ORIGINAL

THE CITY OF FORT LAUDERDALE

FACILITIES DIVISION, PARKS AND RECREATION DEPARTMENT

RFP # 545-11286

FOR

FACILITIES CONDITION ASSESSMENT

APPLIED MANAGEMENT ENGINEERING, INC.

PROVIDES SOLUTIONS

Fort Lauderdale

RFP #545-11286

Facilities Condition Assessment

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1. BID/PROPOSAL SIGNATURE

BID/PROPOSAL SIGNATURE PAGE

How to submit bids/proposals: Proposals must be submitted by hard copy only. It will be the sole responsibility of the Bidder to ensure that the bid reaches the City of Fort Lauderdale, City Hall, Procurement Department, Suite 619, 100 N. Andrews Avenue, Fort Lauderdale, FL 33301, prior to the bid opening date and time listed. Bids/proposals submitted by fax or email will NOT be accepted.

The below signed hereby agrees to furnish the following article(s) or services at the price(s) and terms stated subject to all instructions, conditions, specifications addenda, legal advertisement, and conditions contained in the bid. I have read all attachments including the specifications and fully understand what is required. By submitting this signed proposal I will accept a contract if approved by the CITY and such acceptance covers all terms, conditions, and specifications of this bid/proposal.

Please Note: All fields below **must** be completed. If the field does not apply to you, please note N/A in that field.

Submitted by: _____ (signature) October 1, 2013 (date)

Name (printed) Douglas W. Kincaid, P.E. Title: President/General Manager

Company: (Legal Registration) Applied Management Engineering, Inc

CONTRACTOR, IF FOREIGN CORPORATION, MAY BE REQUIRED TO OBTAIN A CERTIFICATE OF AUTHORITY FROM THE DEPARTMENT OF STATE, IN ACCORDANCE WITH FLORIDA STATUTE §607.1501 (visit http://www.dos.state.fl.us/).

Address: 200 Golden Oak Court, Suite 300

City Virginia Beach State: Virginia Zip 23452

Telephone No. (757)498-4400 (800)532-0763 FAX No. N/A Email: doug@ameinc.biz

Delivery: Calendar days after receipt of Purchase Order (section 1.02 of General Conditions): 147

Payment Terms (section 1.04): net 45 days Total Bid Discount (section 1.05): N/A

Does your firm qualify for MBE or WBE status (section 1.09): MBE N/A WBE N/A

ADDENDUM ACKNOWLEDGEMENT - Proposer acknowledges that the following addenda have been received and are included in the proposal:

Addendum No.	Date Issued
1	September 25, 2013

P-CARDS: Will your firm accept the City's Credit Card as payment for goods/services?

YES X **NO**

VARIANCES: State any variations to specifications, terms and conditions in the space provided below or reference in the space provided below all variances contained on other pages of bid, attachments or bid pages. No variations or exceptions by the Proposer will be deemed to be part of the bid submitted unless such variation or exception is listed and contained within the bid documents and referenced in the space provided below. If no statement is contained in the below space, it is hereby implied that your bid/proposal complies with the full scope of this solicitation. HAVE YOU STATED ANY VARIANCES OR EXCEPTIONS BELOW? BIDDER MUST CLICK THE EXCEPTION LINK IF ANY VARIATION OR EXCEPTION IS TAKEN TO THE SPECIFICATIONS, TERMS AND CONDITIONS. If this section does not apply to your bid, simply mark N/A in the section below.

Variances:

N/A

revised 6-16-11

ADDENDUM NO. 1

RFP 545-11286
Facility Condition Assessment

ISSUED September 25, 2013

This addendum is being issued for clarification purposes in response to questions posed at the pre-proposal meeting.

1. Q. What is the desired timeline to complete the project?
   A. The time line referred to in Section 03. Reports, shall be used as a basis for preparing the proposal. The consultant may propose an alternate timeline for consideration as part of their proposal.

2. Q. Is Contractor to provide the software program and will it be included in the evaluation?
   A. Yes, Contractor shall provide software program.
   Part V – Proposal Evaluation Criteria, Qualifications shall now read, "Proposing firm shall provide qualifications of persons to provide the services, facilities, resources, software and references.

3. Q. Is staff required to have licenses or accreditations in Florida?
   A. The staff is not required to be licensed in Florida, but the firm shall be licensed to do business in Florida and the project manager or principal of the firm signing the final report shall be licensed in Florida.

4. Q. What are the parameters of the properties?
   A. From the building out to the property line.
   For Parks buildings: the assessment shall consider drainage systems directly related to maintaining the building.
   For Airport buildings: There is a property/fence line for these facilities that shall be utilized.
   For Five Ash: Utility facilities do not include treatment/processing equipment.
   For Snyder Park: Ticket booth has been eliminated from the study. Please refer to **revised** building list. **11th Avenue Bridge Guardhouse and Executive Airport Admin Building have been added**.

5. Q. Will vendors have access to properties that require special access permission?
   A. Yes, for access you may contact Scott Sundermeier at 954-828-5262.

6. Q. Is ADA accessibility included?
   A. No

7. Q. Can the building list be provided in an excel file.
   A. The REVISED building list has been provided in an excel file. Disregard the original building list and use the REVISED building list.

All other terms, conditions, and specifications remain unchanged.

AnnDebra Diaz, CPPB
Procurement Services Division

Company Name: Applied Management Engineering, Inc.
(please print)

Bidder's Signature: _____

Date: September 25, 2013

Facility Condition Assesment Project - REVISED List

	Building Name	Address	Year Built	Sq Ft
1	Arts & Science Parking Garage	101 SW 5 Ave.	1990	295,920
2	Bass Park - Pool House	2750 N.W. 19th St.	1975	1,800
3	Bass Park - Rec. Center	2750 N.W. 19th St.	1991	2,442
4	Bayview Park - Concession Bldg.	4400 Bayview Dr.	2005	1,738
5	Beach Maintenance Building	1300 SE 21st St.	1987	8,244
6	Beach Community Center	3351 N.E. 33rd Ave.	1996	12,573
7	Beach Restroom	640 Seabreeze Blvd	2002	1,290
8	Bridge Tending Guardhouse (2)	429 SW 11th Ave	2010	312
9	Building Services Center	700 N.W. 19th Ave.	2005	43,000
10	Carter Park - Annex/Library	1450 W Sunrise Blvd.	1986	1,818
11	Carter Park - Bath House	1450 W Sunrise Blvd.	1986	1,850
12	Carter Park - Concession / PressBox	1450 W Sunrise Blvd.	2002	2,800
13	Carter Park - Gym	1452 W Sunrise Blvd.	1968	12,000
14	Carter Park - Recreation Center	1450 W Sunrise Blvd.	1957	2,140
15	Carter Park - Social Center	1452 W Sunrise Blvd.	1968	1,856
16	Central Maintenance Rear Building	4250 N.W. 10th Ave.	1968	6,300
17	Central Maintenance Shop	4250 N.W. 10th Ave.	1950	13,100
18	City Hall	100 N. Andrews Ave.	1967	83,276
19	City Park Mall Garage - Shops	100 SE 1 Avenue	1981	25,500
20	Coast Guard Auxiliary	601 Seabreeze Blvd.	1967	2,400
21	Cooley's Landing Admin. / Bath House	450 SW 7th Ave.	1992	1,900
22	Cooley's Landing Restroom	450 SW 7th Ave.	1992	612
23	Coral Ridge Repump Station "B"	3701 Bayview Dr.	1964	2,000
24	Croissant Park - Community Center	1800 SW 4th Ave.	2001	5,354
25	Dotti Mancini Park - Restrooms	6520 NE 22nd Ave	2009	100
26	Downtown Parking Garage	100 SE 1 Street	1985	327,000
27	Dixie Wellfield Generator Building	5050 W. Broward	2008	4,291
28	Esplanade Restroom	400 SW 2nd St	1991	2,145
29	Executive Airport - Administration Building	2020 Executive Airport Way	2001	10,000
30	Executive Airport - Elect. Vault	5505 E. Perimeter Rd.	1984	791
31	Executive Airport - Maintenance Building "E"	2020 Executive Airport Way	2011	1,656
32	Executive Airport - Repump Station "E"	2020 Executive Airport Way	2010	2,000
33	Fertilizer Plant - Admin. Bldg.	4030 S. St. Rd. 7	1986	2,376
34	Fertilizer Plant - Maintenance Shop	441 & State Rd. 84	1986	3,150
35	Fire Prevention Bureau	2002 N.E. 16th St.	1980	4,100
36	Fire Station / Administration / No. 2 & 8	528 N.W.2nd St.	2004	30,900
37	Fire Station No. 03	2801 S.W. 4th Ave	1983	3,631
38	Fire Station No. 13	2871 E Sunrise Blvd.	1971	6,100
39	Fire Station No. 29	2002 N.E. 16th St.	2010	10,291
40	Fire Station No. 35	1969 E Commercial Blvd.	2012	12,207
41	Fire Station No. 46	1515 NW 19th St	2013	10,817
42	Fire Station No. 47	1000 SW 27 Ave	2008	15,391
43	Fire Station No. 49	1015 Seabreeze Blvd.	2010	12,170
44	Fire Station No. 54	3200 NE. 32nd St.	1970	7,602
45	Fire Station No. NEW 53 & 88	2200 Executive Airport Way	2008	27,310
46	Fiveash WTP - Administration Bldg.	938 NW 38th St.	1970	75,382
47	Fiveash WTP - Ammonia Bldg	938 NW 38th St.	2006	2,500
48	Fiveash WTP - Chlorine Bldg.	938 NW 38th St.	1970	756
49	Fiveash WTP - FP&L Substation	938 NW 38th St.	1970	1,425

Facility Condition Assesment Project - REVISED List

	Building Name	Address	Year Built	Sq Ft
50	Fiveash WTP - Fuel Station	938 NW 38th St.	1984	2,100
51	Fiveash WTP - Maintenance Shop	938 NW 38th St.	1957	3,750
52	Fiveash WTP - Microwave Bldg.	938 NW 38th St.	1970	225
53	Floranada Park - Restrooms	5000 N.E. 14th Way	1962	1,300
54	Floyd Hull Press/Concess/Restrm East	2800 SW 8th Ave.	2011	1,983
55	Floyd Hull Electrical Bldg	2800 SW 8th Ave.	1970	700
56	Floyd Hull Football and Cheerleader Bldg	2800 SW 8th Ave.	1970	1,600
57	Floyd Hull Madera Tyrell Bldg	2800 SW 8th Ave.	1970	1,032
58	Floyd Hull Restrm/Concession West	2800 SW 8th Ave.	2011	856
59	Floyd Hull Morton Act. Ctr & Concession	2800 SW 8th Ave.	1970	6,350
60	Floyd Hull Stadium Sky Box	2800 SW 8th Ave.	1970	1,500
61	George English Park - Storage/Electrical Rm	1101 Bayview Dr.	2005	1,020
62	George English Park - Rec Ctr/Rstrm/Pro Shop	1101 Bayview Dr.	2006	3,149
63	G. T. L - Administration Bldg.	1765 SE 18th St.	1986	6,425
64	G. T. L - Dewatering Bldg.	1765 SE 18th St.	1986	21,150
65	G. T. L - Effluent Bldg.	1765 SE 18th St.	1986	25,225
66	G. T. L - Generator Bldg.	1765 SE 18th St.	1986	1,125
67	G. T. L - Lox Plant	1765 SE 18th St.	1986	2,200
68	G. T. L - Mechanical Shop	1765 SE 18th St.	1986	720
69	G. T. L - Pretreatment Bldg.	1765 SE 18th St.	1986	39,000
70	G. T. L - Sludge Pump House #2	1765 SE 18th St.	1986	1,600
71	G. T. L - Sludge Pump Station No.1	1765 SE 18th St.	1986	2,160
72	G. T. L - Sludge Pump Station No.3	1765 SE 18th St.	1986	10,520
73	Hardy Park - Pump House	112 SW 7th St.	1930	560
74	Hardy Park - Tennis Center	25 S.W. 9th St.	1938	1,280
75	Holiday Park - Activity Center	700 N. Federal Hwy	1950	22,496
76	Holiday Park - Concession Phase 1	Holiday Park	1998	2,940
77	Holiday Park - Concession Phase 2	Holiday Park	2000	2,210
78	Holiday Park - Gym & Ranger Station	700 N. Federal Hwy	1964	14,500
79	Holiday Park - Press Box	700 N. Federal Hwy	1998	1,194
80	Holiday Park - Social Center	700 N. Federal Hwy	1965	4,140
81	Holiday Park - Tennis Center	700 N. Federal Hwy	1997	2,200
82	Holiday Park - War Memorial Auditorium	800 NE 8th St.	1948	39,954
83	Hortt Community Center	1700 SW 14th Court	2012	1,989
84	Las Olas Marina Comfort Station	Las Olas Circle	1998	3,000
85	Las Olas Repump Station D-37 House	310 Lido Dr.	1950	1,800
86	Lauderdale Manors Park - Pool Bldg.	1340 Chateau Park Dr	2001	955
87	Lauderdale Manors Park - Rec. Center	1340 Chateau Park Dr	2001	4,399
88	Mills Pond Park - Recreation Office	2201 N.W. 9th Ave.	1987	5,772
89	Mills Pond Park - Restrm/Concession	2201 N.W. 9th Ave.	2000	1,280
90	Mizell Center	1409 N.W. 6th St.	1979	30,676
91	Osswald Restroom (East)	2220 NW 21 Ave	1991	750
92	Osswald Restroom (West)	2220 NW 21 Ave	1991	750
93	Osswald Old Library	2220 NW 21 Ave	1991	6,000
94	Osswald Park Rec. Center	2220 NW 21 Ave	1991	6,000
95	Palm Aire Village Park - Restrooms	6401 21st Ave	2002	1,080
96	Parking Administration Bldg.	290 NE 3rd Ave.	1960	14,449
97	Peele Dixie MTP Admn / Membrane Bldg	1500 South St. Rd 7	2008	29,120
98	Peele Dixie MTP Chemical Bldg	1500 South St. Rd 7	2008	17,815

Facility Condition Assesment Project - REVISED List

	Building Name	Address	Year Built	Sq Ft
99	Peele Dixie MTPGenerator Bldg	1500 South St. Rd 7	2008	2,028
100	Peele Dixie WTP - Clearwell Pump House	1500 South St. Rd. 7	1927	240
101	Peele Dixie WTP - FPL Switchgear House	1500 South St. Rd. 7	1985	1,120
102	Peele Dixie WTP - Lime House	1500 South St. Rd. 7	1957	9,600
103	Peele Dixie WTP - Plant	1500 South St. Rd. 7	1927	35,000
104	Poinciana Park Pump House	401 S.E. 21st St.	2008	2,100
105	Police Harbor Patrol & Bathrooms	1784 SE 15th St.	1980	1,680
106	Police Horse Barn - Holiday Park	700 N. Federal Hwy	1993	6,010
107	Police Horse Barn - K9 Unit	5900 Hawkins Rd	1985	7,518
108	Police Jail	1300 W Broward Blvd.	1982	26,979
109	Police Organized Crime	101 N Andrews Ave.	1954	7,500
110	Police Station	1300 W Broward Blvd.	1958	88,607
111	Prospect Wellfield Generator Building East	3501 W Prospect Rd	1968	11,744
112	Prospect Wellfield Generator Building West	3501 W Prospect Rd	1957	1200
113	Parks Comp., Bldg. 1, Parks Maintenance	220 SW 14th Ave	1964	2,842
114	Parks Comp., Bldg. 2, Parks Office	220 SW 14th Ave	1964	2,390
115	Parks Comp., Bldg. 3, 4A, 4B, Gen. Services	220 SW 14th Ave	1964	14,364
116	Parks Comp., Bldg. 5, 7, Radio & Facility Mgr	220 SW 14th Ave	1964	1,776
117	Parks Comp., Bldg. 6, Vehicle Write up	220 SW 14th Ave	1988	500
118	Parks Comp., Elec. Dist.	220 SW 14th Ave	1964	886
119	Parks Comp., Fire Logistics	220 SW 14th Ave	1964	3,080
120	Parks Comp., Fleet Services	220 SW 14th Ave	1964	15,508
121	Parks Comp., Fuel, vehicle Wash	220 SW 14th Ave	1996	241
122	Parks Comp., Garage	220 SW 14th Ave	1964	19,200
123	Parks Comp., Parks & Rec. Admin.	220 SW 14th Ave	1964	5,968
124	Records Center - Print Shop	401 S.E. 21st St.	1948	2,278
125	Riverland Park Activity Center	950 SW 27 Ave	2004	3,380
126	Riverside Park - Activity Center	555 SW 11 Ave	2003	2,047
127	Snyder Park - Eastlake Restroom	S.W. 4th Ave.	1972	200
128	Snyder Park - Northlake Restrooms	S.W. 4th Ave.	1972	400
129	Snyder Park - Southlake Restroom/Maint Bldg	S.W. 4th Ave.	1972	500
130	Snyder Park - Southlake Family Restroom	S.W. 4th Ave.	1972	100
131	Snyder Park - Caldwell Pavillion / Restrooms	S.W. 4th Ave.	1989	4,898
132	Snyder Park - Maintenance Bldg.	S.W. 4th Ave.	2000	746
133	Snyder Park - Office/Administration Bldg.	S.W. 4th Ave.	1977	2,464
134	Snyder Park - Train Station	S.W. 4th Ave.	1958	1,173
135	Southside School	701 S. Andrews Ave	1922	12,147
136	Sunset Memorial Gardens - Admin Bdg.	3201 NW 19 St	2006	2,475
137	Trash Transfer Station - Office / Storage Bldg.	2001 NW 6th St.	1950	12,625
138	Trash Transfer Station - Guardhouse	2001 NW 6 St	1963	196
139	Trash Transfer Station - Repump Bldg.	2001 NW 6th St.	1950	3,600
140	Warfield Park - Recreation Center	1000 N Andrews	2000	3,750

