Capital Budgeting for Municipalities

Presented by

North Dakota Rural Water Systems & AE2S

In conjunction with the NDLOC Regional Meetings
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Presenters

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The "Municipal Business" Is Very Capital/Asset Intensive

- Examples
  - Water & Wastewater – extensive infrastructure
  - Fire Protection – hydrants, stations, vehicles, equipment, communication systems
  - Police Protection – station, vehicles, communication systems
  - Streets – extensive infrastructure, snowplows, sweepers
  - Etc.

All require LOTS of infrastructure & equipment (i.e. capital)

. . . Capital/Assets Combined with "Infrastructure Crisis" Creates Challenges . . .

**American Society of Civil Engineers (ASCE)
2005 Report Card for America's Infrastructure**

Aviation	D+
Bridges	C
Dams	D
Drinking Water	D-
Energy	D
Hazardous Waste	D
Navigable Waterways	D-
Public Parks and Recreation	C-
Rail	C-
Roads	D
Schools	D
Security	I
Solid Waste	D+
Transit	D+

Each category was evaluated on the basis of condition and performance, capacity vs. need, and funding vs. need.

A = Exceptional
B = Good
C = Mediocre
D = Poor
F = Failing
I = Incomplete

Estimated 5-year need
(does not include security investment needs)

Source: www.asce.org/reportcard

D

America's Infrastructure GPA

ND's ASCE Report Card

Bridges – 24% of bridges are structurally deficient or functionally obsolete

Dams - 17 state-determined deficient & 20 high hazard dams (failure = loss of life & significant property damage). Rehabilitation cost for most critical dams is $25.7M.

Drinking Water - Infrastructure needs $490M over next 20 yrs.

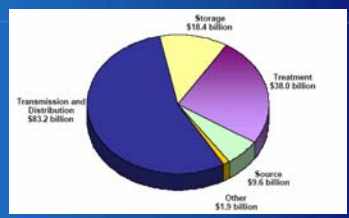
Wastewater - $52M in wastewater infrastructure needs (low)

Solid Waste - Generates 1.01 tons of solid waste per capita. Recycles 9.4% of state's solid waste.

Schools - 49% have at least one inadequate building feature. 62% have at least one unsatisfactory environmental condition.

Other National Indicators

EPA WIN REPORT



WEF

According to EPA, water and wastewater utilities will need at least $540 billion more than they currently are investing over the next 20 years to pay for needed upgrades.

"There's no doubt that in the years ahead America's water infrastructure faces some critical needs."

— Gov. Christine Todd Whitman, U.S. EPA

Introduction

Infrastructure Challenges
Local Example – Large Municipality

City of Fargo

Water Supply Shortage	Red River Valley Water Supply Project
Water System Capital Improvements	≈ $250M
Wastewater System Capital Improvements	≈ $250M
Streets	≈ $10M/YR.

Introduction

Infrastructure Challenges
Local Example – Small Municipality

City of Langdon

Water Treatment Plant Improvements	$850,000
Seal Coating and City Street Overlay	$300,000
City-Wide Pavement Repair and Improvements	$1,450,000
Water Treatment Plant and Residuals Management Improvements	$3,000,000
Main Street Improvements	$3,200,000
Total - 1995 to the present	$8,800,000

Introduction

Need for Capital Budgeting

- Capital Improvements are Costly
- Debt Financing Typically Needed
- Occur Over Extended Period of Time
- Multiple Capital Improvements are often Required Simultaneously

How Do We Manage These Challenges?

This is why we're here!

