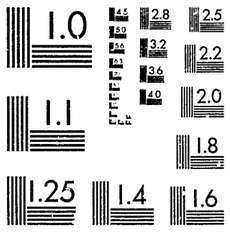

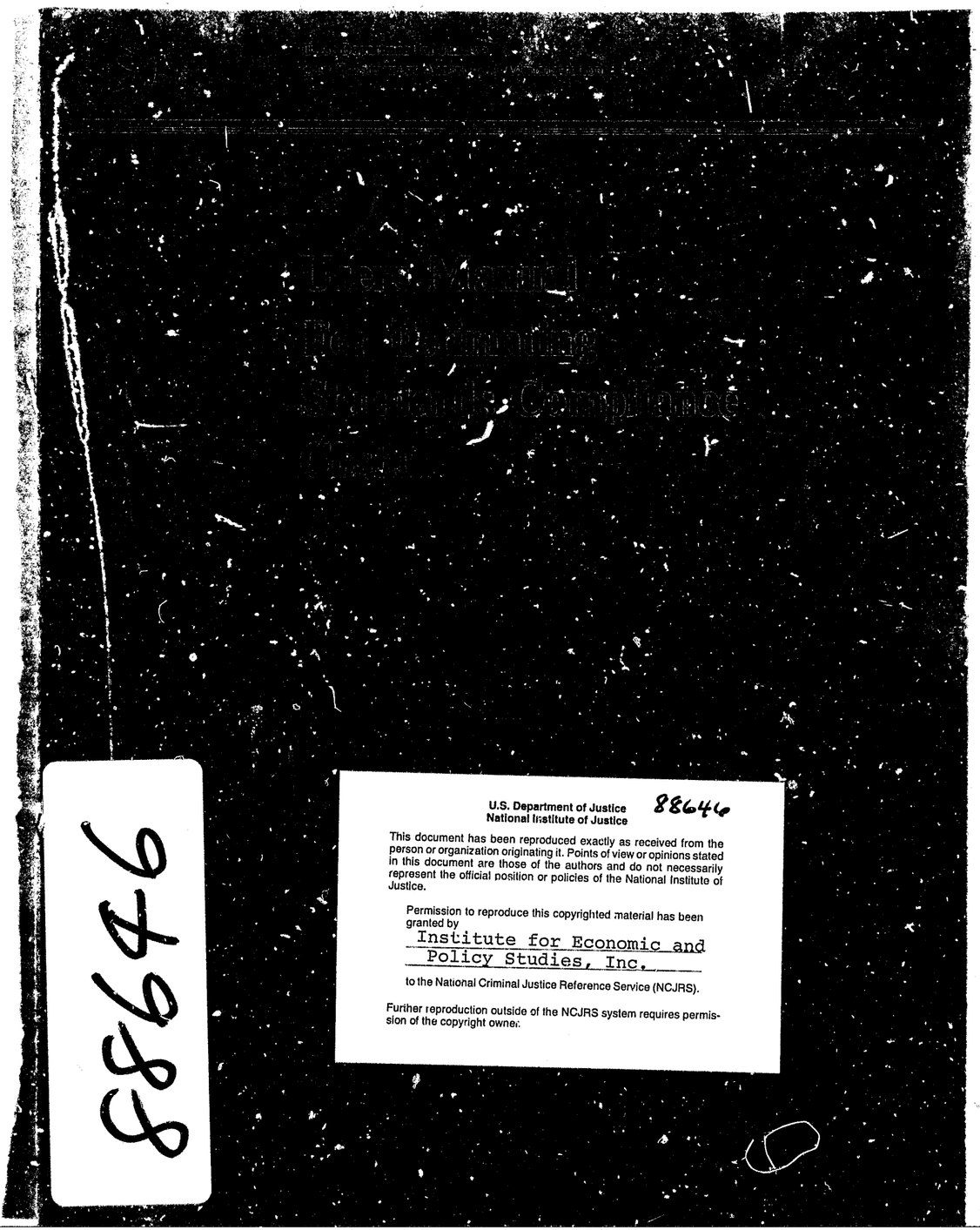

Users Manual

For Estimating Standards Compliance Costs

by

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FOREWORD

During the past decade the development of comprehensive professional standards by the American Correctional Association has provided a framework for improving upgrading and correctional management. The correctional accreditation process developed during this same period provides the systematic method for implementing these standards and ensures the development of rational and defensible operating procedures and more effective delivery of services to inmates.

More recently however, diminishing fiscal resources have required corrections professionals to question the cost of standards implementation. While attempts have been made to determine the cost of implementing standards, the lack of operationally verifiable data, and the range of variables that must be taken into account such as inflation, or policy decisions which dictate implementation strategies have impeded such calculations. This lack of data when coupled with competing priorities and options for resource allocation often make budget decisions extremely complex.

State budgeting with limited resources is not a new experience in corrections. However, determining budget needs on the basis of specific requirements for programs and services in order to meet standards and accreditation requirements add a new dimension to the budgetary process. For those who accept the challenge, the result will be a more precise, and well structured budget.

There is no question that the implementation of standards costs money. However, many, if not most standards do not have costs attached. Many standards require a review and revision of priorities, and the more effective use of personnel. To date, a significant number of prisons and other correctional facilities have been accreditated without large capitol expenditures.

In order to assist in the implementation of standards, and serve as a tool in the accreditation process, the Users Manual for Estimating Standards Compliance Costs has been developed. It provides a methodology for systematically determining standards related costs and should assist in allocating priorities and resources in implementing standards.

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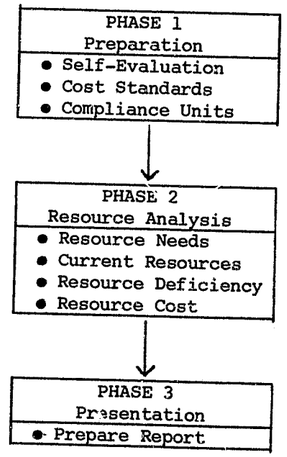
CHAPTER 1. INTRODUCTION

This Manual describes a three phase process for estimating compliance costs and is designed to aid planners, budget analysts and decisionmakers in achieving certification by the Commission on Accreditation for Corrections (CAC). The three phases, summarized in Figure 1, are Preparation, Resource Analysis and Presentation. Phase 1 is a process for limiting the analysis to only those standards judged to have a resource impact. The analysis in Phase 2 converts verbal to resource information, determines the quantity of resources and assigns a price to them. Phase 3, Presentation, prepares the results of the preceding steps in a way that agency managers can see estimated costs of standards or groups of standards and how these are distributed among the agency's subunits.

Figure 1-1

Three Phase Model of Compliance Cost Estimation



In addition to aiding planners and managers, the procedures described in the Manual provide a policy focus to compliance decisions, involve staff from all organizational levels, add detail to compliance plans and permit cost comparisons across jurisdictions. The following section discusses the importance of estimating compliance costs. The next two sections describe the major advantages and some of the limitations of the cost estimation process. The introduction concludes with an overview of the Manual, which explains how to the use the Manual effectively.

THE IMPORTANCE OF COST ESTIMATION IN THE ACCREDITATION PROCESS

The most important use of cost estimates will be for acquiring and allocating resources to achieve compliance. Without knowing how much compliance will cost, it is difficult to substantiate requests for funds and to allocate the funds appropriately. The Manual should, therefore, serve as an aid for determining the resources required to meet the standards and as the basis for formulating a budget to achieve compliance. It should be noted that the approach of the Manual is to estimate all the resource costs of compliance. A budget for achieving compliance would not reflect all resource costs but only the additional funds required to achieve compliance. However, it is essential for managerial purposes to know the total resource commitment so that correctional resources are allocated in such a way that compliance is actually achieved.

The cost estimation process described in this Manual is designed to produce information which will assist decisionmakers in choosing which standards their agency will meet to achieve compliance. Compliance costs will be different from accreditation costs for two reasons. First, the cost of the accreditation process itself (fees, salaries, etc.) is not included. Second, it may be possible to comply with the proportions of essential (90 percent) and important (80 percent) standards required by CAC with little or no additional financial resources. In practice, an analysis of self-evaluation data may significantly shorten the cost estimation process for an agency's first accreditation by limiting it to only those standards chosen to attain the 90 and 80 percent performance levels.

The cost estimation and accreditation processes are different on several technical, but critical, points. Self-evaluation ratings are appropriately limited to compliance or noncompliance. To estimate the additional cost of achieving compliance, however, it is important to distinguish degrees of compliance. For example, an agency may provide new employees 20 hours of preservice training rather than 40 hours (as required by Standard 4088), and costs will be significantly different than if no such training is offered.1 Similarly, many standards contain more than one requirement and each must be analyzed separately to estimate costs. Standard 4090 also calls for 40 hours of in-service training during the first year of employment and each subsequent year. An agency may comply totally with 40 hours of training in the first year, but only partially for each year thereafter. Thus, each element of the standard (in this case, hours of training required each year) must be analyzed. Sometimes the particular deficiency in a multi-part standard can result in much different compliance costs at different locations. For example, two institutions may be rated as noncompliant with Standard 4130, Cell Furnishings, but one only needs shelves for its cells while another does not have toilet facilities. Obviously, compliance costs will be significantly different.

Institutions are compared only to the black letter portion of standards during self-evaluation and CAC audits. These sections are sometimes presented in general terms to accommodate the wide range of local practices, agency policies and environments found across the country. As indicated earlier, the first stage of the analytical model must convert this verbal information into resource terms (staff, equipment) and it is frequently necessary to examine the accompanying discussion section of a standard to make this translation. For example, Standard 4438 specifies that the education include "instruction in

functional social skills." This statement by itself provides few clues as to how to proceed with estimating costs, but the discussion further suggests courses in consumer activities and life styles (e.g., including checkbook balancing in math courses). In this case, the entire standard would enable the analyst to clarify the meaning of "functional social skills," determine if such activities existed and, if not, investigate whether they can be added to courses (math), require new courses, be performed with present staffing levels, etc. For practical reasons, the Commission must leave the specifics of implementation to local discretion, and for these same reasons, the agency employee using this Manual (hereafter, User) and program managers must add specificity to derive cost estimates. The difference between the two approaches is where the authority resides.

The purpose of self-evaluations and standards audits is to determine whether an organization meets the 100-90-80 criteria necessary to become accredited. The purpose of cost estimation is to provide information which can be used to assess the resource implications of achieving compliance. Both processes are complementary, but require slightly different approaches to interpreting standards and defining compliance.

ADVANTAGES OF THE COST ESTIMATION PROCESS

Policymaking

The steps set forth are designed to structure the policy decisionmaking process in such a way that compliance issues are considered from a perspective broader than discrete standards in a specific institution. The Institute for Economic and Policy Studies (IEPS), when applying the estimation process in five states, found that much of the standards' value was lost if an agency did not consider them as a totality. For example, standards on administration, planning and evaluation taken together suggest a particular style of management characterized by participatory objective setting, decentralized decisionmaking and regular review of accomplishments. These along with inmate program standards posit a concept of corrections as a social service delivery system. This approach is distinctly different from one which narrowly focuses on specific standards and attempts compliance by minor modification of existing practice. Indeed, the procedure we propose includes grouping standards into compliance units to take into account the policy ramifications of interrelated standards.

Participatory

Another objective of the Manual is to have the cost estimating process carried out as far down in the agency hierarchy as practicable, but with policy-level oversight to ensure consistency in both compliance actions and cost estimates. This objective results in more specificity than would be necessary if the audience were only headquarters planners or budget analysts trained in cost estimation techniques. There were several reasons for this approach. First, the self-evaluation process recommended by CAC involves all organization levels; second, standards themselves suggest a participatory management style in agency operation generally; and, finally, data needed for

cost estimation are most frequently found at the institution level. The problem created by this approach and which the Manual attempts to address is how to achieve consistency, i.e., ensure that separate field offices, for example, use the same unit price for the same resources.

Compliance Information

A third objective, which emerges from the demands of cost estimating itself, is to quantify and describe in detail how an agency's programs compare to generally accepted correctional practice as defined by standards. This feature provides to the decisionmaker more information of a concrete nature than simply indicating "compliance" or "noncompliance." For example, a deficiency is described as "20 percent of the clients do not receive the required hours of recreation" or "five positions are needed to substitute for employees engaged in training." Information in this example is in terms of the resource and operational implications of compliance and, therefore, directly usable in budgeting processes, rewriting regulations, etc.

Improved Plans

Another purpose was to enhance the specificity and thoroughness of whatever compliance actions are chosen by an agency or its subunits. Cost estimating data are collected at the operational (not policy) level where the interdependency of functions like security, education, counseling, etc., is most clearly and forcefully played out; therefore, the total effects (and hence, costs) of proposed changes will be examined by necessity. For example, scheduling leisure activities for persons held in segregation may require additional supervision from both security and program staff and a revision in clothing issue practices. In short, compliance plans should be better formulated to account for all effects, more specific to enable measurement and more integrated with the needs of all departments to ease their implementation.

Cost Comparisons

Finally, the Manual is intended to produce results which will enable comparisons between states that are more meaningful than average daily cost, percent incarcerated, etc. Executive oversight agencies now typically look to gross measures such as average daily cost to evaluate a department's "efficiency." This is fallacious not only because states differ significantly in how they report costs (inputs), but also it does not account for qualitative differences in services (output). If the Manual is consistently applied in two different states, the degree of divergence from national standards can be compared both in terms of additional resources in the aggregate and by specific standard or groups of standards. This begins to add a qualitative dimension to the otherwise sterile cost measures and to provide clues as to whether to a seemingly "efficient" agency as measured by cost-per-day is providing a substantial level of service. For example, are lower costs attributable to low quality housing, excessive idleness, poorly trained staff, overcrowding or lack of programs? The degree of deficiency is measured by the cost of compliance.

The Manual's most obvious purpose is to produce compliance cost estimates which can be used in executive and legislative decisionmaking. Secondary objectives are used to provide a framework for considering policy tradeoffs; to involve personnel at all organizational levels; to quantify deficiencies in terms of resources required and operational changes; to develop more complete compliance plans that have considered all the implications of a proposed change; and, finally, to produce a more reasonable basis for interstate comparisons of corrections agencies. There are, however, some ends this Manual cannot attain.

LIMITATIONS OF THE COST ESTIMATION PROCESS

Limited to Inputs

Foremost among the limitations is the concentration on only the input or cost component of correctional effectiveness; that is, the benefits (output) of proposed compliance actions are not considered. It is assumed that the standards represent the collective wisdom of professionals in the field and a preferred state-of-the-art in correctional practice. Whether such goals as rehabilitation or incapacitation will be better served under the standards schema or some other is not at issue; even though these questions remain central to how the public values corrections. There are, in addition, a host of intangible benefits which cannot be valued in economic terms (organizational philosophy, public opinion, humane care, etc.), so no attempt is made to factor these considerations into the analysis. In short, the Manual presents a methodology for analyzing resource effects of a decision, not the programmatic outcomes or the desirability of the decision itself.

Unique Situation

The approach is not a substitute for the creativity of agency managers who must devise compliance strategies which are consistent with organizational tradition, accommodate nuances of local practice and consider the environment that constrains agency policy. There is more than one technically feasible alternative for complying with each standard, but the "best" choice must be evaluated relative to the specifics of a situation.

No Perfect Method

Because of this diversity, the cost estimation process cannot be approached as a simple task of filling out a form and adding up the results. In some cases, compliance will require undertaking an entirely new activity such as planned preventative maintenance with which the agency has limited experience and, therefore, has difficulty estimating how much additional workload will be created. In others, the change is a modification of an existing procedure such as more frequent review of segregation cases, but no one knows how much such reviews now cost. Consequently, tasks involved in the cost estimating process will vary even for the same standard, so there is no universally applicable "best" method. The appropriate approach must be selected on the basis of data availability, personnel assigned to do estimating

and, most importantly, the importance of cost information to decisionmakers at the institutional, agency, gubernatorial and legislative levels.

Estimates Deteriorate

A final qualification is the time-limited nature of all financial data; last year's estimates simply cannot be accepted at face value. The most obvious reason for this is price changes -- salaries, commodities, supplies, etc. -- but other causes of deterioration are most obscure. There may have been subtle, unplanned increases or decreases in efficiency; for example, more disciplinary problems are resolved informally, but hearings still occur twice weekly for three hours. The population may have become younger and, thereby, created a need for more educational services than can be provided within existing program capacities. New approaches, such as stress management to reduce absenteeism, may have emerged which require less resources than originally estimated.

Those using information must be sensitive to factors which make periodic revisions in the estimates necessary. The unique situations faced by each agency preclude a discussion in the Manual of the many feasible compliance alternatives and alternative cost estimation methods. This document concentrates on the inputs or resources entering into the corrections process and not on issues of purpose and social benefits. The cost estimation process described here complements the accreditation process but is also distinct on several technical and conceptual points.

ORGANIZATION OF THE MANUAL

The Manual is organized in two parts: four chapters of text, which explain how to estimate compliance costs, and a set of appendixes with reference materials and forms to assist the User in preparing cost estimates. Chapter 2 explains how the three phase cost estimation process is organized. The chapter provides background information on each phase and suggests a process for organizing agency personnel to develop cost estimates. Chapter 2 will help the User understand the step-by-step process of estimating costs that follows.

Chapter 3 explains how to estimate operating costs (personnel, supplies, etc.) and will be useful to all correctional agencies in estimating standards compliance costs. Chapter 4 provides all the details needed to estimate capital costs. This will be useful to agencies estimating the costs of new construction and renovation of prisons to meet physical plant and related standards. Chapter 5 is a brief summary and conclusion of the text.

Within Chapters 3 and 4 several examples are used to demonstrate how the cost estimation process works for operating and capital costs, respectively. The appendixes serve as reference materials so that the User can develop cost estimates from actual correctional situations more easily. Appendix A provides the User with a convenient set of descriptions for adult correctional institution standards. Appendixes B-D contain blank forms and reference materials to make the job of estimating costs easier for the User. Finally, the Manual has a glossary which can be referred to if terms in the text require clarification.

CHAPTER 2. STRUCTURING THE COST ESTIMATION PROCESS

The cost estimation process is, as we mentioned, divided into three phases: preparation, resource analysis and presentation. The purpose of this chapter is to explain the structure of these phases. The first section summarizes the three phase process and highlights the relationship between the resource analysis and the accreditation process. In the second section, we present some suggestions for organizing the resource analysis. The final section discusses the key concepts on which the cost estimation process is structured. Properly organized and thoroughly carried out, we believe the cost estimation process will make accreditation smoother and more certain, and compliance more predictable and less costly. The step-by-step process is organized as follows:

- Phase 1 Preparation
  - Step 1.1 Conduct Self-evaluation
  - Step 1.2 Select Standards with Resource Impacts
  - Step 1.3 Form Compliance Units
- Phase 2 Resource Analysis
  - Step 2.1 Describe Resource Requirements
  - Step 2.2 Describe Current Resources
  - Step 2.3 Describe Resource Deficiency or Surplus
  - Step 2.4 Estimate Compliance Costs
- Phase 3 Presentation
  - Step 3.1 Prepare Final Report

THE THREE PHASE COST ESTIMATION PROCESS

The process of converting verbal information (in the standards) into resource costs is organized into three phases: preparation, resource analysis and presentation. In the preparatory phase, the standards are evaluated to determine which noncompliant standards have cost implications. At the conclusion of this phase, the user will have a list of standards requiring cost estimation. The second phase is an indepth analysis of the resource implications of the standards. The end result of the analysis is an estimate of the cost of compliance for each noncompliant standard. In the final phase the results of the resource analysis are presented to decisionmakers (e.g., warden, agency director) so that they can decide which standards to obtain funding for compliance.

Phase 1. Preparation.

Preparation for the resource analysis involves three steps: (1) "self-evaluations" are conducted to determine whether the institution or organization seeking accreditation is in compliance with the standards; (2) a determination is made as to whether the noncompliant standards have cost implications; and (3) the noncompliant cost standards are grouped into "compliance units" and responsibility is delegated for analyzing the resource impact of each compliance unit.

The self-evaluations are a mandatory part of the accreditation process. According to the Commission on Accreditation, "The goal of the self-evaluation phase of the accreditation process is the measurement of the agency's compliance with Commission standards."[1] Self-evaluation and resource analysis are tied together in this Manual for two important reasons. First, determining the compliance/noncompliance status of the standards is an essential (preparatory) step before the resource analysis can be conducted. Thus, the self-evaluation part of the accreditation process is the first step in the cost estimation process.

Second, we believe that the resource analysis will improve the quality of the agency's self-evaluation, and, ultimately increase the likelihood of accreditation. As part of the accreditation process, the CAC requires a self-evaluation to determine whether the agency is in compliance with each standard and a Plan of Action to rectify the deficiencies in the noncompliant standards. In developing the Plan of Action, which is a requirement for accreditation, the agency must identify the "resources required to achieve compliance" (e.g., additional personnel, equipment, new facilities) and the "activities required to achieve compliance." A standard requiring that "laundry facilities are available for inmates personal use" can be used to illustrate the importance of the resource analysis (Standard 4250, First Edition). In one Plan of Action submitted by an agency to the CAC, the agency stated that it would need both an additional $2,400 in laundry equipment and $5,000 to $6,000 additional funds to finance the installation. In a cost analysis conducted by IEPS, it was found that, in this instance, compliance actually required less expensive equipment and no additional funds but rather some supplies and modification of facilities. The point is that the resource analysis provided more accurate information on which to develop the Plan of Action. Thus, by doing the resource analysis with the self-evaluation required by the CAC, we believe each will gain from the other.

Phase 2. Resource Analysis.

The resource analysis is conducted in four steps: (1) the resource requirements of the standards are described as if there is zero compliance; (2) the current allocation of resources to the standards (i.e., the degree of partial compliance) is described; (3) the resource deficiency, that is, the difference between the current resource allocation and the resource commitment needed for compliance is described; and (4) the cost of compliance (making up the resource deficiency) is estimated. These four steps will be discussed in detail in the next chapter.

It is important to note, at this point, the differences between the resource analysis which this Manual describes and the resources and tasks for compliance which the CAC requires in the agency's Plan of Action. The resource analysis is a systematic and fairly rigorous approach to deriving cost estimates for compliance. Although the resource analysis is based on a step-by-step procedure, there is considerable flexibility in deciding what to include in the analysis and how to interpret standards. Furthermore, there is plenty of latitude in deciding how to meet the standards and lots of room for creativity in developing alternative procedures for compliance. The purpose of this Manual is to structure the analysis only by devising a framework for including all important elements of cost estimation, but not to dictate to any agency what specifically should be included or how Plans of Action should be devised.

A further distinction is that the resource analysis addresses the impact of the standards whereas the Plan of Action addresses its implementation. A Plan of Action for any standard that requires "written policy and procedure" can technically be complied with simply by developing the policy and procedure. For example, Standard 4021 which requires that "written policy and procedure specify the circumstances and methods for securing legal assistance for the warden/superintendent" can be complied with by revising agency policy if necessary. Ultimately, however, this policy will have an impact on agency resources because counsel will have to be hired if there currently is none. The resource analysis addresses the impact of the policy on the agency's resource allocation (e.g., qualifications and salary of counsel). The CAC only requires that the agency specify in the Plan of Action the tasks (e.g., revising agency policy) that will be implemented to achieve compliance.

Phase 3. Presentation.

The results of the resource analysis are useful only insofar as they help inform decisionmakers about the costs of compliance. Thus, the final phase, presentation of results, may very well be the most significant as far as accreditation is concerned. There are a few key decisions which will have to be made. The agency will have to determine which standards will be complied with to achieve the 100, 90, 80 percent compliance rates (for mandatory, essential, important standards, respectively). The agency will have to prepare a budget for meeting the cost of compliance, that is, decisions will have to be made as to the type and amount of resources that funding will be requested for. Finally, resources will have to be distributed within the agency once funding is acquired. Appendix B includes a set of suggested formats for presenting the cost estimation results to decisionmakers, which will target key information for the decisions they will have to make.

ORGANIZING THE COST ANALYSIS PROCESS

There are any number of ways in which to assign responsibility for conducting the cost analysis. In this section, we suggest one procedure which can be kept in mind while reading the detailed discussion of the cost estimation process in the following chapter. This method of organizing the cost analysis is suggested because we believe it is the simplest, most efficient way of doing the cost analysis consistent with the following

principles:

- Ensuring adequate resources for compliance -- the process is decentralized so that the department or program managers responsible for ensuring compliance at the operations level are primarily involved in the resource analysis.

- Coordination -- since the process is decentralized, the cost analysis should be organized in such a way that all activities are coordinated adequately.

- Assurance of policy level guidance in formulating resource plans -- the administrator of the agency and the chief executive officer of the subunit must actively participate in the cost estimation process by clarifying agency policy for department heads so that the resource requests for compliance are ultimately consistent with agency policy.

- Checks for consistency -- since the cost estimation process is decentralized, it must be organized in such as way as to provide checks for internal consistency (e.g., standards are interpreted the same way throughout the agency, prices for specific resources are the same) and audits for reliability and accuracy of reported information.

- Participation of affected groups -- offenders and community participants should be involved in the cost estimation process, since ultimately they are both most affected by the procedures and amount of resources used to achieve compliance.

Based on these principles, there are two primary responsibilities for completing the cost estimation process: responsibility for coordination and responsibility for completing the tasks. The chart on the following page depicts the organization of the cost estimation process by showing the individuals responsible for coordinating each phase of the process and the individuals responsible for completing the tasks involved.

The CAC requires that the administrator of the agency designate an accreditation manager to coordinate the agency's self-evaluation. This is reflected in the chart. In addition, we recommend that the chief executive officer designate an accreditation representative for his/her subunit (e.g., institution, probation office). The bulk of the tasks are completed by department heads (chief security officer, chief medical officer, etc.) at the operational level.

In total, a hierarchy of eight participants in the cost estimation process can be identified as follows:

- Administrator of Agency

- Accreditation Manager

CHART 2-1. ORGANIZATION OF COST ESTIMATION PROCESS

PHASE	STEP	TASK	RESPONSIBILITY FOR COORDINATION	RESPONSIBILITY FOR COMPLETING TASK
1. Preparation				
	1.1 Self-evaluation		Accreditation Manager	
		1.1.1 Conduct Standards Compliance Checklist		1.1.1 Department Heads
		1.1.2 Formulate Compliance Tally		1.1.2 Accreditation Manager
		1.1.3 Develop Plan of Action		1.1.3 Department Heads
	1.2 Select Standards with Resource Impacts			1.2 Accreditation Manager
	1.3 Form Compliance Units			1.3 Accreditation Manager and Accreditation Representative
2. Resource Analysis			Accreditation Representative	
	2.1 Describe Resource Requirements of Standards			2.1 Department Heads
		2.1.1 List Related Standards		
		2.1.2 Define Objectives		
		2.1.3 Devise Procedures		
		2.1.4 Describe Resources		
	2.2 Describe Current Resource Utilization			2.2 Department Heads
		2.2.1 Describe Current Procedures		
		2.2.2 Describe Current Resources		
	2.3 Describe Resource Deficiency or Surplus			2.3 Department Heads
		2.3.1 Describe Personnel		
		2.3.2 Describe Equipment		
		2.3.3 Describe Supplies		
		2.3.4 Describe Facilities		
	2.4 Estimate Compliance Costs			2.4 Department Heads
		2.4.1 Identify Resource Quantities		
		2.4.2 Estimate Unit Price		
		2.4.3 Calculate Cost		
3. Presentation			Accreditation Manager	
	3.1 Prepare Report			3.1 Accreditation Manager
		3.1.1 Subunit Report		3.1.1 Accreditation Representative
		3.1.2 Agency Report		3.1.2 Accreditation Manager

- Headquarters Staff (e.g., Research, Budget, Finance Staffs)
- Chief Executive Officer (of subunit)
- Accreditation Representative
- Department Heads (program managers)
- Offenders
- Citizens

Each of these participants can be involved in the process in a number of ways. Their level of involvement can be categorized as follows:

- Delegates responsibility, organizes, plans, formulates policy
- Responsibility for coordination
- Responsibility for doing tasks
- Reviews results
- Consulted or assisted in task
- Advised or informed
- No involvement

The chart on the following page shows the levels of involvement for each participant at each point in the cost estimation process.

A few points about the chart depicting the level of involvement of the participants should clarify the means of organizing the cost estimation process. Each individual (agency administrator, department head, etc.) has only to read down his/her column to find out his/her suggested role in the process. The role will be essentially managerial, work oriented or tangential to the process. Individuals with responsibility for coordinating the various phases of the process must make sure that everyone fulfills his/her role. For example, the chief executive officer must make sure that department heads complete the compliance checklist and that the administrator reviews the self-evaluation prior to submitting the report to the CAC. Coordination is, thus, the key to a smooth cost estimation process and ultimately to accreditation.

KEY CONCEPTS

The conceptual framework, which guides or structures the overall estimation process, is drawn from economics and analyzes activities in terms of their input, processes and output. "Inputs" are defined as labor, capital and knowledge (or sometimes technology); "process," as the combining of these inputs to achieve some end (produce outputs); and "output," as what results. This conceptual framework is relevant to compliance cost estimation for two

CHART 2.2. INVOLVEMENT OF PARTICIPANTS IN COST ESTIMATION PROCESS

	Administrator	Accreditation Manager	Headquarters Staff	Chief Executive Officer	Accreditation Coordinator	Department Heads	Offenders	Citizens
1. Preparation								
1.1 Self-evaluation	Designates Accreditation Manager Reviews	Coordination		Designates Subunit Coordinators Reviews				
1.1.1 Compliance Checklist	Reviews	Plans, Organizes, Delegates Resp. Informed of Results		Reviews	Coordination in Subunits			
1.1.2 Compliance Tally	Reviews	Completes Task		Reviews	Coordination in Subunits	Completes Task	Assists	Assists
1.1.3 Plan of Action	Consulted if Necessary	Reviews Subunits' Plans	Consulted if Necessary	Approves	Coordination	Completes Task		
1.2 Select Standards with Resource Impacts		Completes Task		Informed	Assists Accreditation Manager			
1.3 Form Compliance Units	Formulates and Clarifies Agency Policy	Informed of Progress and Receives Results		Formulates & Clarifies Policy	Coordination			
2. Resource Analysis			Consulted	Consulted	Coordination	Completes Task	Assists	Assists
2.1 Describe Resource Requirements				Informed	Coordination	Completes Task	Assists	Assists
2.1.1 List Related Standards			Audits	Informed	Coordination	Completes Task	Assists	Assists
2.1.2 Define Objectives								
2.1.3 Devise Procedures								
2.1.4 Describe Resources								
2.2 Describe Current Resources								
2.2.1 Describe Current Procedures								
2.2.2 Describe Current Resources								
2.3 Describe Resource Deficiency or Surplus			Checks for Consistency Research Assistance Budget & Financial Assistance	Reviews	Coordination	Completes Task	Assists	Assists
2.3.1 Describe Personnel								
2.3.2 Describe Equipment								
2.3.3 Describe Supplies								
2.3.4 Describe Facilities								
2.4 Estimate Compliance Costs								
2.4.1 Identify Resource Quantities								
2.4.2 Estimate Unit Price								
2.4.3 Calculate Cost								
3. Presentation								
3.1 Prepare Report		Coordination						
3.1.1 Subunit Report	Reviews Final Report	Completes Task	Assists	Reviews Final Report			Informed	Informed
3.1.2 Agency Report	Reviews Final Report	Consulted		Reviews			Informed	Informed
	Reviews Final Report	Completes Task	Assists	Informed	Completes Task Assists	Consulted.	Informed	Informed

reasons: first, it continually highlights the fact that outputs or benefits are not included in the analysis. Second, the standards themselves describe a desirable or preferred set of inputs and/or processes but do not prescribe the goals or purposes they are supposed to accomplish. For example, Standard 4030, Fiscal Officer, requires persons assigned to this function to have a bachelor's degree and three years' experience -- these are input characteristics. It is only in the commentary that the purposes are given, viz., "to ensure reliability and integrity in administering financial controls." Similarly, the discussion following a process standard like 4406, Inmates at Hearings, reveals the intent of requiring attendance and 48-hour notice is to "ensure them an appropriate classification." Both the standard affecting process 4406 and the one describing input (4030) assume these features will produce a result, but do not require that "appropriate classification" or "reliability" be posited as agency goals or even a part of a larger goal set.

Opportunity Cost

There are four concepts (again, from economics) that are particularly relevant to compliance cost estimation. The first is "opportunity cost" which underlies all economic analysis. It incorporates the notion that there are multiple ways of accomplishing the same goal by defining "cost" as the value of what is foregone by choosing one alternative rather than another. For example, if an administrator has a fixed budget and chooses to build classrooms rather than vocational shops, she or he has given up the opportunity to develop job skills in a particular way. This concept becomes important when analyzing compliance costs because many standards can be accomplished by reallocating, rather than adding, resources. This does not mean, however, that they are "free," i.e., that something will not be sacrificed. For example, Standard 4248, which requires weekly inspection of food service operations by administrative, medical or dietetic staff, probably will not increase dollar outlays, but it will change the distribution of their time and may show up as fewer medical examinations, late reports or in other indirect ways. Requirements for a training committee (4082), annual formulation of goals (4004), consultation with colleges (4026) and other similar standards may not impact separately to a significant degree; collectively, however, they may require a substantial time allocation and, thereby, affect economic or opportunity costs, if not financial ones.

Marginal Cost

Marginal cost is a second economic concept which is critical when preparing estimates. It simply refers to the additional resources required to achieve a higher level of "performance," regardless of how one defines this term. The need to introduce this notion stems from the fact that agencies most frequently comply to some degree with a specific standard; stated differently, compliance is not an all-or-nothing state of affairs. For example, an agency may provide 20 hours of preservice training to new employees rather than the 40 mandated by 4089; therefore, the relevant compliance costs are those associated with additional instructors, trainee time, materials, equipment, etc., to attain the higher performance level. This phemomenon of partial compliance introduces the need to evaluate current costs of a standards-related activity as well as estimate what is required to attain a higher performance.

Externalities

As argued earlier, the CAC standards lose much of their policy relevance if each is only considered discretely without reference to how they interrelate. Such interdependency gives rise to the need to introduce another economic concept called "externalities" or "spillovers." Simply put, these refer to the positive or negative impacts one activity has on another but which are not explicitly accounted for in the cost of the first. Because of the closed nature of correctional institutions, there are abundant examples: sick call during the day for persons working in industries; leaving students in housing units because the instructor is ill; requiring bag lunches for work releasees so they will not need cash; and so forth. In each of these examples, one department's actions have affected (negatively) the operations of another.