CITY OF FORT LAUDERDALE

PRE-BID MEETING SIGN IN SHEET

RFP # 545-11286
TITLE: FACILITY CONDITION ASSESSMENT

Date: 9/18/13

Name	Firm	Address	Phone
Yvette Jones	JBC	14877 SW 45 Ct Miramar	305-772-8609
SARAH WEBBER	JOHNSON ENGINEERING	6941 SW 196TH AVE STE 32 PEMBROKE PINES 33332	(954)614-2075
LYLE HUBER	FULCRUM	7373 E DOUBLETREE RANCH RD STE B152 SCOTTSDALE AZ, 85258	602-759-7884
BRYAN KURIK	SINGER ARCHITECTS	915 MIDDLE RIVER DR. SUITE 404 Fort Lauderdale, FL 33304	(954) 537-9136
Neil Campbell	CBRE/Skw	14350 Commerce Way Miami Lakes FL 33016	786 367 8613
MIKE CROSSON	VFA	866 Summer ST Boston MA	617-772-8132
Susan MacFarquhar	Nova Engineering	4350 Oakes Rd Davie 33314	954-424-2520
GREG JONES	BMG	222 Schilling Circle Hunt Valley MD	800-733-0660 ex6609
Joe Mastrucci	Jacobs	4080 Kiaora St, Miami 33133	305-458-4601
JOSE R. PEREZ	AMEC	5845 NW 158TH ST, MIAMI, FL 33014	305-826-5588 203
ARMANDO ALVAREZ	AMEC	5845 NW 158TH ST MIAMI LAKES 33009 FL	305-826-5588
Summer Musora	Green Path Energy Solutions	8032 NW 41 Ct. Sunrise, FL 33351	954 323 4801
Alfonso Alzamora	PDS	2900 Glades Circle, Ste. 700, Weston 33327	954 2377850
GEORGE H. HOFFMAN, AIA	ACAI ASSOC. INC.	1837 W. GYPSY CREEK RD, #200 FORT LAUDERDALE 33309	(954) 486-4000
SETH D. YEGLOW, AIA	CMA	4101 RAVENSWOOD RD. #113 FT LAUDERDALE, FL 33312	(954) 581-1881
SCOTT SUNDERMEIER	CITY FTL	1350 W. BROWARD BLVD FTL 33312	954-828-5262

CITY OF FORT LAUDERDALE

PRE-BID MEETING SIGN IN SHEET

RFP # 545-11286
TITLE: FACILITY CONDITION ASSESSMENT

Date: 9/18/13

Name	Firm	Address	Phone
JEREMY BECKER	JONES LANG LASALLE AMERICAS	ATLANTA	CALLED IN 404-995-2176
CHERYL DRONZEK	APPLIED MANAGEMENT ENGINEERING	VIRGINIA	CALLED IN 800-582-0763
ANNDESCA DIAZ	CITY		# 5949

II. Non-Collusion Statement

NON-COLLUSION STATEMENT:

By signing this offer, the vendor/contractor certifies that this offer is made independently and *free* from collusion. Vendor shall disclose below any City of Fort Lauderdale, FL officer or employee, or any relative of any such officer or employee who is an officer or director of, or has a material interest in, the vendor's business, who is in a position to influence this procurement.

Any City of Fort Lauderdale, FL officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement.

For purposes hereof, a person has a material interest if they directly or indirectly own more than 5 percent of the total assets or capital stock of any business entity, or if they otherwise stand to personally gain if the contract is awarded to this vendor.

In accordance with City of Fort Lauderdale, FL Policy and Standards Manual, 6.10.8.3,

3.3. City employees may not contract with the City through any corporation or business entity in which they or their immediate family members hold a controlling financial interest (e.g. ownership of five (5) percent or more).

3.4. Immediate family members (spouse, parents and children) are also prohibited from contracting with the City subject to the same general rules.

Failure of a vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the City Procurement Code.

NAME	RELATIONSHIPS
N/A	N/A
_____	_____
	_____
	_____

In the event the vendor does not indicate any names, the City shall interpret this to mean that the vendor has indicated that no such relationships exist.

III. Cost Proposal

PART VII - PROPOSAL PAGES – COST PROPOSAL

Proposer Name: Applied Management Engineering, Inc.

Proposer agrees to supply the products and services at the price bid below in accordance with the terms, conditions and specifications contained in this RFP.

Cost to the City: Contractor must quote firm, fixed, cost for all services identified in this request for proposal. This firm fixed cost includes any costs for travel to the City. No other costs will be accepted.

Failure to use the City's COST PROPOSAL Page and provide costs as requested in this RFP, may deem your proposal non-responsive.

TOTAL LUMP SUM COST $188,069

Attach as a separate page, a total cost breakdown of the lump sum cost.

Breakdown of Fee Proposal

FCA Task:		**Planning**		
Labor Category	*Rate*	*Hours*		*Cost*
Project Manager	$146.01	40		$5,840
Travel:				
Air	$300.00	Trips(1)	Persons(1)	$300
Lodging	$121.00	Nights(1)	Persons(1)	$121
Per Diem	$71.00	Nights(2)	Persons(1)	$142
Auto	$85.00	Days(2)	Cars(1)	$170
			Task Total =	**$6,573**
FCA Task:		**Field Work**		
Labor Category	*Rate*	*Hours*		*Cost*
Assessment Engineer	$99.11	640		$63,430
Travel:				
Air	$300.00	Trips(1)	Persons(4)	$1,200
Lodging	$121.00	Nights(13)	Persons(4)	$6,292
Per Diem	$71.00	Nights(14)	Persons(4)	$3,976
Auto	$85.00	Days(14)	Cars(3)	$3,570
			Task Total =	**$78,468**
FCA Task:		**Report Development and Delivery**		
Labor Category	*Rate*	*Hours*		*Cost*
Project Manager	$146.01	72		$10,513
Assessment Engineer	$ 99.11	640		$63,430
Quality Assurance	$132.52	120		$15,902
			Task Total =	**$89,846**
FCA Task:		**Final Presentation/Meeting**		
Labor Category	*Rate*	*Hours*		*Cost*
Project Manager	$146.01	16		$2,336
Travel:				
Air	$300.00	Trips(1)	Persons(1)	$300
Lodging	$121.00	Nights(1)	Persons(1)	$121
Per Diem	$71.00	Nights(2)	Persons(1)	$142
Auto	$85.00	Days(2)	Cars(1)	$170
			Task Total =	**$3,069**
FCA Software:				
*Site License**				$5,995
On-site Training				$4,117
			Software Total =	**$10,112**
			Grand Total =	***$188,069***

*The site license for ***FCIS*** is a one-time fee to allow installation on your local area network. This includes no cost upgrades, phone support and two days of training on-site. There are no additional annual fees and no fees associated with the number of users. ***FCIS*** includes the cost estimating tool (over 7000 pre-built assemblies) that will provide value to Fort Lauderdale for many years.

IV. Letter of Interest

October 1, 2013

Procurement Services, Division
Room 619, City Hall
100 North Andrews Avenue
Fort Lauderdale, Florida 33301

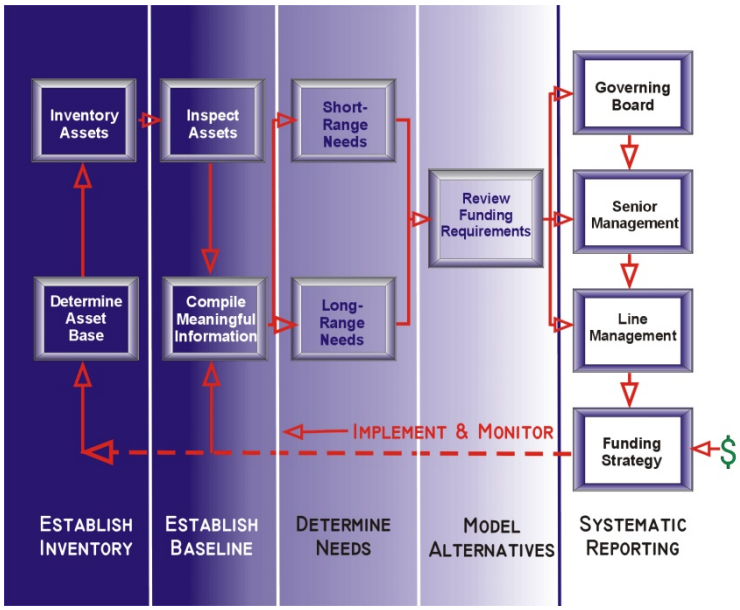
RE: RFP #545-11286, Facilities Condition Assessment

Dear Sir/Madam,

Applied Management Engineering, Inc. (***AME***) is a small business enterprise (SBE) specializing in facility condition assessments since 1980. We are confident our experience and skill set match perfectly with Fort Lauderdale's requirements.

AME is known in the facility condition assessment services world for the authorship of *Managing the Facilities Portfolio* published by the National Association of College and University Business Officers (NACUBO). This publication presented the facility condition Index (***FCI***) and the ranges for good, fair and poor that most of the facilities industry has adopted in some fashion. ***AME*** continues to analyze the impact of ***FCI*** and how facility managers use the ***FCI*** in their facility strategies. ***AME*** recently authored "Three Metrics Steer Investment Decisions", (*Building Operating Management*, September 2013 Issue). The article, provided in **Section XII. Additional Information**, describes how we collaborated with the National Park Service to effectively use ***FCI***. ***AME***'s primary service has been facility condition assessments since 1980. Our first facility condition assessment client was the University of Virginia (UVA). ***AME*** assisted UVA in the development of their approach and today they have full-time staff that conducts facility assessments. Facilities condition assessments are not a side line service; they represent approximately 85 percent of our annual revenues.

AME is considered an industry leader in the services we provide. Our published approach and methods for conducting and developing facility condition assessments are recognized nationally as a benchmark for assessing facility conditions and managing facility assets. At ***AME***, facility assessments are not just another client service, but the premier client service. ***AME*** prides itself on providing cost effective, high quality, and timely professional services throughout the country and abroad from our single office in Virginia Beach, Virginia.



AME's approach to conducting facility assessments is founded on the concept that facility assets are typically diverse and should be viewed and managed as a portfolio. There are five key steps of effective management of facility assets:

1) Establish baseline asset inventory and important management information or features of the facilities.
2) Establish meaningful baseline data about facility conditions through a detailed, structured assessment process.
3) Estimate short and long-range component renewal needs using data obtained from actual field analysis.

4) Utilize decision-support models to determine the effect of reinvestment rates on desired facility conditions.

5) Communicate the facility condition and impact on mission support to governing boards, senior management, and line management responsible for maintaining the portfolio.

This model, combined with the Facility Condition Information System (***FCIS***), forms a coordinated process that enables the facility manager to consistently plan and manage capital assets and:

- Assess facilities in a consistent manner using established performance standards and methods.
- Develop, manage, budget and implement short and long-term management plans.
- Conduct a comparative analysis of facilities based on condition, value and mission.
- Report on the urgency of facility conditions and provide vital information needed to analyze and prioritize critical facility needs.
- Provide detailed management reports necessary to validate and/or forecast funding and facility requirements for governing boards and senior management.

Effective facility management is a continuous process of assessing, analyzing and reporting on facility conditions. The ongoing process of managing a portfolio of facilities should become an essential part of every organization's capital management program. ***AME*** continues to play a leading role in development of industry standards in facility assessments and management. Through the implementation of ***AME***'s approach and Facility Condition Information System (***FCIS***), we can provide your organization with a proven system for managing your facility needs.

In addition to providing facility condition assessments ***AME*** has a rich history in developing facility standards. ***AME*** was honored to be an invited author in the R.S. Means publication *Facilities Maintenance and Repair Cost Data*. The development and implementation of a preventive maintenance (PM) program can maximize equipment life. A vigorous set of standards, including checklists, estimated hours and costs, and recommended frequency, is necessary to ensure satisfactory results. ***AME*** developed the standards for this publication, which cover more than 80% of installed plant equipment typically found in physical plants.

Sincerely,

Douglas W. Kincaid, P.E.
President/General Manager

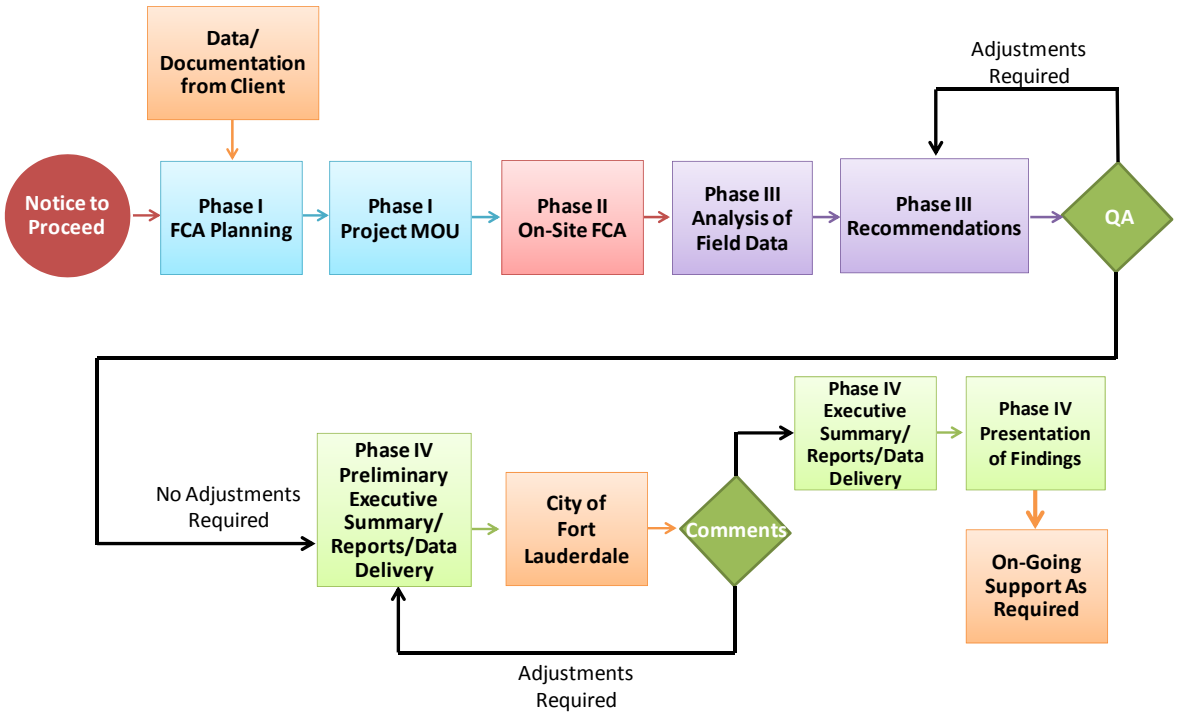
V. Statement of Proposed Services

A. Capability and Approach

Facility condition assessments are a primary service for ***AME***. ***AME*** has developed condition assessment guidelines formatted by Uniformat code that have been adopted by many clients as the standard, including recent clients the National Park Service and the Los Angeles World Airports. ***AME*** has conducted condition assessments for hundreds of millions of square footage with a wide variety of facility types and missions.

