



# Facilities Condition Assessment Survey

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## Facilities Condition Assessment Survey (FCAS)

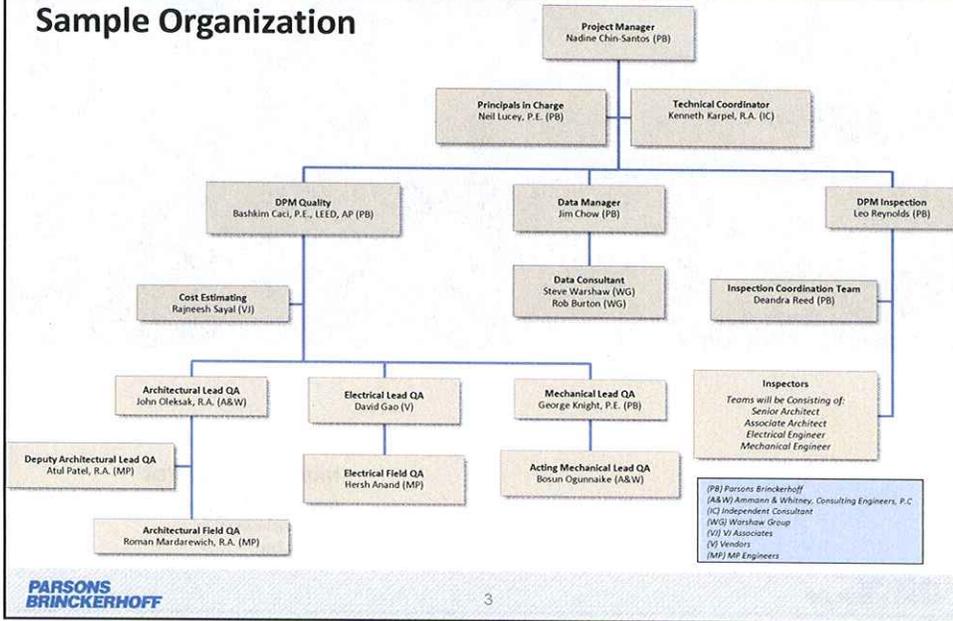
### Agenda

1. FCAS Core Competencies
2. FCAS Service
3. FCAS Process & Tools
4. Capital Planning
5. Customizing to Client Requirements

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### Sample Organization



### Condition Assessment Experience

#### Data Driven Condition Assessments for over 25 years

- New York City Office of Management & Budget
- New York City School Construction Authority
- New York City Housing Authority
- Port Authority of New York & New Jersey
- Columbia University, New York



**NYC Office of Management & Budget**  
*AIMS (Asset Information Management System)*

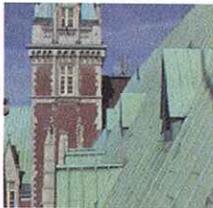


- 2,500+ Assets with Various Building Types
- 6,200 Miles of Roads and Bridges



*The client received a sustainable system capable of collecting high-level field data used to create preliminary capital planning budgets for all NYC agencies.*

**New York City School Construction Authority**  
*Baseline Conditions Assessment Surveys*



- 1,500+ Buildings, 123 Million SF
- 8 Month Schedule
- Many NYC Landmarks or Building Designated by SHPO (State Historic Preservation Office)

*PB provided the client a database of independently assessed physical needs which was key to NY State approving the largest schools capital budget (\$13 billion) in history.*

## New York City Housing Authority



- 2,432 Buildings with 180,000 Apartments Throughout NYC
- 156 Million SF
- Aggressive Schedule - Less Than 1 Year from Mobilization to the Delivery of a Capital Plan
- Mobilization of a Large Team - 70+ Inspectors

*PB provided the client both a prioritized \$2 billion, 5 Year Capital Plan to match their budget, and a comprehensive \$24 billion, 15 year list of potential Capital Improvement Needs.*

## Our Services

### We're here to help you determine:

- The condition of your facilities
- What is needed to keep them in a state of good repair