Another application of externalities is when compliance with one standard logically suggests compliance with another. For example, implementing a preventative maintenance plan (4151) implies that there will be regular inspection and maintenance of security devices (4203). Or, a written policy granting inmates access to recreational services (4330) would probably include similar privileges for those in reception (4396). In these examples, the externalities are positive, i.e., they reduce rather than increase compliance costs. (The grouping of standards for compliance planning and cost estimating will depend largely on local conditions.)

As we stated earlier, one reason for designing the Manual for use at the operational level is to encourage development of compliance plans which thoroughly examined the effects of a proposed change; now we can say the purpose is to identify the externalities and incorporate their associated costs or savings into the estimates.

Capital

Capital is another concept which warrants special mention because it requires more complex estimating procedures and is used over more than one budget period. The procedures are presented in detail in Chapter 4, but the time distribution of capital costs is sufficiently important to highlight at this point. If decisionmakers are only interested in total compliance costs, as if they were to be incurred today or within the year, then there is no need to consider how they would be allocated across subsequent time periods. (This is not a recommended approach because it will distort expenditure statements in the current and all future years.) However, this simplification is not possible when a capital improvement is funded with bonds or some other interest-bearing instrument, because finance charges over the loan period will substantially add to the cost. Some compliance actions not requiring plant or equipment take on the flavor of a capital investment. There may be a lump sum cost incurred to first achieve compliance and then an on-going, operational cost to maintain compliance. For example, there may be an initial "investment" to achieve compliance with Standard 4017 (development of an operations manual), but there also will be a cost of revising these manuals in future years.

Summary

Capital, externalities, marginal and opportunity costs are important to understanding the cost estimation process described in this Manual. The initial cost may not be total cost (capital); reaching compliance with one standard may also fulfill another (externalities); degrees of compliance with any given standard require estimation of only additional resources (marginal cost); and, in many cases, compliance actions only entail resource reallocation (opportunity cost), but the cumulative effect may be an increase in dollar costs. These concepts are used extensively in the three stage estimation model which converts verbal to resource information; determines the amount of staff, equipment, supplies and other resources needed; and, finally, assigns a dollar value to these resource units.

Capital, externalities, incremental and opportunity cost and input-output are critical economic concepts used in estimating compliance costs. Not only will cost information be useful for decisionmakers, but the method by which it is collected will focus decisions on policy-level choices, involve staff at all organization levels, and improve compliance plans. The three phases which produce this information -- Preparation, Resource Analysis, Presentation -- complement the steps required to achieve accreditation.

CHAPTER 3. ESTIMATING OPERATING COSTS

The purpose of this chapter is to explain each step in the cost estimation process. The chapter follows the three phases outlined earlier -- preparation, resource analysis and presentation -- and provides the user with the necessary details and examples of the cost estimation process so that operating costs can be estimated readily. The chapter includes sample forms and tables; master copies are included in Appendix B.

PHASE 1. PREPARATION

Preparation for the resource analysis is accomplished by isolating the noncompliant standards with cost implications and grouping them into manageable units for analysis. Accordingly, there are three steps in the preparation phase. First, a self-evaluation is conducted to determine which standards the agency is in compliance with and which ones it is not. Second, the noncompliant standards are categorized according to whether or not they have resource impacts. Finally, compliance units are formed so that responsibility for the resource analysis can be delegated appropriately.

Step 1.1 Self-evaluation

The self-evaluation step, which is first in the cost estimation process, is a mandatory part of the accreditation process. Thus, some agencies (i.e., "candidate agencies" in the accreditation process) will have completed this step prior to beginning the cost estimation process. Other agencies (i.e., "correspondent agencies") will be gearing up or in the process of doing the self-evaluation at the time they are reviewing the Manual. As we suggested earlier, it may be beneficial to do the resource analysis in conjunction with the self-evaluation requirement of the CAC, that is, it may be worthwhile to complete the resource analysis prior to developing the Plan of Action. In any event, this section describes the self-evaluation step, particularly as it relates to the resource analysis (Phase 2).

As part of the Self-Evaluation Report, the CAC requires all agencies in correspondent status to complete three tasks: (1) a standard compliance checklist, (2) a compliance tally, and (3) a Plan of Action. The Agency Manual of Accreditation Policy and Procedure supplies a set of forms for each of these requirements. (Samples of these forms are reproduced in Appendix B1.1.) The "Standards Compliance Checklist" requires that agency personnel make an assessment as to whether the agency is in a compliance/noncompliance status or whether the standard is not applicable. (This assessment is later reviewed by a CAC visiting committee which conducts a "Standards Compliance Audit.") The results of the standards checklist are essential information for the resource analysis, that is, only the noncompliant standards will be included in the resource analysis. The CAC requires each agency to list the noncompliant standards on the Compliance Tally form and it is precisely this list of standards which is included in the next step.

Step 1.2 Selecting Standards with Resource Impacts

The purpose of this step is to distinguish between those noncompliant standards that have resource implications and those that do not. Some of the standards, for example, Standard 4024 which requires that written policy delineates channels of communication, have no discernible resource requirement. Others, such as Standard 4181 ("The institution maintains a control center to ensure order and security") require resources for compliance (e.g., a control center with around-the-clock staffing). Compliance with the cost standards will require (some combination of) personnel, equipment, supplies and facilities. If a standard requires a resource (i.e., personnel, equipment, supplies, facilities) for compliance, it should be considered a cost standard, regardless of whether the agency has already committed some resources to it. At this point, a "List of Noncompliant Cost Standards" should be prepared using the format in Appendix B1.2. This list will serve as the input for the next step.

Step 1.3 Forming Compliance Units

Once the list of noncompliant cost standards is prepared, the scope of the resource analysis becomes clear. However, to make the resource analysis manageable, it is advisable to group the noncompliant cost standards into "compliance units." There are several ways to group the standards. One method is to group them by functional area as in the CAC Manual of Standards. These groups would include personnel, records, food services, inmate rights, etc. Another method is to group them by program area within the agency, that is, by the programs or departments within the agency which may require resources in order to comply with the standards.

The preferred method is to group the standards according to the department or individuals responsible for conducting the resource analysis. This will be similar to the previous method if the department heads responsible for compliance are also responsible for the resource analysis; indeed, this is quite desirable. For example, one compliance unit may consist of Standards 4336, 4462-4464, 4467-4469 because a chaplain is responsible for assessing the resource impact of standards related to religious services. (It is worth noting that Standard 4336 is categorized under inmate rights but is included in this hypothetical compliance unit because it is a standard highly related to religious services). A second compliance unit may be Standard 4470 because it involves facilities and equipment for the conduct of religious programs and the resource analysis might be conducted jointly by the chaplain's office and the head of physical plant.

Thus, a compliance unit may be any number of standards, the number to be determined by the overlap of responsibility for the resource analysis. At one extreme there is one standard in the compliance unit if, as in the preceding example, a specific group of individuals is jointly responsible for the resource analysis of only one standard. At the other extreme, all noncompliant cost standards would form a single compliance unit, as would be the case if one individual is responsible for the agency's entire resource analysis. If the agency adopts the approach suggested earlier for organizing the resource analysis, department heads responsible for compliance will conduct the resource analysis. The standards can be grouped into compliance units according to the

department heads responsible for compliance, and they can then be delegated responsibility for conducting the resource analysis either individually or jointly depending on the compliance unit. The User should refer to Appendix B1.3 for a format to display the List of Compliance Units.

PHASE 2. RESOURCE ANALYSIS

The second phase in the cost estimation process is to analyze the resource implications of compliance. There are four steps to the resource analysis: (1) the resource requirements of the standards are described, (2) the current resource utilization is described, (3) the difference between the resource requirements and current utilization is assessed, and (4) the cost of compliance is estimated. Thus, estimations of the costs of compliance are derived by discerning the extent to which the standards require additional resources (beyond those currently allocated) and imputing a price to the additional resources.

The form on the following page captures the essential information produced in the resource analysis phase. The form is divided into five broad sections including identification of the standard and the organizational unit and the four steps of the resource analysis. (Directions are included on the form; blank copies of the form can be reproduced from Appendix B2.) The step-by-step procedure for the resource analysis will be described in detail in the following sections. A few points about the resource analysis and the form will put the detailed discussion in context.

The four step procedure depicted on the "Standards Resource Analysis" form can be described as follows. In the first step, the objectives, procedures and resource requirements (i.e., outputs, process and inputs) of the standards are described. The second step describes the current resource allocation to the standard by highlighting the procedures currently in use and the resources (personnel, equipment, other and facilities) currently committed to the standard. The next step focuses on the difference between the current and the required resources by describing the deficiency (or surplus) in personnel, equipment, other and facilities that will have to be made up (or could be reallocated) to achieve compliance. Finally, the cost of compliance is estimated by multiplying the quantity of resources demanded for compliance by the unit price of the resources.

Although we describe this phase as a step-by-step procedure and provide a form to work from, there is considerable room for creativity in the process. First, as the form is filled in there will be occasion to jump ahead or go back and review or add additional information. If ideas or data on current resource utilization come to mind (step 2.2) while working on step 2.1, it may be worthwhile to pursue them at that time. Conversely, if new ideas for meeting the standards occur at the end of the process, they should be included. The step-by-step procedure is most beneficial if it creates insights into methods of compliance (new procedures, cost savings, etc.) and those insights culminate in more effective or less costly compliance.

Second, the objectives, procedures and resource requirements of the standards are described first to encourage creativity in the process. Considerable thought should be given to developing alternative methods of

complying with the standards. Compliance with the standards can ultimately lead to improvement in corrections by developing a range of practical, common sense alternatives early in this phase.

The following sections explain the tasks involved in each step of the process. For clarity, each section begins with the relevant portion of the form highlighted. Each section ends with an example showing how the form might be filled in for Standard 4248, which requires weekly inspections of food services, in the hypothetical Sunnybrook Camp.

Institute for Economic and Policy Studies, Inc.

DIRECTIONS

PHASE 2: STANDARDS RESOURCE ANALYSIS

SUBUNIT _____ DEPARTMENT(S) _____
PREPARER _____ DATE _____ DEPT. HEAD(S) _____
STANDARD _____

Enter subunit (e.g., Sunnybrook Camp), Department (e.g., security), standard number and description of standard.

STEP 2.1: RESOURCE REQUIREMENTS OF STANDARDS

REL STDS

Use the discussion portion of the standard, related standards, government codes, professional standards to clarify the standard. Enter identification (discussion, standard number, etc.) and key words used for clarification.

OBJS

State the objective of the standard, if applicable, by stating the composition and size, relevant population or service, the frequency or utilization rate, and the result that is to be achieved.

PROCEDURES

Describe the procedure(s) by which compliance with the standard will be implemented. (It is advisable to develop a few alternative procedures.) Include activities and procedures (e.g., inspections, reporting, prisoner movement), frequency and duration of time, individuals with responsibility, inmate/staff ratios, etc.

RESOURCES

PERSONNEL

EQUIPMENT

List the type and amount of resources (e.g., 5 correctional officers, 1 duplicating machine), time (e.g., 2 hours once a week), etc. that will be required to carry out the procedures described above.

OTHER

FACILITIES

STEP 2.2: CURRENT RESOURCE UTILIZATION

PROCEDURES

Describe the current procedures and the extent to which they comply with the standard. Include type(s) of procedure, frequency and duration of time, individuals with responsibility, activities performed, etc.

RESOURCES

PERSONNEL | EQUIPMENT

Describe the specific type and amount of resources (e.g., 5 correctional officers), time, etc. currently allocated to carrying out the procedure(s) described above.

OTHER | FACILITIES

PER

STEP 2.3: RESOURCE DEFICIENCY OR SURPLUS

Describe the difference between current resource utilization (Step 2.2) and resource requirements of the standards (Step 2.1). The difference should represent the amount of resources that will be needed to comply with the standard (in the case of a deficiency) or the amount of existing resources that can be reallocated to other standards (in the case of a surplus) because the department more than meets the requirements of the standard. For each type of resource, note whether additional resources will have to be acquired or whether existing resources can take on more work to make up the deficiency.

OTHER

EQUIP

FAC

STEP 2.4: COST ESTIMATION

TYPE	QUANTITY	X	UNIT PRICE	=	COST

PERSONNEL

This section should include any additional resources that will have to be acquired to make up the deficiency (in Step 2.3). Do not include existing resources that can make up the deficiency by adding to their workload and/or reallocating them from other departments.

OTHER

Enter the specific type and amount of resources (e.g., 5 correctional officers, 1 copying machine) and unit price ($12,250/yr.; $2,500 respectively).

EQUIPMENT

Multiply to find cost ($49,000; $2,500).

Add individual costs to find total cost ($51,500).

FACILITIES

TOTAL

PHASE 2: STANDARDS RESOURCE ANALYSIS

SUBUNIT _____ DEPARTMENT(S) _____
PREPARER _____ DATE _____ DEPT. HEAD(S) _____
STANDARD

STEP 2.1: RESOURCE REQUIREMENTS OF STANDARDS

REL STDS

OBJS

PROCEDURES

PERSONNEL | EQUIPMENT

RESOURCES

OTHER | FACILITIES

STEP 2.2: CURRENT RESOURCE UTILIZATION

PROCEDURES

Step 2.1 Describe the Resource Requirements of the Standards

The first analytical step in the process of estimating compliance costs is to describe the standards requirements in resource terms. The purpose of this section is to describe the analytical process one must go through to determine the type and amount of resources that will be needed to achieve compliance. The first task is to review related standards to clarify the standard in question. Other CAC standards, government codes and professional standards can provide guidance in interpreting the objectives of the standards, the procedures by which the standards are implemented and the resource requirements. Thus, the first task is essentially an overriding one to assist in the last three tasks, which are to determine the objectives, procedures and resources for complying with the standards.

Task 2.1.1 Reviewing Related Standards. The standards are clarified by interpreting the intent of the Commission on Accreditation for Corrections and turning to other source documents (government regulation and professional societies' standards) for further elucidation. The clarification process will vary from standard to standard. Some standards are fairly clear in expressing the desired ends of the CAC. Standard 4452, for example, states that the "recreational program includes leisure time activities comparable to those available in the community," but does not specify the kinds of activities or the extent to which they must be available.

One method of clarifying the standards is to interpret the intent of the CAC from the discussion following the standard. (It should be noted, however, that meeting the discussion portion of the standards is not required for accreditation.) The discussion under Standard 4452, which states that "The recreational program includes leisure time activities," clarifies the kinds of activities intended. The discussion goes on to say that "The traditional forms of recreation, i.e., activities in the yard, library and auditorium should be expanded so that inmates may express their talents and pursue their interests." For additional clarification, the analyst should refer to other standards and discussions, particularly in the compliance unit. For example, Standard 4458 requires that "Facilities and equipment . . . are available in proportion to the inmate population." The discussion goes on to list activities, such as outdoor recreation, table tennis, shuffleboard, chess, checkers and weightlifting, all of which given insights into the kinds of athletic activities intended in Standard 4452.

Some of the standards cannot be clarified from their discussion, and the analyst must turn to other sources as a result. A primary source of clarification is government regulations which relate to the standards. An excellent example of this is Standard 4255, which requires inspections by sanitation, safety and health officials. The standard requires "compliance with all applicable laws and regulations of the governing jurisdiction." Thus, state, local and/or national codes may guide the interpretation, in fact may be imperative, in complying with the CAC standards.

There are several codes or regulations to which the analyst should turn for clarification. The standards which either explicitly deal with physical plant or by implication require modifications of physical plant should be clarified from state and local building codes and the BOCA Basic Building Code

which is published by the Building Officials and Code Administrators International, Inc. (BOCA). The BOCA code consists of "model building regulations for the protection of public health, safety and welfare," and is the basis on which many state and local building codes are written. The BOCA code has a section for institutional buildings ("Use group I-1" includes prisons) and related sections which describe requirements for fire protection, means of egress, light and ventilation, sanitation, and so on.

There are several other codes that should be consulted in complying with the standards. These include codes related to safety, health and the environment. In developing a compliance plan, Department of Public Health regulations pertaining to sanitation, kitchen facilities, waste disposal and the like should be consulted. Other regulations related to safety (e.g., local ordinances for fire protection) or the environment (e.g., regulations by the Environmental Protection Agency or the Department of Energy) should be reviewed during the standards compliance process to ensure that the compliance plan is not in violation of any regulations.

Professional societies promulgate standards, and some of these are applicable to the correctional accreditation process. The National Fire Protection Association (NFiPA) publishes standards relating to alarm and detection systems, prevention of fire spreading in air conditioning and ventilating systems, and fire extinguishing systems. There is a new revision of the NFiPA standards which pertains specifically to corrections. The American National Standards Institute, Inc. (ANSI) has standards which pertain to the handicapped. Standards published by the American Library Association, the American Medical Association (some of these standards pertain specifically to corrections) and the National Education Association are useful in clarifying the CAC standards that relate to library services, medical and health care services, and education and vocational training, respectively.

Task 2.1.2 Describe the Objectives. It is important to clarify the objectives of the standards for several reasons. First, the scope or magnitude of the objectives ultimately determines the resource requirements. For example, resource requirements will be quite different if, using Standard 4452, recreational activities do not have to be made available to all prisoners every day than if they must. Second, certain kinds of activities (weightlifting) might cost more to provide than others (drama). Third, and probably most important, is that it is essential to distinguish between inputs (resources), processes and outputs (objectives). For example, Standard 4451 requires that "The personnel requirements for the provision of library services are systematically determined to ensure inmates access to staff and services." The objective, "to ensure inmates access to staff and services" (on a daily basis) from Standard 4446, must be clearly defined, perhaps by a staff/inmate ratio, before the resource (personnel) requirement can be calculated. (It should be noted that some standards deal exclusively with procedures or resources and in these cases it is not necessary to clarify objectives.) Finally, an advantage of clearly articulating the objectives at the outset is that performance measures for evaluating the effectiveness of compliance are built into the accreditation process.

There are two dimensions to the objectives implicit in the standards. The first dimension is the composition and size of relevant population. Thus, standards for training and staff development apply to a certain number of

correctional officers depending on the institution. Similarly, standards for special management inmates apply to a number of inmates with disciplinary problems, and this number may vary from time to time. If the number of special management inmates increases, there will be an increase in the amount of resources required to handle them in accordance with the standards.

The second dimension of the objectives is the frequency with which the standard is applied to the relevant population. For example, Standard 4411 requires that full-time employment opportunities are available for all eligible inmates. Full-time employment opportunities require more staff resources than part-time employment. Thus, the number of eligible inmates (dimension 1) engaged in full-time work (dimension 2) establishes the magnitude of the objective required by Standard 4411 and determines the resource requirements.

Task 2.1.3 Describe the Procedural Requirements. After establishing the objectives, the process by which the standard is implemented should be specified in resource terms. Many of the standards require "written policy and procedure;" however, the written procedural requirements must be converted to anticipated resource requirements. For example, Standard 4248 which states that "Written policy and procedure require weekly inspections . . ." of food preparation, should be specified as the amount of time that will be required on the part of administrative, medical or dietetic personnel to conduct the inspections.

There is considerable latitude in determining the resource requirements because there is much discretion in deciding the procedures for complying with the standards. For example, Standard 4427 is intended to provide adequate personnel (based on staff/inmate ratio) for effective education and vocational training. The higher the staff/inmate ratio, the greater the resource requirement. Yet the precise ratio is at the discretion of the program managers or department heads.

Many standards can be implemented through alternative processes. The extent of alternatives is limited only by the resource constraints and the creativity of program managers; the choice of a particular procedure is subject to the discretion of program managers. Thus, the resource requirement for implementing standards can be minimized by reallocating resources rather than adding new resources or by developing low cost procedures that comply with the intent of the standards.

Task 2.1.4 Describe the Resource Requirements. The final task is to determine the resources needed to achieve the objectives (specified in Task 2.1.2) through the procedures (established in Task 2.1.3). This Manual refers to two broad categories of resources: operating and capital. Operating costs fall into two categories: personnel and "other." There are several types of personnel (e.g., correctional officers, administrative, clerical). Other operating costs include supplies, travel, rentals and purchase of service (such as tuition expenses for training programs). Capital resources include equipment and facilities (i.e., physical plant). This chapter deals primarily with estimating operating costs (personnel and other) and equipment; the following chapter deals exclusively with estimating the capital cost of facilities required by the standards.

As an example of the process by which non-capital resource requirements are determined, the preceding tasks are applied to library services for various size inmate populations. Standards 4442 and 4445 require equipment and supplies; Standards 4448, 4449, 4451 require personnel. Generally, Standards 4442 and 4445 combined require institutions to have a full array of library services comparable to a public library and relevant to the needs and interests of the inmate population. As a first step, the objectives of these standards can be clarified by referring to the standards of the Americal Library Association (ALA) which give guidance as to the number of books, magazines, newspapers, filmstrips and so on that would be required for various sizes of the inmate population. For example, the ALA standard may suggest 30 books per resident; therefore, the objective for an inmate population of 250 would be to make available 7,500 books (of various kinds) on a daily basis.

In order to achieve this objective, several inputs (equipment, supplies and personnel) will be required. In fact, Standards 4448, 4449, 4451 indicate the personnel requirements: (1) a full-time or part-time staff member trained in library services to coordinate and supervise library services in institutions, (2) a person with a Master of Library Science degree to assist the supervisor at the institution, and and (3) sufficient library staff to ensure inmates access to staff and services on a daily basis, including evenings, weekends and holidays. As Table 3-1, "Library Services" shows, institutions in Colorado with more than 500 inmates require a Librarian and all institutions require a Library Technician. As the discussion under Standard 4451 advises, "The American Correctional Association/American Library Association Joint Committee on Institution Libraries has established staff/inmate ratios that may be useful in determining the number and type of library personnel required." This reference can be used to clarify the personnel requirements called for by Standard 4451.

In addition to personnel, compliance with standards for Library Services will require resources for other operating costs, equipment and facilities. These are also indicated on Table 3-1. In particular, it should be noted that some library standards have physical plant implications. For example, Standard 4442 which requires comprehensive library services means that space (facilities) will have to be available for books, magazines, etc. (Interestingly, Standard 4084, which relates to Training and Staff Development, also requires facilities for library services.) In formulating the resource requirements for these and other standards the User should be careful to consider whether the standard has physical plant implications in addition to operating costs. If they do, then the physical plant resource requirements should be recorded on the Standards Resource Analysis form under FACILITIES. The User can refer to Appendix C1 to determine which standards have physical plant implications. Chapter 4 will describe the cost estimation process specifically as it relates to capital improvements.

As a further example of how the resource requirements of standards are described, the following form shows how the Standards Resource Analysis form would be filled in for Standard 4248 for the hypothetical Sunnybrook Camp.

TABLE 3-1. LIBRARY SERVICES MODEL

	Populations [h]					
	100	101-199	200-299	300-399	400-499	500-599
Staff						
Librarian I	-0-	-0-	-0-	-0-	-0-	16,093
Library Technician	14,301	14,301	14,301	14,301	14,301	14,301
Books [a]	37,521	56,282	93,803	131,324	150,084	153,211
Magazines [b]	1,749	2,186	2,623	3,060	3,499	3,936
Newspapers [c]	1,749	2,186	2,623	3,060	3,499	3,936
Filmstrips [d]	1,749	2,186	2,623	3,060	3,499	3,936
Equipment	2,628	2,842	2,945	4,033	4,397	6,555
Shelving [e]	3,823	5,733	9,555	13,377	15,288	15,607
Totals	60,022	81,344	123,227	166,095	187,569	209,703
Space [f] (Sq. Footage)	(900)	(1,000)	(1,125)	(1,250)	(1,400)	(1,500)
Annual Maintenance [g]	3,927	5,846	9,643	13,438	15,358	15,715

[a] 1978 dollars; 30 books/resident; mix of reference, fiction, non-fiction,; hardback & paperback.

[b] 20-40 titles under 500 population, up to 80.

[c] 3-6 titles under 500 population, up to 10.

[d] 25-50 titles under 500 population, up to 100, includes cassettes/discs and 16 mm films.

[e] Based on 21 linear ft/books; paperback racks.

[f] 900-1400 sq. ft. under 500 population up to 1950.

[g] Should include replacement book costs plus subscriptions (estimated here at 10% of books, magazines, newspapers, filmstrips).

[h] All estimates except first are made for midpoint of population.

EXAMPLE

PHASE 2: STANDARDS RESOURCE ANALYSIS

SUBUNIT Sunnybrook Camp DEPARTMENT(S) Food Service
PREPARER M.T. DATE 1/1/80 DEPT. HEAD(S) Milton Trueblood
STANDARD 4248 Weekly Inspections

STEP 2.1: RESOURCE REQUIREMENTS OF STANDARDS

REL STDS

Discussion: inspect for sanitary operating conditions (ranges, ovens, refrigerators, mixers, dishwasher, garbage disposal, etc.). Check refrigerator and water temperature daily.

OBJS

To ensure that all food preparation areas and all equipment are sanitary and operating properly.

PROCEDURES

Chief Medical Officer will inspect all equipment and areas once a week to check sanitary and operating condition. Chief Medical Officer will be assisted by dietician. Should take about one hour. Deficiencies will be corrected as soon as possible and reinspected the following week. Deputy Warden will intervene if deficiencies have not been corrected. A checklist for the inspection will be prepared and filed by the dietician.

RESOURCES

PERSONNEL		EQUIPMENT
Chief Medical Officer	1 hr./wk.	N/A
Dietician	1 hr./wk.	

OTHER	FACILITIES
N/A	N/A

STEP 2.2: CURRENT RESOURCE UTILIZATION

PROCEDURES

PHASE 2: STANDARDS RESOURCE ANALYSIS

SUBUNIT _____ DEPARTMENT(S) _____
PREPARER _____ DATE _____ DEPT. HEAD(S) _____
STANDARD

STEP 2.1: RESOURCE REQUIREMENTS OF STANDARDS

REL STDS

OBJS

PROCEDURES

RESOURCES

PERSONNEL EQUIPMENT

OTHER FACILITIES

STEP 2.2: CURRENT RESOURCE UTILIZATION

PROCEDURES

RESOURCES

PERSONNEL EQUIPMENT

OTHER FACILITIES

RESOURCES

PERSONNEL EQUIPMENT

OTHER FACILITIES

STEP 2.3: RESOURCE DEFICIENCY OR SURPLUS

PER

OTHER

EQUIP

FAC

STEP 2.4: COST ESTIMATION

TYPE	QUANTITY	X	UNIT PRICE	=	COST

PERSONNEL

OTHER

EQUIPMENT

FACILITIES

TOTAL

STEP 2.2 Describe Current Resource Utilization

The purpose of this section is to explain how to describe the resources used currently for the compliance units. In other words, in the preceding section resource requirements were calculated on the assumption that there was zero compliance, and we were concerned with the total resource requirement for complying with the standards. In this section, the assumption that there is zero compliance is questioned. The purpose is to determine the degree to which resources are currently allocated to the various compliance units. The actual cost of compliance will be based on a comparison between the standard's resource requirements and the current situation as described in Step 2.3. The following tasks explain how to describe current procedures and current resource utilization.

Task 2.2.1 Describe Current Procedures. In this task, the existing procedures are described explicitly so that the specific amount of resources currently devoted to the procedures can be identified. Many of the standards require "written policy and procedure," but it is not always clear how many resources are already allocated to the standard, let alone the current procedures. By stating the current procedures clearly, it becomes easier to figure out the extent to which resources are already allocated to the standard. For example, Standard 4088 requires that "written policy and procedure provide that all new full-time employees receive 40 hours of orientation training prior to being independently assigned to a particular job." In estimating the cost of compliance, the analyst may not initially know how many positions (resources) are currently allocated to orientation programs. However, if it is ascertained that the current procedure provides for 10 hours of orientation and during that time new employees receive advice and guidance from the heads of security and programs, then the resource (personnel and training) costs can be calculated. In short, the current resource allocation to some standards must be derived from current procedures. In other cases, it is useful to clearly articulate current procedures (even when resource costs are more obvious) so that plans for changing current procedures to those required by the standards can be more easily made.

In reviewing the standards, it becomes apparent that there are many different types of procedures. Broadly speaking, training, education, classification and several other categories of standards may be viewed as procedures. However, it is more useful to look at the specific procedures required by the standards in each category. Meeting the training standards, for example, may require several different procedures: Standard 4079 requires coordination and supervision of the training program by a qualified employee at the supervisory level; Standard 4082 requires meetings for planning the training program; Standard 4004 may require building or renovation; Standard 4083 requires a formal evaluation of all training programs; Standards 4089-4093 deal exclusively with training for employees. All of these procedures (coordination and supervision, planning, evaluation, etc.) are aimed at enhancing the quality of training programs.

The fact that there are various procedures has implications for the cost estimation process. Coordination, for example, requires supervisory personnel, whereas evaluations may be conducted by the research staff. Thus, the procedural requirements of each compliance unit (in this case training) may

transcend organizational or staff boundaries. It is important, for this reason, that cost estimates for some compliance units be prepared in cooperation with other staffs. In some cases, those responsible for training, for example, will have to collaborate with others, such as an advisory training committee required by Standard 4082. Some training standards, however, may be handled better in another compliance unit, such as Standard 4083 if the evaluation is to be conducted by a research division or Standard 4084 which provides for library services to complement the training program. The cost estimation process may be more appropriately handled in conjunction with or by the research division and library in the preceding example.

It is possible to divide the various procedures involved in standards compliance into several categories. Some of these kinds of procedures, such as inspections, planning and inmate movement, are applicable to several compliance units. The following table is a partial listing of the kinds of procedures implicit in the standards and examples of the standards which require the procedures.

Several aspects of "procedures" become apparent by reviewing Table 3-2 in conjunction with the CAC standards. First, the procedures in the table are specific procedures that apply to several standards categories. For example, inspections are required in at least five compliance units. Second, some standards can be achieved through alternative procedures. Standard 4128 which requires that the population does not exceed the institution's rated bed capacity, can be achieved through at least two processes: building and renovating or moving prisoners to other institutions. Third, some standards, such as 4202, require more than one procedure (in this case, inspections and reporting). Fourth, several procedures are excluded from the table (e.g., budget preparation; reviews of manuals, policies and plans). Fifth, none of the procedures in the table are explicitly included as categories of standards. Categories such as training, food services, medical care and recreation have more obvious procedures associated with them. However, the specific procedures used for proving food, for example, will demand certain types of resources that other procedures (training) may not require.

The most significant point, for purposes of determining current resources allocations, is that all procedures, however they are defined, require time to complete and someone to complete them. The time that individuals take has a resource cost associated with it. For example, training requires the time of competent personnel to train staff. Furthermore, the time that staff are in training is taken away from time that they could be providing security or programs (i.e., there is an opportunity cost in training staff). Both the time of trainers and staff in training have resource costs associated with them equivalent to their salaries. Before determining the resource costs, two questions must be addressed. Are there procedures currently in place that comply with the requirements of the standard? If not, what are the current procedures and their resource implications? The remainder of this section addresses some of the intricacies of describing current procedures; the next section relates them to resource allocations.

The first issue we address is whether current procedure is in full compliance with the standards. Standard 4202, for example, requires inspections of every area of the institution on a daily basis and a written report to an administrative official for review. This standard involves three procedures:

TABLE 3-2. PARTIAL LIST OF PROCEDURAL REQUIREMENTS

PROCEDURE	STANDARD CATEGORY	NUMBER	PROCEDURAL REQUIREMENT OF STANDARD
Inspections	Administration	4019	Monitor operations through inspections
	Security and Control	4192	Search for contraband
		4202	Inspect every area of institution daily
		4203	Weekly inspection of security devices
	Food Services	4248	Weekly inspection of areas and equipment
	Recreation	4458	Regular inspection of all equipment
Reporting	Administration	4020	Quarterly reports from institution to parent agency
	Records	4124	Report of inmate population movement
	Security and Control	4191	Reports on firearms and chemical agents to chief security officer
		4202	Report on daily inspections of institutional supervision
Planning	Training	4082	Training plan for the institution
	Security and Control	4178	Plan for surveillance
Communication - External	Administration	4026	Communicate with colleges and universities
- Internal		4014	Meetings between chief executive officers and department heads
	Budgeting	4032	Chief executive officer participates in budget hearings

TABLE 3-2. PARTIAL LIST OF PROCEDURAL REQUIREMENTS (cont.)

PROCEDURE	STANDARD CATEGORY	NUMBER	PROCEDURAL REQUIREMENT OF STANDARD
Analyses	Research and Evaluation	4108	Institution engages in a wide range of research activities
		4109	Evaluations of institution programs
Maintaining Records	Records	4118	Keeping master files current and accurate
	Food Services	4253	Maintain accurate records of all meals served
Building or Renovating	Physical Plant	4128	Institutions over design capacity may require additions
	Training	4084	A library may have to be built or redesigned
Prisoner Movement	Physical Plant	4128	Institutions over design capacity have to reduce population

inspections, reporting and reviews. If there are inspections and no reports, then reports will have to be added to current procedures. If reports are currently made, the time it takes to review the reports will have to be ascertained. On the other hand, all three procedures may exist, but there may only be partial compliance because inspections may not be done on a daily basis or some of the areas in the institution may not be inspected every day. In each of these cases there is only partial compliance and a complete procedure will have to be developed. Presumably, the full procedure was developed in Task 2.1.2. In this task the current procedures are identified.

Determining current procedures may be a simple task or it may involve some work on the part of the individual responsible for developing cost estimates. If the standard is simply not in existence or if it obviously is (as in the case where the chief security officer knows that the procedures for searching facilities and inmates to control contraband have long been in compliance with Standard 4192), then describing current procedures should be relatively straightforward. If the procedures are in partial compliance with the standard but are clear and consistently practiced, then the current procedures and their deficiencies vis-a-vis the standards should be described. The difficulty in describing current procedures lies in cases where the current procedures are not entirely clear or well documented. For example, inspections of the institution are carried out, but reports are not always filed; consequently, it is difficult to know exactly how frequently and thoroughly the inspections are conducted. Some suggestions for describing current procedures that are not well documented follow.

The individual describing the current procedures should ask himself or herself six questions. What procedures does the standard require? Who if anyone is currently responsible for carrying out the procedures? When (how often) are the procedures currently followed, and how long does it take to complete them? In what areas are the procedures carried out? How are the procedures accomplished (i.e., what is the nature of the procedures as currently practiced)? What is the difference between current practice and the procedural requirements of the standards? By answering these questions, a fairly accurate and concise description of the current procedures should evolve.