Our process is best explained through the flow chart below showing the four phases of our project approach:

I. Facility Condition Assessment Planning
II. On-Site Facility Condition Assessment
III. Analysis and Recommendation Development
IV. Presentation of Findings



Over the past thirty years, ***AME*** has refined our methodology to provide a thorough, comprehensive phased approach for assessing your facility requirements. ***AME***'s approach, methodology, and products provide the proper technical package to provide the "best value". This approach is based on several key components:

- Key personnel with extensive maintenance management background
- In-house design of methodology and software system
- Standardization of processes/costing/reporting
- Enhancements generated by clients' requirements spanning a range of maintenance approaches

Phase I – Facility Condition Assessment Planning

This phase consists of gathering logistical information, reviewing existing data, and adjusting protocols and standards to support Fort Lauderdale's desired outcome. The planning phase results in a project Memorandum of Understanding (MOU) which documents detailed scope requirements and issues and resolutions. We will use this phase to develop the relationship with your team. ***AME*** has a standard checklist which is adjusted to each client's requirements that helps guide our team and Fort Lauderdale's team efficiently through this process. Doug Kincaid, the Project Manager, will be on-site through the planning to ensure the project start is successful.

Assessment Planning Checklist

1. *Discuss detailed scope of assessment.*
2. *Resolve any scope overlap or interference with special inspections or audits that are scheduled for accomplishment by others: energy audit, asbestos, roofs, and security, fire protection, facilities inventory, or facility preventive maintenance.*
3. *Determine any additional identification/security/clearance requirements. (Name badges/**AME** shirts). Are there special parking passes required?*
4. *Determine if there are any special safety precautions that must be observed: radioactivity, asbestos, confined spaces, air sampling, hard hat/safety glasses/safety shoe requirements, weak roof areas, physical exams, etc.*
5. *Discuss general project requirements. (Work hours, office location, emergency contacts). The teams will inform the designated contact at the site for items considered urgent. Areas deemed hazardous will not be accessed until the type of contamination has been identified under separate contract.*
   a. *Determine access/key requirements (i.e. mechanical rooms).*
   b. *Determine roof access requirements. We'll need ladders provided.*
   c. *Discuss equipment access requirements*
   d. *Obtain lists of facility tenants and maintenance technical/engineering contacts and Asset Manager(s)*
6. *Discuss availability and format of additional information*
   a. *Availability and format of electronic asset inventory information*
   b. *Obtain Preventive Maintenance Equipment list and location, if available.*
   c. *Obtain roofing information (type, installation date, warranty, etc.), if available.*
   d. *Obtain Electrical Service Inventory list, if available.*
   e. *Obtain asset historical data pertinent to the assessment.*
   f. *Obtain listings, status, and appropriate documentation for any major alteration and maintenance projects*
   g. *Obtain a list of pertinent contracts.*
   h. *Obtain facility floor plans*
   i. *Discuss room numbers.*
   j. *Obtain general development plans.*
7. *Discuss maintenance plan approach*
   a. *Discuss Asset Photos, Deficiency Photos and GPS coordinates.*
   b. *Discuss system replacement strategies*
   c. *Discuss Current Replacement Value (CRV).*
   d. *Determine the in-house/contractor cost thresholds.*
   e. *Clarify equipment inventory*
   f. *Review Design Life values and Recurring Maintenance strategy*
   g. *Establish priority year criteria.*
   h. *Establish "major deficiency" threshold*
   i. *Determine the maintenance cycles with respect to deferrable time frames, painting schedule, and long range maintenance plan.*
   j. *Determine any changes to pricing table other than labor rates. What location factors apply? (*
   k. *Determine craft codes and labor rates. (Both contract and in-house).*
   l. *Determine library values for work types and deficiency types*
8. *Customize libraries and parameters in **FCIS** for the client.*
9. *Discuss schedule & submittals.*
10. *Compile and present the client's portion of the MOU to identify and resolve any remaining questions or conflicts.*

Phase II - On-Site Facility Condition Assessment

AME's approach is to perform a thorough visual inspection with a two-person team: one member is responsible for all structural/architectural, finish, and roof components; the second is responsible for all mechanical/electrical/plumbing components. Each team will discuss known deficiencies for each facility with the facility manager/contact in order to utilize all the possible information available. Team members will contact key maintenance personnel concerning issues which require further clarification to determine the physical condition. Items that are considered urgent (endangering life and/or property, etc.) will be immediately brought to your attention and appropriately indicated on the assessment reports.

In addition to visually assessing system components for deficiencies, facility components are evaluated to determine the position of their individual life cycle based on age and present condition. Historical background information on installation dates, overhauls, and major maintenance/ breakdowns are vital to identify the appropriate component renewal plan through a life cycle analysis. The renewal cost for components are computed and identified by year of required renewal. Photographs of deficiencies and facilities are used to aid documentation and analysis. Field data will be collected by facility and reflect all deficiencies associated with the following work breakdown structure which generally follows the major system categories in Uniformat II:

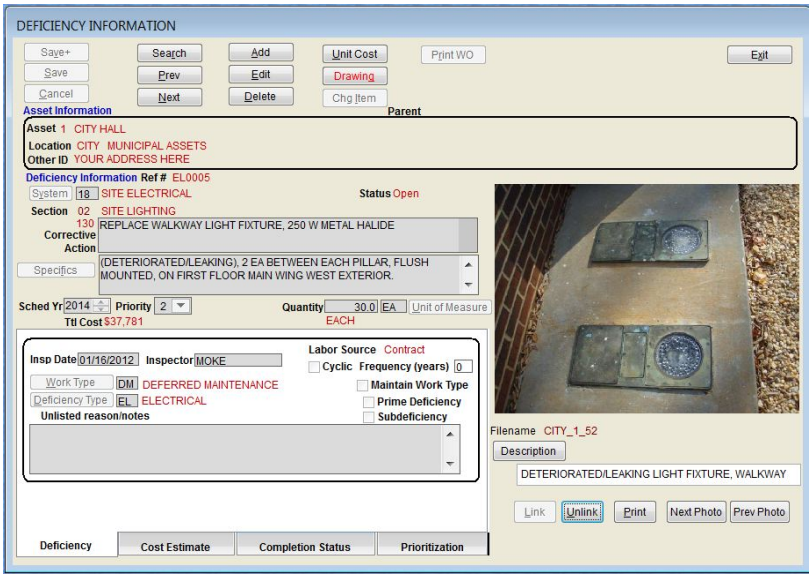
- *FOUNDATIONS*
- *EXTERIOR ENCLOSURE*
- *INTERIOR CONSTRUCTION*
- *INTERIOR FINISHES*
- *PLUMBING*
- *FIRE PROTECTION*
- *ELECTRICAL-SPECIAL SYSTEMS*
- *BUILT-IN FURNISHINGS*
- *SUPERSTRUCTURE*
- *ROOFING*
- *STAIRS*
- *CONVEYING*
- *HVAC*
- *ELECTRICAL SYSTEMS*
- *EQUIPMENT*
- *SITE IMPROVEMENTS*

These systems combined with work types and deficiencies types we will define in the planning phase, address and categorize all the areas outlined as component elements in the RFP. ***AME*** utilizes personal computer tablets for field data collection and has developed software specifically for conducting inventory and condition assessments. This technology allows consistent and complete on-site data collection and is particularly efficient when validating an existing database. The tablet provides access to data, photographs, drawings, site plans, and inspection guidance. Drawings and site plans can also be annotated in the field to identify changes, facilitating a virtually paperless field process. Data captured in the field can be quickly and accurately transferred and merged into our standardized estimating package during the office phase.

Phase III – Analysis and Recommendation Development

The third phase results in a database which documents your facility needs. Identifying and categorizing as much information as can be effectively associated with each detailed item

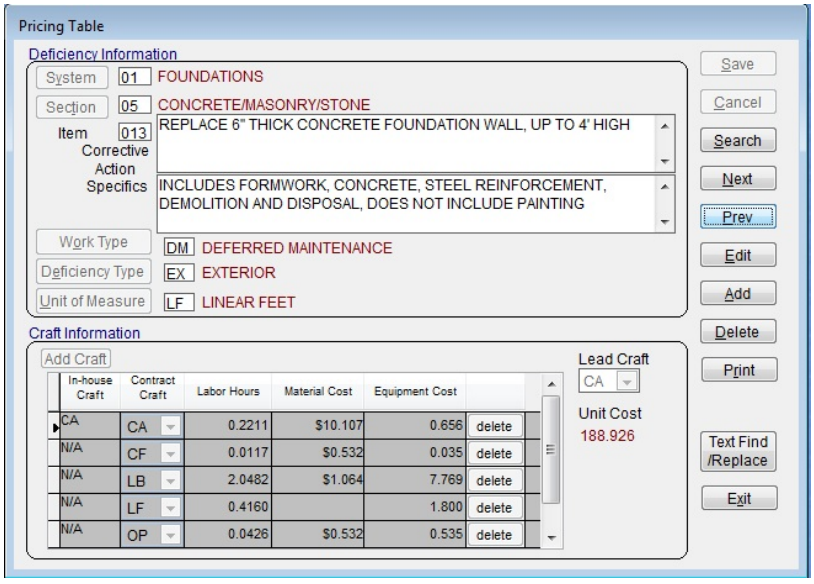
maximizes the flexibility of summarizing information for a variety of reporting requirements. Some key features of our analysis process are:



- Use of standardized pricing and descriptions
- Asset inventory to include equipment inventory
- Inclusion of applicable preventive maintenance actions (if desired by the client)
- Developing projects to package work more effectively
- Application of sustainability/LEED for Existing Buildings
- Consideration of code, safety, and regulatory compliance
- Cost savings initiatives not dictated by condition
- Thorough quality assurance program with continuous process improvement

Standardized Pricing and Descriptions

Critical to a successful facility condition assessment are the cost estimates developed for repairs, life cycle activities and replacements. ***AME*** recognizes several concerns related to the cost estimating of facility condition assessment data:



- The majority of R.S. Means data is based on new construction. The true cost of maintenance, repair, and replacement in a maintenance environment is not always captured in the data. Each estimator is left to adjust costs at their own discretion, creating the opportunity for considerable variation.

- Many corrective actions cannot be located in R.S. Means cost data. Development of the corrective action and subsequent tasks requires a significant effort on the part of the estimator.
- Not all equipment types and capacities are currently in R.S. Means cost data.

AME concluded that the best solution to generate more accurate and consistent cost estimates and provide our clients with a true estimating tool was the development of ***AME***'s Standard Pricing Table. We have utilized our experience with R.S. Means data, Engineered Performance Standards, and other cost estimating guides to create this estimating tool that reflects a more realistic cost estimate in the maintenance, repair, and replacement environment with over 7,000 items. It provides not only standardization in cost estimating but also clear and consistent terminology with a minimum effort.

Once a deficiency is identified as an item from the Standard Pricing Table, ***FCIS*** calculates the costs by craft and the total deficiency cost. Each client's database is tailored based on labor rates for both contractor rates and in-house maintenance personnel rates. The local area factors are used to adjust material and equipment costs.

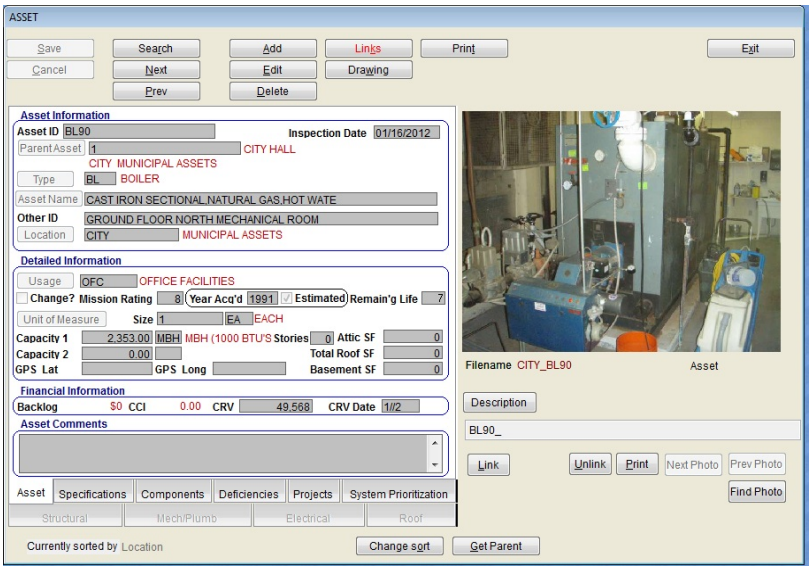
The Standard Pricing Table has been a significant reason for our selection by many clients and the continued success of our clients' ability to maintain the condition assessment data and perform assessment activities in-house. Each corrective action identifies the material unit cost, the equipment unit cost, labor unit hours, the correct craft identifier, the facility system, and the standard description of the corrective action.

Deficiency Prioritization

AME typically assigns a priority year to each deficiency based on condition, age, and criticality to indicate a year by which the action is projected to be required. Additionally we provide characteristics for each deficiency such as work type. Work type is defined by the client and typically corresponds to the funding source that would be budgeted for that activity. ***FCIS*** assigns a ranking within a priority year to each deficiency or project based on the mission rating of its associated asset, the weighting of the associated facility system in the asset, the weighting of the work type, and the cost of outstanding maintenance requirements as compared to the replacement value of the facility. This ranking allows the user to develop an execution plan that considers factors such as constrained funding, but still corrects critical deficiencies and projects. ***FCIS*** provides initial default values for these ratings and allows a user to modify the defaults or adjust ratings for individual facilities. ***FCIS*** also allows a user to define additional criteria to be used in calculating ranking.

Asset Inventory

Asset inventory information includes details necessary for maintaining condition assessment information and managing the work. These details include contact information, current replacement value, age, and other specifications. Documents, photographs, and AutoCAD® drawings may be linked to assets and reported on via ***FCIS***.



AME provides the capability to capture condition assessment information on assets such as major equipment within a facility. ***AME*** can import asset information into ***FCIS*** and assess their condition individually. Those assets can then be viewed independently or with the parent asset. As an example, a boiler may be a separate asset (child) that can be reported separately or with the facility (parent) with which it is associated. During the planning phase the details of the equipment inventory will be reviewed with Fort Lauderdale. ***AME*** can also make recommendations on specific equipment and features we have collected on past projects.

Preventive Maintenance (PM)

AME's condition assessment approach can include the evaluation of PM requirements. ***AME*** can link annual PM requirements. ***FCIS*** can include the annual requirement cycled each year. The PM standard attached to the equipment asset record is also provided (see next page). This process can update existing asset information from your computerized maintenance management system (CMMS) that can be imported to your CMMS to support the development of a PM program, an added benefit to ***AME***'s approach.

