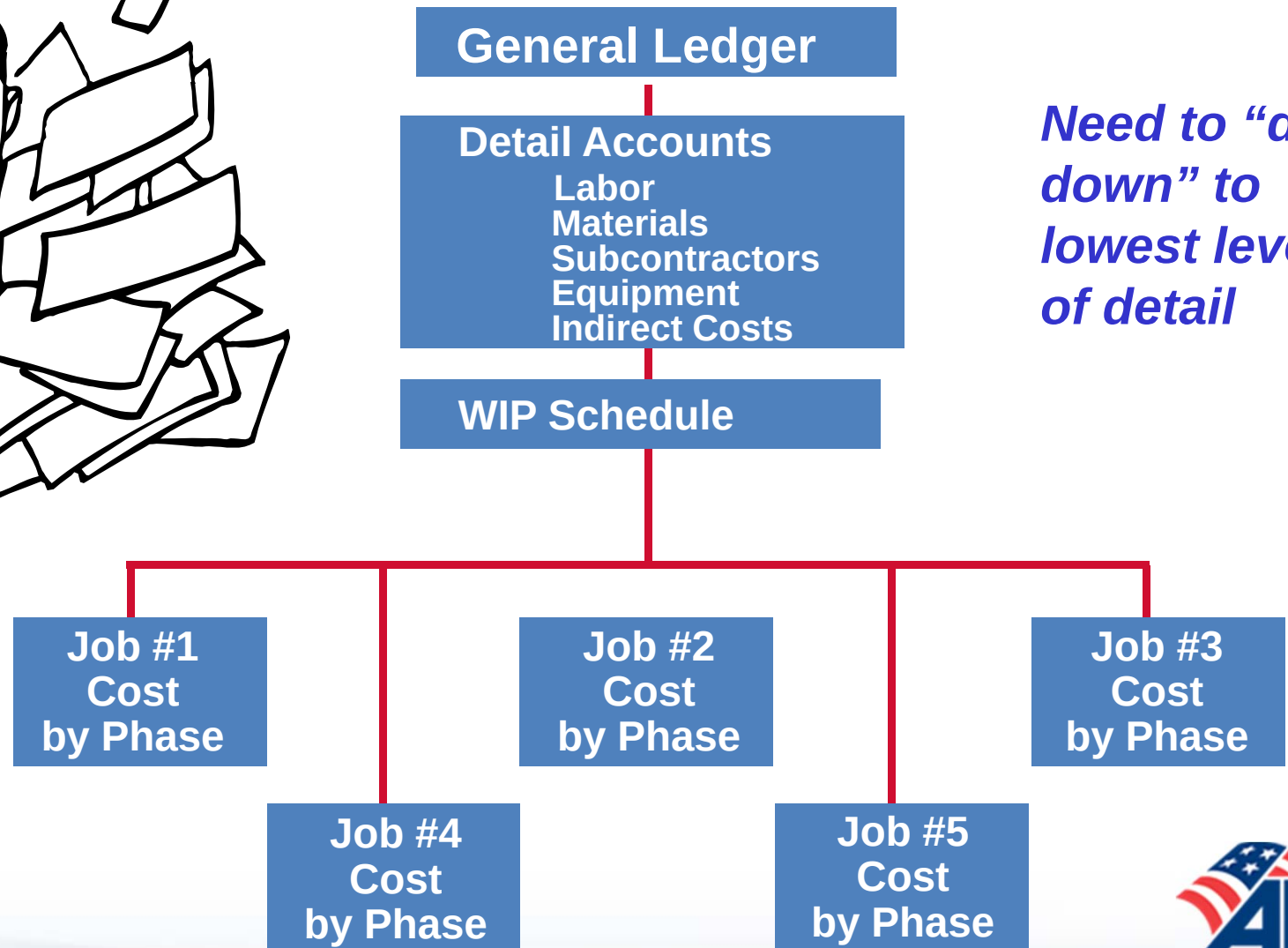
- Not part of the double entry system
- It is a by-product of the double entry system
- It is the heart and soul of the contractors job “score card”
- The job cost system doesn’t just keep score
- If managed correctly it can be the predictor of a jobs future profitability
 - later we will discuss how it feeds contract information to the contract-in-progress (CIP) schedule

The Components of Job Costs!

