

Construction

ARMY NATIONAL GUARD MILITARY CONSTRUCTION PROGRAM EXECUTION

By Order of the Secretaries of the Army and the Air Force:

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History. This is a new publication.

Summary. This pamphlet provides guidance to the Construction and Facilities Management Officer on how to program, design, and execute the State's military construction program.

Applicability. This pamphlet applies to all Army National Guard construction funded in whole or in part with a military construction appropriation.

Proponent and exception authority. The proponent of this pamphlet is the Chief of Installations, National Guard Bureau, Army Installations Division, NGB-ARI. The Chief of Installations has the authority to approve exceptions to this pamphlet that are consistent with controlling law and regulation. However, this authority may not be delegated.

Suggested Improvements. Users of this pamphlet are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to the National Guard Bureau, Army Installations Division, NGB-ARI, 111 South George Mason Drive, Arlington, VA 22204-1382.

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Chapter 1

General

1-1. Purpose

This pamphlet provides procedures and guidance to the Construction and Facilities Management Officer (CFMO) on programming and executing a military construction program. The pamphlet emphasizes completion of DD Forms 1390/1391, submittal of design documents, and construction contract management procedures.

1-2. References

Required and related publications are listed in Appendix A. Refer to the Appendix if you are not familiar with a publication cited in the basic text.

1-3. Explanation of Abbreviations and Terms

Abbreviations and special terms used in this pamphlet are explained in the glossary.

1-4. Further Guidance

Although many publications govern the military construction program, the following constitute the bedrock for Construction and Facilities Management Officers (CFMOs).

- a. DoDD 1225.7 and DoDI 1225.8 establish the principles for locating military construction projects, emphasize the importance of joint construction, and direct the establishment and procedures for Joint Service Reserve Component Facility Boards.
- b. DoD 7000.14-R, Volume 2A, Chapter 6, establishes the requirements for completing DD Forms 1390/1391.
- c. AR 200-2 delineates the procedures for integrating environmental considerations into decisions about military construction projects.
- d. NGB-AQ cooperative agreement directives establish the Military Construction Cooperative Agreement.
- e. NGR 415-5 establishes the requirements for building and executing a military construction program.
- f. NGR 415-10 establishes authorizations for Army National Guard facilities construction.
- g. NG Pam 415-12 establishes space criteria and general construction standards for Army National Guard facilities.
- h. Army National Guard Design Guides provide engineering criteria and standards to assist the States in designing Army National Guard military construction projects and preparing acceptable bid/construction documents.

Chapter 2

General Principles

2-1. Limits of Construction

- a. Construction is a project that creates a complete and usable facility and encompasses one or more of the following:
 - (1) Erection, installation, or assembly of a new facility.
 - (2) Addition, expansion, extension, alteration, conversion (in the sense of facility modification caused by a change in facility utilization), or complete replacement of an existing facility.
 - (3) Relocation of a facility from one installation to another.
 - (4) Installed building equipment made a part of the facility.
 - (5) Related site preparation, excavation, filling, landscaping or other land improvements.
 - (6) Foundations, site work and utility work associated with the setup of relocatable buildings in accordance with AR 420-18.
 - (7) Demolition of existing facilities when associated with one of the actions listed above.
- b. Incremental construction is prohibited. In other words, you may not split a project into separate parts where one or more of the following take place:
 - (1) It is done solely to reduce costs below an approval threshold or the unspecified minor construction (UMI) ceiling.
 - (2) Each part is not in itself complete and usable.
 - (3) The total project is not complete until all parts are complete.

c. The following practices constitute statutory violations and are prohibited:

(1) Acquisition or improvement of real property facilities through a series of operations and maintenance construction projects that together exceed the operations and maintenance construction limit and none of which separately provide a complete and useable project.

(2) Subdivision of a construction project to reduce costs to a level that meets a statutory limitation, or the splitting or incrementing of a project to reduce costs below an approval or contracting threshold.

(3) Development of an operations and maintenance construction project solely to reduce the cost of an active military construction project below the level at which Congress must be informed of a cost variation.

(4) Beginning a UMI project that has been previously denied authorization by Congress as a specified project.

d. The definition of construction includes installed building equipment (real property equipment) which is affixed and built into a facility as an integral part of the facility.

(1) See paragraph 4-5 for definitions of terms and examples of installed building equipment and other types of equipment (i.e., personal property).

(2) The cost of installed building equipment and its installation is part of the construction cost for that project. Military construction appropriation funds designated for the project must be used to purchase the equipment.

(3) Installed building equipment is not subject to the expense/investment threshold of \$250,000. For further details on this threshold, refer to DoD 7000.14-R, Volume 2A, para 010201.

(4) Installed building equipment is part of the funded cost of a construction project, increases the cost of the project, and thus may push a project over the statutory limit.

(5) The rules against incremental construction also apply to the purchase of installed building equipment. For example, if such equipment is required to make a facility complete and useable, then a CFMO may not delay purchase of the equipment to remain within any limits associated with the project.

e. Operations and Maintenance construction authority shall not be used to begin or complete construction projects contained in the annual Military Construction Authorization Act, nor be used as a basis for completing projects financed under other authorizations when available funding is lacking.

2-2. Anti-Deficiency Act

a. Misclassification of construction as maintenance or repair, incrementing construction projects, mixing the Operations and Maintenance and Military Construction appropriations, and premature/unauthorized notices to proceed given to contractors all may result in a violation of the Anti-Deficiency Act, specifically 31 U.S.C. §§1301, 1341, 1501, 1502, and 1517. See DFAS-IN Regulation 37-1, Chapters 4 and 9, and DoD 7000.14-R, Volume 14, for details.

b. Repair projects have no statutory limit (just a limit on National Guard Bureau's approval authority). However, there are statutory limits on the use of operations and maintenance funds for construction. Normally the limit is \$750,000. However, if the project is "solely to correct a deficiency that is life-threatening, health-threatening, or safety-threatening," the limit is \$1,500,000. (See 10 U.S.C. §18233a(b).) Therefore, it is critical to follow the guidance in paragraph 2-3 on work classification and ensure that construction projects over the operations and maintenance statutory limit are executed with Military Construction National Guard (MCNG) funds.

c. In addition, CFMOs must concern themselves with the execution of UMI projects. There is also a statutory limit on them of \$1,500,000, which increases to \$3,000,000 if the project is "solely to correct a deficiency that is life-threatening, health-threatening, or safety-threatening."

d. When executing a UMI project or an operations and maintenance construction project, it is therefore critical to properly scope and cost the project to ensure that it does not exceed statutory limits. In spite of all efforts, if a project will exceed these limits, the CFMO must cease work immediately, consult with the United States Property and Fiscal Officer (USPFO) and the Army Installations Division (NGB-ARI) and consider alternatives. If it is not possible to rescope the project without avoiding incremental construction, then the CFMO will have to reimburse the original appropriation and continue work with the proper appropriation. In the case of a failed UMI project, that will require seeking Congressional authorization and appropriation for the project.

e. The prohibition against incrementing military construction projects includes enhancing a recently completed military construction appropriation funded project with operations and maintenance funds. It is considered prudent to wait at least a year after submitting your NGB Form 593-R before doing any other construction work on a facility, unless mission or force structure changes create new construction requirements.

f. Failure to properly distinguish between installed building equipment and personal property may lead either to violating the purpose of an appropriation or to exceeding an appropriation's limits. That is because equipment classified as personal property must be purchased with the Operations and Maintenance National Guard or the Other Procurement Army appropriations (depending on whether the item exceeds the expense/investment threshold).

g. States must be careful not to violate an appropriation's purpose for those projects that include both MCNG funded construction and other appropriation funded installed building equipment or personal property. Although States may use MCNG planning and design (P&D) funds to design the building and building systems to support any installed building equipment and personal property (including systems furniture), they must use the appropriation procuring the installed building equipment and personal property to produce technical specifications for the procurement of these items and any layout or redesign by the manufacturer or an Architect Engineer (A-E) other than the project A-E.

h. Until States have NGB-ARI approval, they should not bid MCNG Architect-Engineering (A-E) or construction contracts, unless they bid them subject to the availability of funds. Nor should the States direct a contractor to execute a contract modification without receiving prior NGB-ARI approval, unless the modification does not involve Federal funds. Failure to get NGB-ARI approval for bidding contracts or executing contract modifications subjects the State to financial liability (i.e., absorbing the costs without receiving Federal reimbursement under the Military Construction Cooperative Agreement). In the case of projects with a Federal construction agent, proceeding without NGB-ARI approval opens the contracting officer to an Anti-Deficiency statute violation, because contract modification approval is neither perfunctory nor automatic.

i. The Anti-Deficiency statute states that any officer or employee of the United States who violates it is subject to appropriate administrative discipline, including suspension from duty without pay or removal. Those convicted of a knowing and willful violation may be fined not more than \$5,000 or imprisoned for not more than two years, or both.

j. Anti-deficiency violations are serious and affect the Army National Guard's credibility. Department of Defense and Department of the Army policy calls for disciplinary action in anti-deficiency violation cases. The fact that a violation was not willful only means that it did not constitute a crime, not that it does not warrant disciplinary action. Circumstances such as "a heavy workload at year-end" or an employee's "past exemplary record" generally are relevant only in determining the appropriate level of discipline, not in determining whether discipline should be imposed. CFMOs are encouraged to seek guidance from their USPFO and NGB-ARI.

2-3. Work Classification Applications

a. CFMOs need to pay particular attention to work classification to ensure that they do not improperly increment projects or violate statutory limits on the use of Operations and Maintenance and Military Construction appropriation funds.

b. All actions must be based upon good faith, sound judgement and conformance with all regulatory requirements and limitations (e.g., 10 U.S.C. §§2801-2802, 10 U.S.C. §18233a(b), NGB AQ cooperative agreement directives, NGR 415-5, and NGR 420-10). The decision making process should be supported by clear examples in the project file. When doubt exists, the CFMO should request clarification from NGB-ARI.

c. The two principal considerations when performing work classification are

(1) Strict adherence to the prohibition against incrementing or fragmenting construction for the purpose of circumventing approval authority limitations.

(2) An honest assessment of what constitutes a "complete" and "usable" facility(ies) or a "complete" and "usable" improvement to an existing facility.

(a) Example A. An airfield exists and is in use. There are concurrent requirements for a new control tower and an addition to the hangar. Each is properly a separate project, since each is independently "complete and usable" upon completion.

(b) Example B. A new airfield is to be constructed where none now exists. Assume the requirements for the airfield consists of a control tower, hanger, landing strip and taxiways. Classification of each facility as a separate project would be improper. While each may be "complete," such interrelated facilities are not, in fact, independently "usable".

(c) Example C. An administrative building exists and is in use. There are concurrent but unrelated addition/alteration requirements in the basement's mechanical room and in the headquarters area of the facility. Each is properly a separate project, since each is independently "complete and usable" upon completion.

(d) Example D. A new commissary is to be established at an installation where none now exists. The installation is planning on using three existing vacant collocated buildings and the surrounding paved area for

parking. The three buildings and parking area require restoration and modernization in order to convert the buildings into a complete and usable commissary facility. Classification of each building as a separate project would be improper. While each may be "complete," such interrelated facilities are not, in fact, independently "usable" until all four components of the commissary are completed, i.e., the sales store, the dry storage, the cold storage and the parking lot. In this case one modernization and one associated minor construction project should be developed and approved for all work needed to establish a commissary.

d. A military construction project by nature is a "single undertaking" (i.e., an activity which would be readily and separately identified as a logical task). A single undertaking could range from constructing a short length of sidewalk to all work required to construct a building. Its scope is dependent upon need for accomplishment, economical contracting practice, and good engineering judgment. Also, the scope may be limited by fund availability. However, when a finite project is to be funded (phased) over a number of years the entire project must be approved at one time. Project scope must be based on reason or logic that could not in any way be interpreted as intending to circumvent dollar approval levels. If many items are of equal priority in the same facility, and good engineering judgment indicates that they should be accomplished simultaneously, they should be considered as a single undertaking of finite scope and therefore one project. However, when sustainment, restoration, modernization, and construction are to be done at the same time, sustainment, restoration, modernization, and construction work may be treated as four separate projects and each project separately funded with the appropriate appropriation.

e. It is therefore critical to be able to define an individual military construction project.

(1) By definition it is all construction efforts, or any contribution authorized by law, necessary to produce a complete and usable facility or a complete and usable improvement to an existing facility or improvement as specifically authorized by law.

(2) In determining whether an undertaking is a single or multiple projects, consider the following:

(a) All construction proposed for a real property facility in which the same functional purpose or related functional purposes involved will be treated as one project.

(b) All concurrent construction proposed for contiguous areas of a multi-use facility shall be treated as a single project even though the construction pertains to unrelated functional purposes. For this purpose, contiguous means "in actual contact" or "touching."

(c) All construction proposed for a multi-use facility that is common to the facility as a whole, or common to areas in which the same or related functional purposes are performed, shall be treated as a single project.

(d) Construction proposed for a multi-use facility may be divided into separate projects provided that each project can be clearly defined and the result is a complete and usable facility.

2-4. Project Costs

a. When a military construction project also includes sustainment, restoration, and modernization work properly funded with the operations and maintenance appropriation, each type of work may be treated as a separate project for approval limitation purposes. Engineering estimates may be used to allocate the funded costs between construction and the other components of the project. This will determine project approval authority. When the work is so integrated that separation of construction from the other components is not possible, the entire undertaking shall be funded as one construction project. In this case the MCNG limit shall apply to the one, overall project.

b. For purposes of work classification and project capitalization, the total funded cost of a multi-year project over \$750,000 on a single real property facility shall include all phases of the project. This means that if a State intends to combine MCNG and operations and maintenance work on a single facility and spread this work out over several years in multiple phases, it must do the following:

(1) It must submit the entire project for approval to NGB-ARI before commencing any of the work, even sustainment or restoration activities. This is to ensure that the project is properly classified, funds are appropriately allocated among the types of work, and no statutory violations will occur.

(2) It must capitalize all phases of the project, even though certain phases fall below the normal \$100,000 threshold.

c. The State may not charge its advance planning costs to the military construction appropriation. Instead, it must charge these expenses to the appropriate operations and maintenance engineering services account. The following are an illustrative but not a complete list of advance planning activities that should be completed before contracting for the planning and design of specific facilities:

(1) Developing the requirements for a military construction project (i.e., project formulation).

- (2) Developing and updating planning documents such as the Real Property Development Plan (RPDP) and the Range and Training Land Program Development Plan (RDP).
- (3) Initial explorations of project alternatives and rough drawings.
- (4) Facilities related management studies.
- (5) Conceptual analysis.
- (6) Making alternative site studies.
- (7) Developing and validating military construction project documentation prior to commencing project design.
- (8) Preparing engineering analyses and studies to develop technical design parameters prior to commencing project design.
- (9) Preparing environmental documentation of the project.

2-5. Sustainable Design and Development (SDD)

- a. SDD is the systematic consideration of current and future impacts of an activity, product, or decision on the environment, energy use, natural resources, the economy, and quality of life. In terms of military construction, it is also the design, construction, operation, and reuse/removal of the built environment (infrastructure and buildings) in an environmentally and energy efficient manner.
- b. The CFMO shall incorporate the concept and principles of SDD into installation facilities planning decisions, infrastructure projects, and facility life-cycle management, in order to integrate best building practices, technologies, energy conservation, and environmental considerations. All DD Forms 1390/1391 and project design submissions shall reflect the incorporation of SDD.
- c. The CFMO shall use the Sustainable Project Rating Tool, published by the Army Corps of Engineers, as a guide in project development to optimize site potential, maximize the use of renewable energy, use environmentally preferable products and materials, protect and conserve water, enhance indoor environmental quality, and optimize operations and maintenance practices.
- d. SDD should enhance the environmental performance of facilities by encouraging the CFMO to:
 - (1) Use resources efficiently and minimize raw material resource consumption, including energy, water, land, and materials, both during construction and through the life of the facility.
 - (2) Maximize resource reuse, while exercising fiscal stewardship.
 - (3) Move toward renewable energy sources and away from fossil fuels.
 - (4) Build facilities of long term value.
 - (5) Protect and, where appropriate, restore the natural environment.
- e. SDD requires an interdisciplinary project design team that includes facility users and environmental participation.
- f. SDD requires the true integration of National Environmental Policy Act (NEPA) requirements throughout the site selection and project development process. NEPA cannot be pro forma, and the CFMO must carefully analyze all environmental documentation in order to choose a site and a footprint on the site that minimizes disturbances of pristine sites and impacts on adjacent sites and maximizes the use of previously disturbed sites. SDD thus requires the CFMO to pay particular attention to the natural, cultural, and social ecology of the site selected for the project.
- g. Engineer Technical Letter 1110-3-491 provides specific guidance and resources to ensure that projects use resource efficient materials in design and construction, manage water as a limited resource, are designed for energy efficient operation, and maximize facility user health and productivity.
- h. SDD requires adherence to the following concepts.
 - (1) Strategic facility planning and programming that looks at long-term viability, life-cycle cost benefits, and resource conservation to determine the proper mix among facility construction, renovation, and disposal .
 - (2) Site work and planning that links the project to the surrounding social and natural environment and maximizes their synergy while minimizing destructive impact.
 - (3) Designing and laying out facilities to optimize building size, scale the building to the environment, site rooms and other facility components for comfort and performance, and ensure durability and ease of adaptation for other uses.
 - (4) Orienting facilities to use the surrounding environment and microclimate to passively increase the quality of the interior environment and improve the comfort and productivity of facility users.
 - (5) Selecting durable, low maintenance building materials to limit the impacts on the environment and the health of facility users.

- (6) Closely coordinating architecture, interiors and design strategies to limit sources of contamination and improve indoor air quality.
 - (7) Designing building systems to minimize water use and maximize its reuse.
 - (8) Accommodating recycling into building design and construction practices.
 - (9) Using building commissioning to ensure proper and efficient design, integration, and functioning of building systems.
 - (10) Conducting strategic environmental management to understand and assess environmental risks and opportunities associated with facilities, their internal processes, and associated construction and operational decisions.
- i. Additional reference material on SDD is available through the University of Minnesota. Consult their website at www.sustainabledesignguide.umn.edu.

**Chapter 3
Program Execution**

3-1. Statute versus Policy

- a. For MCNG project (except UMI projects), there must be both Congressional authorization and appropriation for the specific project. These occur in two separate bills, the annual DoD authorization and the annual DoD military construction appropriation. Occasionally, authorization and appropriation may be combined in a single bill, usually a supplemental appropriation, which may or may not be limited to DoD.
- b. Unless specified otherwise in the bills, an authorization for a project is good for three years, and an appropriation is good for five years.
 - (1) That is, if a project is authorized and appropriated for fiscal year X, then the CFMO has until 30 September of X+2 to incur a valid obligation for that project. A valid obligation means that the contracting officer (Federal or State) has signed a binding construction contract for that project. (In the case of a State contracting officer, the act of signing must also fiscally obligate the State.)
 - (a) Should the CFMO not be able to meet this deadline, then the project must receive an extension of authorization from Congress, usually done in the annual DoD authorization. In no case, however, may an authorization extend beyond five years.
 - (b) Should the project fail to receive an extension of authorization, then there is no authority to execute the project and NGB-ARI may use its funds for reprogramming.
 - (2) In addition, the CFMO has until 30 September of X+4 to incur a valid obligation registered in the Federal fiscal system for any contract modification not within the original scope of the project. At this point, the appropriation has expired. This means that these funds may only be used to obligate a contract modification within the scope of the original contract or to pay a disbursement against a valid obligation. If there are insufficient expired funds available, then military construction appropriation funds available at the time that the contract was issued shall be used, or, if these are not available, then current year funds shall be used.
 - (3) Further, the CFMO has until 30 September of X+9 to incur a valid obligation registered in the Federal fiscal system for any contract modification within the original scope of the project contract. After 10 years the military construction appropriation is cancelled. This means that these funds are not available for either obligation or disbursement. Adjustments may be made to canceled appropriations provided the transaction being adjusted occurred prior to the appropriation canceling. Canceling appropriations do not eliminate the Government's legal obligation to pay contractors for services rendered or products delivered. Nor does it nullify the need for the accounting activity to maintain an audit trail supporting the existing contingent liability to future appropriations. That is, once an appropriation has canceled, only current military construction appropriation accounts, subject to the availability of funds, may be used to satisfy valid obligations.

TIMELINE OF THE MILITARY CONSTRUCTION APPROPRIATION

FY-2	FY-1	FY	FY+2	FY+4	FY+9
State receives authority and funds to begin design for projects in the FYDP	NGB submits MCNG budget and FYDP for OSD review and modifications in October and for Congressional action in February	Receive authorization and appropriation. DoD and DA expect complete project to be awarded by 30 September of this year.	Authorization expires. Must have let initial construction contract by 30 September of this year, unless Congress has extended the authorization.	Appropriation expires. Cannot let new construction contract or contract modifications outside of the scope of the original contract after 30 September of this year.	Appropriation cancels. Cannot disburse additional funds or let any more within-scope contract modifications after 30 September of this year.

c. In spite of the language in the Congressional acts, NGB-ARI is graded by DA, OSD, and Congress on the ability to execute projects in the first year of appropriation. Execution does not mean a partial award; it means both awarding a construction contract(s) for the full scope of the project and registering the obligation of those funds in the Federal fiscal system. Such timely execution validates the requirement of the project you requested.

d. The terms “obligation” and “execution” are often used loosely. However, they have very specific meaning to DA and OSD staff.

(1) “Obligation” is a legal and financial term. It refers to orders placed, services rendered, contracts awarded, or other commitments made by individuals authorized to bind a governmental entity. A Federal contracting officer signing a construction contract obligates the Federal Government. A State contracting officer signing a construction contract also obligates the Federal Government, if there is an MCCA in place, NGB-ARI has authorized the construction project be bid, and no items in the contract exceed the approval NGB-ARI has granted for the project.

(2) “Obligation,” however, only has meaning within statutory authority, both in general laws and specific military construction authorization and appropriation acts.

(3) To have financial effect, the USPFO must record any actual obligations in the Army financial systems maintained by the Defense Finance and Accounting Service (DFAS). A signed Federal contract is the basis for immediately recording the obligation of the amount of the contract in the system. A signed State contract is the basis for immediately recording the obligation of the amount of the contract in the system, provided that the amount does not exceed the maximum Federal limitation in the MCCA.

(4) “Execution” is a measurement of the success of the MCNG Program. It has only an indirect relationship to whether you awarded or are about to award a contract. Instead, it is directly related to the reports provided by the financial system. “Execution,” therefore, measures only the dollars obligated against the military construction appropriation for that year.

(5) The DA and OSD staff base execution assessments on data in the DFAS financial reports, which record the funds obligated and disbursed against the amount appropriated (adjusted for any reprogramming) for each open Army Management Structure Code (AMSCO). Each authorized and appropriated project has a separate AMSCO, as do the P&D and UMI accounts for each fiscal year.

3-2. Principles for Success

a. Remember: Failure to execute according to DA and OSD guidance jeopardizes future funding for the entire Army National Guard.

b. Plan! Plan early, plan in detail, and keep updating your plan.

(1) Planning is two fold: keeping the State’s RPDP current, and planning for specific military construction projects.

(2) The first step is for the CFMO to seek out – and understand – a clear and coherent vision from the Adjutant General. Verify this vision when updating the RPDP. This vision should address, for example, philosophies of stationing issues, anticipated missions, desired facility and training center capabilities, and relationships with local communities. Your Adjutant General should provide you planning goals and objectives which answer the following questions:

- (a) What types of facilities are most important?
- (b) What missions are top priority to accommodate?
- (c) Where is it most important to have facilities?
- (d) When are facilities replaced?

(3) The next step is to keep open channels of communication among all members of the State staff. Changes in force structure, mission, training strategy, equipment, and information technology, among other things, affect overall State requirements, priorities, project scopes, and costs.

(4) Last, take time with your RPDP. Keep gathering data, because the more detailed the information, the more accurate the analysis and the final recommendations. In addition, NGB-ARI uses the requirements automatically generated by the supporting software to evaluate whether a State needs a project or not. The CFMO, therefore, needs to take advantage of the opportunities in the software to request an adjustment in the computed allowances. If done when updating the plan, it saves time and avoids bitter feelings when the actual project is submitted for review.

(5) The State’s priority in its annual update should be threefold.

(a) Get the requirements right. Because the underlying software relies on a series of related databases, the CFMO must ensure the accuracy of, at minimum, the real property database, the facility requirements generator, and the Army Stationing and Installation Plan (ASIP).

(b) Update at least the priorities and project list on the site development plans based upon changes to missions and stationing, Installation Status Report findings, and completed construction, repair, and maintenance activities. Then, add to the number of site development plans and the sophistication of existing ones.

(c) Relook your Statewide assumptions and direction to see if it reflects the Adjutant General's priorities and the reality of a changing world.

c. Scope a project properly from the beginning. It lets you sell your project better to higher entities (National Guard Bureau (NGB) through Congress); it saves review time at NGB (both with the DD Forms 1390/1391 and the design submission documents); it avoids many contract modifications; and it produces better facilities for the users. After all, they are the reason for the project in the first place.

(1) Scoping begins with the RPDP. The RPDP should provide you with your shortages at a location, recommended projects in priority order, and a rough order of magnitude for the costs.

(2) Scoping is a large part of the preparation of the DD Forms 1390/1391. Remember that these forms, once approved, document the approved scope and Federal share for each component of a project. Failure to take the time to ensure that each possible component of a project is included and accurately costed jeopardizes the State's ability to construct facilities that meet the needs of the users.

(3) This means that it is essential to begin discussing facility requirements with the users at this stage. It is also essential to involve environmental staff, the State physical security officer, the State safety and occupational health officers, and similar staff as well.

(4) Scoping is critical, because done right it produces a programming document, a design, and a completed project, all within the original estimated cost and meeting user needs.

d. Continual coordination at all levels is critical.

(1) Coordination needs to be with facility users, the State proponent, the NGB proponent, the NGB-ARI facility management engineer, and any outside regulatory/approval authorities.

(2) Although the DD Forms 1390/1391 define the approved project scope, the CFMO needs to continue to involve facility users and key State staff throughout the design of the project to ensure that the project will work once constructed.

(3) Proper coordination validates the project requirements.

(4) State proponent coordination with NGB proponent smoothes review progress and enhances possibilities of success for requests for exception to criteria.

(5) Coordination needs to be continual, in order to adjust to any situational changes requiring scoping and programming document adjustments. Current, accurate documents tend to produce better projects.

e. Appendix O provides a sequenced list of the steps that take place between conceiving of a military construction project and occupying the finished facilities.

f. GAO Report GGD-00-172R is an excellent resource for comparing your standard processes against those that have been shown to produce success. Appendix P lists the "best practices" from the report.

3-3. Regulatory Gates

While planning for execution, do not forget to allow sufficient time to meet various regulatory gates. The following list is not intended to be all inclusive. It is merely illustrative.

a. Plan. Contemplate how you will meet the gates before you request authorization and appropriation for a project not in the President's Budget. Whether a project is budgeted or not, the Army National Guard (ARNG) is still graded on execution in the first year of appropriation. Proper planning will help ensure that you will not miss a gate.

b. Do an economic analysis following the step by step guidelines in DA Pam 415-3 to verify that your project scope and location represent the best possible use of Federal funds. Appendix D of DA Pam 415-3 contains a checklist to help you evaluate the effectiveness of your effort.

(1) Establish the objective. The single most important step in an economic analysis is to define the objective. Without a clear, concise statement of what the EA is to evaluate, the economic analysis will not be successful. With this definition, the analyst sets the objectivity of the analysis. An improperly stated objective may indicate that the economic analysis was done to justify a conclusion and not to determine without bias the most economical solution for a requirement. The wording is critical in stating the objective. Not only should it be unbiased, but it should also contain explicit criteria for measuring the results from the proposed concept.

(2) Identify alternatives. List alternatives initially considered to meet the objective. Alternatives that are not feasible must be discussed in the documentation but need not be included in the cost comparison. An alternative is said to be feasible if it fully meets the stated objective. It is vital that all realistic options be considered and documented for higher levels of review. Common alternatives for requirements in the MCNG Program are new construction, leasing, renovation or conversion, modification or addition, commercially financed, status quo, other DoD or Federal agency facilities, and contract for services.

(3) Formulate assumptions. In most economic analyses the analysts must make some assumptions. Common assumptions include the estimated useful life of an asset, an estimated requirement, the replacement time for a building component (such as a roof), and the future cost of a required repair action. Often, analysts must formulate assumptions before they can choose alternatives wisely. Assumptions must be stated so that reviewers can assess their impact on the economic analysis. Assumptions should never be used if factual data is available or can be obtained, as they can impact the validity of the analysis.

(4) Estimate costs and benefits. This step is the most difficult and time-consuming part of an analysis. The analyst must consider all costs and benefits associated with each alternative and how to collect or estimate them. They must be determined for the entire life of the project to reflect total life-cycle costs. Estimates must be made for the year in which the cost is to be incurred or the benefit is to be received. Each option must be studied separately. This step is critical as the overall accuracy of the economic analysis depends on the accuracy's of these estimates. Meaningful conclusions can only be obtained from meaningful data.

(5) Compare costs and benefits and rank alternatives. This step is the heart of the analysis. It is also the easiest, because once the first four steps have been completed, the comparisons and ranking can be done using computer programs. Comparisons give managers the information needed to make informed decisions. Once the costs and benefits for all options are found, one option can be compared with another. The main benefit to be derived from an MCNG project is fulfillment of the stated objective. This is a benefit common to all alternatives in the economic analysis, and its inclusion in the economic analysis calculations would not affect the ranking of the alternatives. So, dollar quantification of the major benefit is unnecessary. Emphasis is, therefore, placed on the costs of the alternatives. Dollar quantifiable benefits (other than meeting the stated objective) of each alternative are treated as cost offsets for that alternative. Three general criteria are used to compare and rank them: least cost for a given level of effectiveness, highest effectiveness for equivalent cost, and the largest ratio of effectiveness to cost. These three criteria conform to the three basic types of cost and benefit relationships: unequal cost and equal effectiveness, equal cost and unequal effectiveness, and unequal cost and unequal effectiveness. At times, alternatives have equal costs and equal benefits. When this happens, an alternative is chosen based on non-economic factors. In most MCNG economic analyses, the first type is applicable: all alternatives would have the same effectiveness such as providing quarters for 100 officers, and the lowest cost option is the one preferred.

(6) Perform sensitivity analysis. A sensitivity analysis is a "what-if" exercise. It tests whether the conclusion of an economic analysis will change if some variable such as a cost, benefit, or assumed inflation rate changes. Sensitivity analyses should always be performed when the results of the economic analysis do not clearly favor any one alternative, and there is a great deal of uncertainty about a cost, benefit, or assumption in the economic analysis. If a change in a variable or assumption causes a change in the ranking of alternatives, the economic analysis is said to be "sensitive" to that variable or assumption. By performing a sensitivity analysis and including its results in the report, the analyst ensures the decisionmaker that uncertainties in the economic analysis have been tested and the results documented.

(7) Report results and recommendations. The economic analysis report should be detailed and include data sources. It is important to state the recommendation, because the cost comparison alone may not determine which alternative best meets the objective.

c. Obtain the land.

(1) Do your site survey, obtain a geotechnical report, and ensure that the site conditions will actually support that types of facilities you intend to construct. You need to conduct an Environmental Baseline Survey (EBS) or State equivalent at this time. You do an EBS to ensure the suitability and buildability of the site and to verify that there were no prior landfills or contamination by hazardous or other regulated hazards or other use history that would adversely affect the construction, occupancy, or future operation of the proposed facility once it is constructed.

(2) Research your site to make certain that there are no hidden problems, such as floodplains and wetlands, that require additional approval steps.

(3) Remember to consider anti-terrorism force protection (AT/FP) requirements before you approve a site.

(4) Obtain a certificate of title.

- d. If your project requires a State match, obtain the necessary State funds. It may take you two years or more.
 - (1) Remember what their legislative calendar is, especially if your State only enacts a budget every two years.
 - (2) Do the necessary coordination well in advance if your State also requires you to obtain actual obligational authority from or contract through another State agency.
- e. Complete your environmental requirements, both the EBS and NEPA. Execute these early enough so that you can effectively develop and document sound decisions.
 - (1) Your EBS and NEPA paperwork must be timely, current, accurate, and approved by the Army Environmental Programs Division (NGB-ARE). You will need to update it to keep it current.
 - (2) For many projects, the NEPA process will likely take at least 300 days. Therefore, you will need to initiate the NEPA evaluation process very early in the development of the project.
 - (3) Regulatory changes now require that you pay more attention to both natural resource and cultural resource issues. This will require you to coordinate with outside agencies and the public.
- f. Obtain project approval from your Joint Services Reserve Component Facilities Board (JSRCFB), and keep it current. JSRCFB approval is only good for twelve months at a time. In the case of joint projects, begin work on the memorandum of agreement required by DoDI 1225.8.
- g. Unless your project is on Federally owned land with a Federal design and construction agent, you require a Military Construction Cooperative Agreement (MCCA) before you receive any funds for design or construction. The MCCA requires time for signatures not just at NGB but also outside of the State Military Department.
- h. MCCA approval is conditional on approved DD Forms 1390/1391 that properly define the scope of work. A CFMO shouldn't proceed very far at all in the planning process without approval of the MCCA.
- i. Certain projects must receive Federal approval of project siting and/or scope from elements of organizations outside of NGB-ARI.
 - (1) Range projects require that NGB-AVS indicate in writing that the State Safety Officer has properly mapped and applied the surface danger zone (SDZ). A project will not receive approval to go beyond conceptual design until the CFMO provides documentation of NGB-AVS approval of the initial SDZ mapping.
 - (2) Ammunition storage projects and projects close to those type facilities will not receive approval to go beyond conceptual design until the CFMO gets Department of Defense Explosive Safety Board (DDES) approval. (For a definition of ammunition storage projects see para 6-5g below.)
 - (3) If you are building a kitchen as part of your project and you are deviating significantly from the kitchen design in Design Guide 415-1, you must receive Quartermaster School approval before NGB-ARI will authorize you to proceed to final design. Address your request to U.S. Army Quartermaster Center & School, ATTN: ATSM-CES-OE, 1201 22nd Street, Building P-5000, Room 321, Fort Lee, VA 23801-1601. Include the specifications for food equipment, the kitchen layout, and the equipment schedule for the kitchen.
 - (4) If your project includes a petroleum facility, you must receive approval from the U.S. Army Petroleum Center before NGB-ARI will authorize you to proceed to final design. Address your request to Director, United States Army Petroleum Center, ATTN: AMSTA-LC-CJPL, 54 M Avenue, Suite 9, New Cumberland, PA 17070-5008. Include the plans and specifications for all fuel dispensing systems, storage areas, and related items.
 - (5) Surface and air maintenance facilities and indoor ranges require an industrial hygiene and occupational health technical review before NGB-ARI will authorize you to proceed to final design. These are available from the State Occupational Health nurse or, preferably, from one of the four regional Industrial Hygiene offices run by NGB-AVS: Northeast Region (Maryland), Southeast Region (Georgia), Midwest Region (Colorado) and Southwest Region (Nevada).

3-4. Available Tools

Typically a project proceeds in the following fashion: the CFMO arranges for the contracting of an A-E firm to design the project; the CFMO arranges for the resulting approved design to be bid; and the successful contractor constructs the facilities. However, there are alternatives that may speed or improve the process. They may not often be suitable for projects, and some may not be permissible in certain States. Nonetheless, it is always advisable to have as many tools available to improve your execution capabilities.

- a. Design-Build. In this case, a CFMO prepares detailed specifications of the desired end product, including quality standards, and then arranges for the contracting of a single firm to both design and construct the project. See Chapter 13 for details.

b. Automated Design Guide. This is a software tool that in limited cases lets the CFMO produce a 35% design equivalent in-house, before contracting with an A-E. It may save design dollars and should provide the A-E with a better concept of the CFMO's intent for the project.

c. Site-Adapt. In this instance, a CFMO chooses a design for an already constructed project (even one from another State) and arranges for the contracting of an A-E to make only the minor changes necessary to fit the previous project to a new location. This will work only if the CFMO has verified that the functional requirements of the users are the same, that the site is really suitable for the previous design, and that as-builts are used (not bid-final design submission). The as-builts are critical to account for all contract modifications, since the intent for a site-adapt is both to save time and effort in design and construction by ensuring functionality and reducing construction contract modifications.

d. Real Property Exchange. In this instance the State, or the Army Corps of Engineers in the case of Federally-owned property, exchanges existing land and facilities for land and facilities at another location. The intent is to reduce military construction requirements, to avoid the military construction programming and construction cycle entirely, and to obtain better quality facilities at no cost to the State and the Federal government. This is one way for a State to satisfy its construction requirements without competing for limited funds in the Future Years Defense Program (FYDP).

3-5. Project Appropriation

a. Although each project (except for a UMI project) requires both Congressional authorization and appropriation, that does not mean that the appropriation becomes the property of either the project or the State.

b. Congress' commitment to the ARNG is the completed project, not a set amount of money. The dollar value of the appropriation merely helps to frame and define the project.

c. The approved DD Forms 1390/1391, in conjunction with the MCCA, establish the only approved project scope. They may be higher or lower than the actual appropriation. However, except for unforeseen circumstances, the appropriation should be sufficient, because a request for appropriation should only come after the CFMO has thoroughly planned and scoped the project with all facility users and NGB has provided a detailed, final review of the DD Forms 1390/1391. Moreover, comprehensive planning should eliminate most unforeseen circumstances, and the appropriation, after all, includes 5% for contingency (the unforeseen).

d. NGB-ARI does have statutory authority to informally reprogram funds into a project until the amount reaches 125% of the appropriation for the project. However, to provide any additional funds above the appropriation for one project, NGB-ARI has to rely on savings from one or more other projects.

e. Project residuals and savings pay for claims and required contract modifications on all existing projects. NGB-ARI may also use those funds for formal reprogramming either to add money to the P&D and UMI accounts or to exceed the 25% informal reprogramming limit on specified MCNG projects. Neither informal nor formal reprogramming may result in a project not already authorized and appropriated.

f. When States use good management techniques and sound financial stewardship that result in a project obligation that is less than the appropriated amount, they should not construe that as "leaving money on the table."

Chapter 4

Limits on Military Construction Funding

4-1. General

Because a military construction project's authorization and appropriation establishes monetary limits, it is critical to understand what a State has to finance with those funds and what it has to finance elsewhere. The bricks and mortar are obviously construction. However, so are other items.

4-2. Funded Project Costs

a. "Funded costs" is a specialized term. It does not include every item funded from the military construction appropriation. Rather, it includes items not normally apparent. These are:

(1) The Federal share of the purchase of real property, materials, supplies, services, rental trailers and buildings, utilities, or other items applicable to the project.

(2) Installed capital equipment and installed building equipment.

- (3) Transportation costs applicable to materials, supplies, real property items, installed equipment, and Government-owned equipment.
 - (4) Civilian labor costs.
 - (5) Contracted supervision and inspection costs. These include your Title II/Type C A-E services.
 - (6) Troop travel and per diem directly related to the project for soldiers who are doing actual site preparation and construction, if these costs were incurred solely because of the construction project. (This is not the same as normal CFMO project management.)
 - (7) Costs for maintenance and operation of government-owned equipment (including organic troop unit equipment) and rental cost for non-Government equipment.
 - (8) Costs for preparation of operation and maintenance manuals for installed systems.
 - (9) Demolition and site preparation costs.
 - (10) The cost of installing equipment in place in new facilities.
 - (11) Costs of mitigation that require construction, if identified in environmental documentation completed in accordance with AR 200-2.
- b. Funded costs count against the approved amount in the DD Forms 1390/1391 and in the project authorization and appropriation.
 - c. The military construction appropriation shall be used to reimburse other appropriations for all funded costs initially financed by such other appropriations. The mechanism to do so is for the USPFO to complete an SF 1080 on a no-check basis. The effect of this action is to change the fund citation for a payment from the original appropriation to the military construction appropriation.

4-3. Unfunded Project Costs

“Unfunded costs” is also a specialized term. They are those items that contribute to a military construction project, are financed from appropriations other than military construction, and are not reimbursed by appropriations available for military construction. More importantly, unfunded count towards the capitalized cost of the project in Federal real property files and the Federal real property data base. These costs are:

- a. Costs financed from military personnel appropriations.
- b. Depreciation of government-owned equipment (except depreciation cost of a plant owned by capital working funds).
- c. Materials, supplies, and items of installed equipment that have been obtained from other U.S. Government agencies or foreign governments without reimbursement. When such items become available as excess distributions from other government agencies, their value shall be at Federal Supply Catalog.
- d. Costs of real property items relocated on the same installation except transportation and relocation costs.
- e. Planning, engineering, and design costs before construction. These include your Title I/Type A and B A-E services. However, in the case of design-build projects, all planning and design done by the design-build contractor is a funded cost and funded from the project appropriation. Type A and B services that you accomplish before hiring a design-build contractor are an unfunded cost.
- f. Costs for licenses and permits required by State or local laws for pollution abatement.
- g. Materiel costs of equipment-in-place items obtained on a non-reimbursable basis.
- h. Federal military prisoner and Federal civilian prisoner labor.
- i. Costs for travel and per diem for troop labor if the construction project is only part of a larger activity, such as an annual training exercise. That is, the travel and per diem for troop labor is a funded project cost if the sole purpose of bringing the troops to a site is to assist in the project, even if the project is considered troop training. However, the travel and per diem is an unfunded project cost if the project work is incidental to a larger training exercise.

4-4. Calculating Funded and Unfunded Project Costs

- a. Proper calculation of these costs is essential to ensure that a CFMO accurately capitalizes a project in Federal real property files and the Federal real property data base and adheres to statutory and approval limits.
- b. Because almost all projects will be executed via contract the determination of project costs are merely a matter of tracking the separate disbursement of funds against the design and construction contracts.
- c. However, when the CFMO executes either the design or the construction project in house, then he/she must keep complete and thorough records.
 - (1) For most types of costs, this is a matter of tracking time sheets or bills for services.

(2) However, if a CFMO uses Federal Government furnished equipment (most likely during a troop labor project), then he/she must calculate the costs for maintenance and operation of government-owned equipment (including organic troop unit equipment). To cost these items use the USPFO published reimbursement rate for the use of such equipment by the State. If these rates do not exist, use the rates in Guard Knowledge Online under the Army Logistics Division Logistics Support Branch (the cost factors spreadsheet). This will provide you the funded costs.

(3) Depreciation of government-owned equipment is an unfunded cost. If the equipment is more than 8 years old, the unfunded cost is zero. If the equipment is 8 or fewer years old, then the unfunded cost for that piece of equipment is 0.0342% times the acquisition price times the number of days the piece of equipment is used.

4-5. Equipment

a. Installed Building Equipment (IBE). Installed building equipment (real property) are items that are affixed or built into the facility and become an integral part of the facility. IBE is normally provided as a part of the construction contract, and its costs are included as a funded construction cost. Later additions or replacements of IBE are also construction and subject to statutory limits. IBE is not, however, subject to the expense/investment threshold of \$250,000. (For further details on this threshold, refer to DoD 7000.14-R, Volume 2A, para 010201.) Examples of IBE follow. They are not complete nor do they always apply. Use common sense and let the definition rule.

(1) Amplifiers, splitters, couplers, etc. for government master antenna systems, electronic security systems, visual information systems, etc.

(2) Antenna (master antennas for non-paid subscriber entertainment television systems)

(3) Bead blast booth

(4) Bedside headwall units

(5) Benches (built-in)

(6) Bleachers (built-in)

(7) Boilers

(8) Bookcases (built-in)

(9) Cabinets (built-in)

(10) Cabling (as defined in the glossary) for telephone systems, computer networks, and other electronic networks, including electronic security/ detection systems

(11) Carpet (wall to wall)

(12) Chapel seating, baptisteries, altars, pulpits, communion rails and tables, and raised platforms (built-in)

(13) Central clock system (built-in)

(14) Closets

(15) Conduit, raceway, ductwork, riser system, manholes, poles, etc. associated with telephone systems, computer networks, and other electronic networks (as defined in the glossary)

(16) Desks and tables (built-in)

(17) Dishwasher equipment (built-in)

(18) Drinking water coolers (built-in)

(19) Electrical (built-in electric fixtures and power utilization and distribution equipment)

(20) Elevators and elevator doors

(21) Energy management systems

(22) Escalators

(23) Exhaust systems

(24) Fiber optic line drivers, multiplexers, interface devices, etc. (wired-in)

(25) Fire alarm and detection systems

(26) Fire extinguisher cabinets (built-in)

(27) Food service equipment (built-in)

(28) Gas fittings

(29) Generators (built-in)

(30) Hardware and fixtures for handicapped access

(31) Heating, ventilating and air conditioning equipment and control systems

(32) Hoists (crane and crane rails)

(33) Incinerators

(34) Key cabinets and safes (built-in)

- (35) Key control systems
- (36) Laboratory sinks, tables, and benches (built-in)
- (37) Lockers (built-in)
- (38) Meat cutting equipment (built-in)
- (39) Medical automated gas conveyors
- (40) Medical gas systems
- (41) Medical material handling systems
- (42) Paging systems
- (43) Paint Booth
- (44) Panel Boards
- (45) Plumbing
- (46) Pneumatic tube systems
- (47) Pot and pan washing equipment
- (48) Protective construction features
- (49) Radio and public address system (built-in)
- (50) Refrigeration equipment (built-in)
- (51) Safety Signs
- (52) Screens
- (53) Shelving and racks (built-in)
- (54) Signs and markings for boundaries, building room, and unit identification.
- (55) Sprinklers
- (56) Sterilizers (built-in)
- (57) Storage bins (built-in)
- (58) Storm sash and doors
- (59) Testing and diagnostic equipment dedicated to installed building equipment
- (60) Theater and auditorium railings
- (61) Theater stage and fire curtain
- (62) Traffic railings
- (63) Uninterruptible power supplies dedicated to installed building equipment
- (64) Utility monitoring and control systems (including real time clocks)
- (65) Vaults
- (66) Vehicle and pedestrian traffic control and direction signs.
- (67) Venetian blinds and window shades
- (68) Wardrobes (fixed)
- (69) Waste disposers
- (70) Other similar non-severable items

b. Personal Property (Fixed). Personal property consists of capital equipment and other equipment of a movable nature that has been fixed in place or attached to real property, but which may be severed or removed from buildings without destroying the usefulness of the facilities. Personal property (fixed) is subject to the expense/investment threshold of \$250,000 and is to be procured with Operations and Maintenance National Guard or Other Procurement Army funds, as appropriate. (For further details on this threshold, refer to DoD 7000.14-R, Volume 2A, para 010201.) The staff element which is the primary user of the item shall fund the procurement of the item and charge it to the appropriate non-construction AMSCO. Examples follow. They are not complete nor do they always apply. Use common sense and let the definition rule.

- (1) Antennas and antenna towers for point-to-point communications
- (2) Blast furnaces
- (3) Blasters and roto blasters
- (4) Bleachers (portable)
- (5) Chain and tractor equipment
- (6) Conveyor systems
- (7) Demountable partitions
- (8) Dental chairs and pedestal units
- (9) Dies
- (10) Dish antenna and receivers

- (11) Drills
- (12) Dryers
- (13) Educational Television systems
- (14) Electronic repair laboratory and shop equipment
- (15) Electronic security equipment
- (16) Fixed facilities for radio and meteorological stations
- (17) Fixed navigational aids
- (18) Fixed target range systems
- (19) Forges
- (20) Frequency converters
- (21) Grinders
- (22) Heat treating machines
- (23) Intrusion detection systems and closed circuit TV sensors, monitors, cameras, consoles, and similar items
- (24) Jigs
- (25) Lathes
- (26) Laundry equipment
- (27) Medical and dental equipment
- (28) Metal plating equipment
- (29) Microscopes (fixed)
- (30) Molders
- (31) Organs
- (32) Ovens and furnaces
- (33) Paint sprayers
- (34) Photographic equipment
- (35) Power conditioning equipment and power filters
- (36) Presses
- (37) Prewired workstations
- (38) Printing presses and related equipment
- (39) Punches
- (40) Riveters
- (41) Scientific measuring instruments
- (42) Sewing Machines
- (43) Sheet metal equipment
- (44) Stamping and cleaning equipment
- (45) Steam cleaning equipment
- (46) Stills
- (47) Stitchers
- (48) Telescopes
- (49) Testing equipment
- (50) Training equipment and simulators
- (51) Vats
- (52) Wash tanks
- (53) Welding machines
- (54) Woodworking equipment

c. Personal Property (Moveable). Equipment that is movable and not affixed as an integral part of the facility is generally accounted for as personal property rather than real property. Personal property (moveable) is subject to the expense/investment threshold of \$250,000 and is to be procured with Operations and Maintenance National Guard or Other Procurement Army funds, as appropriate. (For further details on this threshold, refer to DoD 7000.14-R, Volume 2A, para 010201.) The staff element which is the primary user of the item shall fund the procurement of the item and charge it to the appropriate non-construction AMSCO. Examples follow. They are not complete nor do they always apply. Use common sense and let the definition rule.