Outline

Outline

- Introduction
- Challenges (Identification and Quantification)
- Planning

"*Break*"

- Financial Strategies
- Project Delivery/Construction Techniques

Challenges

System Challenges

Problem → Solution → Costs

- Aging Infrastructure
- Growth/Expansion
- Regulatory Compliance
- Increase Reliability & Security
- Increase Productivity & Efficiency
- Financial, Legal, & Political

Challenges

Aging Infrastructure

- Cast Iron Water Main
- Clay Sewer Pipes
- Water Treatment Plant Media Replacement
- Wastewater Lagoon Dredging
- Street Deterioration
- Vehicles (police, fire, etc.)
- Buildings

Challenges

Growth/Expansion
Examples

- Low Water Pressure (ends of system)
- Collection System Overflows
- Capacity Upgrades
- Traffic Signals
- New Landfill
- Another Police Car/Fire Truck
  (e.g. Moorhead, MN: 2 new fire trucks ≈ $1M

Challenges

Regulatory Compliance
Examples

- Drinking Water Treatment
  - Long Term 2 Enhanced Surface Water Rule
  - Stage 2 Disinfection By-Products Rule
  - Groundwater Rule
  - Arsenic Rule
- Wastewater
  - Peak Wet Weather Flow By-Pass Rule
- Security Requirements
- Other . . .

Challenges

Reliability & Security
Examples

- New Pumps/Pump Replacement
- Cast Iron Pipe
- Water Tower Maintenance
- Technology Upgrades
- Fencing
- Access & Overflow Structures on Water System
- Chemical Vulnerability

Challenges

Productivity & Efficiency
Examples

- Properly Functioning Equipment
- Functional Facilities
- Control Systems
- Automation
- Overcoming staffing shortages

Challenges

Financial, Legal, & Political

- $$$ don't grow on trees
- Who benefits from improvements?
- "Utilities should be self-sufficient"
- Environmental activist challenges (e.g. Moratorium on wastewater permits in Minnesota)
- Divided councils/commissioners
- Other . . .

Challenges

Overcoming These Challenges

How do we overcome these challenges while operating an efficient, healthy municipality?

- √ *Identify Solutions*
- √ *Quantify Costs*
- √ *Prioritization of Challenges*
- √ *Start with Proper Planning*

Planning

Planning

(According to Webster)

1. A detailed scheme, program, or method worked out before hand for the accomplishment of an objective
2. A proposed or tentative goal
3. A systematic arrangement of details; an outline or sketch

Planning

Long-Term Planning Perspective

Proactive Municipal Service

- Financial Planning
- Capital Improvement Planning
- Master Planning
- Strategic Planning

Planning

Strategic Planning

The blueprint that defines the municipal policies, municipal activities, and municipal resource allocation required for meeting objectives.

Planning

What is Your Municipal Strategy (Mission)?

- Reliable Customer Service
- Minimize Cost of Service/Customer Rates
- Minimize Property Taxes
- Preventative Maintenance of Aging Infrastructure
- Infrastructure Replacement
- Prepare for Expansion
- Prepare for New Regulations
- Best of Class

Planning

Strategy Will Be Different Within Municipality and from Municipality to Municipality

- Public Works
- Police & Fire Protection
- Administration
- Large – Medium – Small
- Age
- Condition
- Rate of Growth
- Population Demographics/Needs

Planning

Strategy Will Change With Time

- Size of Municipality
- Age of Infrastructure/Equipment
- Condition of Infrastructure/Equipment
- Rate of Growth
- State of Regulations
- Mindset of Staff
- Financial Condition
- Attitude of Policy Makers

Planning

Master Planning

1. The orderly planning of a municipality's future
2. Identifies the present and future needs and direction for developing the municipality

Planning

Master Planning Considerations

- Strategy (Mission)
- Assessment of Existing System Components and Service Area
- Long-range Projections of Area To Be Served
- Planning Periods of the Various Facilities/Infrastructures
- Present and Future Demands/Loads
- Regulatory Requirements

Planning

Planning Horizons

- 10 to 50 Years Plus
- 10 to 15 More Common for Equipment
- 50 + More Common for Major Structures and Underground Utilities
- 20 Years Is a Common ND Planning Horizon
- Must be a "Living Document"

Predicated on Reasonable Service Life

Planning

Master Plan . . .

. . . often serves as the framework for a capital improvements plan.

Planning

Capital Improvement Plan (CIP)

What is it?

