

The United States Air Force Project Manager's Guide for Design and Construction

Supersedes these publications

Project Definition (Red Book, September 1994)
A-E Services Acquisition (Orange Book, September 1995)
Design and Construction (Blue Book, rev. September 1996)
Design-Build Projects (Maroon Book, May 1997)

Summary of revisions

This publication is available digitally on the [AFCEE website](#)

Publishing Information

If you lack Internet access, contact the OPR at (210) 536-3433 or DSN 240-3433.
OPR: HQ AFCEE/DC
Certified by: HQ AF/ILEC
Primary Proponent: Mr. Jim Enloe, HQ USAF/ILEC
Editor: Mr. Rick Sinkfield, Boyce Bourland, HQ AFCEE/DCD
Writers: Ms. Barbara Hendricks, Ms. Susan Wittmack, 3D/I

Contributors

Lt Col Larry Clark, HQ AFCESA/CESM
Capt Craig R. Sandine, HQ USAFA/CE
Mr. John Anderson, HQ AIA/CE
Mr. Thomas Burns, HQ AFCESA/CESM
Mr. Michael Clawson, HQ AFCESA/CESM
Mr. John D. Collins, Naval Facilities Engineering Command, Southern Division
Mr. Ben Cutler, HQ AFSOC/CEC
Mr. Larry Dryden, HQ ACC/CEPC
Mr. Tony Eccleston, HQ NAVFAC
Mr. Paul Hans, HQ USAFE/CE
Mr. Ed Hilliard, HQ AFRC/CEC
Mr. Paul Nadziejko, HQ AMC/CEC-A
Mr. Brad Pearson, HQ AFSPC/CEC
Mr. Stephen Scherrer, HQ AFMC/CECC
Mr. Larry Spangler, HQ AFCESA/CESM
Mr. Gordon Tang, HQ PACAF/CEC
Mr. Robert C. Titerle, HQ AETC/CECT

Table of Contents

Preface

Definitions/Glossary

Abbreviations/Acronyms

Chapter 1

Introduction

Chapter 2

Before Design Starts

Chapter 3

A-E Services Acquisition

Chapter 4

Design Start-Up

Chapter 5

Project Definition and Contract Development Document

Chapter 6

Construction Contract Advertising & Award

Chapter 7

Facility Construction

Chapter 8

Design-Build Facility Acquisition

Chapter 9

Non-Appropriated Funds Process

Appendix

Appendix 1 *RAMP Checklist*

Appendix 2 *Sample User Questionnaire*

Appendix 3 *Cost Control*

Appendix 4 *Title 10, U.S. Code 2807*

Appendix 5 *Project Management Plan*

Appendix 6 *DD Form 1391*

Appendix 7 *Construction Project Delivery Methods*

Appendix 8 *Contract Types*

Appendix 9 *Brooks Act*

Appendix 10 *A-E Selection Checklist*

Appendix 11 *A-E Selection Schedule*

Appendix 12 *A-E Selection Authority Letter*

Appendix 13 *Ozone Depleting Substances Statement*

Appendix 14 *Commitment of Funds Letter*

Appendix 15 *Commitment of Funds Message*

Appendix 16 *Purchase Request - AF Form 9*

Appendix 17 *CBD Synopsis*

Appendix 18 *FAR References to A-E Contracting*

Appendix 19 *Statement of Work*

Appendix 20 *Profit Calculation Worksheet*

Appendix 21 *Independent Government Estimate*

Appendix 22 *Board Appointment Letter*

Appendix 23 *SF 254 / SF 255 Log-In Sheet*

Appendix 24 *Weighting Factors*

- Appendix 25 *Balloting Forms*
- Appendix 26 *Letter of Short-Listed A-Es to Final Board*
- Appendix 27 *Non-Select Letter*
- Appendix 28 *Pre-Selection Board Minutes*
- Appendix 29 *Short-Listed Notification Script*
- Appendix 30 *Interview Worksheet*
- Appendix 31 *Selection Board Minutes*
- Appendix 32 *Selection Letter to Contracting*
- Appendix 33 *USAF Design Awards Program*
- Appendix 34 *Predefinition/Prenegotiations Conference Checklist*
- Appendix 35 *Predefinition Conference Special Considerations*
- Appendix 36 *A-E Proposal Technical Evaluation*
- Appendix 37 *Project Definition Overview Matrix*
- Appendix 38 *Project Definition Schedule*
- Appendix 39 *Construction Surveillance Checklist*
- Appendix 40 *AF and Construction Agent Change Requests Checklist*
- Appendix 41 *Acceptance Checklist*
- Appendix 42 *History of D-B and AFICE Delegation Letter, Jan 95*
- Appendix 43 *Industry Definitions of Design-Build*
- Appendix 44 *Current Policies on D-B for State Construction*
- Appendix 45 *Request for Design-Build Authority (Sample)*
- Appendix 46 *Sample Goals and Objectives from HQ AFCEE Project*
- Appendix 47 *Letter of Appointment to SSET (Sample)*
- Appendix 48 *FAR 15.605(e)*
- Appendix 49 *Source Selection Information Briefing Certificate (Sample)*
- Appendix 50 *Sample Clarification Request*
- Appendix 51 *Sample Deficiency Report*
- Appendix 52 *NAF Facilities Program Project Approval Process*
- Appendix 53 *Sample Bid Extract*
- Appendix 54 *Equipment List Sample*
- Appendix 55 *Sample Request for NAF Facilities Panel Action (low bid exceeds available funds)*
- Appendix 56 *Sample Background Paper (low bid exceeds available funds)*
- Appendix 57 *Sample Request for NAF Facilities Panel Action (CWE exceeds available funds)*
- Appendix 58 *Sample Background Paper (Scope Change)*
- Appendix 59 *Memo of Concurrence with A-E Negotiations*

Preface

The construction completed through the Military Construction (MILCON), Operations and Maintenance (O&M), and Non-Appropriated Fund (NAF) programs greatly impacts Air Force people and their missions. Moreover, the quality of this construction is a clear demonstration of our professionalism, readiness in support of the Air Force, and capability to meet our wartime mission. Our professional reputations as Air Force Civil Engineers are the direct result of our customers' perception of how well we accomplish the facility acquisition process. Our customers are keenly aware of our successes and failures in design and construction. Our goal is to institutionalize success into quality facility design and construction.

Excellent installations foster pride and productivity. They strengthen the Air Force. The quality of an installation influences the performance of our most important resource, our people.

This Guide is written with a single purpose: to assist managers of design and construction in the quest for excellence. Less experienced managers will find this Guide invaluable for professional growth and successful mission accomplishment. Experienced managers will find excellent reference information.

Note: Project Manager (PM), as used in this Guide, has the same meaning as Design Manager (DM) or Construction Manager (CM). When the DM and the CM are from the same organization, the same PM may be assigned to manage both the design and construction of a project. This is often referred to as "cradle-to-grave" management.

Note on Medical Projects

For medical projects, the process varies somewhat from MILCON. There are no Planning Instructions (PI) in the medical program, and the DM does not issue a Design Instruction (DI) to the agent; rather DoD(HA) issues this authority directly to the agent. Further, Medical MILCON takes a project to a true 35% design and expends approximately 50% of the Planning and Design (P&D) funds to get there (based on historical percentages). Medical MILCON has six major submittal points of which S4 represents the 35% point and S6 represents the 95% point.

Scope

This Guide specifically addresses MILCON projects. However, managers of O&M, P-341, Military Family Housing (MFH), and other projects, may also benefit from this Guide.

Chapter 9 is devoted to Non-Appropriated Fund (NAF) construction and addresses the unique requirements of NAF projects.

Abbreviations/Acronyms

1178	Project Cost Estimate Worksheet AF Form 1178
1354	Transfer And Acceptance Of Military Real Property DD Form 1354
1391	Military Construction Project Data DD Form 1391
2807	Congressional Notification For A-E Services, 10 USC 2807
AAFES	Army And Air Force Exchange Service
AC	Air Conditioning
ACASS	Architect-Engineer Contract Administration Support System
ACG	Architectural Compatibility Guidelines
ACQ	Acquisition
ADAL	Addition/Alteration
ADEQ	Adequate
ADP	Area Development Plan
ADV	Advertise
A-E	Architectural/Engineering Firm Or Designer
AF	Air Force
AF/ILEC	Air Force, Office Of Civil Engineers, Construction (MILCON) Division
AFAPG	Air Force Automated Pricing Guide
AFBCIF	Air Force Base Capital Improvement Fund
AFCEE	Air Force Center For Environmental Excellence
AFCESA	Air Force Civil Engineering Support Agency
AFCR	Air Force Change Request
AFFARS	Air Force FAR Supplement
AFI	Air Force Instruction
AFMAN	Air Force Manual
AFMR	Air Force Management Reserve
AFMWRAB	Air Force MWR Advisory Board
AFMWRB	Air Force Moral, Welfare, Recreation Board
AFPAM	Air Force Pamphlet
AFPC	Air Force Personnel Center
AFSVA	Air Force Services Agency
AFWL	Air Force Weapons Laboratory
AGC	Associated General Contractors of America
AIA	Air Force Intelligence Agency or American Institute of Architects
AMPRS	Automated Military Progress Reporting System (COE System)
AMT	Amount
APF	Appropriated Funds

ASD(P&L)	Assistant Secretary Of Defense (Production & Logistics)
ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers
ASTM	American Society for Testing and Materials
AWD	Award
BAAN	Budget Authorization Account Number
BAFO	Budget Authorization Finance Office(r) or Best and Final Offer
Base	USAF Base
BCE	Base Civil Engineer
BCO	Base Contracting Office
BEAMS	Base Engineer Automated Management System
BES	Budget Estimate Submission
BOD	Beneficial Occupancy Date or Bid Opening Date
CA	Construction Agent
CAC	Construction Agent Change
CADD	Computer Aided Drafting and Design
CAR	Construction Agent Change Request
CATEX	Categorical
CBD	Commerce Business Daily Publication
CCASS	Construction Contract Appraisal Support System
CCB	Construction Criteria Base
CCTV	Closed Circuit Television
CDRL	Contract Data Requirements List
CECORS	Civil Engineer Contract Reporting System
CERCLA	Comprehensive Environmental Response, Compensation And Liability Act
CET	Contract Evaluation Team
CFE/CI	Contractor Furnished Equipment And Contractor Installed
CFY	Current Fiscal Year
CI	Contractor Installed
CID	Comprehensive Interior Design
CINC	Commander In Chief
CM	Construction Manager
CMP	Construction Management Plan
CO	Contracting Officer
COCESS	Contractor Operated Civil Engineering Supply System
COE	Army Corps Of Engineers
Constr	Construction
CONUS	Continental United States
CPAF	Cost Plus Award Fee
CPFF	Cost Plus Fixed Fee

CPIF	Cost Plus Incentive Fee
CPM	Critical Path Method
CQC	Contractor Quality Control
CR	Clarification Requests
CRC	Criteria Review Conference
CSI	Construction Specifications Institute
CT	Cash Transfer
CWA	Clean Water Act
CWE	Current Working Estimate
CY	Calendar Year
D	Delete
D&F	Determination And Finding
DA	Design Agent
D-B	Design Build
D-B-B	Design Bid Build
DBOF	Defense Business Operation Fund
DCAA	Defense Contracting Audit Agency
DCS	Deputy Chief Of Staff
DD FORM 1391	FY__ Construction Project Data - Military Construction Project Data DD Form 1391
DECA	Defense Commissary Agency
DFARS	Department of Defense Supplement to FAR
DFCY	Deficiency
DFRP	Deficiency Replacement
DI	Design Instruction
DM	Design Manager
DoD	Department Of Defense
DR	Deficiency Reports
DRMD	Defense Reutilization And Marketing Office
DSN	Design
E&D	Engineering And Design
ECIP	Energy Conservation Investment Project
EEIC	Element of Expense Investment Code
EEP	Engineering And Environmental Planning
EIAD	Equipment Authorization Inventory Data
EIAP	Environmental Impact Analysis Process
EMCS	Energy Monitoring And Control System
EMP	Electromagnetic Pulse
ENR	Engineering News Record

EPA	Environmental Protection Agency
ERG	Executive Review Group
ESB	Emerging Small Business
ETL	Engineering Technical Letter
FAA	Federal Aviation Administration
FAC	Real Property Facility Code
FAR	Federal Acquisition Regulation
FARS	Federal Acquisition Regulations Supplement
FAST	Functional Analysis System Techniques
FB	Facilities Board
FC	Financial Completion
FFP	Firm Fixed Price
FIFRA	Federal Insecticide, Fungicide And Rodenticide Act
FM	Funds Manager
FMB	Financial Management Board
FONSI	Finding No Significant Impact
FOUD	For Official Use Only
FP	Fixed Price
FOA	Field Operating Agency
FPAF	Fixed Price Award Fee
FPEPA	Fixed Price With Economic Price Adjustment
FPIF	Fixed Price Incentive Fee
FY	Fiscal Year
FYDP	Five Year Defense Plan
G&A	General And Administrative
GAO	General Accounting Office
GFE	Government Furnished Equipment
GFE/CI	Government Furnished Equipment, Contractor Installed
GFE/GI	Government Furnished Equipment, Government Installed
GFM	Government Furnished Material
GIS	Geographic Information Systems
GSBCA	General Services Board Of Contract Appeals
HAC	House Of Representatives Appropriations Committee
HASC	House Of Representatives Armed Service Committee
HFO	Health Facilities Office
HL	Hired Labor
HQ	Headquarters
HQ AFSUA	Headquarters Air Force Services Agency
HQ USAF	Headquarters, United States Air Force

HSWA	Hazardous And Solid Waste Amendments To RCRA
HVAC	Heating, Ventilation & Air Conditioning
IAW	In Accordance With
IDIQ	Indefinite Delivery Indefinite Quantity
IFB	Invitation For Bids
ILEC	Military Construction Directorate, Engineering Division
ILECP	Military Construction Program Development Division
ILECR	Military Construction Requirement And Oversight Division
INAD	Inadequate
INVS	Internal Needs Validation Study
IRP	Installation Restoration Program
JOA	Joint Occupancy Agreement
LAN	Local Area Network Communications
LCCA	Life Cycle Cost Analysis
LD	Liquidated Damages
LL	Legislative Liaison
LRA	Listing of Required Actions
LRCIP	Long Range Capital Improvement Plan
Ltr	Letter
M	Million
MAJCOM	Major Command
MARS	Military Affiliated Radio Station
MC	Minor Construction
MCACES	Micro Computer Aided Cost Engineering System
MCP	Military Construction Project
MEP	Mechanical/Electrical/Plumbing
MFH	Military Family Housing
MILCON	Military Construction Project
MIPR	Military Interdepartmental Purchase Request
M&R	Maintenance And Repair
MPC	Military Personnel Center
MWR	Morale Welfare And Recreation
NACSI	National Comsec Instruction
NAF	Non-Appropriated Funds
NAFAO	NAF Accounting Officer
NAFI	Non-Appropriated Fund Instrument
NAS	Needs Assessment Study
NCO	Noncommissioned Officer
NAVFAC	Naval Facilities Engineering Command

NEC	National Electric Code
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NIBS	National Institute of Building Sciences
NPDES	National Pollutant Discharge Elimination System
NTP	Notice To Proceed
O&M	Operations And Maintenance
OCONUS	Outside Continental United States
OCR	Office Of Collateral Responsibility
ODS	Ozone Depleting Substances
OMB	Office Of Management And Budget
OPR	Office Of Primary Responsibility
OSD	Office Of The Secretary Of Defense
OSHA	Occupational Safety And Health Act
PA	Programmed Amount
PACES	Parametric Cost Estimating System
PAR	Proposal Analysis Report
PAT	Planning Assistance Team
PCS	Permanent Change Of Station
PD	Project Definition
PDC	Program, Design And Construction (Computerized Management Information System)
PERT	Performance Evaluation And Review Technique
PI	Planning Instruction
Pkg	Package
PM	Project Manager
PMIG	Project Management Integration Group
PMP	Project Management Plan
POE	Post Occupancy Evaluation
POL	Petroleum, Oil And Lubricant
POTW	Publicly Owned Treatment Works
PR	Purchase Request
PRAG	Performance Risk Analysis Group
Q/D	Quantity/Distance
QA	Quality Assurance
QAE	Quality Assurance Evaluator
QAP	Quality Assurance Plan
QBS	Qualifications Based Selection
QC	Quality Control

RCS	Report Control Symbol
R&D	Research And Development
RAMP	Requirements And Management Plan
RD	Requirements Document
RED HORSE	Rapid Engineer Deployable Heavy Operational Repair Squadron, Engineer
Ref	Reference
REPR	Repair
RFI	Request For Information
RFP	Request For Proposal
RFTP	Request For Technical Proposal
RMC	Requiring Major Command
RMC DI	Requiring Majcom Design Instruction
ROD	Record Of Decisions
ROR	Rate of Return
RP	Real Property
RPIE	Real Property Installed Equipment
RPMT	Replacement
RTA	Ready To Advertise
S&A	Supervision & Administration
SABER	Simplified Acquisition of Base Engineering Requirements
SAC	Senate Appropriations Committee
SADBU	Small And Disadvantaged Business Utilization
SAF	Secretary of The Air Force
SAF/FM	Office of the Assistant Secretary of the Air Force (Financial Management)
SAF/FMBIC	Secretary of the Air Force Budget Investment Directorate for Military Construction
SAF/LL	Secretary of The Air Force/Legislative Liaison
SAF/MII	Deputy Assistant Secretary Of The Air Force/Installations
SAF/MIQ	Secretary of The Air Force/
SARA	Superfund Amendments And Reauthorization Act
SASC	Senate Armed Services Committee
SB	Small Business
SBA	Small Business Administration
SCIF	Sensitive Compartmented Information Facility
SCIP	Strategic Capital Improvement Plan
SDB	Small Disadvantaged Business
SDWA	Safe Drinking Water Act
SERG	Senior Executive Review Group
SF	Standard Form, Square Foot or Security Forces

SF 1420	Performance Evaluation (Construction Contracts)
SF 1421	Performance Evaluation (Architect-Engineer)
SF 254 & 255	A-E Qualification Forms
SHPO	State Historical Preservation Office
SID	Structural Interior Design
SIOH	Supervision, Inspection and Overhead
SMART	Structural Maintenance and Repair Team
SOW	Statement of Work
SPDES	State Pollutant Discharge Elimination System
SPECS	Specifications
SPI	Schedule Performance Index
SSA	Source Selection Authority
SSET	Source Selection Evaluation Team
SSP	Source Selection Plan
SV	Services
SVFB	Office Symbol for HQ AFSUA, Chief, Cash Management Division
T	Technical
Temp	Temperature
TEMPEST	Compromising Electromagnetic Emanations – See Definitions EMP/TEMPEST
SVXF	Office Symbol for HQ AFSUA, Chief, Facilities Division
TET	Technical Evaluation Team
TF	Total Float
TLF	Temporary Living Facility or Temporary Lodging Facility
TO	Technical Order
TSCA	Toxic Substances Control Act
UFAS	Uniform Federal Accessibility Standards
UNIFORMAT	Uniform Contract Format
US	United States
USACE	US Army Corps of Engineers
USAF	United States Air Force
UBC	Uniform Building Code
USC	United States Code
User	Using Agency For The Facility
UST	Underground Storage Tank
VE	Value Engineering
VECP	Value Engineering Change Proposals
VEP	Value Engineering Proposal
WBS	Work Breakdown Structure

WIP Work In Place
W/O Work Order (AF Form 327)
W/R Work Request (AF Form 332)

Definitions/Glossary

Construction industry terms don't always have standard definitions, so their meanings can be unpredictable. When a process is changed, traditional terminology may no longer work.

For example, Congress uses "turnkey" to describe what others consider "design-build." Likewise, "request for proposal" and "cost-plus" have specific meanings within the Federal Acquisition Regulations (FAR). Other terms such as "Requirements and Management Plan" (RAMP) are unique to the Air Force.

Furthermore, professional societies such as the American Institute of Architects (AIA) and Associated General Contractors (AGC) have contractual descriptions for terms like Schematic Design, Design Development, Construction Management, or Contractor.

However, as it is unlikely that we can ever totally abandon this special language, the following common terms and acronyms used in this Guide are identified.

ADAL An addition to, or alteration of, an existing facility.

Addition (Add) An addition or size increase to a facility that adds to its overall external dimensions. "Add" may also refer to an additive bid term.

Affinity Diagram Drawings, charts, tables or diagrams which show working relationships between individuals or groups. This information is used by the A-E to lay out floor plans. The correct functional affinities promote efficiencies and effectiveness of people in their activities.

AF/ILE or HQ USAF/ILE Headquarters United States Air Force, Office of The Civil Engineer, Washington, DC.

AF/ILEC or HQ USAF/ILEC Headquarters United States Air Force, Office of The Civil Engineer, Engineering Division, Washington, DC.

Agent The Design and Construction Agent, typically the US Army Corps of Engineers (COE) or Naval Facilities Engineering Command (NAVFAC), but it could be an Air Force organization or another federal agency. Normally the Design Agent and the Construction Agent will be within the same organization.

Air Force Automated Pricing Guide (AFAPG) Contains primary facility unit costs based on historic construction contract award data, adjusted for area cost factor, inflation, and size adjustment factor. Maintained by the Air Force Civil Engineering Support Agency (AFCESA), a Field Operating Agency (FOA) of HQ USAF/ILE.

Alteration (Alter) Work required to adjust internal arrangements or other physical characteristics of an existing facility to adapt or utilize it more effectively for its designated purpose.

Analysis Cards Typically, 5 x 8 inch index cards used to record and communicate information during design charrette(s). Preplanned or routine cards are a specific type of analysis cards that are developed in advance of on-site sessions during the data collection phase.

Architectural and Engineering Firm (A-E)	The A-E may be a team of architects; mechanical, electrical, plumbing engineers; structural and civil engineers; interior designers; landscape architects; and other consultants. They may form one firm or a collection of consulting firms under one prime entity. Although a portion of the Air Force design work is accomplished by in-house staff designers (government employees), the majority of the work is performed by private sector A-E firms under contract. For simplicity in this Guide, the term A-E refers to the Government's designer, either private sector or in-house designer.
Automated Civil Engineering System (ACES)	The new primary management information program used by Air Force civil engineering to manage planning, design, and construction programs. ACES will replace the Planning, Design, and Construction (PDC) system, the former Air Force civil engineering management information program, in FY 2000.
Automated Review Management System (ARMS)	The U.S. Army Corps of Engineers computerized system for management of design review comments.
	Back Check A necessary review to mitigate modifications that may occur from changes in personnel and the user's mission. The back check should include a complete review by the users, Base Civil Engineer and the MAJCOM in the area of criteria satisfaction. Also, the Design Manager should determine whether a new cost estimate and further technical or constructability reviews are required.
Base Civil Engineer (BCE)	As used in this Guide, BCE can refer to the individual position as well as the entire base civil engineer organization. In some cases, specific members of BCE staff, such as Fire Chief or Chief of Environmental Management, will be listed as members of the Base Support Team.
Base Comprehensive Plan (BCP)	Master plan of the base maintained by the BCE. Includes land use plans, long-range facilities development plan, installation five-year capital improvement plan, environmental base-line, architectural compatibility standards, and other component plans as appropriate to the base.
Bid Documents	All components which will become a part of the bid package. The documents include project drawings, specifications, special provisions and clauses, current Davis Bacon wage rates, and particulars on the bidding process for the project (procedures, pre-bid conference and bid opening dates, site inspection procedures, and bid acceptance period).
Blocking Diagrams	Diagrams which show the relative size of working groups or departments. These blocks of space can then be manipulated to form conceptual floor plans.
Brown Sheets	Informal diagrams that take their name from the large brown kraft paper typically used to capture project information. Brown kraft paper is tacked to the walls during the charrette process. Large scale paper cutouts representing net room area are placed on the kraft paper. These informal materials lend themselves to revisions and are excellent tools to communicate with the customer groups.
Bubble Diagram	Function diagrams which use circles or bubbles to represent areas, with connecting lines and arrows to signify close functional relationships. Desirable, but not essential, relationships between areas can be shown with dotted lines.

Charrette	An intensive conceptual design work session, usually at the customer site. It lasts several days and is attended by the customers, A-E, construction agent, the project management team, and sometimes representatives from regulatory agencies. The term comes from the French word for a small wheeled cart, a "charrette." In the days of the Beaux Arts, a renowned Parisian architectural school, students were often still working when their work was due. At the deadline, a cart came through the student communities to collect the drawings and take them back to school to be judged. As the drawings were loaded on the cart, students sometimes got on the cart to add finishing touches to their designs. They were "on charrette." Today, architects working long hours say they are "on charrette."
Commerce Business Daily (CBD)	The Department of Commerce publication issued every business day by the US Government Printing Office in Washington DC. It lists notices of Government procurement actions, contract awards, sales, and other Government procurement information. This is available on the Internet .
Companion Projects	Two or more projects, usually from different funding sources, that must be accomplished together in order to provide a complete project.
Comprehensive Interior Design (CID)	Includes the design and coordination of interior building materials, finishes, and a furnishings package. Interior design services are classified as either CID or Structural Interior Design (SID), depending on the type of project. See SID.
Comprehensive Plan	<p>The Comprehensive Plan is made up of special studies, element plans, component plans and maps. An executive summary document, the General Plan, should be available providing concise discussion of the issues and solutions addressed in more detail in the element and component plans. Associated mapping provides illustrative detail on the Comprehensive Plan subject areas.</p> <p>Comprehensive plans provide a valuable source of data, analysis and alternatives for site selections. The Comprehensive Plan will present detailed and summary information to assist the facility designer, as well.</p> <p>Consult with the community planner for availability and currency of these documents. Many may be in limited distribution and not readily available outside the base civil engineering organization.</p>
Concept	Represents studies of feasible facility development based on functional relationships and space requirements.
Concurrent Construction Requirements	Construction requirements which, under normal circumstances, can be recognized to exist simultaneously and which would be expected to be satisfied at the same time.
Condition Code	Evaluation of the ability of a facility to support the present occupant.
Condition Code 1	Usable – Class A (adequate). This facility can house the function for which it is currently designed with reasonable maintenance and without major alteration or reconstruction.
Condition Code 2	Usable – Class B (substandard). This facility is structurally sound and is inherently capable through reasonable expenditure of funds of being raised to Class A standards to house the function for which it is currently designed.

Condition Code 3	Forced Use (substandard). This facility cannot be raised to meet Class A standards to house the function for which it is currently designated. However, from necessity it must be continued in use for a short duration or until a suitable facility can be obtained.
Condition Code 4	Sterile. This facility does not meet the conditions of Code, 1, 2, 3, or 5, is excess to mission requirements or designed changed/converted use, or is not considered appropriate for disposal due to economic considerations.
Condition Code 5	Unusable. This facility is no longer usable for any purpose. Unsatisfactory or unsafe conditions exist which render it unacceptable.
Construction	The erection, installation, or assembly of infrastructures or facilities and supporting amenities, signage, landscaping, etc. or any alteration or additions thereto.
Construction Agent (CA)	Normally refers to the COE or NAVFAC. See Agent.
Construction Contractor	An individual or firm specializing in the construction or erection of new buildings or the expansion, alteration, relocation, or major repair of existing buildings.
Construction Documents or Drawings	The drawings produced by the A-E from approved project definition (schematic) documents. These become part of the bid documents.
Construction Management	See Project Management.
Contract Documents	The drawings, specifications and agreements produced by the Agent that comprise the bid documents.
Cost Control During Design	The Air Force MILCON process established to improve the development of project scope and cost estimating during the planning and design phases. The process places greater emphasis on accurate definition of project requirements, preparation of parametric cost estimates to establish cost targets based on those requirements, and monitoring project requirements and costs during the design process to ensure the design remains within the cost targets.
Critical Path Method (CPM)	A common scheduling technique used to determine which activities are critical to the timely completion of a project.
Current Working Estimate (CWE)	The cost estimate that most clearly reflects the total probable cost at the current design or construction phase of the project.
Data Gathering Phase	Field work required before the charrettes using visits, questionnaires, research, Interviews, and investigations.
DD Form 1391	This document is a programming tool used to request and justify funding to fulfill a construction requirement. It is generated by the Base Civil Engineer. It describes user

requirements, costs, and project features. The form identifies a construction project and describes it in sufficient detail to permit proper consideration at all levels. It contains a complete description of the project, cost estimates, site placement, functional single-line drawings, and types of funds. The initiator is specifically responsible for preparing a detailed, complete justification for the project. This form is ultimately submitted to Congress for project approval (authorization and appropriation).

Defense FAR Supplement (DFARS)	Department of Defense supplement to the Federal Acquisition Regulations (FAR).
Delivery Strategy	The strategy which outlines the methodology to be used to procure project design and contract construction, e.g.. traditional design-bid-build, design-build, etc..
Design Agent (DA)	See Agent.
Design-Bid-Build	Design-bid-build (D-B-B) is the traditional project delivery method that employs one contractor for design and another contractor for construction.
Design-Build	<p>Design-build (D-B) is a project delivery method during which one contracting entity performs both architectural/engineering design and construction under a single contract.</p> <p>The process uses project definition, analysis and design documents, performance specifications and other contract documents as part of the request for proposal (RFP) package. The project is bid by construction contractors, usually teamed with A-Es as subcontractors. Contractor selection may be made based on price, best value to the Government, or a combination of design-build team professional qualifications, technical proposal, and cost.</p>
Design Charrette Phase	The second part of the on-site effort is to produce a responsive schematic project solution based on the documentation of the requirements analysis charrette.
Design Instructor (DI)	AF/ILEC issues Design Instructions to the MAJCOM PM that initiate and control the planning, design, and construction contract award activities for MILCON, minor construction, and ECIP funded projects. See also the definition for Planning Instruction and Field Design Instruction.
Design Manager (DM)	See Project Manager (PM).
EMP/TEMPEST	Electromagnetic Pulse (EMP) refers to the electromagnetic disturbances which accompany a nuclear weapon blast. TEMPEST (not an acronym) is sometimes used synonymously with Compromising Electromagnetic Emanations. The details of TEMPEST issues are classified and contain information for the design and construction of certain secure facilities.
Engineering Technical Letter (ETL)	Engineering directives issued by the Headquarters Air Force Engineering Support Agency (AFCEA) that establish policy and minimum technical criteria dealing with specific design, construction, operations and/or maintenance issues. They usually serve as interim policy and technical guidance until information is incorporated into Air Force Instructions or other design and construction guidance.

Exception of Criteria	A project for which no specific space criteria exists in AFI 32-1024.
Field Design Instruction (DI)	After AF/ILEC issues the initial DI or Planning Instruction (PI) for a MILCON, Minor Construction, or ECIP project, the MAJCOM Project Manager (PM) may issue Field DIs to the Design Agent. The first Field DI normally includes instructions on the delivery method, design guidance, special design schedule requirements, a synopsis of the design effort for the CBD, and the DD Form 1391. Subsequent Field DIs direct the Design Agent to initiate other design activities such as A-E selection and design contract award, site investigations, project definition, and development of the contract documents.
Fiscal Year (FY)	This refers to the period of time from October 1st through September 30th of the following year which represents the Federal Government's budgetary year. For example, FY00 refers to the fiscal year that began 1 Oct 1999 and ends on 30 Sep 2000.
Funding Approval	Approval by the Support Group Installation Commander (SPIC) or higher headquarters to expend funds for facility improvements.
Funded Costs	All project costs related to the construction/upgrade of a facility are funded costs. This includes labor, materials, contingencies, Real Property Installed Equipment (RPIE), contingencies, and items of Supervision Inspection and Overhead (SIOH).
General Plan	Master plan of the base maintained by the BCE. Includes land use plans, long-range facilities development plan, installation five-year capital improvement plan, environmental base-line, architectural compatibility standards and other component plans as appropriate to the base. Refer to AFCEE site:
Heating, Ventilation, and Air Conditioning (HVAC)	Refers to the building systems dealing with conditioning, cleansing, exhausting and/or moving air. Includes the primary systems (heaters, humidifiers, chillers, cooling towers, etc.) and the supply and distribution systems (hot and cold water piping, air handlers, filters, ductwork, diffusers, etc.).
Library Wall	A wall display of information obtained through data collection and charrettes. The library wall is a temporary display of analysis cards, brown sheets, and other information that relates to the project requirements.
Maintenance	The recurrent day-to-day, periodic, or scheduled work required to preserve a real property facility. This also includes sitework, utilities, pavement maintenance, etc..
Military Construction (MILCON)	<p>The MILCON program provides land acquisition and major construction on DoD installations. It includes construction projects for all types of buildings, airfield pavements and utility systems costing \$500,000 or more. It can also include repair projects costing \$500,000 or more, but normally repair projects are accomplished from operations and maintenance funds or from the Defense Business Operation Fund (DBOF).</p> <p>Military construction as defined in the law includes any construction, development, conversion, or extension of any kind carried out with respect to a military installation. It includes all construction work necessary to produce a complete and usable facility or a complete and usable improvement to an existing facility.</p> <p>Authority to carry out a MILCON project includes authority for surveys and site preparation; acquisition, conversion, rehabilitation or installation of facilities; acquisition</p>

and installation of equipment and appurtenances integral to the project; acquisition and installation of supporting facilities (including utilities) and appurtenances incident to the project; and planning, supervision, administration and overhead incident to the project. For information on how Congress reviews and authorizes a MILCON project see AFI 32-1021, *Planning and Programming of Facility Construction Projects*.

Minor Construction (MC)	<p>Minor construction projects are MILCON projects authorized by 10 U.S.C. 2805 for a single undertaking and having a funded cost between \$500,000 and \$1,500,000. If the minor construction project is intended solely to correct a deficiency that is a threat to life, health, or safety, the funded cost is between \$1,000,000 and \$3,000,000. The Air Force funds MILCON minor construction projects from the P-341 account. Minor construction projects costing less than \$500,000 are funded from the operations and maintenance (O&M) appropriation. The O&M threshold is increased to less than \$1,000,000 if the project corrects a life, health, or safety deficiency.</p> <p>Minor construction also includes NAF construction projects with a funded cost under \$500,000.</p>
Multi-purpose Building	<p>A facility which has more than one functional purpose.</p>
Notice to Proceed (NTP)	<p>The formal written authorization given to the design A-E, the contractor, or other outside agent to begin their contracted task.</p>
One Step, Turnkey Selection Procedures	<p>Procedures used for the selection of a contractor on the basis of price and other evaluation criteria to perform, in accordance with the provisions of a firm, fixed-price contract, both the design and construction of a facility using performance specifications.</p>
Operability and Maintainability	<p>Description or manual of installed building systems and their operational and maintenance procedures.</p>
Operations and Maintenance (O&M)	<p>Refers to minor construction/maintenance and repair projects. Budgeting refers to equipment and supplies.</p>
Out-Briefing	<p>The presentation to decision makers by the project team requesting preliminary approval of the products of a charrette or other site visit agenda.</p>
P-341 Funds	<p>Air Force fund source for unspecified Minor Construction projects (emergency, contingency, and other unimproved). See the definition for Minor Construction and AFI 32-1021.</p>
Parametric Cost Engineering System (PACES)	<p>The Air Force Parametric Cost Engineering System available through AFCESA.</p>
Parametric Cost Estimate	<p>Parametric cost estimating consists of a computer-based methodology that uses factors based on engineering parameters developed from historical cost databases, construction practices and engineering/construction technology to develop accurate cost estimates. These factors include physical properties that describe project definition characteristics such as size, building type, foundation type, exterior closure materials, roof type and material, number of floors, functional space requirements, and utility system requirements.</p>

Partnering	A process used to achieve cooperative team spirit among key project team members.
People/Process Flow Charts	Diagrams, symbols, charts and sketches to show typical work activities and process flow. These processes can be physical products, people, vehicles, or information. Diagrams typically note separated flow, mixed flow, or sequential flow.
Planning, Design, and Construction (PDC)	The primary management information program used by Air Force civil engineering to manage the planning, design, and construction programs. PDC will be replaced by the new Automated Civil Engineering System (ACES) in FY 2000.
Planning Instruction (PI)	Initial design instruction (DI) from AF/ILEC that changes a project from planning status to design status and notifies the MAJCOM that it may initiate design activities on a MILCON project.
Priority Matrices	A problem solving/management tool used to organize and communicate information. A priority matrix may show order of importance, such as ranking pedestrian traffic over vehicular traffic.
Pro Forma	Financial statement forecasts.
Programmed Amount (PA)	This is the cost target estimate used by the MAJCOM based on pricing guides. This amount is changed through modification of the DI. The CWE or probable total cost is measured against the PA or total project budget. For NAF projects, the dollar amount authorized for each project.
Project Approval	Project approval required by the Support Group Commander or higher headquarters as to the feasibility of project.
Project Definition	The phase of the A-E's services which defines the user's needs, develops a conceptual/schematic design, defines construction contracting strategy, and certifies the site investigation, description of structural, engineering and building systems, and parametric cost estimate.
Project Management	The management and oversight of a project beginning with the identification of the initial planning process, through the programming, design, and construction phases, and ending with construction completion and financial close-out.
Project Management Plan (PMP)	Document prepared by the PM as part of the RAMP. It includes joint AF/DA strategic decisions on such issues as in-house versus A-E design, determination of project risk, schedules, project packaging, small disadvantages business participation, and project team members roles and responsibilities.
Project Manager (PM)	The person ultimately responsible to AF/ILE for ensuring that the Air Force achieves its goals and objectives on a project. The Project Manager could be from MAJCOM, AFCEE or base. The PM is usually an engineer or architect.

Project Team (Also called Project Management Team)	This is the working level group appointed for each MILCON project. It includes the project managers, project A-E, and points of contact assigned to coordinate and facilitate project design.
Real Property (RP)	Any land or building, fixed improvements, utilities, and other permanent additions to land.
Real Property Installed Equipment (RPIE)	Items of equipment, apparatus, and fixtures that aid in the function of RP and are permanently attached to, built-in, or integrated into the facility.
Repair	A classification of work (construction project, etc. that means to restore real property and real property systems or components to such a condition that they may effectively be used for their designated functional purposes.
Request for Proposal (RFP)	A formal document package issued by a contracting officer to prospective contractors asking for pricing of services for a specified project or services.
Requirements Analysis Phase	The first part of the on-site effort. It encompasses a systematic approach to collecting and analyzing customer and project requirements. This phase typically involves alphanumeric data and precedes schematic design.
Requirements and Management Plan (RAMP)	The RAMP consists of two elements: the Requirements Document (RD) and the Project Management Plan (PMP). The RAMP is a planning and programming package prepared by the base and MAJCOM to support the DD Form 1391 MILCON submittal and to provide sufficient information to the Design Agent and the A-E negotiating a design contract.
Requirements Document (RD)	The planning and programming part of the RAMP package that identifies a MILCON project site, scope, the user's functional and technical requirements, and provides a construction cost estimate based on those requirements that serves as the basis for the programmed amount (PA) shown on the DD Form 1391.
Site Analysis Cards	Typically 5x8 inch analysis cards with printed site maps and information acquired in advance of the actual on-site sessions. These preplanned cards are used during the charrette process to record and present information to team members.
Snow Cards	Typically, 5 x 8 inch "white" index cards. Another name for analysis cards.
Statement of Work (SOW)	The document prepared by the Government prior to the pre-negotiation conference defining the services expected from the A-E or contractor.
Structural Interior Design (SID)	Includes the selection and coordination of interior materials and finishes which are part of the building and/or built-in items such as pre-wired workstations. See Comprehensive Interior Design (CID).
Supervision, Inspection and Overhead (SIOH)	For NAF projects, this is a civil engineering responsibility, which is an unfunded cost not reimbursable with non-appropriated funds if performed by in-house personnel. Pay SIOH

services by contract with non-appropriated funds as a funded cost (including U.S. Army Corps of Engineers or in-house over-hires if required for a specific project).

Unfunded Costs

Project costs which include government-owned mobile equipment, non-Air Force excess equipment and materials, planning and design, contract and in-house donated labor and material.

Uniform Federal Accessibility Standards (UFAS)

Standards for design, construction, and alteration of buildings to accommodate handicapped persons.

Urgent Requirements

The project will be considered urgent when an unrecognized existing or unforeseen developing condition cannot be satisfied by the normal inclusion of a construction project in future authorization legislation.

Value Engineering (VE)

A program set up by the Office of Management and Budget (OMB) and Air Force policy directive with the purpose of promoting quality and removing non-essential costs from projects. Value engineering evaluations are based on life cycle cost analyses.

Waiver of Criteria

A deviation for a project scope that exceeds the DoD space criteria.

Waiver to Fund Source

A deviation from the normal fund source.

Zoning & Stacking Diagrams

Diagrams which show interrelationship of user groups, departments or space. Zoning diagrams show relationships on the same floor level of a building. Stacking diagrams show vertical relationships between groups in a multi-level building.

1 Introduction

Contents	I. Organizational and Project Manager Responsibilities.....	2
	II. MILCON Process	3

Reference Documents	AFI 34-105, Programming for Nonappropriated Fund Facility Requirements
	AFI 34-201, Use of Nonappropriated Funds
	AFI 34-209, Nonappropriated Fund Financial Management and Accounting
	AFI 32-1022, Planning and Programming Nonappropriated Fund Facility Projects
	Title 10 U.S.C. 2807
	Title 10 U.S.C. 2854

1 Introduction

I. Organizational and Project Manager Responsibilities

The term Air Force Project Manager (AF PM) generally refers to the Major Command (MAJCOM) level manager for a Military Construction (MILCON) project. The MAJCOM or the Base serves as the AF PM for non-appropriated fund (NAF) program projects depending upon manpower availability and local policy. The Air Force Center for Environmental Excellence (AFCEE) serves as the AF PM for most continental United States (CONUS) military family housing (MFH) projects. This guide uses the term AF PM to describe the responsibilities associated with the duty of serving as the AF PM, regardless of which entity is filling the role.

The requiring command and the host command are the same MAJCOM for most MILCON projects. When the requiring command and the host command are different, the involved MAJCOMs generally allocate the planning, design, and construction responsibilities on a project-by-project basis. For this reason, this Guide will use the singular term, MAJCOM, to identify all MAJCOM responsibilities and leave it to the MAJCOMs to determine what works best for their organizations.

The AF PM for design and/or construction is ultimately responsible to the Air Force Office of The Civil Engineer (HQ USAF/ILE) for ensuring the Air Force achieves its goals and objectives (i.e. quality, maintainable facilities delivered on time and within budget). The AF PM must have a technically solid background, be capable of maintaining positive rapport with senior leaders, be available and accessible on a continuing basis, be able to keep all team members motivated and informed, be experienced in all levels of Air Force organization, and be able to occasionally accomplish the impossible.

An AF PM differs from a functional manager in that a functional manager is generally concerned only with a particular area of expertise. The AF PM must not only know functional area requirements but also know those of the User, Base Civil Engineer (BCE), MAJCOM, HQ USAF/ILE, Design Agent (DA), and Construction Agent (CA). The AF PM must ensure all of the requirements of any organization associated with the project are blended into a project acceptable to all concerned.

The AF PM coordinates planning, quality and maintainability of the project, schedule, and budget. In order to accomplish this in a timely manner, the AF PM should possess attributes of leadership, credibility, sensitivity, and organizational expertise.

The AF PM facilitates the resolution of conflicting demands from different organizations, and ensures everyone works together as a team to provide a complete, functional facility. The AF PM is responsible for keeping the Civil Engineer - Engineering Division (HQ USAF/ILEC), MAJCOM Civil Engineer (CE), BCE, and the User informed.

The AF PM influences the delivery of quality facilities that will increase the Air Force's combat and training capabilities.

A schedule slip is sometimes unavoidable. A User change may need to be questioned or a cost problem resolved. The key is having the right attitude. Adjustments can often be made later to bring the project back to the original schedule.

Once a project has been identified by the Base, it must be approved, prioritized by fiscal years, and recommended by the MAJCOM to HQ USAF/ILEC. The project requirements are then validated by HQ USAF/ILEC and approved by the Air Force corporate structure. HQ USAF/ILEC notifies the MAJCOM of an approved project by issuing a Planning Instruction (PI). This PI is the formal notification that the MAJCOM may, barring any need for Title 10 U.S.C. 2807 actions, start design subject to any limitations stated in the PI.

HQ USAF/ILEC may restrict the level of design if the expected design fees will exceed \$500,000 (requiring Title 10 U.S.C. 2807 notification to Congress) or because of unusual circumstances. Otherwise, the MAJCOM determines and authorizes the appropriate level of design based upon design funds availability and the level of confidence that the project will be approved in the budget process. The MAJCOM issues a Design Instruction (DI) and

It takes experience and a "gut feel" to be a good Project Manager.

Each project will present you with new challenges; knowing when and where to look up the rules, or which person to ask, is as important as knowing the rules themselves.

will be approved in the budget process. The MAJCOM issues a Design Instruction (DI) and may authorize the Design Agent (DA) to initiate design activities. See Chapter 9 for unique nonappropriated fund (NAF) requirements.

II. MILCON Process

It is important that AF PMs understand the basic element of the MILCON cycle, as depicted in Figure 1-1. This cycle consists of planning, programming, design and construction elements. This guide focuses on the design and construction elements.

The MILCON process shown in Figures 1-2 and 1-3 was developed to encourage better definition of project requirements, greater customer involvement, and use of parametric cost estimating tools. This process confirms the project scope, site location, and estimated construction costs in sufficient detail to ensure the MAJCOM has an executable project.

The advanced planning phase of a project is outlined by the Requirements and Management Plan (RAMP). The RAMP consists of two interrelated parts - the Requirements Document (RD) and the Project Management Plan (PMP). The RD consists of a detailed description of the project requirements, site conditions, and identification of special or atypical costs. A parametric cost estimate is developed based on these project requirements and serves as the basis for determining the DD Form 1391 programmed amount (PA). The PMP identifies the project management team and project strategic decisions, including who will design the project, when the project is needed, and the acquisition method.

When the RAMP is prepared, all environmental requirements must be identified, and National Environmental Policy Act (NEPA) documents such as the Environmental Impact Analysis Process (EIAP) must be initiated. These RAMP initiatives are identified as advanced planning activities and must be paid for with operations and maintenance (O&M) funds rather than planning and design (P&D) funds in accordance with Title 10 U.S.C. 2854.

The Base and the MAJCOM should initiate RAMP activities for all projects expected to be submitted to HQ USAF/ILEC per the annual MILCON call letter. Initiation of these RAMP activities does not require HQ USAF/ILEC approval or issuance of the initial PI; however, the RAMP must be completed by the time the project is submitted to HQ USAF/ILEC for the MILCON program.

The MAJCOM Field Design Instruction (DI) should be issued to the Design Manager (DM) (if a different person from the AF PM) not later than thirty days prior to completion of the RAMP. This will permit the DM to authorize the Design Agent (DA) to participate in the preparation of the PMP and allow initiation of all administrative actions leading up to start of design. The MAJCOM must issue a Field DI to the DA - most frequently the U.S. Army Corps of Engineers (COE) or Naval Facilities Engineering Command (NAVFAC) - before the Predefinition Conference. Also, the RD must be provided to the AF PM prior to the Predefinition Conference to allow adequate preparation time by the DA, and architect-engineering (A-E) firm or DA in-house staff.

In Chapter 3, A-E Services Acquisition, many issues are examined. If it is determined that in-house design resources are unavailable, the AF PM's familiarity with the A-E selection process is critical. The A-E selection process may begin once the AF PM has received proper notification. Since the A-E selection is the most regulated phase in the design and construction process, the AF PM's understanding of the fundamentals is a prerequisite. The selection process may range from a simple selection of a pre-qualified A-E, to a more involved requirement to advertise for submittal of A-E qualifications in the Commerce Business Daily (CBD).

The AF PM must work with the DA to establish the optimal delivery method for the project. While the design-bid-build (D-B-B) process has been accepted practice within the Government for years, design-build (D-B) is relatively new to the federal acquisition system. With the 1999 revisions to the Federal Acquisition Regulation (FAR), design-build contract award is a negotiated process rather than based on low bid. The AF PM must be

aware that preparation of the preliminary design and request for proposal documents, the source selection process, and even management of the design-build contract requirements are different from the traditional design-bid-build process. See Chapter 8, Design-Build Facility Acquisition, for additional information.

As design starts, the AF PM will be responsible for building the appropriate team for the project. The AF PM should learn the roles of each of the players and the products necessary for a successful project. Actual design start-up begins with the Predefinition Conference. This meeting is the most critical for establishing a clear direction for the project and project team.

Following the Predefinition Conference and the Notice to Proceed (NTP) to the selected A-E firm or DA in-house staff, the design effort accelerates. Conceptually the design process is broken into two phases. In the first phase of Project Definition (PD), the project requirements are determined, conceptual plans are developed, and the parametric cost estimate is validated by the A-E. The second phase is Contract Document Development. Through continuing dialog and project reviews, the conceptual documents are developed into working drawings and specifications and finally into the contract documents used to solicit bids for construction.

Knowledge of the construction contract award process and of the construction process itself are the next steps in ensuring the success of the AF PM's project. The AF PM's role during construction is significantly diminished; however, understanding the process is critical to processing change orders and to accomplishing project close-out.

Chapter 9, Nonappropriated Fund (NAF) Projects, is not intended to be the definitive guide to NAF projects, but does attempt to relate NAF requirements to the MILCON process and to alert the AF PM to particular areas of concern.

The NAF process has unique requirements relating to funding, reporting, and oversight. The material in this Guide enhances the AF PM's understanding of: AFI 32-1022, Planning and Programming Nonappropriated Fund Facility Projects; AFI 34-201, Use of Nonappropriated Funds; AFI 34-205, Programming for Nonappropriated Fund Facility Requirements; and AFI 34-209, Nonappropriated Fund Financial Management and Accounting. All of these AFIs relate to planning, programming, and cost control for NAF projects.

This Guide would be incomplete without a discussion of cost control. Cost control is of great importance throughout the entire process, especially since the AF PM is the focal point for most cost control measures for MILCON projects.

This Guide is a consolidation of a number of areas of the MILCON process. Numerous documents have been referenced throughout, as well as appendices, for those wishing greater detail on particular topics.

For an overview of the programming, design, and construction process for MILCON projects, see Figure 1-2, which illustrates the various activities, submittal dates, and approval processes associated with projects submitted in the biannual President's Budget. The dates shown in Figure 1-2 represent projects submitted for the FY 2002 and FY 2003 MILCON programs. See the latest HQ USAF/ILEC Annual MILCON Call Letter for additional guidance and requirements.

Programming & Design Process FY02/02 MILCON Projects

12 October, 1999

Fig I-2

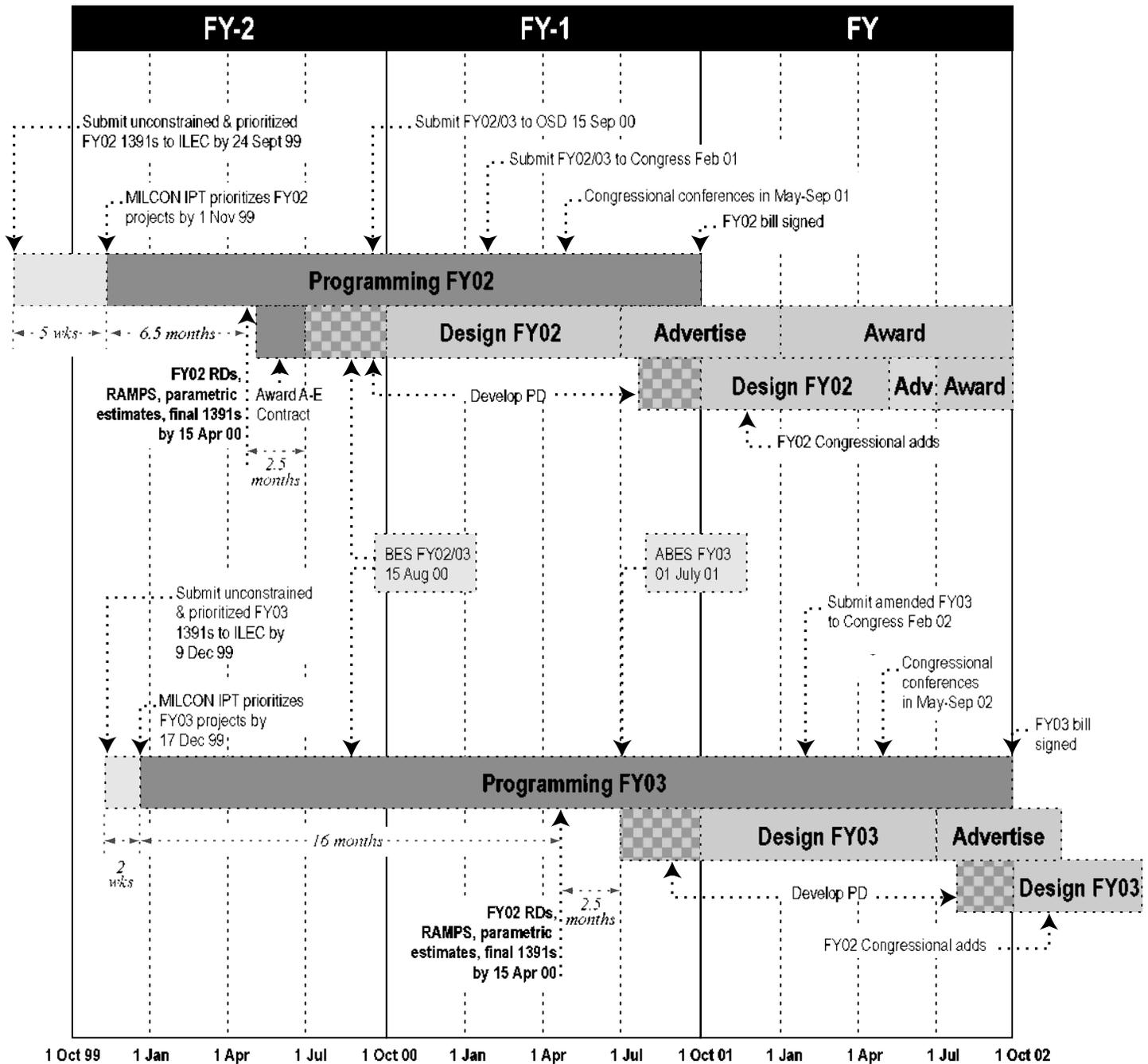


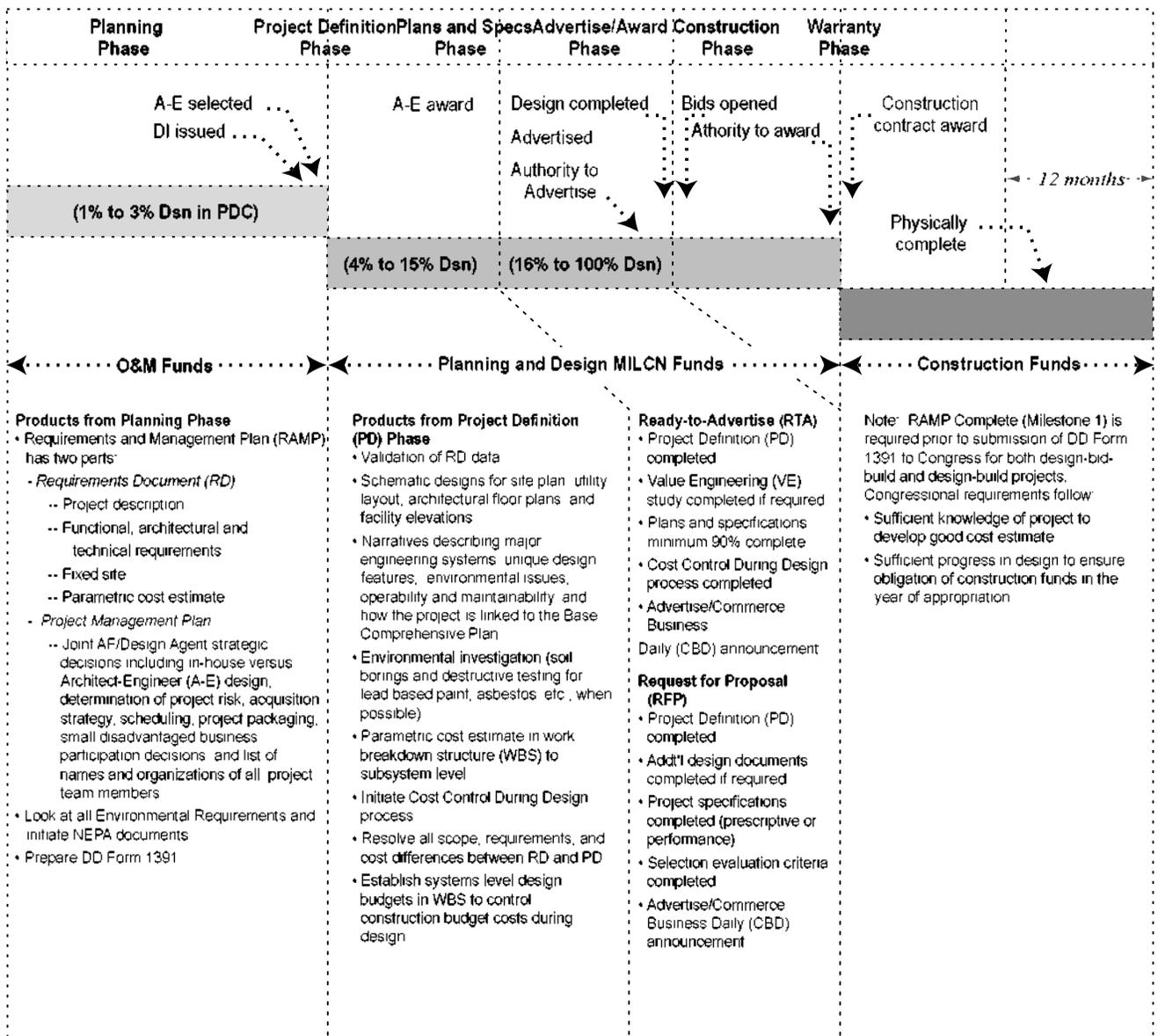
Figure 1-3 shows the various milestones and activities associated with the planning, design, and construction of MILCON projects.

Major Project Milestones and Phases for MILCON Projects

12 October, 1999

Fig 1-3

Milestone 1	Milestone 2	Milestone 3	Milestone 4	Milestone 5	Milestone 6	
Design/Bid/Build	RAMP Complete	PD Complete	Ready to advertise	Construction Contract Award	BOD	Financial Complete
Design/Build	RAMP Complete	PD Complete	RFP Complete	Construction Contract Award	BOD	Financial Complete



2 Before Design Starts

Important Authorizations, Documents, Decisions, Selection of Designer and Schedules

Contents		
	I. Introduction	2
	II. Requirements and Management Plan (RAMP), Parametric Cost Estimate	2
	A. Requirements Document (RD)	2
	B. Project Management Plan (PMP)	3
	C. Parametric Cost Estimate	3
	D. Environmental Concerns and Permits During Design	4
	1. Predefinition Conference	5
	2. Project Definition Preliminary Design Submittal	5
	3. Ready to Advertise (RTA)	5
	III. Authorizations	5
	A. DD Form 1391, FY __ Military Construction Project Data	5
	B. Congressional Notification Action(Title 10 USC Section 2807)	6
	IV. Documents	6
	A. Planning Instruction (PI)	6
	B. Design Instruction (DI)	6
	C. Field Design Instruction (Field DI)	7
	V. Decisions	8
	A. Delivery Strategy	8
	B. Delivery Methods	8
	C. Contract Types	9
	VI. Selection of Designer	9
	A. In-House Designer	9
	B. Architectural-Engineering Design	10
	VII. Schedules	10
	A. Design Agent Schedules	10

Reference Documents

[MILCON COACH](#)

[USAF Environmentally Responsible Facilities Design Guide](#) and other information on sustainable development

[AFI 32-1023, Design and Construction Standards and Execution of Facility Construction Projects](#)

2 Before Design Starts

I. Introduction

It is critical to the Military Construction (MILCON) design and construction contract award process to ensure that the project scope and cost requirements are sufficiently identified during the programming phase.

The requirements identified at Base level and identified in the DD Form 1391 to the MAJCOM must be supported by the preparation of a thoroughly developed Requirements and Management Plan (RAMP), and a programmed amount (PA) based on a parametric cost estimate or another acceptable and reliable basis. The decisions made during the project planning and design process, the selection of the right design team, and the establishment of project schedules will all come together in this document to make or break a project.

The Base Civil Engineer (BCE), Major Command (MAJCOM), and ultimately HQ USAF/ILEC generally establish primary facility costs by using a parametric cost estimate based on the specific design and construction requirements for the particular project. Any primary facility unit cost based on a parametric estimate must be compared with the primary facility unit cost for that facility type approved by the Office of the Secretary of Defense (OSD). Whenever the proposed unit cost exceeds the OSD unit cost, reasons for the higher unit cost must be clearly identified on the DD Form 1391 or the primary facility cost will be reduced during the MILCON review process. Establish supporting facility costs on proper identification of specific site conditions rather than solely on a facility type average supporting facility cost percentage.

II. Requirements and Management Plan (RAMP) and the Parametric Cost Estimate

The Air Force Project Manager (AF PM) must ensure the RAMP has been completed by the BCE or MAJCOM Civil Engineering staffs or by an architect-engineering (A-E) firm under contract by the BCE, MAJCOM, or Design Agent (DA). A comprehensive RAMP is achieved through discussion of the project with the MAJCOM, Base, and User. Future difficulties can be minimized if time is taken up front to understand how the project will develop and how the resulting facility will function. This level of thoroughness in a RAMP helps avoid considerable delay later in the design process. A RAMP checklist is at [Appendix 1, RAMP Checklist](#). The MAJCOM and the Base must complete a RAMP by the time the DD Form 1391 is submitted by the MAJCOM to HQ USAF/ILEC for inclusion in the MILCON program.

The RAMP consists of two components: the Requirements Document (RD), and the Project Management Plan (PMP). Sample documents are available in [MILCON COACH](#) at www.afcee.brooks.af.mil/DC/products/Dcproducts.asp, under Products and Services.

A. Requirements Document (RD)

The BCE and the MAJCOM are jointly responsible for timely completion of the Requirements Document. The Requirements Document serves three important purposes during the planning and design process. The primary purpose of the Requirements Document is to ensure that the User's functional and technical requirements are accurately defined, the project scope is based on those requirements, facility and site requirements are described in sufficient detail on the DD Form 1391, and the programmed amount (PA) shown is supported by a reasonable cost estimate based on the project requirements. See [Appendix 3, Cost Control](#).

The second purpose of the Requirements Document is to provide the Design Agent (DA) and the A-E firm project planning information used in negotiating the design contract. The third purpose of the Requirements Document is to serve as the initial reference point for starting the Project Definition (PD) phase of the project design process.

The MAJCOM and BCE staffs must work with the User to thoroughly and accurately identify the project requirements, evaluate site conditions, and identify supporting facility requirements. MAJCOMs are encouraged to use design charrettes, squatter sessions, and value engineering analyses - all are effective tools to more accurately identify User requirements and to establish the basic project design and cost parameters.

The type of information required to prepare a good Requirements Document is very similar to the information needed to prepare a good Project Definition. See [Appendix 3, Cost Control During Design](#). Some bases and MAJCOMs use the Design Agent to prepare the Requirements Document. There are a number of advantages to using the Design Agent for this activity:

- Supplements limited MAJCOM or BCE technical manpower.
- Often allows the Design Agent, either with in-house staff or an A-E contract, to use the same technical expertise to accomplish both the Requirements Document and the Project Definition phases.

This approach can help avoid unnecessary duplication of some activities, expedite project design, and maximize use of operations and maintenance (O&M) and planning and design (P&D) funds. The AF PM should discuss funding with the Design Agent prior to starting the Requirements Document process and negotiate fees accordingly.

The Requirements Document should be forwarded by the AF PM to the DA and prospective designers at least 30 days before the scheduled Predefinition Conference date to give everyone sufficient time to review and understand the document prior to the conference.

When design requirements change during the course of the project, the Requirements Document and the Predefinition Conference minutes are used to establish the degree of lost design effort. The AF PM shall resolve discrepancies in the Requirements Document.

B. Project Management Plan (PMP)

The AF PM is responsible for the development and implementation of the Project Management Plan portion of the RAMP. The PMP should outline the roles and responsibilities of the management team and the management groups. The PMP also will require a number of joint Air Force/DA strategic decisions, including:

- Use of DA in-house staff versus A-E design
- Determination of project risk, contract type, scheduling, project packaging, and small disadvantaged business participation decisions
- List of all project team member names and organizations

Strategic decisions on delivery strategies, delivery methods, and contract types are discussed in greater detail later in this Chapter.

When the PMP is prepared, address the use of the charrette process and value engineering analysis, plus A-E qualifications to apply to these tools. For computer-aided drafting and design (CADD) standards, see [CADD/GIS Guidance and Civil Engineer Automation Template](#) at <http://www.afcee.brooks.af.mil>, under Products and Services. An example PMP is presented at [Appendix 5 Project Management Plan](#).

C. Parametric Cost Estimate

HQ USAF/ILEC encourages the use of parametric cost estimating systems, such as the Air Force Parametric Cost Engineering System (PACES) or other approved systems, to establish the programmed amount (PA) whenever appropriate building or infrastructure software models are available. Using parametric cost estimates during the Requirements Document phase is also helpful in establishing benchmarks that are useful in controlling construction costs during the design process. See [Appendix 3, Cost Control During Design](#), for further information.

HQ AFCEA is responsible for maintaining the PACES system and developing additional building software models. The AF PM should contact that organization for information regarding training, assistance in the use of PACES, or with questions regarding a specific project cost estimate.

D. Environmental Concerns and Permits During Design

Make every effort throughout the facility delivery process to make the project environmentally sustainable. This means looking for planning, design, and construction solutions that enhance the project's environmental performance in addition to its life cycle cost. Sustainable considerations should be selected by the project team for each project and may include:

- Conserving energy, water, natural, and cultural resources
- Selecting building products based on energy conservation and recycling considerations
- Promoting indoor environmental quality by reducing toxic materials in construction, operations, and maintenance
- Minimizing air and water discharges and the generation of solid or hazardous wastes

If sustainability is considered during project planning, the majority of environmental impacts can be avoided. See the [USAF Environmentally Responsible Facilities Design Guide](#) and [other information](#) on sustainable development at www.afcee.brooks.af.mil/DC/products/Dcproducts.asp, under Products and Services, Design & Construction Directorate.

The DA should have all environmental and construction permits prepared in final form and submit them to the AF PM at the Project Definition submittal or before the 90% design submission when there is no Preliminary Design submission. The AF PM should ensure that all permit applications are reviewed and forwarded to the BCE for signature and submission to the appropriate governmental authorities as soon as they are received from the DA.

HQ USAF/ILEC will not issue a Design Instruction granting Authority to Advertise without the Environmental Impact Analysis Process (EIAP) completed and entered in the appropriate screens in PDC or ACES.

In conjunction with the construction permits, the Base must also process applications for new (or modifications to existing) environmental operating permits, e.g., State or National Pollutant Discharge Elimination System (SPDES and/or NPDES), when the use of the completed project will change the permitted operating conditions. Require the A-E and DA to analyze the project's mission and provide data on the effects the completed project will have with respect to these existing permits. The mission analysis and discharge data should be provided at the Preliminary Design (30%) submittal (AFCEE verify timing) and updated at every project submittal point that follows. Normally, the Base will begin processing new or modified operating permit applications at the Pre-Final Design submission (90%).

See Chapter 8 for additional information regarding design-build (D-B) contracts.

Several types of permits or licenses may be applicable to a particular project. Examples of construction permits or licenses that may be required include:

- Air Quality Source Permits
 - Base central heating plants
 - Corrosion control operations/paint spray booths (any permit can be a show-stopper)
 - Large boilers used for building heating/cooling
 - Asbestos notification for demolition work
 - Fuel cell docks, tank farms, fuel dispensing facilities
 - Engine test cells
 - Solid waste incinerators
 - Fire training facilities
 - Power plants
- Wastewater Discharge Permits
 - NPDES/SPDES (require operational input from A-E so Base can submit annual revisions as needed)
 - Local, regional connection application permit

- Sewage lagoon, leaching fields, septic tanks, etc., permits
- Pretreatment requirement certification in conjunction with permit to discharge to a publicly owned treatment works (POTW)
- Storm Water - construction permit
- Storage Tanks (usually fuel)
 - Aboveground
 - Underground
- Wetlands/Floodplains Permits (SAF/MIQ approval may be required)
- Storm Water Permits for the completed project
- Sedimentation Control Plan (e.g., local and/or state review/approval)
- Oil/Water Separators
- Section 7 Consultation (U.S. Fish and Wildlife Agency)
- RCRA Permits for hazardous wastes (can be a showstopper)
- Water Supply Permits

To stay on top of the permit application process, review the key check points covered below:

1. Predefinite Conference

AF PM reviews project design expectations, including known and potential permits required for the project. The RAMP should identify all known permits. Asbestos abatement should be discussed for all addition/alteration projects or when demolition is required.

2. Project Definition
Preliminary Design
Submittal

The A-E and Design Agent provide completed permit applications with appropriate filing fee application checks to the AF PM for review before submittal to the Base. The Base will submit permit applications to the proper authorities.

3. Ready to Advertise
(RTA)

HQ USAF/ILEC will not grant authority to advertise a project unless the environmental impact analysis process (EIAP) has been completed and entered into the appropriate screens in PDC or ACES. The BCE also should obtain all environmental permits or have reasonable assurances from the respective regulators of obtaining the permits prior to project award.

III. Authorizations

A. DD Form 1391, FY__ Military
Construction Project Data

*The DD Form 1391 is commonly
used as a strategy document*

The DD Form 1391 document is a programming tool used to request and justify a construction need. It is generated by a Using organization's work request to the BCE. This request is reviewed and validated by the Base and checked against the General Plan, Land Use Plan, Long-Range Facilities Development Plan, and Five-Year Capital Improvement Program. The project request is further reviewed by the MAJCOM and the Air Staff during the MILCON approval process.

The DD Form 1391 is significant for several reasons. First, it defines the scope and budget cost for the project. Second, this document serves as the budgeting basis for the MAJCOM and the Air Staff in their long-range acquisition plans. Within these plans, projects are tentatively prioritized by the MAJCOM within a fiscal year.

Third, the document is used to generate future authorizations or update current authorizations for key project items such as project scope and programmed amount (PA). Lastly, this document is ultimately updated and forwarded to Congress as part of the Department of Defense (DoD) budget request. Congressional approval of a specific MILCON, Military Family Housing (MFH), Reserve, or Medical project is based on the project scope and budget shown on the DD Form 1391. During the AF PM's involvement in a project, the DD Form 1391 may go through several changes at MAJCOM, Air Staff, and DoD before the project is included in the President's Budget submitted for Congressional approval.

The AF PM should review a current copy of this document (commonly referred to simply as the 1391) and become familiar with the project scope, cost, and any unusual project

features. The AF PM should ensure the DD Form 1391, Planning Instruction (PI), Design Instructions (DIs), Field DIs, and RAMP agree. Specifically check the following:

- Scope conforms to User requirements.
- Scopes for new construction, alterations, additions, and any related demolition agree between documents.
- Identification of air conditioning loads if authorized, number of rooms for enlisted dormitory projects, and wording on other significant support items are on the DD Form 1391 and addressed in accordance with the annual HQ USAF/ILEC MILCON call letter.
- Asbestos abatement must be included for demolition, renovations or add/alter projects for facilities built before 1976.
- Antiterrorism force protection requirements, if any, are identified and addressed on the DD Form 1391 in accordance with the annual HQ USAF/ILEC MILCON call letter.
- Seismic mitigation requirements, if any, are identified and addressed on the DD Form 1391 in accordance with the annual HQ USAF/ILEC MILCON call letter.
- Sustainable development requirements are identified and addressed on the DD Form 1391 in accordance with the annual HQ USAF/ILEC MILCON call letter.
- Site conditions. If project is located on or near an Installation Restoration Program (IRP) site and cannot be re-sited, verify that the cost for cleanup is identified on the DD Form 1391 and specifically funded by the Defense Environmental Restoration Account (DERA).
- All special items incidental to the project - such as communications, local area network (LAN), TEMPEST, furnishings (including systems furniture), systems operating manuals, etc. - are properly identified as funded with non-MILCON accounts (O&M, Equipment, R&D, etc.) in accordance with the annual HQ USAF/ILEC MILCON call letter

An example DD Form 1391 can be found at [Appendix 6, DD Form 1391](#).

B. Congressional Notification
(Title 10 U.S.C. Section
2807)

When the cost of A-E design for services, a project or a group of related projects is estimated to exceed \$500,000, Congress must be notified to allow comment on the proposed action before publishing the CBD synopsis. HQ USAF/ILEC will initiate this Congressional notification and will notify the MAJCOM when DoD submits the notification package to Congress. Staffing actions for "2807 notification" typically take 30-45 days. The CBD synopsis can be published once HQ USAF/ILEC has issued a Design Instruction in PDC or ACES stating that the notification action is completed.

It is the AF PM's responsibility to check the appropriate screen in PDC or ACES and follow up at the end of the 30-45 day period if HQ USAF/ILEC has not issued a DI.

IV. Documents

A. Planning Instruction (PI)

A HQ USAF/ILEC Planning Instruction (PI) advises the MAJCOM that it may finalize planning actions on a project, changes the project from programming status to design status, and, barring any need for 2807 notification to the Congress, authorizes the MAJCOM to initiate design at the MAJCOM's discretion subject to limitations stated in the PI. HQ USAF/ILEC will provide a copy of the PI to the AF PM.

The AF PM has 60 days after the issuance of the Planning Instruction to review for adequacy of design criteria and consistency between the DD Form 1391, and the RAMP.

B. Design Instruction (DI)

After HQ USAF/ILEC issues the initial Planning Instruction (PI) to the MAJCOM, subsequent HQ USAF/ILEC instructions to the MAJCOM are issued as Design Instructions (DIs). DIs inform the MAJCOM when the 2807 notification is complete;

identify changes in project status, scope, Programmed Amount; grant Authority to Advertise and Authority to Award; and identify other actions that affect the project. Compare the official DD Form 1391 in PDC or ACES with the HQ USAF/ILEC PI and subsequent DIs for consistency in scope and PA. It is important that the DD Form 1391, PI, and DIs match to ensure that the Design Agent will clearly understand the project and its limits. Occasionally, other requirements are included in the PI, the DIs, and the DD Form 1391 such as "phased PA", a "solar PA", or a secondary scope. These are also project requirements that must be passed on to the Design Agent in the Field DI.

C. Field Design Instruction (Field DI)

Upon receipt of the PI from HQ USAF/ILEC, the MAJCOM (AF PM) issues Field Design Instructions (Field DIs) that initiate the design process and provide other instructions to the Design Agent (DA). The MAJCOM Field DI is the authority to start design actions such as A-E selection and award, site investigation, and design. The authorization includes as a minimum the project title, program, the "design to" authority, Programmed Amount, and scope. The authorization may limit the design to something less than 100% because of availability of funds, 2807 notification requirements, or project uncertainties.

The initial Field DI typically includes (in addition to the HQ USAF/ILEC PI limitations and authorizations) instructions on the use of general design guidance, value engineering (VE), site adaptation, delivery method, site access, comprehensive interior design (CID), and special design schedule requirements, as well as copies of the Commerce Business Daily (CBD) announcement and the DD Form 1391.

It is important to issue the Field DI promptly since it is critical to successful and timely design completion. In the unlikely event that a RAMP is not available, issue the Field DI without it, but work with the MAJCOM and the Base to get the RAMP completed as quickly as possible. The DA cannot proceed past A-E selection without the RAMP. Issue follow-on Field DIs to the DA as the HQ USAF/ILEC DIs are received. The follow-on Field DIs should include only the changes and updates to the initial Field DI. The AF PM should provide copies of all Field DIs and their attachments, as necessary, to all appropriate organizations.

Prompt issuance of the Field DI, as with any project management action, sets the tone for others involved with the project. The quality of the information must not be compromised.

The MAJCOM issues the authority to proceed with design at the following stages, based on project validation and required milestones for Congressional approval:

- Selection of A-E (2%). Includes the Predefinition Conference, A-E negotiations, and all other associated activities up to, but excluding, award of design contract.
- Notice to Proceed (3%). Directs the A-E under contract or Design Agent in-house staff to initiate design.
- Project Definition (15%). Includes completion of sufficient investigation and design to validate the project requirements identified in the Requirements Document as amended during the Predefinition Conference, and by subsequent information provided by the MAJCOM and Design Agent; includes a parametric cost estimate based on those requirements; resolves all scope, requirements, and cost differences through the Cost Control During Design process; and enables the A-E to brief the User, AF PM, and MAJCOM.
- Early Preliminary Design (30%), if required.
- Preliminary Design (60%), if required. This is an informal, over-the-shoulder review for most projects. However, the User, AF PM, or DA may believe it is necessary for the A-E to stop design and provide a formal submittal for review and approval at this stage of the Contract Document Development phase. This formal review may be necessary on large or complex projects.
- Pre-Final Design (90%). Completion of design and preparation of IFB or design-build RFP documents.

See Chapter 9 for nonappropriated fund (NAF) requirements.

The AF PM must issue a Field DI authorizing the DA to proceed with design. Nothing happens without it.

Throughout the design process, the AF PM must review design criteria for adequacy and consistency between the RAMP, official DD Form 1391, the HQ USAF/ILEC PI and subsequent DIs, MAJCOM Field DIs, and the Project Definition. The project and siting should be consistent with the General Plan, Land Use Plan, Base Architectural Compatibility Plan, General Plan, 5-year Capital Improvement Plan, and Tab M-3 to ensure there are no conflicts with numerous planning criteria and environmental concerns.

At a minimum, the "Required Certifications" screen in PDC or ACES should be reviewed to determine if the siting has been approved or if any conflicts exist with the siting criteria. Work with all members of the project team to resolve regulations, technical orders (TOs), engineering technical letters (ETLs), governing codes, or anything that would cause the design to exceed the HQ USAF/ILEC or MAJCOM authorizations.

V. Decisions

Experience has shown that a right decision made at the wrong time has more adverse impact than a wrong decision made at the right time.

Although discrepancy resolution is often possible during the Predefinition Conference, the AF PM should resolve major conflicts before the conference. In order for the A-E to make a responsible fee proposal or to start design, be clear on project criteria. When discrepancies still exist at the Predefinition Conference, provide instructions to the DA based on good judgment, MAJCOM and User input, project need dates, and other pertinent information.

A. Delivery Strategy

During PMP development, the AF PM should decide the appropriate project delivery (business) strategy in conjunction with the Design Agent, MAJCOM, Base, and HQ USAF/ILEC, when necessary. The project team can find many processes to deliver the product with innovative thinking, good teamwork, and an understanding of project influences. The AF PM needs a good understanding of the real project objectives and their relative priority, the Design Agent's and Air Force's organizations and capabilities, and the needs of other involved organizations to help the project team to make critical decisions. To establish a strategy, the Air Force must decide, with the Design Agent's recommendations, on the following crucial issues:

- The number of contracts (design and construction) to manage (one or many)
- The relationship (agent, vendor, etc.,) the Air Force or Design Agent will have with each A-E, Contractor, or trade contractor
- The method of payment (dependent upon type of contract — cost plus, fixed price, etc.)
- The manner in which the construction Contractor will be selected (qualifications, price, best value, etc.)
- The extent of definition needed for control before letting a construction or design-build contract.

Each of these considerations represents a spectrum of possibilities driven by the nature and circumstances of the particular project. Selection of the delivery method and contract type set the framework for the determining the appropriate project acquisition strategy. The following lists and two reference tables provide only a starting point for creative thinking since the variations are limitless.

B. Delivery Methods

- Traditional
 - Plans and specifications
 - Simplified plans and specifications
 - Site Adaptation
- Design-Build (see Chapter 8 for additional information)
 - Turnkey
 - One-Step
 - Two-Phase
- Fast Track
- Integrated Design and Construction Management
- Advance Mobilization and Procurement

See [Appendix 7, Construction Project Delivery Methods](#) for further information on project delivery methods.

C. Contract Types

- Firm Fixed Price (FAR Sub-part 16.2): May be lump sum, unit price, or combination, depending on quantity or condition variations anticipated
- Fixed Price with Award Fees (FAR 16.404)
- Fixed Price with Economic Price Adjustment (FAR 16.203)
- Fixed Price Incentive (FAR 16.403)*
- Cost Plus Incentive Fee (FAR 16.304)*
- Cost Plus Award Fee (FAR 16.305)*
- Cost Plus Fixed Fee (FAR 16.306)*
- Letter Contract, FAR 16.603*

* Indicates Air Staff or higher approval required.

See [Appendix 8, Contract Types](#) for further description and application information.

VI. Selection of Design

A. In-House Design

Some Design Agents (DA) elect to accomplish a portion of their design program with in-house personnel to enable their technical personnel to stay with current criteria, codes, materials, and design and construction practices. Use of in-house staff is primarily a MAJCOM and Base decision and should be based upon the in-house staff expertise and workload.

Using in-house staff usually will allow design to start sooner than with an A-E firm because of the time required for public notice, A-E selection, audit, and negotiations. Many of the problems encountered in designing a classified project disappear with this approach. However, the overall design time generally takes longer.

The AF PM and DA should jointly consider all special project requirements, the technical qualifications of the proposed design team members, the delivery strategy, the design schedule and milestones, the facility critical need dates, and Air Force goals before the final decision is made to use an in-house design team. Historical performance is a good indicator of what to expect in terms of quality, timeliness and responsiveness of in-house design teams. The AF PM should ensure Air Force participation in the decision when in-house design is considered by the DA.

B. Architectural-Engineering Design

Once the AF PM and DA have decided to use an A-E firm for the design, they must allow a 30-day period for response to the announcement in the Commerce Business Daily (CBD). Exceptions to this requirement are included in the Federal Acquisition Regulations 5.203 and include A-E services with fees under \$100K, work orders on open end contracts, Small Business 8(a) set-aside contracts and certain emergency projects.

The CBD announcement provides a synopsis of the project, special qualifications, delivery method, expertise, special requirements (such as fire protection, asbestos, security, TEMPEST, CADD, etc.) required of the A-E, selection criteria, and specific submittal requirements including SF 254 and SF 255 to establish qualifications.

The AF PM must furnish the DA with a good project description, critical need dates, and any special expertise required. A-Es responding to the CBD must be able to relate their recent specific experience and expertise to the project. When advertising for A-E services in the CBD, include a sentence to the effect that the A-E will be required to have multi-disciplinary, sustainable development, and detailed cost estimating capabilities. Few A-Es have such capabilities and will have to retain the appropriate consultants.

Firms desiring consideration must respond to the announcement on or before the closing date. The DA establishes formally constituted A-E Pre-selection and Selection Boards.

The AF PM or designated representative should participate on the Selection Board as a voting member. The AFPM or designated representative should request appointment to the Pre-selection Board for critical, complex, or high dollar projects. Other interested Air Force personnel may attend as observers. Air Force A-E selections are governed by AFI 32-1023, Design and Construction Standards and Execution of Facility Construction Projects.

The selection process is a very serious matter. The boards should be made up of experienced engineers and architects, preferably registered. The Selection Board must be chaired by a registered engineer or architect or a certified planner. An individual may not serve on both Pre-selection and Selection Boards. See AFI 32-1023 for additional information.

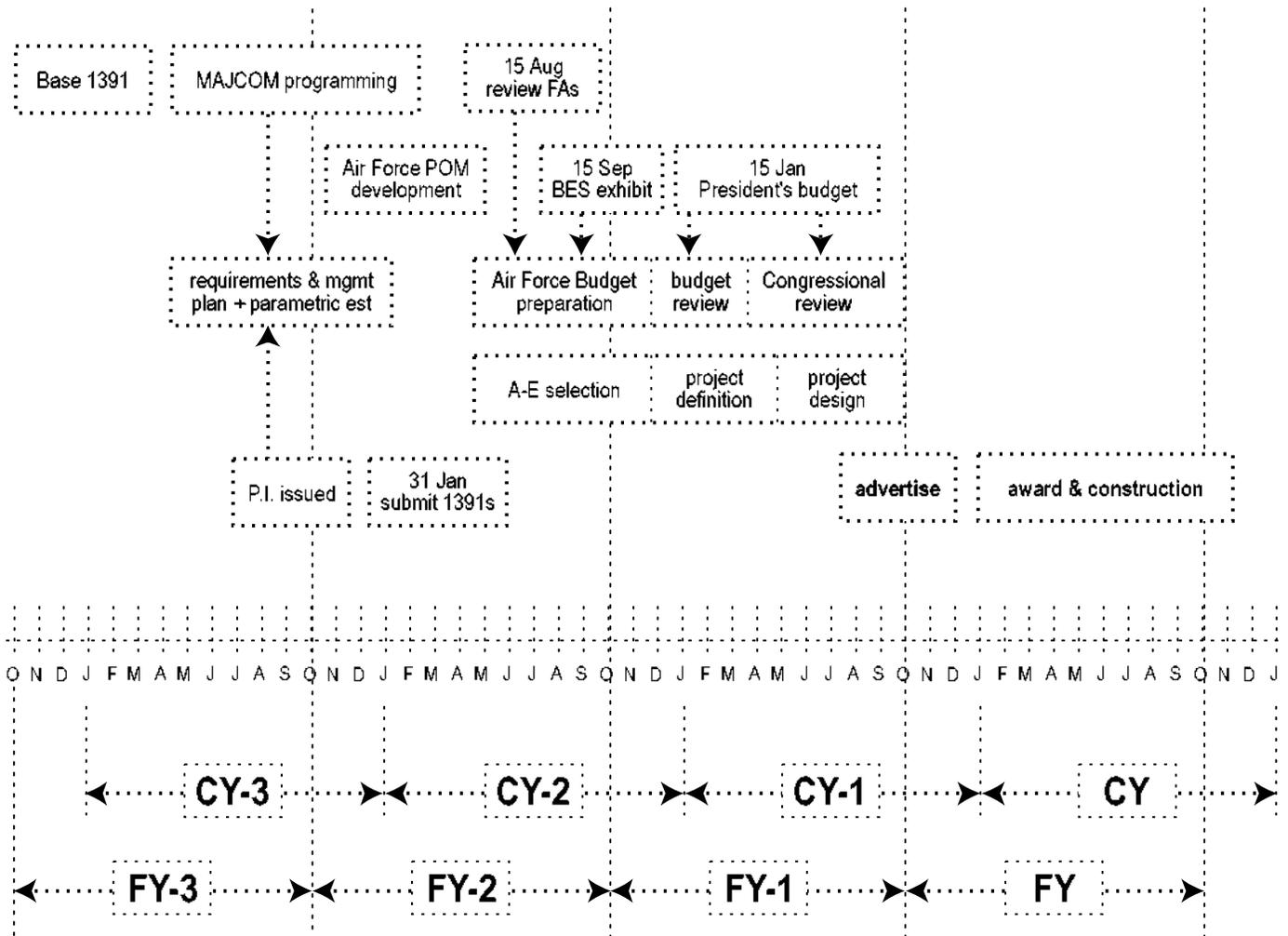
VII. Schedules

A. Design Agent Schedules

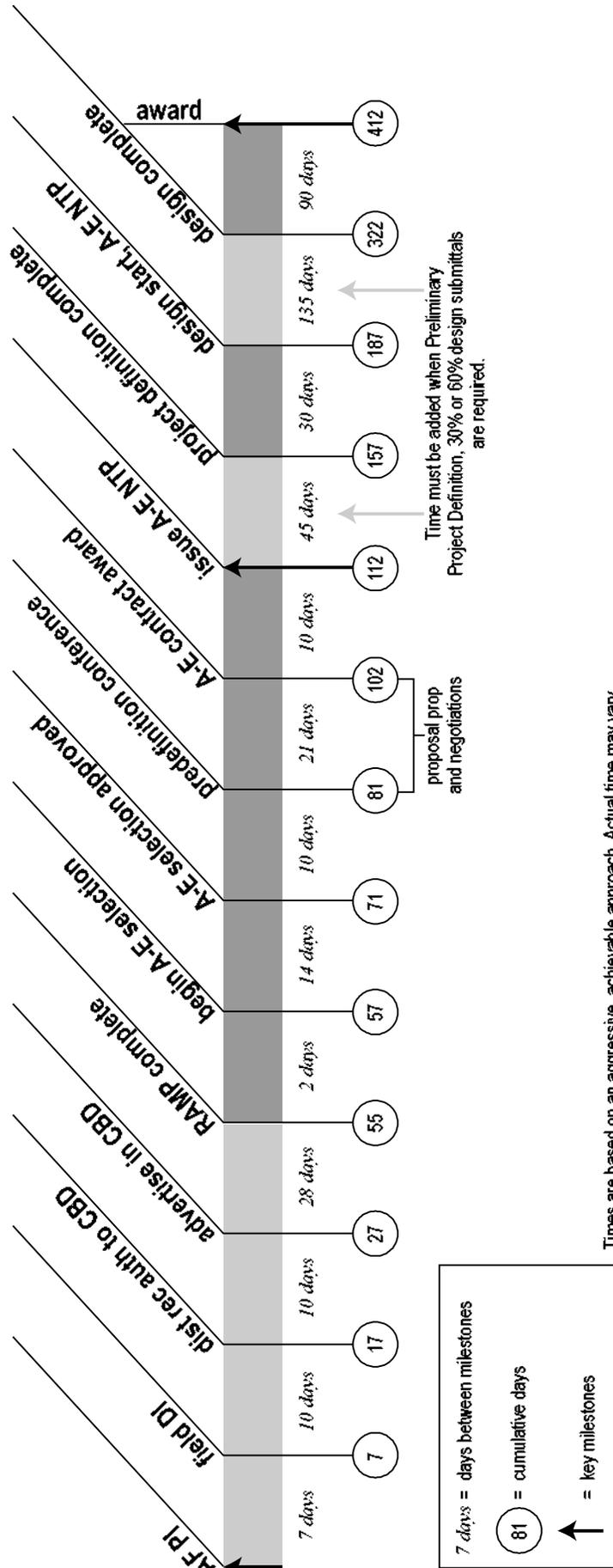
The AF PM should require the DA to provide the shortest possible realistic design schedule within 30 days of receipt of the initial Field DI. The AF PM should receive a preliminary design schedule within 10 days of issuance of the Field DI for initial input into the PDC or ACES. This schedule will be used to evaluate the DA schedule. The AF PM should revise the PDC or ACES, as necessary, after acceptance of the DA schedule. Review the schedule and compare it with the historical averages. Question the DA if significant differences occur. Adjustments may be required to meet Air Force goals.

MILCON Process

Fig 2-1



Project Time Bar A
A-E Fee Less Than \$300,000
(Typical AF DI Construction Contract Award)



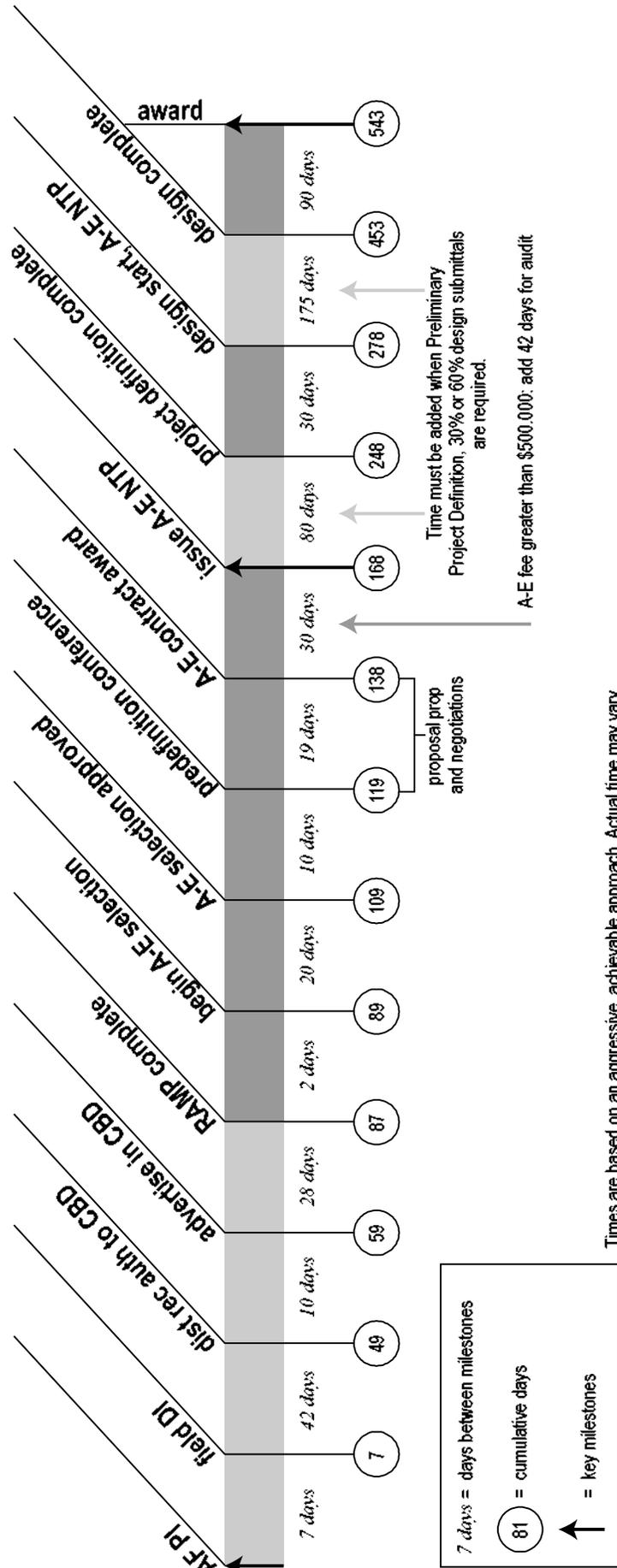
Times are based on an aggressive, achievable approach. Actual time may vary.

Fig 2-2

Project Time Bar B

A-E Fee Less Than \$300,000*

(Typical AF DI Construction Contract Award)



Times are based on an aggressive, achievable approach. Actual time may vary.

Fig 2-3

Historical (Typical) Average Design Period

Table 2-1

If PA is:	Then time is from AF PI to...		
	NTP	PD	RTA
<\$5M	4 months	6 months	11 months
\$5-10M	6 months	9 months	15 months
>%10M	7 months	10 months	17 months

In-house design schedules will require less time up front because there is no CBD announcement, A-E selection process, audit or negotiations; however, in-house design generally takes longer.

