

The Basics of Construction Accounting & Financial Management

ABC & CFMA Webinar

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Today's Presenter:



Anthony R. Stagliano, CPA, CCIFP - (Tony)

National Director of A/E/C Industry Services

CBIZ & MHM, LLC

401 Plymouth Road, Suite 200

Plymouth Meeting, PA 19462

www.mhm-pc.com/construction

(610) 862-2420 – Direct

(610) 862-2470 – Fax

(215) 813-8324 – Mobile

E-mail: tstagliano@cbiz.com



Basics of Construction Accounting and Financial Management

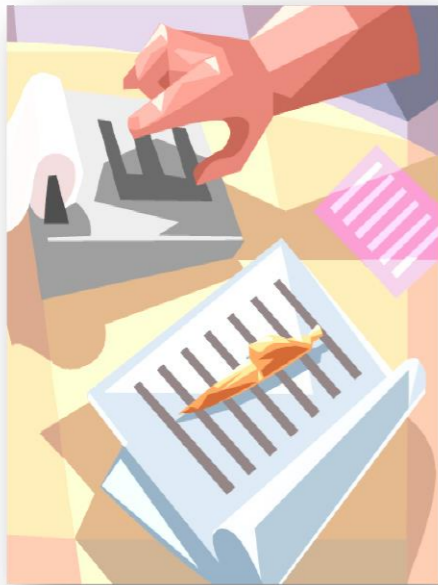
This webinar focuses on basic construction accounting concepts and will provide an overview