Standard 4438 calls for weekly inspections of food preparation areas and equipment by administrative, medical or dietetic personnel. The first issue to address is whether inspections are made by administrative, medical, dietetic or other personnel. These individuals can be contacted for this information if it is not already known. They should be asked how frequently they conduct the inspections and how long it takes them. (This information will be useful later in estimating the resource costs of the standards.) Which areas of food preparation and the equipment (ranges, dishwashers, garbage disposals) that are inspected should be determined. Some information on current inspection practices is useful. For example, what criteria are used to determine whether the area is sanitary, are machines checked to see if they are in good operating condition, are refrigerator and water temperatures checked daily, are records of the inspections kept? Finally, the differences between the current practices and the procedural requirements of the standards should be described clearly. Based on the preceding findings one might report that inspections will have to be made more frequently (if they are now made only once a month, for example) and that they should cover more equipment (perhaps because the garbage disposal is generally not inspected). Together, this information will provide a useful

description of current procedures.

Getting the accurate and detailed information for describing current procedures is not always a simple matter. Clearly, the individual currently in charge of the procedure should be interviewed. In addition, it is advisable to examine files and other records for accurate documentation of current procedures. Are records of inspections kept? Are logs of prisoner searches and prisoner movement used? Are plans for building and renovation maintained? Are letters communicating prison policy to outside organizations available? Each of these valuable sources of information on current procedures can provide evidence as to the amount of resources currently allocated to the procedures.

Task 2.2.2 Describe Current Resource Utilization. There are two dimensions to resource utilization: the kind of resources and the amount. Non-capital resources generally fall into one of two categories: personnel and other. However, the specific kinds of labor and supplies currently used need to be described. In the case of food service inspections, who is currently conducting the inspections: administrative officers, medical personnel, or dieticians? Are assistants being used? In standards requiring planning, who is currently responsible for reporting? For example, if there is an advisory training committee, which develops training plans for the institution (as Standard 4082 requires), who is on the committee? In addition, what kind of staff support does the committee receive? With respect to standards such as 4409 which provides for a comprehensive library, what kinds of equipment and supplies (books, magazines, shelves) are already in the library? What kinds of recreational facilities and equipment are currently in existence which would fit the requirements of Standard 4458. For all standards requiring "inputs" (e.g., "a systematic approach to determining the personnel requirements" or "the institution has a qualified staff member"), the kind of personnel (correctional officers, administrative, etc.), their level and their qualifications should be specified.

The second dimension of current resource utilization is quantity. The quantity may be expressed as the number of positions, the number of books or the amount of supplies currently allocated to a standard. Ratio measures are extremely important measures of quantity for some standards. For example, the staff/inmate ratio is an important indicator of the extent to which library staff (Standard 4451) and educational/training staff (Standard 4427) are currently allocated to the demand for services in these program areas. In times when prison populations fluctuate, a staff/inmate ratio may indicate that resources are currently allocated in a relatively reasonable proportion to the requirements of the standards. However, actual quantities should be specified in all cases. Together, the kinds and amounts of resources currently allocated to the standards are reasonably good indicators of the degree to which the institution is in compliance with the standards. As we shall show in Step 2.3, a comparison of these data and the estimates of resource requirements (made in Step 2.2) will produce estimates of the cost of complying with the CAC standards.

The portion of the Standards Resource Analysis form which describes current resource utilization using Standard 4248 as an example follows.

PHASE 2: STANDARDS RESOURCE ANALYSIS

SUBUNIT _____ DEPARTMENT(S) _____
PREPARER _____ DATE _____ DEPT. HEAD(S) _____
STANDARD

STEP 2.1: RESOURCE REQUIREMENTS OF STANDARDS

REL STDS

OBJS

PROCEDURES

RESOURCES

PERSONNEL EQUIPMENT

OTHER FACILITIES

STEP 2.2: CURRENT RESOURCE UTILIZATION

PROCEDURES

Inspections are made about once a month by the Deputy Warden. Takes a half hour to check for cleanliness. No records found. Orders cleanup if necessary, but usually not necessary. Usually does not check garbage disposal. Agrees we need more frequent and thorough inspections but doesn't have the time.

RESOURCES

PERSONNEL
Deputy Warden 1 hr./mo.

EQUIPMENT
N/A

OTHER
N/A

FACILITIES
N/A

STEP 2.3: RESOURCE DEFICIENCY OR SURPLUS

PER

OTHER

EQUIP

FAC

STEP 2.4: COST ESTIMATION

TYPE		QUANTITY	X	UNIT PRICE	=	COST

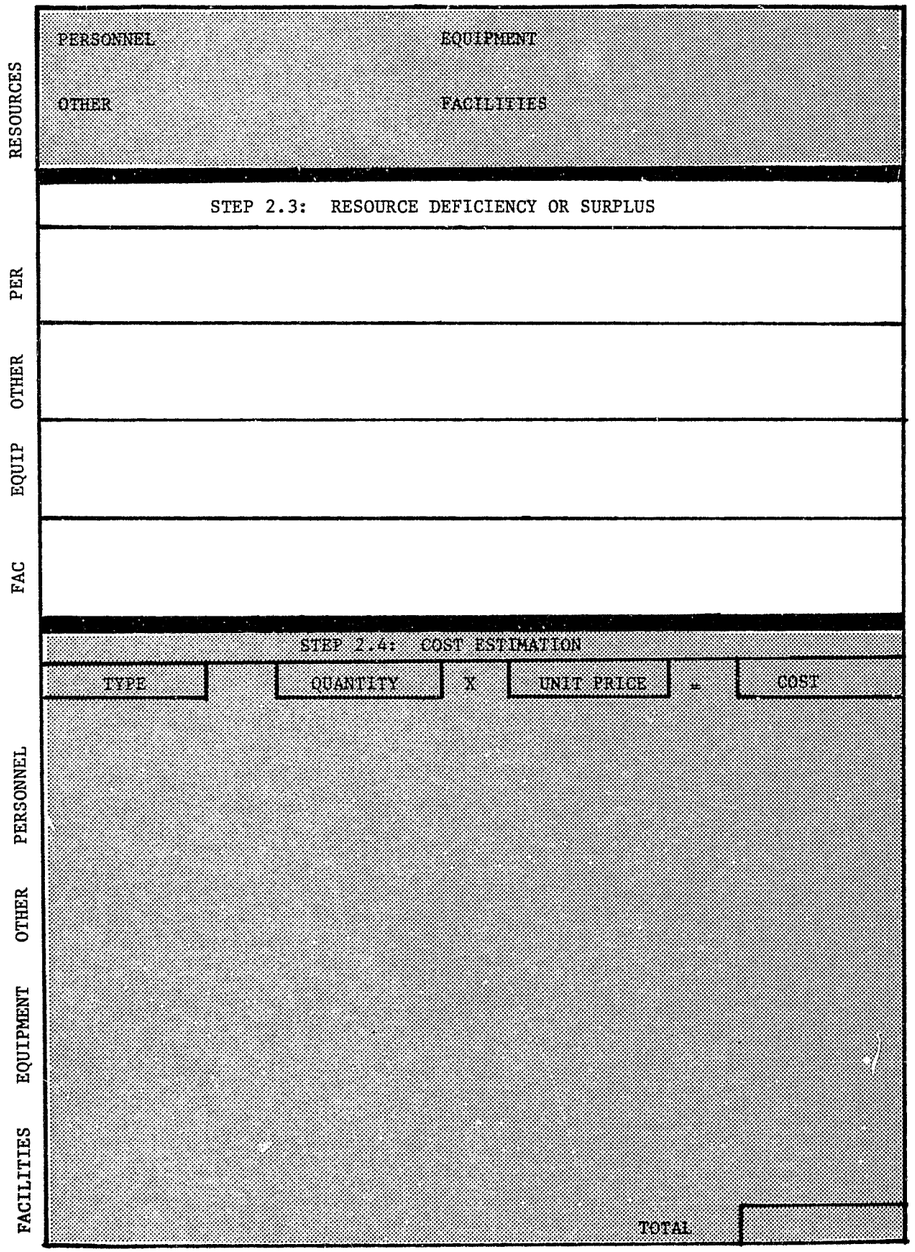
PERSONNEL

OTHER

EQUIPMENT

FACILITIES

TOTAL



Step 2.3 Describe the Resource Deficiency or Surplus

The purpose of this section is to explain the factors that should be considered in describing the deficiencies in compliance with the standards in resource terms. In Step 2.1, the resource requirements for standards compliance were described. In Step 2.2, the current allocation of resources to the standards was described. This section focuses on the difference between the two. In other words, we are concerned with describing the difference between the current situation and the standards requirements in resource terms. This difference or deficiency would have to be made up by the institution if it is to be in compliance with the standards. (The acquisition of resources and their cost estimates is discussed in the following section.) In this section, we address the steps that must be taken to describe the difference between the resource requirements and current utilization by focusing on the three kinds of resources: personnel, other operating costs and equipment. Chapter 3 addresses facilities.

Task 2.3.1 Personnel. The first task in describing the difference between the standards requirement and the current situation is to focus on personnel (i.e., labor resources). Personnel inputs may be required directly by a standard or may be required implicitly to fulfill a process or objective. In either case, the institution may be in zero, full, or partial compliance. If there is zero compliance, in other words, if a standard requires personnel and there are currently no personnel with responsibility for compliance, then the resource deficiency is the total resource requirement for the standard. Conversely, if the institution is in full compliance, that is, it has already allocated sufficient personnel to comply with the standard, then the standard has no resource input for the institution. These two situations, zero and full compliance, apply to all other capital and non-capital resources and are fairly simple to discern as long as the previous steps have been carried out properly. Thus, our main concern in this section is with assessing the resource impact of the standards which are in partial compliance.

Partial compliance has three dimensions: direction, type and amount. By direction we mean that resources will have to be increased to meet the requirements of the standards. It is worthwhile to note that in contrast to increasing resources in cases of partial compliance, resources could conceivably be reduced if the current allocation exceeds the requirements of the standard as in a case where there is "more than full compliance." In such a situation there is a resource surplus, not a deficiency. Because there may be some instances where the type and amount of resources cannot be fully specified in the preceding steps, it is important, at a minimum, to note whether the standard necessitates an increase in resources. To the extent possible, the magnitude of the increase should be specified. For example, if it is known that an additional 50 person-hours are required for food inspections, this should be specified even though type of personnel (medical, dietetic, or administrative) is not known at the time the resource impacts are assessed.

In cases where the type and amount of resources have been previously specified, there are several factors to consider in describing the difference between the resource requirement and current allocation. The first distinction is the type of resource. As we suggested earlier, personnel may differ by function (correctional officers, administration, librarians, etc.), level or

grade, and quality (degree of training, expertise, etc.). The current personnel and the standards requirements should be described as they exist in each of these areas. For example, the institution may currently have a correctional officer in charge of coordinating and supervising the library; Standard 4448 requires that this person receive training in library services. Thus, the deficiency that would have to be made up would be a certain number of hours of training (to be specified perhaps in accordance with the standards of the American Correctional Association/American Library Association Joint Committee on Institution Libraries). The number of hours of training would be specified on the reporting form.

The second distinction is in the amount of personnel beyond that currently allocated to the requirements of the standard. This is a fairly straightforward matter as long as the type of resource currently allocated is compatible with the requirements of the standard. For example, Standard 4080 requires individuals to coordinate the training and staff development program. If this standard requires more correctional officer time or positions, then the amount should be specified.

The difficulty in specifying the difference between resource amounts arises in cases where the standard requires a different type of resource from the type currently utilized. For example, Standard 4453 requires that institutions with more than 100 inmates have a full-time supervisor for the recreational program who has a "bachelors degree in recreation or lesiure services, or the equivalent in combined education and experience." If the institution already had a part-time staff member qualified in recreation, then the balance of that individual's time would have to be in recreation activities. However, if the individual was working part-time and was not qualified in recreation, the deficiency might have to be made up by hiring someone qualified in recreation. In this case, the difference would be between hiring one full-time person qualified in recreation and the part-time staff member not so qualified. This difference should be described on the reporting form.

A final aspect of reporting differences in personnel arises in the case of ratio measures. Standard 4427 addresses the personnel requirements for education and training by stating that the staff/inmate ratio is an important determinant of effective teaching. If the current ratio is 1/60 and the resource requirement is based on a ratio of 1/30, then the difference is a 100% increase in the ratio. Accordingly, the education and training staff would have to be doubled.

Task 2.3.2 Other Operating Resources. The discussion in Task 2.3.2 is applicable in its entirety to describing deficiency in other operating resources. The difference between the other resources currently allocated and other operating resources required by the standards should be described. This would include supplies, rentals, purchase of services, etc. For each standard, supplies beyond those currently in stock should be specified on the reporting form as needed.

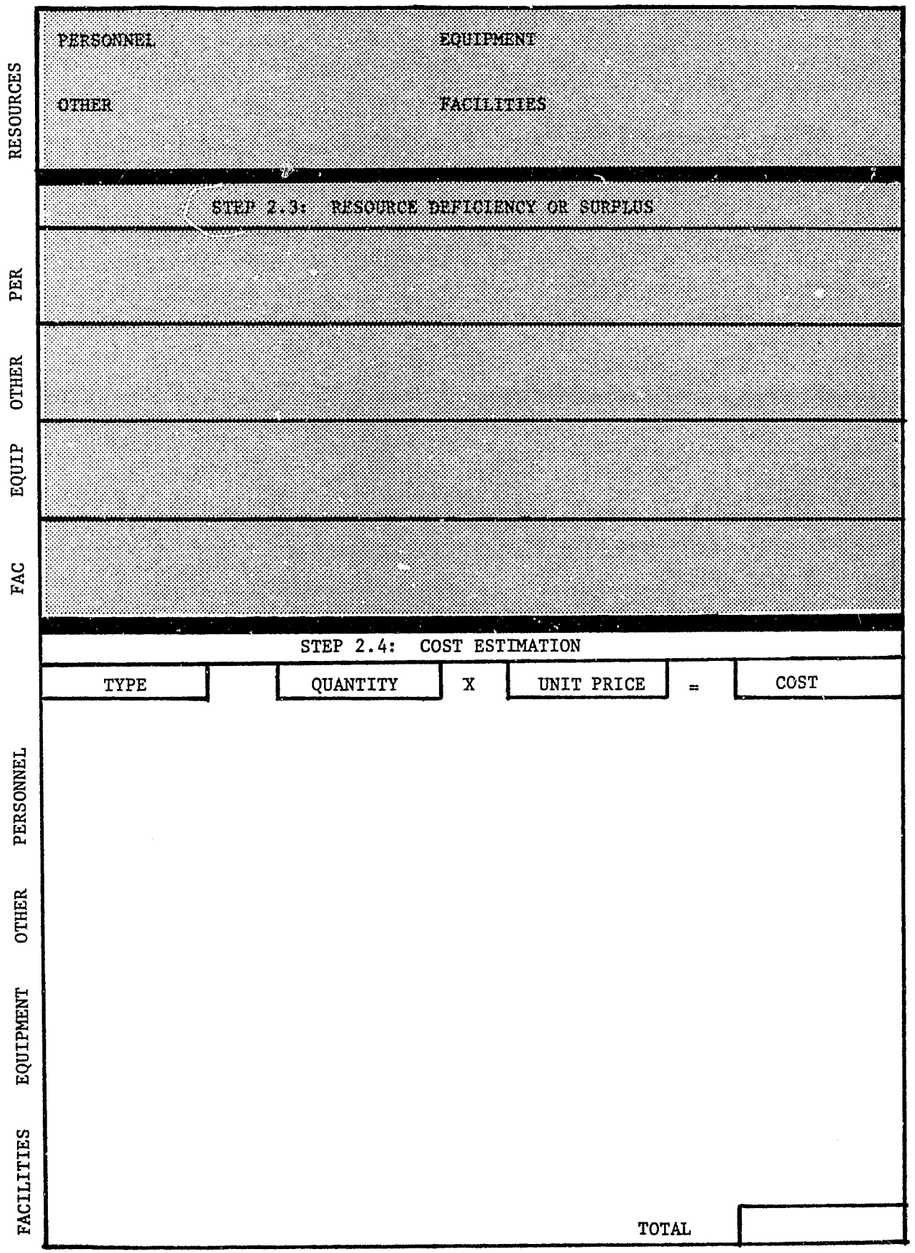
Task 2.3.3 Equipment. Most of the issues addressed in Task 2.3.1 are applicable to describing the difference between current equipment and equipment required by the standard. Increases in equipment should be specified both in terms of type and amount. For example, recreational equipment required by Standard 4458 may be in excess of that currently owned by the institution. In

this case, the additional amount of weightlifting apparatus, games (such as table tennis, chess, checkers), crafts, lockers, and so forth should be described. Assuming that additional weightlifting equipment is needed, the specific kind (barbells, dumbbells, universal gym, etc.) and the quantity of each should be specified on the reporting form.

Task 2.3.4 Facilities. The user should refer to Chapter 4 for a detailed explanation of the cost estimation process for physical plant. When that process is completed, the results should be summarized on the Standards Resource Analysis form. This applies to all explicit Physical Plant standards and to all other standards that have physical plant implications.

Using Standard 4248 as an example, the portion of the Standards Resource Analysis form for Step 2.3 follows.

	STEP 2.3: RESOURCE DEFICIENCY OR SURPLUS
PER	Requires 1 hr./wk. of Chief Medical Officer and dietician's time. (Note: Chief Medical Officer can add the inspections to current schedule; a dietician will have to be hired.) Requires half hour less/mo. of Deputy Warden's time.
OTHER	N/A
EQUIP	N/A
FAC	N/A



STEP 2.4 Estimating Compliance Costs

In the preceding sections, we focused on describing the resource impact of the standards, that is, the amount and type of capital and non-capital resources needed for compliance. The purpose of this section is to discuss several issues related to estimating the cost of compliance. Estimating compliance costs is achieved in a two step procedure. The quantity of inputs is specified and then a price is imputed to the resource quantities. These two basic tasks are described in the next two subsections.

Task 2.4.1 Resource Quantities. The first task in estimating compliance costs is to determine the types and quantities of resources he standards. The quantities should be specified in some measurable unit to which a price can be imputed in the following step. For example, it is not adequate to state that a standard requires an additional part-time position. It is better to state that it requires 120 hours of correctional officer time per year if this is the case. The difference between the resource requirements and the current utilization (personnel, equipment, other and facilities) specified in Step 2.3 should serve as a reasonably good basis for determining the resource quantities demanded by the standards. To the extent that the previous steps were done with precision and accuracy, specifying the demand for resource quantities in this task can be a simple matter of relying directly on the descriptions in Step 2.3 or converting them into measurable quantities.

Once the resource quantities demanded by the standards are ascertained, it is possible to price them. The demand for resources, however, can be met without incurring additional costs in some cases. It is possible to internalize the costs by (1) increasing the workload of resources currently utilized in the area of the standard, or (2) reallocating resources from another area to handle the additional workload. For example, if Standard 4203 requires an additional 2 hours per week to submit in writing a report on the weekly inspection of all security devices, this demand could be met either by (1) having the individuals currently doing the inspections also write and type the reports, or (2) getting clerical assistance from another staff person to assist in preparing the report. (If other standards in the compliance unit require clerical support, then an additional part-time or full-time clerical position might be warranted.) The point is that prior to pricing resources, a choice can be made as to whether the additional requirements of the standards can be met by current resources. To the extent that this is feasible, it is possible to keep the costs of compliance down.

The user should be careful to avoid double counting resource quantities. Double counting can arise from two situations. First, if compliance is achieved by adding to the workload or reallocating resources, it is not necessary to estimate the cost of these resources. Costs should only be estimated for additional resources needed to achieve compliance. Second, if more than one standard requires a particular resource, then no more than the relevant quantity of that resource should be included in the Standards Resource Analysis form. For example, if a decision is made to hire a part-time librarian (i.e., 20 hours per week) to comply with the Library Services Standards, the number of hours reported for all the standards in the compliance unit should not exceed 20 hours. The 20 hours should either be: (1) reported all on one form; or (2) apportioned on all the forms in the compliance unit

that necessitate a librarian.

If the demand for resources is met in part by current resources, two issues should be kept in mind. First, there is a tradeoff between meeting the quantity demanded with existing resources and the quality of work accomplished by those resources. In other words, there is a saturation point at which any further increases of workload will result in a decline in the overall quality of work completed. For example, if a decision is made to have current staff attend all meetings and write all reports required by the standards, it is possible that the quality of some of their other work might suffer or they may be late in completing their reports. This is not said to discourage the use of current resources for meeting the demands of the standards, but rather to suggest that these decisions should be made after carefully considering the tradeoff between their consequences (for quality) and their cost savings for the institution.

The second point to consider is that cost savings and quality improvement can result from proper choices as to which resources will meet the requirements of the standards. In Task 2.1.3, we suggested that attention should be given to developing alternative methods of compliance and that some of the alternatives might be less costly than others. At this time (i.e., Task 2.4.1), it is worthwhile to review the choice of alternatives made earlier to see if cost savings can be made. In some cases it may be more efficient and effective (i.e., in terms of quality) to provide clerical support, for example, from another staff rather than add clerical tasks to the work of professionals. Furthermore, it is worth noting that there may be some positive secondary effects of the standards. In other words, in meeting some of the standards it may be possible to improve the efficiency and effectiveness of resources currently allocated in other compliance units. An example of this situation occurs in training and staff development. In theory, if correctional officers are better trained, their productivity becomes greater and the quality of their work is enhanced. Accordingly, even though the training requirements of the standards may create more work for personnel who have to cover for those in training, the long term net effect should be an improvement in other areas, such as supervision, security and inmate rights. In conclusion, careful analysis may make it possible to find alternative means of meeting the quantity of resources demanded by the standards without adding resources to the current stock.

Task 2.4.2 Pricing Resources. In situations where additional resources have to be acquired, the final task is to estimate their cost. In general, the calculation of resource costs is made by multiplying the quantity of resources (from Task 2.4.1) times their unit price. For example, a weekly food inspection, which takes two hours, would require about 100 hours per year. If the inspection is made by medical personnel (at an hourly rate of $10) or dietetic personnel (at an hourly rate of $7.50), the cost of Standard 4248 would be $1,000 or $750 for the medical or dietetic personnel, respectively. The hourly rates were based on annual salaries for a hypothetical institution at $20,000 for medical personnel and $15,000 for dietetic personnel. Similarly, the cost of equipment, supplies and facilities is estimated by multiplying their amounts by their unit prices (e.g., the number of books times the price per book, the number of linear feet of shelves times the price per linear foot, the number of square feet of space times the building cost per square foot).

Current rates for resources can be obtained from several sources. They can be estimated from past experience using a price or wage inflator. Wages can be ascertained from a schedule of salaries or a state register. The state government's budget office may have a schedule for equipment or the procurement officer for the agency may have information on prices. Prices of library equipment can be obtained from supplier's catalogs or from Books in Print. The cost of inmate clothing and uniforms and other supplies made in Prison Industries can be ascertained from Prison Industry records. Estimates of the cost of meeting the educational and medical standards can be acquired from supply companies that serve schools and hospitals. In short, information on the unit price of resources will in all likelihood have to be obtained from several sources. Once the unit price is known, the total cost of compliance can be calculated by multiplying it by the quantity of resources demanded by the standards.

The portion of the Standards Resource Analysis form estimating compliance costs is filled in for Standard 4248 as follows:

STEP 2.4: COST ESTIMATION						
	TYPE	QUANTITY	X	UNIT PRICE	=	COST
PERSONNEL	Dietician	52 hrs./yr.		$5/yr.		$260
	(Note: A dietician should be hired on a part-time basis to comply with the requirements of standards 4238, 4240-4243, 4254. The $260 reflects the portion of the dietician's salary that will be incurred in complying with standard 4248.)					
OTHER						
EQUIPMENT						
FACILITIES					TOTAL	$260

PHASE 3. PRESENTATION

The results of the resource analysis are useful, as we said earlier, only insofar as they contribute to the decisions about compliance. Thus, the resource analysis should be presented to the agency administration in such a way as to target information to the decisions that have to be made. Therefore, this section provides a few suggested tables for presenting the resource analysis results, which we believe will key the information decisionmakers need to the decisions they have to make.

STEP 3.1 Preparing the Final Report

As we have suggested, the final report should present information obtained in the resource analysis to decisionmakers, namely, the agency administrator and the chief executive officer. The cost estimation process may be conducted in conjunction with the self-evaluation or after the Plan of Action is completed. In either case, it is possible that one subunit within the agency (e.g., an institution or probation office) could complete the cost estimation process and the Self-evaluation Report before others begin either process. Consequently, it is advisable that a report be prepared for each subunit as it completes the cost estimation process and a summary report be prepared for all subunits within the agency. The subunit reports will be of use to the chief executive officer (of the subunit) and the administrator of the agency, whereas the summary report will be of use primarily to the agency administrator.

Task 3.1.1 Subunit Reports. The reports for the subunits should provide summary tables of the important information garnered from the cost estimation process with an appendix containing the completed resource analysis forms for each standard. (It may be advisable to present this report with the Self-evaluation Report to the decisionmakers.) The following list of tables should provide decisionmakers with sufficient information in summary form for each subunit:

- List of Noncompliant Cost Standards -- This list should have been prepared during the preparation phase (Task 1.1.2) and can be included in the Subunit Report as is.
- List of Compliance Units -- This list can also be included in the Subunit Report as it was completed in Step 1.3 of the preparation phase.
- Summary of Compliance Costs -- This table would display the cost estimations for personnel, other (supplies, travel, etc.), equipment and facilities as developed for each standard in the resource analysis.

Examples of these three tables appear on the following pages for the hypothetical Sunnybrook Camp. The formats for displaying the information on the tables can be reproduced from the samples in Appendix B.

TABLE 3-3. LIST OF NONCOMPLIANT COST STANDARDS, SUNNYBROOK CAMP

Standards Category	Number of Cost Standard	Standard Numbers		
		Mandatory	Essential	Important
Training	7(E)	-----	4087, 4089-4094	-----
Security	1(M), 3(E), 1(I)	4210	4176, 4200	4211
Sanitation	1(M), 1(E)	4255	4267	-----
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
etc.	etc.	etc.	etc.	etc.

TABLE 3-4. LIST OF COMPLIANCE UNITS, SUNNYBROOK CAMP

Compliance Unit Name	Standards Numbers	Departments (Department Heads)
Training	4087, 4089-4094	H.Q. Training Academy (Claude Brown) Personnel Officer (Wally Faxton)
Security	4176, 4200, 4210	Chief Security Officer (Charles Controy)
Laundry	4267	Prison Industries (Daniel Miller)
'	'	'
'	'	'
'	'	'
etc.	etc.	etc.

TABLE 3-5. SUMMARY OF COMPLIANCE COSTS, SUNNYBROOK CAMP

Standard	Total	Operating		Capital		
		Personnel	Other	Equipment	Facilities	
					New	Renovated
Administration						
4021-E Legal Assistance	$ 100	$ 100	-0-	-0-	-0-	-0-
4024-E Public Information	300	300	-0-	-0-	-0-	-0-
Training						
4093-E Administrative Training	2,900	2,900	-0-	-0-	-0-	-0-
Safety						
4164-M Fire Prevention	500	-0-	-0-	$500	-0-	-0-
4174-M Emergency Plan Execution	100	100	-0-	-0-	-0-	-0-
,	,	,	,	,	,	,
,	,	,	,	,	,	,
,	,	,	,	,	,	,
etc.	etc.	etc.	etc.	etc.	etc.	etc.

Task 3.1.2 Agency Report. The Agency Report should essentially be a synopsis or compilation of the individual subunit Reports. The Agency Report will provide information to the agency administrator so that he/she can allocate agency resources to the subunits to ensure that compliance with the standards will be achieved. The following list of tables should provide the necessary information:

- Summary of Agency Compliance Costs by Organizational Subunits -- This table would display the total compliance costs for personnel, other, equipment and facilities for each subunit.

- Summary of Agency Costs by Standards Category and Organizational Subunit -- This table would present the total compliance cost in each standard category for each subunit.

- Summary of Agency Compliance Costs -- This table combines the information for the preceding two tables so that decisionmakers can see the breakdown of costs in each expenditure category (personnel, equipment, etc.) for each standards category.

- Comparison of Current Agency Budget and Compliance Costs -- This Table would show the agency's current budget and the budget required to achieve compliance.

Examples of these four tables appear on the following pages. The formats for displaying the information on the tables can be reproduces from the samples in Appendix B3.

TABLE 3-6. SUMMARY OF AGENCY COMPLIANCE COSTS BY ORGANIZATIONAL SUBUNIT

Subunit	Total	Operating		Capital		
		Personnel	Other	Equipment	Facilities New	Facilities Renovated
Sunnybrook Camp	$19,700	$19,500	$200	-0-	-0-	-0-
Devils Penal Colony	26,300	20,300	200	$5,800	-0-	-0-
Total	$46,000	$39,800	$400	$5,800	-0-	-0-

TABLE 3-7. SUMMARY OF AGENCY COSTS BY STANDARDS CATEGORY AND ORGANIZATIONAL SUBUNIT

Standards Category	Organizational Subunits			
	Sunnybrook Camp	Devils Penal Colony		
Administration	$ 700	$ 300		
Fiscal	-0-	-0-		
Personnel	-0-	-0-		
Training	19,000	26,000		
Management Information	"	"		
Records	"	"		
Physical Plant	"	"		
Safety	"	"		
Security	"	"		
Special Management Inmates	etc.	etc.		
Food Services				
Sanitation				
Medical				
Rights				
Rules				
Mail and Visiting				
Reception				
Classification				
Work Programs				
Education				
Library				
Recreation				
Religious				
Social Services				
Release				
Citizen Involvement				
Totals				

TABLE 3-8. SUMMARY OF AGENCY COMPLIANCE COSTS

Standards Category	Total	Operating		Capital		
		Personnel	Other	Equipment	Facilities: New	Facilities: Renovated
Administration	$ 1,000	$ 1,000	-0-	-0-	-0-	-0-
Fiscal	-0-	-0-	-0-	-0-	-0-	-0-
Personnel	-0-	-0-	-0-	-0-	-0-	-0-
Training	45,000	39,800	$400	$5,800	-0-	-0-
Management Information	"	"	"	"	"	"
Records	"	"	"	"	"	"
Physical Plant	"	"	"	"	"	"
Safety	etc.	etc.	etc.	etc.	etc.	etc.
Security						
Special Management Inmates						
Food Services						
Sanitation						
Medical						
Rights						
Rules						
Mail and Visiting						
Reception						
Classification						
Work Programs						
Education						
Library						
Recreation						
Religious						
Social Services						
Release						
Citizen Involvement						
Totals						

TABLE 3-9. COMPARISON OF CURRENT AGENCY BUDGET AND COMPLIANCE COSTS (in thousands)

		Operating		Capital		
					Facilities	
	Total	Personnel	Other	Equipment	New	Renovated
FY 1981 Budget	$11,200	$10,000	$100	$1,000	-0-	$100
Compliance Costs						
Additional $	46	39	.4	6	-0-	-0-
% Increase	2%	3.9%	.4%	.6%	---	---
Total	$11,246	$10,039	$100.4	$1,006	-0-	-0-

CHAPTER 4. ESTIMATING CAPITAL COSTS

INTRODUCTION

The steps for estimating capital costs of complying with CAC standards follow, generally, those described for operating costs in Chapter 3.

Preparation

1.1 Selecting Standards With Capital Impacts

1.2 Determining Compliance Units

Resource Analysis

2.1 Describe Resource Requirements of the Standards

2.2 Describe Current Facility Utilization

2.3 Developing Alternatives

2.4 Assessing Building System Cost Factors

2.5 Pricing Capital Resources

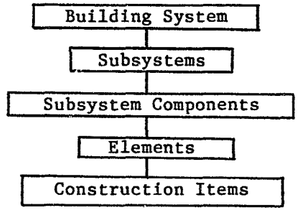
However, specific tasks are slightly more complex, because they involve technical architectural and engineering concepts. This process is intended for those with a general knowledge of the construction trades. Where more detailed knowledge of design and engineering is deemed advisable, it is noted in the text. Estimates produced by the process are pre-design and should not be considered as accurate as those derived from construction or even design drawings. Applied with reasonable care, however, the steps should lead to cost estimates sufficiently precise for planning purposes.

During the facility design and construction process, each decision from conceptualization to capstone has resource or cost impliciations, the sum of which ultimately may go to a governor's office or legislature. These choices are too often considered the exclusive purview of the building professions and are not scrutinized by correctional agency staff for their effects on operations, programs and costs. Therefore, one purpose of this chapter is to explain conceptual and technical information so corrections professionals can take an active role in decisionmaking during the design and construction process.

Building System

One of these technical concepts is "building systems." Appendix C5 describes this system in detail and is summarized below.

A "building system" is defined as a set of interdependent parts which together create a functioning physical unit. The structure of the system is represented as follows:



There are five subsystems:

- Structural
- Architectural
- Plumbing
- HVAC (Heat, Ventilation & Air Conditioning)
- Electrical

These subsystems generally follow the distribution of responsibility among contractors for various portions of a project. A general contractor, for example, typically would be responsible for structural and architectural work.

Each subsystem has various component parts which determine its unique functions. For example, the purpose of the structural subsystem is to provide a base (foundation) and framework (superstructure) for the components of other subsystems such as plumbing fixtures, electrical lines, enclosures or walls, etc. The complete breakdown is shown in Figure 4-1.

Figure 4-1. System Components

Structural

Foundation
Superstructure

Architectural

Enclosures
Finishes
Insulation
Hardware
Specialities
Fixed equipment

Plumbing

Distribution & service
Pipe & fittings
Insulation
Fixtures
Fire Suppression

HVAC

Generation
Distribution
Insulation
Equipment

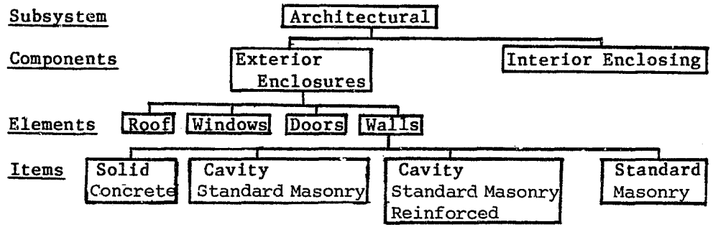
Electrical

Service & distribution
Capacity requirements
Illumination
Communications
Fixtures
Equipment

Elements enable a particular component to perform its function. Roof, walls, doors and windows, for example, make up an exterior enclosure. Elements of other subsystem components are detailed in Appendix C5, Building System Chart.

There are a variety of materials and methods available to create Subsystem elements, and these are labelled construction items. The relationship between a subsystem, its component parts, elements comprising each component and the construction items can be graphically summarized in Figure 4-2.