SOURCE: D3055 210 1950

PACKAGE UNIT, AIR COOLED, 3 TONS TO 24 TONS

		LABOR HOURS	PM FREQUENCY W	M	Q	S	A
	TOTAL LABOR HOURS PER EVENT		0.0	0.0	0.5	0.5	1.0
	TOTAL LABOR HOURS/YEAR BY FREQUENCY		0.0	0.0	0.9	0.5	1.0
	TOTAL LABOR HOURS/YEAR						2.4
1.	CHECK WITH OPERATING OR AREA PERSONNEL FOR DEFICIENCIES.	0.035			X	X	X
2.	CHECK TENSION, CONDITION, AND ALIGNMENT OF BELTS; ADJUST AS NECESSARY.	0.029			X	X	X
3.	LUBRICATE SHAFT AND MOTOR BEARINGS.	0.047			X	X	X
4.	REPLACE AIR FILTERS.	0.055			X	X	X
5.	CLEAN ELECTRICAL WIRING AND CONNECTIONS; TIGHTEN LOOSE CONNECTIONS.	0.12					X
6.	CLEAN COILS, EVAPORATOR DRAIN PAN, BLOWERS, FANS, MOTORS AND DRAIN PIPING AS REQUIRED.	0.385					X
7.	PERFORM OPERATIONAL CHECK OF UNIT; MAKE ADJUSTMENTS ON CONTROLS AND OTHER COMPONENTS AS REQUIRED.	0.077			X	X	X
8.	DURING OPERATION OF UNIT, CHECK REFRIGERANT PRESSURE; ADD REFRIGERANT AS NECESSARY.	0.135			X	X	X
9	CHECK COMPRESSOR OIL LEVEL; ADD OIL AS REQUIRED.	0.033					X
10.	CLEAN AREA AROUND UNIT.	0.066			X	X	X
11.	FILL OUT MAINTENANCE CHECKLIST AND REPORT DEFICIENCIES.	0.022			X	X	X

LABOR HOURS PER EVENT	
W	0.0
M	0.0
Q	0.5
S	0.5
A	1.0

ANNUALIZED LABOR HOURS	
W	0.0
M	0.0
Q	0.9
S	0.5
A	1.0
TOTAL	2.4

ANNUALIZED MATERIAL COST $70

Developing Projects

AME will evaluate the information generated from the condition assessment data as well as information gathered from your staff to determine trends and comparisons. ***FCIS*** provides the capability to combine existing condition assessment data, introduce new information (such as special studies or construction items) into a project, or develop a project with the combination of both. Projects may be developed for a single asset or across multiple assets. ***AME*** will determine your methodology for including work items in projects. If the methodology allows, ***AME*** will develop projects based on the condition assessment database. Input of other costs such as design, overhead, and construction inspection by total lump sum or as a percentage of the total can be applied. The estimated cost of a project may utilize the condition data or independent estimates. The details associated with the individual deficiencies utilized in the project development are maintained, including cost estimates, for justifying the aggregate cost of a project.

Our clients have experienced significant savings through the project building capabilities of ***FCIS***. The savings have resulted from a reduced unit price by packaging similar requirements across facilities, as well as reducing the logistics of managing multiple projects. There are obvious gains by being proactive versus reactive to facility needs. Project building also benefits the strategic plan by helping to level out required funding spikes. Each strategic plan is unique based on the client's funding environment and their view of facility stewardship to the overall mission. ***AME*** will work with you to develop and manage a flexible and effective plan.

Code, Safety, and Regulatory Compliance

Codes evolve and change over time. A majority of these changes do not impact a facility until a substantial renovation is begun. At the time of the renovation new codes would be factored into the design and selection of equipment and materials. ***AME*** has reviewed the following references to

identify those compliance issues that would impact the facilities before any major renovation and might impose a risk to owners and occupants:

International Building Code (IBC)

International Fire Code (IFC)

International Plumbing Code (IPC)

National Fire Prevention Association **(NFPA) 13** Standard for the Installation of Sprinkler Systems

National Electrical Code (NEC)

Occupational Safety and Health Administration (OSHA) Standard 1910

Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines

During our planning phase we will review our recommended list of code compliance issues with you to document and compare with any local code issues that would generate activity to correct. We have found this approach to provide best value to our clients.

Cost Savings Initiatives

Many systems and equipment may be in good condition; however, newer systems provide opportunities to reduce operating costs, energy consumption, or water use. Replacing these systems or equipment may provide a payback within 5 years versus waiting for the condition to dictate replacement. ***AME*** will identify those opportunities during the condition assessment process and incorporate the results in our analysis of the total needs and funding strategy.

Quality Assurance Program

AME has embraced every opportunity to incorporate quality and repeatability in our service. ***AME*** has developed internal training programs to maintain a consistent process, and in the last few years has invested in technological tools to help standardize our approach and increase productivity. Our process is continuously refined based on lessons learned during each assessment and inventory for a variety of clients. ***AME*** has a full-time Quality Assurance (QA) Department that reviews all data entered into our database before we deliver data for the client's review. In addition, ***AME*** has developed manual and automated QA checks designed around the specific data requirements.

Phase IV – Presentation of Findings

There are several ways to present the findings of the condition assessment process. We typically use ***FCIS*** to generate a facility view as well as a portfolio view. This provides detailed information for each individual recommendation as well as the reporting flexibility to answer specific questions such as all recommendations for specific equipment types or system. We also provide an executive summary to transform data into information.

A facility condition assessment report typically containing the following components:

- *Building Report*
- *Facility Work Type Summary*
- *Facility System Summary*
- *Asset Inventory*
- *Facility Inspection Details*
- *Project Breakdown*

Other facility views are also available such as a multi-year plan, which presents the information in a schedule year as well as providing a total for costs by schedule year.

There are many summary reports available in ***FCIS*** that provide a portfolio view of the condition assessment results. These include:

- Costs summarized by work type across all facilities.
- Costs summarized by system across all facilities.
- Multi-year annual cost total for each facility.
- Facility comparisons of costs, condition and average cost per unit of measure.
- Prioritized ranking of deficiencies and projects, including showing those within available funding.

These reports are useful for a variety of functions and levels of users within the organization, including corporate officers, business officers, facilities managers, facilities staff, planning staff, etc. They can be used to:

- Evaluate maintenance and repair costs required to remedy deteriorating conditions.
- Develop an action plan and schedule based on funding levels.
- Compare facility conditions between facilities and with other organizations.
- Establish a facility condition baseline for goal setting and tracking progress.
- Develop cost estimates and priorities for major repair and replacement projects.
- Prepare work orders or contracts.

A final element of analysis is the Facility Condition Index (***FCI***). It provides a simple measure of the relative condition of a facility. It is the ratio of the cost of existing maintenance and repair backlog to the current replacement:

$$FCI = \frac{\text{Cost of Backlog}}{\text{Current Replacement Value}}$$

The true test of a successful project is taking the financially unconstrained assessment information and developing a strategic plan that addresses the most critical needs with a limited budget. ***AME*** can work with you to make the best use of facility funds.

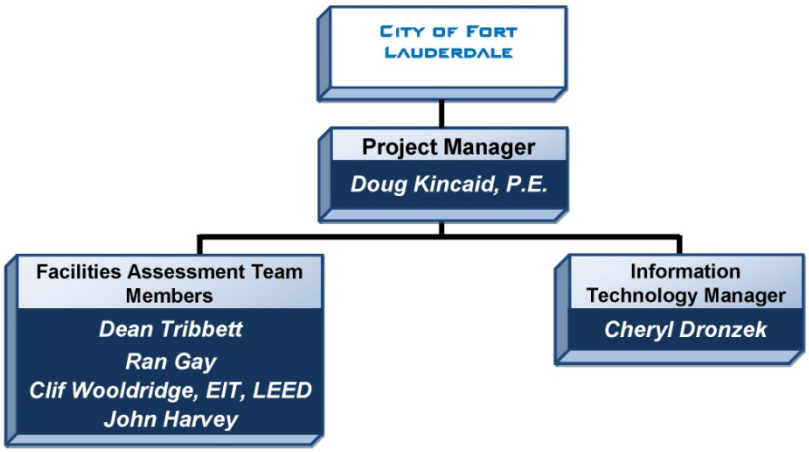
Backlog and Funding Projections

The choice of an appropriate funding level cannot be determined solely through estimation of short and long-term facility renewal needs. The lack of funds to launch an optimal facility renovation and/or repair program has created the necessity for a more modest facility renewal program. In order to have a solid understanding of the impact of a particular funding level on overall facility conditions, ***AME*** developed a backlog and funding projection model.

The **Backlog Projection Model** is used to project the level of maintenance and repair backlog that will result from an assumed funding level. The **Funding Projection Model** predicts annual funding levels required to obtain a desired level of backlog or a specified ***FCI***. Both models utilize the current replacement value, current backlog requirements, annual rates of inflation, backlog deterioration, plant deterioration, and current replacement value appreciation. Various scenarios can be developed depicting theoretical annual funding and backlog levels.

B. Staff Qualifications

AME has structured our team to be streamlined, minimize the required support from the Fort Lauderdale staff, and deliver on time. Doug Kincaid will be the Project Manager and will work through the planning portion of the project and develop the executive level report as well as the presentations required. The team members have several years of experience with our FCA process and have evaluated thousands of major buildings similar to Fort Lauderdale's portfolio. The following is our organization chart and brief description of the roles of the key people. The assessment teams will include one person with the experience and background to evaluate architectural, civil and structural systems and another with mechanical, electrical and fire protection experience.



Doug Kincaid, P.E. - Project Manager

Doug is President and General Manager and has been the project manager for many high profile condition assessment projects for ***AME***. He has initiated many of the condition assessment and

cost estimating processes that ***AME*** has implemented over the years. Doug also brings a complete understanding of facility management practices and provides many clients with innovative ideas to change processes for efficiencies and accountability. Doug is a professional engineer registered in the State of Virginia and has begun the process for registration in Florida. His registration will be effective well in advance of the final deliverables.

Cheryl Dronzek – Information Technology and QA Manager

Cheryl is the Vice President of Applied Management Engineering. Cheryl's primary responsibilities include senior direction and coordination of active projects as well as development of standardized procedures and processes for ***AME*** condition assessment efforts. Cheryl spearheads the design and development effort resulting in the current features of ***AME*** Facility Condition Information System (***FCIS***). She also leads the technical support team, which provides user support in addition to training and installation.

Dean Tribbett – Facilities Assessment Team- Field Lead

Dean has been with ***AME*** since 1989. His project experience has been in the assessment and life cycle evaluation of civil, structural, and architectural systems. He has run field operations for many facility condition assessment projects and will work with your team to make sure the field tasks is minimal impact to your daily operations. Dean has been integral to developing many of the cost estimating assemblies based on his experience with a variety of facilities, systems and issues he has identified in the field.

DOUGLAS W. KINCAID, P.E.
Project Manager

Education:

B.S. Industrial Engineering, West Virginia University, 1978

Registration:

Registered Professional Engineer, Commonwealth of Virginia, 1983, Florida registration pending

The Association of Higher Education Facilities Officer (APPA), 1982

American Public Works Association, 1989

National Association of College & University Business Officers, 1989

International Facilities Management Association, 1990

American Society for Hospital Engineering, 1992

Mr. Kincaid's publications and seminars:

- Article Building Operating Management Magazine*, Three Metrics Steer Investment Decisions* (September 2103)
- Technical review contributor for *Stewardship of Federal Facilities*, a National Research Council publication.
- Technical contributor to *Managing the Facilities Portfolio*, a National Association of College and University Business Officers (NACUBO) publication.
- Technical contributor to *Preventive Maintenance for Higher Education Facilities*, a R.S. Means Company, Inc. publication.
- Technical contributor to *Maintenance Management Audit*, a R.S. Means Company, Inc. publication.
- Technical contributor to *Means Facilities Maintenance and Repair Cost Data*, a R.S. Means Company, Inc. publication.
- Review contributor for *The Facilities Audit*, an APPA and Harvey H. Kaiser publication.
- Consulted in the development of *Plan, Predict, Prevent - How to Reinvest in Public Buildings*, an APWA publication.
- Presenter for the International Facilities Management Association on Operations and Management Funding Strategies.

AME Project Experience

Mr. Kincaid has contributed to projects that span ***AME***'s spectrum of services. These include facility condition assessments, preventive maintenance programs, maintenance standards development, facility service contract preparation, computerized maintenance management system selection and implementation, cost estimating, training, facility planning, and management studies. These projects have represented all client types: college and universities, K-12 school systems, cities and municipalities, counties, federal government agencies, state agencies, and private industry.

Mr. Kincaid has directed the development of operations and maintenance budget models which are used by clients to project budget needs for facilities with various functional uses. These include Bureau of Indian Affairs (K-12), National Park Service and U.S. Geological Survey. Additionally, he directed a project that developed space standards for K-12 core education programs.

Mr. Kincaid has developed maintenance and capital reserve strategies for many types of facility portfolios. Combining industrial engineering techniques with facility data for capital needs and operational needs has been the key to developing successful strategies for many clients.

Most recently Mr. Kincaid has assisted the Richmond Public Schools by developing an executive level presentation from the findings of a facility condition assessment for the School Board that explained the condition of schools, reinvestment strategy and value of reinvestment. Mr. Kincaid has recently completed a review of Altria (Phillip Morris) facility service contracts and developed a template for future contracts that incorporate asset management concepts requiring the contractors to follow business practices to support development of historical information for facility decisions. He also recently evaluated the staffing levels and operations practices of the Facilities Department of New York Hospital Queens. This resulted in recommendations for changes or additional business practices and for development of internal benchmarking.

Mr. Kincaid was the project manager for a study to develop a standardized process for state colleges, universities and agencies to manage maintenance reserve needs in Virginia. The plan was accepted by the Governor's Office and General Assembly.

Mr. Kincaid serves as a member of the National Park Service (NPS) and Bureau of Land Management (BLM) Asset Management Teams. ***AME*** has provided guidance to the Department of Interior (DOI) agencies on their approach to assessment management.

Other Professional Experience

Mr. Kincaid has developed the following skills in his 35 years as an industrial engineer and facility management consultant:

- Managed multi-disciplined project teams.
- Interfaced between the client requirements and the project team.
- Delivered technical briefings of project results.
- Developed and presented seminars and training courses.
- Evaluated and researched potential enhancements for ***AME***'s services.
- Designed data collection formats and methodologies that reduce labor requirements and standardize the required data.

CHERYL DRONZEK
Information Technology Manager

Education:
M.S. Computer Science, Florida Institute of Technology, 1982
B.S. Physics, Texas Christian University, 1980

Ms. Dronzek has been recognized for her work as a Systems Engineer by receiving the following awards:

- NASA Astronaut candidate finalist,
- NASA Silver Snoopy Award
- Nominee, Engineer of the Year, Cape Canaveral Technical Society
- Listed, *Who's Who and Why of Successful Florida Women*

AME Project Experience

Ms. Dronzek is the Vice President of Applied Management Engineering. Her primary responsibilities include senior direction and coordination of active projects as well as development of standardized procedures and processes for ***AME***'s condition assessment efforts.

She has managed the NPS condition assessment projects, including all Commercial Services Projects, since 2011. These include:

- Grand Tetons National Park
- Mesa Verde National Park
- Big South Fork National Recreation Area
- Colonial National Historic Site

Ms. Dronzek spearheads the design and development effort resulting in the current features of ***AME***'s ***FCIS***. She provides a focal point for clients' requests for new features and internally developed requirements. She also directs the technical support team, which provides user support in addition to training and installation. Ms. Dronzek responsibilities include:

- Maintaining the ***FCIS***/AutoCAD interface.
- Development of applications used for NPS and NPS Commercial Services reporting.
- Development of the routines used internally for rapid processing of drawings and other external files linked to ***FCIS***.
- Development of automated quality assurance checks of ***FCIS*** data to ensure compliance with client specific business rules.
- Directing development of field collection software for condition assessments
- Directing development in-house of project and job tracking software.

In addition, Ms. Dronzek manages ***AME*** QA review and performs an audit of selected data samples for each project to monitor completeness and accuracy and provide guidance for improved QA and data analysis processes. Ms. Dronzek leads the continual process improvement initiatives for ***AME***.

Ms. Dronzek has been involved with all ***AME*** projects that assisted clients in selecting computerized maintenance management systems (CMMS). This effort involved developing requirements documents and vendor questionnaires based on group interviews of potential users of the software to determine the desired functionality and preferred user interface.

Ms. Dronzek continually evaluates CMMS applications, both commercial and those developed in-house by clients, for opportunities for efficient data sharing with ***FCIS***. She has developed all the software routines used to interface ***FCIS*** with external systems to date.

Other Professional Experience

Before joining ***AME***, Ms. Dronzek led the system development effort of an automated system for real property inspection, which included managing the contractors developing an application for real property evaluation and management planning written in C and using an Oracle based database management system. These systems were developed as a pilot project for the Department of Defense.