- 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 the storm**



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**

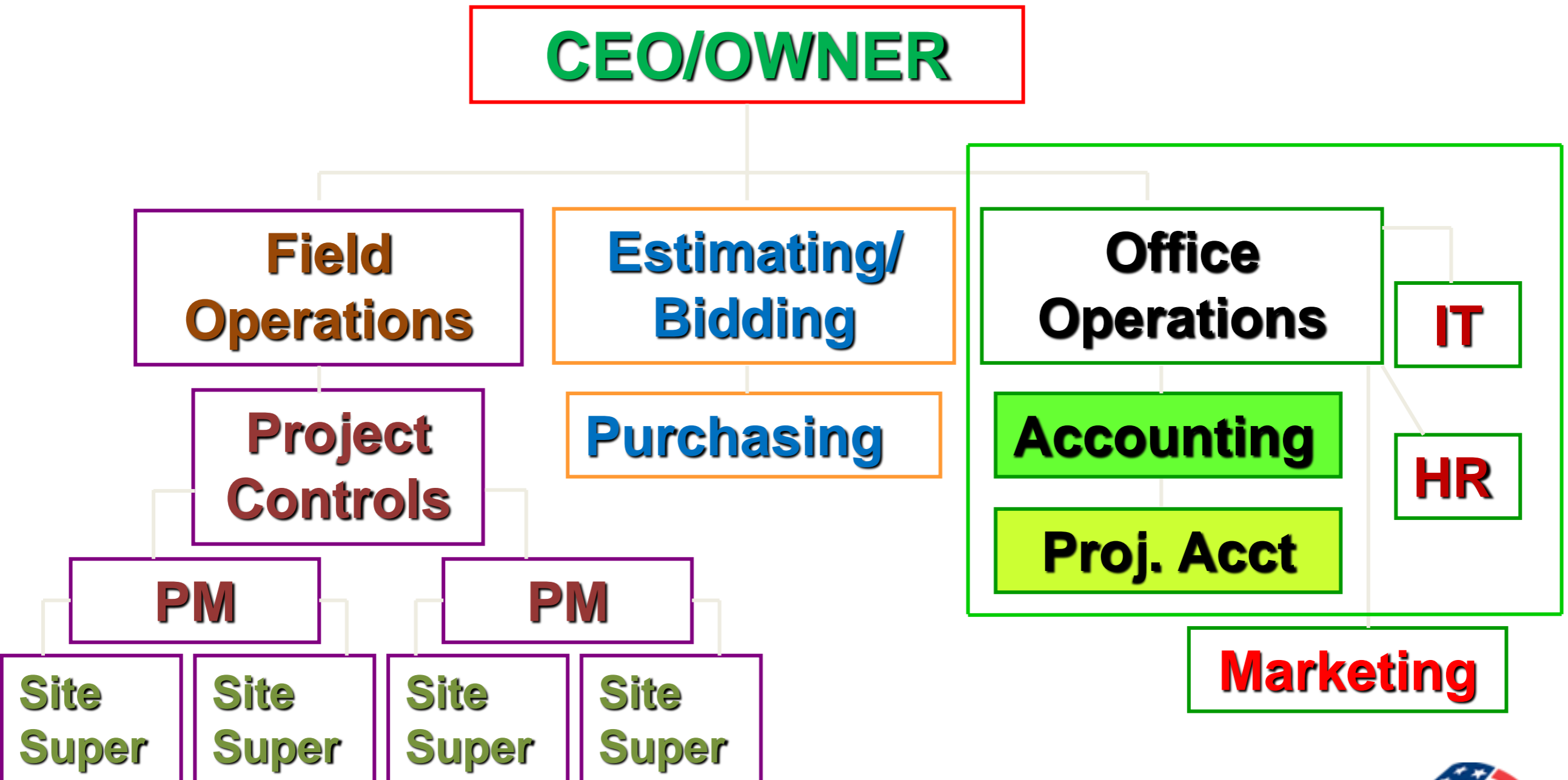


Types of Contracts – All Companies

- Fixed-Price / Hard Bid – 40%
- Fixed-Price Negotiated – 21%
- Cost-Plus-Fee with GMP – 11%
- Unit-Price – 11%
- Time & Materials – 8%
- Cost-Plus-Fee – 4%
- Construction Mgmt. – 3%



Typical Construction Company Setup



Basic Debits and Credits and How They Work

- DEBITS

- Assets

- Expenses

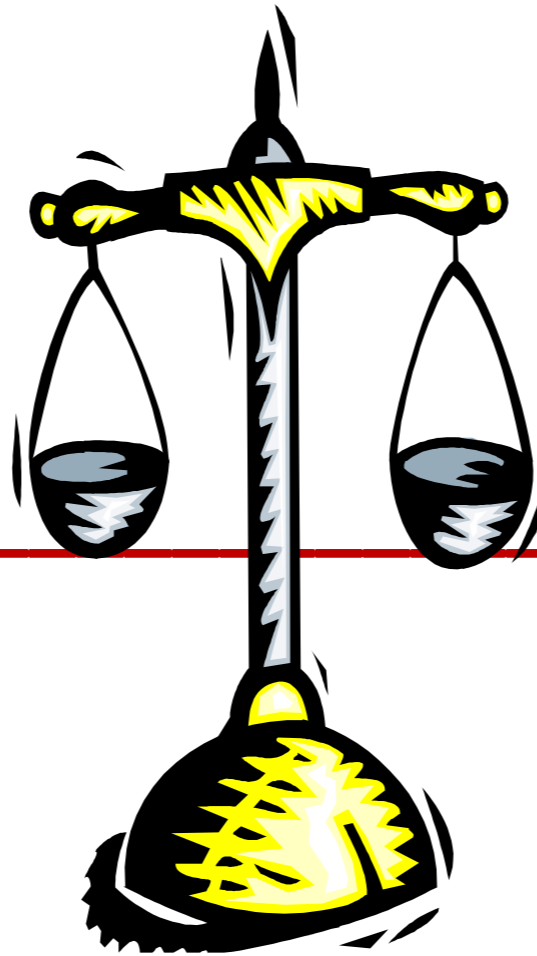
- CREDITS

- 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
Increases

Credits for
Decreases

Liabilities

Debits for
Decreases

Credits for
Increases

Owner's Equity (OE)

Debits for
Decreases

Credits for
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 |
|-----------------|------------------|



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 future 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 (limited)**

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 gross 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 |

Accounting Methods:

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

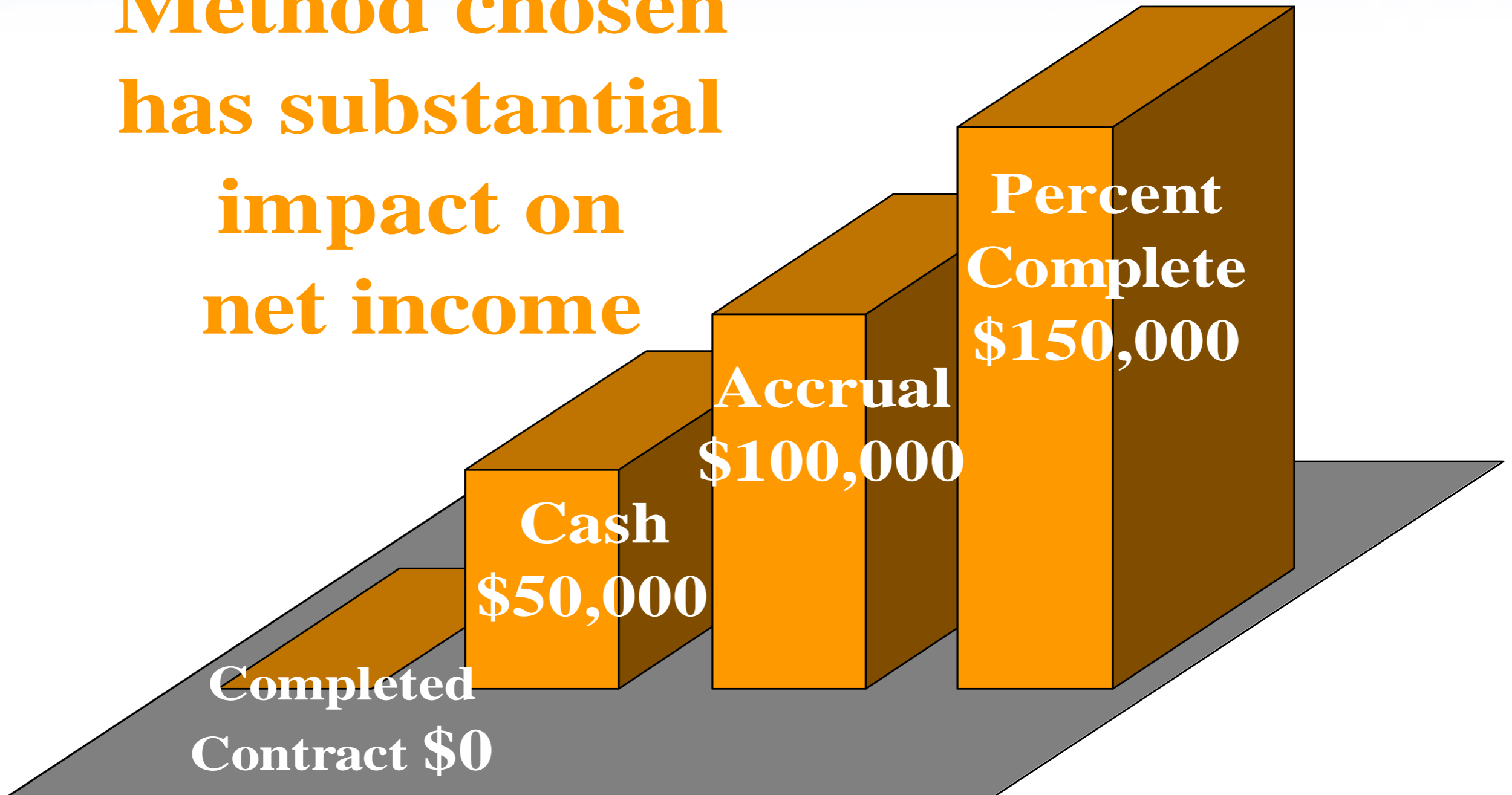
Cost to date \$600,000 = 75% X \$1,000,000 = \$750,000