- Single or Multi-year plan for infrastructure improvements prioritizing….
- Major Infrastructure, building, and equipment needs

Planning

Capital Improvement Planning Considerations

- Define Service Levels and Customer Needs
- Physical Facilities (what is needed to meet service levels)
- Financial Resources
  - Customers' ability and willingness to pay for new facilities
  - Return on investment (risk)
  - Review of financing alternatives (impacts to rates and financial performance)

Planning

What Does a CIP Tell You?

- Description of Needs (Challenges & Solutions)
- Estimated Costs (Current & Indexed Costs)
- Prioritized List of Improvements
- Implementation Timeline

Planning

Capital Improvements Plan

What's it for?

Purpose of CIP:

1. Assists in Identifying Existing and Future Needs
2. Assists in the Financial Planning for Large Scale Improvements or Equipment Purchases
3. Assists in the Prioritization of Improvements
4. Improvements Completed within Context of Plan – Proactive vs. Reactive

Planning

Capital Improvements Plan

What's it for?

5. Assists in the Development of Funding of Improvements
   - Cash/Reserves
   - Grants
   - Loans/Bonds
6. Assists in Justification of the Improvements
   - To Policy Makers
   - Users

Planning

Elements of CIP

- Description of Project or Purchase
- Presented in Prioritized Order
- Estimated Costs in Current Dollars
- Proposed Timeline for Completion
- Estimated Costs in Future Dollars

Planning

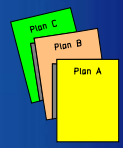
Prioritizing Capital Needs

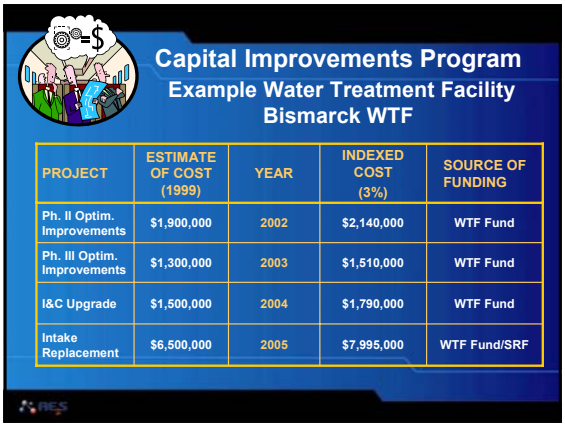
1. Considerations
   - Availability of Funds
   - Health/Safety/Welfare
   - Legal Compliance
   - Political Environment
   - Social Needs
2. Analytical Techniques
   - Net Present Value
   - Rate of Return
   - Pay Back Period
   - Simple Cost Analysis
   - Cost-Benefit Analysis
   - Net Cash Flow

Capital Budgeting – CIP Planning

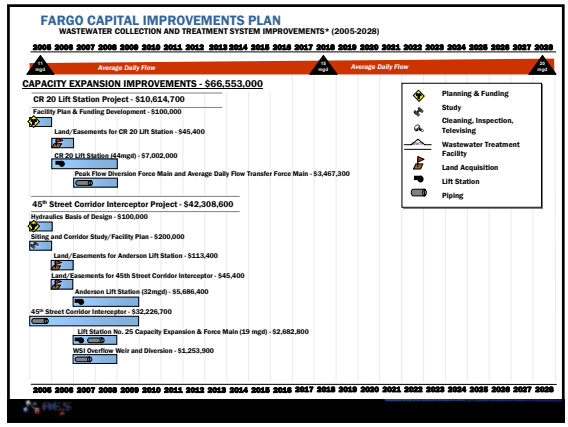
Capital Improvements Scope

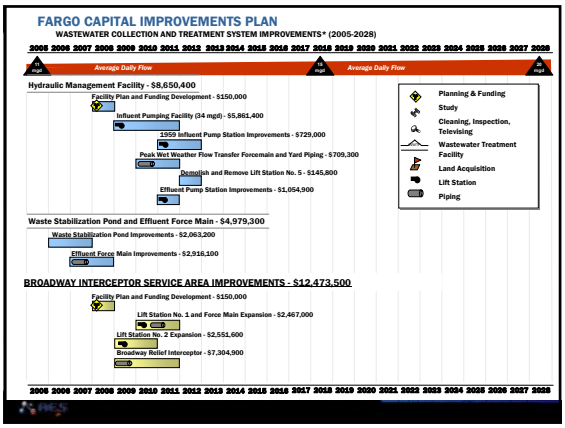
1. Facility Specific
2. Utility or Service Specific
3. City – System Wide