Figure 4-2. Building System Structure



There are three reasons for describing the concept of a building system, even though the cost estimating process described in this Manual is not as detailed as suggested by the diagram. First, it highlights the interdependency between the various parts of a building and, thereby, may help prevent costly construction errors. For example, it makes little sense to install new toilet fixtures when the water distribution component has deteriorated. A second reason is to enable persons other than architects and engineers to participate in design decisions and, thereby, incorporate programmatic and functional considerations. For example, standard masonry walls may be economical but they provide negligible security if located on the perimeter. Finally, a project's cost is ultimately a combination of labor, materials, and equipment which vary in terms of the construction items actually used. A "security door," for example, can range from a few hundred to several thousand dollars, and persons experienced in corrections are best able to determine which is most appropriate for the cost. An expensive, electronic lock on a hollow core, wooden door is neither dollar nor security wise. As odd as the preceding examples may seem, they have all actually occurred.

References, such as Means Building Construction Cost Data or Berger Building and Design Cost File, can be used to estimate materials and labor down to the element and even item levels. The cost estimating process described in this chapter only goes to the subsystem level of detail and is designed to evaluate how standards affect various features of the building system. There are five factors which must be taken into consideration when going through the capital cost estimation steps.

Cost Estimating Factors

Labor, materials and equipment which go into the construction items of a building system are the resources which ultimately determine project costs. However, there are five factors which will affect the price, amount or types of these resources: level of construction, level of security, functions performed

within a building, square footage and construction trades involved. These factors are described here and in the glossary.

Level of Construction. The scope of the work required to bring a given institution into compliance and the perception of the problem by policymakers will generally determine the level of construction.

- New Construction. This refers to the situation where all building systems (i.e., structural, architectural, plumbing, mechanical, electrical and fixed equipment) would be affected radically to achieve compliance and the course of action recommended or chosen is their total replacement as part of a new building. Off Site new construction is when this building will be in a new location, separate and independent from any operationally active correctional facility; that is, construction operations can take place in a standard fashion. When work is done within the perimeter security (on site), access, organization and control of construction operations are dependent on and/or greatly influenced by the concurrent operation of a correctional facility and costs are likely to be higher.

- Major Renovation. Major renovation involves changes in all or most of the interior, nonbearing (or structural) partitions by total or extensive demolition; and all or most of the interior architectural systems are to be repaired or discarded and replaced; all or most of the plumbing, mechanical (HVAC) and electrical systems up to the outside limits of the work areas are to be discarded and replaced; and all or most of the fixed equipment, fixtures, and accessories are to be discarded and replaced. Replacement will include the expansion necessary to meet current codes and standards. Only the structure and the exterior enclosures will be left intact.

- Minor Renovation. This is the case when some of the interior nonbearing partitions will be repaired but not demolished; some of the interior architectural systems will be repaired but all will be refurbished in a cosmetic fashion; none or only minor portions of the plumbing, mechanical and electrical systems are to be replaced, but all or most will require some type of repairs; and some of the fixed equipment is to be repaired but all or most will be refurbished in a cosmetic fashion. All subsystems will be left essentially intact.

- Cosmetic. Entails only work on surfaces (e.g., painting) to improve the appearance of a space.

Level of Security. This is perhaps the most difficult term to define, due to current perceptions on what constitutes security, both functionally and physically. Most (if not all) correctional institutions in the country are mixed security level both in terms of how they are designed and how they are operated. However, an entire facility is classified on the basis of the predominant level of security used for the perimeter and in housing units. While each jurisdiction may have its own set of definitions, the distinctions made here are intended to represent general categories from which gradations

can be created. The actual physical differences between security levels are described in Appendixes C3 and C4.

- Maximum Security. Entails specialized construction procedures for corrections and design layout, materials and details.

- Medium Security. Requires a combination of specialized construction procedures for corrections and standard construction procedures and design layout, materials and details.

- Minimum Security. Entails standard construction procedures, materials and details, and a design layout both specialized for corrections and standards. Community residences, which are not part of the scope of this Manual, would entail standard construction procedures and design layout, materials and details, because special programmatic and physical requirements of security are negligible in practice.

Facility Functions. Any correctional institution has a series of functions, each making its own set of demands on site, building systems and equipment. For example, shops are designed and constructed with materials differently than management space. The cost figures in Appendix C10 are grouped into functional categories.

Square Footage. Only gross square footages are to be considered for a particular area. To transfer net to gross figures use the conversion factors in Appendix C1. Refer to Appendix C9 for instructions on how to measure gross square footages in an existing facility undergoing renovation.

Construction Trades. Since the price of labor and work methods vary by trades, the square footage figures for each facility function are broken down into the four major construction trades and selected specialty items (e.g., towers) in Appendix C10. Although the distribution of responsibility among trades will vary somewhat from one locale to another, they basically are comprised of the following:

- General Contractor. The general or construction contractor is typically responsible for sitework, structure, architectural features, fixed equipment and in many localities coordination of other trade contractors and subcontractors.

- Plumbing. Cost figures include work for service, distribution and fixtures within the building but exclude site utilities in cost estimates in Appendix C10.

- Mechanical (HVAC). Heating, ventilation and air conditioning, including distribution, fixtures and accessories within the building are part of the cost figures. Except for offices, only heating and ventilation work is included in the cost estimates presented in Appendix C10.

Figure 4-3. Functional Groups

GENERAL CONSIDERATIONS

Security and Control
Inmate Rights
Inmate Rules and Discipline
Special Management Inmates
Sanitation and Hygiene
Inmate Money and Property Control
Safety and Emergency Procedures

FUNCTIONS

Management

- Administration
- Fiscal
- Management Information & Research
- Records

Staff

- Personnel
- Training

Support

- Food Services
- Medical
- Communications
- Library

Programs

- Education and Vocational
- Work
- Recreation

Inmate Services

- Social Services
- Religious
- Reception and Orientation
- Classification
- Release Preparation
- Citizen Involvement

Housing

- Electrical. This work includes service, distribution and fixtures within the building. Their portion of site utilities is not reflected as part of the cost figures.

A note of caution at this point is the fact that the trade distribution may vary somewhat from one state to another. While this is not crucial to the cost figures dervied here, it will be critical during the actual design phase.

Summary

In addition to general factors such as level of construction, security, type of space, square footage and trades, there are many decisions made in the design and construction process which also affect project costs. The approach described in this chapter anticipates that correctional professionals will participate in decisions regarding accreditation and, hence, will need a general understanding of how compliance plans affect the building system and, ultimately, costs. Although cost estimates here are computed at the subsystem level (structural, architectural, plumbing, HVAC, electrical), they are a consequence of changes in components, elements and construction items. Expertise in corrections, understanding of agency policy and experience with the institution's operation are the best source of guidance on the most appropriate security for a particular area or fixtures compatible with the population.

PHASE 1. PREPARATION

This is perhaps the most crucial phase in the process of estimating capital costs because it will determine the direction that the rest of the process will take. The goals in this stage are:

- To identify all standards relevant to physical plant
- To establish the relationships among physical plant and operating standards necessary to develop requirements for Phase 2, Resource Analysis.

In response to these goals, we have devised a two step process to guide the person working on this section through data gathering, analysis and decisionmaking. Although devised as a step by step process with detailed instructions keyed to various references, illustrated with examples, and assisted by a worksheet in which to record and analyze information, this stage remains quite intricate. It will be at times tedious and time consuming. But in the end it will provide the analyst a way of identifying the interdependency of institutional functions and physical plant.

Step 1.1 Selecting Standards with Capital Impacts

The self-evaluation process will identify noncompliant standards, but the context in which these standards are conceived and stated does not lead in most cases to a literal translation into physical plant requirements. Even in their most explicit instances, standards are not sufficiently detailed for cost

estimating purposes. Furthermore, if the analysis of space needs is limited to the section on Physical Plant in the Manual of Standards, standards in other sections which imply physical plant changes would be excluded. Therefore, it is necessary to classify noncompliant standards in terms of their impact on physical plant. Four categories are used:

- Explicit Standards. The text of these standards will specifically refer to space or equipment for a given function or activity, or will specify certain programmatic and/or physical components that a given function, activity or space should contain. An example of the first instance is 4086 which calls for space and equipment for training and staff development. For the second instance, 4131 describes in detail the capacity, size, environmental and physical conditions of dormitories.

- Implicit Standards. These are standards which directly or indirectly suggest a place where a function, activity or procedure is carried out. For example, instances of standards implying a physical plant need are: 4116, which calls for case histories on inmates to be found "available in a central file"; and 4176 dealing with the control of flammable, toxic, and caustic materials which makes no reference to any physical requirements, but its discussion requires that they "be stored in secure areas that are inaccessible to inmates."

- Guide Standards. These standards are functionally or physically related to an explicit or implicit standard and are used to further define resource requirements. For example, 4089, New Employee Training, is functionally related to 4086 and can be used to estimate the amount and type of space and equipment needed based on the number of trainees. It may be physically related to Administration and Fiscal standards, if the classrooms are located in the Administration building.

- Reference Standards. These are other than CAC standards which are likely to impact on physical plant because they lay out general requirements. For example, the National Fire Prevention Association (NFiPA) standard for the number, types, and distances between means of egress from any housing unit will help to clarify 4168 which requires that the institution have "exits which are distinctly and permanently marked." Appendix C1, Relationship Between Standards and Facility Functions subdivides each section of the CAC standards into the first three categories, i.e., Explicit, Implicit, and Guide Standards and gives common refernces.

Appendix C2 lists a number of national correctional and building codes, regulations, or standards which should be consulted as reference. These include requirements recommended by the Building Officials and Code Administrators (BOCA) and the American National Standards Institute (ANSI). References to state and local codes have been omitted for obvious reasons of space, but each jurisdiction should compile its own list. A note of caution at this point is that only the highlights of these codes should be used during most of the stages of the cost estimation

process; instances where more detailed information would be useful will be identified at appropriate points in the Users' Manual.

Standards, also, can be categorized in terms of the institutional functions they cover, e.g., management, staff, programs, etc. Since functions performed within a closed institution are highly interdependent, it is important to consider for each noncompliant standard whether the functional group it is a part of may be affected by another. Figure 4-3 shows how chapters from the CAC Manual of Standards are grouped into major functional areas.

Those listed under "general considerations" are not strictly functional but may affect all activities performed in the institution. Reference to the functional clustering of a model institution as the one shown in Appendix C1 will quickly give the relationship of any standard to others within the same group. With a little imagination, these can be carried into other groups as well. The real significance of this information will be seen later on, during the definition of standards requirements. An example will show how these different types of capital standards may be interrelated.

Task 1.1.1. Identifying Explicit and Implicit Standards. An institution does not have the space and equipment to carry out the training function (4086). Appendix C1 shows that 4086 "explicitly" mentions capital, but, more importantly, it is functionally related to providing library services for staff (4084) which itself "implicitly" suggests the possible need for space. The institution, also, does not comply with this standard. These standards are recorded in the left column on the accompanying sample Worksheet 1.

Task 1.1.2. Identifying Guide and Reference Standards. Standard 4091, Annual Training, has been found noncompliant but it does not make reference to capital. However, the amount of deficiency will help "guide" the decision on the amount of space which will be required for classrooms and the equipment needs. Similarly, 4080, Training Staff, 4089, New Employee Training and others listed in the top columns of the sample worksheet are guides to determining capital requirements for training and library services. Although the library for inmates is in another group of standards, it is functionally related to the "implicit" capital standard 4084. Finally, other "references" may be consulted to further specify capital requirements. For example, the American Library Association can provide information on the number and type of publications suggested for adult education purposes. Or, building codes may require fire resistant construction in classroom areas.

The relationships among standards are specified by: identifying noncompliant CAC standards which explicitly and implicitly refer to capital or guide the determination of requirements; consulting other references; and relating similar functions.

Step 1.2 Determining Compliance Units

Up to this point, data have been collected and organized and it is now necessary to evaluate the relationships among standards. These connections are important because this step will be the basis upon which a set of standards will be chosen to proceed as a unit of compliance through cost estimation. The

LEGEND
● TOTAL
○ PARTIAL
/ NON APPLICABLE

GUIDE STANDARDS REFERENCES RELATED FUNCTION

4079 Training Supervision	4080 Training of Trainers	4089 Limited Inmate Contact	4090 Regular Inmate Contact	4091 Professional Employee Training	4093 Administrative Training	4094 Emergency Unit Training	4096 Weaponry Training	4098 Physical Force Techniques	4099 Continuing Education	Building Codes	NFPA	ANSI	ALA	Energy Code	Personnel	Information Systems	Inmate Library
●	●	/	○	●	○	●	●	●	○	●	●	●	○	●	○	/	○
●	/	○	○	○	○	○	/	/	●	●	●	●	●	●	○	○	○

INSTITUTION'S NAME:

FACILITY FUNCTION:
TRAINING

FACILITY SECTION:
Administrative Building (preferred)

EXPLICIT & IMPLICIT STANDARDS

4086 Space and equipment
4084 Library services

INSTITUTION'S NAME

FACILITY FUNCTION

TRAINING

LEGEND:
● FULL FIT ☒ UN-FIT
○ PARTIAL FIT ⧄ NON APPLIC.

FACILITY SECTION

Administration Building

FACILITY REQUIREMENTS		PHYSICAL PLANT FITNESS	DEFICIENCY
* APPENDIX C1: REFERENCES			
Building Codes			
NFiPA			
ANSI			
ALA			
* APPENDIX C2: PROGRAM SPACES			
Units	NSF		
Offices: Director (1)	100		
Staff (ea.)	80		
Clerical (e.a.)	80		
Library: (based on average staff			
per shift) Total	6		
open stacks/staff	1		
AV Carrells	40		
circulation desk/occup.	80		
office staff	80		
reading room/occup.	25		
Classrooms/occup.	20		
Toilets (if needed):			
males and females	60		
Storage*: Administration	60		
Library	100		
Classroom	30		
* ROT 15-20%NSF space			
* APPENDIX C2: CONSTRUCTION REQM'TS.			
Offices: All Standard			
Special Equipment			

STANDARDS REQUIREMENT & FACILITY
DEFICIENCIES -- EXAMPLE

WORKSHEET 2

INSTITUTION'S NAME

FACILITY FUNCTION

TRAINING

LEGEND:
● FULL FIT ☒ UN-FIT
○ PARTIAL FIT ⧄ NON APPLIC.

FACILITY SECTION

Administration Building

FACILITY REQUIREMENTS	PHYSICAL PLANT FITNESS	DEFICIENCY
Library: All Standard		
Special Equipment		
Classrooms: All Standard		
Special Equipment		
Storage: All Standard		
* APPENDIX C3-C4: LEVEL OF SECURITY		
Minimum, for function, site, build-		
ing, equipment		
* APPENDIX C 5: BUILDING SYSTEMS		
Architectural:		
Exterior enclosures:		
walls: masonry std. or other		
doors: windows, glazing: any type		
Interior enclosures:		
walls: metal stud w/2 plys of		
sheetrock (minimum)		
doors, glazing: any type		
Exterior finishes:		
walls, doors & windows: any type		
Interior finishes:		
walls, doors, frames & others:		
any type		
Exterior insulation:		
waterproofing: as required		
thermal: as required		
Interior insulation:		
soundproofing: in Library		
fireproofing: required		

STANDARDS REQUIREMENT & FACILITY
DEFICIENCIES -- EXAMPLE

WORKSHEET 2

INSTITUTION'S NAME

FACILITY FUNCTION

TRAINING

LEGEND:
● FULL FIT ☒ UN-FIT
○ PARTIAL FIT ◩ NON APPLIC.

FACILITY SECTION

Administration Building

FACILITY REQUIREMENTS	PHYSICAL PLANT FITNESS	DEFICIENCY
Hardware:		
all spaces: manual, institutional		
grade		
Plumbing:		
distriluting and fixtures: std.		
toilets: std.		
fire supression: std.,		
except in library: special		
HVAC:		
generation, distribution, and		
insulation: standard		
specialities: standard		
Electrical:		
service distribution and		
accessories: standard		
illumination: flourescent fixture		
communications: telephone		
intercom (desirable)		
fire safety: alarms: standard		
smoke/heat detectors: standard		
Specialities:		
boards (writing, tack-on) for		
classrooms and library		
compartments for toilets, and		
staff offices (if applicable)		
louvers, grilles: standard		

STANDARDS REQUIREMENT & FACILITY
DEFICIENCIES -- EXAMPLE

WORKSHEET 2

INSTITUTION'S NAME

FACILITY FUNCTION

TRAINING

LEGEND:
● FULL FIT ☒ UN-FIT
○ PARTIAL FIT ◩ NON APPLIC.

FACILITY SECTION

Administration Building

FACILITY REQUIREMENTS	PHYSICAL PLANT FITNESS	DEFICIENCY
Fixed Equipment:		
shelving: storage		
toilet accessories		
circulation desk: library		
Moveable equipment:		
desks: offices: standard		
classrooms: special		
chairs (all spaces): standard		
bookshelves: library, offices:		
standard		

CONTINUED

1 OF 4

Step 2.1 Describe Resource Requirements of the Standards

The compliance unit derived in Steps 1.1 and 1.2 included not only an explicit reference to space and equipment for the training function (4086) but also implicitly suggests a staff library (4084). Additional guides for defining space requirements were 4080 (Training Staff) and all standards prescribing the amount and frequency of training activities.

The facility requirements of these standards are both functional and physical. Functional components are policies, procedures and activities which occur in a facility whose physical components are the building itself, the site and equipment. In most cases, standards describe generally any number of functional and/or physical requirements but do not refer to subsystems, such as plumbing, structure, etc., which may be affected by the standard. Step 2.1 describes a framework for collecting and organizing information on these functional and physical requirements for a facility.

Assume a decision has beer made to hire a supervisor, an assistant and a secretary to manage the training function. Appendix C2, Functional Space Allotment for Planning a 400-Bed Facility, will show that between 100-120 net square feet (NSF) are suggested for department head's offices and 80-100 NSF for each staff person for a total of 260-320 NSF. About 6 NSF are suggested for each library user, 40 NSF for audio visual carrells, 200 NSF per classroom, etc. These estimates are used as tentative "rules of thumb" in assessing the adequacy of existing plant. Appendix C2, also, indicates whether general or subcontractors need to use standard practices and/or materials, modify these or consider special correctional features such as security. For example, fixed and movable equipment for the library in our hypothetical case should be the type specially designed for this use.

These physical descriptions of what the standards require are recorded in the left column, as shown on the accompanying example of Worksheet 2.

Step 2.2 Describe Current Facility Utilization

Up to this point standards requirements and facility implications have been dealt with in the abstract. Now it is necessary to assess the degree to which a given institution meets them. The goals for this step are:

- To compare the fitness of any institution's physical plant to the standards' requirements.
- To describe the institution's physical plant deficiencies in both functional and physical terms.

Various approaches can be followed at this point. One is a standard (or set of standards) by standard (or set of standards) approach followed by an analysis of their interrelationships -- both functionally and physically -- which would then be summarized for the entire institution. Another approach is to consider the institution as a whole and analyze the impact of standards requirements starting with the most general (e.g., housing) and going to the specific (e.g., commissary, storage for keys, etc.). The former approach is used here, because it provides a structure in which distinct pieces of

STANDARDS REQUIREMENT & FACILITY DEFICIENCIES -- EXAMPLE

WORKSHEET 2

	INSTITUTION'S NAME		LEGEND: ● FULL FIT ⊠ UN-FIT ○ PARTIAL FIT ⊘ NON APPLIC.
	FACILITY FUNCTION: TRAINING		FACILITY SECTION: Administration Building
	FACILITY REQUIREMENTS	PHYSICAL PLANT FITNESS	DEFICIENCY
*	APPENDIX C1: REFERENCES		
	Building Codes	○	generally ok
	NFiPA	○	no detection or suppression system
	ANSI	⊠	inaccessible, 3 steps
	ALA		
*	APPENDIX C2: PROGRAM SPACES		
	Units NSF		
	Offices: Director (1) 100	○	80 NSF - short by 20 NSG
	Staff (ea.) 80	⊠	no space for 1, short by 80 NSF
	Clerical(e.a.) 80	○	50 NSF - short by 30 NSF
	Library: (based on average staff		no space available:
	per shift) Total 6	⊠	100-150/shift = 600-900 NSF short
	open stacks/staff 1	⊠	150 NSF (books, periodicals) short
	AV Carrells 40	⊠	2 AV = 80 NSF short
	circulation desk/occup. 80	⊠	80 NSF short
	office staff 80	⊠	80 NSF short
	reading room/occup. 25	⊠	10-15 persons = 250-375 NSF short
	Classrooms/occup. 20	○	short by 2 classrooms (200 NSF ea.)
	Toilets (if needed):		
	males and females 60	●	staff toilets available nearby
	Storage*: Administration 60	○	20 NSF, short by 40 NSF
	Library 100	⊠	none available, allocate 100 NSF
	Classroom 30	○	2 more needed, 60 NSF
	* ROT 15-20%NSF space		
*	APPENDIX C2: CONSTRUCTION REQM'TS.		
	Offices: All Standard	●	
	Special Equipment	○	see APPENDIX C5 below

STANDARDS REQUIREMENT & FACILITY DEFICIENCIES -- EXAMPLE

WORKSHEET 2

INSTITUTION'S NAME

FACILITY FUNCTION

TRAINING

LEGEND:
● FULL FIT
○ PARTIAL FIT
⊠ UN-FIT
⊘ NON APPLIC.

FACILITY SECTION

Administration Building

FACILITY REQUIREMENTS	PHYSICAL PLANT FITNESS	DEFICIENCY
Library: All Standard	⊘	
Special Equipment	⊘	
Classrooms: All Standard	●	
Special Equipment	●	
Storage: All Standard	●	
* APPENDIX C3÷C4: LEVEL OF SECURITY		
Minimum, for function, site, building, equipment	●	
* APPENDIX C 5: BUILDING SYSTEMS		
Architectural:		
Exterior enclosures:		
walls: masonry std. or other	●	
doors: windows, glazing: any type	●	
Interior enclosures:		
walls: metal stud w/2 plys of sheetrock (minimum)	●	NA (walls are concrete rock)
doors, glazing: any type	●	
Exterior finishes:		
walls, doors & windows: any type	●	
Interior finishes:		
walls, doors, frames & others: any type	○	walls need paint
Exterior insulation:		
waterproofing: as required	○	signs of leaks in ceiling
thermal: as required	○	air leaks thru windows
Interior insulation:		
soundproofing: in Library	⊘	NA no library space available
fireproofing: required	○	walls okay, doors no, all elec. & plumbing

STANDARDS REQUIREMENT & FACILITY DEFICIENCIES -- EXAMPLE

WORKSHEET 2

INSTITUTION'S NAME

FACILITY FUNCTION

TRAINING

LEGEND:
● FULL FIT
○ PARTIAL FIT
⊠ UN-FIT
⊘ NON APPLIC.

FACILITY SECTION

Administration Building

FACILITY REQUIREMENTS	PHYSICAL PLANT FITNESS	DEFICIENCY
Hardware:		
all spaces: manual, institutional grade	○	residential grade
Plumbing:		
distributing and fixtures: std.	●	
toilets: std.	○	reburbishing needed
fire supression: std.,	●	fire extinguishers and standpipe
except in library: special	⊘	
HVAC:		
generation, distribution, and insulation: standard	C	steam heating ok, no pipe insulation
specialities: standard	○	radiotors get too hot
Electrical:		
service distribution and	○	insufficient service to area
accessories: standard	●	
illumination: flourescent fixture	●	
communications: telephone	○	1 line shared w/personnel
intercom (desirable)		
fire safety: alarms: standard	○	upgrading required
smoke/heat detectors: standard	⊘	none available
Specialities:		
boards (writing, tack-on) for	○	2 sets more for classrooms
classrooms and library	⊠	1 for library
compartments for toilets, and	●	toilets ok
staff offices (if applicable)	⊘	offices NA
louvers, grilles: standard	⊘	

STANDARDS REQUIREMENT & FACILITY DEFICIENCIES -- EXAMPLE

WORKSHEET 2

INSTITUTION'S NAME		
FACILITY FUNCTION: TRAINING		FACILITY SECTION: Administration Building

LEGEND:
● FULL FIT ⊠ UN-FIT
○ PARTIAL FIT ▨ NON APPLIC.

FACILITY REQUIREMENTS	PHYSICAL PLANT FITNESS	DEFICIENCY
Fixed Equipment:		
shelving: storage	○	refinishing and expansion
toilet accessories	●	
circulation desk: library	⊠	
Moveable equipment:		
desks: offices: standard	○	refurbishing
classrooms: special	○	refurbishing of existing and add 20
chairs (all spaces): standard	○	
bookshelves: library, offices: standard	⊠	add 4: offices, 10-15 library

information can be collected and used by someone unfamiliar with facility design methods.

This is also a step dealing with extensive technical material; therefore architectural/engineering advice is recommended during the process and the results should be reviewed by qualified professionals in the field.

It is strongly advised that the maintenance chief or some other person intimately familiar with the conditions of the institution's physical plant be consulted to inteprret the application of standards requirements to specific cases. Because of their practical knowledge, their assistance is likely to prove invaluable, even when other architects or engineers are involved.

Based on the physical specifications for a staff library, training offices and classrooms developed in the preceding step, the facility itself now can be evaluated. Existing space and equipment may be fully, partially, or not at all suitable relative to the physical requirements. As shown in the "Physical Plant Fitness" column of Worksheet 2, there is no office space for the assistant supervisor, insufficient space for the secretary, etc. The "Deficiencies" column on page 2 shows that the area planned for these offices needs paint on interior walls, ceilings show water stains and windows need weatherproofing. Note that physical plant fitness of a space is assessed for each building subsystem (e.g., architectural), their components (e.g., interior enclosures), and elements (e.g., walls).

This example, obviously is carried to a very fine level of detail for illustrative purposes. It may or may not be necessary to specify requirements down to the level of materials and construction methods and then compare these to the facility's fitness. The detail, however, does serve two critical purposes: it reduces the possibility that unforeseen contingencies will arise and thereby affect costs; and it permits the accumulation of needed facility changes across standards in terms of the construction trades required to do them.

Step 2.3 Developing Alternatives

At this point, the User should be equipped with a sound understanding of requirements (Step 2.1) as they relate to the facility -- both functionally and physically (Step 2.2). The worksheets document both the data base and the judgments made at each step in the process. Depending on the scope of the deficiencies, this step may be skipped and the User can go directly to Step 2.4, Estimating Capital Compliance Costs. However, there are three conditions under which this shortcut should not be taken: (1) deficiencies are extensive in one area, e.g., a housing unit is deficient on requirements for light, ventilation, hot water, and fire safety; (2) correcting a deficiency in one area impacts on other areas, e.g., enlarging the rooms in a housing unit from 60 sq. ft. to 80 sq. ft.; (3) deficiencies occur in many different areas (housing, administration, programs, etc.) or in several building subsystems (plumbing, electrical, structural, etc.). Under these three conditions, it is less likely the solution will be either apparent or independent of other solutions.

The goals for this step are:

- To develop alternative courses of action for complying with facility-related standards either through physical or operational changes.

- To evaluate the degree to which each alternative meets various standards, is functionally and physically adequate, and provides the proper type and amount of space.

At this point, it may be helpful to develop a graphic overview of deficiencies to identify how functional areas and building subsystems interrelate. A building is comprised of a set of interrelated subsystems such as plumbing, heating and electrical; functions like education, visiting and administration are performed in specialized areas of the building and, also, are affected by each other. The verbal information recorded on Worksheet 2 can be transferred to floor and site plans using symbols to show the type, scope and adequacy of each alternaitve.

For example, several standards related to the training function in the hypothetical institution were found which required classroom, office and library space. If inmate education functions are performed in an area located between housing units and administrative offices, a graphic summary would show how these functions relate physically and, thereby, suggest common solutions. In this example, an alternative to building separate classrooms may be joint use of the education area by adjusting schedules, since the physical plant more than meets requirements for inmate education and library services. It is, also, at this point where similar functions such as staff and inmate libraries may be judged <u>incompatible</u>, e.g., simultaneous use of library space is considered undesirable by the superintendent, and other alternatives must be created.

Developing alternatives is unquestionably the most creative of the tasks. It requires good judgment, insight and imagination, in addition to a thorough knowledge and understanding of an institution's physical plant condition and departmental policies. While the range of alternatives is only limited by one's imagination, each should be functionally, operationally and physically feasible. For example, classroom space for staff training would not be located in an area with high noise levels because the functions are incompatible. Nor would it be located behind several grills because this would complicate movement of trainees and outside instructors and disrupt operations. Finally, the alternative should not require physical changes that either are extremely difficult (e.g., removing load bearing partitions) or, of course, impossible.

It is recommended that alternatives be developed first for the most comprehensive problem areas. It is very likely that solutions at that level will take care of the others at the same time. For example, the creation of a new control center (4181) in the institution may take care of the need for a place to secure keys (4186) and firearms (4190).

Possible operational, policy or procedural changes should be examined first to avoid the cost and disruption associated with construction projects. In the hypothetical institution, Standard 4089, New Employee Training, will be accomplished at the central training academy, so operational but not physical

SUMMARY OF FUNCTIONAL ALTERNATIVES -- EXAMPLE

WORKSHEET 3

INSTITUTION'S NAME	FACILITY FUNCTION	FACILITY SECTION	LEGEND
	TRAINING	Administration Building and Education Building	● EXTENSIVE OR FULLY ○ MODERATE OR PARTIAL / NON APPLICABLE

NATURE ALT.						SCOPE ALTERNATIVE											CATEG'S. OF REQUIREMENT									
	LEV. CONST.					CONST. CONTRACT REQ.												STDS.		REL		L. SECY.			SPACE	
						GENERAL					SUB-CONT.															
OPERATIONAL	NEW-OFFSITE	NEW-ONSITE	RENOV. MAJOR	RENOV. MINOR	COSMETIC	DEMOLITION	SITEWORK	ARCH.	STRUCT	EQ. FIXED	PLUMB.	HVAC	ELECT.	EQ. MOVABLE	GSF	ALTERNATIVES	REFERENCES	EXPLICIT	IMPLICIT	GUIDE	FUNCTIONAL	PHYSICAL	MAXIMUM	MEDIUM	MINIMUM	TYPE	SIZE
															/	1. System-wide training academy										
●			●			/	/	●	/	●	/	○	○	●	1260	2. Conversion of storeroom into a library	○	●	●	○	●	●			●	○	●
		●				○	/	○	/	/	/	○	○	●	390	3. Rearrangement of office space for:	○	●	/	●	●	●			●	◑	●
															(150)	a. directors (100 NSF)											
															(120)	b. assistant (80 NSF)											
															(120)	c. clerical (80 NSF)											
				●		/	/	○	/	/	/	/	/	◑	195	4. Do nothing about director & clerical space; locate assistant in business office nearby	○	○	/	○	●	●		●	●	●	●

changes are needed. (This is shown on Worksheet 3 for illustrative purposes only.) Since office space slightly less than the recommended amount is available for both the new training supervisor and secretary, this can be used or they can be relocated to renovated space. The assistant training supervisor will share an office with the bookkeeper. As described above, inmate education space is located in an area accessible to staff and physically separated from other incompatible functions (e.g., maintenance shop, kitchen), even though classroom scheduling may have to be changed. Therefore, the physical and functional requirements of Standard 4086, Space and Equipment, can be met by only cosmetic changes (paint, ceiling repair) to office space. Both staff and inmate library functions are compatible but their use is not. Assume that this requirement can be met by converting a storeroom in the inmate library and limiting access to staff only. These solutions are entered in the "Alternatives" column of the Worksheet 3.

Each alternative is first evaluated in terms of whether it requires extensive (indicated by ●) or moderate (○) changes in operations and/or physical plant; if the latter, whether it is new construction, major or minor renovation or only cosmetic changes. As described in the introduction to this chapter, "new construction" refers to the total replacement of all subsystems components of a building: structural, architectural, plumbing, mechanical, electrical and fixed equipment. "Major renovation" involves changing most or all subsystem components, except exterior walls and structure. "Minor renovation" leaves most or all subsystem components intact but repairs internal walls, refurbishes doors and windows, makes minor changes in plumbing, electrical and HVAC, "Cosmetic" changes only alter the appearance of a space (e.g., painting, floor covering). (Appendixes C6 - C8 describe in detail how each of these levels of construction are defined in terms of their effect on the site, building system and equipment.) This evaluation is recorded in the columns under "Nature of the Alternative" heading on Worksheet 3.

For example, converting the storeroom to a staff library will require not only changing operations in the inmate library to control access but also changing lighting, air conditioning and heating, etc. Since several subsystems are affected, this is shown as a "major renovation" on Worksheet 3. Expanding existing offices for a training supervisor, an assistant, and secretary will involve moving a non-loadbearing partition and painting, so it is classified as "minor."

The number of subsystem components requiring change determines how many different construction trades may be involved in performing work. The second column on Worksheet 3 describes the scope of work for each alternative and whether it is typically carried out by a general contractor or subcontractors. The storeroom conversion will require extensive alterations in architectural components -- interior enclosures, finishes, and fixed equipment. Moderate changes will be needed in the electrical subsystem -- new fixtures -- and the HVAC subsystem. Page 2 of Worksheet 2 shows that the existing offices available for a new training supervisor and secretary only require paint, new ceiling tile and weatherproofing around windows. This is classified as a cosmetic change, since only minor work in one building subsystem (architectural) is necessary. The scope of work is determined in a similar fashion for each alternative and each is compared by examining the completed worksheet.

The gross square feet (GSF) required for each alternative is derived by multiplying net square feet (Worksheet 2) by the "GSF Conversion Factor" column in Appendix C1, Relationship Between Standards and Physical Plant. This is entered in the "GSF" column of Worksheet 3. For example, the conversion factor for management space is 1.5; applying this to the space available for two offices (130 NSF) results in 195 GSF as shown in Alternative 4. In the case of the staff library, the factor is 1.4, which produces a maximum GSF requirement of 1260.

Finally, the User should indicate the extent to which the alternative meets the various types of requirements: CAC standards, reference standards, physical or functional compatibility, security level and type or size of space. The sample worksheet shows that converting a storeroom fully meets the requirements of both explicit and implicit standards, but locating it in the inmate library area is not the best type of space for this function. However, it will provide library services (implicit standard), fulfill some of the space requirement for the explicit Standard 4086, be functionally and physically compatible, and be an appropriate size.

The sources for each item of information on Worksheet 3 are summarized in Figure 4-4 and terms defined in the Glossary:

Figure 4-4. Reference Material Sources

Worksheet 3	Sources
Level of Construction	Appendix C7
Scope of Alternative	Appendix C5
Gross Square Feet	Appendix C1
	Appendix C9
Categories of Requirements	Appendix C1
	Appendix C5

Worksheet 3 summarizes each feasible alternative for a particular function or compliance unit such as training. Alternatives then are evaluated in terms of the following

- Operational and physical changes
- Level of construction
- Scope or type of work to be performed
- How well each requirement is met.