Total Est. costs \$800,000

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

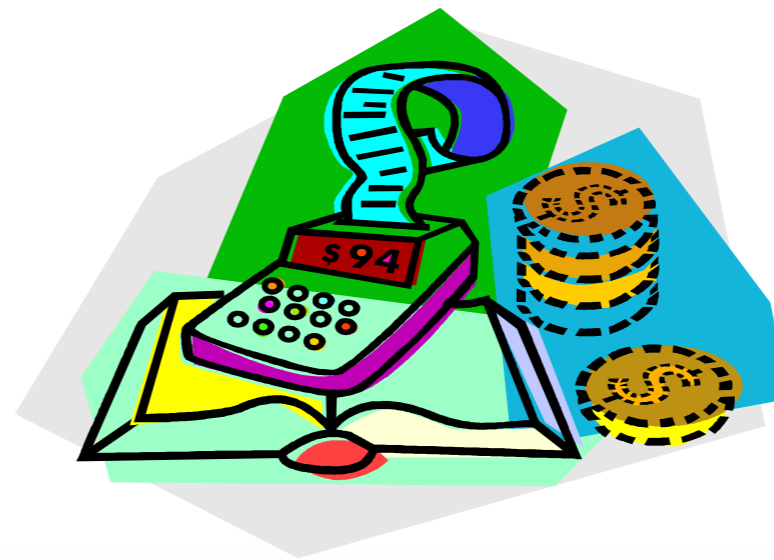
- Understand how accurate job costing fits into the whole construction process
- Understand the importance of knowing all your costs
- Learn what components make up job costs
- Learn what three major types of expenses make up indirect costs
- Learn the different methods of allocating indirect costs and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

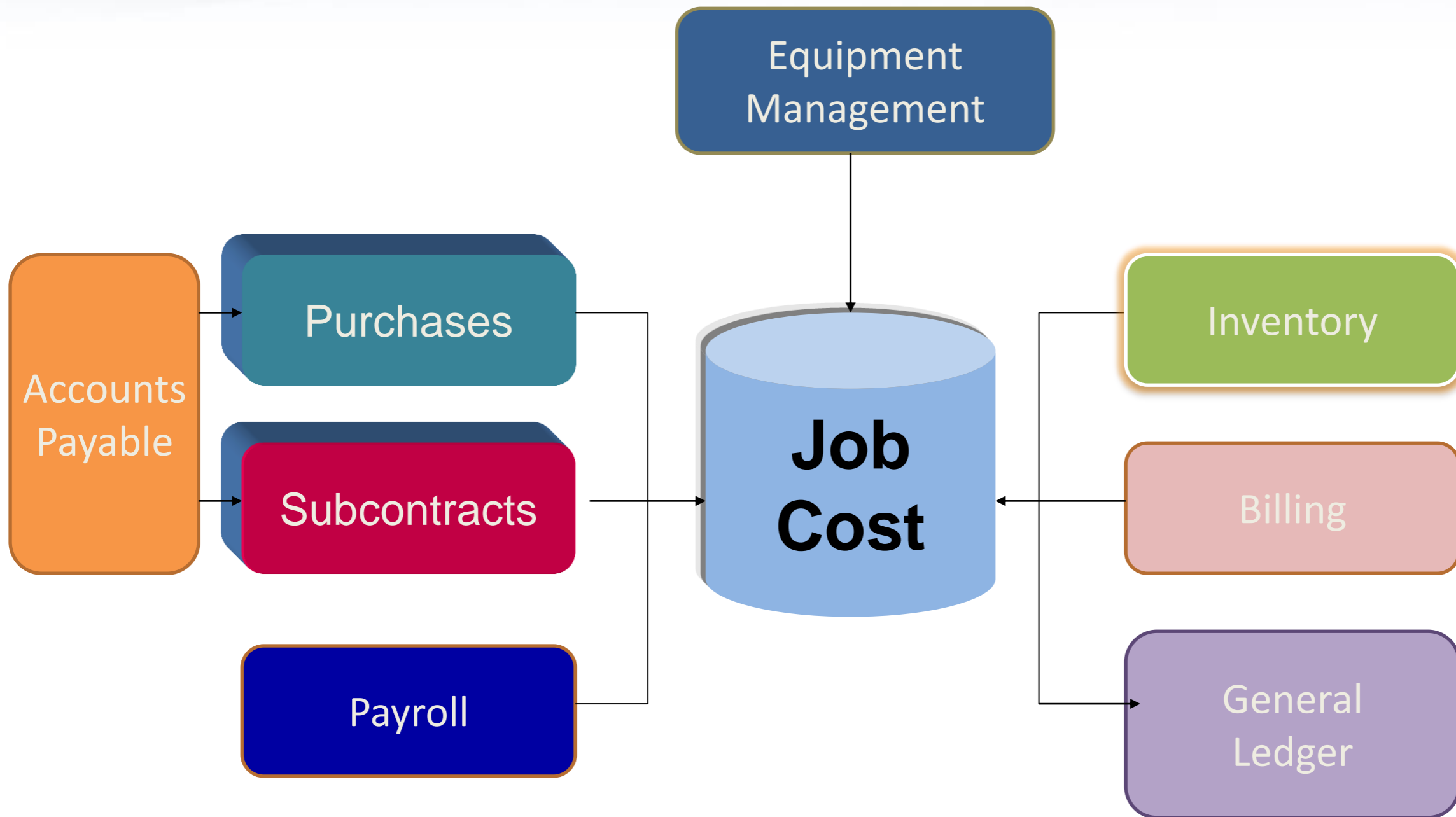
What is a Job Cost System?