- Direct versus Indirect costs:
 - *Difference between Direct and Indirect*
 - *Examples of direct costs*
- The three major most common indirect cost – pools charged to jobs
 - *indirect job cost/overhead*
 - *equipment*
 - *labor burden*



Components of Job Cost



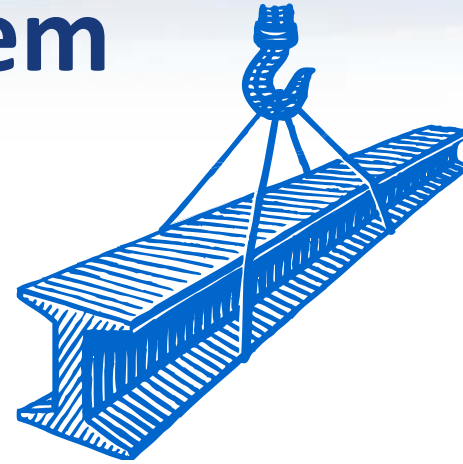
Need to “drill down” to lowest level of detail

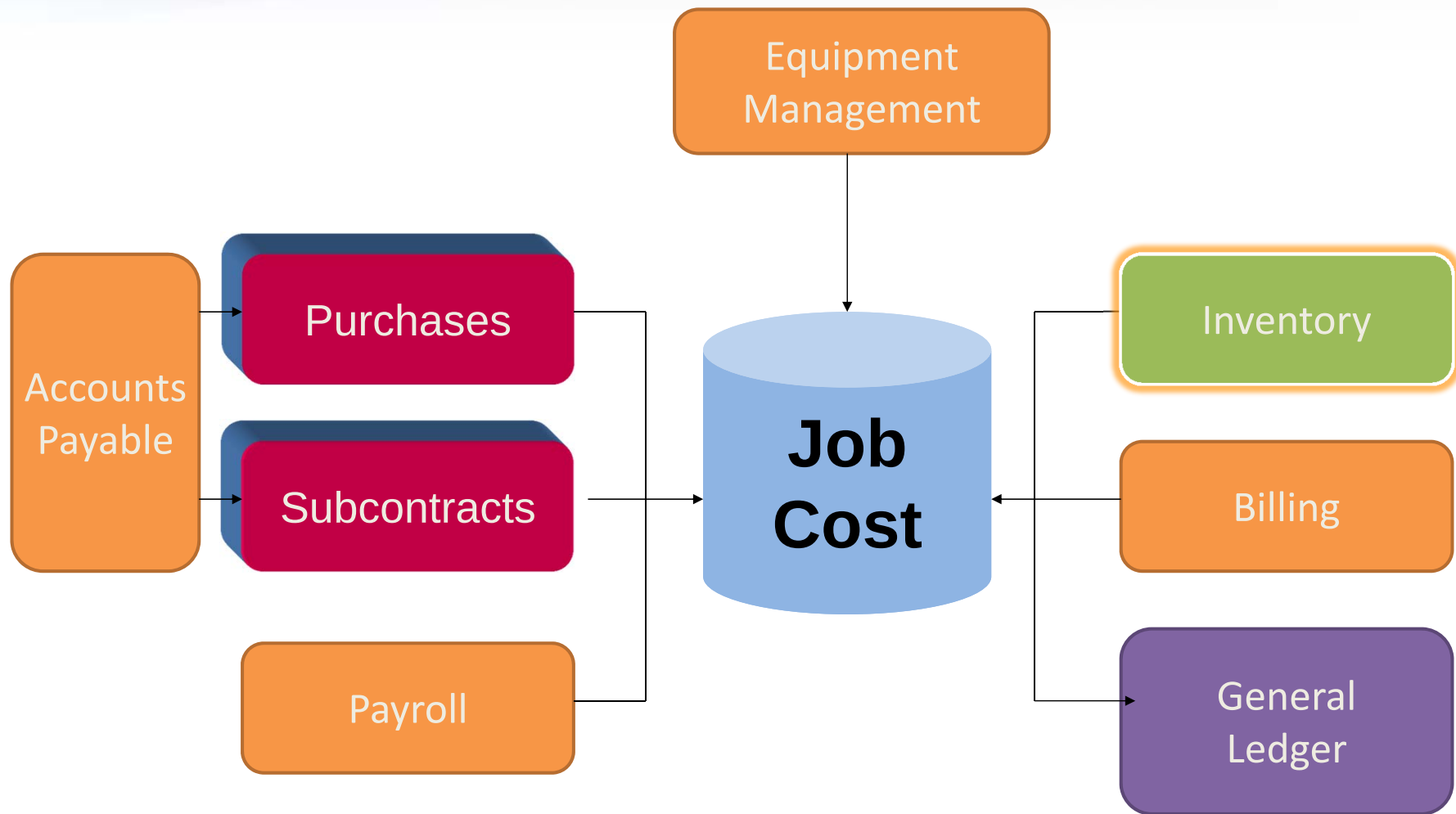
The Job Cost System

What Is It?

Who Uses It?

Why Is It Important for Contractors?





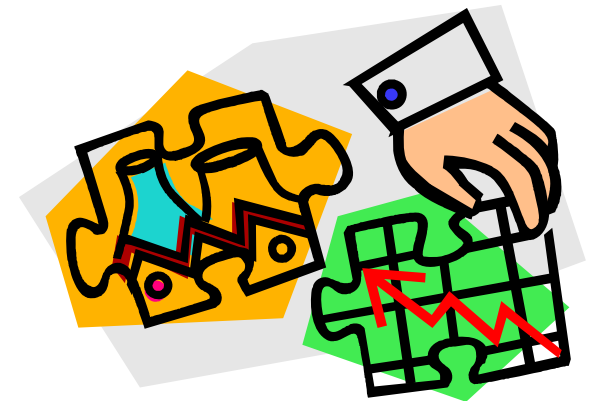
Job Cost System Objectives

For Management Accountants –

Provide useful information to decision makers

For Project Management –

A risk management tool



Direct Job Costs

- Material
- Labor
- Subcontractors
- Equipment (rentals & installed)
- Other
 - Bond premiums, Permits, etc.



Direct Costs

- Direct Costs Include All Costs Which Can Be Directly Identified with an Individual Job.
- Direct Job Costs Allow You to Measure Your Actual Performance Against Your Estimate.

Indirect Job Costs

- Indirect labor
- Contract supervision
- Tools & consumables
- Insurances
- Owned equipment costs
- Other



Indirect Costs

- **Indirect Costs Are Those Costs Which Cannot Be Directly Identified With a Specific Job, But Which Primarily Relate to the Completion of Contracts.**