- (1) Automated data processing equipment, including personal computers, computer room equipment, visual information system equipment, etc.
- (2) Facsimile, teletype, and similar equipment items

- (3) Fiber optic line drivers, etc. that are not exterior to the walls and not affixed to a building
- (4) Filing cabinets and portable safes
- (5) Food service equipment (portable)
- (6) Furnishings, including rugs
- (7) Furniture (such as chairs, tables, beds, desks, and partitions)
- (8) Modems
- (9) Office machines
- (10) Photographic equipment (portable)
- (11) Reproduction, printing, and similar hard-copy developing and processing equipment
- (12) Shop equipment
- (13) Telephone instruments and telephone system equipment, including central office equipment
- (14) Testing and diagnostic equipment not dedicated to installed building equipment
- (15) Training aids and equipment, including simulators
- (16) Uninterruptible power supplies dedicated to personal property (fixed or moveable)
- (17) Voice/data switching equipment, including line and trunk cards
- (18) Wall clocks

d. Costs. Costs associated with installing personal property fixed and personal property moveable are “not construction” and will not be funded as a construction cost. The cost of this equipment and the cost of its procurement (including such items as transportation, packing, unpacking, assembly and attachment) are not construction and are funded from the owning property book holder, using the same appropriation that purchased the equipment when the installation is in an existing building or facility. That is, CFMO accounts fund these items only when they are supportable under NGB-AQ cooperative agreement directives. However, when installed in new facilities, the following items are construction and funded from the appropriation of the military construction project:

- (1) Installation of required shielding for electromagnetic radiating devices. Structural changes including new partitions related to installing shielding are construction.
- (2) Installation of dedicated secondary utility work to connect the equipment to utility services within a facility. This work lies between the utilities primary entry or source within the structure and the equipment to be served.
- (3) Installation of air conditioning under the following circumstances:
 - (a) To meet manufacturers’ specifications for equipment temperature, humidity, particulate matter, and air circulation.
 - (b) In clean rooms installed in non-air conditioned spaces or when the building central system cannot meet the temperature and humidity requirements of the clean room operations.
- (4) Installation of mechanical ventilation and separate exhaust systems when needed for personnel safety or for the proper functioning of the equipment as required by the manufacture.
- (5) Installation of conduit and boxes for an intrusion detection equipment.
- (6) Installation of specialty fire extinguishing systems for rooms that contain substantial amounts of automatic data processing equipment.

4-6. Military Construction National Guard (MCNG) Funding Summary

a. Paragraph 45 provided a detailed listing of installed building equipment and personal property fixed and moveable. States may not use the military construction appropriation to fund the latter two categories of items but shall use the appropriation to fund installed building equipment. Because many items on all three lists are not typically found in ARNG military construction projects, the following paragraphs summarize paragraph 4-5.

- b. The military construction appropriation may fund:
- (1) Built-in caging, shelving, and workbenches.
 - (2) Built-in lockers and benches.
 - (3) Wiring for phone systems, voice-data systems, video-teleconferencing, and other information technology systems.
 - (4) Wiring, conduit, and boxes for intrusion detection systems.
 - (5) Built-in kitchen equipment.
 - (6) Minimum essential built-in display cases.
 - (7) Dynamometers, if included on DD Forms 1390/1391.
 - (8) Overhead cranes, as justified by maintenance facility workload.

- (9) Window treatments.
- (10) Assembly hall acoustical treatment, if supported by cost analysis.
- c. The military construction appropriation may not fund:
 - (1) Pre-wired workstations and other furniture items.
 - (2) Kitchen equipment available through supply channels.
 - (3) Stand-alone fire extinguishers, even if placed in a built-in storage container.
 - (4) Telephone switch gear, individual instruments, and other equipment.
 - (5) Distance learning and distributed training technology equipment.
 - (6) Portable equipment (e.g., washers, dryers, parts washers).
 - (7) Plaques, seals, and statuary.
 - (8) Equipment static displays.
 - (9) Shower curtains.
 - (10) Wetlands mitigation costs.

4-7. Cost Sharing

a. Statute limits the Federal share of constructing readiness centers on State owned land. Except for the following instances, the Federal Government may not contribute more than 75% of the cost of design and construction of such readiness centers. In addition, the State must bear all the costs of site acquisition.

(1) Projects required to meet a change in Department of Defense construction criteria or standards related to the execution of the Federal military mission assigned to the unit(s) assigned to the facility.

(2) Projects made necessary by the NGB directed conversion, redesignation, or reorganization of unit(s) assigned to the facility. This does not include units newly assigned to the facility or subdivisions of units, unless a new unit is required during Federally directed reorganization of a battalion, brigade, or division. In addition, Federally supported design on such projects must commence within three years of the effective date of the redesignation/reorganization and must remain continuous for the project to remain eligible for 100% Federal reimbursement of design and construction costs meeting NGB criteria.

(3) Projects for space jointly used by units of two or more reserve components of the Armed Forces. The Air National Guard and the Army National Guard are considered separate reserve components. However, for the project to be considered joint, an actual Air National Guard Table of Organization and Equipment (TOE) unit must be assigned to the facility, and absent a TOE unit at least 20 members of the Air National Guard must be permanently assigned to the facility.

(4) Unheated storage buildings at existing readiness centers necessary to provide the units with adequate storage space for Federal supplies and equipment.

b. In all instances, out of a responsibility for fiscal stewardship, Federal reimbursement for design and construction costs may not exceed what is reasonable and prudent to design and construct a complete and useable facility that fully meets the requirements stated in the approved DD Forms 1390/1391. NG Pam 415-12 and the various design guides provide guidance in that area. States may design and construct in excess of criteria as long as they procure all the necessary funds for these excesses from other than Federal sources.

c. In all instances, Federal funds may only design and construct that portion of facilities required for the Federal mission of the ARNG. Although NGB strongly encourages States to build facilities fully integrated with the local community, it cannot provide Federal funds to support the design and construction of State, local, and private portions of such facilities. In the case of common use portions of the facility, NGB shall only support construction not in excess of criteria and then only in proportion to the ARNG share of all of the single use portions of the facility. For example, if the State wished an assembly hall larger or more elaborate than criteria and if the State occupied 40% of the total sole-use space, NGB would contribute 30% (40% x 75%) of the cost of an assembly hall built to NGB standards.

d. The States shall bid all items that are in excess of criteria as alternates or the State shall receive a unit price bid for the item and/or section of the facility. If the excess item is of such a nature that separate bidding is not possible, Federal reimbursement shall be based on a predetermined calculation of the difference in cost of the item and the cost of the quality or quantity authorized Federal support. If excess floor area in a facility cannot be bid separately, then the Federal reimbursement shall be based on the average square foot unit cost of the facility.

e. NGB shall support with Federal funds the design, construction, and installation of utilities and telecommunications systems as listed below. Items beyond the limits shown shall be a State responsibility.

(1) Within the five foot line of the facility, NGB shall support built-in system conduits, piping, cabinets, outlet boxes, cable trays, equipment space, cable and wiring, and similar items.

(2) Beyond the five foot line and to a point of interconnection with the nearest existing distribution system, NGB shall support poles, trenching, underground ducts and pipes, manholes, and similar items. That is, it will support all utility runs required for the project. However, in the case of projects on State-owned land, NGB shall not support these items more than 100 feet beyond the property line.

4-8. Demolition

a. Demolition that occurs during and because of a military construction project is funded with the military construction appropriation, is considered part of the military construction project, and is included in any project/statutory limitations associated with the project.

b. Demolition that is not associated with a military construction project is considered its own project and is funded from the demolition account in the operations and maintenance appropriation. The demolition account may only be used for demolition not associated with a military construction project (or a sustainment, restoration, and modernization project).

c. The definition of demolition used in this and other Army National Guard facilities engineering and construction regulations and pamphlets is much more restrictive than that you may find in the commercial sector.

(1) The Army National Guard defines demolition as the complete dismantling, tearing down, razing, wrecking, or burning of a fixed building or facility, to include the removal of foundations, utilities, and all debris, the backfill of all areas excavated by the work to maintain site grades and contours, and the reseeded of the property.

(2) On the other hand, the commercial sector has no fixed definition, but the American National Standards Institute (ANSI) defines demolition as the dismantling, razing, or wrecking of any fixed building or structure or any part thereof, which includes all partial dismantling and razing activities, even those where structural members of the building are not removed. That is, demolition to them refers not only to dismantling, razing or wrecking activities, but to activities involving rehabilitation, repair, or remodeling, including those where no removal of load supporting structural members takes place.

(3) Nonetheless, the Army National Guard definitions of demolition and construction apply.

(a) Changes to building structural members and removal or replacement of existing building components are an integral part of an addition/alteration military construction project, are accounted for on the DD Forms 1390/1391 in the unit cost of the primary facility, and are funded only from the military construction appropriation.

(b) Complete razing of existing structures on the site of a military construction project are part of the site preparation of that project, are documented on the DD Forms 1390/1391 accordingly, and have their costs reimbursed at the same rate as other site preparation costs from the military construction appropriation.

(c) Although the complete razing of existing structures is part of the military construction project, the rebuilding of those structures elsewhere is considered a separate project, unless those structures are completely functionally interdependent with the new facility.

Chapter 5 Environmental

5-1. General

a. The NEPA process is the ARNG's insurance policy for readiness. The ability of the ARNG to sustain its mission capabilities is the product of informed decisions and public involvement.

b. The NEPA process, if properly conducted, can provide a buffer from the numerous burrs in society today:

- (1) Federal, State, and local environmental regulators.
- (2) Environmental interest groups.
- (3) Political pressure.
- (4) Economic development.
- (5) Encroachment from surrounding communities.
- (6) The threat of litigation and injunctions.
- (7) Endangered species.
- (8) Noise.
- (9) Feelings of annoyance.

- c. The NEPA process imposes two basic requirements on the ARNG:
- (1) That it consider every significant aspect of the environmental impact of a proposed action such as land acquisition or construction.
 - (2) That it inform the public that it has indeed considered environmental concerns in its decision making process.
- d. The NEPA process was not designed to prevent all possible harm to the environment, but rather to influence the decision making process by making government officials notice environmental concerns and take them into account. NEPA does not mandate particular results, but simply prescribes a decision making process, as stated in 42 U.S.C. §4332.
- (1) “[All agencies must] utilize a systematic, interdisciplinary approach to insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making, which may have an impact on man’s environment.”
 - (2) “[All agencies must] identify and develop methods and procedures which will insure that presently unqualified environmental amenities and values will be given appropriate consideration in decision making along with economic and technical considerations.”
- e. It is the responsibility of the military construction project proponent to fund National Environmental Policy Act (NEPA) requirements, including Environmental Baseline Surveys. DFAS Manual 37-100-XX expressly states that environmental funds cannot be used to fund NEPA unless it is part of an environmental project.

5-2. Environmental Documentation

- a. The State shall integrate the requirements of the NEPA and implementing regulations such as AR 200-1 through AR 200-5 early in the planning and decision-making process.
- b. The State shall ensure that environmental considerations dictate the final decision and not vice-versa and that environmental factors and constraints are dealt with concurrently with arising engineering issues, as the State scopes and makes final decisions. The State should not wait until it needs construction dollars and try to consecutively address these issues just to meet a requirement.
- c. The detailed requirements statement on the DD Forms 1390/1391 must contain:
- (1) A summary of environmental impacts of the project as developed in compliance with all Federal, State, and local environmental pollution abatement standards. Facilities must comply with procedural as well as substantive regulations, to include securing permits with regulatory agencies.
 - (2) A determination whether the project will be sited within a flood plain or wetland, addressing practicable alternatives. It is the State’s responsibility to determine if any portion of a project falls within such areas, although the State is welcome and encouraged to seek assistance from the Civil Works Division of the U.S. Army Corps of Engineers and State flood plain management agencies. If the project does fall within a flood plain, see paragraph 6-5f for special instructions.
 - (3) A review of the proposed site for historic places listed in the National Register of Historic Places, or having such places eligible for such a listing. In either case, the State must comply with appropriate Federal and State regulations. The State must apply review procedures to projects affecting historic property and cultural artifacts and must take all actions required to mitigate any adverse effect a project may have on such property and items. The State shall also obtain official, formal comments from the State Historic Preservation Officer and the Advisory Council on Historic Projects, which is a complex and lengthy matter when trying to resolve an adverse impact a project has.
 - (4) A statement that the environmental considerations have been reviewed and the requirements of NEPA have been met. The detailed requirements statement of the DD Forms 1390/1391 must contain one of the following:
 - (a) The Record of Environmental Consideration (AR 200-2, para 2-2b) is included. It has been determined that the action [choose 1, 2, or 3 below to complete the sentence]:
 1. Is adequately covered in the existing [choose EA or EIS], titled _____, dated _____.
 2. Is exempt from NEPA requirements under the provisions of [cite superseding statute].
 3. Qualifies for Categorical Exclusion [cite which one], AR 200-2, Appendix A.
 - (b) This project has been assessed. A copy of the Finding of No Significant Impact, published on [list date], is attached.
 - (c) This project will have significant environmental impact and [choose 1 or 2 below to complete the sentence]:
 1. A copy of the Notice of Intent to prepare an Environmental Impact Statement (EIS) is attached.

2. A copy of the EIS, titled _____, dated _____, is attached.

5-3. Steps in the Documentation Process

a. The first step is to conduct (or update an existing) site-specific EBS for the property to be acquired and the actual site of construction on the property. (Only an update or an Environmental Conditions Study is required if there was already an NGB-ARE approved EBS for the property.) The purpose of the EBS is to describe the environmental conditions of the property, to identify potential environmental contamination risks and liabilities associated with acquiring the property and/or constructing facilities on it, and to help identify contamination that must be cleaned up prior to construction. The EBS can be inserted into the affected environment section of any environmental assessments or environmental impact statements. The EBS must be complete and approved by NGB-ARE before NGB-ARI grants design authority for the project.

b. The next step is to conduct an environmental assessment of the project using the ARNG Environmental Checklist. This requires a detailed study of the impact of the project on the air, traffic, noise, the earth, natural resources, land use, hazardous material/waste disposal, the water, cultural resources, population, and utilities.

c. Completing the checklist will guide the CFMO in determining which type of NEPA documentation to complete and have approved by the time preliminary design documents are submitted to NGB-ARI.

(1) Record of Environmental Consideration (REC). This is the most often used document. It briefly describes a proposed action and explains why further environmental analysis is not needed. It is used for projects that NEPA does not cover or that existing documentation address. RECs are also prepared when a project corresponds to a categorical exclusion (CX). CXs are categories of activities predetermined not to impact the environment. The CX is a decision tool intended to reduce paperwork and to eliminate unnecessary analysis.

(2) Environmental Assessment (EA). An EA is required for a proposed action that may adversely affect the environment. An EA concisely provides enough evidence and analysis of effects and alternatives for the public and decision-makers to determine whether a proposed action will significantly impact the environment. A Finding of No Significant Impact (FNSI) accompanies an EA when a proposed action's impacts to the environment will be minimal. When an EA documents expected significant impacts from a proposed action, a Notice of Intent to develop an EIS will be the next documentation requirement.

(3) Environmental Impact Statement (EIS). An EIS ensures early consideration of the environment in decision-making on proposed activities that will impact the environment. The EIS must contain a fair and concise discussion of all significant environmental impacts and alternatives for action and mitigation for any proposed major action. The process for developing an EIS requires greater opportunities for public participation. A Record of Decision (ROD) explaining why the decision-maker chose a certain course of action and mitigation is the decision document associated with the final EIS.

5-4. Environmental Baseline Survey (EBS)

a. An EBS is a study of real property to identify the environmental conditions of a property focusing on hazardous substances and other regulated hazards and assess its environmental condition. It focuses on hazardous substances and other regulated hazards. An EBS establishes (for acquisition) that a potential purchaser of a property made appropriate inquiry into the past ownership and uses of the property, to help avoid potential Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability for any existing contamination. An EBS (or Environmental Conditions Study, if the State already owns the property) is also important to help ensure that there are no environmental conditions that would adversely affect the construction at the site or use of the facility once it is constructed. An EBS is also important to the State, because as owner, the State would have the liability for purchasing property that was contaminated or would bear the cost of poor site selection to clean it up.

b. An EBS is either installation-wide or site specific. In both cases the EBS must adequately describe the environmental conditions of the property to ensure that there are no hazardous substances or other conditions that would endanger construction workers or facility users or would otherwise affect the safe use of the facility.

(1) If a State is acquiring property for a construction project, it must conduct both types. This is to ensure that the State and/or Federal Government is not incurring excess liability and to validate the actual project site.

(2) If a State intends to construct a project on a property with an existing installation-wide EBS that has been reviewed and determined to be adequate, then all it has to conduct is a site-specific EBS for the actual project site with appropriate description of the property acquisition and use of the property.

(3) If the State already has an approved site specific EBS (or if the approved installation-wide EBS is detailed enough), then the State need take no additional action as long as the approved study supports the NEPA analysis for construction.

c. An EBS should include the following activities. These may vary, however, based on the nature and past use of the property (i.e., farm land versus industrial property).

(1) A detailed search of local, State, and Federal Government records, including U.S. Environmental Protection Agency regional files, pertaining to the property to identify areas where release or disposal of hazardous substances or any petroleum product or their derivatives has occurred.

(2) A review of all reasonably obtainable Federal, State, and local government records for each area adjacent to the property, including third-party owned adjacent property, where there has been a release of any hazardous substance or any petroleum product, which is likely to cause or contribute to contamination on the area. Records should include such documents as groundwater monitoring well data from adjacent properties, regulatory inspection reports, and a review of the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) as applicable.

(3) Analysis of available aerial photographs that may reflect prior uses of the proposed easement and any adjacent real property that are obtainable through State or local government agencies.

(4) Site visits to gather information about the property describing hazardous substance sources, migration pathways, and human and environmental receptors; data relating to the varieties and quantities of any hazardous substances which may have been stored, released, or disposed on site; records of disposal practices and operating procedures at the site in order to identify locations of hazardous substances on site, hazardous waste haulers and generators; and historic aerial photography for the proposed site to determine past practices which may have caused hazardous substance releases.

(5) Interviews with current or former employees associated with the site and all others with direct, reliable, credible knowledge of the past or present environmental baseline for the property.

(6) Visual inspection of the property, including buildings, structures, equipment, pipe, or pipeline, from vehicles or walking, as appropriate to determine release, or disposal of hazardous substances, or petroleum products and their derivatives. Suspected release, or disposal identified by one survey method should be further investigated by a more detailed method. If possible, this visual inspection should continue on adjacent properties.

(7) Investigation and documentation of all mission operations, including any specific industrial treatment processes, procedures, and practices which are occurring or have occurred on the property.

(8) A review of the recorded chain-of-title documents regarding the property, at least from 1940 forward.

d. At minimum an EBS should discuss the following areas, indicating if they do not apply. The level of inquiry and analysis that is needed can vary based on the specific property. An empty vegetated field would require less inquiry than an industrial site.

- (1) General environmental setting (soils, air, water, utilities, etc.)
- (2) Stormwater runoff patterns
- (3) Hazardous materials and waste management
- (4) Storage tanks and pipelines
- (5) Wastewater treatment and disposal
- (6) Lead in drinking water
- (7) Oil-water separators
- (8) Asbestos
- (9) Air quality
- (10) Lead-based paint and other sources of lead
- (11) Polychlorinated Biphenyls (PCBs)
- (12) Pesticides
- (13) Medical waste
- (14) Ordnance
- (15) Radioactive materials and wastes
- (16) Radon
- (17) Groundwater (including aquifers)
- (18) Natural and cultural resources
- (19) Adjacent properties with known or suspected releases

e. Because the purpose of an EBS is to evaluate potential government liability and related environmental conditions, the EBS will address general liability concerns based on past operations/uses on the site; potential violations of the Clean Air Act, Clean Water Act, Comprehensive Environmental Response, Compensation and Liability Act, Resource Conservation and Recovery Act, Toxic Substances Control Act, and the Safe Drinking Water Act; and proximity (within a mile) to properties listed on Federal and State environmental cleanup databases.

f. The EBS's description of and conclusions about the property should be consistent with the description of the affected property in the NEPA document. However, there is no need for every detail in the EBS to be repeated in the NEPA document. They just must be congruent. The EBS should be much more thorough in scope and depth in describing the site conditions (especially contamination). The EBS is historical, whereas the NEPA document should limit discussion to the immediate past use of the site, because its intent is to determine the effect that the real estate acquisition/construction project will have on the environment in the area of the proposed project. Past use is only one factor in determining what effect a future action will have.

g. An EBS is critical in protecting the State and Federal Government from liability. Not only does it warn you of liabilities you may incur if you acquire the property, it also protects you at the time of disposal. If you did not document the property's condition at the time of purchase, then you might be held responsible for the site cleanup, whether or not a previous owner or tenant caused the contamination.

5-5. ARNG Environmental Checklist

a. An EBS can assist you in completing the analysis required in the checklist. Nonetheless, all the EBS tells you is the environmental conditions of the property, with a focus on hazardous substances and environmental hazards related to environmental liability, which can be inserted into the affected environment section of any required NEPA analysis. The requirements of NEPA are to analyze the impact of a proposed action on the environment, whereas an EBS describes the environmental conditions of a property based on past ownership and uses of the property to help avoid liability for any contamination. The NEPA process, then, should lead to a sound, informed decision, in concert with the public. The land may be free of contamination, but the environment may be too sensitive to permit construction of a specific project at the site.

b. The EBS and the checklist go hand in hand in the NEPA process. An EBS can help eliminate potential sites. However, the checklist becomes the initial tool in determining whether you are making the proper decision to construct a project at a specific location. Because they are instruments of the decision making process, the CFMO must fully integrate them into all planning activities and must ensure that the EBS and NEPA are completed early. Otherwise project execution will stall. The EBS is a pre-requisite for NGB-ARI to review your preliminary design; completed NEPA is a pre-requisite for receiving authority to proceed to final design.

c. No CFMO should take the analysis that the checklist requires lightly. Each section has a bearing on evaluating the project and its scope against any impacts the project may have on the environment. The final decision will not rest solely on the project site itself but also on the ripple effect that the project might have on the site's surroundings (and not just the immediate land parcels).

d. Historical information. This does not just include the EBS, which describes past use of the site, but it also includes known contentious issues surrounding the site, prior ARNG construction and equipment use on the site, and even current legal actions the State is facing concerning NEPA.

e. Description of proposed project. This is not a regurgitation of the DD Forms 1390/1391. Rather it socially, culturally, biologically, and geographically describes the current site and its surroundings. It provides zoning and land use information and places the project site within the full geographic context of the surrounding land and the uses the local populations make of it. Further it provides actual distances from the construction site to environmentally sensitive areas (e.g., wetlands, wilderness area, Class I air control area, sole source aquifer, unique farmland, wild/scenic rivers, coastal zones, and floodplains).

f. Air. The issues are whether the project will create objectionable odors and smoke, cause particulates to migrate between the site, and/or expose sensitive receptors (children and threatened/endangered species) to pollution.

g. Traffic. The issues are whether the project will increase air or ground traffic and/or construct roads.

h. Noise. The issues are whether the project will increase noise levels and/or involve aircraft (especially nighttime operations). Further, the CFMO must determine the distance from the project to noise sensitive areas (e.g., residences, churches, schools, hospitals, libraries, wilderness areas).

i. Earth. The issues are whether the project will permanently change the site's topography and/or result in long-term increase in wind and/or water erosion of the soil.

j. Natural resources. As per AR 200-3, a project must provide for optimum biological diversity and multiple use, consistent with conservation management and the mission of the Army. Thus, the issues are whether a project will cause deterioration as listed below. Sources of information include U.S. (or State equivalent) Fish and Wildlife Service reference materials, general flyway maps, topographic maps, and Section 3 of the Wild and Scenic Rivers Act.

(1) Change the diversity of species or numbers of any one species, whether flora or fauna, including the introduction of non-native species.

(2) Reduce the numbers of any threatened/endangered species and/or create barriers to the migration and movement of animals.

(3) Deplete any non-renewable natural resource.

(4) Deteriorate, alter, destroy, or significantly impact existing fish or wildlife habitat or environmentally sensitive areas (e.g., wetlands, prime farmland, coastal zones).

k. Land use. The major issue is whether the project will alter the existing land use.

l. Hazardous material/waste disposal. The analysis must focus on three issues about the project:

(1) The generation, storage, and disposal of hazardous materials, including the accidental release, explosion, or spill of these materials (which include pesticides and chemicals).

(2) Adequate prior planning through permits, training, and standard procedures of hazardous materials personnel.

(3) The generation of solid waste.

m. Water. The key is to minimize the loss of clean water and to preserve the natural and beneficial values of water systems, including flood plains and wetlands. Sources of information into Federal Emergency Management Agency Flood Insurance Rate Maps, land use inventories from the U.S. Fish and Wildlife Service and their State and local equivalents, Army Corps of Engineers Wetlands Delineation Manual, and U.S. Department of Agriculture Natural Resources Conservation Service and other topographical maps. The following are the critical issues:

(1) Construction that may cause any changes in water currents or the course and direction of water movements.

(2) Construction that results in the temporary or permanent discharge of sediments, liquids, or solid waste into surface water or otherwise impacts water quality.

(3) Construction that changes the quantity and/or quality of ground waters.

(4) Construction that leads to the potential of a spill of hazardous or toxic materials near or in a body of water.

(5) Construction within floodplains and/or wetlands, which also requires a waiver.

(6) Construction that requires a discharge permit and/or the development of spill prevention or contingency measure plan.

(7) Construction of a water or wastewater treatment system, including grease traps, oil-water separators, etc.

n. Cultural Resources

(1) Cultural resources are considered just as environmentally sensitive as floodplains/wetlands and natural resource habitats/ecosystems.

(2) The ARNG's goal is to manage the cultural resources under its control in compliance with Federal and State laws and regulations in a spirit of stewardship of America's historic and cultural heritage.

(3) Drivers are AR 200-4, 36 CFR 800 (Protection of Historic Sites), The National Historic Preservation Act, The American Indian Religious Freedom Act (which protects sacred objects, sacred sites, and religious ceremonies), and Executive Order 13007, Indian Sacred Sites.

(4) Agreements and consultations with both the State Historic Preservation Officer and Federally recognized Native Indian tribes located in or culturally affiliated with your State are critical.

(5) It is critical to complete cultural resource surveys of the project site. In turn, these will help you identify resources of significance to Native American tribes and potential impacts on historical property eligible for or listed on the National Register of Historic Places. Remember that in addition to historic buildings and structures, this includes cemeteries, archeological sites, burial grounds, and other sacred sites.

o. Population. Here you must determine whether the project will alter the location, distribution, density, or growth rate of the human population of an area, whether it will affect children (Executive Order 13045), and/or whether there are environmental justice issues associated with the project (Executive Order 12898, as amended by Executive Order 12948).

p. Utilities. You must determine whether the project will result in new utility systems or substantial alterations to existing systems, whether electrical power, water, wastewater treatment, sewer collection, wash racks, or solid waste disposal.

5-6. Pollution Abatement and Control in ARNG Construction

- a. Federal law, as implemented by AR 200-1, requires that Army facilities comply with all applicable Federal, State, and local environmental pollution abatement standards. These standards cover control of pollutants in air, water, and terrain by liquid, gaseous or solid waste, noise, radiation, and hazardous and toxic materials, including pesticides.
- b. ARNG facilities must comply with procedural as well as substantive pollution abatement regulations for air and water pollution control and for solid and hazardous waste management activities.
- c. Procedural requirements may involve filing for construction or operation permits from Federal, State, or local regulatory agencies.
- d. Requests for construction projects must document compliance with all applicable pollution control regulations.
- e. For those projects which require environmental permits, the appropriate Federal, State, or local regulatory agency should be contacted, and the permit application process initiated to ensure that the project will comply with regulatory requirements.

Chapter 6**Completion of DD Forms 1390/1391****6-1. State Submission Requirements**

- a. States shall submit all DD Forms 1390/1391 electronically unless otherwise directed. NGB shall provide instructions on which computer address the States are to use to deposit these files.
- b. States shall submit annually no later than the date designated for completion of their Long Range Construction Plans DD Forms 1390/1391 for their top military construction priorities. Failure to do so jeopardizes a State's chances for getting projects highly rated on the NGB priority list.
- c. States shall submit an annual update of DD Forms 1390/1391 for all projects on the FYDP until NGB-ARI has approved the preliminary design submission. Updating DD Forms 1390/1391 annually ensures that the scope and costing changes are reflected in appropriate documents.
- d. States shall submit annually no later than the date designated for completion of their Long Range Construction Plans DD Forms 1390/1391 for all military construction projects for which they are seeking Congressional assistance. Failure to do so jeopardizes a State's chances to receive NGB endorsement of the project.
- e. Any State with a non-FYDP project which Congress has authorized and appropriated or has directed that NGB provide design funds shall submit DD Forms 1390/1391 as soon as possible after the publication of the Congressional report.
- f. Any State that wishes to change the scope of a project after it has an approved DD Forms 1390/1391 package shall submit a revised package before taking any steps that financially encumber the State or Federal Government. This includes projects already under design or construction. In the latter two cases, the State shall also submit a modification to the MCCA. Until both the MCCA modification and the revised DD Forms 1390/1391 are approved, the contracting officer shall not enter into formal negotiations for any contract modifications.
- g. On an as-needed basis, the States may submit DD Forms 1390/1391 for their proposed UMI projects.
- h. NGB-ARI discourages submission of DD Forms 1390/1391 for other projects, because review is highly unlikely.

6-2. National Guard Bureau Review Requirements

- a. Approved DD Forms 1390/1391 document the approved scope and Federal share for each component of a project. As such, they establish the limits of design and construction that will receive Federal support.
- b. Staffing levels dictate that NGB-ARI will only be able to conduct reviews leading to project approval for DD Forms 1390/1391 submitted in accordance with paragraphs 6-1c, 6-1e, and 6-1f above. Reviews for projects submitted in accordance with paragraphs 6-1b and 6-1d will be for costing purposes only, to ensure that the NGB prioritization panel and Congressional committees have reasonably accurate scope and cost information.
- c. NGB shall use the current State RPDP, the current ASIP, Army Real Property Planning and Analysis System (RPLANS) TOE data, the current DoD costing guide, and NGB published criteria to conduct its review. It shall also refer to any State requests for exceptions to criteria and other documents required for certain specialized projects.
- d. NGB shall review the DD Forms 1390/1391 electronically and guide the State telephonically through any necessary corrections. Only when NGB and the State have reached mutual agreement shall the State be required to submit a written copy for the record, including all required signatures.

e. Approval of a DD Forms 1390/1391 package does not guarantee that the State will be authorized to proceed to design. That is a likely outcome of the approval, but design authority depends upon NGB-ARI receiving design release from the Assistant Secretary of the Army (Installations and Environment). The approval letter for the DD Forms 1390/1391 package will state whether the State is granted design authority and to what level (i.e., to 100% or some lesser level).

f. Even though the State must submit DD Forms 1390/1391 annually until the project has been authorized and appropriated or NGB-ARI has approved the preliminary design submission, the original NGB-ARI approval holds unless the State changes the location, the units, the scope, or the cost of the project. As a guide, the State should change the date blocks with each submission and code those blocks either "revised" (if new NGB-ARI approval is required) or "updated" (if only administrative data like the personnel strength and the date of the last JSRCFB meeting have changed).

6-3. State Steps Prior to DD Forms 1390/1391 Submission

- a. Validate the need.
- b. Coordinate with other reserve components to make this a joint project (and ensure that the JSRCFB minutes thoroughly document all instances of unilateral construction). In the case of joint projects, collect the necessary information so that NGB-ARI can negotiate the memorandum of agreement as stated in paragraph 6-5c(2) below.
- c. Coordinate with project proponent.
- d. Ensure State project proponent coordinates with NGB proponent of that facility type (NGB-AVS, NGB-ARL, or NGB-ART primarily).
- e. Regularly review the project and keep the documentation current.
- f. Select a proper site.
- g. Conduct an economic analysis in accordance with AR 11-18 and DA Pam 415-3, and keep it on file.
- h. Complete an on-site survey of the property.
- i. Obtain all utility drawings and restrictions to the property.
- j. Begin work on the MCCA well in advance of requiring any Federal funding.
- k. Begin work on the remaining supporting documentation, and complete it in a timely manner.
 - (1) Certificate of title or license, as applicable.
 - (2) NEPA documentation and related required environmental actions.
 - (3) Site surveys and geotechnical report.
 - (4) Preliminary SDZ approval from NGB-AVS for range projects.
 - (5) Preliminary DDESB approval for ammunition storage building projects and other projects in close proximity to such facilities.

6-4. General Instructions

- a. Prepare package in accordance with the following documents:
 - (1) Appendix C.
 - (2) Department Of Defense Financial Management Regulation, Volume 2B, Chapter 6 (Budget Formulation and Presentation).
 - (3) Other appropriate directives.
- b. Follow format standards as posted on NGB-ARI electronic access pages.
- c. Use the specified electronic format without overwriting any formulas and other embedded file relationships.
- d. Clearly identify and justify any requested exceptions to criteria, and ensure NGB proponent will validate and support them.
- e. Ensure that the State Anti-Terrorism/Force Protection Officer reviews and concurs with your submission.
- f. Pay particular attention to the first five pages of your submission, because these are the ones that describe, justify, and ultimately "sell" your project to NGB, DA, OSD, and Congressional decision makers. Avoid boiler-plate language, and pay particular attention to describing the current situation, your construction solution, and the impact of not constructing the project. At every level of review, each individual form is carefully reviewed and compared with other facility requirements. At every level, an individual project risks elimination or deferral to some future year program. Master planners, engineers, economists, architects, program analysts, financial managers, lawyers, and politicians, among others, review the documents and evaluate them, very often based on only the basic 2-3 page DD Form 1391 in their hands, for inclusion in or exclusion from the program. These documents must be clear, concise, logical, and complete in order to effectively describe, justify, and cost the project.

g. The last of the pages of your DD Forms 1390/1391 that decision makers see contains your project's schedule. Pay as much attention to the accuracy of that page as you do to the other pages. Make it realistic, but you will be expected to meet or exceed it.

h. The remaining pages of your submission are in support and require detail but not down to the level of construction specifications.

i. Cost estimates should include the maximum level of detail practical.

j. Fully justify any unusual features impacting project cost.

k. NGB Design Guides are just guides, and NG Pam 415-12 sets acceptable limits of construction. However, States may receive exceptions to both if they justify and fully validate their request to NGB.

l. The approved DD Forms 1390/1391 establish the final scope and criteria limitations of the project. States may not exceed this design or construct in excess of this authorization without using other than Federal funding.

6-5. Special Considerations

a. Facilities to be replaced must be coded "Red" for quality or quantity on the latest Installations Status Report, Part I, before NGB-ARI will approve a construction project.

b. Combined projects.

(1) When a project includes primary facilities from more than one category code (such as a readiness center and an organizational maintenance shop), then the State shall submit separate, complete, detailed DD Forms 1390/1391 for the primary facilities in each category code.

(2) The DD Forms 1390/1391 for each category code must be complete in themselves, including exterior support features.

(3) Data for each category code should reference the other category codes in blocks 7 or 10 (as appropriate) on the DD Form 1390, to adequately identify the total project.

c. Joint projects with other reserve components

(1) States shall strive to construct jointly with another reserve component whenever feasible.

(2) All DD Forms 1390/1391 shall include the recommendations of the JSRCFB on joint or unilateral construction. Whenever the Board recommends unilateral construction, the State shall supply the Board's rationale for the recommendation to NGB-ARI. The lead component, as designated by the JSRCFB, shall prepare the DD Form 1390/1391, and NGB-ARI shall obtain the required signatures on the memorandum of agreement on budget formulation, execution, and other pertinent matters as required by DoDI 1225.8.

(3) NGB-ARI shall expedite the review of joint projects to ensure that the planning considerations of the other reserve component(s) are fully considered and coordinated. Similarly, because each such project is unique, the State should consult with NGB-ARI as soon as it begins considering such a project.

(4) NGB-ARI shall approve State calculation of cost shares among the reserve components on the following basis:

(a) Each reserve component is responsible for the construction cost of its sole use building areas and outside supporting items.

(b) In addition, each reserve component is responsible for the construction cost of joint use building areas and outside supporting items according to the ratio its exclusive use space is compared to the facility's total authorized exclusive use space.

(c) Each reserve component is responsible for the design cost according to the ratio that its total estimated construction cost is to the total estimated construction cost of the entire project.

(5) To facilitate the allocation of costs among the reserve components, the State shall ensure that the DD Forms 1390/1391 tabulate the authorized areas of all facility components and then separate these components by ARNG sole use areas, other State agency sole use areas, other reserve component(s) sole use areas, and joint use areas. The State shall do the same detailed tabulation for all project cost items.

(6) Once the design is complete, the proportion of cost shares will be adjusted from the estimate on the DD Forms 1390/1391 to conform to the actual designed facility areas. These new shares will determine any required adjustment for both A-E cost shares and construction award cost shares.

(7) Notwithstanding the above procedures for cost allocation, NGB-ARI shall issue funds for the project on the following basis:

(a) NGB-ARI shall require participants to come up with their share of the design costs unless Congress has directed design of the joint project. Even in the latter case, however, the Federal Government shall not support the design costs associated with portions of the facility in excess of criteria or not in support of the Federal mission.

(b) NGB-ARI shall require participants to come up with their share of the construction costs only if the Congressional Military Construction Army National Guard appropriation does not include funds for the other reserve components. Even if the appropriation does, however, the Federal Government shall not support the construction costs associated with portions of the facility in excess of criteria or not in support of the Federal mission.

(c) When other reserve components must provide design or construction costs, the preferred method is for them to transfer the funds via Military Intradepartmental Purchase Request to NGB-ARI for issue to the USPFPO. However, the reserve component may issue the funds directly to the USPFPO. Nonetheless, if State contracting procedures are being used for the project, the State must still modify its existing Military Construction Cooperative Agreement to account for the additional funds and the direct participation of another military department.

d. Addition/alteration/rehabilitation projects.

(1) The DD Forms 1390/1391 shall include a tabulation of both the authorized area and the existing area of each facility component.

(2) The submission shall also include an itemized listing of the type and amount of addition and alteration work in order to establish a basis for estimating the project cost. As much as possible, however, the project should alter existing excess facility areas to minimize the construction of new space.

(3) The State shall submit a detailed tabulation of excess area, shortage area, proposed alteration area, and proposed additional area for each functional space in the project when submitting the preliminary design documents.

(4) If the project also includes the activities of maintenance or repair, the DD Forms 1390/1391 shall also include an itemized listing of the type and amount of such work, in order to establish a basis for estimating the cost of the project and to identify funding support responsibilities.

e. Training Center Projects.

(1) Unlike projects at other locations, training center projects are typically phased for accomplishment over a period of years. Phasing produces complete and useable facilities but does not satisfy the total requirement for particular category codes of facilities.

(2) The DD Forms 1390/1391 shall include a tabulation indicating the total requirement by category code for all facility types included in the project and the total amount on hand or under construction. The tabulation shall also include the amount of the total requirement to be satisfied with the proposed project and the amount to be satisfied with specified future year projects.

(3) The basis for the tabulation shall be the most recent RPDP and/or RDP (as appropriate).

f. Projects in Floodplains or Wetlands.

(1) If the proposed project site is in a floodplain or wetland (as defined in the glossary), the project may be started only if there is no practical alternative, and if a Section 404 (Clean Water Act) permit is obtained. Consider the following alternatives:

(a) Construction of the proposed facility at an alternative site.

(b) Other means that accomplish the purpose of the project.

(c) No action.

(2) In evaluating these alternatives, consider mission requirements, economic, environmental, and other pertinent factors. If the project is started, it must be in accordance with the standards and criteria and consistent with the intent of the National Flood Insurance Program. This means that projects must be designed and carried out to meet all requirements of the flood insurance program, and may deviate only to the extent that the standards are demonstrably inappropriate for the facilities to be constructed in the floodplain.

(3) Before planning or starting a project in a floodplain or on wetland, the State shall circulate an explanation of why the proposed project is to be located in the floodplain early enough in the site selection process (before project submittal) so that public comment is considered in the decision-making. The Federal Register is the proper medium for publicizing projects of national importance. However, local advertising should always be used to ensure that those areas most affected are informed. Early on, the public must be given a chance to review the plans and the impacts of the proposed project on the floodplain or wetland. This applies even if the project does not require an Environmental Impact Statement (EIS) under section 102(2)(c), of the National Environmental Policy Act. If an EIS is required it must be publicized and reviewed by the public. The State's notice shall include the reasons why the action is proposed to be located in a floodplain; a statement indicating whether the action conforms to applicable State or local floodplain protection standards, and a list of the alternatives considered.

(4) If, after compliance with the requirements of Executive Order 11988, new construction of structures or facilities are to be located in a floodplain, accepted floodproofing and other flood protection measures shall be

applied to new construction or rehabilitation. To achieve flood protection, the State shall, wherever practicable, elevate structures above the base flood level rather than filling in land. In addition, the State shall provide on the constructed buildings, and other places where appropriate, conspicuous delineation of past and probable flood height in order to enhance public awareness of and knowledge about flood hazards. Furthermore, the State shall design or modify the project in order to minimize potential harm to or within the floodplain.

g. Explosive and Ammunition Facility Projects.

(1) These projects require the submission of an Explosives Safety Site Plan (ESSP) that meets the requirements of DA Pam 385-64 before NGB-ARI authorizes the State to proceed beyond conceptual design and again before NGB-ARI authorizes the State to proceed to final design.

(2) The CFMO shall coordinate with the State Safety Officer, who shall develop the ESSP (including the NGB Form 385-R) and submit it to NGB-AVS (with a copy furnished to the CFMO and NGB-ARI). The ARNG senior Quality Assurance Specialist Ammunition Surveillance (QASAS) in NGB-AVS shall review the packet for completeness and correctness, then forward it to the Director, U.S. Army Technical Center for Explosives Safety, who will in turn submit it to the Department of Defense Explosive Safety Board (DDESB) for approval. NGB-ARI shall not grant design authority until the CFMO has provided documentation that the DDESB has granted preliminary approval of the ESSP, including the explosives limits on the site license. NGB-ARI shall not grant approval to proceed to final design until the CFMO has provided documentation that the DDESB has granted final approval of the ESSP.

(3) This requirement applies to:

(a) Projects that include facilities with recurring operations for manufacturing, storing, handling, transporting, or testing military explosives or ammunition.

(b) Projects that include facilities which do not involve hazardous materials but which would be exposed to such risks if not properly located (i.e., facilities to be located in an explosives safety clear zone) (which means located within inhabited-building distance of existing or proposed facilities that contain (or were designed to contain) ammunition or explosives)).

(c) In addition to Ammunition Supply Point projects, this requirement applies to project sites that have recurring munitions handling missions such as reconfiguration and issue points and that have improved storage/distribution facilities such as buildings or covered concrete pads. In general this will include all active ranges except those that exclusively use munitions in Hazard Classification 1.4, including Multipurpose Range Complexes (MPRC), Military Operations on Urbanized Terrain (MOUT) sites, truck holding areas/safe havens for ammunition, explosive loading docks, explosive rail spurs, explosive port facilities, forward arming and refueling points (FARPS), ammunition sling out points, airfield hot cargo points, and similar type facilities.

(4) DD Forms 1390/1391 for such projects shall list each type of explosive or ammunition to be stored or used on the finished project site, indication class, explosive weight involved, and cubic footage of space required for each. The DD Forms 1390/1391 shall group compatible classes to obtain total explosive weight and cubic footage of space needed to determine the minimum number and size of facilities required for the project.

(5) In addition, the DD Forms 1390/1391 submission shall include a preliminary site plan that provides intended uses of all facilities, their location, and the spatial relationship of potential explosive sites, exposed sites, and as many other details as are known about the siting. This plan shall contain both a cover memorandum describing the proposed activities and associated material most easily covered by text and a series of enclosures providing the spatial layout of the project and other site planning requirements more easily stated in drawings, maps, or tables. The entire package shall meet the following additional specifications based on criteria in TM 5-1300.

(a) It shall include a statement that the siting for the project has been reconciled with the training center's RDP and/or Site Development Plan (as enclosed in the RPDP), as appropriate.

(b) Drawings shall show proposed and existing facilities at a scale of not less than one inch equals 400 feet, unless a smaller scale is necessary to include distances and/or structure relationships within the area surrounding the planned project.

(c) Drawings shall show the proposed facility as related to existing and future adjacent facilities and shall identify the type of construction in sufficient detail to establish surface danger zone requirements.

(d) Tables shall indicate the design amount (pounds of explosive) and class of ammunition being used in connection with the proposed facility and all other existing or future magazines and hazardous operation buildings within the inhabited building distance of the proposed facilities.

(e) Plans shall identify by notes, legend, or symbol all other installation facilities (existing and future), installation boundaries, public railroads, public highways, airfields, magazines, inhabited buildings, and major utilities

within inhabited-building distance of proposed facilities. When magazines or hazardous operating buildings are involved, plans shall indicate the type of structure and locations of barricades (if any).

(f) Plans shall demonstrate clearly, by use of dimensions and safety-distance arcs, that the required separation distances have been provided.

(g) Preparation and contents of site plans will be IAW Preliminary and Final Site Submittal Checklist and Site and General Construction Plan Guide USATCESP-385-02 and instructions provided by the ARNG Senior QASAS.

(6) States shall attach DDESB approval, including limitations and conditions of approval, to final request for DD Forms 1390/1391 approval and issuance of design authority for the project.

(7) The State must retain as a permanent record the complete site plan, its final safety submission, and the DDESB letters of approval. This record is subject to review during DDESB surveys of the State. Finally, the State shall keep current installation maps and drawings showing quantity-distance arcs with the latest site plan approvals and ensure that they are reconciled with the RPDP and RDP.

h. Range Projects.

(1) These projects, which include shoot houses and MOUT facilities, require preliminary NGB-AVS approval of the SDZ before NGB-ARI grants the State authority to proceed beyond conceptual design. (Please note that shoot houses and MOUT facilities require approval of a tailored SDZ. See para 6-5h(4) below.) The CFMO then must receive NGB-AVS approval of the final SDZ before NGB-ARI reviews the preliminary design submittal. As an exception, however, NGB-AVS may elect to approve the initial SDZ submission for small arms ranges as a final. The approval document must so state for a second submission to be waived, and in any case a relocation of the range during the design phase requires NGB-AVS approval of the new mapping before NGB-ARI will review the preliminary design.

(2) The State Safety Officer shall compute the SDZ in accordance with AR 385-63 and must consider the following factors:

(a) Type of round (worst case, if there is more than one round).

(b) Type of weapon to be fired (worst case).

(c) Clear depiction of firing point and the respective targets (especially important for the maneuver ranges (MPTR, IPBC, ISBC)).

(d) Scale of the map on which the SDZ is drawn and the dimensions of the SDZ. (NGB-AVS will accept 1:50,000, 1:25,000, or 1:24,000 scale only and then only if all weapons use rounds with a calibre in excess of 7.62mm. For ranges with weapons of 7.62mm calibre and below (small arms and hand guns) the scale must be 1 inch equals 400 feet.)

(e) Any physical barriers that may reduce the dimensions of the SDZ. However, NGB-AVS and TACOM-ARDEC must approve any such reductions in the dimensions.

(3) The area covered by the SDZ shall not go outside the installation boundaries nor shall it contain inhabited areas or unprotected troops. If the SDZ extends outside the installation boundaries, the State must acquire the necessary land (through purchase, license, or lease), reconfigure or resite the range so that the SDZ does not extend outside installation boundaries, or receive approval of a tailored SDZ.

(4) Tailored (reduced size) SDZs. As a reimbursable action, Picatinny Arsenal (TACOM-ARDEC) will conduct ricochet analyses on specific range designs to assist in the refinements and placement and verification of baffles and other range components to contain all rounds within a reduced size (tailored) SDZ. Once a baffled range is developed by TACOM-ARDEC, it is considered a final approval and no waiver is required. However, a maintenance support plan must be developed, annually funded, and executed for the range to remain active. If the maintenance support plan is not maintained, the range will lose its tailored surface danger zone approval. Each State must assess the costs associated with obtaining this support to develop a tailored SDZ. These tailored SDZ's are site and range specific and cannot be used for another range at a separate location. Examples of ranges requiring this type of analysis are shoot houses, baffled ranges, and MOUT facilities where live munitions will be fired.

6-6. Required Enclosures

a. Environmental Documentation. At minimum this shall be the Record of Environmental Consideration, the Environmental Checklist, and either draft NEPA documentation or a memorandum stating the status of the documentation.

b. Highlighted Modified Tables of Organization and Equipment (MTOE) and Tables of Distribution and Allowances (TDA) for units assigned to or supported by the facilities to be constructed. In particular, States must

highlight readiness center administrative positions, surface maintenance sections, numbers of required mechanics, and military vehicles and equipment requiring parking at the readiness center.

c. Copy(ies) of the Federal organizational authority for all units assigned to or supported by the project location that do not match the units identified for the site in the current ASIP.

d. Copy of manning document identifying number and type of positions authorized, required, and funded. This is required for only for projects for logistical facilities.

e. Demographic analysis. This is required only for projects for readiness centers.

f. Single line sketch of the proposed project. This is required for addition/alteration projects only.

g. Indoor range location criteria checklist (see Appendix B) or squad engagement trainer criteria checklist (but not both). This applies only to readiness center projects and is not required if the State does not propose to construct space for one of these items. If the State chooses an indoor range, the CFMO must also include a life cycle cost analysis, including an economic analysis of alternatives to the proposed indoor range.

h. For range and ammunition storage projects, documentation of NGB-AVS approval of SDZ and DDESB approval of preliminary site plan, respectively.

