

How Owners Should Deal With Changes During Construction And When Claims Are Made After Completion

Presented By:

MDCSystems[®]

and

Duane Morris LLP

Featured Speakers:

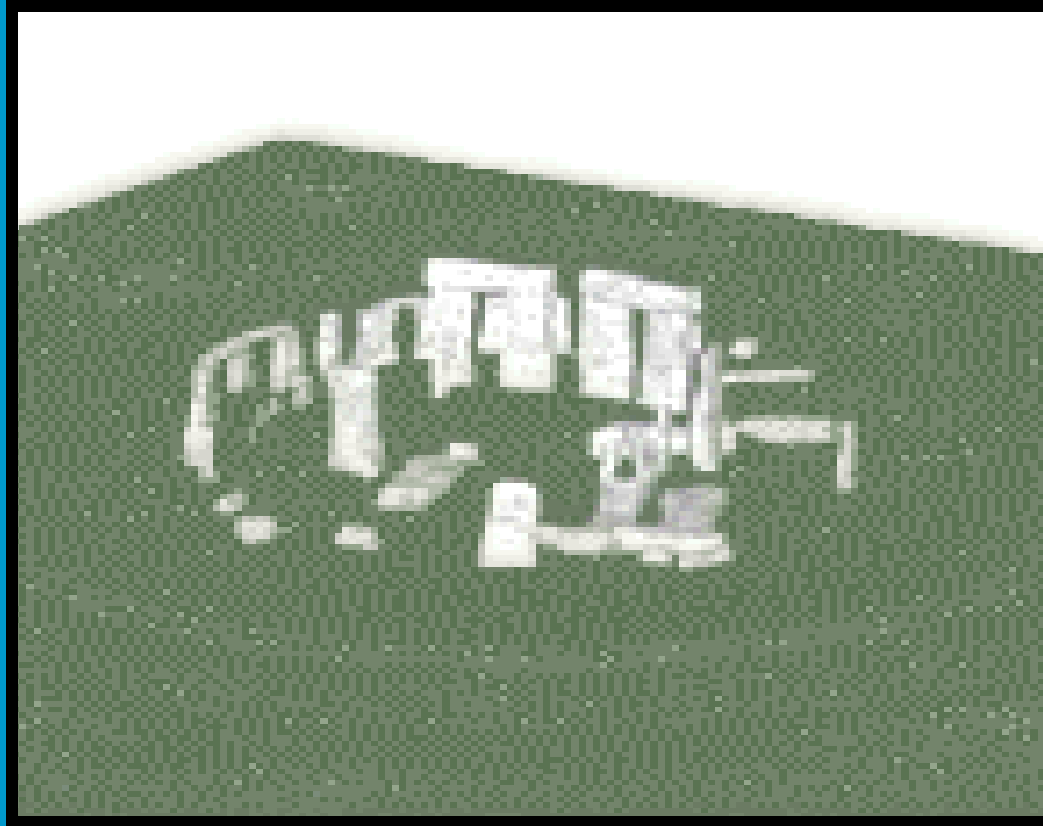
- Robert C. McCue, P.E., President
MDCSystems®
- Gary A. Wilson, Esquire
Duane Morris LLP
- Charles Brown
Duane Morris LLP

Question

Is Change Inevitable?