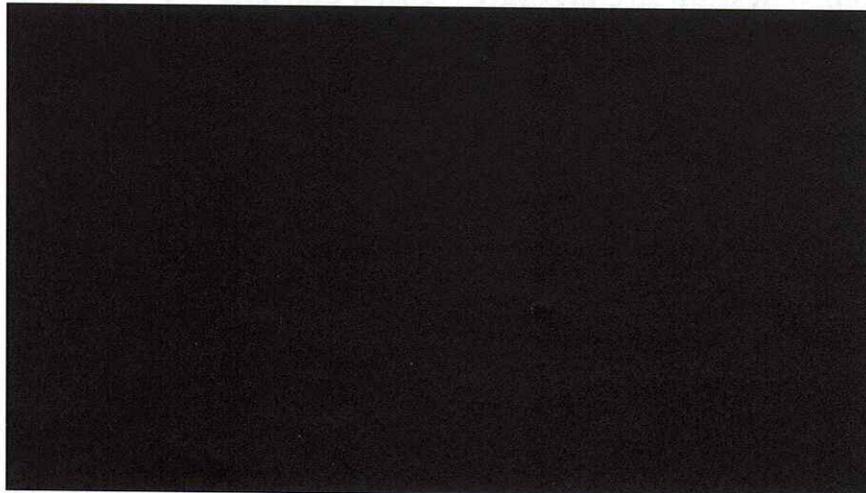
### We can provide you:

- Engineering Evaluation
- Independent and Unbiased Assessment
- Capital Budget Planning Tool



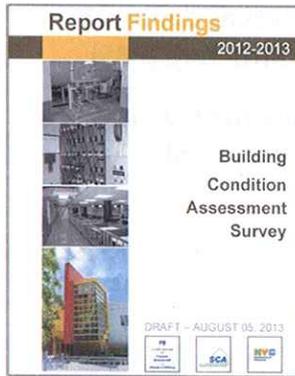
### FCAS Inspection

- Visually assess all building components as defined by a project-specific Physical Breakdown Structure (PBS)
- Identify all deficiencies and determine the Quantity, Action, Purpose and Urgency of the proposed remediation
- Rate the component or system condition from 1 (best) to 5 (worst)



### The FCAS Story

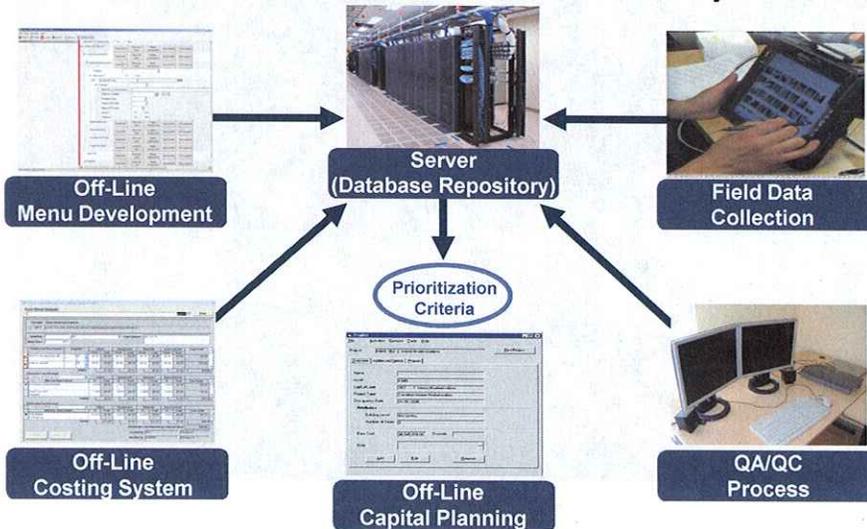
## Report Findings to the Client



- Live, sortable, comprehensive database delivered to the client
- Customized aggregation, analysis and presentation of field and costing data
- Analysis of historical data
- System based analysis

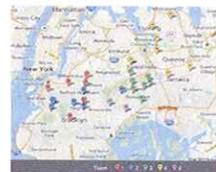
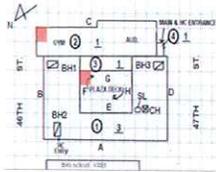
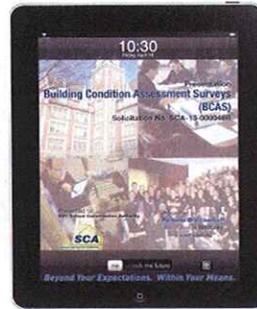
*PB Team's understanding of the FCAS program serves as the foundation for continued innovation and improvement to meet Capital Planning needs.*