6-7. Detailed Instructions, DD Forms 1390/1391

See Appendix C for the instructions.

Chapter 7

Military Construction Cooperative Agreement (MCCA)

7-1. General

a. A separate MCCA is required for each project designed and/or constructed with the military construction appropriation that does not use Federal contracting procedures. No money may be reimbursed to the States without a valid MCCA, including the requisite appendices. See Appendix D for the text.

b. An MCCA is required, because when Federal contracting procedures are not used, the relationship between NGB and the State is that of a grantor and grantee as defined in 31 U.S.C. §§ 6301-6308.

c. In addition to serving as a legal mechanism for transferring funds, the MCCA also serves that portion of the old Federal-State Agreement (FSA) which required the State, "At no time during the term of this agreement to permit any disposition or use to be made of the facility which will interfere with its use for the administration and training of units of the Reserve Forces of the United States, or in time of war or national emergency, by other units of the Armed Forces of the United States or any other use by the Government."

d. Those States that had an FSA approved prior to the adoption of MCCA may continue to use that document, but only for the project in question. They will, however, be bound by the terms of the FSA, which may restrict the scope and financing of the project. On the other hand, if they have not yet begun construction, they may terminate the FSA, and execute an MCCA. The proper format for an FSA termination is at Appendix E. An FSA may not be modified.

e. Like the FSA, the MCCA has a term of 25 years, commencing when the State takes beneficial occupancy of a facility that is part of the military construction project. The State must maintain, operate, and make available for their intended purpose all facilities constructed with Federal funds for at least the entire term of the MCCA/FSA. The Secretary of Army must approve any lesser term. If the Secretary does, however, the State must terminate the MCCA/FSA and reimburse the Federal Government the pro-rated construction costs for the remainder of the term, unless the Secretary waives the requirement for reimbursement.

7-2. Contents of an MCCA

a. Title Page. This includes the table of contents and all required signatures.

b. Basic Document. This includes the articles common to all MCCAs. However, because there is no monetary information, a State cannot receive any Federal reimbursement based on this alone.

c. Appendix SP. This is one of three required appendices for full project execution. It describes the project and its scope and provides a timetable for execution.

d. Appendix SD. This appendix provides the statement of work and budget for the State to design the project. It is not required to be executed until the State is ready to receive design funds. This appendix is not part of an MCCA

for a design-build project unless the State intends to contract for Title I services prior to executing the actual design-build contract.

e. Appendix SC. This appendix provides the statement of work and budget for the State to construct the project. It is not required to be executed until the State is ready to receive construction funds.

f. Modification. This is a single page document, including all required signatures, which the State or Federal Government must initiate if either party wishes to modify any of the terms, conditions, scope, schedule, or budget of the basic agreement or any of its appendices. Any State that initially executed an MCCA without all of the required appendices would do a modification to add a missing appendix.

g. Termination. This is a single page document, including all required signatures, which the State or Federal Government must initiate if either party wishes to terminate the agreement prior to its scheduled expiration. A termination carries financial implications to the State if it has already received funds to reimburse it for construction.

7-3. Staffing Procedures

a. Each project requires its own MCCA.

b. It is advisable to begin work on the MCCA very early in the project. However, a State cannot finalize the appendices until after NGB-ARI approves the DD Forms 1390/1391. Nonetheless, the State still can do all the preliminary coordination with State and Federal officials (including NGB-ARI) on text. Then, when NGB-ARI has given its final approval of the project, the State only has to make any necessary revisions and obtain signatures.

c. Although the USPFO is usually the grants officer, it is fitting and proper that the CFMO initiate and begin staffing for all MCCAs. First, the MCCA appendices are technical in nature and can only be completed by the CFMO. Second, the CFMO has the best insight into State unique statutes dealing with construction that may need to be considered in the text. Nonetheless, this does not imply that the CFMO should in any way bypass the USPFO or unilaterally forward the MCCA to NGB-ARI (except to conduct preliminary coordination of the document).

d. In completing the MCCA the State must make a major decision: whether to opt for reimbursement of expenses after incurring them, the Advance Pay variant of reimbursement, or a combination.

e. NGB-ARI has authority to approve MCCAs that do not change the official, approved text. However, any proposed additions, deletions, or modifications to this text require the approval of NGB-AQ and NGB-JA and may delay processing.

f. The State must submit two copies of the MCCA to NGB-ARI, both with the original signatures of the Adjutant General, the USPFO, and the legal counsel for both parties. For the State this must be the State Attorney General or official designee.

g. The Chief of Installations (NGB-ARI) is the final approving authority of the MCCA for funding and shall retain one of the two submitted copies.

h. The State may delay submission of either or both appendices but NGB-ARI will not issue any funds for reimbursement for design or construction until Appendices SD and SC are submitted and approved, as appropriate. Such a separate submission requires the completion of an MCCA modification.

i. Modification and termination forms require the same staffing and signatures.

7-4. Text and Completion Instructions

See Appendix D for the text of the MCCA and for instructions on completing the MCCA.

Chapter 8

Acquisition of Real Property

8-1. General

a. It is the State's responsibility to select a site suitable to the project without underlying conditions that does not unreasonably increase the cost of construction. The Federal Government shall not bear the financial burden of the purchase of the required real estate.

b. Before acquiring real property, the State shall consider real property exchange as a method of satisfying its military construction requirement.

b. The minimum land for readiness center or maintenance facility projects is ten acres within densely populated areas and fifteen acres in non-congested areas. Obviously the complexity of a project may dictate a larger site.

c. The State should allow room at all sites that it acquires for expansion, particularly expansion that would support consolidation of other Reserve Components.

d. Before NGB-ARI issues funds to the USPFO to reimburse the State for its construction costs, the State shall provide NGB-ARI a certificate of title or similar instrument that proves it adequately controls the real estate for the site.

8-2. Requirement for Control of Real Estate

- a. The State must submit a license, or a certificate of title dated within one year of submission.
- b. The State must include a legal description of the property.
- c. The certificate of title may be backed by either fee simple ownership or a long term lease.
- d. If the certificate of title is backed by a long-term lease, it must be one under firm term or right of renewal for a minimum of 25 years that is not revocable.
- e. There may be no restrictions on the use of the land by the ARNG, whether for construction, administration, operations, or training.
- f. The property must be available for use by the U.S. Government during the time of war or national emergency.

8-3. Certificates of Title

a. The format shall be in accordance with Appendix F of this pamphlet. Should the State propose to modify the text in any way, the CFMO shall coordinate the proposed changes through NGB-ARI to NGB-JA.

b. If the State Attorney General does not sign the certificate of title, then the CFMO shall enclose either a signature delegation letter from the State Attorney General for the other State official or a copy of the statutory authorization for that official to sign.

c. A certificate of title is good for 5 years. If actual construction does not commence within 5 years of the date of the certificate of title, then the State shall submit a new original certificate, prepared and signed as before.

8-4. Site Conditions

a. In providing a site, the State should select one that meets the standards set in NGR 415-5, para 4-4a.

b. Slight deviations are permitted, provided that the slope, soil, and other environmental conditions do not materially increase the cost of construction, particularly of the substructure of the buildings.

c. Normally, if the State selects a poor site, it must bear the excess construction costs. However, if mission dictates siting in a particularly locale, the Federal Government may bear some of the additional costs if the State submits satisfactory documentation of its siting decision, clearly justifying its decision, such as an economic or master planning analysis that demonstrates that the positive impacts on readiness strongly outweigh the increased construction costs. The Federal government may also bear the additional costs for special foundation work if the State submits a Declaration on Uniformity of Area Soil Conditions, where the soils engineer certifies that relocating the project within a five mile radius would not reduce these costs. (See Appendix G for the text of the Declaration.) This Declaration is not mandatory but rather an optional supporting document for the State to document its siting decision.

d. The State shall ensure that there is no unexploded ordnance (UXO) contamination on its project sites.

(1) This may include contracting with U.S. Army Technical Center for Explosives Safety (USATCES) for an Archival Search Report if the project is located on or near a formally used military installation (Federal or State), or any other location where known military firing or maneuvers took place. This requirement to contract for an Archival Search Report also applies to projects on existing military installations when environmental documentation and other historical installation records do not include sufficient information about potential UXO contamination of the proposed project location.

(2) An Archival Search Report presents the history of the site including what types of weapons systems and ammunition were used; the size of the site and current ownership; any endangered species which might be found in the area of the site; any areas which might be of archeological or cultural interest within the site; seasonal weather patterns in the area; a listing of all pertinent documents reviewed; interviews with people regarding use of the site; and a description of the site including all areas where exploded ordnance was found or might be expected to be found. Based upon the site investigation, the report recommends what action, if any, should be taken in regard to the site.

(3) The State may not have to contract for an Archival Search Report if one already exists. To check availability, search the U.S. Army Corps of Engineers Project Information Retrieval System website at <http://pirs.mvr.usace.army.mil>.

Chapter 9

Contracting for Architect-Engineering Services

9-1. General

This chapter provides an overview of Federal and State contracting procedures for Architect-Engineering Services.

9-2. Contracting for Architect-Engineering Services

a. Types of Architect-Engineering (A-E) Services.

(1) Title I

(a) Type A. Field surveys and investigations required to obtain data that is essential to the performance of Type B services and that is not available from Federal or State government resources. These surveys and investigations may include topographical surveys; soil borings and other subsurface investigations; soils, chemical, and mechanical surveys and investigations; determination of utility locations and capacities; and similar fact-finding investigations and technical studies at the approved project site.

(b) Type B. Production of complete designs (including concepts, preliminary, and final plans), drawings, outline and final specifications, basis for designs, design analysis, and preliminary and final cost estimates. There is a statutory 6 percent limit on the preparation of designs, plans, drawings, and specifications. If a contract or modification also includes other services, the part of the price attributable to the other services is not subject to the six percent limit. The limit is based on the NGB-ARI approved estimated construction cost (excluding the allowance for contingency and for Supervision, Inspection, and Overhead (SIOH)) at the time the A-E contract is let (10 USC §2306(d)). In the case of design for work not originally included in project, apply the limit to the revised total estimated construction cost. In the case of redesign, apply the limit to the sum of the estimated construction cost of the redesign features and the original estimated construction cost.

(2) Title II

(a) Title II is also known as Type C.

(b) Consists of construction supervision and inspection services, testing, shop drawing review, and management services, otherwise known as SIOH (supervision, inspection, and overhead).

b. The CFMO shall determine whether to use in-house resources or to contract for A-E services.

c. Type A and Type B A-E costs do not count against project limitations but are part of the total project cost reported in "Facilities Center." They will be charged to the Planning and Design Army Management Structure Code (AMSCO). However, professional services and studies associated with planning, site selection, and generic (not specific) project requirements determination are not reported against a specific project in "Facilities Center" and are charged to the appropriate Facilities Engineering Services AMSCO in the CFMO's Real Property Operations and Maintenance (RPOM) Program.

d. The CFMO may use the NGB Uniform Standards for the Payment of Architect-Engineering Services fee schedule (see Appendix H), a State fee schedule, or a negotiated fixed fee contract. The fees for a State fee schedule or a fixed fee contract should not exceed 3% for Type A and Type C services, and will only be reimbursed for up to the statutory 6% for Type B services. The percentages are calculated against the NGB-ARI approved estimated project cost. They are not readjusted based on the awarded construction contract.

e. CFMOs may use Federally contracted A-E services for projects on Federal land or they may use State procedures. Firm Fixed Price and Indefinite Delivery/Indefinite Quantity (IDIQ) may be available through the USPFO contracting office for use on Federal property.

9-3. Federal Architect-Engineering Contracts

a. Assignment of responsibilities

(1) NGB-ARI shall provide technical guidance and support through the CFMO as required to manage the MCNG Program within the State.

(2) The CFMO shall act as NGB-ARI's point of contact within the State through which the design and construction agent shall coordinate all MCNG design and contract development and approval with NGB-ARI.

(3) When the USPFO is the design and construction agent, the CFMO shall act as the Federal supporting Construction Activity. When there is another design and construction agent, the CFMO shall act as the project coordinator.

b. Unless NGB-ARI so waives, the CFMO shall schedule criteria review conferences on all Federal A-E contracts prior to conducting final fee negotiations. Before scheduling such a conference, the CFMO shall consult with NGB-ARI, the design agent, and the Adjutant General. The objectives of such conferences shall be:

- (1) To emphasize scope and construction cost limitations to the A-E and the design agency.
- (2) To explore peculiarities of the site and location conditions in order to take full advantage of the background and experience of those familiar with the site land locality.
- (3) To review the nature and scope of the project and contract provisions in detail, with particular references to special requirements, limitations, operating parameters that may not be obvious, and potential future expansion.
- (4) To establish professional relationships and lines of communication among the A-E, the CFMO, NGB, the design agency, and the Adjutant General.
- (5) To discuss the design review and approval process and its impact on the timely performance of the A-E effort.
- (6) To formally document criteria review proceedings. Although the minutes of such meetings are the responsibility of the design agent, the CFMO shall approve them before the design agent incorporates them into the design criteria.
- (7) To clarify special project technical and functional requirements.

c. The selection process for Federally contracted A-E services is similar for both Firm Fixed Price and IDIQ contracts. See Appendix I for the Federal A-E selection process. The following items are required to be submitted to the contracting officer:

- (1) Statement of Work (SOW). A SOW is required to identify project requirements for A-E services. Use the description of work from the approved DD Forms 1390/1391.
- (2) Government Cost Estimate is a detailed cost estimate of A-E services. It must be prepared, dated and signed by the CFMO and submitted to the contracting office.
- (3) Commerce Business Daily (CBD) Synopsis. The CBD synopsis is a critical event. It serves as the solicitation for A-E contract services. As such, it must identify to the public what A-E services are needed. The CFMO must provide to the contracting officer a brief general statement of all key elements to publish in the CBD for those elements to be included in the resultant A-E service contract. These key elements include:
 - (a) Project title and a brief description of major facility features or project components sufficient to convey the span of A-E special disciplines/skills that may be required. Do not use military abbreviations. (For an A-E IDIQ solicitation, list the typical types of projects that are expected to be accomplished.)
 - (b) Location of project site. (For an A-E IDIQ solicitation, list the geographic area to which the solicitation would apply.)
 - (c) Project construction cost estimate in which the contracting officer will publish the cost range of the intended project. (For an A-E IDIQ solicitation, list task order funding limitations and number of option years.)
 - (d) Types of A-E services required, such as investigative Type A, design Type B, and construction administration Type C. Code and criteria reviews may be included as an option. The option for Type C services will not be exercised until the pertinent construction contract has been awarded.
 - (e) Funding document for the estimated A-E fees will be submitted to the contracting officer. This is a DA Form 3953. The account classification will be from the appropriate AMSCO: RPOM, Planning and Design, or the construction project (depending on the type of service requested).
 - (f) Selection criteria. The CFMO will assist the contracting officer in tailoring A-E selection criteria in accordance with the current FAR and its supplements (including the DoD supplement, DFARS) and provide, within the context of the professional qualifications rating criteria, the A-E special disciplines considered important to the project and list them in the order of importance they will be given in the A-E selection process.
 - (g) Contracts over \$25,000. For each contract over \$25,000, the contracting officer is required by FAR 36.604 to prepare an A-E performance evaluation report. Ordinarily, the evaluating official should be the person responsible for monitoring contract performance. The CFMO is relied upon to provide contracting officer support to this end. DFARS 236.604 requires a separate report by the contracting officer after the actual construction of the project. The evaluation official should be the person most familiar with the A-E's performance.
 - (h) A Criteria Review Conference with the selected A-E firm, the CFMO, the contracting officer, and the user will be held prior to fee negotiation and contract award. This meeting will be conducted by the contracting

officer or CFMO to clarify for the A-E firm the design criteria in sufficient detail for the A-E to prepare a fee proposal for doing the project, to understand the project scope and any special requirements that may not be obvious, to explore peculiarities of the site or local conditions, and to establish a professional relationship and good lines of communications among the A-E, contracting officer, and the CFMO. The conference also permits discussion of design review and approval procedures and their impact on timely performance of work.

d. A-E Indefinite Delivery Services.

(1) Contracts may be established for one base year plus an additional 1-year option period. Contracts with up to four additional option years require approval of the Office of the Principal Assistant Responsible for Contracting (NGB-AQ).

(2) Where work load dictates, CFMOs may have more than one A-E Indefinite Delivery contract, preferably overlapping. The contract shall support geographically separated units under a CFMO's purview. When more than one A-E IDIQ contract is active/available, the CFMO shall document by written memo to the contracting officer which A-E IDIQ contractor is ranked #1 for a particular requirement. Among the considerations to be addressed in the memo are:

- (a) That the requirement is within scope of the IDIQ contract.
- (b) That the most technically qualified IDIQ contractor is being chosen.

9-4. State Architect-Engineering Contracts

a. The State shall establish a design schedule allocating a specific time for the completion of each phase of the design process, such that except in extraordinary cases the State will be able to award the project within the first year of the appropriation.

b. The CFMO may request approval from NGB-ARI that any or all A-E services be performed with Construction and Facilities Management Office staff.

(1) Conditions for approval.

(a) Federal funds do not exceed the limits in the MCCA, Appendix SD.

(b) The MCCA is fully executed.

(c) Time devoted to design and/or inspection by the CFMO and other Title 10 and Title 32 personnel is not included in any requests for reimbursement.

(d) Reimbursement is limited to actual expenses incurred for personnel, materials and equipment .

(2) Procedures upon approval.

(a) Upon CFMO submittal of NGB Form 86-R, NGB-ARI issues the USPFO 80% of estimated amount as an advance.

(b) The State shall periodically request reimbursement from the USPFO. The request shall include the accounting records, which the USPFO shall review, verify, and retain.

(c) The CFMO shall request adjustments to the original request as in NGR 415-5, paragraphs 6-3f and 6-3g.

c. When the standard procedures, agreements, or laws of a State require that Military Construction Army National Guard appropriation (MCNG) projects be designed and their construction supervised by a State agency other than the Military Department, the CFMO shall enter into a formal agreement with that agency. Funding shall be as described in NGR 415-5, paragraph 6-3. Although there is no standard format for the agreement, it shall be reviewed and approved by the USPFO and shall establish the following to ensure that its content and procedures are in consonance with the MCCA and NGR 415-5:

(1) The supremacy of the MCCA, including all Federal funding support arrangements and responsibilities and the requirements for the incorporation of certain clauses in all design and construction contracts.

(2) The requirement for NGB reviews as stipulated in NGR 415-5.

(3) The NGB standards against which designs will be judged.

(4) A design control cost as described in NGR 415-5, paragraph 6-3c(1).

(5) The stipulation as described in NGR 415-5, paragraph 6-3g(3).

(6) A statement that any potential requirement for additional Federal funds of any type (design or construction) shall be submitted to NGB-ARI for review and that the agency shall take no action or direct contractors in any fashion that would obligate the State financially until NGB-ARI has reviewed the requirement and established the amount of Federal funding support.

Chapter 10 Funding Requests

10-1. Forms

a. States shall use NGB Form 86-R or NGB Form 87-R, as appropriate. These forms and detailed instructions for them are at Appendix J, and the forms may be locally reproduced on 8 ½" x 11" paper. (However, it is strongly recommended that the State utilize the electronic version of the forms available at the NGB publications web site, <http://www.ngbpd.c.ngb.army.mil/>.) In no instance may a State submit a request that results in it exceeding the amount in the appropriate appendix of the MCCA.

b. NGB Form 86-R (the salmon form). This is the form to be used to record an initial contract award, an advance to bid a Federal contract, or an adjustment of funding to settle the advance. There must be a separate NGB Form 86-R for each contract associated with a project. This includes design, construction, and supervision, inspection, and overhead.

c. NGB Form 87-R (the yellow form). This is the form to be used to record a contract modification to a contract, an advance to bid a contract modification, or an adjustment of funding to settle the advance. The form is also used to record "no cost" contract modifications and to extend the time of the contract.

10-2. Instructions

- a. Be sure to check the appropriate boxes at the top of the form.
- b. Ensure that your project title, project fiscal year, project location, and project number are complete and match the MCCA.
- c. Either check the type of contract (NGB Form 86-R) or write the type of contract (NGB Form 87-R).
- d. On NGB Form 87-Rs, do not forget to include the agreement number and the contract number.
- e. Check your math, to ensure that all the numbers add up. Remember that your total (adjusted total on the NGB Form 87-R) cannot exceed the appropriate amount in the MCCA unless you first modify the MCCA.
- f. For NGB Form 87-Rs, provide a concise description of and justification for the work to be performed. Include supporting documentation if necessary.
- g. In the case of NGB Form 87-Rs submitted after the appropriation has expired, the State must certify on the form that the work requested is within the scope of the original contract.
- h. In all instances, note the contract completion date (with any adjustments).
- i. See Appendix J for detailed instructions.

Chapter 11 Design Document Submittals

11-1. General

- a. The A-E is responsible for the accuracy and the completeness of a professionally prepared design package.
- b. The CFMO is responsible to review plans at each stage of submission for completeness, operational efficiency, environmental, safety, and occupational health compliance, code compliance, force protection, and A-E errors and omissions.
- c. NGB-ARI conducts reviews:
 - (1) To document the design process from a project quality assurance standpoint to assist the States in their construction contract administration efforts.
 - (2) To provide professional reviews of project submittals for adherence to NGB construction criteria and to industry standard quality control measures.
 - (3) To ensure that the project proceeds expeditiously according to the approved DD Forms 1390/1391 package.
 - (4) To act as stewards of the Federal dollar while ensuring that the facility users will receive a functional, appealing, comfortable product that meets their needs, protects their assets, and saves future operations and maintenance expense.
- d. Submittal data should include, when applicable, design analysis, calculations, drawings, specifications, cost estimate and other appropriate supporting data during the concept, preliminary and final phases of the project process. A complete submittal package must be received before the review process begins.

e. All parties need to focus their attention to the conceptual planning and design phase, where the ability to influence the ultimate functionality, user satisfaction, and cost of the final product is the greatest. By the end of the preliminary design phase you must have fully defined the project's scope, criteria, and cost estimates.

f. Document submissions and contract specifications shall address energy conservation.

(1) Design and construction standards for the Building Envelope (heating, ventilation, and air conditioning; lighting; and service water heating) are contained in ASHRAE Standard 90.1-1999. The guidelines of this standard or similar State code shall be followed and minimum requirements met unless there is a reasoned and intentioned need to not meet the standard. More specific standards shall be applied as appropriate to improve energy efficiency where they are deemed cost-effective.

(2) Additional efficiency standards and more specific guides exist for other and more specific building components. These include the Environmental Protection Agency (EPA) Energy Star Program for buildings and selected equipment, the Energy Policy Act of 1992 for electric motors, the National Renewable Energy Laboratory for solar and renewable energy sources, and the EPA Green Lights Program for lighting efficiency goals.

(3) In addition, States are encouraged to develop State specifications and standards to address such items as fluorescent lamp ballast standards (manufacturer, power factor, total harmonic distortion (THD), power consumption), motors (efficiency ratings for various horsepower, power factor), thermostats (model and features). The intent is to develop State-wide maintenance and vendor contracts that support a specific manufacturer line and consistent model time for repair and replacement standardization.

11-2. Conceptual Review Documents

a. This phase is critical, because all parties need to agree on the requirements of criteria and the technical application of designs with respect to energy efficiency, sustainability, and force protection. Even when a submittal to NGB is not required, the State should spend considerable time with its A-E and the facility users to ensure that the outcome will be a functional, quality project within the approved scope of the programming documents.

b. The purpose of NGB's review is to clarify project requirements, criteria, and utility services.

c. State submittal to NGB is required only in the cases of all projects with a Federal design agent and all addition/alteration projects, ammunition storage projects, and range projects.

d. No artwork or special graphics are required to enhance the appearance of the submittal. The accuracy, completeness, and quality of the information are more important than the appearance.

e. The concept design documents should be brief and schematic in nature with enough data to describe the project covering each engineering discipline in a narrative form on 8 ½"x 11" paper. The submitted project design must be supported by the previously approved DD Forms 1390/1391. The minimum submitted data should be the design narrative, design references, site location, utilities, environmental data (including the environmental baseline study), geotechnical properties, architectural floor plan, and structural, mechanical, fire protection, and electrical requirements. The concept design submittal must be supported with a cost estimate.

f. The recommended format for the submittal consists of a cover sheet and four tabs. The CFMO shall prepare Tabs C and D and provide them to the A-E for inclusion in the final package.

(1) Tab A provides a description of the proposed facilities. It contains both a general overview of the work to be performed at each facility and a detailed engineering and equipment description of each room in each facility.

(a) Project Title. Use the same title used on the approved DD Forms 1390/1391. Provide a brief overview of the functions to be performed once the project is completed.

(b) Scope. Expand on the scope in the approved DD Forms 1390/1391.

(c) Maximum Construction Cost. This should be the figure in the approved DD Forms 1390/1391, unless the State is submitting revised forms.

(d) Floor plan. Attach a simple, single line, floor plan with room numbers, room titles, and approximate room areas. The spatial relationships between functions is the most important aspect of this floor plan, and it should reflect the input of all facility users. If known include on the same plan or on an additional plan a layout of furniture, equipment, and utilities.

(e) Number of Occupants. Provide the total for weekdays and days of training assemblies.

(f) Hours of Operation. Provide weekday, weekend, and night hours.

(g) Room Number, Title, Function, And Special Requirements. Write a separate paragraph to describe each room in the facility. Include room number and title for ease of coordination with the definitive floor plan. Room titles shall reflect the room's function.

(2) Tab B provides a description of the project site. It contains information on all exterior work items needed to provide a complete and usable facility.

(a) Vicinity Sketch. A sketch related to the north point and to scale showing the location of an MCNG project in relation to adjacent towns, cities, environmentally sensitive areas, main thoroughfares, highways, and the public street network. If the site is subject to zoning regulations, then the map will specify the classifications for the site and adjacent areas.

(b) Location Map. Prepared related to the north point at a larger scale than the vicinity sketch, it provides information on existing conditions adjacent to the property on which an MCNG project is located. The map identifies all existing major structures in the neighborhood, including names of roads, streets, streams, etc.

(c) Site Plan. Describe the immediate area of the project site to show the nature and approximate extent of exterior work items. Attach a simple site plan showing building outline, driveways and other roadways, parking, paved storage areas, fencing, items to be demolished, and existing rough ground contours.

(d) Utility Plan. Describe what is known about each of the existing utilities needed to service the facility. Attach a simple utility plan showing the facility site plan and the location of all existing and proposed new utilities including water, sanitary sewer, storm sewer, natural gas lines, electricity lines, and fire hydrants.

(e) Architectural Treatment. Describe the architectural treatment and types of construction of surrounding existing facilities. Where compatibility to an existing architectural treatment is desired, recommend compatibility to that style to be used in design of the facility.

(f) Environmental Requirements. Address environmental considerations that may impact on the design of the facility not previously addressed in this tab. Examples include water quality, additional volume capability required within the water system, solid waste disposal criteria (Federal, State, and local), sewage disposal method and system capacity, project siting relative to flood plains and wetlands, and design for outside noise level reduction.

(3) Tab C lists the design criteria used by the A-E to develop the project.

(4) Tab D documents the CFMO's coordination with other State staff and the NGB facility proponent on the conceptual plan.

g. Certain projects require the following additional documentation. Although this documentation is not required at the time of submittal of the conceptual documents, NGB-ARI shall not grant the State authority to proceed to preliminary design without them.

(1) Documentation of NGB-AVS approval of final SDZ mapping for range projects.

(2) Preliminary DDESB approval for ammunition storage building projects and other projects in close proximity to such facilities.

11-3. Preliminary Review Documents

a. The purpose of this submission is to ensure that the State is developing the project within NGB criteria and the project approved scope and budget.

b. NGB-ARI shall review the submission for its continuity with the State's conceptual submission (if required), the approved DD Forms 1390/1391, and the A-E's design analysis and supporting calculations and data.

c. At minimum the State's submission shall contain:

(1) Plans

(2) Technical specifications

(3) The A-E's cost estimate itemized by specification section/division.

(4) Supporting design data by each architectural/engineering discipline.

(5) The site survey report (if not previously submitted), including the Declaration of Soil Bearing Capacity.

(6) State rebuttal to NGB-ARI conceptual review comments (if applicable).

(7) CFMO code compliance certificates (if required for State/local code documentation). See Appendix K for a sample.

d. Preliminary plans. The CFMO shall submit preliminary plans with sufficient detail and data to adequately depict the basic design features. The plans shall consist of the following:

(1) A vicinity sketch, which is a sketch related to the north point and to scale showing the location of an MCNG project in relation to adjacent towns, cities, environmentally sensitive areas, main thoroughfares, highways, and the public street network. If the site is subject to zoning regulations, then the map will specify the classifications for the site and adjacent areas.

(2) A location map. Prepared related to the north point at a larger scale than the vicinity sketch, it provides information on existing conditions adjacent to the property on which an MCNG project is located. The map identifies all existing major structures in the neighborhood, including names of roads, streets, streams, etc.

(3) A site plan that includes the following:

(a) Property boundaries, streets, and the general area surrounding the site, to include streams, rivers, lakes, wetlands, flood plains, etc.

(b) Base line and location of the proposed facilities.

(c) Both original and proposed finished grades within the construction area, either by spot elevations or by contour. However, they must be of sufficient number of interval of contour to adequately show the intended concept and magnitude of grading being proposed for the project. Outside of the construction area, sufficient data should be provided to show the general topography in relation to the proposed construction work.

(d) Elevations of finished floors.

(e) Existing and proposed walks, roads, parking areas, and fencing.

(f) Location of existing and proposed utility lines for water, natural gas, sanitary sewer, storm drainage, telephone, and electricity. Also, the location of any water wells, liquid propane gas tanks, and septic systems.

(g) Area reserved for construction, expansion of buildings, parking, etc.

(h) Show actual designed quantities of grading and seeding, paving and fencing, extension of utilities, roads, and sidewalks, all compared to quantities authorized for Federal funding. However, the submission may include this information in the supporting design data, the cost estimate, or the preliminary design specifications, depending on the A-E.

(i) Location of wash racks, fuel storage, and pollution control devices.

(j) Location of any historic or archeological sites on the property.

(4) Floor plans for each room and other separate areas, to include:

(a) A drawing with overall dimensions and individual room dimensions, showing the functional use of each room. In multiple-unit readiness centers, the drawings shall identify storage and administrative space by assigned unit.

(b) Fenestrations (i.e., windows, skylights, clerestories, and other glazed apertures in the facility).

(c) Building gross area.

(d) Room finish schedule. The plans shall show substitutes for finishes authorized in the appropriate design guide as alternates.

(5) Elevations to show architectural relationships from at least two points of view and typical wall sections as follows:

(a) Mass relationship wall heights, architectural design treatment, and use of materials from at least two points of view that provide the most information on the proposed design.

(b) Typical wall section to show foundations, floor systems, wall construction, window and eave treatment, ceiling systems structural support, and roofing system. Include the height of clearances from floor to ceiling and/or roof structure and any difference in height of floor levels.

(c) Special features.

(6) Building utility plans which include room numbers and functional use to show by single-line schematic diagram:

(a) Heating and ventilating systems with type of energy source; the number, location, and estimated capacity of heating equipment.

(b) Air-conditioning or evaporative cooling systems, if authorized; the number, location, and estimated capacity of cooling equipment.

(c) Electrical illumination systems, showing the number and type (schedule) of lighting fixtures proposed, and the locations of electrical and telephone/data port outlets.

e. Preliminary technical specifications. The CFMO shall submit a brief outlining the technical sections to be included in the final specifications. The outline shall convey enough information to support the design intent and cost estimate in Construction Specifications Institute format. The outline shall include life cycle cost analyses for non-standard systems that the CFMO is proposing. Outline specification means that the specified item or equipment must convey enough information to support in Construction Specifications Institute (CSI) format the design intent and cost estimate.

(1) Each section should include a brief description of each system or piece of equipment to be used.

(2) The CFMO shall list any substitutions or items or finishes authorized for Federal support as proposed alternates in the brief.

(3) The use of proprietary equipment or materials that would limit the number of bidders or require payment for permits, royalties, etc., are generally not authorized Federal funding support. The CFMO shall specifically identify in the preliminary specifications any proposed use of a proprietary or sole-source item. The CFMO shall present in sufficient detail reasons and justification to demonstrate that the item uniquely satisfies a project requirement.

f. Preliminary estimate. The CFMO shall submit an estimate of construction cost based on the proposed design of the project.

(1) The submittal shall break costs down by architectural and engineering discipline and shall separately cost the various building features and outside supporting facilities.

(2) If the preliminary cost estimate for the project exceeds the cost in the approved DD Forms 1390/1391 by more than 5%, the CFMO shall list the items contributing to the additional cost and shall identify any other factors for the increase.

(3) The CFMO shall identify any items in the project that exceed the general construction standards authorized Federal support as stated in NGR 415-10 and NG Pam 415-12 and justify them or list them as bid alternates to be supported with other than Federal funds.

(4) Increased scope or costs may be grounds for NGB-ARI to direct a reexamination of the project scope and direction. To avoid that, the State should submit a revised DD Form 1390/1391 package with the submission of their preliminary design package.

g. Supporting design data. The CFMO shall submit this data for the following disciplines in a clear, readily understandable manner, sufficiently detailed to ensure that all reviewing NGB-ARI staff interpret the project scope as the State intended and the A-E executed. Also, if the State desires Federal support for an item required by State or local code and normally considered excess to published NGB criteria and construction standards, the CFMO shall sign and submit to NGB-ARI a certified statement detailing the code applicability in the format of Appendix K. NGB-ARI shall use all this material only to resolve issues arising from the portion of the review it does under NGR 415-5, para 7-3.

(1) Civil

(a) Site description, narrative, and analysis, to include geo-technical properties, building layout, and other infrastructure (e.g., roads, access ways, and fences).

(b) Design references, including codes, design guides, and publications.

(c) Site utility systems, including water, sewer, electrical power and telecommunications.

(d) Site survey report.

(2) Architectural

(a) Architectural design narrative.

(b) Building space layout and functional analysis.

(c) Architectural space calculations.

(d) Life safety code analysis.

(e) Anti-terrorism/force protection risk and threat analysis.

(3) Structural

(a) Structural design narrative.

(b) Design references, to include codes and publications.

(c) Preliminary load analysis and calculations.

(4) Mechanical

(a) Mechanical design analysis and narrative.

(b) Design references, to include codes, design guides and publications.

(c) Design data and calculations used for the determination of the overall heat transmission coefficients ("U") for the type of exterior wall and roof construction proposed for the facility. (However, this may be included in the architectural division.)

(d) Cooling/heating load calculations.

(e) Heating, ventilation, and air-conditioning system load calculations and a simple, abbreviated life cycle cost analysis (LCCA).

(f) Building ventilation/exhaust requirements, to include indoor air quality calculations.

(g) Fixture units for plumbing systems (hot and cold water and sewer).

(h) Fuel load.

- (i) Roof drainage calculations.
- (j) Preliminary site pressure data.
- (k) Fire water demand.
- (l) Equipment manufacturers' data.
- (5) Electrical
 - (a) Electrical system design analysis and narrative.
 - (b) Design references, to include codes, design guides and publications.
 - (c) Building lightning protection risk analysis.
 - (d) Preliminary load calculations/code analysis.
 - (e) Emergency power generator sizing.
 - (f) Building illumination calculations.
 - (g) Building preparation conduits and cable trays.
 - (h) Coordination with State Director of Information Management (DOIM).
 - (i) Equipment manufacturers' data.

h. Prior to or simultaneously with the preliminary design submission, the CFMO shall provide NGB-ARI with the site survey report. This report shall be for the actual location of the project, not for adjacent or similar locations, and shall include laboratory results that classify, grade, characterize, and determine the strength of the surface land subsoils for supporting building and pavement construction.

(1) NGB-ARI uses this report to review the suitability of the site for Federal funding support.

(2) The report shall describe the existing conditions and discuss the site investigation. It shall pay special attention given to any features of the site that may either affect its suitability for construction or have a significant impact on project costs.

(3) The report shall include laboratory results that classify, grade, characterize, and determine the strength of the surface land subsoils for supporting building and pavement construction. The soils engineer preparing the site survey report shall sign a Declaration of Soil Bearing Capacity. (See Appendix G for a text of the Declaration).

(4) At minimum the report shall contain:

(a) A description of existing ground surface conditions. It shall address how much and what in the site are wooded, clearings, streams, marshes, rock ledges or outcroppings, and the approximate percent of ground slope.

(b) A layout plan of a sufficient number of soil borings to adequately determine the general subsoil conditions existing at the site in the areas of proposed construction. The plans should indicate the location of the borings in reference to the site boundaries and the ground surface elevation at the borings together with a log of the soil type and ground water levels encountered.

(c) Laboratory test results as necessary, to determine classification, grading, characteristics, and strength of the surface and subsoils as regards support for building and pavement construction.

(d) A Declaration of Soil Bearing Capacity.

(e) A discussion and summary of the site investigation with special attention given to any features of the site that may either affect its suitability for construction or have a significant impact on project costs.

i. When the State is between 20% and 50% level of design, which is just before it makes its preliminary design submission to NGB-ARI, it must seek approval from certain Federal agencies. NGB-ARI shall not approve the State proceeding to final design until the CFMO documents these approvals.

(1) Final safety approval from the DDESB for those projects that require DDESB review. These are both ammunition storage projects and projects within the Quantity Distance of such facilities. The CFMO's request seeks approval of the construction techniques and the specifications of installed and auxiliary equipment and verifies that the location has not been changed. Details are in DA Pam 385-64, paragraphs 8-2 and 8-3.

(2) If you are building a kitchen as part of your project, you must receive Quartermaster School approval as stipulated in paragraph 3-3i(3) above, if you deviate significantly from the kitchen design in Design Guide 415-1.

(3) If your project includes a petroleum facility, you must receive approval from the U.S. Army Petroleum Center as stipulated in paragraph 3-3i(4) above.

(4) Surface and air maintenance facilities and indoor ranges require an industrial hygiene and occupational health technical review as stipulated in paragraph 3-3i(5) above.

11-4. Final Review Documents

a. The purpose of this submission is to ensure that the State developed the project within NGB criteria and the project approved scope and budget. The final design submission will be considered by NGB-ARI as biddable contract documents, ready for advertisement.

b. NGB-ARI shall do a limited review to verify CFMO compliance with the comments of NGB-ARI and other required Federal agencies (as resolved in the interim) on the preliminary review documents, the accuracy of the cost estimate, and the design documents.

c. At minimum the State's submission shall contain:

(1) Plans

(2) Bidding documents (to include general specifications)

(3) Technical specifications

(4) The A-E's cost estimate itemized by specification section/division, further broken into labor and materials whenever possible.

(5) Supporting design data by each architectural/engineering discipline.

(6) CFMO code compliance certificates (if required for State/local code documentation). See Appendix K for a sample.

d. Final plans. The submission shall be separated into titled sections by architectural/engineering discipline. Final drawings must be stamped by an Architect or Engineer licensed to practice within the State and include the necessary plans, elevations, sections, schedules, and notes prepared in sufficient detail to assure:

(1) Complete construction of all elements of the project buildings and exterior supporting facilities.

(2) Coordination of drawings and specifications to eliminate omissions, conflicts, or ambiguities.

(3) Completion of all details referenced in specifications.

(4) Clear and uniform interpretation of project scope and complexity by all qualified bidders.

(5) Conformance to NGB-ARI comments on preliminary plans, as modified by State and NGB-ARI agreement on problem issues.

(6) Complete delineation of any alternate bid items and substitutes designated as "Contractor's Option."

e. Final Bidding documents and general specifications.

(1) These consist of instructions to bidders, conditions of the contract, contract forms, the bid form, special requirements, and similar type items. These are boiler plate items to be prepared in accordance with State or Federal contracting procedures (as appropriate).

(2) Because of varying proportions of Federal/State cost sharing and cost control requirements, the CFMO shall obtain separate bids for each distinct item of work to be contracted.

(3) The bid forms shall be in a format that is easily translatable to that in Appendix L (Guide Bid Format), which consists of a listing of work items for entry of bid amounts and a text describing the type of work that is (or is not) to be accomplished for the bid amount.

(4) All items that are excess to authorization must be bid separately as either an alternate or an additive item. Deductive items may be used only when there is no alternative. However, separate bidding is not required on a substitute to an authorized item when it is designated as a "Contractor's Option."

(5) As an exception, the CFMO may request a lump-sum bid. Nonetheless, the CFMO shall still separately list alternate and additive bid items and shall require the eventual successful bidder to prepare a cost breakout in accordance with Appendix L.

f. Final technical specifications.

(1) The submission shall be separated into titled sections by trade or specialty.

(2) The submission shall incorporate a clear and accurate description of the technical requirements of the material or product required in the completed project. Such product descriptions will not contain features that unduly restrict competition. The description may include a statement of the qualitative nature of the material or project specified or, when necessary, may set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use.

(3) When it is impractical or uneconomical to develop a clear and accurate description of the technical requirements, a "Brand Name or Equal" description may be used as a means to define the performance or other salient requirements of a specified item. In addition, a single manufacturer can be defined as a "Quality Standard" in the "Special Conditions," provided that a statement is added that other manufacturers with a similar degree of quality will be acceptable. In all cases when a brand name is specified, the specific features of the named brand that must be met by the contractor must be clearly stated in the submission.

g. Final cost estimate.

(1) The CFMO shall submit this in the same format as the sample bid form in Appendix L.

(2) NGB-ARI shall use this as a final check to determine whether estimated project costs are in line with design controls. If they are not, NGB-ARI shall recommend alternatives to the CFMO before it authorizes the CFMO to bid the project.

(3) The CFMO shall also enter the figures from the final cost estimate on the bid abstract to help determine the acceptability of bids received.

h. Supporting design data. The CFMO shall submit this data for the following disciplines in a clear, readily understandable manner, sufficiently detailed to ensure that all reviewing NGB-ARI staff interpret the project scope as the State intended and the A-E executed. Also, if the State desires Federal support for an item required by State or local code and normally considered excess to published NGB criteria and construction standards, the CFMO shall sign and submit to NGB-ARI a certified statement detailing the code applicability in the format of Appendix K. NGB-ARI shall use all this material only to resolve issues arising from the portion of the review it does under NGR 415-5, para 7-3.

(1) Civil

(a) An updated site description & narrative

(b) Design references, including codes, design guides, and publications.

(c) Description and analysis of site utilities systems and connections: water, storm, sewer, drainage, fire protection, electricity, natural gas, telecommunications.

(d) Storm water pollution prevention plans.

(e) Paving design sheets, calculations, and test data.

(2) Architectural

(a) An updated architectural design narrative.

(b) Building design analysis.

(c) Architectural space calculations.

(d) Anti-terrorism/force protection risk and threat analysis.

(e) Life safety code analysis.

(3) Structural

(a) An updated structural design narrative.

(b) Structural load analysis.

(c) Structural load calculation.

(4) Mechanical

(a) An updated mechanical systems design narrative.

(b) Heating, ventilating, and air-conditioning equipment selection data.

(c) Heating, ventilating, and air-conditioning system ductwork calculations.

(d) Heating, ventilating, and air-conditioning system piping and hydronic calculations.

(e) Fire protection system hydraulic calculations.

(f) Plumbing system fu/flowrate calculations.

(g) Plumbing system hot water system calculations.

(h) Fuel gas systems piping sizing calculations.

(i) Compressed air/vacuum system calculations.

(5) Electrical

(a) An electrical systems design narrative.

(b) Facility power system load analysis.

(c) Site lighting calculations/selection.

(d) Building lightning/surge protection analysis.

(e) Building emergency power system generator size calculation.

(f) Building illumination (foot-candle) calculations.

Chapter 12 Construction Contract Management

12-1. Construction Contract Award

a. After NGB-ARI reviews and approves the bid final documents, NGB-ARI grants the State authorization to solicit bids subject to the availability of funds. This is usually a pro forma exercise. The exceptions are with UMI projects near the close of the fiscal year (when funds may be running out) and with projects that do not yet have both authorization and appropriation.

b. The State may award a construction contract when it is satisfied that it has identified the lowest responsive responsible bidder in accordance with the applicable Federal or State procedures. However, receipt of Federal funds to reimburse the State's expense is dependent on NGB-ARI's approval of the acceptability of the bids and its analysis of the amount of authorized Federal funding support. Items in excess of those approved in the bid final documents are not authorized support.

c. If the approved bid is within the Congressional appropriation, then the funding process follows that described in NGR 415-5, Chapter 8. However, the State, if at all possible, should make an initial award for an appropriate amount less than the appropriation to account both for contingency and supervision, inspection, and overhead (SIOH).

d. However, if the recommended package exceeds the project's Congressional appropriation, then NGB-ARI and the State need to consider the following possible actions before NGB-ARI issues any funds.

(1) Rebidding the project at a later date.

(2) Modifying or redesigning the project without reducing the scope to the point that the project cannot serve its original purpose.

(3) Having the State or another non-Federal entity fund any amount over the Congressional limitation. If this is the preferred alternative, the Adjutant General shall submit a memorandum to that effect to NGB. The memorandum shall state that any amounts so reimbursed with other than Federal funds or any items deleted from the project as a result of this decision shall not be included in a future project request for Federal funds.

(4) NGB-ARI using a portion of its statutory (informal) reprogramming authority to award the project at an amount exceeding the Congressional appropriation. For this to occur, the CFMO must submit detailed and logical justification of how this award above the appropriation is in the best interest of the Federal Government and there must have been sufficient cost savings from other projects. NGB-ARI's statutory authority is limited to 25% of the appropriated amount or \$2 million, whichever is less.

(5) NGB-ARI pursuing through DA and OSD to Congress a formal reprogramming action that would increase the project's authorized and appropriated amount. For this to occur, the proposed contract must exceed the NGB reprogramming limits and the CFMO must submit detailed and logical justification of how this award above the appropriation is in the best interest of the Federal Government.

(a) To support this request, there must have been sufficient cost savings from other projects.

(b) Cogent justification is essential, because either DA or OSD has the authority to apply the NGB-identified cost savings to other reprogramming needs (i.e., outside of the ARNG military construction arena).

(c) OSD only submits military construction reprogramming requests monthly. Then, for the funds transfer to the project to take place, each of the four Congressional committees must approve the request in writing: House Armed Services Committee (Subcommittee on Military Installations and Facilities), House Appropriations Committee (Subcommittee on Military Construction), Senate Armed Services Committee (Subcommittee on Readiness and Management Support), and Senate Appropriations Committee (Subcommittee on Military Construction).

12-2. Supervision, Inspection, and Overhead (SIOH)

a. SIOH comes out of the military construction appropriation for each project. It is accounted for both on the DD Forms 1390/1391 package and the MCCA.

b. SIOH serves as the State's quality control of the project. The State may execute this either in-house with a CFMO employee or via contract.

c. SIOH is not a vehicle to hire an additional employee except in extraordinary circumstances.

d. The CFMO must do significant prior planning to ensure that a proper contract is in place or sufficient employee time is allocated. Planning for SIOH should be occurring as the project is scoped and developed.

e. Despite the presence of a contracted firm doing SIOH, the person ultimately responsible for monitoring workmanship rests with the contracting officer's Representative (COR).

f. The COR conducts field inspections, provides technical evaluations and reviews, addresses questions regarding the contract, and reviews contractor requests. This is not SIOH, nor is any of the quality control, oversight, and inspections that the State (though the CFMO) should be doing throughout the life of the project.

12-3. Federal Construction Contracting

a. Normally military construction contracting for Army National Guard facilities on State property is to be done by the State, using State procedures and State personnel. The USPFO may perform Federal contracting on State property only if: (1) the State law authorizes the Federal Government to perform Federal contracting on State land, and (2) the State Attorney General provides a written opinion to that effect. Unless your State has this authorization and a written opinion from its State Attorney General, Federal contracting can only be utilized on Federal land. However, the State is not required to use Federal contracting for projects on Federal land.

b. The most essential element of successful Federal contracting is the relationship between the CFMO and the contracting officer. The contracting officer is the resident expert on the Federal Acquisition Regulation (FAR), which outlines the guidelines and limitations for Federal contracting.

c. The submission process for Federal contracting for maintenance/repair or construction projects is:

(1) Project Approval Form. This is the approved DD Forms 1390/1391 package.

(2) Detailed Independent Government Estimate (the estimated cost for the entire project). It must be signed and dated by the person who prepared the estimate.

(3) Proposed Synopsis of the Project. This is a brief statement that describes the salient characteristics of the project, type of construction, estimated square footage of the project, quantities, special nature of the work, heating, ventilating, air-conditioning (HVAC) systems and any other information that would be necessary or helpful for a contractor to determine an interest in bidding the project.

(4) Performance Period. This is the estimated number of days it should take the contractor to complete the work from Notice to Proceed to final completion.

(5) Advertisement. If the project is to be acquired under an Invitation For Bid (IFB), the project must be synopsisized in the Commerce Business Daily (CBD) at least 15 calendar days prior to issuing the formal solicitation (i.e., the IFB).