Additional Design Period Considerations

(A-E Fee >\$500,000)

Table 2-2

Factors impacting time considerations	Impact
Congressional Notification (Title 10 U.S.C. Section 2807)	45-60 days
DCAA Audit	42 days minimum

Chapter 3 - A-E Services Acquisition

Contents	I. Introduction	3
	II. Legislation	3
	III. A-E Selection Process and Approval Requirements	3
	A. A-E Slate Selection Approvals – Standard A-E Contracts	3
	B. A-E Slate Selection Approvals – Indefinite Delivery Indefinite Quantity A-E Contracts	4
	C. Selection Approval Authority Responsibilities	4
	D. Title 10 U.S.C. 2807 Notification	4
	E. DCAA Audit	4
	F. Other Approvals	5
	IV. Purchase Request/Certification of Funds for Project Design or A-E Services	5
	V. Preparing the Commerce Business Daily (CBD) Synopsis	5
	A. The Necessity and Procedure for Preparing a Synopsis	5
	B. Preparing the CBD Synopsis	6
	C. A-E Evaluation Criteria Included in the Synopsis	6
	D. Architect-Engineering (A-E) Services	7
	VI. Preparing the A-E Statement of Work (SOW)	9
	VII. Independent Government Estimate (IGE)	11
	A. Preparing the IGE	11
	B. Coordination of the IGE	12
	VIII. Preselection and Selection Board Appointments	12
	IX. Log-In of Standard Forms 254 & 255	13
	X. Weighting A-E Evaluation Factors	13
	XI. Preselection Board	14
	A. Membership and Coordination	14
	B. A-E Evaluation Process	14
	C. Responsibilities	15
	D. Products	16
	XII. Notification of Short-Listed Firms	16
	XIII. Selection Board	17
	A. Membership and Organization	17
	B. A-E Evaluation Process	17
	XIV. A-E Selection to the Contracting Officer	18
Reference Documents	Title 10 U.S.C. 2807 , Architectural and engineering services and construction design (Appendix 4)	
	Title 10 U.S.C. 4540, Architectural and engineering services (Army)	
	Title 10 U.S.C. 7212, Employment of outside architects and engineers (Navy)	
	Title 10 U.S.C. 9540, Architectural and engineering services (Air Force)	
	Title 15 U.S.C. 631, <i>et seq.</i> , Small Business Act	

Title 41 U.S.C. 541, *et seq.*, Brooks Architect-Engineers Act (Appendix 9)

AF Form 9, *Request for Purchase* (Appendix 16)

AFI 32-1023, Design and Construction Standards and Execution of Facility Construction Projects

MILCON COACH software at <http://www.afcee.brooks.af.mil/DC/products/Dcproducts.asp>

ACASS

Federal Acquisition Regulation (FAR), Defense FAR Supplement (DFARS), and Air Force FAR Supplement (AFFARS) references <http://farsite.hill.af.mil>.

Chapter 3 - A-E Services Acquisition

I. Introduction

Perhaps no other phase of the Air Force project design and construction process is more controlled by policy and regulations than the selection of architectural and engineering (A-E) consultants. The purpose of this chapter is to help the Air Force Project Manager (AF PM) through these selection and contracting steps.

While some of the information in this Chapter applies to Operation and Maintenance (O&M), P-341, Minor Construction, Military Family Housing, Medical, and Nonappropriated Funded (NAF) projects, it is intended to address primarily the Military Construction (MILCON) program.

This chapter is written from the perspective that the Air Force Project Manager (AF PM) is the Design Agent (DA) at the MAJCOM or Base. When the AF PM is not the DA, the AF PM's responsibilities change. In these situations, the AF PM should work with the DA to review and clarify the AF PM responsibilities prior to commencement of the A-E selection process.

II. Legislation

In October 1972, Congress passed Public Law 92-582 (Title 41 United States Code 541 *et seq.*), Brooks Architect-Engineers Act, that established at the federal level a qualifications-based selection process. A copy of the Act is in [Appendix 9, Brooks Act](#). Use of the Brooks Act qualifications-based selection process for the acquisition of A-E services for Department of Defense construction projects is covered in detail in the Federal Acquisition Regulations (FAR) 36.6, Department of Defense FAR Supplement (DFARS) 236.6, and Air Force FAR Supplement (AFFARS) 5336.6. See AFI 32-1023, Chapter 3, for additional guidance. All Air Force personnel involved in the A-E selection process must be knowledgeable in the application of these regulations and Air Force civil engineering policy.

III. A-E Selection Process and Approval Requirements

Try to schedule the Preselection Board within 2-3 days after the closing date of the Commerce Business Daily (CBD) Synopsis; the Selection Board should be conducted within 3-5 days after the Preselection Board completes its work.

Recommend keeping an original schedule and checklist to use for possible process improvements. These may be needed as future references when changes occur.

The first step with any activity is to get organized. The AF PM should prepare an A-E Selection Checklist and A-E Selection Schedule to track the events and the responsible parties for each activity. Use the generic products available in Appendices 10 and 11 or in the [MILCON COACH](#) software at <http://www.afcee.brooks.af.mil/DC/products/Dcproducts.asp>. Review the duration of each activity with regard to the size and complexity of the project, including historical delays, and consult with the Contracting Officer.

When preparing the A-E selection schedule, make sure the total schedule duration, including any historical seasonal delays, fits into the overall Air Force program goals. If not, review the alternative delivery strategies in contracting for A-E services. Consider using an existing IDIQ A-E contract to reduce the time required for an A-E to get started.

After preparing the initial checklist, the AF PM should enter this information into the Programming, Design, and Construction (PDC) system or the Automated Civil Engineering System - Program Manager (ACES-PM), as appropriate.

Ensure all necessary approvals required in the A-E selection process are initiated and completed.

A. A-E Slate Selection Approvals – Standard A-E Contracts

AFI 32-1023, Chapter 3, establishes the requirements for A-E selection Approval Authority as follows:

- **A-E Fees of \$750,000 or less:** The Major Command (MAJCOM) Civil Engineers (CEs) and the Commanders of AFCEE and AFCEA are the selection Approval Authorities where the expected A-E fee for the life of the contract is \$750,000 or less. The MAJCOM may delegate this selection approval authority to the Base Civil Engineer (BCE) if that organization possesses the necessary technical staff

and registered professionals to satisfy the requirements for selection boards. See [Appendix 12, A-E Selection Authority Letter](#).

- **A-E Fees Greater than \$750,000:** The Civil Engineer, Headquarters U.S. Air Force (HQ USAF/ILE) is the selection Approval Authority where the expected A-E fee for the life of the contract exceeds \$750,000.

B. A-E Slate Selection Approvals –
Indefinite Delivery Indefinite
Quantity A-E Contracts

Indefinite Delivery Indefinite Quantity (IDIQ) contracts. Currently IDIQ contracts for MILCON, Minor Construction, MFH, Medical, O&M, and NAF projects consist of the basic contract year, plus four option contract years. Maximum fee limitations are \$750,000 per contract year and \$299,000 per delivery order. However, the initial delivery order in any contract year may be up to the contract year limitation, or \$750,000.

- **\$750,000 or less:** The MAJCOM CEs and the Commanders of AFCEE and AFCESA are the selection Approval Authorities for IDIQ contracts where the expected fee in any single contract year is \$750,000 or less. The MAJCOMs may delegate this authority to the BCE if that organization possesses the necessary technical staff and registered professionals to satisfy the requirements for selection boards.
- **More than \$750,000:** HQ USAF/ILE is the selection Approval Authority for IDIQ contracts where the expected A-E fee in any single contract year is expected to exceed \$750,000.
- The number of IDIQ contracts that a base may have in place generally is limited only by the requirement that sufficient A-E workload exists to justify the multiple contracts and that these multiple IDIQ contracts do not unduly restrict competition. When multiple A-E contracts are awarded from a single solicitation, the fee limitations apply separately to each contract.

HQ USAF/ILE and SAF/AQC may grant waivers to these IDIQ fee limitations when justified by unusual circumstances or requirements. Two separate waiver requests are required: The MAJCOM of the requesting Base, AFCEE, or AFCESA must submit a waiver request to AFFARS 5336.691 to SAF/AQC. The MAJCOM/CE, AFCEE/CC, or AFCESA/CC also must submit a waiver request for selection Authority Approval from HQ USAF/ILEC.

C. Selection Approval Authority
Responsibilities:

- Approval of the Commerce Business Daily (CBD) announcement (or other forms of official announcement).
- Approval of the proposed membership of the selection board(s) prior to release of the CBD announcement
- Approval of the Preselection Board and Selection Board appointment letters. See AFI 32-1023, Chapter 3, and Section VIII in this Chapter for additional information.
- Approval of the Preselection Board minutes (when required).
- Approval of the Selection Board minutes and the final A-E slate.

D. Title 10 U.S.C. 2807
Notification

The AF PM should check to see that the Title 10 U.S.C. 2807 action, has been initiated. This action is required when the cost of A-E services for a project, or a group of projects, is estimated to be greater than \$500,000. If required, Congress must be notified by SAF/MII. This notification process will typically take 30 - 45 days. Until the notification process is completed, the A-E contract cannot be awarded and a delivery order for an existing IDIQ A-E contract cannot be processed. The AF PM must ensure that time for this process is included in the A-E Selection Schedule.

The notification required by Title 10 U.S.C. 2807 does not apply to IDIQ A-E contracts. See [Appendix 4, Title 10 U.S.C. 2807](#) for information on Title 10 U.S.C. 2807.

E. DCAA Audit

Depending upon determination of Contracting Officer, A-E audits from other agencies may be used to satisfy the DCAA requirement.

The AF PM should use a fee estimate for direct design based on a level of effort not to exceed 6% of the construction costs. If the design fees are \$500,000 or greater and the A-E has not been audited by the Defense Contracting Auditing Agency (DCAA) within the past twelve months, then an audit is appropriate. See FAR 15.403-4 and 15.404-2. The

AF PM should note that local Contracting Officer policy may be more stringent, and an A-E audit every six months may be the local practice. Since no A-E selection has been made at this point, add approximately 45 - 60 days to the A-E Selection Schedule for the audit.

F. Other Approvals

Since most open-end A-E acquisitions take months, MAJCOMs and bases should initiate actions for follow-on IDIQ contracts at the beginning of the final option year for any current IDIQ contracts.

A-E contracts and Pre-Business Clearance Memos on contracts \$500,000 and greater require MAJCOM approval. This approval adds to the project timeline and must be reflected in the A-E Selection Schedule. The AF PM must coordinate with the Contracting Officer and the relevant approval authorities to determine anticipated delays in these processes.

IV. Purchase Request/Certification of Funds for Project Design or A-E Services

The MAJCOM or Base must determine if the funds request can be processed through normal procedures. If it is urgent, the AF PM should hand-carry the funds request through the process.

The AF PM should verify early in the A-E selection process that funds are available for A-E services. Funds may come from the MAJCOM or other sponsoring activity outside of Base sources. Lack of funds at this point can stop the process.

The AF PM's estimate of funds for A-E services should be based upon a scoping of requirements and historical data on similar projects. However, the funded amount for IDIQ contracts must be equal to or greater than the contract minimum guaranteed amount. Check with the Contracting Officer for any locally required procedures and forms.

The AF PM initiates a Purchase Request (AF Form 9, *Request for Purchase*, or other local form) identifying the funding amount required and providing a description of A-E services. The AF PM sends the Purchase Request to the appropriate MAJCOM or Base Financial Management office that validates funds availability and processes the funding document. The Contracting Officer maintains the funding document with the project file.

The AF PM must include a statement on Ozone Depleting Substances (ODS) on each funding request document. See [Appendix 13, Ozone Depleting Substances Statement](#) for an example of the ODS statement required by AFFARS 5323.890-7 and 5352.223-9000.

The commitment of funds letter and/or AF Form 9 should include as a minimum:

- PDC or ACES-PM project number, fiscal year, and project name
- Base location
- Amount of funds being reserved for the project
- Where the funds are held, i.e. MAJCOM, Base, etc.
- When funds will be made available, which must be prior to the Contracting Officer issuing the Request for Proposal to the A-E
- Letter signed by authorized Financial Manager

See samples of the following certification and reservation of funds documents in [Appendices 14, 15, and 16](#) respectively, or in the [MILCON COACH](#) products pick list at <http://www.afcee.brooks.af.mil/DC/products/Dcproducts.asp>.

- AF Form 9
- MAJCOM Commitment of Funds letter
- MAJCOM Commitment of Funds message

V. Preparing the Commerce Business Daily (CBD) Synopsis

A. The Necessity and Procedure for Preparing a Synopsis

Generally, a CBD announcement is not required if expected A-E fees are less than the small purchase amount or the project will be a Small Business 8(a) set-aside. Check with AFFARS 5336.690 and the Contracting Officer regarding 8(a) requirements.

If the project's scope or requirements are unclear, the AF PM must contact the User for clarification. If the Project Management Plan (PMP) and Requirements Document (RD) have not been completed, certain key issues and strategic decisions must be settled now and reviewed with the Contracting Officer prior to preparation and completion of the CBD synopsis.

The CBD synopsis should include: Intent of Contract, Cost Range for Required Services, Duration of Contract, Special Considerations, And a prioritized list of Evaluation Criteria to be used for A-E Selection

The AF PM prepares a draft CBD synopsis and then coordinates the review and approval of the actual synopsis. Review and signature authorities are subject to local policy.

The Contracting Officer reviews the draft CBD synopsis for compliance with Title 15 U.S.C. 631, *et seq.*, Small Business Act and, if required, sends the project synopsis to the Small and Disadvantaged Business Utilization (SADBU) Specialist for review against Small Disadvantaged Business (SDB) program requirements. The SADBU review usually requires several days. Consider this review in scheduling all of the selection phase activities. If the project is not an SDB or 8(a) set-aside project, the Contracting Officer is responsible for sending the approved synopsis to the CBD.

The SADBU review applies to both firm fixed-price and IDIQ contracts.

B. Preparing the CBD synopsis.

A sample CBD synopsis is available in [Appendix 17, CBD Synopsis](#) and in the [MILCON COACH](#) software. Modify these documents as necessary to satisfy the requirements of the particular project. Write the CBD synopsis in accordance with FAR 5.207(b) and use the correct classification code, usually Section C - Architect and Engineering Services per FAR 5.207(g). In general:

- List any special requirements or skills required by the A-E firm. Review the DD Form 1391, the Requirements Document, and the PMP; and ask the BCE staff and User about special requirements.
- When appropriate, include "experience with data gathering, analysis/design charrettes" as a part of the qualification and selection criteria. Be specific enough when outlining requirements that responding firms are able to highlight related skills and techniques. This will make the job of selecting qualified candidates easier.
- Be specific in the qualification and selection criteria. This will help A-Es avoid submitting proposals on projects for which they are not qualified, and helps avoid stacks of unqualified submissions.
- Define the project's location, scope, the construction cost range, estimated design start date, and performance period. Ensure that the announcement requires submission of both Standard Forms (SF) 254 and 255.
- Identify the construction delivery strategy to be used for the project, i.e. design-build, design-bid-build, fast-track, or other appropriate methods.
- Specify that the closing date is close of business (COB) on the 30th day following publication of the CBD announcement. If the closing day falls on a holiday or a weekend, note that the closing will be extended to (a pre-determined time on) the next business day.
- Identify the AF PM as the point of contact in the synopsis and the Contracting Officer as the recipient of the SFs 254 and 255 submittals unless the Contracting Officer delegates that responsibility to the AF PM.

When advertising for A-E services in the CBD, include a sentence in the requirements that the A-E will be required to have multi-disciplinary, detailed cost estimating capability. Few A-Es have such capability and will have to retain appropriate consultants.

Additional evaluation factors can be inserted into the synopsis selection criteria by the AF PM. These may be specific computer-aided drafting and design (CADD), geographic information system (GIS), word processing, or other technical requirements. Check with the BCE staff to determine if these specific technical requirements apply.

C. A-E Evaluation Criteria Included in the Synopsis

List all primary and secondary A-E evaluation criteria. **The published order of the criteria in the CBD determines the relative importance of evaluation criteria that must be used by the selection board(s).** DFARS 236.602-1 requires primary factors to carry greater significance and weighting than secondary factors. Additional factors that

address the determination of the most highly qualified firm must rank above all secondary factors.

Primary evaluation criteria are mandatory per FAR 23.401 and FAR 36.602-1, and include:

- Professional qualifications necessary for satisfactory performance of required services;
- Specialized experience and technical competence in the type of work required, including, where appropriate, experience in energy conservation, pollution prevention, waste reduction, and the use of recovered materials;
- Capacity to accomplish the work in the required time; and
- Past performance on contracts with Government agencies and private industry in terms of cost control, quality of work, and compliance with performance schedules.

The secondary evaluation criteria include:

- Location in the general geographical area of the project and knowledge of the locality of the project provided application of this criterion leaves an appropriate number of qualified firms given the nature and size of the project. Designation of a *specific* geographic area, or distances from the project location, requires approval of the Contracting Officer for inclusion. The AF PM may delete location as a selection factor for IDIQ contracts involving work at various locations;
- Acceptability under other appropriate evaluation criteria including intent of the Government to equitably distribute projects among qualified firms;
- Volume of work awarded to the firm by DoD during the past 12 months. This factor is mandatory per DFARS 236.602-1 that states, "*The primary factor in A-E selection is the determination of the most highly qualified firm. Also consider secondary factors such as geographic proximity and equitable distribution of work, but do not attribute greater significance to the secondary factors than to qualifications and past performance. Do not reject the overall most highly qualified firm solely in the interest of equitable distribution of contracts.*" The synopsis should request that the A-E provide this data under Section 10 of their SF 255; and
- Additional evaluation factors can be added to the selection criteria by the AF PM. These may be specific CADD, GIS, word processing, or other technical requirements. Check with the BCE staff to determine if these specific technical requirements are required.

See AFI 32-1023, Chapter 3, and [MILCON COACH](#) for additional information.

The AF PM sends the completed synopsis to the Contracting Officer for review and transmittal to the CBD. After issuing the synopsis, the Contracting Officer schedules the required meetings and notifies the Civil Engineering personnel of the established times. This will enable the members of the evaluation team to plan time for the meeting and to avoid scheduling conflicts. It is also important to use a private, secure meeting place.

D. Architect-Engineering (A-E) Services

- Title I Services: Services related to a specific construction project and consisting of field surveys and investigations to obtain design data and the preparation contract plans, specifications, and cost estimates.
- Title II Services: Services related to specific construction projects and consisting of construction supervision and inspection of construction.
- Other A-E Services: Design and construction related services, but not connected with a specific construction project. The services consist of developing design criteria, fact finding studies, surveys, investigations, and the performance of environmental projects involving prevention, compliance, and restoration when the services of registered architects or engineers are required. Excluded are

services that need not be performed by a registered engineer or architect such as providing design and construction equipment or computer programs.

FAR Part 36.601-4(a) gives the following definitions of architect-engineering services:

- Professional services of an architectural or engineering nature, as defined by applicable State law, which the State law requires to be performed or approved by a registered architect or engineer.
- Professional services of an architectural or engineering nature associated with design or construction of real property.
- Other professional services of an architectural or engineering nature or services incidental thereto (including studies, investigations, surveying and mapping, tests, evaluations, consultations, comprehensive planning, program management, conceptual designs, plans and specifications, value engineering, construction-phase services, soils engineering, drawing reviews, preparation of operating and maintenance manuals and other related services) that logically or justifiably require performance by registered architects or engineers or their employees.
- Professional surveying and mapping services of an architectural or engineering nature. See FAR Part 36.601-4(a) for further clarification of this item.

Describe the specific type of A-E service required, such as planning, design, engineering, surveying or mapping, or construction phase services consistent with language in the Brooks Act. Construction phase services are broadly defined as services provided by A-E firms, in-house personnel, construction management firms, or other sources during the construction of a project. Funding for such services depends upon whether these services are provided for the purpose of completing the design effort or assuring contractor compliance with requirements. The following section addresses types of A-E services and funding criteria in greater detail.

Title 10, United States Code 4540, 7212, and 9540 limit that portion of the A-E's fee for direct design services to 6% of the estimated cost of the construction project for producing and delivering the designs, plans, drawings, and specifications needed for a construction project. FAR 15.404-4 and DFARS 236.606-70 provide additional guidance. The record of negotiations and the Government estimate must clearly show that the cost of direct design services does not exceed the 6% limitation.

The following are examples of A-E services that are not considered an integral part of direct design services for a military construction project and should be EXCLUDED from the A-E fee when determining compliance with the 6% limitation. These services, as well as direct design services, should be funded from the planning and design (P-313) account:

- Initial site visits.
- Field, topographic, property, boundary, utility, and right-of-way surveys.
- Subsurface explorations and borings, soils and materials testing, and resultant reports.
- Flow gaugings and model testing.
- Reproduction of design documents for review purposes.
- Preparation of construction cost estimates.
- Comprehensive interior design (CID) services.
- Preparation of general and feature design memoranda.
- Models, renderings, or photographs of completed designs.
- Construction-phase services.
- Preparation or verification of as-built drawings during construction.
- The services of consultants not specifically applied to the preparation of designs, plans, drawings, or specifications for a project.

- Preparation of general and development criteria not specifically related to a military construction project.
- Management and contract administration of A-E services contracts in connection with services excluded from the 6% limitation.
- Document reproduction, travel, and per diem costs in connection with services excluded from the 6% limitation.

The following A-E services are considered “advanced planning” and must be funded from the operations and maintenance (O&M) account:

- Developing a master plan for an installation.
- Developing the requirements for a military construction project.
- Alternative site studies.
- Developing and validating military construction project documentation prior to commencing project design.
- Preparing engineering analyses and studies to develop technical design parameters.
- Preparation of as-built drawings of existing facilities prior to subsequent renovation or alteration project.
- Preparing environmental impact assessments, statements, and supporting data.
- Management and contract administration of A-E services contracts in connection with the above services.
- Document reproduction, travel, and per diem costs in connection with the above services.

See [Appendix 18, FAR References to A-E Contracting](#), for a list of FAR references pertaining to A-E contracting.

VI. Preparing the A-E Statement of Work (SOW)

The Statement of Work (SOW) defines the initial scope requirements in the Request for Proposal (RFP) issued to the successful A-E firm.

The AF PM prepares a draft SOW for review in accordance with existing policy. Recommend the final draft of the SOW be completed and coordinated with the Contracting Officer prior to the submittal deadline for the SFs 254 and 255.

One of the first things the AF PM should do is compare the project's DD Form 1391 programmed amount (PA) with the government estimate based upon the Air Force Parametric Cost Estimating System (PACES), other acceptable parametric cost estimating systems, or compared with other projects. If these resources are not available at your location, check with the MAJCOM, HQ AFCEE, or HQ AFCESA. Cost discrepancies need to be resolved at the earliest possible date.

For quality control in writing the SOW, see the generic SOW in [Appendix 19, Statement of Work](#) or the electronic version available in the [MILCON COACH](#) software. The following list is a good baseline for a SOW checklist:

- Identify the project's programmed amount and scope.
- Identify the intent of the contract to incorporate multiple design disciplines by types of design services required (formerly known as: Title I, Title II, Base Comprehensive Plans, and Other Services).
- Identify design considerations by design discipline. Include references to all standards and Government publications: the Base Comprehensive Plan (BCP), the Area Development Plan (ADP), Housing Community Plan (HCP), etc. Include publication dates for all references.
- Include any special submittal requirements, i.e., renderings, drawing standards, CADD criteria, special studies, products, etc., and clearly define any options including expiration date of options.
- Check the overall design schedule to determine if it is adequate for the complexity of the project and the services required.

- Include any options or phasing requirements which may be required by the project.
- Include a list of all Government Furnished Equipment (GFE) and Government Furnished Materials (GFM) to be supplied, and specify that the A-E is required to coordinate all GFE/GFM to be included in the construction contract.
- Specify type of and requirements for design analyses, (i.e., sustainable development, value engineering, life cycle cost, energy, or alternative building systems studies, etc.), drawings, cost estimates, and specifications required. Check with the BCE for drafting standards, media requirements, CADD compatibility, etc..
- Identify high cost, high impact construction items such as site approval issues, historic/cultural sites, floodplain areas, explosive safety clearances, electromagnetic interference, aircraft noise, asbestos and other hazardous materials, cranes, uninterrupted power systems, etc..
- Check the DD Form 1391 environmental assessment section for any requirements. These may be incorporated within the SOW, providing O&M funds are used for this effort.
- Ensure all environmental studies and economic analyses (EA) requirements have been initiated or completed and that an Office of Primary Responsibility (OPR) exists.
- Identify special design requirements and considerations such as energy and environmental studies, sustainable development, Life Cycle Cost Analysis (LCCA), traffic studies, handicapped requirements, force protection, seismic, interior design, acoustical, O&M manuals, operator training, value engineering (VE), charrettes, etc..
- State the A-E's required submittal milestones.
- Identify any special distribution of submissions for review. Verify reviewer addresses to prevent lost submittals. Require the A-E to distribute submissions to the reviewers and note deadlines for review comments. Allow time for special distribution of documents and adequate time for organizations to consolidate review comments. Encourage reviewers to consolidate review comments as this saves time and helps to minimize A-E fees.

In the SOW, establish the A-E's responsibilities for construction pre- and post-award requirements such as attending the pre-bid conference, addressing inquiries raised during the bidding phase, and attending the pre-construction conference (if required). Also establish, the A-E's responsibilities for as-built record documentation, if these support services are procured.

Consult with Users, BCE planners, programmers, and technical staff for their special requirements. The AF PM should coordinate the draft Statement of Work (SOW) with the following people:

- Users
- MAJCOM and BCE Staffs
- Contracting Officer

The Users should perform a thorough review and should provide comments to AF PM to ensure their requirements are adequately stated in the SOW. The MAJCOM and BCE staffs should review and comment on the draft SOW. The Contracting Officer reviews the SOW for clarity and to determine if sufficient detail is furnished for the A-E to provide a clear price proposal.

The AF PM then considers all comments and submits a corrected or clarified SOW to the Contracting Officer.

Consult with other design disciplines and Base support personnel to provide clear requirements for their specific areas of expertise, i.e., mechanical, electrical, security, communications, life safety, fire protection, pollution prevention, etc..

VII. Independent Government Estimate (IGE)

A. Preparing the IGE

The AF PM (or Design Agent if appropriate) prepares the Independent Government Estimate (IGE). A thorough understanding of the project scope is essential to preparing the IGE. This effort will usually require a site visit, review of project criteria and documents, discussions with appropriate Base personnel (typically consisting of planners, security police, communications, bio-environmental, safety, fire, and operations), and the Using organization. Consider any impacts that outside agency requirements may have on the cost estimate. These agencies include the State Historical Preservation Office (SHPO), Environmental Protection Agency (EPA), utility companies, and regulatory agencies.

The AF PM may use judgment alone or involve other disciplines in the preparation of the estimate. Input from other disciplines may vary from review of the completed estimate to detailed input during working level meetings with all disciplines. The AF PM is responsible for the following:

- Ensuring the IGE is restricted to For Official Use Only (FOUO) distribution. Do not discuss any aspects of the estimate with prospective A-Es.
- Ensuring the IGE format is consistent with Contracting Officer procedures.
- Clearly separating A-E fee estimates for direct design services (preparation of designs, plans, drawings, and specifications) covered by the 6% fee limitation from other required design services not covered by the fee limitation.
- Estimates should reflect actual work effort required. Do not use percentages of estimated construction costs to establish the IGE.

Work with the Contracting Officer to define direct and overhead costs. Hourly rates, direct labor costs and overhead costs should be based on the rates in other ongoing federal contracts by the A-E or upon historical data on similar sized local firms.

Base work effort (by discipline) on sheet count, meetings, and field investigations.

Determine labor man-hours by preparing a list of construction drawings required and the design and engineering effort required for each sheet. From the list of drawings required, also estimate the man-hour effort to prepare detailed specifications and prepare cost estimates.

Estimate man-hours required for contract submittals, submittal reviews, design analysis calculations, interior design, conferences, energy budget, etc.. Also allow for management of internal coordination time.

Carefully review the site survey requirements to ensure the required site area is covered, but unnecessary site survey costs are avoided.

Check Base records to determine if existing geotechnical data and reports are available and acceptable. If this data is not available or is incomplete, determine how many new soil borings are required and ensure this work is included in the SOW as a basic requirement.

Clearly separate costs for travel, reproduction, and special consultant services such as surveys, energy analyses, investigations, environmental reports, etc.. Profit may or may not be added to these items depending upon the Contracting Officer's interpretation.

The A-E may or may not be allowed to add additional profit to any outside consultant's fees. This practice also needs to be verified with the Contracting Officer. See [Appendix 20, Profit Calculation Worksheet](#) for an example of a Profit Calculation Worksheet.

Verify that the direct design services for producing and delivering designs, plans, drawings, and specifications needed for a construction project are within the 6% statutory limit. This limit is based upon the estimated cost of construction, not the entire programmed amount (PA) which also includes contingencies, and supervision, inspection and overhead (SIOH). See FAR 14.404-4 and DFARS 236.606-70 for further information.

Compare the IGE to other rule-of-thumb fees for previous projects, and compare the fee to the estimated construction cost.

General rules and hints:

- The A-E's project management time should be approximately 10% of all professional time.
- Professional A-E staff man-hours are generally 20 - 30 man-hours per sheet.
- Non-professional A-E staff man-hours are generally 40 - 50 man-hours per sheet.
- A topographic survey crew of four people can generally survey five acres per day.

Include with the IGE a listing of all assumptions made in its preparation.

See the sample IGE in [Appendix 21, Independent Government Estimate](#) and in the [MILCON COACH](#) software product pick list at <http://www.afcee.brooks.af.mil>, under Products and Services. The AF PM may want to begin by editing one of these examples to satisfy the project-specific requirements.

B. Coordination of the IGE

The AF PM coordinates the IGE with the appropriate Financial Management office for availability and certification of funds. In some cases, funding may come from the MAJCOM, Wing, or sponsors other than the Base. The AF PM then transmits the IGE and the SOW to the Contracting Officer.

Submittal of the IGE to the Contracting Officer should occur prior to issuing the Request for Proposal (RFP). The Contracting Officer will document receipt of the IGE in the contract file in support of the preparation for the RFP.

See the Chapter 9 for special Nonappropriated Fund (NAF) requirements.

VIII. Preselection and Selection Board Appointments

Most A-E selections use both a Preselection Board and a Selection Board. The Preselection Board is important because it narrows the field down to a limited number of the more highly qualified firms with the capability to design the project, and submits these short-listed firms to the Selection Board for interviews and further evaluation.

The AF PM should prepare and coordinate the Preselection and Selection Board appointment letters with all prospective board members. All voting board members should have experience in architecture, engineering, construction, and Government and related acquisition matters, per FAR 36.602-2.

Appoint a minimum of three voting members for each board. An individual cannot serve as a voting member on both boards. Designate an alternate to ensure each board will have a minimum of three voting members.

Appoint a minimum of three voting members for each board. An individual cannot serve as a voting member on both boards. Select an alternate voting member for each board to ensure each board will have a minimum of three voting members.

The AF PM should be a voting member on either the Preselection or Selection Board, but cannot be a voting member on both. Recommend the AF PM be on the Selection Board.

If this is for a Base-level selection and the AF PM is not a member of the BCE staff, one or more BCE project managers typically are invited to be members of the Preselection Board.

The AF PM and a User representative should be members of the Selection Board (capacity as a voting or non-voting member is discussed later). The AF PM should also recommend other Base-level board members for a Base-level selection.

AFI 32-1023, Chapter 3, requires that the Selection Board Chairperson be experienced in the A-E selection process and contracting requirements and must be a registered architect, professional engineer, or a certified planner. Although it is desirable, the Chairperson of the Preselection Board does not have to be a registered architect, professional engineer, or a certified planner. The definition of professional registration can be different, based on circumstances outside U.S. boundaries. Satisfying either the host nation's registration requirements or U.S. registration requirements will suffice.

The Contracting Officer should have the same representative on both boards as a non-voting member, to ensure that the selection documentation and methods used comply with applicable regulations and policies.

A Recorder should be appointed to serve on both boards to prepare board packets and document the proceedings. This is typically a non-voting member assignment.

The Approval Authority is the person authorized to approve the minutes of the Preselection and Selection Boards. See AFI 32-1023, Chapter 3, for further information.

The AF PM prepares the board appointment letters to be signed by the Approval Authority. The appointment letters also should identify non-voting members.

The AF PM coordinates with all board members (voting and non-voting) for acceptable dates, time, and location of each board.

List each board member's name, rank or grade, office symbol, and professional registration, if any.

Determine the type of A-E interview to be used during the Selection Board process, i.e., personal or telephone. Schedule the Selection Board meeting time and date(s) with adequate advance notice to accommodate Board preparation before the first A-E interview. Note: The Preselection Board does not conduct any interviews.

- Telephone interviews are normally adequate.
- Personal interviews take time and often result in a presentation by the A-E's marketing people, not the people who will do the project. If using a personal interview, set the guidelines for the A-E as to the time, duration, who may attend, and what will be covered. Let them know the Selection Board wants to interview the people who will be doing the work, not the marketing staff.
- Written interviews are used only if the Contracting Officer believes written documentation is necessary and acceptable.

See AFI 32-1023, Chapter 3, for additional information.

An example Board Appointment Letter is available in [Appendix 22, Board Appointment Letter](#) and also from the [MILCON COACH](#) products pick list at <http://www.afcee.brooks.af.mil/DC/products/DCproducts.asp>.

IX. Log-In of the Standard Forms 254 & 255

If the Contracting Officer is out of the office on the due date, ensure there is a designated representative checking the Contracting Officer's mail and deliveries.

The Contracting Officer is responsible for ensuring submittals are logged in and filed, but these activities are often delegated to the AF PM.

The Contracting Officer must make sure all submittals received before the close of business on the date and time prescribed in the CBD announcement are logged in. Submittals arrive by mail, courier, overnight delivery, and personal delivery by the A-Es. All submittals must be marked with the date and time of receipt. **The AF PM should also be familiar with the Contracting Officer's policy regarding electronic submittals.**

Make sure the SFs 254 and 255 are both included in each submittal, and note this verification on the log-in sheet. If multiple copies were required by the CBD announcement, all copies should be date and time stamped.

If an incorrect quantity or type of submittal was received, note the error on the log-in sheet.

A sample log-in sheet is in [Appendix 23, SF 254 / SF 255 Log-in Sheet](#) and on the products pick list in [MILCON COACH](#) at <http://www.afcee.brooks.af.mil/DC/products/DCproducts.asp>.

X. Weighting of A-E Evaluation Factors

The AF PM is responsible for preparing the A-E evaluation factors documentation and recommending the weighting for each factor to the Preselection and Selection Boards.

The evaluation factors (criteria) must be identical to those published in the CBD synopsis and in the same rank order. Factors cannot be added or eliminated at this point, and the rank order cannot be changed. The AF PM should evaluate and recommend the appropriate weighting for each evaluation factor based upon the complexity, size, and

schedule of the project. The AF PM also should solicit weighting criteria from the Approving Authority staff.

The weight of each factor is such that each succeeding factor, in the order published in the CBD, must be equal to or less than the one before it.

The two selection boards review the weighting of the evaluation factors during their deliberations. Each board may modify the weighting of the factors within the limits established by FAR 36.601-1 and DFARS 236.602-1, unless otherwise directed by the Approval Authority.

The weighting factor portions of both the balloting form and the recommended evaluation parameters are highly sensitive and must be marked For Official Use Only (FOUO).

The AF PM should verify the Contracting Officer's interpretation of DoD policy concerning the amount of DoD contract awards in previous twelve months. See DFAR 236.602-1 for additional information.

See sample of recommended weighting of evaluation factors in [Appendix 24, Weighting Factors](#). This is also available on the products pick list of MILCON COACH at <http://www.afcee.brooks.af.mil>.

XI. Preselection Board

A. Membership and Organization

Voting Members (Must be a minimum of three):

- Preselection Board Chairperson with technical knowledge and experience. Professional registration preferable but not required.
- At least two additional members with technical knowledge and experience.
- One alternate in case a member cannot attend.
- User's representatives are optional as voting members but should meet the qualifications established in FAR 36.602-2.

Non-voting Members:

- Contracting Officer representative
- Users' representatives are optional
- The Recorder typically is a non-voting member

The AF PM should confirm the board meeting schedules as set in the board appointment letter.

The AF PM should ensure a packet of documents is available for each board member. These packets should include:

- Copy of the SOW if it is available
- Copy of the Preselection Board appointment letter
- Copy of the CBD Synopsis
- Mandatory evaluation factors identified in the CBD announcement and recommended weighting
- Balloting forms
- Copy of AFI 32-1023, Chapter 3, *Selecting Architect-Engineering (A-E) Firms*
- Past performance information from the A-E Contract Administration Support System (ACASS), if available.

B. A-E Evaluation Process

Check for numbers of years key A-E staff members have been with the firm. Sometimes, A-Es show projects in Section 8 which are actually projects of individual staff members while with other firms.

The Preselection Board Chairperson asks the Contracting Officer representative to make comments to the board, and then briefs the members on:

- Confidentiality of meetings
- Board member's responsibilities
- Each item in the board member's packet

Since the SFs 254 and 255 submittals will be used by both the Preselection and Selection Boards, the Preselection Board members should be cautioned not to make notes on the submittals which could prejudice the Selection Board.

Check that the firm's experience represents the office proposing to do the work rather than a branch office.

The board members then review the evaluation factors and approve or modify the weighting of each evaluation factor prior to review of any submittals.

The scores for geographical location (if required) and previous DoD contract awards must be identical for all board members for each A-E. This should be an objective scoring based upon criteria established by the board members before the scoring begins.

The method of ranking (scoring) the firms in order of qualifications must be established before scoring begins, and recorded in the minutes. Using the total points scored by all board members is one method. Ranking each firm by ordinal is another. Table 3-1 below shows the difference between a ranking based on total points and an ordinal ranking using total point scores to break a tie score.

A-E Firm Scoring Sheet

Table 3-1

Board Member	Firm A	Firm B	Firm C	Firm D
1	80/1	78/2	77/3	74/4
2	86/2	95/1	85/3	80/4
3	95/1	90/3	93/2	82/4
4	82/1	81/2	78/3	78/4
Total Points Ranking	343/5	344/8	333/11	314/16
Ordinal Ranking	2/1	1/2	3/3	4/4

Use the Architect-Engineer Contract Administration Support System (ACASS) database information about past performance to help evaluate competing A-E firms. Information on [ACASS](http://www.nwp.usace.army.mil/ct/i/welcome.htm) is available at: <http://www.nwp.usace.army.mil/ct/i/welcome.htm>, or at the following address:

U.S. Army Corps of Engineers, Portland District
ACASS Center
PO Box 2946
Portland, OR 97208-2946
Phone: (503) 808-4590
FAX: (503) 808-4596

Each board member independently reviews and scores each SFs 254 and 255 submittal on the balloting forms provided.

After scoring all submittals, board members should review the scores for each evaluation factor for each firm and resolve any significant discrepancies. There should be consistency not identical scoring between board members. Any unresolved issues in the logic of scoring should be recorded in the minutes. It is acceptable for board members to disagree, but the grounds for any disagreement should be recorded in the minutes.

AFI 32-1023, Chapter 3, recommends that the Preselection Board should submit between three and six qualified A-E firms to the Selection Board for consideration. The exact number should be based upon a logical break in scoring between firms. List those preselected firms in alphabetical order.

C. Responsibilities

Preselection Board minutes are prepared by the Chairperson and the Recorder and approved by the Approving Authority. Ensure these minutes are marked FOUO.

The AF PM or Chairperson prepares a letter to transmit the names of the short-listed firms to the Chairperson of the Selection Board. The Approval Authority will sign this letter

Have someone on the Preselection Board recalculate all of the scores to check for math errors. If using an electronic spreadsheet to calculate scores, check all formulas to verify accuracy.

Make sure the Preselection Board minutes are approved by the Approval Authority and the Contracting Officer prior to notification of the short-listed A-E firms.

which identifies each short-listed firm's geographic location and previous twelve months DoD-awarded fees.

The AF PM makes sure approval of the Preselection Board minutes has been obtained prior to notification of short-listed firms.

If the Contracting Officer representative did not attend on the Preselection Board, the AF PM should check to see if the Contracting Officer needs to review the minutes prior to short-list notification.

With the concurrence of the Contracting Officer, the AF PM should send a letter to all firms which were not short-listed notifying them of their status.

The Chairperson of the Preselection Board must be capable of debriefing non-selected A-E firms. Even though this is a Contracting Officer responsibility, it is generally delegated to the Approval Authority who re-delegates it to the Preselection Board Chairperson.

D. Products

Final products of the Preselection Board include (See example of the following items in [Appendix 25, Balloting Forms](#), [Appendix 26, Letter of Short-Listed A-Es to Final Board](#), [Appendix 27, Non-Select Letter](#), and [Appendix 28, Pre-Selection Board Minutes](#), or in the products pick list of [MILCON COACH](#)):

- Balloting Forms
- Approved Letter of Transmittal to the short-listed firms. This should contain the raw data for each short-listed firm's scoring on geographical location (if an evaluation factor) and amount of DoD contract awards in the previous twelve months.
- Generic Non-Selection Letter to A-E firms.
- Preselection Board minutes (These shall not be forwarded to the Selection Board).

XII. Notification of Short-Listed firms

The AF PM or the Recorder for the Selection Board is responsible for notification to the short-listed A-Es for interviews. Telephone notification is preferred, although notification can also be done by fax or letter.

The Selection Board Chairperson or designated alternate should help the AF PM prepare a script to use with the A-Es during telephone interviews.

The AF PM or the Recorder should understand their responsibility in notifying the short-listed A-Es. Only specific information should be communicated to the firms. See the telephone notification script in [Appendix 29, Short-Listed Notification Script](#), or in [MILCON COACH](#) at <http://www.afcee.brooks.af.mil/DC/products/DCproducts.asp>.

The AF PM should discuss with the Selection Board Chairperson the time schedule allocation for the short-list A-E interviews. If more than the anticipated number of firms were short-listed, the time schedule or even the date of the interviews may need to be changed to fit the board members' schedules. If personal interviews are planned, sufficient time must be allocated for firms to set-up and remove their materials and personnel from the presentation room.

The AF PM and Selection Board Chairperson should also prepare an interview sheet for each firm short-listed. As each firm is telephoned, the caller should fill in the firm's point of contact for the interview, the time of the interview (specify which time zone if appropriate), and confirm the telephone number to be called by the Selection Board.

The AF PM or the Recorder then calls the A-E firms to notify them of their short-list selection and to schedule the interview time and duration.

Examples of the short-list notification script and interview work sheet are available in [Appendix 29, Short-Listed Notification Script](#) and [Appendix 30, Interview Worksheet](#), respectively. These are also available from the products pick list in [MILCON COACH](#) at <http://www.afcee.brooks.af.mil/DC/products/DCproducts.asp>.

XIII. Selection Board

A. Membership and Organization

Voting members (must be a minimum of three)

- Selection Board Chairperson with technical knowledge and experience. Professional registration is mandatory.
- At least two additional members with technical knowledge and experience. AF PM should be included if not a voting member on the Preselection Board.
- One alternate in case a voting member cannot attend.
- Users' representatives are optional as voting members but should meet the qualifications established in FAR 36.602-2.

Non-voting member(s):

- Contracting Officer's Representative
- Users' representatives are optional
- The Recorder typically is a non-voting member.
- AF PM (if a voting member on the Preselection Board)

The Selection Board Chairperson generally selects the type of A-E interview process to be used. The AF PM should discuss this with the Chairperson and prepare packages for other board members, arrange for an interview room, and schedule and confirm attendance of the board members for the interviews.

The Selection Board Chairperson or a designated representative (often the AF PM) prepares the interview worksheet.

The AF PM should ensure a packet of documents is available for each board member. These packets should include:

- Copy of the SOW
- Copy of the Selection Board appointment letter
- Copy of CBD Synopsis
- Mandatory evaluation factors identified in the CBD announcement and recommended weighting
- Balloting forms
- Copy of AFI-32-1023, Chapter 3, *Selecting Architect-Engineering (A-E) Firms*
- A-E interview script

B. A-E Evaluation Process

The Selection Board must have discussions with the top three firms. However, it may be wise to talk with all firms that have been passed on by the Preselection Board

Make sure all interview questions are limited to only those issues related to the CBD synopsis evaluation factors. As a courtesy, the AF PM may send a copy of the questions to the Contracting Officer prior to the interviews, with sufficient lead time to allow contracting input.

Follow-up questions resulting from the A-E's responses to the standard questions or specific questions related to the firm's SF 255 do not need to be asked of every A-E, but must be recorded as a part of the minutes.

The evaluation guidance provided in the PreSelection Board section of this Guide applies equally to the Selection Board evaluation process.

The Selection Board Chairperson asks the Contracting Officer's Representative to make comments to the board, and then briefs the members on:

- Confidentiality of meetings
- Board members' responsibilities
- Each item in the board member's packet

The Chairperson reviews the selection procedures with all board members, with emphasis on interview procedures.

The board then reviews the evaluation factors and approves or modifies the weighting of each factor within the limits established by FAR 36.602-1 and DFARS 236.602-1 prior to review of any submittals.

If applicable, the board members should ask all of the interviewed A-E firms the same questions regarding each firm's experience, personnel, technical qualifications, and capability of providing the required A-E services identified in the CBD announcement.

During the interviews, all board members record their own notes.

After the interview, the Chairperson should incorporate each board member's individual comments into a consolidated summary for each firm. The Chairperson is also

Selection boards should verify DoD awards in last year, since this information may not be included in the SFs 254 and 255.

XIV. A-E Selection to the Contracting Officer

The AF Form 9 amount must be greater than or equal to the IGE.

When amending or updating any schedule, such changes should be coordinated through the Contracting Officer.

The AF PM should coordinate with the Contracting Officer before sending non-selection letters to A-Es. Sometimes, the Contracting Officer wants to send these as a part of the completed package.

responsible for preparing the minutes of the Selection Board and for obtaining approval by the Approving Authority. These minutes must be marked FOUO.

See example of the Selection Board minutes in [Appendix 31, Selection Board Minutes](#). This is also available in the products pick list of MILCON COACH at <http://www.afcee.brooks.af.mil/DC/products/DCproducts.asp>.

Unless additional information is learned during the interviews, the Selection Board's evaluation factors will incorporate the raw data used by the Preselection Board for geographical location (if an evaluation factor) and amount of DoD awards within the previous twelve months. If something new is learned during the interviews, this must be recorded in the minutes.

In scoring the A-E submittals for DoD contract awards and geographical location, these scores shall be the same for each voting member.

Each board member's individual scoring and comment sheets should be kept for possible debriefings or questions from the Contracting Officer.

The Chairperson for this board must be capable of debriefing non-selected A-E firms. Even though this is a Contracting Officer responsibility, it is generally delegated to the Approval Authority who in turn re-delegates it to the Selection Board Chairperson.

The AF PM writes a letter to the Contracting Officer concerning the A-E selection using a pre-prepared format, assembles attachments, secures signatures on the Purchase Request document (AF Form 9), and briefs the Approval Authority (if requested).

No one shall discuss either the selection procedure results or the IGE with any A-E firm.

The AF PM should coordinate any revised schedule with the Contracting Officer.

The Approval Authority must sign the Selection Board minutes and should also sign the transmittal letter to the Contracting Officer.

If the A-E's fee proposal is expected to be \$500,000 or greater, request in the transmittal letter that the Contracting Officer start the DCAA auditing procedures if required. This normally is required if the selected firm has not had an audit in the past twelve months. See FAR 15.403-4 and 15.404-2 and check with the Contracting Officer for further information.

See [Appendix 32, Selection Letter to Contracting](#) for a sample letter transmitting notification of A-E selection to the Contracting Officer. The AF PM should include the following items as attachments:

- SOW
- Minutes from Preselection Board with attachment
- Minutes from Selection Board with attachment
- Purchase Request document/Commitment of funds letter
- Evaluation weighting factors
- Blank estimate (proposal) form
- Independent Government Estimate (IGE)
- Generic Non-Select Letter with address labels

It is the Contracting Officer's responsibility to notify the selected A-E firm.

Chapter 4 - Design Start-Up

Contents	I. Introduction	2
	II. Before the Predefinition Conference	2
	A. General	2
	B. Construction Cost and Scope	3
	III. The Team Players	4
	IV. Predefinition Conference	5
	A. General	5
	B. Project Communications	6
	C. Review Functional Requirements	6
	D. Renderings and Models	6
	E. Cover In-Depth Issues	7
	F. Critical Need Date	7
	G. Project Phasing	7
	H. Miscellaneous	7
	V. Conference Action Items	8
	VI. Products of the Predefinition Conference	9
	VII. Update SOW, Project Design Schedule, and Estimate	10
	VIII. Requirements and Management Plan (RAMP)	11
	A. Review Requirements and Management Plan	11
	IX. A-E Proposal Review	11
	X. Pre-Business Clearance Memo	11
	XI. A-E Fee Negotiations	12
	XII. Contract Award & Notice to Proceed	13

Reference Documents

[Achieving Design Excellence](#)

[AFI 32-1023, Design and Construction Standards and Execution of Facility Construction Projects](#)

[AFPAM 32-1097, Sign Standards Pamphlet](#)

[DD Form 1391, FY__ Military Construction Project Data \(Appendix 9\)](#)

[Military Handbook 1191, DoD Medical Military Construction Program Facilities, Design and Construction Criteria](#)

[PD Tutor Software](#)

[AFI-32-1021, Planning and Programming of Facility Construction Projects](#)

[AFI 32-7061, The Environmental Impact Analysis Process](#)

[Federal Acquisition Regulation \(FAR\) references](#)

Chapter 4 - Design Start-Up

After HQ USAF/ILEC issues the initial Planning Instruction (PI), the Major Command (MAJCOM) issues a Field Design Instruction (DI) authorizing the Design Agent (DA) to proceed with design to the following stages, based on project validity and required milestones for Congressional approval:

- Planning Instruction (PI) issued which permits the MAJCOM to issue a Field DI and set design parameters (1%).
- Planning Instruction (PI) issued, but Title 10 U.S.C. 2807 notification action required (2%).
- 2807 notification completed, if required, and architect-engineering (A-E) contract awarded (3%).
- Project Definition (PD) completed and approved (15%).
- Early Preliminary Design Submittal, if required (30%).
- Preliminary Design Submittal, if required (60%).
- Pre-Final Design Submittal (90%).
- Corrected Final Design Submittal (100%).
- Ready-to-Advertise (RTA) Submittal.

If the design authority is changed after the initiation of design, the AF PM must determine whether it is in the best interest of the Government to complete the design to the next submittal point or to stop design immediately. The AF PM should work closely with the MAJCOM (if a different organization) to get the design authority changed if necessary.

I. Introduction

Design excellence requires the integration of quality architectural design throughout all engineering disciplines. Quality design is proportional to the professional management and design effort provided at all levels of the Air Force design and construction process.

Successful designs enhance the Air Force mission ensuring functionality, efficiency, and economy while meeting the Users' needs and expectations. Such designs respect the Base's environment and are compatible with the existing architectural character.

Successful designs convey a positive image and contribute to the quality of the Base as a "whole community." Sustainability of designs and materials grow more critical each year. Completeness, timeliness, and professional presentation of submittals should be stressed. [Air Force publications promoting design excellence](#) are available at <http://www.hqafcee.brooks.af.mil/DC/products/DCproducts.asp>. Use the *Achieving Design Excellence* and *Air Force Design Awards Brochure* to emphasize excellence to the A-E. See the [Appendix 33, USAF Design Awards Program](#) for details of the USAF Design Awards Program.

II. Before the Predefinition Conference

A. General

Before the Predefinition Conference, the AF PM should analyze the User requirements and the relationship of these requirements to the programmed amount (PA) shown on the DD Form 1391. Use the Air Force Parametric Cost Engineering System (PACES) or other acceptable system to confirm the budget. Be alert to unique requirements affecting costs that may not have been adequately considered in the DD Form 1391. Be prepared to discuss these with the User's representative at the conference.

An Air Force meeting between the User, Base Civil Engineer (BCE), MAJCOM, and AF PM may be necessary before the Predefinition Conference to settle criteria issues or to correct items in the Requirements and Management Plan (RAMP). It is important for the Air Force to present a unified position at the Predefinition Conference. Government project personnel should review all project scope and contractual issues and resolve any differences prior to the conference.

B. Construction Cost and Scope

See Chapter 9 for special nonappropriated fund (NAF) requirements.

Verify the programmed amount (PA), construction cost limit, scope, and site. Without these things, design cannot start.

The HQ USAF/ILEC PI and subsequent DIs and the MAJCOM Field DIs establish the authorized scope and cost target for design of the project. The MAJCOM establishes the initial scope and uses OSD primary facility unit cost data, Air Force Pricing Guide, parametric cost estimates, or other acceptable methods to establish the PA or cost target. The MAJCOM may change the scope and cost target through a MAJCOM Field DI up until the time the project is submitted to HQ USAF/ILEC in response to the annual MILCON call letter. Only HQ USAF/ILEC can change the project scope and PA during the MILCON review and approval process and submittal to OSD in the President's Budget.

The AF PM's job is to ensure the revised parametric cost estimate developed during the Project Definition (PD) phase accurately reflects the project subsystems selected in the PD phase. The project scope and current working estimate (CWE) during the design process may vary from the scope and PA established by the HQ USAF/ILEC PI and subsequent DIs, and the magnitude of these variations may impact the design requirements or require approval from higher authority. See Table 4-1.

Approval Authority for Scope Decreases & Increases

Table 4-1

Situation	Approval Authority
Scope decrease greater than 25% of authorized scope	Congress
Scope decrease less than or equal to 25% of authorized scope	MAJCOM/CE
Scope increase no greater than 10% of authorized scope	MAJCOM/CE
Scope increase greater than 10% but no greater than 25% of authorized scope	HQ USAF/ILEC
Scope Increase greater than 25% of authorized scope	Congress

Scope increases or decreases greater than 25% of the authorized scope require Congressional notification prior to award of the construction contract. This notification action is considered complete if, after 30 calendar days, no adverse comments are received from Congress. See AFI 32-1023, Chapter 5.

The AF PM and the Design Agent also must closely monitor the Current Working Estimate (CWE) during the design process. If the CWE exceeds the programmed amount (PA), project scope or requirement issues must be resolved to reduce the CWE to the PA or additive bid items must be identified early in the design process. See Chapter 5, VII, *Cost Control and Scope Changes During Design*. If the basic CWE is greater than the PA, this also will affect the authority to advertise and authority to award the construction contract. See Chapter 6, *Construction Contract Advertising, and Award*, for further information.

III. The Team Players

Within the context of both the Predefinition Conference and the project in general, the following summarizes the typical responsibilities of the design team members:

The Predefinition Conference is chaired by the AF PM. It is attended by

- DA's project manager
- DA's Contracting Officer
- User's representatives
- MAJCOM representative
- Contracting Officer
- A-E representatives
- BCE and, depending on the project scope or complexity other Base support representatives:
 - Project manager
 - Project programmer
 - Community planner
 - Fire department representative
 - Environmental flight representative
 - Bio-environmental representative
 - Communication squadron representative
 - Security forces squadron representative
 - Safety officer
 - Base or MAJCOM interior designer

It is the AF PM's job to make sure that these representatives understand the RAMP and the Statement of Work before this conference is over.

Team members vary by project, but generally the members fall within four categories: the core team; the Base support team; outside agencies; and the decision makers. The members of the core team usually include the AF PM, the User or future occupant, the A-E, the Contracting Officer, the Design Agent, the MAJCOM if different than the AF PM, Host Command if different from the Requiring MAJCOM, and the BCE who controls the real estate, infrastructure, and any contractor activity on the Base.

See Chapter 9 for unique nonappropriated fund (NAF) requirements.

The design team for every MILCON project broadly includes individuals from the User through the Design Agent organizations to the A-E and their consultants. In order to facilitate communications, as well as to manage the design team efforts, individuals known as project managers, project officers, project engineers and architects, project coordinators, community planners, and points of contact are typically assigned to the project by the various organizations for which they work. Through their management actions these managers, engineers, and contacts, determine the success or failure of the MILCON project. For this reason, this Guide will refer to these project managers, engineers and contacts as the "design team." See Table 4-2.

Design Team Roles

Table 4-2

Member	Represents	Why Involved?
Users	<ul style="list-style-type: none"> Organization Commander Each section/office within using the organization 	<ul style="list-style-type: none"> Provides specific requirements Must understand how facility will enhance mission capabilities
Base Civil Engineer	<ul style="list-style-type: none"> The base engineer community at base level The various base agencies who are not design team members 	<ul style="list-style-type: none"> Main conduit of information between user and design team First critical link in design review Pays utilities bill on final facility product Maintains, repairs new facility with man-hours and materials "Code" enforcement on all construction Environmental compliance Maintains "sense of community" on the base
Major Command	<ul style="list-style-type: none"> The MAJCOM Civil Engineer The various major command level functions of programming, design and construction 	<ul style="list-style-type: none"> Reviews for functional adequacy Approves RAMP and VE studies Allocates manpower within the command to each base under its jurisdiction Allocates O&M funding within the command to each base under its jurisdiction Establishes command-wide design & construction policies with regard to "sense of community" Controls design funding
Design Manager	<ul style="list-style-type: none"> The Air Force Civil Engineer at HQ USAF (CE) 	<ul style="list-style-type: none"> Organization appointed by HQ USAF/CE for overall project management—overseeing the agent As Air Force is responsible to Congress for execution of the MILCON program, the DM responds to the limitations levied by Congress
Design Agent	<ul style="list-style-type: none"> The office of the Corps of Engineers or the Naval Facilities Engineering Command The Division & the District Engineer 	<ul style="list-style-type: none"> Agency appointed to administer the design contract and to provide technical project management services
Designer (A-E or in-house services)	<ul style="list-style-type: none"> Their organizational chief or principal 	<ul style="list-style-type: none"> Agency appointed or selected to produce the documents necessary to award construction contracts

The organizations represented on the design team are typically those directly responsible or directly impacted by the project. The usual team members are the User, BCE, MAJCOM, AF PM, Design Agent, and the A-E or Design Agent in-house staff.

For MILCON projects involving multiple Users, it is common to have a senior Base staff officer involved to coordinate, negotiate, and resolve conflicts between Users. Other Base-level organizations such as communications services, TEMPEST officer, Local Area Network (LAN) manager, Closed Circuit TV (CCTV) systems manager, Environmental Health, Security Police, and the Fire Department may be brought in as design team members or as advisors to the team depending on depth of involvement in the scope of the project.

Where Resident Construction Managers are included, a construction management plan (CMP) detailing the overall project management plan (PMP) should be prepared that shows the organizations involved and their specific responsibilities and authorities. The purpose of the PMP is to communicate who the players are and their roles for cost, schedule, and quality control. A CMP is critical for complex or critical projects.

IV. The Predefinition Conference

A. General

The Contracting Officer should provide the selected A-E with the Request for Proposal (RFP) at least one week prior to the Predefinition Conference.

The Predefinition Conference, also known as the Criteria Review Conference or the Pre-negotiation Conference, represents the initiation of actual design efforts. The purpose of the Predefinition Conference is to establish the design requirements for the A-E so there's

a team understanding of the project and so an A-E can make a reasonable fee proposal. The key process of the Predefinition Conference is a clear exchange of product requirements between the A-E and the Government.

The conference is best held at the Base, often in the User's facility or close to the project site. Introduce attendees and explain their role. Remember how daunting our Air Force organization can seem to newcomers. A good checklist of items to cover at this meeting is in [Appendix 34, Predefinition/Pre negotiations Conference Checklist](#). [Appendix 35, Predefinition Conference Special Considerations](#), provides a list of special design considerations that should be taken into account.

The AF PM chairs the conference, and sets the tone and direction for the rest of the project. Preparation and effective presentation are critical to establishing the desired tone and project direction.

Ensure the right people are at the conference to make inputs and decisions, but discourage anyone from attending out of curiosity or for purely educational purposes. It is absolutely essential that the User is present, and understands the importance of this conference. Make sure that the User is comfortable asking questions and understands the answers. Remember the User may not be an engineer or architect. A good Predefinition Conference will yield good negotiations!

B. Project Communications

The normal route for conveying User requirements to the A-E follows the formal lines of communication. The AF PM should establish informal lines of communication at the Predefinition Conference to facilitate effective transfer of information. Information regarding Government Furnished Equipment (GFE) connections may also be transferred informally, especially if the information is voluminous or under short suspense. Take care to ensure a formal record is made of such information transfers and provide copies of all telephone memos, transmittal letters, etc., to the Design Agent and the AF PM. Ensure everyone understands that transferred information must not include "new requirements" outside the parameters identified at the Predefinition Conference. A typical informal communication line would be that established between the A-E and the BCE project representative.

Sketch a project team organization chart and set the rules to be followed for communication – who calls whom, who gets copied on information, how many copies of which A-E submittals go to whom, and so forth. Make sure that everyone understands each other's roles and responsibilities.

Set tentative schedules subject to successful A-E contract negotiation by the DA. Be clear in the A-E's SOW about the level of effort required during the PD phase.

C. Review Functional Requirements

The Users validate and explain the project's functional requirements. The Contracting Officer makes sure the A-E understands the administrative issues and scope of the contract. BCE staff provide local requirements on maintenance, design, compatibility criteria, and other issues.

The A-E will be expected to lead a charrette process to define user requirements. If the A-E has not used the charrette process before, encourage the A-E to use a consultant with charrette experience.

D. Renderings and Models

A color rendering or scale model of the project can be of great assistance in helping the User and senior leadership better understand the proposed design. The decision to obtain either a rendering or model must be made not later than the Predefinition Conference.

When color renderings are required, insist that a single-line perspective showing the three dimensional aspects of the project be provided upon approval of the Project Definition (PD) submittal. This line perspective must illustrate the main architectural features of the building and show the view planned for the final color rendering. The A-E should submit an example of the proposed rendering style for AF PM approval before the final rendering is executed. The final color rendering should accompany the Pre-Final Design Submittal

(90%) and show the view of the building that was approved earlier. This final color rendering should clearly illustrate the colors, textures, and shape of the final design.

In some cases a scale model is the only way to adequately address all the complexities of a proposed facility. Make the decision for a model not later than the Predefinition Conference. The A-E should submit an example of the proposed model style for AF PM approval before the final model is executed. The A-E should provide it with the PD submittal and use it in the PD briefing.

Make sure the DA and the A-E understand that all rendering and model originals, photographs, and slides will be turned over to the AF PM for distribution within the Air Force.

E. Cover In-Depth Issues

Ensure that the A-E and other representatives have the opportunity to ask all the questions they need to ask. Failure of the A-E to ask questions often means that they have not reviewed the RAMP. Be prepared to draw out questions from the A-E and the User. It is not necessary to discuss every paragraph, just the important points or points of common misunderstanding.

Verify the applicability of criteria to the project and clearly identify criteria references for both general and specific (special) topics, such as AFPAM 32-1097, *Sign Standards Pamphlet*. Specific criteria, such as Military Handbook 1191, *DoD Medical Military Construction Program Facilities, Design and Construction Criteria*, take precedence over general criteria.

Clearly identify and spend adequate time discussing special design considerations. A list of such items is provided in [Appendix 35, Predefinition Conference Special Considerations](#). Handicapped accessibility, energy monitoring and control system (EMCS), and adequacy of existing utilities should be discussed on all projects. The BCE has the responsibility to verify the adequacy of utilities to the site. Any off-site utility improvements must be included in the DD Form 1391.

F. Critical Need Dates

Identify any critical need dates associated with the project as soon as possible since these dates impact design requirements and the construction schedule. The "critical need date" is the date established by the MAJCOM or the User as the last date the facility can be turned over to the User for occupancy without adverse mission impacts. These dates may be driven by a new or changed mission, or may be due to the established delivery date of specialized equipment integral to the facility and/or a critical mission.

G. Project Phasing

When phasing is required, include possible strategies in the PMP, note cost and schedule impacts, and discuss possible strategies to be considered by the A-E!

Construction phasing is necessary in some projects. Reasons may include demolition, asbestos removal, renovation, critical need date, or other justified requirements. When phasing is required, note cost and schedule impacts and discuss possible strategies to be considered by the A-E. Complex construction phasing will require at least one coordination meeting, specifically addressing the subject. Ensure the phasing plan is coordinated and completely understood by the Users and that the milestone dates are included as a construction contract requirement.

See Chapter 9 for special timelines for NAF projects.

H. Miscellaneous

Travel fund limitations may not allow face-to-face meetings after the A-E gets the Notice to Proceed (NTP) and before the data gathering process begins. Review the process and required products of the data gathering phase. For the simplest or most straightforward projects, much of the data gathering can be done at the Predefinition Conference. Help the A-E get as much information as possible. Then list the information that is still owed to the A-E and define who is responsible for securing it.

Review diagrams and drawings; specify each as either definitive or for general guidance only. Identify where the A-E has functional, technical, and aesthetic criteria flexibility.

The conference should be concluded only when all participants understand "what is to be done, when, and by whom." In most cases this conference occurs before negotiations to ensure that the A-E has a complete understanding of the scope. The DA should provide minutes to all participants within seven working days following the conference.

At the conclusion of the conference, it is normal to visit the project site, the User's current facilities, and Base cornerstone facilities.

V. Conference Action Items

A-E representatives keep their own minutes and collect all data necessary to provide a fee proposal.

The AF PM's Predefinition Conference and weekly meetings minutes should be signed by all parties and maintained in the official contract folder.

The AF PM should coordinate all meetings in writing through the Contracting Officer. Set the agenda and schedule. Use a checklist to ensure coverage of all topics.

Allow representatives from Base support organizations (i.e. communications, bio-environmental, fire department, etc.) to give their input early in the meeting agenda.

The AF PM should seek involvement from the highest level possible in the User and BCE organizations to promote top-down understanding of the project.

The primary purpose of the Predefinition Conference is to ensure everyone that the A-E has an understanding of the project and has all information necessary to prepare a fee proposal. Give the A-E the format preferred for the fee proposal so the A-E can respond in a manner that will facilitate comparison with the Independent Government Estimate (IGE).

Give the following to the A-E: as-builts, site plans and maps (utilities, topographic surveys, soils information, etc.), fire protection requirements, similar building design documents, computer assisted drafting and design (CADD) requirements, EMCS data, etc..

Discuss any Base clearance and access requirements for the A-E's personnel. Establish parameters for permits, clearances, schedules for soil borings, and other A-E activities.

Environmental permitting requirements must be handled in a conscientious and timely manner. As part of the Predefinition Conference, discuss the known environmental issues surrounding the project with the DA and the A-E. Require the A-E to review current governing environmental regulations and talk with the Base environmental office to determine all environmental impacts of the proposed project. Require the A-E to identify all environmental construction permit requirements as part of the Project Definition submittal.

AF/ILEC policy is that the Environmental Impact Analysis Process (EIAP) must be initiated (and ideally completed) before a DD Form 1391 is submitted to AF/ILEC. The optimum situation is that the EIAP should be completed before the start of the Project Definition phase. Air Force policy also is that the MAJCOM cannot advertise a MILCON project until the EIAP is complete.

The AF PM must ensure actions have been taken to satisfy the requirements of the following AFI's prior to the Predefinition Conference:

AFI 32-1021, Planning and Programming of Facility Construction Projects, states the MAJCOM is responsible for initiating the EIAP (paragraph 1.3.5). Chapter 2 provides a detailed list planning actions and environmental permits that must be obtained by the Base.

AFI 32-7061, The Environmental Impact Analysis Process, describes what must be done and states that the host command prepares the environmental documents or directs the host base to do so (paragraph 2.2.1). The AFI also states that contract EIAP efforts are proponent MAJCOM responsibilities (paragraph 2.3).

AFM 32-10138, Military Construction Planning and Programming Manual, also describes critical planning actions and environmental permits that must be obtained by the Base (paragraph 4.8).

Review the products checklist below and update, modify, and hand-off to the A-E all required products.

Request through the Contracting Officer that the A-E provide the Government a copy of their meeting minutes for feedback.

See the PD Tutor software for more detail on the Predefinition Conference.

VI. Products of the Predefinition Conference

The following items are major topics that may need to be addressed at the conference, although not every topic is applicable for every project. Table 4-3 Predefinition Conference Products Checklist, identifies additional topics or issues.

- Modified RAMP - The A-E, DA, and the Air Force project team members need to reach agreement on the meaning of the RAMP. If any modifications are required, have these documented in the minutes of the meeting.
- Team Directory - Review and establish a current team directory. Include functional title, address, telephone and fax numbers, and e-mail address for each member.
- Validated SOW - Copy and distribute a "marked-up SOW" to the A-E and DA. Include a draft of the schedule of all tasks and activities within the PD phase.
- Action Items - Create a list of information required during data collection and preparation for the charrettes. Emphasize the due date and person responsible for each action item.
- General Plan and Design Guidelines - Give the A-E all available criteria documents such as installation standards, architectural compatibility guidelines, BCP component plans and reference drawings, and Assistance Team (AT) studies. Identify all unavailable information on the action items list.
- Environmental Concerns - Create or mark-up an environmental permitting checklist. Explain to the A-E what is known and not yet known about environmental issues for the project. Identify the points of contact for Base environmental issues.
- Utility Drawings and As-Builts - Give the A-E all pertinent Base site and utility plans and as-builts for existing facilities that will be affected by the new project.
- Approval Process - Document the decision making and approval processes for the various project issues - budget, scope, function, aesthetics, etc..
- Budget Assumptions - Give the A-E all back-up data that supports the DD Form 1391 budget.
- Special Design Considerations - Give the A-E requirements of any special design considerations for the project that may not be fully explained in the RAMP. These may include EMP/TEMPEST shielding, heat recovery, standby power, special environmental requirements, etc..
- Site Photographs - The A-E should take photos during the site visit and key these to a site plan for future reference.

Predefinition Conference Products Checklist

Table 4-3

- Requirements Document (RD)
- Project Management Plan (PMP)
- Project management team directory
- Validated statement of work (SOW)
- Milestone schedule
- Action items and dates when answers are due
- BCP and design guidelines
- List of environmental issues
- Utility drawings and as-builts
- Approval process diagram
- Budget assumptions/back-up data
- List of special design considerations
- Site photographs (if available)
- Value Engineering (VE) study requirements: Determine whether a VE study will be required
- A-E proposal format
- Contracting Officer's minutes of Predefinition Conference
- Sample A-E fee proposal paralleling the IGE
- Requirements for phasing work which could impact the A-E's fees.

See Chapter 9 for special NAF requirements.

VII. Update SOW, Project Design Schedule, and Estimate

After the Predefinition Conference, the AF PM must update the SOW and the detailed IGE and incorporate relevant modifications to the PMP. For those projects requiring structural interior design (SID) or comprehensive interior design (CID) services, see the [Air Force Interior Design Guide](#) at <http://www.afcee.brooks.af.mil/DC/products/DCproducts.asp>, under Products and Services. These formats may be modified for the individual project.

The Contracting Officer reviews the AF PM inputs and confirms funding adequacy. The BCE staff review and comment on the revised SOW and schedule. The User coordinates on the BCE reply.

The AF PM makes changes to the SOW and project design schedule during the Predefinition Conference. The AF PM must send the revised SOW to the Contracting Officer for transmittal to the selected A-E for pricing. Clearly identify all changes in the revised SOW.

Remember that the revised SOW must still be within the intent of the SOW described in the published Commerce Business Daily (CBD) synopsis and the scope and budget reflected in the approved DD Form 1391. If this is true, the A-E should proceed in preparing a fee proposal based upon agreements and clarifications made during the Predefinition Conference.

Resolve any budget/scope conflicts. Revise the IGE to reflect changes discussed in the Predefinition Conference. Clearly identify the changes in the revised Independent Government Estimate. Clearly indicate direct design cost as a percentage of estimated construction cost.

Products:

- Revised SOW
- Project design schedule
- Contracting Officer's official transmittal letter to A-E
- Revised IGE

VIII. Requirements and Management Plan (RAMP)

A. Review Requirements and Management Plan

The design start may have to be delayed pending resolution of conflicts between the HQ USAF/ILEC PI and DIs, MAJCOM Field DIs or RAMP. However, if the AF PM is confident that all conflicts can be resolved – press on.

Review the RAMP, providing responses or clarifications to all questions from the A-E or User. Assign action items with appropriate Offices of Primary Responsibility OPRs and identify a firm response due date to the A-E if clarification is not possible at the conference.

The review and discussion of the RAMP should include the BCP and Base facility standards and guidelines. If User needs or conditions at the Base or at the site have changed, update the RAMP and make modifications to the A-E's SOW if appropriate for the project. If this requires a Government-only meeting, ask the A-E to leave the room. The A-E will be making a fee proposal and be held to this scope of work; therefore, it must be fair and correct.

Using the RAMP as guide, the Users validate and explain the project's functional requirements. The Contracting Officer makes sure the A-E understands the contract's administrative issues and scope. BCE staff provide local requirements on maintenance, design, compatibility criteria, etc..

IX. A-E Proposal Review

The Contracting Officer receives the A-E's proposal and provides copies to the AF PM, or may have the A-E supply copies directly to each party. The AF PM and the Contracting Officer review the A-E's price proposal.

The Contracting Officer may request the Defense Contracting Auditing Agency (DCAA) to audit the fee proposal if the proposal is \$500,000 or greater (Federal Acquisition Regulations 15.403-4) and the A-E firm has not been audited in the past 12 months (Federal Acquisition Regulation 15.404-2). This audit normally takes from 45 to 60 days and is typically a review of the A-E's general and administrative (G&A) overhead costs and salary rates. It is not an audit of the A-E's estimated man-hours for doing work.

The AF PM should confirm that the A-E's price proposal is formatted the same as the IGE. This request can be accomplished by providing clear guidance to the A-E during the Predefinition Conference. If the first proposal is considerably above the IGE, hold a fact-finding session with the A-E to clarify the SOW and request a revised proposal. The proposal analysis and audit (if required) are then initiated on the revised proposal.

The AF PM prepares the technical evaluation of the A-E's proposal and provides it to the contracting office. The AF PM should check with the Contracting Officer prior to performing the technical evaluation to determine the level of detail required. See the AF PM's A-E technical evaluation sample in [Appendix 36, A-E Proposal Technical Evaluation](#).

X. Pre-Business Clearance Memo

The Contracting Officer prepares the Pre-Business Clearance Memo (sometimes referred to as the Pre-Negotiation Objective.)

The purpose of the Pre-Business Clearance Memo is to establish the Government's position on the fee proposal submitted by A-E. The AF PM and Contracting Officer should establish positions on each line item of the fee proposal, and establish the Contracting Officer administrator's limit of authority to negotiate fees. This limit is set by Contracting Officer policy and established by the Contracting Committee.

If the A-E's fee proposal, the IGE, and the limits of authority for this project type are far apart, the AF PM should suggest either:

- Having the Contracting Officer administrator's limits raised; or
- Having someone with authority to exceed limits attend the negotiations; or
- Including a Contracting Committee member in an A-E/Government fact-finding meeting so that they can understand why the large discrepancy exists and get limits changed if required.

XI. A-E Fee Negotiations

The AF PM may serve as the (1) Contracting Officer's Technical Representative (COTR) or (2) Contracting Officer's Representative (COR). In this situation, the AF PM is serving as part of their staff, and any authority to negotiate stems from the Contracting Officer and should only be exercised in the presence of, and with prior approval of, the Contracting Officer. The COTR role of the AF PM should be thoroughly discussed and documented prior to beginning A-E negotiations.

The Contracting Officer organizes and schedules the negotiation session, and negotiates the contract. Only the Contracting Officer is authorized to negotiate and contractually obligate the Government. The A-E firm selected to design the project will designate a company officer to negotiate and contractually obligate the firm.

The AF PM will confirm the project SOW and schedule with the A-E and obtain agreement on project scope and delivery schedule. The Contracting Officer keeps a record of all discussions and agreements during the negotiations.

The Contracting Officer or designated representative will negotiate differences between the IGE and the A-E's proposal. If the Contracting Officer will not designate the AF PM to perform this function, then the Contracting Officer should mediate the negotiations.

If agreement cannot be reached with the top-ranked firm, the Contracting Officer should ask for a written best and final offer (BAFO) from the A-E. This must be done formally by the Contracting Officer and should be done expeditiously to allow proceeding on to the second-ranked firm.

If negotiations with the top-ranked firm are terminated, begin discussions with the second-ranked firm by conducting another Predefinition Conference followed by issuance of an RFP.

The Contracting Officer is in charge of the negotiations process. Discuss all issues and strategies with the Contracting Officer away from the negotiation table.

The Contracting Officer discusses and agrees on all clarifications and assumptions listed in the A-E's proposal. The initial negotiation should focus on major areas of disagreement and agreement with general comments on the order of magnitude of differences.

The Contracting Officer should allow the A-E sufficient time to consider comments, and may reconvene negotiations with detailed item-by-item discussions of remaining differences. Review of drawing requirements is typically a good place to start. An agreement on drawings will have a direct impact on total man-hours.

The Contracting Officer negotiates differences until consensus or agreement is reached. The AF PM prepares an informal memo of concurrence with negotiations for the Contracting Officer, particularly if the scope is modified. The memo should state the AF PM agrees with negotiations and the final fee agreement. See [Appendix 59, Memo of Concurrence with A-E Negotiations](#).

The AF PM and the Contracting Officer must remember that A-E fees for the preparation of designs, plans, drawings, and specifications for a MILCON project are limited to 6% of the project's estimated construction cost. Other A-E services are not subject to the 6% limitation. See DFARS 236.606-70 for further information.

If the total cost of A-E services is expected to exceed \$500,000, Congressional notification is required per Title 10 U.S.C. 2807 and must be completed prior publishing the CBD synopsis or starting design. See Chapter 2, *Before Design Starts*, for additional information.

At the conclusion of negotiations, the AF PM initiates the final funds request and updates the IGE estimate and any other project or contract documents affected by the negotiations, as required.

End the session with a handshake or some other positive symbol of agreement between the Government and the A-E's negotiation team.

XII. Contract Award & Notice to Proceed

The Contracting Officer obligates the Government after the A-E signs the contract.

The A-E signs the contract indicating commitment to provide project design in the required time and at fees negotiated.

Execution of the contract requires A-E and Contracting Officer signatures. Only the Contracting Officer can authorize the A-E to begin work.

After the A-E signs the final version of the contract, the Contracting Officer signs the contract with the A-E and issues the Notice to Proceed (NTP).

The A-E acknowledges the NTP.

If, after contract signature, circumstances prevent the Contracting Officer from issuing the NTP, suggest the NTP be issued with contract award and notifying the A-E by phone or fax.

Chapter 5 – Project Definition and Contract Document Development

Contents		
	I. Introduction	3
	II. Project Definition	4
	A. General	4
	B. Goals	4
	III. Project Definition - Requirements Analysis	5
	A. Data Gathering Process and Products	5
	B. User Questionnaire	7
	C. Interviews	7
	D. Requirements Analysis Charrette	7
	E. Cost Control	11
	IV. Project Definition (PD)- Design Charrette	11
	A. General	11
	B. The Design Team	12
	C. Design Charrette Products	12
	D. Sustainable Development - New Projects	14
	E. Sustainable Development - Renovation Projects	15
	F. Architectural Compatibility	15
	G. Structural Interior Design (SID)	15
	H. Comprehensive Interior Design (CID)	15
	I. Security	18
	J. Design Schedule	18
	K. Value Engineering (VE)	19
	1. Policy	19
	2. Procedures	19
	L. Project Definition (PD) - Design Submittals	20
	V. Contract Document Development	21
	A. General	21
	B. Design Progress Submittals	21
	1. Early Preliminary Design Submittal (30%)	22
	2. Preliminary Design Submittal (60%), if required	23
	3. Pre-Final Design Submittal (90%)	23
	4. Corrected Final Design (100%)	23
	C. Ready to Advertise (RTA)	23
	D. Procedures for Projects "On-Hold"	24
	VI. Contract Document Development - Formal Review Process	24
	A. Process	24
	B. Content	24
	C. Transmittals	25
	D. A-E Annotations	25
	VII. Cost Control and Scope Changes During Design	25
	VIII. Performance Period and Phasing for Occupied Sites	26

Reference Documents

[Achieving Design Excellence](http://www.afcee.brooks.af.mil/dc/DCD/arch/designbrochure/DEsingleph.pdf)

<http://www.afcee.brooks.af.mil/dc/DCD/arch/designbrochure/DEsingleph.pdf>

[AFI 32-9005, Real Property Accountability and Reporting](http://afpubs.hq.af.mil/pubfiles/af/32/afi32-9005/afi32-9005.pdf)

<http://afpubs.hq.af.mil/pubfiles/af/32/afi32-9005/afi32-9005.pdf>

[AFPAM 32-1097, Sign Standards Pamphlet](http://afpubs.hq.af.mil/pubfiles/af/32/afpam32-1097/afpam32-1097.pdf)

<http://afpubs.hq.af.mil/pubfiles/af/32/afpam32-1097/afpam32-1097.pdf>

[AFI 32-1023, Design and Construction Standards and Execution of Facility Construction Projects](http://afpubs.hq.af.mil/pubfiles/af/32/afi32-1023/afi32-1023.pdf)

<http://afpubs.hq.af.mil/pubfiles/af/32/afi32-1023/afi32-1023.pdf>

DD Form 1391, FYxx Military Construction Data (Appendix 9)

[ETL 88-4, Reliability and Maintainability \(R&M\) Design Checklist](http://www.afcee.brooks.af.mil/DC/products/DCproducts.asp)

<http://www.afcee.brooks.af.mil/DC/products/DCproducts.asp>

[ETL 94-7, EPA Guideline Items in Construction and Other Civil Engineering Specifications.](http://www.afcee.brooks.af.mil/DC/products/DCproducts.asp)

<http://www.afcee.brooks.af.mil/DC/products/DCproducts.asp>

Military Handbook, MIL-HDBK 1191, DoD Medical Military Construction Program Facilities, Design and Construction Criteria.

[OMB Circular A-131, Value Engineering, May 21, 1993.](http://www.whitehouse.gov/omb/circulars/a131/a131.html)

<http://www.whitehouse.gov/omb/circulars/a131/a131.html>

Partnering – A Concept for Success, published by Associated General Contractors of America (AGC)

[ER 715-1-7, Procurement – Architect-Engineer Contracting, 31 May 1999,](http://144.3.144.209/corpusdata/inet/usace-docs/eng.pamphlets/ep715-1-7/entire.pdf)

<http://144.3.144.209/corpusdata/inet/usace-docs/eng.pamphlets/ep715-1-7/entire.pdf>

[Partnering Guide for Environmental Missions of the Air Force, Army and Navy, July 1996](http://www.hq.usace.army.mil/cemp/c/partner.htm)

<http://www.hq.usace.army.mil/cemp/c/partner.htm>

An audiovisual package is available which contains: viewgraphs, 35mm slides, an editable PowerPoint presentation, and a 9-minute videotape, "Good Design Happens by Design."

<http://www.afcee.brooks.af.mil/DC/products/DCproducts.asp>

[Air Force Environmentally Responsible Facilities Guide, AFCEE, June 1998](http://www.afcee.brooks.af.mil/green/facilitiesguide/facguide.asp)

<http://www.afcee.brooks.af.mil/green/facilitiesguide/facguide.asp>

[Level 1 Memorandum of Understanding \(MOU\) between the Air Force Office of the Civil Engineer \(HQ USAF/ILE\) and the HQ U.S. Army Corps of Engineers, February 1991.](http://www.afcee.brooks.af.mil/DC/products/refdocs/mou1.doc)

<http://www.afcee.brooks.af.mil/DC/products/refdocs/mou1.doc>

[EPA Publication EPA530-B-98-007, Resources About Buying Recycled Products \(September 1998\).](http://www.epa.gov/ncepiphon/Catalog/EPA530B98007.html)

<http://www.epa.gov/ncepiphon/Catalog/EPA530B98007.html>

[Air Force Interior Design Guides.](http://www.afcee.brooks.af.mil/DC/products/DCproducts/.asp)

<http://www.afcee.brooks.af.mil/DC/products/DCproducts/.asp>

[Air Force Parametric Cost Engineering System \(PACES\).](http://www.afcesa.af.mil/Directorate/CES/Civil/CostEngr/CostEngr.htm)

<http://www.afcesa.af.mil/Directorate/CES/Civil/CostEngr/CostEngr.htm>

Chapter 5 – Project Definition and Contract Document Development

I. Introduction

The design process is initiated with the Predefinition Conference (see Chapter 4) and the Notice to Proceed (NTP) to the A-E or the Design Agent's in-house design staff (see Chapter 3). The design process has two major phases: Project Definition (PD); and Contract Document Development. See Table 5-1 below for a general Project Definition and Construction Document Development Checklist.

Project Definition and Construction Document Development Checklist

Table 5-1

Action	OPR
<input type="checkbox"/> Conduct predefinition conference	AF PM
<input type="checkbox"/> Issue notice to proceed with project definition	CO
<input type="checkbox"/> Define customer requirements	A-E
<input type="checkbox"/> Data gathering	A-E
<input type="checkbox"/> Conduct requirements analysis charrette	A-E
<input type="checkbox"/> Develop project definition design charrette	A-E
<input type="checkbox"/> Prepare construction development documents	CO
<input type="checkbox"/> Prepare RFP draft SOW	A-E
<input type="checkbox"/> Review RFP draft SOW	AF PM
<input type="checkbox"/> Obtain funding and authority to advertise	AF PM
<input type="checkbox"/> Prepare source selection plan	AF PM
<input type="checkbox"/> Prepare evaluation factors	AF PM
<input type="checkbox"/> Approve source selection plan	SSA
<input type="checkbox"/> Issue advance notice CBD	CO
<input type="checkbox"/> Issue draft RFP to potential bidders, if used	CO
<input type="checkbox"/> Perform final RFP review	All
<input type="checkbox"/> Issue RFP	CO
<input type="checkbox"/> Issue appointment letters for SSET, TET, CET	SSA
<input type="checkbox"/> Conduct training for SSET, TET, CET	CO
<input type="checkbox"/> Conduct pre-proposal conference	AF PM
<input type="checkbox"/> Manage inquiries	PO
<input type="checkbox"/> Amend RFP, if necessary	PO

The Project Definition phase consists of two activities: the Requirements Analysis, when data gathering on the project requirements is completed and validated; and the Design Charrette, when the schematic or concept design is developed, including a parametric cost estimate based on the validated requirements and concept design. A completed PD, a firm site, and a parametric cost estimate satisfy the Congressional requirements for submitting a project in the President's Budget. See [Appendix 37, Project Definition Overview Matrix](#) for an overview of the Project Definition Process.

The Contract Document Development phase includes design development and preparation of working drawings and specifications, and culminates with 100% complete design documents.

A project is considered Ready to Advertise (RTA) with 100% design complete documents, completion of the Environmental Impact Analysis Process (EIAP), and the addition of the contract bid documents. The contract bid documents are provided by the Contracting Officer.

II. Project Definition (PD)

A. General

The Air Force Project Manager (AF PM) is responsible for the Project Definition phase, and must lead this portion of the design process. The Level 1 Memorandum of Understanding between the Air Force Office of The Civil Engineer (HQ USAF/ILE) and HQ U.S. Army Corps of Engineers, February 1991, gives the Air Force ownership of the Project Definition process.

Following the Notice to Proceed (NTP) for the design contract, the Project Definition phase begins. During this phase, the A-E will take the project requirements information from the Requirements and Management Plan (RAMP) and define the detailed technical and functional information necessary to start the design phase. See [Appendix 38, Project Definition Schedule](#), for more information on Project Definition Schedules.

When practical, it is advantageous to use the same A-E to complete both the Requirements Document elements of the RAMP and the project design. However, this option will not always be available due to time, funding, or other considerations. Before preparation of the RAMP, review the various aspects of the project delivery schedule with the Major Command (MAJCOM) and the Design Agent (DA) to determine the most appropriate means for acquiring project design services. Remember that preparation of the RAMP and related planning activities must be funded from the operations and maintenance (O&M) account.

The Users will be primarily concerned with quality and function and will rely on the AF PM for technical decisions, cost control, and schedule aspects of the project. The AF PM must ensure that the Project Definition addresses these items and is compatible with the quality and function to avoid redesign later. For example, the Users probably don't care about the size of ducts, how wire gets from a switch to a fixture, or if the structure is steel or concrete. They only care that these things work. If the AF PM and the A-E do a good job during the Project Definition phase, the need to return to the Users to confirm requirements during the Contract Document Development phase will be minimized.

An example statement of work (SOW) for Project Definition can be found in [Appendix 19, Statement of Work](#). The SOW identifies the Project Definition requirements for the most complex project. Tailor the type and number of submittals in the example SOW to fit the specific project complexity, time constraints, and funds availability. In general, prompt submittals and reviews are required to maintain timeliness, clarity, and uniformity throughout the Project Definition phase will be minimized.

B. Goals

There are five primary goals for the Project Definition phase:

1. Identify and validate all technical and functional requirements.

2. Resolve siting issues. Assure compliance with the Base Comprehensive Plan; incorporate Base, MAJCOM, and all applicable Air Force architectural and design requirements; and validate the facility acquisition strategy.
3. Develop a schematic or concept design that satisfactorily addresses all of the technical and functional requirements identified and validated during the Requirements Analysis phase.
4. Revise or validate the parametric cost estimate developed during the RAMP.
5. Apply Cost Control During Design methodology (see [Appendix 3, Cost Control](#)) to ensure the project scope, requirements, and estimated cost defined during Project Definition are in agreement with the project scope, requirements, and estimated cost defined in the Requirements Document and on the official DD Form 1391.

The key to achieving these goals is for the AF PM to ensure that the User and other Air Force team members are actively involved throughout every step of the Project Definition. A properly assembled Project Definition document will greatly reduce the likelihood of changes during the design stage and later in construction.

III. Project Definition - Requirements Analysis

Comprehensively and clearly defined requirements at the outset will minimize unpleasant events during project development.

The Requirements Analysis effort identifies and validates the functional and technical requirements of the project and specifies building systems to a level of detail required to define User requirements and to ensure an executable project. The level of detail may vary from system to system. For example, the AF PM may define building elevations to Early Preliminary Design because the customer cares about the appearance; some details may be taken even further. Conversely, the AF PM may describe the structural system with a narrative equivalent to less than 5% design. The required level of detail for systems should be spelled out in a statement of work and given to the A-E at the Prenegotiation Conference. Most of a User's requirements are well documented during the Requirements Analysis. The bottom line is that all building systems and elements must be defined to the minimum level of detail necessary to allow validation of the project scope, site, and costs.

The Requirement Analysis effort consists of two primary tasks: Data Gathering; and the Requirements Analysis Charrette.

A. Data Gathering: Process and Products

The A-E likely will have visited the site during the Predefinition Conference. If not, the A-E must do so now, taking photographs, kicking the dirt, and comparing base development drawings with reality. If covered in the travel budget in the A-E's contract, the A-E may also visit similar on-base facilities at other bases, or in the private sector if applicable. The A-E will learn a great deal about Air Force quality standards by seeing what the Base Civil Engineer (BCE) and Users like and don't like about their existing facilities.

Depending on the site and the nature of the facility, it may be appropriate to perform a survey of the site, conduct a geotechnical investigation, or prepare environmental studies. The geotechnical information may have a major impact on the cost estimate. Typically, environmental investigations show problems from previous uses that can dramatically affect the project costs, or might require the preparation of environmental studies involving different funds, schedules and approvals.

The A-E will ask the BCE and the Base environmental officer if recent studies on or near the site are available. These may be sufficient for the Project Definition effort. Plan carefully to avoid delay if additional studies are required as these may take several months to complete. Including this requirement, if needed, in the Project Definition statement of work (SOW) for the A-E's contract may be the fastest route. However, **O&M funds must be used for any environmental studies.**

Research is primarily conducted by the A-E working with other team members. The A-E will meet with the AF PM, the BCE, Base fire chief, security officer, communication officer, safety and environmental management, bioenvironmental engineering, and User team members to collect copies of the standards, guidelines, publications, maps, and plans referenced in the RAMP. See Table 5-2, Requirements Analysis Products of the Data-Gathering Process.

Requirements Analysis— Products of Data-Gathering Process

Table 5-2

1. User's Questionnaires & Interview Documentation	<p>From the completed User's questionnaires, the A-E will compile the projected User organizational charts and diagrams and matrices which document the User's functional relationships and adjacencies between work groups.</p> <p>The User's questionnaires will also document all unique building and site requirements such as hardening, uninterrupted power supply, fuel storage, etc..</p>
2. Existing Environmental Studies	<p>Products include copies of base standards which may affect the site or project, copies of any agreements, or permits with non-Air Force agencies having jurisdiction, and a "laundry list" of issues to be resolved or clarified during the charrette.</p> <p>The A-E will also collect copies of any environmental impact studies that have been done specifically for this project such as existing environmental, noise, air and water quality studies.</p>
3. Comprehensive Plan Documents	<p>The A-E will collect and examine any special planning studies (traffic/parking studies, etc.), area development plans, element plans, component plans, and general plans. The associated mapping for these plan documents will provide detailed illustrations. Most plan documents and maps are available in electronic format.</p>
4. Surveys & Soils Reports	<p>The A-E will document the project site conditions, including topography, location and sizing of utilities, width of adjacent streets, pavements and ditches, the location of existing landscape materials, and other obstructions in sufficient detail to ensure that the facility siting is acceptable and costs are adequate for the requirements.</p>
5. Utility Capacity & Estimated Building Load	<p>Products include maps of the existing utility and transportation systems with capacities indicated. The A-E will prepare an estimate of the anticipated utility and transportation loading which the new facility will place on the existing systems.</p>
6. Equipment & Furniture Lists	<p>The A-E will collect from the Users or the BCE the inventory and specifications of existing equipment and furnishings which will be reused in the new facility. The A-E will also collect the budgets and specifications of all new non-MILCON funded items that are to be accommodated in the new facility.</p>
7. Cost Data and Assumptions	<p>The A-E will gather cost engineering information used by the programmer who prepared the DD Form 1391:</p> <ul style="list-style-type: none"> Escalation factors Area Cost Factors SIOH or SA percentages Inclusions and exclusions from the DD Form 1391 Basis of primary facility unit prices (OSD or historical) Types of space breakouts, e.g. administration, auditorium Building systems anticipated <p>The A-E's estimator will begin building the database for cost modeling that will be used during the Requirements Analysis and later design phases. The A-E's cost model should be compatible with the Air Force Parametric Cost Engineering System (PACES) format.</p>
8. Post Occupancy and Value Engineering Studies	<p>The A-E will request and review Post Occupancy Evaluation and value engineering (VE) studies completed on similar Air Force or Department of Defense (DoD) projects to take advantage of lessons learned.</p>
9. Site Photographs	<p>Video, photographs, or slides of the project site, surrounding structures, and existing conditions must be prepared for the on-site charrette(s). Consider digital photograph/electronic formats.</p>

B. User Questionnaire

The A-E typically has an SOW requirement to prepare questionnaires for User validation of space, staffing, and equipment requirements, and to determine space adjacency priorities. Questionnaires are a means of collecting quantitative information, but are not a substitute for face-to-face interviews.