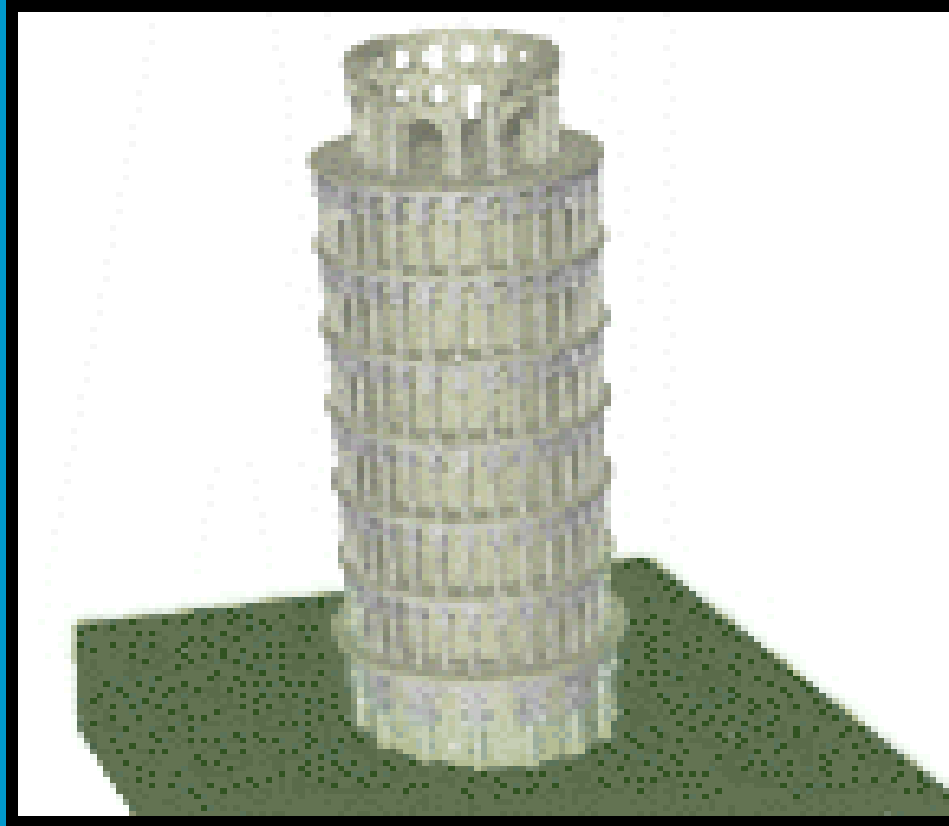
YES, Therefore, the Best We Can Do Is
Manage the Change During the Process of
Completing the Work in the Most
Expeditious and Cost-effective Manner.

In the beginning, design was relatively
uncomplicated . . .