(6) Acquisition Plan. Jointly develop the acquisition plan between the CFMO and the contracting officer. This includes pricing, options, bid items, additive, deductive, or alternate bid items, priority of additive bid items, contract type (Multiple Award Task Order Contract, Job Order Contract, Invitation For Bid, Request For Proposal etc.).

(7) Plans and Specifications. Submit a copy of the plans and specifications for the project. (Development of Division I of the specifications must be jointly reviewed and coordinated with the contracting officer early in the project development/design phase.)

(8) Liquidated Damages. The estimate of liquidated damages that would be assessed against the contractor if the contract were not completed within the required performance period. Consideration should be given to the cost of any facilities that must be rented or leased on an extended period until the project is completed and any cost the government would incur if the project is not completed with the performance period. This can not be blanket amount but must be calculated for every project.

(9) Special scheduling requirements (e.g., Critical Path Method of scheduling, if applicable).

(10) Consolidated list of material submittals (i.e., numerical list of materials identified by specification section that the Government wants to approve prior to use on the project). It is customary that the Architect-Engineer (A-E) prepares this list during the design process.

(11) Funding document (DA Form 3953) certifying that funds are available for the project and will be committed to the project until bid opening report is submitted. (The document may not be required on Task Order Contracts if funds are not currently available to the activity for that project. A written statement should be made to the contracting officer that funds are not currently available for the project, but there is a high likelihood that funds will become available by a certain date.)

(12) Contracting officer's Technical Representative (COTR). Identify to the contracting officer who will be the COTR on the project.

(13) Performance Requirements. Identify any special past performance requirements the contractor must have in order to successfully perform the contract. (May not be applicable to all projects.)

(14) Single (Sole) Source Items. Written justification for a specified single source item(s) that are referenced in the specifications and/or drawings.

(15) Material Qualifications The contracting officer must be advised in writing of any submittal requirements the construction contractor is required by the specifications to submit with his bid.

12-4. State Construction Contracting

a. State contracting procedures vary from State to State. However several of the items required for Federal contracting also apply in most States. Contact your State contracting officer for specific requirements.

b. The items normally required for State contracting are:

(1) Project approval. What authorizes you to contract for this construction project (e.g. approved budget, State legislative approval, Congressional appropriation and authorization, Adjutant General approval, approved DD Forms 1390/91).

(2) Estimated project cost. This is a detailed government estimate of all project costs.

(3) Synopsis of the project. This is a statement about the characteristics of the project, the type of construction or repair, estimated square footage or other quantities of the project, mechanical systems and any other items that would necessary for a contractor to determine an interest in the project.

(4) Performance Period. The estimated number of days it should take the contractor to complete the work from Notice to Proceed to final completion.

(5) Liquidated Damages. The estimated amount of liquidated damages that would be assessed against a contractor if the contract is not completed within the performance period.

(6) Material Qualifications. Any material submittal requirements that must have approval for their use prior to bid opening.

(7) Fund Certification. Certification that funding is available to bid and award a contract.

(8) Plans and Specifications. The contracting office may require a copy of the plans and specifications.

(9) Bid and Contract Requirements. Any special bid or contract requirements your State may require, usually these items are found in the General Conditions or Supplemental General Conditions of the project. These could include any mandatory Federal provisions for Federally-supported funded State contracts.

c. All State construction contracts must include the applicable clauses from Article VIII of the Master Construction Cooperative Agreement. These clauses do not include any reference to the Davis-Bacon Act.

12-5. Contract Modifications

a. Distinctions.

(1) Contract modifications may be unilateral on the part of the contracting officer or mutual agreements between the contracting officer and the contractor.

(2) In the FAR, unilateral contract modifications are known as change orders, and all others are known as supplementary agreements. However, State contracting procedures and contractors themselves use different terms, and usually refer to all contract modifications as change orders.

b. Types of contract modifications.

(1) Mandatory changes are unavoidable and required to provide a complete and useable facility within the scope of the approved DD Forms 1390/1391 package.

(2) Discretionary changes are not absolutely required to provide a complete and useable facility that meets operational requirements. These are otherwise known as user directed changes, which occur when a facility proponent identifies facility requirements, which can occur because of insufficient consultation with facility users while scoping the project.

c. In addition to other documents specified in paragraphs 12-6e and 12-6f below, all requests for approval of contract modifications must include the following on the NGB Form 87-R:

(1) Description of work to be performed. Include the scope of the requirement that you propose in the modification. List sizes and unit costs at such a level of detail that it is possible for NGB-ARI to analyze your intent. Enclose sketches and an independent government cost estimate.

(2) Statement of justification. You must show why the modification is required and how it enhances the intended use of the project, increases the readiness of the supported units, and is reasonable and within the best interests of the Federal mission of the ARNG. In addition, you must show that it falls within the parameters of permitted contract modifications as stipulated in NGR 415-5, paragraphs 8-3c through 8-3f.

d. Contract modifications within USPFPO approval authority are processed as follows.

(1) The contracting officer shall forward all proposed contract modifications to the CFMO.

(2) The CFMO shall review the scope, cost, and justification. If in agreement, the CFMO shall forward it to the

USPFO with recommendations, a completed Checklist for Processing Contract Modifications (see Appendix M), and a completed NGB Form 87-R. If in disagreement, the CFMO shall discuss it with the contracting officer to make necessary modifications, to have the State or another non-Federal entity fund it, or to cancel it.

(3) The USPFO shall verify either by phone or other electronic means with NGB-ARI that there are sufficient funds.

(4) The USPFO shall review the justification, scope of work, and cost adjustment for regulatory, policy, and funding conformance.

(5) The USPFO shall either approve (and sign) or disapprove the NGB Form 87-R and return it to the CFMO.

(6) If the USPFO approves and signs the NGB Form 87-R, the CFMO shall forward the form to NGB-ARI for funding.

(7) After funding is in place, the contracting officer shall complete negotiations with the vendor. Committing to this agreement in advance of all of the preceding steps places the contracting officer at financial risk.

e. Contract modifications beyond USPFO approval authority are processed as follows.

(1) The contracting officer shall prepare the following documents.

(a) Written justification that adequately addresses the requirement for the addition or deletion of work by the proposed contract modification.

(b) Detailed written description of the proposed work including, if necessary, plans or sketches and appropriate specifications to clarify the location, amount, and extent of work required.

(c) A detailed cost estimate based on a breakout of each item of work, with the unit measure and cost of each item.

(2) The CFMO shall review the scope, cost, and justification to determine if the proposal meets the criteria of paragraphs 12-5c above for Federal support. If in agreement, the CFMO shall transmit by phone or other electronic means the contracting officer's proposal and request NGB-ARI authority for the contracting officer to enter into formal negotiations for the contract modification. If in disagreement, the CFMO shall discuss it with the contracting officer to make necessary modifications, to have the State or another non-Federal entity fund it, or to cancel it.

(3) NGB-ARI shall review and analyze the CFMO's submission via telephone or other electronic means and convey NGB's approval or disapproval for the contracting officer to start formal negotiations with the contractor. If NGB-ARI disapproves the request, it shall provide the CFMO the reasons for its disapproval and either alternative actions the State may take or required adjustments for the proposal to receive NGB approval.

(4) The contracting officer shall provide the contractor sufficient detail (at least as extensive as described in paragraph 12-5e(1) above) to prepare a detailed proposal. Upon successful completion of negotiations, the contracting officer shall work with the CFMO to prepare the documents listed in NGR 415-5, paragraph 8-3h(2) for forwarding to NGB-ARI for review, approval, and funding.

f. Should a requested contract modification result in a project that exceeds its Congressional appropriation, then the procedures outlined in paragraph 12-1d above apply. Should NGB-ARI reprogram funds to support this request, then the following applies:

(1) There must have been sufficient cost savings from other projects.

(2) Once a project has been formally reprogrammed, either to increase or decrease its amount, then no contract modification that would exceed this new amount may be approved unless Congress formally approves another reprogramming of funds for the project. That is, the 25%/\$2 million statutory (informal) reprogramming authority does not apply to formally reprogrammed projects, even if there amount had been reduced by an earlier formal reprogramming.

g. When the contract modification is formally signed, the CFMO shall forward the Standard Form 30 or equivalent State form to the USPFO.

12-6. Negotiations

The following are meant as suggestions in negotiations, particularly for contract modifications. They are not intended to be entirely prescriptive.

a. Be a good steward of Federal resources.

b. Ensure that you have properly evaluated the need for a contract modification.

c. Negotiate from a position of knowledge and strength.

d. The first price is not necessarily the best price.

e. Free enterprise and competition helped make this country great.

f. Always look for available credits from the contractor when requiring additional work.

- g. Do not go in blind. Know how many contract modifications it will take to achieve your goal.

12-7. Occupancy

a. Substantial Completion.

(1) Substantial completion is the stage in the progress of the project when the facilities or designated portions thereof are sufficiently complete in accordance with the contract documents so that the State can occupy and/or utilize the facilities for their intended use.

(2) When the contractor considers that the project, or a portion thereof which the State agrees to accept separately, is substantially complete, the contractor shall prepare and submit to the A-E (providing Type C services) a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such a list does not alter the responsibility of the contractor to complete all work in accordance with the contract documents.

(3) Upon receipt of the contractor's list, the A-E will make an inspection to determine whether the project or designated portion thereof is substantially complete. If the A-E's inspection discloses any item, whether or not included on the contractor's list, which is not sufficiently complete in accordance with the contract documents so that the State can occupy or utilize the facilities or designated portion thereof for their intended use, the contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the A-E. In such case, the contractor shall then submit a request for another inspection by the A-E to determine substantial completion.

(4) When the project or designated portion thereof is substantially complete, the A-E will prepare a Certificate of Substantial Completion which shall establish the date of substantial completion, shall establish responsibilities of the State and contractor for security, maintenance, heat, utilities, damage to the facilities and insurance, and shall fix the time within which the contractor shall finish all items on the list accompanying the certificate. Warranties required by the contract documents shall commence on the date of substantial completion of the project or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion. See paragraph 12-8d below for procedures on obtaining Federal support for the State's costs.

(5) The Certificate of Substantial Completion shall be submitted to the State and contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the State shall make payment of retainage applying to the project or designated portion thereof. Such payment shall be adjusted for work that is incomplete or not in accordance with the requirements of the contract documents.

b. Partial Occupancy.

(1) The State may occupy or use any completed or partially completed portion of the project at any stage when such portion is designated by separate agreement with the contractor, provided such occupancy or use is consented to be the insurer and authorized by public authorities having jurisdiction over the project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the State and the contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the facilities and insurance, and have agreed in writing concerning the period for correction of the work and commencement of warranties required by the contract documents. When the contractor considers a portion substantially complete, the contractor shall prepare and submit a list to the State as provided under paragraph 12-7a(2) above. Consent of the contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the work shall be determined by written agreement between the State and the contractor, or, if not agreement is reached, by decision of the A-E.

(2) Immediately prior to such partial occupancy or use, the State, contractor, and A-E shall jointly inspect the area to be occupied or portion of the work to be used in order to determine and record the condition of the work.

(3) Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the work shall not constitute acceptance of work not complying with the requirements of the contract documents.

12-8. Project Closeout, NGB Form 593-R

a. The NGB Form 593-R is due no later than four months after the construction end date. (A copy of the form is at Appendix N. However, it is strongly recommended that the State utilize the electronic version of the form available at the NGB publications web site, <http://www.ngbpdc.ngb.army.mil/>.) NGB-ARI will count all forms not received by that time as late and subject to appropriate penalties (including withdrawal of State authority to request reimbursement for real property operations and maintenance costs). The CFMO indicates the construction end date on the NGB Form 86-R and amends it, if necessary, on NGB Forms 87-R. In the case of a project extended beyond the

contracted construction end date, the CFMO shall request in writing that NGB-ARI extend the suspense, listing the reasons for granting this extension (e.g., completion of punch-list items).

b. Completion of this form signifies that the project is complete, that the contractor(s) has completed all punch-list items, and that the project requires no additional Federal funds to make it complete and useable. As long as the project itself is complete (to include punch-list items), the State shall not delay completing and submitting this form solely because of potential claims against either the State or the contractor.

c. The form provides a final accounting of all contracts and funds expended on the project, both Federal and State. Therefore, it is critical to list each separate contract, to include A-E contracts. Be sure to distinguish between Title I and Title II A-E funds.

d. The State, however, may be eligible for Federal support if it occupies the facility under a Certificate of Substantial Completion (or beneficial occupancy when it uses Federal contracting procedures) and submits and receives approval of an updated DD Form 1354 (enclosing the Certificate of Substantial Completion or memorandum of substantial completion) for facilities constructed under the project. Approval of this DD Form 1354 package makes the project eligible for Federal reimbursement for real property operations and maintenance costs and begins the 25-year clock in the MCCA or FSA (as appropriate).

12-9. Project Files

Project files shall be maintained for each construction project for at least three years after project completion, unless the State mandates a longer retention period. These project files shall represent a complete historical record of the project from inception to completion. Correspondence and other documentation pertinent to the project shall be incorporated into project files at all appropriate levels. The CFMO is responsible for holding the historical project files. These files may include memorandums for record pertaining to decisions resulting from discussions, meetings, and telephone conversations.

12-10. Success

You may judge that your design, design review, and construction contract management process has been a success if you satisfactorily address all of the following key topics. (Note: The source of this paragraph is Federal Facilities Council Technical Report #139.)

a. Owner satisfaction: Does the constructed facility meet the owner's expectations as originally defined by the project scope definition or statement of work (i.e., performance characteristics, architectural statement, level of quality, cost, schedule, and any relevant owner-published standards and/or policies)?

b. Sound professional practice: Is the approach taken in each of the specialty areas (architectural, civil, mechanical, and electrical) commensurate with professional standards?

c. Code compliance: Does the design comply with all applicable codes, such as fire protection, life safety, and access?

d. Architectural statement: Is the overall presentation representative of established architectural standards?

e. Value engineering: Are there any less expensive methods or materials that could be used in the design without impacting project quality or performance (or life-cycle costs)?

f. Biddability: Are the construction documents sufficiently clear and comprehensive so construction contractors will have no difficulty developing an accurate bid with minimal allowance for contingency?

g. Constructability: Does the design impose any unnecessarily difficult or impossible demands on the construction contractor?

h. Operability: Does design of the facility operating systems ensure ease and efficiency of operation during the facility's useful lifetime?

i. Maintainability: Does the facility design allow for easy and cost-effective maintenance and repair over the useful life of the facility?

j. Life-cycle engineering: Does the design represent the most effective balance of cost to construct, cost to start up, cost to operate and maintain, and (perhaps most important) the user's cost to perform the intended function for which the facility is being acquired over the useful life of the facility?

k. Postoccupancy evaluation: Based on a review of the construction, start-up, and ongoing functioning of the facility, could any unexpected difficulty have been avoided by a different design approach?

Chapter 13 Design-Build Projects

13-1. General

a. The standard way to execute military construction projects is via the design-bid-build process, where you contract with an A-E to produce your plans and specifications for the project, a construction contractor to build the project to these plans and specifications, and an A-E to supervise the construction contractor and ensure that the construction contractor does indeed complete the project to these plans and specifications.

b. In design-build, you write a request for proposal to solicit a single firm to both design and construct the project. This firm may have all the expertise in-house or may have to sub-contract the design or the construction portion or both.

c. Because design-build is such a paradigm shift, it may bear comparing the two methods of project execution:

(1) In design-build, the contractor is responsible for design, not the government.

(2) In design-build, you look for the best value contractor, as opposed to the contractor who bids the lowest amount. (That is, since you have established a budget for the project through the DD Form 1390/1391 and Request for Proposal process, you just want to hire a qualified contractor who can build the best possible facility that meets your requirements but stays within the allowed budget.)

(3) In design-build the contractor builds to your performance requirements, not A-E plans and specifications.

(4) In design-build, the contractor builds to the contract price. In design-bid-build, the A-E's estimate is only a best guess.

d. Extensive references are available through the Web Sites of the Army Corps of Engineers (www.usace.army.mil/publications) and Huntsville Center of the Army Corps of Engineers (www.hnd.usace.army.mil/techinfo), as well as through private firms and organizations such as the Design-Build Institute of America, the American Consulting Engineers Council, and private engineering firms. The Huntsville Center and various private groups also offer courses on design-build.

13-2. Deciding on Design-Build

Design-build is not for every project. You must carefully weigh the advantages and disadvantages of this execution tool. Remember that if a project is proceeding normally (i.e., that you are beginning design two years out from Congressional authorization and appropriation), design-build is not an option. You cannot let a contract for a project for which you have no authorization and appropriation, unless the State wants to assume the financial risk of Congress never authorizing and appropriating funds for the project. Thus, design-build is essentially for projects that have little or no design work done on them when Congress authorizes and appropriates the project.

a. Advantages of Design-Build

(1) More rapid award of project (i.e., receive credit for project execution even before project is designed).

(2) Single point of responsibility (i.e., contractor assumes liability for both design and construction).

(3) Collaboration of design and construction personnel, which can result in efficiency and innovation.

(4) Emphasis on performance, not process, which can result in the use of new materials and technologies.

(5) Significantly less increase in cost and time growth.

(6) Use of best value contracts, which may reduce long-term operating costs because of focus on sustainability and energy efficiency.

b. Disadvantages of Design-Build

(1) Requests for Proposal are hard to do right, and errors may lead to completed project that does not meet your needs.

(2) Higher costs to industry to compete.

(3) Award process more difficult and costly.

(4) More intensive management requirements by CFMO after award.

(5) Difficult to learn new way of doing business, which may lead to decisions that increase costs and/or decrease value after award.

(6) If not careful, may not get quality you want because of cost limitations in contract.

(7) Time to actual building occupancy may be greater than with design-bid-build.

c. Your project is a candidate for design-build if you can satisfy most, if not all of these conditions:

(1) You need a quick obligation of construction funds.

(2) You can accept contractor innovations.

(3) The project lends itself to the statement of clearly defined performance-based requirements, not prescriptive specifications. In other words, you must be able to fully define the project, both functionally and technically, with performance specifications.

(4) The project does not have a significant amount of unique characteristics that your contractor community would not be familiar with through constructing for the civilian world.

(5) You and your staff are energized, committed, and willing to spend the time and effort to build the Request for Proposal, evaluate contractor offerings, and manage the final contract.

(6) The project offers appropriate, measurable proposal evaluation factors and criteria.

(7) You can produce a complete proposal without contradictions and excessive submission requirements, and you accept a complete offer without contradictions and fully understand the content of your final contract.

(8) There is a sufficient number of qualified and interested design-build contractors

d. In other words, design-build requires a new level of commitment.

13-3. Steps in Design-Build

a. Acquisition planning.

(1) You used your RPDP to identify your needs. Then, you assessed possible solutions, and identified a specific project.

(2) You now have an approved set of DD Forms 1390/1391 and a Congressional authorization and appropriation for the project.

(3) Finally, you have to consider the advantages and disadvantages of design-bid-build versus design-build for the project.

b. Preliminary engineering activities.

(1) Remember that before NGB-ARI will give approval for you to issue your request for proposal you must submit a site survey report and Certificate of Title, have fully executed your MCCA, and have received approval for both an EBS and all items required by the National Environmental Policy Act (42 U.S.C. §§4321-4370a), National Historic Preservation Act (16 U.S.C. §470 et. seq.), and other environmental regulations. You also have to consider any required permits and acquisition of rights-of-way.

(2) Also consider that an approved request for proposal is the equivalent of a conceptual design.

(3) To assist you, you may request funds to hire an A-E for Type A services associated with the project.

(4) You must revise your DD Forms 1390/1391 package to account for your use of the design-build methodology (DD Form 1391, block 12a(1)(f)). In the process, you will need to add a line to the costs estimates and the detailed cost estimates of the DD Form 1391 to account for design work that the winning contractor will do. (You will also have to add a line for contract administration if you use the Army Corps of Engineers or Navy Facilities Engineering Command.) With appropriate justification, NGB-ARI will approve up to 4% (12% if contract administration is required) of the project cost (before the application of contingency and SIOH). (If you may later decide to use design-build for projects that might get authorized and appropriated without appearing in the President's Budget, then you should make this revision to the DD Forms 1390/1391 before you seek this action. Otherwise, your project will probably be short funds.)

(5) Finally, you must put together your project team, your core people who will write the request, review and evaluate all the contractor proposals, and oversee the winning contractor.

(6) This is also when you should conduct your final interviews with the facility users and with other staff members inside and outside the Military Department who will impact on the functional and technical requirements of the project.

(7) During this phase you might also publicly announce your intent to use design-build so that potential contractors can assess their opportunities and investigate teaming options.

(8) You must decide whether to rely on your design-build contractor for SIOH or whether you will contract it out. Your decision on this, as with your decision on whether to hire an A-E for Type A services will affect how you complete your MCCA.

(9) You must also decide whether the project will include commissioning. The procedures and process will be as stated in Chapter 14 below for both design-build and design-bid-build projects. NGB-ARI will grant authority for a commissioning contract separate from the design-build contract only if the project would otherwise have qualified for a separate commissioning agent had the project been executed design-bid-build.

c. Request for Proposal Development and Issue

(1) This document is so critical that you should allow considerable time for its development and its critique. You need to involve your engineering staff, the facility users, and critical staff members inside and outside the Military Department who will impact on the functional and technical requirements of the project.

(2) If requirements are not clearly defined and required in the Request for Proposals or in the contractor's proposal, then the contractor is not obligated to provide any of these preferences. Then, if you want them, you will have to pay extra.

(3) Take time to educate the staff who will be working on the project so that they know their responsibilities and the implications of their actions.

(4) Ensure that the Request for Proposals is performance-oriented and not too prescriptive. If the latter, then you begin to defeat the purpose of design-build. Army Corps of Engineer sample guidance borders on the overly prescriptive.

(5) You should identify the funds available in your Request for Proposals, so the contractors can fully define their scopes of work. This statement should be included in the section of the document that defines the basis of award and should state words to the following effect, depending on the situation.

(a) "Award will be made to the offeror with the best technically conforming proposal within the funds available; quality is more important than price, and flexibility is allowed in the design and construction solution."

(b) "Price and quality factors are of equal importance; award to anyone other than the lowest technically acceptable offer must provide sufficient advantage to justify the additional cost."

(6) Remember that you cannot issue the Request for Proposals until NGB-ARI has approved it.

d. Evaluation of Proposals and Contract Negotiations

(1) Depending on the complexity of the project, this can be a one or two step process. If the latter, then you use the first step to weed out the less qualified or those with lesser quality proposals. The second step would involve the submission of more detailed and technically developed proposals.

(2) You should ensure that you carefully compare the offers to the proposals to ensure that the provisions of the offer conform. You need to be able to distinguish contractor-proposed betterments and to determine if the offers will meet the performance specifications in the Request for Proposal.

(3) Remember that you should evaluate for best-value, not just lowest price.

(4) Quality ranking factors should predominate in your decision: qualifications, past experience, past performance, technical approach, management capability, and completion schedule.

(5) Your best people and the right people should evaluate the offers.

e. Implementation and Contract Administration

(1) Partner with the winning contractor from the start, and ensure the contractor establishes a partnership between the design and construction staff.

(2) Establish a basic line of communication that runs from the contractor to the government contract administrator. Ensure that both parties know that this is the only official channel of communication. Partnership is excellent, conversations between the contractor and the facility users will become necessary, but you need to prevent the facility users from implying that they are directing that features be added or standards increased beyond that in the approved Request for Proposal and accepted contractor offer.

(3) Although NGB-ARI review is only required for plans as they are at time of construction, you should insist on at least a review at 50%, and you probably should consider requiring design charettes at other intervals, especially for complex projects.

(4) Remember that at no time does NGB-ARI or you "approve" plans, specifications, shop drawings, or as-builts. Rather, you review them for conformance to the approved Request for Proposal and accepted contractor offer. The only "approval" is for a request to deviate from these documents. If you act otherwise, you release the contractor for liability for the design and you potentially increase the financial liability of the State to the contractor.

(5) Failure to adhere to review schedules agreed upon in the contractor's proposal also potentially increases the State's liability, as do comments that reflect more than a failure of the contractor to adhere to the standards in the approved Request for Proposal and accepted contractor offer.

(6) The only Federally funded contract modifications that should occur should be for errors and omissions critical to the functionality of the facility in the Request for Proposal, user enhancements in the best interest of the Federal mission of the ARNG, differing site conditions, and value engineering proposals from the contractor that are in the best interest long term (e.g., in reduced operations and maintenance costs) of the ARNG.

(7) Even during the contract administration phase the deliverables to review can be lengthy and difficult. There is no substitute for a committed, dedicated, energized, qualified staff. If you do not have one, then you risk paying for a contract modification you do not need or buying a solution far in excess or below your requirements.

(8) Depending on your circumstances you rely on the design-build contractor for SIOH, you may do it in-house, or you may request, with sufficient justification, to hire an A-E. If you use the first alternative, you may apply the money in the SIOH line of the approved DD Forms 1390/1391 to the project budget. If you use the third alternative, the A-E may act only to review for conformance within the approved Request for Proposal and accepted contractor offer; and in no way may the A-E give approvals or direction to the contractor.

f. Operations. This begins when you take beneficial occupancy of the facility. You may or may not have a further relationship with the contractor, depending on whether you contracted for commissioning and/or maintenance and operation with the firm.

13-4. Requests for Proposal

a. This is the critical document. If you do not get it right, you may not receive the project you had intended or you may pay for than you had intended. There are two things you have to get right in it:

(1) Your technical and functional requirements stated in performance-based language.

(2) Contracting language, so that the final vehicle provides you the mechanism to achieve the real requirements of the project.

b. You can pull down the Army Corps of Engineers "Design Build Instructions for Military Construction" and their "Technical Requirements for Design-Build." They offer a lot of good advice, but you are not staffed to follow it, much of it is tied to requirements of the FAR, and it provides a solution that may be far too prescriptive for you to obtain the true benefits of design-build (which are far more than just a check-mark that you executed your project in the first year of the appropriation). Instead, include the contracting language that you need to protect you and ensure that you include the following:

(1) Site report

(2) The appropriate sections from the NGB Design Guide and NG Pam 415-12. Ensure that there is contracting language that these override any other performance specifications in the Request for Proposal or in the contractor's approved offer.

(3) A line sketch showing a perspective of the project.

(4) Your desired relationship among the various functional areas.

(5) Your specifications for the individual floor plans.

c. Contents

(1) Concept Narrative. This provides a narrative description of the project and the selection/evaluation process you will use. You need to clearly state your evaluation factors, provide a project time line, explain that the document contains minimum requirements but that offers with higher quality features will be judged accordingly, describe which items the contractor must adhere to and which ones the contractor may exercise flexibility on, provide points of contact, list submittal requirements (which must not be too extensive), and request qualifications for key personnel on the contractor's staff.

(2) Basis of Design Narrative. This includes the basic functional, technical, and other project requirements.

(3) Project Specifications

(4) Evaluation Factors. These must be well defined and limited to those items determined necessary to achieve the quality and performance of the project. You should include their relative weight and any major sub-factors (and their relative weight).

(5) Project Cost Limits

(6) Submittal Requirements

(7) Basis for Award

d. Special contract language. This is not intended to be all inclusive but to highlight areas that may be critical to project success.

(1) Clearly define the non-traditional roles of the State and the design-build contractor. Include your responsibility not to slow down the contractor. Include the contractor's responsibility for technical adequacy of the design furnished, including constructability, extensions of the design, and (if appropriate) operability and maintainability of the finished project. The contractor is now responsible for management and control of quality, cost and integrated schedule of design, permit preparation, material and equipment acquisition, construction, training for operation and maintenance, inspection, turnover, and warranty.

(2) Identify cost limits, including whether they are fixed or a target. Specify that contractors need not approach that limit, and do not exclude consideration of contractors whose proposal exceeds that amount. Otherwise, you may be forced to amend your solicitation to reduce the scope or increase the cost limits.

(3) Specify the order of precedence of documents as follows: contractor betterments (those items in the contractor's proposal that exceed the Request for Proposals), the Request for Proposals, all other provisions of the contractor's accepted offer, and any design submittals. This way, for example, you do not have to pay for construction of items in the design that exceed your stipulated requirements or contractor betterments.

(4) Specify that the contractor may not substitute key personnel listed in the offer without renegotiating the amount of the contract. That way you do not pay for people who do not work on the project but were the basis of the accepted cost proposal from the contractor.

Chapter 14 Commissioning

(Note: This chapter is strongly based on Portland Energy Conservation Inc.'s publication, "Commissioning for Better Buildings in Oregon." It also relies on Chris Pierson's article, "Understanding the Commissioning Process," from the June 2001 issue of **Energy User News**.)

14-1. General

a. Commissioning is a systematic process of ensuring through documented verification that all building systems perform interactively according to the documented design intent and the owner's operational needs.

b. Commissioning begins during the design phase, ends no earlier than one year after project close-out, and includes the training of operational staff.

c. Commissioning is much broader than testing, adjusting, and balancing, which only look at air and water flow. Commissioning involves functional testing to ensure that all building systems, including mechanical and electrical, work together and meet operational goals. It determines whether systems need adjustment to increase efficiency and effectiveness.

d. Commissioning all building systems is rarely practical or necessary. The CFMO must determine what is most cost effective for the particular project.

e. Commissioning is an integral part of the Sustainable Design and Development (SDD) Program.

14-2. Benefits

a. Fewer system deficiencies at building turnover. The primary goal of commissioning is to identify system deficiencies as early in the project as possible and to track their status until they are corrected. Otherwise, the CFMO may overlook incomplete or deficient systems or lack the time or resources to deal with what seem like minor problems at project closeout. In addition, after project closeout, the CFMO may lack staff trained to correct or even identify the problems.

b. Improved indoor air quality, comfort, and productivity. Commissioning helps avoid the expenses and productivity losses associated with poor indoor air quality and employee discomfort and illness. It identifies current and potential air quality/comfort problems and solutions. In addition, by focusing on operator training, commissioning helps instill improved maintenance attitudes toward HVAC systems. Properly maintained, these systems are less likely to contribute to problems.

c. Reduced liability for indoor air quality. The CFMO should ensure that commissioning includes testing outside-air flow rates, a primary factor affecting indoor air quality. The CFMO should also document repairs made to correct any deficiencies. If the CFMO repeats the commissioning throughout the life of the building and regularly updates the building's performance, the State should have a reduced exposure to civil judgments.

d. Reduced operations and maintenance and equipment replacement costs. Commissioning establishes sound operations and maintenance practices, which can save money. In addition, it verifies that equipment is installed and operating properly, which can result in equipment that lasts longer, uses less energy, works more reliably, and needs fewer service calls and repairs.

e. Reduced costs. Properly installed equipment uses less energy, and properly trained operators are less likely to make blind system changes and adjustments that reduce equipment efficiency.

f. Better informed CFMO. Commissioning should produce a CFMO with a better understanding of the building's systems and their integration, which results in fewer poor decisions if the building systems are ever modified.

14-3. Level of Commissioning

- a. Factors determining the level.
 - (1) Complexity of the building systems
 - (2) Building type and size
 - (3) Building usage
 - (4) Type of project (new construction, renovation, or tune-up)
 - (5) Available funding
 - (6) Demographics of facility users
- b. The more complex the project, the higher is the risk of systems not performing as intended, and therefore the greater need for commissioning. Systems considered complex have sophisticated controls and control strategies, complicated sequences of operation, and a high degree of interaction with other building systems and equipment.
- c. Projects including the following should be commissioned:
 - (1) Controls
 - (2) Energy management control systems
 - (3) Pneumatic equipment
 - (4) Integrated systems
 - (5) HVAC-related plant equipment and air distribution systems
 - (6) Lighting sweep or daylighting controls
 - (7) Variable speed drives
 - (8) Ventilation air control
 - (9) Building pressurization control
 - (10) Grocery refrigeration floating head pressure
 - (11) Grocery case anti-condensate heater controls
- d. There are two general levels of commissioning.
 - (1) Level 1 commissioning is less formal, requires fewer players, and involves considerable use of boilerplate.
 - (2) Level 2 commissioning is a much more rigorous process, involving more time, money, and people.
- e. Level 1 commissioning consists of the following steps:
 - (1) For new construction or additions/alterations, during the design phase the commissioning agent reviews design documents and ensures that commissioning is incorporated into the project specifications. For tuneups, the commissioning agent interviews building operations staff about maintenance practices, building usage, and their concerns.
 - (2) The agent conducts a site inspection, including verification of proper installation of specified equipment.
 - (3) The agent performs calibration checks for most sensors and thermostats and checks for proper setpoints.
 - (4) The agent conducts simple functional performance tests, often using boilerplate specifications.
 - (5) The agent verifies occupancy schedules to ensure proper settings.
 - (6) The agent verifies that those who are going to operate and/or maintain the equipment have had proper training.
 - (7) The agent prepares a final report detailing the commissioning findings.
- f. Level 2 commissioning is appropriate if the CFMO answers “no” to any of the first four questions below or to many of the remainder.
 - (1) Is the equipment relatively simple in operation and design?
 - (2) Does the equipment operate relatively independent of other equipment and systems?
 - (3) Is the investment in the equipment relatively small?
 - (4) Is the equipment expected to yield only small energy savings?
 - (5) Is the equipment free from adverse operating influences, such as a dirty environment, that affect proper operation?
 - (6) Does the equipment have a history of reliable performance?
 - (7) Is it difficult for facility users to circumvent or override equipment settings or operation?
 - (8) Is startup documentation available?
 - (9) Are detailed, written specifications available onsite?
 - (10) Are operation and maintenance manuals available onsite?
 - (11) Is the manufacturer closely involved with the project?
- g. Level 2 commissioning consists of the following steps.

(1) For new construction or additions/alterations, during the design phase the commissioning agent reviews design documents and ensures that commissioning is incorporated into the project specifications. For tuneups, the commissioning agent interviews building operations staff about maintenance practices, building usage, and their concerns.

(2) The agent reviews design documentation to ensure that it clearly and properly describes design intent and includes such details as equipment specifications, sequence of operation, equipment submittals, setpoint schedules, occupancy schedules, and manufacturers' performance data.

(3) The agent develops and executes prefunctional performance tests and checklists for each piece of equipment or system and documents the completed startup tests.

(4) The agent completes rigorous functional performance tests to test and verify such performance indicators as capacity, efficiency, sequence of operation, proper flows, and the interaction of different equipment and systems.

(5) The agent verifies that operations and maintenance manuals are complete, available, and accessible on site.

(6) The agent verifies that operating staff have been trained to properly operate and maintain the equipment and systems and that they have been instructed on the equipment and the integration of the systems.

(7) The agent develops or verifies the existence of a preventive maintenance plan or a service contract that goes beyond merely responding to trouble calls.

(8) The agent prepares a final report detailing the commissioning findings.

14-4. CFMO Steps in Commissioning

- a. Select a Commissioning Agent.
- b. Hire an A-E firm amenable to commissioning. Ensure that prospective A-E firms include commissioning in their bids.
- c. Include commissioning in the design phase of the project.
- d. Include clear commissioning specifications in the bid documents.
- e. Take an active part in the commissioning process. Monitor the commissioning work, read the commissioning reports, and act on recommendations for fixing deficiencies.

14-5. Types of Commissioning Agents

a. Independent third party. This offers the most objectivity, but it also costs the most. However, for large and/or complex projects, especially those with highly integrated, sophisticated systems, future savings outweigh higher initial costs.

b. The A-E. For projects between 20,000 and 100,000 square feet, this may be the best option, provided that the project specifications detail the commissioning requirements. The advantage is that the A-E knows the design intent; the disadvantage is that many A-E firms lack experience in day-to-day construction processes and system troubleshooting. Because commissioning is not standard to A-E contracts, the CFMO must lay the requirements out so that firms may bid accordingly.

c. The general contractor. These firms have the scheduling and construction background necessary to supervise a commissioning agent as a quality control manager. They also have an incentive to cooperate in scheduling and completing the commissioning work, especially because commissioning tends to reduce callbacks to the contractor. On the other hand, there is an obvious conflict of interest. Because of this, the CFMO should specify that the general contractor hire an independent contractor as commissioning agent, who would have no affiliation to any firm on the design or construction team and who would report directly to the project's COR.

d. The mechanical contractor. The advantage lies in the contractor's knowledge and capability to test the systems and equipment; the disadvantage, in a lack of objectivity in assessing their own work, since repairing the deficiencies will increase their costs. However, it is appropriate to use such a firm if the project is less than 20,000 square feet, if one mechanical contractor performs all the mechanical work on the project, if the CFMO has a good working relationship with the contractor, and if project specifications clearly detail the commissioning work.

14-6. Qualifications of Commissioning Agents

- a. Experience in design, specification, or installation of commercial building mechanical control systems.
- b. Experience with at least four projects involving successful troubleshooting and/or performance verification of buildings of at least similar size as the current project, to include writing commissioning specifications for bid documents.

- c. History of responsiveness.
- d. Experience working with project teams and conducting scoping meetings; good communication skills.
- e. Experience with at least two projects involving commissioning of HVAC, mechanical controls, and lighting control systems in buildings of similar size to the current project, to include writing functional performance test plans.
- f. Direct responsibility for project management of at least two commercial construction projects with mechanical costs greater than or equal to current project costs.
- g. Experience in design installation and/or troubleshooting of direct digital controls and energy management systems, if applicable.
- h. Demonstrated familiarity with testing instrumentation.
- i. Knowledge and familiarity with air/water testing and balancing.
- j. Experience in planning and delivering operations and maintenance training.

14-7. Responsibilities of the Parties

- a. CFMO
 - (1) Clearly communicate expectations about the project's outcome to assist the A-E to develop the design intent and the commissioning agent to evaluate whether the design intent is met.
 - (2) Hires the commissioning agent and other members of the project team.
 - (3) Determines the project's budget, schedule, and operating requirements.
 - (4) Works with commissioning agent to determine commissioning goals.
 - (5) Facilitates communication between the commissioning agent and other project team members.
 - (6) Approves startup and functional test completion.
 - (7) Attends building training sessions as appropriate.
- b. The A-E
 - (1) Documents design intent for all systems and controls.
 - (2) Ensures commissioning is included in bid specifications.
 - (3) Monitors construction activities and approves project documentation, to include shop drawings, as-built drawings, and operations and maintenance manuals.
 - (4) Assists commissioning agent in reviewing commissioning plants and functional performance tests for very complex projects.
 - (5) Assists commissioning agent in visiting site to ensure that work is performed according to plans.
- c. Commissioning Agent
 - (1) Ensures the completion of adequate design intent documentation.
 - (2) Provides input on design features that facilitate commissioning and future operations and maintenance.
 - (3) Assists in developing commissioning specifications for the bid documents.
 - (4) Develops the commissioning plan.
 - (5) Writes prefunctional and functional performance tests.
 - (6) Ensures that team members understand their specified commissioning responsibilities and that they fulfill them on schedule.
 - (7) Submits regular reports to the CFMO.
 - (8) Directs all functional performance testing and approves contractor startup tests, air and water testing and balancing, and duct pressure testing.
 - (9) Writes final commissioning report documenting the final evaluation of the systems' capabilities to meet design intent and CFMO and facility user needs.
 - (10) Reviews and comments on technical considerations from design through construction, to facilitate sound operations and maintenance of the building.
 - (11) Reviews contractor and manufacturer training plans prior to delivery.
 - (12) Reviews operations and maintenance manuals and design intent documentation for completeness.
- d. General contractor
 - (1) Assists with the development and implementation of functional performance testing for all systems.
 - (2) Gathers information for review by the project team, to include shop drawings, operations and maintenance manuals, and as-built drawings.
 - (3) Facilitates the commissioning schedule by coordinating activities with the COR and subcontractors.
- e. Contractors and Subcontractors
 - (1) Perform commissioning functions described in their bid specifications.

(2) If specified, assist with developing the commissioning schedule, conducting commissioning tests under the supervision of the commissioning agent for systems they install, adjusting systems as needed, and documenting system startup.

(3) Train facility operators and maintainers in installed systems and provide operations and maintenance manuals for installed systems.

f. Manufacturers' Representatives

(1) Provide commissioning agent with manufacturer specifications for installed equipment.

(2) Assist contractors with operations and maintenance training and with functional performance testing, especially when warranties may be affected by test results or procedures.

g. CFMO Staff

(1) Assist with (or at least be present for) as much of the functional testing as possible to improve operator understanding of equipment and control strategies.

(2) Attend training sessions provided by manufacturers' representatives and contractors.

h. Testing Specialists

(1) Required only when the complexity of the project requires special testing.

(2) Submit test results and recommendations to commissioning agent for review.

(3) Review documentation for systems they test and train operators on proper equipment and system use.

14-8. Phases

a. Pre-design

(1) CFMO selects commissioning agent.

(2) Commissioning agent provides advice during the conceptual development of the project.

(3) Early involvement of the commissioning agent enhances buy-in.

b. Design

(1) Translate efficiency and operational concepts for building systems into the final design.

(2) Compile and review design intent documents, incorporate commissioning into bid specifications, and review bid documents.

(3) In bid specifications, define design intent for each system and include commissioning requirements for the mechanical, electrical, and controls contractors, such as special equipment or instrumentation to be installed for performance testing and the preparation of operations and maintenance manuals.

(4) Include the following, at minimum, in design intent documentation:

(a) Objectives and purpose of each building system.

(b) How the objectives will be met.

(c) Indoor/outdoor design conditions.

(d) Occupancy, usage, and schedule assumptions.

(e) Internal loads assumptions.

(f) System zoning descriptions.

(g) Ventilation requirements.

(h) Building envelope requirements.

(i) Equipment sizing calculations and criteria.

(j) All sequences of system operations.

(k) Energy efficiency control strategies.

(l) Design intent for all efficiency measures.

(m) Reference to pertinent local or State compliance documents.

(5) Hold the commissioning scoping meeting among the project team for the commissioning agent to outline roles and responsibilities and team members advice on plan and schedule.

(6) Commissioning agent completes the final commissioning plan, to include:

(a) Scope or level of commissioning.

(b) Commissioning schedule.

(c) Team member responsibilities.

(d) Communication, reporting, and management protocols.

(e) Documentation requirements of each team member.

(f) Detailed scope of testing.

(g) Detailed scope of monitoring.

(h) Recommended training format.

(7) Commissioning agent attends design team meetings to review the design, note potential system performance problems, and recommend changes to improve energy efficiency, systems operations and maintenance, equipment reliability, and equipment accessibility for maintenance.

(8) Commissioning agent develops facilities' operations and maintenance program, to include determining staff ability and availability to operate and maintain the facilities' systems.

c. Construction

(1) Commissioning agent reviews contractor submittals and operations and maintenance manuals.

(2) As appropriate the agent writes test plans for each system and piece of equipment to be commissioned.

(3) As appropriate the agent visits the construction site to note any conditions that might affect system performance or operation.

(4) The agent approves and oversees startup of prefunctional testing and ensures that any deficiencies are corrected before functional testing begins.

(5) The agent involves CFMO staff and other operators in the testing to improve understanding of the various systems and the ability to troubleshoot them.

(6) The agent documents testing progress, correction of problems, and any deficiencies that may affect future building performance and delivers these reports to the CFMO, COR, and designated A-E and contractor personnel.

d. Acceptance

(1) After modifying the functional performance tests to reflect any changes during system installation, the commissioning agent uses them to document and verify the proper operation of equipment and systems according to contract documents.

(2) Although the agent directs the test, actual equipment operation is usually performed by subcontractors, particularly the controls contractor.

(3) The agent ensures that any required corrective measures meet the CFMO's criteria and design intent.

(4) Acceptable performance is deemed to have occurred when equipment and systems meet specified design parameters under full-load and part-load conditions during all modes of operation, as outlined in the test plan.

(5) After completing all functional performance testing, the agent writes a final commissioning report, which includes all project documentation and submits it to the CFMO for review.

(6) Acceptance is complete when the project has moved from the static construction state to the dynamic operating state free of deficiencies. The users may have taken beneficial occupancy before this phase is complete.

(7) Acceptance also includes the training of all appropriate staff. The commissioning agent is responsible to determine staff training needs and then to design and supervise it. The agent is also responsible to verify that the operations and maintenance manuals are complete and up-to-date (to reflect any system changes during construction and acceptance) and on-site during the training sessions and thereafter. The CFMO needs to ensure that all staff, particularly those responsible for complex systems (such as energy management systems) attend the training.

e. Post Acceptance/Occupancy

(1) Commissioning is an on-going process and does not end with project close-out. The CFMO is responsible to ensure that the equipment and systems continue to function properly and to document changes in equipment and building usage. Retaining the commissioning agent to recommend methods for accomplishing these responsibilities may be necessary.

(2) When performing post acceptance testing, the CFMO must be careful not to void any equipment warranties. To prevent this, the bid documents must specify that the contractors provide the commissioning agent a full set of warranty conditions for each piece of equipment.

(3) The commissioning agent supervises any necessary seasonal testing of equipment and systems.

(4) During the building's life, the CFMO must periodically recommission it. Depending on building usage, equipment complexity, and operating experience, this should take place every two to three years. Part of the commissioning contract should include recommended intervals to recommission each system. With sufficient training during acceptance and post acceptance, the CFMO may be able to conduct the recommissioning.

14-9. Post-Commissioning

Commissioning never ends. To ensure that the benefits continue, the CFMO must implement sound operations and maintenance practices, such as:

a. A regular, rigorous, documented preventive maintenance program for all building equipment and systems.

b. Monthly review of utility bills for unexpected changes in building energy use.

- c. Use of energy accounting software to track building energy use.
- d. A system to track all maintenance, scheduled or unscheduled, for each piece of equipment. A periodic review often will indicate a need for equipment tune-up.
- e. Updated building documentation to reflect current building usage and equipment change-outs.
- f. An indoor air quality program for the building.
- g. An annual assessment of staff training needs.

14-10. Funding of Commissioning

a. Post commissioning and post building acceptance activities are properly funded from the CFMO's Real Property Operations and Maintenance account. All other commissioning activities are either Type A or Type C A-E services, depending on whether they take place before or after a construction contract is awarded.

b. The CFMO shall establish a vigorous post-commissioning program and fund it within the Annual Funding Guidance from NGB.

c. The CFMO shall program the appropriate Type A and Type C services funds through the MCCA and (for Type C) the DD Forms 1390/1391 for the project. If the funds requested exceed the established limits (3% for each type service), then the CFMO shall fully justify the additional funds. In particular, the CFMO must justify requests for level 2 commissioning and the use of an independent commissioning agent. NGB-ARI shall follow the criteria in paragraphs 14-3 and 14-5 above in judging State requests.

Appendix A**References**

Most of these references are available electronically as listed below:

1. United States Code:
www4.law.cornell.edu/uscode/ or
www.access.gpo.gov/congress/cong013.html or
<http://uscode.house.gov/usc.htm>
2. General Accounting Office Reports: www.access.gpo.gov/su_docs/aces/aces160.shtml.
3. Code of Federal Regulations: www.access.gpo.gov/nara/cfr/cfr-retrieve.html#page1.
4. Executive Orders: www.nara.gov/fedreg/eo.html. However, this reference, except for recent executive orders, only provides a summary and citations to the Federal Register. The address of the Federal Register is www.access.gpo.gov/nara/index.html.
5. Office of Management and Budget Circulars: www.whitehouse.gov/omb/circulars/.
6. Acquisition Regulations:
www.arnet.gov/far/ or
www.acq.osd.mil/dp/dars/dfars.html or
<http://acqnet.sarda.army.mil/library/zpafar.htm>
7. Department of Defense Publications: www.dtic.mil/whs/directives/.
8. Department of Defense Financial Management Regulation: www.dtic.mil/comptroller/fmr/.
9. DFAS Publications:
www.asafm.army.mil/secretariat/document/dfas37-100/dfas37-100.asp and
<https://dfas4dod.dfas.mil/centers/dfasin/library/ar37-1/>.
10. Army Regulations and Pamphlets: www.army.mil/usapa.
11. Technical Manuals: www.usace.army.mil/inet/usace-docs/armytm/.
12. U.S. Army Technical Center for Explosive Safety; Site and General Construction Plan Developers Guide, www.dac.army.mil.
13. National Guard Regulations and Pamphlets: www.ngbpcd.ngb.army.mil/.

Section I**Required Publications****AR 11-18**

The Cost and Economic Analysis Program. (Cited in paras 6-3g and C-3e(14)(a).)

AR 200-1

Environmental Protection and Enhancement. (Cited in paras 5-2a and 5-6a.)

AR 200-2

Environmental Effects of Army Actions. (Cited in paras 1-4c, 2-4b(11), 4-2a(11), 5-2a, 5-2c(4)(a), and C-3e(16).)

AR 200-3

Natural Resources. (Cited in paras 5-2a and 5-5j.)

AR 200-4

Cultural Resources Management. (Cited in paras 5-2a and 5-5n(3).)

AR 200-5

Pest Management. (Cited in para 5-2a.)

AR 385-63

Policies and Procedures for Firing Ammunition for Training, Target Practice, and Combat. (Cited in para 6-5h(2).)

AR 420-18

Facility Engineering Materials, Equipment, and Relocatable Building Management. (Cited in para 2-1a(6).)