The first submittal by the A-E is the User questionnaire. An example User questionnaire is in [Appendix 2, Sample User Questionnaire](#). This questionnaire is used by the A-E to begin quantifying the User's needs and the design criteria. A well-designed questionnaire will stimulate discussion between the User, the project management team, and the A-E and will force the User to give greater consideration and thought to the substance and interaction of the mission needs and the building function.

Conduct a conference call with the BCE, the User's project coordinator, and the A-E to review a draft of the questionnaire and its instructions. Look for clarity of instructions; specific directions on when, where, and to whom to return the questionnaire; ease of understanding; and appropriateness of detail. Expect some disagreement among the team players about how much detail to ask the User representatives.

A cover letter from the Base Commander or User's Commander ensures better return rates on questionnaires and can set the right expectations. Don't lead Users to expect that if they ask for space or equipment, it will necessarily be included in the project. Often a brief information packet about the project's current status will defuse confusion and rumors.

C. Interviews

Some interviews can wait for the Requirements Analysis Charrette when multiple groups can hear the same thing, exchange ideas, and resolve conflicts. Some interviewing can be done by telephone or in person before the charrette. These more private sessions might uncover concerns, seemingly unlikely problems, or solutions that may not emerge in a larger group.

This is the time to question team members whose information seems at odds with the RAMP or DD Form 1391. For example, if the existing utility system map is inconsistent with the site visit observations, ask the BCE to update the map prior to the charrette. If the Base fire chief's standard for hydrants and sprinkler coverage exceeds the assumptions behind the RAMP's cost estimate, identify the source of the confusion now. This is also a good time to meet privately with the BCE and User to uncover new agenda items to include in the project goals.

D. Requirements Analysis Charrette

This charrette is a series of intensive on-site interviews between the A-E and the Users, interested Base organizations, the BCE staff, and the project management team. As a minimum the Base organizations contacted should include the Base security police, fire department, communications, and environmental management.

Scheduling the logistics for the charrette workshop and User involvement during the Requirements Analysis Charrette is critical. This subject must be thoroughly discussed at the Predefinition Conference to ensure all Users are available, and that appropriate work areas are reserved for the team members. A successful charrette is the result of good, up-front planning.

The purpose of the charrette is to fully develop and quantify the functional and technical requirements of the project using the User questionnaire as a starting point. This action may be skipped as a design cost savings when the project is a straight forward, one- or two-discipline project such as a water line replacement or a base-wide Energy Monitoring and Control System (EMCS).

A cost estimator with appropriate estimating tools and current cost data should be included during the charrettes to ensure all changes or additions are properly estimated. See [Appendix 3, Cost Control](#), for additional information.

As a practical matter, the AF PM should be actively involved with the coordination efforts for arranging the charrette. Ensure the interviews are scheduled well in advance and that each office knows their allotted time. The AF PM's participation in the charrette should be

to enhance the communications between the Air Force participants and the A-E, to offer suggestions to improve criteria without unnecessarily adding cost, to identify any and all Air Force criteria (ETLs, etc.), to mediate conflicting needs between Base participants, and to "hold the line" when it comes to authorized scope and cost.

Prior to the charrette, the A-E will have prepared summaries, graphic displays, and question sheets so that space and requirements issues are addressed during charrette meetings and time is used efficiently. The A-E may use bubble diagrams to show desired or competing adjacencies. The A-E may use stacking and blocking diagrams to show the ways space can be used or brown sheet diagrams to show proportionate use of space. The A-E may also bring a dozen or more Base maps printed on analysis cards to document information that they have obtained during the Requirements Analysis Charrette.

Holding the line on authorized scope and cost is a most delicate challenge, because the MAJCOM has the authority to extensively change the scope and cost at this stage of design. In fact, one of the reasons for the questionnaire and a charrette is to identify early during the design process the difference between that which was programmed and that which is actually needed to perform the mission. Ensure that the charrette does not become a convenient time to add personal preference items to the project which increase cost, scope, or both without adding functionality, value, or increased mission effectiveness. The AF PM and the DA must exercise great care to maintain the authorized project scope and PA.

The design team must evaluate all building systems and materials based on functionality, mission requirements, sustainable development considerations, and life cycle cost analysis that considers long-term operating, maintenance, and replacement costs. The sustainable development and life-cycle cost implications of decisions made during the charrette process will affect the facility footprint and configuration, siting, and the selection of materials and building systems. First costs must be balanced against long-term operating and maintenance costs to determine what combination provides the best value within the budget. Value engineering (VE) is an effective tool available for this type of evaluation and may be used during the charrette process, as well as during subsequent design development.

Environmental concerns must be identified by reviewing existing environmental studies and permit requirements. Try to view these requirements as opportunities for implementing sustainable development initiatives. Whenever feasible, apply pollution prevention solutions, to avoid the need for environmental permits or mitigation actions. Use the sustainable development goals previously established for the project to drive decision-making.

The A-E should provide photocopies and photographs formatted into an 8-1/2" X 11" report to provide documentation of the products and process of the Analysis Charrette. Such documentation provides the decision-history record for the project. It provides the direction for design as well as the documentation necessary to revisit any decision. The AF PM, the A-E, and other team members will find it a valuable document and worth the effort of photocopying and binding.

Discuss the need to create a review comment format. This will assist the A-E in analyzing comments from a variety of sources. If the AF PM or the DA has a preferred format, give a copy to the A-E for distribution with the documentation. The U.S. Army Corps of Engineers (COE) uses the Automated Review Management System (ARMS) on-line format, but this may not be available to the Users.

Make sure that team members receive all of the Requirements Analysis documentation. Some of the team may not have participated in the entire charrette, and some of the later comments may affect them. Also, some new information may have become available since completion of this charrette that may affect others. Ask the A-E to provide team members with a summary of the documentation and a follow-on schedule for the remainder of the Project Definition effort.

After the documentation is in the reviewers' hands, check with them about midway through the scheduled review period to be sure that they will have their comments completed on time. Stress the importance of this, as it's a prerequisite to the follow-up design charrette.

When comments are finalized, collect them and get them to the A-E. In a conference call with the A-E and DA, determine if any review comments affect the scheduling of the design charrette. If any fundamental issues have been modified that will affect the schedule or budget (e.g., space requirements have been increased, new site conditions have been discovered, additional off-site utility work will be required, etc.), it may be necessary to reconvene the project team for a second Requirements Analysis Charrette to resolve any major issues.

An out-briefing should be conducted with the project team members to ensure that the charrette sessions have challenged and validated the User's requirements and every aspect of the RAMP. Since this review is informal, any comments and modifications made during the out-briefing should be documented during the meeting. This can be done with felt-tip markers on the Requirements Analysis products.

At the conclusion of the charrette, the A-E will produce free-hand sketches depicting the proposed design solution. An out-briefing will be held to allow the A-E to present their interpretation of the project and solicit any last minute changes or recommendations before proceeding with the next stage of design.

Products of the Requirements Analysis Charrette

Table 5-3

<p>1. Project Goal Statements</p>	<p>Initiate and prioritize a listing of project goals.</p>
<p>2. Tabulated Space Projections</p>	<p>A summary of the User's requested space requirements is often presented in a spreadsheet format. It lists projections of personnel; special use areas and equipment; the allowable area for each function, per Air Force standards; the net sum of these areas; the gross area summary; efficiency factors of net to gross area; and special remarks.</p>
<p>3. Analysis Cards of Project Issues</p>	<p>Analysis cards are typically 5" X 8" index cards that are used to graphically convey a thought, idea, or piece of information. Many of these are standard or pre-planned cards with information the A-E has gathered during data collection that needs to be shared with the project team during the Requirements Analysis charrette. These cards document all known project criteria, facts, issues, concerns and decisions. They show diagrams of space area standards, User's comments, special condition requirements, material and building system options, and hundreds of other project issues. The index cards will be sorted and displayed in sequence or by topical categories.</p>
<p>4. Site Analysis Cards</p>	<p>Site analysis cards, typically 5 1/2 X 8 1/2, are also prepared by the A-E to document all important site constraints, issues, and influences. These cards may contain reduced site plans, site area calculations, climatic data, sketches, concept ideas, and notes on site issues to be worked. Site issues should include airfield safety and explosive safety.</p>
<p>5. Environmental Concerns</p>	<p>Products include a checklist of environmental issues that must be addressed by the project and the scope of work to mitigate the issues. Also document sustainability goals for the project.</p>
<p>6. Affinity and Priority Matrices</p>	<p>These diagrams are the documented result of the User questionnaires and interviews. They show the intensity of the need for close proximity relationships between people, work groups, equipment usage, and special use spaces.</p>
<p>7. Brown Sheet Area Summaries</p>	<p>These large format sheets are used to indicate the net space requirements of different functional areas. The A-E will mark up these sheets during the charrette process to document reallocations of space and budgets.</p>
<p>8. People and Process Flow Charts</p>	<p>In facilities that are dependent upon a process or high degree of personal interaction, the A-E should document the critical flow of functions in a graphic format. The Users can then react to and comment on the A-E's understanding of the process and how facility design can provide improvements.</p>
<p>9. Bubble Diagrams</p>	<p>These diagrams are used to document solutions to the affinity/ adjacency relationships of different Users or functions.</p>
<p>10. List of Value Engineering (VE) Opportunities</p>	<p>During the Requirements Analysis charrette, User's requirements and criteria may suggest different potential solutions. These, in turn, may have different costs. The A-E should document these during the charrette as potential candidates for future VE analysis during the Project Definition Design charrette. Other VE opportunities may come from post-occupancy evaluation lessons learned on previous projects and VE databases.</p>
<p>11. Blocking and Stacking Diagrams</p>	<p>These are graphical representations of building area. The blocking diagrams demonstrate the space required by different work groups or functional areas that would occur on the same floor level of a facility. Stacking diagrams demonstrate how these areas would relate to one another vertically in a multilevel structure.</p>
<p>12. Cost</p>	<p>Products include an updated parametric cost estimate and an analysis of problems with scope and budget. Ensure a list of assumptions, alternative building systems, and areas of possible cost problems is prepared. This will provide a familiarity with the potential for major cost problems during the Project Definition Design charrette. Compare the updated parametric cost estimate to the sample estimate done during the Requirements Analysis charrette to see how more detail shows up in the cost estimates.</p>
<p>13. Site Photographs</p>	<p>A record of site conditions is an important product that will be invaluable in the Project Definition Design charrette and will ultimately become part of final Project Definition documentation. Include nearby and key or cornerstone facilities that will impact architectural compatibility</p>

E. Cost Control

The DD Form 1391 is commonly used as a strategy document.

Cost control is important throughout the design process, especially during the Project Definition phase when project requirements and design options are more fluid. The earlier the project team members can determine the cost of design and technical options, the greater the impact their decisions will have on the design process in terms of design costs and time. For example, if the A-E's estimate at completion of the Project Definition phase is higher than the DD Form 1391's programmed amount (PA), determine why the difference occurred. Possible actions include:

- Redefine the Project Definition requirements to delete unnecessarily expensive features.
- Continue the project design within the project scope and approved DD Form 1391 programmed amount (budget), but identify additive bid items.
- Continue the project design with a reduced project scope or reduced requirements that will fit within the DD Form 1391 programmed amount.
- Continue the project design with a reduced project scope or reduced requirements that will fit within approved budget and identify additive bid items.
- If it appears impossible to design the project within 125% of the programmed amount, even after reducing the scope by a maximum of 25% of the approved scope and deleting expensive items, request that HQ USAF/ILEC reprogram the project. Identify potential funding sources from other authorized projects to offset the additional funding required by the reprogramming request.

See Section VII in this Chapter and [Appendix 3, Cost Control](#) for additional information on Cost Control During Design.

IV. Project Definition (PD) – Design Charrette

A. General

The A-E leads this charrette. Normally, the same Air Force and DA team members participate as those attending the Requirements Analysis charrette. Senior project leadership and approvers will participate in the final review of the Project Definition Design Charrette work products at the conclusion of the sessions.

Since the project is now entering a phase that will result in design and engineering solutions, the A-E may add team members. These may include structural and civil engineers, landscape architects, interior designers, and mechanical, electrical, and plumbing engineers.

The goal of the Project Definition Design Charrette effort is to create, with the User's active participation, a responsive schematic project solution based on the documentation of the Requirement Analysis Charrette. The methodology involves exploring options and design alternatives and reducing choices to a preferred solution. The objective of the Project Definition Design Charrette is to reach consensus on the schematic design. The approved solution becomes the basis for project design development and preparation of construction documents during the Contract Document Development phase.

Most of the same processes, tools, and techniques used in the Requirements Analysis Charrette will be used in this charrette. The effort involves intensive work sessions with a collaborative team of Users and design specialists. The A-E may use drafting materials, computer-aided design and drafting (CADD) systems, rough cardboard models, or other sketch techniques to create three-dimensional perspectives of the project. These are excellent ways to display solutions to non-technical key players.

Review the agenda/schedule with the A-E before the Project Definition Design Charrette. The agenda should be segmented into about two-hour slots. All participants need not attend every session but must be available when their interests are addressed. Total team working sessions should be specifically scheduled to bring the team together at least daily. The core team should be present through all sessions. A kickoff session, numerous review sessions and a wrap-up session with the team and User are essential.

After a kickoff briefing summarizing the activities to date, the A-E may introduce alternative design options developed from the Requirements Analysis data. Alternative designs can be initiated in advance of the on-site conference. The A-E will present alternative siting schemes, utility routings, options for resolving environmental issues, facility floor plans, elevations, cross sections, and building systems.

It's not expected that the Users must select one of these options, which represent the A-E's best effort in answering the User's requirements. The A-E fully expects that new options will be explored during the on-site charrette, and that the schematic design solution will evolve during the course of the charrette activities.

B. The Design Team

A design team was established as part of the Project Management Plan. The team includes project managers, project architects and engineers, environmental, safety, and communications professionals, plus other team members and points-of-contact assigned to coordinate and facilitate the project design. In a typical project, these team members and contacts are representatives of the Users, the Base, the BCE, the MAJCOM, the AF PM (if different from the MAJCOM), the DA and the A-E. Although the background, experience, perspectives, and pressures vary among individual members of the design team, it is imperative that the team members get to know each other through routine and continuing dialogue and work together in order to achieve a cost effective, quality, and timely design.

It is important that the routine and continuing dialogue does not circumvent the formal lines of communication that reflect levels of authority, e.g., User to BCE to AF PM to DA to A-E and in reverse order. Loss of communication by circumvention often results in loss of the design intent formulated in the charrette, inadvertent changes in project scope and costs, or breakdown in the chain of communication. There are times when direct contact is necessary such as verifying site conditions, but such communication does not constitute contract authority.

During the Project Definition Design Charrette and subsequent design, management activities draw heavily upon the abilities of the team members representing the Users, BCE, and the A-E. Much time is spent preparing and responding to the User questionnaire, organizing and conducting the on-site interviews and charrette, performing site surveys, locating data, compiling responses to questions on criteria, and marshaling resources.

As the design progresses, the managerial responsibilities transition from the AF PM to the DA team members; for A-E team members, the only break in the design effort comes during periods of government review. During reviews, all other team members should remain actively involved in coordinating and completing the review within the allotted time. Activities of the review team and the A-E will intensify. The DA and the A-E team members are the most active at that point. The AF PM's efforts should concentrate on eliminating obstacles and impediments to team building.

C. Design Charrette Products

The products that the A-E produces during this on-site charrette will be the first draft of the final Project Definition package. The on-site work session may be the last time that the entire project team is assembled together at one time, so it's important that the team members agree that the work products accurately represent the project in scope, design, costs, and User expectations. See Table 5-4: Project Definition – Design Charrette Products.

As a minimum, the products completed by the A-E during the on-site will include:

Project Definition—Design Charrette Products

Table 5-4

<p>1. Site Development Plan</p>	<p>Show all existing and proposed buildings, access roads, parking, landscaping, and any pedestrian walks. Provide utility layouts with sizes, connection points, routings, and any off-site utility upgrade requirements.</p>
<p>2. Schematic Floor Plans</p>	<p>Show all partitions, doors, and openings as well as typical Contractor built-in cabinets, equipment, and plumbing fixtures. Remember that this is not a construction drawing. Include critical notes and dimensions explaining all floor plan features so that people unfamiliar with reading plans will have sufficient information to understand the concept and can locate all spaces.</p>
<p>3. Furniture and Equipment Layouts</p>	<p>Provide a generic furniture/equipment footprint for key spaces or special areas to demonstrate that the spaces are adequate for their intended use. This layout may be included on the schematic floor plan if the plan is not crowded.</p>
<p>4. Building Area Tabulations</p>	<p>Building area tabulations will confirm that the designed gross floor area does not deviate from the authorized gross floor area shown on the DD Form 1391 by more than 25%. Scope increases or decreases greater than 25% of the authorized scope require Congressional notification. The AF PM must also remember that scope increases likely will increase the construction costs.</p>
<p>5. Exterior Elevations</p>	<p>Show architectural style, massing, and materials compatibility with the established Base Comprehensive Plan (BCP) and Architectural Compatibility Guidelines. See Achieving Design Excellence at http://afcee.brooks.af.mil http://afcee.brooks.af.mil, under Products and Services, for more guidance. If a perspective sketch is not provided by the A-E, at least one elevation view should show shadows and proposed landscape materials. Note on the elevations the intended building materials and colors. Massing models and perspective sketches are optional, but helpful, in validating compatibility with the base architectural standards and in obtaining approvals.</p>
<p>6. General Plan Conformance</p>	<p>Validate in narrative format that the design solution meets the requirements of the RAMP and BCP. All base restrictions and compatibility issues must be resolved.</p>
<p>7. Building Sections</p>	<p>Show significant structural features and the relationships of major building systems.</p>
<p>8. Building Subsystem Cost Analysis/Value Engineering</p>	<p>Document the process and conclusions reached during analysis of various building subsystems. Include cost Analysis and VE studies, if performed.</p>
<p>9. Design Criteria and Selected Building Systems Narrative</p>	<p>Address in outline format all proposed building systems, unique design features, and related design criteria. This outline will be developed into a basis of design in the final deliverable.</p>
<p>10. Cost Estimates</p>	<p>Prepare updated functional area and building systems cost estimates. Make sure that the A-E has included all supporting facilities costs. Document any project scope variations, identify alternatives to reconcile the budget, or provide justification for cost adjustments to the MAJCOM.</p>
<p>11. Operability and Maintainability</p>	<p>Report Identify all operating and maintenance (O&M) issues in accordance with Engineering Technical Letter (ETL) 88-4, Reliability & Maintainability (R&M) Design Checklist, and the facility maintenance engineer.</p>
<p>12. Environmental Checklist</p>	<p>Complete draft of environmental concerns and sustainable development considerations that will drive future design and construction decisions.</p>

D. Sustainable Development—
New Projects

Sustainable development must be one of the primary objectives in the planning, design, construction, and operations and maintenance of Air Force facilities and infrastructure. There is overwhelming evidence to suggest this objective has not been adequately addressed in the past. Low initial investment cost has usually been the overriding consideration for new construction, but this short-sighted approach often exacts a high operations and maintenance price over the life of the facility. In addition, there are costs associated with resulting facility downtime and accelerated deterioration that ultimately impact work force well-being and productivity. The long-term impacts of shortchanging operations and maintenance, energy and water conservation, indoor air quality, and other sustainable development concerns far outweigh initial savings.

Keep resource efficiency in mind when selecting building materials. Efficient use of resources includes using materials that are durable, recyclable at the end of their life span, or manufactured using recycled materials. The U.S. Environmental Protection Agency (EPA) maintains a listing of products containing recycled materials for purchase by Federal agencies. These products may be used whenever they satisfy the technical requirements for the project, are available from two or more sources, do not cost more than comparable products without recycled content, and are available in a timely manner. EPA publication No. EPA 530-B-98-007, Resources About Buying Recycled Products (September 1998), addresses these products. See Engineering Technical Letter (ETL) 00-1, EPA Guideline Items in Construction and Other Civil Engineering Specifications, for additional information.

Insist that sustainable development features be given priority consideration in all future plans and designs for new construction and for renovation of existing facilities. A logical approach must include the identification of facility systems and components that have historically been the greatest drain on manpower and resources. The best source of information comes directly from the maintenance personnel and operators who live with our planning, design, and construction shortcomings. The people who must operate and maintain inefficient facilities are the best qualified authorities, and can quickly point out operations and maintenance problems that generate repeated failures and the outpouring of resources year after year. Ensure that a checklist of such considerations is included in the RAMP, covering items on the following list:

- Exterior finishes: Specify durable surfaces that are architecturally pleasing and low maintenance. Consider materials that provide good insulation, use recycled materials, and are manufactured with low energy and environmental costs.
- Interior finishes: Use low-maintenance, high-durability finishes such as vinyl wall coverings rather than paint; install chair rails, wainscoting, and corner protectors in areas of heavy traffic and high use; consider the impacts of materials on the indoor air quality; and investigate ways to use less materials or materials high in recycled content.
- Windows: Choose metal casing and sash with baked-on, dipped, or anodized finishes for low maintenance, frames with thermal breaks, and double or triple glazing with low-e glazing and other special characteristics for energy efficiency and noise attenuation.
- Roofs: Use sloped roofs whenever feasible for fewer leaks, improved insulation for energy efficiency, and longer cycles between major repairs. Avoid mounting HVAC equipment and antennas on roofs where possible. Evaluate the energy conservation impacts regarding light or dark roof colors.
- Mechanical systems: Incorporate centralized monitoring, control, and maintenance points; provide easy access features for operations and maintenance. Evaluate the energy conservation impacts and first cost trade-offs of reorienting the building on the site, increasing building insulation, and other sustainable development initiatives.
- Utilities distribution systems: Loop systems for backfeed capabilities; provide adequate shutoff points for safe, effective, troubleshooting, sectionalizing, and repair. Provide required utility meters and meter individual buildings to monitor building performance and energy and water savings.

- Streets and roads: Plan for sufficient drainage to prevent base course failures and surface potholes. Plan for future utility ductwork at intersections. Use recycled materials when practical.
- Specifications: Encourage use of off-the-shelf materials, systems, and components. Include sustainable development items such as use of recycled materials, etc..
- Corrosion control: Use nonmetallic components for buried utilities wherever possible. Install cathodic protection on metal components buried in soil. Also consider boxed utility delivery systems in areas where ease of access is required. Ensure protective coatings are appropriate for the environment.
- Communication requirements need to be thoroughly defined and made accessible.

E. Sustainable Development – Renovation Projects

The same considerations noted above for new construction would also apply to renovation projects for exterior and interior finishes, roofs, windows, etc.. In addition, renovation work provides opportunities for other sustainable development and maintenance improvements such as the replacement of worn, obsolete and inefficient utility systems, and electrical/mechanical equipment with modern, reliable, and easy-to-maintain systems.

In addition to the items discussed for new construction, ensure that the following concerns are addressed as part of the planning, design, and construction process:

- Close scrutiny to ensure inclusion of sustainable improvements during every stage of design and associated reviews.
- Screening of proposed construction materials, finishes, and systems accompanied by realistic evaluation and testing of new or untried systems and materials.
- Strong quality assurance and control during construction.
- Evaluation after acceptance and occupancy. Documentation of successes and failures (lessons learned and crossfeed).

F. Architectural Compatibility

The AF PM must ensure the A-E understands the Base Architectural Compatibility Guidelines are part of the design criteria.

The Air Force has established architectural compatibility guidelines to reflect the cultural, regional, architectural, and environmental influences for most Air Force installations. These guidelines include architectural style, materials, colors, and landscaping recommendations. Copies of guidelines are available from the BCE's office or online at www.afcee.brooks.af.mil/DC/products/Dcproducts.asp and should be a part of the RAMP. Ensure the A-E reviews this plan, and designs the project in accordance with its goals and objectives.

Many bases also have Air Force Assistance Team (AT) studies, plus Base Comprehensive Plan (BCP) component plans, that address pedestrian and vehicular traffic circulation, projected base growth, consolidation of functions, open areas, and overall land use requirements. An AT study is not a substitute for the BCP, but provides input into the Base's planning process. Copies of the BCP and AT studies are available from the BCE's office and should be a part of the RAMP. Ensure the A-E reviews the portions of the BCP dealing with architectural compatibility before the start of design. Identify key or cornerstone facilities at the Predefinition Conference if these are not already listed in the RAMP.

G. Structural Interior Design (SID)

SID items are considered part of the basic building design service and include all built-in, integral, or attached furnishings and the selection of all applied finishes for the building's interior features. This includes graphics, signage, lighting, and may include drawings and specifications for systems furniture. For a detailed description of typical SID submittal requirements, see the Air Force Interior Design Guides, Chapter 12 (SID/CID Presentation Format).

H. Comprehensive Interior Design (CID)

CID is a design process for developing an integrated visual design theme reflecting the interior atmosphere desired by the Air Force. This involves the selection and sampling of the furnishings components of the interior environment in addition to the structural interior

For overseas projects, CID packages from U.S. based designers may delay project completion. Systems Furniture is an O&M item usually designed with MILCON design funds. See Chapter 9 for NAF requirements.

design (SID). CID may include systems furniture, free-standing furniture, artwork, and accessories. The CID must be developed concurrently with the design of the facility envelope. For a detailed description of typical CID submittal requirements, see the Air Force Interior Design Guides publication. Also see Figure 5-1, CID Facility Design Submittal Chart.

The process of CID includes selecting and developing interior building furnishings and design coordination for the interior environment. Furnishings selected in the CID generally include, but are not limited to, wall hangings, marker and tack boards, desks, systems furniture, chairs, tables, art work, files, and other similar items. The CID effort provides professional interior design services to ensure quality visual design is achieved by integrating all visual design disciplines into a design theme. **In terms of a total integrated facility design, the Air Force considers the functional and visual aspects of design as essential as the electrical, mechanical, and structural systems.**

CID services are normally provided by an interior designer as a specific option to the A-E's scope of work or under a separate contract. The final product must allow the furnishings Contracting Officer to purchase the desired furnishings within procurement regulations. Coordination with the Contracting Officer during the Contract Document Development phase will help to ensure the furnishings selected are the same as those ultimately installed.

The interior design and space planning functions shall be an integral part of the facility design process (starting with the Predefinition Conference) on all projects identified for CID. Furnishings layouts will be coordinated with electrical, telephone and computer outlets, and lighting systems.

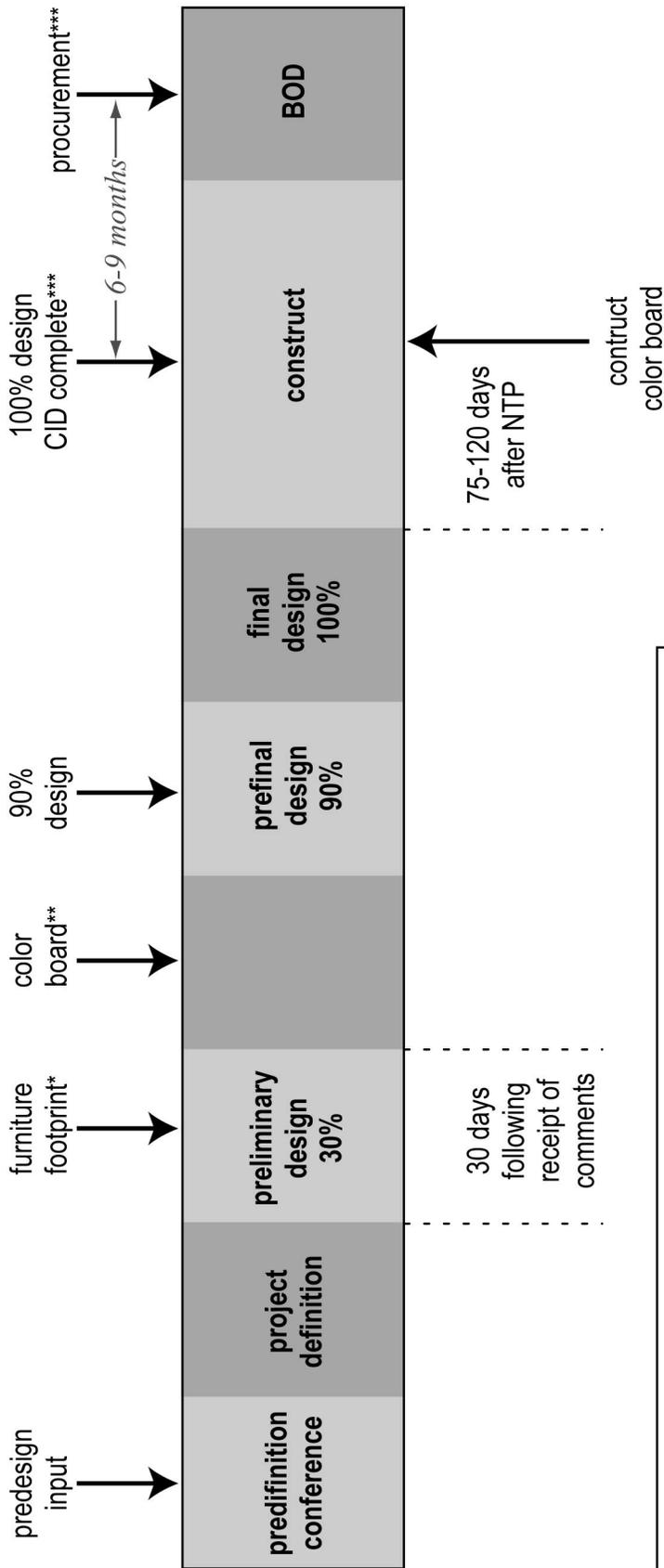
The AF PM should ensure CID and SID design requirements are included in the RAMP and Project Definition. Communicate exceptional requirements to the Design Agent.

Ensure CID and SID issues are discussed and resolved with Base and MAJCOM personnel during development of the Requirements Document, early in the design process. Advise the Design Agent that CID requirements should be included in the CBD Synopsis. The MAJCOM must establish the furnishings budget for the project.

The MAJCOM will have final approval authority for the CID submittal and will use O&M funds for most furnishing items. Data collecting conferences between the User and interior designer are usually required during the Project Definition (15%), Preliminary Design (60%), Pre-Final Design (90%), and Ready-to-Advertise (RTA) phases. On larger CID projects and those with controversial or high visibility interest, the AF PM should attend and serve as the facilitator at such conferences. Small or simple jobs may not warrant the same attention. For the CID effort to be successful, the A-E must have a working knowledge of the Federal procurement system. Priorities for use of Government supply sources shall be in accordance with the Federal Acquisition Regulation (FAR), Part 8.001.

See Chapter 9 for NAF requirements.

C.I.D. Facility Design Submittal Chart



*Specific submittal requirements as determined by DM organization

**Facility design color boards—same comment as above. Selected AF projects may require a 60% CID design submittal.

***Concurrent with Facility Design, Bid and Award when furnishings are included in the Construction Contract.

Fig 5-1

I. Security

The AF PM should ensure personnel knowledgeable of special security requirements are present at the Predefinition Conference to thoroughly explain the requirements particular to the project, including security issues during construction. Design of complex security areas such as a sensitive compartmented information facility (SCIF), secret, top secret, etc. requires special expertise. Failure to meet security performance requirements, such as noise transmission, often prevents occupancy for the intended use. Check with the appropriate security personnel for types of systems available and their uses.

J. Design Schedule

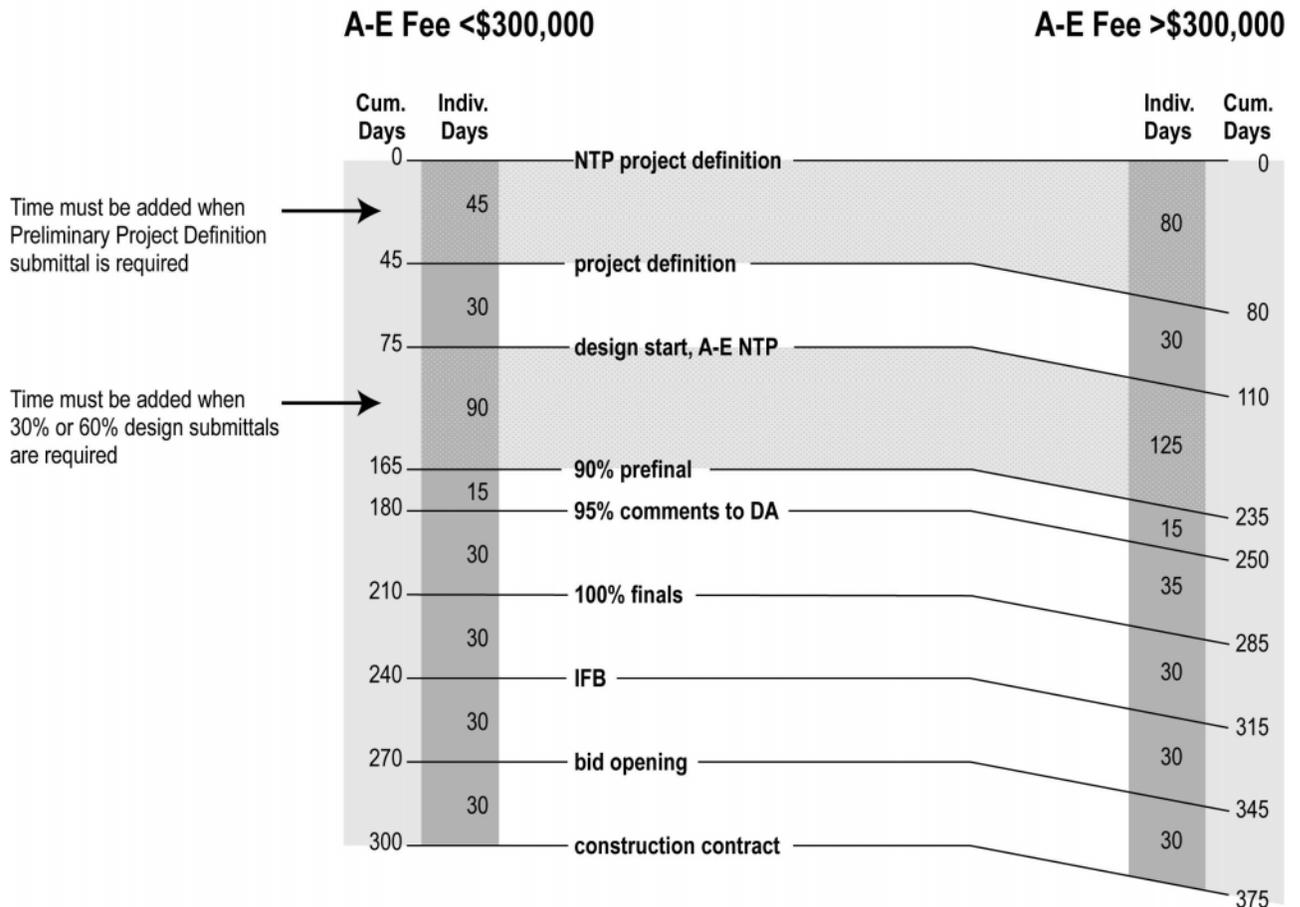
The design schedule is established by the DA, but the AF PM must ensure the schedule adequately addresses Air Force requirements. Appropriate schedule recommendations are found in the following figure. Review/confirm the design schedule with the DA. Track progress closely and obtain justification for any slippage. Minimize schedule revisions by:

Track progress closely and obtain justification for any slippage. When the AF PM is actively involved, the design team will be energized and the delivery schedule will be maintained.

- Providing Air Force requirements in a timely manner.
- Communicating with the DA regularly and confirming submittal dates.
- Being alert to circumstances that may result in delay. Notify the appropriate office of any concerns by phone, e-mail, message, or official correspondence.
- Verifying that site visits, surveys, and data collection occurred when expected.
- Escalating issues to higher levels when reasons for delays are inadequate or do not match the facts.

Fig. 5-2

Calendar Days Between Milestones



K. Value Engineering (VE)

The goal of value engineering (VE) is to reduce the cost of facility acquisition and long-term operations and maintenance costs without reducing quality. VE has a proven track record for achieving significant cost reductions without sacrificing quality, impacting mission requirements, or increasing life-cycle costs.

The intent of a VE study is to review the project design with a set of eyes independent of the project A-E and to offer alternatives that may produce life-cycle cost savings.

1. Policy

The Office of Federal Procurement Policy Act (41 U.S.C. 401, et seq.), as amended in 1996, requires each executive agency to establish and maintain cost-effective value engineering procedures and processes. The Office of Management and Budget (OMB) Circular A-131 requires Federal agencies to apply VE procedures to all projects with estimated costs of \$1 million or more. The MAJCOM may determine that a formal VE study is not required for a project, but must place a signed memorandum in the project files that states why a VE study was not accomplished. Classified projects or projects in a classified area may be exempted, if the MAJCOM determines that a study will create an unnecessary security problem.

Although the MAJCOM may conduct studies with in-house staff or by A-E contract, the MAJCOM generally relies upon the DA to conduct VE studies. The MAJCOM must identify the VE requirement in a Field DI to the DA and provide the additional funds from the planning and design (P&D) account. The DA may use in-house staff or an A-E contract different from the A-E designing the project.

2. Procedures

VE studies should be conducted early in the design process. Recommend using VE during the Design Charrette in the Project Definition phase for most eligible projects - both traditional design-bid-build and design-build projects. It is also better to use VE on design-build projects during this phase as the Air Force normally does not require VE studies after award of the design-build contract. However, a post-award VE study may be included in the contract requirements when desired by the AF PM.

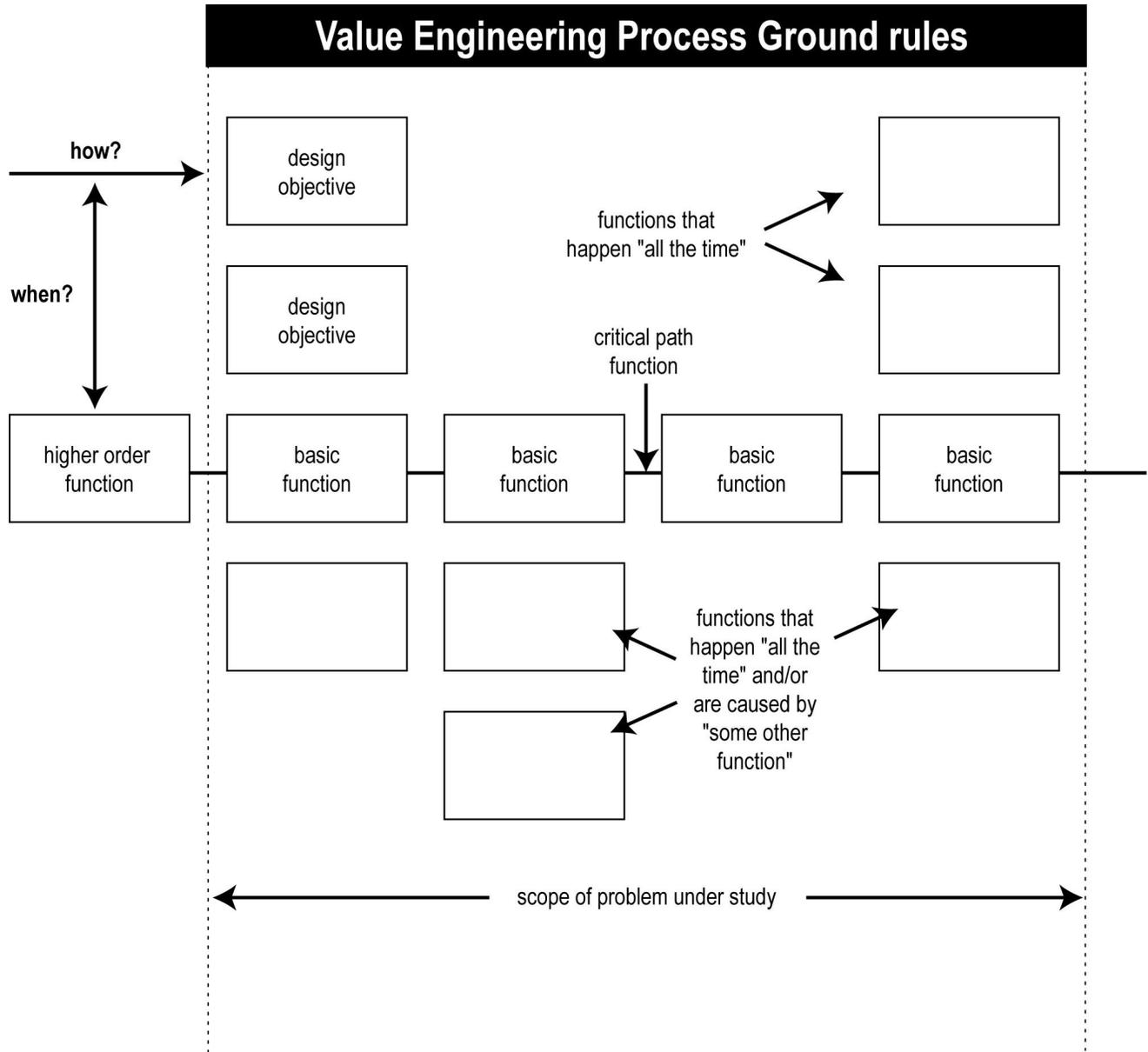
It may be appropriate on complex projects to accomplish two VE studies. The VE methodology is very flexible. The AF PM or the DA may wish to apply VE principles during the Project Definition phase and conduct a more detailed VE study during the Contract Document Development phase. However, VE done later during the Contract Document Development phase may delay design progress and increase design costs.

All proposed VE recommendations should be reviewed by the User, Base, MAJCOM, AF PM, and DA. The Base and the MAJCOM must concur with any VE recommendations regarding maintenance and aesthetic appearance. The evaluators must be alert to the possibility that VE suggestions may be contrary to sustainable development goals established for the project. If in doubt, consult the team's environmental or sustainable development specialist before approving the suggestion. Approved VE recommendations should not sacrifice functionality, maintenance and operations, or aesthetic appearance, but should improve the quality of the facility at a lower, or equal, life cycle cost.

The MAJCOM has the final approval or disapproval of VE items and must report whether a VE study was required in PDC or ACES.

VE also may be applied after construction contract award. Construction contractors may submit value engineering change proposals (VECPs) to the Construction Agent (CA). These VECPs are reviewed by the User, Base, MAJCOM, AF PM, and the CA and must be approved by the AF PM and the CA. Approved VECPs are implemented as contract modifications and reported in PDC or ACES. Net savings are shared between the Contractor and the Air Force. See the Federal Acquisition Regulation (FAR), Parts 48 and 52.248.

Functional Analysis System Technique (FAST) Diagram



L. Project Definition (PD) - Design Submittals

In general, Project Definition will include schematics for the site plan, utility layout, architectural floor plan, and facility elevations. The A-E will also include a narrative describing major engineering systems, unique design features, environmental issues, operability and maintainability, and how the project is linked to the Base Comprehensive Plan. The A-E will also provide a parametric cost estimate and price validation. A Project Definition preliminary design submittal may be necessary to get an early look at the direction the A-E is heading with regard to these various items; however, the Project Definition preliminary design submittal should generally be reserved for complex, multi-user projects.

The final Requirements Analysis report is the critical submittal because this submittal is the foundation of criteria and requirements on which subsequent design development and Contract Documentation Development will be based. It must be correct, complete and suited for the Base and the User.

Comparison of the budget cost estimate and the Air Force Parametric Cost Engineering System (PACES) estimate at PD is key to controlling project costs and design development.

Compare the A-E recommendations with the information presented in the questionnaire and the discussions from the Requirements Analysis Charrette. If the A-E deviated from criteria, determine why and be sure to either accept the deviation with the concurrence of the User, BCE, and MAJCOM or seek A-E compliance with the criteria. Check closely the A-E's cost estimate with the Air Force Requirements Document parametric cost estimate and note significant differences between the two. Discuss these differences as part of the review conference to determine if the design has adequately addressed the cost of all items or if real differences exist between the project and the parametric cost model requirements and design parameters.

The Project Definition corrected submittal is a most effective document when accompanied by a professionally developed and presented briefing to senior Base and MAJCOM officials. The purpose of the briefing is to ensure User involvement and coordination at both the lower and upper levels of the User's organization. The briefing will also have the effect of casting the floor plan and elevations "in concrete," thus reducing the possibility of later changes in the design effort. The AF PM should make every effort to ensure this briefing occurs with the involved officials present to hear their reactions and questions. Obtain signatures of the Commander of the Using organization on the Project Definition documents.

Ensure the right officials are involved in the Project Definition out-briefing.

Other approval may come from local governments, historic preservation offices, and environmentalists. Their input often drives project costs beyond the budget. Then the project must be stopped and redesigned - a time consuming, expensive, and emotional process. Include their requirements in the Project Definition phase and obtain their approvals prior to proceeding to the Construction Document Development phase.

V. Contract Document Development

This is the second major phase of the design process. Through continuing dialogue and project reviews, the schematics are developed into working drawings and specifications and finally into contract documents. The Contract Document Development phase produces graphic products (site plans, floor plans, elevation studies, etc.) and more detailed alphanumeric information (specifications, parametric cost estimates, etc.).

A. General

The Contract Document Development (or design development) phase begins with the MAJCOM issuing a Field DI authorizing the DA to proceed with design after the completion and approval of the Project Definition phase. This phase is a concentration of effort on translating the Project Definition information into construction contract documents.

Change generally occurs in varying degrees on every project. The AF PM must remain aware that making changes during the Contract Document Development phase generally will cause design schedule delays and increase design costs more than if these changes were made during the PD phase.

B. Design Progress Submittals

Design progress submittals are an opportunity to review the A-E's design products, to check compliance with criteria, to add or change design criteria, to answer questions, and to discuss design issues and problems.

The benefits of the submittals, especially in conjunction with review conferences, are that they reduce wasted effort on misdirected design efforts and offer an excellent forum to clarify and identify the User's needs early in design, not during construction. However, there are pitfalls with too many submittals. Besides being costly, each submittal slows the pace of design and provides an opportunity to add criteria that may not relate to the function of the facility. In seeking the balance between the benefits and the pitfalls, try to hold Contract Document Development submittals to the minimum necessary to produce a functionally adequate, technically sound design. The AF PM must also decide on which submittals the A-E should stop or continue.

The quantity of submittal documents, to a large extent, determines the depth of review given by the Base-level team members and the User. Insufficient numbers of review documents tend to discourage and delay review efforts, while excessive numbers of review documents draw out few additional comments at significant cost. Identify those organizations, their addresses (including the reviewer's name, building, office, and room number) and the quantity of documents needed for each design progress submission.

A second issue with submittal documents is the expediency with which they are distributed. As review times at each design progress submission are constrained, overnight delivery of both submittal documents and subsequent review comments enhance the review process by providing "additional" review days at relatively little cost. Communicate the submittal requirements to the DA before the A-E contract is negotiated.

In the past, design percentages shown for each design progress submittal were provided as convenient reference points. The percentages did not, however, represent the actual level of effort expended to get to those points. In most cases, each submittal was identified as a percentage of design completion (e.g., 10%, 30%, 60%, 90%, and 100%). Adding 5% to the submittal percentage reflected that review of the submittal had been completed and that the submittal had been approved with comments. Use of design percentages created numerous problems, and design percentages have been replaced with defined design submittal milestones, such as Project Definition, Early Preliminary Design, Preliminary Design, Pre-Final Design, Corrected Final Design, and Ready-to-Advertise. Use these milestones in tracking the design process and to determine which submittals are needed for a particular project:

- Project Definition (15%)
- Early Preliminary Design Submittal (30%), if required
- Preliminary Design Submittal (60%), if required
- Pre-Final Design Submittal (90%)
- Corrected Final Design Submittal (100%)
- Ready-to-Advertise Submittal (RTA)

The submittal requirements for the Medical Program are defined in Military Handbook 1191. See Chapter 9 for NAF projects. For those projects incorporating CID/SID services, see the [Air Force Interior Design Guides](#) found at <http://www.afcee.brooks.af.mil/DC/products/Dcproducts.asp>.

1. Early Preliminary Design Submittal (30%)

The Early Preliminary Design submittal is important for most MILCON projects as it allows the AF PM, Base, MAJCOM, DA, and User to review the A-E's design intentions and to confirm that the A-E understands all project requirements. This is the best point in the Contract Document development phase to check on design development efforts, make corrections to the design development documents, and incorporate project criteria changes. Incorporating changes later in the design process will be more costly and cause delays. The AF PM should ensure that all team members in the design process thoroughly review the submittal products to ensure the A-E is proceeding in the right direction.

Typical Early Preliminary Design submittals include:

- All the elements of the Project Definition submittal.
- Any changes necessary to comply with the Project Definition review comments.
- Structural Interior Design (SID) plan.
- Comprehensive Interior Design (CID) plan if authorized.
- Color boards.
- Preliminary furniture footprints.
- Environmental permitting and sustainable development requirements.
- Detailed discussion on and economic rationale for the selected structural, civil, HVAC plumbing, fire detection/protection and life safety, lighting, power, and communications systems.
- A listing of the proposed specifications for the project.
- A detailed cost estimate with cost back-up that can be compared with the Project Definition parametric cost estimate.

2. Preliminary Design Submittal (60%), if required

Since GFE installed by the Contractor is covered for installation warranty only, consider using Contractor-furnished equipment as much as possible unless there is excess GFE.

At this stage, all basic design decisions should have been made, and design development is in full progress. Formal submittals are usually not required for most projects, and construction document reviews are conducted through on-board meetings in the A-E's office. This allows team members to provide the necessary design oversight without stopping design. Formal Preliminary Design submittals may be necessary for complex or unique projects and projects with significant HVAC or industrial operations requirements,

Typical Preliminary Design submittals include:

- Any changes necessary to comply with the Early Preliminary Design review comments.
- Complete floor plans with many details.
- Roof plans.
- Elevations.
- Structural, mechanical, plumbing, and electrical plans with many details.
- Various CID plans.
- Furniture footprints.
- Color boards and materials.
- Site and landscaping plans.
- All the analyses and discussions that were part of the Early Preliminary Design submittal.
- Specifications in rough draft.
- Updated design analysis and cost estimate.

Equipment layouts with necessary clearances and utility support should also be shown at this stage of design. Construction specifications for renovation projects should include testing for lead-based paint (LBP) and asbestos-containing material (ACM).

3. Pre-Final Design Submittal (90%)

The A-E must submit the drawings and specifications as ready-to-advertise (RTA). The Pre-Final Design submittal includes:

- Any changes necessary to comply with the Preliminary Design review comments.
- Final design analysis.
- Color boards and finishes.
- Cost estimate.

4. Corrected Final Design Submittal (100%)

The Corrected Final Design submittal should include:

- Any changes necessary to comply with the Pre-Final Design review comments.
- Any corrections to the final design analysis.
- Color boards and finishes.
- Cost estimate.
- Furnishings order forms.

C. Ready to Advertise (RTA)

A MILCON project is considered RTA once the following activities are completed:

- The A-E has submitted the Corrected Final Design documents (working drawings, specifications, and cost estimate).
- The DA has completed a technical and constructibility review of the completed working drawings and specifications.
- If necessary, the A-E has modified the working drawings, specifications, and cost estimate to comply with concerns identified during the DA's technical and constructibility review.
- The Independent Government Estimate (IGE) has been completed by the DA.
- The DA has completed the contract bid.

D. Procedures for Projects that have gone "On-Hold"

If a project has been on hold for more than six months, the AF PM needs to weigh the various factors that affect the review and revalidation approach before completing the design. As a minimum, these factors include how long the project has been on hold, the technology associated with the User's mission, the extent of the development of the project documents, the cost of the project when placed on hold, changes in User personnel, and changes in Air Force criteria.

For example, the AF PM may want to hold a revalidation or follow-up Predefinition Conference and use the latest submittal documents that were developed before the project was shelved as the basis of the conference. Regardless of the project, allow more time in the design schedule to revalidate and complete the design of the "shelved" project than for an on-going design at an equivalent stage.

The AF PM also should request the DA to conduct a back-check of any project that has been 100% design complete or Ready-to-Advertise (RTA) for more than six months. A back-check is a mandatory review to mitigate the modifications that may occur from changes in the User's mission or personnel. The back-check should include a complete review by the Users, BCE, MAJCOM, and DA in the area of criteria satisfaction. Also, the AF PM should determine whether a new cost estimate and further technical or constructability reviews are required.

VI. Contract Document Development - Formal Review Process

A. Process

Upon receipt of a design submittal, the AF PM should promptly notify all reviewing Air Force organizations, advising them of the date review comments must be submitted to the AF PM for consolidation.

Design schedules should allow for Air Force review as follows (Medical projects should follow Military Handbook 1191 guidance):

- Project Definition, Early Preliminary Design, and Preliminary Design submissions: 21 calendar days from Air Force receipt to mailing of Air Force comments to the Design Agent.
- Pre-Final Design submissions: 15 calendar days from Air Force receipt to mailing of Air Force comments to the Design Agent.

Exercise care in forwarding late comments. Avoid delays in the design process, but ensure User needs are met.

B. Content

The DA focuses on the technical aspects of the design. Air Force organizations should concentrate on the functional aspects of the design (e.g., mission requirements, appearance, and spatial relationships). However, Air Force project reviewers should not be limited to only the functional aspects of the design, especially if the concern affects operations and maintenance. Require that review comments be carefully stated, in keeping with criteria, and requesting a check or a change rather than commenting in the form of a question. The AF PM should review all Air Force comments to ensure they are legible, positive, and instructive.

The importance of a conscientious early review cannot be overemphasized.

In those areas where the Air Force has unique technical expertise or overriding concern that the solutions to AF technical requirements in the A-E's design will adversely affect the functional aspects, seek technical comments from Air Force experts and provide their comments to the DA for resolution with the A-E. For example, conflicts between AF technical specifications and the A-E's specifications should be addressed since they have tremendous potential for cost increases and delays during construction. The importance of conscientious early review cannot be overemphasized. Only with unforeseen extenuating circumstances should any new requirements or scope changes be identified after

completion of the Project Definition. The AF PM should require the Commander of the Using Organization to sign any change requests submitted after Project Definition is complete.

Final review is usually a DA function only. However, the AF PM or the BCE may request to be included in the final review on sensitive or complex projects. The purpose of this is to ensure that previously supplied instructions and review comments have been incorporated into the design and to ensure consistency among the various documents or within various sections of the specifications for a particular building system. The DA must ensure the intent of all comments is reflected throughout the plans and specifications so there are no conflicts. The A-E must respond promptly to review comments. The AF PM must ensure that the DA has included this requirement in the A-E contract.

Every review conference, meeting, or officially sanctioned decision-making forum must be documented with minutes. Minutes serve to document the attendees, the topics discussed, information passed to the A-E, conclusions drawn, decisions made, and directions given. The minutes become an historical account of the project as well as a document for the protection of both the Government and the A-E. Require the taking of minutes during informal discussions and non-decision-making activities to keep control over the transfer of conflicting information to the A-E.

C. Transmittal

All Air Force review comments should be sent to the AF PM for consolidation and transmittal to the DA. Comments should not be sent to the DA by Air Force organizations that do not perform the AF PM function, either directly or by informational copy. Air Force review comments should not be accepted by the DA unless the comments are verified by the AF PM. In most cases, the AF PM should hold a charrette where the review comments are consolidated and reviewed with the DA.

Design review comments are entered into freely distributed PC-Based Software (PC-ARMS), or Wang Based (ARMS-VS) software and then electronically transferred to a central computer managed by the COE. NAVFAC currently does not have a similar system although implementing such a system is under consideration.

Using ARMS increases the efficiency of the review process by providing immediate access to legible comments, creating an audit trail for each comment, ensuring that comments are fully coordinated, approved at the appropriate level, and transmitted by the DA to the A-E.

For more information about ARMS, contact your District Project Manager; the ARMS Technical Center of Expertise, Sacramento District at (916) 557-7999; or HQ AFCEE/CMM, (210) 536-3769 or DSN 240-3769.

D. A-E Annotations

Instruct the DA to provide a copy of the A-E's annotated Air Force review comments directly to each of the reviewing organizations. Annotations must identify which comments will be incorporated into the design, include a brief explanation of rebutted technical comments, and provide a detailed explanation of rebutted functional comments. Instruct the DA to provide the annotated comments within 15 days of receipt of the transmitted A-E review comments responses. This allows the Air Force adequate time for response prior to the next design milestone.

VII. Cost Control and Scope Changes During Design

Cost estimates during design put price tags on alternative building systems and materials before construction and predict the fair price for a bid. Cost control success during the design process hinges directly on the AF PM's ability to get the appropriate cost information and make decisions to correct deviations from the approved budget in a timely manner.

Success as a project manager during design hinges on the ability to identify cost options and make decisions in a timely manner.

The MAJCOM only has limited opportunities to adjust the programmed amount (PA) shown on the DD Form 1391 once it is submitted to HQ USAF/ILEC and the proposed MILCON program is submitted to OSD. The AF PM must focus management decisions on ensuring that the PA identified in the DD Form 1391 reflects the correct project scope and

requirements. After the President's Budget is submitted, everyone must be prepared to live with the PA. Therefore, learn to effectively use the following cost engineering tools:

- The Air Force Automated Pricing Guide in PDC or ACES.
- AFCESA Air Force Historical Cost Handbook.
- OSD Cost Engineering Guidance (Unit Costs, Area Cost Factors, Size Adjustment Factors, and Inflation Rates).
- Air Force Parametric Cost Engineering System (PACES), a parametric system used by the Air Force and the COE at www.afcesa.af.mil/directorate/ces/civil/costengr/costengr.html.
- Parametric Cost Estimating Models (PCEM), a parametric system used by NAVFAC.
- Tri-Service Detailed Cost Engineering System – Micro Computer Aided Cost Engineering System (MCACES), a quantity-take-off system used by the COE.
- U.S. Cost Success, a quantity-take-off system used by NAVFAC.

When the design cost exceeds the approved budget, corrective actions may be necessary. Small cost differences may result from the variation in accuracy of cost estimating. The AF PM should discuss small cost increases with the DA and MAJCOM to determine the appropriate course of action.

Conservative estimating and excessive contingencies are often reasons for high cost estimates.

Before any action to revise the project budget is considered, carefully evaluate the estimate. Recent experience with bids on similar projects and the current condition of the construction industry will help gauge to what extent the estimate should be questioned. The A-E or DA develops the estimates and is responsible for accuracy; however, the AF PM should review the estimates and be familiar with the A-E's or DA's track record. Experience and knowledge of the "big picture" affect the current working estimate (CWE). Deletion of items from the project should be a last resort. Deleted items are costly to add back during construction.

If a project's CWE is over the approved budget (or the MAJCOM-approved construction budget, if less) one way to address the problem is by reducing the project's Basic CWE. Possible measures include reducing project scope or deleting project requirements that may be completely removed from the project scope or included in the bid package as additive, or optional, bid items. The DA is required to provide recommendations to bring the estimated construction cost of the project within the construction budget established by the MAJCOM. The MAJCOM and the User must approve all proposed cost reduction measures. The DA cannot implement these measures unless formally authorized by the AF PM.

See [Appendix 3, Cost Control](#), for further information on Cost Control During Design.

VIII. Performance Period and Phasing for Occupied Sites

Occupied sites are a special problem during the design and construction process. When construction starts, the occupant often has no other place to go and no funds to get there. A construction phasing schedule must be developed early during the design process. It encompasses the User's needs for continued operation by phasing the Contractor's work, and keeps the project within the cost limitation. Accomplishing this task early in the design allows the Users to plan "work around" procedures and budget for any extra costs of operation during construction. The Commander of the Using Organization should review and sign off on the phasing plan.

To accommodate a more complicated phasing, building systems may need a special design. Air conditioning equipment may have to be sized and controlled to accommodate parts of the facility that must remain in operation while the rest of the facility is altered.

Challenge our Design Agents to set demanding performance periods.

A second possible problem could be the establishment of a critical need date for completion of all or a part of the facility (e.g. predetermined equipment delivery or mission beddown date). Discuss any critical need dates with the A-E and the Users, then ensure that the construction performance period is sufficient to both accomplish the project and meet the critical need dates. This may require construction phasing to allow early

occupancy of certain work areas. Again, these problem areas should be identified early in the planning and design process. The DA may attempt to set an excessive performance period based on experience, so it may be necessary to press the DA for a demanding performance period.

Chapter 6 - Construction Contract Advertising and Award

Contents	I. General Construction Contract Requirements	3
	A. General	3
	B. Negotiated Contracts	4
	C. Liquidated Damages (LDs)	4
	II. Authority	4
	A. Congressional Review	4
	B. Authority to Advertise	5
	III. The Construction Bid Process	6
	A. Hierarchy of Consideration	6
	B. Department of Defense (DoD) Award Goals	6
	C. Coordination Activities	6
	D. Bid Types	6
	1. Restricted Bidding	6
	a. General	6
	b. Small Business Administration 8(a) Program	6
	c. Emerging Small Business	7
	d. Small Business Competitive	7
	2. Unrestricted Bidding	7
	3. Letter Contracts	7
	IV. Solicitation Phase	8
	A. The Solicitation	8
	B. Predefinition of Responsibility in Solicitations	8
	C. Invitation for Bids (IFB) and Request for Proposals (RFP)	8
	D. Bid Opening Report	9
	E. Protests	9
	V. Construction Contract Award	9
	A. Funding and Authority to Award	9
	B. Pre-Positioning Funds	10
	C. Adverse Bids	10
	D. Award and the Contract Award Report	10

Reference Documents

- [Air Force Environmentally Responsible Facilities Guide, AFCEE, June 1998](#)
- [AFI 32-1022, Planning and Programming Nonappropriated Funded Facility Construction Projects](#)
- [AFI 32-9005, Real Property Accountability and Reporting](#)
- [AFPAM 32-1097, Sign Standards Pamphlet](#)
- [CCASS, U.S. Army Corps of Engineers Construction Contract Appraisal Support System](#)
- Commerce Business Daily
- ENR, Engineering News-Records, pub. McGraw Hill
- [ETL 88-4, Reliability and Maintainability \(R&M\) Design Checklist](#)

[ETL 94-4, Energy Usage Criteria for Facilities in the Military Construction Program](#)

[Executive Order 12372, Intergovernmental Review of Federal Programs July 14, 1982](#)

Military Handbook, MIL-HDBK 1191, DoD Medical Military Construction Program
Facilities, Design and Construction Criteria

AF Form 1178 A & B, Project Cost Estimate Worksheet

<http://afpubs.hq.af.mil/formfiles/af/af1178a0/af1178a0.frl>

<http://afpubs.hq.af.mil/formfiles/af/af1178b0/af1178b0.frl>

Chapter 6 - Construction Contract Advertising and Award

I. General Construction Contract Requirements

A. General

This chapter provides an overview of the requirements and concerns associated with the award of construction contracts for Military Construction (MILCON) program projects. The U.S. Army Corps of Engineers (COE) or the Naval Facilities Engineering Command (NAVFAC) will serve as the Design Agent (DA) and Construction Agent (CA) for the majority of these Air Force MILCON projects. The Contracting Officer of the appropriate DA/CA organization will perform the contract-related responsibilities discussed in this chapter.

This information is also useful when the Major Command (MAJCOM) or the Base serves as DA and CA for MILCON and other-funded projects. The Air Force Project Manager (AF PM) must work with the appropriate MAJCOM or Base Contracting Officer to determine the specific contracting requirements for each project.

The construction contract contains General Provisions (also called special conditions) in Division I of the specifications, which set forth the procedures and responsibility for implementing the contract. While the contract drawings and technical specifications identify specific project requirements, the General Provisions for a project normally include items such as:

- Work Description
- Government Furnished Equipment
- Submittals
- Construction Sign Requirements
- Utility Outages
- Availability of Utility Service
- General Safety Requirements
- Work Hours and Holidays
- Disposal Procedures
- Final Inspection

During design, the AF PM should review the General Provisions to ensure the contract meets the unique requirements of the project and doesn't adversely affect the project. Ensure that a Critical Path Method (CPM) network will be provided. The network should always be provided in manageable items. On a single facility, the CPM network should be broken down by subsystem and smaller than subsystem on multi-facility projects.

MAJCOM and Base concerns sometimes pose unique situations. Ensure that items such as clean up, mowing, environmental protection, and safety provisions are included when appropriate. Projects in high visibility areas, such as in front of the Wing Commander's office, require special attention during construction activities defined as much cleaner than usual construction practices. Projects near family housing units need childproof fencing and barricades. Industrial and high tech projects often have special requirements.

Operation and maintenance (O&M) manuals have to be more than a gathering of each manufacturer's specification pamphlets. The manuals must reflect an integrated systems approach. Likewise, testing operations and acceptance may have unique requirements. These all have to be specified in the contract.

The project construction sign is one of the most visible features on a project site. Be sure it conforms to Air Force requirements (see AFPAM 32-1097). Temporary Government offices are often included in projects for field personnel during construction. Ensure adequate facilities are provided at a reasonable cost. Color boards demonstrate the Contractor's understanding of the contract requirements; be sure the Contractor is required to provide timely submittals. Copies of certain submittals are required for Air Force review, so be sure the CA has included the required extra copies in the contract.

Projects with complicated phasing should have a section devoted to just phasing. It should be detailed and address areas to remain in operation, utility service, move times, site restrictions, etc.. If the Contractor is to participate in any management meetings, those particular meetings should be clearly identified. Joint occupancy should be addressed if required. Any special warranty requirements such as six-hour response time for refrigeration system malfunctions should be specified. If the contract includes any unusually long lead items, require a copy of the Contractor's procurement schedule.

B. Negotiated Contracts

The recent rewrite of the Federal Acquisition Regulation (FAR) Part 15, Contracting by Negotiation, and the Air Force FAR Supplement (AFFARS) 15 have significant impacts on the award of Federal construction contracts. Award of construction contracts based on lowest bid by a responsible contractor is still permissible and may be appropriate under the conditions in FAR 6.401. However, the revised FAR Part 15 encourages negotiated acquisitions based on a best value continuum, and an agency can obtain best value in negotiated acquisitions by using any one or a combination of source selection approaches. The new approach provides Federal agencies greater flexibility, and the ability to consider past performance as well as price.

C. Liquidated Damages (LDs)

Clearly define all added costs to the Air Force in the justification for increasing the amount of LD's

A liquidated damages (LDs) clause is contained in construction contracts over \$500,000 except where the Contractor cannot control the pace of the work. LDs are optional in contracts under \$500,000 per DFARS 211.504. LDs are intended to establish in advance a fair compensation to the Air Force for each day the beneficial occupancy is delayed by the Contractor beyond the scheduled completion date. Actual damages do not have to be proven. Because of the potentially high assessment of liquidated damages, courts will only agree to such provisions if the LD estimate is a reasonable one based on anticipated delay costs. Therefore, make sure the Commander of the Using Organization reviews the LDs.

LDs can be established within the context of the project such as contract phasing or special operational needs that can only be out of service for limited periods. Define the need(s) for LDs in the project and seek to determine the expected costs to the Air Force should the Contractor exceed the performance period. The Construction Agent will identify separately the cost impact to their operations. Ensure LDs are not set so high, relative to the contract amount, that contractors either put excess contingencies in their bids, refuse to bid the project, or the LD clause becomes construed by the courts as a "penalty" and thus unenforceable.

If LDs are necessary, discuss with the User the estimated cost of Contractor delays in facility delivery. The User must, before design completion, develop baseline cost data for use by the CA to substantiate assessed LDs.

II. Authority

A. Congressional Review

Every MILCON project, whether for the active or reserve forces or for a medical facility, is a line item in the Department of Defense (DoD) portion of the President's Budget request sent to Congress. The process of line item project approval and funding involves the review by the House of Representatives' Armed Services Committee (HASC), the House of Representatives' Appropriations Committee (HAC), the Senate's Armed Services Committee (SASC), and the Senate's Appropriations Committee (SAC). The budget request is actually two requests, one for authorization (HASC and SASC review/approval) and one for appropriation (HAC and SAC review/approval).

If the MILCON project clears all Congressional committees, it should be authorized and funded in the final bill. Sometimes requested projects don't clear all committees. As a

result, the differences between the House and the Senate appropriations or authorizations conference committees normally are negotiated before forwarding to the respective full bodies for a vote. It is during these negotiating sessions that projects which only cleared one of the committees may yet be added to the bill. Upon passage of the authorization and appropriation bills and the signature of the President, the MILCON projects can be awarded.

See Chapter 9 for further information on nonappropriated fund (NAF) projects.

Typically, each bill authorizes a MILCON project for a period of three years and appropriates the funds for five years, both beginning from the start of the fiscal year or the signing of the bills if later. If the construction funds for a project are not obligated by the end of the five-year period, it is possible to request and receive an authorization extension from Congress when the situation warrants the extension. Authorization extensions are usually granted in one-year increments.

Unobligated project funds normally expire at the end of five years and are held in an expired funds account at SAF/FMBIC for another five years. The expired funds are used to pay claims on financially closed projects and to make within-scope changes on the work of the original contract. The funds remaining in the expired funds account are withdrawn by the Department of the Treasury at the beginning of the tenth year and placed into a cancelled funds account available for use by other Federal agencies to pay claims.

B. Authority to Advertise

HQ USAF/ILEC grants authority to advertise a MILCON project by issuing a Design Instruction (DI) to the MAJCOM. This DI signals the AF PM, MAJCOM, Base Civil Engineer (BCE), User, and the DA that the project has been included in the authorization and appropriation bills signed by the President.

HQ USAF/ILEC will grant authority to advertise for a project if all of the following criteria are satisfied:

- Project included in the authorization and appropriation bills signed by the President;
- Project at least 95% designed as reported in PDC or ACES;
- Basic CWE/PA ratio is not greater than 110%;
- Overall MAJCOM fiscal year MILCON program CWE/PA ratio does not exceed 100%; and
- EIAP is completed and reported in PDC or ACES.

A project with a basic CWE/PA ratio greater than 110% may not receive authority to advertise if the MAJCOM funding position does not support the higher cost or the likelihood of exceeding the construction threshold amount during bidding or construction is too great. In these situations, the AF PM must pursue cost reduction measures such as project re-design, project scope reductions within authorized limits, deletion of project requirements, or identification of additive bid items.

HQ USAF/ILEC, as a rule, will grant advanced authority to advertise prior to the authorization and appropriation bills signed by the President if certain criteria are satisfied:

- Project has passed Congressional review by at least three of the four committees without adverse language;
- Project at least 95% designed as reported in PDC or ACES;
- Basic CWE/PA ratio is not greater than 95%; and
- EIAP is completed and reported in PDC or ACES.

For nonappropriated fund (NAF) projects, HQ AFSVA reviews the 90% design submittal, certifies availability of funds, and authorizes the BCE to complete the design package. HQ USAF/ILEC grants authority to advertise by issuing a Design Instruction to the MAJCOM.

III. The Construction Bid Process

A. Hierarchy of Consideration

Prior to any public notification of the construction project, the Contracting Officer will make a determination on the level of bidding restrictions to be placed on every construction project. The determination is made by asking these basic questions:

- Is the project a candidate for a Small Business Administration (SBA) 8(a) set-aside solicitation, or has the SBA requested the project for one of their 8(a) contractors?
- Does the project meet the criteria for an emerging small business (ESB) set-aside?
- If small business set-asides have been re-instituted by the Contracting Officer, does the project meet the criteria for a small business set-aside?
- If none of the above, then the project will be advertised as an unrestricted solicitation.

B. Department of Defense (DoD) Award Goals

Although 10 U.S.C. 2323 established the objective of awarding 5% of all DoD acquisition dollars to small disadvantaged business (SDB) concerns (see Department of Defense FAR Supplement, Parts 219.000 and 219.201), the DoD and the Small Business Administration (SBA) annually negotiate and agree upon a higher goal. The Contracting Officer will have this information. The Air Force seeks to equitably support the joint DoD/SBA goals through its offerings of O&M, Minor Construction, and MILCON projects. The goals can be achieved through the combination of awards to either 8(a) contractors or through SDB set-asides.

C. Coordination Activities

The DoD is committed to support the 8(a) business development and SDB contracting programs. However, mission support, complexity, funding, and other needs may conflict with timeliness, cost, and contractor abilities associated with these contracting restrictions. A problem such as an equipment delivery date may provide the basis for justifying a non-8(a) solicitation. Coordinate on bidding restrictions with the User, BCE, MAJCOM, and the Contracting Officer early in the design process and again before entering the contracting process. It is only through these coordination efforts that the needs of various organizations may be identified and appropriate justification supplied to the Contracting Officer before the application of bidding restrictions adversely impacts the mission or available funding.

D. Bid Types

1. Restricted Bidding

a. General

Restricted bidding refers to the restrictions placed on the list of possible bidders. These restrictions to full and open competition have been mandated by Congress through the enactment of several business development laws. The Contracting Officer is the government official who ultimately determines the level of restrictions to be levied on any project.

The sources of information for the following discussion are FAR Part 19, DoD FAR Supplement Part 19, Army FAR Supplement Part 19, and the Engineer FAR Supplement Part 19. Air Force and Navy Supplements to FAR Part 19 vary slightly from the Army and Engineer supplements; however, the variances are insignificant.

b. Small Business Administration 8(a) Program

In this restricted solicitation, the Contracting Officer seeks a contract with the Small Business Administration (SBA) which subcontracts with a small disadvantaged contractor enrolled in its business development program. A project can either be offered to the SBA, or the SBA can request a specific project that appears to be a good match for one of their enrolled contractors. In accordance with FAR 19.805 competition between two or more 8(a) contractors is now possible for construction projects where the anticipated award price of the contract, including options, will exceed \$5 million. The Contracting Officer is

obligated to proceed with negotiations with the SBA and its contractor in either case, unless the Contracting Officer can show that an 8(a) solicitation is not in the best interests of the Government or it exceeds the fair market price.

c. Emerging Small Business

The Small Business Competitiveness Demonstration Program was established by Title VII of the "Business Opportunity Development Reform Act of 1988." Per FAR 19.1001 and 19.1005, the program consists of two major components:

- Unrestricted competition in four designated industry groups.
 - Construction under standard industrial classification (SIC) codes that comprise Major Groups 15,16, and 17 (excluding dredging).
 - Refuse systems and related services including portable sanitary services under SIC codes 4212 and 4953.
 - Architectural and engineering services (including surveying and mapping) under SIC codes 7389, 8711, 8712, or 8713 which are awarded on the qualifications-based selection procedures required by 40 U.S.C. 541 et seq.
 - Non-nuclear ship repair.
- Enhanced small business participation in 10 Federal agency targeted industry categories. The DoD, except for the National Imagery and Mapping Agency, is one of the participants in this demonstration program.

The emerging small business (ESB) set-aside method of contracting went into effect in January 1989. Under this contracting method, work is solicited among a field of contractors who meet the FAR definition of "emerging small business" (see FAR 19.1002). This contracting method normally is restricted to acquisitions of \$25,000 or less, typically a small purchase action known as a Request for Quotation (RFQ). See FAR 19.1006 and DFARS 219.1005 for further information.

d. Small Business Competitive

The small business (SB) set-aside method of contracting was changed in January 1989. Under this program, four designated industry groups (construction, A-E services, refuse systems, and non-nuclear ship repairs) will not be set-aside, but rather bid under an unrestricted solicitation. Contact the Contracting Officer for additional information.

In the SB set-aside program, the field of bidders is restricted to include only contractors who meet the FAR definition of "small business" (see FAR 19.001). In a similar manner to the SDB set-aside, the Contracting Officer will be required to set aside a construction project for SB if:

- The DoD award goal previously described is not being met,
- The Contracting Officer believes at least two responsible, small businesses will bid, and
- An award will be at a "reasonable" price per FAR 15.402.

2. Unrestricted Bidding

As the title implies, this contracting method has no restrictions to the possible recipients of a contract award.

3. Letter Contracts

Although seldom used, a letter contract is a method of contracting for design or construction when work must be started immediately to minimize impacts to the mission. As an undefinitized contractual instrument, it starts construction before negotiation of terms and price. This contract type is not open-ended (indefinite quantity); rather, the specific design or construction needs must be specified as completely as feasible under the given circumstances. The Contracting Officer must complete definitization within 180 days after the date of the letter contract or before completion of 40% of the work, whichever occurs first, in accordance with FAR 16.603.

The Contracting Officer must execute a Determination and Finding (D&F) showing that no other contracting method is suitable before this method may be used. The letter contract must not commit the Government to a definitive contract in excess of a not-to-exceed price, cannot be amended to satisfy a new requirement unless the new requirement is

inseparable from the existing exigent requirement, and must not circumvent competition stipulations when required by other sections of the FAR. For further information on this contract type, see FAR 16.603.

IV. Solicitation Phase

A. The Solicitation

The Contracting Officer begins solicitation Invitation for Bid (IFB), or Request for Proposal (RFP) by notifying all prospective offerors with a notice in the Commerce Business Daily (CBD) unless excepted by FAR 5.202. The FAR 5.203 requires the notice to be published at least 15 days in advance of the issuance of the IFB/RFP. To ensure qualified offerors respond to the notice and to help prevent disputes and potential problems, the Contracting Officer should prepare a detailed/descriptive CBD synopsis. The key to a good synopsis is a descriptive scope that attracts firms with the desired construction and management skills.

During the solicitation period, the Contracting Officer compiles a solicitation package that includes the project drawings, specifications, special clauses, the current Davis-Bacon wage rates, and the particulars on the solicitation procedures such as the bid opening/proposal closing date and the bid/proposal acceptance period. Although the typical bid/proposal acceptance period is 60 days after the bid opening/closing date, the time can be shortened or lengthened to suit the needs of the DA, the AF PM, the MAJCOM, the Base, or the User. Customary bid acceptance periods range between 30 days and 90 days. Contractors do not guarantee or hold prices over 90 days because of tied up bonding capacity or cost location factors. Therefore, higher bid prices can be expected when acceptance periods extend beyond 90 days.

B. Predefinition of Responsibility in Solicitations

Although there are different acquisition procedures, Federal agencies are required to award a contract to a responsive and responsible contractor. If delivery of the project on time is critical to a mission, or it is of such a complicated nature that the Contractor must possess unusual skills, the AF PM should include specific responsibility criteria in the solicitation to avoid problems, as required by FAR 9.104.

Generally, a determination of responsibility includes an assessment of the contractor's technical, financial, management, and performance capabilities. If insufficient information is available to make a determination of responsibility, the AF PM should request the contracting officer to conduct a pre-award survey in accordance with FAR 9.106. The Federal test for responsibility is that a prospective contractor must meet the general standards of FAR 9.104-1.

C. Invitation for Bids (IFB) and Request for Proposals (RFP)

Upon the completion of a minimum 15-day synopsis period, the solicitation can be issued. The Contracting Officer normally will issue the solicitation notice to all contractors listed in the Contracting Officer's mailing list and to as many "clearinghouses" as possible so as to seek the widest possible competition for the construction work. Under exceptional conditions, the 30-day response time may be substantially shortened, and the list of prospective offerors narrowed to meet the mission requirements. The AF PM has to provide the necessary justification to the Contracting Officer in order to obtain approval for these "other than full and open competition" contracts (see FAR 6.304).

For extremely complex or difficult projects, the time set for receipt of bids or proposals can be lengthened to improve the competition on the project. For IFBs, it is customary to hold bid openings only on Tuesdays, Wednesdays and Thursdays, as this enhances the competitiveness of the bidding process. Upon the expiration of the bidding period, the bids are opened and read aloud to all present. At the end of the reading of the bids, an apparent low bidder is declared. At this point the process of contract award begins. A public opening is not conducted for RFPs. The offeror expected to receive the award is not known until completion of the evaluation process and selection of the best value offeror.

When required, the solicitation can be amended; however, revisions requested during the solicitation response period contribute to delay, confused requirements, and ultimately more expensive or reduced quality projects. If the solicitation package requires changes,

the solicitation response period may have to be adjusted so as to allow at least 10 days between the issuance of an amendment and the time set for receipt of bids or proposals. If the issuance of an amendment will delay the due date for bids or proposals, the Contracting Officer must first request the AF PM's concurrence prior to its issuance. Have the Contracting Officer provide the AF PM the reasons and consequences for either issuing or not issuing the amendment. Dependent on the revisions involved and the timing, it may be advisable to incorporate the change as a "known" modification rather than delay the due date. In any case, work closely with both the MAJCOM and the Contracting Officer to avoid any changes to the solicitation, especially those that unnecessarily delay the bid opening.

D. Bid Opening Report

The Contracting Officer usually handles all bidding and contract award activities, and should provide the Bid Opening Report within 24 hours following bid opening for IFBs. The report includes the names and bid amounts of the first and second low bidders, including additive items, the high bid with any additives, the Government estimate, an analysis of the CWE, a note on the funding status, and a recommendation concerning the low bid and any additives. Upon receiving the bid opening report, notify HQ USAF/ILEC and enter the information into PDC or ACES.

E. Protests

Be aware that any interested party whose direct economic interest could be affected by the award of, or failure to award, a particular contract has the right to protest the award. The party can protest to:

- The Contracting Officer of the agency doing the contracting, or
- The General Accounting Office (GAO).

The protest is generally filed with the Contracting Officer before filing with the GAO. The protest can be filed before or after award. If filed before, award cannot be made until the matter is resolved by the Contracting Officer's decision, except under special conditions. The Contracting Officer does not have to suspend the contract if the protest was received after award.

If the protest is filed directly with GAO, GAO must notify the Contracting Officer within one day after the protest is filed. The Contracting Officer must then submit a report to GAO within 25 working days. GAO can take up to 90 work days after they receive the protest before issuing a recommendation. If the Contracting Officer elects not to follow GAO's recommendation to the Contracting Officer, the rationale must be provided to the Comptroller General within 60 days.

V. Construction Contract Award

A. Funding and Authority to Award

The award CWE is based on the apparent low bid which includes the basic bid plus any additive bid items to be awarded, management and contingency reserves, and Design Agent supervision and administration fees. The bidding documents must clearly identify the order of acceptance of additive bid items to avoid any perception of juggling additive bid items to favor a particular contractor.

Construction funds for most MILCON projects are transferred to the CA after bid opening. The MAJCOM notifies HQ USAF/ILEC of the proposed award CWE. If the award CWE does not exceed the PA, HQ USAF/ILEC issues a Design Instruction (DI) to the MAJCOM granting authority to award the contract and requests that SAF/FMBIC send funding equal to the award CWE to the CA.

If the award CWE is greater than the PA but within the authorization threshold, the MAJCOM must identify available funding source(s) for the difference between the award CWE and the PA. If the award CWE exceeds the PA by 25% or \$2.0 million, whichever is greater, the MAJCOM cannot award the contract and the project must be redesigned, re-bid, or reprogrammed.

- B. Pre-Positioning Funds** Near the end of the fiscal year, HQ USAF/ILEC normally requests that SAF/FMBIC transfer construction funds to the DA/CA for MILCON projects scheduled for award by the end of that fiscal year. This is known as pre-positioning of construction funds. The amount of funds pre-positioned generally is equal to the PA but may vary depending upon individual project considerations. Although bids may be opened any time after the project is included in the authorized and appropriated bills signed by the President, the Contracting Officer cannot award the contract until the funds are actually received.
- C. Adverse Bids** Loosely defined, an adverse bid occurs when the contract cannot be awarded to the low bidder because the resulting award CWE exceeds the Congressional reprogramming threshold or the CWE is expected to exceed the threshold amount during construction. Adverse bids can be caused by a number of problems individually or collectively. These include design flaws, overly restrictive contract requirements, inadequate bidding competition, errors in the Government estimate, or significant increases in the cost of construction materials. The decision to award a marginally adverse bid depends on mission need, the Contractor's reputation, and complexities and unknowns within the project.
- Potential remedies for overcoming adverse bids include rebidding the existing contract documents in a more favorable bid climate, revising project bid content through deletion of project scope or requirements, reducing project bid content through identification of additive bid items, basing award on negotiated acquisition rather than sealed bids (see FAR 15.102), or reprogramming the project with Congress.
- The AF PM must aggressively seek a solution based on the various factors impacting the project design, such as critical need dates, available funding, bidding climate, and the needs of the User, Base, and MAJCOM. The bid or proposal expires at the end of the acceptance period stated in the IFB or RFP. In addition to seeking the appropriate solution for an adverse bid, the AF PM must also track progress towards a reaching a decision in order to determine if bid extensions are appropriate.
- D. Award and the Contract Award Report** The contract award marks the point where the project requirements and ideas discussed during the planning and design process begin to become a reality through construction. If the Design Agent and Construction Agent responsibilities are in the same organization, the project management responsibilities are transferred after award. However, if these responsibilities are in different organizations, transfer is made prior to solicitation.
- The last action of the Design Agent before the transfer of responsibility and after contract award is to submit the contract award report to the Construction Agent and to the AF PM. The AF PM notifies HQ USAF/ILEC and enters the award data into the Bid Opening Report screen in PDC or ACES. This report must be entered within 24 hours after contract award and includes the complete funding summary, award date, number and cost of additive items awarded, award scope including additive items, and bidding restrictions.
- See Chapter 9 for further information on NAF projects.

Chapter 7 - Facility Construction

Contents		
I.	Introduction	3
II.	Start-up	3
	A. Preconstruction Conference	3
	B. Notice to Proceed (NTP)	3
III.	Submittals	4
IV.	Quality Control	4
	A. Contractor Quality Control (CQC)	4
	B. Construction Inspection	4
	C. Construction Surveillance	4
	D. Quality Indicators	5
	E. Quality Assurance by Construction Agent	5
V.	Resident Construction Manager (RCM)	5
	A. RCM Program Overview	5
	B. RCM Authority	6
	C. RCM Responsibilities	6
VI.	Schedule Control	7
VII.	In-Progress Cost Control	8
	A. Cost Status Report	8
	B. Work-in-Place (WIP) Report	9
	C. Change and Claim Detail Report	9
	D. Value Engineering Change Proposals (VECP)	10
VIII.	Construction Contract Modifications	10
	A. Managing Modifications	10
	B. Construction Contract Modifications Funding	10
	C. PA Threshold Limits	12
IX.	Large Construction Program	12
	A. Construction Management Plan	12
	B. Management Meetings	13
	C. Quality Assurance Plan (QAP)	13
	D. Key Ingredients	14
X.	A-E Responsibility	14
XI.	Operations, Maintenance and Training	15
	A. O&M Manuals	15
	B. System Testing and Training of O&M Personnel	15
	C. System Startup	15
XII.	Prefinal and Final Inspection	15
	A. Design Deficiencies	15
	B. Construction Deficiencies	15
	C. Joint Occupancy	16
	D. DD Form 1354	16
	E. Facility Acceptance/Beneficial Occupancy Date (BOD)	17
	F. Warranty xx	17
	G. As-Built Drawings	17

XIII.	Intensively Managed Projects	17
	A. Financial Chart	17
	B. Request for Information Chart	18
	C. Change Order Chart	18
	D. Claims Chart	18
	E. CPM Network Schedule	18
	F. Design Tree Analysis	19
	G. Action Items Chart	19
	H. Special Charts for LAN, CID, etc.	19
	I. Preparing Minutes	20
XIV.	Claims	20
XV.	Physical Completion	21
XVI.	Financial Close-out	21
XVII.	Post Occupancy Evaluation/Lessons Learned	21

Reference Documents

DD Form 1354, Transfer and Acceptance of Military Real Property

[Federal Acquisition Regulation \(FAR\), Defense FAR Supplement \(DFARS\), and Air Force FAR Supplement \(AFFARS\) references](http://farsite.hill.af.mil) <http://farsite.hill.af.mil>

[Air Force Interior Design Guides](http://www.afcee.brooks.af.mil/DC/products/DCproducts/.asp)

<http://www.afcee.brooks.af.mil/DC/products/DCproducts/.asp>

Chapter 7 - Facility Construction

I. Introduction

The goal of an Air Force Project Manager (AF PM) is to construct a complete and usable, quality facility meeting the User's needs, on time and within budget.

During construction the AF PM must stay on top of and follow through on the thousands of details involved with meeting project goals, must continue to provide information as part of the management team, and must be a key participant in executing and controlling change. The AF PM needs to know where the project stands and where it is going. Since information is the product, the AF PM must have ways to not only portray current project status, but also to forecast construction schedules, cost, and quality.

The construction phase of the project receives the most attention by the Users since they can see the project. Seeing the project is a potential source for change requests. Just as certain modifications are absolutely necessary for a successful project and satisfied User, excessive and unnecessary modifications may adversely impact both the User and the project. The AF PM must constantly make judgments about potential changes and their impact on schedule, other construction work, funding, phasing requirements, Government Furnished Equipment (GFE) and Government Furnished Materials (GFM).

The AF PM's management actions provide cost control, schedule control, and quality control. Successful management of cost, schedule, and quality in a manner compatible with User satisfaction is, indeed, a tough challenge. Meeting this challenge successfully will achieve the objective of delivering a quality facility meeting the User's needs, on time, and within budget.

II. Start-up

A. Preconstruction Conference

The Preconstruction Conference (sometimes referred to by the Construction Agent as the Pre-Performance Conference) is a meeting held at the job site to establish local ground rules, both covered (labor standards clauses) and not covered (Base regulations) by the contract documents that are directly related to Contractor actions and interactions on the Base. Attendees should include the Construction Agent (CA) and representatives from the Major Command (MAJCOM), the Base Civil Engineer (BCE), the User, and the Base Fire Protection Flight, Environmental Management, Bioenvironmental Engineering, Security Police, Safety, and Communications organizations.

The Construction Agent (CA) conducts the meeting, but the AF PM should be prepared to address issues such as phasing, GFE/GFM items, and coordination in restricted areas. Resolve all such issues before the Preconstruction Conference and present a unified Government position in the Contractor's presence. The AF PM's role at the conference is to ensure that Air Force interests and resources are protected. The Preconstruction Conference is not the time to discuss potential change requests.

The Preconstruction Conference is not the time to discuss potential change requests.

The most important step to cover to ensure a successful project is "Partnering." Key stakeholders should be identified from each of the following groups: the User, the A-E, the CA and the Contractor. These individuals should agree to meet on a regular basis to identify and resolve problem areas quickly to the satisfaction of the team members. Use partnering to alleviate problems such as delayed submittals and questions for Air Force entities and as a tool to keep the project on track. Reserve these questions for the government pre-meeting.

B. Notice to Proceed

The Notice to Proceed (NTP) is the instruction from the Contracting Officer to the Contractor to start work on the project. This notice authorizes the Contractor to spend money and establishes the start date for the contract performance period. The AF PM should participate in fixing this date to ensure that the BCE and User are ready for the Contractor to start and that the start date is consistent with any critical need dates and schedules that are important to project success. Most Contractors will work with the Contracting Officer and the Base to minimize User disruption. The CA will normally issue

the NTP between 15 to 30 days after contract award. Minor adjustments to that time frame can be made if it is in the best interests of the Government. However, excessive delays in issuing the NTP may result in a Contractor claim unless the intent to delay NTP issuance was specified in the bid documents.

III. Submittals

The construction contract will require the Contractor to submit material and equipment data, samples, and shop drawings prior to the start of any segment of work related to the items involved. The Government has a responsibility to provide timely review and prompt return of the submittals to the Contractor; otherwise delays and claims may result. Those items submitted for Air Force approval need special attention because of the number of organizations involved in the review process. Reviews must be thorough, accurate, and quick. Submittal of color boards and fire protection and O&M manuals are typically approved by the MAJCOM or the Base.

If there is a problem without a timely response, elevate the concern and ask for help

Late, incorrect, or incomplete submittals from the Contractor can adversely affect the job. Just as importantly, the CA's review process must be timely and responsive to critical items in the contract schedule. Be alert to these instances and encourage the CA, at the appropriate management level, to make the necessary corrections. If the CA does not make the necessary corrections, elevate the concern within both the CA's management system and the Air Force's system. This philosophy and action in working with the CA is important in all the issues of construction management. Use partnering techniques to solve problems of this nature before the project is adversely affected.

IV. Quality Control

A. Contractor Quality Control (CQC)

The Contractor is responsible for inspecting, testing, and documenting those tests and inspections that are required by the contract to control material quality and workmanship. The Contractor is also required by the terms of the contract to employ a Quality Control (QC) representative. The contract specifications spell out in detail what inspections and tests are to be performed and the detail of reporting.

The CA, through the Quality Assurance (QA) program, oversees the CQC program. Quality cannot be "inspected" into the project; rather, the individual instances of workmanship and overall job quality must be directly related to the Contractor's reputation and pride of accomplishment. Although over-inspection can reduce cooperation and result in changes, ensure the CA is effective in controlling quality. It is difficult to make corrections for appearance-related work as the construction nears completion, so bring these issues to the CA's attention immediately.

Encourage the CA's QA effort to be aimed at enhancing that Contractor's pride in order to receive the desired project quality. This may include quizzing CQC personnel, frequent meetings with Contractor's superintendent or project executive on quality issues, and checking preparatory inspection work to include CQC. Understanding of CQC enables the AF PM to become aware of these instances in a timely manner and encourage the CA, at the appropriate management level, to make the necessary corrections.

See Chapter 9 for further information on nonappropriated fund (NAF) projects.

B. Construction Inspection

Continuous construction inspection is the responsibility of the Contractor. This responsibility, established by FAR 52.246-12, requires the Contractor to maintain an adequate inspection system and perform such inspection to ensure that the work performed conforms to contract requirements. The Contractor must maintain inspection and test records and make these available to the Government. The Government reserves the right to inspect and test any phase of the work at all reasonable times without relieving the Contractor of any responsibility for contract compliance.