An optional procedure at this point is to summarize all functional alternatives (e.g., training, housing, recreation, food service, etc.) for the entire institution. This permits a comparison of the types of deficiencies (e.g., lack of space) each is intended to correct and once again highlights where solutions may be interrelated. Frequently, however, these are self-evident and do not need elaboration.

The relationship among standards potentially requiring physical plant changes was determined in Step 1.1 and compliance units were created in Step 1.2. Step 2.1 translated the verbal information of these standards into specific facility

requirements and Step 2.2 evaluated how well the existing plant met these. Now that alternative solutions have been described, their cost can be estimated.

Step 2.4 Assessing Building System Cost Factors

There are a host of programmatic, operational and political factors in addition to cost which are taken into consideration when choosing among alternative solutions to facility deficiencies. In order to develop economic or cost information for these decisions, it is necessary to assess how each solution relates to the five cost factors: level of construction, security, type of space, square footage and construction trade involved.

Obviously, projects involving large amounts of space and extensive changes in several subsystems will cost more than minor ones. Appendixes C6 - C8 describe the differences between new construction, major and minor renovations, and cosmetic changes. Security levels impact on cost because the materials, hardware and construction methods vary (Appendixes C3 - C4). For example, solid steel sliding doors for maximum security are more expensive than swinging, grill doors used in medium security settings. Functions performed within a particular space make different demands on building subsystems. For example, a gymnasium requires larger spans in its structure than if the space is used for offices. Finally, materials and methods vary by construction trade, so this will affect costs also.

The goals for this step are:

- To identify which of the cost factors are relevant to each alternative;
- To identify potential interdependencies among construction alternatives for the entire facility.

Worksheet 3, completed at the end of Step 2.3, summarizes feasible alternatives for complying with a standard or set of standards. In our example, new employees will be trained at a central academy, a storeroom will be converted to a staff library and office space will be reassigned for training staff. Since building subsystems are interdependent, there may be functions which do not meet standards (e.g., housing, recreation, food service) and some compliance alternatives also may be interdependent.

Worksheet 4 is used to summarize alternative compliance actions for the entire institution. It may be convenient to begin with the most comprehensive solutions such as construction of a new facility or major renovation of extensive areas. As shown in the "Alternatives" column of Worksheet 4, one solution is to replace our hypothetical institution and eliminate the need to renovate space for the training function. All functional groups shown in Figure 4-3 in Step 1.1 would be affected by this solution and this is indicated in the left hand columns. (It may be necessary to subdivide an alternative of this scope on additional pages of Worksheet 4 to show exactly how facility functions and cost-determining factors relate to each type of space.)

SUMMARY OF FACILITY COST FACTORS

WORKSHEET 4

FACILITY FUNCT'S: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM	GEN. CONSIDERN.	INSTITUTION'S NAME / ALTERNATIVES	OPERATIONAL	CE 1 TYPE CONST.: NEW-OFF	NEW-ON	RENOV. MAJ.	RENOV. MIN.	COSMETIC	CE 2 LSEC'Y: MAXIMUM	MEDIUM	MINIMUM	CE 3: FUNCTION	PROG. SPACE	MISCEL'	CE 4 AREA: GSF	CE 5 C. TRADE: GEN CONT.	PLUMBING	HVAC	ELECTRICAL
●	●	●	●	●	●	/	●	1. Replace entire facility		●						●		●	●	●	590/bed	●	●	●	●
								(300 bed capacity)													177,000				
								2. Replace housing areas:													277/bed				
					●	●		250 beds general population			●					●			●		69,250	●	●	●	●
					●	●		50 bed segregation			●				●				●		13,850	●	●	●	●
								3. Facility renovations:																	
●							●	3.1 Training Function																	
								a) conversion of storeroom to library	●			●				●		●			1,260	●		●	●
								b) re: assignment of office space	●				●			●		●			195	●			
	●						●	3.2 Food Services																	
								a) kitchen	●			●				●			●		10,500	●	●	●	●
								b) dining	●				●			●		●			5,625	●		●	●
		●					●	3.3 Gymnasium	●					●		●		●			3,500	●			

The training example, shown as the third alernative, obviously relates to the staff function of the building. Since lighting, ventilation, walls and finishes will be altered, this is classified as a major renovation (CE 1) and will require plumbing, electrical and general contractor work (CE 5). Approximately 1,455 gross square feet of minimum security space (CE 2) will be adapted for office space (CE 4). Figure 4-3, Functional Groups, can be used to complete the lefthand columns and all other information can be transferred from Worksheet 3.

Step 2.5 Pricing Capital Resources

Previous steps analyzed noncompliant standards (1.1 and 1.2) to determine their effect on physical plant (2.1 and 2.2) and identified factors which would affect the cost of alternative compliance plans (2.3 and 2.4). The goal of this step is:

- To assign prices to the resources needed to achieve compliance with capital standards.

There are many ways of presenting construction cost estimates: unit cost, cost per square, linear or cubic foot, cost per bed, cost per functional component, etc. However, each of these estimates are a composite of labor, materials and equipment whose costs are adjusted to account for the unique features in each project. Some of these adjustments include:

- Local market conditions -- availability of labor, unions and contractor competition;
- Geographic location -- weather, distance from materials;
- Project features -- siting, design complexity, size; and
- Special contract provisions -- phased construction, working in an occupied building.

Cost estimates become more accurate as a project moves from conceptualization (pre-design), design, construction drawings and, finally, to completion. Since the method described in this chapter is intended for use at the pre-design phase and is directed toward standards, the cost estimating chart in Appendix C10 relates functions (feeding, housing, education) to construction trades which generate construction costs. If construction drawings were available, this functional approach would be replaced by a unit cost approach which estimated labor and materials costs for items such as square feet of wall, toilets installed, lighting fixtures replaced, linear feet of ductwork, etc. Indeed, there will be some compliance plans which are specific enough to apply a unit cost approach. Venders or manufacturers can supply materials and equipment prices; labor costs can be estimated locally from past experience or by using a standard reference such as Building Construction Cost Data published by Robert Snow Means Company, Duxbury, Massachusetts.

Although the cost estimating method discussed in this Manual is of use at a pre-design stage, component costs presented in Appendix C10 were prepared by professional cost estimators (Federman Construction Consultants, Inc.) with extensive experience in correctional institutions. The five cost factors -- level of construction, security, function, trade and square footage -- are explicitly factored into the data in Appendix C10. The costs are for installed components of a particular building subsystem which uses construction items appropriate for the level of security and function to be performed within the space. Allowances for contractor's overhead, profit and fixed equipment are included and may be considered accurate within 10 percent of construction bidding prices. However, there are other costs which must be incorporated into the estimates on the basis of local circumstances.

The cost figures in Appendix C10 deal primarily with building systems and not site or movable equipment. Sites vary widely in terms of their size, availability of utilities, subsoil conditions, topography, grading, and zoning. If a new site is being considered as part of a compliance plan, the agency should seek professional advice and add site improvement costs to any acquisition costs. In the case of movable equipment, there are no appropriate rules of thumb for costing them; instead, a percentage of new construction cost has been suggested based on experience. However, it is preferable to use price quotes for individual items from vendors or manufacturers.

There are also contingencies which must be added to system costs to derive a construction cost:

- Location factor is based on historical construction costs in and within a 25 mile radius of major cities (see Appendix C11);
- Site contingency of 25 percent for performing work in an occupied facility which increases labor and materials handling costs;
- Construction contingency of 5 percent for change orders in new construction and 15 percent in renovation;and,
- Architectural fees depend on local rates but are approximately 7-9 percent for new and 10-15 percent for renovation.

Finally, there are activities associated with overseeing and financing the construction process:

- Inflation factor of 1 percent monthly from June, 1981;
- Administrative fees are sometimes charged by state agencies responsible for overseeing capital projects;
- Construction management fees may be charged by public or private organizations in complex or large scale projects;
- Bidding charges for advertising, printing constract documents, evaluating bids, etc.; and
- Finance charges associated with debt financed construction projects.

These contingencies and fees are vitally important to accurate estimates but are frequently overlooked when funding requests are made.

These various determinants of construction project costs are summarized in the Figure 4-5. The amount of space, its function, security level, extent of work and who performs the work combine to determine building system costs shown in Appendix C10. Other factors unique to a locale, such as geographic location, site conditions, movable equipment and professional fees, will add to these costs. Estimates for an entire project also include the effects of general price increases, finance charges and management oversight.

The first task in estimating building system costs is to combine data recorded on Worksheet 4 with cost figures presented in Appendix C10. The level of construction needed to convert the storeroom to a staff library is a major renovation, and the level of security is minimum. Three subsystems architectural, HVAC, electrical) are affected and, therefore, three contractors will be required (general contractor, electricians and heating/are conditioning). The library function is most similar to classrooms or programs listed in Appendix C10, so these figures should be used in computing building costs at June 1981 prices as follows:

General Construction:	1260 GSF X $21.50 =	$27,090
HVAC:	1260 GSF X $ 5.00 =	$ 6,300
Electrical:	1260 GSF X $ 5.00 =	$ 6,300
		$39,690 Building System Cost

The second task is to adjust building system costs by the relevant factors shown in Figure 4-5 and, the eby, derive construction costs. The library and staff offices require no site work and, drawings will be prepared by the central office design staff; therefore, only allowances for geographic location, construction contingencies and movable equipment are necessary.

The facility is located near Phoenix, Arizona so an adjustment for geographic location (Appendix C11) would reduce building costs:

$39,690 X .87 = $34,530

Work is in an occupied facility and change order contingencies would increase costs by 25 and 15 percent, respectivel

$34,530 X 1.40 = $48,342

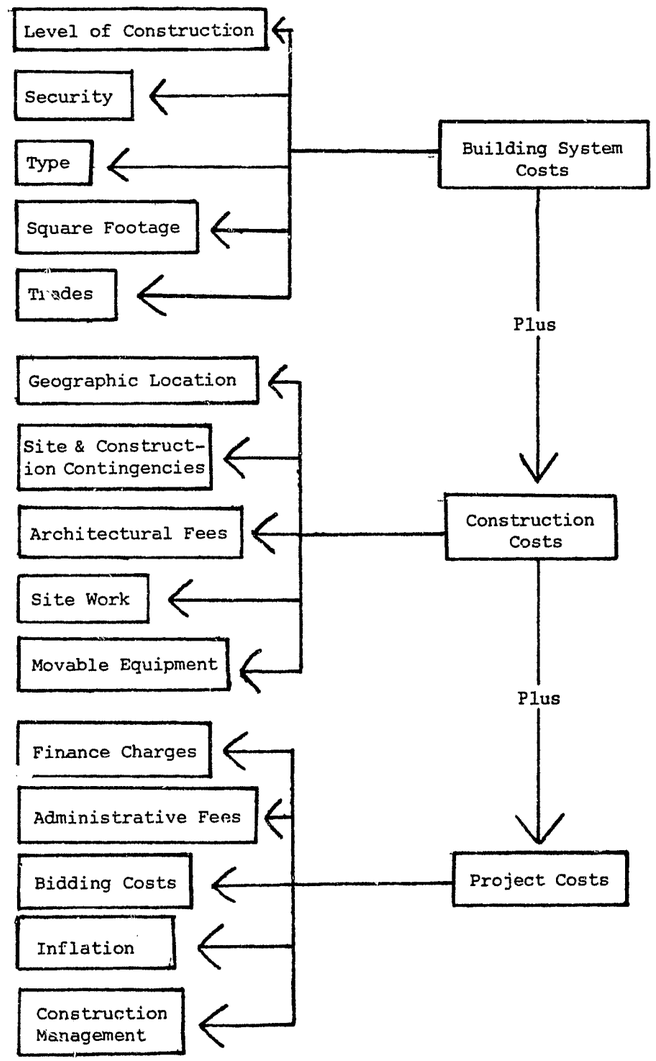
Movable equipment allowances preferably are estimated by item from vendor or manufacturer prices but may be roughly computed as 10 percent of other construction costs:

$48,342 X 1.10 = $53,176

The final task is to convert construction into project costs by factoring in such items as finance charges, bidding costs, inflation and similar items shown in Figure 4-5. Assume for simplicity that only inflation adjustments are required. If the project begins six months after June, 1981,

Figure 4-5

Determinants of Construction Project Costs



general inflation would add approximately 1 percent monthly:

$$\$53,176 \quad X \ (1.01)^{6} = 56,447 \quad \text{Project cost}$$

The "Deficiencies" column on Worksheet 2, which was completed in Step 2.2, shows that 80 NSF and 50 NSF are available, respectively, for a training supervisor and secretary. (This solution is shown as Alternative 4 on Worksheet 3.) Recall that the assistant supervisor will share an office with the bookkeeper. The second page of Worksheet 2 includes information on the condition of these two offices: walls need paint; there are water stains on ceiling; and air leaks around the windows. These deficiencies all occur in the architectural subsystem and their correction will not alter it significantly; therefore, the renovation is only cosmetic. Appendix C10 shows that cosmetic renovation costs $6 per GSF, regardless of the type of space; therefore, a building system cost for this alternative is:

195 GSF X $6.00 = $1,170 Building System Cost

Construction costs must also include allowances for change orders (15 percent) and worksite conditions (25 percent), which would add about $470. If factors contributing to project costs are considered negligible, the total is $1,640. The reader is invited to estimate the cost of Alternative 3 on Worksheet 3 and compare it to this alternative. (Hint: The answer is $6,552 for building system costs.)

The project costs of complying with standards 4086, Space and Equipment, and 4084, Library Services, in the way described above are $ 58,087 . This assumes all work is performed by private contractors and does not include allowances for architectural fees; other items which conceivably might be added depending on local circumstances are bidding, supervision, finance and inflation charges.

Related standards which were part of the same compliance unit were fulfilled in other ways: 4089, New Employee Training, will be accomplished at the central training academy; and classroom space for on-site training will be made available by coordinating schedules with classes for inmates. These operational changes obviated the need for physical plant alterations.

PHASE 3. PRESENTATION

Chapter 3 provided detailed suggestions for how to present the results of the resource analysis. The critical point is that information should be summarized to highlight the essential choices which the decisionmaker faces.

One way of clarifying these choices is to present the same data in different ways. For example, one format suggested in Appendix B3 distinguishes operating and capital costs by standard; this allows one to choose the least costly alternatives for achieving 90 and 80 percent compliance levels. It may be possible to meet accreditation requirements by operational, rather than physical plant, changes. Another format organizes information by subunit and standards' category, so a system-wide strategy for achieving compliance in specific functional areas can be developed. Finally, estimated operating and capital costs of compliance are compared to the agency's current budget.

Given the significance of capital improvements and complexity of capital cost estimation, it is advisable to present, also, a summary of compliance alternatives not selected with an explanation of why they were excluded. For example, the staff library could not be a part of the inmate library because access to certain materials (e.g., emergency plans) must be restricted, and simultaneous use by both user groups is deemed unacceptable.

SUMMARY

Phase 1 of the capital cost estimation process involved grouping explicit, implicit and guide standards which the institution did not meet into compliance units. Space and equipment for the training function (4086) and a location for the staff library (4084) explicitly and implicitly require physical plant changes. The amount of deficiency in training and the requirement for a training staff will "guide" decisions on offices, classroom space and eqiupment. These relationships were recorded and analyzed on Worksheet 1.

The next step was to translate the compliance unit into specific facility requirements, using Appendix C2. Worksheet 2 recorded information from Appendix C2 on the NSF suggested for offices, classrooms, library, etc.; appropriate materials and hardware for each building system component were determined from Appendix C5. The facility then was evaluated (Step 2.2) to determine how well it fulfilled these physical requirements. Alternative compliance actions were developed and evaluated in terms of how extensive physical plant changes were and the degree to which they would meet standards, security needs, operational procedures and size requirements. Some alternatives, such as scheduling training in the Education Building, necessitated only operational changes and avoided the cost and inconvenience of construction projects. The storeroom conversion involved both operational changes in the relocation of materials stored in it and renovation to make the space adequate for a library.

Finally, the costs of altering each subsystem (architectural, HVAC, electrical) affected by an alternative were calculated using Appendix C10. These building system costs were adjusted for geographic location and contingencies to derive construction costs which, in turn, were inflated to

compute project costs.

The steps are summarized in Figure 4-6.

Figure 4-6. Capital Cost Steps

Preparation

- 1.1 Selecting Standards with Capital Impacts
- 1.2 Determining Compliance Units

Resource Analysis

- 2.1 Describe Resource Requirements of Standards
- 2.2 Describe Current Facility Utilization
- 2.3 Developing Alternatives
- 2.4 Assessing Building System Cost Factors
- 2.5 Pricing Capital Resources

The overall estimating process converts verbal information from the standards (e.g., "provide library services to staff") into resource information (e.g., 1260 GSF, 2 carrells, etc.) and assigns a price to these resources.

CHAPTER 5. SUMMARY AND CONCLUSIONS

The purpose of this chapter is to highlight the key points discussed earlier and to present some concluding comments on the nature of the cost estimation process. There are several reasons for estimating the costs of compliance. First and foremost, the cost estimates will provide decisionmakers with an idea of how much it will cost to comply with the CAC standards. Second, this information can serve as a sound basis for deciding which standards should be complied with to achieve the 90 percent compliance rate for essential standards and the 80 percent compliance rate for important standards. Third, cost estimates produced according to the methodology suggested by the Manual will provide accurate and convincing evidence for acquiring funds to comply with the standards. Fourth, we believe that if the resource analysis is done in conjunction with the CAC self-evaluation requirement, Plans of Action will be enhanced and the likelihood of accreditation improved. For these reasons, the cost estimation process should be considered an integral part of accreditation.

The cost estimation process is divided into three phases as described in Chapter 2. Phase 1, preparation, is directed toward finding the standards that have resource (operating and capital) impacts. In Phase 2, the resource analysis is conducted by determining the type and quantity of resources demanded for compliance and imputing a price to them. An estimate of the cost of compliance is then computed for each standard. The sample form on the following page shows how Phase 2 might be completed for Standard 4248 in the hypothetical Sunnybrook Camp. Phase 3, presentation, is designed to display the cost estimates to decisionmakers in such a way so as to key the important information to the decisions that have to be made. The Manual provides details for operating costs (personnel, supplies, rentals, etc.) in Chapter 3 and capital costs (facilities and fixed equipment) in Chapter 4.

In Chapter 2, some "Suggestions for Organizing the Cost Analysis" were made. It is consistent with CAC policy that the cost estimation process be decentralized. If department heads or program managers participate in the cost estimation process, that is, if people in charge of operations are responsible for assessing the resource requirements, then the resultant cost estimates should accurately reflect the costs of compliance. A decentralized process, however, must be carefully coordinated.

In addition to an accreditation manager to coordinate the process for the agency (as required by the CAC), we suggest that an accreditation representative be delegated responsibility for coordinating the process at the subunit level. During the process, it is essential that the administrator of the agency and the chief executive officer provide policy level guidance to ensure that the resource requests are consistent with policy and to assure department heads policy level support during the somewhat difficult and time consuming process. Headquarter's staffs (e.g., budget, finance, audit) should also participate in the process to ensure that there is consistency in the way department heads ce the standards and reliability in the way they report information. Finally, it is consistent with CAC policy for affected groups (e.g., community leaders, offenders) to participate in the cost estimation process.

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EXAMPLE

PHASE 2: STANDARDS RESOURCE ANALYSIS

SUBUNIT Sunnybrook Camp DEPARTMENT(S) Food Service
PREPARER M.T. DATE 1/1/80 DEPT. HEAD(S) Milton Trueblood
STANDARD 4248 Weekly Inspections

STEP 2.1: RESOURCE REQUIREMENTS OF STANDARDS

REL STDS

Discussion: inspect for sanitary operating conditions (ranges, ovens, refrigerators, mixers, dishwasher, garbage disposal, etc.). Check refrigerator and water temperature daily.

OBJS

To ensure that all food preparation areas and all equipment are sanitary and operating properly.

PROCEDURES

Chief Medical Officer will inspect all equipment and areas once a week to check sanitary and operating condition. Chief Medical Officer will be assisted by dietician. Should take about one hour. Deficiencies will be corrected as soon as possible and reinspected the following week. Deputy Warden will intervene if deficiencies have not been corrected. A checklist for the inspection will be prepared and filed by the dietician.

RESOURCES

PERSONNEL		EQUIPMENT
Chief Medical Officer	1 hr./wk.	N/A
Dietician	1 hr./wk.	
OTHER		FACILITIES
N/A		N/A

STEP 2.2: CURRENT RESOURCE UTILIZATION

PROCEDURES

Inspections are made about once a month by the Deputy Warden. Takes a half hour to check for cleanliness. No records found. Orders cleanup if necessary, but usually not necessary. Usually does not check garbage disposal. Agrees we need more frequent and thorough inspections but doesn't have the time.

RESOURCES

PERSONNEL		EQUIPMENT
Deputy Warden	1 hr./mo.	N/A
OTHER		FACILITIES
N/A		N/A

STEP 2.3: RESOURCE DEFICIENCY OR SURP S

PER

Requires 1 hr./wk. of Chief Medical Officer and dietician's time. (Note: Chief Medical Officer can add the inspections to current schedule; a dietician will have to be hired.) Requires half hour less/mo. of Deputy Warden's time.

OTHER

N/A

EQUIP

N/A

FAC

N/A

STEP 2.4: COST ESTIMATION

PERSONNEL

TYPE	QUANTITY	X	UNIT PRICE	=	COST
Dietician	52 hrs./yr.		$5/yr.		$260

OTHER

(Note: A dietician should be hired on a part-time basis to comply with the requirements of standards 4238, 4240-4243, 4254. The $260 reflects the portion of the dietician's salary that will be incurred in complying with standard 4248.)

EQUIPMENT

FACILITIES

TOTAL $260

If the cost estimation process is conducted as described in Chapters 2 through 4, several advantages will accrue:

- Compliance with the standards will be based on the notion of corrections as a social service delivery system.
- A coherent framework of agency policy, which integrates decentralized decisionmaking and policy level guidance, will be manifested by a comprehensive plan for compliance.
- The individuals responsible for complying with the standards on a daily basis are more likely to do so if they are involved in the cost estimation and accreditation process from the beginning.
- Information generated from the cost estimation process will be detailed enough for decisionmaking and can easily be presented in summary form to policymakers.
- Compliance plans will be formulated by taking into account all effects of the standards and will be more smoothly implemented if developed in conjunction with the cost estimation process.
- Comparisons by agency administrators of the costs of compliance among subunits and comparisions by the CAC of the costs across states will be based on cost estimates that are reliable and produced in a consistent manner.

There are a few limitations to the cost estimation process described in the Manual. The approach adopted focuses exclusively on costs; it does not assess the benefits of the standards as they are applied in specific situations. Although the Manual provides a framework for estimating the costs of compliance, it does not advise the user as to the choice of procedures and how to assess their resource requirements in specific situations. There is no perfect solution, no obvious answer as to what the costs of compliance will be. Finally, the user must obtain estimates of the price of resources from sources other than this Manual (e.g., agency budget staff, catalogs) and must make sure that they reflect increases caused by inflation.

Notwithstanding these few qualifications, the Manual should provide correctional agencies with a reliable and thorough method of assessing and documenting the costs of compliance. Compliance plans (including Plans of Action, plans for acquiring funding and plans for distributing resources within the agency) which are based on the cost estimates should prove to be considerably more dependable than otherwise. In short, the cost estimation process should improve the likelihood of accreditation without necessitating unforeseen or unnecessary expenditures.

FOOTNOTES

1. All examples are drawn from Standards for Adult Correctional Institutions, Second Edition unless otherwise specified.
2. Agency Manual of Accreditation Policy and Procedure: Adult Correctional Institutions, p. 28.

APPENDIX A

Standards Descriptions--Adult Institutions

Appendix A is a list of standards descriptions for adult correctional institutions (second edition). The descriptions are a convenient way to abbreviate the standard on the Standards Resource Analysis form (Appendix B2) and other forms contained in the appendixes.

Administration, Organization and Management

4001 Establishment
4002 Mission Description
4003 Philosophy and Goals
4004 Annual Goal Formulation
4005 Policy Formulation
4006 Community Agencies
4007 One Executive Officer
4008 Executive Officer Appointment
4009 Management Personnel Specifications
4010 Executive Officer Qualifications
4011 Management Personnel Term
4012 Outside Agency Relationship
4013 Administrative Subunits
4014 Monthly Meetings
4015 System of Communication
4016 Administrative Manual
4017 Operations Manual
4018 Revised Policies
4019 Administrative Audit
4020 Quarterly Report
4021 Legal Assistance
4022 Constructive Programs
4023 Legislative Cooperation
4024 Public Information
4025 Media Access
4026 College Collaboration
4027 Political Regulations

Fiscal Management

4028 Fiscal Authority
4029 Interrelated Functions
4030 Fiscal Officer

Budgeting

4031 Budget Request
4032 Budget Deliberations
4033 Capital Improvements
4034 Positions Assessment
4035 Budget Revisions

Accounting Procedures

4036 Accounting System
4037 Accounting Procedure
4038 Secure Monies
4039 Reports of Monies

Accounting Procedures (cont'd)

4040 Fiscal Policy
4041 Fiscal Monitoring
4042 Financial Audit

Other Fiscal Controls

4043 Property Inventory
4044 Purchase of Supplies
4045 Community Services
4046 Payroll
4047 Insurance Coverage

Inmate Funds

4048 Benefit Funds
4049 Commissary
4050 Financial Status of Commissary
4051 Personal Funds
4052 Interest Bearing Accounts
4053 Inter-Inmate Transactions

Personnel

4054 Employment and Promotion
4055 Organizational Promotion
4056 Affirmative Action Program
4057 Affirmative Action Implementation
4058 Equal Employment Opportunities
4059 Employment of Ex-offenders
4060 Personnel Policies
4061 Employee Record Check
4062 Employee Physical Exam
4063 Probationary Period
4064 Competitive Salary Levels
4065 Reimbursement of Expenses
4066 Employee-Management
4067 Personnel Policy Manual
4068 Staff Grievance Procedure
4069 Termination
4070 Code of Ethics
4071 Confidentiality of Information
4072 Direct Contact Personnel
4073 Key Staff Positions
4074 Staff Vacancy Rate
4075 Provisional Personnel Appointments
4076 Personnel Record
4077 Challenge File Information
4078 Performance Review

Training and Staff Development

4079 Training Supervision
4080 Training of Trainers
4081 Advisory Training Committee
4082 Committee Responsibilities
4083 Annual Evaluation
4084 Library Services
4085 Public and Private Agencies
4086 Space and Equipment
4087 Reimbursement of Staff
4088 Employee Orientation
4089 Limited Inmate Contact
4090 Regular Inmate Contact
4091 Professional Employee Training
4092 Correctional Officer Training
4093 Administrative Training
4094 Emergency Unit Training
4095 Part-time Staff Orientation
4096 Weaponry Training
4097 Use of Chemical Agents
4098 Physical Force Techniques
4099 Continuing Education
4100 Association Membership
4101 Administrative Leave

Management Information Systems

4102 Information System
4103 Information Security Requirements
4104 Other Agencies
4105 Evaluation Criteria
4106 Population Summaries
4107 Information System Evaluation

Research and Evaluation

4108 Research Activities
4109 Program Analysis
4110 Research Conduct
4111 Design Review
4112 Outside Professionals
4113 Operational Personnel
4114 Non-Medical Testing

Records

4115 Case Record Management
4116 Case History
4117 Identify Contents
4118 Master Files
4119 One Master File
4120 Safeguard Case Records

Records (cont'd)

4121 Information Release
4122 Case File Transfer
4123 Inmate Access
4124 Daily Report
4125 Proper Recordkeeping
4126 Inmate Time

Physical Plant

4127 Decentralized Units
4128 Design Capacity
4129 Cell Size
4130 Cell Furnishings
4131 Dormitory Requirements
4132 Key Control Rooms
4133 Co-Educational Institutions
4134 Identifiable Exits
4135 Segregation Unit Conditions
4136 Non-Isolated Segregation
4137 Leisure Time Space
4138 Exercise Space
4139 Classroom Design
4140 Visiting Areas
4141 Commissary Space
4142 Watch Towers
4143 Food Preparation
4144 Space for Staff
4145 Handicapped Inmates
4146 Accessibility for Handicapped
4147 Janitor Space
4148 Storage Rooms
4149 Inmate Property Storage
4150 Equipment Space
4151 Preventive Maintenance
4152 Dormitory Usage
4153 Building Codes
4154 Ventilation and Lighting
4155 Interior Fire Safety
4156 Indoor Exercise Space
4157 Outdoor Recreation Space
4158 Dayroom Space
4159 Indoor Exercise Space
4160 Number in Facility
4161 Population Center Proximity

Safety and Emergency Procedures

4162 Fire Safety Code
4163 Fire and Safety Officer
4164 Fire Prevention
4165 Fire Alarm
4166 Fire Safety of Furnishings

Safety and Emergency Procedures (cont'd)

4167 Noncombustible Receptacles
4168 Visible Exits
4169 Exit Travel Distance
4170 Emergency Power
4171 Emergency Equipment Testing
4172 Evacuation Plan
4173 Emergency Release
4174 Emergency Plan Execution
4175 Toxic Materials

Security and Control

4176 Security Manual
4177 Secure Perimeter
4178 Surveillance Outside
4179 Safety Vestibules
4180 Points for Traffic
4181 Control Center
4182 Regulation of Movement
4183 Inmate Count
4184 Inmate Transportation
4185 Instruments of Restraint
4186 Use of Firearms
4187 Unloading Firearms
4188 Control of Firearms
4189 Security Equipment Storage
4190 Equipment Distribution
4191 Report Firearms Discharge
4192 Contr.band Control
4193 Body Cavity Search
4194 Visual Body Cavity Inspection
4195 Policy for Searches
4196 Control of Keys
4197 Control of Tools
4198 Institution Vehicles
4199 Personal Vehicles
4200 Post Orders
4201 Read Post Order
4202 Daily Inspection
4203 Security Device Maintenance
4204 Visit Living Areas
4205 Inmate Control
4206 Physical Force
4207 Shift Reports
4208 Injuries By Weapons
4209 Escape Procedures
4210 Emergency Plans
4211 Special Employees Unit
4212 Job Action Plan
4213 Communications System

Special Management Inmates

4214 Segregation Unit Operation
4215 Immediate Segregation
4216 Major Violation Detention
4217 Administrative Segregation Unit
4218 Administrative Segregation Review
4219 Administrative Segregation Release
4220 Protective Custody
4221 Basic Personal Items
4222 Usual Activities
4223 Meals
4224 Shower Frequency
4225 Hygienic Living Conditions
4226 Letter Writing Opportunities
4227 Visitation
4228 Detention Telephone Privileges
4229 Segregated Telephone Privileges
4230 Legal Materials
4231 Reading Materials
4232 Exercise
4233 Programs and Services
4234 Permanent Log
4235 Staff Visits
4236 Segregation Staff
4237 Psychological Assessment

Food Services

4238 Dietary Allowance Review
4239 Institution-Produced Products
4240 Planned Menus
4241 Special Diets
4242 Religious Dietary Laws
4243 Full-Time Supervisor
4244 Adequate Health Protection
4245 Basin Facilities
4246 Food Service Safety Codes
4247 Storage Facilities
4248 Weekly Inspections
4249 Non-Regimented Conditions
4250 Group Dining
4251 Intervals of Meals
4252 Food as Reward
4253 Meal Records
4254 Budgeting Practices

Sanitation and Hygiene

4255 Sanitation Inspections
4256 Water Supply
4257 Housekeeping
4258 Control of Vermin
4259 Waste Disposal

Sanitation and Hygiene (cont'd)

4260 Issue of Clothing
4261 Personal Hygiene Maintenance
4262 Special Clothing
4263 Issue of Bedding
4264 Clothing Records
4265 Storage of Clothing
4266 Cleaning of Clothing
4267 Clothing Exchange
4268 Shower Frequency
4269 Control of Showers
4270 Hair Care Services
4271 Designated Health Authority
4272 Medical Matters
4273 Health Care Report
4274 Delivery System Review
4275 Equipped Facility
4276 Infirmary Care
4277 Health Services
4278 First Aid Kits
4279 Emergency Medical Care
4280 Health Trained Staff
4281 Personnel Requirements
4282 Advance Arrangements
4283 Mental Health Services
4284 Personnel Certification
4285 Training Program
4286 Authorized Personnel
4287 Level of Training
4288 Non-Inmate Duties
4289 Medical Screening
4290 Intra-System Transfers Screening
4291 Health Appraisal
4292 Appraisal Data Collection
4293 Mental Health Evaluation
4294 Mental Health Personnel
4295 Dental Care
4296 Mentally Disturbed Facilities
4297 Special Facilities Transfer
4298 Joint Consultation
4299 Continuity of Care
4300 Unimpeded Access
4301 Sick Call
4302 Periodic Examination
4303 Health Education
4304 Special Health Program
4305 Convalescent Care
4306 Detoxification
4307 Addiction Clinical Management
4308 Orthotic Devices
4309 Elective Surgery
4310 Transfer of Health Care
4311 Suitability for Travel

Sanitation and Hygiene (cont'd)

4312 Restraints
4313 Informed Consent
4314 Prohibiting of Experiments
4315 Notification of Illness
4316 Inmate Death
4317 Management
4318 Record File
4319 Confidentiality
4320 Transfer of Records
4321 Inactive Record Files
4322 Drug Safeguards

Inmate Rights

4323 Access to Courts
4324 Access to Attorneys
4325 Confidential Contact
4326 Access to a Law Library
4327 Access to Supplies
4328 Healthful Environment
4329 Basic Medical Care
4330 Access to Recreation
4331 Equal Access
4332 Equality of Female Institutions
4333 Pregnant Inmates
4334 Participation in Programs
4335 Personal Grooming
4336 Religion
4337 Visits
4338 Communication
4339 Access to Media
4340 Environmental Rights
4341 Addressed by Name
4342 Classification
4343 Grievance Procedure
4344 Searches and Evidence

Inmate Rules and Discipline

4345 Prohibited Acts
4346 Rulebook
4347 Personnel Training
4348 Rule Violations
4349 Informal Resolution
4350 Formal Resolution
4351 Disciplinary Reports
4352 Investigation
4353 Prehearing Detention
4354 Sanctioning Schedule
4355 Criminal Prosecution
4356 Right to Waiver
4357 Written Statement

Inmate Rules and Discipline (cont'd)

4358 Postponement
4359 Hearing Scheduling
4360 Presence at Hearings
4361 Impartial Conduct
4362 Representation at Hearings
4363 Inmate Defense
4364 Disciplinary Decision
4365 Written Record
4366 Review of Hearings
4367 Removal of Report
4368 Right to Appeal

Communication, Mail and Visiting

4369 Inmate Correspondence
4370 Volume of Letters
4371 Postage Allowance
4372 Forwarding of Packages
4373 Access to Publications
4374 Holding of Mail
4375 Censoring of Mail
4376 Inspection of Mail
4377 Contraband
4378 Specified Persons

Telephone

4379 Access to Public Phones

Visiting

4380 Visitation Rules
4381 Number of Visits
4382 Visitor Registration
4383 Visiting Facilities
4384 Extended Visits
4385 Special Visits
4386 Transportation of Visitors
4387 Furloughs

Reception and Orientation

4388 Orientation Rules
4389 Admission of Inmates
4390 Summary Admission Report
4391 Inmate Transfer
4392 Personal Property
4393 Safeguarding of Personal Property
4394 Property Control Policy
4395 Orientation Language
4396 Reception Unit Program
4397 Classification Time Frame
4398 Transferred Inmate Orientation

Classification

4399 Classification Plan
4400 Classification Policies
4401 Classification System
4402 Status Offender Residence
4403 Inmate Involvement
4404 Status Review
4405 Determining Status
4406 Inmates at Hearings
4407 Inmates Initiate Hearings
4408 Special Needs Inmates
4409 Pre-Parole Report
4410 Pre-Institutional Assessment

Inmate Work Programs

4411 Work Plan
4412 Work Assignments
4413 Work Day Structure
4414 Inmates Paid
4415 Labor Organizations
4416 Health and Safety
4417 Compensation Rate
4418 Inmate Employment
4419 Work Release Programs
4420 Prevailing Wage Rate
4421 Employment for Handicapped

Academic and Vocational Education

4422 Comprehensive Education Program
4423 Accreditation
4424 Standardized Curriculum
4425 Population Needs
4426 Time of Programs
4427 Educational Personnel
4428 Personnel Certification
4429 Comparable Personnel Policies
4430 Comparable Personnel Salary
4431 Specialized Equipment
4432 Measure Effectiveness
4433 Program Assessment
4434 Counseling for Placement
4435 Flexible Scheduling
4436 Post-secondary Programs
4437 Community Resources
4438 Functional Social Skills
4439 Relevant Vocational Programs
4440 Maintenance of Records
4441 Formal Recognition

Library Services

4442 Library Services Provided
4443 Policy for Selection
4444 Performance Evaluation
4445 Determine Needs
4446 Daily Availability
4447 Interlibrary Loan
4448 Qualified Staff
4449 Supervising Staff Member
4450 Inmate Assistants
4451 Library Personnel

Recreation and Inmate Activities

4452 Comprehensive Program
4453 Recreational Supervisor
4454 Recreation Personnel
4455 Community Activities
4456 Interaction with Community
4457 Inmates as Program Assistants
4458 Facilities and Equipment
4459 Inmate Initiated Activities
4460 Assess Needs
4461 Effectiveness Evaluation

Religious Services

4462 Access to Programs
4463 Staff Member Supervision
4464 Religious Personnel
4465 Access to all Faiths
4466 Personnel Access
4467 Access of Chaplains
4468 Publications and Diet
4469 Contact Representatives
4470 Facilities Provided
4471 Community Religious Resources

Social Services

4472 Appropriate Program
4473 Identity of Needs
4474 Trained Supervisor
4475 Staff Member Assignment
4476 Counseling Available
4477 Qualified Counselors
4478 Caseload Determination
4479 Substance Abuse Programs
4480 Community Social Services
4481 Available Programs to Inmates

Release Preparation and Temporary Release

4482 Preparation Program
4483 Temporary Release Programs
4484 Graduated Release
4485 Community Leaves
4486 Releasing Procedures

Citizen Involvement and Volunteers

4487 Staff Member Responsible
4488 Program Director
4489 Cross Section of Volunteers
4490 Volunteer Orientation
4491 Written Agreement
4492 Volunteer Services
4493 Volunteer Identification
4494 Volunteer Qualifications
4495 Policy Development

APPENDIX B

Forms for Operating Costs

The forms provided in Appendix B are intended to aid the User in developing the cost estimates for compliance. They are organized in three broad sections which correspond to the phases of the process:

- B1 Preparation Forms
- B2 Standards Resource Analysis Form
- B3 Formats for Presenting Cost Estimates

APPENDIX B1

Preparation Forms

* Appendix B1 is reproduced from Agency Manual of Accreditation Policy and Procedure (Second Edition), February 1979.