Army National Guard Design Guides

(Cited in paras 1-4h, 3-3i(3), 4-7b, 6-4k, and C-2q(1).)

Army Supplement to the Federal Acquisition Regulation

(Cited in para E-1b.)

ASHRAE Standard 90.1-1999

Energy Standard for Buildings Except Low-Rise Residential Buildings. (Cited in para 11-1f(1).)

36 CFR Part 800

Protection of Historic Properties. (Cited in para 5-5n(3).)

43 CFR Part 13

Vending Facilities Operated by Blind Persons. (Cited in para C-3e(16).)

DA Pam 190-51

Risk Analysis for Army Property. (Cited in paras C-2r(6)(a), C-2r(6)(b), and C-2r(6)(c).)

DA Pam 385-64

Ammunition and Explosive Safety Standards. (Cited in paras 6-5g(1) and 11-3i(1).)

DA Pam 415-3

Economic Analysis: Description and Methods. (Cited in paras 3-3b, 6-3g, C-3e(14)(a), and Q-4g.)

DA Pam 415-28

Guide to Army Real Property Category Codes. (Cited in Appendix C-1h(3).)

Defense Federal Acquisition Regulation Supplement (DFARS)

(Cited in paras 9-3c(3)(f), 9-3c(3)(g), and F-1b.)

DFAS Manual 37-100-XX

The Army Management Structure. (Cited in para 5-1e.)

DFAS-IN Regulation 37-1

Finance and Accounting Policy Implementation. (Cited in para 2-2a.)

DoD 7000.14-R, Volume 2A

Department of Defense Financial Management Regulation (Budget Formulation and Presentation). (Cited in paras 1-4b, 2-1d(3), 4-5a, 4-5b, 4-5c, and 6-4a(2).)

DoD 7000.14-R, Volume 14

Department of Defense Financial Management Regulation (Administrative Control of Funds and Antideficiency Act Violations). (Cited in para 2-2a.)

DoD 7000.14-R, Volume 15

Department of Defense Financial Management Regulation (Security Assistance Policies and Procedures). (Cited in para 4-4c(2).)

DoDD 1225.7

Reserve Component Facilities Programs and Unit Stationing. (Cited in paras 1-4a and C-3e(16).)

DoDI 1225.8

Programs and Procedures for Reserve Component Facilities Programs and Unit Stationing. (Cited in paras 1-4a, 3-3f, 6-5c(2), and O-4d.)

Engineer Technical Letter 1110-3-491

Sustainable Design for Military Facilities. (Cited in para 2-5g.)

Executive Order 11988

Flood Plain Management. (Cited in para C-3e(16).)

Executive Order 11990

Protection of Wetlands. (Cited in para C-3e(11)(b).)

Executive Order 12088

Federal Compliance with Pollution Control Standards. (Cited in para C-3e(16).)

Executive Order 12148

Federal Emergency Management. (Cited in para C-3e(11)(b).)

Executive Order 12580

Superfund Implementation. (Cited in para C-3e(16).)

Executive Order 12608

Elimination of Unnecessary Executive Orders and Technical Amendments to Others. (Cited in para C-3e(11)(b).)

Executive Order 12898

Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. (Cited in para 5-5o.)

Executive Order 12948

Amendment to Executive Order 12898. (Cited in para 5-5o.)

Executive Order 13007

Indian Sacred Sites. (Cited in para 5-5n(3))

Executive Order 13045

Protection of Children From Environmental Health Risks and Safety Risks. (Cited in para 5-5o.)

Executive Order 13148

Greening the Government Through Leadership in Environmental Management. (Cited in para C-3e(16).)

Federal Acquisition Regulation (FAR)

(Cited in paras 9-3c(3)(f), 9-3c(3)(g), 9-5b, 12-4a(2), F-1b, F-4a, F-4e(1), F-4e(3), and F-6g.)

GAO Report GGD-00-172R

Study on Facility Design Reviews. (Cited in para 3-2f.)

Military Construction Cooperative Agreement

(Cited in paras 3-3f, 3-3g, 3-3h, 3-5c, 3-5f, 6-1f, 6-3i, C-3a(1)(a), C-3a(3)(b), Chapter 7, 9-4b(1), 9-4b(1)(a), 9-4b(1)(b), 10-1a, 10-2b, 10-2f, 12-3a, 12-6c, Appendix D, and N-1a.)

NG Pam 415-12

Army National Guard Facilities Allowances. (Cited in paras 1-4g, 4-7b, 6-4k, C-2q(1), C-3c(2), C-3c(4), C-3c(9), C-3d(1), C-3e(5)(a), and 11-3b(3).)

NGR 415-5

Army National Guard Military Construction Program Development and Execution. (Cited in paras 1-4e, 2-3b, 8-4a, 8-4d, 9-4b(2)(c), 9-4c, 9-4c(4), 9-4c(5), 11-3i, 11-4i, 12-2c, and 12-5c(2).)

NGR 415-10

Army National Guard Facilities Construction. (Cited in paras 1-4f and 11-3b(3).)

NGR 420-10

Construction and Facilities Management Office Operations. (Cited in para 2-3b.)

Public Law 89-568

Military Construction Authorization Act of 1967. (Cited in para C-3e(16).)

Public Law 102-486

Energy Policy Act of 1992. (Cited in para 11-1f(2).)

Sustainable Project Rating Tool (Army Corps of Engineers). (Cited in para 2-5c.)

TM 5-853-1

Security Engineering: Project Development. (Cited in paras C-2r(6)(a), C-2r(6)(b), C-2r(6)(c), and Q-4h.)

TM 5-1300

Structures to Resist the Effects of Accidental Explosions. (Cited in para 6-5g(5).)

USATCESP 385-02

Site and General Construction Plan Developers Guide. (Cited in para 6-5g(5)(g).)

10 U.S.C. §2306

Kinds of Contracts. (Cited in paras 9-2a(1)(b) and F-15c(4).)

10 U.S.C. §§2801-2802

Military Construction. (Cited in para 2-3b.)

10 U.S.C. §18233a(b)

Facilities for Reserve Components: Limitation on certain projects; authority to carry out small projects with operations and maintenance funds. (Cited in paras 2-2b and 2-3b.)

15 U.S.C. §§2601-2692

Toxic Substances Control Act. (Cited in para 5-4e.)

16 U.S.C. § 470 et. seq.

National Historic Preservation. (Cited in paras 5-n(3), C-3e(16), L-4a, and Q-4a.)

16 U.S.C. §§1271-1287

Wild and Scenic Rivers Act. (Cited in para 5-5j.)

16 U.S.C. §§1531-1544

Endangered Species Act. (Cited in para C-3e(16).)

31 U.S.C. §§1301, 1341

Appropriations, Application, and Limitations on expending and obligating amounts. (Cited in para 2-2a.)

31 U.S.C. §§1501, 1502, 1571

Appropriation Accounting, Documentary evidence required for Government obligations, Balances available, and Prohibited obligations and expenditures. (Cited in para 2-2a.)

31 U.S.C. §§ 6301-6308

Using Procurement Contracts and Cooperative Agreements. (Cited in para 7-1b.)

33 U.S.C. §466 et. seq

Clean Water Act. (Cited in para 5-4e.)

42 U.S.C. §300f et. seq

Safe Drinking Water Act. (Cited in para 5-4e.)

42 U.S.C. §1996

American Indian Religious Freedom Act. (Cited in para 5-n(3).)

42 U.S.C. §§4151-4157

Architectural Barriers Act of 1968. (Cited in para C-3e(16).)

42 U.S.C. §§4321-4370a

National Environmental Policy Act. (Cited in paras 2-5f, 5-1d, C-3e(16), L-4a, and Q-4a.)

42 U.S.C. §§6901-6992

Resource Conservation and Recovery Act. (Cited in para 5-4e.)

42 U.S.C. §§7401-7661

Clean Air Act. (Cited in paras 5-4e and C-3e(10).)

42 U.S.C. §§9601-9657

Comprehensive Environmental Response, Compensation and Liability Act. (Cited in para 5-4e.)

Section II

Related Publications

AR 1-1

Planning, Programming, Budgeting, And Execution System

AR 1-33

Memorial Programs

AR 11-2

Management Control

AR 11-27

Army Energy Program

AR 40-5

Preventive Medicine

AR 40-61

Medical Logistics Policy and Procedures

AR 55-80

Highways for National Defense

AR 190-13

The Army Physical Security Program

AR 190-51

Security Of Unclassified Army Property (Sensitive And Nonsensitive)

AR 210-14

The Army Installations Status Report Program

AR 210-21

Army Ranges and Training Land Program

AR 385-10

The Army Safety Program

AR 385-16

System Safety Engineering and Management

AR 385-64

US Army Explosives Safety Program

AR 405-10

Acquisition of Real Property and Interests Therein

AR 405-45

Inventory of Army Military Real Property

AR 405-70

Utilization of Real Property

AR 405-80

Management of Title and Granting Use of Real Property

AR 405-90

Disposal of Real Estate

AR 415-15

Army Military Construction Program Development and Execution

AR 415-28

Real Property Category Codes

AR 415-32

Engineer Troop Unit Construction in Connection with Training Activities

AR 420-49

Utilities Services

ARNG Real Estate Manual

29 CFR Part 1900.2 – Part 1925.3

Occupational Safety and Health Administration, Department of Labor

31 CFR Part 205

Rules and Procedures for Funds Transfers

32 CFR Part 33

Uniform Administrative Requirements For Grants And Cooperative Agreements To State And Local Governments

DA Pam 405-45

Real Property Inventory Management

DA Pam 420-7

Natural Resources - Land, Forest, and Wildlife Management

DA Pam 420-11

Project Definition and Work Classification

Deputy Secretary of Defense Memorandum 13 September 1990 (amended 1 December 1994)

Land Acquisition in the United States

DOD 6055.9-STD

DOD Ammunition and Explosives Safety Standards

DoDD 3210.6

Defense Grant and Agreement Regulatory System

DoDD 4165.6

Real Property Acquisition, Management and Disposal

DoDD 4270.5

Military Construction Responsibilities

DoDD 6055.9

DoD Explosives Safety Board (DDESB) And DoD Component Explosives Safety Responsibilities

DoDD 7600.10

Audits of State and Local Governments, Institutions of Higher Education, and Other Nonprofit Institutions

DoDI 4000.19

Interservice and Intragovernmental Support

Executive Order 13101

Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition

Executive Order 13123

Greening the Government Through Efficient Energy Management

International Energy Conservation Code

MIL-STD-3007

Standard Practice For Unified Facilities Criteria And Unified Facilities Guide Specifications

NGB Supplement to the Federal Acquisition Regulation

NG Pam 25-1

Training Site General Information

NGR 5-3

ARNG Training Centers

NGR 11-27

ARNG Energy Conservation Plan

NGR 130-6

United States Property and Fiscal Officer: Appointment, Duties and Responsibilities

NGR 200-3

State and Federal Environmental Responsibilities

NGR 335-10

Army National Guard Management Control System

NGR 385-10

Army National Guard Safety and Occupational Health Program

NGR 405-80

Army National Guard Real Estate Program

OMB Circular A-87

Cost Principles for State, Local, and Indian Tribal Governments

OMB Circular A-89

Federal Domestic Assistance Program Information

OMB Circular A-102

Grants and Cooperative Agreements with State and Local Governments

OMB Circular A-123

Internal Control Systems

OMB Circular A-133

Audits of States, Local Governments, and Non-Profit Organizations

TM5-683

Electrical Interior Facilities

TM5-684

Electrical Exterior Facilities

TM5-785

Engineering Weather Data

TM5-800-4

Programming Cost Estimates for Military Construction

TM5-803-14

Site Planning and Design

TM5-815-2

Utility Monitoring and Control Systems

Uniform Building Code

10 U.S.C. §172

Ammunition Storage Board

10 U.S.C. Chapter 159

Real Property

10 U.S.C. Chapter 169

Military Construction and Military Family Housing

10 U.S.C. Chapter 1803

Facilities for Reserve Components

18 U.S.C §1001

Fraud and False Statements

31 U.S.C. Chapter 65

Intergovernmental Cooperation

31 U.S.C. Chapter 75

Requirements for Single Audits

40 U.S.C. §541 et seq

Selection of Architects and Engineers

Section III

Prescribed Forms

This section contains no entries.

Section IV

Referenced Forms

DA Form 11-2-R

Management Control Evaluation Certification Statement

DA Form 3953

Purchase Request and Commitment

DD Form 1354

Transfer and Acceptance of Military Real Property

DD Form 1390

FY__ Military Construction Program

DD Form 1391

FY __ Military Construction Project Data

NGB Form 86-R

Funding Data for MCNG Contract

NGB Form 87-R

Funding Data for Contract Modification

NGB Form 385-R

Explosives Storage Limits & License

NGB Form 593-R

Project Inspection Report

Standard Form 30

Amendment of Solicitation/Modification of Contract

Standard Form 1080

Voucher for Transfers between Appropriations and/or Funds

**Appendix B
Indoor Range Requirements Checklist**

ARNG INDOOR RANGE REQUIREMENTS CHECKLIST

PROJECT TITLE: _____
 PROJECT
 NUMBER: _____ LOCATION: _____
 DATE PREPARED: _____

PURPOSE: The purpose of this checklist is to provide analysis and justification for States requesting new construction and/or rehabilitation of ARNG Indoor Ranges. This checklist will be utilized to justify the requirement for construction or upgrade of an indoor range. No ranges will be granted for familiarization fire only all ranges must be capable of “non pup-up” qualification of Category II type fires (DA Pam 350-38, 5-1.e (2)). This checklist incorporates requirements contained in the AR 210-21 (Army Range and Training Land Program), FORSCOM Reg 350-2 (Reserve Component Training), and NGR 415-10 (Army Guard Facilities Construction dtd 15 Aug 94).

INSTRUCTIONS FOR CHECKLIST RESPONSE: This checklist provides a method of making an initial determination for indoor ranges that may be justified for new construction or rehabilitation of existing ranges that are either closed or limited in use based upon safety and health standards. Your responses will enable planners to validate requirements, program resources, and provide criteria for all eligible ARNG indoor range facilities. Please read each question carefully and place your response on the corresponding space. All projects must complete the “All Construction” section of this checklist. If you require additional space, use an additional sheet of paper with a header consisting of the Project Title, Location, and Project Number for reference. This checklist is reproducible and will accompany a copy of the construction request document (DD 1390/1) when submitted to NGB-ARI-C/ART-S for review and approval.

ALL CONSTRUCTION:

1. During the initial planning for readiness center new construction, with an indoor range, did the planners make an assessment of all available range facilities, civilian and military, within the 25% maximum allowed travel time per FORSCOM Reg 350-2? _____.
2. Training Readiness Shortfall Mitigation
 - a. List the ARNG units that will utilize this range and the location where they perform weapons qualification now:

Unit	Authorized Strength	Current Range Utilized	Comments

- b. Provide Unit Status Report Commander’s Narrative comments that indicate this range is necessary to fulfill a training readiness shortfall.

c. If the unit must travel to an alternate range facility, does the unit have adequate organic resources to transport personnel to and from the range during a single MUTA-4? _____ MUTA 5? _____.

d. What would the cost be for civilian contract transportation for one weekend; round trip to the unit's habitual IDT or AT training site for Individual Weapons Qualification?

IDT: _____.

AT: _____.

Source of cost estimate with phone # (DSN or Commercial)

_____.

3. Indicate the approximate number of soldiers that will utilize this range annually for:

a. M-16 Weapons qualification (25 meter Alternate Course) - _____

b. 9 mm Weapons qualification (25 meter targets) - _____

4. Indicate the adequate ranges (Indoor and Outdoor) that exist within a maximum of 25% travel time (IAW FORSCOM Reg 350-2 dtd 27 Oct 99) from this proposed range facility on a MUTA-5 IDT. Adequate means that the facility:

a. Is under military control or available under written agreement for scheduled use.

b. Has the capacity to accommodate authorized strengths of using units.

c. Complies with appropriate range construction criteria.

d. Complies with current OSHA and NGB Safety requirements.

Range Facility	Size of Range 15 or 25 ft	Indoor or Outdoor	Distance from Proposed Range (Miles/Hrs)	Ownership DOD/Non-DOD

e. If an outdoor range exists within the 25% FORSCOM directed maximum travel time, is the annual precipitation less than 30 inches, and are there fewer than 150 days per year of wind-chill below 32° ? _____

5. List any entities other than ARNG that will utilize this facility.

6. Indicate any environmental enhancements that will be incorporated into this facility.

7. Indicate the projected OPTEMPO cost avoidance per year based on transportation and other costs of utilizing existing ranges.

8. Indicate the current cost estimate for this range project.

9. Indicate life-cycle cost to the government for the range.

10. Additional comments which may assist the approval process of this

range: _____

REHABILITATION OF EXISTING RANGE AT EXISTING FACILITY:

1. What is the estimated cost to rehabilitate the existing range based upon construction/equipment criteria?
\$ _____

2. Is the facility scheduled to be replaced or abandoned within 10 years? _____

- 3. Is the range a separate room dedicated solely for use as a firing range?_____
- 4. Is the range of size as to provide a minimum of:
 - _____a. 3 Firing Points
 - _____b. 5 Firing Points
 - _____c . 8 Firing Points

Construction of New Ranges at Existing Armories:

- 1. Is the proposed indoor range a "stand alone" facility?_____
- 2. How much space is needed for the range?_____
- 3. Does the site for the proposed range contain sufficient land for a range and its associated parking?_____

I have ensured that all of the information above is correct. I have attached supporting documentation as applicable. Reference of this analysis checklist is identified on DD Form 1390 and was attached to the construction request document

State CFMO:

Name	Rank	Position	Phone Number

State Training Officer:

Name	Rank	Position	Phone Number

Unit or Installation's AO/Commander:

Name	Rank	Position	Phone Number

Appendix C

DD Forms 1390S/1391 Instructions

C-1. DD Form 1390S Instructions

a. Title. Ensure that the fiscal year reflects the fiscal year that the project is in the FYDP or the year for which you have a reasonable chance of receiving a Congressional authorization and appropriation for the project.

b. Block 1, Component. ARNG

c. Block 2, Date. Enter the date prepared. This should be the date the CFMO is preparing the DD Forms 1390/1391 package after completing NGB-ARI directed corrections. If you are revising a previously approved package, also enter “(Revised)” after the date.

d. Block 3, Installation and Location. Enter the city and the State as they appear in the real property database. If the installation has a name that differs from the city, enter that name (as it appears in the real property database) before the city. Also enter “INSNO” and the installation number from the real property database.

e. Block 4, Area Construction Cost Index. Enter the figure from the latest DoD Tri-Service Cost Data. (This should be available as a link on the following Web site: www.acq.osd.mil/installation/irm/index.html.) Use the State-wide figure unless the project is on a named installation. Ensure that the unit cost data in the DD Form 1391 actually reflects this figure.

f. Block 5, Frequency and Type of Utilization. List all types of utilization (e.g., administration, maintenance, training) and the frequency for each type. Write terms out and do not abbreviate.

g. Block 6, Other Active/Guard/Reserve Installations Within 15 Miles Radius.

(1) List the six closest locations within a 15 mile radius. If there are none within that distance, list the closest three, regardless of distance. Include both existing locations and those programmed for construction in the current FYDP.

(2) Enter the component, the city, the mileage from your proposed facility, the type of facility, the square footage, and the year constructed.

h. Block 7, Projects Requested in This Program.

(1) List all projects that you are requesting for this location for the same fiscal year. Include both major construction and unspecified minor construction projects. The first project shall be the one with the matching DD Form 1391.

(2) Enter all data in five columns, titled as below.

(a) Category Code

(b) Project Title

(c) Scope

(d) Cost (\$000)

(e) Design Status

1. Start

2. Compl

(3) Enter the appropriate 5 digit category from DA Pam 415-28.

(4) Enter the shortest title possible to accurately describe the project. In general, use the generic name for the predominant type of facility being constructed. Do not use acronyms or abbreviations, and use the same title as in the DD Form 1391, Block 4. However, include “with land acquisition” if the project cost includes more than \$50,000 for that. Also, include “addition/alteration” in the title if the project is not for new construction.

(5) The scope is the total quantity requested for the primary facility, as shown on the accompanying DD Form 1391, Item #9, Cost Estimates. Enter the scope in both metric and English, in that order. Show the unit of measure for both metric and English amounts.

(6) Under cost enter only the Federal share of the total construction cost of the project, which includes all primary and supporting facilities, as well as contingency and supervision, inspection, and overhead. The amount must match what is shown on the accompanying DD Form 1391, Blocks 8 and 9.

(7) Enter the months and years when the State can reasonably expect an A-E firm to start and complete design of the project, based upon NGB’s schedule for release of Planning and Design dollars for the project and the State’s ability to contract for A-E services. The dates must match the accompanying DD Form 1391, Block 12.

i. Block 8, State Reserve Forces Facilities Board Recommendation.

(1) Enter the following statement: “Facilities identified in item #6 have been examined by JSRCFB for possible joint use/expansion. The Board recommendations are [unilateral construction] [or] [joint construction with ____].”

(2) If the Board recommends unilateral construction, then the CFMO must also add the Board's justification to the required statement for this block. The Board is permitted to recommend unilateral construction only when it has carefully considered all other alternatives and found them impractical and uneconomical.

(3) Also enter in this block, the last date that the JSRCFB validated this project. This date can never be more than twelve months previous. The Board must validate the project at least annually until it is under construction or canceled, or NGB-ARI may delete the project from the FYDP.

(4) The CFMO shall maintain one copy of the DD Form 2162 validating the project and shall also verify that NGB-ARI has a copy of the form and the JSRCFB minutes.

j. Block 9, Land Acquisition Required.

(1) If the State has already acquired the land, enter "None" and "0."

(2) If the State has not yet acquired a site, then enter the number of acres required and the method of acquisition (e.g., fee, title, donation, lease).

k. Block 10, Projects Planned in Next Four Years.

(1) Complete this block using the same columns as for block 7, except omit "Design Status." Enter a maximum of five projects.

(2) Look out four years beyond the fiscal year with which you titled the form and only consider major construction projects for the installation at which you plan to construct this project. Data should match the State's most recently submitted Long Range Construction Plan (LRCP) and must be limited to projects with a reasonable chance of Congressional authorization and appropriation in that period (not all projects the State would like to execute in that period).

(3) If you plan no projects, enter "None" under the column "Category Code."

(4) If the DD Forms 1390/1391 package is for a readiness center, then consider all projects within a 15 mile radius of the proposed readiness center. For non-readiness center projects, only consider projects at the same location as the project in the DD Forms 1390/1391 package.

(5) Also in this block, under the heading "R&M Unfunded Requirement" enter the Restoration and Modernization unfunded requirement in thousands of dollars for the location of the proposed project. This amount should equate to the cost to repair to C-1 standards as shown in the latest Installations Status Report, Part I.

(6) For all projects, a site survey must be conducted in accordance with DoDD 1225.5. At the bottom of this block, the CFMO must also enter the statement, "Site survey has been completed and site is suitable for constructing the proposed project at the estimated cost indicated."

l. Block 11, Personnel Strength.

(1) Enter as of date of the data, which must be within six months of the date in block 2 of this form.

(2) Enter both the actual and authorized strength for each required category. The numbers should reflect those individuals/units programmed to be at the project site once it is constructed.

(3) Divide the block into sections for "Permanent" personnel (i.e., military technicians, Active/Guard/ Reserve soldiers, and Federally reimbursed State employees) and for "Guard/Reserve" personnel (i.e., drilling members of the reserve components).

(4) For the "Permanent" section, divide the presentation into columns for Total, Officer, Enlisted, and Civilian. The CFMO should consult the State Human Resource Management Officer for the required data.

(5) For the "Guard/Reserve" section, divide the presentation into columns for Total, Officer, and Enlisted. The CFMO should consult monthly strength reports provided by the Standard Installations Division Personnel Reporting System (SIDPERS). Calculate a percentage fill and enter that below and just to the left of the total column. However, the percentage must exceed 50% to receive design funds and must exceed 75% to receive construction funds.

m. Block 12, Reserve Unit Data.

(1) List all units and their authorized and actual strength programmed for the facilities resulting from this project. In the case of training center (including range) projects, list those units that habitually use the site. There must be at least one unit with an authorized strength of 55 or more for a readiness center project to be considered.

(2) Total strength must match the total column in the "Guard/Reserve" section of block 11.

(3) Do not abbreviate unit name designations.

(4) Also provide Unit Identification Code (UIC), Troop Program Sequence Code (TPSN), and MTOE or TDA for all programmed units. Also indicate if a unit is an enhanced brigade.

(5) Specially identify those units that must train on the same weekends.

(6) If number of units exceeds the available space, subtotal the results, and continue on another DD Form 1390S.

n. Block 13, Major Equipment and Aircraft.

(1) List the vehicles and other large equipment and aircraft that will be accommodated at the site and bear on the type and scope of the facility requirement.

(2) Include the weighted equipment density for vehicles to be maintained when the project includes a maintenance facility.

(3) Divide the presentation into three columns: type, authorized, and actual. Break the equipment into the following types. Ensure that you don't count the same vehicle in more than one type. Also include aircraft models, if this is an aviation project.

- (a) Wheeled
- (b) Trailers
- (c) Tracked
- (d) Equipment > 30 ft
- (e) Fuel and M977 HEMMT
- (f) HEMTT PLS/HET

(4) Also, indicate which vehicles are located or permanently stationed at another site. These will not receive an allowance for parking in the project.

o. Block 14, Outstanding Pollution and Safety Deficiencies. On separate lines indicate in thousands of dollars how much of the project cost will go to correct air pollution, water pollution, and occupational health and safety deficiencies.

C-2. Detailed Instructions, DD Form 1391 and 1391c, "Front Page"

a. Complete all follow-on pages using DD Forms 1391c. Use as many as are required to provide a clear, detailed justification of the project.

b. The portion of the package through all items required to be included in item 11 is known as a "front page 1391." This and the DD Form 1390S go through DA and OSD to Congress. The remainder of the package is the supplementary data.

c. When completing the DD Form 1391, begin with the supplementary data portion. The detail work here provides the calculations that copy into the "front page."

d. Title and Blocks 1-3. Same as DD Form 1390S.

e. Block 4, Project Title. Same as Block 7 of the DD Form 1390S.

f. Block 5, Program Element. In all cases it is 0505896A.

g. Block 6, Category Code. Same as the category code for the first project listed in Block 7 of the DD Form 1390S.

h. Block 7, Project Number. Identical to the project number as shown in the State's LRCP. Facilities Center generates this.

i. Block 8, Project Cost. This is the Federal share only, from the detailed cost estimate found in the supplementary data of the DD Form 1391c. It must match Block 7 of the DD Form 1390S.

j. Block 9, Cost Estimates.

(1) The summation provides what is known as the "Total Request" and matches Block 8.

(2) These all are derived figures from elsewhere on the DD Form 1391. You cannot complete this block until you complete the space criteria and detailed cost estimates contained in Block 12.

(3) The block provides details of the cost of both the primary and supporting facilities. The sum of those two figures is the subtotal. The "Total Contract Cost" is the result of applying contingency to the subtotal. The "Total Project Cost" is the result of applying supervision, inspection, and overhead to the "Total Contract Cost." (In the case of design-build, SDD, and commissioning projects, it also includes an allowance for design. States should use a separate line to account for each applicable item.) In turn, the "Total Project Cost" includes listed sub-elements for the separate State and Federal contributions. Finally, for information purposes, the block includes a non-additive item, not included in the "Total Project Cost," for equipment provided from other appropriations. These are items of personal property procured with other than military construction appropriations and essential to the project's mission.

k. Block 10, Description of Proposed Construction.

(1) In a clear and concise manner provide a complete outline of all principal features of the project and their correlation with the data in Block 9.

(2) Begin with a complete and accurate description of the primary facility. Indicate the materials you plan to use for the frame, walls, roof, and foundation. Identify the major functions for which the space is being provided.

- (3) For addition/alteration projects, describe the changes you intend to make to the existing facility.
 - (4) Describe the outside supporting facilities you intend to construct as part of this project.
 - (5) Identify and list all buildings and other structures to be demolished as part of the project.
 - (6) List specific AT/FP measures and considerations that the project provides. At minimum include the following statement, "Physical security measures will be incorporated into design, including maximum feasible standoff distances from roads, parking areas, and vehicle unloading areas, and, when standoff distance cannot be maintained, berms, heavy landscaping, and bollards to prevent access."
 - (7) As the last entry, on a separate line type "Air Conditioning" and the tonnage. Type "Air Conditioning None" if the project includes none.
- l. Block 11, Requirement (1)
 - (1) From the space criteria section in the supplementary data section, bring forward the total space requirement for the primary facility in both metric and English measures.
 - (2) Then list how much of the space in the facility to be replaced or altered is adequate and how much is inadequate.
 - m. Block 11, Project.
 - (1) Provide a one sentence statement describing the project and indicating what it provides.
 - (2) List whether the project supports current mission or new mission.
 - n. Block 11, Requirement (2)
 - (1) Provide detailed, informative statements as to why the project is required.
 - (2) Use positive statements to support the requirement and avoid the use of such words as "inadequate," "uneconomical," and "unnecessary" unless they are fully explained.
 - (3) Explain all contributing factors. For explain, summarize threat/vulnerability assessments, provide comparison figures on excessive maintenance, and described effects of advanced deterioration.
 - (4) Show that you have already achieved maximum utilization of existing facilities, and identify all alternatives that you considered, providing reasons you rejected them.
 - (5) Indicate whether the project is to be constructed on Federal or State land and the number of acres to be acquired.
 - o. Block 11, Current Situation.
 - (1) Describe how and under what conditions, the State is currently meeting the mission requirements the project is supposed to address.
 - (2) Identify and describe the current facilities and the reason you consider them unsuitable for continued use. Be very specific about age, Installations Status Report conditions, space shortages, environmental issues, and occupational health and safety concerns.
 - (3) For new construction projects, identify and describe the disposition you intend to make of the existing facilities.
 - (4) For joint projects, include pertinent information and status of your coordination and negotiations with the other reserve components.
 - p. Block 11, Impact If Not Provided. Describe the manner and extent to which mission accomplishment would be affected if you do not receive Congressional authorization and appropriation.
 - q. Block 11, Additional. Conduct and file an economic analysis, and include the following statement, "An economic analysis has been prepared and utilized in evaluating this project. Alternative methods of meeting this requirement have been explored during project development. This project is the only feasible option to meet the requirement."
 - r. Block 11, Anti-Terrorism/Force Protection.
 - (1) Appendix 2 of the DoD AT/FP Construction Standards includes minimum construction requirements that will be incorporated into all inhabited military construction. The minimum standards apply regardless of threat.
 - (2) If protection from a specific, identified threat is justified, the standards provide guidance on construction actions to mitigate the threat.
 - (3) You must consider operational, as well as construction, mitigation.
 - (4) The standards also provide a cost-estimating mechanism to use when preparing the DD Forms 1390/1391 package.
 - (5) You must choose one of the three standard statements listed later in this paragraph that best describes the overall AT/FP standards this project will have to meet to be in compliance with DoD AT/FP standards.

(a) "This project has been coordinated with the installation's AT/FP plan. Risk and threat analysis has been performed in accordance with DA Pam 190-51 and TM 5-853-1, respectively. Only protective measures required by regulation and only the minimum standards required by the 'Department of Defense AT/FP Construction Standards' are needed. They are included in the cost estimate and description of construction."

(b) "This project has been coordinated with the installation's AT/FP plan. Risk and threat analysis has been performed in accordance with DA Pam 190-51 and TM 5-853-1, respectively. Both AT/FP protective measures required by regulation and additional (above minimum) protective measures standards required by the 'Department of Defense AT/FP Construction Standards' are needed. They are included in the cost estimate and description of construction."

(c) "This project has been coordinated with the installation's AT/FP plan. Risk and threat analysis has been performed in accordance with DA Pam 190-51 and TM 5-853-1, respectively. The 'Department of Defense AT/FP Construction Standards' do not apply to this project. No AT/FP measures are required."

s. Authentication.

(1) Include the name and phone number of both the CFMO and the AT/FP point of contact.

(2) Have the Adjutant General sign and date two originals, one to go forward to NGB-ARI with the final approval package and one for the CFMO's files.

(3) This signature is a serious matter and not to be entered into lightly. With it, the Adjutant General certifies the accuracy of all the contents of the DD Forms 1390/1391 package, including (among others) site location, site conditions, actions taken, facility conditions, and facility requirements. Providing false or misleading information may subject the Adjutant General to criminal penalties.

C-3. Detailed Instructions, DD Form 1391 and 1391c, Supplementary Data

a. Estimated Design Data.

(1) Status

(a) Date design started is the date when all appropriate design contracting procedures have been completed and the contracting officer has authorized the A-E to proceed. This may be before NGB-ARI has given A-E approval, if the State has elected to risk its own funds. In that case, before proceeding the State should execute an MCCA providing in Section 305 the conditions under which NGB will reimburse the State for these design costs.

(b) "Percent completed as of January" [Year] refers to the estimated design level at the time the DD Forms 1390/1391 package are forwarded to Congress. Enter a year that matches the date on the title of the package.

(c) Date 35% design complete is the date you submitted the preliminary designs to NGB or the date you project to.

(d) Date design complete is the date NGB-ARI approved your final designs or the date you project NGB-ARI approval.

(e) Answer either "Yes" or "No" as to whether or not you used a parametric cost estimate to reach 35% design.

(f) Under type of design contract, enter "design-bid-build," design-build," or "other," as appropriate.

(g) On the next line below type of design contract, enter the following statement, "An energy study and life cycle cost analysis will be conducted during final design." Then, ensure that you do one. It will be critical to obtaining easier approval of you design submissions.

(2) Basis. Indicate whether you will use a standard or definitive design. If the answer is yes, then list where the design was most recently used.

(3) Cost.

(a) Either fill in a and b, or fill in d and e. In either case, the total is in line c.

(b) Unless you are using standard or definitive designs, you will fill out d and e. When you do so, the whole amount will go in block d (contract), unless the MCCA provides for reimbursement of agreed-upon work the CFMO staff is doing.

(c) Fill in the block for the cost of the reproduction of plans and specifications, which is included in the total in block c.

(4) Construction Dates. Complete the dates you estimate that you will award the construction contract, that the winning contractor will begin work, and that you will close out the contract. The date of estimated award should be within the fiscal year specified in title of DD Forms 1390/1391 package.

b. Equipment Provided from Other Appropriations.

(1) List only those items which support the cost shown in Block 9 of the DD Form 1391.

(2) Display the data in the following columns: equipment nomenclature, procuring appropriation, fiscal year appropriation requested, and cost.

(3) Equipment items include, but are not restricted to, kitchen equipment, intrusion detection systems, targetry, telephone switches and instruments, office furniture, and pre-wired workstations.

(4) Procuring appropriation will normally be either Operations and Maintenance National Guard (OMNG), or Other Procurement Army (OPA).

(5) The fiscal year requested is the fiscal year that the State intends to procure the specified item of equipment. Procurement year should match year of bona fide need. If it does not, DoD budget analysts may remove funds from the cited appropriation. Your year of bona fide need is the fiscal year in which you must procure the item in order to ensure that it is on hand when the contractor needs to install it to meet a standard construction schedule. For example, because regular office furniture is not normally installed until a facility is completely constructed, then the fiscal year you would show in this block would reflect the fiscal year six months before the estimated completion date you entered in accordance with para C-3a(4) above.

(6) Active coordination to ensure that all necessary equipment for the project is procured in a timely manner will help ensure the success of the project. Active coordination is more than merely listing the items on the DD Form 1391; it is proactive follow through with equipment proponents in the State and ensuring that this State staff officer coordinates with the appropriate NGB proponent to ensure that the right equipment is available for the project, on time.

c. Space Criteria

(1) Time spent thinking through and completing this section is time very well invested. The work you do here is the basis for your detailed cost estimate, which in turn determines your authorization/appropriation request.

(2) Your bible for completing this section is NGB Pam 415-12. There are chapters for each of the basic facility types: readiness centers, logistical (surface) facilities, aviation facilities, training center facilities, and education facilities. In turn, each chapter has text and tables that tell you the authorized components of your primary facilities and the authorized supporting facilities for your project. Read these chapters very carefully, so that you do include necessary facility components and properly apply the published authorizations and rules.

(3) Space authorizations are determined primarily by types of units and their authorized strength, number of authorized administrative personnel and full-time mechanics, and major equipment items permanently parked at the project site. In other words, blocks 11-13 of your DD Form 1390S are critical to this section of the DD Form 1391c.

(4) Group your project components in the same way as the pertinent chapter of the NGB Pam 415-12 does. For instance, for a readiness center project, you would group Schedule I separately from Schedule II items. Then, within Schedule II, you separate administrative space from unit storage space. In turn, both of those categories are even further subdivided.

(5) In displaying your data, list the facility component, the authorized amount, and the required amount. Normally, the required amount is the same as the authorized amount, unless you are requesting an exception to criteria or your actual requirement is less. Also, when you are doing an addition/alteration project, add columns to record existing space, space you are adding, and space you are altering.

(6) Unheated storage requirements are based on cubage of the supported units. If you do not know those requirements, then go to the following Internet site: www.usafmsardd.army.mil.

(7) Subtotal every page, subtotal at every major break in criteria, and subtotal the sum of the major criteria breaks. Only then do you add your allowances for facility maintenance and equipment rooms (mechanical, electrical, telephone, etc.). From the sum of the above, you add your allowance for circulation. To the sum of circulation and the rest, you add your allowance for walls. The final sum then becomes the Total Facility Authorization, which you carry forward to the DD Form 1390s in block 7 (Scope) and block 11 (Requirement).

(8) After you have finished computing the Total Facility Authorization, add your authorizations and requirements for supporting facilities. Break these out into such items as rigid pavement, flexible pavement, fencing, and sidewalks. Both pavement entries will have components, based upon the types of vehicles being stored and other items (e.g., wash platforms, roads).

(9) Success is dependent on a careful reading and scrupulous application of the NGB Pam 415-12. Just as important, however, is your careful documentation of the decisions you made when you had to choose among possible alternatives and ask for more space. At the bottom of each page of the DD Form 1391c is a place for Exceptions to Criteria/Comments. Use it to the utmost. That will save questions from NGB reviewers. Annotate each item that a reviewer might disapprove and write a precise but thorough justification of your action. As necessary,

attach documentation for your requests to the DD Forms 1390/1391 package. Failure to so annotate may lead to unnecessary summary disapproval of your actions.

d. Detailed Cost Estimate.

(1) The information here comes from the preceding space authorization determination and from your knowledge of the current cost estimates for each item. That just underlies the importance of conducting a detailed project scope investigation, of thoughtfully applying NGB Pam 415-12, and of knowing the construction market.

(2) In building this section, divide it between the primary facility and supporting facilities. Once you total those figures, apply contingency to the subtotal cost to come up with the total contract cost. (Also add the negotiated amount for design in the case of design-build, commissioning, and SDD projects, using separate lines for each.) Finally, add the cost of supervision, inspection and overhead to arrive at the total project cost.

(3) Create columns to reflect item, unit of measure, quantity, unit cost, Federal share, State share, and Total Cost. Here the unit of measure may be in English. The quantity comes from the space criteria section. The unit cost for the primary facility should not exceed the product of the area cost factor and amount in the DoD costing guide for that facility type.

(4) In most projects, it makes sense to program an energy management control system.

(5) If your analysis supports it, you may apply AT/FP standards to both primary and supporting facilities. Include a separate line in the cost estimate if you program incurring construction costs above those you otherwise would have incurred when you apply the standards.

(6) The contingency line provides minimum funding to cover the cost of items not included during the design and design review process. Although included in your project request, it is not to be used to cover your initial construction bids. Rather, it is there to support required contract modifications during construction.

(7) The State contribution column reflects both costs that the State must bear because of statute, as well as costs for items that do not support the Federal mission of the Army National Guard or that exceed criteria.

(8) Even though the estimate includes a total cost column, only the total Federal contribution gets reported as the "project cost," because the DD Forms 1390/1391 package only programs Federal funds.

(9) At the bottom of the block also display the total amount for equipment provided from other Federal appropriations. Although it appears here and in block 9, it is not included in the project request, because the request covers only the military construction appropriation.

e. Detailed Requirements Statements.

(1) General

(a) Provide a general statement for each unit to be assigned or supported by the project. List the name of the unit, its current location, and its required and actual personnel strengths. Also include any reorganization information.

(b) Identify the facilities currently used by the units, including year of construction, square footage, and property ownership. Summarize the deficiencies of the current facilities.

(c) Identify the amount of ground on which the proposed project would be located.

(d) In the case of readiness center or armed forces reserve center projects, survey local school buildings for possible use, and, if none are available, add the following statement, "Local surplus school buildings have been surveyed and none have determined satisfactory for readiness center facilities."

(e) In the case of readiness center or armed forces reserve center projects, have your State recruiting office complete a demographics study and include the following statement, "A demographic study has been conducted and it has been determined that the general population pool is adequate to meet future manning requirements of all units proposed for stationing at this facility."

(2) Data on Accommodations Now in Use. For each facility currently used, identify it, list the year of construction and its square footage, and describe all its deficiencies.

(3) Analysis of Deficiency. State how the deficiencies identified in the last paragraph affect essential mobilization training.

(4) Analysis of Alternate Facilities and Locations. List active component facilities in the area and explain why this project cannot utilize them (if any are available). For each existing readiness center or reserve center within a radius of 15 miles of the proposed project, explain why the requirement for additional space cannot be accommodated by an addition to one of the existing facilities. Especially for readiness center projects make this statement very detailed.

(5) Analysis of Criteria for New Construction.

(a) For most projects, the following statement will suffice, "The size and capacity is in accordance with NGB Pam 415-12 for [list type of primary facility], which is designed to accommodate the organization and strength of the units which will occupy the facility upon completion. The workload has been adequately defined. A standard design is not being used for this project because of the unique areas authorized for the assigned units."

(b) In the case of additional/alteration projects where the total square footage required is less than that authorized by criteria, the CFMO must add the following statement, "Based on current required strength and vehicles, no additional construction will be required at this location in the foreseeable future."

(6) Statement of Program Related Equipment. This block should summarize what type of equipment will be requested in what fiscal year from what appropriation. The data comes from Block 12, Supplemental Data, Equipment Provided from Other Appropriations.

(7) Disposition of Present Accommodations. Explain what you are going to do with the facilities that this project will replace (e.g., close, demolish, donate).

(8) Survival Measures. This item refers only to sites designated as fallout shelters. If the proposed project is not so designated, enter "None."

(9) Contribution to Readiness. Address the following issues in separate paragraphs.

(a) Concisely describe how the project will enhance readiness.

(b) Describe how readiness would be impaired if the project were deferred to a future program year.

(c) Explain how and why this project contributes more to readiness than other projects.

(10) Clean Air Act Amendment of 1990. Use whichever of the following two statements is appropriate.

(a) "Permits and/or other procedural requirements mandated by State, interstate, and local air pollution control agencies have been complied with for this project. Copies of all Federally required permits and/or registration applications and responses have been forwarded to the U.S. Army Center for Health Promotion and Preventive Medicine, ATTN: MCHS-TS-EAP, Aberdeen Proving Ground, MD 21010-5422."

(b) "There is no State, interstate, or local air pollution control agency that requires a permit or registration on this project."

(11) Protection of Wetlands.

(a) You must evaluate all projects for compliance with Executive Order No. 11990 to determine whether they are sited in wetlands.

(b) You will then enter the following statement, "Project has been evaluated for compliance with Executive Order No. 11990 (as amended by Executive Order 12608) and is [or is not] sited in wetland."

(c) If project is sited in wetland, you will continue your statement to address mitigation measures.

(12) Requests for Exceptions to Criteria. You will either enter "None" or list all the exceptions you are requesting. Carry over the data from your notes in the space criteria section.

(13) Telecommunications.

(a) Military construction appropriation funds support the design, procurement, and installation of those telecommunication items identified in paragraph 45a above. Either Operations and Maintenance Army National Guard or Other Procurement Army funds support the remainder of the items authorized by NGB.

(b) If no telecommunications services are required, enter "Telecommunication services and equipment are not required."

(c) If telecommunications services and equipment are required, itemize the equipment in the appropriate section of the DD Form 1391c and enter the following statement, "Telecommunications services and equipment are required. Telecommunications equipment not specifically authorized by NGB-AQ cooperative agreement directives will be provided by other than ARNG Federal funds."

(14) Economic Analysis.

(a) An economic analysis conducted in accordance with AR 11-18 and DA Pam 415-3 must support each proposed military construction project. The CFMO shall retain a copy of this analysis.

(b) After conducting the economic analysis, enter the following statement, "An economic analysis has been conducted and is on file in the Construction and Facility Management Office. A screening of available properties has been conducted as part of the economic analysis. The rest of the analysis indicated that no adequate facility is available to meet the mission requirements and construction of this project is the best alternative."

(15) Anti-Terrorism/Force Protection. Before submitting the DD Forms 1390/1391 package, you must complete a risk and threat analysis. In this block you summarize your activities and findings and, at minimum, include:

(a) Method used to perform the risk and threat analysis.

- (b) Date of risk and threat analysis.
 - (c) Members of the planning board who performed the risk and threat analysis.
 - (d) Findings of the risk and threat analysis.
 - (e) Design basis threat level and level of protection required.
 - (f) Description of operational measures you will use to mitigate the threat.
 - (g) Design strategies for mitigation of specific aggressor tactics to provide required level of protection and the effect on construction costs for applying these measures.
 - (h) Detailed description of AT/FP construction features required.
- (16) Standard Statements. Include the following statements. However, ensure that you are actually in compliance. Remember that your Adjutant General is subject to criminal penalties for authenticating false information. Pay particular attention to the flood hazard and the national historic preservation statements, and modify them if you are requesting a waiver to site a portion of the project in a flood plain or to affect directly or indirectly historic properties.

“NATIONAL ENVIRONMENTAL POLICY ACT: Project has been analyzed for potential environmental impact in accordance with AR 200-2. Appropriate environmental documentation is attached.

POLLUTION ABATEMENT: The design of proposed project includes, where appropriate, the provision of facilities for air and water pollution control IAW Executive Order No. 12088 (as amended by Executive Orders 12580 and 13148).

COASTAL ZONE PLAN: In accordance with the provisions of Section 102(2)(c) of the National Environmental Policy Act of 1969, the project has been reviewed, and it is determined to be in compliance with the State's Coastal Zone Plan.

ENDANGERED SPECIES ACT: Proposed project is in consonance with Section 7 of the Endangered Species Act (P.L. 93-205(87) STAT. as amended).

FALLOUT PROTECTION: In accordance with Section 601 of Public Law 89-568, as amended, the design of this project has been prepared to maximize fallout protection. Fallout shelters have been excluded from any structure only for the following reason: (1) Adequate protection areas are available to fulfill a station's requirements; (2) The presence of personnel during a period of fallout radiation would impair facility operations; or (3) Economic limitations necessitated either deferral or accomplishment by some other means.

FLOOD HAZARD: Project has been evaluated for flood hazards in compliance with Executive Order 11988 (as amended by Executive Order 12148), and the facility is not sited in an area known to be subjected to flooding.

DESIGN FOR ACCESSIBILITY OF PHYSICALLY HANDICAPPED PERSONNEL: In accordance with Public Law 90-480, provisions for the physically handicapped personnel will be provided for, where appropriate, in the design of the facility.

VENDING FACILITIES FOR THE BLIND: Project has been evaluated for the provision of vending facilities to be operated by blind persons in compliance with DHEW Rule, 45 CFR-1369, and the State Licensing Board has not sanctioned operation of a blind vending concession at the proposed location.

NATIONAL HISTORIC PRESERVATION ACT OF 1966: A survey has been completed, and it revealed that this undertaking will not affect, either directly or indirectly, any property included in, or eligible for, inclusion in the National Register of Historic Places.

RESERVE MANPOWER POTENTIAL: The Reserve Manpower Potential to meet and maintain authorized officer and enlisted strengths of all reserve units in the areas where units are to be located has been reviewed in accordance with the procedures described in DoD Directive 1225.7. It has been determined, in coordination with the other military departments having reserve units in the area, that the number of units of the reserve components presently located in the area, and those units having been allocated to this area for future activation, is not and shall not be larger than the number that reasonably may be maintained at authorized strength.”

Appendix D**Military Construction Cooperative Agreement Instructions and Agreement Text****D-1. MCCA Cover Page**

- a. Agreement Number is DAHA AA-BB-2-CCCC.
 - (1) AA = unique State indicator.
 - (2) BB = fiscal year in which MCCA is executed.
 - (3) CC = order in which MCCA is executed during that fiscal year (with the first number being 2001).
- b. Include the DAHA number as a footer on all pages.
- c. The project title and location must match the approved DD Forms 1390/1391.
- d. Do not forget to include the number of pages in the appendices.
- e. The State Counsel block will be signed by a legal officer of appropriate authority within the State to make the certifications required by Article XI, usually the State Attorney General (or Assistant Attorney General) but also possibly the the full-time Judge Advocate in the Military Department (or another judge advocate serving as the State's legal counsel).

D-2. Article I. Scope, Purpose and Authority

- a. Section 102a refers to the State's requirement to submit a satisfactory Certificate of Title or license (as appropriate) before NGB-ARI will issue funds to the USPFO to reimburse the State for construction costs.
- b. Delete the instructions in Section 102a if the section applies. If the section does not apply, then either stamp "Delete" through the section or line through it.