## Robust System Architecture – DATA Consistency is the Key

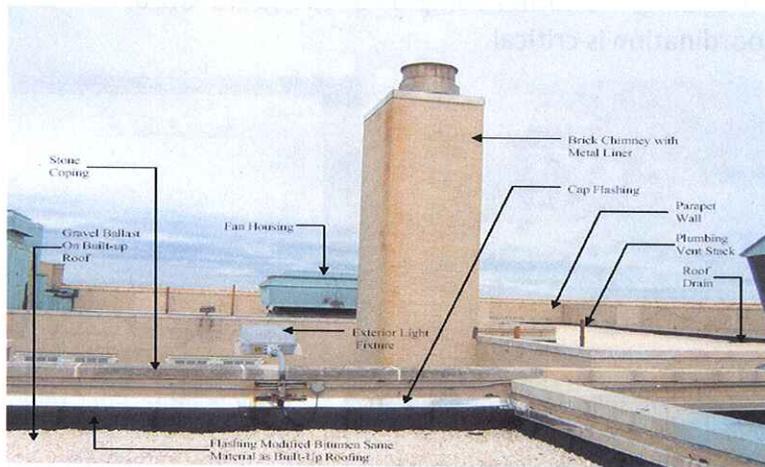


### State of the Art Data Collection Tool

- Electronic sketching capability
- Digitized photos linked to deficiencies
- Automatic reporting system
- Customized building components
- GIS Data Support

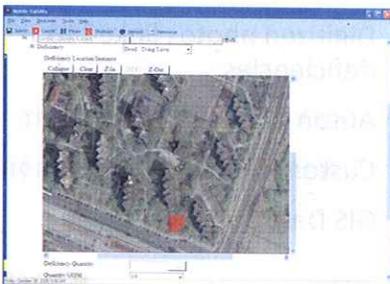


### Physical Breakdown Structure (PBS)



Five Levels of Inspection Detail

### Use of Satellite Images on Tablets



- **Asset List Synchronizes with Satellite Image of Each Site**
- **Satellite Image Used to Locate Site Deficiencies**

### Scheduling - Whether complex or straightforward, coordination is critical



*For the NYC schools it was imperative to schedule inspections that make efficient use of school principals' and custodians' valuable time while also maximizing productivity of the inspection teams.*

**Training :** FCAS consists of a learning center that reinforces the project methods



- All inspectors undergo an extensive classroom and field training program to ensure consistent assessments
- Trainers utilize state of the art multimedia tools to engage the inspectors and clearly communicate content
- Tablets are fully integrated throughout the training process
- Communication skills are emphasized

**Inspection**

**Facility Management/ User Interview Feedback**

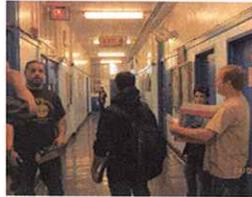


**FCAS can be a community outreach program**

- An accurate assessment depends upon information obtained from facility personnel as well as field observations
- Email notifications, questionnaires appointment confirmations, and phone calls ensure feedback is received
- The inspection reports can be posted on a website as an accessible information source
- PB has volunteered speakers for School Career Days or impromptu introductions when requested

Inspection

Walkthrough



- The team inspects components throughout the building
- Working as a team ensures extra sets of eyes
- The team enters deficiencies as encountered into the handheld tablets
- Inspectors are trained to engage the custodial or maintenance staff using laymen’s terms to identify deficiencies not mentioned during the interview