C. Construction Surveillance

The CA performs construction surveillance on the job site and at off-site locations (fabrication locations or stored materials) when necessary. Construction surveillance differs from inspection in that specific technical inspection and tests are not performed on

Encourage the CA to stop improper construction in progress. Once in place it may be considered "accepted" and therefore expensive to remove.

a continuing basis. Those items are the responsibility of the Contractor. The AF PM's job is to review project function and overall appearance and to raise any cost and time issues that affect the Air Force. Do not discuss or provide any comments and suggestions directly to the Contractor. Instead, document concerns using photos, videos, and notes and discuss discrepancies with the Contracting Officer or the CO's representative. Notify the CA in writing regarding any job site, schedule, cost, or quality problem areas needing prompt attention and resolution. See [Appendix 39, Construction Surveillance Checklist](#) for a recommended checklist of construction surveillance items.

D. Quality Indicators

The following items are primary indicators of the quality of the Contractor's operations. If these indicators are good, the project is probably in good overall condition. If these indicators are not good, additional AF PM management attention may be warranted. Poor cleanup, for example, often is a sign of careless supervision.

- Workmanship and craftsmanship.
- Overall job cleanup and appearance.
- Daily housekeeping.
- Hard hat discipline and other safety issues.
- Material storage procedures.

A good project will have the appearance of finished work during all stages of construction. This includes masonry joints, pipe connections, concrete, framing, and any other ongoing activity at the time of the site visit.

E. Quality Assurance by Construction Agent (CA)

The CA's Contracting Officer is the Government's legal contact with the Contractor. The Resident Construction Manager (RCM) is the CA's day-to-day representative in the field. The CA's responsibilities for the project from start of construction to completion include:

- Acting as single-point-of-contact between the Contractor and the Government.
- Providing Quality Assurance of the work; reviewing and approving submittals.
- Maintaining schedules.
- Administering the contract; modifying the contract when necessary.
- Generally protecting the Government's interests.

Expect and require the CA to maintain good communications with the Contractor's superintendent and Quality Control, as this will improve project management effectiveness.

Under the QA/QC system, the Contractor is required to control quality. The CA has the right and responsibility, in a QA oversight role, to ensure that the Contractor performs the QC that is required in the contract. Therefore, the level of quality desired and expected in the completed project must be accurately reflected in the contract documents. Insist that the CA ensures that the level of quality specified is indeed received. Accept nothing less.

V. Resident Construction Manager (RCM)

A. RCM Program Overview

The RCM's primary responsibility is to provide on-site project management for the CA, although the RCM also has an oversight management role in contract compliance.

The project management role is an absolute necessity because simply ensuring contract compliance is rarely adequate for a successful project. Design errors, unforeseen site conditions, bad weather, mission changes, and User changes are but a few of the common issues encountered in projects. The usual procedures for dealing with such issues are cumbersome, complex, and often time consuming. Frequently, these procedures lead to escalating cost and schedule growth as well as User dissatisfaction. There is a very real opportunity to positively impact this typical scenario. The RCM has a unique view of the project and the perspectives of the many interested parties. The RCM should acquire both a broad and a detailed understanding of all aspects of the project

including: details of the construction and construction schedule; first-hand exposure to the job site and the Contractor's representatives; knowledge of the User's concerns and potential changes; the immediate and potential funds picture; and the project team players at the Base, the MAJCOM, and the CA.

The RCM has the opportunity to become aware of issues at an early stage and to identify these issues to the right construction team member for early resolution. The RCM is most able to facilitate bringing together the right people, at the right time, to address the right issues. This approach is absolutely necessary to achieve a high degree of project success and User satisfaction.

B. RCM Authority

The RCM is responsible for the project management activities identified in the Construction Management Plan and described below. The authority includes providing instruction, direction, guidance, and answers to questions from the CA, User, MAJCOM, and BCE, as long as these actions are within the CA's authority, in accordance with construction management policies, and do not approve or disapprove CA modifications to a construction contract. Responding to User change requests can be a substantial portion of the RCM's responsibilities. For maximum efficiency and effectiveness, it is recommended that the RCM be authorized to approve Air Force Change Requests (AFCRs) whose estimated cost does not exceed the CA's modification authority.

C. RCM Responsibilities

The RCM may support one large, high technology or complex project or a large number of projects at a Base or within a region. For single projects, the authority and responsibilities of the RCM will be as described here and in the Construction Management Plan for that project. In those cases, it is essential that all individuals representing the various organizations involved in the construction effort be present on site to resolve the issues, coordinate the activities, and manage the construction effort. The following general guidelines and procedures are for management of multiple projects in a given area of RCM responsibility where no Construction Management Plan has been prepared. The level of detailed RCM involvement will depend on the number, size, and complexity of projects as well as the geographical constraints of the area of responsibility.

The RCM responsibilities during construction may include:

- Reviewing contract documents for constructability, portrayed accuracy of the existing site conditions, the inclusion and compatibility of construction phasing requirements, and potential problems that could result in Contractor claims or contract changes.
- Representing Air Force interests at meetings.
- Performing construction surveillance of assigned contracts.
- Coordinating actual or potential obstructions to work with the CA, the BCE, the User, and other organizations as appropriate.
- Coordinating the distribution, review of, and responses to Contractor submittals identified for Air Force review with the appropriate organizations. All Air Force comments should be returned to the Contractor through the CA.
- Monitoring Contractor progress relative to the Contractor's approved progress schedule.
- Ensuring that corrective action is taken on all detected and reported deficiencies.
- Reviewing User change requests and other project related correspondence.
- Initiating User changes when appropriate.
- Reviewing proposed CA modifications for significant impact and errors and ensuring these modifications are within RCM authority.
- Conducting coordination meetings and briefings as the Air Force's construction team leader.
- Requesting immediate assistance or support from the parent CA office as required.
- Keeping the information management system (PDC system or ACES-PM) current and accurate.
- Maintaining other important information such as construction chronology, AFCRs, modification status, construction claim status, contractor submittal status,

contract schedules, project delay data, construction surveillance notes, material and system test results, and any other information pertinent to the management of the project. However, the AF PM should not duplicate extensive, detailed records required of the RCM and the CA.

- Participating in joint occupancy and beneficial occupancy inspections.
- Preparing Air Force requirements for Joint Occupancy Agreements (JOAs).
- Participating in pre-final and final acceptance inspections.
- Ensuring timely and accurate transfer of facility documents, such as as-built (record) drawings, O&M manuals, test reports, and the DD Form 1354, Transfer and Acceptance of Military Real Property.
- Monitoring the completion of noted deficiencies and taking the necessary actions to ensure deficiencies are corrected in a timely manner.
- Coordinating visits by Air Force personnel and escorting visitors through the construction sites.
- Briefing Air Force visitors on the project.
- Scheduling and participating in final reports on Post Occupancy Evaluations (POEs).
- Maintaining files, records, and photographs and providing an accurate, historical record of the project and the office operation.
- Preparing and distributing minutes of review meetings for projects under the HQ USAF Executive Review Group process.

VI. Schedule Control

The construction schedule is prepared by the Contractor, and details how the contract completion date(s) will be met. Network schedules are used by Air Force Construction Agents on MILCON construction contracts to schedule work and track progress of the Contractor. The U.S. Army Corps of Engineers requires network schedules on most projects. The Naval Facilities Engineering Command allows the option of using bar chart or network scheduling. Both organizations use the Critical Path Method (CPM) of network scheduling which allows analysis of critical activities on overall completion. One example of acritical activity may be the availability of Government furnished equipment for installation by the Contractor.

The AF PM should be familiar with the logic and mechanics of network scheduling.

The advantages of this type of construction schedule include the fact that complex construction activities can be broken down into simple tasks and analyzed. This approach can make the most complicated project a series of simple jobs. Analyzing and playing "what if" games is simplified when the network schedule is computer-based.

While the CA must approve reasonable Contractor schedules, the AF PM should question any schedule that provides for a disproportionate amount of work in the last month or two of the contract.

The schedule is a major construction management tool. Identify in the schedule and watch very closely those areas that may cause the critical points during the construction or the construction completion date to slip. Compare the schedule with actual construction progress because the Contractor should be paid only for the work accomplished. Especially review the status of pending modifications and their potential effect on the schedule. Finally, question the CA on actions taken to meet the schedule when the Contractor falls behind in construction. Extended overhead can add considerable cost to a project when construction completion is delayed through no fault of the Contractor.

The Contracting Officer of the CA is responsible for review and approval of the schedule. The Air Force can require changes to the schedule, and does so when mission changes dictate. A network schedule, properly administered by the CA, provides an accurate means of measuring the time impact of potential changes.

The AF PM is cautioned that Contractors have a tendency to delay submission and approval of schedules. This tends to dilute the advantage of being able to estimate the impact of changes during the early period of construction. The AF PM should continually encourage the CA to obtain an approved schedule as required by the contract.

Changes in the work and time extensions due the Contractor must be included in the network concurrent with the performance of the change or immediately after a delay. Otherwise, the critical path network and schedule will not reflect the current status of work performed or progress attained.

VII. In-Progress Cost Control

An important cost control element deals with keeping informed of changes as the project progresses. Good cost forecasting, like updating a current working estimate (CWE) during construction, involves knowing costs to date, project status, and history of changes. This information is essential to determine the cost to complete, compared with the budget and funds available, so that decisions can be made on the funding overage or shortage. There are three basic reports that the CA must provide to show financial history, status, and progress for a project at summary and detail levels. These reports are: Cost Status, Work-in-Place, and Change and Claim Detail Reports.

See Chapter 9 for further information on NAF projects.

A. Cost Status Report

This financial status report is a conglomerate of information compiled by the CA and the MAJCOM Funds Manager from the CA's Construction Manager's Report, from the project information contained in the PDC or ACES-PM Civil Engineering Project Management system, and from job site observations. The goal of the report is not only to reflect the current financial health of the project, but to forecast the future financial needs as well. Proper cost forecasting should allow the MAJCOM Funds Manager sufficient notice for locating and transferring the needed funds to the CA before they are actually required. The results of poor cost forecasting are typically either stop work orders or work deletion modifications.

The Cost Status Report compares the latest current working estimate (CWE) to finish a project with the programmed amount (PA), the funded amount and other financial limits such as the apportioned amount and the threshold. The report will also include other pertinent financial data such as contract price, executed modifications, engineering and design (E&D) during construction, supervision and administration (S&A), available contingency funds, available management reserve funds, and other associated costs.

The most important inputs to this report, and probably the most difficult to assess, are the estimated costs for potential changes and undecided claims. The AF PM, along with the CA, must observe the interaction between the contract documents, the Contractor, the RCM, and the Contracting Officer so a price tag may be put on these future costs and included in this report.

The best and most current information is at the job site, so use whatever technique works to ensure the data is accurate and up-to-date, especially in dealing with the CA's office above the RCM level. Not knowing the scope and cost of pending items has caused jobs to stop or needed work to be deleted because sufficient notice could not be given to the MAJCOM Funds Manager to obtain additional funds or authority. Cost status reports should be revised at least monthly or every time there's a change. Stay on top of the following two cost status items, update these items in the PDC system or ACES-PM and be able to answer fundamental questions each:

- Current cash position. Is there currently sufficient funding to execute validated pending modifications?
- Forecast to completion. Is there sufficient funding to execute validated pending modifications and finish the job within available contingencies and management reserves? If no, seek contingency replenishment on unplaced work by requesting additional funds. If yes, maintain excess funds until the project has reached nearly 100% completion to ensure unforeseen problems will be funded in a timely manner.

B. Work-In-Place (WIP) Report

This payment status report shows the value of work earned and the value projected (either by dollar value or by percentage of the total contract cost). It is commonly a graphical plot of the earned and projected values against time and is an indicator of the Contractor's progress. It is customary to allow payment for off-site fabrications and for

materials that have been invoiced and set aside in bonded storage. There are two noteworthy observations about the WIP Report:

- Since WIP is based on dollar-valued (not man-hour-valued) activities, the Contractor may be behind in the completion schedule because of lack of concentration on critical activities.
- If the actual WIP exceeds the projected WIP, make sure the payment retainage or deficiency disallowance, stored materials, and off-site fabrication allowance and construction progress all make sense when considered together. Remember, leverage is shifting to the Contractor as the job progresses, so the AF PM needs to remain continually aware of the cost to remedy defective work and the potential defects in untested work.

C. Change and Claim Detail Report

Cost control requires that each change or claim is separately identifiable; otherwise control is lost. The detail required for forecasting completion cost follows:

- Summary of validated or confirmed changes organized by number (total, negotiated, canceled, and unnegotiated), those within 0-60 days and those over 60 days. The AF PM should focus first on the pending modifications (validated changes not yet negotiated) that are holding up work or causing a work sequencing problem. Have a preliminary estimate of the pending changes that don't yet have Contractor proposals for cost.
- Summary of changes by type and value for issued and pending changes.
- For changes pending, the AF PM should know the cost estimating status for each proposal and the action needed for each. Assign suspenses.
- Potential or anticipated change requests must be scoped, validated, designed, and estimated before the Contracting Officer can negotiate. A pre-validation cost estimate should be used as part of scoping to develop total cost exposure.
- To determine the cost exposure for unresolved claims (which have the potential to become contract modifications), request the CA provide status detail of each claim (description, claimed amount, associated performance time, and number of days since receipt by the Contracting Officer). Stay on top of the CA to ensure that claims under \$50,000 are resolved within 60 days, that meetings are held quickly so all parties understand the claim, and that a Government negotiating position is established if the claim appears to have some merit.
- The CA sometimes negotiates modifications without negotiating time and associated costs. These items are often lumped into a "time extension" modification to be negotiated and executed later. Modifications which ignore time should be considered a "bomb ready to explode," as the final time and associated cost settlements are often considerably higher than anticipated. Press the CA to negotiate time with each modification or unilaterally add time when appropriate to force the discussion with the Contractor. Do not let the CA execute modifications which invite the Contractor to re-open negotiations on the modification at a later time.

See Chapter 9 for further information on NAF projects.

D. Value Engineering Change Proposals (VECP)

VECPs are the Contractor's suggestions to reduce construction costs without sacrificing project functional requirements or quality, based on life-cycle cost analysis. The Contractor and the Government share the savings. See FAR 48.104. VECPs are considered Construction Agent Change Requests (CACRs) and must be approved by the MAJCOM, Base, and User before they may be executed as modifications. MAJCOMs have final approval authority for VECPs. VECPs need careful review to ensure that design objectives and long term functional requirements are not overlooked in the face of initial cost savings. Reviews must be completed quickly, because construction continues and savings opportunities may be overcome by events. Also, Contractors lose interest in submitting VECPs if the Government cannot act quickly enough to realize legitimate savings opportunities.

Value engineering (VE) is not required for NAF projects.

VIII. Construction Contract Modifications

Modifications are negotiated "mini-contracts," formalized within the context of the original contract. Modifications allow equitable adjustments to the contract requirements so as to accommodate differing site conditions, unforeseen conditions, changes in building codes and criteria, correction of errors and omissions (design deficiencies), VECP delays and impacts to the work, administrative changes, weather delays, work suspensions, additions, and deletions. Within this list fall the various CA changes and Air Force-requested changes. Modifications should not significantly change the scope of work. If a modification represents an increase or decrease of 5% or more, the project must be examined to gain a clear understanding of why and be carefully examined and justified. Unfortunately this may cause delay in the construction and therefore should be avoided.

See [Appendix 40, AF and Construction Agent Change Requests Checklist](#), for a checklist regarding change requests.

See Chapter 9 for further information on NAF projects.

A. Managing Modifications

Manage changes to prevent building 50-year mistakes.

Modifications are expensive because they are not usually competitively bid. They frequently add time to the construction schedule. The AF PM should always question the requirement for the modification and consider a competitive contract as an alternate method of implementation. The MAJCOM determines the requirements for Air Force-requested changes, and the CA designs and executes the modification. CA changes (changed conditions, design errors, etc.) must be reviewed and questioned, particularly where time extensions are involved. To keep on top of the modifications, the AF PM should track status and push for progress at every possible opportunity.

The CA should respond within two days on smaller modifications. Review the outstanding modifications regularly, including length of time to execute and those modifications that are negotiated without time limits.

One of the AF PM's more important tasks is to ensure that the User is not left out of the modification process, especially on CA changes. The CA must manage changes by keeping up with their processing so that the Air Force customer has sufficient time to line up additional resources or funding authority, if necessary. Additionally, each modification has the potential to affect the User's operational or planned occupancy date.

Occasionally, the Air Force may elect to finance an accelerated delivery to meet fixed occupancy requirements. If the CA executes modifications with little or no coordination, the User's plans may be adversely impacted.

B. Construction Contract Modification Funding

Contingency funds are provided to the CA at construction contract award to pay for mandatory and optional changes not stemming from Air Force changes. Mandatory changes are: those required for a complete and usable facility when actual conditions found on the construction site differ from the plans and specifications; those needed to meet changed safety requirements; or those needed to correct technical errors or omissions in the plans and specifications.

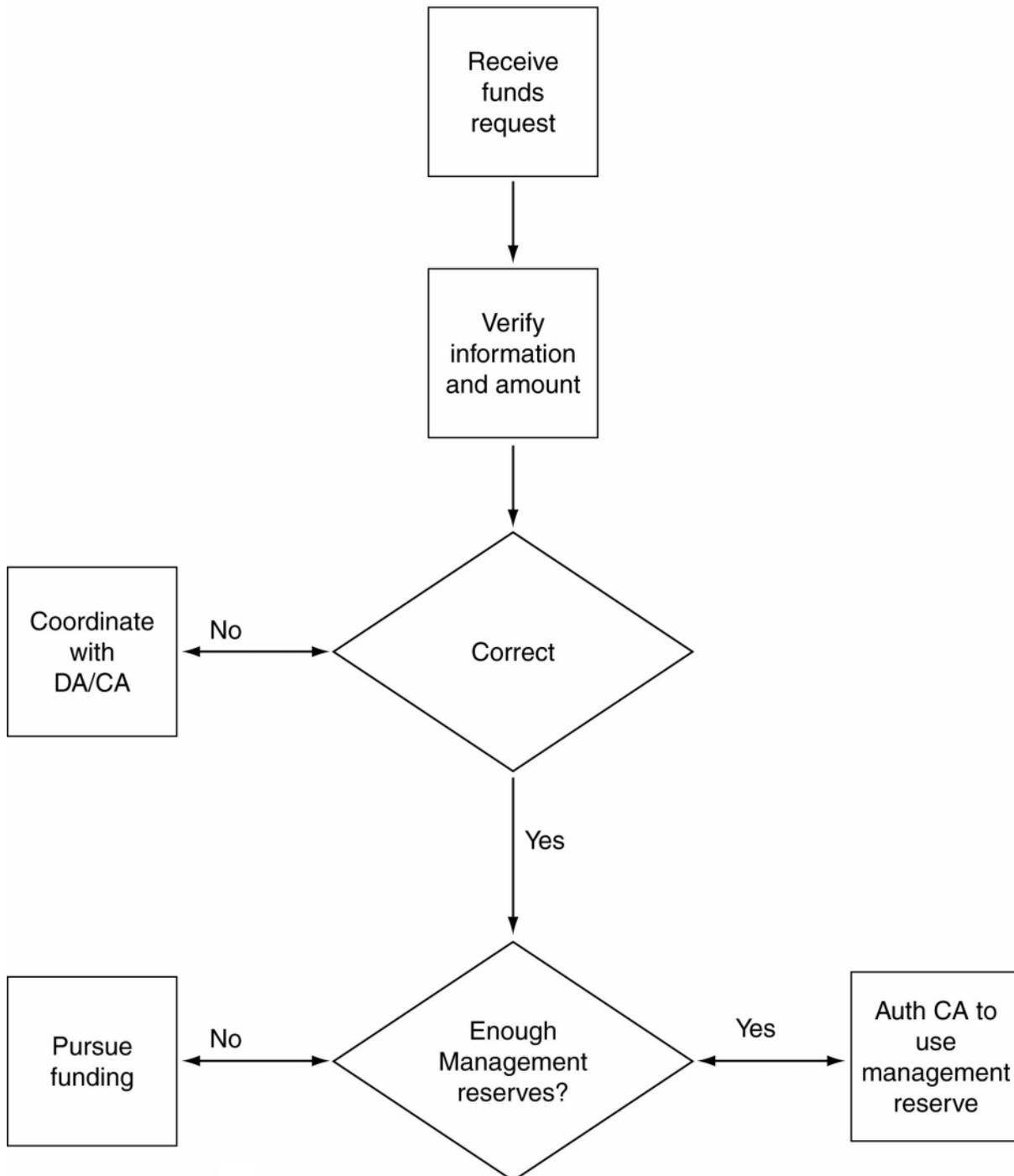
Optional changes recommended by the CA are known as Construction Agency Change Requests (CACRs). These requests result from changes in technology since design completion, value engineering change proposals (VECPs), and disputed items between the Contractor and CA which affect schedule. As with mandatory changes, CACRs are funded from the project's contingency fund account, and require MAJCOM approval.

Management reserve funds also are provided to the CA at construction contract award for most projects. These funds are used to support Air Force requested modifications. See Figure 7-1, DM/CM Actions. As previously discussed, these modifications may be generated by the User, the BCE, or higher levels for improving the operations and maintenance of the facility and its systems or when revised operational missions impact the facility's functional use. Normally 2% of the contract amount at award is set aside for the Air Force management reserve (AFMR) account as long as the CWE is less than the

PA. The CA may use management reserves only with AF PM approval. The AF PM must work to ensure that all Air Force changes are absolutely necessary and essential to satisfy mission requirements or facility performance. Keep nice-to-have changes to a minimum.

DM/CM Actions

Fig 7-1



The project CWE during construction is the summation of the original contract amount, executed modifications, SIOH, E&D, the contingency account, estimated costs for pending modifications, and other construction costs such as follow-on contracts. Thus, each contract modification may cause an increase to the CWE. Although the CA tracks construction costs by contract and is required to report these values to the AF PM in the form of a CWE, the AF PM must continually obtain project financial status information from the CA in order to reflect an accurate cost to finish the project.

See Chapter 9 for further information on NAF projects.

When the CA's contingency account has been exhausted and pending modifications dictate the need for additional funds, the AFMR account must be used to fund those modifications. When both the AFMR and the contingency accounts have been depleted, the AF PM may request the replenishment of the accounts. The MAJCOM Funds Manager will determine if management reserve and/or contingency accounts will be replenished. The contingency account is replenished to a level equivalent to 3% of the unplaced construction work, plus the pending modifications.

C. PA Threshold Limits

Congressional reprogramming is required if the funds required are greater than 125% of the PA or \$2 million, whichever is less. The MAJCOM/CE must sign any request for Congressional reprogramming, identify the source of the additional funds, and submit the request to HQ USAF/ILEC for further action.

The AF PM must stay on top of the costs of the project and encourage the CA to submit information in sufficient time to request funds in accordance with current policy, especially when cost variation or reprogramming actions are required. In all cases, have the CA submit a funds request in writing to the MAJCOM Funds Manager for action.

See Chapter 9 for further information on NAF projects.

XI. Large Construction Program

The successful completion of any large construction program requires the efforts of numerous personnel representing various organizations. The degree of success hinges on each organizational representative's willingness to work toward a common goal as a member of the construction team. The more complex the project, the greater the need for cooperation. Any project today involves many architectural and engineering specialties. No one individual or organization possesses all the knowledge and background necessary to complete any large construction project successfully.

The magnitude and diversification of User interests make it necessary to have a means for informing Air Force organizations on a continuing basis of the status of the project, its progress, and potential problems. Some of the management tools that must be agreed upon and used during construction are the Construction Management Plan (CMP) and the Quality Assurance Plan (QAP). In addition, procedures for coordinating power outages, facility turnover inspections, and warranty support must be agreed to by all construction team members.

A. Construction Management Plan

A large or complex construction project will typically require a specific Construction Management Plan (CMP). This plan documents procedures governing the setup and operation among various organizations. It identifies and describes the decision making and approval processes required for cost control, schedule control, and quality control. The AF PM should prepare this plan for the purpose of identifying agencies, management procedures, responsibilities, coordination channels, and project management meetings of the construction team. Specify organizational responsibilities in detail. The CMP should be signed by the Commander of the CA organization and coordinated with the MAJCOM, the BCE, and the User organizations.

B. Management Meetings

The number of interested organizations makes it necessary to have a means of providing everyone with project status information on a continuing basis. Coordination meetings are an important tool for managing the project, controlling costs, resolving current problems, and identifying potential problems. Weekly, monthly, and quarterly are the meeting frequencies that are generally recommended. Charts, as discussed under Intensively

Managed Projects (Section XIII, this chapter), need to be prepared for these meetings. The primary purposes of these meetings are indicated in the following table:

Weekly Meetings – Primarily for information, problem solving, and decision making within authority provided to discuss the following:

- Current problems.
- Status of modifications and change requests.
- Quality assurance and quality control.
- Schedules and progress.
- Other pending actions.
- Funding status and issues.

Monthly Meetings – Meeting between key organizations listed in the Construction Management Plan to discuss the following:

- Project status.
- Funding status .
- Issues requiring resolution above the authority provided to the weekly working group.

The Contractor might be invited to discuss progress achieved during the last 30 days and plans for the next 30 days. Contractors should not be present for government-only deliberations and discussions.

Quarterly Meetings – For project reviews by Commanders and Executives of the MAJCOM, BCE, and User organizations. Attendees should be limited to executives and those principals directly involved with the project. Purpose is to:

Inform Executives and Commanders of project status. Get resolution of issues for which there was insufficient authority at the lower levels.

The RCM or the parent CA should prepare and distribute the minutes of the monthly and quarterly meetings for coordination. The minutes should be distributed within five days. The monthly meeting minutes will constitute a record of project status and actions taken.

C. Quality Assurance Plan (QAP)

The QAP supports the Air Force quality control efforts to ensure the Contractor's quality control responsibilities discussed previously are met. The CA prepares the QAP in conjunction with the Contractor's Quality Control Plan. The following list indicates the salient features of the QAP:

- Inspection Assignments: The QAP should spell out the responsibilities of each Government agency inspecting the job.
- Contractor Inspections: The QAP should cover the responsibilities of the Contractor's quality assurance inspection team (if applicable), as well as how and when inspection will be done.
- Off-site Inspection: The QAP should cover any requirements that will require the CA to go off-site for inspection.
- Safety Inspection: The QAP should provide a good description of the safety plan and inspection program that the CA will be performing.
- Inspection Records: The QAP should spell out the requirements for inspection records for each section/individual of the inspection team.
- Testing: The QAP should, in conjunction with the contract documents, specify the different tests required and when each will be performed.
- Shop Drawings: The QAP should outline the procedures for review of shop drawings.
- O&M Instruction and In-house Training: The QAP should specify what types of O&M manuals are required and when training will be provided.

D. Key Ingredients

These are the three primary ingredients essential for a quality facility that is delivered on time and within budget:

- A clearly defined plan or statement of responsibility and authority for all organizations involved.
- The continued free flow of information among the organizations.
- An attitude on the part of all individuals and organizations that focuses on the welfare of the project and not personalities, individual desires, and the image of the agencies involved.

X. A-E Responsibility

The means for establishing A-E responsibility is contained in FAR 36.609-1 and FAR 36.609-2. The "Design Within Funding Limitations" clause (FAR 52.236-22) and the "Responsibility of the Architect-Engineer Contractor" clause (FAR 52.236-23) are routinely included in the A-E's design contract. The Government will pursue A-E liability in cases where a CA change modification was necessary due to an error or omission (design deficiency) by the A-E and the error or omission caused damages or additional costs without adding value to the work.

The Contracting Officer of the CA has the obligation for pursuing A-E liability utilizing funds from construction Supervision and Administration (S&A) accounts. The CA notification to the A-E must be quick to minimize damages and to allow the A-E an opportunity to propose corrections. The A-E, even if not negligent, must correct the design error(s) or omission(s) in the plans and specifications at no additional cost to the Government. The A-E can work directly with the Contractor to minimize the cost to the Government. Establish a procedure to monitor the CA's review of modifications for A-E liability. Funds recovered from the A-E for change order/administrative costs can be returned to the project funds if the contract is still open. The CA should inform the A-E that even if individual items are not worth pursuing, damages may be pursued later for cumulative impact. Regardless of the outcome of any A-E responsibility determination, document the A-E performance regarding design quality and responsiveness in the Architect-Engineer Contract Administration Support System (ACASS) managed by the U.S. Army Corps of Engineers, for use on future A-E selections.

In order to find the design A-E liable, all of the following must be answered "Yes":

- Is the construction modification attributable to design error or omission?
- Does the design deficiency stem from an error or omission by the A-E?
- Does the error or omission result from the A-E's negligent failure to meet the standard of care reasonably associated with the A-E profession or from a breach of contractual duty?
- Has the Government suffered damages as the result of the error or omission?

When the A-E is found liable for the error or omission, the A-E is only responsible to correct the design and the contract documents and pay those costs that the Government would not have paid had the design been correct. An example of the costs A-Es have been asked to pay are tear-out costs, delay and schedule impact costs of the Contractor-associated with the error or omission, and damage to construction and property associated with the error or omission.

XI. Operations, Maintenance and Training

A. O&M Manuals

Ensure operating and maintenance (O&M) manuals, systems operating manuals, spare parts lists, and publications describing the equipment or materials, etc., are provided to the BCE as required by the contract specifications. Ensure a signed and dated receipt indicating the person and office receiving these manuals is received and placed in the project file.

B. System Testing and Training of O&M Personnel

The CA must ensure that all systems are tested in accordance with the contract documents. Certain tests (e.g., fire protection systems) may require attendance by the BCE's Engineering and O&M staff and/or other personnel. Coordinate with the CA to ensure that system testing and training have been scheduled in advance to allow maximum participation of interested Air Force personnel. Also, require the CA to have complete O&M manuals available before testing and training.

C. System Startup

Training for the required number of hours should be part of the construction contract.

The AF PM should ensure that O&M personnel are allowed hands-on participation as part of the systems start-up, testing and training. Have the CA include time to allow O&M personnel to turn on and operate all systems so that problems can be identified for correction by the Contractor. For systems complicated enough to require training as a permanent record, the AF PM should specify that Contractor training be videotaped.

XII. Prefinal and Final Inspection

As project completion approaches, so does the point when the BCE and the User will inherit the new facility and all of those hidden problems. Ensure all appropriate Air Force personnel are notified about the date, time, and location of the pre-final and final inspections, as these are the last opportunities to ask questions and identify problems for possible correction by the Contractor. The Contractor's level of interest significantly drops when the final contract payment is made.

The CA will prepare a list of defects, or punch list, identified during the pre-final inspection and will direct the Contractor to correct these defects before the final inspection. The AF PM and the construction team members should inspect punch list items at the final inspection to ensure that all have been properly corrected.

Judgment will often be required while reviewing the corrections made since the yardstick is based on what is in the construction contract and on industry standards, not on perfection. Explain this to the Users, especially if their expectations were not captured during design or programming. Always note design deficiencies separately from construction deficiencies, so that appropriate separate actions can be identified for the CA and pursued independent of contract close-out.

A. Design Deficiencies

The Contractor is contractually required to build according to the plans and specifications and is not responsible for deficiencies caused by errors or omissions in the design or contract documents. The A-E and the Design Agent are responsible for correction of design deficiencies within the scope of the project. Normally these deficiencies will be identified during the course of construction and corrected by modification to the construction contract. However, if these items are not identified until near or after contract completion, it may be best to correct these deficiencies through a separate contract or other purchasing action.

B. Construction Deficiencies

Construction deficiencies are the result of poor workmanship, inadequate inspection or QA/QC, incomplete construction, inferior or damaged materials, unacceptable substitution of material, and failure to construct according to the contract plans and specifications. If the construction does not comply with the contract specifications and drawings, the Contractor is responsible for correction of the deficiencies. Have the CA follow-up with the Contractor to ensure these construction deficiencies are properly corrected.

The Contractor is responsible for latent deficiencies, or deficiencies that become apparent after construction completion, even if final release has been issued. Good craftsmanship and correct engineering practices are always the key to good construction.

When responsibility is not quickly determined, have the CA unilaterally direct the A-E and the Contractor to correct the deficiency and establish liability and payment responsibilities later.

C. Joint Occupancy

There may be occasions when it is desirable for the Air Force or third-party contractors to occupy a portion of a new facility prior to beneficial acceptance. This is a joint occupancy condition and may be selectively used to enhance the overall outcome of a project.

However, use this tool only after very careful consideration and only after formal agreement among all involved parties. Joint occupancy is provided for by the "Use and Possession Prior to Completion" clause (FAR 52.236-11). Joint occupancy does not relieve the Contractor of the responsibility for complying with the terms of the contract.

Joint Occupancy should be discussed in a Pre-performance Conference in the presence of all Contractors, if possible.

The AF PM needs to know what situations warrant consideration for joint occupancy. There may be a requirement for the Air Force or other contractors to install and test critical equipment (i.e., communications, computer, medical, etc.) which must be operational before the facility can be beneficially occupied. Another situation is a firm requirement to occupy a well-defined area that will be sufficiently completed and accessible before the rest of construction is complete. There are many potential joint occupancy situations, and all situations must be weighed carefully before proceeding.

The AF PM also needs to know if there is a critical mission need for the operational use of the facility or a portion of it. There must also be a critical need date. Increased convenience should not be justification for joint occupancy. Take a careful, subjective look at the impact to the overall project as a result of joint occupancy. Will this adversely affect the ability of the Contractor to complete the remaining work in the contract? Who will be responsible for cosmetic deficiencies which occur during the joint occupancy and who will provide basic O&M services that may be required? These are but a few of the numerous complications that typically arise during a joint occupancy situation.

Joint Occupancy can be a useful tool, but use it judiciously

It is absolutely essential that to have a Joint Occupancy Agreement (JOA) covering the particulars of the occupancy, signed by the appropriate parties. Some of the specifics that the JOA should cover include:

- The areas involved.
- Critical times for the various areas.
- Government and Contractor access.
- O&M responsibilities.
- Phasing requirements.
- Inspection requirements—before and after occupancy.
- Warranties.

In general, ensure the JOA defines the responsibilities and limitations of all parties concerning the construction, protection and use of the areas to be jointly occupied. The JOA should be signed by the Contractor, the CA, the BCE, the MAJCOM, and the User. The Health Facilities Office should sign the JOA for medical projects.

D. DD Form 1354

The DD Form 1354, Transfer and Acceptance of Military Real Property, is the legally established method for transferring ownership of Government real property. The CA must prepare the DD Form 1354 only for the area(s) inspected and ready for acceptance by the Air Force. The AF PM and the BCE must ensure that all punch list items identified during the pre-final and final inspections are corrected or have been properly annotated with the anticipated correction date on the back of the DD Form 1354 before it is signed. When all the work has been completed, including the punch list items, the CA should prepare a final DD Form 1354 and submit it to the BCE. All BCE-signed DD Forms 1354 must be filed in the Base's real property records.

E. Facility Acceptance/Beneficial Occupancy Date (BOD)

After the final inspection acceptance and completion of DD Form 1354, the Air Force may accept the facility from the CA. This point marks the date that the facility is ready for occupancy by the User and is referred to as the Beneficial Occupancy Date (BOD). Although BOD normally occurs after all the construction and the final inspection have been completed, a partial BOD can take place in order to allow the User to vacate other space scheduled for construction or to immediately begin performing part of the User's mission. Partial BODs should be discouraged if the partial occupancy serves no real advantage for the performance of the User's mission as it clouds the issue of warranties expiration. The major role of the AF PM at BOD is to return all funds except those required for approved modifications not yet executed. No funds will be held for pending modifications or pending claims.

See [Appendix 41, Acceptance Checklist](#).

F. Warranty

To preserve the warranty on expensive and/or complex equipment, it may be necessary to require the Contractor to provide periodic maintenance and repair in the presence of O&M technicians

The typical construction contract requires the Contractor to warrant all workmanship, materials, and equipment for a period of one year from the date of substantial completion or beneficial occupancy, whichever occurs first. In addition, the contract may specify that some work or equipment will be warranted for longer periods and may contain specific response times. Also, there are specific manufacturer's warranties not required by specifications but available due to the Contractor's choice of materials allowed in submittals. Examples of contract-specific warranty items are window systems, roof membranes, and HVAC equipment.

The FAR clause for construction warranties is 52.246–21. Have the CA provide to the BCE a composite listing of all warranties in effect from the construction work along with points of contact and telephone numbers in the event of problems. Normally this list is part of the contents of the DD Form 1354, but having a duplicate of that list of warranty items makes distribution and discussion significantly easier.

G. As-Built Drawings

The Contractor is required to mark one set of the contract drawings and specifications with the differences between what was required in the contract documents and how the project was actually built. These differences should include not only the contract modifications, but any differences due to the Contractor's selection of materials and installation techniques. These marked-up documents are turned over to the CA to incorporate the noted differences onto the original (usually mylar) drawings and mark the drawings "as-built." Check with the CA to ensure this is accomplished by the required time, and that the as-built drawings are provided the BCE.

On most installations, the base drawings are digitized for storage and retrieval through a computer aided design/drafting (CADD) system. For these situations, the original A-E is usually retained to take the Contractor's marked documents and incorporate them onto the original documents before digitizing. Ensure that the CA and the DA are working together to accomplish the updating and digitizing in a timely manner. Be sure to follow through to see that the digitized records are turned over to the BCE.

XIII. Intensively Managed Projects

When managing a large or complex project, extra efforts may be required to ensure the CA manages the project and not just administers the contract. Additional meetings as discussed under Section IX should be held for these projects. The status charts addressed in the following paragraphs need to be prepared by the CA for discussion at the monthly and quarterly meetings.

A. Financial Chart

Always understand where the project stands financially. If it takes one hour to understand the chart, then take the time. It is important that the AF PM knows how much money has been obligated on a project and what the balances are in the management reserve and contingency accounts. The AF PM should also know which pending contract modifications are critical and which are merely desirable. A good AF PM is both a good funds manager and an architect or engineer who knows construction practices and Air Force policy.

See Chapter 9 for further information on NAF projects.

B. Request for Information Chart

Requests for Information should be portrayed on a chart. Don't allow the CA to get behind in answering Requests for Information. The AF PM can usually tell if a Contractor is positioning for a claim by the number and types of Requests for Information submitted. Be alert if there are many such requests and they are ambiguous. Such requests send a different message than if they are for a moderate amount and are straightforward. Ask the CA about the oldest pending Request for Information and when it will be answered. If there are several, ask about each one.

C. Change Order Chart

The number of active change orders and their age are good indicators of the general health of a project. Do not allow a large backlog of change orders to accumulate. If the

CA cannot get the Contractor to submit proposals in a timely fashion, then directed changes should be initiated. Old change orders open the Air Force to claims no matter who causes the delays. More importantly, they cause schedule modifications, material delays, and generally complicate an orderly process. It is advantageous to ask the CA at the start of construction to provide a flow chart showing how each type of change order will be processed. If change order management is not adequate, ask about each change order and where it stands in the process. At the next meeting, see how many have progressed. The best of all worlds would be no change orders but this seldom happens, so it is necessary to manage them properly. Change orders are costly and should be monitored by the CA, the MAJCOM, the BCE, and the User to ensure they are absolutely necessary.

D. Claims Chart

If a claim is filed, the CA must provide a ruling in a prudent amount of time; therefore, claims need to remain visible. After a claim is filed, it should remain part of the projects financial exposure until it is settled.

See Chapter 9 for further information on NAF projects.

E. CPM Network Schedule

Most construction projects should have a scheduling network. Precedence networking should be requested. The network can be a powerful tool if properly developed. It should be developed collectively by the Contractor's project superintendent, all major subcontractors, and the schedulers. The project superintendent's involvement facilitates a commitment to managing the project by the schedule. When a construction project has multiple facilities or systems, there should be a CPM network for each facility, plus a master CPM integrating all facilities and systems. If it is a large or complicated facility, it is appropriate to ask for building systems on individual networks with an overall network tying everything together. Ensure the contract describes the level of schedule detail. The following is one way to do it:

- LEVEL 1. Total project with a single bar spacing the time from start to finish.
- LEVEL 2. This schedule displays the project by its major components. For example, a Level 2 schedule for a process plant may be broken into process area, storage and handling, site, and services and utilities. It is shown in CPM and bar chart format and should include key milestones.
- LEVEL 3. Each of the Level 2 components is further subdivided. For example, utility systems are broken into water, electrical, gas, sanitary, etc.. This should be shown on a CPM and bar graph with milestones.
- LEVEL 4. The subdivision continues to whatever level is necessary to depict the project in CPM format. The schedule should be CPM format. To communicate the CPM, the Contractor should provide man-hour-loaded bar charts to depict the work hours required between nodes on the CPM at Level 2 or 3. At construction meetings, the CPM charts should show estimated and actual dates.

F. Design Tree Analysis

After ensuring that the DA provided the correct language in the RFP or IFB to require the bar graphs and CPM networks, go through a decision tree analysis at each meeting. This will identify the problem areas where the CA needs to concentrate. The following table provides an example of decision tree analysis:

Analysis Tree

Table 7-1

Total Float and Schedule Performance Index (SPI)	
Case 1 Total Float > 0	
SPI>1.0:	Critical path activities are ahead of schedule. More work is being done than planned.
SPI=1.0:	Critical path activities are ahead of schedule. Some shortfall in work on non-critical activities.
SPI<1.0:	Critical path activities are ahead of schedule. Significant shortfall in work on non-critical activities.
Case 2 Total Float = 0	
SPI>1.0:	Critical path activities are on schedule. More work is being done than planned. Critical path activities are ahead of schedule.
SPI=1.0:	Critical path activities are on schedule. Total work volume on schedule as planned
SPI<1.0:	Critical path activities are on schedule. Some shortfall in work on non-critical activities
Case 3 Total Float < 0	
SPI>1.0:	Critical path activities are behind schedule. Total work volume is more than planned, indicating excess attention to non-critical work.
SPI=1.0:	Critical path activities are behind schedule. Total work volume is on schedule as planned, meaning too much attention to non-critical work.
SPI<1.0:	Critical path activities are behind schedule. Total work volume is less than planned, meaning more overall work effort is needed.

SPI = Schedule Performance Index = Earned Work Hours or Dollars to Date ÷ Budgeted Work Hours or Dollars to Date

G. Action Items Chart

Document action items as they are identified at the construction team meetings and assign team member responsibilities and suspense dates for completion. The action items chart should be briefed at the start of each construction meeting. At the monthly and quarterly meetings, the AF PM should brief this chart. At the end of each meeting, all parties should agree on the new action items to be added to the chart. This chart is extremely important to ensure the Air Force is a good client and is responsive to our Construction Agents.

H. Special Charts for LAN, CID, etc.

For overseas projects, CID packages from U.S.-based designers may delay project completion. Systems Furniture is an O&M item usually designed with MILCON design funds. See Chapter 9 for NAF requirements.

If the facility being constructed has special elements such as local area networks (LAN), comprehensive interior design (CID), or special security systems, these items should be shown on a chart that shows the proposed and actual dates for each major development and installation milestone. These items can easily become pacing factors and should be intensively managed and visible throughout the construction phase.

I. Preparing Minutes

The AF PM should always prepare and publish minutes of construction meetings, stating policy, status, action items, responsible agency, etc.. Minutes should be published within five days of a meeting. Information starts to deteriorate if not published quickly after the meeting.

XIV. Claims

Modifications made to a contract after award have the potential for claims from the Contractor. The Contracting Officer represents the Government in executing these changes. The most important thing to remember is that once a contract is awarded, the contract terms and requirements are binding on both the Government and the Contractor.

Claims can be minimized with proper planning, early problem recognition and resolution through partnering, and the use of claims avoidance techniques. Many of the problems that arise during construction come from indecision and poor planning early in the project. The following list provides insight and guidance on claims mitigation and avoidance:

- Have a pre-acquisition strategy. The delivery method, type and number of contracts, delivery organization, and project scope should be established before design begins. The quality and type of contract documents may vary substantially with the acquisition strategy chosen and the scope definition. Conflicting specification sections most frequently occur when the acquisition strategy, scope, or building system selection change, and the design or construction reviews don't correct the resulting conflicts.
- Use particular care in reviewing User comments concerning specialty equipment and functions. Users often request contract modifications to have the most up-to-date equipment in the project. These equipment changes usually result in easy-to-show delay claims because of their close association with the previously completed or planned contract work. When the risk of change for technical improvements is very high, include language in the contract to cost these modifications on the basis of time and materials.
- Grant all justifiable requests by the Contractor for extensions of time unless there is substantial reason for not doing so. Failure to issue time extensions will seldom result in an earlier job completion; rather, it is more likely to result in claims for accelerated performance of the work. Reasonable extensions of time due to weather, strikes, and other delays for which the Government does not have to compensate the Contractor should be granted when warranted.
- At the start of the job, require the Contractor to identify in advance when the Government's input will be needed on items such as GFE delivery dates and rough-in data. Require the Contractor to include this information in the project schedule. This action may preclude later claims that the AF PM failed to fulfill responsibilities assigned under the contract.
- Resolve claims in a timely manner. The Contracting Officer should normally render a decision within 60 days for claims less than \$50,000. In claims for errors and omissions, be cautious that the A-E is not unduly protecting its position at the expense of the Government. Claims resolution includes prompt investigation of the situation and prompt response to all Contractor notices (notification of changed contract conditions) and claim letters (intent to file request for time or compensation).
- Resolve modifications and claims as they occur. At the end of the project, the Government has little leverage over the Contractor as most of the work has been completed and most of the payments have been made to the Contractor. Also, the Contractor can more easily develop impact and delay claims on a "ripple effect" from multiple changes when resolution is delayed to the conclusion of the project.
- Keep good records, particularly about Contractor manpower levels, days or part days worked, and areas where work is performed. These records may be useful in the event that a delay, acceleration, or a loss-of-efficiency claim is submitted. These records should also document errors and failings by the Contractor and contain letters that place the Contractor formally on notice of defects. Use of dated photographs and video can really make a difference as a supplement to the documentation.

- Modifications executed by the Contractor for additional work or as compensation for design errors and omissions should expressly state that the contract time is not extended because of the work within the modification if that is the case. Avoid situations where the Contractor is paid labor and material costs, but reserves the right to claim additional compensation later for delay, disruption, and loss of efficiency. Make every reasonable effort to negotiate such costs as part of the modification. There may even be projects where the AF PM must ask the Contracting Officer to unilaterally determine that the time and compensation associated with a modification occurred because of an uncooperative Contractor.

When Claims come in:

- Treat them in a business-like manner. Do not get hostile and close communication channels with the Contracting Officer or the Contractor that might hinder subsequent negotiations.
- Insist that the Contracting Officer meet face-to-face with the Contractor if the claim is not easily understood or seems invalid.
- Make sure the Government's attorney is involved immediately.
- Don't succumb to payment of invalid claims just to get rid of them.

See Chapter 9 for further information on NAF projects.

XV. Physical Completion

A project becomes physically complete when the CA certifies that the project is construction complete and all deficiencies listed on the reverse side of the DD Form 1354 have been corrected.

XVI. Financial Close-out

A MILCON project is defined as financially closed when:

- All costs applicable to the MILCON project are recorded and those costs are included in the final CWE.
- All MILCON project obligations have either been liquidated or canceled.
- All accounts receivable pertinent to the MILCON project are collected.

The target financial closeout period is six months for CONUS projects and 12 months for OCONUS projects. This period starts on the beneficial occupancy date (BOD) the User occupies the facility and ends on the date the CA initiates the revocation directive certifying payment of all outstanding bills. Financial closeout enables the Air Force to withdraw surplus funds and to complete processing of the new facility into the Real Property Records in a timely manner.

Work closely with the MAJCOM Funds Manager and the CA Financial Manager to complete financial closeout. Although the Air Force goal is to reduce the closeout time, do not financially close a project with outstanding construction or design deficiencies. On the other hand, do not let pending claims that cannot be settled within the prescribed time period preclude financial closeout or let the CA retain funds for potential claims or for pending claims to be acted upon by an appeals board. Monitor closely any remaining deficiencies to ensure that any cause for closeout delay is resolved promptly.

See Chapter 9 for further information on NAF projects.

XVII. Post Occupancy Evaluation/Lessons Learned

The Contractor is required by contract to warrant the project's workmanship and material for one year. Perform a Post Occupancy Evaluation during the ninth to eleventh month period after beneficial occupancy, noting any and all defective work. Report all construction deficiencies to the CA for correction by the Contractor. Document problems or mistakes that were made during the design, and give this information to the DA to review for other similar projects. The Post Occupancy Evaluation Team should include the CA, the User, the BCE, and the AF PM.

Chapter 8 - Design- Build Facility Acquisition

Contents		
	I. Introduction	4
	II. Overview	4
	III. Purpose	4
	IV. Air Force History of Design-Build Facility Acquisition	4
	V. Basic Approaches to Project Execution	5
	A. Design-Bid-Build	5
	B. Design-Build	6
	C. Low Price Technically Acceptable Solicitation	6
	D. Turn-Key	6
	VI. Comparison of Design-Build & Design-Bid-Build	6
	A. Responsibility	7
	B. Project Definition	8
	C. Knowledge of Construction Technology	8
	VII. Advantages of Design-Build	9
	VIII. Roles and Responsibilities	9
	IX. Factors to Consider for Design-Build Projects	11
	X. Design-Build Process Overview	12
	XI. Request For Proposal Architect-Engineer Selection Process	13
	A. Introduction	13
	B. Architect-Engineer Selection Process Unique to Design-Build	13
	C. Project Management Plan	13
	D. Check DD Form 1391	13
	E. Prepare CBD Synopsis	14
	F. Prepare Architect-Engineer Statement of Work	14
	G. Prepare Government Fee Estimate	14
	H. Fee Negotiations	14
	I. Weighting Factors: Prior Design-Build Experience	15
	XII. Project Definition Development	15
	A. Introduction	15
	B. Major Elements	15
	C. People Involved in the Project Definition Process	16
	D. Data Gathering and Charrettes	16
	E. Conduct Schematic Design Charrette	17
	F. Project Definition Documentation	17
	XIII. Project Definition and RFP Preparation Diagram	18
	XIV. Project Definition and RFP Development Checklist	19
	XV. Request for Proposal Development	19
	A. The Front End Documents - Modified UNIFORM Contract Format	19
	B. People Involved in the RFP Development	23
	C. Statement of Work for the RFP	24
	D. Obtain Funds and Authority to Advertise	26

E.	Issue Advanced Notice and CBD Announcement	26
F.	Perform Final RFP Review	26
G.	Conduct Source Selection Briefing	26
H.	Issue RFP	26
I.	Conduct Pre-Proposal Conference	26
J.	Manage Inquiries	27
K.	Amend Solicitation	27
XVI.	Activities Concurrent with Project Definition and RFP Development	27
A.	People Involved in the Concurrent Activities	28
B.	Prepare Source Selection Plan	29
C.	Source Selection Plan Outline	30
D.	Establish Evaluation Factors	31
E.	Appointment Letters	32
F.	Approve Source Selection Plan	32
G.	Train Evaluation Team Members	32
XVII.	Source Selection Process for Single Phase Design-Build Procurements	32
A.	Introduction and Checklist	32
B.	People Involved in the Source Selection Process	35
C.	Receipt of Proposals	38
D.	Pre-Evaluation Meeting	38
E.	Evaluation Process	38
F.	Air force Evaluation System (Overview)	39
G.	Competitive Range Determination	40
H.	Proposal Analysis Report	41
I.	Authority to Request Required Funding and Award Contract	43
XVIII.	Source Selection Process for Two-Phase Design-Build Procurements	43
A.	Introduction and Checklist	43
B.	People Involved in the Two-Phase Source Selection Process	46
C.	Receipt of Proposals	46
D.	Pre-Evaluation Meeting	46
E.	Evaluation Process	46
F.	Air Force Evaluation System (Overview)	46
G.	Competitive Range Determination	46
H.	Proposal Analysis Report	46
I.	Authority to Request Required Funding and Award Contract	46
XIX.	Source Selection Forms for Both Single and Two Phase Design-Build Procurement	46
XX.	Design and Construction	48
A.	Overview	48
B.	Pre-Performance Conference/Contract Notice to Proceed	49
C.	Design Review: Site Design 100% / Facility Design 50%	50
D.	Requests for Information	51
E.	Design Review: Facility Design 100%	51
F.	Cost Savings Proposals: Pseudo Value Engineering	52
G.	Project Meetings	52
XXI.	Construction for Design-Build	53
A.	Pre-Construction Conference	53
B.	Written Approval to Proceed	53
C.	Inspection and Construction Surveillance for Design-Build Projects	54
D.	Contract Modifications	54
E.	Operations, Maintenance and Training for Design-Build Projects	54
F.	Pre-Final and Final Inspections for Design-Build Projects	54
G.	DD Form 1354/Beneficial Occupancy	55

XXII. Warranty	55
A. D-B Warranty	55
B. Warranty Support for Standard MILCON	55

Reference Documents

[Federal Acquisition Regulation \(FAR\), Defense FAR Supplement \(DFARS\), and Air Force FAR Supplement \(AFFARS\) references](#)

[Title 10 U.S.C. 2807 Appendix 4](#)

10 U.S.C. 2305a

41 U.S.C. 253m

Chapter 8 - Design-Build Facility Acquisition

I. Introduction

This chapter provides a detailed approach to application of the design-build process where the Air Force is the design and construction agent. It is intended to foster consistency in the application of the design-build process and techniques for all Air Force MILCON. Note that many of these techniques also can be applied to non-MILCON projects.

Effective application of the techniques presented will help:

- Acquire facilities in a timely manner.
- Reduce design costs paid with planning and design funds
- Reduce design changes.
- Reduce construction modifications
- Reduce Government liability.
- Support corporate goals for on-time and within budget performance.
- Reduce the Government's contract administration burden.

II. Overview

The Air Force believes there is more than one appropriate project delivery method. There are parameters inherent in each project that determine the most appropriate acquisition strategy. There are advantages and disadvantages to each acquisition method. It is the circumstances and the requirements of the specific project that determine which approach is best. The key to making this determination is education. In order to decide on the best approach, all parties: customers, designers, managers, and construction contractors need to be educated in project delivery methods.

There is much uncertainty and many questions raised when using a new delivery strategy. These questions may include:

- What are the roles and responsibilities of the parties?
- What are the products of the process?
- How does the new delivery approach impact the quality of the finished facility?
- What new skills and tools are required to deliver excellent facilities?
- How does the Government delineate the scope of work for the various design entities?
- To what level of design should a Request for Proposal (RFP) be taken?
- What are the drawing, specification, and cost products that should be prepared by the RFP Architect-Engineer and the architect of record?
- Who is responsible, or best qualified, to coordinate the transition between the RFP documents and the final design of the facility?

III. Purpose

The purpose of this chapter is to familiarize and educate AF PMs and others with the Air Force design-build project delivery method. It is intended to provide consistency and standardization in the application of design-build, rather than be directive. This chapter is written with the assumptions that the Air Force will assume the role of both the AF PM and the Design/Construction Agent. In other instances, the US Army Corps of Engineers (COE) or Navy Facilities Engineering Command (NAVFAC) could be the Agent.

IV. Air Force History of Design-Build Facility Acquisition

Congress originally authorized the design-build process in 1986. The Secretary of the Air Force delegated the authority to HQ USAF/ILE, who in turn delegated the authority to the Major Command Civil Engineers in January 1995. See [Appendix 42 History of D-B and AF/CE Delegation Letter, Jan 95](#). FAR 15 allowed for a method of procurement called Single Phase Design Build Facility Acquisition. With this traditional method of acquisition, a Request for Proposal is developed and issued. The RFP requires each offeror to submit a single proposal for evaluation. The award is made to the offeror with the best value provided to the Government. Prospective offerors submit a proposal in response to the solicitation in three volumes.

- Volume I: Price
- Volume II: Past Performance
- Volume III: Technical Proposal

In response to industry concerns relative to the high cost of proposal preparation for offerors in the single phase process, Congress passed legislation in 1996 permitting the use of a two-phase design-build process. This new process minimizes the time and expense required for offerors to respond to a single-phase RFP and for the Government to evaluate proposals since technical designs and contract cost proposals are not initially required. The evaluation process for a two-step procurement is accomplished in two phases. The Phase I proposals are evaluated only on technical approach and technical qualifications, to include: specialized experience and technical competence; capability to perform, past performance and other important factors. The Phase I evaluations establish a short list of offerors (normally three to five) who then are invited to prepare Phase II technical design and cost proposals for final evaluation and selection.

To date, Design-bid-build is still the delivery method most often used in the Air Force. However, the use of design-build is increasing every year and is now the second most common project delivery method used to procure facilities. The industry and the Government are rapidly gaining capability and experience in the delivery of design-build construction.

V. Basic Approaches to Project Execution

There are four basic approaches to MILCON Project Execution:

- Design-Bid-Build
- Design-Build
- Low Price Technically Acceptable Solicitation
- Turn-Key

A. Design-Bid-Build

In the past, most Air Force construction has followed the design-bid-build facility acquisition process. The Air Force can design the project with in-house or Government (Design Agent) professional designers but, in most cases, hires an Architect-Engineer to design the project. When an Architect-Engineer is hired, the Brooks Act Public Law 92.582 selection procedures are used. The Architect-Engineer prepares 100% construction drawings and specifications (design) used as contract (bid) documents for construction. These documents define what is required so contractors can submit bids (build). The construction contract generally is awarded to the low responsible and responsive bidder. The Government administers the construction.

Project Definition

Design

\$

Construction

Design-Bid-Build: firm fixed price is typically established after construction drawings are complete.

The design-bid-build process is relatively simple to manage and everyone understands the process. The delivery steps and deliverable products have been codified by national associations, the Government, Architect-Engineers, contractors, and customer groups. Roles are clear.

Architect-Engineers produce, to the best of their ability, a fully-defined (construction drawings and specifications) end product, selecting building systems and detailing assembly and construction technology. The Government (through the Design Agent) retains a high level of design control and receives a firm fixed price for the construction of a thoroughly defined product.

However, there are situations where the design-bid-build process creates concerns because construction costs are not fixed until the project is completely designed. The design suffers from a lack of input from contractors and subcontractors, since these groups are not involved in the design process. The Architect-Engineer is not always the most knowledgeable about recent innovations in construction technology. The responsibility for the successful result (the completed project) is divided between the Architect-Engineer and the contractor. Divided responsibility increases the potential for litigation.

B. Design-Build

Professional organizations and associations within the construction industry are in general agreement on the definition of the traditional design-bid-build project delivery process in the public sector. Unfortunately, a consistent definition for design-build, low price technically acceptable, turnkey, and bridging does not currently exist. This guide defines each of these delivery methods in the definitions/glossary located at the beginning of this document. Many organizations use these terms, but apply slightly different definitions. This has led to misunderstandings and confusion within the industry. See [Appendix 43 Industry Definitions of Design-Build](#).

In the Air Force's approach to design-build, an Architect-Engineer (or Government designers) prepares a design-build RFP that defines the design elements that the Government wants to control. The RFP is advertised, and design-build teams submit qualifications and price proposals based on the RFP to complete the design and construct the facility. The award normally goes to the team offering the best value, under a firm-fixed-price contract. Some Contracting Officers (Contracting Officers) place price restrictions on use of best value, making them a lowest price contract.



Design-Build: firm fixed price is typically established with a design-build RFP using only the Project Definition phase of design.

The design-build approach addresses many of the issues of concern described in the design-bid-build process. The cost of the project is fixed earlier with design-build. The architect of record and the construction contractor collaborate to provide the best balance between design, construction technology, and cost. The Government holds a single contract with one organization responsible for design and construction, thus reducing conflict and potential litigation.

C. Low Price Technically Acceptable Solicitation

Use of this type of two-step sealed bidding as described in FAR Subpart 14.5 might occasionally be appropriate, but use of this method requires award of the contract to the lowest priced technically acceptable offer. The use of sealed bidding, as described in FAR Subparts 14.1 through 14.4, is seldom appropriate for MILCON projects and can be generally be applied to routine projects such as base maintenance delivery contracts.

D. Turn-Key

Another form of design-build is called Turnkey. A Turnkey project establishes a fixed price, usually based on a written RFP with no sketches or drawings. Air Force personnel prepare the RFP defining the minimum design requirements (usually in a narrative form), and the design-build teams submit design concepts along with price proposals and qualifications packages. This form of acquisition is usually selected for repetitive type construction projects such as housing, temporary living facilities etc. This type of contracting has the highest level of risk for the offeror and often involves a significant amount of money for preparation of each proposal. Turnkey construction often includes a requirement for the offeror to complete land acquisition in order to achieve the final facilities.

VI. Comparison of Design-Build and Design-Bid-Build

The best way to understand the Air Force's approach to design-build is to contrast it with the design-bid-build project delivery method. These delivery strategies are guided by three factors that influence the relationship between the Government and the contractor:

- Responsibility;
- Project Definition; and
- Knowledge of Construction Technology.

A. Responsibility

When something goes wrong with a design-bid-build project, the legal triangle—Air Force, Architect-Engineer, and contractor—becomes a legal tangle. However, the single point of responsibility with design-build reduces litigation, delays, and project cost impacts to the Government.

Design-bid-build separates design and construction responsibilities. The architect of record and the construction contractor have separate contracts. In-house designers or an Architect-Engineer completes all of the design activities necessary to construct the facility. Once the design is complete, an Invitation for bids (IFB) is issued, responses are received, and a construction contractor is selected to construct the facility in conformance with the design documents. Conflicts frequently arise between the designer and the builder on what is intended and how to attain the desired result. The Air Force is sometimes caught in the middle and must resolve issues of this type.

The following four paragraphs are excerpts from an article published in the PROSPECT (Proponent Sponsored Engineer Corps Training) called "Design-Build A Paradigm Shift" concerning responsibilities within design-bid-build and design-build procurements.

- The design-bid-build contract normally goes to the lowest bidder. When the lowest bidder is significantly below the other bidders, we often worry that something was "left out" or misunderstood. In design-build the contract is normally awarded on best value basis after the contractor has demonstrated an understanding of our requirements.
- Under design-bid-build, the contractor has to meet only the requirements of the plans and specifications. The designer's intent carries no significance. If there are errors in these documents or the facility does not perform as required, the contractor has no obligation to point out or correct the problem. Under design-build, using performance specifications, the contractor must ensure the facility performs as intended. In this type of contract "intent" means something.
- During a design-bid-build design we estimate cost at certain milestones. Even though we do an excellent job of estimating cost, they are still only best guesses. Estimates are done after the design decisions have been made and, except for Value Engineering efforts, the cost of design decisions are not apparent to the designer unless the total project is over budget. While Value Engineering efforts contribute greatly to making design more cost effective, decisions on which direction to go is based upon "best guess" estimates which we know may sometimes vary greatly from actual cost.
- In design-build, on the other hand, the contractor must design to budget or be faced with paying the difference out of his own pocket. Because of the risk he faces, the contractor prepares a detailed budget and tracks his performance constantly at all levels. The contractor can get "actual" not "estimated" cost. If any item goes over budget, he looks for ways to make the design more cost effective. But, an even bigger advantage is the contractor can have the designers work with the suppliers and subcontractors. The designer can modify his design to meet the sub operations or product without giving up the design's integrity. An example of this is when the designer submits the preliminary drawings to steel fabricators for bid purposes, with instructions for the bidders to indicate any changes they would like to make to reduce cost or time. The designer can then customize his design to fit the capabilities of the successful fabricator. The customization could range from operational issues to member size selection based upon current market conditions. This synergy between the designer, builder and supplier is one of the greatest advantages of design-build.

The following chart compares certain aspects the Design-Bid-Build and Design-Build project delivery methods.

Comparison of Responsibility for Design-Bid-Build Versus Design-Build

Total Float and Schedule Performance Index (SPI)		
Task	Design-Bid-Build	Design-build
Project Definition	Architect-Engineer	RFP Architect-Engineer
Performance Specifications and Request for Proposal Package	NA RFP Architect-Engineer	
Design Development	Architect-Engineer	Design-Build Team
Construction Bid Documents	Architect-Engineer	Design-Build Team
Construction Technology	Builder	Design-Build Team
Construction	Builder	Design-Build Team
Architect of Record	Architect-Engineer	Design-Build Team
Amount of claims	Often	Less often

B. Project Definition

When the Government elects to use the design-build acquisition process, it has a choice of who prepares the Project Definition documents. This can be accomplished with in-house resources or by hiring an Architect-Engineer. The RFP Architect-Engineer is responsible for developing the concept drawings and performance specifications, as well as the technical portion of the RFP.

A design-build project requires less formal design prior to construction contract award than a design-bid-build project. The appropriate level of design is the amount necessary to satisfy the User's expectations and special needs and to keep the amount of prescriptive design to a minimum. This will vary depending on the complexity of the project and the amount of control the Government wishes to have over the completed design. Some RFPs include significant levels of design to define architectural compatibility, security requirements, and unique functional requirements. The remaining design elements can be defined using performance specifications.

The Government, through the RFP Architect-Engineer or the DA's with in-house staff, prepares the Project Definition documents. The objective of these documents is to define only the critical design requirements. Industry standards and the selected design-build contractor define everything else. In contrast, the Architect-Engineer for a design-bid-build project prepares complete construction documents to describe the project requirements. The builder produces only the shop drawings and provides submittals before work begins.

C. Knowledge of Construction Technology

The design-build team members work together to identify the best available construction methods to meet the Air Force design and functional requirements. The general contractor, the design component of the design-build team, and manufacturers/specialty subcontractors develop most of the technology used to fabricate projects. The design-bid-build process relies heavily on the Architect-Engineer to be knowledgeable about current materials, building technology, and related costs. Design-build encourages collaboration between the designer, contractor, manufacturers, and specialty subcontractors. The team

develops the best construction solutions jointly, limited only by the quality requirements and definition of the RFP.

VII. Advantages of Design-Build

There are significant benefits inherent when everyone is committed to the design-build approach, the team members (Air Force and design-build contractor) have design-build experience, and the project is appropriate for the process. Some of the advantages are:

- Collaboration. The relationship between the architect of record and builder, often adversarial in the design-bid-build process, becomes more open and fosters collaboration. The two parties tend to exchange more ideas when they are members of the same team. This results in a more efficient project that benefits the Government, designer, and contractor.
- Lower cost. Design-build projects often result in lower total project costs because of the close working relationship of the Architect-Engineer and constructor. The knowledge of construction technology on the part of the constructor, specialty subcontractors, and manufacturers is incorporated into the project during design. This collaboration leads to more economical design solutions and the application of cost-saving construction methods. In addition, construction efficiency improves because the Architect-Engineer, as a member of the design-build team, can participate directly in resolving design issues that surface.
- An earlier fixed price. The design-build contract establishes a fixed project cost with only the critical elements of design actually complete or fully defined.
- A speedier schedule. The normal design-build process results in a shorter schedule through the use of "fast-track" procedures. Fast-track procedures allow certain elements of construction to proceed simultaneously with design. Design-bid-build can also implement fast-track, but it requires an exceptional amount of coordination.
- Reduced litigation and reduced contract modifications. Design-build reduces the burden on the owner to mediate disputes between the Architect-Engineer and the builder. This is because a single entity (the design-build team) is contractually accountable for the entire project. Concerns about loss of communications and misunderstandings in interpreting documents between Architect-Engineers and builders are no longer an issue from the Government's perspective. The contractor assumes technical responsibility for providing a complete and useable facility.
- Reduced administrative burden. Since the final design and construction are awarded to the same team, the conflicts between contractors that must be resolved by the Government are significantly reduced. However, there will still generally be two contracts awarded. For example there can be one selecting the RFP Architect-Engineer using the Brooks Act method and the design-build contractor using negotiated contracting procedures (there are also use other type of contracts).
- Reduced design time and cost. Design-Build fosters partnering as well.

VIII. Roles and Responsibilities

The AF PM/Design Agent is responsible for the overall success of the process and the usefulness of the completed facility. The AF PM must be well organized and have a thorough understanding of the design-build process. The AF PM must monitor all activities and be aggressive in efforts to keep the process running smoothly. The most important task is to ensure there is open and continual communication among all key players.

The Contracting Officer and the contracting staff play a key role in all contracting actions. Close coordination and the development of a strong working relationship are essential for a successful design-build project. The contracting team will prepare the solicitation, gain approval of the RFP and the Source Selection Plan, provide training to the Source Selection Evaluation Team, brief advisors and others on conflict of interest, serve as sole point of contact between the Government and offerors, receive proposals, and conduct all discussions with offerors.

The RFP Architect-Engineer is contracted to provide sufficient project definition, limited design, cost estimating, and the technical portion of the RFP to fully define the project in

preparation for solicitation. Alternately this can be accomplished by Government designers if experienced staff is available.

The Source Selection Authority is the ultimate authority for the selection of the design-build contractor. The Source Selection Authority approves the Source Selection Plan, selection of Source Selection Evaluation Team members and advisors, approves the Contracting Officers's competitive range, and decides to whom the contract will be awarded. Although the Source Selection Authority's responsibility is broad, the time requirements are not extensive.

The Source Selection Evaluation Team includes experienced staff members that have a key interest in the proposed facility. Source Selection Evaluation Team members are likely to be from the Contracting Office, MAJCOM/CE staff, Base Civil Engineer (construction management, designers, programmers), and the User's organization. The Source Selection Evaluation Team will review each proposal, prepare Clarification Requests and Deficiency Reports, provide briefings to the Source Selection Authority and Source Selection Evaluation Team chairperson, and prepare the Proposal Analysis Report.

The Technical Evaluation Team is responsible for evaluating the offeror's technical approach, proposed schedule, and management plan. The Technical Evaluation Team will vary in size based on the complexity of the acquisition, but at a minimum must include two people from the User's office. During preparation of the RFP, the Technical Evaluation Team members will establish technical evaluation criteria.

The Contract Evaluation Team: During the proposal evaluation, selection and award phase, the Contract Evaluation Team:

- Performs cost (price) analysis of each proposal and prepares a report of findings.
- Prepares Clarification Requests/Deficiency Reports (CRs/DRs) and evaluates responses from offerors.
- Updates the Cost (Price) Analysis Report.

The User is the organization that will occupy or use the facility once it is complete. Their role is critical in the project definition phase. The Users must help the Base Civil Engineer technical staff define the flow of information, people, work areas, storage requirements, communications, security, and access requirements. The user should not try to design the facility, but rather thoughtfully identify the requirements, including "must have" and "would like to have" items.

The Source Selection Advisors are Government and non-Government experts who may be called upon to provide advisory assistance to the Source Selection Authority or Source Selection Evaluation Team. Advisors may objectively review a proposal in a particular functional area and provide comments and recommendations to the Government decision makers. Environmental management is recommended as a Source Selection Advisor when sustainable design considerations are part of the proposed project.

The Design-build Contractor is the contractor or contractor team awarded the contract to complete design and construct the facility.

The Major Command (MAJCOM) has the authority to approve the use of design-build procedures. The MAJCOM may act as the Agent or otherwise participate in the Source Selection activities, design oversight, and construction management.

The Air Force Civil Engineer (HQ USAF/ILE) staff will provide programming documentation to Office of the Secretary of Defense and Congress to gain project authorization and appropriation. If the project design cost is \$500,000 or greater, the Air Staff will be involved in Congressional notification through The Office of the Secretary of the Air Force-Legislative Liaison (SAF/LL) before award of the RFP Architect-Engineer contract under 10 U.S.C. 2807. SAF/LL makes all required notifications to Congress.

IX. Factors to Consider for Design-Build Projects

Successful Air Force design-build projects have several common characteristics. The following factors should be evaluated to determine if the design-build process is appropriate for a specific project.

- Experience. Consider using design-build when the AF PM has personal experience using design-build or has access to an experienced advisor. Furthermore, the AF PM must have the support of technical professionals in facility acquisition to assist in preparation of quality design-build RFP documents, to evaluate submittal proposals, and to monitor the design and construction of the design-build team. Reconsider using design-build when the Government representatives have no experience managing this type of delivery method.
- Standards. Projects that use private sector and commercial standards, Air Force design guides, or projects that are simple and repetitive tend to result in successful design-build projects. The following table summarizes the standards and guides available for many Air Force building types that are most suitable for design-build projects.

Facility Standards

Table 8-1

Facility Type	Private Sector Standards	Commercial Standards	AF Design Guides
Housing	X	X	X
Hangars	X	X	
Admin/HQ	X	X	
Medical Clinics	X		
Maintenance Fac	X	X	
Dorms/TLFs			X
Child Dev Centers	X	X	X
Training Facilities		X	
Dining Facilities	X		X
Warehouse	X	X	
MWR Facilities	X	X	
Flightline Facilities	X		

NOTE: Private Sector: Normal way to design "structures"
 Commercial Standards: Defines requirement and standard codes.
 Repetition. Projects that reuse design elements or repeat the same building design for many facilities are prime candidates for the use of design-build.

- Repetition. Projects that reuse design elements or repeat the same building design for many facilities are prime candidates for the use of design-build.
- Industry interest. Some regions of the country have a great deal of experience in delivering projects using design-build. In these communities, many contractors are interested in responding to design-build RFPs. Conversely, it is difficult to competitively select a design-build contractor in a community with little interest and experience. [Appendix 44, Current Policies on D-B for State Construction](#)

provides a status of each state's interpretation of design-build for State facility construction projects. The evolution of design-build and other "nontraditional" construction methods adds complexity in determining professional liability coverage, legal risk, and state licensing laws that inhibit the practice and application of design-build. In the past, professional liability insurance has been more difficult to obtain, but insurance companies now are adapting to the new roles of Architect-Engineers under the paradigm of design-build. With the sole source of responsibility for a project, legal risk may increase for the design-build team.

- Security. Design-build is often appropriate for highly secure projects, where the objective is to avoid distributing final designs to multiple contractors. Design-build allows the Government to select a team to design and build the system or facility based on a set of requirements. The actual system or facility design thus has limited distribution.
- Size and cost. In the past, design-build has been applied to primarily large projects. This resulted from the level of effort required for a design firm to form a team with a contractor, and the large cost of putting a proposal together. More companies are being formed whose primary business is design-build, which is likely to result in design-build being more feasible for small projects.

X. Design-Build Process Overview

The design-build selection process can be organized into three phases. The following sections provide an in depth discussion of these three phases. The flow diagrams provide the key steps to Architect-Engineer Selection, RFP Preparation, and Source Selection.

PROJECT DEFINITION

- Architect-Engineer Selection Process
- Issue Program Instruction
- Requirements Documents & Project Management Plan Development
- Receive Design Instruction
- Define Delivery Strategy
- Decide to hire an Architect-Engineer
- Pre-Definition Conference
- NTP for Project Definition

RFP PREPARATION

- Project Definition and Request for Proposal Development Process
- Pre-Definition Conference
- Contracting Officer Issues NTP
- Requirement Analysis Charrette
- Schematic Design Charrette
- Contracting Officer develops RFP Front End Documents
- RFP Architect-Engineer Develops Project Definition
- Project Definition Review
- Project Definition Approved
- Finalize RFP
- Prepare/Approve Source Selection Plan
- Determine Evaluation Factors
- Appoint Source Selection Evaluation Team, Technical Evaluation Team members
- Train Source Selection Evaluation Team, Technical Evaluation Team
- CBD Announcement
- Issue RFP

Note: Although not shown on the chart, there are simultaneous activities after the RFP Architect-Engineer develops the RFP.

SOURCE SELECTION PROCESS FOR DESIGN-BUILD CONTRACTOR

- Receive & Log-in Proposals
- Pre-Evaluation Meeting
- Evaluate Proposals
- Write Clarification Requests and Deficiency Reports
- Technical Evaluation Report
- Determine Competitive Range
- Oral Discussions of Clarification Requests & Deficiency Reports
- Notify Offeror's Outside Competitive Range
- Best and Final Offer Submitted and Evaluated
- Proposal Analysis Report
- Select Design-Build Contractor
- Award Contract

If Clarification Requests and Deficiency Reports are not required for the firm selected as providing the "best value" to the Air Force, the process can go directly from Evaluate Proposals to Select Design-build Contractor. The Technical Evaluation Report phase will include Proposal Analysis Report preparation, under this situation.

XI. Request For Proposal Architect-Engineer Selection Process

A. Introduction

The process for selecting Architect-Engineers is well documented in Chapter 3 of this Guide. Chapter 3 defines that process, offers a number of "hints" and "tips" for the AF PM, and contains a selection process chart demonstrating the entire process. In addition to the chart, a checklist is also provided which details the action and OPR for each task associated with the items required to get an Architect-Engineer on line.

B. Architect-Engineer Selection Process Unique to Design-Build

The Selection Process for the design-build process does not differ significantly from that described in Chapter 3 with the exception of the additional requirement to obtain a Design-Build Authority from the MAJCOM. See [Appendix 45, Request for Design-Build Authority \(Sample\)](#), for an example of a request for Design-Build Authority.

C. Project Management Plan

The Project Management Plan (PMP) should address all the technical, business, management, and other significant considerations that control the acquisition and identify the decision milestones. The PMP will:

- Obtain installation buy-in on using design-build.
- Identify needs.
- Define specific requirements.
- Identify the budget and outline the schedule.
- Document the facility acquisition strategy.

One of the most important issues is obtaining a buy-in to use the design-build process and ensuring that key players understand the process and their roles during the development of the Project Management Plan. The facility acquisition strategy must address the selection of both the RFP Architect-Engineer who will prepare the design-build RFP and the selection of the design-build contractor. The Source Selection Plan for the design-build acquisition is not prepared until after contract award to the RFP Architect-Engineer.

Review the requirements in FAR, Part 7 for preparation of an Acquisition Plan. The Government should form a team to make sure all installation and MAJCOM personnel involved "buy-in" to the design-build approach. Reluctance can hamper the project.

D. Check DD Form 1391

The AF PM should ensure the DD Form 1391 is updated when required by working with the base and/or MAJCOM programming staff. The DD Form 1391 should not include a

separate line item for design. The AF PM should note that design will be performed in two phases. In the first phase, the Government's RFP Architect-Engineer will prepare some basic design documents as the Project Definition is developed. The Project Definition phase and preparation of the RFP package must be paid with planning and design funds. In the second phase, design development and construction documents are accomplished by the design-build contractor. Design accomplished by the design-build contractor is normally funded with construction funds. Although it is not encouraged, this portion of the design may be paid with planning and design funds on rare occasions, such as when it is impossible to award the design-build contract within 125 percent of the programmed amount unless the design fees are funded separately. When planning and design funds are expected to be used for this purpose, the RFP must clearly identify this as a bid item and an audit trail of these funds must be maintained.

- E. Prepare CBD Synopsis The CBD announcement should include information to clearly describe that the requested services are for the development of a RFP. Suggested information includes:
- Description of services required to prepare an RFP, noting that completed construction documents are not contemplated.
 - Key statements about the facility or process.
 - Definition of conflict of interest requirements, such as prohibitions against the selected RFP Architect-Engineer participating on the design-build contractor's team.
 - Evaluation Factors and order of importance.
- F. Prepare Architect-Engineer Statement of Work The AF PM should use the expertise of Base and MAJCOM staff who have prepared Statements of Work for similar facilities and design-build RFPs.
- The RFP Architect-Engineer's Statement of Work (SOW) prepared by the AF PM will differ from the one prepared for a design-bid-build project. The RFP Architect-Engineer will not be the architect of record for the project.
- The SOW for the RFP Architect-Engineer should address the following topics that are unique to the design-build process:
- Requirement for the preparation of drawings and specifications to be included in the design-build RFP.
 - Outline of the RFP format.
 - Definition of the portions of the RFP that will be prepared by the RFP Architect-Engineer and those portions that will be prepared by the Government.
 - Description of the level of Project Definition and the degree of design expected to be performed.
 - Identification of Comprehensive Interior Design (CID) and any other special RFP requirements.
 - Definition of the conflict of interest requirements.
 - Provisions for Title II services (e.g., technical review and on-site inspections) as an option.
- G. Prepare Government Fee Estimate The RFP development services by an Architect-Engineer may range from 1.5%-3% of Programmed Amount (PA) compared to a traditional 10% fee for 100% design.
- As a caution, traditional rules-of-thumb do not directly apply. The level of effort required to prepare the RFP documents should be closely examined based on level of design. A key difference is that the RFP Architect-Engineer will not create full sets of drawings since the design-build team will actually design the project.
- H. Fee Negotiations Before conducting fee negotiations, the AF PM and Contracting Officer should discuss the level of design detail the Government expects from the RFP Architect-Engineer.

I. Weighting Factors: Prior Design-Build Experience

Be sure to ask questions during the interviews or discussions to determine the amount of design-build experience the Architect-Engineer actually has and their specific role in projects submitted.

The AF PM should be sure to include design-build experience relatively high in the evaluation criteria. This element can include experience as a RFP Architect-Engineer or as an Architect-Engineer on a successful design-build team.

XII. Project Definition Development

A. Introduction:

The Project Definition process and the development of the RFP are the main opportunities for the Users to have a significant impact on the key needs of their facility before a formal design-build contract is awarded. It is essential that all critical needs of the users be incorporated early in the process. This selection addresses those Project Definition activities that are unique to the design-build process. The development of a strong Project Definition is an essential element for a successful project. The RFP Architect-Engineer develops a comprehensive Project Definition with the assistance of Government Users and Base Civil Engineering staff to produce a quality RFP. The Project Definition process begins soon after the RFP Architect-Engineer is selected.

B. Major Elements

The steps to develop a Project Definition are similar for both design-bid-build and design-build; however, the specific results differ. The major elements of the Project Definition process include:

Pre-Definition Conference

The AF PM conducts this meeting to ensure the RFP Architect-Engineer understands the Requirements and Management Plans (RAMPs) and the statement of work before the project definition is started. As in a design-bid-build project, the Requirements Document, Base Comprehensive Plan, base facility quality standards, and the expectations of the User should be discussed. Upon satisfactory completion of this conference, the notice-to-proceed (NTP) can be issued. The products of the pre-definition conference, including the modified Requirements and Management Plan (RAMP), team directory, validated Statement of Work, minutes/action items, BCP, design guides, environmental concerns, utility drawings, and as-builts drawings are provided to the RFP Architect-Engineer when appropriate. These items are discussed in more detail in Chapters 2 and 3 of this Guide.

Data Gathering

The RFP Architect-Engineer leads the process to gather data through the effective use of site visits, questionnaires, research, interviews and investigations.

Requirements Analysis Charrette

The RFP Architect-Engineer leads the requirements analysis charrette to gain consensus on key elements of the new facility to be constructed. Requirements are the focus of this charrette.

Schematic Design

The schematic design charrette follows. The process is the same for design-bid-build and design-build projects. In a design-build project the RFP Architect-Engineer does not design the project, but rather, defines the parameters and essential elements of design. Since this is the process where the User can have the greatest impact, it is essential that the Users be fully involved.

Project Definition Documents

The RFP Architect-Engineer develops the Project Definition documents based on the information collected. Since a different Architect-Engineer will actually design the project,

it is important to explain, justify and document the data. Ultimately, the Project Definition documents must be reviewed and approved by the AF PM.

C. People Involved in the Project Definition Process

AF PM (AF PM): During the Project Definition phase, the AF PM will work closely with the RFP Architect-Engineer to ensure all base functions that have an input to the charrettes are involved. The AF PM will provide functional support to the RFP Architect-Engineer to ensure critical elements are properly addressed during the data gathering and charrette activities.

User: The User for a design-build project must be actively involved in the Project Definition process. During the Project Definition phase, the requiring activity must provide the basic information to allow for follow-on development of the RFP and design. The User should take great care in supporting requirements without specifying exactly how the facility will be laid out. Requirements should be addressed in general categories:

- People flow (staff and customers)
- Communications flow
- Paperwork flow
- Equipment (non-RPIE, space, utilities, access, etc.) requirements.
- Unique space requirements
- Storage requirements
- Specialized requirements (SCIF, TEMPEST, security, sanitation, sustainable development, etc.)

D. Data Gathering and Charrettes

All parties key to the project must work closely to determine the detailed project definitions. The AF PM is the watchdog to ensure the User's representatives are presenting a clear picture of the facility and operational requirements. In a design-build project, this information will be part of the Project Definition documents which become the communications vehicle to tell the designer on the design-build contractors team what to design. The AF PM and User continue to have input as the design progresses in design-bid-build projects. However, in a design-build project it is especially important that the data collected is organized and categorized in the Project Definition documents in a manner that is easily understood. Once the Project Definition is developed it becomes part of the RFP. If this opportunity is missed, future changes will result in modifications to the design-build contract. The requirements charrette is critical to the success of the project. Interface with all supporting organizations (Communications, Security Police, Civil Engineers, Transportation, Safety and Bioenvironmental Engineering) is essential to successful Project Definition development.

The following Civil Engineer functions should be represented at charrettes: Design Section, Operations and Maintenance (O&M) Flight, Environmental Management, and Fire Department.

During the definition phase, the functional users and supporting agencies need to define their operational requirements. The AF PM must make sure the RFP Architect-Engineer fully defines the various building component requirements without designing the project. The RFP Architect-Engineer takes the information and organizes and summarizes, typically alphanumerically, the customer and project requirements to be presented in the schematic design charrette. By the end of the charrette, everyone should agree on the project requirements.

A consensus of all critical parties must be reached during this activity; items left unresolved will likely cause major problems in the design and construction phases. A detailed requirements list, equipment list and special interest items list should be categorized and ready for use during the RFP development.

Don't let the design-build contractor catch you in a corner by arguing that the mechanical room must be larger to accommodate the HVAC equipment the design-build contractor wants to buy. There should be a statement in the RFP that requires the mechanical room to be sized to accommodate at least three different manufacturer's systems. However, if the design-build contractor decides to purchase equipment that results in an increase in square footage, the acceptability and approval of any layout changes is at the design-

build contractor's expense. Any additional construction expense is the design-build contractor's responsibility.

E. Conduct Schematic Design Charrette

Once the requirements charrette information has been consolidated and analyzed, interviews must be conducted to resolve data gaps or conflicts. The RFP Architect-Engineer conducts the schematic design charrette. Detailed interior systems and equipment layouts should be discussed and any issues resolved.

The following activities are essential elements of the Project Definition, and are essentially the same for a design-build project as for a design-bid-build project:

- Produce Project Definition documentation.
- Project Definition review.
- Project Definition Approval.

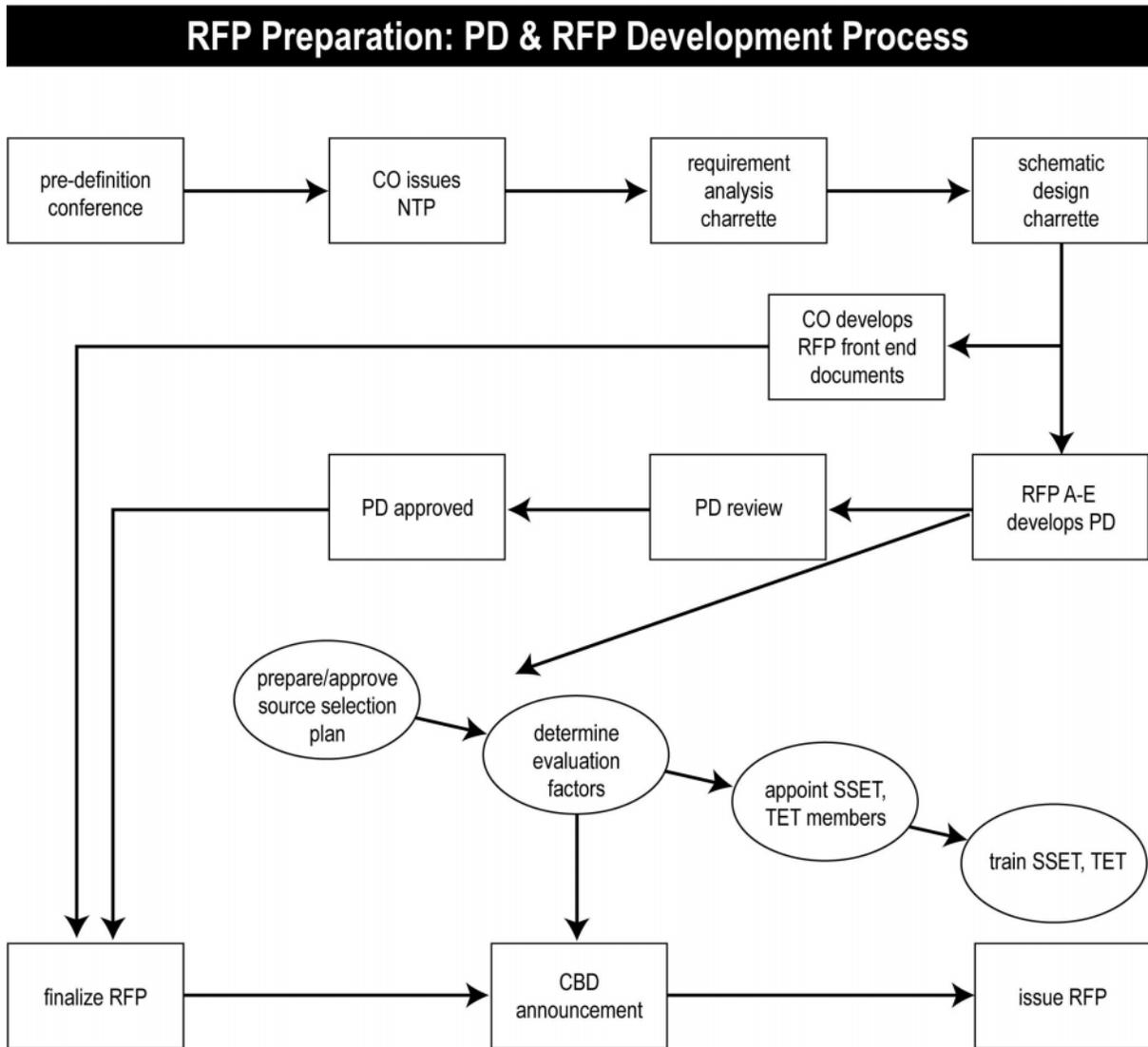
F. Project Definition Documentation

A variety of products should result from the Project Definition phase accomplished by the RFP Architect-Engineer. The project definition must be fully developed before the RFP Architect-Engineer can proceed with the RFP development.

XIII. Project Definition
and RFP Preparation
Diagram

Design-Build Acquisition Guide

Fig 8-1



Note: Although not shown on the chart, there are simultaneous activities after the RFP A-E develops the bid.

XIV. Project Definition and RFP Development Checklist

The following table serves as a reference to special requirements for design-build projects during Project Definition and RFP development:

Project Definition and RFP Development Checklist

Table 8-2

Action	OPR
1. Conduct Pre-definition Conference	Air Force Project Manager
2. Issue Notice to Proceed with Project Definition	Contracting Officer
3. Define customer requirements	RFP Architect-Engineer
4. Gather information	RFP Architect-Engineer
5. Conduct Requirements Charrette	RFP Architect-Engineer
6. Conduct Schematic Design Charrette	RFP Architect-Engineer
7. Develop Project Definition	RFP Architect-Engineer
8. Prepare RFP Documents	Contracting Officer
9. Prepare RFP draft Statement of Work	RFP Architect-Engineer
10. Review RFP draft Statement of Work	Air Force Project Manager
11. Obtain funding and authority to advertise	Air Force Project Manager
12. Prepare Source Selection Plan	Air Force Project Manager
13. Prepare Evaluation Factors	Air Force Project Manager
14. Approve Source Selection Plan	Source Selection Authority
15. Issue advance notice CBD	Contracting Officer
16. Issue draft RFP to potential bidders, if used	Contracting Officer
17. Perform final RFP review	All
18. Issue RFP	Contracting Officer
19. Issue appointment letters for Source Selection Evaluation Team, Technical Evaluation Team, Contracting Evaluation Team	Source Selection Authority
20. Conduct training for Source Selection Evaluation Team, Technical Evaluation Team, Contracting Evaluation Team	Contracting Officer
21. Conduct Pre-proposal conference	Air Force Project Manager
22. Manage inquiries	Contracting Officer
23. Amend RFP, if necessary	Contracting Officer

XV. Request for Proposal Development

A. The Front-End Documents - Modified UNIFORM Contract Format

The RFP documents must clearly describe the technical requirements of the project, and the criteria for evaluating proposals, and the contractual relationship between the Government and Offeror. The RFP must also be structured to permit all qualified Offerors an equal consideration for selection.

The RFP describes to Offerors what the Government wants to buy, the terms of the contract, how submittals are to be formatted, and how they will be evaluated. The RFP Architect-Engineer, User, AF PM and Contracting Officer must coordinate carefully for the resulting document to be clear and unambiguous. The content and format for most RFPs follows the UNIFORM contract format. Following is the Modified UNIFORM Contract Format outline:

RFP Outline

Table 8-3

Modified UNIFORM Contract Format	
	Part I: The Schedule
Section A	Standard Form 1442, Solicitation, Offer and Award
Section B	Supplies or Services and Prices/Costs
Section C	Description/Specifications (Not Applicable - refer to Section J)
Section D	Packaging and Marking (Not Applicable)
Section E	Inspection and Acceptance
Section F	The Schedule - Deliveries or Performance
Section G	Contract Administration Data
	Part II: Contract Clauses
Section I	Contract clauses
	Part III: List of Documents, Exhibits and Other Attachments
Section J	List of Attachments
Attachment 1	Project Summary
Attachment 2	Specifications
Attachment 3	Geotechnical Study
Attachment 4	Environmental Report
Attachment 5	Davis-Bacon Wage Determination
Attachment 6	Drawings
Attachment 7	Small Business and Small Disadvantaged Business Subcontracting Plan
	Part IV: Representations and Instructions
Section K	Representations, certifications and other statements of Offerors or quoters
Section L	Instructions, conditions and notices of Offerors
Section M	Evaluation Factors for Award

The front-end documents are prepared by the Contracting Officer with the help of the AF PM and the Design Agent and include all sections of the RFP except Section J.

Section A - Standard Form 1442, solicitation/offer/award: Standard Form 1442 is prepared by the Contracting Officer and, in general, describes the work required by referencing the balance of the RFP sections. Three important elements of information included on this form are the time and place to submit proposals and the requirement for Offerors to have an authorized representative of their organization sign the proposal.