D-3. Article II. Obligations of the Parties

The normal term of the agreement as indicated in Section 201c is 25 years.

D-4. Article III. Costs

- a. Section 303 stipulates that NGB is only obligated to pay its share of the costs as identified in the appendices.
- b. Section 304b stipulates that the Federal Government shall not reimburse the State for its costs in acquiring real property and constructing facility components in excess of authorized criteria.
- c. In Section 305c, delete the second sentence and either type in "NONE" or the agreements with NGB on reimbursement for costs incurred prior to the execution of the agreement.
- d. Section 306 requires the State to submit to the USPFO a final accounting of funds within 90 days of the project's completion (or MCCA termination, if prior to project completion). Completion date is the "execution date" on the NGB Form 593-R. Failure to submit this accounting on time eliminates the requirement for NGB to reimburse the State for allowable costs identified after the fact.

D-5. Article IV. Funding Limitations

- a. Section 401 indicates that the appendices contain all limitations on Federal obligations for reimbursement, except those contained in statute.
- b. Section 403 permits the State to advance fund design costs without Federal funds being available and declares that such an action is not grounds for a claim that the MCCA is unenforceable.

D-6. Article V. Payment

- a. Delete the instructions at the beginning of the article after making the appropriate selection.
- b. Choose either reimbursement (Section 501) or Advance Payment (Section 502) and strike over or overstamp "DELETE" on the other section. However, If a State can justify that both methods will be used for different amounts of funding within the MCCA, they can retain both provisions.
- c. Section 503 prohibits direct payment of State obligations.
- d. Section 504 requires both parties to pay the other interest on advance payments and items not reimbursed if liquidation or reimbursement is not timely.

D-7. Article VI. Definitions

This article defines terms used in the MCCA.

D-8. Article VII. General Provisions

- a. Section 701 establishes the standard period of the MCCA at 25 years.
- b. Section 708 requires that the name, address, and fax number of the USPFO and the Adjutant General, as signatories for the Federal and State governments be provided.
- c. Section 709 provides that the appendices may be executed later without affecting the MCCA.
- d. In Section 715, delete the text and replace with either "NONE" or the actual special State requirements. Any such will require NGB-JA approval.

D-9. Article VIII. Applicable Laws and Regulations

- a. Section 804 requires the State to adhere to specific statutes and regulations prohibiting discrimination.
- b. Section 805 prohibits the State from using any Federal funds to lobby Congress.
- c. Section 806 requires a drug-free work place.
- d. Section 807 requires the State to comply with environmental statutes and advise the Federal Government of environmental impacts of the project.
- e. Section 809 prohibits the State from awarding a design or construction contract to a firm that is on the debarred or suspended list.
- f. Section 810 requires the State to comply with the "Buy American Act" in the use of Federal funds.
- g. Section 813 requires the State to ensure that all construction workers are paid at least time and a half for overtime.
- h. Section 814 requires the State to comply with the provisions of the Davis-Bacon Act as supplemented by Department of Labor regulations in case of the construction contracts in excess of \$2,000 funded with Defense Environmental Restoration Act (DERA) funds. Since it is highly unlikely that any of your projects will be funded with these funds, strike through this section and mark it "Deleted."
- i. Section 815 requires the State to get comments from the Advisory Council on Historic Preservation before proceeding with Federally assisted projects that may affect properties listed on or eligible for listing on the National Register of Historic Places. Delete the instructions before submitting.
- j. Section 816 applies the Hatch Act and limits the political activity of State employees associated with the execution of the MCCA.
- k. Section 817 requires the State and its design and construction contractors to adhere to equal employment opportunity regulations.
- l. Section 818 requires the State to ensure that if its contractors use materials transported on ocean vessels that 50% of said items be transported on privately owned U.S. flag commercial vessels.
- m. Section 819 requires that the State shall ensure that none of its controlling documents for construction contracts shall require or prohibit bidders, to include their subcontractors, from entering into or adhering to agreements with one more labor organizations on this or related construction projects; and it forbids the State from discriminating against bidders, to include their subcontractors, for becoming or refusing to become or remain signatories or otherwise to adhere to agreements with one or more labor organizations, on the same or other related construction projects.

D-10. Article IX. Procurement

- a. Section 901 stipulates that the State shall use State contracting procedures in executing the MCCA.
- b. Section 902 requires the State to incorporate the clauses of Article VIII into its design and construction contracts.

D-11. Article X. Property

This article provides statutory and regulatory guidance on the State's use of all types of supplies and equipment acquired and provided under the MCCA.

D-12. Article XI. Legal Authority

This article certifies that the State has no legal impediment to executing the MCCA and that the individual signing for the State has the authority to bind and obligate the State. The article does away with the requirement for a separate opinion of counsel.

D-13. Article XII. Termination, Enforcement, Claim and Dispute Resolution

This article provides for an Alternative Dispute Resolution process.

D-14. Appendix SP. Project Description, Scope, and Schedule

All items should come from your approved DD Forms 1390/1391.

D-15. Appendix SD. Statement of Work: State Design for a Facility

- a. In the case of projects requiring review of conceptual designs, insert "10," before "35" in paragraph 4.1.3.3.
- b. Page SD-2 provides the schedule for USPFO reimbursements to the State, which may vary based on the design option the State chooses.
- c. Complete the project design budget on page SD-4 as follows:
 - (1) Project title and location come from approved DD Forms 1390/1391.
 - (2) Estimated construction costs come from the approved DD Forms 1390/1391.
 - (3) Site investigation services are no more than 3% of the estimated construction cost or the amount in the attached variable fee schedule. As an exception, the column A of the schedule may be increased by 25% in the case of alteration or rehabilitation work. As an additional exception, NGB approved commissioning, design-build, SDD, and contract administration activities may also increase the amount above 3%.
 - (4) By statute (10 U.S.C. §2306(d)) design services may not exceed 6% of the estimated cost of construction, no matter whether a State or Federal construction agent is used.
 - (5) Bid document reproduction services are based upon the number of sets stipulated in the NGB-ARI approval memorandum for the DD Forms 1390/1391.
 - (6) Totals sum the last three items.
 - (7) In Note 5 delete the last sentence and enter "NONE" or approved unique design budget items.
- d. This appendix is deleted from an MCCA for a design-build contract, unless the State elects to hire an A-E to perform site investigation services as part of the preparation of the design-build Request for Proposals. If the State elects to hire a separate A-E, it shall execute Appendix SD with the following changes:
 - (1) Delete paragraphs 4.1.3.3, 4.3.1, 8-2, and 8-3 by striking through them and marking them "DELETE".
 - (2) Modify the table in paragraph 7 by replacing the percentages in the right three columns with "NA."

D-16. Appendix SC. Statement of Work: State Construction for a Facility

Complete the construction budget as follows:

- a. Project title and location come from approved DD Forms 1390/1391.
- b. Estimated construction costs come from the approved DD Forms 1390/1391. This includes the allowance for design in the case of design-build contracts.
- c. Construction contingency is as approved on the DD Forms 1390/1391, normally 5% of the subtotal line.
- d. Supervision and Inspection Services is as approved on the DD Forms 1390/1391, normally 3% of the sum of the subtotal and contingency lines. As an exception, NGB approved commissioning activities may increase SIOH above 3%. In the case of design-build projects, you will add the amount approved for SIOH to the estimated construction costs if you do not hire a separate A-E to conduct SIOH.
- e. In Note 4 delete the last sentence and enter "NONE" or approved unique construction budget items. If the project is design-build, insert the following statement, "This is a design-build project, which requires the State to submit a Request for Proposals for NGB review, comment, and approval before the State may bid the project, and which requires the State to submit plans, general specifications, technical specifications, and supporting design data for NGB review, comment, and approval before the State may direct the contractor to begin actual construction. Facility design changes that change the estimated construction costs above estimated construction costs as stated in this appendix should not be approved by the State until this appendix is modified by the parties to reflect additional costs, as provided for elsewhere in this appendix."
- f. In Note 5, if you have been authorized SIOH at a higher rate than 3%, delete "(usually 3%)" from the note and replace "X" with the actual amount.

D-17. Modification and Termination forms

- a. Complete the top of the forms copying from the cover page of the MCCA.
- b. Fully describe the modifications or the exceptions to the release from obligations.
- c. Obtain signatures as before.

d. Requires staffing with NGB-JA.

MILITARY CONSTRUCTION COOPERATIVE AGREEMENT [ARNG]	
AGREEMENT NO. DAHA ___ - ___-2001 to 2099	PAGE 1 OF _____ PAGES
BETWEEN NATIONAL GUARD BUREAU AND THE STATE [COMMONWEALTH, OR TERRITORY] OF _____	

PROJECT TITLE:
PROJECT LOCATION:

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EXECUTION

By executing this cooperative agreement, the parties agree to terms and conditions contained herein, including attachments. IN WITNESS WHEREOF, the parties hereto have executed this cooperative agreement, and the Chief, NGB-ARI has signed on this day of ____ _____, _____.

THE STATE [COMMONWEALTH, OR TERRITORY] OF _____ BY: _____ Name	NATIONAL GUARD BUREAU BY: _____ Name USPFO for _____
---------------------------------------------------------------------------------	-----------------------------------------------------------------------

<p>_____</p> <p>Title</p>	<p>APPROVED NGB-ARI</p> <p>BY: _____</p> <p>— Name Chief of Installations</p>
<p>APPROVED AS TO LEGAL FORM</p> <p>_____</p> <p>State Counsel</p>	<p>APPROVED AS TO LEGAL FORM</p> <p>_____</p> <p>Judge Advocate</p>

ARTICLE I - SCOPE, PURPOSE AND AUTHORITY**Section 101. General.**

a. National Guard Bureau (NGB) and the State have entered into this Military Construction Cooperative Agreement (MCCA) to establish terms and conditions applicable to reimbursement of federal funds or contribution of in-kind assistance for design and construction of a facility. Both NGB and the State desire design and construction of a facility. The design and construct process links the State's obligation to design with the State's obligation to construct a facility using this single MCCA.

b. Appendices, upon attachment, are integral to this MCCA.

Section 102. Property and Improvements.

a. The State has submitted, or will submit prior to construction of the facility, satisfactory evidence of necessary property interest to real estate upon which the facility is to be constructed. In addition, the State must certify that the real estate is of a nature and is located in an area that is appropriate, under local laws and ordinances, for the intended construction and use.

b. Title to real property improvements, including real property installed equipment, except for any Intrusion Detection System (IDS) or Joint-Services Interior Intrusion Detection System (J-SIIDS) equipment, constructed under this MCCA, shall be held in the State. When constructing a facility on federal property using state contracting procedures, title for real property improvements shall be held by the United States Government.

c. The State waives any claim to title of any commercial IDS or J-SIIDS furnished by NGB for installation in the facility. NGB will reimburse the State for costs of operation and maintenance of any installed IDS or J-SIIDS equipment or system. NGB, its agents, employees or contractors, will remove, or reimburse the State for costs for removal of, any IDS or J-SIIDS equipment or system upon discontinuance of the use of the facility constructed under this MCCA as a facility for administration or training of Reserve Forces of the United States or upon NGB's determination that such removal is in the best interests of the United States, whichever is earlier.

Section 103. Scope of Activities.

The scope of activities is contained in appendices.

Section 104. Performance Specifications.

The State's performance specifications are contained in appendices.

Section 105. Authority.

a. This MCCA is authorized under the Secretary of Defense, as provided in Title 10 U.S.C. Chapter 1803. In accordance with the provisions of 10 U.S.C. Chapter 1011, the Chief, National Guard Bureau is the channel of communication between the armed forces and the National Guard of the State. He is authorized to contribute funds necessary for design and construction of facilities as set forth in 10 U.S.C. chapter 1803. Contribution of funds by NGB and construction of the facility are necessary to accomplish federal and state missions of the State Army National Guard.

b. This MCCA is a cooperative agreement within the meaning of 31 U.S.C. §§ 6301-6308.

ARTICLE II - OBLIGATIONS OF THE PARTIES**Section 201. Obligations of the State.**

a. The State shall exercise its best efforts to supervise, manage, operate and maintain all activities or projects within the scope of this MCCA according to sound, efficient, commercial practice and terms, conditions and specifications of this MCCA.

b. The State will obligate sufficient funds to pay its share of costs of this MCCA.

c. Once the project is completed, the State may not permit any use or disposition of the constructed facility which will interfere with its use for the administration and training of units of the Reserve Forces of the United States, or in time of war or national emergency, by other units of the Armed Forces of the United States or any other use by the Federal Government until the event of termination of this MCCA. (See Section 701 Term of Agreement.)

d. In the event the State desires to place the facility under some use other than for administration and training of units of Reserve Forces of the United States, the State, upon approval of the United States Property and Fiscal Officer (USPFO), may place the facility in such other use, provided that:

1. If the facility is still adequate for its original purpose and still required for the use of any Reserve Component of the United States, the State replaces the facility in-kind without further federal contribution; and

2. Executes a modification to this MCCA recognizing all terms and conditions as applying to the replacement facility for the remaining term of this MCCA. Determination of whether the replacement facility is adequate for use as is, in fact in-kind, shall be within the sole discretion of the USPFO.

e. When the facility constructed under this MCCA is no longer required by any Reserve Component of the United States, as determined by the Chief, National Guard Bureau or his or her designee, the State agrees to reimburse the United States an amount calculated by multiplying the total federal contribution for design and construction of the facility by the percentage derived by dividing the number of months remaining in the term of this MCCA by 300. Service Secretaries may waive this clause for individual facilities when he/she determines reductions in strength of the Army National Guard of the United States or the Air National Guard of the United States will cause an undue financial hardship on the State.

Section 202. Obligations of NGB.

a. Whenever terms of this MCCA provide for reimbursement or cost sharing by the Federal Government, NGB shall reimburse the State for allowable costs incurred in performance of this MCCA, according to terms and conditions for such reimbursement set forth herein.

b. Whenever terms of this MCCA provide for approval by NGB, such approval will not be unreasonably withheld. Any request for such approval shall be considered and acted upon by NGB in a timely fashion.

ARTICLE III - COSTS**Section 301. General.**

NGB shall reimburse the State for allowable costs incurred in performance of this MCCA.

Section 302. Estimated Cost.

- a. Total estimated costs of this MCCA are specified in appendices.
- b. The State shall share in costs of this MCCA performance as provided for in approved budgets in appendices.

Section 303. Cost Sharing.

a. Wherever any item of cost for performance of this MCCA, as listed in a budget in appendices, is identified to be funded in part by NGB reimbursement, NGB shall be obligated to reimburse the State only for its percentage share of total costs that would otherwise be allowable under this MCCA.

b. Cost Share Percentage. For the purposes of liquidating the State's obligation to pay for its share of costs, the percentage share of allowable costs for design or construction of the facility to be reimbursed to the State shall be identified in appendices.

Section 304. Allowability of Costs.

a. Except as otherwise stated in this article or elsewhere in this MCCA, allowability of costs incurred by the State in performance of this MCCA shall be determined according to OMB Circular A-87, as amended, and 32 CFR Part 33, as amended, at the time the cost is incurred.

b. Costs for acquisition of real property for purposes of this MCCA are unallowable.

c. Costs of State Improvements are unallowable. These unallowable improvements are facility components in excess of authorized criteria, which will not qualify for federal reimbursement.

Section 305. Advance Agreements on Allowability of Costs.

a. No cost incurred by the State that is contrary to any restriction, limitation, or instruction contained in any budget under this MCCA shall be allowable.

b. Indirect costs, as such costs are defined in OMB Circular A-87, shall be unallowable, unless such costs are listed in Subsection c. below.

c. Other specific agreement on costs, such as Pre-Agreement Costs. If none, state NONE.

Section 306. Project Close-out and Settlement.

a. Within 90 days of final completion of the project (execution date of the NGB Form 593-R PROJECT INSPECTION REPORT by the State and the USPFO), or upon termination of this MCCA, whichever comes earlier, the State shall promptly deliver to NGB a full and final accounting liquidating all payments or reimbursements under this MCCA. After completion of the State's final accounting, NGB shall make a final settlement of the total NGB contribution for this MCCA. Except for reservation of costs for unliquidated claims or undisbursed obligations arising from the State's performance of this MCCA, costs incurred for performance of the project which are not disclosed by the State within 90 days of the final completion of the project shall not be eligible for reimbursement by NGB. The State shall provide a good faith estimate of the total amount of unliquidated claims and undisbursed obligations. At its sole discretion, NGB may extend the 90 day limit for good cause shown.

b. As soon as practicable after all reserved claims are liquidated and all state disbursements for project purposes are made, the State shall submit a final settlement proposal to NGB showing its total costs paid for the project, total allowable costs paid for the project, and total costs which NGB is obligated to reimburse the State under terms of this MCCA.

ARTICLE IV - FUNDING LIMITATIONS

Section 401. Funding Limitation.

- a. Maximum NGB funding limitations for design and construction are separately specified in appendices.
- b. Within its discretion, NGB may unilaterally increase maximum funding limitations reflected in appendices at any time.
- c. Project Appropriation Limitation. Notwithstanding any other funding limitation in this MCCA, the NGB funding limitation for project construction shall not exceed the lesser of 125 percent of the project construction appropriation or the project construction appropriation amount plus \$2,000,000.

Section 402. Method of Funding.

This MCCA shall be funded for each phase, according to appendices.

Section 403. State Advance Funding of Design Option.

- a. Within its discretion, the State may contract, and fund the payment of costs, for preparation of project design documents in order to fulfill its obligation to provide project design documents. To the extent that costs are required to be reimbursed by NGB, the State's incurrence of costs shall be for the account of NGB and for which NGB shall reimburse the State.
- b. Limitations in this article relate to funds necessary for reimbursement to the State for its design costs. Consequently, the fact that federal funds may not be presently available for obligation, or obligated to this MCCA, or available for reimbursement of state costs until completion of project design documents by the State or the beginning of construction of the project, shall not be grounds for claim by either party that this MCCA is unenforceable because of failure of consideration.

ARTICLE V – PAYMENT

[Instruction: Strike out or overstamp the word “DELETE” on either Section 501 or Section 502. The State must select one of two payment methods unless it presents cogent justification for using both methods.]

Section 501. Payment by the Reimbursement Method.

a. Each month (at a minimum, if costs have been incurred) the State shall provide to the USPFO a certified statement itemizing costs incurred during the preceding month and the corresponding accounting classification to be charged. The USPFO shall prepare a Standard Form (SF) 1034 PUBLIC VOUCHER FOR PURCHASES AND SERVICES OTHER THAN PERSONAL using the aforementioned certified statement as a supporting document; and

b. Upon verification of the amount shown on the SF1034, the USPFO shall execute necessary documentation for reimbursing the State and shall then forward the accompanying documentation to the appropriate disbursing officer for payment.

Section 502. Payment by Advance.

a. NGB may reimburse the State in advance. Such advance payment shall be made according to procedures established by the Defense Finance and Accounting Service (DFAS), NGB, and the USPFO and does not require parties to use it for every payment period.

b. In addition to any conditions, reports or accounting actions required under DFAS procedures, the State shall comply with the following conditions:

1. Amount of Advance. The total outstanding amount advanced and unliquidated at any one time shall not exceed the Congressional appropriation. The Federal Government shall make advance payments to the State to meet its financial assistance needs as close as possible to the time the State is required to make disbursements. Unliquidated advance payments shall not exceed the unpaid amount of this MCCA.

2. Submission of Requests for Advance Payments.

(a) The State shall determine the estimated amount of funds necessary to meet requirements of Section 502.b.3., entitled "Use of Funds", to cover each month's operation under this advance payment financing arrangement. The State shall submit its request for advance payment to the USPFO when a requirement for advance payment cash exists.

(b) The USPFO will approve/disapprove request for advance payments. The USPFO shall review the initial request and all subsequent submissions of cash requirements to determine the reasonableness thereof; and insure adjustments are made in relation to prior advances and liquidations. The USPFO will certify ARNG requests by signing in block 13 of the SF 270.

(c) Upon receipt of the USPFO's request for payment and aforementioned supporting documents, the disbursing officer shall draw a Treasury check payable to the State for the amount authorized by the USPFO and forward the check to the State so that the funds shall be available at the beginning of the period for which the cash requirement exists. Electronic data interchange (EDI) and electronic funds transfer are the preferred methods to process payment requests and related actions.

(d) If the USPFO determines that the amount of the advance payment requested for any period is in excess of the State's needs for the period, the amount of the advance shall be decreased accordingly.

3. Use of Funds.

(a) Funds advanced shall be deposited with the State Treasurer in a special account indicating the source and purpose of the funds pursuant to state accounting and budgetary procedures law.

(b) The State agrees to minimize the time elapsing between transfer of funds from the U.S. Treasury and their disbursement by the State.

(c) Funds provided by this advance payment arrangement are to be used solely to reimburse the State for items of allowable costs incurred in performance of this MCCA. Any interpretation required as to the proper use of funds shall be made in writing to NGB-ARC. Note: Advances under this MCCA are subject to the availability of appropriated federal funds from which advances can be made.

4. Liquidation of Advances and Return of Funds. Appropriate payment documents (vouchers and/or payrolls) for actual expenditures shall be submitted to the USPFO during the period for which advance payments have been made; such documents shall be reconciled with advance payments previously made and shall be applied to liquidation of outstanding advance payments. Payments due to the State in excess of outstanding and unliquidated advance payments shall be paid to the State. If, upon completion of this project, as evidenced by submission of NGB Form 593, there remains any outstanding and unliquidated advance payment(s), the State shall immediately pay the Federal Government, upon demand, the amount remaining unliquidated. In the event the State fails to make such a payment within 30 days after the date of such demand, interest at the rate in effect at the time, established by the Secretary of the Treasury pursuant to Public Law 92-41, 85 Stat 97, for the Renegotiation Board, shall become due and payable from the date of demand. The State may at any time repay all or part of outstanding and unliquidated advance payments made hereunder.

5. Access to Records. The State shall make records and accounts pertaining to this MCCA available for inspection by auditors and other authorized Federal Government officials as required.

Section 503. Direct Federal Payment of State Obligations.

In no event shall the USPFO make direct payment to a state contractor, state employee, state contractor employee, or state vendor for any costs incurred by the State under this MCCA.

Section 504. Interest.

The amount of interest due the United States on funds advanced to the State or of interest due the State shall be determined and paid in accordance with 31 U.S.C. § 6503 and such regulations as have been issued by the U.S. Department of Treasury and the Department of Defense, as amended.

ARTICLE VI - DEFINITIONS**Section 601. Army National Guard Military Construction Cooperative Agreement.**

Army National Guard (ARNG) Military Construction Cooperative Agreement (MCCA) means any agreement entered into by the states and the Department of Defense, National Guard Bureau, reimbursed by Department of Defense appropriations for construction of the Army National Guard and for other programs authorized and directed by Congress or the Department of Defense to be performed by the states and the National Guard Bureau.

Section 602. Army National Guard.

Army National Guard (ARNG) means that part of the organized militia of the several states and territories, Puerto Rico, and the District of Columbia, active and inactive, that--

- a. Is a land force;
- b. Is trained, and has its officers appointed, under the sixteenth clause of Section 8, Article I of the Constitution;
- c. Is organized, armed, and equipped wholly or partly at federal expense; and
- d. Is federally recognized (32 U.S.C. § 101).

Section 603. Chief, National Guard Bureau.

Chief, National Guard Bureau, means the head of the National Guard Bureau, or his or her designee.

Section 604. Construction.

Construction means the erection, installation, or assembly of a new facility; the relocation of a facility; the complete replacement of an existing facility; or the expansion, extension, alteration/conversion (to a new type use) of an existing facility. This includes equipment (not furniture) installed and made a part of the facility, related site preparation, excavation, backfilling, landscaping, or other land improvements. It also includes increases in components of facilities for functional reasons and the extension of utilities to areas not previously served. The federal reimbursement of project costs cannot exceed the statutory ceiling in 10 U.S.C. 18236(b).

Section 605. Design Services.

Design services mean any service necessary, or reasonably related to, investigation of a construction site for suitability, layout, engineering requirements, or development of plans and specifications for construction, preparation of construction estimates, reproduction of construction contract bid documents, or supervision and inspection of construction.

Section 606. Equipment.

For purposes of 32 CFR 33.32, equipment means any equipment purchased for performance of this MCCA that is not "military equipment". Use and disposal of equipment shall comply with requirements of 32 CFR 33.

Section 607. Estimated Construction Costs.

For purposes of this MCCA, estimated construction costs shall be the NGB approved DD Forms 1390/91 construction amount. It shall not include the five percent (5%) contingency allowance nor the Title II/Type "C" SUPERVISION AND INSPECTION Services (SIOH) amount separately identified on DD Forms 1390/91 approval documents.

Section 608. Fiscal Year.

Fiscal year (FY) means the federal fiscal year that runs from October 1 through September 30.

Section 609. Grants Officer.

Grants Officer (GO) shall mean an individual appointed by the NGB Head of Contracting Activity (HCA) or designee, authorized to provide approvals, receive reports, modify or change terms of this MCCA, provide funds under this MCCA, or take any other action for NGB under this MCCA except for deciding any appeal of a dispute under this MCCA as provided in Section 1203. and any other action delegated to a specific person by this MCCA or an appendix.

Section 610. Grants Officer Representative.

Grants Officer Representative (GOR) means a representative of the Grants Officer acting within the limits of his or her authority as delegated, in writing, by the Grants Officer. If the Grants Officer designates a GOR, the assistance recipient will receive a copy of the written designation. It will specify the extent of the GOR's authority to act on behalf of the Grants Officer. The GOR is not authorized to make commitments or changes that will affect terms or conditions of the MCCA or an appendix.

Section 611. In-kind Assistance.

In-kind assistance means the transfer of property or services by NGB (valued at the time of contribution at fair market value) in lieu of funds to satisfy (in whole or in part) its obligation of assistance support to the State.

Section 612. Military Equipment.

Military equipment is any equipment issued to the State pursuant to applicable military regulations and accounted for by the State and the USPFO.

Section 613. Military Supplies.

Military supplies are any supplies issued to the State pursuant to applicable military regulations and accounted for by the State and the USPFO.

Section 614. National Guard Bureau.

National Guard Bureau (NGB) is a Joint Bureau of the Department of the Army and the Department of the Air Force, headed by a chief who is the advisor to the Army Chief of Staff and the Air Force Chief of Staff on National Guard matters. NGB is the channel of communication between departments concerned and the several states, territories, Puerto Rico, and the District of Columbia, on matters pertaining to the National Guard, the Army National Guard of the United States, and the Air National Guard of the United States (10 U.S.C. § Chapter 1011).

Section 615. Operation and Maintenance Activities.

Operation and maintenance (O&M) activities mean and include (but are not limited to) actions by the State, through employment, by contract or hire, of sufficient personnel, or of acquisition by contract of supplies and services, or other necessary actions to perform services, tasks, or activities within the scope of this MCCA which are properly charged to an O&M account.

Section 616. State.

Any of the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, any territory or possession of the United States, or any agency or instrumentality of a State exclusive of local governments. (DODGARS 33.3).

Section 617. State Improvements.

State improvements are facilities, portions of facilities, or other work included within the scope of the project as identified in appendices to this MCCA which are desired by the State and for which NGB will make no reimbursement of funds for either design or construction.

Section 618. Supplies.

For the purposes of 32 CFR 33.33, supplies mean any supplies purchased for performance of this MCCA that are not "military supplies".

Section 619. Territory.

Territory means any territory. However, for purposes of laws relating to the militia, the National Guard, the Army National Guard of the United States, and the Air National Guard of the United States, "Territory" includes Guam and the U.S. Virgin Islands (32 U.S.C. § 101).

Section 620. The Adjutant General.

a. The Adjutant General (TAG) is the head of the State [Commonwealth, or Territory] Military Department, generally appointed by the Governor of the State [Commonwealth, or Territory], according to the respective state's [commonwealth's, or territory's] constitution or statutes.

b. The TAG :

1. Receives funds and property and accounts for all expenditures and property acquired through this MCCA; and
2. Makes returns and reports concerning those expenditures and that property, as required by this MCCA.

Section 621. United States Property and Fiscal Officer.

a. The United States Property and Fiscal Officer (USPFO) is the qualified commissioned officer of the Army National Guard or the Air National Guard, as the case may be, designated by the Chief, National Guard Bureau, to be the United States Property and Fiscal Officer of a state or territory.

b. The USPFO:

1. Receives and accounts for funds and property of the United States in possession of the National Guard for which he or she is property and fiscal officer; and
2. Makes returns and reports concerning those funds and that property, as required by the Secretary concerned. (32 U.S.C. § 708).

ARTICLE VII - GENERAL PROVISIONS

Section 701. Term of Agreement.

Unless sooner terminated by its terms, this MCCA shall terminate 25 years after the date of NGB's acceptance of the facility, which shall occur at the earlier of the following two events: the occupancy date listed on a Certificate of Substantial Completion for the primary facility of the project (provided that NGB approves the Certificate and the accompanying DD Form 1354), or the date of signature indicated in Appendix SC, paragraph 2.3.3.

Section 702. Sole Benefit.

This MCCA is intended for the sole benefit of NGB and the State and is not intended to create any other beneficiaries.

Section 703. Modification.

This MCCA may be modified only by a written instrument signed by the parties hereto. Reference NGR 415-5, Appendix E, for sample Military Construction Cooperative Agreement (ARNG) Modification Form.

Section 704. Successors and Assigns.

This MCCA may not be assigned by a party without the express written consent of the other party. All covenants made under this MCCA shall bind and inure to the benefit of any successors and assigns of the parties whether or not expressly assumed or acknowledged by such successors or assigns.

Section 705. Entire Agreement.

This MCCA forms the entire agreement between the parties as to scope and subject matter of this MCCA. All prior discussions and understandings concerning such scope and subject matter are superseded and incorporated by this MCCA.

Section 706. Severability.

If any provision of this MCCA is held judicially invalid, the remainder of this MCCA shall continue in force and effect to the extent not inconsistent with such holding.

Section 707. Waiver of Breach.

If a party waives enforcement of any provision of this MCCA (or appendices) upon any event of breach by the other party, such waiver shall not automatically extend to any other or future events of breach.

Section 708. Notices.

Any notice, transmittal, approval, or other official communication made under this MCCA shall be in writing and shall be delivered by hand, facsimile (FAX) transmission, or by mail to the other party at the address or facsimile transmission telephone number set forth below or at such other address(es) as may be later designated:

NGB (USPFO): Name
 Address
 Fax No.

State: Name
 Address
 Fax No.

Section 709. Execution.

This MCCA may be executed in several counterparts, each of which shall be deemed an original. Subsequent execution of any or all attached appendices shall not affect the legality or enforceability of this MCCA.

Section 710. Conflict of Interest.

The State shall insure that its employees are prohibited from using their positions for a purpose that is or gives the appearance of being motivated by a desire for private gain for themselves or others.

Section 711. Access to and Retention of Records.

The State shall afford any authorized representative of NGB, the Department of Defense, or the Comptroller General access to and the right to examine all records, books, papers, and documents ("Records") that are within the State's custody or control and that relate to its performance under this MCCA. The State shall retain all such records intact in such form, if not original documents, as may be approved by NGB for at least three (3) years following project termination or completion.

Section 712. Change of Circumstances.

Each party shall promptly notify the other party of any legal impediment, change of circumstances, pending litigation, or any other event or condition that may adversely affect such party's ability to carry out any of its obligations under this MCCA.

Section 713. Liability and Indemnity.

Nothing in this MCCA shall be construed as an indemnification by one party of the other for liabilities of a party or third persons for property loss or damage or death or personal injury arising out of and during performance of this MCCA. Any liabilities or claims for property loss or damage or for death or personal injury by a party or its agents, employees, contractors or assigns or by third persons, arising out of and during the performance of this MCCA shall be determined according to applicable law.

Section 714. Reports.

In addition to any financial or other reports required by terms of this MCCA, NGB may require the State to prepare reports or provide information relating to this MCCA. The State agrees to provide such reports within a reasonable time of request and in such detail as may be required.

Section 715. Special State Requirements.

Changes to established requirements of this MCCA made necessary by governing state statutes will be coordinated with NGB-JA prior to submission of this MCCA for approval by NGB. Upon NGB-JA acceptance of the submitted change or alteration, a complete statement of alterations or changes, along with their justification, must be either presented below or attached to this MCCA and will be considered a part thereof. If none, state NONE.

Section 716. GSA Vehicles.

Nothing in this MCCA shall be construed as an indemnification by the United States of the State, its employees, agents, or third persons, for liability with respect to any and all claims, including, but not limited to: (1) claims for damages; and (2) claims for reimbursement arising from property loss, personal injury or accident damage related to the use, care, or operation of a GSA vehicle. The State agrees to reimburse the US Government for any damage to the GSA vehicle as a result of operation by a State employee, all consistent with applicable State Law.

ARTICLE VIII – APPLICABLE LAWS AND REGULATIONS**Section 801. Applicable Law.**

This MCCA is incidental to implementation of a federal program. Accordingly, this MCCA shall be governed by and construed according to federal law as it may affect rights, remedies, and obligations of the United States.

Section 802. Governing Regulations.

To the extent not inconsistent with express terms of this MCCA, provisions of 32 CFR Part 33, Uniform Administrative Requirements for Grants and Cooperative Agreements, the DoD 3210.6R, DoD Grant and Agreement Regulations (4/13/98), OMB Circular A-87, and NGR 5-1/ANGI 63-101, which circular and regulations are hereby incorporated into this MCCA by reference as if fully set forth herein, shall govern this MCCA.

Section 803. Officials Not to Benefit

No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this agreement, or to any benefit arising from it, in accordance with 41 U.S.C. 22.

Section 804. Nondiscrimination

The State covenants and agrees that by signing this agreement or accepting funds under this agreement, the recipient assures that it will comply with applicable provision of the following, national policies prohibiting discrimination:

- a. On the basis of race, color, or national origin, in Title VII of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq.), as implemented by DOD regulations 32 CFR Part 195.
- b. On the basis of race, color, religion, sex, or national origin, in Executive Order 11246 [3 CFR, 1964-1965 Comp. p. 339], as implemented by Department of Labor regulations issued thereunder (41 CFR Part 60);
- c. On the basis of handicap, in Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794) as implemented by Department of Justice regulations at 28 CFR part 41 and DoD Regulations at 32 CFR Part 56; and,
- d. On the basis of Age, in the Age Discrimination Act of 1975 (42 U.S.C. § 6101 et seq.) as implemented by Department of Health and Human Services regulations at 45 CFR Part 90.

Section 805. Lobbying.

a. The State covenants and agrees that it will not expend any funds appropriated by Congress to pay any person for influencing or attempting to influence an officer or employee of any agency or a member of Congress in connection with any of the following covered federal actions: The awarding of any federal contract; the making of any federal grant; the making of any federal loan; the entering into of any cooperative agreement; and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

b. New Restrictions on Lobbying, issued by the Office of Management and Budget and the Department of Defense (32 CFR Part 28) to implement provisions of Section 319 of Public Law 102-121 (31 U.S.C. § 1352) is incorporated by reference and the State agrees to comply with provisions thereof, including amendments to the that may hereafter be issued.

Section 806. Drug-Free Work Place.

a. The State covenants and agrees that it will comply with provisions of the Drug-Free Work Place Act of 1988 (Public Law 100-690, Title V, Subtitle D; 41 U.S.C. § 701 et seq.) and will maintain a drug-free workplace.

b. Government-Wide Requirements for Drug-Free Workplace (Grants), issued by the Office of Management and Budget and the Department of Defense (41 USC 702) to implement provisions of the Drug-Free Work Place Act of 1988, is incorporated by reference and the State covenants and agrees to comply with provisions thereof, including amendments that may hereafter be issued.

Section 807. Environmental Standards. By signing this agreement or accepting funds under this agreement, the recipient assure that it will:

a. Comply with applicable provision of the Clean Air Act (42 U.S.C. § 7401, et seq) and Clean Water Act (33 USC 1251, et.seq.), as implemented by Executive Order 11738 [3 CFR, 1971-1975 comp., p.799] and Environmental Protection Agency (EPA) rules at 40 CFR Part 15. In accordance with the EPA rules, the recipient further agrees that it will:

- Not use any facility on the EPA's List of Violating Facilities in performing any award that is nonexempt under 40 CFR 15.5 (awards of less than \$100,000, and certain other awards, exempt from the EPA regulations), as long as the facility remains on the list.
- Notify the awarding agency if it intends to use a facility in performing this award that is on the List of Violating Facilities or that the recipient knows has been recommended to be placed on the List of Violating Facilities.

b. Identify to the awarding agency any impact this award may have on:

(1) The quality of the human environment, and provide help the agency may need to comply with the National Environmental Policy Act (NEPA, at 42 U.S.C 4321, et.seq.) and to prepare Environment Impact Statements or other required environmental documentation. In such cases, the recipient agrees to take no action that will have an adverse environmental impact (e.g., physical disturbance of a site such as breaking of ground) until the agency provides written notification of compliance with the environmental impact analysis process.

(2) Flood-prone areas, and provide help the agency may need to comply with the National Flood Insurance Act of 1968 and Flood Disaster Protection Act of 1973 (42 U.S.C. 4001, et. Seq.), which require flood insurance, when available, for Federally assisted construction or acquisition in flood-prone areas.

(3) Coastal zones, and provide help the agency may need to comply with the Coastal Zone Management Act of 1972 (16 U.S.C. 1451, et seq.), concerning protection of U.S. coastal resources.

(4) Coastal barriers, and provide help the agency may need to comply with the Coastal Barriers Resource Act (16 U.S.C. 3501 et.seq.), concerning preservation of barrier resources.

(5) Any existing or proposed component of the National Wild and Scenic Rivers system, and provide help the agency may need to comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271 et seq.).

(6) Underground sources of drinking water in areas that have an aquifer that is the sole or principal drinking water source, and provide help the agency may need to comply with the Safe Drinking Water Act (42 U.S.C 300h-3).

Section 808. Preference for U.S. Flag Air Carriers.

(Any agreement under which international air travel may be supported by U.S. Government funds)

Travel supported by U.S. Government funds under this agreement shall use U.S flag air carriers (air carriers holding certificates under 49U.S.C. 41102) for international air transportation of people and property to the extent that such service is available, in accordance with the International Air Transportation Fair Competitive Practices Act of 1974 (49 U.S.C. 40118) and the interpretative guidelines issued by the Comptroller General of the United States in the March 31, 1981, amendment to Comptroller General Decision B138942.

Section 809. Debarment and Suspension.

a. The State shall not make any award or permit any award (subgrant or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in federal assistance programs under Executive Order 12549 "Debarment and Suspension".

b. Government-Wide Debarment and Suspension (Nonprocurement), issued by the Office of Management and Budget and the Department of Defense (32 CFR Part 25) to implement provisions of Executive Order 12549 "Debarment and Suspension," is incorporated by reference and the State covenants and agrees to comply with provisions thereof, including amendments that may hereafter be issued.

Section 810. Buy American Act.

The State covenants and agrees that it will not expend any funds appropriated by Congress without complying with The Buy American Act (41 U.S.C. 10). The Buy American Act gives preference to domestic end products and domestic construction material. In addition, the memorandum of understanding between the United States of America and the European Economic Community (EEC) on Government Procurement, and the North American Free Trade Agreement (NAFTA), provide that EEC and NAFTA end products and construction materials are exempted from application of the Buy American Act.

Section 811. Relocation Assistance and Real Property Acquisition Policies.

The State covenants and assures that it will comply with 49 CFR part 24, which implements the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. § 4601 *et seq.*) and provides for fair and equitable treatment of persons displaced by Federally assisted programs or persons whose property is acquired as a result of such programs.

Section 812. Copeland "Anti-Kickback" Act. *(All contracts and subgrants for construction or repair)*

The State covenants and agrees that it will comply with the Copeland "Anti-Kickback" Act (18 U.S.C. 874), as supplemented in Department of Labor regulations (29 CFR Part 3). As applied to this MCCA, the Copeland "Anti-Kickback" Act makes it unlawful to induce, by force, intimidation, threat of procuring dismissal from employment, or otherwise, any person employed in the construction or repair of public buildings or public works, financed in whole or in part by the United States, to give up any part of the compensation to which that person is entitled under a contract of employment.

Section 813. Contract Work Hours and Safety Standards Act. *(Construction contracts awarded by grantees and subgrantees in excess of \$2,000, and in excess of \$2,500 for other contracts which involve the employment of mechanics and laborers)*

The State covenants and agrees that it will comply with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330), as supplemented by Department of Labor regulations (29 CFR Part 5). As applied to this MCCA, the Contract Work Hours and Safety Standards Act specifies that no laborer or mechanic doing any part of the work contemplated by this MCCA shall be required or permitted to work more than 40 hours in any work week unless paid for all additional hours at not less than 1 1/2 times the basic rate of pay.

Section 814. Davis-Bacon Act:**DO NOT USE THIS CLAUSE UNLESS AUTHORIZED BY NGB-ARL**

The State covenants and agrees that it will comply with the Davis -Bacon (40 U.S.C. 276 a to a-7) as supplemented by U.S. Department of Labor regulations (29 CFR Part 5). (Construction contracts in excess of \$2,000 awarded by grantees and sub-

grantees when required by Federal grant program legislation). All rulings and interpretations of the Davis -Bacon Act contained in 29 CFR Part 5 are incorporated by reference in this MCCA. As applied to this MCCA, the Davis -Bacon Act (40 U.S.C. 276a-276a-7) provides that contracts in excess of \$2,000 to which the Federal Government provides assistance funding for construction, alteration, or repair (including painting and decorating) of public buildings or public works within the United States, shall contain a provision that no laborer or mechanic employed directly upon the site of the work shall receive less than the prevailing wage rates as determined by the U.S. Secretary of Labor.

Section 815. National Historic Preservation. *(Any construction, acquisition, modernization, or other activity that may impact a historic property.)*

The State covenants and agrees to identify to the awarding agency any property listed or eligible for listing on the National Register of Historic Places that will be affected by this award, and to provide any help the awarding agency may need, with respect to this award, to comply with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470, et seq.), as implemented by the Advisory Council on Historic Preservation regulations at 36 CFR Part 800 and Executive Order 11593 (3 CFR, 1971-1975 Comp., p. 559).

(36 CFR Part 800 requires Grants Officers to get comments from the Advisory Council on Historic Preservation before proceeding with Federally assisted projects that may affect properties listed on or eligible for listing on the National Register of Historic Places.)

Section 816. Hatch Act.

The State covenants and agrees to comply with the Hatch Act (5 U.S.C. 1501 - 1508 and 7324 - 7326), as implemented by the Office of Personnel Management at 5 CFR Part 151, which limits political activity of employees or officers of State or local governments whose employment is connected to an activity financed in whole or part with Federal funds.

Section 817. Equal Employment Opportunity. *(All construction contracts awarded in excess of \$10,000 by grantees and their contractors or subgrantees.)*

The State covenants and agrees to comply with Executive Order 11246 of September 24, 1965 entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967 and as supplemented in Department of Labor regulations (41 CFR Chapter 60).

Section 818. Cargo Preference. *(Any agreement under which international air travel may be supported by U.S. Government funds.)*

The State covenants and agrees that it will comply with the Cargo Preference Act of 1954 (46 USC 1241), as implemented by Department of Transportation regulations at 46 CFR 381.7, which require that at least 50 percent of equipment, materials or commodities procured or otherwise obtained with U.S. Government funds under this Grant, and which may be transported by ocean vessel, shall be transported on privately owned U.S. flag commercial vessels, if available.

Section 819. Preservation of Open Competition and Government Neutrality Towards Government Contractors' Labor Relations on Federal and Federally Funded Construction Projects:

The State covenants and agrees that it will comply with Executive Order 13202 of February 17, 2001, Preservation of Open Competition and Government Neutrality Towards Government Contractors' Labor Relations on Federal and Federally Funded Construction Projects, as amended on April 6, 2001.

ARTICLE IX - PROCUREMENT

Section 901. State Contracts.

The State's acquisition of goods and services by the State in performance of this MCCA shall be according to applicable state contracting procedures, standards and procedures contained in 32 CFR § 33.36 and this MCCA.

Section 902. State Contract Flow-down.

Subject to existing contracts, the State is required to insert the substance of provisions of Article VIII in contracts issued under this MCCA, unless state laws or regulations offer more protection.

ARTICLE X - PROPERTY

Section 1001. Equipment.

The State shall account for and manage equipment acquired by the State under this MCCA and equipment provided by NGB for performance of this MCCA as provided for in 32 CFR § 33.32.

Section 1002. Supplies.

The State shall account for and manage supplies acquired by the State under this MCCA and supplies provided by NGB for performance of this MCCA as provided for in 32 CFR § 33.33.

Section 1003. Military Equipment and Supplies.

Notwithstanding Sections 1001. and 1002. above, use and disposition of military supplies and equipment issued to the State pursuant to applicable military regulations shall be according to such regulations. Nothing shall prevent the State from using such issued equipment or supplies in performance of this MCCA so long as such usage is in accordance with provisions and requirements of Title 10, USC, Section 2012. The State shall be responsible for separately accounting for military equipment and supplies used in performance of this MCCA, according to existing military accounting systems and procedures.

ARTICLE XI - LEGAL AUTHORITY**Section 1101. Legal Authority.**

The State represents and warrants that it is under no existing or foreseeable legal disability that would prevent or hinder it from fulfilling terms and conditions of this MCCA. The State shall promptly notify NGB of any legal impediment that arises during the term of this MCCA that may prevent or hinder the State's fulfillment of its obligations under this MCCA.

Section 1102. Opinion of Counsel.

Concurrent with its execution of this MCCA, the State's highest legal officer, or his or her designee, certifies by signature approval as to legal form of this MCCA, that:

- a. The State has the requisite authority to enter into this MCCA;
- b. The State can make the warranty set forth in Section 1101. above;
- c. The State is empowered to assume responsibilities and obligations the State proposes to undertake under this MCCA;
- d. Provisions of this MCCA intended to secure NGB interests are enforceable according to their terms;
- e. Execution of this MCCA has been duly authorized by the State; and
- f. That the individual signing this MCCA on behalf of the State has the requisite legal authority to bind and obligate the State to terms and conditions of this MCCA.

ARTICLE XII - TERMINATION, ENFORCEMENT, CLAIM AND DISPUTE RESOLUTION

Section 1201. Termination.

This MCCA may be terminated by either party according to terms and conditions of 32 CFR § 33.44.

Section 1202. Enforcement.

- a. NGB may take such actions to enforce terms of this MCCA as may be provided for in and under terms of 32 CFR § 33.43.
- b. Circumstances under which NGB may take actions provided in Section 1202. a. above include, but shall not be limited to, the following:
 - 1. Failure by the State to appropriate funds sufficient for its share of project costs;
 - 2. Unreasonable failure by the State to begin, prosecute, or complete construction of the project; and
 - 3. Failure by the State to substantially complete construction in accordance with project design documents, approved and accepted in accordance with terms of this MCCA.

Section 1203. Claims, Disputes Resolution and Appeals.

- a. Any claim made by the State arising out of this Cooperative Agreement shall be presented in writing to the Grants Officer. The claim shall include: the amount of monetary relief claimed or the nature of other relief requested; the basis for relief; and, the documents or other evidence pertinent to the claim.
- b. Claims shall be made within 60 days after the basis of the claim is known or should have been known, whichever is earlier. It is the State's duty to include in its claim all information needed to demonstrate its timeliness.
- c. Upon receipt of a claim, the Grants Officer shall provide a written decision denying or sustaining the claim, in whole or part, which decision shall include the reason for the action, within 60 days of the date of the receipt of a claim. The determination shall be final unless appealed by the State pursuant to the provisions of this section.
- d. Alternative Dispute Resolution (ADR).
 - 1. Policy. It is NGB policy to try to resolve all issues concerning cooperative agreements at the Grants Officer's level. Grant Officers are encouraged to use ADR procedures to the maximum extent practicable.
 - 2. Procedures. If a State decides to appeal a Grants Officer's decision, the Grants Officer shall encourage the State to enter into ADR procedures. The ADR procedures to be used shall be agreed to at the time the parties determine to employ them.
- e. Appeals.
 - 1. Grant Appeal Authority. The CNGB shall designate a Grants Appeal Authority at the time of receipt of appeal.
 - 2. Right of Appeal. The State has the right to appeal a Grants Officer's decision to the Grant Appeal Authority.
 - 3. Appeal Procedures.
 - (a) Notice of appeal. The TAG may appeal a decision of the Grants Officer within 90 days of receiving that decision, by filing a written notice of appeal to the Grant Appeal Authority and to the Grants Officer.
 - (b) Appeal file. Within 30 days of receiving the notice of appeal, the Grants Officer shall forward to the

Grant Appeal Authority and the State the appeal file, which shall include copies of all documents relevant to the appeal.

(c) Decision. Any fact-finding or hearing shall be conducted using procedures that the Grant Appeal Authority deems appropriate.

f. Nothing in this section is intended to limit a State's right to any remedy under the law.

ATTACHMENTS - APPENDICES

Appendix SP Project Description, Scope, and Schedule

Appendix SD Statement of Work, State Design for a Facility

Appendix SC Statement of Work, State Construction for a Facility

APPENDIX SP

PROJECT DESCRIPTION, SCOPE, AND SCHEDULE

PROJECT DESCRIPTION

[Complete a brief description of the construction project, to include all major elements thereof and identification of State improvements.]