Construction Job Costs Exclude

- General & Administrative Expense
- Selling Expense
- Boats, airplanes, vacation homes, snowmobiles, ATV's, Race Cars, etc.
- Pre-contract costs normally excluded

General & Administrative Costs

- **General & Administrative (G&A) Costs Are Not Direct or Indirect Costs. These Costs Should Include the Costs of Running the Office, Accounting, Human Resources, Information Technology and Marketing the Business.**

Allocating Indirect Job Costs

- Cost Pools
- Allocation Methods



Indirect Job Cost - Pool - Jobsite Overhead

Normal jobsite overhead, also referred to as general conditions items, includes costs such as:

- Project managers
- Superintendents
- Secretarial and clerical workers
- Timekeepers
- Office trailers
- Office equipment
- Office supplies
- Temporary electricity
- Temporary water
- Temporary sewer
- Telephone costs
- Sanitary facilities
- Trucks and automobiles

Cost of Equipment - Pool

- Depreciation
- Interest
- Repairs & Maintenance
- Transportation
- Licenses
- Fuel, Oil, & Supplies
- Insurance

How Do You Allocate Equipment Costs to Jobs?

- Hourly? Daily? Weekly?
- Customer Billing Rate?
- Internal Cost rate?
- Third-party Rate Book?
- Idle Rate?
- Operating Rate?