STANDARDS COMPLIANCE CHECKLIST

4001 Establishment of the institution or parent agency as an integral part of a correctional department or system is mandated by statute and its purpose is set forth therein. (Essential)

DISCUSSION: Effective administration of an institution results largely from the existence of a body of carefully formulated constitutional or legislative statutes that define clearly the mission and basic goals of the institution. Such statutes provide the legal framework within which the institution's administrative structure, philosophy, and policies are developed, as well as the basis for assessing performance and identifying needed changes in organization and operations.

SELF-EVALUATION Agency Personnel	STANDARDS COMPLIANCE AUDIT Visiting Committee
Evaluator's Signature(s):	Evaluator's Signature(s):
Compliance ☐ Non-Compliance ☐ Not Applicable ☐ (Check one)	Compliance ☐ Non-Compliance ☐ Not Applicable ☐ (Check one)
Documentation Code:	Documentation Code:
Plan of Action:	Comments:
Comments:	

STANDARDS COMPLIANCE CHECKLIST

4002 There is a written statement that describes the philosophy and long-range goals of the institution and its satellites, which is reviewed at least annually and updated as necessary. (Essential)

DISCUSSION: Although the statute establishing the institution specifies the legislative mandate and the general mission assigned, there is need for in-depth exposition. The written statement should specify the program's goals and underlying philosophy as they relate to the basic concepts and major public policy issues in corrections, such as deterrence, punishment, rehabilitation, social restoration, justice, reintegration and public safety.

SELF-EVALUATION Agency Personnel	STANDARDS COMPLIANCE AUDIT Visiting Committee
Evaluator's Signature(s):	Evaluator's Signature(s):
Compliance ☐ Non-Compliance ☐ Not Applicable ☐ (Check one)	Compliance ☐ Non-Compliance ☐ Not Applicable ☐ (Check one)
Documentation Code:	Documentation Code:
Plan of Action:	Comments:
Comments:	

XIII. COMPLIANCE TALLY

Manual of Standards for Adult Correctional Institutions

COMPLIANCE TALLY

1. Adult Correctional Institution Standards

	Number of Standards	Compliance Total	% of Agency Compliance*
Essential	404		
Not Applicable			
Important	56		
Not Applicable			
Desirable	5		
Not Applicable			

*Percentage is based on applicable standards only.

2. List of Standards Not Met

COMMISSION ON ACCREDITATION FOR CORRECTIONS

PLAN OF ACTION

1. Standard number _____

2. Extent of noncompliance: _____partial _____total

3. Statement of deficiencies:

4. Resources required to achieve compliance:

_____ written policy

_____ new procedures

_____ documentation preparation

_____ additional personnel

_____ equipment

_____ programmatic changes/innovations

_____ new facilities

_____ renovated facilities

_____ additional funds, other than above

5. Activities required to achieve compliance:

Tasks	Designated Staff	Person Hours	Completion Date
a.			
b.			
c.			

LIST OF NONCOMPLIANT COST STANDARDS

Standards Category	Number of Cost Standard	Standard Numbers		
		Mandatory	Essential	Important

LIST OF COMPLIANCE UNITS

Compliance Unit Name	Standards Numbers	Departments (Department Heads)

APPENDIX B2

The form on the following page provides the User with directions for using the Standards Resource Analysis form. A blank copy of the form can be duplicated and used as a worksheet for estimating operating costs.

Institute for Economic and Policy Studies, Inc.

DIRECTIONS

PHASE 2: STANDARDS RESOURCE ANALYSIS

SUBUNIT _____ DEPARTMENT(S) _____
PREPARER _____ DATE _____ DEPT. HEAD(S) _____
STANDARD _____

Enter subunit (e.g., Sunnybrook Camp), Department (e.g., security), standard number and description of standard.

STEP 2.1: RESOURCE REQUIREMENTS OF STANDARDS

REL STDS

Use the discussion portion of the standard, related standards, government codes, professional standards to clarify the standard. Enter identification (discussion, standard number, etc.) and key words used for clarification.

OBJS

State the objective of the standard, if applicable, by stating the composition and size, relevant population or service, the frequency or utilization rate, and the result that is to be achieved.

PROCEDURES

Describe the procedure(s) by which compliance with the standard will be implemented. (It is advisable to develop a few alternative procedures.) Include activities and procedures (e.g., inspections, reporting, prisoner movement), frequency and duration of time, individuals with responsibility, inmate/staff ratios, etc.

RESOURCES

PERSONNEL EQUIPMENT

List the type and amount of resources (e.g., 5 correctional officers, 1 duplicating machine), time (e.g., 2 hours once a week), etc. that will be required to carry out the procedures described above.

OTHER FACILITIES

STEP 2.2: CURRENT RESOURCE UTILIZATION

PROCEDURES

Describe the current procedures and the extent to which they comply with the standard. Include type(s) of procedure, frequency and duration of time, individuals with responsibility, activities performed, etc.

RESOURCES

PERSONNEL | EQUIPMENT

Describe the specific type and amount of resources (e.g., 5 correctional officers), time, etc. currently allocated to carrying out the procedure(s) described above.

OTHER | FACILITIES

STEP 2.3: RESOURCE DEFICIENCY OR SURPLUS

PER

Describe the difference between current resource utilization (Step 2.2) and resource requirements of the standards (Step 2.1). The difference should represent the amount of resources that will be needed to comply with the standard (in the case of a deficiency) or the amount of existing resources that can be reallocated to other standards (in the case of a surplus) because the department more than meets the requirements of the standard. For each type of resource, note whether additional resources will have to be acquired or whether existing resources can take on more work to make up the deficiency.

OTHER

EQUIP

FAC

STEP 2.4: COST ESTIMATION

TYPE		QUANTITY	X	UNIT PRICE	=	COST

PERSONNEL

This section should include any additional resources that will have to be acquired to make up the deficiency (in Step 2.3). Do not include existing resources that can make up the deficiency by adding to their workload and/or reallocating them from other departments.

OTHER

Enter the specific type and amount of resources (e.g., 5 correctional officers, 1 copying machine) and unit price ($12,250/yr.; $2,500 respectively).

EQUIPMENT

Multiply to find cost ($49,000; $2,500).

Add individual costs to find total cost ($51,500).

FACILITIES

TOTAL .

PHASE 2: STANDARDS RESOURCE ANALYSIS

SUBUNIT _____ DEPARTMENT(S) _____

PREPARER _____ DATE _____ DEPT. HEAD(S) _____

STANDARD

STEP 2.1: RESOURCE REQUIREMENTS OF STANDARDS

REL STDS

OBJS

PROCEDURES

RESOURCES

PERSONNEL | EQUIPMENT

OTHER | FACILITIES

STEP 2.2: CURRENT RESOURCE UTILIZATION

PROCEDURES

RESOURCES

PERSONNEL	EQUIPMENT
OTHER	FACILITIES

STEP 2.3: RESOURCE DEFICIENCY OR SURPLUS

	PER	OTHER	EQUIP	FAC

STEP 2.4: COST ESTIMATION

	TYPE	QUANTITY	X	UNIT PRICE	=	COST
PERSONNEL						
OTHER						
EQUIPMENT						
FACILITIES						
				TOTAL		

APPENDIX B3

Formats for Presenting Cost Estimates

- Summary of Compliance Costs
- Summary of Agency Compliance Costs by Organizational Subunit
- Summary of Agency Costs by Standards Category and Organizational Subunit
- Summary of Agency Compliance Costs
- Comparison of Current Agency Budget and Compliance Costs

SUMMARY OF COMPLIANCE COSTS

Standard	Total	Operating		Capital		
		Personnel	Other	Equipment	Facilities	
					New	Renovated

SUMMARY OF AGENCY COMPLIANCE COSTS BY ORGANIZATIONAL SUBUNIT

Subunit	Total	Operating		Capital		
		Personnel	Other	Equipment	Facilities: New	Facilities: Renovated

SUMMARY OF AGENCY COSTS BY STANDARDS CATEGORY AND ORGANIZATIONAL SUBUNIT

Standards Category	Organizational Subunits			
Administration				
Fiscal				
Personnel				
Training				
Management Information				
Records				
Physical Plant				
Safety				
Security				
Special Management Inmates				
Food Services				
Sanitation				
Medical				
Rights				
Rules				
Mail and Visiting				
Reception				
Classification				
Work Programs				
Education				
Library				
Recreation				
Religious				
Social Services				
Release				
Citizen Involvement				
Totals				

SUMMARY OF AGENCY COMPLIANCE COSTS

Standards Category	Total	Operating		Capital		
		Personnel	Other	Equipment	Facilities	
					New	Renovated
Administration						
Fiscal						
Personnel						
Training						
Management Information						
Records						
Physical Plant						
Safety						
Security						
Special Management Inmates						
Food Services						
Sanitation						
Medical						
Rights						
Rules						
Mail and Visiting						
Reception						
Classification						
Work Programs						
Education						
Library						
Recreation						
Religious						
Social Services						
Release						
Citizen Involvement						
Totals						

COMPARISON OF CURRENT AGENCY BUDGET AND COMPLIANCE COSTS

		Operating		Capital		
					Facilities	
	Total	Personnel	Other	Equipment	New	Renovated
FY 19__ Budget						
Compliance Costs						
Additional $						
$ Increase						
Total						

APPENDIX C

Reference Materials for Capital Standards

The reference materials in Appendix C will assist the User in developing cost estimates for capital changes. In all, there are eleven appendixes to the reference materials. They are organized as follows:

C1 Relationship Between Standards and Physical Plant

C2 Functional Space Allotment for 400-Bed Facility

C3 Physical Security Level: Site

C4 Physical Security Level: Building System

C5 Building Systems

C6 Levels of Construction: Site

C7 Levels of Construction: Building System

C8 Levels of Construction: Equipment

C9 Computing Gross Square Feet in Renovation Projects

C10 Cost Estimating Chart

C11 Location Cost Indexes (March 1981)

APPENDIX C1

Relationship Between Standards and Physical Plant

APPENDIX C1. RELATIONSHIP BETWEEN STANDARDS AND PHYSICAL PLANT

NSF FOR	GSF CONV	FACILITY FUNCTION STANDARD SECTION	STANDARDS EXPLICIT	STANDARDS IMPLICIT	STANDARDS GUIDE	REFERENCE	RELATED FUNCTIONS
350 to 375	1.6	OVERALL FACILITY					
		GENERAL CONSIDERATIONS					
10.5 in-doors	1.4	Security & Control 4176-4213	4142 4179 4170 4187 4177	4175 4191 4180 4193 4181 4194 4189 4196 4197 4213	4171 4190 4176 4192 4178 4202 4182 4203 4186 4204 4188 4210	Building Codes NFiPA 101 NCCJPA	Supervision Inmate Rights Inmate Rules Special Management Inmates Inmate Money & Property Fiscal Records Training Medical Mail & Visiting Library Education & Vocational Work Recreation Reception Classification Release Preparation Citizen Involvement Physical Plant Security Training Food Services Mail & Visiting Education & Vocational Work Recreation

APPENDIX C1. RELATIONSHIP BETWEEN STANDARDS AND PHYSICAL PLANT (cont.)

NSF POP.	GSF CONV.	FACILITY FUNCTION STANDARD SECTION	STANDARDS EXPLICIT	STANDARDS IMPLICIT	STANDARDS GUIDE	REFERENCE	RELATED FUNCTIONS
		GENERAL CONSIDER. (cont.)					Release Preparation Citizen Involvement Physical Plant
NA	NA	Inmate Rights 4323-4344	4328	4133 4336 4326 4337 4330 4338 4331 4339	4323 4329 4324 4332 4325 4334 4327 4335		Security Special Management Inmates Inmate Rules Sanitation, Safety & Hygiene Inmate Money & Property Records Food Services Medical Mail & Visiting Library Education & Vocational Work Recreation Social Services Religious Classification Release Preparation Citizen Involvement
NA		Inmate Rules & Discipline 4345-4368		4216 4358 4353	4347 4361 4354 4363 4359 4364 4360 4367		Inmate Rights Special Management Inmates Records

NSF POP.	GSF CONV	FACILITY FUNCTION STANDARD SECTION	STANDARDS EXPLICIT	STANDARDS IMPLICIT	STANDARDS GUIDE	REFERENCE	RELATED FUNCTIONS
		GENERAL CONSIDER. (cont.)					
5-10% of Pop.		Special Management Inmates 4214-4237	4135	4136 4225 4214 4226 4215 4227 4217 4232 4221 4233 4224 4235	4220 4229 4222 4230 4223 4231 4228 4237		Security Supervision Inmate Rules Sanitation, Safety & Hygiene Training Food Services Medical Mail & Visiting Library Physical Plant Education & Vocational Work Recreation Social Services Religious Classification
		Sanitation & Hygiene 4255-4270	4268	4265 4266	4255 4262 4256 4263 4257 4264 4258 4267 4259 4269 4260 4270	Public Health Regulations	Inmate Rights Food Services Physical Plant
		Safety & Emergency Procedures 4162-4175		4164 4167 4165 4172	4162 4168 4163 4169 4166 4173		Physical Plant

APPENDIX C1. RELATIONSHIP BETWEEN STANDARDS AND PHYSICAL PLANT (cont.)

NSF POP.	GSF CONV	FACILITY FUNCTION STANDARD SECTION	STANDARDS EXPLICIT	STANDARDS IMPLICIT	STANDARDS GUIDE	REFERENCE	RELATED FUNCTIONS
15.5	1.5	MANAGEMENT					
		Administration, Organization & Management 4001-4027	4144	4022	4007 4016 4013 4025	Building Codes NFiPA 101 ANSI A117.1	Fiscal Planning Information Systems Research Personnel Training Inmate Rules Citizen Involvement
		Fiscal Management 4028-4053		4038 4049	4019 4043 4029 4044 4033 4048 4037	Building Codes NFiPA 101 ANSI A117.1	Administration Personnel Planning Physical Plant Security Inmate Money & Property
		Management Information & Research 4102-4114		4103	4102 4108 4106 4112	Building Codes NFiPA 101 ANSI A117.1	Administration Research Personnel Records Classification

APPENDIX C1. RELATIONSHIP BETWEEN STANDARDS AND PHYSICAL PLANT (cont.)

NSF POP.	GSF CONV	FACILITY FUNCTION STANDARD SECTION	STANDARDS EXPLICIT	STANDARDS IMPLICIT	STANDARDS GUIDE	REFERENCE	RELATED FUNCTIONS
		MANAGEMENT (cont.)					
1.2		Records 4115-4126		4116 4125 4122 4126 4123	4119 4124 4120	Building Codes NFiPA 101 ANSI A117.1	Management Information Systems Research Security Inmate Rights Inmate Rules Classification Social Services Release Preparation Reception
7.7	1.5	STAFF					
2.0		Personnel 4054-4078		4061 4062	4034 4076 4071	Building Codes NFiPA 101 ANSI A117.1 OSHA EEOC	Administration Fiscal Planning Training
3.5 to 5.5		Training 4079-4101	4086	4084	4079 4093 4080 4094 4088 4095 4089 4097 4090 4098 4092 4099	Building Codes NFiPA 101 ANSI A117.1 OSHA	Administration Personnel Planning Management Information Systems Education & Vocational Citizen Involvement Inmate Rules

APPENDIX C1. RELATIONSHIP BETWEEN STANDARDS AND PHYSICAL PLANT (cont.)

NSF POP.	GSF CONV	FACILITY FUNCTION STANDARD SECTION	STANDARDS EXPLICIT	STANDARDS IMPLICIT	STANDARDS GUIDE	REFERENCE	RELATED FUNCTIONS
Varies	Varies	SUPPORT					
50	1.33	Food Services 4238-4254	4250 4143	4245 4249 4247 4254	4238 4242 4240 4246 4241 4253	Building Codes NFiPA 101 ANSI A117.1 OSHA Public Health Regulations	Security Supervision Inmate Rights Special Management Inmates Sanitation, Safety & Hygiene Fiscal Medical Physical Plant
7.8 to 16.6	1.7	Medical & Health Care Services 4271-4322	4275	4279 4303 4280 4304 4290 4305 4296 4317 4297 4321 4298	4271 4295 4273 4299 4276 4300 4277 4302 4279 4306 4281 4307 4283 4311 4285 4318 4289 4319 4291 4320 4293	Building Codes NFiPA 101 1980 Draft ANSI A117.1 OSHA AMA (ACA) Public Health NCCJPA	Security Inmate Rights Special Management Inmates Sanitation, Safety & Hygiene Research Records Personnel Training Food Services Mail & Visiting Reception Physical Plant (Housing)
15.1 to 25.3	1.5	Communication, Mail & Visiting 4369-4387	4383	4373 4387 4379 4140	4369 4378 4370 4380 4374 4381 4376 4384 4377 4385	Building Codes NFiPA 101 ANSI A117.1 NCCJPA	Security Supervision Inmate Rights Inmate Rules Special Management Inmates Religious Citizen Involvement Physical Plant

APPENDIX C1. RELATIONSHIP BETWEEN STANDARDS AND PHYSICAL PLANT (cont.)

NSF POP.	GSF CONV	FACILITY FUNCTION STANDARD SECTION	STANDARDS EXPLICIT	STANDARDS IMPLICIT	STANDARDS GUIDE	REFERENCE	RELATED FUNCTIONS
4.75 to 6.0	1.4	SUPPORT (cont.) Library Services 4442-4451			4442 4446 4443 4448 4445 4450	Building Codes NFiPA 101 ANSI A117.1 OSHA ALA (CA)	Security Inmate Rights Special Management Inmates Fiscal Education & Vocational Recreation Religious Release Preparation Physical Plant
40.7 to 82.8	1.4	PROGRAMS					
15.0 to 36.4 (50% ea.)	1.4	Academic and Vocational Education 4422-4441	4431	4424	4422 4435 4425 4436 4426 4437 4427 4438 4434 4439 4440	Building Codes NFiPA 101 ANSI A117.1 OSHA	Security Supervision Inmate Rights Inmate Rules Special Management Inmates Sanitation, Safety & Hygiene Fiscal Planning Research Records Training Social Services Classification Release Preparation Citizen Involvement

APPENDIX C1. RELATIONSHIP BETWEEN STANDARDS AND PHYSICAL PLANT (cont.)

NSF POP.	GSF CONV	FACILITY FUNCTION STANDARD SECTION	STANDARDS EXPLICIT	STANDARDS IMPLICIT	STANDARDS GUIDE	REFERENCE	RELATED FUNCTIONS
		PROGRAMS (cont.)					
10.3	1.4	Inmate Work Programs 4411-4421			4411 4415 4412 4416 4413 4418	Building Codes NFiPA 101 ANSI A117.1 OSHA	Security Supervision Inmate Rights Special Management Inmates Sanitation, Safety & Hygiene Records Training Medical Education & Vocational Social Services Classification
16.0 to 31.3 indoors 30 to 50 outdoors	1.4	Recreation & Inmate Activities 4452-4461	4458 4156 4157 4158		4452 4459 4453 4460 4455 4461 4456	Building Codes NFiPA 101 ANSI A117.1 (Architectural graphic stds. time savers stds & other similar references)	Security Supervision Inmate Rights Inmate Rules Special Management Inmates Planning Training Library Religious Reception Citizen Involvement

APPENDIX C1. RELATIONSHIP BETWEEN STANDARDS AND PHYSICAL PLANT (cont.)

NSF FOR	GSF CONV	FACILITY FUNCTION STANDARD SECTION	STANDARDS EXPLICIT	STANDARDS IMPLICIT	STANDARDS GUIDE	REFERENCE	RELATED FUNCTIONS
14.0 to 18.0	1.5	INMATE SERVICES					
6.1 to 8.1	1.5	Social Services 4472-4481		4481	4472 4477 4474 4479	Building Codes NFiPA 101 ANSI A117.1	Inmate Rights Special Management Inmates Records Education & Vocational Work Classification
1.2	1.5	Religious Services 4462-4471	4470	4462 4467	4463 4468 4465 4469 4466	Building Codes NFiPA 101 ANSI A117.1 (Architectural graphic stds. time savers stds.)	Inmate Rights Special Management Inmates Mail & Visiting Library Services Citizen Involvement Recreation
3.0 to 5.0	1.5	Reception & Orientation 4388-4398	4391 4149	4389	4390 4397 4393 4398 4396	Building Codes NFiPA 101 ANSI A117.1 NCCJPA	Security Supervision Records Medical Mail & Visiting Recreation Social Services Religious Classification
2.1	1.5	Classification 4399-4410		4402	4218 4406 4399 4408 4403 4409 4404	Building Codes NFiPA 101 ANSI A117.1	Security Inmate Rights Records Research Management Information Systems Education & Vocational

APPENDIX C1. RELATIONSHIP BETWEEN STANDARDS AND PHYSICAL PLANT (cont.)

NSF POP.	GSF CONV	FACILITY FUNCTION STANDARD SECTION	STANDARDS EXPLICIT	STANDARDS IMPLICIT	STANDARDS GUIDE	REFERENCE	RELATED FUNCTIONS
		INMATE SERVICES (cont.)					
		Classification (cont.)					Work Recreation Social Services Reception Release Preparation
0.8		Release Preparation & Temporary Release 4482-4486			4482 4484	Building Codes NFiPA 101 ANSI A117.1	Security Supervision Inmate Rights Inmate Rules Special Management Inmates Records Library Services Education & Vocational Classification Citizen Involvement
0.8		Citizen Involvement & Volunteers 4487-4495			4487 4491 4490 4492	ANSI A117.1	Administration Security Supervision Inmate Rights Training Mail & Visiting Education & Vocational Work Recreation Religious

APPENDIX C1. RELATIONSHIP BETWEEN STANDARDS AND PHYSICAL PLANT (cont.)

NSF POP.	GSF CONV	FACILITY FUNCTION STANDARD SECTION	STANDARDS EXPLICIT	STANDARDS IMPLICIT	STANDARDS GUIDE	REFERENCE	RELATED FUNCTIONS
140 to 175	2.0	HOUSING					
		Physical Plant 4127-4161	4129 4148 4130 4150 4131 4154 4132 4158 4134 4159 4135 4147	4127 4141 4133 4142 4137 4145 4138 4146 4139	4128 4160 4151 4161 4152 4153	Building Codes NFiPA 101 (1980 Draft) ANSI A117.1 NCCJPA	Security Supervision Inmate Rights Inmate Rules Special Management Inmates Sanitation, Safety & Hygiene Fiscal Food Services Medical Mail & Visiting Reception Release Preparation

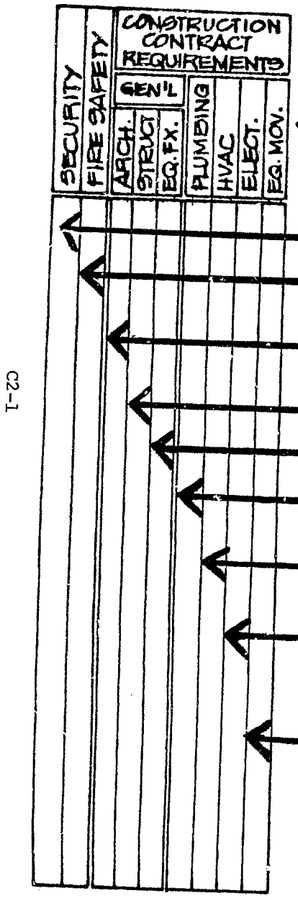
APPENDIX C2

Functional Space Allotment for 400-Bed Facility

CONTINUED

2 OF 4

APPENDIX C2. EXPLANATIONS



requirements in terms of materials, details and installation procedures

major considerations

considered as a whole; in practice part of each of the construction trades (see below)

considered as a whole; in practice part of the architectural, ventilation and electrical scope of work

includes masonry, metals, thermal and moisture protection, doors, windows, frames, glazing, hardware finishes, certain specialities

includes formwork, reinforcement, casting, precasting, decks, et al.

those included as part of the construction contract (architectural equipment)

includes pipes and fittings, plumbing fixtures, plumbing applicances, fire extinguishing systems

includes ductwork, piping specialities, systems balancing, fixtures, equipment for heating, ventilating and air conditioning (where applicable)

includes raceways; conductors and grounding; boxes and wiring devices; starters, boards, and switches; transformers and line duct; power systems and capacitors; lighting; electric utilities (from 5' outside of exterior wall); special systems (e.g., clocks, detection systems, public address systems, etc.)

includes all movable furnishings and equipment (e.g., beds, desks, chairs, drapery, etc.)

NOTE: sitework was not included here because it is not directly related to space allocation requirements. However, it is part of the construction contract scope and interfaces with all of them. It includes exploration, clearing and earthwork; caissons and pilings; site drainage and utilities; roads and walks; site improvement and landscaping.

APPENDIX C2. FUNCTIONAL SPACE ALLOTMENT FOR 400-BED FACILITY

PROGRAM SPACE: LIVING

REQUIREMENTS
O STANDARD
Δ TAILORED
O CORRECTIONAL
– NON APPLICABLE

MODIFICATION DEGREE
* MAJOR
+ MINOR
DUE TO FUNCTION LOCATION SECURITY

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: GEN'L ARCH.	GEN'L STRUCT	GEN'L EQ. FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.	SPACE DENOMINATION: UNIT	SUB-UNIT	NSF REQUIREMENTS: PER ITEM	R.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)
O *	Δ	Δ	O	O *	Δ *	Δ	Δ *	Δ	HOUSING	Single Cells – confinement not to exceed 10 hrs. per day	60 each	42 SF for sleeping, reading, writing, storage 9 SF toilet 9 SF not usable	Physical Plant Security Supervision Inmate Rights Inmate Rules Special Management Inmates Sanitation Safety and Hygiene Medical Reception Release Preparation
										– confinement exceeds 10 hrs. per day	80 each	56 SF for sleeping, reading, writing 6 SF storage or other 9SF toilet 9SF not usable	
Δ	Δ	Δ	O	O	Δ	Δ	Δ	Δ		Dormitories	60 per occupant		
										Dayrooms (re: meeting areas)			

CONSTRUCTION CONTRACT REQUIREMENTS									PROGRAM SPACE ACTIVITY		REQUIREMENTS O STANDARD Δ TAILORED C CORRECTIONAL – NON APPLICABLE		MODIFICATION DEGREE * MAJOR + MINOR DUE TO FUNCTION LOCATION SECURITY	
SECURITY	FIRE SAFETY	GEN'L ARCH.	GEN'L STRUCT.	GEN'L EQ. F.X.	PLUMBING	HVAC	ELECT.	EQ. MOV.	SPACE DENOMINATION UNIT	SUB-UNIT	NSF REQUIREMENTS PER ITEM	E.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)	
*O	O	+O	O	—	—	O	O	Δ	MEETING AREAS	Conference Rooms (seating around a table)	200, 320, 400 SF std.	20-24 SF per user capacity	Management Staff Library	
Δ	Δ	Δ	Δ	Δ	—	Δ	Δ	Δ		Auditorium - fixed seating - moveable seating (for stage, projection room, dressing areas, refer to ancillary)	100 occup. 1000 SF 1600-2000	per user capacity : 10 SF 16-20 SF	Education Religious Recreation	
Δ*	O	O+	O	—	—	O	O	Δ		Classrooms (for classroom storage, refer to storage)	300, 450, 600, 720 SF standard	30 SF per occupant	Training Library Education and Vocational Citizen Involvement	
Δ*	O	O+	O	Δ	—	O	O	Δ		Lounges	varies	25 per user capacit,	Management Staff Visiting Library	
Δ+	O	O+	O	Δ	—	O	O	Δ		TV Rooms	175-200 SF minimum	15 per user capacity	Housing Recreation	

CONSTRUCTION CONTRACT REQUIREMENTS										PROGRAM SPACE ACTIVITY		REQUIREMENTS O STANDARD Δ TAILORED O CORRECTIONAL – NON APPLICABLE		MODIFICATION DEGREE * MAJOR + MINOR DUE TO FUNCTION LOCATION SECURITY
SECURITY	FIRE SAFETY	GEN'L ARCH.	GEN'L STRUCT	GEN'L EQ. FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.		SPACE DENOMINATION UNIT	SUB-UNIT	N OF REQUIREMENTS PER ITEM	R.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)
Δ *	Δ	Δ *	Δ *	Δ *	–	O *	O *	Δ *		MEETING AREAS (cont.)	Dayrooms (for kitchenettes, refer to ancillary)	1400-1600 SF maximum	35 per housing unit resident capacity	Housing
											Hearing Rooms	200-250 SF, 400 SF std.	35/user capacity	Classification Inmate Rights Inmate Rules
											Officer's Roll-of-Call Room (refer to auditorium or classrooms)			Staff
											Waiting Rooms - if seating refer to lounges - if standing		10/user capacity	Management Medical Visiting Social Services Reception
											Interview/Consultation/Counseling Rooms (non-medical)	60-80 singles 120-150 groups of 6-8	20-25 each per occupant	Staff Inmate Services

APPENDIX C2. FUNCTIONAL SPACE ALLOTMENT FOR 400-BED FACILITY (cont.)

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: GEN'L	ARCH.	STRUCT	EQ. FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.	PROGRAM SPACE ACTIVITY: SPACE DENOMINATION UNIT	SUB-UNIT	NO. OF REQUIREMENTS PER ITEM	NO. OF REQUIREMENTS G.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)
										MEETING AREAS (cont.)	Visiting Rooms - contact visits (consider an inmate to visitors ratio of 1:2 or 1:3) - noncontact visits Child Play Area (consider a 1:0.25 ratio of inmate to child visiting)	varies	25/user capacity 60-80/booth 40-50/ user capacity	Visiting

REQUIREMENTS
O STANDARD
Δ TAILORED
O CORRECTIONAL
– NON APPLICABLE

MODIFICATION DEGREE
* MAJOR
+ MINOR
DUE TO FUNCTION LOCATION SECURITY

APPENDIX C2. FUNCTIONAL SPACE ALLOTMENT FOR 400-BED FACILITY (cont.)