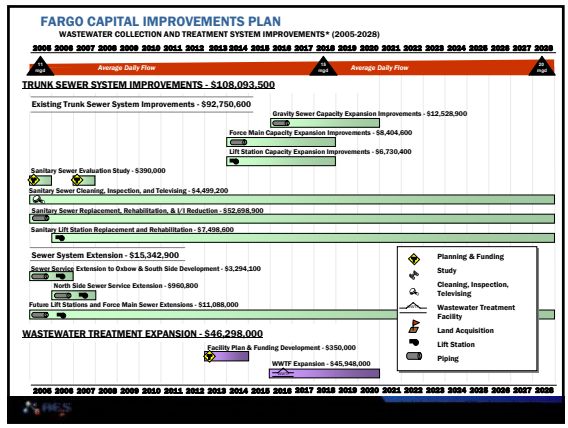


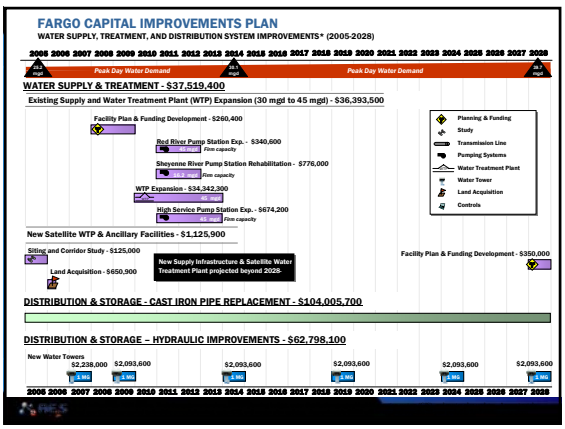


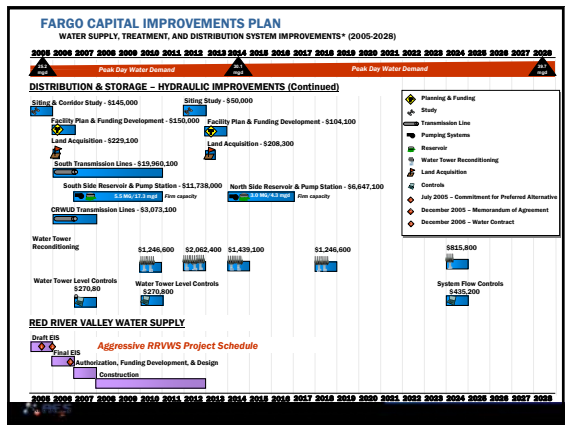
PROJECT	ESTIMATE OF COST (1999)	YEAR	INDEXED COST (3%)	SOURCE OF FUNDING
Ph. II Optim. Improvements	$1,900,000	2002	$2,140,000	WTF Fund
Ph. III Optim. Improvements	$1,300,000	2003	$1,510,000	WTF Fund
I&C Upgrade	$1,500,000	2004	$1,790,000	WTF Fund
Intake Replacement	$6,500,000	2005	$7,995,000	WTF Fund/SRF











Planning

Capital Improvements Program
City of Langdon

YEAR	PROJECT	ESTIMATE OF COST	SOURCE OF FUNDING
2001 -2002	Water Plant SWTR Impr.	$ 800,000	SRF Loan
2002 - 2003	Seal Coat & Overlay	$ 300,000	G.O. Bond
2003 - 2004	City Pavement Impr.	$ 1,450,000	G.O. Bond
2002 - 2005	WTP Residuals Impr.	$ 3,000,000	SRF Loan
2006 - 2007	Main Street Impr.	$ 3,200,000	G.O. Bond

Financial Strategies

Strategies for Capital Facilities

Financial Strategies

Capital Planning for Municipalities

Time for a Break!