Section B - Services and prices/costs: Summarizes the contract requirements and provides a place for Offerors to submit their proposed prices. In a design-build procurement, the Cost and Pricing information is required to be submitted in a volume separate from the Technical Proposal and the Past Performance Information. In a single phase procurement, this information is provided in Volume I at the same time as the technical and past performance volumes. In a two-phase negotiated procurement, the cost proposal is submitted only after an offeror has been short listed and invited to proceed to step two. The offeror will then submit Volume I cost and pricing data along with a technical design submittal. The AF PM should prepare a specific format for price proposals which provides the necessary detail and format for analysis. This will differ from a normal submittal since both design and construction activities must be evaluated.

Section C - Description/Specifications/Work Statement: Not applicable, included in Section J.

Section D - Packaging and Marking: Not applicable.

Section E - Inspection and Acceptance: Contains the special clauses the Air Force will use for inspecting and accepting the work. In most cases, these clauses will be selected from those listed in FAR 52.246. The Contracting Officer is required to include special clauses for design-build inspection in this section. The AF PM should coordinate with the Contracting Officer to ensure that any special or unusual inspection requirements are incorporated. Options and special phasing requirements must be listed in this paragraph with associated time requirements. One specific clause required in design-bid-build procurements is FAR Part 15 (15.406-3(b)) which prescribes the use of contract clause 52.215-33 "Order of Precedence." In a design-build procurement and when using the uniform contract format DO NOT USE THIS CLAUSE IN YOUR DESIGN-BUILD SOLICITATION. Instead use the following clause which defines the basis of the design-build contract and establishes an order of precedence:

- The contract includes the standard contract clauses and schedules current at the time of contract award. It entails (1) the solicitation in its entirety, including all drawings, cuts, and illustrations, and any amendments, and (2) the successful offeror's accepted proposal. The contract constitutes and defines the entire agreement between the Contractor and the Government. No documentation shall be omitted which in any way bears upon the terms of that agreement.
- In the event of conflict or inconsistency between any of the provisions of this contract, precedence shall be given in the following order:
 - Betterments: Any portions of the accepted proposal which both conform to and exceed the provisions of the solicitation.
 - The provisions of the solicitation. (See also Contract Clause: SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION.)
 - All other provisions of the accepted proposal.
 - Any design products including, but not limited to, plans, specifications, engineering studies and analyses, shop drawings, equipment installation drawings, etc.. These are "deliverables" under the contract and are not part of the contract itself. Design products must conform with all provisions of the contract, in the order of precedence herein.

Section F - The Schedule - Deliveries or Performance: Outlines the liquidated damages, performance period and work schedule for the project. The Civil Engineers provide the calculations to support the liquidated damages listed. The AF PM, requiring activity and

Contracting Officer should jointly discuss the appropriate amounts for liquidated damages. The Government should establish the required performance periods and the minimum number of milestones for the contract. The Government should specify any work phases they want the contractors to include or identify. The Offeror will complete Section F by proposing a performance period for each phase of work. The Offeror should be encouraged to improve on the Government's schedule.

Section G - Contract Administration Data: Includes accounting and appropriations data and lists the names, addresses and telephone numbers for Government and contractor representatives including the contract negotiator, contract administrator, payment office, contractor's contract administrator, and remittance address.

Section H - Special Contract Requirements: Includes special contract clauses not included in Section I. This section is usually used for clauses specially written for the specific procurement. The AF PM and a representative from the contracting office should coordinate to ensure that any contract clauses necessary to address special requirements on the project are included. Examples of special contract requirements include Government furnished property, technical direction and insurance requirements.

Section I - Contract Clauses: The Contracting Officer will select relevant FAR clauses to be incorporated into the contract. These clauses make up the majority of the contract text describing the obligations and commitments of the Government and Offeror. The AF PM and Contracting Officer shall ensure that both Architect-Engineer and construction clauses are referenced. The clauses will be specific to the contract type and services being requested. FAR 52.102- 1 and -2 require incorporation of clauses by reference to the maximum extent possible.

The following excerpts were selected for a design-build RFP in an attempt to encourage the Offerors to improve on the Government schedule:

- "Offerors are cautioned if they do not meet the (Government) schedule their Technical/Management proposal may be considered unacceptable."
- "As a minimum, your schedule shall be in compliance with the schedule included. Early completion of the facility is desired and will be an important factor in evaluation of the milestone schedule proposed by the Offeror. The contractor's approved schedule will become the project schedule."
- Include the schedule as an evaluation item; additional points can be given for improvements to the Government schedule.

Section J - Attachments: Includes the Statement of Work and supporting information necessary for the Offeror to understand the project requirements in order to prepare technical, management and price proposals. The RFP Architect-Engineer or the Air Force In-House Team prepares this performance-based Statement of Work as a product of project definition. All efforts should be made to define the level of quality and any specific parameters the user requires in this section.

The attachments in the section outline the technical requirements in the form of a design-build Statement of Work. This information includes performance specifications, functional specifications, drawings and other design data necessary to allow the design-build contractor to complete the design and construct the facility. The objective of the documents is to describe the design elements the Government wants to control in detail. Items that are unique to future uses of the facility or specific operational requirements may require a high level of design. Items which are industry standard may be defined using performance specifications or sketches. For example, refueling vehicle maintenance facilities may require:

- Performance specifications to define the structural system.
- Design guides to define area requirements and adjacency standards.
- Detailed specifications to define explosion-proof power receptacles.
- The location for the design reviews must be determined and stated in the RFP. This allows the design-build contractor to include his cost for travel and personnel into the overall bid.

- The phasing for design and construction must be included in the RFP. The AF PM should consider starting construction after approval of the initial design submittal (100% site design and 50% facility design).

Section K - Representations, Certifications and Other Statements of Offerors: Includes representation and certifications by the Offeror that determine their status and ensure compliance with socio-economic requirements of the procurement. These provisions create a self-monitoring mechanism by certification so Offerors are not required to prove each item. The contracting office will select relevant clauses which pertain to the specific procurement.

Section L - Instructions, Conditions and Notices of Offerors: Includes solicitation provisions and instructions to the Offerors including detailed guidance related to the information the Government believes is necessary for evaluation. The Government should also discuss award procedures and methods of acceptable proposal submittal. Section L should also request that Offerors identify the technical, cost and schedule risks and list deviations associated with their proposals. The specific instructions to Offerors should be jointly prepared by the Source Selection Evaluation Team and the Contracting Officer. The objective is to dictate the submittal format to ensure information required for rating proposals is clearly organized and matches the evaluation process. This applies to both technical and price information. The Contracting Officer, with the assistance of the AF PM, should prepare a specific format for price proposals which provides the necessary detail and format for analysis. This section should also define the page limitations and the requirement to keep technical and cost data separate. Cost data should never be included in the technical portion of the submittal.

- Page limitations can be included in Section L. Page limitations assist in limiting and standardizing the size of proposals submitted. Typical page limitations include:
 - Experience Resumes: 50 pages
 - Specifications: 50 pages
 - All other narratives: 50 pages
 - Past/Present Performance: 20 pages
 - Font size and page size should also be considered when defining the content and format of the proposals.

Section M - Evaluation Factors for Award: Outlines the areas for evaluation and lists the evaluation factors and subfactors used in each area in relative order of importance. The areas and evaluation factors included in Section M must be identical to those listed in the Source Selection Plan. Additional information regarding evaluation factors is included in the discussion of source selection plans. Section M should also apprise Offerors of other significant aspects of the selection process including whether discussions will be held and if this is a best value. There are three types of discussions; Section M should define which are anticipated to be used in the selection process. The three types of discussions are:

- The Government may not hold formal discussions
- The Government may hold oral discussions
- The Government may hold written discussions

B. People Involved in the RFP Development

AF PM (AF PM): During the RFP development phase the AF PM will continue to monitor the progress of the RFP Architect-Engineer. Specifically, the AF PM will:

- Review the various elements of the RFP statement of work.
- Review the development of drawings, specifications and criteria for final design.
- Review the draft and final RFP.
- Develop the acquisition strategy and prepare the Source Selection Plan.
- Propose evaluation criteria and their relative importance, for approval by the Source Selection Authority as part of the Source Selection Plan.
- Propose evaluation standards that relate to the evaluation criteria.

Contracting Officer (CO): During the RFP development the Contracting Officer will:

- Review Commerce Business Daily (CBD) synopsis and submit for publication.
- Prepare front end documentation.
- Issue draft RFP for comments, when used.
- Issue final RFP.
- Ensure that all non-Governmental technical advisors are covered by an organizational conflict of interest clause covering non-disclosure of contractor data.

C. Statement of Work for the RFP:

The design-build Statement of Work and supporting information necessary for the Offeror to understand the project requirements in order to prepare technical, management and price proposals is developed and becomes an attachment to Section J. The essential elements of the Statement of Work include:

- **Goals and Objectives:** The overall goals and objectives of the facility should be stated. These may include the general style and use of the proposed facility. A sample of a Goals and Objectives package is provided in [Appendix 46, *Sample Goals and Objectives from HQ AFCEE Project*](#).
- **Project Description:** The project description should provide general information about the type and size of the proposed facility, provide an overview of the design-build process, outline the proposed project schedule and provide narrative describing the Architect-Engineer services required from the design-build contractor.
- **Drawings and Specifications:** The RFP Architect-Engineer should use restraint in the level of detail and number of drawings prepared. The following table outlines the appropriate level of detail for a design-build project of "normal" complexity.
- The specifications will vary in level of detail but should parallel the 16 divisions established by the Construction Specifications Institute (CSI). A performance specification may be as simple as to require conformance to regulatory and industry standards such as Uniform Building Code (UBC), National Electric Code (NEC), American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHREA), or listing acceptable manufacturers and general characteristics of the building system.
- Detailed specifications may specifically identify the salient characteristics, the manufacturer and model number, or equal, with specific installation requirements. If detailed specifications are required, avoid including references to Air Force Instructions (AFIs) or DoD documents. Reference specific text or commercial standards instead.

Level of Detail for Design-Build Request For Proposal (RFP) Development

Table 8-4

Modified UNIFORM Contract Format						
Design Element	Specifications	Narrative 10%	Level of completion of design drawings			
			20%	30%	60%	100%
Site	Prescriptive	Yes			•	
Utilities	Performance	Yes			•	
Floor Plan	N/A	No		•		
Elevations	N/A	No			•	
Finishes	Prescriptive	No		•		
Schedules	Prescriptive	No		•		
HVAC	Performance	Yes			•	
Plumbing	Performance	Yes			•	
Controls	Performance	Yes			•	
Power	Performance	Yes			•	
Lighting	Prescriptive	Yes		•		
Fire Protection	Performance	Yes			•	
Foundations	Performance	Yes		•		
Floor Framing	Performance	Yes		•		
Roof Framing	Performance	Yes			•	
Details	Performance	Yes			•	

NOTE:

- Prescriptive: Specifications define the specific material and/or process to be used in the project.
- Performance: Specifications define the use or condition of the end product without providing specific details.
- Narrative: General specifications defining the concept, content and need of the facility or components.
- Reports: Technical reports should be included to provide Offerors with as much information as possible regarding the existing conditions of the site and any pre-

- existing structures. Examples include reports of geotechnical and environmental findings and as-built conditions of facilities to be demolished.
- Davis-Bacon wage rate determination: The Davis-Bacon Act, FAR 52.222-6, requires the design-build contractor to pay laborers at rates not less than those contained in the wage determination of the Secretary of Labor. Contracting should incorporate a table into the RFP which lists the wages and benefits required for the classifications of work to be performed.
- D. Obtain Funds and Authority to Advertise
- The AF PM should contact higher headquarters for authority to advertise the project and request construction funds be transferred or a Commitment of Funds letter be provided. This action should result in the issuance of a second Design Instruction (DI) with authority to advertise and commit funds.
- E. Issue Advanced Notice and CBD Announcement
- As in normal procedures, the Competition in Contracting Act requires competition to the maximum extent practicable and directs that a synopsis of the requirement appear in the Commerce Business Daily (CBD) at least 15 days prior to issuance of the solicitation. The AF PM should draft and submit the CBD synopsis to the Contracting Officer. When writing the CBD synopsis:
- List any special requirements or skills required by the design-build firm. Refer to the DD Form 1391 and the Project Definition documents, and discuss special requirements with the requiring activity.
 - Define the project's scope and the construction cost limitation.
 - Outline significant schedule milestones including design start, construction start, and occupancy dates.
 - List Proposal due date for entire proposal of a Single Phase Design-Build Procurement; or List Proposal due date for first phase proposal of a Two-Phase Design-Build Procurement.
 - Include description of Single Phase or Two-Phase Design-build procurement.
 - Specify Evaluation Factors and order of importance
- The Contracting Officer will review the CBD announcement to ensure all contracting requirements are addressed, then submit the synopsis for publication. It is best to publish the synopsis just prior to completion of the RFP to minimize the potential of delays between publishing the synopsis and the RFP.
- F. Perform Final RFP Review
- When the RFP is complete, the documents should be reviewed by a Solicitation Review Board whose members have not participated in preparing the documents. This provides for a fresh set of eyes to identify errors and contradictions. The review board should also review the solicitation for consistency with law, policy, regulations, any requirement direction and the Source Selection Plan. The Contracting Officer should also review the RFP documents for completeness, consistency, and compliance with the FAR. The schedule for RFP development should include time for the Air Force to review submittals, (normally 15 days). Out of sequence or interim submittals should be given the same amount of review time.
- G. Conduct Source Selection Briefing
- The Source Selection Evaluation Team chairperson and the AF PM shall brief the Source Selection Authority on the Source Selection Plan, the evaluation criteria and any risks associated with the project. The Source Selection Authority will ensure all legal and base-specific requirements are incorporated prior to approval of the Source Selection Plan and RFP.
- H. Issue RFP
- The Contracting Officer should make arrangements for the completed RFPs to be reproduced in sufficient number before requests from potential Offerors arrive. An estimate of the number of copies required can be obtained by reviewing the interest generated from other similar procurements conducted by your installation/MAJCOM or from a bidders list generated by the Commerce Business Daily announcement. Pre-package the RFPs in envelopes with return addresses so once requests arrive, only a

label needs to be typed before the package can be mailed. Better yet, have the printer wrap the RFP in ready-to-mail condition. Consider CD-ROM versions or disk versions in lieu of hard copy.

I. Conduct Pre-Proposal Conference

Pre-Proposal Conferences and site visits normally result in more responsive proposals because the Offerors better understand the Government's requirements. The AF PM should arrange for the Conference to be conducted at a location near the site, schedule speakers, and arrange for someone to keep minutes.

The Pre-Proposal Conference agenda should include:

- Discussion of the Air Force design-build process.
- Description of the level of design requirements included in the RFP.
- Briefing of administrative matters including the due date, submittal location, page limits, etc..
- Overview of the project scope including size, facility type, estimated cost, and special requirements.
- Statement that joint ventures and prime/sub relationships are acceptable in order to provide the design and construction resources necessary to complete the work.
- Site visit.
- Questions and answers.

Clear documentation of questions and answers is important to ensure all Offerors receive the same information. Request that questions be received prior to the conference. Questions raised at the conference should also be submitted in writing. Submit the minutes of the conference to all potential Offerors who attend the conference or requested RFPs. The AF PM and the Contracting Officer should work closely together to ensure that Government personnel attending the Conference do not say or do anything that will cause problems in the procurement process. Do not allow Government personnel to comment on issues with only one contractor. All contractors must be given the opportunity to hear the questions and answers. Do not allow Government personnel to suggest a method of accomplishment that can be perceived as the preferred method.

J. Manage Inquiries

The Contracting Officer is the only one authorized to have discussions with Offerors. The AF PM shall refer all calls to the Contracting Officer. A complete record of who called, questions asked and answers provided should be written by the person receiving the call and then placed in the project file.

K. Amend Solicitation

Under extraordinary circumstances, it may become necessary to amend the solicitation. Requirements to cancel or amend the solicitation could result from errors in the documents, change in delivery strategies, incomplete sections or unclear statements. If the RFP has been issued and a validated requirement outside the scope of the CBD surfaces, the AF PM should prepare a CBD notice describing the change. Amendments are typically issued under the following circumstances: if an Offeror asks a question and the answer is significant enough that all Offerors should be advised; any initiated changes based on Government changes; or the results of the pre-proposal conference so dictate.

XVI. Activities Concurrent with Project Definition and RFP Development

There are a number of activities that must be accomplished concurrently with the development of the Project Definition and the RFP. These efforts prepare the installation to rapidly review and recommend the selection of the design-build contractor. Most of these activities center around preparing the Source Selection Evaluation Team, Technical Evaluation Teams and the Source Selection Authority to evaluate the proposals that will be submitted as a result of the RFP that is developed by the Government and the RFP Architect-Engineer. Additional details can be found in the Air Force FAR Supplement, AFAC 92-44, Appendix BB, dated January 15, 1995.

A. People Involved in the
Concurrent Activities

AF PM: The AF PM may serve in one of several functions during the source selection process. Common roles include serving as the Technical Evaluation Team chairperson (if AF PM has considerable experience), or as technical evaluator. The AF PM will prepare letters of appointment for Source Selection Authority signature, assigning people to various teams. See [Appendix 47, Letter of Appointment to SSET \(Sample\)](#).

Source Selection Evaluation Team Chairperson: The Source Selection Evaluation Team chairperson is responsible for the organization and conduct of the Source Selection Evaluation Team. The chairperson is usually the senior person most knowledgeable about the project requirements. During the RFP preparation, the Source Selection Evaluation Team chairperson will:

- Recruit members and advisors to the Source Selection Evaluation Team, Technical Evaluation Team, and Contracting Evaluation Team according to the complexity of the project.
- Ensure appointed members have the required time necessary to participate.
- Brief members on the source selection code of conduct.
- Designate the Chairperson and approve the structure of the Technical Evaluation Team.
- Review and approve evaluation standards developed by the AF PM.
- Determine, together with the Contracting Officer, whether to conduct a pre-proposal conference and site visit.
- Recommend approval of the Source Selection Plan to the Source Selection Authority.
- Serve as a member of the Solicitation Review Board.
- Brief Source Selection Evaluation Team members on their responsibilities and details of how the evaluation will be conducted.

Source Selection Authority: The Source Selection Authority is responsible for managing the source selection process and has authority to make the source selection decision. In the streamlined process, the Contracting Officer normally delegates the Source Selection Authority to the Installation/Unit Commander. During preparation of the RFP, the Source Selection Authority will:

- Approve appointments of the Source Selection Evaluation Team chairperson, members and advisors.
- Caution all involved in the source selection process of the consequences of unauthorized disclosure of source selection information.
- Provide guidance and instructions to the Source Selection Evaluation Team regarding source selection procedures and protocol.
- Review and approve the Source Selection Plan.

Technical Evaluation Team: The Technical Evaluation Team is responsible for evaluating the Offeror's technical approach, proposed schedule and management plan. The Technical Evaluation Team will vary in size based on the complexity of the acquisition, but at a minimum must include two people with representation from the User's office. During preparation of the RFP, the Technical Evaluation Team members will establish technical evaluation criteria.

Contracting Officer: During preparation of the RFP, the Contracting Officer will:

- Prepare required requests for delegation.
- Train Source Selection Evaluation Team members in the source selection process.

B. Prepare Source Selection
Plan

The Source Selection Plan serves as the "charter" for selecting the design-build contractor and should be prepared jointly by the Contracting Officer, User, and AF PM. The Source Selection Plan should be prepared in coordination with the RFP and must be approved prior to release of the solicitation. The Source Selection Plan should mirror the information listed in Sections L & M of the Front End Documents. The purpose of the Source Selection Plan is to:

- Describe the source selection organizational structure.
- Designate the people who will perform the evaluation.
- Describe the Government's approach for soliciting and evaluating proposals.
- Establish evaluation factors.
- Establish the source selection schedule.

C. Source Selection Plan
Outline

The following outline is provided as a starting point for writing the Source Selection Plan:

Source Selection Plan Outline

Table 8-5

I. Introduction: Program overview, description of requirements and services
II. Source selection organizational structure: <ul style="list-style-type: none">A. Duties of the Source Selection AuthorityB. Duties of the Source Selection Evaluation TeamC. List of participants by organizational symbol
III. Pre-solicitation activities <ul style="list-style-type: none">A. Market surveyB. Draft solicitationsC. Solicitation review panelB. List of prospective candidatesC. SynopsisD. Solicitation preparation and release approval actions
IV. Evaluation procedures <ul style="list-style-type: none">A. Approach to evaluation and ratingB. Approach to Government estimateC. Overview of cost drivers
V. Evaluation criteria <ul style="list-style-type: none">A. (insert Section M information)B. Relative importance of cost criterion, specific criterion and general considerations
VI. Summary of the acquisition strategy <ul style="list-style-type: none">A. Type of contractB. IncentivesC. Special clauses
VII. Schedule of significant milestones
VIII. Non-Government advisors

- Introduction: The introduction should briefly describe the requirements for the design-build project and the services being acquired.
- Source selection organizational structure: This section should include an organization chart illustrating the proposed source selection organization structure and the responsibilities of each position. Identify key members by name and position title.
- Pre-solicitation activities: This section should describe the activities leading up to the release of the solicitation, including market survey, draft solicitation, synopsis, solicitation review panel and solicitation release meeting. Discuss in the market survey how the Government will generate interest in the project to ensure competition. Also indicate whether drafts of the solicitation will be distributed to potential Offerors and if not, why not.
- Evaluation procedures: This section should describe the process that will be used by the source selection evaluation team to rate proposals. Describe why specific evaluation factors were selected and how the Government's cost estimate was prepared. Also describe the basis for developing the Proposal Analysis Report.
- Evaluation criteria: This section should describe the evaluation factors for contract award. Outline the specific areas for evaluation and discuss the evaluation factors and sub-factors for each area.
- Acquisition strategy: This section should describe the acquisition strategy including the type of contract (firm fixed price; cost plus fixed fee; cost plus award fee), any incentive arrangements or special contract requirements.
- Schedule of events: Outline the events and target dates for the major activities in the source selection process leading to contract award.
- Non-Government advisors: Identify any non-Government advisors who will participate in the source selection process, including their role and the reason for their participation.

D. Establish Evaluation Factors

One of the most significant responsibilities of the Technical Evaluation Team is to establish the basis for technical evaluation including the development and relative importance of evaluation criteria. This information is submitted as part of the Source Selection Plan. Once the Source Selection Plan is approved by the Source Selection Authority, the Technical Evaluation Team prepares the specific language for Section M of the RFP, prepares forms for evaluating proposals and prepares a guidance document to assist evaluators in evaluating proposals.

When establishing evaluation factors, consider the following:

- Area 1 - Technical Evaluation
 - Factor 1 - Construction team experience
 - Factor 2 - Design team experience
 - Factor 3 - Management plan
 - Factor 4 - Schedule
 - Factor 5 - Other technical requirements (as needed)
- Area 2 - Cost/Price (evaluated but not rated)
- Area 3 - Past Performance (evaluated but not rated)

Clearly state evaluation factors. FAR 15.605(e) requires that all evaluation factors and any significant sub-factors must be described in the Source Selection Plan and clearly stated in the solicitation. See [Appendix 48, FAR 15.605\(e\)](#) for an extract of FAR 15.605(e). The relative importance of factors and sub-factors must be stated. Price/cost is always considered an evaluation factor although it is not part of the rating/scoring process.

Factors should be relevant. The evaluation factors selected should directly relate to the specific acquisition and should be structured to highlight the strengths, weaknesses and risks of each proposal. A reasonable starting point for the development of evaluation factors is to review the Statement of Work and then research factors used in other acquisitions for similar services. Also talk with the RFP Architect-Engineer to discover

which factors they believe are most relevant. Following are some general guidelines/characteristics to consider while developing evaluation factors:

- Consistent: Technical evaluation factors must agree with the statement of work and specifications.
- Limited in number: Avoid the tendency to develop too many evaluation factors and subfactors. A large number of factors will dilute the importance of the most significant factors.
- Independent: Select evaluation factors that do not overlap with one another.
- Relevant: The evaluation factors should be particularly relevant to the specific acquisition.
- Variable: An evaluation factor should not be used if it is not expected to vary between Offerors.
- Measurable: A factor must be measurable to be of use. Both quantitative and qualitative measurements are valid.

List criteria in descending order. Evaluation criteria included in the Source Selection Plan are listed in descending order of importance and will be set forth verbatim in the solicitation. Choose your words carefully. Noncompliance with something that should be provided doesn't constitute a deficiency. Use shall and must, rather than should, when discussing evaluation factors.

E. Appointment Letters

The Source Selection Authority will select the chairperson to oversee the efforts of the Source Selection Evaluation Team, Contract Evaluation Team, and Technical Evaluation Team. The Source Selection Authority appoints members for their respective Teams. The AF PM will draft appointment letters for Source Selection Authority approval and signature. See [Appendix 22, Board Appointment Letter](#) and [Appendix 47, Letter of Appointment SSET \(Sample\)](#) for examples of appointment letters.

F. Approve Source Selection Plan

The chairperson of the Source Selection Evaluation Team recommends the Source Selection Plan for approval to the Source Selection Authority. This recommendation may be in written or oral format per Source Selection Authority request; however, in either case the Source Selection Authority must approve/disapprove the Source Selection Plan by signature. Subsequently, the Source Selection Authority must review and approve the Source Selection Plan before the RFP is issued to potential Offerors.

G. Train Evaluation Team Members

The chairperson of the Source Selection Evaluation Team must ensure that the Source Selection Evaluation Team, Technical Evaluation Team, Contracting Evaluation Team, and advisors are properly trained. Areas that should be covered, are, at a minimum: code of conduct, evaluation criteria, evaluation procedures, Source Selection Plan, and conflict of interest. Suggest that the teams be provided examples of acceptable and non-acceptable write-ups showing what the legal evaluation and contracting committees deem acceptable.

XVII. Source Selection Process For Single Phase Design-Build Procurements

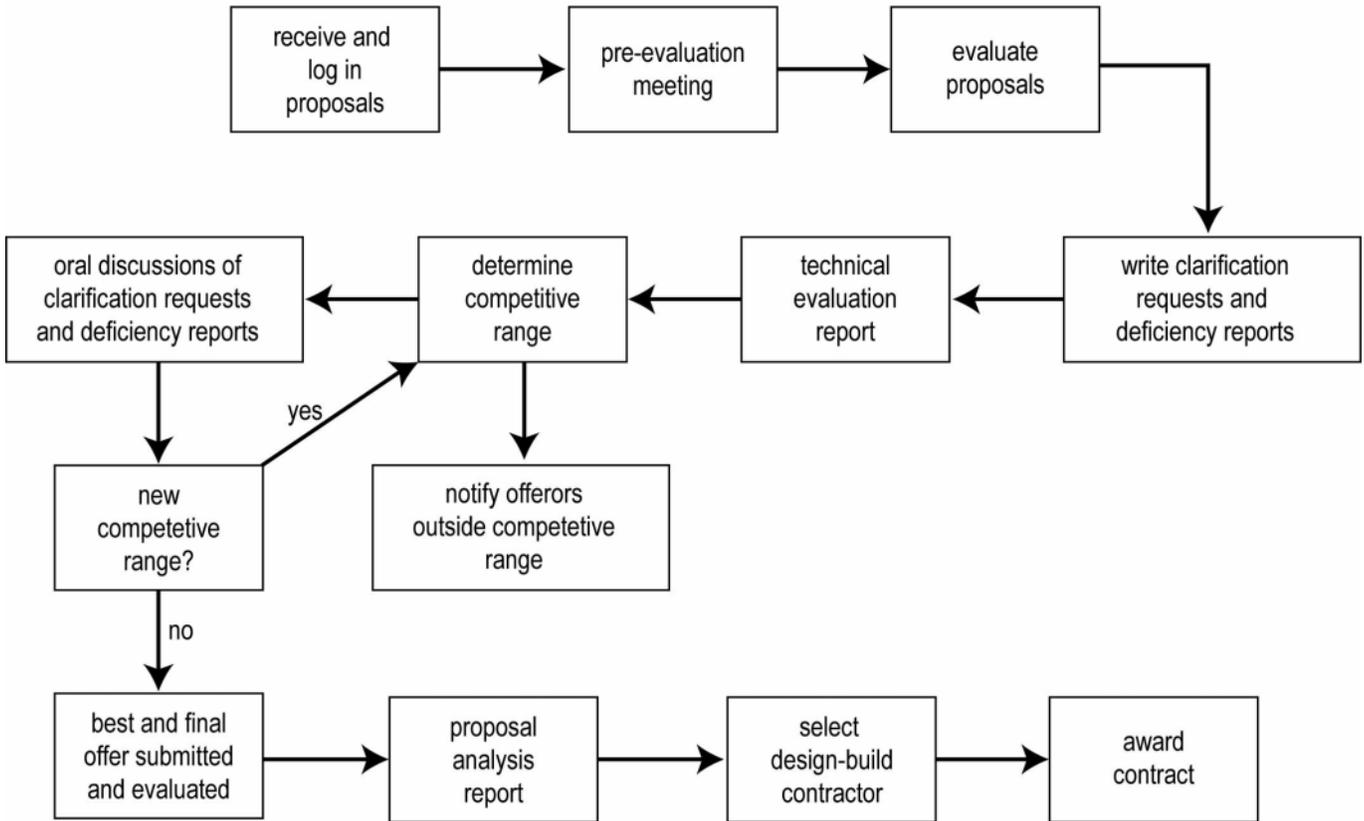
A. Introduction and Checklist.

The Air Force has an established process for selecting design-build contractors through a single phase source selection process. The objective of the process is to select the team providing the best value to the Air Force in an environment of fair and open competition. The Air Force uses a streamlined acquisition process for design-build projects that cost less than \$500 million. This process is defined in more detail in the Air Force FAR Supplement, Appendix BB. The process was established to limit the size, and cost to prepare proposals, as well as the time required to review them.

The Source Selection Process begins with receipt of the proposals from the Offerors. The basic flow of the Source Selection Process is shown in Figure 8-2. A Source Selection Checklist is provided in Table 8-6.

Source Selection Process Diagram for Single Phase Design-Build Acquisitions

Fig 8-2



If Clarification Requests and Deficiency Reports are not required for the firm considered to provide the "best value" to the Air Force, the process can go directly from Evaluate Proposals to Select Design-Build Contractor. The Technical Evaluation Report phase will include Proposal Analysis Report preparation in accordance with Table 8-6.

Source Selection Checklist for Single Phase Design-Build Acquisitions

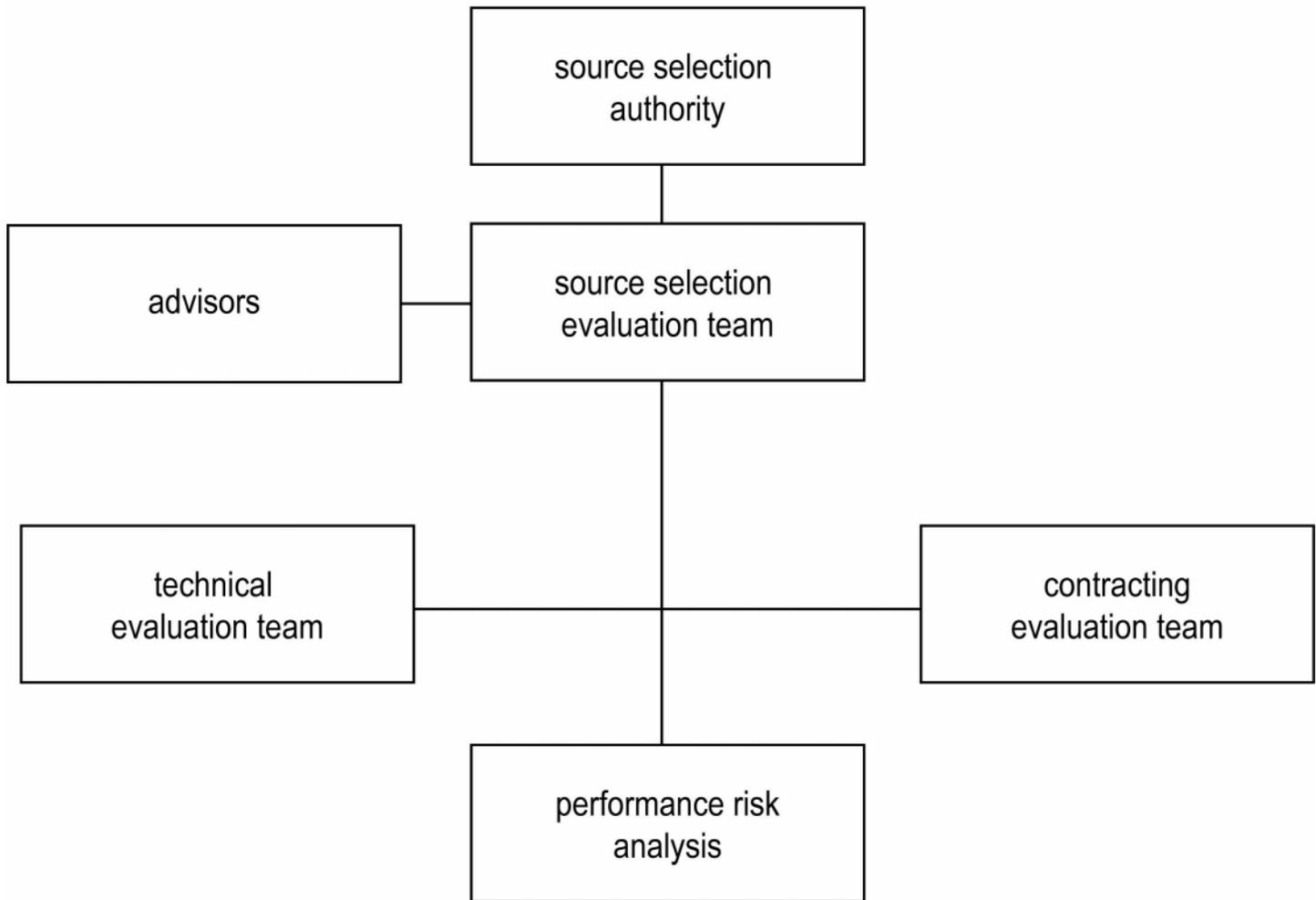
Table 8-6

	Action OPR
1. Receive proposals	Contracting Officer
2. Log in proposals	Contracting Officer
3. Pre-evaluation meeting	Source Selection Evaluation Team
4. Evaluate proposals	Source Selection Evaluation Team Contracting Evaluation Team/ Technical Evaluation Team
5. Prepare Clarification Requests and Deficiency Reports	Source Selection Evaluation Team/ Contracting Evaluation Team/ Technical Evaluation Team
6. Technical Evaluation Report	Contracting Evaluation Team/ Technical Evaluation Team
7. Determine competitive range	Contracting Officer
8. Notify Offerors outside competitive range	Contracting Officer
9. Oral or written Discussions with Offerors in competitive range	Contracting Officer
10. Request Best and Final Offer	Contracting Officer
11. Receive Best and Final Offer	Contracting Officer
12. Evaluate Best and Final Offer	Contracting Evaluation Team/ Technical Evaluation Team
13. Proposal Analysis Report	Source Selection Evaluation Team
14. Brief Source Selection Authority	Source Selection Evaluation Team
15. Decision Document	Source Selection Authority
16. Seek authority to Award	Source Selection Authority
17. Congressional Notification	Contracting Officer
18. Award contract	Contracting Officer

B. People Involved in the
Single Phase Source
Selection Process

Figure 8-3 Basic Source Selection Organization Chart

Basic Source Selection Organization Chart *Fig 8-3*



Most of the participants involved in the RFP preparation remain involved during the evaluation, selection and award process. During the source selection process, the participation of the Technical and Contract Evaluation Teams is greatly increased.

AF PM: Once again, the AF PM will participate as the Technical Evaluation Team chairperson (if AF PM has considerable experience) or as a technical evaluator. Review the specific responsibilities of this position to understand the AF PM's responsibilities. In addition, during the proposal evaluation, selection and award phase, the AF PM:

- Generally participates in any discussions held with Offerors.
- Assures the authority to award and the funding packages to be forwarded to higher headquarters for action.

- Requests funding (from MAJCOM/CE and/or HQ USAF/ILE, if not already in place).
- Seeks authority to award from MAJCOM/CE, HQ USAF/ILE, and/or other approval authority.

Contracting Officer: During the proposal evaluation, selection, and award phase, the Contracting Officer will:

- Serve as the sole point of contact between Offerors and the Government.
- Issue any required amendments to the RFP.
- Receive and perform initial screening of proposals.
- Request pre-award surveys and audits as appropriate.
- Normally Chair the Contracting Evaluation Team.
- Establish the competitive range based on the Technical Evaluation Report, Contracting Report, and discussions with Source Selection Evaluation Team members.
- Release letters to Offerors outside the competitive range concurrently with the release of Clarification Requests/Deficiency Reports to Offerors within the competitive range.
- Receive responses to the Clarification Requests/Deficiency Reports.
- Ensure the Government's representatives' evaluations will remain consistent for all discussions.
- Conduct oral or written discussions with Offerors.
- Schedule conference calls with all Offerors in the competitive range when required.
- Ensure meeting minutes are taken to document all conferences with Offerors at any stage.
- Issue letters to all Offerors in the competitive range requesting a Best and Final Offer.
- Request and receive Best and Final Offer.
- Provide an assessment of the likelihood of award to Source Selection Authority.
- Ensure required business clearances are obtained.
- Send information to SAF/LLP, as necessary.
- Notify the successful Offeror and issue the contract.
- Notify unsuccessful Offerors and conduct debriefings at the Offeror's request.
- Conduct pre-construction conference with the successful design-build team.

Source Selection Authority: During the proposal evaluation, selection, and award process, the Source Selection Authority:

- Approves the Contracting Officer's competitive range determination (this action may be delegated to the Source Selection Evaluation Team) and exclusions from the competitive range (this action cannot be delegated).
- Coordinates on the Contracting Officer's decision to request reiterative calls for Best and Final Offer.
- Selects the Offeror providing the "best value" to the Government and documents the decision in a Proposal Analysis Report (see Chart 4-2 for clarification).
- Approves the Proposal Analysis Report.

Source Selection Evaluation Team Chairperson: During the proposal evaluation, selection and award phase, the Source Selection Evaluation Team chairperson:

- Conducts the pre-evaluation meeting with all Source Selection Evaluation Team members.
- Distributes proposals to the evaluators.
- Reviews the Contracting Officer's competitive range determination and provides comments back to the Source Selection Authority.
- Briefs proposer deficiencies to Source Selection Authority, if award is made without discussions.

- In conjunction with the Contracting Officer, reviews and approves the Clarification Requests and Deficiency Reports for issuance.
- Briefs the Source Selection Authority on the findings of the Source Selection Evaluation Team and supports the Source Selection Authority in the preparation of the Proposal Analysis Report.
- Provides a recommendation for contract award, if requested by the Source Selection Authority.
- Ensures the Proposal Analysis Report is prepared for the Source Selection Authority's signature.
- Ensures all Source Selection Evaluation Team members execute Source Selection Information Briefing Certificate ([Appendix 49, Source Selection Information Briefing Certificate \(Sample\)](#)).
- Evaluates formal contractor debriefings.

Source Selection Evaluation Team: During the proposal evaluation, selection, and award phase, the Source Selection Evaluation Team:

- Validates the Evaluation Guidebook .
- Evaluates each proposal, Clarification Request, Deficiency Report and Best and Final Offer against the solicitation.
- Briefs the Source Selection Authority and Source Selection Evaluation Team chairperson, as requested.
- Prepares the Proposal Analysis Report for submittal to the Source Selection Evaluation Team chairperson.

Technical Evaluation Team: During the proposal evaluation, selection, and award phase, the Technical Evaluation Team:

- Performs the technical evaluation, evaluates each proposal against the evaluation criteria outlined in the RFP and documents weaknesses and strong points. Also prepares Clarification Requests and Deficiency Reports, as necessary, to seek clarification and identify deficiencies.
- Prepares Clarification Requests, Deficiency Reports, and supporting documentation.
- Jointly reviews each individual member's evaluation to arrive at a consolidated team evaluation for each Offeror.
- Prepares and forwards a Technical Evaluation Report to the Source Selection Evaluation Team chairperson.
- Evaluates responses to Clarification Request and Deficiency Report.
- Evaluates the Best and Final Offer.
- Updates the Technical Evaluation Report at completion of Best and Final Offer.

Contract Evaluation Team: During the proposal evaluation, selection, and award phase, the Contracting Evaluation Team:

- Performs cost (price) analysis of each proposal and prepares a report of findings. Price report findings shall include factors such as reasonableness, completeness, and realism, IAW AFFARS Sup Appendix BB.
- Prepares Clarification Request/Deficiency Report and evaluates responses from Offerors.
- Updates the Cost (Price) Analysis Report.

Performance Risk Analysis Group (PRAG): The PRAG will assess performance risk with respect to cost and specific evaluation criteria; generate clarification requests for any performance data gathered that is contradictory, unclear, or that could lead to a moderate or high risk assessment; and prepare appropriate documentation of PRAG analysis as part of the Proposal Analysis Report.

C. Receipt of Proposals

Proposals should be due at a pre-designated time at a specific Government office on the date stated in the Request for Proposal (RFP). Late proposals will be considered only in extremely limited circumstances (FAR 15.412). The deadline should allow time for the proposals to be date-stamped and logged before the close of business. If at all possible include a street address rather than a building number or a Stop location for the submission of proposals. It is also good practice to:

- Log the proposal's date of mailing, filing, or delivery;
- Log the time and date the Government received each proposal;
- Note whether the proposal was on time and will be considered for award; and
- Retain the envelope, wrapper, or other evidence of the date of mailing.

Once the proposals have been logged, the Contracting Officer should validate that each proposal meets the solicitation's format and content requirements. References to price should be eliminated from the technical and management sections. Proposals are then forwarded to the Source Selection Evaluation Team chairperson.

Pre-award surveys may be requested by the Contracting Officer. The pre-award survey documents contractors' previous performance on other Government contracts.

The next major effort is to evaluate all of the proposals that have been submitted. There are a series of steps involved in this effort.

D. Pre-Evaluation Meeting

It is a good idea to have evaluators cross-reference comments on specific paragraphs in the proposals or drawings to respective requirements in the RFP.

The Source Selection Evaluation Team chairperson is responsible for providing specific instructions to the members of all evaluation teams before the proposals are distributed. These instructions should be provided in a formal and written manner. Although instructions will vary by the nature of the solicitation, the guidance provided should include:

- Statement of all the responsibilities of the evaluators, including responsibility for safeguarding data.
- Cautions against disclosure of source selection sensitive information to anyone.
- Clear and complete guidelines for evaluating technical, cost, past performance and management proposals. This includes a review of the evaluation factors and a discussion of the evaluation standards being used.
- Review of the technical evaluation forms and the evaluation process.
- Statement that technical acceptability and merit must be based solely on the requirements outlined in the RFP.
- Requirement for evaluators to factually support their determinations and conclusions.
- Cautions against any comparison of proposals.

E. Evaluation Process

Prospective offerors submit a proposal in response to the single phase design-build solicitation in three volumes.

- Volume I: Price
- Volume II: Past Performance
- Volume III: Technical Proposal

The RFP requires each offeror to submit a single proposal for evaluation. A Source Selection Evaluation Team is established. A Cost Evaluation Team evaluates the cost proposal to determine whether the proposal is fair and reasonable. A second team evaluates past performance factors. The Technical Evaluation Team evaluates each offeror's Technical Proposal. A rating is assigned to all proposals and if required, Clarification Requests and Deficiency Reports are issued to each offeror. If a proposal has no Clarification Requests or Deficiency Reports, then the contract may be awarded

without further discussions. If discussions are required, then Clarification Requests and Deficiency Reports are issued and Best and Final Offers are requested. An award cannot be made to an offeror with deficiencies. The award is made to the offeror with the best value provided to the Government.

Technical and cost (price) evaluations will be performed independently by the technical and contract teams. The Technical Evaluation Team shall not have access to cost (price) information anytime prior to the decision briefing (unless approved by the Source Selection Authority).

F. Air Force Evaluation System (Overview)

The Air Force has established a color-coded evaluation system for scoring proposals against evaluation standards. The objective of this system is to determine which proposals meet the Government's requirements. When using this approach, evaluators must complete an evaluation worksheet which provides justification for each rating. The color ratings are described below:

Color Rating

Blue - Exceptional

Exceeds specified performance or capability in a beneficial way to the Air Force and has no significant weaknesses.

Green - Acceptable

Meets evaluation standards and any significant weaknesses are readily corrected.

Yellow - Marginal

Fails to meet evaluation standards; however, any significant weaknesses are correctable.

Red - Unacceptable

Fails to meet minimum requirements of the RFP and deficiencies are not correctable without major revision of the proposal.

Use of numerical weights is not allowed for Air Force contracting actions involving a source selection.

As part of its proposal review process, the technical team should identify the risk potential of each proposal in accordance with the definitions given below. Each evaluation factor or sub-factor will be judged against two assessment criteria, Soundness of Approach and Understanding the Requirements. In addition, each evaluation factor or sub-factor will have a Proposal Risk Assessment assigned. The following definitions of risk should be used:

- HIGH (H) - Likely to cause significant serious disruption of schedule, increase in cost, or degradation of performance even with special contractor emphasis and close Government monitoring.
- MODERATE (M) - Can potentially cause some disruption of schedule, increase in cost, or degradation of performance. However, special contractor emphasis and Government monitoring will probably be able to overcome difficulties.
- LOW (L) - Has little potential to cause some disruption of schedule, increase in cost, or degradation of performance. Normal contractor effort and normal Government monitoring will probably be able to overcome difficulties.

The Technical and Contract Evaluation Teams should share information on risks associated with any aspects of an Offeror's proposal. This includes an unreasonably low price that may suggest a reduced level of service or quality. The Offeror's technical

approach may be experimental, indicating that the likelihood of completion without change orders is unlikely.

Evaluations of technical and management proposals shall be based on the criteria included in the RFP and the Source Selection Plan. Although an award can be made without requesting clarifications, the evaluation process normally requires discussions and submittal of a Best and Final Offer.

Evaluators are responsible for determining how each Offeror's proposal fails to meet, meets, or exceeds the evaluation criteria. The ratings of each proposal are documented using the technical evaluation form. The proposals are not compared against one another, but only to the evaluation standards.

The teams will prepare Clarification Requests and Deficiency Reports for each proposal. The clarifications and deficiencies are returned to each offeror within the competitive range for appropriate response. A request for Best and Final Offer will be provided to the Offeror along with a complete set of clarifications and deficiencies. See Appendices 50 and 51 for examples of Clarification Requests and Deficiency Reports.

Following the receipt of Best and Final Offers, the proposals will be reevaluated.

A second Best and Final Offer is allowable; however, it is not advisable as it adds significant time to the selection process. To request a second Best and Final Offer requires the approval of the head of the contracting agency. This likely will be the MAJCOM/CC.

G. Competitive Range Determination

FAR 15.609 provides guidance regarding the competitive range determination. The competitive range should include only those firms which have a reasonable chance of being awarded the project.

When determining if a proposal should be included, consideration should be given to the Clarification Requests and Deficiency Reports. If responses to the Clarification Requests and Deficiency Reports may make a proposal attractive to the Government, the proposal should be considered. If the proposal does not have a reasonable chance of receiving the award, it should not be included. When there is doubt, err on the side of including a proposal.

The competitive range determination is made by the Contracting Officer, not the Source Selection Authority (although elimination of an Offeror from the competitive range is subject to approval by the Source Selection Authority). When establishing the competitive range, the Contracting Officer should not restrict the number of proposals to the point where competition is limited. Protests have resulted from keeping Offerors in the competitive range when they had no chance of winning.

Offerors outside the competitive range should be notified promptly—in writing. Notification is accomplished concurrent with release of the Clarification Requests and Deficiency Reports. The purpose of this notification is to inform them that they are no longer being considered. This should also prevent them from spending any additional time or money related to the project.

Oral or written discussions with all Offerors in the competitive range should be conducted to allow Offerors the opportunity to provide clarifications and correct deficiencies with their proposals. These discussions, as outlined in FAR 15.610, shall be conducted by the Contracting Officer. The purpose of such discussions is to:

- Ensure the Offerors understand the objectives of the Government's requirements.
- Ensure the Air Force evaluators understand the Offeror's proposal.
- Explain ambiguities and respond to identified deficiencies within Offeror's proposals.
- Discuss price or cost elements that are unclear or are unreasonable.

During these discussions, the Government MUST AVOID technical leveling, technical transfusion, and auctioneering. (See definitions below) It is advisable to conduct

discussions in writing. If oral discussions are held, one of the Government representatives should carefully take meeting minutes. During discussions, the Government must clearly identify all deficiencies and describe why each item is deficient. This must be accomplished in a way that the Government does not suggest how the Offeror might take corrective action.

- Technical leveling is coaching an Offeror on how to become more competitive by improving its proposal.
- Technical transfusion occurs when the Government discloses technical information pertaining to a proposal that results in improvements to a competing proposal.
- Auctioneering refers to situations when the Government advises an Offeror of its price standing relative to other Offerors.

Offerors are allowed to modify their proposals in order to remedy deficiencies. As a result of discussions, additional Offerors may be excluded from the competitive range, subject to the determination by the Source Selection Authority. Once discussions are complete, the Government will request a Best and Final Offer from all Offerors remaining in the competitive range.

When a Best and Final Offer is requested, Offerors have the opportunity to modify any aspect of their proposal. Because Offerors may modify their technical approach, the technical evaluators must read and evaluate each Best and Final Offer using the same factors which were included in the original RFP. It may be a good idea to limit the number of pages in the Best and Final Offer submittal. In fact, it is a good idea to limit the number of additional pages by section within the follow-on Best and Final Offer submittal.

H. Proposal Analysis Report

The Source Selection Evaluation Team must prepare a Proposal Analysis Report and brief the Source Selection Authority. The Source Selection Authority must be provided with sufficient in-depth information on each of the competing Offerors and their proposals to permit a reasoned, rational selection decision. The Proposal Analysis Report summarizes the strengths, weaknesses and risks of each proposal and the Source Selection Evaluation Team's basis for each Offerors' scoring. This report should include the information shown in the Proposal Analysis Report Outline shown in Table 8-7.

Proposal Analysis Report Outline

Table 8-7

<ul style="list-style-type: none">I. Introduction:<ul style="list-style-type: none">A. Funding information concerning the source selection actionB. Review of Source Selection PlanC. Basis for the award and evaluation criteriaD. Composition of Source Selection Evaluation Team: names, organization, specialtyE. Requirements in solicitation
<ul style="list-style-type: none">III. Description of Proposals<ul style="list-style-type: none">A. Significant/unique attributes of each proposal in competitive range
<ul style="list-style-type: none">IV. Comparative Technical/Risk Analysis<ul style="list-style-type: none">A. Assessment of specific criteria against evaluation standardsB. Comparative analysis of proposal and performance risksC. Identify strengths and weaknesses; evaluation results by areaD. List of factors evaluatedE. Overall impact of significant risks associated with each proposalF. Technical risksG. Schedule risks assessed against technical approachH. Confidence placed on cost estimateI. Financial riskJ. Production risksK. Design trade-offsL. Contractors performance risks
<ul style="list-style-type: none">V. Comparative Cost Analysis<ul style="list-style-type: none">A. Address reasonableness - realism - completenessB. Track costs from initial through Best and Final OfferC. Overall price/cost analysis
<ul style="list-style-type: none">VI. General Consideration<ul style="list-style-type: none">A. Significant contractual arrangementsB. Significant difference between Offerors
<ul style="list-style-type: none">VII. Source Selection Evaluation Team Findings<ul style="list-style-type: none">A. A comparative analysis expressed in brief statements considered by Source Selection Evaluation Team to be significantB. Recommendation, if requested by Source Selection Authority

Following the briefing by the Source Selection Evaluation Team chairperson and submittal of the Proposal Analysis Report, the Source Selection Authority must select an Offeror and sign the Proposal Analysis Report. The Proposal Analysis Report should include as a minimum:

- A brief description of the procurement;
- Names of Offerors submitting proposals; and
- The selection decision and rationale; include a discussion of the beneficial value to the Government especially when a higher priced Offeror is selected.

The Source Selection Evaluation Team chairperson and legal counsel normally support the Source Selection Authority in the preparation of the Proposal Analysis Report.

I. Authority to Request
Required Funding and Award
Contract

The Source Selection Authority is delegated the authority to award the design-build contract following selection of the successful Offeror, if the Contracting Officer provides this delegation authority. For contracts greater than \$5 million, the Source Selection Authority must notify the HQ USAF/ILE who will, in turn, notify the Office of Legislative Liaison of the intent to award to the successful Offeror.

**XVIII. Source Selection
Process For Two-Phase
Design-Build Procurements**

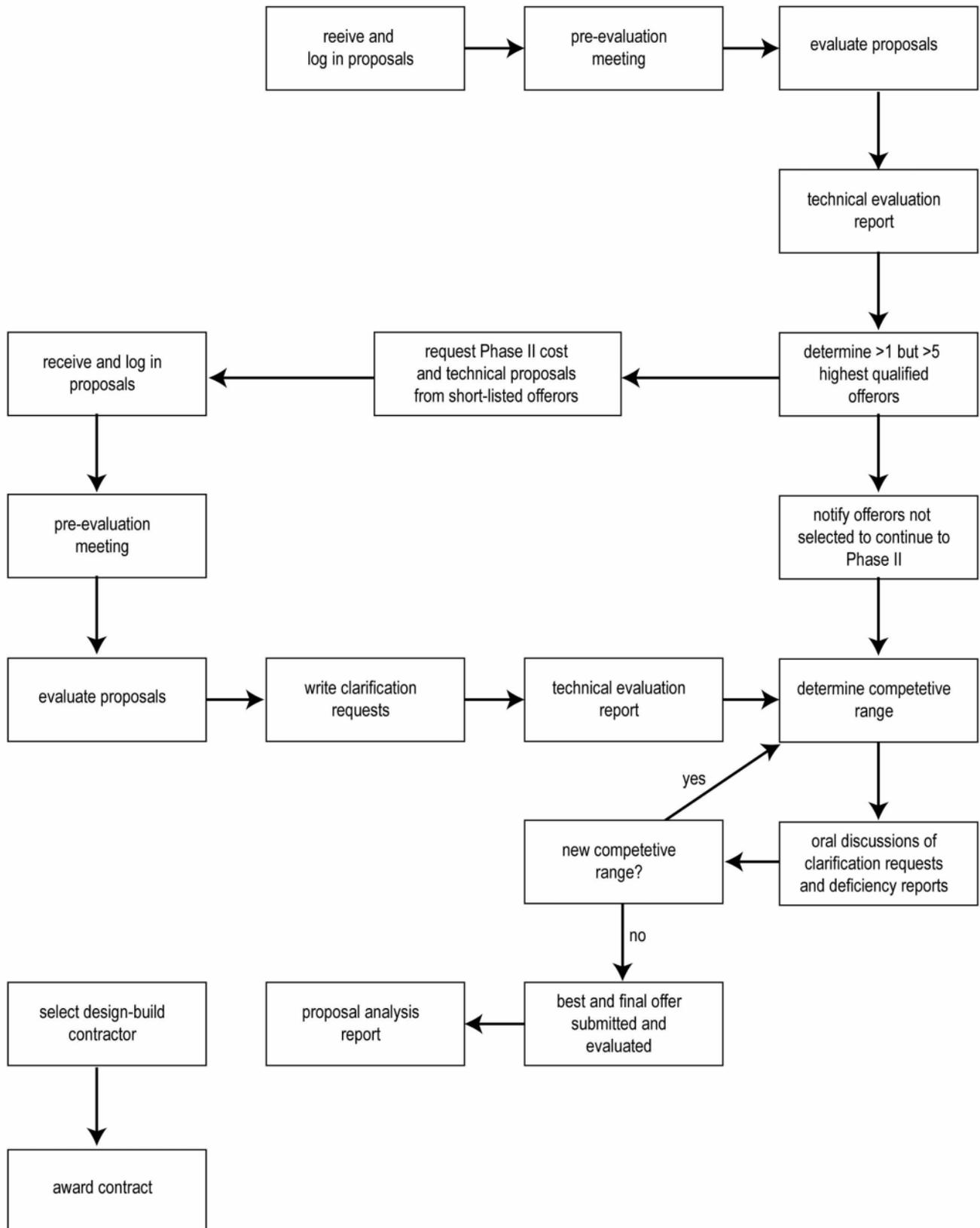
A. Introduction and Checklist

In addition to the single phase design-build procurement, the Air Force has established a process for selecting design-build contractors through a two phase source selection process. The objective of this process is to select the team providing the best value to the Air Force in an environment of fair and open competition without causing the prospective offerors to spend excessive funds up-front for proposal expenses. The process is very similar to the single phase process with the exceptions shown below.

The Source Selection Process begins with receipt of the Phase I proposals from the Offerors. The basic flow of the Source Selection Process is noted below:

Source Selection Process Diagram for Two-Phase Design-Build Acquisitions

Fig 8-4



If Clarification Requests and Deficiency Reports are not required for the firm considered to provide the "best value" to the Air Force, the process can go directly from Evaluate Proposals to Select design-build Contractor. The Technical Evaluation Report phase will include Proposal Analysis Report preparation in accordance with Table 8-7.

Project Definition and RFP Development Checklist

Table 8-8

Action	OPR
1. Receive proposals	Contracting Officer
2. Log in proposals	Contracting Officer
3. Pre-evaluation meeting	Source Selection Evaluation Team
4. Evaluate proposals	Technical Evaluation Team
5. Prepare Clarification Requests and Deficiency Reports	Technical Evaluation Team
6. Technical Evaluation Report	Technical Evaluation Team
7. Determine >1 but <5 Highest Qualified Offerors	Contracting Officer
8. Notify Offerors not invited to Phase 2	Contracting Officer
9. Invite Highest Qualified Offerors to submit Phase 2 Proposals	Contracting Officer
10. Receive proposals	Contracting Officer
11. Log in proposals	Contracting Officer
12. Pre-evaluation meeting	Source Selection Evaluation Team
13. Evaluate proposals	Source Selection Evaluation Team/ Contracting Evaluation Team/ Technical Evaluation Team
14. Prepare Clarification Requests and Deficiency Reports	Source Selection Evaluation Team/ Contracting Evaluation Team/ Technical Evaluation Team
6. Technical Evaluation Report	Contracting Evaluation Team/ Technical Evaluation Team
7. Determine competitive range	Contracting Officer
8. Notify Offerors outside competitive range	Contracting Officer
9. Oral or written discussions with Offerors in competitive range	Contracting Officer
10. Request Best and Final Offer	Contracting Officer
11. Receive Best and Final Offer	Contracting Officer
12. Evaluate Best and Final Offer	Contracting Evaluation Team/ Technical Evaluation Team
13. Proposal Analysis Report	Source Selection Evaluation Team
14. Brief Source Selection Authority	Source Selection Evaluation Team
15. Decision Document	Source Selection Authority
16. Seek authority to Award	Source Selection Authority
17. Congressional Notification	Contracting Officer
18. Award contract	Contracting Officer

B. People Involved in the Two-Phase Source Selection Process	The participants and their responsibilities for in the RFP preparation in a two step process are the same as shown for the single phase process.
C. Receipt of Proposals	The sequence of events for receipt of proposals remains the same for both single phase and two phase design-build procurements. In a two phase process, proposals are received and logged in twice by the Contracting Officer. Only those invited to submit the second phase submit the final proposal showing a design and associated cost.
D. Pre-Evaluation Meeting	The Contracting Officer should conduct a pre-evaluation meeting as previously described for the single phase procurement process.
E. Evaluation Process	<p>The evaluation process for a two step procurement is accomplished in two phases. The Phase I proposals are evaluated only on technical approach and technical qualifications, to include: specialized experience and technical competence; capability to perform, past performance and other important factors. The Phase I evaluation process results in a short list of offerors (normally three to five) who then are invited to prepare Phase II technical design and cost proposals for final evaluation and selection. Examples of Phase II evaluation factors include design concepts, management approach, key personnel, and proposed technical solutions. Phase I factors are delineated in FAR 36.300. Phase II factors are delineated in FAR 15.</p> <p>Phase I: Evaluated to determine the highest qualified contractors (>1 but < 5)</p> <p> 1) Volume I (Management/Technical Proposal)</p> <p> 2) Volume II (Financial Proposal)</p> <p>Phase II:</p> <p> 1) Volume I (Preliminary Design Proposal)</p> <p> 2) Volume II (Cost/Price Proposal & Sub-Contracting Plan)</p>
F. Air Force Evaluation System (Overview)	The Air Force Evaluation System is the same for both the Single Phase and the Two Phase Design-Build Procurement methods.
G. Competitive Range Determination	FAR 15.609 provides guidance regarding the competitive range determination. The competitive range should include only those firms which have a reasonable chance of being awarded the project for both the single and two phase design-build procurements. The process for determining competitive range is defined above in the single phase section.
H. Proposal Analysis Report	The Source Selection Evaluation Team must prepare a Proposal Analysis Report for the two phase procurement in the same format as shown above for single phase.
I. Authority to Request Required Funding and Award Contract	The Source Selection Authority is delegated the authority to award the design-build contract following selection of the successful Offeror. The Contracting Officer provides this delegation authority. For contracts greater than \$5 million, the Source Selection Authority must notify the HQ USAF/ILE who will, in turn, notify the Office of Legislative Liaison of the intent to award to the successful Offeror.
XIX. Source Selection Forms for Both Single and Two Phase Design-Build Procurement	Throughout the process of scoring proposals, the technical evaluators are responsible for completing several internal record documents. These forms are used to document the evaluation and provide an audit trail of the decision making process. The Contracting Officer may require weak points be documented with a Deficiency Report. The Offeror

has the right to know the impact of weaknesses affecting potential award through issuance of a Clarification Request or Deficiency Report. These forms include:

- Clarification Requests are prepared when a section of a proposal is not clear enough to enable a fair and complete evaluation of the Offeror's capabilities. Insufficient definition of an approach, inconsistencies within a proposal or inadequate substantiation are examples of reasons to generate a clarification Request for the Offeror. Clarification Requests will be prepared in a manner which does not lead the Offeror to a specific or preferred reply; however, they must be clear enough to secure corrective action. The Clarification Request will contain a reference to the Statement of Work paragraph which requires the tasking. If a sufficient number of Clarification Requests apply to a particular item or area, consider whether or not issuance of a Deficiency Report is more appropriate to indicate a lack of understanding/ soundness of approach and failure to meet the contract requirements. All Clarification Requests will be approved by the team chief, the Source Selection Evaluation Team, and the Contracting Officer before release to the Offeror. Approved Clarification Requests will be logged and tracked until final disposition.
- Deficiency Reports are prepared when an Offeror's proposal fails to meet a requirement of the RFP. This should include weaknesses significant enough to result in a rating lower than acceptable, or a risk rating above low. The evaluator must identify precisely what is wrong and cite specific references in the RFP and proposal. The evaluator will assess whether the deficiency is correctable and the potential of the Offeror to eliminate the deficiency. Deficiency Reports will be prepared in a manner which does not lead the Offeror to a specific or referred reply. The total number of Deficiency Reports and their seriousness may justify excluding the Offeror from the competitive range. Deficiency report items need to be discussed by all the evaluators for that area or item, to ensure that the deficiency is valid and that each item has been clearly stated, before they are approved. All Deficiency Reports will be approved by the team chief, the Source Selection Evaluation Team chairperson, and the Contracting Officer before release to the Offeror. Approved Deficiency Reports will be logged and tracked until final disposition.
- Inter-Area Information Transfers are used to request transfer of information from one group of evaluators to another (e.g. technical information which may effect the price evaluation). Frequently these requests are verbal but they must be documented in some fashion.
- Strong/Weak Points of the proposal may be used to establish and explain the particularly strong or weak points of a proposal. Strong Points are useful in documenting elements of a proposal that are in excess of the standard in terms of performance and capability. They help to justify "blue" color code and low risk evaluation. Weak points document the elements of a proposal that do not meet evaluation standards or serve to identify increased risk.
- Risk Assessments: The following two risk assessments will be accomplished:
 - Proposal Risk. The Government will conduct a proposal risk assessment associated with the Offeror's proposed approach to accomplish the requirements.
 - Performance Risk. The Government will conduct a performance risk assessment based upon the Offeror's relevant past and present performance. In assessing this risk, the Government will use performance data to evaluate the areas listed above including the Cost Area. In conducting the performance risk assessment, the Government will use data provided by the Offeror in the past and present performance volume, as well as data obtained from other sources.
- Evaluation Narratives (work sheets) provide evaluation of the proposal in narrative form. The narrative must, at a minimum, be completed at the evaluation factor and occasionally, at sub-factor level.

A Technical Evaluation Report is prepared to document the evaluation process. The Technical Evaluation Team should discuss each proposal and complete a consolidated

evaluation form for each Offeror to support the Proposal Analysis Report. The Team documents recommendations to the Source Selection Evaluation Team, Source Selection Authority, and Contracting Officer through the preparation of a Technical Evaluation Report which:

- Identifies those Offerors whose proposals clearly do not meet the Government's minimum standards outlined in the RFP.
- Identifies those Offerors whose proposals do meet the Government's minimum technical standards outlined in RFP.
- Identifies areas where Offerors may have exceeded the Government's technical standards as outlined by the RFP.
- Documents deficiencies in the request for proposal.
- Identifies clarifications and deficiencies in each Offeror's proposal.
- Assesses risk factors.

The Technical Evaluation Report will be revised following discussions, Best and Final Offer, and the final technical evaluation. Upon completion of the final evaluation, the Technical Evaluation Report will be used by the Source Selection Evaluation Team in the preparation of the Proposal Analysis Report.

The Contracting Evaluation Team is responsible for conducting price evaluations and past performance assessment. The purpose is to determine the completeness, reasonableness, and realism of prices.

The Government may use one of several approaches for conducting its price evaluation:

- Competitive pricing evaluates price proposals among competitors. This is one of the most effective means of evaluation because the proposals are prepared at the same time for identical scope.
- Prior pricing information is not as useful but price proposals can be evaluated in comparison to pricing information from prior procurements. When this is done, adjustments must be made for economic factors and the size and type of project.
- Independent estimates prepared by the RFP Architect-Engineer and/or Government technical representatives provides an unbiased baseline to compare against Offeror's bid.

The Contracting Evaluation Team performing the price evaluation may request technical support during the price proposal evaluations. They should discuss the details of technical proposals with the technical evaluators (and may generally discuss specific cost elements) to aid in their cost evaluation.

Following their analysis, the Contracting Evaluation Team must prepare a report which includes their cost (price) analysis for use by the Source Selection Evaluation Team in preparation of the Proposal Analysis Report and briefing to the Source Selection Authority.

XX. Design and Construction

A. Overview

The normal design-build project will progress similar to a "fast-track" design-bid-build project. The design activities and the construction efforts may occur sequentially or may be on-going simultaneously depending on the wording of the RFP and what may be allowed by the contracting officer during the "design" portion of the design-build contract. This provides a management challenge to the AF PM to keep all Government activities in line, to process requests for information rapidly and to respond to the design and construction materials submittals in an expedient manner so the project is not held up because of untimely Air Force actions. If the Government causes delays in the design, it may impact the construction schedule, resulting in extended overhead costs.

The AF PM must be adept at managing a design project as well as managing a construction project. The AF PM needs to allow the design-build contractor to progress

according to the contract schedule. The AF PM should ensure that timely design review and comments are provided to the design-build contractor; however, it is critical that proper design considerations are not overlooked. The AF PM should be cautious not to take an unnecessary amount of time reviewing designs such that it adversely impacts construction activities. There are, in fact, thousands of details that must be followed through the entire process, coordinated with the design-build contractor, the User and possibly the RFP Architect-Engineer. By staying on top of the details, the AF PM can enhance the probability of success. The overall objective is to provide a quality facility for the User, on time, and within budget.

This section is divided into three major parts: design, construction and warranty. Topics are addressed in sequence within each section; however, numerous activities in design and construction could occur simultaneously. It is important for the AF PM to understand the integration of design-build design and construction activities.

The checklist for design and construction is provided in the following table.

Design and Construction Checklist

Table 8-9

Action	OPR
1. Pre-performance conference (pre-design)	Air Force Project Manager
2. Design review	Air Force Project Manager
3. Requests for information	Air Force Project Manager
4. Cost savings	Air Force Project Manager
5. Project Meetings	Air Force Project Manager
6. Pre-construction conference	Air Force Project Manager
7. Notice to proceed	Contracting Officer
8. Inspection and Construction Surveillance	Air Force Project Manager
9. Construction modifications	Contracting Officer/ Air Force Project Manager
10. Operations, Maintenance and Training	Air Force Project Manager
11. Pre-final and Final inspections	Air Force Project Manager
12. DD Form 1354 Real Estate Record	Air Force Project Manager
13. Warranty	Air Force Project Manager

B. Pre-Performance Conference / Contract Notice-to-Proceed

This is the initial meeting between the Government's project team, its representative, the RFP Architect-Engineer, and the design-build contractor. The primary purpose is to discuss design requirements, the design schedule and resolve any design or possible construction issues that require additional clarification beyond the information provided in the RFP. Special emphasis should be placed on the process for the Design-Build Team to identify any suggested or recommended substitutions or deviations. In addition, the tone and direction for the rest of the design-build effort can be established.

It is critical that only the necessary people attend without including those that might attend only for curiosity or educational purposes. It is essential that the User be present to clarify any functional requirements. All Government participants should be cautioned that this conference is not the time to identify changes to the design, rather these should be discussed in a "Government-only" pre-meeting or post-meeting. A Government-only Meeting before the Pre-Performance Conference is especially important in a design-build project to ensure the User understands the limits of clarification to be discussed at the Pre-Performance Conference. This is not a typical design-bid-build Pre-Design Conference where new ideas can be addressed.

Since this is the first meeting of the Design-Build Team and the Government on a fast-track project, it may be necessary to discuss some of the issues typically held for the Pre-Construction Conference. Items such as permits, vehicle decals, safety, and field/site investigations may need to be addressed at the Pre-Performance Conference.

The submittal schedule and procedures should be reviewed to make sure all parties understand the exact dates and anticipated turn-around time frames. A review of the requests for information procedures and how suggestions for cost savings (pseudo value engineering) will be handled should also be discussed.

C. Design Review: Site Design
100% / Facility Design 50%

This is a critical design point. It is at this point in the process that the Government may allow the design-build contractor to start the construction of the facility once this design review is complete and this portion of the design is approved.

The AF PM and design review team must ensure the design is being accomplished according to the RFP and meets the needs of the User. Since the RFP was made part of the design-build contract document, the proposal and the RFP become a baseline for the design. The design review team then evaluates compliance and acceptability of submittals, as called for in the proposal and the RFP.

In general, functionality reviews are accomplished during the development of the RFP. Therefore this design review therefore should focus on compliance, deviations and substitutions as a result of changes the designer made from the narrative requirements in the proposal and the RFP. It is important to evaluate these changes and their impact on the operability, maintainability and functionality of the facility. For example, if the design-build Architect-Engineer changes the column size or column locations, it could impact the User's basic requirements for space.

Sometimes the design-build contractor will try to speed up the reviews or flood the Government with submittals. The AF PM can insist through the Contracting Officer that the Government review will be completed as specified in the contract before allowing the design-build contractor to proceed. However, in the spirit of partnering and getting the job done, the AF PM may agree to speed up the review process in whole or decide to allow interim or partial submittals to ease the review burden on existing staff/RFP Architect-Engineer.

The basic design actions required in a design-build project by the design-build contractor are not that much different than a design-bid-build project. The progress pace and level of detail however, are different. The Design-Build Team designing to a specific brand-name system may submit shop drawings for approval at the same time design specifications are submitted. One of the major pitfalls can be failure to keep pace with the progress of the design-build contractor's design activities. It is essential that the AF PM stay on top of the design process and ensure that design comments and approvals are returned to the designer according to the contract schedule.

The AF PM should be sure that the staff reviewing the design understands the local building codes, the design-build process, and the requirements of the RFP. The AF PM may want to use the RFP Architect-Engineer to support the design review process, especially in reviewing compliance with codes and performance requirements. In many cases Government designers may not be well versed in local building codes. The RFP Architect-Engineer should review the design for compliance with the RFP and local codes. However the design-build contractor is ultimately responsible for compliance with codes, regardless of who reviewed the design and whether it was reviewed or not.

The design submittal should be in compliance with the awarded proposal and the RFP. The RFP should specify the format, size, and scale of various design submittals. However, the design-build contractor may have various subcontractors developing design details and submitting them to the design-build designer for review before being submitted to the Air Force. Thus, there is a possibility that submittal formats and other required drawings could differ in scale, size and quality. The AF PM should not accept the submittal until RFP requirements are met or a reasonable credit has been received.

Normally, construction can begin once the design-build contractor has made all of the changes identified during the Government design review. However, the design-build contractor may be allowed to proceed with construction while clarification and administrative comments are being incorporated into the design. The revisions can be approved by partial re-submittals.

At this point, the management of the design-build project becomes more complicated as the AF PM must now manage the design effort, as well as manage a construction activity. If the 100% Site Design is approved by the Contracting Officer, A Notice to Proceed to begin Construction for site work up to foundation or finish floor may be provided. The Contractor then begins construction for cut/fill, underground utilities, pier drilling etc. This Notice to Proceed is not one which will define Contract Performance Time. The only official Notice to Proceed for the Contract is provided prior to any work (design or construction) on the project begins. This secondary Notice to Proceed is for site construction approval only.

The Air Force should not take longer than 14-21 days to provide review comments to the designer, but as a minimum should comply with the time stated in the RFP.

It is likely the design-build design team will want to submit interim and/or partial designs for approval, especially on long-lead item, such as HVAC, electrical, electronic or other special requirements. If the Air Force allows interim submittals, it is important that the design-build contractor and the AF PM have a good understanding of how design re-submittals, full and partial submittals will be handled. The AF PM should review the submittals as quickly as possible, but should not take longer than the review time identified in the RFP.

D. Requests for Information

Since the Design-Build Architect-Engineer and the Construction contractor are the same contractual entity, there should be significantly fewer requests for information than in a typical design-build project. However, the Architect-Engineer is likely to have some questions that need to be clarified in the RFP. In many cases, the RFP Architect-Engineer will have to provide the answers. It is important the AF PM respond to the design-build contractor with the answers in a timely manner to keep from adversely impacting the design and ultimately the completion of the facility.

During the design phase, the AF PM may want to hold information exchange meetings where the overall direction of the design can be verified and questions answered on the spot. Be sure to document these meetings with minutes of what was discussed.

E. Design Review: Facility Design 100%

The AF PM must assemble the Government design review team to review this final design submittal. Since the major functional decisions were made during the development of the RFP, the User's role in this design review will focus on compliance with the RFP and incorporation of previous design review comments. The resulting approved design becomes part of the design-build contract for construction. Again, this review must be accomplished as indicated in the contract to prevent the slowdown of construction. The use of the RFP Architect-Engineer for design review has been successful in many design-build projects.

Upon approval of the 100% Design Documents, a third Notice to Proceed should be issued to authorize the Design-Build contractor to construct the remaining portions of the facility. If the 100% design is not approved due to non-compliance with the contract, and must be re-submitted, the Contract performance time is not adjusted. The Design-Build Contractor must re-submit and still comply with the originally awarded Contract Completion time.

During the Design Review Conference, all final design decisions should be made to ensure the construction can continue as scheduled. The AF PM must ensure that all required design documentation such as CADD files, if required, are provided according to the RFP.

The original cost estimate should be updated at this time in support of historical data, tracking cost growth, and provision for validation of programmatic cost requirements (if deemed appropriate). Don't let the design-build designer/builder catch you in a corner by arguing that the mechanical room must be larger to accommodate the HVAC equipment the design-build contractor wants to buy. There should be a requirement in the RFP that states the mechanical room is to be sized to accommodate at least three different manufacturer's systems. However, if the Design-Build Contractor decides to purchase equipment that results in an increase in square footage, the acceptability and approval of any layout changes is at the Design-Build Contractor's expense. Any additional construction expense is the design-build contractor's responsibility.

The most successful Design Review Conferences are held at the Design-Build Contractor's primary design location. This provides for easy access to all designers and makes it easier and quicker to resolve questions and conflicts.

F. Cost Savings Proposals: Pseudo Value Engineering

Because of the "fast-track" nature of design-build projects, the normal Value Engineering (VE) process is not timely enough to use. However, it is in the best interest of the Government to use the VE concept. Early in the design process, a procedure should be established to allow the Design-Build Contractor to submit alternatives and substitutions that will reduce costs, improve the schedule or improve the quality of the facility. The Design-Build Contractor's inputs must be evaluated expeditiously by the AF PM and installation staff engineers. The savings can be identified and used to off-set future unforeseen adjustments or modifications.

The AF PM should establish a system to give a quick "yes" or "no" response to cost-saving items to avoid costly submittals with little merit.

G. Project Meetings

The most valuable asset the AF PM has in managing the design and construction efforts of a design-build project is a good system of open communications. One of the tools the AF PM should develop is a series of working meetings aimed at sharing information, projections, and problems with a focus on resolving the issues rapidly. The fast pace of a design-build project makes the decision element of each meeting critical. Problems cannot go unresolved without adversely impacting the schedule and possibly the overall cost of the project. Assuming the Air Force is the DA, typical meetings the AF PM should chair or participate in are:

- Weekly Coordination Meetings to track the design and construction efforts. (This may not be feasible if the design team is not located near the installation.) These should focus on solving problems, and making decisions within the authority of the AF PM. The following issues should be discussed: Request For Information; submittal logs; design status/schedule; construction status/schedule; current problems; modifications issues; cost saving (VE) issues; funding issues; and 30-day forecast.
- Monthly Project Management Team (PMT) Meetings to discuss the project status, funding issues, design and construction schedules, open modification actions, and RFIs, with their age, and issues that need to be resolved above the authority of the AF PM. This is normally an Air Force-only meeting. However, the Design-Build Contractor should be involved at the beginning of the meeting to foster a sense of partnering. The Design-Build Contractor should present a 30-day forecast and address issues concerning clarification of schedules or information from the Government.
- Quarterly Executive Review Group (ERG) Meetings to review the status of the project with key commanders and senior staff. The AF PM should advise them of items discussed in the monthly PMT meetings and the status. Most important is to get resolution on issues that can only be resolved by this group.

- Quarterly (or as required) Senior Executive Review (SERG) Group Meetings to advise the Wing Commander and MAJCOM senior staff on the status of the project. If problems exist that require their action, the AF PM should get a decision during the meeting. The AF PM should staff the issues and alternatives that are to be addressed to the Executive Review Group and the Senior Executive Review Group. This should be done early so proper decisions can be made at the meeting.

Basic approaches to design-bid-build and design-build, highlighting the responsibilities, similarities, and contrasts.

- Roles and responsibilities.
- Discussion of when to use design-build.
- Advantages of design-build.
- Design-build process flow.
- Selection of the RFP Architect-Engineer.

Subsequent sections outline the acquisition process for hiring a design-build team. The major steps in this process include:

- Project Definition and RFP Development.
- Source Selection.
- Design and Construction.

The technical portion of the RFP usually includes:

- Bid schedules.
- Submittal requirements.
- Evaluation criteria.
- Evaluation standards.

XXI. Construction for Design-Build

Most of the activities of this section will be on-going concurrently with those discussed in the previous (Design) section. As noted earlier, in most cases the construction effort will start once the government has reviewed and approved the interim design submittal that provides 100% of the site design and 50% of the facility design. It is, of course, important to have enough of the facility design completed to ensure the proper foundation structures are placed.

A. Pre-Construction Conference

See NAF Chapter 9.

This meeting is still important even though the D-B contractor is doing the design. This meeting will typically be held after the completion of the design review (100% site and 50% facility) meeting and before construction begins. It is important to establish local ground rules, especially those that are not specified in the contract document, such as current points of contact and revised local conditions. Other installation agencies involved in the construction and construction material and equipment movement should be involved, such as: other flights and sections of Civil Engineering, Safety, Security Police, Fire Department and Bioenvironmental. The AF PM should make sure all of the D-B contractor questions are answered. The goal of this meeting should be mutual understanding among the designer, builder and government. It is important that the rules, goals and expectations are known by everyone in order to minimize conflicts later.

B. Written Approval to Proceed

See NAF, Chapter 9.

The Notice To Proceed was issued at the Pre-Performance Conference. Now that the first design submittal has been approved and it is time to start construction, a written approval to proceed with on-site construction should be issued to the D-B contractor. The written approval should restrict the construction effort to only those portions of the design approved by the government thus keeping the construction activity from getting ahead of the approved design. In this case, additional written approvals to proceed will be required to allow the D-B contractor to continue construction beyond the limits established in the

previous written approval. Written approvals to proceed should be issued as soon as the design reviews are complete and approved by the government.

The construction and design submittals must be integrated at this point. The project is on fast-track already, therefore, if the AF PM allows interim submittals, they will add to the existing workload and submittals defined in the RFP. The AF PM should ensure that if interim submittals are allowed, the review actions will not impact the ability to respond in a timely manner.

C. Inspection and Construction Surveillance for Design-Build Projects

It may be advisable to have the RFP A-E review the progress of construction occasionally and prepare an evaluation of the quality of construction and compliance with the RFP and approved design. The continual involvement of the RFP A-E throughout the project cycle is usually beneficial to the government.

Construction inspection is the responsibility of the D-B contractor, as established in FAR 52.246-12. The AF PM, as the construction manager, should perform construction surveillance on the job site and at off-site material storage areas. The AF PM will likely have the Base Construction Management Section do the routine surveillance, but the AF PM should periodically visit the site.

D. Contract Modifications

See NAF, Chapter 9.

The AF PM needs to make sure any modification is not over-designed. Since the design and construction is being done by the same D-B contractor there are fewer checks and balances.

Since the design and construction is being accomplished by the same contract team, the need for modifications should be less than a typical Design-Bid-Build project. However, unforeseen conditions, weather delays, additions, or deletions can result in a need for modifications.

If a modification requires re-design or additional design, the RFP A-E may be utilized to prepare the statement of work and the government cost estimate. The D-B team prepares the design changes, cost estimates and accomplishes the modification. It is important to understand what impact a modification will have on the final design and completion of the facility. On a fast-track schedule, minor changes can have a larger impact down the road than on other projects. The total cost impact for both design and construction must be made clear up front. Total impact on cost and schedule must be settled for each modification. Do not postpone discussions on construction schedule impact.

The funding process for a modification is the same as a Design-Bid-Build project.

E. Operations, Maintenance and Training for Design-Build Projects

For government-owned utility plants, it is often prudent to contract out maintenance and repair of complex computerized control equipment.

As the facility construction is nearing completion, the AF PM should ensure that Operating and Maintenance (O&M) manuals, systems operating manuals, spare parts lists, as-builts and publications describing the equipment are obtained from the D-B contractor. All systems must be tested in accordance with the contract documents. It is typically in the best interests of the government for the O&M and/or fire protection personnel to be present during the various tests; they are the people that will become responsible for operating and maintaining the systems. Also, they are more likely to identify potential day-to-day problems than a systems engineer.

For complicated systems, it is highly desirable to video tape the contractor training session, so it can be viewed at a later date with new personnel.

F. Pre-Final and Final Inspections for Design-Build Projects

Keep the RFP A-E involved throughout the facility construction.

The final inspections are nearly the same for a D-B project as a Design-Bid-Build project. One of the differences is the D-B contractor cannot claim design deficiencies, since the D-B contractor was the designer and builder. The "punch list" should be prepared during the pre-final inspection and provided to the contractor so the items can be corrected before the final inspection. It is recommended that the RFP A-E be involved in the pre-final and final inspections.

Joint occupancy may be a necessary requirement. It can be advantageous, but it can also create new problems. See previous section on Joint Occupancy.

G. DD Form 1354/Beneficial
Occupancy

*The cost of design by the D-B
Contractor is to be included on
the DD Form 1354.*

Once the DD Form 1354, Transfer and Acceptance of Military Real Property, has been signed by the Base Civil Engineer, the government has officially accepted and can occupy the facility. If the Beneficial Occupancy Date (BOD) occurs before all of the work is accomplished by the D-B contractor, the AF PM should take extra care to be sure that nothing is done to invalidate the construction warranty.

XXII. Warranty

A. D-B Warranty

*Problems resulting from design
deficiencies that were not obvious
during design and construction
can be treated as latent
deficiencies at a later date.*

A D-B project should have less controversy than a Design-Bid-Build project. The D-B Warranty provides for a product that complies with the performance standards in the RFP. The A-E of Record, the D-B contractor, is held to a "Professional Standard of Care" in the design of the facility. The D-B contractor cannot claim design deficiency or any type of inadequate design. In addition, the D-B contractor is not just constructing a facility designed by an A-E, the D-B contractor is producing a product; therefore, product liability rather than A-E liability applies. This means the standards and expectations on the D-B contractor are tighter on a D-B project than on a Design-Bid-Build project.

In a D-B project, the entire facility is under warranty, not just various components of the facility.

B. Warranty Support for
Standard MILCON

When the Base Civil Engineer signs the DD Form 1354, the base officially accepts the facility and its construction and accepts responsibility for documenting and verifying all warranty items are annotated using the checklist in Engineering Technical Letter 88-2. Base Civil Engineering will advise the designated Contracting Officer when to have the contractor return and correct any work under warranty. The Base Civil Engineer must also ensure that the problems identified are warranty problems and not due to abuse or a lack of proper maintenance.

Chapter 9 – Non-Appropriated Fund (NAF) Projects

Contents	I. Introduction	3
	II. Project Planning	3
	A. Funding Approval	3
	B. Project Approval Authority Levels	4
	C. Project Validation	4
	D. Air Force Project Manager (AF PM)	5
	E. Environmental Assessments	5
	F. Requesting NAF Equipment Funds	5
	G. Design and Construction Management Options	5
	H. NAF A-E	5
	III. Project Execution	6
	A. Planning Instructions (Pis)	6
	B. Design Instructions (Dis)	6
	C. Funding Certification for Design	6
	D. HQ AFSVA Involvement	6
	E. Project Milestones	6
	F. Project Status Reports	6
	G. Statement of Work, Project Management Plan, and Requirements Document	7
	H. Design Charrettes	7
	I. Design Team	7
	J. Design Reviews and Meetings	7
	K. Design Review Comments	8
	L. Mandatory Coordination on Design Reviews	8
	M. Design Execution	8
	N. Certifying Availability of Construction Funds	8
	O. Authority to Advertise	8
	P. Authority to Award	8
	Q. Requesting NAF Equipment Funds	9
	IV. Project Management Guidance	9
	A. Companion APF Projects	9
	B. Funding Categories	9
	C. Reprogramming Funds Between Categories	9
	D. Payment of Invoices	10
	V. Project Changes	10
	A. Project Changes or Modifications	10
	B. Project Cost Increases	10
	C. Procedures for Requesting Approval for Scope/Cost Changes	10
	D. Processing Requests for Contingency Funds	11
	E. Contingency Funds Allocation and Reimbursement Procedures.	12
	F. Use of Residual Funds	12
	G. MAJCOM Approval Authority	12
	H. Air Force NAF Facilities Panel Approval Authority	13
	I. HQ USAF/ILV Approval Authority	13
	J. Project Funding Account	13
	VI. Supplemental Information	14
	A. Funding Sources for NAF Construction Projects	14
	B. NAF Design and Construction Program Responsibilities	14
	C. Funding Sources for NAF Maintenance and Repair Projects	15
	D. Critical Differences Between MILCON and NAF Construction: Funding Source.	16
	E. Important Terms for NAF Construction	16

Reference Documents

AFI 32-1022, Planning and Programming Non-Appropriated Fund Facility Projects

[AFI 32-1023, Design and Construction Standards and Execution of Facility Construction Projects](#)

Chapter 9 - Nonappropriated Fund (NAF) Projects

I. Introduction

This Chapter does not intend to be the definitive guide to Services/NAF projects. However, it does strive to give an overview of the process and relate it, where possible, to the MILCON process. Throughout the other Chapters of this Guide, when Services/NAF differences from MILCON are noted, the Air Force Project Manager (AF PM) should refer to this Chapter and the reference documents listed for particular NAF guidance.

The term Air Force Project Manager (AF PM) is used consistently throughout this Guide to refer to the Major Command (MAJCOM) level project manager responsibilities for MILCON projects. In this Chapter, it is assumed that the MAJCOM will provide similar project manager responsibilities for NAF projects, although this may be a base-level responsibility in some instances.

The design and construction process for projects funded with NAF involves procedures that differ significantly from projects accomplished with MILCON or O&M dollars. The majority of the differences relate to Secretary of the Air Force (SECAF) and Chief of Staff, United States Air Force (HQ USAF/CC) directed policies and procedures concerning oversight and control of the concept, scope, cost, and funding of each NAF project.

The Facilities Division at the Air Force Services Agency (HQ AFSVA) is tasked with responsibility for implementing these policies and procedures. Because of this tasking, many of the processes normally accomplished solely within the Civil Engineering community now require coordination and/or approval of the Services community.

The following pages outline the NAF design and construction process and provide guidelines for the AF-PM in executing NAF projects. Civil Engineering personnel working any aspects of a NAF project should read and become familiar with this Chapter. If questions arise or you need additional clarification for any area, contact the Air Force Services Agency, Facilities Division, HQ AFSVA/SVXF, DSN 487-2587.

It is important that the AF PM and the Base-level PM have a good understanding of the NAF programs and processes and get involved early in the project validation process.

II. Project Planning

A. Funding Approval

The Chief of Staff, Headquarters United States Air Force (HQ USAF/CC) approves funding for NAF projects based upon the recommendation of the Air Force MWR Advisory Board chaired by the Vice Chief of Staff, Headquarters United States Air Force (HQ USAF/CV). The Air Force Base Capital Improvement Fund (AFBCIF), maintained at HQ AFSVA, provides dollars for these projects. Funding approval covers all aspects of the project (design, construction, contingency, SIOH, project management fees, and furniture, fixtures, and equipment).

See [Appendix 52, NAF Facilities Program Project Approval Process](#).

B. Project Approval Authority Levels NAF project approval levels vary according to the class of work (maintenance, repair, and construction) and the funded cost of the project (construction, contingency, and SIOH). See Table 9-1 below.

Project Approval Authority Levels

Table 9-1

Class of Work	MAJCOM Approval	HQ USAF/ILEC Approval	SAF/MII Approval	Congressional Approval
O&M	Unlimited	NA	NA	NA
Repair (NAF)	Under \$500K	\$500K - under \$5M		\$5M or more NA
Repair (APF)	Under \$1M	\$1M - under \$5M	\$5M or more	NA
Construction (NAF)	Under \$500K	NA	\$500K or more	\$500K or more

For additional information see AFI 32-1022.

C. Project Validation

Validation of need is a critical facet in the approval process for NAF projects. Congress wants assurance that NAF dollars are spent for projects that satisfy a validated customer need and, in the case of revenue-producing activities, deliver at least a minimum level of financial return. This validation is done through a needs assessment study (NAS) done by an independent contractor for large projects and by the HQ AFSVA staff for smaller projects. This study assesses the market demand and determines the optimum scope, cost, and concept for each project. The costs (construction; contingency; supervision, inspection and overhead (SIOH); management fees; design; and non-real property installed equipment) will be identified and used to establish the project's budget.

The NAS is accomplished through site visits to the Base, mail surveys, and focus group participation. The first product of the NAS is the draft study that compiles the findings of the study, presents facility solution options, and makes a recommendation. This draft study is submitted for review and comment to Base and MAJCOM Services (SV) and Civil Engineering (CE). It is imperative that the Base and MAJCOM PMs review this draft study thoroughly to ensure its accuracy and to ensure that the NAS contractor has taken into consideration all requirements necessary for a good facility. The AF PM should also review all the costs needed to manage the project based on a plan for project management. The contractors are limited in time to conduct these studies, and it is possible that they may overlook certain requirements. An example would be the omission of existing utilities or utilities that have to be extended in support of the proposed facility.

Base and MAJCOM Services and Civil Engineering must complete their review of the draft study and return their comments for consideration and possible incorporation into the final NAS. Once the NAS is finalized and eventually approved, the approved recommendation of the NAS becomes the project requirement. The AF PM must understand that their input on the draft study is extremely important. If no input is provided, the implication is that the NAS draft study is correct.

Because of the Congressional focus on validated customer demand and financial viability, authority to change a NAF project is very limited at Base and MAJCOM level. AF PMs should obtain a copy of the NAS for their project so they know the criteria and costs upon which the project was approved.

- D. Air Force Project Manager (AF PM) Where the term AF PM is used in this chapter, it refers to the MAJCOM Civil Engineering project manager. If someone other than a MAJCOM Civil Engineering staff office edoes project management, the MAJCOM CE is responsible for ensuring a copy of this information is provided to that individual.
- E. Environmental Assessments AFBCIF funds can only be used for environmental assessments if the requirement is specifically identified in the NAS cost breakout. The funding breakout sent to the MAJCOM SV as part of the initial project notification package will list environmental funds as a line item under the design if such funds are approved.
- The Base is responsible for funding environmental assessments when funding is not provided as part of the approved project. AFBCIF funds are not authorized for environmental impact studies without prior coordination and approval from HQ AFSVA.
- F. NAF Equipment Funds Equipment funding for NAF projects is identified in the NAS. Depending on the type of project, this may be a lump sum dollar amount only or it could be a specific list of equipment items. Normally the equipment will be purchased separately by the Base Services Squadron using the Air Force Non-Appropriated Fund Purchasing Office or by the local NAF accounting office. Occasionally, however, equipment will be a part of the construction contract. AF PMs should clarify how the equipment will be provided during the design phase of the project.
- G. Design and Construction Management Options Delivery Methods (see Chapter 2 for Delivery Strategies, Methods, and Contract Types)
- Selection of Designer:
- See Chapter 2 on design by in-house staff or A-E contract
 - Determine who will have the roles of Design Agent (DA) and Contracting Officer (CO).
- Each NAF project must have a design cost estimate based on an approved Early Preliminary Design (35%) before HQ USAF/ILEC reports the project to OSD and Congress. The AF PM should establish a design schedule to ensure this milestone is met.
- Choose construction management options:
- Partnering
 - Determine who will have the roles of Construction Agent (CA), and Contracting Officer.
 - Determine if construction management will be in-house or by contract. (Note: If construction management is to be done by contract, this must have been identified during the NAS process.)
- The AF PM should record the above decisions in the Project Management Plan (PMP). Design features and costs should comprise the Requirements Document (RD). Together, these form the Requirements and Management Plan (RAMP).
- H. NAF A-E HQ AFSVA administers indefinite delivery/indefinite quantity contracts with A-E firms having varying degrees of experience and abilities but with a specialty in NAF project types.
- Use is optional.
 - AF PM responsibilities remain the same. Only difference – HQ AFSVA NAF Purchasing Office is the Contracting Officer.
 - Use of existing IDIQ contracts will save start-up time since A-E is on board. Award time involves negotiating a delivery order. It will also provide added flexibility to MAJCOM for execution.