Ms. Dronzek honed her systems engineering skills during her twelve years with the NASA space program designing and conducting systems tests on launch vehicles and payloads. Ms. Dronzek has developed the following skills in her 30 years as a systems engineer:

- Led software design and development teams including generating and analyzing system/subsystem level requirements as well as analysis of existing code for documentation.
- Led multi-disciplined teams to execute large-scale integrated hardware and software systems tests.
- Taught graduate-level computer science courses.
- Delivered technical briefings to groups of over 150.
- Developed and taught technical training modules.
- Analyzed data structures and elements to facilitate interfacing databases.

DEAN E. TRIBBETT
Facility Assessment Field Lead

Education:

B.S. Civil Engineering Technology, Old Dominion University, 1986

A.S. Architectural Engineering, Virginia Western Community College, 1984

A.S. Civil Engineering, Virginia Western Community College, 1984

Certifications:

OSHA 10 Hour Construction Certification

AME Project Experience

Mr. Tribbett was involved in the process and procedure of managing the Bureau of Indian Affairs developed maintenance backlog information system. This system monitors maintenance requests generated through the ownership of more than 10,000 buildings, encompassing over 27 million square feet, located in 26 states.

He is ***AME***'s lead engineer for structural, architectural, and civil systems. In this role, he has developed standardized inspection and data collection procedures. He maintains control of the development of cost estimates for applicable systems in ***AME***'s Facility Condition Inspection System (***FCIS***). This includes researching the material cost and labor hours, as well as determining appropriate ranges for equipment specifications.

Mr. Tribbett is directly responsible for all the phases and elements for each condition assessment project. These phases include the research and development of project scope specifications, project organizational planning and execution, program evaluation, and program effectiveness. These responsibilities extend beyond team management and include facility condition assessments and mechanical systems for a large variety of facilities and components utilizing established engineering performance standards and national construction, safety, and environmental codes.

Mr. Tribbett has been a major contributor for numerous facility condition inspection projects for the following clients:

- National Park Service Commercial Services
  - Grand Tetons National Park
  - Mesa Verde National Park
  - Colonial National Historic Site
  - Chattahoochee River National Recreation Area
- Hampton Roads Sanitation District (HRSD), VA
- County of Spotsylvania, VA
- Richmond (VA) Public Schools
- Sun City Hilton Head Community Association, SC
- Earlham College, IN
- County of San Mateo, CA
- Miss Porter's School, CT
- Bureau of Indian Affairs
- City of Milwaukee, WI
- Bureau of Land Management (BLM)
- City of Virginia Beach, VA
- Chester County PA
- Washoe County School District, NV
- Duke University, NC
- George Mason University, VA
- Disney World Resorts
- Los Angeles World Airports (LAWA), CA
- Indian Health Services

Mr. Tribbett has conducted ***FCIS*** training for clients as well as Facility Condition Assessment (***FCA)*** training.

Other Professional Experience

Highlights in Mr. Tribbett's 26-year career include:

- Managing multi-million dollar construction projects, to include development of cost estimates, contract negotiations, scheduling of production crews, material submittal review, and development of labor cost analysis on a company-wide scale
- Development, training, and implementation of facility inspection programs at government installations and commercial institutions.
- Data collection for preventive maintenance surveys.

RANDOLPH "RAN" G. GAY, III
Facilities Assessment Team Member

Education and Professional Development:

B.S. Mechanical Engineering, University of Virginia, 1981

Certifications:

OSHA 10 Hour Construction Certification

AME Project Experience

As a Facilities Assessment Team Member for ***AME***, Mr. Gay performs condition assessments and equipment inventories of buildings and infrastructure. His project experience has been in the assessment and life cycle evaluation of mechanical, electrical, and plumbing systems. He is also responsible for assessing accessibility issues based on Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines and recommending corrective actions. Mr. Gay has contributed to the following ***AME*** projects:

- National Park Service Sanitary Sewer/Potable Water Assessment
- National Park Service
- National Park Service Commercial Services
  - Grand Tetons National Park
  - Chattahoochee River National Recreation Area
- Hampton Roads Sanitation District (HRSD), VA
- County of Spotsylvania, VA
- Richmond (VA) Public Schools
- Sun City Hilton Head Community Association, SC
- Earlham College, IN
- County of San Mateo, CA
- Miss Porter's School, CT
- Bureau of Indian Affairs
- Joint Base Charleston, SC
- Joint Base San Antonio, TX
- Town of Chapel Hill, NC
- Texas A&M University Kingsville
- Chester County, PA
- Southwestern Indian Polytechnic Institute (SIPI)
- Immanuel Health Systems
- Indian Health Service
- Yosemite, Delaware North Corporation

Other Professional Experience

Highlights in Mr. Gay's 19-year career include:

- As Plant Engineer/Director of Product Development, he redesigned and deployed innovative prototype technology and lead a technical team to work-class manufacturing results in output, quality, and safety. He created highly effective rapid development design process and supply chain that delivered new products 85% faster than traditional development process. He designed and implemented machine upgrades across all technology platforms to increase machine cycle time, improve process yield, reduce defect PPM levels, and reduce machine downtime. Mr. Gay also directed the new product development group, led comprehensive machine controls upgrades, and negotiated the technical contracts and major purchases.
- As Facilities Engineer/Manufacturing Engineer, he directed operations of maintenance staff of a cable manufacturing facility. He created more effective systems to produce cable, designed and developed improved collapsible coiler, and implemented a system to correct dents in aluminum tubing. He led the installation and startup of a warehouse scrap line as well as additional production lines.
- As Maintenance Engineer, he assisted in the design, review, and construction of a maintenance shop, central stores, and training facility. He served as division expert in specialty valves, decontamination facilities, and stand-by diesel generators. He held DOE Q level security clearance.

CLIFTON WOOLDRIDGE, EIT, LEED GREEN ASSOCIATE

Facilities Assessment Team Member

Education and Professional Development:

B.S. Engineering Technology, Old Dominion University, 2008

Certifications:

Passed Fundamentals of Engineering Exam

LEED Green Associate

OSHA 10 Hour Construction Certification

AME Project Experience

As a Facilities Assessment Team Member for ***AME***, Mr. Wooldridge performs condition assessments and equipment inventories of buildings and infrastructure. His project experience has been in the assessment and life cycle evaluation of civil, structural, and architectural systems. He is also responsible for assessing accessibility issues based on Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines and recommending corrective actions. Mr. Wooldridge has GIS mapped and assessed Bureau of Land Management (BLM) routes in various states across the country. Mr. Wooldridge has been involved with the following projects:

- NPS Commercial Services
  - Grand Tetons National Park
  - Big South Fork National River and Recreation Area
  - Boston National Historic Park
- National Park Service Condition Assessments
- National Park Service - Sanitary Sewer Assessment
- County of Spotsylvania, VA
- Reno-Tahoe Airport, NV
- Richmond (VA) Public Schools
- Earlham College, IN
- City of Roswell, GA
- Bureau of Indian Affairs
- Bureau of Land Management (BLM)
- Joint Base San Antonio, TX
- Joint Base Langley-Eustis, VA
- Emma Willard School, CT

He managed the research and development of annual maintenance standards for United States Army Corps of Engineers (USACE) assets. The assets included infrastructure, recreation, visitor centers, flood control, hydropower and support facilities. These standards were used to develop annual budget requests and to focus available resources on mission critical assets. Mr. Wooldridge also led the team in reviewing multiple documents on maintaining hydropower assets. This research resulted in the development of a comprehensive standardized asset hierarchy for the hydropower across all USACE sites. The nine pilot sites for the United States Army Corps of Engineers (USACE) were:

- Lake Sidney Lanier, Gainesville, Georgia
- Lake Dardanelle, Russellville, Arkansas
- Lock and Dam No. 12, Bellevue, Iowa
- Chena River Lakes, North Pole, Alaska
- Tionesta Lake, Tionesta, Pennsylvania
- Fort Peck Project, Ft. Peck, Montana
- Cochiti Lake, Pena Blanca, New Mexico
- Chesapeake & Delaware Canal, From Chesapeake City, MD to Delaware City, Delaware
- Bluestone Lake, Hinton, West Virginia

Other Professional Experience

Highlights in Mr. Wooldridge's 6-year career include:

- As a Laborer for a construction firm, he assisted the Superintendent, interacted with clients, and gained experience in the application of construction methods.
- As part of a Senior Design Project, he estimated and scheduled plans for a Virginia bank using R.S. Means standards.

JOHN HARVEY
Facilities Assessment Team Member

Education and Professional Development:

Continuing Education Course: 3 hours-understanding the 2006 International Mechanical Code

Lead Hazard Control Visual Assessment Course, HUD

Residential Construction Superintendent Course, Tidewater Builders Association

Utilitiesman C-1 Advanced Course, Honor Graduate, U.S. Navy

Refrigeration and Air Conditioning Technician, U.S. Air Force

Utilitiesman Class "A" School, U.S. Navy

Certifications:

Virginia Tradesman, Master HVAC Mechanic

CFC Certification, Type II

Member of the Tidewater Chapter of Refrigeration Services Engineering Society (RSES)

OSHA 10 Hour Construction Certification

AME Project Experience

As a Project Manager for ***AME***, Mr. Harvey directed multiple utility assessment teams deployed throughout the United States simultaneously. He interacted with client project management teams to coordinate logistics and inspection scheduling to ensure compliance with project completion goals. Mr. Harvey coordinated all aspects of project deliverables including data analysis, production scheduling and quality assurance.

As a Facilities Assessment Team Member for ***AME***, Mr. Harvey performs condition assessments and equipment inventories of buildings and infrastructure. His project experience has been in the assessment and life cycle evaluation of mechanical, electrical, and plumbing systems. He is also responsible for assessing accessibility issues based on Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines and recommending corrective actions. Mr. Harvey has been involved with the following projects:

- National Park Service – Potable Water/Sanitary Sewer Assessment
- National Park Service
- National Park Service Commercial Services
    - Grand Tetons National Park
    - Mesa Verde National Park
    - Colonial National Historic Site
    - Chattahoochee River National Recreation Area
- County of Spotsylvania, VA
- Oak Ridge Associated University, Department of Energy, TN
- Reno-Tahoe International Airport, NV
- Richmond (VA) Public Schools
- Earlham College, IN
- Bureau of Indian Affairs
- City of Virginia Beach, VA
- Joint Base Langley-Eustis, VA
- California State University, Monterey
- Berkeley Preparatory School, FL
- Duke University, NC
- City of San Diego, CA
- Chester County, PA
- Johnson & Johnson

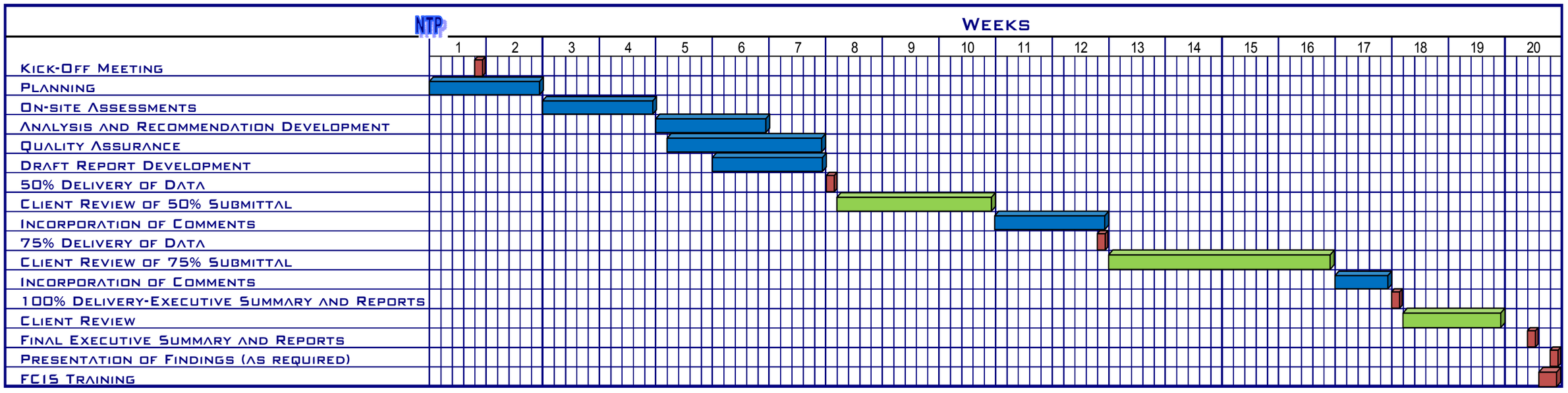
Other Professional Experience

Highlights in Mr. Harvey's 34-year career include:

- As a Facility Manager for the U.S. Naval Medical Research Institute, Mr. Harvey was responsible for the maintenance and repair of 19 medical research facilities totaling 250,000 square feet with a property value of $45.9 million. He developed and implemented a Facilities Status Report, which improved the identification, tracking and completion of facility related repairs and projects, reducing the processing time for routine maintenance and repair by 25%.
- As a Facility Manager, Mr. Harvey was responsible for the maintenance and repair of electrical, mechanical, structural and plumbing systems of the U.S. Naval Explosive Ordinance Disposal.
- As Project Manager/Maintenance Supervisor, Mr. Harvey was responsible for the prioritization, planning and scheduling of routine and emergency maintenance repairs on electrical, mechanical, plumbing and structural systems of 180 rental housing units.

C. Estimated Timetable

AME's proposed schedule is based on our experience and the desire to streamline the process and limit any disruption to the City as well as provide the highest quality product. ***AME*** will begin the planning process immediately following notice to proceed. Doug Kincaid will schedule a kick-off meeting in 5 days from NTP to review the scope, detailed schedule, planning checklist and logistics with the City. The assessment teams will be on-site for two weeks to accomplish all of the field work. Three weeks after the field work is complete ***AME*** will deliver draft data from the field assessment effort to allow the City to review our recommendations. While the City is reviewing the draft data (50% submittal), ***AME*** will develop the full building reports and incorporate any comments on the 50% submittal from the City before delivery of the 75% submittal. ***AME*** will proceed to develop the executive summary for the portfolio while the City reviews the 75% submittal. ***AME*** will deliver the executive summary and the revised building reports incorporating the City's comments as the 100% submittal. The final effort will incorporate any comments to the executive summary and develop the presentation(s) for the City, plus the delivery of the ***FCIS*** and training on the system.



VI. Business Licenses

State of Florida
Department of State

I certify from the records of this office that APPLIED MANAGEMENT ENGINEERING, INC. is a Virginia corporation authorized to transact business in the State of Florida, qualified on March 4, 2010.

The document number of this corporation is F10000001121.

I further certify that said corporation has paid all fees due this office through December 31, 2013, that its most recent annual report/uniform business report was filed on February 27, 2013, and its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Twenty-fifth day of September, 2013

Ken Detzner

Secretary of State

Authentication ID: CU4442109259

To authenticate this certificate,visit the following site,enter this ID, and then follow the instructions displayed.

https://efile.sunbiz.org/certauthver.html

VII. EVIDENCE OF INSURANCE

APPLMAN-02 TCOWAN

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 10/2/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Towne Insurance Agency, LLC 1...S 301 Bendix Road Suite 300 Virginia Beach, VA 23452	CONTACT NAME: PHONE (A/C, No, Ext): (757) 468-6100 FAX (A/C, No): (757) 468-9917 E-MAIL ADDRESS:
INSURED Applied Management Engineering Inc. 200 Golden Oak Court #300 Virginia Beach, VA 23452	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : Travelers Property Casualty Insurance Co — 36161 INSURER B : Travelers Indemnity Co of America INSURER C : Standard Fire Insurance Company — 19070 INSURER D : Travelers Cas Ins Co of Amer INSURER E : INSURER F :

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR X EBL $1mil/$1mil GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY PRO-JECT LOC	X		680-6452L930TIL-13	9/15/2013	9/15/2014	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 300,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
B	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS — SCHEDULED AUTOS X HIRED AUTOS — X NON-OWNED AUTOS			BA-6451L773-13-GRP	9/15/2013	9/15/2014	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (PER ACCIDENT)	$ 1,000,000 $ $ $
B	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 10,000			680-6452L930TIL-13	9/15/2013	9/15/2014	EACH OCCURRENCE AGGREGATE Aggregate	$ 5,000,000 $ $ 5,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		XCUB3571T835-13	9/15/2013	9/15/2014	X WC STATU-TORY LIMITS OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 500,000 $ 500,000 $ 500,000
D	Professional Liabili			105679184	9/15/2013	9/15/2014	PER CLAIM	2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, If more space is required)

RE: 200 Golden Oak Court, Suite 300, Virginia Beach, VA 23452. "Landlord" as defined in the lease, is included as additional insured on the General Liability per the terms and conditions of the lease.