Inspection

Multi-Disciplinary Team



Senior Architect

- Structure
- Exterior
- Accessibility



Associate Architect

- Interior
- Site
- Athletic Field



Electrical

- Communication
- Lighting/Power
- Security
- Fire Alarm
- Computer Technology



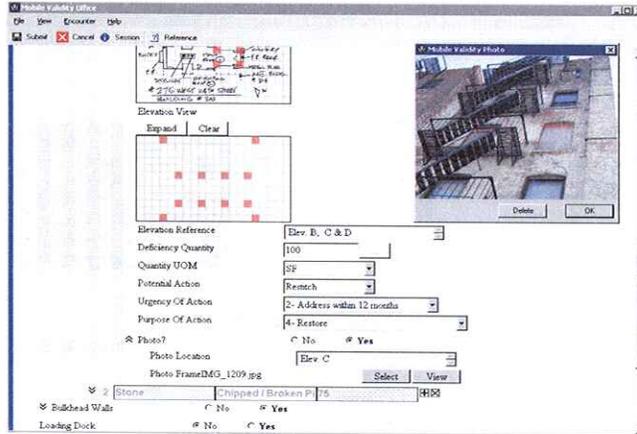
Mechanical

- HVAC
- Plumbing
- Fire Suppression
- Vertical Transportation

Inspection

Discipline Menus Showing Deficiency Details

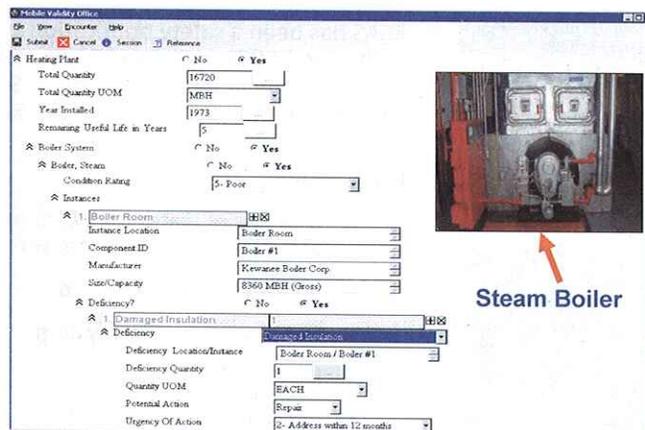
Architectural



Inspection

Discipline Menus Showing Deficiency Details

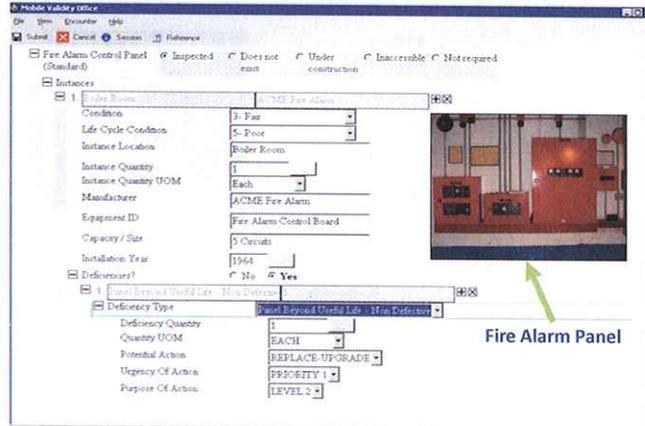
Mechanical



Inspection

Discipline Menus Showing Deficiency Details

Electrical



Inspection

Emergency Notification Process

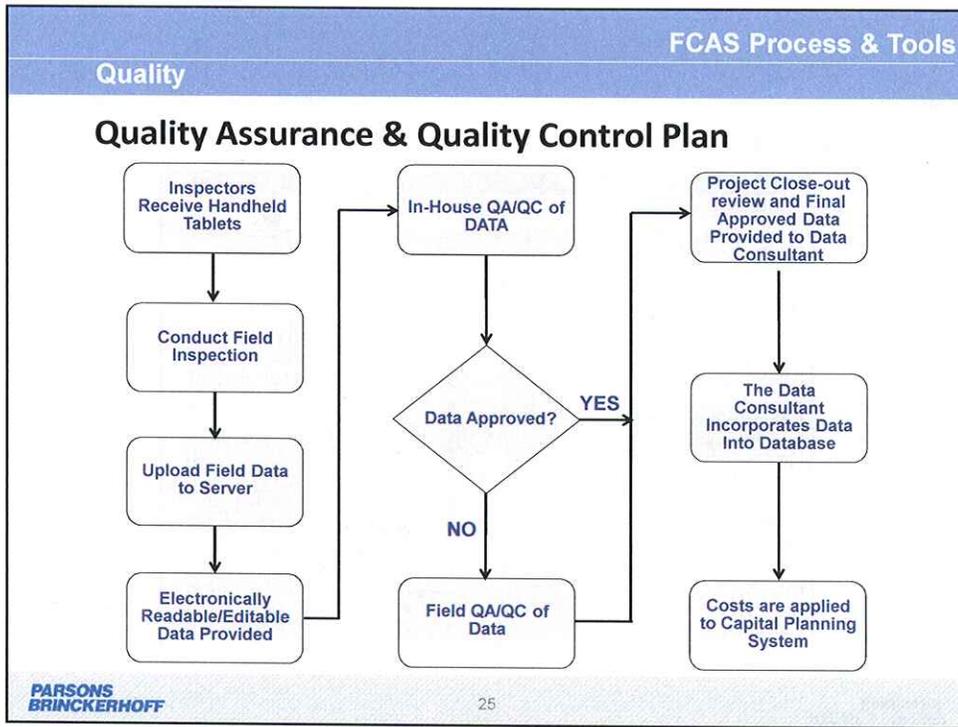
Same day notification of hazardous conditions