III. Project Execution

- A. Planning Instructions (PIs) Planning Instructions are not issued for NAF projects. The AF PM should finalize the Project Management Plan.
- B. Design Instructions (DIs) Once the needs assessment study (NAS) is finalized and the Base, MAJCOM, and HQ AFSVA staffs concur on the scope, cost, and concept, HQ AFSVA notifies HQ USAF/ILEC. If the Base, MAJCOM, or AFSVA staff disagree with a study recommendation, the Air Force NAF Facilities Panel resolves the disagreements and recommends a final project scope, cost, and concept.
- HQ USAF/ILEC issues a Design Instruction (DI) authorizing the MAJCOM CE to start design after notification by HQ AFSVA.
- AF PM involvement in the project execution begins at this point. (Note: Some MAJCOMs may wish to have their PM involved in the NAS process to help them understand how the project scope and costs were derived and the intent of the NAS contractor recommendations concerning the facility. This has significant benefits during project execution. Where resources permit, MAJCOM PM participation is encouraged.)
- C. Funding Certification for Design HQ AFSVA notifies the MAJCOM SV when the design instruction is issued and certifies funds are available to design the project up to the percent specified in the certification memo.
- MAJCOM SV staff provides copies of the certification memo to the AF PM and Base SV and CE.
- D. HQ AFSVA Involvement HQ AFSVA oversees the design/construction process for NAF projects and controls the allocation of funds for both the funded and unfunded portions of the projects. HQ AFSVA assigns a project team consisting of an architect and a facility programmer to perform this function. The architect reviews all design submittals and must participate in the Predefinition Conference, as well as the 15% design, and the 35% design review meetings. The facility programmer works approval issues and controls allocation of dollars for both the funded and unfunded portions of the project.
- E. Project Milestones HQ AFSVA requests project milestones when they notify the MAJCOM SV the DI has been issued and design funds have been certified. Funds will not be released for initiation of a project without submittal of the milestones. The MAJCOM SV facility coordinator will work with the AF PM and the MAJCOM and Base staffs to develop the milestones schedule.
- F. Project Status Reports HQ AFSVA requires the Base SV facility coordinator provide a monthly status report on each NAF project at the Base (see RCS: HAF-SVX(M)9465). The first report is due starting the month after receipt of the DI. The report is due to HQ AFSVA/SVXF, via the MAJCOM SV facility coordinator, by the 10th working day of each month. Provide copies to the MAJCOM CE and SV. The BCE PM and the Base SV facilities coordinator should meet at the end of each month to update the information in the previous month's status report.
- The AF PM must ensure that the current project data is entered in PDC or ACES for all NAF repair or construction projects with a funded cost of \$500,000 or greater.

- G. Statement of Work, Project Management Plan, and Requirements Document
- The AF PM or designated Design Agent, will develop the design statement of work (SOW) and the Requirements Document (RD) that reflect the NAS cost, scope, and concept. Coordinate the SOW and RD with the MAJCOM CE and SV.
- The AF PM shall also develop a Project Management Plan (PMP) that outlines the requirements of the unique and relevant design and construction process discussed in this Chapter.
- The AF PM is responsible for ensuring the HQ AFSVA project team reviews and coordinates on the project SOW, RD, and PMP before these are finalized and implemented.
- A copy of the final SOW and RD are provided the HQ AFSVA project team for inclusion in the project file.
- H. Design Charrettes
- The preferred method of initiating design for NAF projects is through the design charrette process. This format is the most effective way to ensure everyone involved with the process understands the direction and parameters of the project from the outset. It also provides an environment where the key players can focus on the critical design issues early in design development.
- I. Design Team
- The design team should include not only the various civil engineering disciplines, but also the Base SV facility coordinator, activity manager, key employees, MAJCOM SV facility coordinator, and the appropriate member of the HQ AFSVA project team.
- J. Design Reviews and Meetings
- NAF projects following the standard MILCON design process (see Chapter 6) should have a Predefinition Conference and design review meetings or the charrette/Project Definition (15%), Early Preliminary Design (30%), Preliminary Design (60%), and Pre-Final Design (90%) design phase submittals. Design-build projects will require a review meeting at the Request for Proposal (RFP) package submittal phase.
- A HQ AFSVA representative must attend the Predefinition Conference, charrette/Project Definition (15%), and Early Preliminary Design (30%) review meetings. The AF PM must provide at least two weeks notice on the review meetings. Project documentation should be provided to AFSVA at least one week in advance of these meetings.
- A charrette lasting up to five days is required for projects valued at over \$500,000; the product of the charrette shall be equivalent to a Project Definition (15%) design effort. The need for the Preliminary Design (60%) design review shall be determined on a case-by-case basis by the MAJCOM PM and HQ AFSVA.
- When the design-build delivery method is used, a charrette/Project Definition (15%) submittal and design review meeting may still be required prior to award of the design-build contract. There are two ways to approach a design-build project:
1. A one-step design-build project involves the preparation of a Project Definition (15%) package. An approved Early Preliminary Design (35%) and performance specifications should be included in the RFP package.
 2. A two-phase design-build project only requires a narrative description of the project be provided for the initial RFP package. Design-build firms respond to the initial solicitation with information about their professional and business qualifications and a proposed project management plan, but provide no technical or cost proposals. The responding firms are short-listed based on qualifications similar to an A-E selection process. The second solicitation package includes a detailed narrative that identifies the project scope, requirements, and cost package and performance specifications. The top three to five short-listed firms are invited to submit technical and cost proposals. Design-build contracts generally are awarded through a negotiated process based on best value rather than lowest bid. (Note: In some instances, the Services community will already have a list of pre-qualified design-build

firms for specific types of projects. In this case, only the second part of the above process is required.)

The choice of which method is used should be a coordinated action involving key members of the design team. See Chapter 4 for additional information.

- K. Design Review Comments HQ AFSVA will provide design review comments at each phase of the project design. The A-E or AF PM must provide a response indicating proposed actions for all items noted in the comments. Comments indicating that the project design deviates from the approved scope, cost, or concept must be resolved before the project design process can proceed.
- L. Mandatory HQ AFSVA Coordination on Design Submittals HQ AFSVA/SVX must formally coordinate on the project design submittals at the Early Preliminary Design (30%) and the Pre-Final Design (90%) stages and will provide authority to continue the design process to the next level. Failure to adhere to this requirement may obligate the MAJCOM to pay for any redesign costs necessary to resolve problems identified in the comments. Consequently, it is critical for the AF PM to schedule a stopping point at these two milestones before a Notice to Proceed (NTP) is issued.
- M. Design Execution Project design is based on the validated NAS which includes the project cost, scope, and concept of the project.
- NAF projects must have a detailed cost estimate based on at least an approved Early Preliminary Design (35%) before HQ USAF/ILEC submits the projects in the annual NAF Report to Congress. The AF PM should establish the design schedule to ensure this milestone is met. However, a 35% design is the minimum target. The goal should be to have the design as close to 100% as possible when submitting the project for inclusion in the NAF Report to Congress.
- N. Certifying Availability of Construction Funds HQ AFSVA must certify the availability of construction funding prior to advertising a NAF project.
- As the project nears design completion and is ready to advertise, the AF PM, through the MAJCOM SV, requests HQ AFSVA to certify construction fund availability. HQ AFSVA provides funding certification to the MAJCOM SV, with copies to the AF PM and the Base SV.
- O. Authority to Advertise For Air Force-funded NAF projects with a cost of \$500,000 or higher, HQ USAF/ILEC provides authority to advertise. Upon MAJCOM request, HQ USAF/ILEC validates scope/cost approvals, coordinates with HQ AFSVA, and issues authority to advertise in a Design Instruction (DI) to the MAJCOM.
- Projects exceeding the approved scope or cost must have appropriate HQ AFSVA approvals for any project scope, cost, or concept changes prior to the release of advertising authority. See Section V for further information on approval of project changes.
- All cost increases and new project submittals require MAJCOM certified DD Forms 1391.
- P. Authority to Award HQ USAF/ILEC provides authority for contract award. The AF PM must provide HQ USAF/ILEC a copy of the bid extract for all bidders on the project, indicate which bid is being accepted and request authority to award. See [Appendix 53, Sample Bid Extract](#). If the total project cost (construction, contingencies, SIOH, design fees, and equipment) does not exceed the approved amount, HQ USAF/ILEC will issue a Design Instruction (DI) to the MAJCOM authorizing contract award.

If the total project costs exceed the approved amount, the AF PM must obtain cost variation approval from the appropriate authority prior to requesting authority to award from HQ USAF/ILEC. See Section V for further information.

The AF PM must provide notification of contract award to HQ USAF/ILEC (also forward a copy to HQ AFSVA/SVXF along with a copy of the bid extract for all bidders on the project.)

Q. Requesting NAF
Equipment Funds

Prior to obligation of NAF equipment funds, the Base must provide HQ AFSVA/SVXF, via their MAJCOM, an itemized listing of equipment items planned for purchase for the project. This must include the item name, quantity, unit cost, and total costs. The following items **are not** authorized for purchase using AFBCIF equipment funds:

- Real Property Installed Equipment (part of construction)
- Supply-type items
- Items authorized for purchase with appropriated funds (APFs)

After validating the equipment items are legitimate NAF project expenditures, HQ AFSVA/SVXF will allocate funds to the project's equipment account. See Equipment List [Appendix 54, Equipment List Sample](#).

IV. Project Management Guidance

A. Companion Appropriated
Fund (APF) Projects

Many NAF projects have companion APF projects. Execution of the NAF project is contingent on the Base funding the APF companion project; therefore, it is important to identify these requirements in the appropriate fiscal year.

NAF funds are not authorized to accomplish work where the APF account is the authorized fund source, so it is important to ensure that work classification is correct. In particular, communications, demolition, environmental, and utilities costs associated with a project (all APF items) need to be identified during the NAS where possible.

The AF PM also should ensure that the companion APFs have been included in the appropriate fiscal year budget.

B. Funding Categories

Project funding accounts are established in the NAF central banking system. Funds are divided into three categories:

- Design funds: Used for design services, site investigation, environmental assessments and Design Agent design management fees.
- Construction funds: Used for construction costs to include contingency, SIOH, and RPIE.
- Equipment funds: Furniture, fixtures, and equipment (non-RPIE).

The design funds account will be activated only when HQ AFSVA is notified that the Base has awarded an A-E contract. The AF PM must notify the MAJCOM SV, who notifies HQ AFSVA that the A-E contract has been awarded, provides the contract amount, and updates the project milestones. The account will be activated for the exact amount of the contract only. The same procedure will be used when the Base is ready to award the construction contract. See Part III Section Q for guidance on the purchase of equipment.

C. Reprogramming Funds
Between Categories

NAF policies do not allow the AF PM to move project funds between design, construction (including SIOH and contingency), or equipment categories.

The following rules apply to the use of project funds:

- HQ USAF/ILV approves all requests to reprogram funds between categories.
- SIOH and contingency funds will not be reprogrammed.

- Contingency funds cannot be used to permit award of design or construction contracts.

See HQ USAF/ILV 19 Dec 95 memorandum, *NAF Facilities Program Policies*, or contact HQ AFSVA/SVXF for further information.

D. Payment of Invoices Payment of invoices is done by the Base Services Resource Management Flight. Invoices are paid only after the AF PM or his local representative certifies the work described in the invoice is complete and correct. The Base pays the invoice from local funds and obtains reimbursement electronically from the AF NAF project account. Bases are not reimbursed for invoices that exceed funds available in the account. (See Part V below for guidance on approval and funding of project changes or modifications.)

V. Project Changes

A. Project Changes or Modifications Changes or modifications to NAF projects are very tightly controlled. Specific processes for obtaining approval to change or modify a project are outlined in the following sections.

In working project modifications, the AF PM needs to allow sufficient time for processing and staffing of the request.

Circumstances requiring changes to a project need to be addressed as soon as they are known and action requested as quickly as possible. Failure to act in a timely manner can lead to costly work stoppages.

B. Project Cost Increases The Vice Chief of Staff, Headquarters United States Air Force (HQ USAF/CV) has established strict rules for control of NAF project cost increases and scope changes. Cost increases are the responsibility of the Base or MAJCOM, and can be paid for by one of the following methods as long as the project increase is a correct use of NAFs and appropriate approval is obtained. (See Section C below).

- The Base may use local NAF funds.
- The MAJCOM may use command NAF funds.
- The MAJCOM/CC is authorized to move NAFs between bases within their command to pay project cost increases.
- The MAJCOM/CC or CV may request HQ USAF/CV approval for cancellation of the MAJCOM's lowest priority, Air Force-funded NAF project and apply those funds to the project cost increase. This process cannot involve projects at BRAC bases.

C. Procedures for Requesting Approval for Scope/Cost Changes The Air Force NAF Facilities Panel must review and revalidate projects that propose scope/concept or cost variances as outlined below. The Panel will provide a recommendation for HQ USAF/ILV action on variances exceeding these levels. See Appendices 55-58 for sample memoranda and attachments.

The Panel requires the following information to evaluate proposed scope/cost changes:

- A cost benefit analysis justifying the proposal as the most cost-effective alternative. This includes a new pro forma financial analysis with rate of return (ROR) and payback calculation for Category C activity projects involving a change in cost.
- An explanation of the reasons for deviating from the approved NAS scope or concept, if applicable.
- The proposed source of funds for any cost overage.
- If the cost increase is simply the result of a bid overage, provide an explanation of the cause for bid overages (including unit costs for recent contracts at the Base for similar type construction projects), a copy of the bid abstract, and the expiration date of the construction bid.

The NAF Facilities Panel meets via video teleconference every two weeks to address requests for changes to NAF projects. Although these requests are handled as expeditiously as possible, MAJCOMs should allow approximately three weeks to staff requests for presentation to the Panel. The most common problem with requests for Panel action is incomplete or inaccurate supporting documentation. Clarifying information is a time-consuming process that delays Panel action on projects. Lastly, do not hold requirements until the last minute and then send them to HQ AFSVA/SVXF with a requirement for immediate action because of pending bid expiration dates or contractor work stoppage. Such action does not improve the chances of requests being approved. Please give HQ AFSVA/SVXF as much advance notice as possible when either of these circumstances exist.

D. Processing Requests for Contingency Funds

Conditions Qualifying for Use of Contingency Funds for Contract Modifications/Change Orders: Contingency funds approved for NAF construction projects are authorized for use to address unforeseen site conditions, criteria changes generated by Air Force policy, or design errors/omissions discovered during the construction process. Contingency funds are not authorized to make user-requested changes. The following further defines these categories:

- Unforeseen Site Condition. Includes discovery of undocumented utility lines, differing soil conditions, buried debris, etc.. In the construction of new facilities, these conditions may occur during the site preparation phase but rarely occur after the foundation is complete. In renovations, these conditions can include such things as utility lines not shown on as-built drawings or hidden supporting structures that are in a different condition than expected. Environmental items such as unknown asbestos or contaminated soil may also be contingencies, but they should be handled with appropriated funds (APFs).
- Criteria Change. Includes modifications necessary for successful completion of the project that are the direct result of new or changed Air Force criteria after submittal of the Preliminary Design (60%) or after construction contract award.
- A-E Errors and Omissions. Includes items left off drawings and/or specifications (see AFI 32-1023 for additional information). These are further defined as follows:
 - Omissions are typically items left out of the contract documents that are necessary for the successful completion of the project. Omitting mirrors in the bathrooms is an example of a simple omission. Omitting a backflow preventer valve or fire dampers are examples of costly omissions. Without these items the project will not be complete. Had these items been in the drawings and specifications, the Contractor would have included them in his bid. Since the Contractor did not include the items in the bid, contingency funds are appropriate. The A-E has limited liability in these cases.
 - Errors can be more serious and may involve substantial liability. Installing undersized piping per the A-E's specification is an example of an A-E error. The Contractor is not at fault since he followed the A-E's design. Because of the mistake in design, the A-E is responsible for the remedial action cost to remove the undersized component and to replace it with the correct size component. However, the AF PM must work with the CA to ensure the cost of pursuing A-E liability does not exceed the amount the Government expects to recover.

HQ AFSVA/SVXF will allocate contingency funds for the remedial action, but the Base must pursue A-E liability to seek reimbursement. It is important to note that to do business with the Government, the contract between the Government and the A-E usually requires the A-E to carry Insurance for Errors and Omissions. The AF PM must recognize that no set of drawings is 100% complete and correct and that no construction project is without flaws. In these cases, contingency funds may be used to permit the timely continuation of

construction. However, it is important that base contracting pursue A-E liability where the problems are clearly the fault of the A-E.

User-requested changes include modifications that are desirable but are not necessary for a complete and usable facility. Examples include changing the specified wall, ceiling, or floor finishes from one material to another. Such changes are not contingencies and will not be funded with AFBCIF dollars. Base or MAJCOM funds may be used for these as long as appropriate approval is obtained and the project remains within Air Force financial parameters where they apply.

E. Contingency Funds Allocation and Reimbursement Procedures.

In order to avoid construction delays, HQ AFSVA/SVXF will allocate 25% or \$25,000, whichever is less, of the approved contingency funds at the same time construction funds are allocated. This contingency allocation may be used by the Base to make necessary changes that fall into the contingency categories described above. Additional funds are added to this contingency allocation (up to the total authorized contingency amount) as contract modifications are awarded. The following procedures apply:

When contingency funds are used, the Base SV submits a request to HQ AFSVA/SVXF, via the MAJCOM, asking that the contingency funds allocation be reimbursed by the amounts used. Unless the cost of the change is very large, MAJCOMs compile each base's requests and submit them monthly in a single package. HQ AFSVA/SVXF reviews the supporting documentation and allocates contingency funds for all valid modifications. HQ AFSVA will not reimburse for contingency funds used incorrectly. In order to validate the requests, the following supporting information is required with each action:

- The final negotiated amount of the change (not estimates) must include an itemized breakout of the work to be done.
- An explanation, in simple terms, of the problem and the cause (i.e., unforeseen site condition, A-E oversight, or criteria change) and why the change is a NAF versus APF responsibility.
- Describe actions taken to fix the problem. If there were several possible remedies, describe them and tell why the chosen alternative was selected.
- Describe what action is being taken to recoup payment from the A-E if the change is a result of design error/oversight on the part of the A-E.

F. Use of Residual Funds

Residual NAF funding (the difference between the construction contract and the approved construction funding amount) cannot be utilized for Base-requested modifications to the project. AFBCIF funding does not belong to the Base, and the Base does not have authority to spend residual funds on enhancements. Project funds can only be used for validated requirements as identified in the approved NAS.

In this same context, the Base cannot upgrade materials or implement design features that would be viewed as excessive (gold plating) for the function involved. The AF PM should contact HQ AFSVA/SVXF if there are questions concerning this subject.

G. MAJCOM Approval Authority

MAJCOMs are authorized to modify Air Force NAF-funded projects when all of the following conditions are met:

- Scope variation (increase or decrease) from the approved scope (including approved amendments) does not differ from the approved scope by more than 1%.
- The total project cost (construction, contingencies, SIOH, design fees, and equipment) increase does not exceed 10% of approved cost or \$50,000, whichever is greater.
- The MAJCOM and/or the Base fund the cost increase from their NAFs, and this action does not involve cancellation of another AFBCIF-funded project.
- Projects for Category C activities remain within acceptable financial parameters of 7% rate of return (ROR) and 20-year payback.
- Both the MAJCOM SV and CE approve this action.

H. Air Force NAF Facilities
Panel Approval Authority

The Air Force NAF Facilities Panel (the Panel) must act on modifications for Air Force NAF-funded projects that exceed MAJCOM approval authority levels:

- The AF PM submits modifications to the MAJCOM SV.
- The MAJCOM SV submits the proposed modification to HQ AFSVA.
- The MAJCOM must justify its request, provide a cost-benefit analysis, pro forma financial analysis (where appropriate), and identify the proposed method for payment of any additional costs.

The Panel has approval authority to modify NAF-funded projects under the following conditions:

- Neither the total project cost nor the project CWE exceed 125% of the approved amount.
- Scope variation (increase or decrease) does not differ from the approved scope by more than 10%.
- Projects for Category C activities have acceptable rate of return (ROR) and payback parameters.
- Project modifications that exceed these thresholds must be submitted to HQ USAF/ILV for approval or further action.

I. HQ USAF/ILV Approval
Authority

HQ USAF/ILV must act on modifications that exceed the Panel's approval authority levels. The Panel reviews such requests and forwards them to HQ USAF/ILV with a recommended action.

HQ USAF/ILV approves or recommends further action on Air Force NAF-funded projects under the following conditions:

- The total project cost (construction, contingencies, SIOH, design fees, and equipment) exceeds 125% of the approved cost, or the project CWE (construction, contingencies, and SIOH) exceeds 125% of the approved cost.
- The scope variation (increase or decrease) differs from the approved scope by more than 10%.
- The rate of return (ROR) and/or payback for a Category C project exceeds acceptable parameters.
- The project deviates from the approved concept.

HQ USAF/ILEC must re-report NAF-funded projects to Congress before a construction contract can be awarded under the following conditions:

- Total project cost exceeds 125% of the approved amount.
- Scope variations (increase or decrease) differ from the approved scope by more than 10%.

These conditions are also applicable if a consequence of construction changes or cost growth during construction.

J. Project Funding Account

HQ AFSVA establishes an automatic reimbursement account (ARA) and Air Force Base Capital Improvement Fund (AFBCIF) number for each centrally-funded NAF construction project. The AF PM should use the AFBCIF number on all correspondence pertaining to the project.

The ARA and AFBCIF numbers are established to administer funds used for the NAF project. Each Base is assigned an ARA that applies to all Air Force-funded NAF construction projects for that Base. The AFBCIF number is assigned to identify each specific project.

VI. Supplemental Information

The following information may be useful to the AF PM in understanding and coordinating projects funded with NAF dollars.

A. Funding Sources for NAF Construction Projects

Category A - Mission Sustaining Activities. Programs in this category have virtually no capacity for generating NAF revenues, since these programs are required to support the basic military mission and are funded with appropriated funds. Some examples include Fitness Center, Gymnasium, Library, and Community Activities Center. Both the construction and operation of these type activities are funded with APFs.

Category B - Basic Community Support Activities. These programs support the military mission by satisfying the basic physiological and psychological needs of military members and their families. They have a limited ability to generate NAF revenues. Examples are Youth Centers, Skills Centers, Swimming Pools, and Outdoor Recreation Programs. New construction for these facilities is done with NAFs, but these activities receive 50% of their operational funding from APFs.

Category B (special) – Some activities are classified as Category B, but have special conditions. Bowling Centers (12 lanes or less) receive APF operational and M&R support at the Category B level, but must be constructed with NAFs. Child Development Centers (and Youth Centers Overseas) receive operational support at the Category B level, but are constructed with APFs.

Category C - Revenue Generating Activities. These programs provide recreational and resale activities that benefit military morale. They have the greatest capability of generating NAF revenue and fund most of their expenses. Examples include Car Washes, Fast Food Restaurants, Skating Rinks, Officer and NCO Clubs, Bowling Centers, Golf Courses, and Marinas.

Lodging Fund – This program consists of Temporary Lodging Facilities (TLFs), and Visiting Quarters (VQs). See AFI 32-1022 for special funding considerations.

Other – AAFES Facilities, Banks, Credit Unions, etc. See AFI 32-1022 for special funding considerations.

B. NAF Design and Construction Program Responsibilities

HQ USAF/ILEC:

- Develops policy and oversees execution of NAF projects. Obtains waivers and exceptions to funds sources and space criteria, and obtains scope or cost variances beyond established limits.
- Prepares the Nonappropriated Fund Construction Report to the Congress and submits it through the Secretary of the Air Force and Office of the Secretary of Defense.

HQ USAF/ILV:

- Develops policy and fiscal oversight procedures for funding of NAF facilities.
- Approves program standards and directs implementation of NAF funding procedures and policies.
- Advocates resource allocation for the annual Air Force-wide NAF construction program.
- Provides oversight through trend analyses and policy revisions.

HQ AFSVA:

- Validates requirements submitted by the MAJCOMs and processes projects through the Air Force NAF Facilities Panel for review by the Air Force Morale, Welfare, and Recreation Advisory Board (AFMWRAB) and funding approval by the HQ USAF/CC.
- Oversees design of all Services' centrally-funded NAF projects to ensure compliance with validated scope, cost, and concept and manages/administers the Air Force Base Capital Improvement Fund and Air Force Lodging Fund.

Air Force Morale, Welfare, and Recreation Advisory Board (AFMWRAB):

- Establishes and controls Air Force NAF policies.
- Recommends Air Force NAF facility priorities and central funding of NAF construction projects for HQ USAF/CC approval.

C. Funding Sources for NAF Maintenance and Repair Projects

Table 9-2 below identifies the appropriate funding sources for various categories of NAF maintenance and repair projects.

Funding Sources for NAF Maintenance and Repair Projects

Table 9-2

Category	Non-R&I	R&I (1)
Buildings, Grounds, & Facility Systems (HVAC, etc.) All Categories Categories A and B Category C	APF (2) APF NAF	APF APF APF (3)
Addition, Rearrangement, or Removal of Non-Load Bearing Walls Category A Category B Category C	APF APF NAF	APF APF APF (3)
Correction of Life Safety Code Compliance Deficiencies. All Categories	APF	APF
Asbestos Removal, Lead Based Paint Removal, Seismic Upgrade. All Categories	APF	APF

Notes:

1. R&I stands for remote and isolated. Congress approved a list of remote and isolated locations which are authorized additional appropriated fund (APF) support for Category C facility maintenance and repair, utilities, certain environmental items, golf course grounds, custodial and janitorial service, and some equipment considerations. Generally, Category C facilities at remote and isolated locations are authorized Category B level of appropriated fund support. Major factors in obtaining remote and isolated status: Installation's financial capability, performance, and degree of MAJCOM support, in addition to (a) special security conditions; (b) significant currency fluctuation; (c) extreme climatic or environmental conditions; and (d) locations where the mission requires significant TDY personnel. The list of locations includes all of Spain, Turkey, Italy, Greece, Korea, Japan, and Guam, in addition to Eielson, Mt Home, Holloman, Lajes, and Grand Forks AFBs, and a few others.

2. Except golf course grounds maintenance, which is funded with NAF at non-R&I locations.
3. Functionally unique repairs in Category C facilities at remote and isolated locations are authorized appropriated funds support at the same level as in Category B facilities.
4. Critical Differences Between MILCON and NAF Construction: Funding Source.

D. Critical Differences
Between MILCON and NAF
Construction: Funding Source

The critical difference between MILCON and NAF Construction projects can be traced to the essential difference in the funding. MILCON funding comes from appropriated funds (tax dollars authorized and approved by Congress) for projects that directly support the mission of the Air Force. Services' NAF projects, on the other hand, are projects funded from fees and charges paid by Air Force members and their families who use Services and Exchange operations. Since Congress does not appropriate the funds, they are referred to as "nonappropriated funds." The facilities funded with NAFs provided critical morale, welfare, and recreation activities for Air Force personnel and their family members. Because of this essential difference, the design and construction process has special reporting and other accounting requirements that differ from the MILCON process. These differences are to ensure the funds generated by the Air Force members and their families are used wisely.

E. Important Terms for NAF
Construction

Important Terms for NAF Construction

Table 9-3

APF	Appropriated Funds
AFBCIF	Air Force Base Capital Improvement Fund
HQ AFSVA	HQ Air Force Services Agency
AFMWRAB	Air Force Morale, Welfare, and Recreation Advisory Board
MWR	Morale, Welfare, and Recreation
NAS	Needs Assessment Studies
ROR	Rate of Return

Appendices

Appendix 1 *RAMP Checklist*
Appendix 2 *Sample User Questionnaire*
Appendix 3 *Cost Control*
Appendix 4 *Title 10, U.S. Code 2807*
Appendix 5 *Project Management Plan*
Appendix 6 *DD Form 1391*
Appendix 7 *Section (Table) A-1: Construction Project Delivery Methods*
Appendix 8 *Section (Table) A-2: Contract Types*
Appendix 9 *Brooks Act*
Appendix 10 *A-E Selection Checklist*
Appendix 11 *A-E Selection Schedule*
Appendix 12 *A-E Selection Authority Letter*
Appendix 13 *Ozone Depleting Substances Statement*
Appendix 14 *Commitment of Funds Letter*
Appendix 15 *Commitment of Funds Message*
Appendix 16 *Purchase Request - AF Form 9*
Appendix 17 *CBD Synopsis*
Appendix 18 *FAR References to A-E Contracting*
Appendix 19 *Statement of Work*
Appendix 20 *Profit Calculation Worksheet*
Appendix 21 *Independent Government Estimate*
Appendix 22 *Board Appointment Letter*
Appendix 23 *SF 254 / SF 255 Log-In Sheet*
Appendix 24 *Weighting Factors*
Appendix 25 *Balloting Forms*
Appendix 26 *Letter of Short-Listed A-Es to Final Board*
Appendix 27 *Non-Select Letter*
Appendix 28 *Pre-Selection Board Minutes*
Appendix 29 *Short-Listed Notification Script*
Appendix 30 *Interview Worksheet*
Appendix 31 *Selection Board Minutes*
Appendix 32 *Selection Letter to Contracting*
Appendix 33 *USAF Design Awards Program*
Appendix 34 *Predefinition/Prenegotiations Conference Checklist*
Appendix 35 *Predefinition Conference Special Considerations*
Appendix 36 *A-E Proposal Technical Evaluation*
Appendix 37 *Project Definition Overview Matrix*
Appendix 38 *Project Definition Schedule*
Appendix 39 *Construction Surveillance Checklist*
Appendix 40 *AF and Constr Agent Change Requests Checklist*
Appendix 41 *Acceptance Checklist*
Appendix 42 *History of D-B and AF/CE Delegation Letter, Jan 95*
Appendix 43 *Industry Definitions of Design-Build*
Appendix 44 *Current Policies on D-B for State Construction*
Appendix 45 *Request for Design-Build Authority (Sample)*
Appendix 46 *Sample Goals and Objectives from HQ AFCEE Project*
Appendix 47 *Letter of Appointment to SSET (Sample)*
Appendix 48 *FAR 15.605(e)*
Appendix 49 *Source Selection Information Briefing Certificate (Sample)*
Appendix 50 *Sample Clarification Request*
Appendix 51 *Sample Deficiency Report*
Appendix 52 *NAF Facilities Program Project Approval Process*
Appendix 53 *Sample Bid Extract*
Appendix 54 *Equipment List Sample*
Appendix 55 *Sample Request for NAF Facilities Panel Action*
Appendix 56 *Sample Background Paper - Low Bid exceeds Available Funds*
Appendix 57 *Sample Request for NAF Facilities Panel Action*
Appendix 58 *Sample Background Paper*
Appendix 59 *Memo of Concurrence with A-E Negotiations*

Appendix 1: RAMP Checklist

- A. **PROJECT DESCRIPTION:** Provide a narrative description of the project
- B. **USER INFORMATION AND REQUIREMENTS:** User to develop a narrative describing the functions of personnel, equipment, and facility.
 - 1. Provide narrative of function(s)
 - 2. Provide narrative of requirements(s)
 - 3. Identify other than normal condition(s)
 - 4. Identify specialized equipment and its use
 - 5. Provide description of procedures
 - 6. Indicate number of personnel and duties
- C. **AREA DEVELOPMENT PLAN:** Describe where the site is located, how it is to be developed, and what special considerations need to be given to the treatment of the site.
 - 1. Provide all available siting information
 - 2. Include synopsis of Base Comprehensive Plan
 - 3. Summarize local/base restrictions
 - 4. If landscaping is required, provide listing of trees, shrubs, grasses, etc.
 - 5. Requirements for sprinkler system
- D. **INFRASTRUCTURE REQUIREMENTS:** Provide a listing and/or narrative describing known base systems and subsystems necessary to and/or providing support to the facility.
 - 1. Civil/Structural
 - a. Provide a site/topographical plan
 - b. Provide all known utilities information
 - c. Include all known soil conditions
 - d. Note any site drainage problems
 - e. Provide all paving requirements
 - f. List all special structural requirements
 - g. Provide communication requirements

2. Mechanical
 - a. Note Base system, including EMCS
 3. Plumbing
 - a. Describe any special conditions, such as waste disposal plants, pumping stations, underground systems, etc.
 4. Electrical
 - a. Summarize source, capacity, requirements, existing system, etc.
 5. Fire Protection
 - a. Summarize fire protection requirements
 6. Safety
 - a. Identify/list safety concerns/issues
 7. Communications
 - a. Address communications systems needed and available
- E. **ENVIRONMENTAL CONCERNS:** Environmental problems affecting the construction or creating any type of hazard should be described in this section.
1. Noise/Noise Abatement
 2. Asbestos Removal
 3. Endangered Species
 4. Hazardous Waste
 5. Construction Permits
 6. Floodplains/Wetlands
- F. **DESIGN GUIDELINES:** The parameters for the design effort are to be addressed in this section with detailed requirements spelled out under the subheadings listed below. Adequate information should be provided to ensure the designer has enough information to prepare valid submittals during design, bidding, and construction phases. The Base Comprehensive Plan and/or Architectural Guidelines are to be included as part of this information package.
1. General Design Considerations
 - a. Site
 - b. Landscaping
 - c. Architectural
 - d. Structural

- e. Mechanical
 - f. Plumbing
 - g. Electrical
 - h. Fire Protection
2. General Construction Considerations: This section provides the designer with the Base restrictions, availability of services to the Contractor, and other items to help develop a viable design effort.
- a. Information regarding borrow, fill, and disposal of trash
 - b. Base services available/unavailable
 - c. Procedures for power outages
3. Special construction considerations
- G. **DD1391/AF Form 1178A/B:** Provide copies of these documents.
- 1. DD1391
 - 2. AF Form 1178A/B
- H. **PROJECT MANAGEMENT PLAN:** AF-prepared, and includes:
- 1. Introduction and Purpose
 - 2. Strategy Decisions Checklist
 - 3. Design Budget Checklist
 - 4. Identification of the Project Management Team
- I. **APPENDICES:** Whatever else is needed to provide a more descriptive picture of the facility is put here.
- 1. Maps/Plats
 - 2. Sketches
 - 3. Photos
 - 4. Literature
 - 5. Plans
 - 6. Command Policy - such as carpet, furnishings, etc.
 - 7. Maintainability
 - 8. Glossary

Appendix 2: Sample User Questionnaire

DEPARTMENT: _____

INTERVIEW DATE: _____

NOTE: *PLEASE BE AS SPECIFIC AS POSSIBLE SO THAT EACH AREA CAN BE DESIGNED ACCORDING TO REQUIREMENTS.*

GENERAL

1. What is the mission or function of your department?

STAFF

2. Please provide a personnel breakdown of your department or group, by subgroups (as appropriate), their present personnel count. Specify job functions (Secretary, receptionists, supervisor, manager, etc.) per subgroup.

Subgroup	Number of Personnel
_____	_____
_____	_____
_____	_____

STORAGE

3. Describe your major storage requirements.

4. Do you anticipate a change in storage requirements?

A. If so, up or down? _____

B. Does your storage have to be close by? _____

EQUIPMENT

5. List any large equipment used by your department and corresponding space requirements. What increases or decreases in equipment requirements do you foresee?

6. What computer (data processing) hardware do you have now? (number of monitors, keyboards, printers, etc.) Please list sizes or equipment.

7. What increases or decreases in computer equipment do you foresee?

8. What large equipment requirements do you anticipate in the future? Include approximate space requirements.

9. Is there a copy machine in your department? _____
List size: _____

LOCATION

10. Is your assigned location in the new building appropriate for your needs?

11. Could parts of your department be located in separate areas of the building, e.g., storage, equipment, special use areas (not personnel).

12. If so, which sections could be located independently?

13. What other departments do you need to be near? For what functions or operations?

14. Does your department have any interaction with the public?

PRESENT SPACE

15. How well does each of the following meet the needs of your department?

A. Amount of present space:

B. Current arrangement:

C. Location:

16. What do you like about your present space?

17. What do you not like about your present space?

18. In regard to square footage, do you feel you have:

A. Enough.....

B. Not Enough....

C. Too Much.....

D. Project the growth requirement if any, in square feet: _____

19. How many private offices are required and for which job functions?

20. Does your department have any requirements for a conference room? If so, for how many people.

SIGNATURE

DATE OF APPROVAL

Appendix 3: Cost Control

BUDGETING

VALUE ENGINEERING (VE)

ESTIMATING

BUYING

PROGRESS ACCOUNTING

Introduction

To manage the Air Force's money, a project manager needs good judgment, advanced tools, and constant attention. It is usually your most valuable contribution to a project, and it's one of three key reasons (along with schedule and quality control) that any project manager is assigned or hired. Project management generally provides forecasting, effective reporting systems, and a means of control. Cost control has five equally important elements: budgeting, value engineering, estimating, buying, and progress accounting.

Budgeting

There are three critical rules for a budget. It's got to be right, what it covers has to be spelled out, and the categories (the elements of the work breakdown structure) must not change.

Accuracy

To make a budget accurate, you are depending on two processes around which any good pricing tool is built:

1. The historical process draws on a file of past projects. Whether done manually or with a computer, you can use the historical cost data, allow for inflation, and factor the historical prices from where they were built to some other location.
2. The analytical process allows you or a designer to hypothesize a building's geometry and systems, using standard space and equipment specifications. Then you can develop estimates as if design were complete.

Both the historical and analytical processes are inexact. Ultimately, anyone preparing a budget must make comparisons and judgments based on an understanding of the requirement. After that, it is a matter of living with that budget decision.

What Budget Covers

All parties involved with developing a project—users, Air Force and Design Agent project managers, designers, and management authorities in the budgeting process—must know exactly what the budget covers. What about equipment, shipping fees, furnishings, testing, inspection, operations, training, special utilities, demolition, parking, landscaping, etc? A project manager needs to spend time with the user to communicate budget, with all its parts exposed.

Consistent Budget Categories

You cannot control cost problems if you cannot locate them. You need budget categories to be able to review the budget at different stages in a project's development. Block 9 of DD Form 1391 reflects budget categories in summary fashion, although mostly for supporting facilities. The AF Form 1178, prepared after the requirement is fully developed, shows the budget categories in a more detailed manner. After the Air Force's Construction Cost Management System comes on-line, an AF Form 1178B will provide even more detailed budget categories for the primary facility, using the UNIFORMAT work breakdown structure of 14 building system categories. This format will constitute the cost plan against which all estimates produced during design development can be controlled.

Budgeting Tools

With the introduction of automated parametric cost models, project managers can take advantage of the most productive period for smart cost-benefit tradeoffs—during planning and programming. Two critical outputs of project planning needed for budgeting are the scope (size and type of space, and special requirements such as secure areas, clean rooms, hardening, etc.) and a site.

With facility requirements as a basis, an initial cost estimate (AF Form 1178) and facility description is prepared using these tools:

1. Manually - using the "Annual Construction Pricing Guide" (historical unit costs for 54 DOD-common primary facilities) or "Historical Air Force Facility Costs" (an additional 66 AF-unique facility types). Between these two documents, unit costs are available for over 200 different category codes.
2. Automatically - using the Air Force Automated Pricing Guide in PDC, with over 200 different category codes.
3. In the near future the Construction Cost Management System will be available for your use, providing even broader capability and at a more detailed level. Until the system is available, the other tools provide sufficient data to budget and provide summary control estimates for the majority of Air Force projects.

Value Engineering (VE)

VE, as the second significant element of cost control, is a systematic, independent challenge of project concepts, systems, and materials aimed at producing the greatest value for the least life-cycle cost.

All projects go through several stages of development, regardless of the delivery method or type of contract:

1. User requirements collected to produce a scope, a site, and a budget;
2. Schematic design in which basic building systems and geometry are established;
3. Preparation, in which documentation (drawings, specifications, general and supplementary conditions) for contractual and construction purposes is developed;
4. Quantity takeoff and cost estimate preparation;
5. Shop drawings, which show planned fabrication detail;
6. Construction, where field fabrication of all components come together to provide a complete and usable facility.

Although Value Engineering can occur at any point in the above stages of a project's development, the optimum time for most Air Force projects is after schematic design and before design development. Done at this time, VE yields greater savings and is less disruptive to the designer and the schedule. Anyone can take pot shots at final working drawings and specifications, so the VE team must apply knowledge and skill to help the designer find value and estimate a hypothetical design. For projects with complex requirements, a VE at the requirements development stage or before schematic design may yield even greater value for the investment.

Another good time for VE is after the construction contract is awarded—the proposals coming from the contractor, who has the best knowledge of the methods and means at that location to fabricate the facility. The savings from those accepted Value Engineering Change Proposals (VECPs) are shared. Similar to VE during design, VECPs need to be accepted early enough to incorporate savings without disrupting the schedule.

Estimating

Estimates are produced throughout a project's development, but their purpose varies from one stage to another. As already pointed out, estimates help establish the budget; during

design, they put price tags on alternative building systems; before construction, they predict the fair price for a bid; during construction, they help price change orders.

While estimates are essential information for predicting and tracking costs, your management is what controls costs and brings a project in on budget. Estimating is scientific, calculated with unit costs, inflation, and area cost factors, but with incomplete data. Bidding has emotional dimensions based on a contractor's motives and need for business, and his apprehension about the project itself. Data on emotions are incomplete and always will be. More specifically, a contractor's markup for overhead and profit may vary by several percent of the project's direct costs depending on how much they want the job and how accurately they understand the job. These variations occur through several layers of subcontractors and suppliers. What's more, estimates will vary for quantities, equipment, and labor because of the human factor, different ways of organizing work, and different assessments of the same risks. The construction of buildings is an extraordinarily complex process. A building is an assembly of thousands of parts, manufactured in hundreds of factories around the world and some on the site, using an assortment of skilled and unskilled workers in an unsheltered environment, under the watchful eye of dozens of approval agencies. This is hardly a predictable process, so bidding, risk assumption and management by contractors is an artful business. The best estimates, therefore, are the result of well-defined projects, adequate resources, experience, research, and luck.

Estimates during design, as pointed out before, put price tags on alternative building systems and materials—the objects of a designer's choice. Since at this stage the budget has been established based on the "should cost" relationships for various building systems and subsystems, the designer's estimate can be compared with the control estimate (cost plan) to find differences, correct errors, and make decisions. Your success as project manager during design hinges on your ability to get the appropriate decision power applied early to correct deviations from the cost plan. Before the President's Budget is prepared, the requiring MAJCOM can adjust the cost plan for requirement variations, but there is little excuse for system omissions or large quantity variations.

While estimates are essential information for predicting and tracking costs, your management is what controls costs and brings a project in on budget.

As project manager, your job is to focus management decision on those needed changes. After the President's Budget is prepared, your job will be to live with the cost plan, short of doing something monumentally dumb. One good way to track system cost deviations is to instruct the design agent or designer to provide cost estimates for primary facilities in the UNIFORMAT work breakdown structure (14 building system categories). At final design, the adjusted cost plan and preliminary design are the basis for comparison. You need to review the cost elements, in a top-down manner, to find areas of overruns or underruns. Again, user priorities, working through the MAJCOM, should drive the corrective actions necessary to live within the budget after the design provides alternatives using cost estimating relationships developed in the cost plan. For example, in a highly technical computer facility, window or exterior finishes could be reduced and traded for increased electrical subsystems, depending on user priorities. To summarize, the cost plan and estimates provide information that management can use to anticipate, plan, and direct projects rather than just react and correct.

Your success as project manager during design hinges on your ability to get the appropriate decision power applied early to correct deviations from the cost plan.

Buying

No service or commodity really ever has a fixed price. Think of any service or commodity you want. It will often vary as much as 20 percent within the same city on the same day. So you "shop around," and as long as you know what you want, you can find a low price. The same applies when you buy construction. There's always a price range, and the buyer (contracting agency) must be tough and analytical to find the best price. In buying construction, some cost-control feedback comes from estimating, but the best feedback comes from bids representing market value. This gives the buyer a baseline against which to measure "fair and reasonable". Contracting officers for government facility projects not only must make all reasonable efforts to buy within the established budget, but they have a commitment to the taxpayers (and for MILCON projects, to Congress) to not accept an unfair price out of expediency, even if that price is below budget.

Under the Competition in Contracting Act, procurement activities must ensure competition through various techniques: full and open competition with few exceptions, and ensuring that more than one manufacturer can meet a specification - just to mention two. The DoD procurement system is an open process (e.g., Commerce Business Daily synopsis), a fair process (e.g., competition with criteria), an accountable process (e.g., records open for public scrutiny), and is also used to promote certain economic and social goals. Within this system, there are four good buying procedures that you, as project manager, should be aware of that contribute to cost control.

Market Analysis

Knowledge of market conditions may guide:

1. The best time to advertise the project;
2. How contracts are packaged;
3. Pre-award and post-award assessments of the bidding climate;
4. Solicitation restrictions;
5. Structuring the work in the design so it's inviting to contractors.

ENR, formerly Engineering News Record, published weekly by McGraw-Hill, is an excellent reference for national and regional trends. Detailed local analyses, however, may cover:

1. How local industry wants to sell;
2. How the work is allocated; who does it most often;
3. Whether the local labor market is lean or fat;
4. How local jurisdictions or wage-rate (Davis-Bacon) determinations will affect contract packages and price changes;
5. When labor contracts come due;
6. And the bonding capacity of potential bidders.

Strategic Bid Packaging

How and when work is packaged and bought plays a major role in controlling costs.

Based on project urgency, ease in material or equipment definition, and equipment-facility compatibility, work may be packaged and procured early to achieve a greater degree of cost control.

1. For urgent projects, critical work activities first on a CPM schedule, can sometimes be separately packaged and bid first, especially if there is a good chance of beating a bad-weather period.
2. Items that are easy to specify and describe, such as carpet, may not be urgent, but can be easily bid early and provide more costing certainty to the overall project.
3. Equipment-facility compatibility is also a reason for an early bid. For instance, much of a computer facility, sewage treatment plant, blade-repair facility, or dining hall is built around process equipment. If the equipment is not bid before the facility is designed, the designer has two choices: to design around the equipment of one manufacturer and suffer the consequences of no competition, or to make the design so general, and therefore so expensive, that it will fit many brands. The obvious choice is to bid equipment first.

Where there's more than one facility in a project, there are two basic ways to contractually package. Some mixture of these arrangements will provide a cost-effective approach.

1. Divide each facility into a separate contract for a general contractor. The benefit is that one person can be held directly responsible for successful completion of that facility.
2. Divide all facilities into separate trade-responsibility packages where one contractor does all electrical work, another the structural, etc. For certain categories of facilities, it potentially reduces the total number of contractors on-site and gives each trade contractor increased purchasing power through volume discounts.

Descriptive Solicitation Synopsis

The most common method of advertising for contracted A-E services or construction is through the Commerce Business Daily (CBD). Although local trade journals are another advertising method, the CBD is a daily publication of the U.S. Department of Commerce useful to firms and the Government. Regardless of the method of advertisement, care in preparing the synopsis can prevent disputes and problems later on as well as ensuring that qualified firms respond to the notice.

One of the leading reasons that a contractor (whether A-E or construction contractor) responds to requests for which he is not qualified is his misunderstanding of the nature of the project. Your preparation of a descriptive CBD synopsis regarding the scope and nature of work gets the selection of the contractor properly started. Use the following checklist to provide the contracting officer with a good description:

1. Type of service, construction, equipment repair or facility O&M needed. (design, study, survey, reports, site development, construction inspection, expert/consultant, housekeeping etc.)
2. Project title that's descriptive;
3. Location. (classified or unclassified?)
4. Services to be included within each type.
5. Scope and work classification (repair, construction, addition, alteration, etc.) for each different type facility (admin, maintenance, etc.) in the project. Where multiple-category facilities are involved, use a general descriptor for each. Expand the description where special services or trades are needed. The key to a good description is to attract the particular disciplines or trades desired. By way of example on one project, the synopsis for engineering

design services on a power plant air pollution system was left without further expansion, and an electrical design firm was hired. Disputes and a delay to switch designers later arose because the Government agency wanted a detailed design of a very sophisticated analog and digital circuitry, and the engineering firm thought its responsibilities were to show schematic conduit and cable tray runs.

6. Final selection presentation required? If so, what?
7. Estimated design start (month/year) and completion.
8. Estimated range of construction contract value.
9. Special equipment (like CADD) required?
10. Consultants required for specialty work (security, fire protection, communication system, etc.)?
11. Point-of-Contact (name and phone) for answering questions of a technical nature.

Predefinition of Responsibility in Solicitation

Although there are different acquisition procedures, federal agencies normally require that an award of a contract be made to a "responsible" contractor whose bid is the lowest and responsive (refer to Section 3.2 Solicitation Phase). The determination of "responsibility", if left to vague interpretation, can get you an unqualified contractor and lead to project delays, increased costs, and default. If there are good reasons for using specific responsibility criteria, include them in the solicitation to avoid problems. Generally, a determination of responsibility includes an assessment of the contractor's technical, financial, management, and performance capabilities. If insufficient information is available to make a determination of responsibility, conduct a pre-award survey in accordance with FAR 9.106. The federal test for responsibility is that a prospective contractor:

1. Must have adequate financial resources to perform, or the ability to obtain them (checks: assets/liabilities, working capital, Dunn and Bradstreet reports, provision of performance and payment bonds).
2. Can meet the performance requirements, considering other business commitments (checks: failure to complete or comply on previous contracts, or where firm has same officers as a bankrupt predecessor firm).
3. Has a satisfactory record of performance on other contracts (same checks as above plus check Corps CCASS).
4. Has the necessary organization, experience, operational controls, and technical skills, or can obtain them (checks: actual commitment from suppliers, failure to correct previously-noted safety violations, incompleteness of general management in executing other contracts, lack of technical credentials for competent performance, or violation of federal criminal or labor laws, based on concept of integrity).
5. Has the necessary production, construction, and technical equipment and facilities, or can obtain them (same checks as above).
6. Is otherwise qualified to receive the award under applicable laws (e.g., small disadvantaged business).

Progress Accounting

The fifth important cost control element deals with keeping tabs as the project progresses. To get where you're going, you have to know where you are and how you got there. So good cost forecasting, like updating a current working estimate (CWE) during construction, involves knowing costs to date, project status, and history of changes so that a cost to finish can be communicated, compared with the budget and funds available, and make decisions on the overage or shortage. There are three basic reports that a Construction Agent should provide to show financial history, status, and progress for a project at summary and detail levels:

Cost Status Report

This financial status report compares the latest estimate to finish a project (CWE) with the budgeted amount (PA), funds authorized, or other limit, such as the Congressional reprogramming threshold. It also compares total financial exposure (CWE plus potential change and claims exposure) with threshold amounts. It's usually easy to document the original contract price and executed modifications, and any Agent will ensure that his fee (S&A or SIOH) is current. What's hard, and therefore where you need to focus your attention with the Construction Agent, is to put a price tag on pending and potential changes and claims without final decisions by the contracting officer. The best and most current information is at the job site, so use whatever technique works to ensure the data is accurate and up-to-date if you're dealing with an Agent's office above resident level. Not knowing the scope and cost of pending items has caused jobs to stop or needed work to be deleted because sufficient notice could not be given to the funding agency to give up additional funds. Cost status reports should be revised at least monthly or every time there's a change.

What's hard, and therefore where you need to focus your attention with the Construction Agent, is to put a price tag on pending and potential changes and claims without final decisions by the contracting officer.

You should be on top of two cost status items, update them in PDC, and be able to answer a fundamental question for each:

1. Current cash position. Are you currently funded to execute validated pending modifications? (If not, you may already be late).
2. Forecast to completion. Are you funded to execute validated pending modifications and finish the job within available contingencies and management reserves? (If yes, return the excess. If no, seek contingency replenishment on unplaced work by requesting additional funds).

Work in Place (WIP)

This payment status report shows value of work earned and the value projected (either by dollar value or by percentage of the total contract cost). It is commonly a graphical plot of the earned and projected values against time, and is an indicator of contractor's progress. It is customary to allow payment for off-site fabrications and for materials that have been invoiced and set aside in bonded storage. There are two noteworthy observations about WIP:

1. Since WIP is based on dollar-valued (not manhour-valued) activities, a contractor may be behind the completion schedule because he's not concentrating on critical activities.
2. If the "actual" exceeds the "projected" WIP, make sure the payment retainage or deficiency disallowance, stored materials and off-site fabrication allowance, and progress all make sense when considered

together. Remember that you're shifting leverage to the contractor as the job progresses, so you need to remain continually aware of the cost to remedy defective work and the potential defects in untested work.

Change and Claim Detail

Cost control requires that each change or claim be separately identifiable; otherwise control is lost. The detail for forecasting completion cost follows:

1. Summary of validated or confirmed changes organized by number (total, negotiated, canceled, and not-negotiated); those within 0-60 days and those over 60 days. You should be working hardest on the pending modifications, (validated changes not yet negotiated) holding up work or causing a work sequencing problem, and have a preliminary estimate of the non-negotiated (pending) changes.
2. Summary of changes by type and value for those issued and pending.
3. For changes pending, the resident should know the cost estimating status for each proposal and action needed for each, with suspenses assigned.
4. Potential or anticipated change requests must be scoped, validated, designed, and estimated before the contracting officer can negotiate. A pre-validation cost estimate, as part of scoping, should be used to develop total cost exposure.
5. To know the cost exposure for unresolved claims (which have the potential to become contract modifications), an Agent should provide the status detail of each claim (description, claimed amount and associated performance time, and number of days since received by contracting officer). You must stay on top of the Agent to ensure that claims under \$50K are resolved within 60 days, that meetings are held quickly so all parties understand the claim, that a Government negotiating position is established if the claim appears to have some merit, and to avoid "wrap arounds" (see Claims, Sect 4.2).

Appendix 4: Title 10 US Code 2807

Architectural and engineering services and construction design

(a) Within amounts appropriate for military construction and military family housing, the Secretary concerned may obtain architectural and engineering services and may carry out construction design in connection with military construction projects, family housing projects, and projects undertaken in connection with the authority provided under section 2854 of this title that are not otherwise authorized by law. Amounts available for such purposes may be used for construction management of projects that are funded by foreign governments directly or through international organizations and for which elements of the armed forces of the United States are the primary user.

(b) In the case of architectural and engineering services and construction design to be undertaken under subsection (a) for which the estimated cost exceeds \$300,000 the Secretary concerned shall notify the appropriate committees of Congress of the scope of the proposed project and the estimated cost of such services not less than 21 days before the initial obligation of funds for such services.

(c) If the Secretary concerned determines that the amount authorized for activities under subsection (a) in any fiscal year must be increased the Secretary may proceed with activities at such higher level (1) after submitting a report in writing to the appropriate committees of Congress on such increase, including a statement of the reasons for the increase and a statement of the source of funds to be used for the increase, and (2) after a period of 21 days has elapsed from the date of receipt of the report.

(d) For study, planning, design, architectural, and engineering services related to military construction and family housing projects, the Secretaries of the military departments may incur obligations for contracts or portions of contracts using military construction and family housing appropriations from different fiscal years to the extent that those appropriations are available for obligation.

(As amended Pub.L. 98-115, Title VIII, § 804, Oct. 11, 1983, 97 Stat. 785; Pub.L. 99-661, Div. B, Title VII, §§ 2702(b), 2712(a), Nov. 14, 1986, 100 Stat. 4040, 4041; Pub.L. 102-190, Div. B, Title XXVIII, § 2870(6), Dec. 5, 1991, 105 Stat. 1563.)

Appendix 5: Project Management Plan (Example)

MAJCOM NAME

PROJECT MANAGEMENT PLAN

PROJECT TITLE

PROJECT BASE, STATE

MAJCOM

DATE: *23-Jun-00*

Contents

SECTION

1. INTRODUCTION

2. ORGANIZATIONAL ROLES & RESPONSIBILITIES

3. DESIGN MANAGEMENT

4. CONSTRUCTION MANAGEMENT

5. STRATEGIC DECISIONS

ATTACHMENT 1: PROJECT KEY PERSONNEL

ATTACHMENT 2: PROJECT SCHEDULE

ATTACHMENT 3: COMMENT RESOLUTION

ATTACHMENT 4: PARTNERING

1.0 INTRODUCTION

1.1 DESIGN

1.1.1 *{MAJCOM}* is the Design Manager (DM) and *{Enter Design Agent's Agency}* is the Design Agent (DA) for this project. *{Contracting Squadron (XXX CONS)}* is the Contracting Office supporting the design effort. *{XXX Civil Engineering Squadron (XXX CES)}* represents the ultimate customers.

1.1.2 *{Project Title}* is designed by *{an Architect-Engineer (A-E), in-house personnel, the Construction Contractor}* using *{design-bid-build, design-build, turn-key}* acquisition strategy. Project scope is *{use scope used in DD Form 139I}* with a programmed amount of *{\$@@@}* and a construction cost limitation of *{%%}%*.

1.1.3 Attachment 2 contains design milestones established to meet Air Force goals.

1.2 CONSTRUCTION

1.2.1 *{MAJCOM}* is the Construction Manager (CM) and *{XXX CES}* is the Construction Agent (CA). *{XXX CONS}* is the Contracting Office supporting the construction effort. *{XXX CES continues to represent ZZZ AFB, XX}*. The project *{will/will not}* be considered for partnering during construction. *{Attachment 4 contains a description of the partnering philosophy and a partnering agreement.}* The estimated construction period is *{###}* days.

1.2.2 Attachment 2 contains construction milestones established to meet Air Force goals.

2.0 ORGANIZATIONAL ROLES & RESPONSIBILITIES

2.1 HEADQUARTERS AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE (HQ AFCEE)

2.1.1 HQ AFCEE is a Field Operating Agency for the Civil Engineer of the Air Force (USAF/CE). *{MAJCOM}* has appointed HQ AFCEE as the DA/CA with the Design Instruction provided under Attachment 5. HQ AFCEE as the DA/CA is responsible for overall project execution during the design/*construction* phase/s of project delivery and will serve as the technical representative of the Contracting Officer (CO) during this/*these* phase(s).

2.1.2 During the design phase, the AF PM, *{prepares the technical turn-key documents, performs A-E selection, obtains approval of A-E selection in accordance with USAF/CE letter of 7 December 1994 regarding approval of A-E Selection Authority, develops the A-E Statement of Work and supporting Government fee estimates, assists the CO in negotiating the A-E's contract, defines the project schedule, insures that all official changes in scope, schedule, or cost to the A-E contract are properly approved by the DM and transmits to the CO, initiates request to DM for 2807 notification (if appropriate), initiates request to DM for design-build strategy approval (if appropriate)}* participates in all project decisions and review conferences, updates design schedule and reports status to DM, and assists in resolving any conflicts which develop among the design team members. The AF PM also collects and/or develops Geotechnical, Topographic, and Hazardous Material Survey (for Asbestos and Lead-based paint) as well as the Residential Energy Evaluation Manual (REEM) if such documentation is not developed under an A-E contract or is not readily available at the base.

2.1.3 *{During the construction phase the CA performs construction surveillance and technical construction management (reviews submittals and substitutions, observes testing, maintains records and files, maintains progress charts and reviews payment requests, prepares construction deficiency lists, etc.), reports construction progress to {MAJCOM}, CO, and base personnel, participates in all project decisions and conferences, and assists in resolving any conflicts which develop among the construction team members, participates in pre-final and final inspections, and acceptance and transfer of facilities.}*

2.2 HEADQUARTERS HOST COMMAND *{MAJCOM}*

2.2.1 *{MAJCOM}* is the host command and is the DM/CM of this project. The DM/CM authorizes project scope and cost, provides design and construction funding to the DA/CA, provides functional direction to the DA/CA, transmits Design Instructions to the DA/CA, *{ participates in A-E selection,}* processes review comments as defined in Attachment 3, approves all strategic decisions, *{ obtains waivers to USAF/CE policy, requests 2807 notification action from USAF/CE (if appropriate), obtains design-build strategy approval from USAF/CE (if appropriate), obtains {MAJCOM}/CE approval of A-E selection slates,}* approves all Air Force changes to scope, schedule, or cost and submit to the DA/CA, reports design and construction progress, and obtains authority to advertise and authority to award.

2.3 ### CIVIL ENGINEER SQUADRON, ZZZ AFB, XX (BCE)

Note: The Base Project Manager (BPM) may assume the role of the AF PM.

2.3.1 The BCE is responsible for management and maintenance of the completed facilities. As user, the BCE establishes all functional and technical requirements for the project. The BCE will designate personnel to participate in the design and construction phases as Base Project Manager (BPM). The BPM *{participates in A-E selection and negotiation,}* arranges facilities for and participates in design/construction conferences, coordinates base personnel input for conferences, provides specific design input, local design criteria, and local support data (existing utility plans, topographic and geotechnical data, asbestos/lead based paint surveys, local environmental policies, etc.), identifies any phasing requirements, prepares any base initiated contract change requests, coordinates change requests at base level, obtains *{MAJCOM}* DM approval for change requests, ensures base personnel review

design submittals from the standpoint of maintainability and constructability, and processes review comments as defined in Attachment 3. Additional BCE responsibilities include:

- Siting and preparation of the Environmental Assessment (EA). Instructing contractors on procedures for obtaining environmental permits as required
- Planning and coordinating host base infrastructure and design criteria required (i.e., communications, security, fire protection, etc.)
- Developing list of Government Furnished Equipment for government and/or contractor installation
- Developing list of units to be demolished, if required
- Process local funds requests and deliver contracting package to the construction contracting office.

2.3.2 *{During the construction phase, BCE, as the CA, performs construction surveillance and technical construction management (reviews submittals and substitutions, observes testing, maintains records and files, maintains progress charts and reviews payment requests, prepares construction deficiency lists, etc.), observes and reports construction progress to {MAJCOM}, CO, and base personnel, participates in all project decisions and conferences, and assists in resolving any conflicts which develop among the construction team members, participates in pre-final and final inspections, and acceptance and transfer of facilities.}*

OR

2.3.2 *{During the construction phase, BCE coordinates base support for CA and the construction Contractor (i.e. utility staking, source of construction utilities, base digging permits, location of Contractor staging areas, etc.), requests and documents Air Force changes, submits Air Force changes to CM for approval, reports construction status to Base upper management, participates in all project decisions and conferences, and assists in resolving any conflicts which develop among the construction team members, participates in pre-final and final inspections, and acceptance and transfer of facilities.}*

2.4 CONTRACTING OF A-E DESIGN SERVICES

2.4.1 *{### CONS}* is the contracting office for all required A-E design services

2.4.2 The CO is responsible for all A-E contracting actions associated with this project. All communications with the A-E are through the CO or his designated representative. Minimum responsibilities include, but are not limited to:

- A-E design contract administration
- Design funds reporting and accountability
- A-E liability determinations
- A-E payments

2.5 CONTRACTING OF CONSTRUCTION SERVICES

2.5.1 *{### CONS/LGxx}* is the construction contracting office.

2.5.2 The CO is responsible for all construction contracting actions associated with this project. All communications with the construction contractor are through the CO or his designated representative. Minimum responsibilities include, but are not limited to:

- Approval of all submittals
- Construction contract administration
- Change order processing and execution
- Contract claims resolution
- Construction funds reporting and accountability
- Contractor payments
- Facility acceptance and turn-over
- Enforcement of all warranties and guarantees

2.6 ARCHITECT-ENGINEER (A-E)

{Name}, *{Location XX}* is the A-E *{of record}* of this project. The A-E provides a complete a design and technical advice as specified in the Statement of Work (Attachment 7) and contract documents. The DD Form 1391 (Attachment 6) provides a description of the project. Design submittals are required. Review comments, generated in response to each submittal, are formally resolved at conferences held at *{Base}*. Attachment 3 contains comment resolution procedures.

2.7 KEY PERSONNEL

Attachment 1 provides a list of key personnel associated with this project.

3.0 DESIGN MANAGEMENT

3.1 DESIGN MANAGEMENT TEAM (DMT)

3.1.1 The DMT is a working level group providing the first level of management to solve problems throughout the project design. Responsible for the overall project management, the DMT reviews progress in executing the design and acquisition program. They identify potential problem areas, determine actions required to resolve these problems, and assign responsibility for implementing decisions. DMT is composed, as a minimum, of the following members, but can be added to in order to meet special requirements:

- Design Manager (DM) (Co-Chairperson) (MAJCOM)
- Design Agent (DA) (Co-Chairperson)
- Contracting Officer (CO)
- Base Project Manager (BPM)
- *{A-E Project Manager}*
- Others as Appropriate

3.1.2 As a minimum, this group meets at designated design milestones to review and discuss the design documents and resolve any issues. The DMT will meet the design schedule developed in Attachment 2. The DM works directly with the BPM on clarification of criteria as it affects the project site, facilities, and equipment.

3.2 CHARRETTES

3.2.1 Charrettes are intensive, on-site interviews and meetings between the A-E, users, interested base offices, the Base Civil Engineer staff, and the DMT. The interested base offices should include the Security Police, Fire Department, Base Communications, and Base Environmental Engineering as a minimum. The purpose of the Charrette is fully validating, developing, and quantifying user requirements and developing consensus on design parameters/requirements and solutions for the project. *{At the conclusion of the Charrette, the A-E produces hand sketches depicting his proposed design solution. Typical information includes site plan if required, floor plans, and elevations of facilities as well as a cost estimate. The A-E holds an outbriefing to present his interpretation of the project, and solicit any last minute changes or recommendation before proceeding with the next stage of design. The briefing is normally given to the Wing or Base Commander, and on approval from that person, no significant changes to the design are made without concurrence of that approving official. The initial site visit of a turn-key projects project is a requirements Charrette. No design Charrette is held.}*

3.3 DESIGN SUBMITTALS

The designer provides the following submittals:

<u>SUBMITTAL</u>	<u>AF PM</u>	<u>DISTRIBUTION</u>		
		<u>{MAJCOM}</u>	<u>CO</u>	<u>BCE</u>
Charrette (if used)	3	2	1	8
<i>{50% design}</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>8</i>
90% design	3	2	1	8
100% design	3	2	1	8

{Supporting A-E design efforts provide the following submittals:

<u>SUBMITTAL</u>	<u>AF PM</u>	<u>DISTRIBUTION</u>	
		<u>MAJCOM</u>	<u>BPM</u>
90% design	2	2	2
100% design	2	2	2

3.4 CONTRACT CHANGES

3.4.1 Changes in A-E contracts: The CO is the only individual who can change the A-E contract. Changes to the contract include any item that will alter the existing contractual provisions, i.e. scope, schedule, or cost.

3.4.2 Change requests: Requests for changes to any A-E contract must be routed from the requesters to the BPM. The BPM reviews and coordinates the request on the base and forwards to the *{MAJCOM}* DM for approval. The DM approves the request and forwards to the AF PM. The DA prepares any necessary documentation and Government cost estimate and forwards the request to the CO for action to modify the contract.

4.0 CONSTRUCTION MANAGEMENT

4.1 CONSTRUCTION MANAGEMENT TEAM

4.1.1 The Construction Management Team (CMT) functions as the primary managers and points of contact for construction management of this project. The CMT is a joint construction review organization with the primary responsibility to integrate day-to-day activities of all organizations and agencies involved with the management and construction of this project. The CMT reviews the status of and addresses unresolved problems, identifies potential problem areas, and assigns responsibility for implementing CMT decisions. This group meets only during the construction phase. The CMT uses an informal agenda covering such items as contract status, status of changes/modifications, claims, status of contract request for information, status of funds and funds requests, review of critical start dates from the early and late finish schedule, user need dates, and equipment deliveries, review of upcoming construction activities, project safety concerns, phasing conflicts and proposed solutions, maintenance training, and other items of interest. The CA provides and distributes meeting minutes to the CMT members. The CA maintains a numerical listing of all action items, OPR, and their status. The CMT is composed, as a minimum, of the following members, but can be added to in order to meet special requirements:

- Construction Manager (CM) (Co-Chairperson)
- Construction Agent (CA) (Co-Chairperson)
- Contracting Officer
- Base Civil Engineer Project Manager
- *{Contractor}*

4.2 CONSTRUCTION CHANGES

4.2.1 Changes to the construction contract must be held to an absolute minimum to comply with Congressional budget guidance, maximize cost effectiveness, and achieve on-time, within budget construction delivery. The CO is the only individual who can make changes in the construction contract. Changes to the contract include any item that will alter the existing contractual provisions, i.e. scope, schedule, or cost.

4.2.2 Change requests: Requests for changes to the construction contract must be routed from the requesters to the BPM to the CA. The BPM reviews and coordinates the request on the base and forwards to the *{MAJCOM}* CM for approval. The CM approves the request and *{returns to the CA}*. The CA prepares any necessary documentation and Government cost estimate and forwards the request to the CO, who processes the change request according to the contract.

4.3 CLAIMS PROCEDURES

4.3.1 The CA informs the CM immediately of all contractor claims and briefs the status of existing claims. The CA assists the CO in accessing the merit of a Contractor's claim.

4.3.2 Upon determination by the CO that a Contractor's claim has merit, in whole or in part, the CA prepares a Government estimate and forwards it, with rationale for merit, to the CM for funding guidance. Standard procedures for estimating and negotiating are followed to assure timely execution of a completed contract modification to resolve the claim.

4.4 CONSTRUCTION DOCUMENTATION

The CA reports the progress and status of construction activities as determined by the CMT and provides the required reports to the CM and BPM on a regular basis. As a minimum, these reports include:

- Construction Progress Status Report from Network Analysis System Schedules.
- Executed modification reports within the 30 day report period.

- Pending modification reports within the 30 day report period.
- Copy of all unpriced RFPs prior to negotiation with the contractor.
- Claims Status Report
- Final Status Report

Attachment 1
PROJECT KEY PERSONNEL

<p><u>DESIGN/CONSTRUCTION MANAGER</u></p> <p>_____ HQ ???/CEH 1234 SOME STREET LMNOP AFB QR 987654-3210</p> <p>VOICE PH: DSN _____ FAX PH: DSN _____ COMM PREFIX: _____</p>	<p><u>DESIGN/CONSTRUCTION AGENT</u></p> <p>_____ HQ ???/CEH 1234 SOME STREET LMNOP AFB QR 987654-3210</p> <p>VOICE PH: DSN _____ FAX PH: DSN _____ COMM PREFIX: _____</p>
<p><u>DESIGN CONTRACTING OFFICER</u></p> <p>_____ ### CONS 1234 SOME STREET ZZZ AFB XX 987654-3210</p> <p>VOICE PH: DSN _____ FAX PH: DSN _____ COMM PREFIX: _____</p>	<p><u>BASE CIVIL ENGINEER PROJECT MGR</u></p> <p>_____ ### CES/CEC 1234 SOME STREET ZZZ AFB XX 987654-3210</p> <p>VOICE PH: DSN _____ FAX PH: DSN _____ COMM PREFIX: _____</p>
<p><u>CONSTRUCTION CONTRACTING OFFICER</u></p> <p>_____ ### CONS/ 1234 SOME STREET LMNOP AFB QR 987654-3210</p> <p>VOICE PH: DSN _____ FAX PH: DSN _____ COMM PREFIX: _____</p>	<p><u>HOUSING OFFICER</u></p> <p>_____ ### CES/CEH 1234 SOME STREET ZZZ AFB XX 987654-3210</p> <p>VOICE PH: DSN _____ FAX PH: DSN _____ COMM PREFIX: _____</p>
<p><u>BASE CIVIL ENGINEER</u></p> <p>_____ ### CES/CC 1234 SOME STREET ZZZ AFB XX 987654-3210</p> <p>VOICE PH: DSN _____ FAX PH: DSN _____ COMM PREFIX: _____</p>	
<p><u>ARCHITECTURAL FIRM</u></p> <p>_____ JOE'S A-E FIRM 1234 SOME STREET SOME CITY, ST 987654-3210</p> <p>VOICE PH: _____ FAX PH: _____</p>	<p><u>CONSTRUCTION CONTRACTOR</u></p> <p>_____ SAM'S CONSTRUCTION 1234 SOME STREET SOME CITY, ST 987654-3210</p> <p>VOICE PH: _____ FAX PH: _____</p>

Attachment 2
PROJECT SCHEDULE

Monthly MAJCOM Update AS OF:				
LOCATION:		DAPM:		
PROJECT TITLE:		DMPM:		
PDC No:		BPM:		
FY:		CONTRACT TYPE:		
PA/CWE: \$		CONTR'G OFFICE-DESIGN:		
SCOPE:		CONTRACTING BUYER:		
FUND SOURCE:		A-E FIRM:		
DESIGN COST: \$		CONTR'G OFFICE-CONSTR:		
% DESIGN COMPLETE:				
% CONSTR COMPLETE:				
MILESTONES	SCHEDULE	REVISED	ACTUAL	COMMENTS
PRE DESIGN				
DI ISSUED				
CBD ISSUED				
CRITERIA RECV'D				
AE PRE-SELECT				
AE FINAL SELECT				
CRC				
AE AWARD				
DESIGN				
DESIGN START				
CONCEPT SUB				
CONCEPT APPR				
50% SUBMITTAL				
50% APPROVED				
90% SUBMITTAL				
90% APPROVED				
100% SUBMITTAL				
SOLICITATION				
AUTH TO ADVER				
CBD ISSUE				
ISSUE RFP/IFB				
RFP/IFB NUMBER				
PROPOSAL CLOSE /BID OPEN				
CONSTR AWARD				
CONSTRUCTION				
CONSTR NTP				
CONSTR PERIOD				
BOD				

NEXT MILESTONE:
FUNDS ISSUES:
CURRENT STATUS:

Attachment 3

COMMENT RESOLUTION

Comment resolution is divided into the following steps:

- Generation
- Compilation
- Disposition
- Transmission to Designer

1. **GENERATION:** Comments are generated by the following Design Management Team members

- Design Manager (DM)
- Design Agent (DA)
- Contracting Office
- Base Civil Engineer PM (includes Housing Officer, Base Civil Engineer maintenance personnel)

2. **COMPILATION:**

- Comments generated by team members above are transmitted (FAX, E-Mail, Hard Copy) to DA for compilation.
- Comments are due 21 calendar days after delivery of submittal.
- DA gathers comments, marking duplicates. Any comments clearly without merit or not a part of project, will be marked, however the comment will go forward and be addressed at the review conference.

3. **DISPOSITION:**

- Comments are then sent to all DMT members. Any vague or unclear comments are resolved at this level.
- Any further additions to comments are distributed to all DMT members.

4. **TRANSMISSION:**

- Final comments are transmitted to the Designer by the Contracting Officer 5 calendar days before the review conference for incorporation into the design.
- Designer will provide minutes of the review conference within 7 calendar days after the conference with the resolution of all comments clearly indicated.

Attachment 4 PARTNERING

If partnering is requested, the partnering session is held during the Pre-construction meeting, as appropriate. Partnering involves team building with key players from the organizations involved in the project. The team focuses on common goals and benefits achieved through contract execution and develops ways to keep the team working towards those goals. A Partnering Agreement is signed by the concerned parties.

The *{AF PM, BCE}*, with approval from *{MAJCOM}*, will obtain the services of a skilled facilitator and define a process for team building. The plan for establishing this partnership involves all key personnel (including senior-level personnel) meeting in a facilitated workshop, focusing on team building, goal setting and establishing issue identification and resolution processes. This group becomes the Partnering Team, entrusted to maintain mutual trust; keep open the channels of communication; and follow-up with responses to specific issues. Follow-up meetings of the Partnering Team are held *{monthly/quarterly/as needed}*. These meetings address the established goals, evaluate the standards to achieve the goals, address current issues and topics, and report status of problem resolution.

Partnering agreements, goals, identified issues and resolution processes developed during the partnering workshop are provided in meeting minutes, and a summary of the agreement will be provided to all signatories.

The Partnering concept is intended to create an environment for team building between all team members (users, agent, designers, contractors, subcontractors, and suppliers). Partnering agreements are characterized by mutual trust, cooperation, joint problem solving, responsiveness, flexibility, and open communications. Partnering is implemented after award of construction contracts. The Partnering sessions will be conducted with a facilitator to identify mutual goals and objectives for project construction. Indicators of performance will be selected in terms of meeting budgets, safety, on-time delivery, quality and litigation.

PARTNERING AGREEMENT

WE, the members of this partnering team, are committed to working together in a spirit of cooperation, with trust, respect, integrity, honesty, and fairness; to successfully complete the _____ project at _____ AFB, USA

GOALS

I. Team

- Maintain team integrity through any personnel changes (including reviewers)
- Review goals at each review conference
- Review compliance with goals at each review conference

II. Communications

- Maintain formal communications with respect to schedule, cost, and quality
- Utilize informal channels of communications as required
- Maximize use of electronic communications methods
- Express mail, if necessary, review documents
- Document conversation, meetings, conferences, etc.

III. Schedules

- Commit to maintain agreed upon schedules
- Provide immediate notification of possible changes

IV. Reviews

- Suspend disputes to OPR at conferences
- PMs annotate comments prior to submission for duplication, clarity, and completeness

V. Cost

- Maintain project cost within individual budgets

VI. Changes

- All action officers assess impact of all changes
- Avoid changes after 35%
- Do not reopen previously resolved issues

HQ XYZ/CEH

AF PM

XXXX CES

XXXX CONS

CONSTRUCTION CONTRACTOR

ARCHITECTURAL FIRM

Appendix 6: DD Form 1391 (Example)

1. COMPONENT		FY 1994 MILITARY CONSTRUCTION PROJECT DATA (computer generated)		2. DATE	
AIR FORCE					
3. INSTALLATION AND LOCATION			4. PROJECT TITLE		
LACKLAND AIR FORCE BASE, TEXAS			ALTER BASE SUPPORT FACILITY		
5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST (\$000)		
8.57.96	610-243	MPLS943216	5,000		
9. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
ALTER BASE SUPPORT FACILITY	SF	98,500	26	2,561	
SUPPORTING FACILITIES				1,706	
UTILITIES-SITE IMP-ELEVATOR-PAVEMENTS	LS			(415)	
PREWIRED WORKSTATIONS	EA	90	3,500	(315)	
DEMOLITION AND ASBESTOS REMOVAL	SF	101,000	6	(606)	
COMMUNICATION AND EMCS	LS			(370)	
SUBTOTAL				4,277	
CONTINGENCY (10%)				427	
TOTAL CONTRACT COST				4,694	
SUPERVISION, INSPECTION AND OVERHEAD (6%)				282	
TOTAL REQUEST				4,976	
TOTAL REQUEST (ROUNDED)				5,000	
10. DESCRIPTION OF PROPOSED CONSTRUCTION: Alter vacant 600 PN dormitory to provide administration, classroom, storage, and computer room. Includes interior partitions, electrical and mechanical upgrade, EMCS points, communications support, handicapped elevator, demolition of vacated facilities and other associated work. Air Conditioning: 350 Tons.					
11. REQUIREMENTS: 138,618 SF ADEQUATE: 0 SUBSTANDARD: 87,617 SF					
PROJECT: Alter 600 PN dormitory to house numerous base support functions. (Current Mission)					
REQUIREMENT: An adequate, energy efficient, properly configured facility is required to allow numerous base support activities scattered throughout Lackland to vacate substandard facilities and consolidate into one facility. This facility will provide space for Food Service Contractor, Civilian Personnel, Airman Leadership School, 3541st Recruiting Squadron, CATO, 8050 Military Training Squadron, Education Center, Food Service Office, 801st Battalion and 8th Group Military Police, Corps of Engineers Project Office and Honor Guard.					
CURRENT SITUATION: Due to force drawdown, this dorm is not required for Basic Military Training. Support functions are currently located in eleven wood frame buildings totaling 101,000 SF which will be demolished upon completion of this project. These buildings have far exceeded their life expectancy, are structurally unsound, energy inefficient, and lack adequate electrical, mechanical and fire protection systems. The facilities are generally inadequate in configuration and their age and condition make them uneconomical to upgrade. Final beddown will consolidate all personnel into one building with five buildings reverting to other base functions.					
IMPACT IF NOT PROVIDED: Continued use of energy inefficient facilities causing personnel to work in substandard, cramped, and deplorable facilities. A savings in energy and maintenance cost will not be realized					
ADDITIONAL: An economic analysis has been prepared comparing the alternatives of new construction, revitalization, leasing and status quo operation. Based on the net present values and benefits of the respective alternatives, revitalization was found to be the most cost efficient over the life of the project. This project meets the criteria/scope specified in Part II of Military Handbook 1190, "Facility Planning and Design Guide".					

DD Form 1391, DEC 76

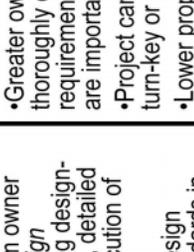
Appendix 7: Construction Project Delivery Methods

APPENDIX 7: CONSTRUCTION PROJECT DELIVERY METHODS

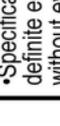
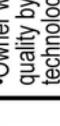
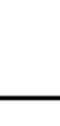
Delivery method & time sequence	Significant Features	Application
<p>1. <u>Traditional</u></p> <p>Design Bid Construct</p> <p>Variations:</p> <p>a. <u>Simplified plans and specifications</u></p> <p><u>Site adaptation</u></p>	<ul style="list-style-type: none"> •Agent contract with A-E for professional services •Complete definition of scope, quantities, and quality in drawing and specifications •Vendor construction contract awarded based on low competitive bid and bonding required in invitation for bids (IFB) •Technical specification shown on drawings •Modification of previously successful design and contract document 	<ul style="list-style-type: none"> •Management simplicity; cost security •Few trades & materials needed •User has same quality & scope requirements in similar environment as project adapted
<p>2. <u>Design-Build</u></p> <p>\$ Prop. Design / Construct</p> <p>Variations:</p> <p>a. <u>Turn-Key</u></p> <p>\$ Design / Land Acq / Const / O&M</p>	<ul style="list-style-type: none"> •Design & construction integrated under single contract •Competitive negotiation for contract award based on conformance with Request for Proposal (RFP), and contractor qualification criteria •Proposals normally fixed-priced, either firm or with economical price adjustment •RFP contains little more than <i>general description</i> of project; proposals are technical and detailed •Functions other than design and construction typically included, such as land acquisition, financing, and operations and maintenance 	<ul style="list-style-type: none"> •Good potential for reduced acquisition time and cost for simple projects •Well established industry standards and materials are available; Control after contract award not desired; Proposers willing to risk high cost to compete

\$ Contractual Points

APPENDIX 7: CONSTRUCTION PROJECT DELIVERY METHODS (continued)

Delivery method & time sequence	Significant Features	Application
<p>Variations: (continued)</p> <p>b. One Step</p> 	<p>•RFP usually based on performance <i>specification and general description</i>; Proposals are detailed, and evaluated on technical merit and cost</p>	<p>•Well established industry standards and materials are available; Control after contract award not desired; Proposer will to risk high cost to compete</p>
<p>c. Preliminary Design/Design-Build</p> 	<p>•Detailed description of project from owner perspective, using <i>preliminary design drawings and specifications</i>, leaving design-build contractor latitude in the final, detailed development of design and in execution of working drawings</p> <p>•Owner has approval of specific design packages for compliance with standards in RFP before releasing contractor to build</p>	<p>•Greater owner control, but must thoroughly communicated all requirements. Thus stable requirements are important</p> <p>•Project can be more complex than for turn-key or one-step</p> <p>•Lower proposer cost risk</p>
<p>3. Fast-Track</p> 	<p>•Like design-build, in that construction begins before working drawings and specifications are complete, but work is based on multiple bid packages, with all contract held and managed by owner</p>	<p>•Highest potential for reduced acquisition time and cost; more complex and time-consuming to administer, and requires greater construction management skills; high cost and schedule risk. Thus, best application is for bona fide emergency where time savings carries high premium</p> <p>•Work must be divisible into discrete packages</p>

APPENDIX 7: CONSTRUCTION PROJECT DELIVERY METHODS (continued)

Delivery method & time sequence	Significant Features	Application
<p>4. Two Step</p> 	<ul style="list-style-type: none"> •Solicitation for technical proposals without price information •Proposals evaluated on compliance with RFP. Lots of time to prepare RFP an proposal, to evaluate proposals, and make clarifications •Bids invited for only those proposals accepted. Award based on low bid. 	<ul style="list-style-type: none"> •Specification or description of work not definite enough to permit full competition without evaluation an discussion of technical requirements •High risk for proposers •Owner willing to accept a wide-range of quality by permitting broad range of technologies to satisfy a general requirement
<p>5. Integrated Design & Construction Mgmt</p> 	<ul style="list-style-type: none"> •Single agent contract for design and construction management services with joint (A-E/CM) firm •Multiple trade contract for construction, publicly competed for low fixed-price •Project divided into separate bid packages, like fast track 	<ul style="list-style-type: none"> •Simplifies owner's task of managing multiple construction contracts
<p>6. Advanced Mobilization & Procurement</p> 	<ul style="list-style-type: none"> •Mobilization contract is awarded during design stage to build labor camp, or on-site plants. Separate procurement contracts are also awarded for long-lead materials or equipment. Mobilization and procurement contracts are assigned to the general construction contract 	<ul style="list-style-type: none"> •Typically used for projects located in remote areas where materials and labor are not available or extremely limited

Appendix 8: Contract Types

APPENDIX 8: CONTRACT TYPES

Contracting Type	Reference	Description	Elements	Application	Limitations
Firm-Fixed FFP	FAR 16.202	Price is not subject to any adjustment on the basis of contractor's cost experience. Places maximum on contractor. Contractor has greater incentive to control costs. Minimum administrative burden on parties. Level of effort payment is based on effort expended rather than results achieved. Contractor provides specified effort over a stated period for fixed price.	Price	When a reasonable basis for firm pricing exists.	Depends entirely on Government's ability to quantify & specify all aspects of the construction desired and its ability to use negative incentives to ensure that the contractor adheres to the specifications. Encourages contractor to pursue grounds for change orders to increase profit.
Fixed Price with Economic Price Adjustment (FFEPA)	FAR 16.203	The price paid by the Government may be revised upward or downward if certain contingencies occur. Provides for price adjustment to protect parties against significant economic fluctuation or changes in contractor's established prices. EPA provisions can be based on established (published) prices, actual costs, or cost index. Adjustments based on established prices restricted to industry-wide contingencies. Adjustment based on labor or material costs limited to contingencies beyond contractor's control. Decreased contractor's risk and cost responsibility.	Price EPA Clause (EPA) = Economic Price Adjustment	When contingencies resulting from unstable market conditions can be identified and covered by a separate price adjustment clause.	Same as FFP
Fixed Price with incentive Firm (FPIF)	FAR 16.403	<i>Firm Target</i> - Government pays price that is sum of final negotiated cost and final profit. Incentive profit determined by comparing final negotiated cost to target cost and adjusting (FPIF) target profit in accordance with formula (share ratio). Final price cannot exceed ceiling price. <i>Successive Target</i> - At predetermined construction point, firm target cost is negotiated and firm target profit is determined in accordance with adjustment formula, then either an FPIF or FFP if can be negotiated. Lowest contractor's cost responsibility in fixed-price family of contracts.	Firm Target Target Cost Target Profit Ceiling Sharing Formula Successive Targets Initial Target Cost Ceiling Price Target Profit Adjustment Formula	Where assumption of a degree of cost responsibility by contractors will provide incentive for effective cost control. Can combine with incentives on performance and schedule	Adequate cost or pricing data must be available to establish targets. Sole purpose cannot be to shift cost responsibility to Government, requires simultaneous agreement on all elements of pricing structure. Contractor must have a sound cost accounting system. Government assumes a larger contract monitoring role. Appropriate only for competitive proposals or other than competitive procedures.

Table A-2, TABLE TYPES (continued)

Contracting Type	Reference	Description	Elements	Application	Limitations
Cost Plus Incentive Fee (CPIF)	FAR 16.304	Government pays allowable cost and incentive fee. Incentive fee determined by comparing actual cost to target cost and adjusting target fee in accordance with fee adjustment formula (share ratio). Fee adjustment is established at the outset within minimum and maximum limits. Performance incentives can be incorporated if development is feasible and Government performance objectives have been determined. Contractor's risk and cost responsibility is substantially reduced from those of the fixed price family of contracts.	Target Cost Target Fee Sharing Formula Minimum Fee Maximum Fee	Development and test where a profit incentive is likely to provide motivation for more effective management.	Fee limits same as CPFF. Contractor must have a sound cost accounting system. Government assumes a large contract monitoring role. Needs a determination and findings before use. Appropriate only for competitive procedures.
Cost Plus Award Fee (CPAF)	FAR 16.305	Government pays allowable cost and incentive fee. Contractor earns a base fee which does not vary with performance and all or part of an award fee based on subjective evaluation by Government of contractor's performance. Amount of the award fee is unilaterally determined by the Government and is not subject to Disputes Clause. Evaluation of performance and corresponding partial payment of fee made at stated intervals. Contractor's risk and cost responsibility is same as with CPIF. DFAR 216.404-2 (S-70) permits the "Award Amount" portion of the CPAF Contract to be used in conjunction with other types and kinds of contracts.	Estimated Cost Base Fee Award Fee	Where subjective evaluation is likely to increase contractor's motivation for excellence in such areas as quality, timeliness, technical ingenuity and cost effective management. Where finite performance objectives cannot be established in advance to measure actual performance. Award fee may be used in conjunction with other types of contracts.	Base fee shall not exceed percentage of estimated cost. Maximum fee limits same as CPFF. Government assumes larger administrative burden forward fee determination The contract amount, performance period and expected benefits must be sufficient to warrant the additional workload. Other limitations from CPIF apply.
Cost Plus Fixed Fee (CPFF)	FAR 16.306	Government pays allowable cost and fixed fee. Fixed fee does not vary with actual costs. Fixed fee may be adjusted for changes in work to be performed. Minimum incentive for contractors to control costs. Completion form requires contractor to deliver end product (preferred form). Term form requires specified level of effort over stated period of time. Lowest contractor risk and cost responsibility.	Estimated Cost Fixed Fee	Research, Preliminary exploration or study. Development and test where CPIF not practical.	Fee shall not exceed 15% of estimated cost for R&D or 10% of estimated cost for normal construction contracts. Price of A-E contract shall not exceed 6% of estimated cost of the public work or utility project. ASD (P&L) approval required in US if A-E contract is over \$25,000. Determination and findings must be approved by agency head or designee. Other limitation of CPIF apply.

Appendix 9: Brooks Act

Public Law 92-582
92nd Congress, H. R. 12807
October 27, 1972

To amend the Federal Property and Administrative Services Act of 1040 in order to establish Federal policy concerning the selection of firms and individuals to perform architectural , engineering and related services for the Federal Government.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 471 et. seq.) is amended by adding at the end thereof the following new title:

“TITLE IX - SELECTION OF ARCHITECTS AND ENGINEERS

“DEFINITIONS

“Sec. 901. As used in this title -

“ (1) The term ‘Firm’ means any individual, firm, partnership, corporation, association, or other legal entity permitted by law to practice the professions of architecture or engineering.

“(2) The term ‘agency head’ means the Secretary, Administrator, or head of a department, agency , or bureau of the Federal Government.

“(3) The term ‘architectural and engineering services’ includes those professional services of an architectural or engineering nature as well as incidental services that members of these professions and those in their employ may logically or justifiably perform.

“POLICY

“Sec. 902. The Congress hereby declares it to be the policy of the Federal Government to publicly announce all requirements for architectural and engineering services and to negotiate contracts for architectural and engineering services on the basis of demonstrated competence and qualification for the type of professional services required and at fair and reasonable prices.

“REQUESTS FOR DATA ON ARCHITECTURAL AND ENGINEERING SERVICES

“Sec. 903. In the procurement of architectural and engineering services, the agency head shall encourage firms engaged in the lawful practice of their professions to submit annually a statement of qualifications and performance data. The agency head for each proposed project, shall evaluate current statements of qualifications and performance data on file with the agency, together with those that may be submitted by other firms regarding the proposed project, and shall conduct discussions with no less than three firms regarding anticipated concepts and the relative utility of alternative methods of approach for furnishing the required services and then shall select therefrom, in order of preference, based upon criteria established and published by him, no less than three of the firms deemed to be the most highly qualified to provide the services required.

“NEGOTIATION OF CONTRACTS FOR ARCHITECTURAL AND ENGINEERING
SERVICES

“Sec. 904. The agency head shall negotiate a contract with the highest qualified firm for architectural and engineering services at compensation which the agency head determines is fair and reasonable to the Government. In making such determination, the agency head shall take into account the estimated value of the services to be rendered, the scope, complexity, and professional nature thereof:

“(b) Should the agency head be unable to negotiate a satisfactory contract with the firm considered to be the most qualified, at a price he determines to be fair and reasonable to the Government, negotiations with that firm should be formally terminated. The agency head should then undertake negotiations with the second most qualified firm. Failing accord with the second most qualified firm, the agency head should terminate negotiations. The agency head should then undertake negotiations with the third most qualified firm.

“(c) Should the agency head be unable to negotiate a satisfactory contract with any of the selected firms, he shall select additional firms in order of their competence and qualifications and continue negotiations in accordance with this section until an agreement is reached.

“Approved October 27, 1972.”