Home Office Overhead (SGA)

Normal home office overhead includes costs such as:

- Advertising
- Depreciation (office equipment & furniture)
- Donations
- Dues and subscriptions
- Insurance (office items and health / life)
- Interest and bank charges
- Office supplies
- Professional fees
- Rent
- Salaries - office
- Salaries – officer
- Labor burden (office)
- Taxes – business
- Telephone
- Travel and entertainment
- Utilities
- Yard expense
- Miscellaneous
- Education
- Computer
- Bad debts

Why is knowing all your costs the most important aspect of construction accounting?

- It helps you:
 - in the bidding process
 - to determine problem jobs and people
 - to price change orders
 - in the claims process
 - to reconcile job cost reports to the financial statements
 - to make better business decisions

Users of Job Cost Reports

- **Project Management (primary)**
- **Top Management (important)**
- **Estimator (if proactive)**
- **Management Accountant (analysis)**
- **External Financial Execs (rare)**
- **Customers – cost-plus auditing**

At the end of today's session, you will be able to:

- Calculate earned revenue.
 - *Understand percentage of completion revenue recognition process*
- Grasp the importance of monitoring job costs
- Identify what a construction company expects from its financial manager.



WIP/Percentage of Completion Components

- **Percentage-of-Completion Cost-to-Cost Method**
 - Total Contract Value
 - Costs Incurred to Date
 - Estimated Costs @ Completion
- **What's 4th component?**
 - Billings

Contract Value Includes

- Basic Contract Value
- Contract Options and Additions +/-
- Change Orders +/-
- Claims +/-
- Incentive/Penalty Provisions +/-

Importance of Percentage-of Completion Revenue Recognition

Cost incurred to date = Percent complete

Total estimated costs

\$ 1,000,000 = 50%

\$ 2,000,000

Percent complete x Total contract Amount = Earned Revenue

50% x \$2,200,000 = \$1,100,000

Earned Revenue – Billed to date = Under (Over) billed

\$ 1,100,000 - \$ 1,000,000 = \$ 100,000 underbilled

(Cost and estimated earnings in excess of billings)

Estimating Costs to Complete

- How important is this step?
- Key test of Project Manager's foresight
- Key attribute of reliable Job Cost Management System
- An art, not a science

Estimated Costs to Complete

- Basis of WIP # is a job cost system
- Requires regular, periodic comparisons to budgeted/estimated costs
- Computed differently @ cost code level (yes?)
- Reflect all costs associated with performance of contract?

Overview of Claims

- Usually involve contract scope and/or timing issues
- Five broad categories:
 1. Delay
 2. Disruption
 3. Changed Conditions
 4. Changes in Scope
 5. Termination

What is Earned Revenue?

- That portion of the total contract amount that a company is able to record during a particular accounting period.



The WIP Schedule

Exhibit 3: Work-in-Process Schedules (000s)
For the Year Ended December 31, 200x

JOB NUMBER	CONTRACT AMOUNT	ESTIMATED COST	GROSS PROFIT	GROSS PROFIT %	CURRENT YEAR BILLINGS	BILLED TO DATE	CURRENT YEAR COSTS	COST TO DATE	PERCENT COMPLETE	TOTAL REVENUE EARNED	PRIOR YEAR REVENUE	CURRENT YEAR REVENUE	COST OVER BILLINGS	BILLINGS OVER COST	REVENUE EARNED NET OF CURRENT YEAR COST	NET CURRENT YEAR LOSSES
1010	13,000	11,000	2,000	15.38	4,000	13,000	4,000	11,000	100.0	13,000	8,900	4,100	-	-	100	-
1011	2,000	1,650	350	17.50	1,250	2,000	1,250	1,650	100.0	2,000	750	1,250	-	-	-	-
1012	250	200	50	20.00	95	245	100	200	100.0	250	125	125	5	-	25	-
1013	800	650	150	18.75	150	750	150	650	100.0	800	600	200	50	-	50	-
1014	2,000	1,825	175	8.75	295	1,970	25	1,825	100.0	2,000	1,750	250	30	-	225	-
1015	450	300	150	33.33	400	450	200	265	88.3	397	400	(3)	-	52	(202)	(202)
2016	5,000	3,800	1,200	24.00	1,835	1,835	1,330	1,330	35.0	1,750	-	1,750	-	85	420	-
2017	4,500	4,000	500	11.11	500	500	600	600	15.0	675	-	675	175	-	75	-
2018	9,000	7,000	2,000	22.22	294	294	270	270	3.9	347	-	347	53	-	77	-
2019	8,000	6,500	1,500	18.75	3,800	3,800	3,120	3,120	48.0	3,840	-	3,840	40	-	720	-
2020	3,000	2,500	500	16.67	1,500	1,500	1,750	1,750	70.0	2,100	-	2,100	600	-	350	-
2021	2,500	2,200	300	12.00	1,800	1,800	1,870	1,870	85.0	2,125	-	2,125	325	-	255	-
2022	500	480	20	4.00	50	50	120	120	25.0	125	-	125	75	-	5	-
2024	150	105	20	40.00	38	38	12	12	11.4	17	-	17	-	21	5	-
2025	750	650	100	13.33	543	543	598	598	92.0	690	-	690	147	-	92	-
2026	150	100	50	33.33	50	50	5	5	5.0	8	-	8	-	42	3	-
	\$52,050	\$42,960	\$9,090	17.46	\$16,600	\$28,825	\$15,400	\$25,265	58.8	\$30,125	\$12,525	\$17,599	\$1,500	\$201	\$2,200	(\$202)