FCAS has been a safety notification system with over 2,500 emails and 70 structural reports annually sent to Division of School Facilities and the School Construction Authority

For example:

- 3 inches of water on the floor of the electrical switchboard room
- Sidewalk tripping hazards
- Deficient fire alarm system
- Missing CO detector
- Loose masonry units



FCAS Process & Tools

Quality

### In-house Report Reviews

After reports are uploaded to the central database, the quality control team follows a structured and comprehensive process to verify the information provided by the inspection teams

*FCAS is a generator and repository of accurate, consistent data for effective capital planning and reporting.*

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Costing

System Based Costing Process

NYSOA Cost Estimate Sub-System - Version 3.0.0

Cost Sheet Search: [169] [Print]

Index Cost Sheet Description:  
169 REEXT EXTERIOR WALLS BRCK MAJOR / THRU CRACKS REMOVE AND REBULD.S.F.

Quantity: 1 SF Cost Source: Modified 2007  
Base Year: 2006

Detail Cost Description	Quantity	Labor		Equipment		Material		Sub Contract		Line Total
		Price	Cost	Price	Cost	Price	Cost	Price	Cost	
REMOISH ENTIRE EXISTING WALL	1 SF	\$10.00	\$10.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$10.00
SUPPORT ADJACENT WALL	1 SF	\$10.00	\$10.00	\$0.00	\$0.00	\$9.00	\$9.00	\$0.00	\$0.00	\$19.00
<b>Totals:</b>		\$0.00	\$0.00	\$0.00	\$0.00	\$24.00	\$24.00	\$0.00	\$0.00	\$24.00

**Above the Line Markup:**

Markup Description	Labor %	Labor Cost	Equipment %	Equipment Cost	Material %	Material Cost	Sub Contract %	Sub Contract Cost	Line Total
Exterior Wall Above Line									
Mobilization/ Demobilization	4.00%	\$2.52	0.00%	\$0.00	4.00%	\$0.96	0.00%	\$0.00	\$3.48
Small Tools and Supplies	1.00%	\$0.63	0.00%	\$0.00	1.00%	\$0.24	0.00%	\$0.00	\$0.87
<b>Totals:</b>		\$3.15	\$0.00	\$33.60	\$0.00				\$37.75

**Below the Line Markup:**

Markup Description	Labor %	Labor Cost	Equipment %	Equipment Cost	Material %	Material Cost	Sub Contract %	Sub Contract Cost	Line Total
Exterior Wall Below Line									
General Contractor Overhead and Profit	21.00%	\$18.51	0.00%	\$0.00	21.00%	\$7.75	0.00%	\$0.00	\$26.26
<b>Totals:</b>		\$18.51	\$0.00	\$25.75	\$0.00				\$44.26

**Below the Line Marked up Cost per Unit: \$246.29**

Created By: JAR 105-Jan-98  
Modified By: JAR 197-Mar-07

Reporting

Filter Data to Meet Client's Needs

Filter Setup (Filter Name: New Tool)

Filter Setup (Filter Name: Existing)

Filter Setup (Filter Name: Existing)