Appendix 10: A-E Selection Checklist

	Complete	Action	OPR	OCRs
1		Prepare A-E Selection Schedule	PM	
2		Not used		
3		Initiate Title 10-2807 Action if Required	PM	
4		Check Availability of A-E Funds	PM	
5		Complete AF Form 9	PM	
6		Prepare CBD Synopsis	PM	Contr
7		Acquisition planning meeting	Contr	PM
8		Send synopsis to CBD	Contr	
9		Closeout announcement	PM	
10		Draft Statement of Work	PM	Contr, User
11		Compare PACES Estimate with DD 1391	PM	
12		Prepare Independent Gov't Fee Estimate	PM	
13		Set up selection committees	PM	App. Auth.
14		Prepare evaluation factors & rating sheets	PM	Contr
15		Receive 254/255s	PM	Contr, User
16		Coordinate Review of Statement of Work	PM	Contr
17		Pre-Selection Board	Chairman	Contr, User,
18		Pre-Selection Minutes	Chairman	
19		Review Pre-Selection Minutes	PM	
20		Pre-Selection Approval	App. Auth.	
21		Notify short-listed A-Es	PM/Contr	Contr
22		Final selection board	Chairman	Contr, User,
23		Notify Non-selects	Contr	
24		Selection minutes	Chairman	
25		Review selection minutes	PM	
26		Approve final selection	App. Auth.	
27		Finalize SOW	PM	
28		Amend AF Form 9	PM	FM
29		Send package to Contracting	PM	
30		Send solicitation to A-E	Contr	
31		Predefinition conference	Contr	PM
32		Revise SOW if required	PM	Contr
33		Initiate DCAA audit of A-E if required	PM	
34		Revise Design schedule & estimate if required	PM	
35		Submit fee proposal	A-E	
36		Prepare Pre-Business Clearance Memo	Contr	PM
37		Technical evaluation of proposal	PM	
38		Price/Cost Analysis	Contr	
39		Brief CO on Predefinition	Contr	
40		Negotiations	Contr	PM
41		Prepare Business Clearance Memo	Contr	PM
42		Award	Contr	PM
43		Notify Non-selects	Contr	PM

Appendix 12: A-E Selection Authority Letters



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE

MEMORANDUM FOR ALMAJCOM/CE HQ AFCEE/CC HQ AFCESA/CC

FROM: HQ USAF/CE
1260 Air Force Pentagon
Washington DC 20330-1260

SUBJECT: Approval of Architect-Engineer (A-E) Selection Authority

Reference: (a) Our memo, 21 Oct 94, subject as above
(b) Our memo, 11 Oct 94, subject as above
(c) Air Force Instruction 32-1023, Design and Construction Standards and Execution of Facility Construction Projects, paragraph 3.6, A-E Slate Selection Approving Authority

At the request of several Major Commands, I am deleting the \$750,000 ceiling on the amount of approval authority for A-E selection that the Major Command Civil Engineers (MAJCOM/CEs) may delegate to the Base Civil Engineers (BCEs). Effective immediately the MAJCOM/CEs may delegate any amount of slate selection approval authority to the BCEs. Reference c will be amended to reflect this new authority. Guidance on A-E selection procedures is found in Chapter 3 of reference c. Request MAJCOM/CEs reference this guidance in delegating authority to BCEs.

ROBERT D. WOLFF, P.E.
Deputy Civil Engineer



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE

MEMORANDUM FOR ALMAJCOM/CE HQ AFCEE/CC HQ AFCESA/CC

FROM: HQ USAF/CE
 1260 Air Force Pentagon
 Washington DC 20330-1260

SUBJECT: Approval of Architect-Engineer (A-E) Selection Authority

Reference is made to our memo, 11 Oct 94, Architect-Engineer (A-E) Services with attached Architect Engineer (A-E) Selection Guidance. Several MAJCOMs have requested that MAJCOM delegation authority in paragraph 5(b) of referenced guidance be changed to \$750,000 vice \$500,000. This letter hereby authorizes MAJCOM/CEs to delegate slate selection approval authority to the Base Civil Engineer when the fee is \$750,000 or less. Air Force Instruction 32-1023, Design and Construction Standards and Execution of Facility Construction Projects, paragraph 3.6, will be amended to reflect this change.

ROBERT D. WOLFF, P.E.
Deputy Civil Engineer



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE

MEMORANDUM FOR AF/CE

FROM: SAF/MII
1660 Air Force Pentagon
Washington DC 20330-1660

SUBJECT: Policy on Architect-Engineer Contract Approvals

Reference: (a) SAF/MII April 20, 1984 memo, Authority to Procure Architect-Engineer Services -- ACTION MEMORANDUM
(b) SAF/MII September 20, 1982 memo, Authority to Procure Architect-Engineer Services -- ACTION MEMORANDUM

This memorandum rescinds the policies of my September 20, 1982 and April 20, 1984 memoranda requiring SAF/MII approval of all procurement actions for "other A-E services" whose estimated cost exceeds \$300,000. Consequently, no A-E procurement actions will require SAF/MII approval. Please ensure all applicable Air Force Instructions are modified accordingly.

However, this office will continue to make the notifications as required by 10 USC 2807. Approval by SAF/MII is still required before transmission of these notifications to the Congressional Committees.

JAMES F. BOATRIGHT
Deputy Assistant Secretary of the Air Force
(Installations)

cc:
SAF/GCN



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE

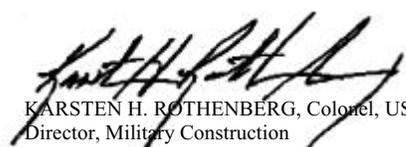
MEMORANDUM FOR ALMAJCOM/CE HQ AFCEE/CC HQ AFCESA/CC

FROM: HQ USAF/CE
1260 Air Force Pentagon
Washington DC 20330-1260

SUBJECT: Approval of Architect-Engineer (A-E) Services

Reference: (a) Our memo, 1 Oct 94, Architect-Engineer (A-E)
(b) Air Force Instruction 32-1023, Design and Construction Standards and Execution of Facility Construction Projects, paragraph 3.6, A-E Slate Selection Approving Authority

I have enclosed new guidance on A-E Selection which delegates more authority to MAJCOM Civil Engineers and the Commanders of AFCEE and AFCESA. We will amend reference b to reflect these new approval delegations.


KARSTEN H. ROTHENBERG, Colonel, USAF
Director, Military Construction
Office of The Civil Engineer

Attachment:



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE



29 SEP 1995

MEMORANDUM FOR ALMAJCOM/CE HQ AFCEE/CC HQ AFCESA/CC

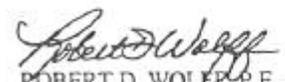
FROM: HQ USAF/CE
1260 Air Force Pentagon
Washington DC 20330-1260

SUBJECT: Approval of Architect-Engineer (A-E) Selection Authority

During the past year, approval of A-E selection authority was delegated to the MAJCOMs and the Base Civil Engineers through a series of memorandums. Our most recent memorandum dated 7 December 1994, delegated A-E slate selection authority to MAJCOM/CEs with the option of further delegating unlimited authority to the Base Civil Engineers (BCEs). It has since been brought to our attention by the Acquisition Community (SAF/AQCO) that DFARs Supplement Part 236.602-4, Selection Authority, requires certain special approvals.

Special approvals are required when: (a) the estimated contract price exceeds \$500,000; (b) the firm to be selected has already been awarded contracts totaling over \$500,000 during the current year by the construction activity; (c) or supplemental work added to an existing contract causes the total contract price to exceed \$500,000. Special approval means approval by the next higher organizational level above the construction activity or as established in contracting activity procedures and must be obtained prior to negotiating with the A-E firm.

This memo therefore rescinds unlimited approval authority previously granted to the MAJCOM/CEs and BCEs. The Base Civil Engineers will obtain slate selection approval authority exceeding \$500,000 per contract, per year from the MAJCOM/CE. Similarly the MAJCOM/CEs, AFCEE and AFCESA will obtain slate selection approval authority exceeding \$500,000 per contract, per year from AF/CE. Attached revised guidance is provided to assist you in your selection process. If your staff needs additional information please have them call Major Sohotra at DSN 225-8195.


ROBERT D. WOLF, P.E.
Deputy Civil Engineer

Attachment:
Revised Guidance

cc: SAF/AQCO

B.

HQ USAF/CE

27 September 1995

ARCHITECT ENGINEER (A-E) SELECTION GUIDANCE

1. **GENERAL:** The A-E selection process must be conducted in accordance with all applicable laws and regulations. All individuals involved in the process must ensure that their conduct is above reproach, that the A-E scope of services is valid and realistic, and that information concerning a particular A-E contract under consideration is not disclosed or discussed by anyone except the contracting officer.

2. **DEFINITIONS:** A-E Services are described below. Questions concerning a specific requirement should be addressed to the requiring command's contracting officer.

a. **Title I:** These services are related to a specific construction project and consists of conducting field surveys and investigations to obtain design data, and preparing contract plans, specifications, and cost estimates.

b. **Title II:** These services are related to a specific or proposed construction project and consists of supervision and inspection of construction.

c. **Base Comprehensive Plans (BCP):** These services consist of conducting field surveys and investigations to obtain data and producing Air Base development plans.

d. **Other A-E Services:** These services are design and construction related but are not connected with a specific construction project. The services consist of developing design criteria, fact finding studies, surveys, investigations, and the performance of environmental projects involving prevention, compliance, and restoration when the services of registered architects or engineers are required. Excluded are services that need not be performed by a registered engineer or architect such as providing design and construction equipment or computer programs.

3. **RESPONSIBILITIES:** The civil engineer and the contracting officer responsibilities are as follows:

<u>ACTION</u>	<u>QPR</u>
DEVELOP REQUIREMENT, STATEMENT OF WORK (SOW)	CIVIL ENGINEER
ANNOUNCE REQUIREMENT FOR A-E SERVICES	CONTRACTING OFFICER
RECEIVE QUALIFICATION STATEMENTS FROM A-Es	CONTRACTING OFFICER

SUPERSEDES HQ USAF/CE MEMOS, APPROVAL OF ARCHITECT-ENGINEER (A-E) SELECTION AUTHORITY, DATED, 11 OCT 94, 21 OCT 94, 7 DEC 94, AND HQ USAF/CE ARCHITECT-ENGINEER (A-E) SELECTION GUIDANCE, DATED 1 OCT 94.

B

HQ USAF/CE

27 September 1995

<u>ACTION</u>	<u>OPR</u>
EVALUATE A-E FIRMS	CIVIL ENGINEER
APPROVE A-E SLATE	CIVIL ENGINEER
NOTIFY SELECTED A-E FIRM	CONTRACTING OFFICER
NEGOTIATE A-E FEE AND EXECUTE CONTRACT	CONTRACTING OFFICER

4. **CBD ANNOUNCEMENT REQUIREMENTS REVIEW:** The Commerce Business Daily (CBD) Announcement is a key document in the A-E selection process. It identifies proposed, specific contract actions. In the case of indefinite delivery/indefinite quantity (IDIQ) contracts, the CBD identifies contract requirements based on projected, yet uncertain requirements. The civil engineer (CE) should ensure accurate and adequate requirements are identified to the contracting officer for inclusion in the CBD announcement.

a. For A-E contracts on specific projects, the MAJCOM CE and the Commanders of AFCEE and AFCESA shall review the technical data to be included in the CBD announcement, prior to submitting this information to the contracting officer, to ensure it properly describes the requirement.

b. For ID/IQ contracts, the MAJCOM CE and the Air Force Deputy Civil Engineer (HQ USAF/CE), in the case of AFCEE and AFCESA contracts shall review the technical data to be included in the CBD announcement, prior to submitting this information to the contracting officer, to ensure it properly describes the requirements, the geographical coverage, and provides an appropriate capacity relative to projected requirements.

5. **A-E SELECTION SLATE APPROVAL AUTHORITY:**

a. Approval authority for A-E selections is hereby delegated in accordance with Defense FAR Supplement 236.602-4. The fee shall be the total for the contract, per year, and per option year.

b. For all A-E services, the Major Command Civil Engineer and the Commanders of AFCEE and AFCESA are the A-E slate selection approving authority. When the fee is less than \$500,000 per contract, per year, the MAJCOM CE may delegate selection slate approval authority to the Base Civil Engineer.

HQ USAF/CE

27 September 1995

c. To ensure the selection boards were qualified to evaluate the A-E firms and the process was fair and equitable, the approving authorities should review the following data, prior to granting approval: a copy of the CBD announcement; a copy of the statement of work; preselection and final selection board minutes; a listing of all board members, their grade, professional discipline, organization, whether or not they were registered as an architect or engineer; the appointing letter; a listing of all firms considered by the final selection board including whether or not they are small and/or disadvantaged businesses; selection factors/criteria and their weighted values; board member scorecards; scoring summary and ranking of firms; questions asked during A-E interviews; and the slate in rank order.


ROBERT D. WOLFF, P.E.
Deputy Civil Engineer

Appendix 13: Ozone Depleting Substances Statement

Because procedures to determine whether ODS exist in specifications, standards, drawings, and other documents are still evolving, additional instructions are appropriate on when to use the AF FARS clause 5352.210-9000, "Elimination of Class I Ozone Depleting Substances."

As a minimum, the clause below should be included in all new solicitations and contracts for systems, subsystems, modifications to existing systems, program depot maintenance, and spares (except for spares acquired using small purchase procedures.) Include the clause in orders using small purchase procedures only if there is reason to believe that ODS could be included in the end item of service.

"This requirement has been reviewed by appropriate technical personnel and to the best of my knowledge and belief, it does not require the contractor to use Class I Ozone Depleting Substances (ODS) identified in the Air Force policy in the performance of the contract, nor does it require the delivery of these Class I ODS in any form or as a part of any service."

Appendix 14: Commitment of Funds Letter (Example)

MEMORANDUM FOR: 15 CES/CE/CEC/CERU
15 ABW/FMA/FMF

FROM: HQ PACAF/CEP
25 E St Ste D-306
Hickam AFB HI 96853-5412

SUBJECT: FC89 P714 Design Funds - OBAN 7421

1. FC89 P714 A-E design funds in the amount of \$600,000.00 for PAIP project KNMD 96-4401, Improve Family Housing (Phase I) are being issued as follows:

<u>FY/BAAN</u>	<u>Current Auth</u>	<u>Increase</u>	<u>Revised Auth</u>	<u>Doc No/Date</u>
91-PAF	\$ 0	\$ 84,000.00	\$ 84,000.00	1 23 Nov 94
92-093	\$ 0	\$ 37,378.93	\$ 37,378.93	1 23 Nov 94
93-PAF	\$ 0	\$295,872.73	\$295,872.73	1 23 Nov 94
93-094	\$ 0	\$ 34,207.90	\$ 34,207.90	1 23 Nov 94
94-PAF	\$ 0	\$148,540.44	\$148,540.44	1 23 Nov 94
Total	\$ 0	\$600,000.00	\$600,000.00	

2. This memorandum is your authority to post above increases and incur obligations pending receipt of formal documents. For your information, funds for BAAN 91-PAF expire this fiscal year. Therefore, they must be obligated by 30 Sep 95.

3. This is a coordinated HQ PACAF/CEPDF/FMAM memorandum. Direct inquires to Ms. Bourdeau, HQ PACAF/CEPDF, 449-8096, Mr. Del Castillo, HQ PACAF/CEH, 449-8078, and Mr. Lucas, HQ PACAF/FMAM, 449-0250.

cc:
AF PM

COORD: CEPDF _____ CEPD _____ CEH _____ FMAM _____ CEP(SIGN)

Appendix 15: Commitment of Funds Message (Example)

UNCLASSIFIED

01 01 020010Z AUG94 UUU CEP

NO

HQ PACAF HICKAM AFB HI//CEP//

3CES ELMENDORF AFB AK//CE/CEC/CERF//

INFO CONS ELMENDORF AFB AK//CC//

HQ PACAF HICKAM AFB HI//LGCC//

ZEN HQ PACAF HICKAM AFB HI//CEH//

UNCLAS

QQQQ

MSGID/GENADMIN/HQ PACAF - CEP//

AMPN/SUBJ: MFH PAIP PROJECT FXSB 97-4002R1, IMPR MFH (PH8),
ELMENDORF AFB, AK//

RMKS/

1. HQ USAF DESIGN INSTRUCTION AUTHORIZES PRELIMINARY ACTION OF SUBJECT PROJECT. P714 A- E DESIGN FUNDS IN THE AMOUNT OF \$300,000.00, ARE RESERVED AT HQ USAF FOR THIS PROJECT.
 2. THIS MSG IS YOUR AUTHORITY TO PROCEED WITH PROCUREMENT ACTION FOR REQUEST FOR PROPOSAL. PLEASE ADVISE THIS HEADQUARTERS OF ACCEPTABLE NEGOTIATED AMOUNT.
 3. THIS IS A COORDINATED HQ PACAF/CEPDF/CEH MSG. DIRECT INQUIRIES TO MISS BOURDEAU, HQ PACAF/CEPDF, DSN 449-8096, OR MR DEL CASTILLO, HQ PACAF/CEH, DSN 449-8078.//
- COORD: CEPDF ____ CEPD ____ CEH ____ CEP (SIGN)
DOC: MFH8 (15)

M. BOURDEAU
CEPDF, 9-8096

R. W. TOWNE, GM-14, ATG CEP, 8099
CRC: 32682 UNCLASSIFIED
020010ZAAUG94

Appendix 16: Purchase Request - AF Form 9

REQUEST FOR PURCHASE				FUNDS RESERVATION	
INSTALLATION BROOKS AFB, TX				NO. FY7624-94-08796	
TO: CONTRACTING OFFICER HSC / PKO				DATE 1 SEPT 94	
THROUGH HSC / FMFC BROOKS AFB, TX 78235-5320				CLASS	
FROM: <i>(Insert RCICC if applicable)</i> HSC / PKO BROOKS AFB, TX 78235-5320				CONTRACT PURCHASE ORDER OR DELIVERY ORDER NO.	
IT IS REQUESTED THAT THE SUPPLIES AND SERVICES ENUMERATED BELOW AND IN THE					
PURCHASED FOR:		FOR DELIVERY TO:		NOT LATER THAN	
HSC / PKO		8005 9TH STREET, BAEB, TX 78235			
ITEM	DESCRIPTION OF MATERIAL OR SERVICES TO BE	QUANTITY	UNIT	ESTIMATED UNIT PRICE	ESTIMATED TOTAL COST
0001	<p>DELIVERY ORDER FOR AE TITLE I SERVICES AT LACKLAND AFB, TX FOR MFH PROJECTS</p> <p>IDIQ WITH ARMSTRONG INC., ARCHITECTS CONTRACT NO. F41624-94-D-8009</p> <p>FUNDS IN THE AMOUNT OF \$150,000.00 ARE BEING HELD IN RESERVE FOR THIS PROJECT AT AETC, AND WILL BE MADE AVAILABLE WHEN THE NEGOTIATED AMOUNT AS DETERMINED BY THE CONTRACTING OFFICER HAS BEEN REPORTED TO AETC.</p> <p>I HAVE REVIEWED THE REQUIREMENTS, INCLUDING AVAILABLE TECHNICAL DOCUMENTATIONS, AND BELIEVE THAT IT DOES NOT REQUIRE THE CONTRACTOR TO USE CLASS I ODCs IDENTIFIED IN THE AIR FORCE POLICY IN PERFORMANCE OF THE CONTRACT NOR DOES IT REQUIRE THE DELIVERY OF THESE CLASS I ODCs IN ANY ITEM OR SUPPLY AS PART OF ANY SERVICE.</p>				\$150,000.00
				TOTAL	
PURPOSE					
DATE	TYPED NAME AND GRADE OF REQUESTING OFFICIAL	SIGNATURE			
		TELEPHONE NO.			
DATE	TYPED NAME AND GRADE OF APPROVING OFFICIAL	SIGNATURE			
I certify that the supplies and services listed above and in the attached list are properly chargeable to the following allotments, the available balances of which are sufficient to cover the cost thereof, and funds have been committed					
ACCOUNTING CLASSIFICATION				AMOUNT	
					\$150,000.00
DATE	TYPED NAME AND GRADE OF CERTIFYING OFFICIAL	SIGNATURE			

FORM 9

Appendix 17: CBD Synopsis (Example)

FIRM-FIXED PRICE CONTRACT, ENGINEERING AND ARCHITECTURAL DESIGN PROJECT, SOL [??????] *[Contracting Specialists] The Air Force Center for Environmental Excellence (AFCEE), Brooks AFB, San Antonio, TX*, is seeking qualified firms to provide Architect-Engineer (A-E) services under a firm-fixed price contract involving design, planning, and studies for *Military Family Housing (MFH)*. The project requires the design and preparation of invitation for bid documents to *[demolish and replace, construct??]* MFH units at *[BASE LOCATION]*. The project also includes *[site preparation, landscaping, provision for pedestrian/bike, and recreational areas]*. The construction cost is estimated between *[\$xx and \$xx]*. *[This is one phase of a multi-phase program. An additional phase of [??] units is an option to this contract with an estimated construction cost between \$xx and \$xx.]* The results of this effort shall be electronically generated by the A-E using *AutoCAD, Version 12 and the base's layering standard. Specifications will be developed using Microsoft Word 6 in accordance with base standards.* The firm must be capable of providing and managing a team of individuals from within the firm or from subcontracts with consultants. The anticipated work may include; but not be limited to the following: (A) planning services: site, utility, infrastructure; traffic and facility planning studies and analysis; (B) investigation services: topographic surveys, geotechnical analysis, and reports, investigation of existing building conditions, environmental surveys and studies, hazardous material (asbestos, lead based paint, etc.) surveys and studies; (C) Design services: schematic design, design development, value engineering, cost estimating, preparation of specification and construction contract documents; (D) construction supervision and inspection services: construction observation and inspections, review of submittals, site visits, consultation services during Contractor preparation of operations and maintenance manuals and preparation of as-built drawings. The selected A-E firm is expected to work closely with Government personnel and project managers, user groups, and local community officials. Selection of firm for negotiation shall be through an order of preference based on demonstrated competence and qualifications necessary for the satisfactory performance of the type of professional services required. Significant evaluation factors include: (1) Recent specialized experience and performance, *in housing design and construction and housing area development*, by the firm(s) including preparation of construction documents for design/build or turn-key projects and construction supervision and inspection. (2) Recent specialized experience, *in housing design and construction and housing area development*, by the professionally registered personnel who will perform the actual project work. This is to include consultants. (3) Capacity of the firm to perform the work in the required time. (4) Past performance history on both DoD and other contracts in terms of quality of work, cost control and compliance with performance schedules. (5) Geographic proximity to *[BASE LOCATION]*. ***Consideration may be limited to firms within a given distance of the base provided there is an adequate number of qualified firms therein for consideration.*** (6) Volume of work previously awarded to the firm by the Department of Defense (DoD) in the last 12 months with the objective of effecting an equitable distribution of DoD A-E contracts among qualified firms. ***Include the following statement in submitted section 10, Standard Form (SF) 255's "This firm/joint venture has been awarded \$xxx,xxx of DoD fees in the twelve months preceding the date of this SF255."*** Firms that meet the requirements described in this announcement are invited to submit a letter of interest and complete Standard Forms 254/255 to represent the team. Responses should address only specific items/facilities requested in this announcement. Extraneous information will not be reviewed. Responses must be received before 4:00 P.M. CDT 30 calendar days from date of publication to be considered for selection. The day following the publication day is counted as day one. If the closing date is a holiday or weekend, closing will be extended to close of business on the next business day. Submittals should be sent to *AFCEE/CMH, Attn: [Project Manager], 8106 Chennault Rd, Brooks AFB, TX 78235-5318*. This is not an RFP. See Numbered Note(s): 0062.

Appendix 18: FAR References to A-E Contracting

Sorted by FAR number column

FAR	TOPIC
2.201	Definitions, Alternate I clause: (52.202-1)
3.104-7(d)(4)iv	Post-empl. restriction when Substituting for A/E sub.
4.404(c)	Security Req., Alternate II clause: (52.204-2)
5.203(c)	Publicizing notice: 30 days response time
5.205(d)	Synopsizing thresholds
5.207(b)(4)1	Synopsis Format: Action Code
5.207(c)(2)(xi)	Synopsis Format: Item 17
5.207(g)(1)	Synopsis Format: Code "C" for A/E Services
6.102(d)(1)	Selection of A/E sources is competitive under PL 92-582
12.104(a)(1&2&3)	Time of Delivery clauses (52.212-1,2): Don't use in A/E
12.502	Suspension of work clause can be "ordered" by CO
12.505(a)	Suspension of Work clause (52.212-12) in A/E RFPs
15.406-1(a)(2)	UCF exemption for A/E contracts
15.609(d)	Competitive Range not applicable
15.812-2(a)(2)	Integrity of Unit Prices clause (52.215-26):Don't use
15.903(d)(1)	6% fee limitation for A/E contracts
17.200	Options Subpart does not apply to A/E
19.102(g)(3446)	Size Standard: Arch. & Ornamental Metal Work
19.102(g)(8711)	Size Standard: Eng. Services - Naval Architecture
19.102(g)(8712)	Size Standard: Architectural Services
19.502-2(a)	Total set-asides includes A/E
19.1005(a)(3)	Designated industry group for SB Demo Prog.
22.1102	Professional Employee definition
27.201-2(a)	Patents: Authorization & Consent clause 52.227-1
27.201-2(b)	Patents: Alt. I for 52.227-1 for R&D
27.202-2	Patents: Notice and Assistance...clause 52.227-2
27.203-a(b)(5)	Indemnification clause not needed for A/E
27.303	Clauses: reference to 27.304-3
27.304-3	Patent rights clause for A/E R & D
27.409(a)(1)(iv)	Rights in Data-Special Works clause 52.227-17 for A/E
27.409(o)	Rights in Data-Special Works Clause 52.227-17 for A/E
27.304-3(b)(2)	Patents clause not needed for "standard types..."
28.311-2	Insurance-Liability...clause not needed for A/E
31.103	Cost Principles applicability to A/E
31.105	Cost Principles FAR Section on A/E
31.109(h)(14)	Advance agreement: A/E costs in G & A
31.201-7	Cost Principles applicability reference to 31.105
32.111(d)(1)	Payments under F-P A/E Contracts clause: 52.232-10
32.902	Contract financing & invoice' payments def. \$52.232-10; and Proper invoice definition & 52.232-26
32.903	Due dates for making payments in 52.232-10
32.905(b)	Due dates for making payments in 52.232-10
32.905(f)(5)	Progress payment date in receiving report
32.908(a)	Payments: If 52.232-10 is used, then include 52.232-26
36.000 & 36.101	Policies of Part 36 apply to A/E
36.102	A/E services defined (See also 36.601-4(a)(1&2)
36.103(b)	A/E services acquired using negotiation procedures
36.209	Prohibition on construction contract going to design firm
36.601-1	Public announcement of A/E contracts
36.601-2	Competition & A/E contracting
36.601-3(a)	Source selection by procedures in 36.6 not 13, 14, 15
36.601-3(b)	SOW includes both A/E and other services
36.061-3(c)	Registered A/E not required: Use Parts 13, 14, 15
36.601-4(a)(1)	Professional A/E services defined by State Law
36.601-4(A)(2)	A/E services with design/construction of real property
36.601-4(a)(3)	Incidental Services defined
36.601-4(a)(4)	Surveying and Mapping Services defined
36.601-4(b)	Award to firms law allows to practice A & E Profession
36.602-1(a)	Selection criteria
36.602-1(b)	Design competition use
36.602-2	Evaluation Boards must be established

36.602-3	Evaluation Board functions
36.602-4	Selection authority
36.602-5	Small Purchase short selection procedures
36.603	Collecting data on A/E firms using SFs 254 and 255
36.604(a)	Preparation of Performance Evaluation Reports
36.604(b)	Review o Performance Evaluation Reports
36.604(c)	Distribution and use of Performance Evaluation Reports
36.605	Independent Government estimate over \$25K
36.606(a)	Negotiations with most preferred firm
36.606(b)	RFP doesn't preclude modern design methods
36.606(c)	Prohibition on construction contract going to design firm
36.606(d)	Advance agreement on CAD
36.606(e)	Consent to subcontractors
36.606(f)	Going to next firm on selection list if negotiations fail
36.607	Release of information on selected firm
36.608	Liability of A/E firms for design deficiencies
36.609-1(a)	Design within funding limitations policy
36.609-1(b)	Design within funding limitations negotiated amount
36.609-1(c)	Design within funding limitations clause: 52.236-22
36.609-2(a)	Responsibility of the A/E to redesign at no cost for errors
36.609-2(b)	Responsibility of the A/E Contractor clause: 52.236-23
36.609-3	Work Oversight in A/E Contracts clause: 52.236-24
36.609-4	Require, for Registration of Designers clause: 52.236-25
36.702(a)	Award using SF 252, A/E Contract
36.702(b)	SFs 254 & 255 use
36.702(c)	Performance evaluation, SF 1421 use
37.101	A/E as example of service
37.204(b)	Advisory & assistance service excluded A/E per 36.6
43.000	Modifications policy (Part 43) applies to A/E
43.205(a)(2 to 4)	Changes--Fixed-Price (52.243-1): Use Alt. III for A/E
44.201-3(a)	Subcontract consent required for A/E
44.204(a)(2)(ii)	Subcontracts (F-P Contracts) 52.244.1 not used in A/E
44.204(d)	Subcontractors and Outside Assoc.
46.801(a)(4)	GFP loss liability subpart does not apply to A/E
48.101(b)(2)	Value engineering sharing not permitted in A/E
48.102(a)	VE provisions are to be included in A/E contracts
48.102(h)	VE: separately priced line item for A/E
48.104-1(c)	Value engineering sharing not permitted in A/E
48.201(f)	VE--A/E (52.248-2): Use in A/E rather than 52.248-1
49.502(a)(1)(iii)	Term. for C...(52.249-1) not used in A/E
49.502(b)(1)(iii)	Term. for C...(52.249-2) not used in A/E
49.503(a)(1)	Term. (CR) (52.249-6) don't use in A/E
49.503(b)	Termination (F-P A/E) 52.249-7 used in A/E contracts
52.202-1	Definitions: Use Alt. #1
52.204-2	Security Requirements: Use Alt. II
52.212-12	Suspension of Work
52.227-1	Authorization and Consent: flow down to subcontracts
52.227-2	Notice and Assistance...: floor down to subcontracts
52.232-10	Payments under F-P A/E Contracts
52.232-25(b)(1)	Prompt Payment: def. of Contract Financing Payments
52.232-26	Prompt Payment for F-P A/E
52.235-22	Design Within Funding Limitations
52.236-23	Responsibility of the A/E Contractor
52.236-24	Work Oversight in A/E Contracts
52.236-25	Requirements for Registration of Designers
52.243-1	Changes--F-P: Use Alt. #3
52.244-4	Subs and Outside Associates and Consultants
52.248-2	VE-A/E
52.249-1	Term. for C of Govt. (F-P)(Short Form): Don't use
52.249-2	Term. for Co of the Government (F-P): Don't use
52.249-7	Termination (F-P A/E)
53.214	Sealed Bidding forms not used in A/E
53.215-1	Negotiation forms not used in A/E
53.236-2	Prescribed forms for use in A/E
53.236-2(a)	SF 252- Architect-Engineer Contract
52.236-2(b)	SF 254 - Architect-Engineer & Related Services Quest.

52.236-2(c)	SF 255 - A/E & Related Serv. Quest. for Specific Project
53.236-2(d)	SF 1421 - Performance Evaluation (Architect-Engineer)

Sorted by **TOPIC** column

FAR	TOPIC
15.903(d)(1)	6% fee limitation for A/E contracts
36.601-4(a)(2)	A-E services with design/construction of real property
37.101	A/E as example of service
36.103(b)	A/E services acquired using negotiation procedures
36.102	A/E services defined (See also 36.601-4(a)(1&2))
36.606(d)	Advance agreement on CAD
31.109(h)(14)	Advance agreement: A/E costs in G&A
37.204(b)	Advisory & assistance service excluded A/E per 36.6
52.227-1	Authorization and Consent: flow down to subcontracts
36.601-4(b)	Award to firms law allows to practice A&E Profession
36.702(a)	Award using SF 252, A/E Contract
52.243-1	Changes--F-P: Use Alt. #3
43.205(a)(2 to 4)	Changes--Fixed-Price (52.243-1): Use Alt. III for A/E
27.303	Clauses: reference to 27.304-3
36.603	Collecting data on A/E firms using SFs 254 and 255
36.601-2	Competition & A/E contracting
15.609(d)	Competitive Range not applicable
36.606(e)	Consent to subcontractors
32.902	Contract financing & invoice' payments def. & 52.232-10; and Proper invoice definition & 52.232-26
31-105	Cost Principles FAR section on A/E
31.201-7	Cost principles applicability reference to 31.105
31.103	Cost principles applicability to A/E
2.201	Definitions, Alternate I clause: (52.202-1)
52.202-1	Definitions: Use Alt. #1
36.602-1(b)	Design competition use
52.236-22	Design within funding limitations
36.609-1(c)	Design within funding limitations clause: 52.236-22
36.609-1(b)	Design within funding limitations negotiated amount
36.609-1(a)	Design within funding limitations policy
19.1005(a)(3)	Designated industry group for SB Demo Prog.
36.604(c)	Distribution and use of Performance Evaluation Reports
32.903	Due dates for making payments in 52.232-10
32.905(b)	Due dates for making payments in 52.232-10
36.602-3	Evaluation Board functions
36.602-2	Evaluation Boards must be established
46.801(a)(4)	GFP loss liability subpart does not apply to A/E
36.606(f)	Going to next firm on selection list if negotiations fail
36.601-4(a)(3)	Incidental Services defined
27.203-1(b)(5)	Indemnification clause not needed for A/E
36.605	Independent Government estimate over \$25K
28.311-2	Insurance Liability...clause not needed for A/E
15.812-2(a)(2)	Integrity of Unit Prices clause (52.215-26): Don't use
36.608	Liability of A/E firms for design deficiencies
43.000	Modifications policy (Part 43) applies to A/E
53.215-1	Negotiation forms not used in A/E
36.606(a)	Negotiations with most preferred firm
52.227-2	Notice and Assistance...:flow down to subcontracts
17.200	Options Subpart does not apply to A/E
27.304-3	Patent rights clause for A/E R&D
27.302-3(b)(2)	Patents clause not needed for "standard types..."
27.201-2(b)	Patents: Alt. I for 52.227-1 or R&D
27.201-2(a)	Patents: Authorization & Consent clause 52.227-1
27.202-2	Patents: Notice and Assistance...clause 52.227-2
52.232-10	Payments under F-P A/E Contracts
32.111(d)(1)	Payments under F-P A/E Contracts clause: 52.232-10
32/908(a)	Payments: If 52.232-10 is used, then include 52.32-26
36.702(c)	Performance evaluation, SF 1421 use
36.000 & 36.101	Policies of Part 36 apply to A/E
3.104-7(d)(4)iv	Post-empl. restriction when Substituting for A/E sub.

36.604(a)	Preparation of Performance Evaluation Reports
53.236-2	Prescribed forms for use in A/E
36.601-4(a)(1)	Professional A-E services defined by State Law
22.1102	Professional Employee definition
32.905(f)(5)	Progress payment date in receiving report
36.209	Prohibition on construction contract going to design firm
36.606(c)	Prohibition on construction contract going to design firm
52.232-26	Prompt Payment for F-P A/E
52-232-25(b)(1)	Prompt Payment: def. of Contract Financing Payments
36.601-1	Public announcement of A/E contracts
5.203(c)	Publicizing notice: 30 days response time
36.601-3(c)	Registered A/E not required: Use Parts 13, 14, 15
36.607	Release of information on selected firm
36.609-4	Require. for Registration of Designers clause: 52.236-25
52.236-25	Requirements for Registration of Designers
52.236-23	Responsibility of the A/E Contractor
36.609-2(b)	Responsibility of the A/E Contractor clause: 52.236-23
36.609-2(a)	Responsibility of the A/E to redesign at no cost for errors
36.6064(b)	Review of Performance Evaluation Reports
36.606(b)	RFP doesn't preclude modern design methods
27.409(a)(1)(iv)	Rights in Data-Special Works clause 52.227-17 for A/E
27.409(o)	Rights in Data-Special Works clause 52.227-17 for A/E
53.214	Sealed Bidding forms not used in A/E
4.404(c)	Security Req., Alternate II clause: (52.204-2)
52.204-2	Security Requirements: Use Alt. II
36.602-4	Selection authority
36.602-1(a)	Selection criteria
6.102(d)(1)	Selection of A/E sources is competitive under PL 92-582
53.236-2(a)	SF 252 - Architect-Engineer Contract
53.236-2(b)	SF 254 - Architect-Engineer & Related Services Quest.
53.236-2(c)	SF 255 - A/E & Related Serv. Quest. for Specific Proj.
53.236-2(d)	SF 1421 - Performance Evaluation (Architect-Engineer)
36.702(b)	SFs 254 & 255 use
19.102 (g)(3446)	Size Standard: Arch. & Ornamental Metal Work
19.102(g)(8712)	Size Standard: Architectural Services
19.102(g)(8711)	Size Standard: Eng. Services - Naval Architecture
36.602-5	Small Purchase short selection procedures
36.601-3(a)	Source selection by procedures in 36.6 not 13, 14, 15
36.601-3(b)	SOW includes both A/E and other services
44.201-3(a)	Subcontract consent required for A/E
44.204(d)	Subcontractors and Outside Assoc. 42.244-4 in A/E
44.204(a)(2)(ii)	Subcontracts (F-P Contracts) 52.244.1 not used in A/E
52.244-4	Subs and Outside Associates and Consultants
36.601-4(a)(4)	Surveying and Mapping Services defined
52.212-12	Suspension of Work
12.505(a)	Suspension of Work clause (52.212-12) in A/E RFPs
12.502	Suspension of Work clause can be "ordered" by CO
5.207(b)(4)1	Synopsis Format: Action Code
5.207(b)(1)	Synopsis Format: Code "C" for A/E Services
5.207(c)(2)(xi)	Synopsis Format: Item 17
5.205(d)	Synopsizing thresholds
49.503(a)(1)	Term. (CR) (52.249-6): don't use in A/E
49.502(a)(1)(iii)	Term. for C...(52.249-1) not used in A/E
49.502(b)(1)(iii)	Term. for C...(52.249-2) not used in A/E
52.249-1	Term. for C of Government (F-P) (Short Form): Don't use
52.249-2	Term. for C of Government (F-P): Don'ts use
52.249-7	Termination (F-P A/E)
49.503(b)	Termination (F-P A/E) 52.249-7 used in A/E contracts
12.104(a)(1&2&3)	Time of Delivery clauses (52.212-1,2): Don't use in A/E
19.502-2(a)	Total set-asides include A/E
15.406-1(a)(2)	UCF exemption for A/E contracts
48.101(b)(2)	Value engineering sharing not permitted in A/E
48.104-1(c)	Value engineering sharing not permitted in A/E
48.201(f)	VE--A/E (52.248-2): Use in A/E rather than 52.248-1
48.102(a)	VE provisions are to be included in A/E contracts
48.201(f)	VE--A/E (52.248-2): Use in A/E rather than 52.248-1

48.102(a)	VE provisions are to be included in A/E contracts
52.248-2	VE-A/E
48.102(h)	VE: separately priced line item for A/E
52.236-24	Work Oversight in A/E Contracts
36.609-3	Work Oversight in A/E Contracts clause: 52.236-24

Appendix 19: Statement of Work (Example)

MAJCOM

BASE AFB, State

ARCHITECT-ENGINEER
STATEMENT OF WORK

for

"PROJECT TITLE"

STATEMENT OF WORK

FOR

PROJECT TITLE

Base AFB, State

TABLE OF CONTENTS

Chapter

- 1.0 STATEMENT OF WORK
- 2.0 DESIGN POLICY AND CRITERIA
- 3.0 COST AND SCOPE LIMITATIONS
- 4.0 DRAWING AND SPECIFICATION STANDARDS
- 5.0 CONTRACT SCHEDULE
- 6.0 ARCHITECT-ENGINEER SERVICES
- 7.0 INITIATION OF WORK
- 8.0 GOVERNMENT REVIEW
- 9.0 SPECIAL CONDITIONS
- 10.0 SUBMITTALS

STATEMENT OF WORK

FOR

PROJECT TITLE

Base AFB, State

1.0 STATEMENT OF WORK

1.1 GENERAL DESCRIPTION: The Architect-Engineer (A-E) shall furnish all services, materials, supplies, equipment, investigation, studies, supervision, and travel as required in connection with this Statement of Work (SOW), and all furnished and referenced design instructions.

1.1.2 PROJECT SPECIFICS:

<u>PROJECT CODE</u>	<u>PROJECT DESCRIPTION</u>	<u>SCOPE</u>	<u>CONST. COST LIMITATION (CCL)</u>
---------------------	----------------------------	--------------	-------------------------------------

BASIC:

1.2 PROJECT CONSTRUCTION REQUIREMENTS: This project will _
_. Major work to be accomplished under this contract includes, but is not limited to:

BASIC:

1.2.1 Expand _____

1.2.2 Upgrade and modernize _____

- 1.2.3 *Replace _____*
- 1.2.4 *Add new _____*
- 1.2.5 *Provide site utilities and electrical service _____*
- 1.2.6 *Improve site drainage and storm drainage _____*
- 1.2.7 *Realign roads, demolish road sections, add sidewalks, improve parking, and provide playground and tot lots. Also landscape around units and in areas affected by project.*
- 1.2.8 *Install smoke detectors according to NFPA.*
- 1.2.9 *Demolish 4 each 4-plexes (16 units).*
- 1.2.10 *Perform an investigation of the main water and sanitary sewer in the area of the project to ascertain the soundness of the lines and recommend fixes as necessary.*

OPTIONS:

- 1.3 *Option 1 will include all work described above, except _____*
- 1.4 Option 2 is _____.
- 1.5 GENERAL SCOPE OF SERVICES: It is the Government's intent to issue complete Invitation to Bid (IFB) documents (*edit if other than IFB delivery process is used*) in accordance with Federal Acquisition Regulations (FAR) for the project identified in this Statement of Work. The A-E will be responsible for preparing these complete drawing and specification documents. This Statement of Work identifies the services required to prepare the above mentioned documents.

2.0 DESIGN POLICY AND CRITERIA

- 2.1 DESIGN POLICY: The Air Force will furnish basic design criteria to the A-E from which he can develop and produce the project documents as described below. Suggestions that will improve the operational functions, enhance appearance, and prove to be more economical and advantageous shall be made at the appropriate review conferences.
- 2.2 DESIGN INSTRUCTIONS: The design shall incorporate the requirements as discussed in the pre-proposal and site visit conferences and requirements of the publications listed below. All such data or correspondence that are marked "For Official Use Only" shall be protected. Upon request from the Contracting Officer, all Government-Furnished materials shall be returned to the AF PM within 30 days.
- 2.3 PROJECT CRITERIA: The project design shall conform to the following criteria:
 - 2.3.1 APPLICABLE STANDARDS:
 - 2.3.1.1 ANSI B31.8 (1968) and B31.8b (1969) Gas Transmission and Distribution Piping Systems.
 - 2.3.1.2 Council of American Building Officials (CABO) One and Two Family Dwelling Code.
 - 2.3.1.3 Mechanical systems - ASHRAE and SMACNA Standards.
 - 2.3.1.4 National Electric Code, NFPA No. 70.
 - 2.3.1.5 National Electric Safety Code (ANSI C2).
 - 2.3.1.6 National Fire Protection Association (NFPA 101) Life Safety Code.
 - 2.3.1.7 Uniform Building Code (ICBO).
 - 2.3.1.8 Uniform Federal Accessibility Standard (UFAS).
 - 2.3.1.9 Uniform Mechanical Code (ICBO)
 - 2.3.1.10 Uniform Plumbing Code (ICBO).
 - 2.3.1.11 Applicable State, City and County codes and regulations.
 - 2.3.1.12 ETL 94-7 EPA Guideline Items in Construction and other Civil Engineering Specifications 14 Dec 94.

- 2.3.1.11 Presidential Memorandum 26 Apr 94 - Environmental and
- 2.3.2 GOVERNMENT-FURNISHED INFORMATION AND MATERIALS: The following information and materials will be furnished to the A-E by the government for the execution of the project work:
 - 2.3.2.1 Project Location Plan.
 - 2.3.2.2 Utility Maps of the project site (electrical, sanitary sewer, storm drains, and water) as available for use as reference.
 - 2.3.2.3 Standard reproducible mylar cover sheet and second sheet with preprinted title block.
 - 2.3.2.4 DD Form 1391.
 - 2.3.2.5 Command/Base Guidelines.
 - 2.3.2.6 Pricing Schedule and Time Schedule.
 - 2.3.2.7 Project Management Plan (PMP)
 - 2.3.2.8 Environmental Assessment.
 - 2.3.2.9 Base Construction Standards

3.0 COST AND SCOPE LIMITATIONS

3.1 GENERAL: The intent of this A-E Services Contract is to design completely functional and operational facilities within the cost and scope restraints for the project. The A-E will consider all design options and criteria reductions that may be necessary in those instances where possible cost overruns may be expected. This information will be included in the design analysis..

3.2 COST ESTIMATES:

3.2.1 CONSTRUCTION COST LIMITATION: The construction cost limitation is listed in para. 1.1.2, above. The construction cost includes *construction/improvement* of (buildings) and necessary supporting facilities such as (roads, drives, landscaping, recreation areas, parking, and utilities). **If at any time the Architect-Engineer determines that the estimated construction cost or scope of the project exceeds, or is likely to exceed, the construction contract limitation, or scope set forth in this Statement of Work, the Architect-Engineer shall report this fact in writing to the Contracting Officer and submit a control estimate and recommendations for reducing the project cost and/or scope to within established limits.** Any proposed deviation from criteria must be approved prior to implementation.

3.2.2 COST ESTIMATE SUBMITTALS: Cost Estimates shall be furnished with **each** design submittal. The estimate shall include a summary sheet and backup sheets as follows:

3.2.4.1 SUMMARY SHEET

Authorized Scope.

Designed Scope.

Authorized Construction Cost \$ _____

Designed Construction Cost \$ _____

Percentage Over/Under Auth Cost _____

Building (to 5' line) \$ _____

Site Work \$ _____

Demolition \$ _____

Environmental Abatement \$ _____

Overhead and Profit \$ _____

TOTAL ESTIMATED CONSTRUCTION CONTRACT COST \$ _____

3.2.4.2 BACKUP SHEETS

- 3.2.4.2.1 Primary item cost breakdown sheets shall be provided to serve as backup to the submitted estimate. This breakdown shall show as many construction item quantities and costs as possible at each stage of design, **by housing unit type**. Items such as foundations and footings may be included by lineal feet, exterior walls by square footage, plumbing by fixture, etc.. When aggregate items such as these are used, insure a description is included in the cost. Contractor labor, mark-up, taxes, overhead and profit may be included in the unit prices if a general note is added indicating percentage amounts that are included.
- 3.2.4.2.2 Support items include all work outside the five foot line of the building and must be estimated on a quantity contract price. Basic lump sum costing is not acceptable when quantities can be readily calculated.
- 3.2.4.2.3 If unusual design features or conditions are included in the project which materially affect the cost, attach a separate sheet to the backup material with sufficient explanation and cost information to support them.
- 3.3 **CONFIDENTIALITY:** Quantity surveys and cost estimates shall remain the sole property of the Government, and shall not be made available to others for any purpose. The sale of takeoffs of quantities and costs to prospective bidders or estimators is prohibited. The A-E shall be aware of and take such precautionary measure as necessary to maintain the confidential nature of all estimates prepared under this contract. Subcontracting of estimating services is governed by the General Provisions of this contract.

4.0 DRAWING AND SPECIFICATION STANDARDS

- 4.1 CONTRACT DRAWINGS: Drawings shall be prepared on (*AutoCAD release XX.0 or compatible format*), (*Intergraph Microstation version X*), using the Base's computer aided drafting (CAD) layering standard. *Landscape drawings shall be prepared using the LandCAD CAD system*. One copy of the drawing files shall be provided on 3-1/2" HD/DS computer disks with the 100% complete submittal. All contract drawings shall be well prepared, complete, and accomplished in accordance with the best professional practice to show clearly and concisely the type and extent of work to be performed. The drawings shall be drawn to appropriate scales and dimensioned completely and accurately. Notes on the drawings should be held to a minimum. Extensive explanatory notes on the drawings are not desirable and should be placed in the specifications. Dimensions shall be shown in standard English units. Standard building material indications and symbols for architectural items and for mechanical and electrical equipment shall be used to the greatest extent possible. Drawings shall be delivered in hard copy, standard blue-line quality paper, at review stages in the number listed in paragraph 10, SUBMITTALS. All sets of review drawings and corrected final drawings for *MAJCOM, XXX CES*, and AF PM shall be one-half size except as noted in paragraph 10. Corrected final drawings shall include one set of full size drawings on 5 mil, reproducible/erasable mylar sheets. The mylar drawing requirements are in addition to the CAD files described above and the number of copies listed in paragraph 10, SUBMITTALS. The Mylar drawings and CAD files shall be delivered to the Base Civil Engineer. Full size drawings shall be XX" x XX".
- 4.2 SPECIFICATIONS: Specifications shall be delivered in hard copy, bound on 8-1/2" x 11" paper, at the various stages in the number listed in paragraph 10. Original, unbound final specifications in hard copy (in the number specified in paragraph 10) and on computer disk in *Microsoft Word for Windows version (Word X.0)* format (1 copy) shall be delivered to the Base Civil Engineer. Specifications, including all technical and special conditions, shall be based on Construction Specifications Institute (CSI) format modified for Air Force construction and shall be prepared by the A-E to meet government standards to be descriptive enough to permit full and free competition among bidders. References will be made to Federal Specifications, ASTMs, and trade standards when applicable to establish a uniform standard. All references to Military and Federal Specifications or Standards at the beginning of each section must be dated with the latest revisions annotated. All standards and specifications used in the text will be listed in the opening reference paragraph. In general, the A-E should avoid the use of "proprietary type" specs. When necessary to use a manufacturer's name to describe a type of product, at least three manufacturers shall be named, if possible, and shall include the words "or approved equal." Brand name or "or equal" descriptions may be used only as a last resort for supplies/equipment when there are no specifications available covering the items and when it otherwise is not feasible to describe the requirement. All materials, components, and equipment shall be specified for approval by the Contracting Officer. All items designated for submittal and test shall be sufficiently described to provide the government a basis for review and approval or disapproval. The term "Contracting Officer" shall be used in the specs rather than references to "owner" and "Architect Engineer."
- 4.3 DESIGN ANALYSIS: Design analysis shall be bound on 8 1/2" x 11" paper, arranged by discipline and support all design decisions made through out the design. The design analysis shall include calculations, material cut sheets and explanations of any options considered. The design analysis shall also contain, as a separate section, the cost estimate. The design analysis will also contain previous review comments, annotated with action taken and a listing of any outstanding issues requiring resolution, each as a separate section.

5.0 CONTRACT SCHEDULE

5.1 DELIVERY SCHEDULE: The work, design, other related data and services required in accordance with the "Basic" contract and any "Option" indicated below shall be accomplished to produce a project within the limitation of cost and project scope stated above. The schedule for delivery of data to the Contracting Officer is in calendar days. Calendar days for each requirement extends from the date of the Notice to Proceed (NTP) or approval for each item, except as otherwise noted. See Paragraph 10 for a submittal delivery chart. Percentages below apply to the completed IFB package.

<u>ITEM</u>	<u>BASIC CONTRACT:</u>	<u>BASIC CONTRACT</u>	<u>OPTION</u>	<u>SUBMITTAL DELIVERY SCHEDULE</u>	<u>REVIEW PERIOD</u>	<u>CONFERENCE LOCATION</u>
5.1.1	User Questionnaire	X		## Days after Notice to Proceed	NA	NA
5.1.1	Design Charrette (10%) Development of approved preliminary floor plans, elevations, site work, and cost estimate.	X		## Days after Notice to Proceed	NA	Base AFB
5.1.2	Preliminary design submittal. Further development of design, floor plans, elevations, site work, specifications cost estimate, design analysis	X		## days after completion of Charrette	21 Days	Base AFB
5.1.4	Final unchecked design submittal (90%). Finalized design, floor plans, elevations, site work, specifications, cost estimate, and design analysis	X		## days after 50% submittal review conference	21 days	Base AFB
5.1.5	Corrected final design submittal (100%). Final design, floor plans, elevations, site work, specifications, cost estimate, and design analysis--all corrected per all review comments	X		## days after 90% submittal review conference	NA	Not required

OPTION 1:

5.2.1	Design Charrette (10%). Development of approved preliminary floor plans, elevations, site work, and cost estimate.	X		## Days after Notice to Proceed	NA	<i>Base AFB</i>
5.2.2	Preliminary design submittal (50%). Further development of design, floor plans, elevations, site work, specifications cost estimate, design analysis	X		## days after completion of Charrette	21 Days	<i>Base AFB</i>
5.2.3	Final unchecked design submittal (90%) Finalized design, floor plans, elevations, site work, specifications, cost estimate, and design analysis	X		## days after 50% submittal review conference	21 days	<i>Base AFB</i>
5.2.4	Corrected final design submittal (100%) Final design, floor plans, elevations, site work, specifications, cost estimate, and design analysis--all corrected per all review comments	X		## days after 90% submittal review conference	NA	Not required

OPTION 2:

5.3.1	Technical interchange meeting		X	At the option of the Contracting Officer	NA	<i>Base AFB</i>
-------	-------------------------------	--	---	--	----	-----------------

OPTION 3:

5.4.1	<i>Title II Construction Inspection Services</i>		X	<i>At the option</i>	<i>NA</i>	<i>Base AFB</i>
-------	--	--	---	----------------------	-----------	-----------------

6.0 ARCHITECT-ENGINEER SERVICES

- 6.1 SITE DESIGN DATA: The A-E shall perform field reconnaissance, surveys, and site investigations, including travel, and work required to obtain engineering information and design data for the accomplishment of the contract documents of the project in accordance with requirements of this Statement of Work (SOW).
- 6.1.1 ASBESTOS TESTING: If applicable, the A-E shall perform all necessary testing to identify asbestos abatement needed during the construction contract.
- 6.1.2 LEAD-BASED PAINT Testing: If applicable, the A-E shall perform all necessary testing to identify lead-based paint abatement needed during the construction contract.
- 6.2 FIELD MEASUREMENTS: The A-E shall be required to make his own field investigations to verify dimensions and other information shown on government furnished reference drawings.
- 6.3 USER QUESTIONNAIRE: The A-E shall develop a user questionnaire within 5 days of issuance of notice to proceed and distribute to personnel listed in paragraph 10. This questionnaire shall document questions concerning criteria that the A-E needs to complete the design. Answers to these questions will be provided during the investigation period.
- 6.4 DESIGN CHARRETTE: The A-E shall conduct a Design Charrette at XXXX AFB with the purpose of creating conceptual site development plans, floor plans, elevations, parametric cost estimates and obtain approval by the Government. The Charrette shall be attended by up to XXXX (#) members of the A-E firm to identify and address all of the disciplines to be involved in the project. The Charrette is anticipated to last no more than XXXX days and will require progress presentations to the base leadership, MAJCOM, and AF PM personnel at XXXX AFB. The A-E shall submit a report of Charrette proceedings and record copies of drawings produced during the Charrette. The A-E shall out-brief the wing and base leadership.
- 6.5 TOPOGRAPHIC SURVEY AND DRAINAGE STUDY: The A-E shall produce a topographic survey of the existing construction site to be used in the production of a drainage study and grading plan for the new construction. The end product will be a grading plan which creates a positive drainage for the new construction site.
- 6.6 GEO-TECHNICAL INVESTIGATION: The A-E shall arrange for soil borings, plate bearing tests, and CBR tests as required throughout the construction area. The A-E may rely on existing soils data if in his professional opinion such data is adequate for sound design.
- 6.7 PRELIMINARY (50%): Architect-Engineer shall submit a preliminary design package which will include, as a minimum, the following:
 - 6.7.1 DRAWINGS:
 - 6.7.1.1 Cover sheet, drawing index, site plan, and location plans showing how each unit type fits in and interrelates with other unit types.
 - 6.7.1.2 Existing/demolition plans, including phasing, at 1/4" scale for each of the unit types.
 - 6.7.1.3 New plans at 1/4" scale for each of the unit types, including sections and details, by discipline.
 - 6.7.2 SPECIFICATIONS: Include index and mark-up of all sections.
 - 6.7.3 DESIGN ANALYSIS: Describe elements of preliminary design only. Document any A-E concerns requiring Government resolution. Provide preliminary descriptive catalog cuts to support design to this level. Preliminary cost estimates for each unit type and total for the project. Give recommendations for additives, if necessary.
 - 6.7.4 COLOR BOARDS: Submit 2 each exterior and interior color boards showing all finishes and colors. The boards shall illustrate colors and materials proposed for use in the project. Submit one color board to base civil engineer, and one to MAJCOM/CEPH at addresses listed in paragraph 10.
- 6.8 FINAL DESIGN (90%) DOCUMENTS: The final design (90%) documents will be the preceding design completed to 100% and include the integration of the Air Force review comments resulting from the previous reviews along with a refined cost estimate and anticipated design/construction time schedule (Bar Chart). The final design will include complete and thorough detailing of all requirements of the project to leave the contractor no question as to scope of the IFB, and shall include all requirements shown for the Preliminary (50%) design.
- 6.9 CORRECTED FINAL (100%): The completed (100%) design will include the final (90%) design documents with all comments incorporated. In addition to the submittals listed below, the A-E will also provide original documents as noted in paragraphs 4.1 and 4.2.

- 6.10 TECHNICAL INTERCHANGE MEETING (OPTION 2): In addition to those meetings included in the basic part of this contract, the A-E may be required to attend and participate in other conferences to facilitate timely review under this contract. Exercising of this option shall be at the convenience of the government and at the direction of the Contracting Officer. XXXX (#) such meetings are estimated, and shall be priced on a unit price basis. These meetings shall be held at XXXX AFB, and are to be of one day duration. Participation in the meeting(s) shall be limited to the Architect-Engineer's project manager, architect, and technical support personnel. Subsequent to the meeting(s), the Architect-Engineer will be required to comply with paragraph 9.3. The government reserves the right to exercise option(s) at any time within 365 calendar days after issuance of Notice-to-Proceed of the basic contract.
- 6.11 *TITLE II, CONSTRUCTION INSPECTION SERVICES (OPTION 3): The Government reserves the right to exercise this option at any time within 24 months after receipt of the 100% design submittal from the A-E.*
- 6.11.1 *SCOPE: The A-E shall perform all services required for full time surveillance and inspection during the progress of construction up to the completion and final inspection of the PROJECT TITLE, Base AFB, State, in accordance with the requirements as detailed below.*
- 6.11.2 *REPORTING: The A-E project representative shall report to and work through the XXX CES/CE (BCE) who is the designated technical representative for the XXX CONS Contracting Officer (CO) for construction.*
- 6.11.3 *FULL TIME REPRESENTATION: The A-E shall designate and assign a full-time project representative whose primary duty and responsibility is to perform on-site surveillance and inspection of the construction work in progress and to ascertain that the work is properly executed in conformance with the contract drawings and specifications. Fully qualified personnel will be used for inspection of environmental remediation, landscaping, civil, structural, electrical, architectural, and mechanical systems. Additionally, the A-E project representative shall perform the following services:*
- 6.11.3.1 *Consider and evaluate suggestions or recommendations which may be submitted by the contractor and take recommendations to the CO.*
- 6.11.3.2 *Observe the construction schedule and conditions which may delay construction completion and make recommendations to the BCE concerning contract time extensions.*
- 6.11.3.3 *Interpret and clarify the intent of the drawings and specifications as directed by the CO.*
- 6.11.3.4 *Attend conferences held at the project site and all meetings related the design/construction of this project.*
- 6.11.3.5 *Observe tests conducted at the project site, as required by contract documents and maintain records and report on such tests.*
- 6.11.3.6 *Maintain records and files including: correspondence, reports, shop drawings, diaries, addenda, contract modifications and change orders issued as part of the contract award and subsequent to award of the contract.*
- 6.11.3.7 *Maintain a daily diary utilizing a bound log book, AF Form 1477. This form will be provided by the BCE. All information required by AF Form 1477 shall be annotated. Each day's entry shall be signed by the construction inspector and submitted to the BCE bi-weekly. Submit copies of the log book to AF PM.*
- 6.11.3.8 *Maintain progress charts and submit monthly progress reports to the BCE, with info to AF PM.*
- 6.11.3.9 *Provide one each set of twenty standard 35 mm 3" x 5" color photographs of on-going construction monthly to AF PM and maintain one set in the project file. Include photographs of all modification work. Photos are to be mounted 4 to a side, front and back, in standard 8 1/2" x 11" plastic, 3 hole, document protectors.*
- 6.11.3.10 *Review shop drawings and material samples and make recommendations for approval or disapproval to the BCE.*
- 6.11.3.11 *Review applications for payment and make recommendations to the BCE for disposition.*
- 6.11.3.12 *Make construction deficiency list and see that listed deficiencies are corrected, attend final inspection and make recommendations to the BCE for final acceptance.*
- 6.11.3.13 *Prepare documentation necessary to allow the design/build contractor to prepare modifications, prepare the government estimate for each modification and assist the CO in negotiations as required.*

- 6.11.3.14 *Monitor the contractor's marked-up set of drawings to reflect the as-built details of construction and provide reproducible mylar as-builts on completion of construction.*
- 6.11.3.15 *Provide immediately, in writing, to the BCE any work or materials that do not conform to the plans and specifications.*
- 6.11.3.16 *Monitor all permit requirements to assure they are complete prior to construction being impacted by the particular permit.*
- 6.11.3.17 *Maintain an "Official File Folder" for all correspondence and other data.*
- 6.11.3.18 *Obtain a listing of all materials and equipment covered by warranties complete with duration of the warranty from the construction contractor. Complete all actions required to ensure validation of all warranties.*
- 6.11.3.19 *Insure that the DD Form 1354, "Transfer and Acceptance of Military Real Property" is properly prepared (or being prepared) and ready for submission as described in the project specifications.*
- 6.11.4 *LIMITATION OF AUTHORITY: The A-E or his designated project representative shall not perform any of the following work without authorization from the CO:*
 - 6.11.4.1 *Authorize deviations from the contract documents.*
 - 6.11.4.2 *Personally conduct any tests.*
 - 6.11.4.3 *Enter into the area of responsibility of the construction contractor's superintendent.*
 - 6.11.4.4 *Advise or issue directions relative to any aspects of construction means, methods, techniques, or sequences of procedures.*
 - 6.11.4.5 *Issue certificate of payment.*
 - 6.11.4.6 *Issue interpretations or clarifications concerning the contract documents directly to the construction contractor.*
- 6.11.5 *CLAIMS: The A-E will assist the CO in answering all claims associated with the design/construction of these projects.*

7.0 INITIATION OF WORK

The A-E may not proceed or initiate any work or any succeeding design level of the work required under Paragraph 6.0 prior to receipt of original notice to proceed, receipt of approval of the preceding design level, or receipt of a contract modification initiating an option. Any work done without being directed to do so by the Contracting Officer shall be at the A-E's own risk.

8.0 GOVERNMENT REVIEW

The Contracting Officer or his authorized representative may furnish the Architect-Engineer review comments on the data submitted. The Government's review is intended to be limited to functional aspects, with limited technical review of a general cursory nature only. Any review by the Government of technical items shall not be construed to relieve the A-E of responsibility for technically correct and complete documents in compliance with applicable codes and industry standards. Review comments for compliance with Federal Acquisition Regulations (FAR) will also be provided by the Contracting Officer. The Architect-Engineer shall comply with the review comments in the development of data for the next submittal. If any review comment requires clarification and/or amplification to assure compliance, the Architect-Engineer shall notify the Contracting Officer or his authorized representative in writing. After each review, the A-E will be furnished one set of comments to be annotated and returned to the Government. Comments annotated by the A-E with a "D" - do not concur, "E" - exception, or "X" - delete, shall have an explanatory note added to justify the noncompliance with the comment. Comments annotated by the A-E with a "C"--concur, do not require explanation. The A-E shall furnish these annotated comments to the Government no later than 7 calendar days after receiving the comments. Review periods listed in Paragraph 5 are in calendar days and are the minimum time required and may be extended. Review conferences shall be scheduled after receipt of submittals.

9.0 SPECIAL CONDITIONS

9.1 PERFORMANCE OF WORK:

- 9.1.1 The A-E shall furnish sufficient technical, supervisory, and administrative personnel at all times to ensure prosecution of the work in accordance with the delivery schedule.
- 9.1.2 Professional level skills and management practices are required in the performance of this contract. Accordingly, the A-E shall establish an effective quality control program to assure that the end product meets professional standards and complies with the contract requirements.

9.2 PROJECT COORDINATORS AND/OR MANAGERS:

- 9.2.1 The A-E shall appoint a project coordinator or manager to serve as the single point-of-contact and liaison between the A-E and the Contracting Offices or his representative for all work under the contract. Upon receipt of the NTP, the A-E shall immediately furnish for approval, the name of the designated individual to the Contracting Officer, in writing. The project coordinator or manager will be responsible for the complete coordination of all work developed under the contract. All work will be accomplished with adequate internal controls and review procedures which will eliminate conflicts, errors, and omissions, and ensure the technical accuracy if all designs, drawings, and specifications.

- 9.2.2 The Government Technical Representatives for this project is *NAME, ADDRESS, PHONE NUMBER..*

- 9.2.3 Any questions regarding the work under this contract should be directed to the Contracting Officer.

9.3 CONFERENCES AND CONFIRMATION NOTICES:

- 9.3.1 The A-E or his representative(s) will be required to attend and participate in all design review conferences pertinent to the work under the basic contract or any options incorporated into the contract.
- 9.3.2 If the A-E and/or his representative(s) are directed by the Contracting Officer to travel and participate in conferences **other than those specifically identified in this Statement of Work**, such costs and expenses incurred by the A-E for directed travel will be reimbursed by modification to the contract.
- 9.3.3 The A-E shall provide a record of all conferences, site visits, meetings, discussions, verbal directions, telephone conversations, etc., participated in by the A-E or his representatives on matters relative to the contract and the work. These records, entitled "CONFIRMATION NOTICES," shall be numbered sequentially and shall fully identify participating personnel, date and time of day, subject discussed, and any conclusions reached. The A-E shall forward to the Contracting Officer or his authorized representative and each agency listed in Para 10, unless otherwise indicated, a clearly legible copy of each confirmation notice within seven calendar days. Record of Review Conferences may reference "attached annotated review comments."

9.4 SITE VISITS, INSPECTIONS, AND INVESTIGATIONS:

- 9.4.1 The A-E will be required to participate in a Pre-proposal/Pre-design Site Visit Conference to further define the scope of the project under contract. All items discussed will be recorded in accordance with the requirement for Confirmation Notices. The visit shall include discussing Lessons Learned on previous local projects with appropriate personnel.
- 9.4.2 The A-E shall visit and inspect/investigate the site as necessary and required during preparation and accomplishments of the work. All work and data developed under the contract shall be related to current site conditions and to other proposed work within the specified project area. The A-E shall take a discretionary number of 5" X 7" color print pictures or arrange for the taking of such pictures of the site

and/or structures in connection with the project as necessary to portray the initial conditions affecting the design. One copy of all pictures taken shall be furnished the Contracting Officer or his authorized representative at the time of the first review of the project. The A-E shall notify the Contracting Officer of any items encountered/discussed in accordance with the requirement for Confirmation Notices. **Additional work shall be accomplished only at the direction of the Contracting Officer.** All travel, photographic materials, and expenses incurred by the A-E and/or his representative(s), including consultants for such design visits, inspections, and investigations, are included in the basic bid price of the contract.

- 9.5 TRAVEL: If the A-E and/or his representative(s) are required to travel to locations not specifically covered in the basic bid price of the contract, the Government will reimburse the A-E for transportation, including commercial aircraft where necessary, and allow for such travel, not to exceed the then current delivery rates for Government employees, including per diem, mileage, etc., in lieu of all other expenses. Transportation by automobile on such required travel shall be likewise reimbursed. Travel time and mileage will be determined in accordance with Joint Travel Regulations. All travel shall be either authorized or approved in writing by the Contracting Officer.

10.0 SUBMITTALS

A dated submittal letter shall be provided with each submittal to the Contracting Officer with distribution to the agencies listed below. This letter shall indicate to whom and the number of copies delivered. Submittals shall be delivered via two day delivery service.

<u>AGENCY</u>	<u>CHARRETTE REPORT</u>	<u>NUMBER OF SUBMITTAL SETS</u>		
		<u>50% PRELIM</u>	<u>90% FINAL</u>	<u>100% FINAL</u>
<i>AF PM Address Base AFB, State Zip (XXX) XXX-XXXX Attn: XXXXXXXXXXXXX</i>	3	3	3	3
<i>MAJCOM/CEH Address Base AFB, State Zip (XXX) XXX-XXXX</i>	2	2*	2*	2*
<i>XXX CES/CEXX Address Base AFB State Zip (XXX) XXX-XXXX Attn: XXXXXXXXX</i>	4	8*	8*	8*
<i>CONTRACTING OFFICE Address Base AFB, State Zip (XXX) XXX-XXXX Attn: XXXXXXXXXXXXX</i>	1	1	1	**

* - One set shall be full-size drawings.

** - Copy of transmittal

Appendix 20: Profit Calculation Worksheet

ARCHITECT & ENGINEERING (A&E) CONTRACTS ALTERNATE STRUCTURED APPROACH

		PROFIT PERCENT CALCULATION			
	<u>FACTOR</u>	<u>RATE</u>	<u>WEIGHT</u>	<u>VALUE</u>	
1	DEGREE OF RISK	0.25	X _____	=	_____
2	RELATIVE DIFFICULTY OF WORK	0.20	X _____	=	_____
3	DOLLAR VALUE OF JOB	0.15	X _____	=	_____
4	PERIOD OF PERFORMANCE	0.20	X _____	=	_____
5	CONTRACTOR'S INVESTMENT	0.05	X _____	=	_____
6	ASSISTANCE BY GOVERNMENT	0.05	X _____	=	_____
7	SUBCONTRACTING	0.10	X _____	=	_____
	SUM	100%			===== (*)

(*) The resulting summation represents the Government's position for profit. If it is higher than the proposed, accept the proposed profit.

INSTRUCTIONS:

1. Enter the weight's, computed on the attached individual worksheets, in the appropriate row under the "WEIGHT" heading.
2. Multiply each "WEIGHT" by the appropriate rate listed in the "RATE" column and enter the result in the column title "VALUE".
3. Sum the "VALUE" column. This is the percent of profit to be applied to the total cost to compute a profit dollar amount.
4. File this document in the official contract file. It represents the Government's objective for profit for this action.

Contract # _____

MOD # (if Applicable) _____

Signature _____

Title

Date _____

1 DEGREE OF RISK WORKSHEET - Contract # _____

	<u>WT</u>	<u>YES</u>	<u>RATIONALE</u>
<u>CONTRACT:</u>			
NEGOTIATED PRIOR TO PERFORMANCE?	0.013	[]	There is inherently more risk with a contract negotiated prior to performance.
OPTIONS INCLUDED?	0.012	[]	Contract options increase the risk to the prime contractor.
<u>DESIGN:</u>			
VERY COMPLEX DESIGN?	0.013	[]	The success of designs is directly related to complexity.
PRIME CONTRACTOR DOING DESIGN? (VS SUB)	0.012	[]	The responsibility for the design increases the risk to the prime.
<u>PERFORMANCE: (APPROXIMATE)</u>			
25% PRIME EFFORT-75% PLUS SUBCONTRACTOR or	0.008	[]	The prime contractor is responsible for the work performed. The greater the amount of work performed by the subcontractor, the greater the prime's risk.
50% PRIME EFFORT-50% SUBCONTRACTOR or	0.016	[]	
75% PRIME EFFORT-25% SUBCONTRACTOR or	0.026	[]	
100% PRIME EFFORT	0.030	[]	
TOTAL OF CHECKED ITEMS (SUM) =	_____		
MINIMUM FACTOR FOR DEGREE OF RISK =	0.070		
TOTAL WEIGHT =	_____		Total weight can be no less than .07 or greater than .15.
	=====		

- INSTRUCTIONS:
1. If the answer to the question is "YES", Check the block.
 2. Sum the "WTs" of the checked items.
 3. Add the sum of the "WTs" to the "minimum factor for degree of risk".
 4. The sum of the two factors is your weight for this category, "Degree of Risk". Enter this amount in the appropriate block on page 1.

2 DIFFICULTY OF WORK
WORKSHEET - Contract # _____

	<u>WT</u>	<u>YES</u>	<u>RATIONALE</u>
<u>DESIGN:</u>			
NEW CONSTRUCTION DESIGN?	0.030	[]	A new construction design has more risk of failure than does a rehabilitation (remodel) design.
REHABILITATION DESIGN?	0.020	[]	
<u>PERFORMANCE: (APPROXIMATE)</u>			
100% SUBCONTRACTOR EFFORT or	0.010	[]	The prime contractor's risk increases relative to the amount of direct effort he is providing.
25% PRIME EFFORT-75% SUBCONTRACTOR or	0.020	[]	
50% PRIME EFFORT-50% SUBCONTRACTOR or	0.030	[]	
75% PRIME EFFORT-25% SUBCONTRACTOR or	0.040	[]	
100% PRIME EFFORT	0.050	[]	
TOTAL OF CHECKED ITEMS (SUM) =	_____		
MINIMUM FACTOR FOR DEGREE OF RISK =	0.070		
TOTAL WEIGHT =	_____		Total weight can be no less than .07 or greater than .15.
	=====		

INSTRUCTIONS:

1. If the answer to the question is "YES", Check the block.
2. Sum the "WTs" of the checked items.
3. Add the sum of the "WTs" to the "minimum factor for degree of risk".
4. The sum of the two factors is your weight for this category, "Degree of Risk". Enter this amount in the appropriate block on page 1.

3 DOLLAR VALUE OF JOBS
WORKSHEET - Contract # _____

<u>CHECK APPROPRIATE RANGE:</u> (ONLY ONE)	<u>WT</u>	<u>YES</u>	<u>RATIONALE</u>
\$0 TO \$50K	0.15	[]	Control of fixed expenses generally improves with increased dollar magnitude.
OVER \$50K TO \$125K	0.14	[]	
OVER \$125K TO \$200K	0.13	[]	
OVER \$200K TO \$275K	0.12	[]	
OVER \$275K TO \$350K	0.11	[]	
OVER \$350K TO \$425K	0.10	[]	
OVER \$425K TO \$500K	0.09	[]	
OVER \$500K TO \$750K	0.08	[]	
OVER \$750 TO \$1MIL AND UP	0.07	[]	

Total weight can be no less than .07 or greater than .15.

INSTRUCTIONS:

1. Check only one block.
2. Enter the amount in the appropriate block on page 1., "Dollar value of Job".

4 PERIOD OF PERFORMANCE
WORKSHEET - Contract # _____

	<u>WT</u>	<u>YES</u>	<u>RATIONALE</u>
<u>CHECK APPROPRIATE RANGE: (ONLY ONE)</u>			
180 DAYS FOR DESIGN (ESTIMATE)	0.15	[]	The prime contractor's risk increases relative to the number of days needed to complete the design.
165 DAYS FOR DESIGN (ESTIMATE)	0.14	[]	
150 DAYS FOR DESIGN (ESTIMATE)	0.13	[]	
135 DAYS FOR DESIGN (ESTIMATE)	0.12	[]	
120 DAYS FOR DESIGN (ESTIMATE)	0.11	[]	
105 DAYS FOR DESIGN (ESTIMATE)	0.10	[]	
90 DAYS FOR DESIGN (ESTIMATE)	0.09	[]	
75 DAYS FOR DESIGN (ESTIMATE)	0.08	[]	
60 DAYS FOR DESIGN (ESTIMATE)	0.07	[]	

Total weight can be no less than .07 or greater than .15.

INSTRUCTIONS:

1. Check only one block.
2. Enter the amount in the appropriate block on page 1., "Period of Performance".

5 CONTRACTOR INVESTMENT
WORKSHEET - Contract # _____

<u>CHECK APPROPRIATE RANGE: (ONLY ONE)</u>	<u>WT</u>	<u>YES</u>	<u>RATIONALE</u>
ABOVE AVERAGE?	0.15	[]	This weight considers the amount of financing the contractor must do up-front. Average would be equal to the minimum progress payment
AVERAGE	0.11	[]	amount, which means the contractor would be investing about 20% of the contract price up-front.
BELOW AVERAGE	0.07	[]	
<u>CONSIDER:</u>			
AMOUNT OF SUBCONTRACTING?			
GOV'T FURNISHED PROPERTY			
OR DATA?			
PROGRESS PAYMENTS?			
(IF ALL APPLY, THEN BELOW AVERAGE!)			
(IF NONE APPLY, THEN ABOVE AVERAGE!)			

Total weight can be no less than .07 or greater than .15.

INSTRUCTIONS:

1. Check only one block.
2. Enter the amount in the appropriate block on page 1., "Contractor Investment".

6 ASSISTANCE BY GOVERNMENT
WORKSHEET - Contract # _____

	<u>WT</u>	<u>YES</u>	<u>RATIONALE</u>
<u>CHECK APPROPRIATE RANGE: (ONLY ONE)</u>			
ABOVE AVERAGE?	0.07	[]	This weight is similar to contractor investment factor's. That is, the more the Government provides, the less risk the contractor incurs.
AVERAGE	0.11	[]	The average weight of 0.11 is representative of the normal risk for this element.
BELOW AVERAGE	0.15	[]	
<u>CONSIDER:</u>			
USE OF AS-BUILT DRAWINGS?			
GOV'T SURVEYS, SOIL			
EXPLORATION, AND FOUNDATION			
RECOMMENDATIONS?			
PROGRESS PAYMENTS?			
(IF ALL APPLY, THEN BELOW AVERAGE!)			
(IF NONE APPLY, THEN ABOVE AVERAGE!)			

Total weight can be no less than .07 or greater than .15.

INSTRUCTIONS:

1. Check only one block.
2. Enter the amount in the appropriate block on page 1., "Assistance by Government".

7 SUBCONTRACTING
WORKSHEET - Contract # _____

<u>CHECK APPROPRIATE RANGE: (ONLY ONE)</u>	<u>WT</u>	<u>YES</u>	<u>RATIONALE</u>
100% SUBCONTRACTOR EFFORT or	0.07	[]	This element is weighted the same as the performance part of element #2. The same rationale applies; "The prime contractor's risk increases relative to the amount of direct effort he is providing."
25% PRIME EFFORT-75% SUBCONTRACTOR or	0.09	[]	
50% PRIME EFFORT-50% SUBCONTRACTOR or	0.11	[]	
75% PRIME EFFORT-25% SUBCONTRACTOR or	0.13	[]	
100% PRIME EFFORT	0.15	[]	

Total weight can be no less than .07 or greater than .15.

INSTRUCTIONS:

1. Check only one block.
2. Enter the amount in the appropriate block on page 1., "Subcontracting".

Appendix 21: Independent Government Estimate and A-E Proposal Form

Project Title: _____ **CCL :** _____ \$1

Location: _____ **PA :** _____ \$1

SUMMARY OF COSTS:

DISCIPLINE	# Dwgs	Man-Hr.	x Hr. Rate x	MARKUP =	A-E Cost
PROJ ENGR/MGR(10% proj hrs.)		0	\$28.00	2.585	\$0.00
CIVIL ENGINEER		0	\$25.00	2.695	\$0.00
CIVIL DRAFTSPERSON	0	0	\$15.00	2.695	\$0.00
LANDSCAPE ARCHITECT		0	\$25.00	2.805	\$0.00
LANDSCAPE ARCH DRAFTSPERSON	0	0	\$15.00	2.805	\$0.00
ARCHITECT		0	\$25.00	2.585	\$0.00
ARCHITECTURAL DRAFTSPERSON	0	0	\$15.00	2.585	\$0.00
STRUCTURAL ENGINEER		0	\$25.00	2.915	\$0.00
STRUCTURAL DRAFTSPERSON	0	0	\$15.00	2.915	\$0.00
MECHANICAL ENGINEER		0	\$25.00	3.025	\$0.00
MECHANICAL DRAFTSPERSON	0	0	\$15.00	3.025	\$0.00
ELECTRICAL ENGINEER		0	\$25.00	3.135	\$0.00
ELECTRICAL DRAFTSPERSON	0	0	\$15.00	3.135	\$0.00
FI & CONF TECHS		0	\$15.00	2.585	\$0.00
SPECIFICATION WRITER		0	\$25.00	2.585	\$0.00
2 hours per drawing sheet					
CLERICAL / TYPIST		0	\$10.00	2.585	\$0.00
2 hours per drawing sheet					
COST ESTIMATOR		0	\$25.00	2.585	\$0.00
2 hours per drawing sheet					
A. TOTALS:	0	0			\$0.00

ARCHITECTURAL MARKUP: _____% DL OVHD _____% G & A _____% PROFIT >>>> **2.585** MARKUP FACTOR

CIVIL MARKUP: _____% DL OVHD _____% G & A _____% PROFIT >>>> **2.695** MARKUP FACTOR

LANDSCAPE ARCHITECT MARKUP: _____% DL OVHD _____% G & A _____% PROFIT >>>> **2.805** MARKUP FACTOR

STRUCTURAL MARKUP: _____% DL OVHD _____% G & A _____% PROFIT >>>> **2.915** MARKUP FACTOR

MECHANICAL MARKUP: _____% DL OVHD _____% G & A _____% PROFIT >>>> **3.025** MARKUP FACTOR

ELECTRICAL MARKUP: _____% DL OVHD _____% G & A _____% PROFIT >>>> **3.135** MARKUP FACTOR

B. MATERIAL COSTS (PAGE 5): _____ \$0.00

C. TRAVEL RELATED EXPENSES (PAGE 6): _____ \$0.00

D. OTHER SIGNIFICANT COSTS (PAGE 7): _____ \$0.00

E. TOTAL FEE: SUM OF A.6 + B + C + D _____ **\$0.00**

CALCULATIONS:

\$0	/	\$1	=	0.00%	\$0	/	\$1	=	0.00%
-----	---	-----	---	-------	-----	---	-----	---	-------

FIELD INVESTIGATION (FI) DIRECT LABOR:

FI TEAM LABOR:

C. ENGR:	_____ persons x _____ man-hours	<u>\$25.00</u> \$ / hr x	<u>2,695</u> markup fac =	<u>\$0.00</u>
L. ARCH:	_____ persons x _____ man-hours	<u>\$25.00</u> \$ / hr x	<u>2,805</u> markup fac =	<u>\$0.00</u>
ARCH:	_____ persons x _____ man-hours	<u>\$25.00</u> \$ / hr x	<u>2,585</u> markup fac =	<u>\$0.00</u>
S. ENGR:	_____ persons x _____ man-hours	<u>\$25.00</u> \$ / hr x	<u>2,915</u> markup fac =	<u>\$0.00</u>
M. ENGR:	_____ persons x _____ man-hours	<u>\$25.00</u> \$ / hr x	<u>3,025</u> markup fac =	<u>\$0.00</u>
E. ENGR:	_____ persons x _____ man-hours	<u>\$25.00</u> \$ / hr x	<u>3,135</u> markup fac =	<u>\$0.00</u>
TECHS:	_____ persons x _____ man-hours	<u>\$15.00</u> \$ / hr x	<u>2,585</u> markup fac =	<u>\$0.00</u>

TOTAL FI DIRECT LABOR COSTS = \$0.00

CONFERENCE DIRECT LABOR:

CHARRETTE

C. ENGR:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>2,695</u> markup fac =	<u>\$0.00</u>
L. ARCH:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>2,805</u> markup fac =	<u>\$0.00</u>
ARCH:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>2,585</u> markup fac =	<u>\$0.00</u>
S. ENGR:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>2,915</u> markup fac =	<u>\$0.00</u>
M. ENGR:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>3,025</u> markup fac =	<u>\$0.00</u>
E. ENGR:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>3,135</u> markup fac =	<u>\$0.00</u>
TECHS:	_____ persons x _____ hours x	<u>\$15.00</u> \$ / hr x	<u>2,585</u> markup fac =	<u>\$0.00</u>

TOTAL CHARRETTE DIRECT LABOR COSTS = \$0.00

50% DESIGN REVIEW

C. ENGR:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>2,695</u> markup fac =	<u>\$0.00</u>
L. ARCH:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>2,805</u> markup fac =	<u>\$0.00</u>
ARCH:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>2,585</u> markup fac =	<u>\$0.00</u>
S. ENGR:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>2,915</u> markup fac =	<u>\$0.00</u>
M. ENGR:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>3,025</u> markup fac =	<u>\$0.00</u>
E. ENGR:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>3,135</u> markup fac =	<u>\$0.00</u>
TECHS:	_____ persons x _____ hours x	<u>\$15.00</u> \$ / hr x	<u>2,585</u> markup fac =	<u>\$0.00</u>

TOTAL 50% REVIEW DIRECT LABOR COSTS = \$0.00

90% DESIGN REVIEW

C. ENGR:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>2,695</u> markup fac =	<u>\$0.00</u>
L. ARCH:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>2,805</u> markup fac =	<u>\$0.00</u>
ARCH:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>2,585</u> markup fac =	<u>\$0.00</u>
S. ENGR:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>2,915</u> markup fac =	<u>\$0.00</u>
M. ENGR:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>3,025</u> markup fac =	<u>\$0.00</u>
E. ENGR:	_____ persons x _____ hours x	<u>\$25.00</u> \$ / hr x	<u>3,135</u> markup fac =	<u>\$0.00</u>
TECHS:	_____ persons x _____ hours x	<u>\$15.00</u> \$ / hr x	<u>2,585</u> markup fac =	<u>\$0.00</u>

TOTAL 90% REVIEW DIRECT LABOR COSTS = \$0.00

TOTAL CONFERENCE DIRECT LABOR COSTS = \$0.00

B. MATERIAL COSTS:					
50% DESIGN					
HALF SIZE PRINTS:	0	SHTS x		SETS x	\$1.00 / SHT = \$0.00
FULL SIZE PRINTS:	0	SHTS x		SETS x	\$1.00 / SHT = \$0.00
CADD PLOTS	0	SHTS x		1 SETS x	\$16.0 / SHT = \$0.00
SPECS		PGS x		0 SETS x	\$0.10 / PG = \$0.00
DA & COST EST		PGS x		0 SETS x	\$0.10 / PG = \$0.00
RFP:		PGS x		0 SETS x	\$0.10 / PG = \$0.00
					50% DESIGN REPRO COST = \$0.00
90% DESIGN					
HALF SIZE PRINTS:	0	SHTS x		SETS x	\$1.00 / SHT = \$0.00
FULL SIZE PRINTS:	0	SHTS x		SETS x	\$1.00 / SHT = \$0.00
CADD PLOTS	0	SHTS x		1 SETS x	\$16.0 / SHT = \$0.00
SPECS		PGS x		0 SETS x	\$0.10 / PG = \$0.00
DA & COST EST		PGS x		0 SETS x	\$0.10 / PG = \$0.00
RFP:		PGS x		0 SETS x	\$0.10 / PG = \$0.00
					90% DESIGN REPRO COST = \$0.00
100% DESIGN					
HALF SIZE PRINTS:	0	SHTS x		SETS x	\$1.00 / SHT = \$0.00
FULL SIZE PRINTS:	0	SHTS x		SETS x	\$1.00 / SHT = \$0.00
MYLARs:	0	SHTS x		SETS x	\$16 / SHT = \$0.00
SPECS		PGS x		0 SETS x	\$0.10 / PG = \$0.00
DA & COST EST		PGS x		0 SETS x	\$0.10 / PG = \$0.00
RFP:		PGS x		0 SETS x	\$0.10 / PG = \$0.00
MAGNETIC MEDIA: LUMPSUM FOR SPECS AND DRAWINGS =					\$0.00
					100% DESIGN REPRO COST = \$0.00
RENDERINGS, PHOTOGRAPHS, ETC.					\$0.00
TOTAL MATERIAL COSTS =					\$0.00

C. TRAVEL RELATED EXPENSES:				
FIELD INVESTIGATION				
FI TEAM PER DIEM:	0 persons x	_____ days x	\$26 / day =	\$0.00
FI TRAVEL:				
Mileage:	_____ vehicles x	_____ miles x	\$0.26 / mile =	\$0.00
Car Rental:	_____ vehicles x	_____ days x	\$30 / day =	\$0.00
Airfare:	0 persons x	125 trip =		\$0.00
FI TEAM LODGING:	0 persons x	_____ days x	\$50 / day =	\$0.00
TOTAL FI TRAVEL RELATED EXPENSES =				\$0.00
CONFERENCES				
CHARRETTE PER DIEM:	0 persons x	_____ days x	\$26 / day =	\$0.00
CHARRETTE TRAVEL:				
Mileage:	_____ vehicles x	_____ miles x	\$0.26 / mile =	\$0.00
Car Rental:	_____ vehicles x	_____ days x	\$30 / day =	\$0.00
Airfare:	0 persons x	125 trip =		\$0.00
CHARRETTE LODGING:	0 persons x	_____ days x	\$50 / day =	\$0.00
50% REVIEW PER DIEM:	0 persons x	_____ days x	\$26 / day =	\$0.00
50% REVIEW TRAVEL:				
Mileage:	_____ vehicles x	_____ miles x	\$0.26 / mile =	\$0.00
Car Rental:	_____ vehicles x	_____ days x	\$30 / day =	\$0.00
Airfare:	0 persons x	125 trip =		\$0.00
50% REVIEW LODGING:	0 persons x	_____ days x	\$50 / day =	\$0.00
90% REVIEW PER DIEM:	0 persons x	_____ days x	\$26 / day =	\$0.00
90% REVIEW TRAVEL:				
Mileage:	_____ vehicles x	_____ miles x	\$0.26 / mile =	\$0.00
Car Rental:	_____ vehicles x	_____ days x	\$30 / day =	\$0.00
Airfare:	0 persons x	125 trip =		\$0.00
90% REVIEW LODGING:	0 persons x	_____ days x	\$50 / day =	\$0.00
TOTAL CONF TRAVEL RELATED EXPENSES =				\$0.00
TOTAL TRAVEL RELATED EXPENSES =				\$0.00

D. OTHER SIGNIFICANT COSTS:							
OVER-NIGHT MAILING COST:							
50% DESIGN	0	SETS x	\$25.00	/ SET =	\$0.00		
90% DESIGN	0	SETS x	\$25.00	/ SET =	\$0.00		
100% DESIGN	0	SETS x	\$25.00	/ SET =	\$0.00		
TOTAL OVER-NIGHT MAILING EXPENSES =					\$0.00		
ASBESTOS SURVEY (SUBCONTRACT)							
SAMPLING:		samples x	\$25	/ sample =	\$0.00		
TESTING:		samples x	\$25	/ sample =	\$0.00		
INDUSTRIAL HYGIENIST:		hours x	\$65	/ hour =	\$0.00		
REPORT WRITER:		hours x	\$25	/ hour =	\$0.00		
TOTAL ASBESTOS SURVEY EXPENSES =					\$0.00		
LEAD BASED PAINT (LBP) SURVEY (SUBCONTRACT)							
SAMPLING:		samples x	\$25	/ sample =	\$0.00		
TESTING:		samples x	\$25	/ sample =	\$0.00		
INDUSTRIAL HYGIENIST:		hours x	\$65	/ hour =	\$0.00		
REPORT WRITER:		hours x	\$25	/ hour =	\$0.00		
TOTAL LBP SURVEY EXPENSES =					\$0.00		
SURVEYING / GEOTECH (SUBCONTRACT):							
C. ENGR:		persons x		man-hours	\$65.00 \$ hr =	\$0.00	
SURVEY LEADMAN:		persons x		man-hours	\$35.00 \$ hr =	\$0.00	
SURVEY CREW:		persons x		man-hours	\$30.00 \$ hr =	\$0.00	
TECHS:		persons x		man-hours	\$25.00 \$ hr =	\$0.00	
REPORT TYPING:		persons x		man-hours	\$25.00 \$ hr =	\$0.00	
GEOLOGIST:		persons x		man-hours	\$65.00 \$ hr =	\$0.00	
SOIL BORING:		borings x	\$100.00	/ boring =	\$0.00		
TRAVEL:		vehicles x		miles x	days x	\$0.26 / mile =	\$0.00
TOTAL SURVEY/GEOTECH SUBCONTRACT =					\$0.00		
MISCELLANEOUS OTHER COSTS							
1. TELEPHONE/FAX					\$0.00		
2. PURCHASED COMPUTER (CADD)		hours x	\$5.00	/ hour =	\$0.00		
3. PURCHASED COMPUTER (ENGR)		hours x	\$5.00	/ hour =	\$0.00		
4. PURCHASED COMPUTER (WP)		hours x	\$5.00	/ hour =	\$0.00		
5.							
6.							
TOTAL OTHER COSTS =					\$0.00		
TOTAL OTHER SIGNIFICANT COSTS =					\$0.00		

ESTIMATED DRAWING LIST

- (6 EXIST'G PLANS)
(6 NEW PLANS/12 NEW ELEV)
1. COVER SHEET
2. INDEX OF DRWGS
3. LOCATION PLAN
4. DEMO PHASING
5. DEMO PHASING
6. GRADING PLAN
7. GRADING PLAN
8. PLANTING PLAN
9. PLANTING PLAN
10. IRRIGATION PLAN
11. IRRIGATION PLAN
12. PAVING /SIDEWALK DETAILS
13. DEMO PLAN (ASMEP) 2/SHT
14. DEMO PLAN (ASMEP) 2/SHT
15. DEMO PLAN (ASMEP) 2/SHT
16. FLOOR PLAN A-1
17. FLOOR PLAN A-2
18. FLOOR PLAN B-1
19. FLOOR PLAN B-2
20. FLOOR PLAN C-1
21. FLOOR PLAN C-2
22. EXT ELEV & SECTS A-1:2
23. EXT ELEV & SECTS A-2 :2
24. EXT ELEV & SECTS B-1:2
25. EXT ELEV & SECTS B-2 :2
26. EXT ELEV & SECTS C-1:2
27. EXT ELEV & SECTS C-2 :2
28. WALL SECT & DETAILS
29. WALL SECT & DETAILS
30. DOOR/WINDOW SCHED
31. DOOR/WINDOW DETAILS
32. INTERIOR FINISH SCHED
33. FRAMING PLAN A-1/A-2
34. FRAMING PLAN B-1/B-2
35. FRAMING PLAN C-1/C-2
36. FRAMING SECTION/DETAIL
37. ROOF FRAMING A-1/A-2
38. ROOF FRAMING B-1/B-2
39. ROOF FRAMING C-1/C-2
40. ROOF FRAMING SECTIONS
41. PLUMB-HVAC A-1/A-2
42. PLUMB-HVAC B-1/B-2
43. PLUMB-HVAC C-1/C-2
44. PLUMB-HVAC DETAILS
45. POWER/LIGHT PLAN A-1/A-2
46. POWER/LIGHT PLAN B-1/B-2
47. POWER/LIGHT PLAN C-1/C-2

RULES OF THUMB

PROFESSIONAL STAFF MAN-HOURS ABOUT 20-30 HRS PER SHEET
NON-PROFESSIONAL STAFF MAN-HOURS ABOUT 40-50 HRS PER SHEET
TOPOGRAPHIC SURVEY CREW OF 4 PEOPLE SURVEY ABOUT 5 ACRES PER DAY
CIVIL PLANS==== 15 ACRES / SHT @ 1"=40' (20" x 30" SHEET)
ARCHITECTURAL FLOOR PLAN @ 1/8" SCALE====80' x 160' FLOOR PLAN

Appendix 22: Board Appointment Letter

XX JJJ 199X

MEMORANDUM FOR THOSE LISTED

FROM: *APPROVING AUTHORITY ADDRESS BLOCK*

SUBJ: A-E Selection Boards for *XXXXXXXXXXXXXXXXXX* at *XXXXXX* AFB, *STATE*, Project Number
Solicitation *XXXXXXXXXXXXXXXXXX*.