REQUIREMENTS
O STANDARD
Δ TAILORED
O CORRECTIONAL
– NON APPLICABLE

MODIFICATION DEGREE
* MAJOR
+ MINOR
DUE TO FUNCTION LOCATION SECURITY

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: GEN'L ARCH.	GEN'L STRUCT	GEN'L EQ.FX.	PLUMBING	HVAC	ELECT.	EQ. MON.	PROGRAM SPACE ACTIVITY: SPACE DENOMINATION UNIT	SUB-UNIT	NSF REQUIREMENTS PER ITEM	NSF REQUIREMENTS E.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)
O	O	O	O	–	–	O	O	Δ	OFFICE AREAS Private Semiprivate (cubicle) Shared (workroom)	Directors	200-250	per occupant Work Area 1 at 100 Conference 4-6 at 25 ea	Administration Fiscal Planning Information Systems Research Records Personnel Training Food Services Medical Mail and Visiting Library Work Recreation Education and Vocational Reception Classification Social Services Release Preparations Citizen Involvement Religious Housing
Δ	O	O +	O	–	–	O	O	Δ		Management	150-180	per occupant Work Area 1 at 100 Conference 2-3 at 25 ea	
Δ +	O	O +	O	–	–	O	O	Δ		Department Heads Professionals	100-120	per occupant Work Area 1 at 80-100 Conference 1-2 at 20 ea	
Δ *	O	O +	O	–	–	O	O	Δ		Staff	80-100	per occupant Work Area 1 at 80 Conference 1 at 20	
Δ	O	O	O	–	–	O	O	Δ		Clerical	60-80	per occupant Work Area 60-80	
O	Δ	Δ	O	O	–	Δ	O	Δ		Processing Stations	80	2 at 40 ea.	

APPENDIX C2. FUNCTIONAL SPACE ALLOTMENT FOR 400-BED FACILITY (cont.)

CONSTRUCTION CONTRACT REQUIREMENTS									PROGRAM SPACE ACTIVITY		REQUIREMENTS O STANDARD Δ TAILORED O CORRECTIONAL – NON APPLICABLE		MODIFICATION DEGREE * MAJOR + MINOR DUE TO FUNCTION LOCATION SECURITY	
SECURITY	FIRE SAFETY	GEN'L ARCH.	GEN'L STRUCT	GEN'L EQ. FX.	PLUMBING	HVAC	ELECT.	EQ. MCH.	SPACE DENOMINATION UNIT	SUB-UNIT	N° OF REQUIREMENTS PER ITEM	G.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)	
Δ	Δ	Δ	Δ	Δ	–	O	O	Δ	LIBRARY - General - Legal	Overall	1200	31 SF/ facility population 30-50/ user capacity	Planning Information Systems Research Training (staff) Work Recreation Education and Vocational Religious Citizen Involvement Special Management Inmates Sanitation Safety and Hygiene Inmate Rights	
										Open stacks	varies	11 SF/ facility population		
										Circulation desk	varies	100/library staff		
										Storage (re: supplies and equipment storage areas)		12-15% of library SF		
										Reading room (see meeting rooms: conference rooms, lounges)				
										Staff office (see offices: department heads and clerical)				

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: ARCH.	GEN'L: STRUCT	GEN'L: EQ. FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.	PROGRAM SPACE ACTIVITY: SPACE DENOMINATION UNIT	SUB-UNIT	NSF REQUIREMENTS: PER ITEM	R.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)
*Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	FOOD SERVICES	Full Service Type (overall)	6,000-8,000	15-20 SF/ facility population 8-10 SF/user capacity (i.e., staff and inmates)	
										Components			
										• Food preparation	4,000		
										- cooking & mixing	1,600-1,800		
										- bakery	800		
										- refrigerators & freezers	800-1,000		
										- pot & dishwashing	600		
										- food cart washing	100		
										• Food serving	500		
										• Storage areas	2,000		
										- dry goods	800		
										- food carts	250-300	15 SF each	
										- garbage	200		
										- trash	200		
										- general	500		

REQUIREMENTS
O STANDARD
Δ TAILORED
O CORRECTIONAL
- NON APPLICABLE

MODIFICATION DEGREE
* MAJOR
+ MINOR
DUE TO FUNCTION LOCATION SECURITY

APPENDIX C2. FUNCTIONAL SPACE ALLOTMENT FOR 400-BED FACILITY (cont.)

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: GEN'L ARCH.	GEN'L STRUCT.	GEN'L EQ. FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.	PROGRAM SPACE ACTIVITY: SPACE DENOMINATION UNIT	SUB-UNIT	REQUIREMENTS: N°F REQUIREMENTS PER ITEM	N°F REQUIREMENTS: K.O.T.	MODIFICATION DEGREE: DUE TO FUNCTION LOCATION SECURITY	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)
									FOOD SERVICES (cont.)	Full Service Components (cont.)				
										• Dining				
										- staff (all institution 3 shifts/meal)	450-600	15/user capacity		
										- inmate (kitchen workers only: 1 shift/meal)	300	15/user capacity		
										- general population (at housing)	N/A	15/user capacity		
										- VIP dining	400	20/user		
										• Office	150-200			
										Reconstitution Type	3,000-4,000			

REQUIREMENTS: O STANDARD; Δ TAILORED; O CORRECTIONAL; - NON APPLICABLE

MODIFICATION DEGREE: * MAJOR, + MINOR — DUE TO FUNCTION LOCATION SECURITY

APPENDIX C2. FUNCTIONAL SPACE ALLOTMENT FOR 400-BED FACILITY (cont.)

CONSTRUCTION CONTRACT REQUIREMENTS										PROGRAM SPACE ACTIVITY		REQUIREMENTS O STANDARD Δ TAILORED O CORRECTIONAL - NON APPLICABLE		MODIFICATION DEGREE * MAJOR + MINOR DUE TO FUNCTION LOCATION SECURITY	
SECURITY	FIRE SAFETY	GEN'L ARCH.	GEN'L STRUCT	GEN'L EQ.FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.		SPACE DENOMINATION UNIT	SUB-UNIT	N&F REQUIREMENTS PER ITEM	R.O.T.	POSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP C.1)	
Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ		LAUNDRY	Centralized Equipment room Workroom (soiled/clean) Storage/Search De-centralized (equipment only) re: other storage areas	900 overall 400 400 100 45-50 minimum 60-80 (incl. work area & storage)	2-2.5/ facility population	Housing Receiving Food Services Inmate Rights Sanitation, Safety & Hygiene	

APPENDIX C2. FUNCTIONAL SPACE ALLOTMENT FOR 400-BED FACILITY (cont.)

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: GEN'L ARCH.	GEN'L STRUCT	GEN'L EQ.FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.	SPACE DENOMINATION: UNIT	SUB-UNIT	NSF REQUIREMENTS: PER ITEM	R.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (A.P.C.I)
△	△	○	○	△	△	△	△	△	HEALTH SERVICES	Overall	2500-4000 NSF	6-10 SF/ facility population	Medical Inmate Rights Food Services Reception Visiting
*		*								Consultation	60-80		
										Exam rooms	120-150		
										Nurses station	240 (100 min.)	80 each	
										X Ray general dental	250-300 (exam room)		
										Laboratory	100-120		
										Dark room general dental	100 60		
										Physical therapy	300		
										Tub/bathing room	110-140	35 min.	
										Infirmary rooms (including roilet & shower 40 SF)	120-180	120	

PROGRAM SPACE ACTIVITY

REQUIREMENTS
○ STANDARD
△ TAILORED
○ CORRECTIONAL
- NON APPLICABLE

MODIFICATION DEGREE
* MAJOR
+ MINOR
DUE TO FUNCTION LOCATION SECURITY

CONSTRUCTION CONTRACT REQUIREMENTS									PROGRAM SPACE ACTIVITY		REQUIREMENTS O STANDARD Δ TAILORED O CORRECTIONAL – NON APPLICABLE		MODIFICATION DEGREE * MAJOR + MINOR DUE TO FUNCTION LOCATION SECURITY	
SECURITY	FIRE SAFETY	GEN'L ARCH.	GEN'L STRUCT.	EQ. FX.	PLUMBING	H.V.AC	ELECT.	EQ. MCN.	SPACE DENOMINATION UNIT	SUB-UNIT	N&F REQUIREMENTS PER ITEM	N&F REQUIREMENTS E.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.)	
Δ	O	Δ	Δ	Δ	–	Δ	Δ	Δ	RECREATION	ATHLETIC ROOMS			Programs (Recreation) Housing areas	
										Gymnasium	6500–7000			
										Weight Room	450–480	40–50 per occupant		
Δ	–	–	–	Δ	–	–	–	–		SPORT AREAS				
										Ice hockey (250 LF x 85 LF)	21,250			
										Squash (45 LF x 20 LF)	1,125			
										Handball 4-wall court (46 LF x 23 LF)	1,058			
										Basketball (men) (94 LF x 50 LF)	4,700			
										Volleyball	3,024			
										Football (360 LF x 160 LF)	57,600			
										Soccer (360 LF x 225 LF)	81,000			
										Baseball diamond (200 LF x 200 LF approx.)	40,000			
										Boxing ring (24 LF x 24 LF)	576			
									LF = lineal feet	Wrestling	576			

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: GEN'L	ARCH.	STRUCT.	EQ. FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.	SPACE DENOMINATION: UNIT	SUB-UNIT	NSF REQUIREMENTS: PER ITEM	R.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)
										RECREATION (cont.)	TABLE GAMES AREAS			Recreation Housing (Dayrooms)
											Billiards or pool (21 LF x 14 LF approx.)*	294		
											Paddle tennis (70 LF x 32 LD)*	2240		
											Horseshoes (50 LF x 10 LF)*	500		
											Bocce (62 LF x 18 LF)*	1116		
											American shuffleboard (57 LF x 10 LF)*	570		
											Table tennis (21 LF x 12 LF)*	252		
											* playing area limits			

PROGRAM SPACE ACTIVITY

REQUIREMENTS
O STANDARD
Δ TAILORED
O CORRECTIONAL
– NON APPLICABLE

MODIFICATION DEGREE
* MAJOR
+ MINOR
DUE TO FUNCTION LOCATION SECURITY

REQUIREMENTS: O STANDARD, Δ TAILORED, O CORRECTIONAL, – NON APPLICABLE

MODIFICATION DEGREE: * MAJOR, + MINOR — DUE TO FUNCTION, LOCATION, SECURITY

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: GEN'L ARCH.	GEN'L STRUCT	GEN'L EQ.FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.	PROGRAM SPACE ACTIVITY — SPACE DENOMINATION: UNIT	SUB-UNIT	NOF REQUIREMENTS: PER ITEM	R.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)
Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	SHOPS	Industrial	1050-1500 ea (groups of 15 each)	67-70/min. 100 std. user capacity	Education & Vocational Work
Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ		Vocational	600 ea. (groups of 15 each)	40/user capacity	
Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ		Maintenance	1100-1300 total	3/facility population	Physical Plant Work
										-Plumbing	250-300	23% of maint.	Education & Vocational
										-Electricity	250-300	24% shop	
										-Carpentry	600-700	54% area	
										for storage requirements refer to ancillary areas			
										for staff work area refer to office areas			
										for classrooms and similar refer to meeting areas			

APPENDIX C2. FUNCTIONAL SPACE ALLOTMENT FOR 400-BED FACILITY (cont.)

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: GEN'L ARCH.	GEN'L STRUCT.	GEN'L EQ.FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.	PROGRAM SPACE: ANCILLARY — SPACE DENOMINATION: UNIT	SUB-UNIT	NSF REQUIREMENTS: PER ITEM	R.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)
○	△	△	△	△	—	△	○	—	RECEPTION AREAS	Sallyports	--		Management Staff Support Programs General Considerations
○ NE	—	△	—	△	—	—	△	—		-pedestrian			
										major	150-300		
										minor	40-100		
△	△	△	△	△	○	△	○*	—		-vehicular	1000-2000		
△ NE	—	△	△	△	—	—	○*	—		Loading Docks (15 LF x 60 LF)	900 (15' height)		Support
										Parking Areas (automobiles)	380-450		
△ NE	△	△	△	—	—	△	○*	—					
	—	△	—	—	—	—	○*	—					
△	△	△	△	△	—	—	○	○		Vestibules	60-80	1-2 occupants	Management Staff Support Programs Inmate Services Housing General Considerations
△	△	○	○	△	—	○	△	—		Shakedown/Search Rooms	60-80	2 occupants at 30 to 40 SF each	
*		*		*			*						
○	△	○	○	△	—	△	△	△		Control Rooms			
										(major) central	300-400		
										section	150-180		
										local	60	1-2 occupants	
○	△	○	△	△	△	○	○	○		Watch Towers (360° visibility range; with toilet)	100 (floor height at top of fence)	1 occupant	Security

NE= If non-enclosed

REQUIREMENTS
○ STANDARD
△ TAILORED
○ CORRECTIONAL
— NON APPLICABLE

MODIFICATION DEGREE
* MAJOR DUE TO FUNCTION
+ MINOR LOCATION SECURITY

APPENDIX C2. FUNCTIONAL SPACE ALLOTMENT FOR 400-BED FACILITY (cont.)

PROGRAM SPACE: ANCILLARY

REQUIREMENTS: O STANDARD; Δ TAILORED; O CORRECTIONAL; – NON APPLICABLE

MODIFICATION DEGREE: * MAJOR, + MINOR DUE TO FUNCTION, LOCATION, SECURITY

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: GEN'L ARCH.	GEN'L STRUCT	GEN'L EQ. FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.	SPACE DENOMINATION: UNIT	SUB-UNIT	N°F REQUIREMENTS: PER ITEM	R.O.T.	POSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)
Δ	Δ	Δ	O	Δ	–	O	O	Δ	STORE/DISPLAY	Commissary (includes storage)	600-700	1.5-1.75/ facility population	Fiscal Security Inmate Money and Property
Δ	O	O	O	Δ	–	O	O	–		Inmate Products (display and storage - usually located in public areas)	100 min.		Education and Vocational Work Fiscal Security Inmate Money and Property

REQUIREMENTS
O STANDARD
Δ TAILORED
O CORRECTIONAL
– NON APPLICABLE

MODIFICATION DEGREE
* MAJOR
+ MINOR
DUE TO FUNCTION LOCATION SECURITY

PROGRAM SPACE: ANCILLARY

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: GEN'L ARCH.	GEN'L STRUCT	GEN'L EQ.FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.	SPACE DENOMINATION: UNIT	SUB-UNIT	N&F REQUIREMENTS: PER ITEM	R.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)
Δ	Δ	O	O	Δ	O	O	O	Δ	GROOMING AND HYGIENE	Hair Care Shop	150-200		Sanitation, Safety & Hygiene
Δ	Δ	Δ	O	Δ	Δ	Δ	O	–		Toilets			
										group	--	20-30/user	
										single	30	capacity	
Δ	Δ	Δ	O	Δ	Δ	Δ	O	–		Showers			
										group	--	20/user	
										individual	40	capacity	
Δ	Δ	Δ	O	Δ	O	O	–			Dressing rooms			
										individual	30-40		

APPENDIX C2. FUNCTIONAL SPACE ALLOTMENT FOR 400-BED FACILITY (cont.)

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: GEN'L ARCH.	GEN'L STRUCT	GEN'L EQ. FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.	PROGRAM SPACE: ANCILLARY — SPACE DENOMINATION: UNIT	SUB-UNIT	NSF REQUIREMENTS: PER ITEM	R.O.T.	POSSIBLE LOCATIONS & RELATIONS (AS PER STANDARDS (APP. C.1))
△	△	△	△	△	—	O	O	△	STORAGE AREAS	Supplies -management total per unit	120-150 --	10-15% of area	As indicated in sub-unit column
										-library	30-40		
										-medical	60-80		
										-visiting	100-150		
										-educational	--	4-6 SF/user capacity	
										-vocational	--	13-18 SF/user capacity	
										-industrial	--		
										-maintenance (paint, general materials)	180-200		
△	△	△	△	△	—	O	O	—		Equipment and/or Tools -library (AV carrells, etc.)	150-180		
										-management (copying machine et al.)	180-220		
										-chapel	60-80		
										-auditorium	100-120		
										-athletic	180-200		
										-medical	150-180		

REQUIREMENTS: O STANDARD; △ TAILORED; O CORRECTIONAL; — NON APPLICABLE

MODIFICATION DEGREE DUE TO FUNCTION LOCATION SECURITY: * MAJOR; + MINOR

APPENDIX C2. FUNCTIONAL SPACE ALLOTMENT FOR 400-BED FACILITY (cont.)

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: GEN'L	ARCH.	STRUCT	EQ. FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.	PROGRAM SPACE: ANCILLARY — SPACE DENOMINATION: UNIT	SUB-UNIT	NSF REQUIREMENTS: PER ITEM	R.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)
										STORAGE AREAS (cont.)	-maintenance (gardening tools, equipment, et al.)	300-350		
											-industrial		3-3.5 SF/ user capacity (tools)	
											Inmate Property Storage	1000±	15-20 cu. ft. per inmate	
											Central Storage or Warehouse	2500± (if not part of above)		
											Records			
											-management	250-300		
											-inmate records	500	1-1.5 SF/ facility population	
											-medical	100-120		
											Mechanical Room	varies	±5 x SF/GSF of construction	

REQUIREMENTS: O STANDARD; Δ TAILORED; O CORRECTIONAL; - NON APPLICABLE

MODIFICATION DEGREE: * MAJOR, + MINOR — DUE TO FUNCTION, LOCATION, SECURITY

APPENDIX C2. FUNCTIONAL SPACE ALLOTMENT FOR 400-BED FACILITY (cont.)

PROGRAM SPACE: ANCILLARY

REQUIREMENTS
O STANDARD
Δ TAILORED
O CORRECTIONAL
- NON APPLICABLE

MODIFICATION DEGREE
* MAJOR DUE TO FUNCTION
+ MINOR DUE TO LOCATION SECURITY

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: GEN'L	ARCH.	STRUCT	EQ. FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.	SPACE DENOMINATION: UNIT	SUB-UNIT	N°F REQUIREMENTS: PER ITEM	R.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)
										STORAGE AREAS (cont.)	Armory	150-180		
											Lockers			
											-full-height	9		
											-with dressing area	15		
											-visitor-type	3		

REQUIREMENTS: O STANDARD, Δ TAILORED, O CORRECTIONAL, – NON APPLICABLE

MODIFICATION DEGREE: * MAJOR, + MINOR DUE TO FUNCTION, LOCATION, SECURITY

PROGRAM SPACE: ANCILLARY

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: GEN'L ARCH.	GEN'L STRUCT	GEN'L EQ. FX.	PLUMBING	HVAC	ELECT.	EQ. MOV.	SPACE DENOMINATION: UNIT	SUB-UNIT	N&F REQUIREMENTS: PER ITEM	N&F REQUIREMENTS: R.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)
Δ	Δ	O	O	Δ	–	Δ	O	Δ	MISCELLANEOUS AREAS	Copy Center	150-180	1 copying machine and related	Management
Δ	Δ	Δ	Δ	Δ	–	Δ	Δ	–		Stage	300-600	25%-30% of related meeting area	Programs
Δ	Δ	Δ	O	Δ	–	Δ	Δ	Δ		Projection Booth	80		
O	Δ	Δ	Δ	–	–	O	Δ	Δ		Orchestra Pit	75-150	10/musician	
–	–	O	O	Δ	O	–	O	–		Kitchenettes	30		Housing
Δ	O	O	O	Δ	O	Δ	O	–		Pantry	120		
Δ	–	O	O	–	O	–	O	–		Janitor Closet	40-100		
Δ	Δ	Δ	O	Δ	O	O	O	–		Dog Kennels	100	25/dog	

SECURITY	FIRE SAFETY	CONSTRUCTION CONTRACT REQUIREMENTS: ARCH.	GEN'L STRUCT.	EQ. FX.	PLUMBING	HVAC	ELECT.	EQ. MCN.	SPACE DENOMINATION: UNIT	SUB-UNIT	NSF REQUIREMENTS: PER ITEM	R.O.T.	POSSIBLE LOCATIONS & RELATIONS AS PER STANDARDS (APP. C.1)
									MISCELLANEOUS AREAS (cont.)	Switchboard	120-180	1 occupant	Management
										Mailroom	200-240	2-3 occup.	Management

PROGRAM SPACE: ANCILLARY

REQUIREMENTS: O STANDARD; Δ TAILORED; O CORRECTIONAL; - NON APPLICABLE

MODIFICATION DEGREE: * MAJOR, + MINOR — DUE TO FUNCTION, LOCATION, SECURITY

APPENDIX C3

Physical Security Levels: Site

APPENDIX C3. PHYSICAL SECURITY LEVELS: SITE

SITE	MAXIMUM	MEDIUM	MINIMUM
LAND:			
Location	refer to CAC standards.	refer to CAC standards.	refer to CAC standards.
Boundaries	follow standard engineering practice		
Land Use	follow standard engineering practice		
Dimensions	N/A	N/A	N/A
UTILITIES: Service and Distribution	Follow standard engineering practice but encased. Within perimeter security use high security manholes and hardware where needed.	see maximum security	follow standard engineering practice
SECURITY AND SAFETY: Barriers	Perimeter walls of no less than 30 ft. height with continuous footings no less than 10 to 15 ft. deep, 2 - 2.5 ft. thick, used in conjunction with other security elements. When building is part of perimeter refer to structural and architectural sections.	Double chain link fence ± 30 ft. apart, outside portion no less than 20 ft. high with continuous footings no less than 10 ft. deep. Mesh 6 or 9 ga. galvanized steel buried into footing with non-climbable section on outside portion. Special high security detailing - razor wire on top, used in conjunction with other security elements. When building is part of perimeter	single chain link fence required by CAC standards no less than 10 ft. high with a non-climbable mesh section for scape intrusion deterrence.

APPENDIX C3. PHYSICAL SECURITY LEVELS: SITE (cont.)

SITE	MAXIMUM	MEDIUM	MINIMUM
SECURITY AND SAFETY: Barriers (Contd)			
		refer to structural and architectural sections.	
Observation Posts	Guard Towers - 24 hr. staffing - access only from inside. Located at edge of perimeter wall. Observation area above top of wall. Use high security construction details and materials. (refer to building section.	Guard Towers - variable staffing - access from inside and outside. Otherwise, similar to maximum security.	Not required.
	Vehicle post recommended as back-up security.	Vehicle posts optional.	
Sensors	Used as back-up for barriers and observation. Depending upon climatic conditions and preferences. Required.	See max. security recommended on fences - Required on bldgs where they are part of perimeter security.	not required
Alarms Fire and Security	Used in conjunction with sensors and observation posts, connected to a central station. Required.	See max. security. Required for fire.	Not required
Lighting	Required for perimeter security, building	Required at perimeter security fences and	Required on outdoor public areas.

APPENDIX C3. PHYSICAL SECURITY LEVELS: SITE (cont.)

SITE	MAXIMUM	MEDIUM	MINIMUM
SECURITY AND SAFETY: Lighting (Contd)			
	perimeters and outdoor secure and public areas.	buildings, in outdoor public areas and in secure exercise areas if to be used at night.	Recommended on outdoor secure areas.
Surfacing	Standard engineering and/or athletic standard.	See maximum security	See maximum security
Landscaping	Trees and shrubs cleared from within 50 ft of outside perimeter security and from within secure site. Shrubs limited in height to 12".	Trees and shrubs cleared from 50 ft. of perimeter security. Shrubs limited in height to 36".	Branches of trees and shrubs should be kept about 20 ft. away from perimeter security. Otherwise, as preferred.

APPENDIX C4

Physical Security Level: Building System

APPENDIX C4. PHYSICAL SECURITY LEVEL: BUILDING SYSTEM

BUILDING	MAXIMUM	MEDIUM	MINIMUM
Structural foundations. (types depending on soil conditions).	Standard, unless building is part of perimeter security. Then it should be treated as a perimeter security wall with continuous footings no less than 10' to 15' deep with special reinforcement.	See maximum security.	Standard
Superstructure. (types depending upon space function and design decisions.) (Could be affected by soil conditions if these are poor.) Materials determined by building code and security considerations.	Special reinforcement and detailing of connections, floor framing, structural roofing and fire proofing.	Standard, except for fire protection of structural members, then special reinforcement and detailing is required. If part of perimeter or internal security barrier, see maximum security.	Standard
Architectural Exterior Encl. (types depending upon space function, design decision, and security considerations) regulated by building codes.	Roofing: Standard Walls: Solid concrete with special reinforcement. Doors & Frames: Special correctional high security types, usually steel, solid or grille, sliding preferred.	Roofing: Standard. Walls: Standard reinforced concrete or specially reinforced concrete block wall. Doors & Frames: See max security if part of perimeter or material security barrier. Otherwise, use institutional grade.	Roofing: Standard Walls: Standard (Reinforced concrete or concrete block or cinder flocks recommended). Doors & Frames: Standard; (institutional grade recommended).

APPENDIX C4. PHYSICAL SECURITY LEVEL: BUILDING SYSTEM (cont.)

BUILDING	MAXIMUM	MEDIUM	MINIMUM
Architectural Exterior Encl. (Contd)	Windows & Frames: Special correctional high security types, steel construction, louvered, minimal mullion spacing. Glazing: Special high security types: bullet proof in central control and observation posts, penetration resistant elsewhere. If part of perimeter security, refer also to sensors and alarms.	Windows & Frames: See max security if part of perimeter or internal security barrier. Otherwise, steel, institutional grade. Glazing: See maximum security if part of perimeter or internal security barrier; elsewhere, safety glass.	Windows & Frames: Standard (institutional grade recommended). Glazing: Standard (safety glass recommended where possible).
Interior Encl. (See exterior enclosures).	Partitions: Solid concrete with special reinforcement or special high security steel types. Doors & Frames: See exterior enclosures above. Glazing: High security types: Bullet proof in sectional control rooms. Otherwise, penetration resistant. Use in conjunction with sensors and alarms.	Partitions: Standard reinforced concrete or concrete block or cinder block, except if part of internal security barrier. Then refer to walls (exterior enclosures) above. Doors & Frames: Institutional grade except if part of interior security barrier. Glazing: Use penetration resistant glass in conjunction with sensors and alarms at sectional control rooms. Sections use penetration glass. Safety glass acceptable elsewhere.	Partitions: Standard reinforced concrete or cinder block or concrete block or drywall. Doors & Frames: Standard (institutional, commercial, or residential type). Glazing: Standard (safety type recommended).

APPENDIX C4. PHYSICAL SECURITY LEVEL: BUILDING SYSTEM (cont.)

BUILDING	MAXIMUM	MEDIUM	MINIMUM
Architectural Interior Encl. (Contd)	Ceilings: (if not structural). Special reinforcement or high security steel types, integrated and continuous.	Ceilings: Integrated and continuous.	Ceilings: Standard, although integrated and continuous is preferred.
Finishes: ext (types depending upon performance characteristics, design decision, and security considerations.)	Plaster, paint, varnishing, tiling, veneer, all standard (institutional specifications).	See maximum security.	See maximum security except residential specifications are acceptable.
Finishes: int See ext finishes above - building code regulated.	Plaster, paint, tiling, veneer, all standard (institutional specifications).	Plaster, paint, tiling, veneer, carpeting, all standard (institutional specs)	Plaster, paint, tiling, veneer, varnishing, panelling, carpeting, decking, all standard (institutional specs recommended, residential acceptable).
Insulation, ext.	Waterproofing: standard Thermal - may require special protection against vandalism.	Waterproofing: standard Thermal: standard (see max security).	Waterproofing: standard Thermal: standard
Insulation, int.	Soundproofing, Fire Protection: Standard with special reinforcement and detailing.	Soundproofing, Fire Protection: (see max security).	Soundproofing, Fire Protection: Standard.
Hardware	Locks: (Manual or electrical). Special correctional high security type.	Locks: (Manual or electrical): Special corrections med security for internal security	Locks: Manual or electrical): Special corrections min security type or institutional

APPENDIX C4. PHYSICAL SECURITY LEVEL: BUILDING SYSTEM (cont.)

BUILDING	MAXIMUM	MEDIUM	MINIMUM
Hardware (Contd)		barriers, sectional or unit barriers; Institutional grade for local barriers. In perimeter or internal security barrier, use either special high security or med security.	grade perimeter and sectional - residential or institutional in local areas.
	Gang locking: (manual or electrical): ditto Hinges: ditto Door closers: ditto Miscellaneous: ditto	Gang locking: (manual or electrical: ditto Hinges: ditto Door closers: ditto Miscellaneous: ditto	Hinges: ditto Door closers: ditto Miscellaneous: ditto
Specialties:	Chalkboards, tackboards, compartments, wall & corner guards, flagpoles, identifying devices, lockers, storage shelving: standard, institutional grade (tamper-proof installation) if within security areas.	chalkboards, etc. (see max security).	chalkboards, etc. Standard (Institutional grade recommended in high-use areas).
	Louvers, vents, grilles, and screens, wardrobe accessories, toilet and bath accessories: Correctional high security items and installations.	Louvers, etc. Use correctional medium security items and installations or institutional tamper-proof items.	Louvers, etc. See above.
Plumbing: Distribution & service systems (refer to	Standard systems, but encased in max security enclosures (see water	Standard systems but enclosed in medium security enclosures. (see walls and tunnels above)	Standard systems (encasement recommended for ease of maintenance with access

APPENDIX C4. PHYSICAL SECURITY LEVEL: BUILDING SYSTEM (cont.)

BUILDING	MAXIMUM	MEDIUM	MINIMUM
Plumbing: (Contd) sanitary code).	tunnels above) with access panels of high security materials, installations and hardware.	with access panels of medium security or institutional grade materials, installations and hardware.	panel and hardware of institutional grade).
Pipe insulation	Standard	Standard	Standard
Fire Extinguishing: (as required by space function). (Regulated by building code and NFPA).	Standard systems. Concealed piping/fitting. Flush heads.	Standard systems. Concealed pipes and fittings, flush heads.	Standard systems. Exposed or concealed piping, pendant or flush heads.
Standpipes:	Standard systems encased in max security with access panels and hardware.	Standard systems encased in med security encl with access panels, hardware.	Standard systems, standard cabinets.
Fire Extinguishers:	See above.	See above.	Standard systems, encased or exposed.
Plumbing fixtures and appliances:	Special high security grade.	Special high security or institutional grade with tamper-proof fittings.	Institutional or residential grade.
HVAC Systems: Generation Systems: (depending upon volume, design decision, availability of resources, etc.) regulated by building code, sanitary code, etc.	Standard. No special requirements if outside secure perimeter, except for a secure perimeter of its own. If within perimeter security (not recommended), then refer to structural and architectural elements above.	See maximum security.	Standard.

APPENDIX C4. PHYSICAL SECURITY LEVEL: BUILDING SYSTEM (cont.)

BUILDING	MAXIMUM	MEDIUM	MINIMUM
Distribution Systems:	Standard, but all concealed and/or tamper-proof. See architectural elements.	Standard, but all concealed and/or tamper-proof (re. arch elements).	Standard, concealed where required by code. No special security requirements.
Insulation: (piping, ductwork, etc.)	Standard	Standard	Standard
Electrical Service and Distribution Systems: Dependent upon volume, regulated by code.	Standard engineering practice, concealed.	See maximum security.	Standard engineering practice.
Accessories: (Outlets, switches) (Depending upon security requirements, volume, regulated by code).	High security (key operated switches, etc.)	Institutional type.	Standard.
Illumination: (depending upon space function and security requirements).	Tamper-proof high security fixtures.	Institutional type.	Standard.
Communications: (depending upon design decisions, security requirements).	Scope: Comprehensive for unit section and central interactions; local optional. Equipment: Correctional grade and type locked in high security cabinets and under supervision.	Scope: Primary unit and sectional with central and secondary capability. Equipment: Correctional type locked in high security cabinets at sectional and central locations and	Scope: Sectional and central capability. Equipment: Standard type supervisable at central locations.

APPENDIX C4. PHYSICAL SECURITY LEVEL: BUILDING SYSTEM (cont.)

BUILDING	MAXIMUM	MEDIUM	MINIMUM
Communications: (Contd)		supervisable there and in local areas.	
Security: (depending upon security requirements).	Same as Communications, above.	See maximum security for control requirements. For locations, see above.	Standard type equipment.
Safety (depending upon security requirements and building code requirements).	See above. As required by code.	As required by code. See above for security requirements.	As required by code. Standard equipment.

APPENDIX C5

Building System Chart

LEGEND
● APPROPRIATE
○ ACCEPTABLE
– NON-APPLIC.
× NOT RECOM'D.
✱ SPECIAL LOC'N.

DETERMINING FACTORS

-dependent upon soil conditions and design criteria (function)
-regulated by building codes (construction and fire)

SYSTEM	COMPONENTS	CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
STRUCTURAL	FOUNDATIONS																
	Footings	-piles, caissons, columns, pile caps, walls, et al.											●	–	–	–	DRAWINGS Structural SPECIFICATIONS (Sections 1, 2, 3,7) REFERENCES (building codes)
	Retaining walls	-reinforced concrete											●	–	–	–	
	Slabs on grade	-reinforced concrete											●	–	–	–	
	SUPERSTRUCTURE																
	Floor framing	-slabs (flat, with integral beams etc.), precast, prestressed, composite, et al.											●	●	–	–	DRAWINGS Structural SPECIFICATIONS (Sections 2,3, 5,6,7) REFERENCES (building codes)
	Roof framing	-slabs (flat with integral beams etc.), precast, prestressed, composite, et al.											●	–	–	–	
	Bearing walls	-reinforced concrete, et al.											●	–	–	–	
	Post and beam framing	-reinforced, poured in place, precast, prestressed, et al.											●	–	–	–	
	Fireproofing of structural members (if steel or other combustible material)	-various methods											●	●	–	–	

DETERMINING FACTORS

-dependent upon climate, design criteria (function and level of security) and budget
-regulated by building codes (construction, fire and energy)

LEGEND
● APPROPRIATE
O ACCEPTABLE
– NON-APPLIC.
X NOT RECOM'D.
* SPECIAL LOC'N.