- 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*





Direct Job Costs

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



Indirect Job Costs

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



Construction Job Costs Exclude

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

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



WIP/Percentage of Completion Components

- **Percentage-of-Completion
Cost-to-Cost Method**
 - Total Contract Value
 - Costs Incurred to Date
 - Estimated Costs @ Completion
 - 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

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

Cost in Excess

Scenario – 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 | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
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| | | | | |

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 - 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.

| | | | | |
|--|--|---------------------|--|--|
| Contract Value | | \$20,000,000 | | |
| Estimated Costs | | \$18,000,000 | | |
| Estimated Gross Profit | | <u>\$2,000,000</u> | | |
| Gross Profit % | | 10% | | |
| Cost to Date | | \$1,800,000 | | |
| Estimated costs to complete | | \$16,200,000 | | |
| | | <u>\$18,000,000</u> | | |
| Billings to Date | | <u>\$2,850,000</u> | | |
| Calculate the following from the above data: | | | | |
| Revenue Earned | | \$2,000,000 | | |
| | | - | | |
| Billings incurred to date | | \$2,850,000 | | |
| | | = | | |
| Billings in Excess | | \$850,000 | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |



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 Principals (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

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



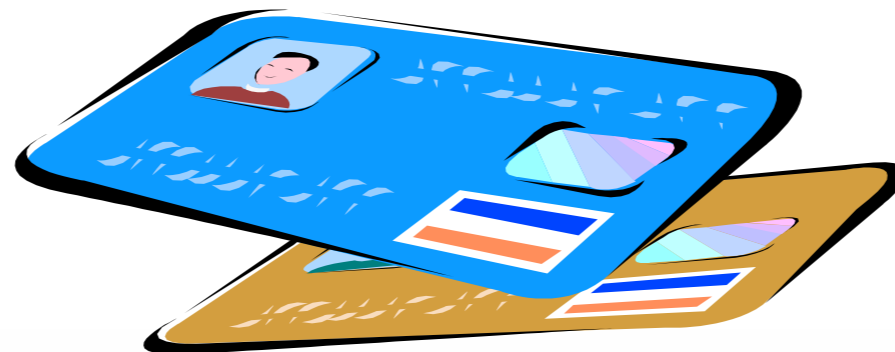
Assets

- **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.



ABC/CFMA, Inc. Balance Sheet December 31, 2014

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 | | <u>250,000</u> |

Total Assets \$ 5,350,000



ABC/CFMA, Inc. Balance Sheet December 31, 2014

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, 2014

| | |
|-------------------------------|--------------------|
| 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> |



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!**