TO: {Those Listed}

Boards will convene in *location* for the Pre-Selection Board and Final Selection Board for subject project on the dates indicated.

The following personnel are appointed to the A-E Selection Boards:

PRE-SELECTION BOARD (*DATE*)

Voting Members: {show registration for all those that have it}

<i>NAME, PE/AIA</i> , Chairman	<i>RANK/GRADE</i>	<i>AF PM OFFICE SYMBOL</i>
<i>NAME</i>	<i>RANK/GRADE</i>	<i>MAJCOM</i>
<i>NAME</i>	<i>RANK/GRADE</i>	<i>BASE</i>
<i>NAME</i> (Alternate)	<i>RANK/GRADE</i>	<i>OFFICE SYMBOL</i>

Non-Voting Members:

<i>NAME</i> , Recorder	<i>RANK/GRADE</i>	<i>OFFICE SYMBOL</i>
<i>NAME</i> , Contracting Representative	<i>RANK/GRADE</i>	<i>OFFICE SYMBOL</i>

FINAL SELECTION BOARD (*DATE*)

Voting Members:

<i>NAME, PE/AIA</i> , Chairman	<i>RANK/GRADE</i>	<i>OFFICE SYMBOL</i>
<i>NAME</i>	<i>RANK/GRADE</i>	<i>MAJCOM</i>
<i>NAME</i>	<i>RANK/GRADE</i>	<i>BASE</i>
<i>NAME</i> (Alternate)	<i>RANK/GRADE</i>	<i>OFFICE SYMBOL</i>

Non-Voting Members:

<i>NAME</i> , Recorder	<i>RANK/GRADE</i>	<i>OFFICE SYMBOL</i>
<i>NAME</i> , Contracting Representative	<i>RANK/GRADE</i>	<i>OFFICE SYMBOL</i>

SIGNATURE BLOCK

Appendix 23: SF 254 / SF 255 Log-in Sheet (Example)

A-E SERVICES SF 245 & SF 255 LOG-IN SHEET <i>NAME AFB, STATE</i> <i>PROJECT TITLE - SOLICITATION NUMBER</i> <i>DATE</i>

#	Date Rec'd	Company	Contact	Address	Phone
A.					
B.					
C.					
D.					
E.					
F.					
G.					

Appendix 24: Weighting Factors (Example)

RECOMMENDED EVALUATION PARAMETERS

BASE AFB A-E SELECTION

1. Recent specialized experience and technical competence in performing design of housing renovations including seismic design; (50 points)
 - Give 35 to 50 points for extensive experience in AF or DoD MFH design
 - Give 20 to 34 points for some experience in DoD or extensive experience in private family housing projects
 - Give 1 to 19 points for little or no DoD experience, but some experience in private family housing projects or related projects
2. Professional qualifications of the staff and consultants that will perform the actual work; (40 points)
 - Give 31 to 40 points for highly qualified staff and consultants
 - Give 15 to 30 points for qualified staff and consultants
 - Give 1 to 14 points where staff and consultants have limited qualifications
3. Professional capacity of the firm to accomplish the work in the required time; (40 points)
 - Give 25 to 40 points for well recognized capacity of the firm to do the work in scheduled time including bench strength
 - Give 10 to 24 points for adequate capacity to do the work
 - Give 1 to 9 points for limited capacity to do the work and limited bench strength
4. Past performance history on both DoD and other contracts in terms of quality of work, compliance with schedules, and cost control;(30 points)
 - Give 21 to 30 points for history of high quality, delivery on or ahead of schedule, and within cost and recognized budget control
 - Give 11 to 20 points for good quality, delivery on schedule, and meeting cost
 - Give 1 to 10 points for less than adequate quality, and problems meeting schedules and staying within cost
5. Location of the design firm in the general geographic area of the project and knowledge of the locality of the project;(15 points)
 - Give 15 points for firms located within XXX miles of NAME AFB, STATE
 - Give 10 points for firms located more than XXX miles but less than XXX miles from NAME AFB, STATE
 - Give 5 points to firms located more than XXX miles from NAME AFB, STATE
6. Volume of work previously awarded to the firm by DoD; (10 points)
 - Give 10 points for work less than \$100,000 in fees
 - Give 5 points for work over \$100,001 but less than \$500,000 in fees
 - Give 2 points for work greater than \$500,001 in fees
 - Give 0 points for work greater than \$1,000,001 in fees

Appendix 26: Letter of Short-Listed A-Es to Final Selection Board

DEPARTMENT OF THE AIR FORCE
HQ AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE (AFCEE)
8106 CHENNAULT RD
BROOKS AFB TX 78235-5318

DATE

MEMORANDUM FOR *NAME OF CHAIRMAN OF FINAL SELECTION BOARD*

FROM: *XXXX*

SUBJ: Final Selection Board Action

The following firms are forwarded for Final Selection Board consideration for Architect-Engineer Services for Project *NUMBER* at *NAME* AFB, *STATE*. This listing is in alphabetical order with no rating indicated or implied.

<u>A-E Firm Name</u>	<u>Location - City & State</u>
<i>a. NAME</i>	<i>LOCATION, STATE</i>
<i>b. NAME</i>	<i>LOCATION, STATE</i>
<i>c. NAME</i>	<i>LOCATION, STATE</i>
<i>d. NAME</i>	<i>LOCATION, STATE</i>
<i>e. NAME</i>	<i>LOCATION, STATE</i>
<i>f. NAME</i>	<i>LOCATION, STATE</i>

SIGNATURE BLOCK

Appendix 27: Non-Select Letter (Pre-Final Selection Board)

DEPARTMENT OF THE AIR FORCE
COMMAND NAME
XXXXXX AIR FORCE BASE, *STATE*

DATE

COMMAND NAME (Mr. Doe, (XXX) XXX-XXXX)
ADDRESS
ZIP CODE
Contracting

This letter may come from COMMAND either the Selecting XXXXXXXX AFB XX Authority's Representative or the Contracting Officer (CO). It is the CO's call.

Name and Address of non-selected firm.

Reference: *FYXX, Type Project (MILCON, PAIP, O&M), Project Title, Project Number, Location, Solicitation Number*

Your firm was not selected for consideration by the final selection board for this project.

While your firm was not selected for this acquisition, we do thank you for your interest in our programs and hope you will continue to respond to our announcements.

Please direct any questions to *John Doe, (XXX) XXX-XXXX*.

WHO W. WHOEVER, P.E.
Chair, Final Selection Board
May be signed by CO

This letter should be on letterhead.

Recommend use of merge mail to print individual letters, rather than form letters or using mailing labels. The firms took time to respond. We should show some consideration.

This letter should be sent if there is any significant delay between the pre-selection and the final boards

NOTE: A similar letter should be sent to firms considered but not selected by the Final Selection Board.

Appendix 28: Pre-Selection Board Minutes (Example)

MINUTES OF THE
A-E PRE-SELECTION BOARD MEETING
FOR
A-E SERVICES
FOR
PROJECT TITLE
AT
BASE AFB, STATE
PROJECT NUMBER *PTFL943179*

1. The Pre-Selection Board convened at *TIME AND DATE* at *LOCATION, NAME* AFB, *STATE*.

2. Attendees:

Voting Members:

NAME, PE/RA, Chairman (General Engineer/Architect)
NAME, GRADE/RANK, ENGINEERING DISCIPLINE
NAME, GRADE/RANK, ENGINEERING DISCIPLINE
NAME, GRADE/RANK, ENGINEERING DISCIPLINE (Alternate Board Member)

Non-Voting Member:

NAME, GRADE, Recorder
NAME, GRADE, (Contracting Specialist)

3. Before the meeting began, *M(s)or M(r) NAME OF CONTRACTING SPECIALIST* announced to the Board that *he/she* had carefully checked the evaluation parameters against the Commerce Business Daily (CBD) announcement for *BASE AFB STATE, PROJECT NAME* A-E selection notification published on *DATE* and stated no discrepancies were found with the parameters, the Selection Rating Score Sheet, or the List of Submitting A-Es.

4. The Chairman briefed the purpose of the board and the selection procedures. *He/she* also went over the CBD announcement and explained the type of work expected to be contracted.

5. The board reviewed the qualifications/experience of the following firms who submitted SF 254s and 255s in response to CBD Announcement, Issue Number PSA-*NUMBER*, dated *DATE*. Considering the number of firms who submitted the required project-specific SF 255s, it was determined that the selection field was sufficient and no additional firms were added from the current data files.

<u>A-E Firm Name</u>	<u>Location - City & State</u>	<u>Specific Type</u>
<i>a. NAME.</i>	<i>LOCATION, STATE</i>	
<i>b. NAME.</i>	<i>LOCATION, STATE</i>	<i>WOB/SDB</i>
<i>c. NAME</i>	<i>LOCATION, STATE</i>	
<i>d. NAME</i>	<i>LOCATION, STATE</i>	<i>SB</i>
<i>e. NAME</i>	<i>LOCATION, STATE</i>	<i>SDB</i>
<i>f. NAME</i>	<i>LOCATION, STATE</i>	<i>SB</i>
<i>g. NAME</i>	<i>LOCATION, STATE</i>	
<i>h. NAME</i>	<i>LOCATION, STATE</i>	
<i>i. NAME</i>	<i>LOCATION, STATE</i>	
<i>j. NAME</i>	<i>LOCATION, STATE</i>	
<i>k. NAME</i>	<i>LOCATION, STATE</i>	
<i>l. NAME</i>	<i>LOCATION, STATE</i>	

(Specific Type of Ownership: Small Business (SB); Small Disadvantaged Business (SDB); Woman-Owned Business (WOB))

6. The board determined that the firms would be evaluated in accordance with AFI 32-1023, July 94, and based on the criteria factors stipulated in the DATE, CBD notice as follows:
 - a. *Recent specialized experience and technical competence in performing SPECIFIC SERVICES described in the DATE CBD synopsis for MFH projects;*
 - b. *Professional qualifications of the staff and consultants that perform the actual work;*
 - c. *Professional capacity of the firm to perform the work in the required time;*
 - d. *Past performance history on both DoD and other contracts in terms of quality of work, cost control, and compliance with performance schedules;*
 - e. *Geographic proximity to NAME AFB, STATE, provided there is an adequate number of qualified firms therein for consideration; and*
 - f. *Volume of work previously awarded to the firm by the DoD, with the object of effecting an equitable distribution of DoD A-E contracts among qualified firms.*
7. The board agreed, prior to the review, that the "location of firm" would be rated in accordance with AFI 32-1023, as follows:
 - a. *Firms located within XXX miles of BASE AFB would receive 15 points.*
 - b. *Firms located between XXX mile radius and XXX miles would receive 10 points.*
 - c. *Firms located outside XXX miles would receive 5 points.*
8. The board also agreed, prior to the review, that "volume of DoD work" would be rated as follows:
 - a. *Firms with less than \$100,000 in fees would receive 10 points.*
 - b. *Firms with fees between \$100,001 but less than \$500,000 would receive 5 points.*
 - c. *Firms with over \$500,001 would receive 2 points.*
9. Prior to assigning points to each firm, the board decided selection would be based on a total of the number of points assigned to each firm by all board members. Each member would assign points to the firms individually. Points would be added, and the firms with the highest points would be recommended for further consideration to the final selection board. The members used a blank rating sheet in the format of Attachment 1 .
10. The following firms were considered best qualified and referred to the Final A-E Selection Board for further review. The listing is provided in alphabetical order with no rating indicated or implied.

A-E Firm NameLocation - City & State

- a. *NAME. LOCATION, STATE*
- b. *NAME LOCATION, STATE*
- c. *NAME LOCATION, STATE*
- d. *NAME LOCATION, STATE*

11. Having completed its business, the pre-selection board adjourned at *TIME, DATE*.

NAME, RANK

Chairman, A-E Pre-selection Board

APPROVED/DISAPPROVED

APPROVAL AUTHORITY

5 Atchs

1. Score Sheets
2. Recommended Evaluation Parameters
3. CBD Announcement
4. Board Appointment Letter
5. Final Board Transmittal Letter

Appendix 29: Short-Listed Notification Script

A-E TELEPHONE INTERVIEW SET UP

Good morning. I am Mrs. Manly, and I work with *NAME*, who is the chairman for the Final A-E Selection Board for providing *DETAIL THE PURPOSE OF THE SERVICES* for a _____ project at *NAME* AFB, *STATE*. Your firm was recommended by the A-E Pre-Selection Board for consideration by the Final Selection Board. The members of the Final Selection Board would like to conduct a telephone interview with you on *DATE* at _____ hours (time zone).

The purpose of the interview is to confirm your firm's continued interest in performing A-E services for the project; to clarify issues raised by the board members on your SF 254/255; allow you to discuss alternative concepts, alternate methods of furnishing the required services and allow you to say anything else about your firm that you may consider relevant to this project.

Since time will be limited, we would appreciate you keeping your presentation to 15 minutes. Could you please confirm the name and phone number of the individual you wish to be called for the interview? Thank you for your time.

NAME OF FIRM _____ DATE: _____

PERSON CONTACTED: _____ TIME: _____

PERSON TO BE CONTACTED FOR INTERVIEW: _____
(if other than above)

PHONE NUMBER FOR CONTACT: _____

c. Board Questions (Q) and A-E's Answers (A):

Q:

A:

Q:

A:

Q:

A:

d. A-E Questions (Q) and Board's Answers (A):

Q:

A:

Q:

A:

4. The A-E reaffirmed their commitment to make the project a success. The interview was completed.

Appendix 31: Selection Board Minutes

MINUTES OF THE
ARCHITECT-ENGINEER (A-E) FINAL SELECTION BOARD
FOR
PROJECT NAME
AT
NAME AFB STATE
PROJECT NUMBER *XXXXNNNNNNN*

1. The final selection board convened at *TIME AND DATE*
2. *LOCATION, NAME* AFB, State.
3. ATTENDEES:

Voting Members:

NAME, PE/RA, GRADE/RANK, Chairman
NAME, PE/RA, GRADE/RANK
NAME, PE/RA, GRADE/RANK,
NAME, PE/RA, GRADE/RANK

Non-Voting Member:

NAME, GRADE/RANK, Recorder
NAME, GRADE/RANK, (Contracting Specialist)

3. The board reviewed the qualifications/experience of the following firms, which were recommended by the *DATE* Pre-Selection Board, as being the best qualified of all considered, who responded to the *DATE*, Commerce Business Daily (CBD) Announcement, Issue Number PSA *NUMBER*.

<u>A-E Firm Name</u>	<u>Location - City & State</u>	<u>Specific Type⁽¹⁾</u>
<i>a. NAME.</i>	<i>LOCATION, STATE</i>	<i>SB/SDB/WOB</i>
<i>b. NAME</i>	<i>LOCATION, STATE</i>	<i>SB</i>
<i>c. NAME</i>	<i>LOCATION, STATE</i>	<i>WOB</i>
<i>d. NAME</i>	<i>LOCATION, STATE</i>	

⁽¹⁾ (Specific Type of Ownership: Small Business (SB); Small Disadvantaged Business (SDB); Woman-Owned Business (WOB))

4. The Chairman briefed on the purpose of the board and the procedures to be followed as outlined below. The firms were evaluated according to AFI 32-1023, dated July 94, and based on the criteria factors stipulated in the *DATE* 199*X* CBD notice as follows:
 - a. Recent specialized experience and technical competence in performing TITLE described in the DATE CBD;*
 - b. Professional qualifications of the staff and consultants that will perform the actual work;*
 - c. Professional capacity of the firm to perform the work in the required time;*
 - d. Past performance history on both DoD and other contracts in terms of quality of work, cost control, and compliance with performance schedules;*
 - e. Geographic proximity to NAME AFB, STATE provided there is an adequate number of qualified firms for consideration; and*

- f. Volume of work previously awarded to the firm by the DoD, with the objective of effecting an equitable distribution of DoD A-E contracts among qualified firms.*
5. The board agreed, prior to the review, that the "location of firm" would be rated as follows:
- a Firms located within XXX miles of NAME AFB, STATE would receive 15 points.*
 - b Firms located between XXX mile radius and XXX miles of NAME AFB, STATE would receive 10 points.*
 - c Firms located outside XXX miles of NAME AFB, STATE would receive 5 points.*
6. The board also agreed, prior to the review, that "Volume of DoD work" would be rated as follows:
- a Firms with less than \$100,000 in fees would receive 10 points.*
 - b Firms with fees between \$100,001 and \$500,000 would receive 5 points.*
 - c Firms with over \$500,001 would receive 2 points.*
7. The board used telephone interviews. The purpose of the interview was to verify the A-E's continued interest in this project; allow the A-E approximately 15 minutes to expand on their qualifications as presented in their SF 254/255; and give the board an opportunity to ask any appropriate questions. The interview format and summary of comments and observations are contained in Attachment 1. Differences in point rating between the Pre- and Final Selection Boards are a result of additional information acquired during the telephone interviews.
8. Prior to assigning points to each firm, the board decided selection would be based on a total of the number of points assigned to each firm by all board members. Each member would assign points to the firms individually. Points would be added, and the firm with the highest points would be recommended. The members used a blank rating sheet in the format of Attachment 2.
9. Having considered information available, the following four firms were considered best qualified, and are listed in priority order:

A-E Firm Name Location - City & State

- a. NAME. LOCATION, STATE*
- b. NAME LOCATION, STATE*
- c. NAME LOCATION, STATE*
- d. NAME LOCATION, STATE*

10. (If applicable, place statement regarding any board members disagreement or dissenting opinion.)

11. Having completed its business, the final selection board adjourned at *TIME, DATE*.

NAME OF CHAIRMAN

Chairman, A-E Final Selection Board

APPROVED/DISAPPROVED

APPROVAL AUTHORITY, RANK

4 Atchs

- 1. Telephone Interview Format and Summary of Comments
- 2. A-E Final Selection Board Summary Sheets
- 3. Recommended Evaluation Parameters
- 4. SF 254 and 255, Top Four Firms

Appendix 32: Selection Letter to Contracting

MEMORANDUM FOR *CONTRACTING*

FROM: *Your Org*
Address
Base/City STATE, Zip

SUBJECT: A-E Selection for *project/location* - ACTION MEMORANDUM

Please commence procurement actions to allow us to negotiate with *A-E name*, the successful A-E. It is our desire to obligate this contract in the amount stated on the Purchase Request not later than *date*.

Documents attached include the Statement of Work (Atch 1), minutes from the selection boards (Atchs 2 & 3), list of A-E disciplines (Atch 4), respondents list (Atch 5), the selected firm's submission (Atch 6) and the purchase request (Atch 7).

Should you have any questions, call our POC, *name* who may be reached at *### ###-####*, DSN *###-####* or fax *### ###-####*.

SELECTION AUTHORITY
Signature Block

6 Attachments

1. Statement of Work
2. Minutes from Selection Boards
3. List of A-E Disciplines
4. Respondents List
5. Selected Firm's Submission
6. SF 255
7. Purchase Request

Appendix 33: The Air Force Design Awards Program

The USAF Design Awards Program was established in 1976 to recognize and promote design excellence. The purpose of this Program is to publicize and recognize Air Force concern for the achievement of design excellence as it relates to the natural and the built environments. Projects must be responsive to design excellence by meeting the program design requirements and show a respect for, be harmonious with, and enhance the architectural character of facilities that are to remain and that are considered appropriate for the environment.

Projects submitted for consideration in the annual United States Air Force Design Awards Program are reviewed by a distinguished jury. Awards are given in several categories: completed projects; concept projects; urban design and planning; Military Family Housing; Landscape Design; and interior design projects. The Air Force sets no limitations on either the number or type of projects that can be recognized each year. All projects are given equal consideration, whether designed by base civil engineering personnel, the Design Agent or an architectural-engineering firm. Small operations and maintenance projects as well as larger military construction projects are appropriate candidates for the design awards program. In 1983, HQ USAF began publishing an annual report recognizing those projects selected as representing excellence in architecture, engineering, landscape design, planning and interior design. This Design Awards Brochure features the year's design award winners and is a valuable tool for emphasizing USAF Design philosophy. Aside from the obvious opportunity an A-E has for publicity through award-winning projects, the program offers an opportunity to commend outstanding work performed by A-E firms. Win, lose, or draw, the act of nominating a project can be a significant "pat-on-the-back" for a good A-E effort.

Submittals can be developed by any organization involved with the design or construction of Air Force facilities. All projects that included DM/CM involvement must be submitted through the appropriate AF agency. Keep in mind that this program is voluntary and all work performed by the A-E must be on a non-reimbursable basis. HQ AFCEE/CC generally issues the request for submittals along with a "program submittal guide" in late June or early July. Submittals are due to HQ AFCEE/DGA by 15 November. The submittal guide provides detailed information for the program's requirements and submittal format. The quality of the submission is very important and cannot be overstressed. Some of the submittal requirements include: descriptive data; design presentation drawings of site plans, floor plans, elevations, and sections; color renderings; interior and exterior photographs; slides; and completed identification sheets. Additional information for the program can be obtained by contacting HQ AFCEE/DGA.

Appendix 34: Predefinition/Prenegotiations Conference Checklist

FY/Project _____ Base DATE:

1. Introductions: () Verbal (Around the table) () Sign up sheets
() Conference Minutes by A-E
2. State purpose of meeting: () Provide designers all criteria needed to initiate design. () Review SOW () Review RAMP. () Go over USAF design goals. () Answer designer's questions. () Visit site.
3. SOW Review () RAMP Review () 1391 Review ()
4. Special Design Considerations:
 - a. Security ()
 - b. Fire Protection ()
 - c. Solar Requirements ()
 - d. Energy Budget Requirements ()
 - e. Architectural Compatibility ()
 - Key Facilities: _____, _____, _____, _____.
 - f. Interior Design () Comprehensive () Other (Specify) ()
 - g. Environmental ()
 - h. Other (Specify) _____ () _____ ()
5. Design Schedule:

Obtain () Discuss () Emphasize importance of timely input by all ().
6. USAF Design Excellence Presentation: ()

Emphasize cost control ()
7. Review Action Items () Emphasize Importance of Distribution of Conference Minutes ()
Emphasize Importance of USAF Response ().
8. Items USAF Owes A-E (Design Agent). Discuss Proper Channel ()

ITEM	DATE DUE
a.	
b.	
c.	
d.	
e.	
f.	
g.	
9. Close: On behalf of the United States Air Force ().

Appendix 35: Predefinition Conference Special Considerations

Checklist

- TEMPEST Shielding
- Heat Recovery
- Standby Power
- Security Requirements (Base and Project)
- Fire Protection (Fire flow data should be in RAMP)
- Central Heat - Technical - A-E comply with NFPA codes, etc.
- Special system requirements; i.e., roofing, windows, computers, etc.
- Special finish (interior or exterior) requirements
- Landscaping
- Communications Support
- ___ Environmentally friendly design
- Complete furniture/equipment list if furniture footprint is desired
- Utility support requirements outside immediate project site
- Special room environmental requirements (temp, humidity, etc.)
- Power requirements for equipment items
- Confirm adequacy of existing base utilities (not A-E responsibility).
- Handicapped Accessibility
- Future expansion
- Government Furnished Equipment (GFE)
- Phasing Data/Partial occupancy anticipation or special construction considered.
- Antenna/Communications
- Security/Construction Fences
- Asbestos Removal
- Environmental Concerns
 - Environmental Impact Analysis Process (AFI 32-7061)
 - Wetlands (AFI 32-7060)
 - Floodplains (AFI 32-7060)

- Cultural Resources Management (AFI 32-7065)
- National Historic Preservation Act (AF/CE Ltr, 1 Feb 93)
- A-95 Clearance
- FAA (AFI 32-7060)
- Noise Siting Compliance (AFM 19-10)
- Airfield Clearance Criteria (AFI 32-1026)
- Explosive Q/D Siting and Safety Clearance (AFM 127-100)
- Coastal Zone Management (AFR 126-1)
- Threatened and Endangered Species (AFR 126-1)
- EMCS Building Connection/Preparation Policy.
- Energy/Solar Applications
 - Energy Budget Figures
 - HVAC Summary (3 Alternatives)
 - Passive/Active Solar Analysis
- Rendering

Appendix 36: A-E Proposal Technical Evaluation

Command Letterhead

{DATE}

MEMORANDUM FOR *CONTRACTING AGENCY*
ATTENTION: *{CONTRACTING SPECIALIST}*

FROM: *HQ AFCEE/CMH*
8106 Chennault Rd
Brooks AFB, TX 78235-5318

SUBJECT: Technical Evaluation of Proposal, *F41624-94-{\?????}*, *{TITLE OF STATEMENT OF WORK AND PROJECT LOCATION}*

Attached is subject technical evaluation requested in your *{DATE OF LETTER REQUESTING TECH EVAL}* letter. *{Several items have changed in the scope of the Statement of Work (SOW) due to Fact Finding Conference /MAJCOM/Base initiated changes, changes initiated by the A-E and accepted by the Government . I have revised both the SOW and the Government cost estimate to reflect these changes. The revised documents are attached and utilized as reference documents for the Technical Evaluation.}*

I am available for discussions/negotiations beginning *{DAY & DATE}*. Please advise me of your negotiations schedule as soon as possible. I can be reached at extension *{4-3783}*, should you have any questions.

{PROJECT MANAGER'S NAME}, RANK/GRADE}
Project Manager, *Housing Division*

Attachment(s)

1. Technical Evaluation
2. Revised Cost Estimate
3. Predefinition Minutes
4. Fact Finding Conference Minutes
5. Revised Statement of Work

TECHNICAL EVALUATION
OF
SOLICITATION F41624-94-*{?????}*
FOR
{TITLE OF STATEMENT OF WORK}
AT
{PROJECT LOCATION}

Reference: **CONTRACTING AGENCY** letter, dated *{DATE OF REQUESTING LETTER}*, requesting technical analysis of A-E proposal.

The Government estimate and the A-E proposal differ by *{SXXXXX}*, with the *{Government / A-E}* estimate being higher. Attachment 1 provides a breakdown of the Government estimate versus the A-E proposal in four categories:

1. Direct Labor
2. Material Costs
3. Travel Related Expenses
4. Other Significant Costs

{MAKE A GENERAL STATEMENT OR TWO TO SET THE TONE OF THE TECHNICAL EVALUATION, I.E. "In general, the A-E's approach to the project, though different from the Government's approach, is sound. The proposal is acceptable from a technical point of view with the exception of the findings of Item #2 detailed below. Further impact of this finding may be reflected in Item #4. This finding must be clarified with the A-E prior to acceptance of his proposal." THESE STATEMENTS, FOR EXAMPLE, ALERT EVERYONE TO THE FACT THAT THE PROPOSAL IS CLOSE TO THE GOVERNMENT ESTIMATE, HOWEVER THERE ARE A FEW ITEMS NEEDING TO BE CLARIFIED. THE EVALUATOR IS TASKED WITH REVIEWING THE EFFORT PROPOSED BY THE A-E TO ACCOMPLISH THE WORK DETAILED IN THE A-E STATEMENT OF WORK USING THE GOVERNMENT COST ESTIMATE AS THE GAUGE. THE EVALUATOR MUST DETERMINE IF THE EFFORT PROPOSED IS ADEQUATE, REASONABLE, AND ACCEPTABLE. IF THE ANSWER TO ANY OF THESE THREE REQUIREMENTS IS NO, THE EVALUATOR MUST EXPLAIN WHY. TO ASSIST THE EVALUATOR IN THIS COMPARISON, USE THE FORMAT IN ATTACHMENT 1. ATTACHMENT 1 PROVIDES A TABULAR COMPARISON WHICH IDENTIFIES THE AREAS WHERE THE DIFFERENCES OCCUR, AND THEIR COST IMPACT. ALSO REMEMBER THE GOVERNMENT WILL NEGOTIATE A LUMP SUM CONTRACT. WE MUST MAKE SURE THE TOTAL EFFORT IS CONTAINED IN THE PROPOSAL TO PERFORM THE WORK. COMPARE THE GOVERNMENT'S APPROACH VERSUS THE A-E'S APPROACH IN PERFORMING THE WORK. BOTH MAY BE CORRECT, BUT WHICH ONE IS MORE ADVANTAGEOUS TO THE GOVERNMENT?}

Item # 1, Direct Labor: {ATTACHMENT 1 PRESENTS DIFFERENCES IN THE EFFORT ESTIMATED VERSUS PROPOSED TO PERFORM THE WORK DETAILED IN THE SOW. IT ALSO IDENTIFIES THE COST IMPACT OF THESE DIFFERENCES. THE EVALUATOR MUST EXPLAIN THESE DIFFERENCES OR PROVIDE ACCEPTANCE OF THESE DIFFERENCES.}

Item # 2, Material Costs: {ADDRESS ANY DIFFERENCES IN SUBMITTAL REQUIREMENTS VERSUS PROPOSED REQUIREMENTS. THIS SHOULD BE VERY STRAIGHTFORWARD. NUMBER OF SETS OF SUBMITTAL DOCUMENTS, FINAL DOCUMENTS, AND MAGNETIC MEDIA ARE SPELLED OUT IN THE A-E STATEMENT OF WORK. PRIMARY DIFFERENCES OCCUR WITH THE NUMBER OF DRAWINGS REQUIRED. THE NUMBER OF DRAWINGS REQUIRED RELATES TO THE EFFORT DISCUSSED IN ITEM # 1 ABOVE.}

Item # 3, Travel Related Expenses: {THIS AGAIN SHOULD BE VERY STRAIGHTFORWARD. TRAVEL IS REQUIRED FOR FIELD INVESTIGATION, CONFERENCES AT THE PROJECT SITE, AND ANY OTHER MEETINGS CALLED FOR IN THE A-E STATEMENT OF WORK. TRAVEL RELATED EXPENSES INCLUDE AIRFARE, AUTO RENTAL OR MILEAGE, LODGING, AND PER DIEM. LODGING AND PER DIEM IS WARRANTED IF THE A-E IS EXPECTED TO TRAVEL ONE DAY AHEAD OF SCHEDULED MEETING IN ORDER TO START THE MEETING AT THE BEGINNING OF THE NEXT DAY OR IF EXCESSIVE TRAVEL AFTER AN EIGHT-HOUR MEETING WOULD OCCUR.}

Item # 4, Other Significant Costs: {OTHER SIGNIFICANT COSTS INCLUDE SUBMITTAL MAILING COSTS, SUBCONTRACTS FOR ASBESTOS AND LEAD BASED PAINT TESTING, SUBCONTRACTS FOR SURVEYING AND GEOTECHNICAL WORK, TELEPHONE AND FAX CHARGES, AND PURCHASED COMPUTER TIME. THIS IS A CATCH-ALL FOR ALL THE MISCELLANEOUS ITEMS OF THE WORK.}

{THIS PROCEDURE SHOULD BE FOLLOWED FOR EACH CONTRACTING LINE ITEM OF THE CONTRACT, I.E. THE BASIC CONTRACT AND EACH OPTION.}

SHOULD ANY CHANGES IN THE GOVERNMENT ESTIMATE OF EFFORT OCCUR DUE TO ADDED INSIGHT IN EXAMINING THE PROPOSAL, A REVISED GOVERNMENT COST ESTIMATE MAY BE WARRANTED. THIS SHOULD BE ATTACHED TO THE TECH EVAL PACKAGE AND EXPLAINED IN

THE COVER LETTER. ALL ABOVE COMPARISONS SHOULD BE MADE TO THIS REVISED ESTIMATE. THE REVISED ESTIMATE SHOULD ALSO TAKE INTO CONSIDERATION ANY CHANGES IN THE STATEMENT OF WORK CAUSED BY BASE/MAJCOM INITIATED CHANGES, CHANGES MADE DURING FACT FINDING MEETINGS OR TELECONS, OR CHANGES PROPOSED BY THE A-E AND ACCEPTED BY THE GOVERNMENT. DOCUMENTATION OF THESE CHANGES, TELECON MEMOS FOR RECORD, MEETING MINUTES, AND A REVISED STATEMENT OF WORK SHOULD ALSO BE ATTACHED TO THE TECH EVAL AND EXPLAINED IN THE BODY OF THE COVER LETTER.}

Appendix 37: Project Definition Overview Matrix

	Pre-Contract Phase	Requirements Analysis Phase
	Predefinition Conference	Data Gathering
The Team	<p>Core Team USAF PM Users' Design Agent Contract Officer Base Civil Engineer Architect-Engineer</p>	<p>Core Team USAF PM Users' Design Agent Contract Officer Base Civil Engineer Architect-Engineer Base Support Team Security Police Communications Fire Chief Environmental Management Bio Environmental Management Safety Outside Agencies Historical EPA Utility Companies Other Regularity Agencies HRPWC / Decision Makers</p>
The Process	<p>The PM chairs an on-site conference. The intent of the predefinition conference is to:</p> <ul style="list-style-type: none"> Define responsibilities of project team members Review the project's RAMP, the BCP, Base standards and criteria. Transfer Base requirements and project data Finalize A-E's SOW Review the PD process and project schedule Visit Site Assure an understanding of scope 	<p>Data gathering is lead by the A-E who will use different techniques to collect information:</p> <ul style="list-style-type: none"> On-site visits Questionnaires Research User interviews Site investigations <p>PM is to assist A-E with user and site access.</p>
The Products	<ul style="list-style-type: none"> Modified RAMP Team directory Validated SOW Action items BCP and design guidelines List of environmental issues Utility drawings & as-builts Approval process diagram Budget assumptions/back-up data List of special design considerations Site photographs Minutes documenting results 	<ul style="list-style-type: none"> User questionnaires / interview documentation Users' organization charts, space requirements, and relationship diagrams Existing environmental studies Surveys & soils reports (existing) Utility capacity & estimated building loads Equipment / furniture lists Cost data & assumptions POE and VE studies of similar AF facilities. Site photographs

Project Definition Design Phase

Analysis Charrette	Design Charrette	Documentation, Review & Approvals
<p>Core Team USAF PM Users' Design Agent Contract Officer Base Civil Engineer Architect-Engineer</p> <p>Base Support Team Security Police Communications Fire Chief Environmental Management Bio Environmental Management Safety</p> <p>Outside Agencies Historical EPA Utility Companies Other Regularity Agencies HRPWC / Decision Makers</p>	<p>Core Team USAF PM Users' Design Agent Contract Officer Base Civil Engineer Architect-Engineer</p> <p>Base Support Team Security Police Communications Fire Chief Environmental Management Bio Environmental Management Safety</p> <p>Outside Agencies Historical EPA Utility Companies Other Regularity Agencies HRPWC / Decision Makers</p>	<p>Core Team USAF PM Users' Design Agent Contract Officer Base Civil Engineer Architect-Engineer</p> <p>Base Support Team Security Police Communications Fire Chief Environmental Management Bio Environmental Management Safety</p> <p>Outside Agencies Historical EPA Utility Companies Other Regularity Agencies HRPWC / Decision Makers</p>
<p>The purpose of the on-site analysis is to challenge and validate the user's requirements and all aspects of the RAMP. The A-E leads this interactive work session, using group discussions, library wall displays of project data, and other tools and techniques.</p> <p>The summary data and conclusions of the analysis charrette should be documented by making photocopies, slides and reprints of all alphanumeric data, sketches, snow cards, brown sheets, etc.</p> <p>An out briefing to confirm all conclusions should be conducted with the core team and HRPWC.</p>	<p>To jump start the design charrette, the A-E presents a summary of the conclusions reached during the analysis charrette and some design alternatives. The designers then develop additional design alternatives and further develops the preferred solution through interactive work sessions with the project team.</p> <p>This process should define not only the aesthetic and functional aspects but defines all building systems and site development requirements.</p> <p>A working draft of the PD document and a buy-in by the project team and approvers will conclude the design charrette.</p>	<p>The A-E leads the effort to produce final deliverables, usually at the A-E's office.</p> <p>PD documents are reviewed by all team members and returned to the A-E for corrections if required.</p> <p>After documents are finalized, a non technical graphic (slides, renderings, models, etc.) presentation is made to the HRPWC for sign-off.</p>
<p>Project goal statements Tabulated space projections Analysis cards of project issues Site analysis cards Environmental concerns Affinity and priority matrices Process and people flow charts Brown sheet area summaries Bubble diagrams Blocking and stacking diagrams List of VE opportunities Cost issues Site photographs</p>	<p>The products prepared during the on-site design charrette are drafts of the formal documentation required as a final deliverable of PD:</p> <p>Site development plans Conceptual floor plans Furniture & equipment layouts Building area tabulations Exterior elevations BCP conformance narrative Building sections Building subsystems cost analysis / VE Design criteria & building systems narratives: Exterior wall systems Interior finishes Roofing HVAC Plumbing Foundations and structure Communications Lighting, power & EMCS Fire Protection / Life Safety</p> <p>Cost estimate Operability & maintainability report Environmental checklist</p>	<p>The final documents are prepared in 8-1/2 X 11 format and include the products prepared in preliminary form during the data gathering and on-site analysis charrette phases. Final products include:</p> <p>Project description Site development plans BCP conformance narrative Conceptual floor plans Furniture & equipment layouts Exterior elevations Building sections Building systems narratives: Wall systems Roofing HVAC Plumbing Structural Communications Lighting, power & EMCS Fire protection / life safety</p> <p>Cost estimate Economic analysis of building subsystems / VE Operability and maintainability report Environmental concerns</p>

Appendix:

Minutes of significant meetings	Site analysis cards
Project team directory	Zoning & stacking diagrams
Project goal statements	Affinity & priority matrices
Design calculations	Process & people flow charts
Site photographs	Brown sheet area summaries
Site topographic & geotechnical surveys	Bubble diagrams
User organization chart	List of VE opportunities
Tabulated space requirements	
Analysis cards of project issues	

Appendix 38: Project Definition Schedule

Option A- The typical Air Force facility of normal size and complexity. The combined data gathering and design charrette occurs over a week with the data gathering/analysis largely completed by Tuesday evening and the design phase consuming the remainder of the week. The entire PD process may require 6-8 weeks.

PD Schedule (Option A) Normal Project 8 weeks

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	A-E distributes questionnaire		Users complete questionnaire A-E researches building type		
Week 2	A-E compiles data from questionnaire and conducts interviews and site visits				
Week 3	A-E conducts on-site analysis		CHARRETTE		A-E conducts on-site design
Week 4	A-E produces PD documents including parametric cost estimate				
Week 5					
Week 6	Project Team reviews PD package				
Week 7					
Week 8	A-E finalizes PD				A-E presents to HRPWC

Option B- For high interest, large or complex projects such as HQ facilities or projects where interrelationships, adjacencies, and space allocations are difficult. The total Project Definition process will have separate data gathering, analysis, and design charrettes 2-3 weeks apart. The entire process may require 10-12 weeks.

PD Schedule (Option B)

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	A-E collects data & establishes goals		A-E prepares questionnaire		
Week 2	User completes and returns questionnaire A-E researches building types and documents data				
Week 3	A-E confirms all interviews and meetings A-E compiles questionnaire & prepares for charrette				
Week 4	CHARRETTE A-E conducts on-site analysis				
Week 5	A-E completes space program & reviews with project team				
Week 6	A-E prepares alternative solutions				
Week 7	CHARRETTE A-E conducts on-site design				
Week 8	A-E prepares final PD and PCE				
Week 9					
Week 10	Project management team reviews PD				
Week 11					
Week 12	A-E finalizes PD				A-E presents PD

Option C- For straightforward assignments such as utility projects, parking lots, repetitive designs, or simple facilities such as storage sheds. A combined data gathering and design charrette can occur over a single day or afternoon. The total Project Definition process may require only 4-6 weeks.

PD Schedule (Option C)

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	A-E gathers data, conducts site investigation, conducts interviews, & documents findings. A-E prepares preliminary alternatives				
Week 2	A-E conducts combined charrette		A-E prepares PD package		
Week 3	A-E completes PD package		A-E team reviews PD package		
Week 4	A-E team continues to review PD package		A-E finalizes PD package		A-E briefs PD to User

Appendix 39: Construction Surveillance Checklist

1. Has appropriate coordination been effected between the Construction Agent and the Base Civil Engineer to ensure smooth job progression in areas such as security, utility outages, etc.?
2. Are Construction Agency personnel familiar with Base Civil Engineer and MAJCOM representatives who will be performing command surveillance inspections?
3. Is the Construction Agent's staff adequately manned to administer the contract?
4. What is the status of actions on government furnished items, if any?
5. Check adherence to plans and specifications and take necessary actions to correct deficiencies. Ensure shop drawings are submitted timely and color boards are sent to appropriate reviewing offices.
6. Review the approved construction schedule to determine any changes in schedule or disparity with actual progress. Review the schedule for reasonableness. Differences of 5% or greater between scheduled/actual progress require detailed justification to include steps to correct. Also look at any phased construction scheduling All indicated slippages in BOD or completion dates will be reviewed with the Construction Agent. Where critical need dates have been established for the total or a portion of the facility, possible ways of removing slippage's will be reviewed with the resident engineer and higher echelons of the Construction Agent as necessary. Actions will be coordinated with the using command and their concurrence obtained as required.
7. Review status of change orders and their effect on construction progress and project funding. Indicate in surveillance reports the status of these change orders which have been in progress more than 30 days, together with reasons for delays. Review funds status to ensure proper fiscal management and adequate funding in the field.
8. Check quality of construction and workmanship and initiate the required appropriate action. Question the Agent's experience in getting deficient construction corrected/removed.
9. Review the AF Form 1477 prepared by the BCE, with individual responsible. Discuss deficiencies, if any, and problems noted. Note visit and findings on BCE AF Form 1477 and sign. BCE construction inspection personnel should be reminded to alert your office of potential or actual problems immediately.
10. Discuss any claims received or anticipated with the Agent. Review his experience with "Request For Information" (RFI) including timely response. Discuss any problems or anticipated difficulties to include any induced by the Air Force.

Appendix 40: Air Force Change Requests and Construction Agent Change Requests Checklist

1. Does the change fit within the scope of the original project, both as it relates to the concept of the project and the construction contract?
2. How does the change affect the contractor's schedule?
3. Does the project have a critical need date, and if so, how is it effected by changes in the completion schedule, if any?
4. What is or will be the status of project at the time of change?
5. Is the contractor behind schedule, difficult to manage, or looking for extra money or excuses for time extensions?
6. Is or will the change cause the project CWE to exceed the PA? If an Air Force Change Request is truly mandatory, it should be approved and funding obtained for its implementation regardless of whether the CWE exceeds the PA or not. However, if the CWE exceeds the PA, the Construction Manager should review alternative, less than optimum, approaches to meeting the identified requirements and/or possible contract deductions with the Requiring MAJCOM in the event funds are not available. Construction Agent Change Requests should not be approved when the CWE exceeds the PA unless the Construction Agent can justify the change based on significant life cycle savings in operating or maintenance costs.
7. Will the change cause a statutory limit to be exceeded?
8. Identify funds source.

Appendix 41: Acceptance Checklist

1. Conduct inspection and develop list of Design and Construction deficiencies. The PM will assure that deficiencies are properly defined as Design or Construction and will reach agreement with the BCE/MAJCOM at the visit if possible or determine how correction of design deficiencies should be handled. The PM shall take necessary action to secure MILCON funding for design deficiencies if appropriate.
2. The PM shall assure that design and construction deficiencies are properly noted on the DD Form 1354 with an anticipated date for the correction of each.
3. In addition to design/construction deficiencies, the PM shall assure that the DD Form 1354 is annotated to indicate other deliverable items provided or to be provided later such as:
 - a. Maintenance and operating instructions and/or manuals as specified. It should be verified that BCE maintenance personnel have been instructed by the contractor in the maintenance and operation of equipment.
 - b. Manufacturer's catalogs and spare parts lists.
 - c. Record sets of wiring diagrams, piping layouts, valve charts, valve tags, color codes for wiring and piping, as specified.
 - d. List of equipment covered by a warranty under the terms and conditions of the contract including but not limited to the following:
 - (1) Period during which each warranty is in effect.
 - (2) The name of the prime contractor with complete address and telephone number and the names, addresses and telephone numbers of all subcontractors, equipment supplies, or manufacturers specifically designated in writing by the contractor for direct contact.
 - (3) Warranty documents.
 - (4) Copy of letter from Contracting Officer to the prime contractor informing the contractor that the appropriate Air Force installation commander will represent the Government in implementing the guarantee clauses.
 - e. Copy of the test results for mechanical and electrical systems, including utility meters, and/or equipment stating that the systems have been tested in accordance with the contract documents.
 - f. Specialized keys, handles and tools required for operation of building equipment and tagged keys for each lock clearly showing lock schedule data or building number or designation.
 - g. As-Built Drawings as required.

Appendix 42: History of Design-Build and AF/CE Delegation Letter

D-B was first authorized by the Military Construction Authorization Act of 1986, Title 10 U.S.C., Section 2862, which authorizes the use of D-B for Military Construction (MILCON), Military Family Housing, and Operations and Maintenance programs. Initially, the Air Force was allowed to program and execute a maximum of three D-B contracts annually, each requiring the Secretary of the Air Force's approval. This continued for several years when the D-B process proved to be a successful method for procuring facilities for the Government.

The Secretary of the Air Force Order (SAFO) 700.12 delegated the authority to select this delivery method to HQ USAF/CE who in turn delegated it to the Major Commands (MAJCOMs) in January 1995. The following delegation of authority letter was provided as guidance in determining when to use D-B and illustrates the Air Force's current position related to D-B:

HISTORY OF DESIGN-BUILD AND AF/CE DELEGATION

HQ AFCEE/CMT

13 January 1995

GUIDELINES ON ALTERNATIVE METHODS OF ACQUIRING DESIGN AND CONSTRUCTION SERVICES

1. GENERAL POLICY:

a. These guidelines apply to methods of procuring design and construction services conforming to the provisions of Title 10, United States Code, Section 2862, and apply to all design and construction program projects where the Air Force is the designated Design and Construction Agent regardless of the funding source. These guidelines may also be used on projects executed by the U.S. Army Corps of Engineers (USACE) or the Naval Facilities Engineering Command (NAVFAC) for the Air Force. In these instances the Major Commands Civil Engineers (MAJCOM/CE) should consult with USACE and NAVFAC early to ensure they concur in the decisions.

b. The MAJCOM/CEs should recommend to the Contracting Officer (CO) that Turnkey or Design-Build acquisition strategies be used to acquire design and construction services, in lieu of a traditional, Design-Bid-Build (Invitation for Bid (IFB)), when it is the best means to achieve project delivery objectives, which include time, cost and customer satisfaction. A Request For Proposal (RFP) should be used primarily as a means to implement Turnkey or Design-Build acquisition strategies.

c. Final determination on acquisition strategy to be used on a particular project rests with the CO. The MAJCOM/CE should be prepared to discuss and defend the recommended acquisition strategy with the CO.

2. TYPES OF PROPOSALS:

a. **Turnkey:** This acquisition method requires the offerors responding to an RFP to perform some design as part of their proposals. The RFP must specify the design requirements and that the offerors will be graded on how well their designs, firm qualifications, and management plans meet or exceed the project requirements contained in the RFP. Although not graded, the contractor's overall price is also considered in evaluating the contractor's proposal. Separate teams will evaluate the technical proposals and the cost. Although there are other acceptable methods, the "best value" source selection as defined in AFFARS (Appendices AA and BB), has proven the most successful in balancing qualifications, design concept, and cost in achieving the overall project delivery objectives. Turnkey is an excellent method for a new or replacement family housing project and for construction requirements similar to facilities constructed in the private sector or projects normally procured by this method in the private sector.

HISTORY OF DESIGN-BUILD AND AF/CE DELEGATION

HQ AFCEE/CMT

13 January 1995

b. **Design-Build:** This acquisition method does not require offerors to submit any design as part of their proposal for evaluation but they may have to do some design to bid. The Air Force must accomplish enough design to define its requirements and the offerors provide their firm's qualifications, management plans and prices to complete design and finish construction. The level of design in the RFP will vary according to the complexity of the project. Some RFPs may include as much as 35 percent design, to ensure architectural compatibility, proper interface of materials, utility systems, etc.; while others can be described with a performance specification. The level of design in each RFP should be sufficient to ensure the customer receives what they expect and limit the amount of design the offerors must do in order to estimate the project. This method is appropriate when the Air Force does not want to allow the designer/contractor team considerable freedom in the design concept, or where a greater level of design is required for the Air Force to better estimate the expected cost of a project. This method allows the designer/contractor greater freedom in selection of materials, methods of construction, and final design details than the traditional design-bid-build (IFB) method. Any efforts to restrict the designer/constructor after contract award lessens the benefits of this method of facility acquisition and could be costly.

3. APPLICATION:

The Turnkey and Design-Build acquisition strategies allow the Air Force to award a construction contract earlier in the process than in the design-bid-build method. They have the potential to achieve cost savings through the contractor's early involvement in the design process, and the government taking advantage of private sector experience. The strategy must be set and documents prepared by an Air Force team of civil engineer and contracting specialists, who can ensure that the proper investigations and studies are accomplished and the proper degree of freedom is given to the designer/contractor team. In addition, the Air Force team must determine whether to recommend turnkey or design-build to the CO.

4. ROLES AND RESPONSIBILITIES:

A key element of the successful use of turnkey or design-build is understanding the roles and responsibilities of the Air Force or government, the licensed architect-engineer firm(s), and the constructor.

a. Air Force or government, as the owner, is responsible for defining the requirement to the extent that the designer/contractor team understands its roles and responsibilities and its degrees of freedom. Often, allowing the designer/contractor considerable freedom will achieve time and cost savings but may not achieve customer satisfaction. The Air Force must determine the proper balance and prepare the RFP accordingly. The Air Force may prepare the RFP through in-house or contract A-E services or may contract with its agents to do this. This does

HISTORY OF DESIGN-BUILD AND AF/CE DELEGATION

HQ AFCEE/CMT

13 January 1995

not make the Air Force, or its agent or the A-E who prepares the RFP the designer of record under the turnkey or design-build RFP method of procurement.

b. The designer of record, is: an Architect-Engineer organization under contract to a general contractor; is an integral part of a firm licensed to provide design and construction services; or is an A-E which participates in a joint venture with a construction contractor. The RFP evaluation criteria will include consideration of the design capabilities, experience and qualifications of the designer of record similar to the criteria normally used for A-E selections under the Brooks Act. The RFP should require that the designer of record be involved during the construction to assure that the design intent is maintained and that changes consider initial costs as well as the operations and maintenance aspects. The design team and Air Force involvement in the technical review of the designer of record should be less than in the design-bid-build process since more accountability for the constructed project is placed on the designer/contractor team when an RFP is used.

c. The general contractor, joint venture or design/construction firm is directly accountable to the Air Force for meeting the contract requirements with regard to time, cost and customer satisfaction. The Air Force encourages a partnering environment between the contractor, the designer of record, the Air Force Base Civil Engineer(BCE), the design agent, the facility user and the RFP designer to assure a cooperative approach to achieving the contract requirements.

5. AIR FORCE TEAM:

The more experience the Air Force team, including the contracting office, BCE, MAJCOM, and the design agent has with RFPs the greater the opportunity for successful use of these methods of facility acquisition. While Wing Commanders may desire to have base contracting offices accomplish the work; preparation of the RFP, the source selection process and the contract administration after award requires considerable resources and a level of expertise often not found at a base due to the infrequency of construction using RFPs at the base. For other than MILCON projects, MAJCOM/CEs and wing commanders are encouraged to use the USACE, NAVFAC, or Air Force Center for Environmental Excellence (AFCEE), if the base does not have experience with construction RFPs. For MILCON projects, the Air Force will be using the USACE or NAVFAC unless a waiver has been granted by the Office of the Secretary of Defense.

6. GOVERNMENT ESTIMATES:

The Air Force will depend on a parametric cost estimate, as modified by the information provided by the design accomplished prior to soliciting proposals, for RFPs.

HISTORY OF DESIGN-BUILD AND AF/CE DELEGATION

HQ AFCEE/CMT

13 January 1995

7. AVAILABILITY OF BIDDERS:

The availability of bidders must be assessed prior to deciding to use the turnkey or design-build method. A turnkey RFP will be much more expensive for offerors to propose on and therefore may limit competition. In the event the turnkey is the preferred method, and the geographic location or other factors cause concern over the availability of bidders, HQ AF/CE may approve a fixed amount of reimbursement to offerors in the competitive range to help defray the expense of preparing bids. Reimbursement cost shall be paid for using command design funds. The Commerce Business Daily announcement and RFP must clearly indicate the basis for and amount of reimbursement. Reimbursement will not be considered for a design-build RFP. Unless the project can draw national contractors, the turnkey method should not be used in areas without much government and private sector construction activity. It should also be carefully evaluated if there is a great deal of construction activity in an area since contractors will opt for the work that is less costly to bid on and provides less risk. If the complexity of the project or other factors means that the contractor will assume too much risk, thereby limiting the potential bidders, the RFP method should not be used and the design-bid-build (IFB) method should be pursued. Discussions with local professionals and trade associations should assist in determining whether the market place will support the RFP approach.

8. AIR FORCE CENTER OF EXPERTISE:

Expertise is available to MAJCOM/CEs and BCEs to determine whether a particular method of procurement is a good idea for a specific project and assess the best method of execution. The Air Force OPR is Mr. Larry Leehy, AFCEE/CMT, DSN 240-2331, commercial 210-536-2331. MAJCOM/CEs and BCEs should also consult with their contracting offices prior to a decision to use the alternative methods of acquiring engineering and construction services.


ROBERT D. WOLFF, P.E.
Deputy Civil Engineer

Appendix 43: Industry Definitions of Design-Build

Associations and professional organizations within the construction industry are in general agreement on the definition of the Design-Bid-Build project delivery process in the public sector.

D-B-B is the project delivery method in which the owner contracts separately with the architect of record and the construction contractor. The architect is selected through a qualifications-based selection process and is responsible for preparing complete drawings and specifications for construction. The construction contractor is normally selected through a competitive bidding process where the offeror with the low bid is awarded the contract.

Unfortunately, the construction industry does not maintain a consistent definition for design-build, turnkey and bridging. Many organizations use these terms but apply slightly different definitions. This can lead to misunderstanding and confusion. The following are definitions adopted by several prominent organizations:

AIR FORCE

Design-Build: The project delivery method where the government and an RFP A-E jointly prepare a design-build Request for Proposal. The RFP includes the level of project definition necessary to clearly define the elements of design the Government wants to control. The balance of design and construction technology is determined by the design-build team. This approach requires offerors to submit a management plan, but most offer no technical design solutions. The only design normally required of the offeror during the selection process is that necessary to assist the design-build team to establish the cost of the project. No design submittal is required.

Turnkey: A variation of design-build which incorporates less project definition into the RFP. Offerors submit a design solution in addition to a management plan,. As with the D-B above, the management plan includes financial data, personnel and firm experience, quality control plan, and a schedule.

DESIGN BUILD INSTITUTE OF AMERICA (DBIA)

Design-Build: Also known as "design-construct" or "single responsibility", design-build is a system of contracting under which one entity performs both architecture/engineering and construction under one single contract.

Turnkey: A variation of design-build project delivery in which one entity is responsible to the Owner for architecture/engineering and construction plus designated real estate services which may include project financing and site selection/purchase.

AMERICAN INSTITUTE OF ARCHITECTS (AIA) and AMERICAN GENERAL CONTRACTORS (AGC)

Design-Build contracts are typically negotiated before project definition, or just after. All design (including construction drawings) is done by a single entity, the design-build contractor. This single entity has responsibility for both design and construction of the project.

Bridging is a hybrid of the traditional design-bid-build process and design-build. An Owner selects an A-E to develop a project design through design development (approximately 30 percent - 50 percent of the design work), and prepares scope of work documents which form

the basis for competitive selection of the project delivery team. The A-E specifies the project's functional and aesthetic requirements but leaves the details of construction technology up to the contractor. Construction technology is specified with performance specifications. The project delivery team then has single-point responsibility for final design and constructing the project.

Develop-Design-Build (**Turnkey**) is a financing method in which an Owner retains an entity which has single-point responsibility for developing a project: in addition to design and construction, the selected entity is responsible for providing one or more other project development functions, such as selecting and acquiring a site and providing financing.

CORPS OF ENGINEERS

Design-Build process uses a RFP to solicit for design and construction of a facility by a single entity; a "design-build" firm, or a joint venture between A-E and construction firms, or a construction management (CM) firm joint venture with an A-E construction firm. A design-build RFP states the project functional requirements, design and engineering criteria, technical performance specifications, and proposal evaluation factors. Potential contractors submit their proposals for the government to evaluate competitively, with the contract award based on a combination of technical merit and price.

AMERICAN SOCIETY OF CIVIL ENGINEERS

Design-Build: The Owner (government) retains a single entity that provides both A-E design and construction services for a project. The design-build entity (contractor) may be one of four types: A-E as prime contractor; constructor as prime contractor; joint venture A-E and constructor; and design-build organization. With design-build, responsibility and control is with a single entity from concept through design and construction to completion. A price is set at concept or early schematic design (10-30% design document completion level). A design-build project at a nominal 20% of design completion may be comprised of different portions of the facility at different degrees of completion, e.g. civil site at design development phase; architectural drawings at early schematic phase; structural, mechanical, electrical, and plumbing at the concept phase.

Turnkey contractors normally provide multiple services in addition to design and construction, such as project financing, site selection, plus purchases or option, obtaining all permits and inspections and operating the facility to determine if it is working in accordance with the client's requirements.

Appendix 44: State Policies on Design-Build (D-B)

Current State Policy on D-B for State Applications			
State	D-B Policy	State	D-B Policy
Alabama	Yes, prior approval	Montana	No
Alaska	Yes, with approval	Nebraska	No
Arizona	Toll Roads/Pilot Projects	Nevada	Yes
Arkansas	No	New Hampshire	Yes
California	Prisons	New Jersey	Yes
Colorado	Unclear	New Mexico	No
Connecticut	No	New York	Sometimes
Delaware	No	North Carolina	No
District of Columbia	Unclear	North Dakota	No
Florida	Limited	Ohio	No
Georgia	Doubtful	Oklahoma	No
Hawaii	No	Oregon	No
Idaho	Yes	Pennsylvania	No, except Prisons
Illinois	No	Rhode Island	No
Indiana	No	South Carolina	No
Iowa	Laws recommend separating	South Dakota	No
Kansas	No	Tennessee	No
Kentucky	Possibly	Texas	No
Louisiana	NO	Utah	No
Maine	Possibly	Vermont	No
Maryland	Yes	Virginia	Yes
Michigan	Unclear	Washington	No
Minnesota	WWTP only	West Virginia	No
Mississippi	No	Wisconsin	Yes
Missouri	Unclear	Wyoming	No

Appendix 45: Request for Design-Build Authority (Example)

FROM : HQ AFCEE/CMH
8007 Arnold Ave.
Brooks AFB, TX 78235

SUBJECT: Request for Design-Build Authority

TO HQ AFMC/CEP

Reference: HQ USAF/CE policy letter, Delegation of Approval Authority for Design-Build Delivery Methods of Construction, dated 13 Jan 1995.

In accordance with reference policy, request HQ AFMC/CE authority to initiate design and construction activities using the Design-Build delivery process for the FY 99, Replace Family Housing project, PDC No. MHMV99-3001, Kirtland AFB, NM.

If your staff has any questions, please call our project manager, Mr Peer Gerlach at DSN 240-4213.

BRUCE R. BARTHOLD, COL. USAF
Chief, Construction Management Directorate

MR: Per referenced policy letter, MAJCOM/CE authority is required before initiation of any procurement activities for a design-build or turnkey construction project. This authority can not be redelegated.

Appendix 46: Sample Goals and Objectives Statement from RFP for the Headquarters AFCEE Facility at Brooks AFB, TX

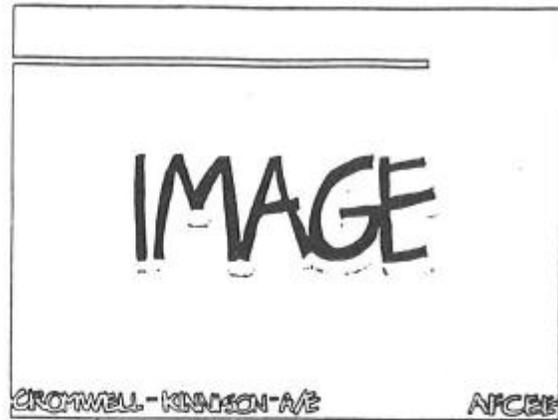
This material is the narrative goals and objectives section of the RFP for the Headquarters, Air Force Center for Environmental Excellence facility constructed at Brooks AFB, TX. It is only a sample, however the concept of goals and objectives should be included in each D-B RFP. The following paragraphs were included along with the sketches and quotations to help the designer understand the conceptual objective of the new facility.

INTRODUCTION: DESCRIPTION OF THE PROJECT

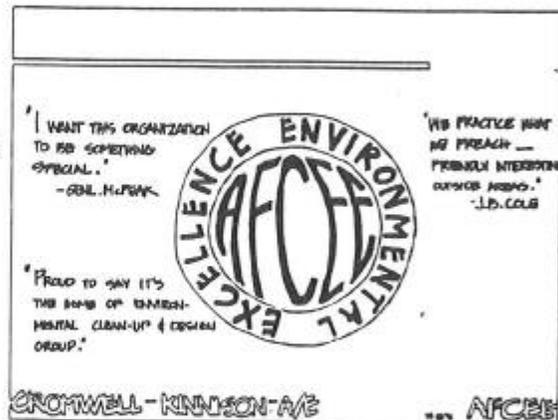
The project includes construction of an Air Force Center for Environmental Excellence consisting of administrative support areas with pre-wired work stations, conference and resource areas, law library, computer centers, and other special purpose space. The design will include accompanying support work consisting of parking areas, utilities, communications support, site improvements, landscaping, pollution control systems, and fire protection.

GENERAL: DESIGN OBJECTIVES

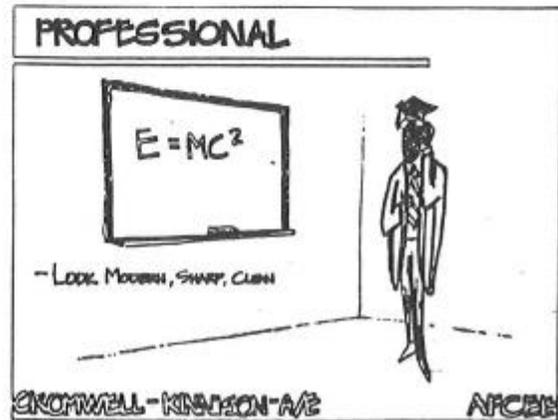
As a synopsis of the criteria set forth in the Program of Space interviews with AFCEE staff, the Architect-Engineer has interpreted the following objectives which have served as guidelines in the preparation of the design of this project.



"I want this organization to be something special."
— General McPeak

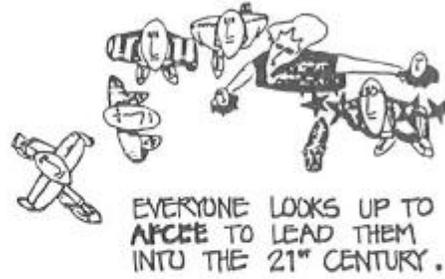


This is a very professional organization.



Demonstrate concern for the environment.

ENVIRONMENTAL EXCELLENCE

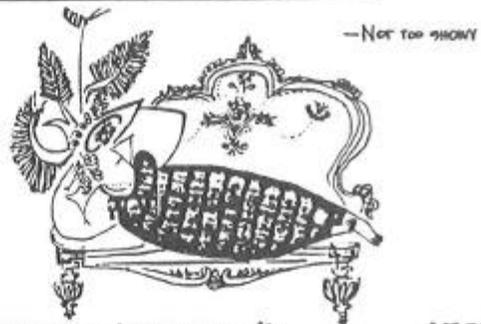


CROMWELL-KINJISON-A/E

AFCEE

Not overpowering, yet high quality designs.

UNDERSTATED EXCELLENCE



CROMWELL-KINJISON-A/E

AFCEE

AFCEE is proud to be number two at Brooks AFB.

NOT OVERPOWERING



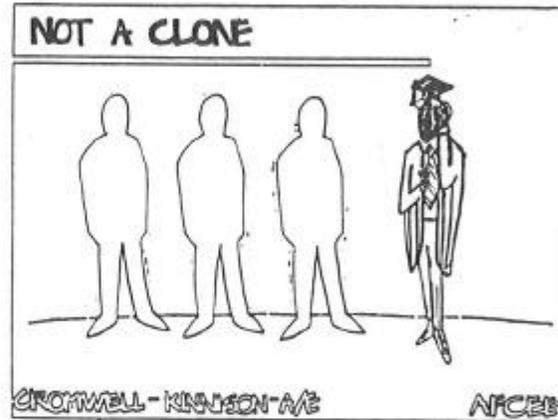
CROMWELL-KINJISON-A/E

AFCEE

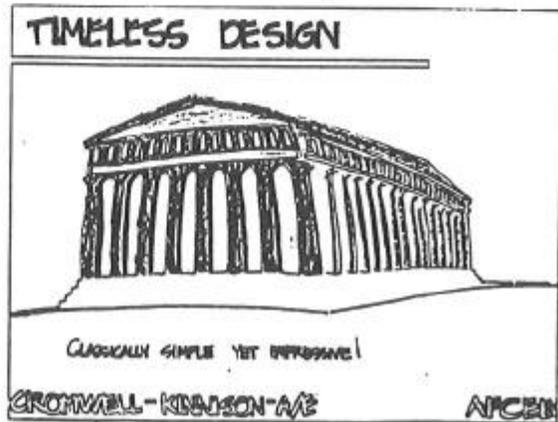
Reflect efficiency in design.



Contextual, but not a copy.



Building should not date itself.



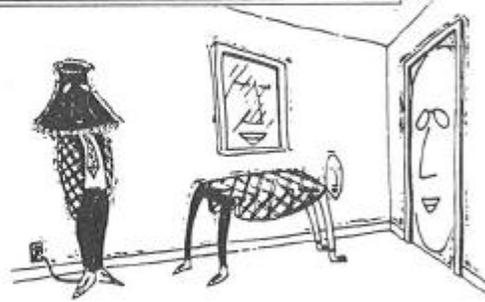
PEOPLE

CROWTHER-KINGSTON/A/E

AFCES

Friendly interiors.

FRIENDLY INTERIORS

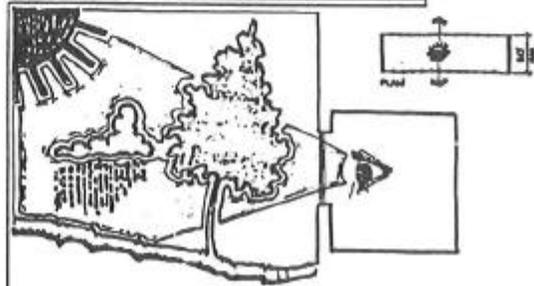


CROWTHER-KINGSTON/A/E

AFCES

Natural daylighting and windows improve employee morale and working efficiency.

OUTDOOR AWARENESS



CROWTHER-KINGSTON/A/E

AFCES

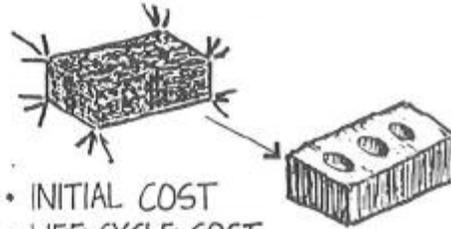
PLANNING

CROFTWELL - KINISON - A/E

AFCBB

Stay in budget; design for low maintenance and energy efficiency.

COST EFFECTIVE



- INITIAL COST
- LIFE CYCLE COST

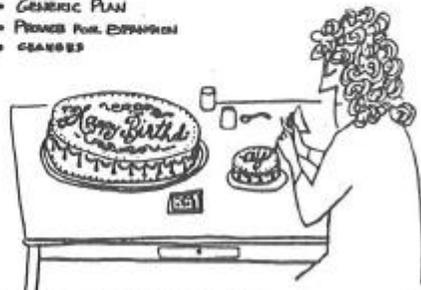
CROFTWELL - KINISON - A/E

AFCBB

Provide for future changes and growth.

FLEXIBILITY

- GENERIC PLAN
- PROVIDES FOR EXPANSION
- CHANGES



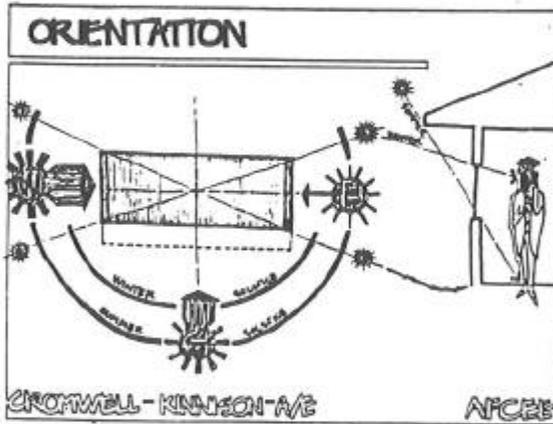
CROFTWELL - KINISON - A/E

AFCBB

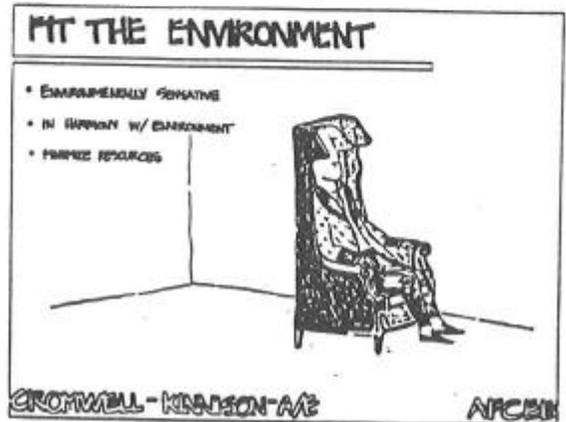
Integrate landscaping into the building work space. Illustrate environmental concern.



Minimize east and west exposure. Shade south windows.

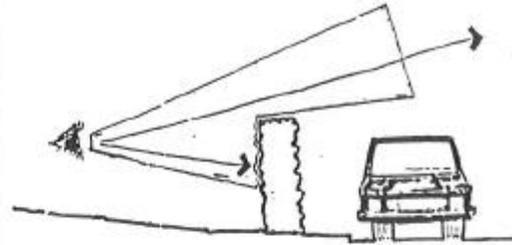


Be sensitive to and compatible with this site and surrounding environment.



Hide parking areas from public view.

CONCEAL PARKING



CROWELL-KINISON-AE

AFCEE

Locate directors with their organization; co-locate groups which interface regularly.

OPTIMIZE ADJACENCIES

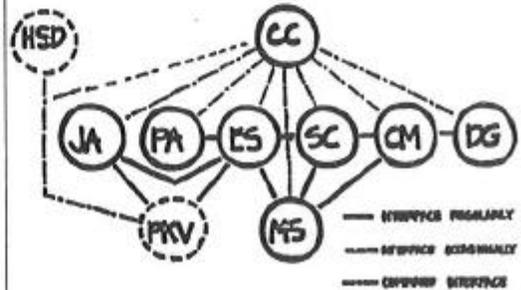


CROWELL-KINISON-AE

AFCEE

Optimize required adjacencies to promote operational efficiencies.

ADJACENCY DIAGRAM



CROWELL-KINISON-AE

AFCEE

Appendix 47: Letter of Appointment to SSET

DD MMM, 199X

MEMORANDUM

FROM: *APPROVING AUTHORITY ADDRESS BLOCK*

SUBJECT: A-E Selection Board for *XXXXXXXX* at *XXXX* AFB, STATE,
Project Number SOL *XXXXXXXXXXXXXXXXXXXX*

TO: {Those Listed}

The Source Selection Boards will convene in *location* for the evaluation of proposals submitted in response to RFP SOL *XXXXXXXXXXXX*, *Project Name*.

The following personnel are appointed to the SSET Board:

SOURCE SELECTION TEAM

<i>NAME, PE/AIA, Chairperson</i>	<i>RANK/GRADE</i>	<i>OFFICE SYMBOL</i>
<i>NAME</i>	<i>RANK/GRADE</i>	<i>MAJCOM</i>
<i>NAME</i>	<i>RANK/GRADE</i>	<i>OFFICE SYMBOL</i>

TECHNICAL EVALUATION TEAM

<i>NAME, PE/AIA</i>	<i>RANK/GRADE</i>	<i>OFFICE SYMBOL</i>
<i>NAME</i>	<i>RANK/GRADE</i>	<i>OFFICE SYMBOL</i>

CONTRACT EVALUATION TEAM

<i>NAME</i>	<i>RANK/GRADE</i>	<i>CONTRACTING OFFICER</i>
<i>NAME</i>	<i>RANK/GRADE</i>	<i>CONTRACTING SPECIALIST</i>

ADVISORS

<i>NAME</i>	<i>RANK/GRADE</i>	<i>OFFICE SYMBOL</i>
<i>NAME</i>	<i>RANK/GRADE</i>	<i>OFFICE SYMBOL</i>

NAME, RANK/GRADE
SOURCE SELECTION AUTHORITY

Appendix 48: FAR 15.605(e)

The following paragraph is an excerpt from the Federal Acquisition Regulation.

15.605 Evaluation Factors

(e) The solicitation shall clearly state the evaluation factors, including cost or price, cost or price-related factors, and non-cost non-price related factors, and any significant subfactors, that will be considered in making the source selection and their relative importance (see 15.406-5(c)). Numerical weights, which may be employed in the evaluation of proposals need not be disclosed in solicitations. The solicitation shall inform offerors of minimum requirements that apply to particular evaluation factors and significant subfactors.

Appendix 49: Source Selection Information Briefing Certificate

This certificate is also available in AFAC 92-44 (AFFAR)

Source Selection Information Briefing Certificate	
Name: _____	Grade: _____ Job Title: _____
Organization: _____	Source Selection: _____ Date: _____
Briefing Acknowledgment	
<p>1. I acknowledge I have been assigned to the source selection indicated above. I am aware that unauthorized disclosure of source selection proprietary information could damage the integrity of this procurement and that the transmission or revelation of such information to unauthorized persons could subject me to prosecution under the Procurement Integrity Laws or under other applicable laws.</p>	
<p>2. I do solemnly swear or affirm that I will not divulge, publish, or reveal by work, conduct or any other means, such information or knowledge, except as necessary to do so in the performance of my official duties related to this source selection and in accordance with laws of the United States, unless specifically authorized in writing in each and every case by a duly authorized representative of the United States Government. I take this obligation freely, without any mental reservation or purpose of evasion and in the absence of duress.</p>	
<p>3. I acknowledge that the information I receive will given only to persons specifically granted access to the source selection information and may not be further divulged without specific prior written approval from an authorized individual.</p>	
<p>4. If at any time during the source selection process, my participation might result in a real, apparent, possible, or potential conflict of interest, I will immediately report the circumstances to the Source Selection Authority.</p>	
<p>5. All personnel are requested to check the applicable block: <input type="checkbox"/> I have submitted a current SF Form 450, Executive Branch Personnel Confidential Financial Disclosure Report, or SF 278, Executive Personnel Financial Disclosure Report, as required by DoDD 5500.7. <input type="checkbox"/> I will submit a SF Form 450 or SF 278 to the SSEB chairperson within 10 working days from the date of this certification. <input type="checkbox"/> I am not required to submit a SF Form 450 or 278.</p>	
SIGNATURE: _____	DATE: _____
Debriefing Certificate	
<p>I have been debriefed orally by _____, as to my obligation to protect all information to which I have had access during this source selection. I no longer have any material pertinent to this source selection in my possession except material that I have been authorized in writing to retain by the SSA. I will not discuss, communicate, transmit, or release any information orally, in writing, or by any other means to anyone after this date unless specifically authorized to do so by a duly authorized representative of the United States Government.</p>	
_____ Signature of Person Debriefed	_____ Date of Debriefing
_____ Signature of Debriefer	_____ Date of Debriefing

Appendix 50: Sample Clarification Request

Clarification Request (CR)			
Offeror:		Area:	
Evaluator:		Factor:	
Date:		Subfactor:	
Clarification No.:	RFP Ref:	Element:	
Proposal Ref:			
<p>Provide (1) a clear description of the portion of the proposal needing clarification, (2) an explanation of how the proposal is either inadequate for evaluation purposes or contains contradictory information, (3) a statement as to whether the clarification is significant or minor, (4) an explanation of the potential impacts on evaluation ratings and risk assessment. How should CR be worded for submission to Offeror?</p>			
Disposition: Approved <input type="checkbox"/>		Chairman:	Date:
Disapproved <input type="checkbox"/>			Control Number:

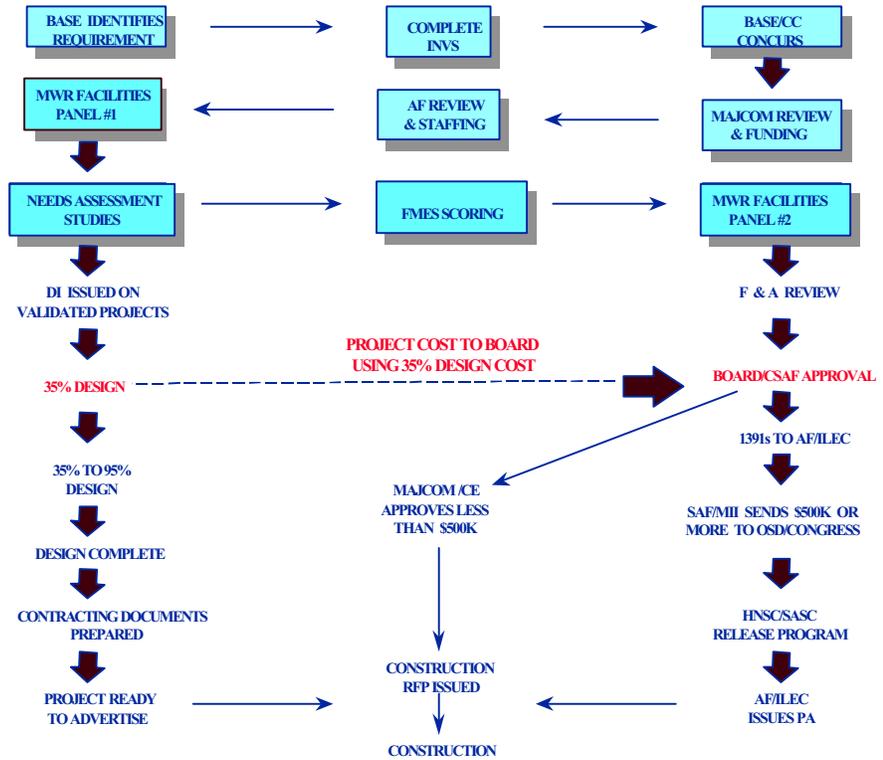
Appendix 51: Sample Deficiency Report

Deficiency Report (DR)			
Offeror:		Area:	
Evaluator:		Factor:	
Date:		Subfactor:	
Clarification No.:	RFP Ref:	Element:	
Proposal Ref:			
<p>Address the following points:</p> <ol style="list-style-type: none"> 1. What is deficient? 2. How does it deviate from the standard? 3. What is the impact if not corrected? 4. How should deficiency be worded for submission to Offeror? 			
<p>Reminder: Deficiency must be on strong/weak point form and discussed in evaluation narrative, deficiencies which may cause a change (+ or -) in Offeror's proposed hours/cost exceeding hours/cost limit specified in evaluation guide must be accompanied by a risk assessment form.</p>			
Disposition: Approved <input type="checkbox"/>		Chairman:	Date:
Disapproved <input type="checkbox"/>			Control Number:

Appendix 52: NAF Facilities Program Project Approval Process



NAF Facilities Program Project Approval Process



Appendix 53: Sample Bid Abstract

(See Official Form used by Contracting Office)

ABSTRACT OF OFFERS

CONS/LGCC Bluefield AFB	Certification	Name and Title
Construct New Golf Clubhouse	Government Estimate	Offers

Amendments	Gov Estimate	Contractor #1	Contractor #2	Contractor #3	Contractor #4
------------	--------------	---------------	---------------	---------------	---------------

Item	Description	QTY	U/M	Amount								
001	Base Bid	1	JB	\$800,000	LS	\$980,200	LS	\$960,000	LS	\$990,100	LS	\$970,000

Appendix 54: Equipment List Sample

ITEM #	DESCRIPTION	QTY	UNIT COST	TOTAL \$
1	Cash Register	2	800	1,600
2	Ice Maker	2	1,000	2,000
3	Microwave Oven	2	500	1,000
4	Freezer	1	1,100	1,100
5	Toaster	1	200	200
6	Beer Dispenser	1	1,000	1,000
7	Retail Counter	1	2,000	2,000
8	Display Rack	1	1,000	1,000
	TOTAL:			9,900

Appendix 55: Sample Request for NAF Facilities Panel Action

Low Bid Exceeds Available Funds

MEMORANDUM FOR HQ AFSVA/SVX

FROM: MAJCOM/SV

SUBJECT: Request for Project Cost Increase, _____ AFB Golf Clubhouse Project, AFBCIF #XXXXXX

1. The low bid on the new golf clubhouse project exceeds the approved amount by \$176,000 (18 percent). Request approval from the NAF Facilities Panel to increase the project amount up to the low bid and provide additional SIOH and contingency funds (if needed). The base will provide local NAFs for the overage. The bid expires on 30 Sep 97. The bid abstract is at Attachment 1.
2. The bid cost equates to \$1,290/m² (\$120/SF). This is \$215/m² (\$20/SF) higher than the original estimate for the clubhouse. We designed the project according to the needs assessment study (NAS). The base civil engineers attribute the cost increase to _____. The low bid amount is within the range of similar type construction projects in the area civilian market.
3. Based on the increased cost, the revised rate of return is 8 percent and the payback 12 years. Attachment 2 is a copy of the revised pro forma and assumptions. Attachment 3 is a background paper with details of the requested change. Our POC is Mr. Xxxx Xxxxxxx, MAJCOM/SV_, DSN____ - _____.

FOR THE COMMANDER

MAJCOM SV

Attachments:

1. Bid Abstract
2. Revised Pro Forma Package (Template available at base-level)
3. Background Paper

Appendix 56: Sample Background Paper

Low Bid Exceeds Available Funds

Background Paper

Project: _____ AFB Golf Clubhouse (AFBCIF #XXXXXX)

Issue: Project funding requirements exceed the approved amount by \$176,000 (18 percent).

Facility Panel Action Required: Determine if project remains valid at the revised cost.

Summary: The CSAF approved project is to construct a new 743 m² (8,000 SF) golf clubhouse at a total NAF investment of \$980,000. The project clubhouse design includes a snack bar with seating for 50, two locker rooms with latrines and showers, and a pro shop. Support items include utilities, landscaping, parking, practice green, and covered patio. The base seeks approval to supplement the AFBCIF by providing base NAFs of \$160,000 to award the low bid, \$8,000 for additional SIOH costs, and \$8,000 to increase the available contingency amount to the standard 5 percent of the construction contract.

Discussion:

Cause of Cost Variance: Recent industrial construction in the immediate area has caused the cost of materials to increase significantly. The labor market has also experienced an increase in wages due to the competition for skilled labor. The base civil engineers believe the low bid is reasonable since the average cost of the next three lowest bids is only 2 percent higher.

Cause of Scope Variance: None, since the project design is within the scope of the needs assessment study (NAS) recommendation.

Financial Projections: The approved project pro forma forecasts an 11 percent ROR and 10-year payback. The revised cost remains positive with an 8 percent ROR with a 12-year payback. The revised financial forecast considers the up-to-date revenue and expense projections. (Revised pro forma is attached)

Summary of Costs:

Item	Approved \$	Required \$	Difference \$
Design:	80,000	80,000	0
Construction:	800,000	960,000	160,000
Contingency:	40,000	48,000	8,000
SIOH:	50,000	58,000	8,000
Equipment:	<u>10,000</u>	<u>10,000</u>	<u>0</u>
TOTAL:	980,000	1,156,000	176,000

Appendix 57: Sample Request for NAF Facilities Panel Action

CWE at 95 Percent Design Exceeds Available Funds

MEMORANDUM FOR HQ AFSVA/SVX

FROM: MAJCOM/SV

SUBJECT: Request for Scope Change, _____ AFB Golf Clubhouse Project, AFBCIF # XXXXXX

1. Request approval to reduce the scope of subject project by 10 percent. The current working estimate (CWE) at 95 percent design exceeds approved funding. Reducing the size of the facility is the best alternative to ensure cost remains within the approved amount. Additional funds are not available at the base or MAJCOM to supplement the AFBCIF.
2. We designed the project in accordance with the needs assessment study (NAS) recommendation. The CWE at 95 percent is \$880,000, which is \$80,000 more than the approved amount. The best alternative to remain within budget and still meet the base's requirement is to reduce the scope from 743 m² (8,000 SF) to 669 m² (7,200 SF). This will involve reducing the size of the covered patio and the locker rooms to accommodate the change. The change will not affect the financials since revenue-generating space remains intact. The changed project will still provide a complete and usable facility that meets the needs identified in the NAS.
3. Attached are a single-line drawing depicting the proposed change and a background paper with details of the requested change. Please address questions to our POC, Mr. _____, SVP, DSN _____.

FOR THE COMMANDER

MAJCOM SV

Attachments:

1. Single-Line Drawing
2. Background Paper

Appendix 58: Sample Background Paper

Scope Change

Background Paper

Project: _____ AFB Golf Clubhouse (AFBCIF #XXXXXX)

Issue: MAJCOM/SV requests authority to reduce the scope by 10 percent since the CWE exceeds the approved amount by \$80,000.

Facility Panel Action Required: Determine if project remains valid at the revised scope.

Summary: The CSAF approved the project to construct a new 743 m² (8,000 SF) golf clubhouse at a total NAF investment of \$960,000. The project clubhouse design includes a snack bar with seating for 50, two locker rooms with latrines and showers, and a pro shop. Support items include utilities, landscaping, parking, practice green, and covered patio. The CWE at 95 percent design is \$80,000 more than the approved amount. The base seeks approval to bring the CWE within budget by reducing the scope by 74 m² (800 SF), or 10 percent. The MAJCOM and base considered funding the cost increase but funds were not available. Both the MAJCOM and base have committed their funds to other projects currently under construction (specify) and MAJCOM has opted not to use its common cause authority. The changed project will still provide a complete and usable facility that meets the needs identified in the needs assessment study (NAS).

Discussion:

Cause of Scope Variance: The project design is within the scope of the NAS recommendation. The base must reduce the CWE by \$80,000 to remain within the approval limits. Reducing the size of the patio cover by 46 m² (500 SF) and the locker rooms by 28 m² (300 SF) will reduce the cost by \$80,000. The current design includes 139 m² (1,500 SF) of covered patio space and 130 m² (1,400 SF) of locker room space. Reducing the size of each locker room by 14 m² (150 SF) (latrine and shower space) will still provide adequate facilities.

Cause of Cost Variance: Recent industrial construction in the immediate area has caused the cost of materials to increase significantly. The labor market has also experienced an increase in wages due to the competition for skill labor. The base civil engineers feel the low bid is reasonable since the average cost of the next three lowest bids is only 2 percent higher.

Financial Projections: The cost remains the same. Since the reductions in the locker room are in circulation space and not the number of lockers, there is no change in revenue assumptions. As such, the approved project pro forma forecast is unaffected and the ROR remains 11 percent with a 10-year payback.

SCOPE SUMMARY

SPACE	NAS	95% DESIGN	PROPOSED	DIFFERENCE
Snack Bar/Stor:	288 m ² (3,100 SF)	288 m ² (3,100 SF)	288 m ² (3,100 SF)	0
Pro Shop/Office:	186 m ² (2,000 SF)	186 m ² (2,000 SF)	186 m ² (2,000 SF)	0
Locker Rooms:	130 m ² (1,400 SF)	130 m ² (1,400 SF)	102 m ² (1,100 SF)	-28 m ² (-300 SF)
Patio:	139 m ² (1,500 SF)	139 m ² (1,500 SF)	93 m ² (1,000 SF)	-46 m ² (-500 SF)
TOTAL:	743 m ² (8,000 SF)	743 m ² (8,000 SF)	669 m ² (7,200 SF)	-74 m ² (-800 SF)

Appendix 59: Memo of Concurrence with A-E Negotiations

DEPARTMENT OF THE AIR FORCE

COMMAND NAME

XXXXXX AIR FORCE BASE STATE

DD-JJJ-9X

MEMORANDUM FOR *Contracting Office Symbol*
ATTENTION: *Contract Administrator*

FROM: *AFCEE/CMH (Mr. JOHN DOE, (AC) ###-#####*
ADDRESS
XXXXX AFB XX ZIP CODE

SUBJECT: Technical Concurrence with Negotiations

Reference: *FYXX, Type Project (MILCON, PAIP, O&M), Project Title, Project Number,*
Location, Solicitation Number

1. I participated in the negotiations with *Firm Name* on *give times and dates* concerning the referenced project and concur that the final settlement was fair and reasonable.

This letter is not required but often helps the contract administrator support the preparation and approval of the memorandum of negotiations.

2. The following technical clarifications were made during negotiations.:
 - a. *These should be brief statements. You are not writing the memorandum of negotiations.*
 - b. *Check with the contract administrator to see what they need.*
3. *You may want to address some specific negotiated prices. This is not the time to disagree with the negotiations. Your purpose is to support the contract administrators' memorandum of negotiations. Check to see what they need.*
4. *Keep this letter as short as possible. Again, you are not writing the memorandum of negotiations.*

JOHN DOE, GRADE OR RANK

Project Manager

cc:
Chief, Base Engineering Flight
MAJCOM Project Manager (If required)

Tables, Figures and Charts (numeric listing)

Fig 1-1 MILCON Cycle

Fig 1-2 Programming & Design Process FY02/-2 MILCON Projects

Fig 1-3 Major Project Milestones and Phases for MILCON Projects

Fig 2-1 MILCON Process

Fig 2-2 Project Time Bar A

Fig 2-3 Project Time Bar B

Table 2-1 Historical (Typical) Average Design Period

Table 2-2 Additional Design Period Considerations

Table 3-1 A-E Firm Scoring Sheet

Table 4-1 Approval Authority for Scope Decreases & Increases

Table 5-1 Project Definition and Construction Document Development Checklist

Table 5-2 Requirements Analysis – Products of Data-Gathering Process

Table 5-3 Products of the Requirements Analysis Charrette

Table 5-4 Project Definition – Design Charrette Products

Fig 5-1 C.I.D. Facility Design Submittal Chart

Fig 5-2 Calendar Days Between Milestones

Fig 5-3 Functional Analysis System Technique (FAST) Diagram

Fig 7-1 DM/CM Actions

Table 7-1 Analysis Tree

Chart: Comparison of Responsibility for Design-Bid-Build versus Design-Build

Table 8-1 Facility Standards

Fig 8-1 Design-Build Acquisition Guide

Table 8-2 Project Definition RFP Development Checklist

Table 8-3 RFP Outline

Table 8-4 Level of Detail for Design-Build Request for Proposal (RFP) Development

Table 8-5 Source Selection Plan Outline

Fig 8-2 Source Selection Process Diagram

Table 8-6 Source Selection Checklist for Single Phase Design-Build Acquisitions

Fig 8-3 Basic Source Selection Organization Chart

Table 8-7 Proposal Analysis Report Outline

Fig 8-4 Source Selection Process Diagram for Two-Phase Design-Build Acquisitions

Table 8-8 Project Definition RFP Development Checklist

Table 9-1 Project Approval Authority Levels

Table 9-2 Funding Sources for NAF Maintenance and Repair Projects

Table 9-3 Important Terms for NAF Construction

Tables, Figures and Charts (alphabetical)

Additional Design Period Considerations	Table 2-2
A-E Firm Scoring Sheet	Table 3-1
Analysis Tree	Table 7-1
Approval Authority for Scope Decreases & Increases	Table 4-1
Basic Source Selection Organization Chart	Fig 8-3
C.I.D. Facility Design Submittal Chart	Fig 5-1
Calendar Days Between Milestones	Fig 5-2
Comparison of Responsibility for Design-Bid-Build versus Design-Build	Chart:
Design-Build Acquisition Guide	Fig 8-1
DM/CM Actions	Fig 7-1
Facility Standards	Table 8-1
Functional Analysis System Technique (FAST) Diagram	Fig 5-3
Funding Sources for NAF Maintenance and Repair Projects	Table 9-2
Historical (Typical) Average Design Period	Table 2-1
Important Terms for NAF Construction	Table 9-3
Level of Detail for Design-Build Request for Proposal (RFP) Development	Table 8-4
Major Project Milestones and Phases for MILCON Projects	Fig 1-3
MILCON Cycle	Fig 1-1
MILCON Process	Fig 2-1
Products of the Requirements Analysis Charrette	Table 5-3
Programming & Design Process FY02/-2 MILCON Projects	Fig 1-2
Project Approval Authority Levels	Table 9-1
Project Definition – Design Charrette Products	Table 5-4
Project Definition and Construction Document Development Checklist	Table 5-1
Project Definition RFP Development Checklist	Table 8-2
Project Definition RFP Development Checklist	Table 8-8
Project Time Bar A	Fig 2-2
Project Time Bar B	Fig 2-3
Proposal Analysis Report Outline	Table 8-7
Requirements Analysis – Products of Data-Gathering Process	Table 5-2
RFP Outline	Table 8-3
Source Selection Checklist for Single Phase Design-Build Acquisitions	Table 8-6
Source Selection Plan Outline	Table 8-5
Source Selection Process Diagram	Fig 8-2
Source Selection Process Diagram for Two-Phase Design-Build Acquisitions	Fig 8-4