Note: Prior Year Billings and Prior Year Costs are not shown due to space limitations.

Costs & Est. Earnings in Excess of Billings (analysis)

- Reflects drain on cash flow
- Over-recognized earnings
- Suggests potential poor billing disciplines
- Increases financial risk

Exercise & Discussion

Costs in Excess (CIE) - Asset

- Compute CIE
- Examples of what creates a costs in excess position.
- What's greatest danger of a CIE position?

Cost in Excess

Scenario – Period 1

ABC/CFMA Basic Construction Co., Inc., began work on the office building just awarded.

Contract Value		\$20,000,000		
Estimated Costs		\$18,000,000		
Estimated Gross Profit		\$2,000,000		
Gross Profit %		10%		
Cost to Date		\$4,500,000		
Estimated costs to complete		\$13,500,000		
		\$18,000,000		
Billings to Date		\$4,500,000		
Calculate the following from the above data:				
Revenue Earned		\$5,000,000		
		-		
Billings to date		\$4,500,000		
		=		
Costs in Excess		\$500,000		

Exercise & Discussion

Billings in Excess (BIE) - Liability

- Compute BIE
- Discuss examples of what creates a billings in excess position.
- What's biggest danger of a BIE position?
- Suggest possible bad billing disciplines

Billings in Excess

Scenario - Period 2

**ABC/CFMA Basic
Construction Co., Inc.
began work on the job.**

The lump sum contract allowed for advances on estimated subcontract draw requests to begin critical, initial phases.

[illegible]

Billings in Excess of Costs & Est. Earnings (analysis)

- Key source of financing
- Management “sandbagging!”
- Suggest smart billing disciplines
- Unrecognized vendor liability-subs
- Decreases risk ?? (on job level)

Components of Financial Statements

- Independent Auditor's Report
- Financial Statements
- Notes to Financial Statements
- Supplementary Information

Basic Financial Statements

- **Balance Sheet**
 - Assets, Liabilities & Equity Accounts
- **Statement of Income**
 - Revenue and Expense Accounts
- **Statement of Retained Earnings**
- **Statement of Cash Flows**
- **Work-in-Process Schedule**
 - Supplemental Schedules

Notes to Financial Statements

- Additional information important for full disclosure

or

- To emphasize some important issues from the contractor's perspective

Supplementary Information

- Not required by Generally Accepted Accounting Principles (GAAP)
- Meets needs of various users
- Content and form vary by company
- Should include WIP Schedule

RETENTION

- **Range from 5% to 10%**
- **Generally due and collectible by contractor at completion of contract**
- **Retention held can be reduced at certain milestones**

Practical Concepts

- Review labor performance daily
 - actual production Vs. budget & job to date
- Profit is not a “dirty word”
- Collecting your receivables is a Right not a privilege
- Computerize as many aspects of your business as you can

ABC Construction Company

Earnings from Contracts Year Ended December 31, 2011

	<u>Revenues Earned</u>	<u>Cost of Revenue Earned</u>	<u>Gross Profit (loss)</u>	<u>Profit (Loss) Percent</u>
Contracts completed during the year	1,000,000	800,000	200,000	20%
Contracts in progress at year end	1,500,000	1,200,000	3,000,00	20%
Unallocated indirect costs	<u> </u>	<u>250,000</u>	<u>(250,000)</u>	<u>(10)</u>
	<u>2,500,000</u>	<u>2,250,000</u>	<u>250,000</u>	<u>10%</u>

What is a Balance Sheet?