Financial Strategies

Strategies for Capital Facilities

Financial Strategies

Need for Capital Budgeting & Financial Planning

- Capital projects & equipment are expensive
  - A lot of money at stake
- Debt financing is often needed
- Future citizens will pay/finance
- Major projects take years to plan, finance, & build. (Williston example)
- Capital budget can help identify & plan
  - Renovation & replacement projects
  - New facilities & infrastructure to meet or spur growth

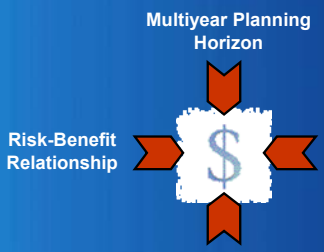
Financial Strategies

Role of Financial Planning

- Allocate Costs to Appropriate Users
- Provide a Financial Tool for Decision Making
- Assure Financial Viability
- Utilize as a Capital Planning Tool
- Utilize as a Strategic Planning Tool
- Use as a Basis to Develop and Minimize Taxes & User Fees
- Communicate with Customers

Financial Strategies

Financial Planning Considerations



Financial Strategies

How Do I Develop A Financial Plan?
Take A Systematic Approach

1. Set Capital Budgeting Policies
2. Organize (calendar, assign responsibilities, CIP, costs, scope, etc.)
3. Identify Capital Needs
4. Develop Criteria for Prioritizing Capital Needs
5. Identify Sources of Funding (grants, loans, bonds, taxes, etc.)
6. Develop Financing Strategies (establish payback periods)

Financial Strategies

How Do I Develop A Financial Plan?
Take A Systematic Approach

7. Set Capital Reserve Policies (required by USDA RD and SRF)
8. Identify and Earmark Revenue (do all revenues end up in the general fund?)
9. Set Debt Management Policies (how much can we take on?)
10. Set Project Authorization/Appropriation Policies (who can authorize/appropriate expenditures?)
11. Set Project Delivery System Policies (direct purchases vs. request for proposals)

Financial Strategies

Elements of Financial Planning

1. Risk to Benefit Management:
   - I.E. Short-Term vs. Long-Term Debt
     - Benefit: Lower Interest Rates
     - Risk: Refinancing may be at Higher Rate
2. Multi-year Planning:
   - Ensure Financing is Available
3. Effects on Rates:
   - Minimize Impacts of Customer Rates
   - Avoid Financing that causes Rate Volatility
4. Consider All Financing Options (Taxes, Bonds, Loans, Grants, User Fees)
5. Equitable Recovery of Financing Costs:
   - Existing customers should not pay more than future customers (and vice versa)
   - Intergenerational Equity – Debt distributed so current/future customers pay only for the portion that benefits them

Financial Strategies

Other Capital Financing Considerations

- Fund recurring capital needs from operating budget
- Maintain adequate operating fund balances
- Create & fund capital reserves
- Using variety of suitable debt instruments (balance debt & pay-as-you-go capital financing)

Financial Strategies

Operating Budget	vs.	Capital Budget
Less costly & recurring capital spending		Major, non-recurring project/acquisitions

Capital Expenditure

. . . spending of significant value, e.g., $50K or more for infrastructure or assets with a useful life greater than one year.