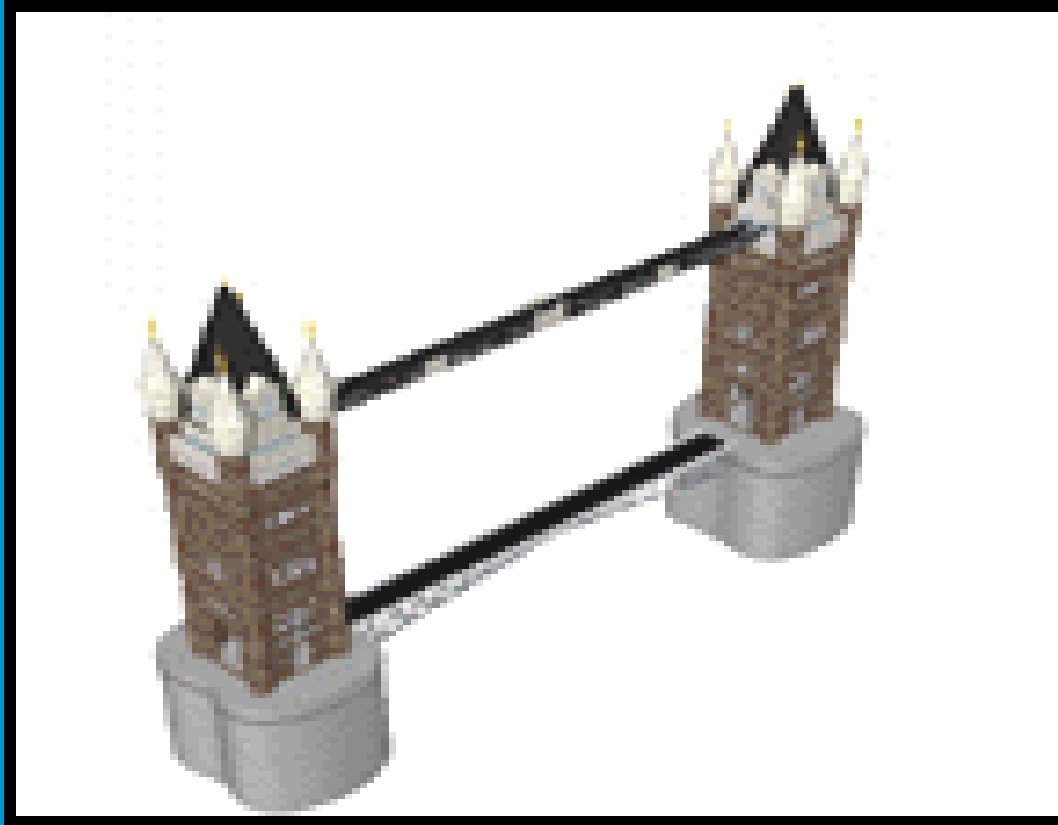
Stonehenge

Later, as design complexity increased, so did construction problems . . .



Leaning Tower of Pisa

Increasing design complexity led to more significant impacts by *changes* . . .



Tower Bridge

Since Tower Bridge

- Plumbing Systems
- Electrical Systems
- Ventilation Systems
- Elevators (Vertical Transportation)
- Air Conditioning
- Fire Alarm and Protection Systems
- Building Automation Systems
- Security Systems
- “Smart Buildings”

Today, *changes* often mean the difference between a successful and an unsuccessful project



Modern Building

Change Management

- Recognize That Change is Occurring
- Build Recognition Systems into Project and Construction Management Monitoring Systems
- Minimize Negatives and Maximize Positives of Change on the Overall Project

Change Management

The Owner's Dilemma: Maintaining Flexibility While Controlling Contract Price Overruns

- “Modification” v. “Change”
- Consideration Required?
- Meaning of “Scope,” *i.e.*, Scope of “Work” v. Scope of “Contract”
- Construction Directives v. Change Orders
- Constructive Changes
- Cardinal Change

Change Management

Project Delivery Systems

- Design-Bid-Build
- Multi-prime Arrangements With CM Not at Risk
- Design-Build Variations

Change Management

Contract Pricing Method

- Fixed Price v. Cost-plus Variations
- Deferred Pricing Until Design Is Fixed

Change Management

Pre-Contract Devices to Control Change

- Pre-qualification and Contractor Selection
- Site and Utility Studies
- Contractor Participation in Design and Budget Development
- Constructability Review
- Permit Studies
- Careful Project Management

Change Management

Contractual Devices to Control Change

- Risk Allocation
- Enforceable Notice Requirements
- Designation and Control of Owner's Authorized Reps
- Prudent Control of Contract "Flex," Contingencies and Float
- Cost and Pricing Mechanisms
- Interim Decision Making Processes
- Default Termination Contract Provisions
- Arbitration

Change Management

Risk Allocation to Third Parties

- Third-party Beneficiary Clauses
- New and Improved Insurance Products
- Surety Bonds
- Subcontractor Insurance
- Contract Default Termination Clauses Supporting Expedited Resolution
- Partnering Contract Provisions

Change Management

Owner's Special Problems

- Wrongly Believes Any Job Can Be Built Without Changes
- Wrongly Believes the Design Documents Are Complete and Error-free
- Fails to Provide for the Inevitable Changes (Contingency)
- Fails to Control User Changes During Construction
- Fails to Recognize Design Professional's Lack of Objectivity and Neutrality

Change Management

Contractor's Special Problems

- Changed Conditions
- Fast-track Construction
- Constructive Changes
- Cardinal Change

Change Management

The Pricing Problems

- Inherent Adversity/Hostility
- Direct Labor and Materials
- Indirect or Impact Costs
- Solution