Liberty Property Limited Partnership, Liberty Property Trust and its associated entities are included as additional insured on the General Liability per the terms and conditions of the lease .

CERTIFICATE HOLDER

Liberty Property Trust c/o Insurance Data Services
Insurance Compliance
P.O. Box 12010 - LP
Hemet, CA 92546-8010

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

ACORD 25 (2010/05) The ACORD name and logo are registered marks of ACORD

VIII. Ability to Meet Ft Lauderdale's Needs

We understand that the ability to manage the information generated from a condition assessment is key to improving facilities maintenance and operations and allows for better strategies for short, intermediate, and long term planning. **Section V. Statement of Proposed Services** provides ***AME***'s methodology for condition assessment and reporting and provides a schedule for the project. ***AME***'s experience with facility condition assessments ensures we have the ability to meet your needs. Our inclusion of our Facility Condition Information System (***FCIS***) will provide you a valuable tool tailored to facilities assessment and analytical data and enable the City to plan, manage, and analyze facilities information.

One of the indicators of our experience is that we developed a software application to supplement and enhance our processes rather than to sell as a shrink wrapped product. ***AME*** began developing the Facility Condition Information System (***FCIS***) in the 1980's to be more effective internally with our facility condition assessment processes. Upon seeing many of the reporting and estimating capabilities, our clients requested the application. ***FCIS*** has evolved over the years as a cost effective and efficient management tool capable of projecting maintenance and capital budgets for assets using data from visual assessments or other studies. ***FCIS*** is a fully integrated software package for multiple users, not merely a database and its associated management software. It is a completely self-contained application, and so our clients do not need database administration support. ***FCIS*** contains its own flexible report generator and does not require purchase of a third party report writer; however, one can be used if desired. One of the key features of ***FCIS*** is its scalability as well as its ease of use. This scalability results in databases that are typically smaller for most applications than if implemented in other relational database management systems.

FCIS provides the capability to maintain a real property inventory with associated photographs, documents, and drawings. All deficiencies or projects are referenced to that inventory. A user can develop projects based on individual deficiencies, external information, or a combination of the two. ***FCIS*** allows the user to rank projects and deficiencies so that available funding will be applied to the most critical areas. ***FCIS*** provides more than a snapshot of the condition. Data can be modified and updated to track completion of work or changes in estimates due to scope changes or labor rate changes.

Ease of Use

FCIS was created by incorporating a user interface easily understandable both by engineers documenting the results of a facility condition assessment as well as managers of that data. The user interface provides easy analysis of the data while maintaining features that remind a user of certain constraints and ensure the user is aware of the implications of certain actions. Various

utilities provide the user with the ability to maintain security, maintain the database and tailor ***FCIS*** to the specific client's needs such as labor crafts utilized and customizable prioritization factors.

Reporting

The power of ***FCIS*** lies in its presentation of results gathered during facility assessments. ***FCIS*** provides the capability to retrieve data in a format that is easy to analyze and understand. Standard reports range from lists of detailed individual deficiencies or projects to summarized cost information by asset or across all assets as a multi-year plan. ***FCIS*** is capable of exporting report data to other applications in a number of formats including standard delimited or comma delimited (ASCII), Xbase database (.dbf), Access Database (.mdb), or Excel (.xls). In addition, ***FCIS*** provides presentation quality graphical reports of condition analysis data.

Each report can be filtered for criteria such as asset age, facility system/component, work category, cost, and completion status. In addition, each report may be sorted by various criteria. The user may remove categories of data from reports. The combination of filters, user specified sorts, and data category removal provides ad-hoc query capability.

Libraries

FCIS is very flexible. Information used to classify or categorize assets, deficiencies, and projects (such as facility systems or asset usage) are based on library files that can be modified by the user with the proper security privileges. The work types, or maintenance fund classifications, of deficiencies included in the maintenance requirements for use in the ***FCI*** calculation and those used by the backlog model can also be modified. In addition, all labor rates are maintained in a library so you can make changes as local labor rates change. During the planning phase, ***AME*** will assist you in determining values for all libraries.

One of the major libraries is the pricing table. This library maintains all unit costing information as well as standardized maintenance and repair actions. This cost database can be easily modified, including additions or deletions, to tailor costs to the local area.

Asset Inventory

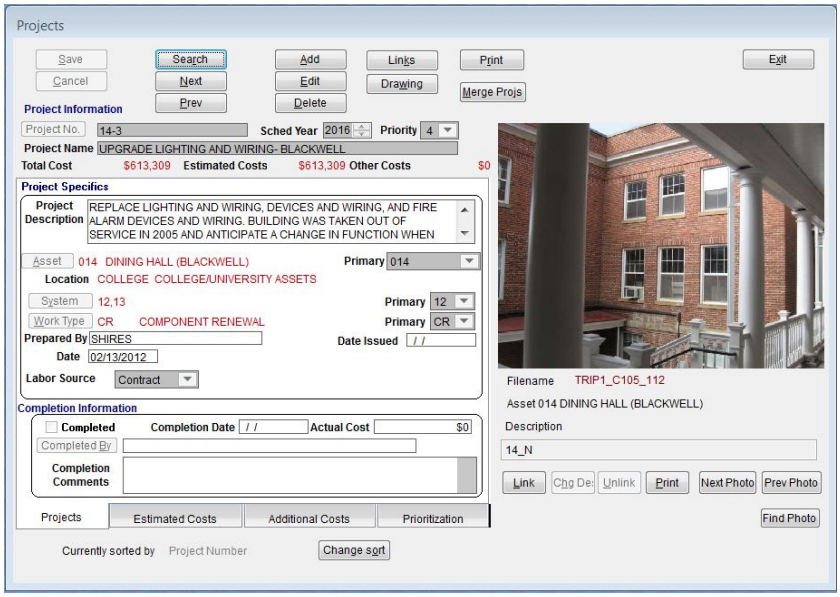
Asset inventory information includes those details necessary for maintaining condition information and managing the work required to improve the assets' conditions. These details include contact information, current replacement value, age, and other specifications. Documents, photographs, and AutoCAD® drawings showing child asset locations and project locations may be linked to parent assets. Assets may be components of other assets in the inventory, thus allowing condition information to roll up to a parent level. A typical screen is provided in **Section V. Statement of Proposed Services**.

Deficiencies

The detailed data collected during a condition assessment is the heart of ***FCIS***. This information can be reviewed, modified, and summarized or analyzed to support maintenance management decisions. Deficiency data may include photographs. A typical screen is provided in **Section V. Statement of Proposed Services**.

For standard corrective actions included in the pricing table, the system automatically calculates the cost. This cost includes labor craft(s), labor hours, labor cost, and material cost. The costs are available at the deficiency level as well as the individual craft level (if this deficiency requires more than one craft, such as a painter and a plasterer). For unlisted items, the engineer provides this cost information. You may also alter costs to accommodate unusual situations such as restricted or confined access or uncommon materials. ***FCIS*** then selects contractor or in-house labor rates for each corrective action based on the threshold for contract work or lack of skills in house. In addition, ***FCIS*** maintains completion status information for each deficiency.

Projects



FCIS provides the capability to build projects, based on individual deficiencies, external information, or a combination of the two. Other additional costs are maintained individually, by name and cost factor, which may be a percentage or a flat dollar value. These costs are then applied to the estimated costs for a project resulting in the total project cost. Deficiencies attached to projects retain their identity so that the results of the assessment are maintained. Documents, photographs, and drawings may be linked to projects.

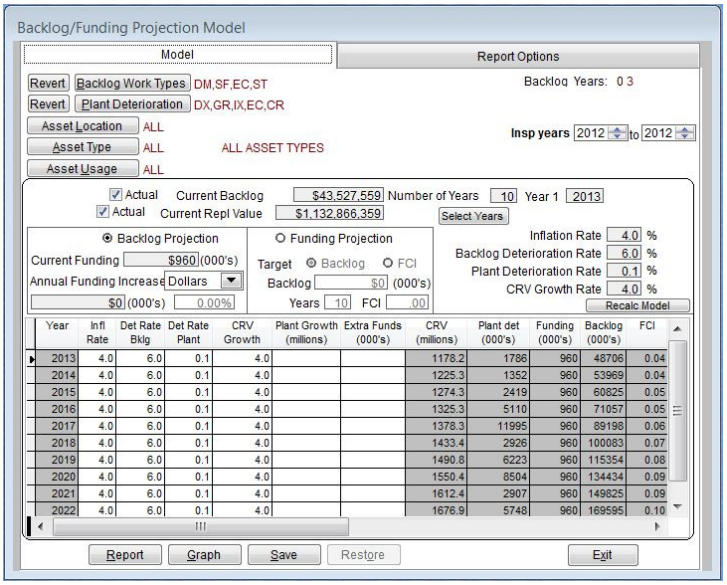
Ranking

FCIS assigns a ranking within a priority year to each deficiency or project based on the mission rating of its associated asset, the weighting of the associated facility system in the asset, the weighting of the work type, and the cost of outstanding maintenance requirements as compared to the replacement value of the facility. This ranking allows the user to develop an execution plan that considers factors such as constrained funding, but still corrects critical deficiencies and projects.

FCIS provides initial default values for these ratings and allows a user to modify the defaults or adjust ratings for individual facilities. ***FCIS*** also allows a user to define additional criteria to be used in calculating ranking.

Backlog and Funding Projection Model

FCIS features the backlog and funding projection model developed by ***AME***. This model can be used either to project the level of deferred maintenance backlog that will result from an assumed funding level or predict funding levels needed to obtain a desired backlog level. A user may also input a theoretical backlog and current replacement value for all real property.



Interfaces

The data stored by ***FCIS*** is frequently useful to share with other applications. The database can be accessed using Open Database Connectivity (ODBC) drivers which are readily available, either separately or as part of any ODBC compliant application package such as Microsoft Access. ***AME*** provides full data documentation such as a data dictionary and relationship information to enable the client to develop programming to access the data. In addition, ***AME*** can provide low cost solutions for more tightly integrated applications and databases.

Utilities

Utilities specific to condition assessment data are provided such as:

Pricing Table Maintenance - this updates already existing deficiencies with the cost changes made to the pricing table after the deficiency was recorded. The user can update all or portions of the assessment database.

Adjust Material Costs - this updates the material cost portion of total costs needed to correct deficiencies. The user can update all or portions of the assessment database.

FCIS Parameters - various global parameters in ***FCIS***, such as the maximum cost routinely accomplished in-house and the criteria for inclusion in ***FCI*** calculations are data-driven. This means that a user with the proper access privileges can modify these parameters during execution and see the immediate results.

Training and Documentation

A two-day training class to introduce the potential users of ***FCIS*** to its features and provide an opportunity for hands-on manipulation of the application will be provided. The *Training Manual* can also be used for a self-guided training session. The *User's Guide* describes all functions available within ***FCIS***.

Technical Support

AME is continuously improving the ***FCIS*** product. We provide system upgrades free to all active clients, typically at least four times a year, as enhancements are incorporated into the application. In addition, our technical support team is exclusively made up of the developers themselves, to ensure that clients always reach someone knowledgeable about the software and capable of determining if the incident may result in a new feature of ***FCIS***. We also do not charge for telephone support, believing that our best marketing strategy is to ensure our clients remain active users of the system. We depend on our client base as a source for future enhancement ideas.

Typical Workstation

FCIS requires the following minimum hardware specifications:

- Pentium class processor running at 2.6GHz
- 512 MB of RAM (1 GB recommended)

Additional storage requirements are dependent on the desired on-line number of photos and AutoCAD® floor plans.

IX. Assign proper resources

We are experienced with assigning resources to satisfy the client's required schedules while executing multiple simultaneous condition assessment projects. This project team is ready to respond immediately upon selection. We will dedicate these resources to meet the schedule provided in **Section V.A. Estimated Timeline**. If Fort Lauderdale desires a more aggressive schedule we will provide additional resources.

The key personnel identified are committed to this project if awarded. If the condition assessment team is assigned to other projects before we are awarded the project by the City, we will provide the resumes of equally qualified engineers to the City for approval.

X. Additional Services

AME provides a broad spectrum of professional services inherent in the ownership and management of real estate, infrastructure, facilities, and associated equipment. ***AME*** has also developed relationships with other firms that offer specialty services to provide a full service solution to our clients. The following is a list of our more prominent services:

- **Facility Condition Assessments**
- **Facility Maintenance Standards Development**
- **Facility Modeling**
- **Utility Assessments**
- **Maintenance and Repair Cost Estimating**
- **Preventive and Predictive Maintenance Programs**
- **Effectiveness Analysis**
- **Re-Engineering and Strategic Sourcing**
- **Facilities Management Training**
- **Facilities Management Software Selection/Implementation**

These services are typically priced based on the scope of work. The fee structure is based on the hourly rates provided in our cost breakdown for this project. A more detailed discussion of these services can be found at www.ameinc.biz.

XI. Project References

Agency Name	Address	Contact	Telephone/Email	Date of Service
National Park Service	1849 C. Street NW Washington, DC 20240	Tim Harvey	(970) 641-2774 Tim.Harvey@nps.gov	2003-2013
Description of Service				
AME has provided condition assessment guidance for most NPS asset types, developed specification templates to support equipment inventory, developed the preventive maintenance (PM) standards for all equipment to support implementation of the NPS wide PM program and developed many of the facility management business practices. ***AME*** has also conducted condition assessments of all building types and equipment inventory of facilities across the United States for the past 10 years under various task orders. We have assessed the condition of maintained landscapes, waterfronts, monuments, memorials, fortifications, trails and water and wastewater utilities.				

Agency Name	Address	Contact	Telephone/Email	Date of Service
Hampton Roads Sanitation District (HRSD)	1436 Air Rail Avenue Virginia Beach, VA 23455	Tom Morris	(757) 460-4268 tmorris@hrsd.com	2009, 2010, 2011, 2012, 2013
Description of Service				
AME has conducted condition assessments annually of a portion of the HRSD portfolio. These assessments have included pump stations, maintenance, administrative and treatment facilities. ***AME*** has developed custom reporting formats to support HRSD requirements.				

Agency Name	Address	Contact	Telephone/Email	Date of Service
County of Spotsylvania	8800 Courthouse Rd, Room 404 Spotsylvania, VA 22553	Jesse D. Beavon Facilities Construction Mgr	(540) 507-7702 jbeavon@spotsylvania.va.us	2001, 2003, 2004, 2006, 2008, 2009, 2012
Description of Service				
AME has been providing condition assessment services for a portion of the County facilities since 2001 approximately every two years. These have included parks, recreation, judicial, law enforcement, fire stations, administrative, water treatment, animal control and fleet and building maintenance. The County uses the results from ***FCIS*** to prepare budget requests and track accomplishments.				

Agency Name	Address	Contact	Telephone/Email	Date of Service
Oak Ridge Associated University	1299 Bethel Valley Rd, Bldg SC-200 MS-01 Oak Ridge, TN 37830	Kevin Fritts	(865) 382-4770 Kevin_Fritts@orau.org	2012
Description of Service				
Oak Ridge is a Department of Energy (DOE) facility. ***AME*** assessed the condition of approximately 20% of the facilities including roads, parking lots, sidewalks and buildings that supported offices, laboratories, warehousing and storage.				

Agency Name	Address	Contact	Telephone/Email	Date of Service
Reno –Tahoe Airport Authority RACQTA	PO Box 12490 Reno, NV 89510	David Lazo, P.E. Mgr of Engineering and Construction	(775) 328-6458 dlazo@renoairport.com	2005, 2008, 2012
Description of Service				
AME has performed condition assessments on three separate occasions for the Airport including the terminal and support facilities. The latest task was the assessment of eight rental car facilities including the buildings, wash facilities, pavements and fueling tanks and dispensers.				