Financial Strategies

Other Financial Planning Elements
Need for Adequate Cash on Hand

- Typically 45 to 120 days O&M expense (Calculated based on float)
- Emergencies
- Minimize impact of seasonal revenue instability

Financial Strategies

Other Financial Planning Elements
Need for Reserves

- Minimize rate impact of major capital projects
- Proactive approach to major repairs
- Minimize impact of extreme weather conditions (drought, etc.)
- Debt service requirements

Financial Strategies

Methods of Financing Capital Projects

- Grants
- Revenue Bonds
- General Obligation Bonds
- SRF Loans
- Direct Financing (via Market)
- System Development Charges
- Sales Tax
- Rates
- Tax Incremental Financing (TIF)

Financial Strategies

Common Grants

1. CDBG
2. Rural Development (USDA)
3. STAG
4. MR&I
5. HUD
6. Other (Pancake Breakfasts)

Note: Any combo > $500,000/year requires an audit

Financial Strategies

Revenue Bonds

- Backed by User Fees
- Reserve Required (Typical 1 to 2 years debt)

Typical Rule:

NET REVENUES ≥ 120 % Annual Debt Service

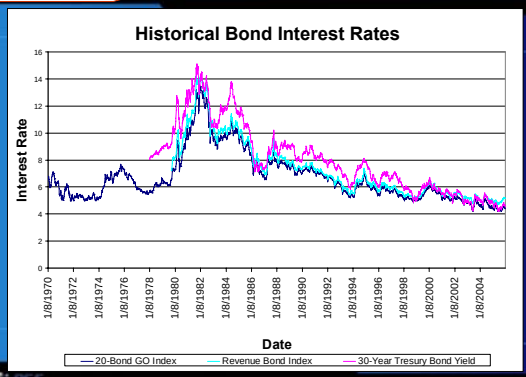
- Max Term = 40 years (20 to 30 years more typical)
- Municipality can Adjust User Fees
- Issue for $1M+
- Only Large ND Cities Have Bond Rating (costly)
- Small ND Cities can use "A"- Rating from Bank of North Dakota
- ND Public Finance Authority (Tim Porter 701-328-7120) can Borrow Directly to City via "Capital Financing Program" (i.e. $90,000)

Financial Strategies

G.O. (Improvement Bonds)

- Backed by special assessments
- May not require reserve (guarantee)
- Guarantee = Deficiency Tax
- Example of Guarantee:
  - $2000/House → $200/year
  - House "X" does not have to pay (city can confiscate property)
  - Deficiency tax issued to others
- Hearing required to set user fees
- Issue for $1M+
- Term: Up to 20-years (typical)
- Lenders like G.O. Bonds (strong guarantee)

Financial Strategies



Financial Strategies

Contact Information

ND Public Finance Authority
PO Box 5509
700 E Main Avenue
Bismarck, ND 58506-5509

701-328-7100 or 1-800-526-3509
Fax: 701-328-7130
ndmbb@state.nd.us/bondbank

Financial Strategies

SRF (Federal & State Funds)

- Issued as Bond (below market rates)
- Can be revenue or improvement bonds
- Backed by user fees (or special assessment)
- Apply to get on "IUP" (and obtain bond counsel)
  1. Application must be approved by:
     - Bond Bank
     - Financial Advisor
     - Bank of North Dakota (Trustee)
     - Bond Bank Advisory Board
     - Industrial Commission
  2. Complete Bond Documents
  3. Request Draws
- Reserves Required
- Annual Audits

Financial Strategies

SRF Repayments

- Make Principal Payment within 12-months of completing construction
- March 1st – Pay interest & admin fees
- September 1st – Principal, Interest, & Admin fees
- Typical ND terms of 20 year pay back with 3% interest rate

Financial Strategies

Contact Information

Scott Wegner
Cook Wegner & Wike PLLP
3801 Lockport Street
Suite 1
Bismarck, ND 58501

701-255-7100 or 1-888-417-5213
ccw@ccwbondlaw.com

Delivery/Construction

Delivery/Construction

Capital Project Delivery Methods

- Specify/Contract
- Design/Specify/Contract
- Design/Bid/Build (Traditional or Enhanced)
- Construction Management Options*
- Design/Build*
- Design/Build/Operate (Privatization)*

* Not Available to ND Municipalities (yet)