- Balance sheet is a snapshot at a certain date.
- What does the business own?
- What does the business owe?
- What is the business worth?
- It is a measure of liquidity and leverage.
- Typically presented in liquidity order.
- Liquidity refers to how quickly assets can be converted to cash.
- Liquidity can also be viewed as how capable a business is of covering its obligations



Balance sheet presentation

- Typically presented in liquidity order.
- Liquidity refers to how quickly assets can be converted to cash.
- Liquidity can also be viewed as how capable a business is of covering its obligations



Assets

- Current assets refer to assets that are converted to cash within a year.
- Under and Over billings are generally current assets/liabilities.
- Fixed assets refer to items that are not for resale and have a life of greater than one year.
 - Equipment, furniture and vehicles are all examples of fixed assets.



Liabilities

- **Current liabilities are generally obligations that will be paid or are payable over the next 12 months.**
- **Long-term liabilities are obligations that are not due until greater than 12 months from the balance sheet date.**

Net worth



- Net worth is the difference between what is owned (assets) and what is owed (liabilities).
- Reflected in the equity section of the balance sheet.
- Includes original investment (stock, paid in capital) and retained earnings of the business.

How to analyze the Balance Sheet

- Become familiar with the major components of the balance sheet.
- How much is invested in fixed assets?
- Is inventory a large part of the business?
- How much debt does the business have?



ABC/CFMA, Inc.

Balance Sheet

December 31, 2011

Assets

Current Assets

Cash	\$ 300,000	
Contract Receivables	3,400,000	
Costs and Estimated Earnings in Excess of Billings	200,000	
Inventory	300,000	
Prepaid Expenses and other Current Assets	<u>200,000</u>	
Total Current Assets		\$ 4,400,000

Property and Equipment - net 700,000

Other Assets

Cash Surrender Value- Officers Life Insurance	150,000	
Accounts Receivable - Officer	<u>100,000</u>	

Total Other Assets 250,000

Total Assets \$ 5,350,000



ABC/CFMA, Inc.
Balance Sheet
December 31, 2011
Liabilities and Stockholders Equity

Current Liabilities

Notes Payable	\$ 200,000
Current Portion of Long - Term Debt	100,000
Accounts Payable	2,800,000
Billing in Excess of Costs and Estimated Earnings	250,000
Accrued Expenses and other Current Liabilities	150,000
Income Taxes Payable Current	<u>400,000</u>
Total Current Liabilities	\$ 3,900,000
<u>Long Term Debt - Less Current Portion</u>	<u>450,000</u>
Total Debt	4,350,000
<u>Stockholders Equity</u>	<u>1,000,000</u>
Total Liabilities and Stockholders Equity	\$ <u>5,350,000</u>



ABC/CFMA, Inc.

Statement of Operations and Retained Earnings Year Ended December 31, 2011

Earned Revenue	\$10,000,000
Cost of Earned Revenue	<u>8,000,000</u>
Gross Profit	2,000,000
G & A Expenses	<u>1,000,000</u>
Net Income Before Taxes	1,000,000
Income Taxes	<u>400,000</u>
Net Income	600,000
Retained Earnings - Beginning	<u>400,000</u>
Retained Earnings - Ending	<u>\$1,000,000</u>



Liquidity analysis

- Provides information about the cash position of a business and its ability to cover current obligations.
- Current ratio (current assets less current liabilities). This is the most basic test of liquidity. Will the company have the ability to cover their current obligations?



Income Statement

- Income statement is a widely used and misunderstood statement.
- While the balance sheet was a snapshot picture, the income statement is a diary. It captures all the transactions that happened in a certain time period.

In Conclusion

On behalf of ABC & CFMA...

**Thank You for Your
Participation!**