PROJECT SCOPE

[Complete a detailed scope of the construction project, to include size, special attributes, type of construction, etc.] NOTE: DD Forms 1390/91 documentation may be used to establish scope.

PROJECT SCHEDULE

[Show all significant schedule dates, i.e., design development, construction start and completion dates, etc.]

APPENDIX SD**STATEMENT OF WORK
STATE DESIGN FOR A FACILITY**

1. **Purpose.** This Statement of Work defines the State's obligation in providing state design for a construction project.
2. **Scope of Services.** By contract or otherwise, the State will obtain Architect-Engineer (A-E) services necessary to develop plans, specifications, and cost estimates (collectively referred to as Project Design Documents) required for construction of the facility.
3. **Design Services.** Design services shall be designated in the following manner:
 - 3.1. Title I/Type "A" SITE INVESTIGATION Services: Field surveys and investigations required to obtain data essential for production of plans and specifications for construction which may include, but not be limited to, topographical surveys, soil borings, site planning, soils, chemical and mechanical surveys and investigations, survey of utility locations and capacities, and similar fact-finding investigations and technical studies.
 - 3.2. Title I/Type "B" DESIGN Services: Services to perform code and criteria review and to produce construction plans, construction specifications and construction cost estimates at the preliminary (35 percent completion), final (95 percent completion) and bid final (bidding documents) phases.
 - 3.3. Title I/Reproduction Services: Services to reproduce construction plans and specifications suitable for bidding purposes.
 - 3.4. Title II/Type "C" SUPERVISION AND INSPECTION Services: Services to supervise and inspect construction performance and review of construction contractor prepared as-built drawings.
4. **Design Responsibilities.**
 - 4.1. State design may occur under the following circumstances:
 - 4.1.1. Congress has authorized construction of the facility and appropriated funds to the Department of Defense therefore; or
 - 4.1.2. Federal funds are available for design but are not yet available for construction of the facility; or
 - 4.1.3. Federal funds are not yet available for either design or construction of the facility.
 - 4.1.3.1. The State shall carry out final design of the facility as the project is defined in this appendix. Final design shall include construction plans and specifications, construction cost estimates, the construction schedule and applicable construction phasing or sequencing requirements.
 - 4.1.3.2. The State will select and contract for A-E design services.
 - 4.1.3.3. The State shall transmit design documents for NGB review, comment, and approval prior to the State's acceptance of documents at the 35, 95, and 100 percent stages of design completion. NGB shall approve, disapprove, or approve subject to comments, state submitted design documents. If NGB approves design documents subject to comments, the State shall make good faith efforts to resolve comments prior to accepting documents from the design A-E.
 - 4.2. NGB direction of state design contractor. NGB shall not issue directions to the State's design A-E and shall communicate with the State's design A-E only through, or with permission of, an authorized representative of the State.
 - 4.3. Design changes.

4.3.1. Facility design changes that increase design or estimated construction costs above design or estimated construction costs stated in this appendix should not be approved by the State until this appendix is modified by the parties to reflect additional costs, as provided for elsewhere in this appendix.

4.3.2. Title to design documents. Title to project design documents shall be provided in the State design contract. The State shall insure that the design contract provides an unlimited right to use of project design documents at no additional cost.

4.3.3. Limitation of liability.

4.3.3.1. The State acknowledges that it (or its contractor) is preparing project design documents in its right and not as an agent or contractor of NGB.

4.3.3.2. No NGB or state approval given under this appendix shall be construed as a warranty of any kind.

5. **Project Schedule.** The parties agree to exercise their best efforts to complete project design documents within the period set forth on the Project Schedule (page APP-SP-1).

6. **Estimated Cost of Construction.** During the project design period, the State will promptly advise NGB if it finds that the estimated cost of construction is likely to be in excess of the stipulated cost. The State shall provide a new estimated cost of construction for NGB's review. Upon NGB's review of state estimates, the parties shall agree to either reduce the scope of construction to keep the estimated cost within the amount set forth in this appendix or to establish a new estimated cost of construction and modify this appendix as provided elsewhere in this appendix.

7. **Reimbursement of Design Costs.** Federal (USPFO) reimbursement of state incurred design costs, not to exceed the Project Design Budget, will be made upon NGB's authorization of project design documents and the State's proper billing for reimbursement of the federal share of costs under terms of this MCCA, in accordance with the following schedule:

	DD 1390/91 Approval by NGB (A-E auth memo)	Preliminary (35%) Authorized	Final (95%) Authorized	Bid Final (100%) Approval
Type A services	100%	100%	100%	100%
Type B services	0%	35%	95%	100%
Reproduction Services	0%	0%	0%	100%
Type C services	(Incrementally during construction)			
Note: All entries refer to a percentage of the federal dollar share of the respective cost item.				

8. **Architect-Engineer Fee Limits.** The State may negotiate whatever form of Architect-Engineer services contract that it desires. However, in addition to any other limitation on costs set forth in this MCCA, NGB shall have no obligation to reimburse the State for more than the federal prorata share of:

8.1. Type "A" SITE INVESTIGATION Services costs in excess of 3% (unless approved in advance by NGB) of the estimated cost of construction;

8.2. Type B "DESIGN" Services costs in excess of 6% of the estimated cost of construction;

8.3. Bid Document Reproduction in excess of 25 sets (unless approved in advance by NGB) of bid documents; and

8.4. Type "C" SUPERVISION AND INSPECTION Services costs in excess of 3% of the sum of the estimated cost of construction and contingency (unless approved in advance by NGB). [See Project Construction Budget (page APP-SC-2) for limitation of construction inspection costs.]

9. Project Design Budget.

9.1. The Project Design Budget is the maximum amount for which NGB is obligated to reimburse the State for costs of performance of this MCCA.

9.2. Unless otherwise provided for in the Project Design Budget, any line item therein may be changed only by amendment of this MCCA. Either party may propose a change to a budget by submitting such proposal in writing to the other party.

9.3. The Project Design Budget shall include any limitation, restriction, or instruction on expenditure of funds applicable to the project or any line item in the Project Design Budget.

PROJECT DESIGN BUDGET

 (PROJECT TITLE AND LOCATION)

Activity	Estimated Federal Share	Estimated State Share	Estimated Totals
Estimated Construction Costs (Note 4)			
Site Investigation Services			
Design Services			
Bid Document Reproduction Services			
TOTALS (Maximum Design Funding)			

Project Design Budget notes, terms and conditions:

1. This project design budget is incorporated into this appendix for the purpose of establishing total estimated project design costs and the amount of NGB funding necessary to reimburse the State for the federal share to produce project design documents.
2. The United States shall not be liable to reimburse the State for costs of design except those for Cost Shared Improvements or Federal Improvements.
3. All design work after the date of construction award will be Title II/Type "C" SUPERVISION AND INSPECTION Services (SIOH); see page APP-SC-2.
4. Estimated Construction Costs = DD Forms 1390/91 construction amount, as approved by NGB, excluding Contingency and Title II/Type "C" SUPERVISION AND INSPECTION Services (see Article VI for definition).
5. Other specific design budget terms unique to this MCCA. If none, state NONE.

NOTE: In lieu of above, budget/cost data on DD Forms 1390/91 may be used as a project budget with appropriate direction as to which parts of 1390/91 data are to be treated as budget cost limitations.

APPENDIX SC

STATEMENT OF WORK
STATE CONSTRUCTION FOR A FACILITY

1. **Purpose.** This Statement of Work defines the State's obligation in providing state construction for a facility.
2. **Scope of Responsibilities and Administration.**
 - 2.1. State construction.
 - 2.1.1. The State shall carry out construction of the facility in strict accordance with project design documents as accepted by the State.
 - 2.1.2. Upon acceptance of project design documents, the State will timely undertake to contract for construction of the facility according to this MCCA.
 - 2.2. NGB approval of construction documents. The State shall notify NGB of its intent to award a contract(s) for construction of the facility. At its discretion, NGB may either review, make comment, or deny approval of the contract prior to the State's execution of the contract. NGB may disapprove contracts only for the following reasons:
 - 2.2.1. The contract price exceeds the amount in the Project Construction Budget in this appendix; or
 - 2.2.2. The proposed contractor (or any tier subcontractor) has been debarred or suspended from performing federal contracts or performing contracts under Grants or Cooperative Agreements with the Federal Government (see Section 808.).
 - 2.3. Inspection and acceptance of construction.
 - 2.3.1. The State shall be responsible for inspection and acceptance of the work of its construction contractor(s).
 - 2.3.2. Final payment reimbursement shall be granted after the NGB Form 593-R PROJECT INSPECTION REPORT has been completed and then certified by the USPFO.
 - 2.3.3. Upon the USPFO's certification of final acceptance, the project shall be considered complete.
 - 2.4. NGB direction of state contractor(s). NGB shall not issue directions to any state contractor and shall communicate with a state contractor only through, or with permission of, an authorized representative of the State.
3. **Project Schedule.** The parties agree to exercise their best efforts to complete project construction within the period set forth on the Project Schedule (page APP-SP-1).
4. **Project Construction Budget.**
 - 4.1. The Project Construction Budget is the maximum amount for which NGB is obligated to reimburse the State for costs of performance of this MCCA.
 - 4.2. Unless otherwise provided for in the Project Construction Budget, any line item therein may be changed only by amendment of this MCCA. Either party may propose a change to a budget by submitting such proposal in writing to the other party.
 - 4.3. The Project Construction Budget shall include any limitation, restriction, or instruction on expenditure of funds applicable to the project or any line item in the Project Construction Budget.

4.4. Subject to the project appropriation limitation, and within its discretion, NGB may increase its maximum funding limitation reflected in this appendix at any time.

PROJECT CONSTRUCTION BUDGET

 (PROJECT TITLE AND LOCATION)

Activity	Estimated Federal Share	Estimated State Share	Estimated Totals
Construction of Cost Shared Improvements			
Construction of Federal Improvements		NA	
Construction of State Improvements	NA		
Subtotal			
Construction Contingency			
Supervision and Inspection Services			
TOTALS			

Project Construction Budget notes, terms and conditions:

1. This project construction budget is incorporated into this appendix for the purpose of establishing total estimated project costs and the amount of NGB funding necessary to reimburse the State for the federal share of construction and Supervision and Inspection services.
2. The United States shall not be liable to reimburse the State for costs of construction except those for Cost Shared Improvements, Federal Improvements, or Construction Contingency (change orders).
3. ALL design work after the date of construction award will be Title II/Type "C" SUPERVISION AND INSPECTION Services (SIOH).
4. Other specific construction budget terms unique to this MCCA. If none, state NONE.
5. Costs for Construction, Contingency and SIOH shall be the same figures used in the latest approved project DD Form 1390/91. Cost for SIOH shall be calculated by using the formula: X% (usually 3%) times the sum of the estimated construction and contingency costs.

NOTE: In lieu of above, budget/cost data on DD Forms 1390/91 may be used as a project budget with appropriate direction as to which parts of 1390/91 data are to be treated as budget cost limitations.

MODIFICATION TO MILITARY CONSTRUCTION COOPERATIVE AGREEMENT [ARNG]	
AGREEMENT NO. DAHA _____	PAGE 1 OF _____ PAGES
BETWEEN NATIONAL GUARD BUREAU AND THE STATE [COMMONWEALTH, OR TERRITORY] OF _____	

PROJECT DESCRIPTION:
PROJECT LOCATION:

MODIFICATION

WHEREAS, on _____, _____, the United States of America, hereinafter referred to as GOVERNMENT and represented by the Grants Officer executing this agreement modification, and the State [Commonwealth, or Territory] of _____, hereinafter referred to as STATE, entered into the Military Construction Cooperative Agreement noted above which covers design and construction of the above described project with the assistance of funds appropriated by the Congress of the United States for the GOVERNMENT contribution to said project costs, pursuant to Chapter 133, Title 10, US Code, FACILITIES FOR RESERVE COMPONENTS, as implemented by Department of Defense Instruction 1225.7; and

WHEREAS, it is the desire of the parties to modify the referenced agreement as presented below:

EXECUTION

IN WITNESS WHEREOF, the parties hereto have executed this agreement modification on this day of _____, _____.

THE STATE [COMMONWEALTH, OR TERRITORY] OF _____ BY: _____ Name _____ Title	NATIONAL GUARD BUREAU BY: _____ Name USPFO for _____ APPROVED NGB-ARI BY: _____ Name Chief of Installations
APPROVED AS TO LEGAL FORM _____ State Counsel	APPROVED AS TO LEGAL FORM _____ Full Time Judge Advocate

MILITARY CONSTRUCTION TERMINATION AGREEMENT [ARNG]	
AGREEMENT NO. DAHA _____	PAGE 1 OF _____ PAGES
BETWEEN NATIONAL GUARD BUREAU AND THE STATE [COMMONWEALTH, OR TERRITORY] OF _____	

PROJECT DESCRIPTION:
PROJECT LOCATION:

TERMINATION

This termination agreement, by and between the United States of America, represented by the Grants Officer executing this termination agreement, and the State [Commonwealth, or Territory], hereinafter referred to as STATE, hereby terminates in accordance with provisions below, Agreement No. _____ (with any/all subsequent modifications), executed by the parties on _____, _____, covering the above described project.

To the maximum extent not prohibited by STATE or federal law, the parties release one another from all claims, obligations and liabilities arising under the agreement referenced above, except as follows. List exceptions or additional clauses (attachments as necessary). If none, state NONE.

EXECUTION

IN WITNESS WHEREOF, the parties hereto have executed this termination agreement on this day of _____, _____.

THE STATE [COMMONWEALTH, OR TERRITORY] OF _____ BY: _____ _____ Name _____ Title	NATIONAL GUARD BUREAU BY: _____ _____ Name USPFO for _____ <hr/> APPROVED NGB-ARI BY: _____ _____ Name Chief of Installations
APPROVED AS TO LEGAL FORM	APPROVED AS TO LEGAL FORM

State Counsel

Full Time Judge Advocate

Appendix E
Federal-State Agreements (FSA)

FORMAT

TITLE

FORMAT I

Federal-State Termination Agreement. (next page)

FORMAT I

Federal-State Agreement No.:

Description of Project:

Location of Project:

FEDERAL-STATE TERMINATION AGREEMENT

BETWEEN

THE NATIONAL GUARD BUREAU

DEPARTMENTS OF THE ARMY AND THE AIR FORCE

AND

THE STATE OF

The Termination Agreement, by and between the United States of America, hereinafter called the GOVERNMENT, represented by the contracting officer executing this Termination Agreement, and the State (Commonwealth, Territory or Possession) of _____ hereinafter called the STATE, hereby terminates in accordance with the provisions below, Federal-State Agreement _____ (with any/all subsequent modifications), executed by the parties on _____ 19____ covering the above described project.

1. To the maximum extent not prohibited by STATE or Federal law, the parties release one another from all claims, obligations and liabilities arising under the Federal-State Agreement referenced above, except as follows: (no exceptions) (list of exceptions) (additional clauses)

2. This Termination Agreement shall be subject to approval of the Chief, National Guard Bureau, or his/her duly authorized representative, and shall not be binding until so approved.

IN WITNESS, WHEREOF, the parties hereto have executed this Termination Agreement on this day of _____, 19__.

THE UNITED STATES OF AMERICA

BY _____

(Official Title)

Witnesses as to signature
of State Representative

(Address)

(Address)

STATE OF _____

BY _____

(Official Title)

CERTIFICATION

By virtue of the authority vested in me by _____(State Statute or Legislative Act) under the laws of the State of _____, I hereby certify that execution of this Termination Agreement was duly authorized and that this Termination Agreement is legal and binding upon said State.

Attorney General
(or Legal Representative)

**Appendix F
Certificate of Title**

STATE OF PROJECT TITLE

LOCATION OF SITE

I hereby certify that the State of _____ is possessed of [*fee simple title, a ____ year leasehold interest] in the hereinafter described real property, as evidenced by [*warranty deed, *deed, *lease] from _____, dated _____, and recorded in Book ____, Page ____, official records of the County of _____; that such title or interest in said real property [*has been insured by a policy of title insurance issued by _____]; [*has no cancellation provisions by the owner]; is free of restrictions to National Guard or Reserve use for construction, administration and training, or to U.S. Government use in time of war or national emergency; and [*is good, valid, and sufficient, and subject to no lines or encumbrances save and except the following: [*none, *list*]].

I further certify that the interest of the State of _____ in and to said real property is adequate to justify the expenditure of public funds of the State of _____ in the improvement thereof for Army National Guard purposes and subject to the limitations set forth in Title 10, U.S.C., Chapter 1803, as amended, and that the intended use of said lands and improvements by the _____ Army National Guard is in compliance with all applicable statutes, local laws, and ordinances.

[Enter complete legal description of the property.]

Being the lands referred to in Military Construction Cooperative Agreement No. _____ between the United States and the State of _____ for the construction of an [enter type of facility] facility at the above named site.

(Date)

Attorney General (or Legal Representative)

Note: * refers to text to be used if appropriate.

**Appendix G
Soils Declarations**

DECLARATION ON
UNIFORMITY OF AREA SOIL CONDITIONS

State:

Date:

Site Location:

Address:

Project:

I hereby declare, on the basis of my knowledge of soil conditions within this area and in conjunction with review of published geological data for this region, that the soil conditions and characteristics existing at the subject site for the proposed project are not peculiar to the site but are, in my judgement, the same type and nature of soils that are prevalent throughout the area within at least a 5-mile radius of the subject site to such an extent that it would not be reasonable to expect that the requirements for special foundation work needed for the proposed facilities at this site could be avoided by relocation of the project to another area within the 5-mile radius.

(Signature of Soils Engineer)

(Soils Engineer Name)

(Title)

(Firm Name)

DECLARATION
OF
SOIL BEARING CAPACITY

State:

Date:

Site Location:

Address:

Project:

On the basis of our surface and subsurface investigation, and on generally accepted practices and procedures of the geotechnical engineering profession, I hereby declare to the best of my professional opinion, that the existing soil conditions at the site for this project are of a nature and classification which determine that the undisturbed soils at elevation _____ feet (elevation of the bottom of the proposed footing) when considered in conjunction with the supporting capability of the underlying soils strata, are rated at an allowable design bearing capacity of not less than _____ pounds per square foot for a spread footing type of building foundation.

(Signature of Soils Engineer)

(Soils Engineer Name)

(Title)

(Firm Name)

Appendix H
NGB Uniform Standards for the Payment of Architect-Engineering Services Fee Schedule

**UNIFORM STANDARDS FOR THE PAYMENT OF ARCHITECT-ENGINEER
SERVICES FOR NATIONAL GUARD PROJECTS**

(Short Title: NGB A-E Fee Schedule)

**Architect-Engineer (A-E)
Fee Percentages**

Estimated Project Cost or Lowest Responsible Bid Awarded for Contract (cost of construction changes not to be included)	NEW WORK			SITE ADAPTATION		
	Total Percent	Col A	Col B	Total Percent	Col C	Col D
Less than \$100,000	12.60	8.60	4.00	10.60	6.60	4.00
\$100,000 and under \$150,000	12.00	8.00	4.00	10.00	6.00	4.00
\$150,000 and under \$200,000	11.70	7.70	4.00	9.70	5.70	4.00
\$200,000 and under \$250,000	11.40	7.40	4.00	9.40	5.40	4.00
\$250,000 and under \$300,000	11.25	7.25	4.00	9.25	5.25	4.00
\$300,000 and under \$350,000	11.10	7.10	4.00	9.10	5.10	4.00
\$350,000 and under \$400,000	10.95	6.95	4.00	8.95	4.95	4.00
\$400,000 and under \$500,000	10.80	6.80	4.00	8.80	4.80	4.00
\$500,000 and under \$600,000	9.65	6.65	3.00	7.65	4.65	3.00
\$600,000 and under \$700,000	9.58	6.58	3.00	7.58	4.58	3.00
\$700,000 and under \$800,000	9.50	6.50	3.00	7.50	4.50	3.00
\$800,000 and under \$1,000,000	9.43	6.43	3.00	7.43	4.43	3.00
\$1,000,000 and under \$1,500,000	9.35	6.35	3.00	7.35	4.35	3.00
\$1,500,000 and under \$2,000,000	9.28	6.28	3.00	7.28	4.28	3.00
\$2,000,000 and under \$2,500,000	9.20	6.20	3.00	7.20	4.20	3.00
\$2,500,000 and over	9.13	6.13	3.00	7.13	4.13	3.00

NOTES:

1. Column A percentages equal the total allowed for four (4) items of work consisting of investigation of site soil conditions, topographic survey of the project site, original design, and reproduction of bidding documents.
2. The portion of any Column A percentage allocated only to original design work (i.e., exclusive of soil investigation, topographic survey, and bidding document costs) cannot exceed 6.00 percent.
3. Columns B and D percentages equal the total allowed for supervision and inspection services during the construction period of the project.
4. Column C percentages equal the total allowed for the same four (4) items of work as Column A but with a 2 percent reduction to reflect reduced design work required (including design of exterior supporting features needed for the facility) to adapt a previously designed facility to a different location.
5. For alteration and rehabilitation work, A-E fee percentages listed under New Work (Col A) may be increased by a factor of 25 percent (25%) to support required reproduction and investigative services other than design. Note that design services are limited in all cases to 6.00 percent.

Appendix I Federal A-E Selection Actions

I-1. Scope

a. This appendix contains the general roles and relationships of the CFMO to the evaluation board(s) formation, and operation involved in contracting for A-E services for Operations and Maintenance minor construction on Federally owned or leased land.

b. These provisions are procedures enumerated in the FAR, Section 36, and as supplemented. The FAR can be accessed electronically at www.arnet.gov/far/, the DFARS can be accessed at www.acq.osd.mil/dp/dars/dfars.html, and the Army supplement can be accessed at <http://acqnet.sarda.army.mil/library/zpafar.htm>

I-2. Responsibility

All A-E selection actions shall be under the cognizance of the Chief, National Guard Bureau, or his designee, generally the host ARNG CFMO. Throughout the remainder of this appendix, CFMO will be used to denote the position delegated the A-E selection authority.

I-3. Indefinite Delivery/Indefinite Quantity Contract

If your contacting office does not have a Federal indefinite delivery/indefinite quantity (IDIQ) A-E contract, suggest you have them solicit for one or add all your Federal facilities to the synopsis for the Air National Guard IDIQ in your State.

I-4. CFMO and Evaluation Board Requirements

a. The CFMO must develop a detailed government estimate for A-E services and selection qualifications for the project. These qualifications must include the qualifications required by FAR 36.602-1 and indicated on the work sheet, plus special project specific qualifications, such as size and expertise of staff, special design and conceptual experience, etc. The CFMO will determine the importance of each element as it applies to the project.

b. If the government estimate for A-E services is below \$2,500, the CFMO may select the most qualified firm from the available A-E qualification forms (SF 254 and SF 255) on file in the CFMO's office.

c. If the government estimate for A-E services is between \$2,500 and \$25,000, the A-E Evaluation Board or the board chair may select the most qualified firm from SF 254 and SF 255 A-E qualification forms on file.

d. If the government estimate for A-E services exceeds \$25,000, the CFMO shall prepare a draft synopsis describing the salient characteristics of the project and of the A-E services, as required by the contracting officer, in preparation for the synopsis to be published in the CBD.

e. If the government estimate for A-E services exceeds \$100,000 (including phases and options) and after publication of the synopsis notice and receipt of the submittal packages from the contracting officer; the CFMO may approve the selection process to be performed by the chairperson of the board, if the evaluation board decides that formal action is not necessary in connection with a particular selection. The following procedures shall be followed:

(1) The chairperson of the evaluation board shall perform the functions specified in FAR 36.602-3.

(2) The CFMO shall review the report and approve it or return it to the chairperson for appropriate revision

(3) Upon receipt of an approved report, the CFMO shall follow the guidance contained in FAR 36.602-4 and furnish the contracting officer a copy of the report, which will serve as an authorization for the contracting officer to commence negotiations in accordance with FAR 36.606.

f. Although there is so specific format for preparing the government estimate, it shall be prepared in as much detail as if the government were competing for award.

I-5. A-E Evaluation Board Formation and Composition

a. The CFMO shall select and have placed on orders at least three board members who, collectively, have experience in architecture, engineering, construction, and government and related acquisition matters.

(1) Members shall be appointed from among highly qualified professional employees of the agency or other agencies, and private practitioners of architecture, engineering, or related professions.

(2) One senior government member of each board shall be designated as the chairperson. No firm shall be eligible for award of an architect-engineer contract during the period in which any of its principals or associates are participating as members of the awarding agency's evaluation board.

(3) Staff from other ARNG, ANG, Army, or Air Force facilities may be used if there are insufficient resources within the unit.

- b. The primary factor in A-E selection is the determination of the most highly qualified firm.

I-6. Functioning of the A-E Evaluation Board

- a. An evaluation board shall not be convened prior to notification by the USPFO that proper notice/advertising time in the CBD has elapsed.
- b. The evaluation board shall be convened by the CFMO on those projects whose total design fee is expected to be in excess of \$2,500.
- c. A pre-evaluation board may be used to identify to the evaluation board the qualified firms that have a reasonable chance of being considered as most highly qualified by the selection board. Members who serve on the pre-evaluation board may also serve on the final evaluation board.
- d. A-E firms considered by the evaluation board shall be those responding to the notice/advertisement initiated by the USPFO and having a current SF 254 and SF 255 on file with the CFMO.
- e. Items for consideration in evaluating firms shall only be those listed in the CBD and ranked in the same order as in the advertisement.
- f. Evaluation board members will evaluate firms on an evaluation work sheet using criteria in paragraph H-7 below.
- g. Board members shall tabulate their evaluation scores totaling each A-E's points and shall summarize their findings in ranking form 1, 2, 3, etc. Their rankings will then be tabulated to make the final evaluation in rank order of firms. Documentation of the tabulation of the ranking shall be forwarded to the CFMO for final selection in accordance with FAR 36.602-4.

I-7. Criteria for A-E Evaluation

- a. The board(s) will evaluate the A-E firms using the criteria established in the FAR and supplements thereto.
- b. The assigned values for each rating factor should be carefully selected for each project prior to advertisement (e.g., paving project will require different expertise than a building; a new building design will require fewer field trips than an alteration project). Thus, the importance of the firm's location will be more important for an alteration project. The assigned values may vary from 0-3 to 0-10 points. Rating factors should be listed in the CBD in order of importance. In the absence of specific information, the rates on pre-evaluation board will rate within mid-range.
- c. Criteria should be established for each rating factor. The following is a sample criteria only. It is used to aid the evaluator in the application of the selection criteria.

(1) The various assigned rating values have been broken down into Low Range, Mid Range, and High Range as follows:

Rating Values	Range		
	Low	Mid	High
0-10	0-3	4-7	8-10
0-8	0-2	3-5	6-8
0-7	0-2	3-5	6-7
0-6	0-2	3-4	5-6
0-3	0-1	2	3

(2) The following criteria have been established to guide the evaluator in assessing each rating factor. Since the assigned rating values for each factor vary from project to project, the rating values have been stated in ranges rather than in specific points values.

- (a) Location of A-E (Main or Branch Office).
 - 1. High Range. Firm has office within ___ miles of project area.
 - 2. Mid Range. Firm has office within ___ and ___ miles from the project area.
 - 3. Low Range. Firm has office beyond ___ miles from project
- (b) Experience with this type of facility.
 - 1. High Range. Personnel have designed one or more projects of the same type and scope as this project.
 - 2. Mid Range. Personnel have designed one or more projects similar to the type and Scope of this project.
 - 3. Low Range. Personnel have little or no experience in this type of project.

(c) Specialized experience (related to this project) in each of the following disciplines: Architectural, Civil Engineering, Structural Engineering, Mechanical Engineering, Electrical Engineering, and other disciplines. Rate each discipline separately.

1. High Range. Firm has highly competent in-house or consultant expertise in the particular discipline with considerable experience on projects requiring the same types of services as this project. (The number of consultants in a firm should not give a firm a higher rating. Most ARNG projects will only require one consultant of each specialty.)

2. Mid Range. Firm has competent in-house or consultant expertise in the particular discipline with a moderate amount of experience on projects requiring the same types of services as this project.

3. Low Range. Firm has in-house or consultant expertise in the particular discipline with little or no experience on projects requiring similar types of services as this project.

(d) Availability of key personnel.

1. High Range. Highly qualified supervisor and designers in this type construction are available for this project. A highly, qualified inspector experience in this work is available.

2. Mid Range. Qualified supervisors and designers are available to supervise the project, and a qualified inspector experienced in this type work is available.

3. Low Range. Qualified personnel will be assigned the work but are not experienced in this type of project.

(e) Ability to accomplish required services. (Grade rating factors 1, 2, and 3 based upon evaluator's personal experience or upon information supplied by other government agencies and clients listed in SF 254.)

1. Meets schedules.

a. High Range. Consistently meets schedules.

b. Mid Range. Occasionally does not meet schedules.

c. Low Range. Seldom meets schedules.

2. Quality of work.

a. High Range. Consistently produces high quality work.

b. Mid Range. Occasionally produces work that is not of the highest quality.

c. Low Range. Frequently produce work that is not of the highest quality.

3. Workload.

a. High Range. Shows evidence of steady workload; has ability to accommodate this project and meet schedules.

b. Mid Range. Shows evidence of erratic workload; may possibly be overloaded at the time of this project, thereby affecting his ability to meet schedules.

c. Low Range. Shows evidence of work overload; probably will not be able to meet schedules.

(f) Volume of DOD work.

1. High Range. Fees for DoD work during the current calendar year are between \$0 and \$100,000.

2. Mid Range. Fees for DoD work during the current calendar year are between \$100,000 and \$200,000.

3. Low Range. Fees for DoD work during the current calendar year exceed \$200,000.

d. The pre-evaluation board, if required, will recommend to the final evaluation board a number of qualified firms, normally not less than six.

e. The evaluation board is convened by CFMO for all selections in which an A-E fee is expected to exceed \$2,500. It will normally recommend not less than three qualified firms.

(1) When the A-E fee(s) is expected to exceed \$2,500 but is expected to be less than \$25,000, the board evaluates SF254 from their current SF254 on file in the CFMO's office.

(2) When the A-E fee(s) is expected to exceed \$25,000, the CFMO provides the board, through the USPFO, an approved list and the SF254s and SF 255s which he/she has received from the responding firms and from current SF 254s/SF 255s on file in the CFMO's office.

(3) When the expected A-E fee(s) exceed \$100,000, the evaluation board will conduct oral or written discussions with all firms then list in order of preference recommending the most highly qualified firm-using format described above.

Appendix J
Funding Forms

Instructions for completing NGB Forms 86-R and 87-R follow. Instructions precede copies of each form.

NGB FORM 86-R

FUNDING DATA FOR MCNG CONTRACT/AGREEMENT

GENERAL:

1. Salmon color form
2. Used to request funding for:
 - a. All contracts (A-E Design/Title I, A-E SIOH/Title II, Construction)
 - b. Adjustments to funding (either in the case of projects funded with an advance or to return unneeded funds)
3. Include only one contract per form
4. Never approved by the USPFO

FIELD:

DESCRIPTION

PN

Project Number

DATE

Date form is prepared

FY

Fiscal Year project was authorized/appropriated or appears in the Military Construction Future Years Defense Program (FYDP) (not FY that the project was funded). Use "AY" or "Unprogrammed" if the project is not included in the FYDP.

Request For State Contract

If State contracting procedures are used. These projects require Military Construction Cooperative Agreement (MCCA).

Federal Contract

If Federal contracting procedures are used. These projects are almost always on Federal land, and do not require an MCCA.

Specified

All military construction projects except Unspecified Minor (UMI) projects. A specified military construction project may be less than \$1,500,000 (current UMI limit).

Unspecified

All UMI projects, even if such a project is directed by the Congress. Such projects have current limit of \$1,500,000, unless it is to correct conditions that are life-threatening, health-threatening, or safety-threatening (in which case the limit is \$3,000,000).

Funds For:

A-E Services (Title I/Type A&B)

For initial Title I/Type A & B funding. Does not include Title II/Type C/Supervision, Inspection and Overhead (SIOH) services.

A-E Services (Title I/Type A/B) &Repro) Adjustment

Adjustment to Title I/Type A & B or reproduction funding

Construction	For initial construction contract funding (only one contract per form) or adjustment to initial construction contract funding (to account for advance for Federal contracts).
A-E Services (Title II/Type C/SIOH)	For initial Title II/Type C/SIOH funding or adjustment to such funding (to account for advance for Federal contracts).
<u>Project Title</u>	Project Title IAW DD Forms 1390/1391 (such as “Readiness Center” or “Armed Forces reserve Center”).
<u>Location</u>	Project location (such as “Danville”).
<u>Bid Number</u>	Bid number (normally assigned by contracting officer on Federal contracts). N/A if not available/not applicable.
<u>Date Opened</u>	Bid opening date (may not be available when requesting advance funding for Federal contracts).
<u>State</u>	State
<u>Total Low Bid Price</u>	
Building Primary Item	Primary facility only. Normally 75/25 for State contracted readiness centers. 100% Federal for all others.
Site Preparation	Site preparation costs as defined in the glossary of this pamphlet. Reimbursed at the same ratio as the Building Primary Item (unless excessive site preparation costs due to poor site).
Support Items (75/25%)	Supporting facilities. Only for State contracted readiness center projects, unless such projects are supported 100% Federal.
Support Items (100% Fed)	100% Federally supported items as shown on the DD Forms 1390/1391.
Support Items (100% State)	100% State supported items as shown on the DD Forms 1390/1391.
Other (Variable %)	Items partially supported with Federal funds, such as joint use areas/utilities in combined-use projects. Includes situations where there has to be adjustment when NGB has advanced State portion of Title I/Type A & B funding for State contracted readiness centers.
Alternates	ABIs/Alternates.

Contract Amount/A-E Fee Request	Funds requested (Total of all above)
<u>Contract/Agreement No.</u>	Contract/Agreement/Purchase Order/Delivery Order Number. Normally assigned by contracting officer. May not be available when requesting advance funds for Federal contracts.
<u>Contract Date</u>	Contract/Agreement/Purchase Order/ Delivery Order date. May not be available when requesting advance funds for Federal contracts.
<u>A-E/Contractor & Address</u>	A-E/Contractor name and address. USPFO when requesting advance funds for Federal contracts.
<u>Bldg Area (SF)</u>	Awarded building square footage (SF) supported with MCNG funds. This may be different than building size authorized in DD Forms 1390/91, or as designed, or as awarded, because this block does not include SF supported with other than MCNG funds.
<u>Cost per SF</u>	Federal share of building primary item divided by building area (SF) supported with MCNG funds.
<u>Completion Date</u>	Contract/Agreement completion date. May not be available when requesting advance funds for Federal contracts.
<u>Remarks</u>	Pertinent remarks, if any. For A/E contracts, use this block to distinguish between funding for Type A and Type B services.
<u>Approved</u>	Signature of Chief, Installations Division (NGB-ARI) or designee.
<u>Date</u>	Date approved by Chief, NGB-ARI.

PN: _____

DATE: _____

FUNDING DATA FOR MCNG CONTRACT/AGREEMENT

For use of this form, see NGR 415-5; the proponent agency is NGB-ARI.

TO: Chief, Army Installations Division (NGB-ARI)

Project FY: _____

1. REQUEST FOR: State Contract Specified
 Federal Contract Unspecified

2. FUNDS FOR: A-E Services (Title I/Type A & B) Construction
 A-E Services (Title I/Type A, B & Repro) A-E Services (Title II/Type C) SIOH

3. PROJECT TITLE: _____ LOCATION: _____

4. BID NO: _____ DATE OPENED: _____ STATE: _____

5. TOTAL LOW BID PRICES: For details, see reverse or attached sheet.

Building/Primary Item	_____	Federal \$	_____	State \$	_____
Site Preparation	_____	Federal \$	_____	State \$	_____
Support Items (75/25%)	_____	Federal \$	_____	State \$	_____
Support Items (100% Fed)	_____	Federal \$	_____	State \$	_____
Support Items (100% State)	_____	Federal \$	_____	State \$	_____
Others (Variable %)	_____	Federal \$	_____	State \$	_____
Alternates (see Details)	_____	Federal \$	_____	State \$	_____
Contract Amount or A-E Fee Request	_____	Federal \$	_____	State \$	_____

6. CONTRACT/AGREEMENT NO.: _____ 7. CONTRACT DATE: _____

8. A-E/CONTRACTOR & ADDRESS: _____

9. BLDG. AREA (SF): _____ 10. COST PER SF: _____ 11. COMPLETION DATE: _____

12. REMARKS: _____

APPROVED: _____ DATE: _____

(Chief, Army Installations Division)

NGB FORM 87-R

FUNDING DATA FOR CONTRACT MODIFICATION

GENERAL:

1. Yellow color form
2. Used to request funding for:
 - a. All contract modifications whether A-E Design/Title I, A-E SIOH/Title II, or Construction
 - b. Advance funds/adjustment to advance funds for all Federal contract change orders
3. Include only one contract per form
4. Must be approved by the USPFO if within approval limits, then normally no other back-up to be submitted
5. All back-up must be submitted if exceeds USPFO approval authority.
6. Must include "Dead Money" statement by contracting officer that work covered is included within the scope of the original contract, if the Congressional appropriation for the project has expired.

FIELD:

DESCRIPTION

DATE

Date form is prepared

Project FY

Fiscal Year project was authorized/appropriated or appears in the Military Construction Future Years Defense Program (FYDP) (not FY that the project was funded). "AY" or "Unprogrammed" if the project is not included in the FYDP

State Contract

If State contracting procedures are used.

Federal Contract

If Federal contracting procedures are used.

Specified

All military construction projects except Unspecified Minor (UMI) projects. A specified military construction project may be less than \$1,500,000 (current UMI limit).

Unspecified

All UMI projects, even if such a project is specified/directed by Congress. Such projects have current limit of \$1,500,000, unless it is to correct conditions that are life-threatening, health-threatening, or safety-threatening (in which case the limit is \$3,000,000).

PROJECT TITLE

Project Title IAW approved DD Forms 1390/1391 (such as "Readiness Center" or "Armed Forces reserve Center").

PROJECT NO.

Project Number.

LOCATION

Project location (such as "Danville").

State	State.
ENCLOSED MODIFICATION NO.	Modification number (such as GC-01, HVAC-18, Design-03, SIOH-02).
TO CONTRACT NO.	Contract number
TYPE OF CONTRACT	Type of contract (such as Construction, General Construction, Mechanical Construction, Design/Title I, SIOH/Title II, Testing)
AMOUNT OF THIS MODIFICATION (INCREASE)(DECREASE)	Contract modification amount.
ORIGINAL CONTRACT	Original contract amount (stays the same throughout the project).
MOD#__To#__	Total of all previous contract modifications.
NEW TOTAL AMOUNT	Current contract amount, including this contract modification, original contract amount, and all previous contract modifications.
CURRENT SCHEDULED COMPLETION DATE:	Current contract completion date (original contract completion date plus extensions/contractions from all contract modifications).
WORK COVERED BY MODIFICATION:	Brief description of work covered by the contract modification (such as “Changes in ductwork in Room #102”, or “Add 100 SF of Sidewalk”).
CONTRACTOR AND ADDRESS:	Name and address of the contractor. USPFO for advance funds for Federal contracts.
REASON AND JUSTIFICATION:	Reason/justification for change order (such as “Ductwork as designed interferes with existing structural members”, “Additional sidewalk required for Anti-Terrorism/Force Protection”). Note that change orders to correct A-E errors and omissions cannot be supported. However, this prohibition on additional Federal funds for construction costs as a result of A-E errors and omissions applies only to the difference between what the project actually cost and what it would have cost had the A-E not made the errors and omissions.
APPROVED:	USPFO must approve if within approval authority. USPFO cannot approve if change order exceeds approval authority. USPFO approval authority does

not extend to A-E (Design/Title I or SIOH/Title II) change orders.

DATE:

Date approved by the USPFO.

APPROVED:

Signature of Chief, Installations Division (NGB-ARI) or designee.

DATE:

Date approved by Chief, NGB-ARI.

DATE: _____

FUNDING DATA FOR CONTRACT MODIFICATION
For use of this form, see NGR 415-5; the proponent agency is NGB-ARI.

TO: Chief, Army Installations Division (NGB-ARI)

PROJECT FY: _____

- STATE SPECIFIED
- FEDERAL CONTRACT UNSPECIFIED

PROJECT TITLE: _____ PROJECT NO.: _____

LOCATION: _____ STATE: _____

ENCLOSED MODIFICATION NO.: _____ TO CONTRACT NO.: _____

TYPE OF CONTRACT: _____

	TOTAL	FEDERAL	STATE	CONTRACT TIME - DAYS
AMOUNT OF THIS MODIFICATION (INCREASE) (DECREASE)	\$ _____	\$ _____	\$ _____	_____
ORIGINAL CONTRACT	\$ _____	\$ _____	\$ _____	_____
MOD# _____ TO# _____	\$ _____	\$ _____	\$ _____	_____
NEW TOTAL AMOUNT:	\$ _____	\$ _____	\$ _____	_____

CURRENT SCHEDULED COMPLETION DATE: _____

WORK COVERED BY MODIFICATION: _____

CONTRACTOR & ADDRESS: _____

REASON & JUSTIFICATION: _____

APPROVED: _____
(USPFO,)

DATE: _____

(Chief, Army Installations Division)

DATE: _____

**Appendix K
Code Compliance Certificate**

CERTIFICATION OF
STATE BUILDING CODE REQUIREMENT

Project Number: _____

Project FY: ____

Project Title: _____

Installation: _____ City: _____ State: ____

1. ISSUE: [Succinctly summarize the area of disagreement (e.g., Increase room size in building X; install sprinklers throughout building Y.)]
2. STATE CODE: [Cite the chapter, section, and paragraph of the appropriate code. Provide the effective date, and summarize the applicable provisions of the code.]
3. APPLICABILITY: The referenced code pertains to the same type, size, class, and occupancy as that of subject project.
4. SPECIAL USE OR FEATURES: The requested feature of the project is not required due to use of the facility by the public as a place of public assembly or to support the handicapped. [Note: This certification must be modified in case of features in readiness center assembly halls or exterior building features that are required because the building is used as a place of public assembly or because it is authorized competitive technicians.]
5. EXCEPTIONS: [Use “The referenced code does not provide exceptions to the requirement,” or “The subject project does not qualify for any designated exceptions.”]
6. ALTERNATIVES: [Use “The referenced code does not provide for alternative solutions,” or “The selected feature is the most economical or cost effective among alternatives offered by the referenced code.”]
7. CODE REQUIREMENTS: The facility must conform to the referenced code in that it cannot be constructed at this location unless the required feature is incorporated into the subject project.

[SIGNATURE BLOCK OF CFMO]

**Appendix L
Guide Bid Format**

L-1. General

- a. The purpose of this format is to provide you a guide to assist you in evaluating bids and preparing your DD Form 1354. You may find it easier, however, to use a more detailed breakout (e.g., rigid and flexible pavement), or to reaggregate certain bid items that are shown broken into components.
- b. An example of a bid format is enclosed which may be used for MCNG projects as long as it is compatible with State law. The example has been prepared showing a readiness center. The project indicates features generally associated with readiness center construction on a site with utilities.
- c. The form used for bidding should be tailored to cover the specific type facility with each work item outside the building bid separately. Separate bids must also be obtained for IDS/J-SIIDS, equipment-in-place, maintenance, repair, and other support items to identify the funding support when provided from different accounts or to identify varying proportions of Federal/State sharing of costs. Although the bids may be lump sum for each item, the quantity and unit of measure for each should be included and, where practical, the magnitude of work required.
- d. The bids of all authorized items (including site preparation and IDS for readiness center projects) are to be totaled before listing alternative and additive bids that are to be supported with other than Federal funds. A written description of each bid is also to be provided to define the scope of work associated with the bid amount similar to the descriptions in the example. In addition to the lump sum bids, unit price bids should also be obtained for the various types of work that may have to be increased or decreased during the period of construction, or when the unit cost of work must be utilized to determine the cost of work in excess of authorized amounts (e.g., excess foundation walls, and exterior walls, interior partitions).

L-2. Bid Items

- a. Bids should be for the entire work as designated in paragraph L-3, Description of Bid Items, and all blank spaces shall be filled in. Failure to bid any item will disqualify the entire bid. Each bidder shall use this form as furnished or an exact duplicate thereof.
- b. Measurements shown (i.e., SF, LF, etc.) are approximate and are not to be considered for use as unit bidding. Bid amounts are for the complete scope as indicated in the plans and specifications.
- c. Payments for work in connection with the construction of the main facility and its appurtenances will be made on the basis of the lump sum bid amount for each item described in paragraph L-3.

d. Items:

Bid No. 1 – [type] Building		
a. Primary [type] Building	_____ SF	\$
b. Flammable Materials Storage Building	_____ SF	\$
c. Controlled Waste Handling Facility	_____ SF	\$
d. Unheated Storage Building	_____ SF	\$
	SUBTOTAL	\$
Bid No. 2 - Site Preparation		\$
Bid No. 3 - Grading and Seeding	_____ SF	\$
Bid No. 4 - Landscaping		\$
Bid No. 5 – Rigid Pavement:		
a. Access Roads and aprons	_____ SY	\$
b. Military Vehicle Parking	_____ SY	\$
c. Privately Owned Vehicle Parking	_____ SY	\$
d. Pads	_____ SY	\$
	SUBTOTAL	\$
Bid No. 6– Flexible Pavement:		
a. Access Roads and aprons	_____ SY	\$
b. Military Vehicle Parking	_____ SY	\$
c. Privately Owned Vehicle Parking	_____ SY	\$
d. Pads	_____ SY	\$
	SUBTOTAL	\$
Bid No. 7 - Fencing	_____ LF	\$

Bid No.8 – Sidewalks and Walkways	_____ SY	\$
Bid No. 9 - Flagpole		\$
Bid No. 10 – Exterior Fire Protection		\$
Bid No. 11 – Detached Facility Sign		\$
Bid No. 12 - Security Lighting		\$
Bid No. 13 - Fuel Dispensing Systems		\$
Bid No. 14 - Wash Platform		\$
Bid No. 15 - Utility Connections:		
a. Water	_____ LF	\$
b. Gas	_____ LF	\$
c. Sewer	_____ LF	\$
d. Electricity	_____ LF	\$
e. Telecommunications and Information Technology	_____ LF	\$
	SUBTOTAL	\$
Bid No. 16 - Intrusion Detecting System:		
a. Equipment		\$
b. Installation		\$
	TOTAL	\$
Bid No. A - Alternative Items		
(1)		\$
(2)		\$
Bid No. B - Additive Items		
(1)		\$
(2)		\$

L-3. Description of Bid Items

The separation of the scope of work to be performed for each bid item listed in paragraph L-2 will conform to the limitations and divisions delineated for each, as follows:

Bid No. 1 – The [type] building. All work in connection with the construction of the [type] building, including excavation and backfilling for foundation walls and footings, finish shaping, and proof rolling subgrade material, and the gravel drainage fill under the floor slabs. Utility work will include the installation of all systems within the building and extended to a point 5’ 0” outside the building. Heating work will include the installation of the fuel tank and necessary supply and vent lines. This will NOT include foundation piling, soil stabilization, retaining walls, nor any of the work called for by Bid No. 2 through Bid No. 16.

Bid No. 2 – Site Preparation. All work in connection with the preparation of the project site (within the limits of construction) to bring the subgrade elevations required for the construction of facilities to the elevations specified on the plans, including clearing, grubbing, demolishing and removing existing facilities, relocating existing utilities, excavation and embankment earth work, drainage channels/systems, retaining walls, and final grading/compaction of site soils to subgrade levels. The bid will NOT include excavation and backfilling required for foundation walls and footing nor the finish shaping and proof rolling of the subgrade under pavements and floor slab construction.

Bid No. 3 – Grading and Seeding. All work in connection with grading and seeding of unpaved areas disturbed by construction, including placement of top soil from existing stock piles on the prepared subgrade, finish grading the topsoil, and the sowing of grass seed together with fertilizing, watering, cutting, and general maintenance operations required to establish a healthy stand of grass. This bid will NOT include sodding, sprigging, mulching, plants, planting, nor the grading and preparation of the subgrade.

Bid No. 4 – Landscaping. All work in connection with the furnishing and planting of new trees, shrubs, bushes, and vines at locations specified, including fertilizing, mulching, staking, erection of temporary barriers to prevent damage, watering, and general maintenance operations required to establish healthy growth after transplant.

Bid No. 5 – Rigid Pavement. All work in connection with the furnishing, placing, and compaction of base and surface courses of pavements for access roads, service and access aprons, pads and parking areas, including the finish shaping and proof rolling of the prepared subgrade, This bid will NOT include the construction of prepared

subgrade, drainage structures, nor other items designated as site preparation work. The costs for each type parking area and the pavement designated access road are to be indicated separately as listed.

Bid No. 6 – Flexible Pavement. All work in connection with the furnishing, placing, and compaction of base and surface courses of pavements for access roads, service and access aprons, pads and parking areas, including the finish shaping and proof rolling of the prepared subgrade. This bid will NOT include the construction of prepared subgrade, drainage structures, nor other items designated as site preparation work. The costs for each type parking area and the pavement designated access road are to be indicated separately as listed.