Variations

Right to Make Changes and Right to Vary

- **AIA – 1996 A191**
Paragraph 8.1, 8.2, 8.3
- **AIA – 1997 A201**
Paragraph 7.1, 7.2, 7.3,
7.4
- **FIDIC – 1999 Silver
Book EPC**
Clause 13.1

Variation and Change Procedures

- **AIA – 1996 A191**
Article 8
- **AIA – 1997 A201**
Article 7
- **FIDIC – 1999 Silver
Book EPC**
Clause 13.3

Price and Payment

- **AIA – 1996 A191**
Article 13
Paragraph 5.1.2
- **AIA – 1997 A201**
Article 9
- **FIDIC – 1999 Silver Book EPC**
Clause 14.1
Clause 14.7 (b)
Clause 14.3

Price and Payment

- **AIA – 1996 A191**
Paragraph 5.3.1
- **AIA – 1997 A201**
Paragraph 9.7.1

Price and Payment Completion

- **AIA – 1996 A191**
Paragraph 5.1.8
Paragraph 5.2.1
- **AIA – 1997 A201**
Paragraph 9.8.5
Paragraph 9.10.2
- **FIDIC – 1999 Silver Book EPC**
Clause 14.9
Clause 14.10

Price and Payment (Final Payment)

- **AIA – 1996 A191**
Paragraph 5.2.3
Paragraph 5.2.4
- **AIA – 1997 A201**
Paragraph 9.10.4
Paragraph 9.10.5
- **FIDIC – 1996 Silver Book EPC**
Clause 14.11
Clause 14.12
Clause 14.13

Termination for Default

- **AIA – 1996 A191**
Part 2, Paragraph 12.1.2
Part 1, Paragraph 12.1.2
- **AIA – 1997 A201**
Paragraph 14.2
- **FIDIC – 1999 Silver Book EPC**
Clause 15.2
Clause 15.4

Termination for Convenience

- **AIA – 1996 A191**
Part 2, Paragraph 12.1.1
- **AIA – 1997 A201**
Paragraph 14.4
- **FIDIC – 1999 Silver Book EPC**
Clause 15.5

Termination for Default

- **AIA – 1996 A191**
Part 1, Paragraph 12.2.2
- **AIA – 1997 A201**
Paragraph 14.2
- **FIDIC – 1999 Silver Book EPC**
Clause 16.2

Dispute Resolution

- **AIA – 1996 A191**
Part 1, Article 6; Part 2,
Article 101

Part 1, Paragraph 6.4;
Part 2, Paragraph 10.4
- **AIA – 1997 A201**
Paragraph 4.5
Paragraph 4.6
Paragraph 4.6.4
- **FIDIC – 1999 Silver
Book EPC**
Clause 20.41
Clause 20.6
Clause 1.4

Finding Common Ground

- Quick Action - Deal Quickly and Effectively with Changed Conditions
- The Direct Cost of the Change is Small Compared to the Other Related Costs
- Management Assistance
- Prevention at Source
- Recognition Systems
- Adopt Systems Thinking

Finding Common Ground

Prevent Changes where Possible

- Project Assumptions
- Programming
- Project Proposal
- Preliminary Design
- Design Review
- Constructability Reviews
- Resource Constraints
- Scope, Schedule, Budget Implications

Finding Common Ground

- Implement Project and Construction Management Controls That Detect Changes Early and Allow Time for Management
- Intervene to Minimize the Time and Cost Impacts of Changes

Finding Common Ground

Apply Systems Thinking to Change Implementation

- Optimize the System, Not the Part
- Align Goals of Participants
- Execute the Most Efficient Implementation for the Overall Project

Contact Us!

Robert C. McCue, P.E.
President
MDCSystems®
mccue@mdcsystems.com
p. 610.640.9600, x. 12

Gary A. Wilson, Esquire
Partner
Duane Morris LLP
gawilson@duanemorris.com
p. 215.979.1121

Charles L. Brown
Partner
Duane Morris LLP
clbrown@duanemorris.com
p. [44] 0207 7862114