Report Name: Engineering Condition

Filter Name: F\_000

DESTINATION: Preview, Print, Generate Report, Exit

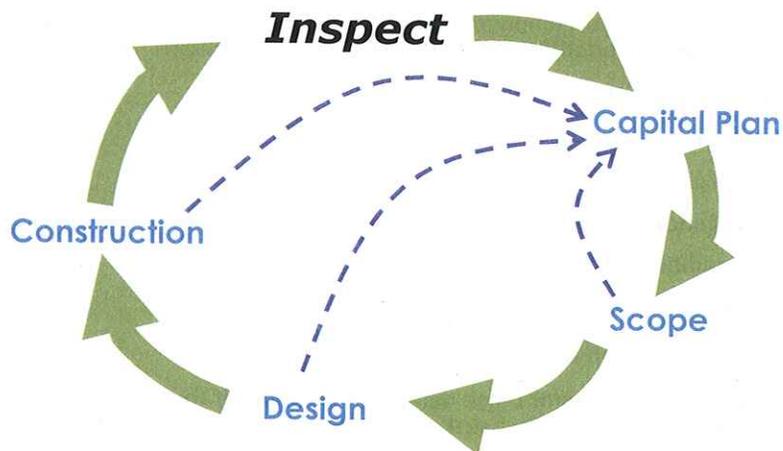
Reporting

Sample Building Deficiency Report

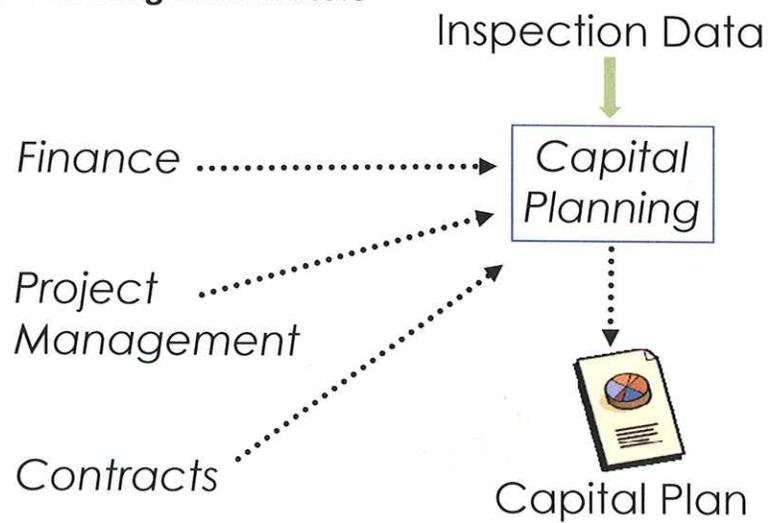
Engineering Condition Report X306 -

Physical Breakdown Structure	Condition	Deficiency Instance	Quantity	UOM	Urgency	Potential Action	Cost	Purpose of Action
X306 ARCHITECTURAL EXTERIOR AREAWAY Facade F - AW1. 2	4- Between Fan and Roof	AREAWAY DRAINS CLOGGED	1	EACH	PRIORITY 5	MAINTENANCE		LEVEL 2
		AREAWAY DRAINS DETERIORATED	1	EACH	PRIORITY 4	REPLACE	\$2,427.28	LEVEL 2
		AREAWAY SLAB CRACKS AND SPALLING	10	S.F.	PRIORITY 3	REPAIR	\$585.65	LEVEL 2
		AREAWAY WALLS CRACKS AND SPALLING	25	S.F.	PRIORITY 3	REPAIR	\$5,717.60	LEVEL 2

Capital Planning Cycle



### Capital Planning Contributors



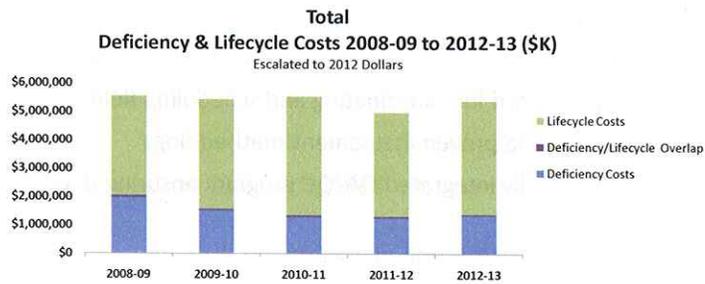
### Capital Planning and Budget Prioritization

- Apply system and component priority rankings, while incorporating client's specific prioritization policies within a given budget
- Field – Recorded Parameters
  - Action
  - Purpose of Action
  - Urgency of Action
  - Condition Rating
  - Remaining Useful Life (RUL)
- Apply client's project creation practices
- Budgeting approach for those items that are difficult to visually assess like piping, radiators, ductwork etc., whose replacement is driven by lifecycle criteria

## Inspection Data & Capital Planning

Unit Cost x Quantity (Deficiency or Replacement) = order of magnitude Cost to:

- Remediate Deficiencies or
- Replace systems that have exceeded their useful life



### Meeting Our Clients' Particular Needs:

- Capital Planning
- Maintenance/Asset Management
- Inventory and Condition of Facilities



### Always with:

- Independent Engineering Evaluation
- Experienced Team Dedicated to Quality



## What Should Your Organization be Looking for?

A firm with:

- Robust IT systems and data management, integrated with architectural and engineering expertise
- A proven record of successfully executing several FCAS projects of different magnitudes in recent years
- The skills to scope, schedule, and budget an FCAS program
- A successful record for coordinating and scheduling field inspections
- A time-tested and proven assessment methodology
- An extensive, fully integrated QA/QC program ensuring data consistency
- Experienced inspectors and managers

Now it's your turn...

# QUESTIONS ?