Agency Name	Address	Contact	Telephone/Email	Date of Service
Richmond Public Schools (RPS)	301 North Ninth St 17th Flr, Richmond, VA 23219-1927	Andrew Davis Director of Plant Services	(804) 780-6251 adavis5@richmond.k12.va.us	2012
Description of Service				
AME assessed the condition of 50 facilities including schools, support facilities and site infrastructure representing 4,062,405 gross square feet of facilities including several historical buildings. ***AME*** also developed a detailed inventory of major dynamic equipment to support a robust preventive maintenance program. The condition assessment data and equipment inventory was transferred to the RPS work management software, SchoolDude.				

Agency Name	Address	Contact	Telephone/Email	Date of Service
Sun City Hilton Head Community Association	127 Sun City Lane Bluffton, SC 29909	Everett Banks, CFM, CMI, CEOE Director of Facilities Services	(843) 705-4032 Everett.Banks@schhca.com	2012
Description of Service				
AME conducted a condition assessment and equipment inventory of 12 facilities including clubhouses, fitness centers, craft centers, offices, a theatre, maintenance facilities and the immediate site pavements totaling 158,948 square feet. In addition to developing a ten-year repair and replacement plan resulting from the condition assessment, an inventory of major building equipment was developed.				

Agency Name	Address	Contact	Telephone/Email	Date of Service
County of San Mateo, CA	555 County Center, 5th Floor, Redwood City, CA 94063	Doug Koenig	(650) 363-4094 dkoenig@co.sanmateo.ca.us	2006-2007, 2011
Description of Service				
AME assessed the condition of 76 facilities including courts, office buildings, detention facilities, health and human services facilities, fire stations, libraries, maintenance facilities, homeless shelter and parking garages totaling 1,973,235 gross square feet. ***AME*** provided installation, training, and support of our Facility Condition Information System (***FCIS***) software to document short and long-term maintenance and repair needs. Information delivered included AutoCAD® drawings showing the location of projects and child assets. In 2011 ***AME*** provided a condition assessment of two office buildings totaling 214,000 square foot with a 129,000 square foot parking facility to support the County's acquisition process.				

Agency Name	Address	Contact	Telephone/Email	Date of Service
City of Roswell	38 Hill Street Roswell, GA 30075	Dennis Miller Building Operations Manager	(770) 594-6237 dmiller@roswellgov.com	2008, 2010

Description of Service

AME assessed the condition of 32 facilities including fire stations, City Hall, Convention & Visitors Bureau, recycling plant, water plant, and art/recreation centers. In 2010 ***AME*** conducted a facility condition assessment for the Recreation and Parks Department of 45 recreation support facilities totaling 59,973 gross square feet. Both projects included an inventory of the major HVAC equipment and fire protection systems. ***AME*** provided major repair actions for this equipment and recommended annual costs for preventive maintenance as well as checklists. In addition, ***AME*** identified opportunities for the City of Roswell to meet their goal of environmental/sustainable solutions for facilities maintenance and operations. This included items such as replacing water consuming plumbing fixtures with water-saving units, automatic lavatory faucets, shower valves, non-energy efficient fluorescent lighting and window replacements that were not based on condition and so recommended for action in year 10. ***AME*** provided installation, training, and support of our Facility Condition Information System (***FCIS***) software to document short and long-term maintenance and repair needs.

Agency Name	Address	Contact	Telephone/Email	Date of Service
Bureau of Indian Affairs	1011 Indian School Rd, N.W., PO Box 1248 Albuquerque, NM 87103	Emerson Eskeets	(505) 563-5140 Emerson.Eskeets@bia.gov	1998-2011

Description of Service

AME assessed condition and provided equipment inventory of 283 schools in 26 states totaling over 26 million square feet. Facilities included academic, administrative, support buildings, housing, detention facilities and site infrastucture. In addition to the condition assessments, ***AME*** was tasked to develop education and support space functional standards that could be applied to all schools. ***AME*** surveyed all states for K-12 standards. We developed a matrix of existing standards and recommended the standards and functional requirements to support the BIA's education program. These standards were accepted for the nationwide program and provided guidance for all new construction or renovations. This enabled the BIA to control costs across construction projects. ***AME*** developed over 500 repair, preventive maintenance standards, and custodial models for the BIA to support their implementation of the preventive maintenance functionality in their facility management software system. ***AME*** provided AutoCAD® drawings of each school's space and built the database that provided room use and associated square footage for space inventory analysis and comparison to the standards. ***AME*** developed operation and maintenance standards as well as models that provided the required funding to reduce the accumulated level of future backlog of maintenance, repair, and replacement needs. These models, associated analysis and case studies were keys to significant funding increases of annual operations and maintenance budgets by Congress.

Agency Name	Address	Contact	Telephone/Email	Date of Service
Old Dominion University	4401 Powhatan Ave Norfolk, Virginia 23529	R. Dillard George, P.E.	(757) 683-5325 rdgeorge@odu.edu	2010

Description of Service

AME assessed the condition of 8 facilities including academic, administrative research laboratory and physical plant totaling 498,270 gross square feet. ***AME*** provided a written report documenting short and long-term maintenance and repair needs. In addition to this report, the facility condition assessment data was imported into the Commonwealth of Virginia's FICAS system. ***AME*** provided additional services including a separate detailed inspection and recommendation, by JES Construction, for the Alfriend Chemistry Building that had been identified with chronic recurring standing water throughout its crawlspace. ***AME*** also provided an inventory of each facility's equipment as identified in the Old Dominion University CMMS to provide more complete data of inventoried items.

Agency Name	Address	Contact	Telephone/Email	Date of Service
Houston Metro	1215 Labco Street PO Box 61429, Houston, TX 77029	Freeman Taylor Manager, Facilities Programs	(713) 615-6248 ft02@ridemetro.org	2009, 2010

Description of Service

AME assessed the condition of 48 facilities and 31 canopies including bus operating facilities, support facilities and site infrastructure totalling 1,542,968 gross square feet. ***AME*** also assessed 15 Transit Centers and 2 Park and Ride facilities totaling 951,624 gross square feet. The project included an inventory of the major HVAC equipment and fire protection systems. ***AME*** provided major repair actions for this equipment and recommended annual costs for preventive maintenance as well as checklists. ***AME*** provided installation, training, and support of our Facility Condition Information System (***FCIS***) software to document short and long-term maintenance and repair needs. Facility Condition Inspector Training was conducted for the Facilities Department project managers.

Agency Name	Address	Contact	Telephone/Email	Date of Service
City of Milwaukee	841 North Broadway, Municipal Bldg, Rm 602 Milwaukee, WI 53202	Mike Krause Bridges & Public Buildings	(414) 286-3296 mkraus@mpw.net	1995-1996, 2004, 2007, 2010

Description of Service

AME assessed the condition of over 300 facilities including academic, fire stations, police stations and health centers totaling over 5,800,000 gross square feet. ***AME*** provided a copy of our Facility Condition Information System (***FCIS***) software to document short and long-term maintenance and repair needs. Additional services included administering surveys with briefings for maintenance supervisors, AutoCAD® drawings for all inspected buildings, ***FCIS*** training and support and coordination of all site surveys. In 2004, ***AME*** conducted a facility condition and inventory assessment of more than 37 engine house facilities totaling 394,906 gross square feet. In 2007, ***AME*** used updated information from the City of Milwaukee to develop a funding strategy to present to the City Council. In 2010 ***AME*** inspected the Materials Recovery Facility as well as assisted the City of Milwaukee with developing their presentation for the comptroller.

Agency Name	Address	Contact	Telephone/Email	Date of Service
Bureau of Land Management (BLM)	1100 N Glebe Road Suite 500 Arlington, VA 22201	Dianne Bradshaw Project Mgmt, Jacobs	(571) 218-1480 Dianne.Bradshaw@jacobs.com	2002 - 2010

Description of Service

AME assessed the condition of 2,937 sites throughout the United States as a subcontractor to Jacobs Engineering. Physical assets included a diverse combination of buildings, campgrounds, roads, aircraft support and utilities. This project provided the opportunity as a pilot to support internal development of hand-held data collection software and hardware to streamline field assessment and improve the consistency and quality of data. Initially developed on a personal digital assistant (PDA) platform, subsequent generations expanded the flexibility and robustness by changing the platform to a tablet PC that could be easily carried and used for condition assessments, but also increase the off-the-shelf software tool's availability for field support. Inventory and condition data was transferred to the BLM's Facility Asset Management System (FAMS), a Maximo based information system, using direct data transfer software jointly developed by ***AME*** and the BLM.

Agency Name	Address	Contact	Telephone/Email	Date of Service
City of Virginia Beach	2569 George Mason Dr., Bldg 9 Virginia Beach VA 23456-9104	Charles Davis, Administrator Department of Public Works	(757) 385-4561 cdavis@vbgov.com	2006-2009

Description of Service

AME assessed the condition of 63 Department of Parks and Recreation facilities including recreation centers, park support buildings, stadiums, and boat docks totaling 502,510 gross square feet. The assessment included 23 sites totaling 1,066 acres. ***AME*** also assessed 43 Department of Public Works facilities including city court buildings, fire stations, police stations, libraries, administrative and support facilities totaling 1,063,769 gross square feet.

Agency Name	Address	Contact	Telephone/Email	Date of Service
Joint Base	777 Main Street, 35th Flr, Fort Worth TX 76102	Eric Dillinger, Vice-President, Jacobs	(817) 735-6794 Eric.Dillinger@jacobs.com	2008-2010

Description of Service

AME conducted a joint effort with Jacobs Engineering to provide a real property inventory and space utilization survey collecting all pertinent real property data and validating Real Property Inventory Requirement (RPIR) data required to update the Automated Civil Engineering System (ACES). The project included 4 Air Force and Army bases within the United States totaling 8,074,024 gross square feet. The purpose was to obtain a facility quality ("Q") rating for all assessed facilities in order to support negotiations between the services.

Agency Name	Address	Contact	Telephone/Email	Date of Service
Churchill County School District	545 East Richards Street, Fallon, Nevada 89406	Dr. Sandra Sheldon, Superintendent	(775) 423-5184 sheldons@churchill.k12.nv.us	2009, 2010

Description of Service

AME conducted a condition assessment and inventory of 14 Churchill County School District sites including 43 facilities and site infrastructure totaling 658,914 gross square feet. ***AME*** provided the following additional services: assessed accessibility compliance, identified energy conservation opportunities, presented findings to the County School Board of Trustees and installation of ***AME***'s Facility Condition Information System (***FCIS***). ***AME*** was asked to complete a follow up project that included a space utilization study of all facilities in the District's portfolio. The portfolio included all educational space and space that provided support functions (administrative, maintenance, storage, etc.). The study combined the facility condition assessment data with the space utilization results to determine facilities upgrade requirements; best use of existing space, and determine future space needs and plan for new structures. The space utilization study was comprised of multiple phases: research and documentation, workshop, existing space survey, space utilization report and a strategic plan.

Agency Name	Address	Contact	Telephone/Email	Date of Service
California State Monterey	777 Main Street, Fort Worth TX 76102	Ellen Crews, Project Manager Jacobs	(817) 735-6044 ellen.crews@jacobs.com	2008

Description of Service

AME conducted a condition assessment and equipment inventory as a subcontractor to Jacobs of 42 facilities including academic, administrative and support facilities totaling 529,706 gross square feet. In addition, ***AME*** provided installation, training, and support of our Facility Condition Information System (***FCIS***) software to document short and long-term maintenance and repair needs.

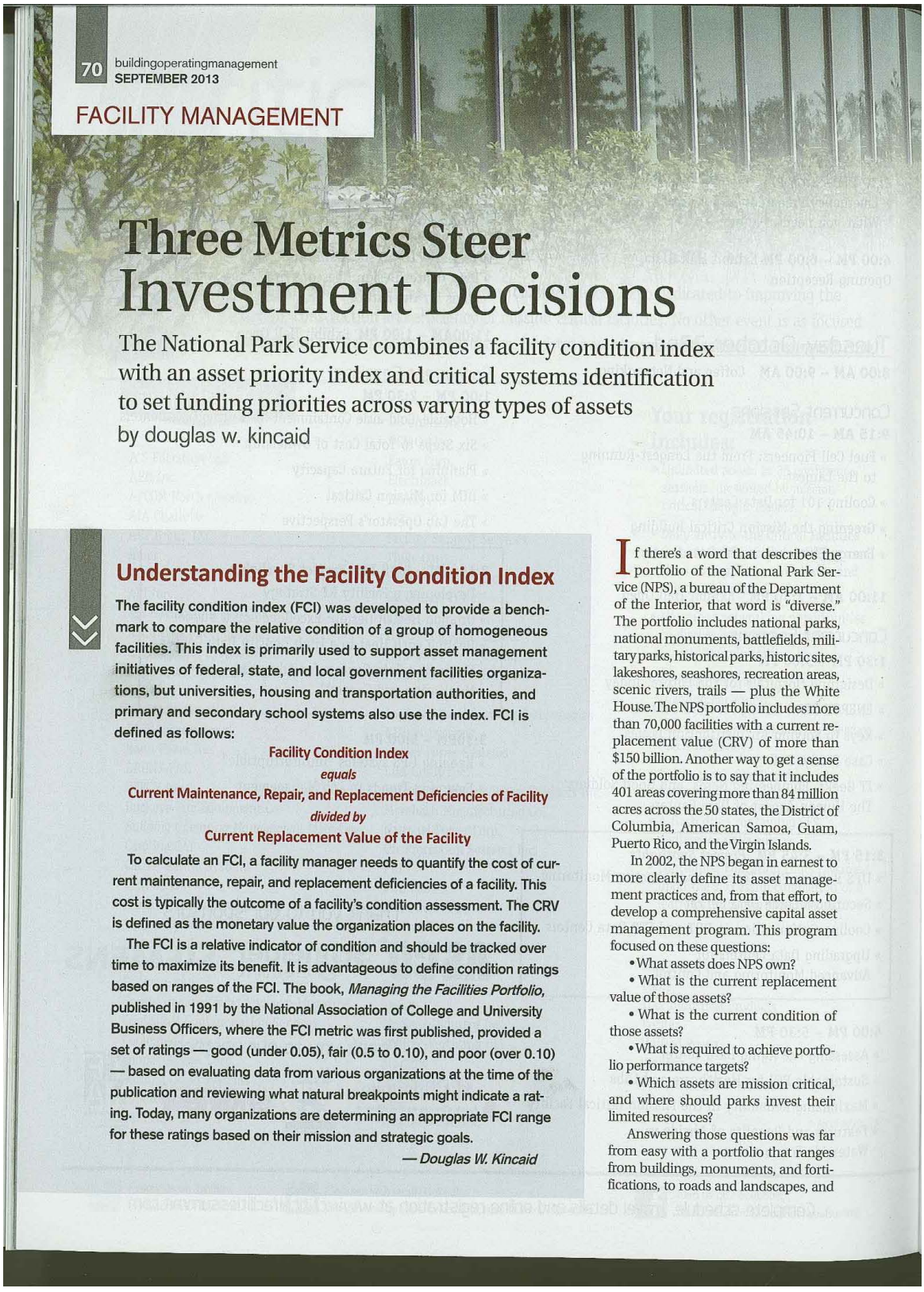
Agency Name	Address	Contact	Telephone/Email	Date of Service
Salt Lake City Airport	777 Main Street, Fort Worth TX 76102	Eddie Clayson, Airport Maint Ellen Crews, Project Manager Jacobs	(801) 531-4553 eddie.clayson@slcgov.com (817) 735-6044 ellen.crews@jacobs.com	2008

Description of Service

AME conducted a condition assessment and inventory of 10 airport-operated buildings including terminals, concourses, a mechanical plant, airport administration and parking garages totalling 2,279,638 gross square feet as part of the airport's asset preservation study. The assessment was under a subcontract with Jacobs Consulting and included a comprehensive look at public, concessions and operational areas that support the entire airport. The report provided insight and served as the beginning of a strategic asset management plan that included processes for annual maintenance, preventive maintenance and component renewal programs.

XII. Additional Information

Additional information is identified in the proposal and references our website at www.ameinc.biz.