Bid No. 7 – Fencing. All work in connection with the furnishing and erection of chain link fencing complete with all posts, fabric, barbed wire barrier, gates, and accessories in place and ready for service.

Bid No. 8 – Sidewalks and Walkways. All work in connection with the construction of concrete walks, *including the* finish shaping and proof rolling of the prepared subgrade. This bid will NOT include the construction of the prepared subgrade, drainage structures, nor other items designated as site preparation work.

Bid No. 9 – Flagpole. All work in connection with the furnishing and installation of the flagpole, including rope, foundation, and all accessories complete and ready for service.

Bid No. 10 – Exterior Fire Protection. All work in connection to provide protection in conformance with National Fire Protection Association requirements, unless State requirements are more stringent. This includes, when the facility is to be built in a community served by municipal or private water systems and fire fighting forces, extension of water mains for fire protection to locate two hydrants within 400 feet, but not less than 50 feet, of the building, with no more than 100 linear feet of pipe located outside the project property. The bid will not include extension of water mains to the site.

Bid No. 11 - Detached Facility Sign. All work in connection with the purchase and erection of an identifying sign when the facility is remote from the public thoroughfare or is screened from it. This sign should identify the facility name and type, the State, and Army National Guard.

Bid No. 12 – Security Lighting. All work in connection with the furnishing and installation of the exterior pole mounted lighting system, including trenching and backfilling, cable, and accessory item to a point 5 feet outside the building line; complete and ready for service. This bid will NOT include work inside the building (5-foot line) nor any building-mounted exterior lighting fixtures.

Bid No. 13 – Fuel Dispensing Systems. All work in connection with the furnishing and installation of MOGAS and diesel dispensing systems, including piping, storage tanks, electric, water and compressed air services, pump island, concrete aprons, and the finish shaping and proof rolling of the prepared subgrade under the aprons and pump island. This bid will NOT include the construction of the prepared subgrade, drainage structures, nor other items designated as site preparation work. The cost for each type fuel system is to be indicated separately as listed with the cost of the electric service, pump island, and aprons split equally for each system.

Bid No. 14 – Wash Platform. All work in connection with the construction of the wash platform, including water line, oil/grit separator, waste-water line to a drainage channel/system or sanitary sewer connection, and the finish shaping and proof rolling of the prepared subgrade under the platform for a complete, ready for service facility. This bid will NOT include the construction of the sanitary sewer, the prepared subgrade, the primary drainage channels/system, nor other items designated as site preparation work.

Bid No. 15 – Utility Connections. All work in connection with furnishing and installing water, gas, and sanitary sewer service lines from the mains to a point 5 feet outside the building line and trenching for direct burial electrical and telephone cables, including backfilling and compaction of earth after cables have been installed by local utility companies. This bid will NOT include the construction of any main distribution lines for water, gas, or sanitary sewer systems nor any work for the installation of any primary electric lines and transformers. The cost for each type of utility work is to be indicated separately as listed.

Bid No. 16 – Intrusion Detection System (IDS). All work in connection with the IDS, including coordination with authorities and installation of equipment at the remote notification site selected by the State. The cost of purchase for all functioning commercial equipment (e.g., switches, alarms, sensors, and controls) is to be indicated separately from the cost for labor and miscellaneous materials required for the complete installation of the IDS. Equipment bid is not required for Government-furnished J-SIIDS equipment.

Bid No. A – Alternative Items. Note: A separate description is to be prepared for bidding each item that is being proposed for use in the project in lieu of an authorized item.

Bid No. B -- Additive Items. Note: Descriptions are to be prepared for bidding of items that exceed Federal authorization for funding support, are items not essential to the project should the overall bid be in excess of

Congressional authorization and appropriation, or are items for which the State wants a separate price. These may be separated or grouped as desired by the State, dependent on the availability of funds.

**Appendix M
Checklist for Processing Contract Modifications**

PROJECT: _____ **LOCATION:** _____ **STATE:** _____

CONTRACT MODIFICATION NO. _____ **TO CONTRACT NO.** _____

- 1. Is this for reimbursement of work previously supported 100 percent with other than Federal funds? Yes _____ No _____
- 2. Is this for work that has already been started or completed by the contractor? Yes _____ No _____
- 3. Is this change in conformance with contract provisions? Yes _____ No _____
- 4. Is this change for a correction of an architect-engineer error, omission, etc. that exceeds the costs that would have been required to do the work had the A-E not made the error, omission, etc.? Yes _____ No _____
- 5. Is this work in conformance with NGB and DoD criteria and policies? Yes _____ No _____
- 6. Did NGB authorize the negotiation of this proposed contract modification? Yes _____ No _____
- 7. Is the justification enclosed? Yes _____ No _____
- 8. Is the description of work enclosed? Yes _____ No _____
- 9. Is the COR's cost estimate enclosed? Yes _____ No _____
- 10. Is the negotiation memorandum/report record enclosed? Yes _____ No _____
- 11. Is the contractor's cost proposal enclosed? Yes _____ No _____
- 12. Is the completed NGB Form 87 enclosed? Yes _____ No _____

SIGNATURE _____

DATE _____

Appendix N NGB Form 593-R

N-1. General

- a. Along with the final NGB-ARI approved DD Forms 1390/1391, the MCCA (if required), NEPA documentation, the bid final documents, and the DD Form 1354, this becomes a central document of your project historical files.
- b. If there is only one design contract and one construction contract, then the NGB Form 593-R becomes straightforward. You use one form and proceed as indicated in the directions following.
- c. If there is more than one design contractor and/or more than one construction contractor, then you should create separate forms for each contractor and transpose the information on to a master NGB Form 593-R that becomes the form of record for forwarding to NGB-ARI. However, the master form and all subsidiary forms should remain in your project historical files.

N-2. Basic Information (Blocks 1-10)

- a. Blocks 1-10 record historical information associated with the project.
- b. Blocks 1 and 3 come from the approved DD Forms 1390/1391.
- c. Block 2 is the fiscal year the project was authorized and appropriated for specified construction projects. If authorization and appropriation are from separate years, use the fiscal year of appropriation. In the case of a UMI project, use the fiscal year that you awarded the design contract.
- d. If you are using multiple NGB Forms 593-R for the project, in block 4 record the latest date of inspection on the master form.
- e. In Block 5 record the contracting officer of record, either Federal or State, depending on whether Federal or State contracting procedures were used. If the contracting officer changed during the course of the project, list all contracting officers and the dates they served.
- f. In Block 7, list the names and full addresses of all design and construction contractors.
- g. Block 8 must correspond to Block 7. That is, list the contract number for contractor 7a in block 8a, and so forth.
- h. In Block 9, if there are multiple individuals performing SIOH in any of the categories, list the person in charge of the effort.
- i. In Block 10, if there were multiple individuals conducting the inspection, list the person in charge.

N-3. Certifications (Blocks 11-14)

- a. In the case of projects with multiple NGB Forms 593-R, on the master form use the date of the last conducted inspection in Blocks 11-14.
- b. In Blocks 11 and 12 the project title and location must correspond with Blocks 1 and 3.
- c. In the case of projects with multiple NGB Forms 593-R, in Blocks 12b, 12c, and 14, use N/A except on the master NGB Form 593-R.
- d. In Block 14, line through the statement that does not apply. The first statement only applies to projects on State land; the second statement only applies to projects on Federal land.
- e. If the AG does not personally sign the inspection reports, then another State employee delegated by the AG must sign. The CFMO is not a State employee.
- f. If the USPFO does not personally sign the inspection reports, then another Federal employee delegated by the USPFO must sign. That may be the CFMO.

N-4. Detailed Inspection Notes (Blocks 15-46)

- a. Fill in items 15 through 46 on interim reports only.
- b. An X in Column A indicates work is proceeding according to drawings and specifications and is satisfactory.
- c. An X in Column B indicates work is not satisfactory. All items marked in Column B must be accompanied by comments.

N-5. NGB Form 593-R

Form follows on next four pages.

PROJECT INSPECTION REPORT

for use of this form, see NGR 415-5; the proponent agency is NGB-ARI.

1. PROJECT NO.: _____ TITLE: _____

2. FY OF APPROPRIATION/AUTHORIZATION: _____

3. STATE: _____ CITY: _____ INSTALLATION: _____

4. DATES INSPECTED: _____ INTERIM _____ FINAL _____

5. CONTRACTING OFFICER: _____

6. ARCHITECT/ENGINEER: _____

7. CONTRACTORS:

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

8.	CONTRACT NO.: (Design & Construction)	FED AMOUNT (Including All Changes)	STATE AMOUNT (Including All Changes)
a.	_____	a. _____	a. _____
b.	_____	b. _____	b. _____
c.	_____	c. _____	c. _____
d.	_____	d. _____	d. _____
e.	_____	e. _____	e. _____
f.	_____	f. _____	f. _____

9. SUPERVISION AND INSPECTION DURING

- a. STATE: _____
- b. A/E: _____
- c. CONTRACTOR: _____

10. INSPECTION PERFORMED BY:

	TAG'S REPRESENTATIVE	USFO or REPRESENTATIVE
INTERIM	_____	_____
FINAL	_____	_____

11. JOINT STATE-FEDERAL INTERIM PROJECT INSPECTION:

DATE: _____

This is to certify that the contractor/s designated on the first page of this report are completing the work required under the listed contract numbers for the construction of _____; that joint inspection of the construction was accomplished by the individuals listed in Block 10 on _____; that the materials and labor are being furnished in accordance with the terms of the specifications and contract; and that the progress and quality of construction is in conformance with the terms of the specifications and contract.

FOR STATE _____

TITLE _____

FOR U.S. GOV'T _____

TITLE
USRFO OF _____

12. JOINT STATE-FEDERAL FINAL PROJECT INSPECTION:

DATE: _____

a. This is to certify that the contractor/s designated on the first page of this report have completed all work required under the listed contract numbers for the construction of _____; that joint inspection of the construction was accomplished by the individuals listed in Block 10 on _____; that the materials and labor were furnished in accordance with the terms of the specifications and contract; that all required guarantees have been furnished; that the work was constructed in accordance with the approved specifications and contract drawings as modified by approved contract modifications.

b. Project is totally complete, with no exceptions, and was ready for acceptance on _____

c. State took beneficial occupancy of the project on _____

FOR STATE _____

TITLE _____

FOR U.S. GOV'T _____

TITLE _____

13. ACCEPTANCE AND AUTHORIZATION OF FINAL PAYMENT: This is to certify that the contract/s designated on the first page of this report have been accepted and final payment of the Federal share is authorized.

FOR GOV'T _____

DATE

TITLE
USRFO OF _____

14. USE AND OCCUPANCY OF THE PROJECT

In accordance with 10 U.S.C., Chapter 1803, DoD Directive 1225.7, and Sections 201c and 701 of the "Agreement" with the (State Commonwealth) for construction of this project, use and occupancy of the aforesaid project shall remain in full force and effect for a period of 25 years from the date of acceptance.

Or

In accordance with 10 U.S.C., Chapter 1803, DoD Directive 1225.7, and Sections 201c and 701 of the "Agreement" with the (State Commonwealth) for construction of this project, use and occupancy of the aforesaid project shall remain in full force and effect for the remaining period of the Federal license and any subsequent renewals thereof.

DATE

FOR U.S. GOV'T _____

TITLE
USPFO OF _____

DESCRIPTION	COL. A	COL. B	COMMENTS
15. PROGRESS CHARTS, SAMPLES, SHOP DRAWINGS	<input type="checkbox"/>	<input type="checkbox"/>	
16. SAFETY REQUIREMENTS	<input type="checkbox"/>	<input type="checkbox"/>	
17. LABOR REPORTS	<input type="checkbox"/>	<input type="checkbox"/>	
18. BONDS	<input type="checkbox"/>	<input type="checkbox"/>	
19. TESTING MATERIALS	<input type="checkbox"/>	<input type="checkbox"/>	
20. EXCAVATION, FILL, AND BACKFILL	<input type="checkbox"/>	<input type="checkbox"/>	
21. CONCRETE	<input type="checkbox"/>	<input type="checkbox"/>	
22. STRUCTURAL	<input type="checkbox"/>	<input type="checkbox"/>	
23. MASONRY	<input type="checkbox"/>	<input type="checkbox"/>	
24. ROOF CONSTRUCTION	<input type="checkbox"/>	<input type="checkbox"/>	
25. ROOFING	<input type="checkbox"/>	<input type="checkbox"/>	
26. WINDOWS	<input type="checkbox"/>	<input type="checkbox"/>	
27. DOORS AND FRAMES	<input type="checkbox"/>	<input type="checkbox"/>	
28. SHEET METAL WORK	<input type="checkbox"/>	<input type="checkbox"/>	
29. PLASTERING OR DRYWALL	<input type="checkbox"/>	<input type="checkbox"/>	
30. MISCELLANEOUS METALWORK	<input type="checkbox"/>	<input type="checkbox"/>	
31. PAINTING AND FINISH	<input type="checkbox"/>	<input type="checkbox"/>	
32. CARPENTRY	<input type="checkbox"/>	<input type="checkbox"/>	
33. ACOUSTICAL TREATMENT	<input type="checkbox"/>	<input type="checkbox"/>	
34. CERAMIC AND QUARRY TILE	<input type="checkbox"/>	<input type="checkbox"/>	
35. VINYL COMPOSITION TILE	<input type="checkbox"/>	<input type="checkbox"/>	
36. GLASS AND GLAZING	<input type="checkbox"/>	<input type="checkbox"/>	
37. CARPET	<input type="checkbox"/>	<input type="checkbox"/>	
38. HARDWARE	<input type="checkbox"/>	<input type="checkbox"/>	
39. RIFLE RANGE EQUIPMENT	<input type="checkbox"/>	<input type="checkbox"/>	
40. TOILET PARTITIONS	<input type="checkbox"/>	<input type="checkbox"/>	
41. KITCHEN EQUIPMENT	<input type="checkbox"/>	<input type="checkbox"/>	
42. PLUMBING	<input type="checkbox"/>	<input type="checkbox"/>	
43. HEATING/AIR CONDITIONING	<input type="checkbox"/>	<input type="checkbox"/>	
44. VENTILATION	<input type="checkbox"/>	<input type="checkbox"/>	
45. ELECTRICAL	<input type="checkbox"/>	<input type="checkbox"/>	
46. SECURITY LIGHTING AND IDS	<input type="checkbox"/>	<input type="checkbox"/>	
SUMMARY	<input type="checkbox"/>	<input type="checkbox"/>	

Appendix O
Sequence of Events

- O-1. State develops a comprehensive RPDP, keeps it current, and uses it for real property decision-making.
- O-2. State annually builds and enters/updates in Facilities Center the State's LRCP from the long-, mid-, and short-term capital investment strategy in the RPDP.
- O-3. State fully scopes and costs highest priority non-FYDP LRCP projects, coordinating with all facility users, functional proponents, and other appropriate State staff elements to ensure the maximum functionality and usability of each project and to ensure that the project complies with all statutory, regulatory, and code requirements (e.g., environmental, explosive safety, occupational health, and physical security).
- O-4. State seeks to maximize joint-use projects and presents all LRCP projects annually to the JSRCFB for recommendation. State begins work on memorandum of agreement with other component(s) for all joint projects.
- O-5. State surveys alternative sites, chooses preferred site, conducts EBS, and acquires property for project.
- O-6. State submits DD Forms 1390/1391 annually for top two Adjutant General priority projects and other projects for which the State is seeking Congressional approval.
- O-7. NGB-ARI notifies States of new FYDP and provides approval of DD Forms 1390/1391 for FYDP projects, after coordinating changes with the State and the NGB facility proponent (if required). NGB-ARI executes any memorandum of agreement required for a joint project.
- O-8. State begins full environmental documentation of project.
- O-9. Annually State updates DD Forms 1390/1391 for FYDP projects and NGB-ARI provides approval.
- O-10. State submits MCCA for NGB-ARI approval before requesting design funds. NGB-ARI signs and returns to the State, after coordinating with NGB-JA and NGB-AQ if the State proposed changing any language.
- O-11. State obtains any required non-Federal matching funds.
- O-12. NGB-ARI requests design authority for all Congressionally directed design projects, all non-FYDP Congressionally authorized/appropriated projects, and all FYDP projects two years beyond the current year.
- O-13. State bids the design work for the project.
- O-14. State submits NGB Form 86-R requesting Federal support for project design (for all Congressionally directed design projects, all non-FYDP Congressionally authorized/appropriated projects, and all FYDP projects two years beyond the current year).
- O-15. NGB-ARI grants design authority, issues an allotment of design funds to the USPFO, and schedules a date for submission of conceptual (if required) and preliminary design documents.
- O-16. State completes conceptual design and submits required documents to NGB-ARI for Federally contracted projects and those that are addition/alteration, range, or ammunition storage projects.
- O-17. For range and ammunition storage projects, State completes necessary coordination with DDESB and NGB-AVS.
- O-18. NGB-ARI grants State authority to proceed to preliminary design once all conceptual comments are resolved and State has completed all required coordination/documentation.

O-19. State completes its site survey report (including the Declaration of Soil Bearing Capacity), obtains a certificate of title for the property, and satisfies all applicable requirements of the National Environmental Policy Act, National Historic Preservation Act, and other environmental requirements, including obtaining necessary concurrence from the State Historic Preservation Office, if there is a potential for the project to be considered an undertaking on a historical property. State submits appropriate documentation of these actions to NGB-ARI on or before it submits its preliminary design.

O-20. State obtains final safety approval from the DDESB for those projects that require DDESB review, NGB-AVS approval of surface danger zones for range projects, Quartermaster School approval for projects including a kitchen (if they deviate significantly from the kitchen designs in Design Guide 415-1), U.S. Army Petroleum Center approval for projects including a petroleum facility, and an industrial hygiene and occupational health technical review for surface and air maintenance facilities and indoor ranges. State submits appropriate documentation of these actions to NGB-ARI concurrently with its preliminary design.

O-21. State completes preliminary design and submits required documents (plans, technical specifications, cost estimate, and supporting design data) to NGB-ARI. Submission includes revised DD Forms 1390/1391 if preliminary design differs from previously approved forms.

O-22. NGB-ARI reviews the submission to ensure that the design is within the scope of the approved DD Forms 1390/1391 and that features that are eligible for Federal construction support are differentiated from those not eligible for Federal reimbursement. It also reviews for industry standard quality control measures to ensure facility quality and adaptability and to reduce obvious design errors that increase either construction or operational costs and that reduce mission support. Once the review is completed NGB-ARI grants State authority to proceed to final design, provided that all preliminary comments are resolved and State has completed all required coordination/documentation. Approval includes date for submission of final design and the final, locked DD Forms 1390/1391.

O-23. State completes final design and submits required documents (plans, bidding documents (to include general specifications), technical specifications, cost estimate, and supporting design data) to NGB-ARI.

O-24. NGB-ARI reviews the submission to ensure that the design is within the scope of the approved DD Forms 1390/1391 and that features that are eligible for Federal construction support are differentiated from those not eligible for Federal reimbursement. It also reviews for industry standard quality control measures to ensure facility quality and adaptability and to reduce obvious design errors that increase either construction or operational costs and that reduce mission support. Once the review is completed and all final comments are resolved, NGB-ARI grants State authority to prepare the final bidding package.

O-25. State completes bid final package and submits required documents (plans, bidding documents (to include general specifications), technical specifications, cost estimate, and supporting design data) to NGB-ARI. Submission also includes a draft DD Form 1354 itemizing by real property category code all construction that the A-E shows as taking place and verification that the Certificate of Title and environmental documentation are all still current and valid.

O-26. NGB-ARI reviews the bid final documents to determine conformance with final review comments. Once the review is completed and all comments are resolved, NGB-ARI grants State authority to bid the project provided sufficient Federal dollars are available and that Congress has both authorized and appropriated funds for the project. In the case of Federally contracted projects, NGB-ARI also issues funds to the USPFO to cover the construction cost estimate once the State submits an NGB Form 86-R.

O-27. State bids project using State or Federal procedures as applicable in order to award the project within the first year of the appropriation (but no later than the expiration of the Congressional authorization for the project).

O-28. State selects a recommended contractor(s) and submits the following documents to NGB-ARI for review and

approval of the appropriate level of Federal reimbursement: NGB Form 86-R (initial or adjustment, depending on whether the project has a State or a Federal construction agent) for each proposed contract, a copy of the bid abstract, and a copy of the bid(s) of the successful low bidder(s).

O-29. If the recommended and approved package is within the project's Congressional appropriation, NGB-ARI issues the USPFO funds in the approved amount to reimburse the State (for State construction agents) or pay the contractor(s) (for Federal construction agents). If the recommended package exceeds the project's Congressional appropriation, NGB-ARI and the State consider alternative courses of action to ensure that the MCNG appropriation remains in balance.

O-30. Before the USPFO obligates the initial construction funds from NGB-ARI, the CFMO provides him/her with a copy of the executed contract.

O-31. State proceeds with construction.

O-32. State submits requests to negotiate contract modifications for changes in construction contracts that execute modifications under the changes clause and increase or decrease the Federal cost of a project but only if these modifications are in the best interest of the Federal Government.

O-33. NGB-ARI reviews requests and provides approval to State to begin negotiations with the contractor.

O-34. State submits NGB Form 87-R for funding of contract modification, enclosing all required supporting documents.

O-35. At about the half-way point of construction USPFO and State (if a State contracting agent is used) representatives conduct an interim inspection of the project and record the results on an NGB Form 593-R (retained on file at the State).

O-36. State completes Certificate of Substantial Completion (or memorandum of beneficial occupancy in the case of projects that use Federal contracting procedures) that establishes the responsibilities of the contracting agent and the contractor and fixes the time within which the contractor shall complete the remaining items in the project.

O-37. Upon an approved Certificate, which starts the 25 year clock (for projects with an MCCA/FSA), State requests of NGB-ARI via a completed and updated DD Form 1354 that the affected facilities be approved in the real property database for Federal support. State enters the date of beneficial occupancy in the real property database records of all facilities listed in the Certificate.

O-38. NGB-ARI authorizes the appropriate ratio of Federal dollars to reimburse the State for the operation and maintenance of the newly constructed facilities when the State updates the real property database.

O-39. State requests last contract modifications not within the scope of the original contract so that USPFO may obligate funds associated with NGB-ARI approvals no later than 30 September of the year the project appropriation expires.

O-40. USPFO disburses funds against the project prior to the cancellation of the project's appropriation (five years after the project's appropriation expires).

O-41. USPFO and State (if a State contracting agent is used) representatives conduct a joint final inspection of the project and record the results on the project's NGB Form 593-R. This inspection certifies that:

- a. The total project is complete without exception according to the NGB approved plans, specifications, criteria, and standards and that the constructed facilities are ready for full user occupancy.
- b. Contracts executed both to design and construct the project have been fully completed and terminated.
- c. An accounting of the total Federal and State funds disbursed for each contract.
- d. The date of final completion and satisfaction of all outstanding contracts, including contract modifications.

O-42. State mails a copy of the NGB Form 593-R to NGB-ARI, retains a copy, and provides the original to the USPFO so that the USPFO can make final contract payment(s).

O-43. State updates the DD Form 1354 to reflect quantities actually constructed and final costs, based on the as-built drawings, updates the real property database accordingly, and forwards the form to the appropriate State accountable officer or USPFO (in the case of Federal property).

Appendix P Best Practices

The following is an extract from GAO Report GGD-00-172R, Study on Facility Design Reviews, pp. 29-31. The best practices are based on research by facilities and construction organizations, are grouped by category but are sequentially numbered. Throughout replace “owner” with “State.”

A. Role of the Owner

1. Be a smart buyer. Facility acquisition processes (including review of designs) work best when the owner has sufficient in-house expertise to qualify as a smart buyer. A smart buyer is one who retains an in-house staff that understands the organization’s mission, its requirements, and its customer needs and who can translate those needs and requirements into a corporate or strategic direction. A smart buyer also retains an in-house staff that includes technical experts who can articulate the nature of technical services being bought, recognize good value during the negotiation of such services, and evaluate the quality of the services as they are provided.

2. Develop a scope of work that clearly and accurately defines the owner’s expectations regarding facility cost, schedule, performance, and quality. The owner’s standards, more than those of any other entity involved in the acquisition process, will set the tone for all aspects of design review activity. The owner’s scope of work should be used as the yardstick against which to measure performance.

3. Avoid the temptation to micromanage design reviews. A/E’s are selected based on their experience and expertise; they should be given wide latitude to bring that expertise to fruition.

B. Teamwork and Collaboration

4. Use team-building and partnering techniques to build good working and communicative relationships among the participants, as well as to align all participants toward common objectives and expectations.

5. Ensure that all interested parties participate in design reviews from the planning and design phases, so that all perspectives are represented as the design evolves. Broad participation creates early project endorsement or “buy-in,” reducing the potential of later disagreement or need for changes. At a minimum, involve representatives of the owner, the user, the A/E, construction management staff, maintenance and operations staff, and special staff such as procurement, safety, and fire protection. Where possible and appropriate, include the construction contractor, permitting agency staff, and independent specialists for value engineering and independent review. Err on the side of excess participation—it is cost-effective protection against subsequent unexpected and expensive fixes and oversights.

6. Use the same A/E throughout the facility acquisition process to maximize continuity and allow participants to build and apply their experience baseline. Using the same A/E for conceptual planning, detailed design, construction support engineering services, and startup takes advantage of the A/E’s intimate understanding of both the owner and his project needs, and supports continuity of personnel involved.

7. Use senior, experienced personnel who understand the relationship of a facility to meeting the agency’s overall mission and who can effectively evaluate the evolving design and guide the review process.

8. Participants should commit for the duration of the activity to ensure continuity. Changing participants from any of the organizations involved in reviewing the design can disrupt the work flow and threaten the stability of good teaming relationships.

9. Participate in a design awards program in order to recognize and motivate excellence. Nothing succeeds like success! Recognition of a job well done gives visibility to a successful process and motivates all of the participants to continually improve.

C. Advance Planning

10. Focus attention on the review of designs during the conceptual planning and design phases, where the ability to influence the ultimate functionality and cost of the project is the greatest. Effective design review processes start out being very intensive and proactive, with an intensity that declines through the procurement, construction, and start-up phases of the acquisition process.

11. Do not start the final stage of design—preparation of the construction plans and specifications—until the preliminary engineering has been completed. To do otherwise could significantly slow the overall design activity due to frequent interruption and rework caused by incomplete project scope definition.

D. Process

12. Tailor the design review approach to project specifics. Project complexity, cost, mission criticality, visibility, method of contracting, and schedule are just a few of the variables that can drive aspects of the design review approach such as frequency, intensity, and reliance on outsourced experts and consultants.

13. Keep up the pace to maintain momentum and keep the facility acquisition process on schedule. The review of designs at each phase of the process should not impede progress toward a completed facility. A stop-start or prolonged process impacts the acquisition in many ways, perhaps the most critical being the increased potential that organizations will reassign participants.

14. Pay special attention to the civil, structural, electrical, and mechanical interfaces. Historically, 30-50 percent of all construction change orders result from interference fit problems between trades. Is the power supply appropriate to the specified mechanical equipment? Does the HVAC (Heating, Ventilating, and Air Conditioning) ducting interfere with structural members?

15. Exploit technology. The technological revolution has provided many tools to enhance design review processes, including computer-aided design, three-dimensional modeling, data collection and distribution software programs, and rapid communications systems, including the Internet.

16. Conduct a postoccupancy evaluation to develop a lessons-learned document for future reference. After facility start-up, the design review team should document objective results (how did final cost and schedule compare to planned?) as well as subjective results (is the user pleased with facility performance?). The postoccupancy evaluation should also relate approaches taken during the various phases of the facility acquisition process with the final results.

E. Benchmarking

17. Measure results achieved by design review processes in order to assess their level of performance. A process cannot be managed if it is not measured. Successful benchmarking requires an organization to identify relevant performance characteristics, measure them, and compare results against either established industrial norms or against similar measured characteristics of other organizations recognized for their excellence.

18. Document both unusually good and bad performance for future reference. Even better, find a way to share such information with other organizations and federal agencies.

Appendix Q Management Control Checklist

Q-1. Function

The function covered by this checklist is management and control of the military construction program. It includes activities covered by this pamphlet and NGR 415-5.

Q-2. Purpose

The purpose of this checklist is to assist the State Construction and Facilities Management Officer in evaluating the key management controls listed below. It is not intended to cover all controls.

Q-3. Instructions

Answers must be based on the actual testing of key management controls (for example, document analysis, direct observation, sampling, simulation). Answers that indicate deficiencies must be explained and corrective action must be identified in supporting documentation. These key management controls must be evaluated at least once every five years. Certification that this evaluation has been conducted must be accomplished on DA Form 11-2-R (Management Control Evaluation Certification Statement).

Q-4. Test Questions

a. Do all military construction undertakings comply with applicable requirements of the National Environmental Policy Act (42 U.S.C. §§4321-4370a), National Historic Preservation Act (16 U.S.C. §470 et. seq.), and other environmental requirements? Has NGB-ARE approved the required documentation and does the CFMO keep it current in the period prior to construction?

b. Are there sufficient checks and balances in place to ensure that no incremental construction takes place?

c. Are Federal funds expended only on the authorized scope of MCNG projects, as set forth in NGB-AQ cooperative agreement directives and/or the final approved DD Forms 1390/1391?

d. Does the CFMO serve as the Records Custodian of the Joint Service Reserve Component Facility Board for his/her State in accordance with DoDI 1225.8 and submit all required minutes of the Board's proceedings?

e. Does the CFMO annually submit a complete LRCP in Facilities Center, accompanied by appropriate programming documents? Does the LRCP reflect the RPDP and does the RPDP drive construction decisions? Does the priority order of the LRCP reflect ARNG needs, functions, and missions in accordance with the Installations Status Report and the stationing plan?

f. Has the JSRCFB examined and approved construction within the past year of the military construction project? If the JSRCFB recommended unilateral construction, do the minutes reflect justification for not pursuing joint construction?

g. Does the CFMO prepare a complete and comprehensive economic analysis for each proposed MCNG project in accordance with DA Pam 415-3 to justify project, its site, and scope before commencing design, and is it on file?

h. Does the CFMO ensure that a threat analysis in a form consistent with the procedure in TM 5-853-1 is conducted to generate all force protection requirements beyond those required by physical security and force protection regulations?

i. Does the CFMO fully coordinate with all facility users, functional proponents, and other appropriate State staff elements to ensure the maximum functionality and usability of each project and to ensure that the project complies with all statutory, regulatory, and code requirements (e.g., environmental, explosive safety, occupational health, and physical security)?

j. Does the CFMO thoroughly investigate alternative project sites to determine the most suitable site, considering land availability, support of unit readiness and recruiting/retention goals, and the economics of site preparation? Does the CFMO have a site survey report on file that verifies that site conditions will actually support the proposed construction and that there are no hidden problems such as wetlands, floodplains, or cultural resource issues?

k. Does the CFMO fully and completely scope all projects before submitting DD Forms 1390/1391 to NGB-ARI for approval? Has the CFMO identified the total requirement in order to provide a functionally complete and usable facility? Does the CFMO ensure that the forms follow publish criteria or reflect requests for exceptions to criteria? Does the CFMO update the forms annually until the project is authorized and appropriated?

l. Are UMI projects scoped so that they will not exceed the statutory limits?

- m. Has an MCCA or FSA been approved before Federal funds are applied against a project with a State design or construction agent?
- n. Are their controls in place to ensure that A-E and construction contracts are not bid without NGB-ARI approval, unless the State has agreed to accept financial liability for the action?
- o. Does the CFMO design and construct all projects to the limits set in the approved DD Forms 1390/1391? Does the CFMO correct design submissions based on NGB-ARI comments and not proceed further in design and construction without written approval?
- p. Does the CFMO address all property ownership and use agreements before proceeding beyond preliminary design? Is there an NGB approved Certificate of Title or license/permit on file?
- q. Does the CFMO wait to receive DDESB or other required approvals outside NGB before proceeding to the next level of design?
- r. Does the CFMO update Facilities Center beginning with the submission of bid final documents and monthly thereafter, until project completion, to reflect estimated and final construction amounts and construction-in-progress?
- s. Does the USPFO record all obligations in a timely manner (as soon as contract is awarded, for Federal contracts, and immediately upon receipt of funds from NGB, for State contracts)?
- t. Does the CFMO properly distinguish between installed building equipment and personal property in expending funds on construction projects?
- u. Does the CFMO properly calculate and account for all funded and unfunded project costs and appropriately enter the total in Facilities Center?
- v. Have the CFMO and the USPFO both reviewed requests for reimbursement (or payment, in the case of Federal contracts) to determine that they are accurate and appropriately reflect actual work completed?
- w. Does the USPFO only reimburse the State for project costs that are not in excess of criteria (or approved exceptions to criteria) and that support the Federal mission of the ARNG? In the case of common use portions of projects shared with non-Federal entities, does the USPFO only reimburse the State for construction not in excess of criteria and then only in proportion to the ARNG share of the single use portions of the facility?
- x. After funds have expired for a project, are only contract modifications within the scope of the original contract obligated against project funds?
- y. Does the CFMO conduct adequate field inspections to ensure that construction meets the contract requirements?
- z. Do the authorized State and Federal officials actually perform a final inspection to accept the project jointly on behalf of the State and the Federal Government?
 - aa. Does the CFMO forward a completed NGB Form 593-R to NGB-ARI within four months of the construction end date? Does the CFMO provide NGB-ARI an updated DD Form 1354 at the same time accurately reflecting all real property constructed?
 - ab. Does the USPFO ensure that at least a year passes after project closeout before any additional Federal funds are applied toward construction of the new facility?

Q-5. Comments

Help make this a better tool for evaluating management controls. Submit comments and recommendations to Chief of Installations (NGB-ARI), 111 South George Mason Drive, Arlington, VA 22204-1382.

Glossary

Section I

Abbreviations

A-E

Architect-Engineering

AFUE

Annual Fuel Utilization Efficiency

AMSCO

Army Management Structure Code

ANSI

American National Standards Institute

AR

Army Regulation

ARNG

Army National Guard

ASHRAE

American Society of Heating, Refrigerating, and Air Conditioning Engineers

ASIP

Army Stationing and Installation Plan

AT/FP

Anti-Terrorism/Force Protection

CADD

Computer-Aided Design and Drawing

CBD

Commerce Business Daily

CERCLA

Comprehensive Environmental Response, Compensation, and Liability Act

CERCLIS

Comprehensive Environmental Response Compensation and Liability Information System

CFMO

Construction and Facilities Management Officer

CIDS

Commercial Intrusion Detection System

CMU

Concrete Masonry Unit

COR

Contracting Officer's Representative

COTR

Contracting Officer's Technical Representative

CSI

Construction Specifications Institute

CX

Categorical Exclusion

DA

Department of the Army

DD

Department of Defense

DDESB

Department of Defense Explosives Safety Board

DERA

Defense Environmental Restoration Act

DFARS

Defense Federal Acquisition Regulation Supplement

DFAS

Defense Finance and Accounting Service

DoD

Department of Defense

DoDD

Department of Defense Directive

DoDI

Department of Defense Instruction

DOIM

Director of Information Management

EA

Environmental Assessment

EBS

Environmental Baseline Survey

EER

Energy Efficiency Ratio

EIS

Environmental Impact Statement

EPA

Environmental Protection Agency

ESSP

Explosives Safety Site Plan

FAR

Federal Acquisition Regulation

FARP

Forward Arming and Refueling Point

FNSI

Finding of No Significant Impact

FSA

Federal-State Agreement

FYDP

Future Years Defense Program

GPM

Gallons per Minute

HET

Heavy Equipment Transporter

HEMTT

Heavy Expanded Mobility Tactical Truck

HVAC

Heating, Ventilating, Air Conditioning

IBE

Installed Building Equipment

IDIQ

Indefinite Delivery/Indefinite Quantity

IFB

Invitation for Bid

IPBC

Infantry Platoon Battle Course

ISBC

Infantry Squad Battle Course

J-SIDS

Joint Services Interior Intrusion Detection System

JSRCFB

Joint Services Reserve Component Facilities Board

LED

Light Emitting Diode

LRCP

Long Range Construction Plan

MCCA

Military Construction Cooperative Agreement

MCNG

Military Construction Army National Guard (appropriation)

MIL-STD

Military Standard

MOUT

Military Operations on Urbanized Terrain

MPRC

Multipurpose Range Complex

MPTR

MultiPurpose Training Range

MTOE

Modified Table of Organization and Equipment

NEPA

National Environmental Policy Act

NG

National Guard

NGB

National Guard Bureau

NGB-AQ

National Guard Bureau Acquisition

NGB-ARE

Army Environmental Programs Division

NGB-ARI

Army Installations Division

NGB-AVS

Army Aviation and Safety Division

NGB-JA

National Guard Bureau Chief Counsel

NGR

National Guard Regulation

OMB

Office of Management and Budget

OMNG

Operations and Maintenance National Guard

OPA

Other Procurement Army (appropriation)

OSD

Office of the Secretary of Defense

OSHA

Occupational Safety and Health Administration

Pam

Pamphlet

PCBs

Polychlorinated Biphenyls

P&D

Planning and Design

PF

Passive Flow

PLS

Palletized Load System

QASAS

Quality Assurance Specialist Ammunition Surveillance

RDP

Range and Training Land Program Development Plan

REC

Record of Environmental Consideration

ROD

Record of Decision

RPDP

Real Property Development Plan

RPLANS

Real Property Planning and Analysis System

SDD

Sustainable Design and Development

SDZ

Surface Danger Zone

SEER

Seasonal Energy Efficiency Ratio

SF

Standard Form

SIDPERS

Standard Installation Division Personnel System

SIOH

Supervision, Inspection, and Overhead

TACOM-ARDEC

U.S. Army Technical Center for Explosives Safety, Picatinny Arsenal, New Jersey

TDA

Table of Distribution and Allowances

THD

Total Harmonic Distortion

TM

Technical Manual

TOE

Table of Organization and Equipment

UIC

Unit Identification Code

UPS

Uninterruptible Power Supply

USATCESP

U.S. Army Technical Center for Explosives Safety Publication

U.S.C.

United States Code

USPFO

United States Property and Fiscal Officer

UXO

Unexploded Ordnance

Section II

Terms

A-E Errors and Omissions

Errors, deficiencies, and inadequacies resulting from the A-E firm's failure to supply a professional quality, technically adequate, or fully coordinated set of design documents, whether in the designs, drawings, specifications, or other required services.

Addition/Alternation Project

A military construction project that either increases the overall size or capacity of an existing real property facility or adjusts interior arrangements or other physical characteristics of an existing facility.

Additive Bid Item

An item bid separately, not required to complete a project within the validated scope as per the DD Forms 1390/1391. An independent element of the project that does not pre-condition the base project (i.e., it must be usable by itself) and clearly within the scope of the approved project. One of the two desired ways that the State bids items that are excess to authorization for Federal reimbursement or are not essential should the overall bid be in excess of Congressional authorization and appropriation. Also used when a State wants a separate price for an item.

Alternate Bid Item

An item bid separately as a substitute for an item required to complete a project within the validated scope as per the DD Forms 1390/1391. One of two desired ways that the State bids items that are excess to authorization for Federal reimbursement.

Cabling

Includes cable and the fittings, connectors, terminal strips, and similar devices needed to install cable. Cabling also includes wired-in equipment such as multiplexers and interface devices built into the system up to the outlet device plate when required to complete the transmission path to the user outlet. Cabling does not include servers, routers, brouters, gateways, and other user-specific equipment associated with local area networks and wide-area networks. Plug-in and other devices and wiring external to the user outlet are also not cabling.

Canceled Funds

An appropriation, five years after the entire period of availability for its obligation has ended (i.e., five years after the appropriation has expired). In the case of almost all military construction appropriations this is at midnight on 30 September nine years after the fiscal year named on the appropriation. At this time the appropriation shall be closed and any remaining balance (whether obligated or unobligated) in the account shall be canceled and thereafter shall not be available for obligation or expenditure for any purpose. Once an appropriation has been canceled, obligations and adjustments to obligations that would have been properly chargeable to that appropriation, both as to purpose and amount, before closing may be charged to any current military construction appropriation. (See 31 U.S.C. § 1553(b).)

Construction

The erection, installation, or assembly of a new facility; the relocation of a facility; the complete replacement of an existing facility; or the addition, expansion, extension, alteration, or conversion (to a new type use) of an existing facility. This includes installed building equipment and related site preparation, excavation, filling and landscaping or other land improvements. It also includes increases in components of facilities for functional reasons when a facility is not being repaired and the components are not required to meet current standards, and it includes the extension of utilities to areas not previously served. Construction is an activity that may be a part of either the restoration or modernization program.

Construction Specifications Institute (CSI)

A non-profit organization dedicated to the advancement of construction technology through communication, education, research and service. CSI serves the interest of architects, engineers, contractors, product manufacturers and others in the construction industry.

Construction Specifications Institute Format

A master specification list of construction divisions and sections numbers and titles designated as Division 1 through Division 16 and accepted as a standard by the American Institute of Architects.

Contract Modification

A modification to an existing contract. This may occur when the contracting officer and the contractor mutually agree to the changes, in which case the modification may also be known as a supplemental agreement. Or this may occur when the contracting officer directs or orders the contractor to accomplish the work for a cost considered by the contracting officer to be fair and equitable compensation to the contractor, in which case the modification may also be known as a change order.

Contracting Agent

A person or department/agency authorized to enter into a contract for design and construction of a military construction project or to perform design or construction of a military construction project by the direct employment of labor.

Contractor's Option

An alternate or additive bid item that if a contractor elects to provide it the firm does so at no cost over the base bid

Deductive Bid Item

An item bid separately proposed to be deleted from the baseline project within the validated scope as per the DD Forms 1390/1391. Not one of the two desired ways that the State should bid items that are excess to authorization for Federal reimbursement.

Demolition

The complete dismantling, tearing down, razing, wrecking, or burning of a fixed building or facility, to include the removal of foundations, utilities, and all debris, the backfill of all areas excavated by the work to maintain site grades and contours, and the reseeded of the property.

Design-Bid-Build

The traditional method of executing military construction projects, where design and construction are sequential and contracted for separately with two contracts and two contractors.

Design-Build

An alternative method of executing military construction projects that combines design and construction in a single contract with one contractor.

Design Control Cost

The total cost of a project as validated on the NGB-ARI approved DD Forms 1390/1391.

Expired Funds

An appropriation, when balances no longer are available for incurring new obligations, because the time available for making such obligations has expired. In the case of almost all military construction appropriations this is at midnight on 30 September four years after the fiscal year named on the appropriation. After this time the appropriation retains its accounting classification and is only available for adjustment and liquidating obligations properly chargeable to the account (i.e., making obligations within the scope of the contracts in force at the time the appropriation expired). If there are insufficient expired funds available, then military construction appropriation funds available at the time that the contract was issued shall be used, or, if these are not available, then current year funds shall be used. At midnight on 30 September of the fifth year after the period of availability of the appropriation ends, the account is closed and the funds shall not be available for any purpose. (See 31 U.S.C. § 1553(a).)

Facility

A separate and individual building, structure, utility system, or other real property improvement identifiable with a category code from DA Pam 415-28. Supporting elements for structures, such as sidewalks, fire hydrants, gasoline and diesel fuel dispensing systems, flammable materials buildings, roads, fencing, and hard stand, are all separate facilities.

Facilities Center

A customized version of a commercial off the shelf computer integrated facilities management system. It serves as the ARNG's information management system used by NGB and the CFMOs to manage real property assets from cradle to grave and to track and maintain all facilities related data, including project data.

Floodplain

Floodplains are the lowland and relatively flat areas next to inland and coastal waters including flood prone areas of offshore islands. This includes, at a minimum, that area with a one percent or greater chance of flooding in any given year (the "100 year flood"). For critical facilities where evacuation would be difficult, such as hazardous chemical storage or hospitals, the floodplain will be that area subject to a 0.2 percent or greater chance of flooding in any given year (the "500 year flood").

Incremental Construction

The splitting of a project into separate parts where

- (a) It is done solely to reduce costs below an approval threshold or the unspecified minor construction ceiling, or
- (b) Each part is not in itself complete and usable, or
- (c) The total project is not complete until all parts are complete

Installed Building Equipment (IBE)

Installed building equipment (real property) are items that are affixed or built into the facility and become an integral part of the facility.

Location Map

Prepared related to the north point at a larger scale than the vicinity sketch, it provides information on existing conditions adjacent to the property on which an MCNG project is located. The map identifies all existing major structures in the neighborhood, including names of roads, streets, streams, etc.

Major Construction

A military construction project separately authorized and appropriated by Congress, normally in an amount in excess of the unspecified minor construction statutory limit.

Military Construction Project

All construction efforts, or any contribution authorized by law, necessary to produce a complete and usable facility or a complete and usable improvement to an existing facility or improvement as specifically authorized by law.

Personal Property (Fixed)

Capital equipment and other equipment of a movable nature that has been fixed in place or attached to real property, but which may be severed or removed from buildings without destroying the usefulness of the facilities. Such property may not be supported with military construction funds.

Personal Property (Moveable)

Equipment that is movable and not affixed as an integral part of the facility. Such property may not be supported with military construction funds.

Planning and Design

Funding to prepare engineering plans, drawings, and specifications required to execute a military construction project.

Pre-Wired Workstations

A workstation which should include posts, panels, partitions, wiring for electricity and communications, task lighting, and partition-hung components to support individual and group efforts. Both panel-to-panel and post-to-panel systems are acceptable. Additional system components are ambient lighting and partition supported files. A pre-wired workstation should, at a minimum, provide for the following functions: (1) An acoustically treated enclosure

defining the limits of an individual or a shared use workstation. (2) Adequate work surfaces to accommodate the individual's equipment, writing, and work layout needs. (3) Storage space for individual files and supplies. (4) Task lighting and electrical and communications outlets to support the individual's equipment. Pre-wired workstations do not include movable furniture and furnishings such as chairs, stand alone file cabinets, coat hooks or racks, name tags, in and out file trays, and other similar accouterments.

Quantity Distance

A term used in ammunition storage projects. The explosives safety clear zone, which means any facility located within inhabited-building distance of existing or proposed facilities that contain (or were designed to contain) ammunition or explosives.

Range and Training Land Program Development Plan (RDP)

The RDP provides a view of the available assets, identifies the users (customers), and establishes the training requirements, based on Army training doctrine and resource guidance. It establishes current requirements and utilization levels for available training assets, providing a near-term and long-term project plan for training, public works, and environmental planners. The projects identified in the RDP consider the impacts on the Training Center's mission, environmental stewardship, economic resources, and potential for productivity enhancements.

Real Property Development Plan (RPDP)

The constantly updated end product of the State's real property master planning process. It identifies the Adjutant General's goals and objectives for development and operation of the State and its supported installations and shall identify the major work to be done to real property to ensure continued mission performance. It becomes the basis to support acquisition, management, accountability, and disposal of real property and serves as a framework for allocating available sustainment, restoration, and modernization resources and to support requested military construction projects.

Real Property Exchange

A program whereby existing ARNG operated property is exchanged for private sector property so that the ARNG receives property worth the total replacement cost of the existing property or fair market value, whichever is greater. The purpose of the program is to acquire more advantageous property thus reducing military construction requirements.

Site Preparation

Clearing; grubbing; demolition of existing structures; removing existing utilities, excavation and embankment earth work, drainage channels or systems, and retaining walls; the grading/compaction of site soils to proposed subgrade elevations; and necessary environmental compliance actions.

Surface Danger Zone (SDZ)

The statistical area in which a particular round fired from a particular weapon at a particular point toward a particular target will impact if there are no physical barriers to impede its path.

Sustainable Design and Development

The systematic consideration of current and future impacts of an activity, product, or decision on the environment, energy use, natural resources, the economy, and quality of life. In terms of military construction, it is also the design, construction, operation, and reuse/removal of the built environment (infrastructure and buildings) in an environmentally and energy efficient manner.

Unexploded Ordnance (UXO)

Explosive ordnance is any munition, weapons delivery system, or ordnance item that contains explosives, propellants, or chemical items. These items are UXO if they are armed or otherwise prepared for action; launched, placed, fired, or released; or unexploded through malfunction or design.

Unspecified Minor Construction (UMI)

MCNG projects, within the statutory limits of 10 U.S.C. §18233a, that are unforeseen urgent requirements which cannot wait for the normal MCNG programming process. Examples include facility shortfalls resulting from changes in mission and equipment and damage caused by severe weather or other acts of nature.

Vicinity Sketch

A sketch related to the north point and to scale showing the location of an MCNG project in relation to adjacent towns, cities, environmentally sensitive areas, main thoroughfares, highways, and the public street network. If the site is subject to zoning regulations, then the map will specify the classifications for the site and adjacent areas.

Wetlands

Wetlands are those areas flooded or inundated by surface or ground waters often enough to support aquatic life or vegetation. Wetlands generally include swamps, marshes, bogs, and similar areas, such as sloughs, open or wet meadows, river outflows, mud flats, natural ponds, wet forests, potholes, and riparian areas. They may or may not be located in flood plains.

Section III**Special Abbreviations and Terms**

This section contains no entries.