Delivery/Construction

Capital Project Delivery Goals

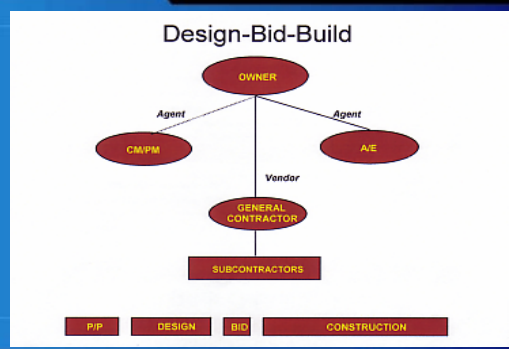
1. Ensuring the quality of the designed and constructed project
2. Controlling life-cycle costs (capital and long-term O&M)
3. Creating a project that will permit effective & efficient O&M
4. Completing the project within the required schedule

Delivery/Construction

Capital Project Delivery Issues

- Degree of Utility Control
- Quality of Completed Project
- Capital & Operating Costs & Efficiencies
- Schedule
- Risk Management & Allocation
- Legal Authority
- Internal & External Influences
- Utility Experience
- Market Share Availability & Adaptability
- Labor-Management Relationships

Delivery/Construction



Delivery/Construction

Design-Bid-Build - Cont.

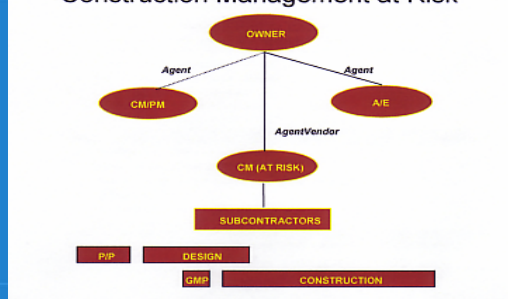
Fundamental Approach

- Prime contracts directly with owner
- A/E selected by qualifications or qualifications/price
- A/E prepares design to 100%
- Open bidding to general contractors (may be pre-qualified)
- Award of contract to lowest responsive bidder
- Construction start after award of contract

Variations

- General contractor can be brought in during design for advice
  - Can lead to negotiated contract with general contractor
  - or Bidding can also remain open
- Subcontracts (trades) can be bid separately
  - Assigned to general contractor
  - Assigned to general contractor or the owner can hold multiple prime contracts (as in New York, Pennsylvania, North Carolina)
- A CM/PM can be retained in an agency relationship to coordinate the process

Delivery/Construction



Delivery/Construction

Construction Management at Risk - Cont.

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Delivery/Construction

Design - Build

Delivery/Construction

Design - Build - Cont.

Fundamental Approach

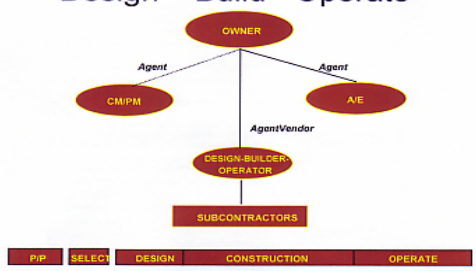
- Prime contract directly with owner
- Planning/programming prepared by owner or consultant
- Owner issues RFP with scope and performance specifications
- Design-Builder selected by qualifications and price
- Design-Builder may initially act as an agent during planning/programming.

Variations

- CM/PM and/or A/E may be retained as agents to assist in preparing RFP and overseeing process
- Design may be advanced to approximately design development for bidding to Design Builders ("Bridging")
- Land costs may also be part of package
- Design-Build package may be complete "build-to-suit" with a lease-back or lease-to-own

Delivery/Construction

Design – Build - Operate



Delivery/Construction

Design - Build - Operate Cont.