Three Metrics Steer Investment Decisions

The National Park Service combines a facility condition index with an asset priority index and critical systems identification to set funding priorities across varying types of assets

by douglas w. kincaid

Understanding the Facility Condition Index

The facility condition index (FCI) was developed to provide a benchmark to compare the relative condition of a group of homogeneous facilities. This index is primarily used to support asset management initiatives of federal, state, and local government facilities organizations, but universities, housing and transportation authorities, and primary and secondary school systems also use the index. FCI is defined as follows:

Facility Condition Index
equals
Current Maintenance, Repair, and Replacement Deficiencies of Facility
divided by
Current Replacement Value of the Facility

To calculate an FCI, a facility manager needs to quantify the cost of current maintenance, repair, and replacement deficiencies of a facility. This cost is typically the outcome of a facility's condition assessment. The CRV is defined as the monetary value the organization places on the facility.

The FCI is a relative indicator of condition and should be tracked over time to maximize its benefit. It is advantageous to define condition ratings based on ranges of the FCI. The book, *Managing the Facilities Portfolio*, published in 1991 by the National Association of College and University Business Officers, where the FCI metric was first published, provided a set of ratings — good (under 0.05), fair (0.5 to 0.10), and poor (over 0.10) — based on evaluating data from various organizations at the time of the publication and reviewing what natural breakpoints might indicate a rating. Today, many organizations are determining an appropriate FCI range for these ratings based on their mission and strategic goals.

— Douglas W. Kincaid

If there's a word that describes the portfolio of the National Park Service (NPS), a bureau of the Department of the Interior, that word is "diverse." The portfolio includes national parks, national monuments, battlefields, military parks, historical parks, historic sites, lakeshores, seashores, recreation areas, scenic rivers, trails — plus the White House. The NPS portfolio includes more than 70,000 facilities with a current replacement value (CRV) of more than $150 billion. Another way to get a sense of the portfolio is to say that it includes 401 areas covering more than 84 million acres across the 50 states, the District of Columbia, American Samoa, Guam, Puerto Rico, and the Virgin Islands.

In 2002, the NPS began in earnest to more clearly define its asset management practices and, from that effort, to develop a comprehensive capital asset management program. This program focused on these questions:

- What assets does NPS own?
- What is the current replacement value of those assets?
- What is the current condition of those assets?
- What is required to achieve portfolio performance targets?
- Which assets are mission critical, and where should parks invest their limited resources?

Answering those questions was far from easy with a portfolio that ranges from buildings, monuments, and fortifications, to roads and landscapes, and

even to Cold War-era missile silos. Ultimately, NPS combined three analytical tools to do the job: facility condition index (FCI), asset priority index (API), and critical systems identification. The three tools have enabled NPS to set funding priorities more effectively.

Understanding the Metrics

FCI is defined as current maintenance, repair, and replacement deficiencies of the facility divided by current replacement value of the facility. The lower the number, the better.

An FCI alone did not provide the clarity of direction NPS needed to optimize management of a portfolio of this size and diversity. It was a challenge for NPS to determine homogeneous facility types to enable valid comparison of condition. The condition of NPS facilities reflected a potentially overwhelming resource requirement for current deficiencies, and the requirements were widely distributed among diverse asset types. Moreover, condition alone did not provide enough insight into how the portfolio could be managed with limited resources and how strategic decisions could be supported.

To see why the FCI alone is an imperfect measure of the true condition of an asset, consider the needs of a building and a utility system. The FCI of a building might be higher than the FCI for a utility system; however, the utility system may be more at risk of failure because of the condition of a lower cost component that is critical to its operation. The FCI cannot account for the condition of its critical components and, therefore, on its own, fails to capture this important distinction.

To overcome these shortcomings, NPS combined two other key approaches with the FCI. The first was the asset priority index (API). API is calculated based on input from a park's major stakeholders. They determine the contribution of each asset in the park's portfolio to the park mission to protect resources, provide visitor experience, and support operations and substitutability. The resulting score, based on a 100-point scale, is intended to reflect the relative importance of each asset. The API helps focus resource allocations on the highest priorities to make smarter, targeted investment decisions.

Even with the combination of FCI and API, the resource requirements for the NPS asset portfolio still greatly exceeded the available funds. In response, NPS added the third element, critical systems identification, for each homogeneous facility type as an evaluation criterion. Guided by the premise that an asset consists of a collection of systems and subsystems, facility management experts identified the critical systems that must be in good working order for an asset to function effectively. For a building, these critical systems include items such as roofing, HVAC, and exterior doors and windows. A building's noncritical systems include items such as floor finishes and interior walls.

Deficiencies were categorized as minor, serious, or critical based on the severity of the impact they would have on the system. An acceptable level of condition exists when all of an asset's critical systems have no critical or serious deferred maintenance; critical systems with minor deferred maintenance and noncritical systems with any priority of deferred maintenance may exist. An unacceptable level of condition exists when some of an asset's critical systems have critical or serious deficiencies.

The combination of the FCI, API and critical systems metrics provided a logical and powerful way of evaluating the NPS portfolio and viewing individual groups of facilities.

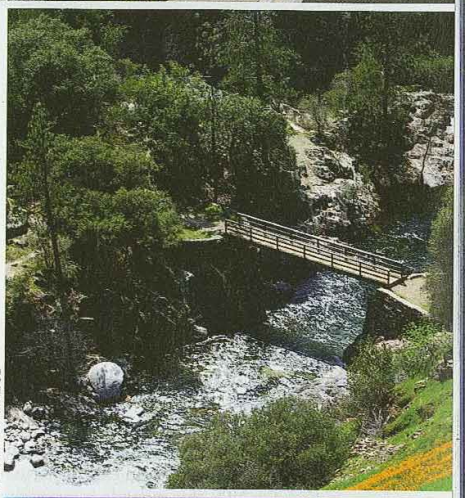
"Being charged with maintaining national treasures is an immense responsibility," says Tim Harvey, chief, park facility management division, NPS. "The National Park Service has never been in a better position to understand the condition of our facilities and to use tools such as the FCI in our strategic decision-making processes."

FCI: Overcoming Challenges

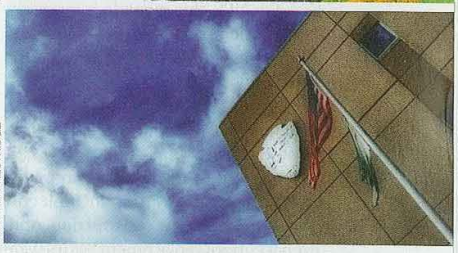
One of the challenges in using FCI effectively as an asset management tool was making FCIs consistent across NPS asset types. NPS tackled this challenge by developing a standardized approach to calculating current replacement values that did not require extensive cost estimating based on the features of a particular asset. Categories of asset types were developed that were homogeneous in terms of use, function, and basic systems (e.g., visitor centers, maintenance shop, trails). In general, RSMeans was used to develop a unit cost reference and, where appropriate, provided for specific add-ons or dif-

NPS/W.D. URBIN

NPS



SCOTT L. PRESTRIDGE



SCOTT L. PRESTRIDGE

The wide range of types of assets in the National Park Service portfolio made it impossible to use the facility condition index alone as an effective asset management tool. The NPS portfolio includes (from top) the Home of Franklin D. Roosevelt Historic Site, the visitor center at the Fort McHenry National Monument and Historic Shrine, a trail bridge in the Sequoia and Kings Canyon national parks, and the Midwest Regional Office of NPS.

ferentiators. An example of a differentiator might be the number of stories, presence of a finished basement for a housing asset, or the historical nature of the asset or some of the systems. With this approach, current replacement value became the likely cost if the same size and type of asset was constructed using modern materials and methods. It provided a consistent methodology to calculate the denominator of an FCI.

There are two common misconceptions about FCI that are tied to current replacement values. The first is that FCI represents the cost of constructing the exact asset with the materials and methods that currently make up the asset. To build actual cost estimates for NPS's 70,000-plus assets with that level of detail would not have been possible or logical. In actuality, current replacement values are meant to provide a consistent process for generating FCIs that are comparable, but they are not values that should be used at the park level to plan new construction activities.

The second misconception is that FCI cannot be greater than 1.0. Individual cost estimates that are based on condition assessments or on other planning activities are significantly affected by working in an existing structure. For NPS, this scenario is common for historic assets. If an asset requires replacement of several of its systems and components, but the work is taking place within the confines of the existing structure and without the efficiencies of new construction, the unit cost for replacement of the system can be increased significantly from the unit cost associated with new construction. And, even if current replacement values were to provide a detailed constructed cost based on the individual asset's materials, components, and methods, it is not that difficult to generate a numerator (accurate repair and replacement costs) that is greater than the denominator (current replacement value). With a current replacement value based on unit costs, an FCI over 1.0 is even more likely to occur for assets that are in poor condition.

Once the condition data for some of the most prominent categories of asset types was developed and FCI calculated for those assets, it became apparent that the industry-standard scale of good, fair, and poor would categorize average NPS assets as being in poor condition. For this reason, FCI and the good-fair-poor scale did not provide enough granularity. NPS realized that additional criteria were required to optimize asset management investment.

Challenges of Diverse Portfolio

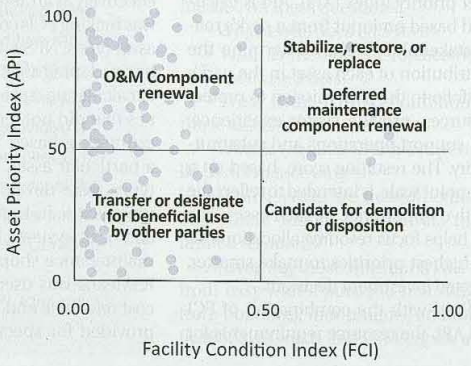
The NPS asset portfolio consists of 31 different asset types, which range from the normal groups of building types to roads, maintained landscapes, archeological sites, towers/missile silos, marinas, fortifications, and monuments. Even within these categories, the types are not considered homogeneous: For example, buildings include types as disparate as visitor centers and lighthouses. Therefore, using FCI to compare conditions between a road, a constructed waterway, and a fortification seemed illogical and of limited value in the decision-making process. The value of using FCI to determine where to focus funding seems especially suspect when one considers comparing the condition of historical structures with cultural significance, such as the Lincoln Memorial, to a trail at Yellowstone National Park. The costs to correct deficiencies as well as the current replacement values are so different that a direct comparison of FCI is not necessarily appropriate.

In the past, NPS addressed asset needs by focusing on the entire portfolio, regardless of importance to the mission or the criticality of a deficiency. This strategy was a mile wide and an inch deep. NPS soon determined that combining FCI with a method of prioritizing assets and then identifying within those assets which systems were critical to keep them operational offered the granularity to make better strategic decisions. Prioritizing assets was determined by the major stakeholders at individual parks. These stakeholders applied criteria to rate and score each asset generally based on its resource preservation, visitor use, park operations, and substitutability qualities. The resulting score, on a scale from 0 to 100, is the API. Under this scale, the assets closer to 100 are considered mission critical; they should be maintained to a higher standard and therefore require the majority of the focus and available funding.

The NPS portfolio continues to expand. In this environment of constrained funding, it was important to focus funding on the systems with the most impact on the protection, condition, and operational aspects of the highest API scoring assets. The roof and windows on a visitor center, for example, protect that asset from further damage and deterioration while interior finishes, although they may enhance the visitor experience, do not keep the visitor center from being operational. From this thinking, NPS developed a list of critical systems for each asset type. The critical systems list for each asset type in the service's portfolio helped

ESTABLISHING PRIORITIES FOR INVESTMENT

> The National Park Service looks at multiple metrics to determine where to invest preventive maintenance funding. Assets falling into the top left quadrant should receive the bulk of the preventive maintenance funding.



TRACKING PROGRESS

> Trends for the facility condition index for some of the major asset types in the National Park Service portfolio.

FCI Trends by Asset Type FY03-FY11

Asset Type	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	Trend
Buildings	0.156	**0.100**	0.168	**0.203**	0.179	0.177	0.198	0.186	0.185	
Housing	**0.217**	**0.126**	0.162	0.173	0.152	0.151	0.158	0.182	0.188	
Paved Roads	0.385	**0.439**	0.439	**0.227**	0.232	0.258	0.246	0.239	0.248	
Trails	0.169	**0.364**	0.269	0.194	0.183	0.184	0.185	0.165	**0.157**	
Campgrounds	0.174	0.146	0.161	0.188	**0.296**	0.263	0.223	**0.124**	0.126	
Unpaved Roads	**0.265**	0.122	0.174	0.174	0.144	0.122	0.123	**0.108**	0.125	
Water Systems	**0.172**	**0.076**	0.119	0.157	0.157	0.157	0.152	0.131	0.127	
Wastewater Systems	0.227	**0.170**	0.173	0.198	0.232	**0.236**	0.236	0.215	0.220	

Numbers in red indicate lowest scores. Numbers in bold indicate highest scores.

transform data into information to support decisions by focusing investment dollars on systems critical to ongoing operation and functional integrity.

These three evaluation criteria (FCI, API, and critical systems) were applicable to decisions involving every aspect of asset management, including operations and maintenance decisions. Preventive maintenance tasks were being assigned to critical equipment and systems in the NPS inventory, but rather than applying the funding to all assets, systems, and equipment, a more strategic approach was employed: applying the most resources to the highest priority assets in the best condition to gain an optimal return on investment. (See "Establishing Priorities for Investment" on facing page.)

NPS incorporated this approach into how NPS facility managers strategically plan and execute work. Harvey reviewed past spending trends across NPS and recognized that the mindset of NPS facility managers was to try to fix or maintain all assets. From a strategic perspective, this mindset was neither resulting in an effective use of available funding nor possible to achieve. Only when the combination of FCI, API, and critical systems criteria was adopted did things change. This approach has transformed NPS facility managers' evaluation process into one where strategic decisions are supported by data and information rather than being made as a reaction to a particular need.

Using API and critical systems along with FCI provides a valuable tool in identifying the assets with real issues that can be solved. Such a tool is particularly important because NPS is facing a backlog of approximately $11 billion and must preserve assets of cultural or historical significance. Although the task to maintain 70,000 assets for perpetuity is still a daunting one, with this tool and the combination of asset management practices, it is achievable.

This method — combining FCI with API and system criticality metrics in decision-making processes — has gained acceptance over time and increased the visibility and validity of the NPS asset management program. The NPS culture has also changed: from reactive to strategic, data-driven management of assets. NPS facility managers now regularly discuss ways to improve the use of data in decision-making. This significant cultural change transcends NPS facilities management. Now, NPS managers outside of facilities departments, as well as managers in other agencies working with NPS, are gaining an appreciation for the program's strategic approach and the powerful combination of metrics used to support everyday decisions. ■

Douglas W. Kincaid (doug@ameinc.biz) is president of Applied Management Engineering (AME), Inc., of Virginia Beach, Va. The firm was the principal author of the book Managing the Facilities Portfolio, *where the FCI metric was first published in 1991, and the ratings that appeared in that book were based on data from evaluating AME clients.*

Tim Harvey, chief, and Mary Hudson, asset management project manager, both of the park facility management division of the National Park Service, and Scott L. Prestridge, PE, CCE/A, Booz Allen Hamilton, also contributed to this article.

Email comments and questions to edward.sullivan@tradepress.com.

Critical Systems Identification: Preventive Maintenance

A key to critical systems identification is prioritizing deficiencies based on the impact they would have on the systems. The following terms define the levels of priority for deferred maintenance:

- **MINOR DEFICIENCY (LOW PRIORITY):** condition with a long-term impact beyond five years or a reduced life expectancy of affected materials or related equipment/features.
- **SERIOUS DEFICIENCY (HIGH PRIORITY):** deterioration, which if not corrected within two to five years, will result in the failure of the equipment/feature or the asset of which it is a part, or deterioration that will create a threat to the health or safety of the user.
- **CRITICAL DEFICIENCY (HIGH PRIORITY):** advanced deterioration that has already resulted in the failure of the equipment/feature, or advanced deterioration that if not corrected within one year will result in the failure of the equipment/feature, or advanced deterioration that has created a threat to health or safety of the user, or a failure to meet a legislated requirement.

— Douglas W. Kincaid

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