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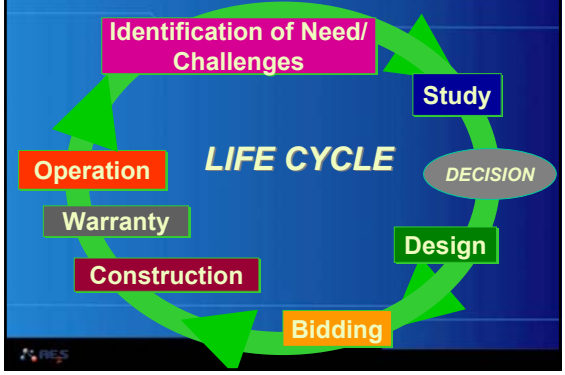
- Land costs may also be part of package
- Design-Build package may be complete "build-to-suit" with a lease-back or lease-to-own
- Design-Builder may include financing and complete up front services ("Turnkey")
- May include full operations including staffing

Delivery/Construction



Delivery/Construction

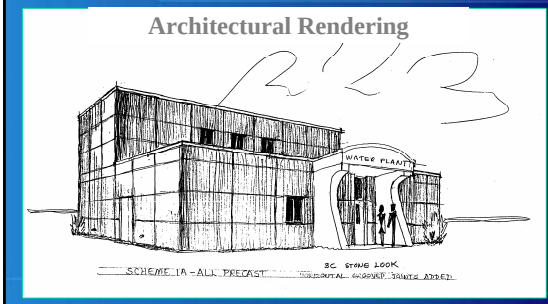
Preliminary Reports

- Concept Plans
- Master Plans
- Capital Improvement Plans
- Preliminary Engineering Report
- Facility Plans
- Feasibility Study

Delivery/Construction

Larimore Water Treatment Plant

Architectural Rendering



Delivery/Construction

Goals of Design Process

- Develop a cost effective, constructible, and successful construction project that meets the needs of the client
- Prepare Bid Documents
- Opinion of Probable Construction Costs
- Owner Approval to Advertise
- Review Agency Approval

Delivery/Construction

Construction Documents

Main Components

- Project Manual
  - Bidding Requirements
  - Contract Forms
  - Contract Conditions
  - Specifications
- Drawings

Work Together

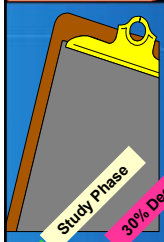
Delivery/Construction

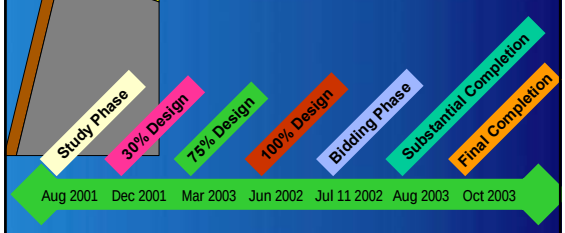
Bidding Phase

- Publication of Invitation to Bid
- 21 days (minimum advertisement period)
- Open Bids
- Compilation of Bids
- Evaluation of Bids
- Engineer Award Recommendation

Delivery/Construction

Larimore WTP Case Study





Schedule

Delivery/Construction

Construction Administration

- Prepare/Distribute Construction Contracts
- Conduct Pre-Construction Conference
- Review Shop Drawings
- Review Application for Payment/Change Orders
- Certify Substantial Completion/Final Completion
- Final Payment

Delivery/Construction

Delivery/Construction

Warranty

- Typically Extends One-Year From Substantial Completion
- Coordinate Correction of Deficient Work/Optimization
- Warranty Walkthrough
- Issue Final Acceptability of Work

Conclusion

CONCLUSION

The "Municipal Business" Is Very Capital/Asset Intensive

Conclusion

CONCLUSION

- Capital Improvements are Costly
- Debt Financing Typically Needed
- Occur Over Extended Period of Time
- Multiple Capital Improvements are often Required Simultaneously
- Management of These Challenges Starts With Planning

Conclusion

CONCLUSION

Capital Improvement Planning

- Capital improvements planning is a tool to help manage your challenges by identifying specific prioritized projects, including timing, estimated costs, and anticipated funding sources

Challenges → Solutions → Costs

Conclusion

CONCLUSION

Financial Planning

- Financial planning…
  - provides a framework for decision making to meet the needs of your customers and a communication tool with customers
  - provides a communication tool with your customers to justify decisions and policies

Conclusion

CONCLUSION

Proper Selection of a Project Delivery Method

- Ensures the quality of the finished projects or acquisitions
- Controls life-cycle costs

Questions?