SYSTEM	COMPONENTS	CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
ARCHITECTURAL	EXTERIOR ENCLOSURES																
	Walls	solid, reinforced concrete	●	●	●	●	●	●	O	●			●	–	–	–	DRAWINGS
		cavity, masonry, standard	●	●	●	●	●	●	X	●	X	O	●	–	–	–	Architectural
		same, security reinforcement	O	O	O	O	O	●	X	X	●	X	●	–	–	–	(floor plans,
		masonry, standard	O	O	O	O	O	●	X	X	O	X	●	–	–	–	wall sections,
		same, security reinforcement	X	X	O	O	O	●	X	X	O	X	●	–	–	–	details)
		steel-plated (inside)	O	X	O	X	X	●	X	●	X	X	X	–	–	–	SPECIFICATIONS
		wood construction, standard	O	O	X	X	X	X	X	X	X	O	X	–	–	–	(Sections 3, 4, 5, 6, 7)
																	REFERENCES
																	(NFiPA, et al.)
	Doors and frames	steel, solid, swing	X	X	*	*	*	●	X	●	*	X	●	O	–	–	DRAWINGS
		steel, solid, sliding	X	X	*	*	*	●	X	●	*	X	●	O	–	–	Architectural
		hollow metal, swing; standard	●	●	●	●	●	O	●	X	O	●	●	●	–	–	(floor plans,
		same, security reinforcement and gauge	X	X	O	O	O	●	X	O	●	X	●	●	–	–	door schedule)
		steel, barred, swing	X	X	*	*	*	●	X	●	*	X	●	O	–	–	SPECIFICATIONS
		steel, barred, sliding	X	X	*	*	*	●	X	●	*	X	●	O	–	–	(Section 8)
		steel, sliding, glazed	O	O	*	*	*	X	X	O	O	*	O	O	–	–	REFERENCES
		steel, coil (overhead or side)	X	X	*	*	X	X	X	●	O	X	●	O	–	–	(fire and energy
		aluminum, coil (overhead or side)	X	X	*	*	X	X	X	X	O	●	●	O	–	–	codes)
		wood, solid, swing	●	●	O	O	O	●	●	X	O	●	O	●	–	–	CROSS REFERENCES
		wood, hollow, swing	●	●	O	O	O	●	●	X	X	O	O	●	–	–	Hardware
		others (not described)	*	*	*	*	*	–	*	–	*	*	*	*	–	–	

LEGEND
● APPROPRIATE
O ACCEPTABLE
– NON-APPLIC.
X NOT RECOM'D.
✱ SPECIAL LOC'N.

SYSTEM	COMPONENTS	CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. PERM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
ARCHITECTURAL	EXTERIOR ENCLOSURES (cont.)																
	Windows and frames	steel, louvered, security	O	X	X	X	X	X	X	●	X	X	●	–	–	–	DRAWINGS
		aluminum, louvered, security	X	●	X	X	O	●	●	X	O	●	●	–	–		Architectural
		metal, various types, standard	●	X	●	O	O	O	●	X	X	O	●	–	–		(floor plans,
		same, with security screening	X	●	✱	O	X	O	O	X	O	X	●	–	–		window details,
		wood, various types, standard	●	●	X	●	X	O	●	X	X	O	●	–	–		elevations, wall
		same, with security screening	X	O	✱	O	X	O	O	●	X	O	●	–	–		sections)
		steel, fixed, security	O	X	O	✱	O	X	X	X	O	X	●	–	–		SPECIFICATIONS
		aluminum, fixed, standard	O	O	O	O	O	X	X	X	O	●	●	–	–		(Section 8)
	Glazing	laminated bullet-resistant	–	–	✱	–	–	–	–	✱	✱	–	●	●	–		REFERENCES
		laminated impact-resistant	✱	✱	O	O	O	O	O	●	●	X	●	●	–		(fire and energy
		polycarbonate ("Lexan")	✱	✱	✱	✱	X	X	✱	✱	✱	✱	O	●	–	–	codes)
		tempered glass	●	●	●	●	●	●	●	✱	O	●	●	●			CROSS REFERENCES
		wired glass	✱	✱	✱	✱	✱	✱	✱	–	–	–	O	O			Glazing
	Hardware	according to door or window type								●	●	●	●	●			Hardware
	Roofing	shingles and tiles											●	O			
		pre-formed roofing											●	O			
		membrane roofing											●	O			

LEGEND
● APPROPRIATE
○ ACCEPTABLE
– NON-APPLIC.
× NOT RECOM'D.
✱ SPECIAL LOC'N.

DETERMINING FACTORS

-dependent upon design criteria (function and level of security) and budget

SYSTEM	COMPONENTS	CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
ARCHITECTURAL	INTERIOR ENCLOSURES																
	Walls (non-structural)	solid, reinforced concrete	○		○		●	○	○	●	●	○	●	×	×	–	DRAWINGS Architectural (floor plans, wall sections, schedule) SPECIFICATIONS
		masonry standard	●○	●	○	●	●	○	●	○	✱	●	●	●	✱	–	
		same, reinforced and filled	○	○	○	●	○	●	○	○	●	○	●	●	✱	–	
		steel construction	×	×	×	×	×	●	×	●	×	×	×	×	×	–	
		wood construction	○	○	×	×	×	×	×	×	×	○	×	○	✱	–	
	Partitions	hollow, stud or channel frame (with various surfaces)	●	●	○	○	○	×	○	×	×	●	●	●	○	–	DRAWINGS Architectural (floor plans, details and schedules) SPECIFICATIONS
		mesh (galvanized or stainless steel)	✱	✱	✱	✱	✱	✱	✱	✱	✱	✱	●	●	○	–	
		metal (frame and surface)	○	○	○	○	○	×	×	×	×	●	●	●	○		
		glazed, refer to exterior enclosures	✱	✱	✱	✱	✱	✱	✱	✱	✱	✱	●	●	○	–	
		demountable/relocatable	○	○	○	●	○	×	×	×	×	●	●	●	○	–	
		folding/sliding/coiling	✱	✱	✱	✱	✱	–	–	✱	✱	✱	●	●	○	–	
		standard toilet and shower compartments	●	●	●	●	●	✱	●	✱	✱	✱	●	●	○	–	
	Ceilings																
	structural	refer to superstructure: roof															
	non-structural	refer to interior finishes															
	Floors																
	structural	refer to superstructure															
	non-structural	refer to interior finishes: finishes															

LEGEND
● APPROPRIATE
O ACCEPTABLE
– NON-APPLIC.
× NOT RECOM'D.
✱ SPECIAL LOC'N.

SYSTEM	COMPONENTS	CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP							LEVEL SEC'Y.			TYPE CONST.				INFORMATION RESOURCES
DETERMINING FACTORS			MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	MAXIMUM	MEDIUM	MINIMUM	NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	
ARCHITECTURAL	INTERIOR ENCLOSURES (cont.)																
	Doors	refer to exterior enclosures and exterior and interior finishes															
	Hardware	according to door or window type								●	●	●		●	●		

LEGEND
● APPROPRIATE
○ ACCEPTABLE
– NON-APPLIC.
× NOT RECOM'D.
✱ SPECIAL LOC'N.

DETERMINING FACTORS

-depending upon climate and budget
-regulated by building codes (construction, fire and energy)

SYSTEM	COMPONENTS	CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
ARCHITECTURAL	EXTERIOR FINISHES																
	Walls	facebrick, tile, stone	●	●	●	●	●	●	●	●	●	●	●				DRAWINGS Architectural (elevations, wall sections) SPECIFICATIONS (Section 9) REFERENCES
		metal panel siding	●	●	●	●	●	●	●	×	×	○	●				
		wood siding	●	○	○	●	●	●	○	×	×	●	×				
		stucco, cement, et al.	●	●	●	●	●	○	●	●	●	●	●	○			
		paint	●	●	●	●	●	●	●	●	●	●	●	●			
	Doors and frames, windows and frames, miscellaneous	factory finish paint, varnish, et al.											●	○			DRAWINGS Architectural (site plan, floor plans, details) SPECIFICATIONS (Section 9)
													○	●	●	●	
	Floors	terrazo, quarry tile, slate, brick, asphalt, concrete, et al. non-slippery surfacing	✱	✱	✱	✱							●	○			
													●	○			

LEGEND
● APPROPRIATE
○ ACCEPTABLE
– NON-APPLIC.
× NOT RECOM'D.
* SPECIAL LOC'N.

DETERMINING FACTORS
-depending upon budget and design criteria
-regulated by building codes (fire and construction)

SYSTEM	COMPONENTS	CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
ARCHITECTURAL	INTERIOR FINISHES																
	Walls	panelling (non-combustible)	●	●	–	×	○	×	×	×	×	○	○	○	–	–	DRAWINGS Architectural (floor plans, elevations, finish schedules) SPECIFICATIONS (Section 9)
		sheet wallcovering (washable, non-combustible)	●	●	–	●	●	●	●	×	○	●	○	●	○		
		paint, washable, non-combustible (e.g., epoxy)	●	◐	●	●	●	●	●	●	●	●	●	●	●	●	
		tiling															
	Doors and frames	refer to exterior finishes															
	Windows and frames	refer to exterior finishes															
	Miscellaneous	refer to exterior finishes															
	Floors	terrazzo (integral)	●	◐	●	●	●	◐	●	●	●	○	●				DRAWINGS Architectural (floor plans, finish schedules, details) SPECIFICATIONS (Section 9)
		quarry tile, et al.	○	○	*	●	○	○	○	*	○	○	●	●			
		concrete with hardener	○	◐	●	●	○	●	●	●	●	○	●				
		vinyle asbestos tile	●	●		○	○	○	○	×	◐	●	●	●			
		other resilient floorings	○	○	–	○	○	–	–	×	○	●	○	●			
		carpeting	●	●	*	*	○	×	×	×	○	●	●	●	◐	○	
		painting	×	×	×	×	×	×	×	×	×	×			○	●	

LEGEND
● APPROPRIATE
○ ACCEPTABLE
– NON-APPLIC.
× NOT RECOM'D.
✱ SPECIAL LOC'N.

SYSTEM	COMPONENTS	CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
ARCHITECTURAL	INTERIOR FINISHES (cont.)																
	Ceilings	hung ceiling: monolithic, standard	●	●	○	○	○	×	●	×	×	●	●	●			DRAWINGS Architectural (reflected ceiling plans) SPECIFICATIONS (Section 9)
		ditto: monolithic, secured	●	●	○	○	○	●	○	○	●	×	●	●			
		ditto: accoustical tile, removable	●	●	×	×	○	×	×	×	×	●	●	●			
		ditto: high humidity resistant tile, removable	×	×	✱	✱	×	×	○	●	●	●	●	●			
		exposed slab, finished	●	●	●	●	●	●	●	●	●	●	●	●	●		
		ditto: accoustical tile, adhered	●	●	●	●	●	●	●	○	●	●	●	●	●		
		ditto: mechanical ductwork exposed	○	○	✱	×	×	×	×	×	×	○	●	●	●		
		painting	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

SYSTEM	COMPONENTS / SPECIALITIES	CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
ARCHITECTURAL		chalkboards and tackboards	*	*	*	*	*	*	*	–	–	–	*	*	–	–	DRAWINGS Architectural (floor plans, room details, finish schedules) Mechanical (floor plans, details) SPECIFICATIONS (Section 10 or as noted therein)
		compartments and cubicles	*	*	*	O	*	*	*	–	–	–	*	*	–	–	
		metal, (baked enamel, stainless steel, et al.)	●	●	O	O	*	*	*	X	O	●	●	●	–	–	
		stone (marble, et al.)	●	●	●	X	●	●	X	●	X	O	●	O	–	–	
		wood	*	*	*	X	*	*	X	●	●	O	O	O	–	–	
		toilet and shower partitions	*	*	*	X	*	*	X	●	O	–	*	*	–	–	
		ditto	O	O	*	*	●	X	*	O	*	–	●	O	–	–	
		shower and dressing compartments	*	*	*	X	*	*	X	●	●	–	O	O	–	–	
		ditto	O	O	*	*	●	X	*	O	*	–	●	O	–	–	
		louvers and vents	–	*	*	*	–	*	*								
		aluminum, standard	●	●	X	X	X	X	X	X	O						
		aluminum, secured	*	*	O	O	O	●	X	O			O	●	–	–	
		steel, standard	O	O	*	*	●	X	X	O			●	●	–	–	
		steel, secured	*	*	●	●	*	●	O	●			●	O	–	–	
		grilles and screens								X			●	O	–	–	
		ditto			*	*	*	*	*								
		wall and corner guards			*	*	*	*	*	●	●		●	●			
		secured access panels: steel			*	*	*	*	*				●	O			
		identifying devices											●	O			

LEGEND
● APPROPRIATE
O ACCEPTABLE
– NON-APPLIC.
X NOT RECOM'D.
* SPECIAL LOC'N.

LEGEND
● APPROPRIATE
○ ACCEPTABLE
– NON-APPLIC.
× NOT RECOM'D.
* SPECIAL LOC'N.

SYSTEM	DETERMINING FACTORS: COMPONENTS	CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
ARCHITECTURAL	FIXED FURNISHINGS AND EQUIPMENT	Barber/Beauty Shop (chair, cabinets, hot towel steamer, hair dryers, et al.)			*								●				DRAWINGS Architectural (floor plans, room details and equipment) SPECIFICATIONS (Section 11) REFERENCES Architectural planning guides (e.g., time savers standards)
		Vending Machines	*	*	*	*			*				●				
		Checkroom Equipment cost and package racks	*	*									●				
		Darkroom Equipment all-in-one units		*	*								●				
		component units		×	×	*							○				
		Church (pews or chairs, altar, pulpit, et al.)				*							●				
		Food Service (stoves, ovens, floor mounted kettles, refrigerators, freezers, dishwashers, counters, cabinets, shelving, food cards, et al.)			*								●				
		Athletic (basketball backstops, exercise items, bleachers, et al.)				*							●				
		Laboratory			*								●				
		Library (bookstacks, study carrells, card catalog cabinets, et al.)		*	*	*							●	●			REFERENCE ALA standards, general and for correctional institutions

LEGEND
● APPROPRIATE
O ACCEPTABLE
– NON-APPLIC.
× NOT RECOM'D.
* SPECIAL LOC'N.

SYSTEM	COMPONENTS	CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
ARCHITECTURAL	FIXED FURNISHINGS AND EQUIPMENT (cont.)	Medical/Dental (chair, light, sterilizer, drill unit, cabinets, et al.)		*								●				REFERENCE AMA standards for correctional institutions
		Medical/General (sterilizers, blood testing, examination tables, cabinets, et al.)		*								●				REFERENCE AMA standards for correctional institutions
		Pharmacy (secured storage, medication carts, et al.)		*								●				
		Detention Equipment					●	×	●	O	×	O	O			
		inmate room (bunk, desk, stool, clothes hooks, shelves, mirror, et al.)														
		other (tables and stools combination, et al.)		*	*	*	*	×	●	O	×	O	O			
		Fire Extinguishers	*	*	*	*	*	*	●	●	●	●	●			
		Toilet and Bath Accessories (soap dish, clothes hook, towel rack, towel bar, grab bar, soap dispenser, toilet paper holder, mirror, et al.)	*	*	*	*	*	*	●	●	●	●	●			
		Auditorium (seating)														DRAWINGS Architectural (floor plans

LEGEND
● APPROPRIATE
○ ACCEPTABLE
– NON-APPLIC.
× NOT RECOM'D.
* SPECIAL LOC'N.

DETERMINING FACTORS: SYSTEM	COMPONENTS	CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
ARCHITECTURAL	FIXED FURNISHINGS AND EQUIPMENT (cont.)																
	Auditorium	Auditorium (seating)				*				●							DRAWINGS Architectural (floor plans, room details, window details) SPECIFICATIONS (Section 12)
		Window Treatment								●	○						

LEGEND
● APPROPRIATE
○ ACCEPTABLE
– NON-APPLIC.
× NOT RECOM'D.
✱ SPECIAL LOC'N.

SYSTEM	COMPONENTS	DETERMINING FACTORS: CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
ARCHITECTURAL	FURNISHINGS & EQUIPMENT	Note: pertain to movable equipment															
		Industrial				✱											
		Vocational				✱											
		Educational				✱											
		Lounge seating	✱	✱	✱	✱	✱	✱	✱	×	○	●	●				
		Dining room			✱			✱	✱	×	○	●	●				
		Inmate room						○	●	×	○	●	●				
		Office (desks, chairs, files, et al.)	●	●	✱	✱	○			×	○	●	●				

CONTINUED

3 OF 4

APPENDIX C5. BUILDING SYSTEMS (cont.)

SYSTEM	COMPONENTS	CRITERIA S/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
ARCHITECTURAL	CONVEYING SYSTEMS	dumbwaiters			*			*	*								DRAWINGS Architectural (floor plans, details) SPECIFICATIONS (Section 14)
		elevators: service	*	*	*			*	*				●				
		passenger	*	*	*	*	*	*	*				●				
		wheelchair lift	*	*	*	*	*	*	*				●	O			
		others: generally not applicable to correctional facilities															

LEGEND
● APPROPRIATE
O ACCEPTABLE
– NON-APPLIC.
X NOT RECOM'D.
* SPECIAL LOC'N.

SYSTEM: PLUMBING

DETERMINING FACTORS

-dependent upon volume of service, design criteria and budget
-regulated by building codes (construction and fire)

COMPONENTS	CRITERIA &/OR CONSTRUCTION ITEM
KEY FACTORS	
Distribution -pipes (water, gas, fire protection, waste)	concealed; secured access concealed; standard access exposed; standard
-fittings (pumps, meters, valves, gauges, et al.)	concealed; secured access concealed; standard access exposed; tamperproof exposed; standard
Insulation (pipes)	standard
Fixtures -water closets, urinals, lavatories, sinks, water fountains	stainless steel; security type 1/ stainless steel; standard cast iron, enamel; standard steel, enamel; security type steel, enamel; standard vitreous china; security type vitreous china; standard
-toilet/sink combination	stainless steel; security type steel enamel; security type
-bathtub	cast iron enamel

1 concealed piping/fittings
tamperproof fittings

FACILITY FUNCT. GROUP: MANAGEMENT	STAFF SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. PERM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC
						●	●	○	●	—	—	—
						X	○	●	●	—	—	—
						X	○	○	●	—	—	—
						●	●	○	●	●	—	—
						X	○	●	●	●	—	—
						●	●	○	●	●	—	—
						X	X	●	●	●	—	—
									●	—	—	—
X	X	*	●	○	●	○	●	○	●	●	—	—
○	○	○	○	○	X	X	X	●	●	●	—	—
○	○	○	○	○	X	X	X	●	●	●	—	—
X	X	○	○	○	○	●	○	X	X	X	—	—
○	○	○	○	X	X	X	X	●	X	X	—	—
X	X	●	●	●	●	X	○	●	●	●	—	—
●	●	●	●	●	●	X	X	●	●	○	—	—
—	—	X	—	—	●	●	○	X	●	○	—	—
—	—	X	—	—	X	●	●	X	X	X	—	—
—	—	*	—	—	*							

LEGEND
● APPROPRIATE
○ ACCEPTABLE
— NON-APPLIC.
X NOT RECOM'D.
* SPECIAL LOC'N.

INFORMATION RESOURCES

DRAWINGS
Printing or Mechanical (floor plans, details, schedules)
SPECIFICATIONS (Section 15)
REFERENCES (building codes, arch. graphic standards, time saver standards)

LEGEND
● APPROPRIATE
○ ACCEPTABLE
– NON-APPLIC.
× NOT RECOM'D.
✱ SPECIAL LOC'N.

SYSTEM	COMPONENTS	DETERMINING FACTORS: CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
	KEY FACTORS (cont.)																
	Fixtures (cont.)																
	-shower stalls (prefab)	stainless steel	–	–	–	✱	✱	○	○	○	●	○	○	●	○			
		steel, enamel	–	–	✱	✱	✱	–	–	×	●	○	×	○			
		slate, terrazzo, et al.	✱	✱	✱	✱	–	○	○	●	●	○	●	○			
	-shower stalls (built-in)	refer to Architectural: Interior enclosures, finishes, specialities															
	-roof drains	secured (inmate/visitor access area)								●	●	×	○				
		nonsecured								×	○	●	○				
	-floor drains	secured (inmate/visitor access area)	–	–	✱	✱	–	✱	✱	●	●	×	●	○			
		nonsecured	–	–	✱	✱	–	✱	✱	×	×	●	●	○	○		
	Equipment (water heaters, generators, et al.)	in secured location								●	●	●	●				
	Accessories (compressed air vacuum pump, et al.)	in secured location								●	●	●	●				
	Fire Extinguishing refer to heat and smoke detectors, alarms, et al. in Electrical section	sprinklers, tamperproof	–	–	✱	●	●	●	●	●	●	○	○	○			
		sprinklers, standard	●	●	●	●	●	●	●	×	×	●	○	○			
		standpipes, encased, standard	✱	✱	✱	✱	✱	✱	✱	●	●	●	●	●			
		encased															

DETERMINING FACTORS

-dependent upon climate, volume of service, design criteria and budget
-regulated by building codes (construction, fire and energy)

SYSTEM	COMPONENTS	KEY ASPECTS	CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
HVAC		Heating Design	consult architect/engineer	●	●	●	●	●	●	●	●	●	●	●	●	—	—	DRAWINGS Mechanical (site plans, floor plans, details, schedules) SPECIFICATIONS (Section 15) REFERENCES (building codes, ASARAE)
		Ventilating Design	consult architect/engineer	●	●	●	●	●	●	●	●	●	●	●	●	—	—	
		Air Conditioning Design	consult architect/engineer	●	●	✱	○	○	○	○	●	○	○	●	●	—	—	
		Generation Plant	on site, outside perimeter security, secured			●					●	●	○	●	—	—	—	
			on site, outside perimeter security															
			on site, inside perimeter security, secured			●					X	○	●	●	—	—	—	
		Distribution thined-tube radiation, ductwork, et al.	concealed, secured access	○	○	●	●	●	●	●	●	●	○	●	—	—	—	
			concealed, nonsecured access	●	●	✱	X	X	X	X	X	X	●	●	—	—	—	
			exposed	X	X	✱	X	X	X	X	X	X	●	●	—	—	—	
		Outlets diffusers, registers, baseboard units, et al.	standard	●	●	X	X	X	X	○	X	X	●	○	○			
			institutional tamperproof	○	○	●	●	●	○	●	X	○	●	●	●			
			detention type	X	X	✱	○	○	●	X	●	●	○	●	●			

LEGEND
● APPROPRIATE
○ ACCEPTABLE
— NON-APPLIC.
X NOT RECOM'D.
✱ SPECIAL LOC'N.

DETERMINING FACTORS

-depending upon design criteria
-regulated by building codes (construction and fire)

LEGEND
● APPROPRIATE
O ACCEPTABLE
– NON-APPLIC.
× NOT RECOM'D.
* SPECIAL LOC'N.

SYSTEM	COMPONENTS	CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
ELECTRICAL	KEY FACTORS																
	Generation power	Full daily load requirements -public utilities to substations located outside perimeter security area, secured lines and stations			*					●	●	●	●				DRAWINGS Electrical and/or Security and Communications (site plan, floor plans, details, schedules) SPECIFICATIONS (Section 16) REFERENCES (building codes)
		-public utilities to substation inside perimeter security (site or buildings), secured lines								×	O	●					
		-own plant, located outside perimeter security, fuel source to be determined, secured								●	●	●					
		Emergency power failure -standby generator; outside perimeter security preferred, capacity to be determined								●	●	●					
	Transmission cables, transformers, vaults, switchgear, panels, et al.	-to electrical equipment room inside building(s), via underground lines, secured access thru floor slabs			*					●	●	●	●				
		-same but access thru exterior wall								×	×	O					
		-to other detached buildings								×	×	O					
		-exposed								×	×	O					

APPENDIX C5. BUILDING SYSTEMS (cont.)

SYSTEM	COMPONENTS	CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
ELECTRICAL	KEY FACTORS (cont.)																
	Distribution branch circuits, wires motor connections, grounding, et al.	-concealed, secured access	●	I	*	●	●	●	●	●	●	●	●				
		-concealed, nonsecured access	X	●	*	●	●	●	●	●	●	●	●				
		-exposed	X	X	*	*	*	*	*	X	X	O	X				
	outlets, boxes, switches, et al.	-key operated, et al.	I	I	*	*	*	●	I	●	X	X	●				
		-secured	I	I	●	●	●	●	I	●	X	X	●				
		-standard	●	●	O	O	O	●	●		O	●	●	O			
	Illumination fixtures, lamps, et al.	-flourescent	●	●	●	●	●	O	O	●	●	●	●	●			
		-incandescent	I	I	*	*	*	●	*	●	●	●	●	●			
		-mercury vapor	X	X	*	*	X	X	X	●	●	●	●	●			
		-sodium	X	X	X	*	X	X	X	●	●	●	●	●			
		(last two are best for site)															
	Communications & Security	-telephone	●	●	●	●	●	●	●	●	●	●	●	●			
		-intercom	●	●	●	●	●	●	●	●	●	●	●	●			
		-public address	O	O	*	*	*	X	X	●	●	●	●	●			
		-cable TV	I	*	*	*	I	*	*	●	●	●	●	O			
		-closed circuit TV (CCTV)	X	X	*	*	X	X	X	●	O	X	O				
		-intrusion detection devices	I	I	*	I	I	*	*	●	O	X	O				
		-remote control doors, etc.	I	I	*	*	*	●	*	●	●	O	●				
		-alarm/warning signals	O	O	●	●	●	●	●	●	●	O	O				

LEGEND
● APPROPRIATE
O ACCEPTABLE
– NON-APPLIC.
X NOT RECOM'D.
* SPECIAL LOC'N.

SYSTEM	COMPONENTS	DETERMINING FACTORS: CRITERIA &/OR CONSTRUCTION ITEM	FACILITY FUNCT. GROUP: MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM.	LEVEL SEC'Y.: MAXIMUM	MEDIUM	MINIMUM	TYPE CONST.: NEW	RENOV. MAJ.	RENOV. MIN.	COSMETIC	INFORMATION RESOURCES
ELECTRICAL	KEY FACTORS (cont.)																
	Fire Safety	-smoke detectors	●	●	●	●	●	●	●	●	●	●	●	●			
		-heat detectors	–	–	✳	✳	–	–	–	●	●	●	●	●			
		-alarms	●	●	●	●	●	●	●	●	●	●	●	●			
	Special Systems	-lightning protection (depends on height of buildings)								●	●	●	●				
		-TV antenna			✳	✳		✳	✳	●	●	●	●				
		-pocket paging antenna								●	●	●	●	●			
		-nurses call system			✳					●	●	●	●				
		-officers rounds clock system						✳	✳	●	●	○	●				
		-snow melting (depends of climate; related to intrusion detection systems)								●	●	○	○				

LEGEND
● APPROPRIATE
○ ACCEPTABLE
– NON-APPLIC.
× NOT RECOM'D.
✳ SPECIAL LOC'N.

APPENDIX C6

Level of Construction: Site

APPENDIX C6. LEVEL OF CONSTRUCTION: SITE

ELEMENT	NEW CONSTRUCTION		RENOVATION		
	OFFSITE	ONSITE	MAJOR	MINOR	COSMETIC
LOCATION	Essential	Reference only	N/A	N/A	N/A
BOUNDARIES	Essential	Reference only	N/A	N/A	N/A
LAND USE	Essential	Essential at construction site Reference rest of site	N/A	N/A	N/A
UTILITIES	Essential	Essential at construction site	Reference	N/A	N/A
SECURITY & SAFETY	Essential	Essential at construction site Reference rest of site	Reference if change in use	Reference if change in use	N/A
SURFACING	Essential	Essential vis-a-vis construction site or if it is the subject matter	N/A except if it is the subject matter for major repairs	N/A except if it is the subject matter for minor repairs	N/A except if it is the subject matter

APPENDIX C6. LEVEL OF CONSTRUCTION: SITE (cont.)

	NEW CONSTRUCTION		RENOVATION		
ELEMENT	OFFSITE	ONSITE	MAJOR	MINOR	COSMETIC
LANDSCAPING	Essential	Essential if part of construction site or if it is the subject matter	N/A	N/A	N/A

APPENDIX C7

Level of Construction: Building System

APPENDIX C7. LEVEL OF CONSTRUCTION: BUILDING SYSTEM

		NEW CONSTRUCTION		RENOVATION		
	ELEMENT	OFFSITE	ONSITE	MAJOR	MINOR	COSMETIC
STRUCTURAL	FOUNDATIONS	Essential	Essential (adjacent buildings, too)	N/A unless extensive demolition & reconstruction are anticipated	N/A	N/A
	SUPERSTRUCTURE	Essential	Essential	N/A unless extensive demolition & reconstruction are anticipated	N/A	N/A
ARCHITECTURAL	EXTERIOR ENCLOSURES	Essential	Essential (adjacent buildings, too)	N/A except see above or if it is the subject	N/A	N/A
				N/A except if modified	N/A except if repaired	N/A
				N/A except if replaced	N/A or if repaired	N/A
				N/A except if replaced	N/A or if repaired	
				N/A except if replaced	N/A except for cleaning	N/A except for cleaning
	INTERIOR ENCLOSURES	Essential	Essential	Essential (Modifications possible)	Reference (repairs possible)	Reference (finishes possible)

APPENDIX C7. LEVEL OF CONSTRUCTION: BUILDING SYSTEM (cont.)

ARCHITECTURAL (CONT.)

ELEMENT	NEW CONSTRUCTION		RENOVATION		
	OFFSITE	ONSITE	MAJOR	MINOR	COSMETIC
			Essential (Modifications possible)	Reference (repairs possible)	Reference (if on new finishes)
	Essential	Essential	Essential if replaced	Reference pos cleaning	Reference pos cleaning
EXTERIOR FINISHES	Essential	Essential incl adjacent buildings	N/A except if modified	N/A except if repaired	Essential if subject
INTERIOR FINISHES	Essential	Essential	Essential	Essential	Essential
EXTERIOR INSULATION	Essential	Essential incl adjacent buildings	Reference essential if subject	Reference	N/A
INTERIOR INSULATION	Essential	Essential	Essential modifications or subject	Reference Essential, if repair	Reference (some finishes will affect their properties
HARDWARE	Essential	Essential	Essential replacement modifications	Reference Essential, if repair	Reference if affected

APPENDIX C7. LEVEL OF CONSTRUCTION: BUILDING SYSTEM (cont.)

		NEW CONSTRUCTION		RENOVATION		
	ELEMENT	OFFSITE	ONSITE	MAJOR	MINOR	COSMETIC
HVAC	REFRIGERATION	Essential	Essential refer to existing services	Essential replacement modifications repair	Reference repairs	N/A
	INSULATION	Essential	Essential	Essential	Reference	N/A
	POWER	Essential	Essential refer to existing services	Essential modifications	Reference	N/A
	SERVICE	Essential	Essential	Essential modifications replacement repairs	Reference repairs	N/A
ELECTRICITY	ILLUMINATION	Essential	Essential	Essential replacement modifications repairs	Reference repairs	N/A
	COMMUNICATION	Essential	Essential refer to existing services	Essential replacement modifications repairs	Reference repairs	N/A

APPENDIX C7. LEVEL OF CONSTRUCTION: BUILDING SYSTEM (cont.)

		NEW CONSTRUCTION		RENOVATION		
	ELEMENT	OFFSITE	ONSITE	MAJOR	MINOR	COSMETIC
PLUMBING	DISTRIBUTION & SERVICES	Essential	Essential	Essential Replacement, major modifications and/or repairs	Reference minor repairs or if mods general	N/A
	PIPE & FITTINGS	Essential	Essential	Essential Replacement, modifications and/or repairs	Essential repairs	N/A
	INSULATION	Essential	Essential	Essential Replacement, modifications and/or repairs	Reference re repairs	N/A
	FIXTURES	Essential	Essential	Essential Replacement	Essential re repairs	Reference if affected
	FIRE SUPPRESSION	Essential	Essential	Essential Replacement, modifications or all new	Essential minor modifications or repair	Reference if affected
HVAC	GENERAL	Essential	Essential Refer to existing services	Reference	N/A	N/A

APPENDIX C7. LEVEL OF CONSTRUCTION: BUILDING SYSTEM (cont.)

ELECTRICITY CONTD.

ELEMENT	NEW CONSTRUCTION		RENOVATION		
	OFFSITE	ONSITE	MAJOR	MINOR	COSMETIC
SECURITY	Essential	Essential refer to existing services	Essential replacement, modifications repair	Reference repairs	N/A
SAFETY	Essential	Essential refer to existing services	Essential replacement, modifications repair	Reference repairs	N/A
MISCELLANEOUS	Essential	Essential refer to existing services	Essential replacement, modifications repair	Reference repairs	N/A

APPENDIX C8

Level of Construction: Equipment

APPENDIX C8. LEVEL OF CONSTRUCTION: EQUIPMENT

	NEW CONSTRUCTION		RENOVATION		
ELEMENT	OFFSITE	ONSITE	MAJOR	MINOR	COSMETIC
SPECIALTIES	Essential	Essential	Essential replacement, modifications	Reference Essential if repair	Reference if affected
BUILT IN (FIXED) EQUIPMENT	Essential	Essential	Essential replacement, modifications and repairs	Reference repairs	N/A except if affected
MOVEABLE EQUIPMENT	Essential	Essential	Essential replacement, modifications and repairs	Reference repairs	N/A except if affected

APPENDIX C9

Computing Gross Square Feet in Renovation Projects

APPENDIX C9. COMPUTING GROSS SQUARE FEET IN RENOVATION PROJECTS

Instructions on how to estimate the GSF of an existing space for planning purposes in renovation.

Case 1: Entire building interiors to be considered

1.1 measure space inside the outside walls; level by level GSF

1.2 measure areas taken up by mechanical, vertical circulation or any immovable object which cannot be reassigned in function level by level

1.3 subtract 1.1 from 1.2 to obtain the net usable area for each level.

1.4 use 1.3 results for cost estimating purposes as GSF renovation

Case 2: Only a portion of a building's level is to be considered

2.1 measure the area inside the line of the walls defining them

2.2 meausre any immovable object as explained above in 1.2

2.3 subtract 2.2 from 2.1

2.4 same as 1.4

Case 3: When outside walls need repair

3.1 measure the length of the wall

3.2 measure its thickness

3.3 identify its construction characteristics, (solid, cavity, composite)

3.4 identify its materials (bricks, stone, block) for each of its components (e.g. facing, interior wall, structural supports, etc,)

Case 4: When elements of the exterior walls (e.g., doors, windows) need replacement

4.1 measure area occupied by each of these elements

4.2 identify its installation characteristics

4.3 identify size, materials and installation requirements of replacement item

Case 5: Introducing a new opening in a wall

5.1 identify size of opening

5.2 identify construction characteristics of area affected

5.3 identify structural and finishing requirements for new opening

Case 6: Demmolition of interior, nonbearing partitions, and related interior finishes

6.1 measure area to be affected as in case 1.

Note:

1. cost estimating figures in appendix C10 relate to cases 1 and 2
2. use standard cost estimating references for cases 3, 4 and 5
3. renovation costs in appendix C10 include an allowance for demolition of interior partitions. Other demolition costs included under miscellaneous section of the same appendix.

APPENDIX C10

Cost Estimating Chart

Cost estimates are indicated by three variables: level of construction (CE1), level of security (CE2) and facilities (or areas, CE3). CE5 subdivides the cost estimate into G.C. (general construction), Plumb. (plumbing, which includes fire protection), HVAC (heating, ventilation and air conditioning) and Elect. (electricity). The final column shows the total cost estimate figure.

APPENDIX C10. COST ESTIMATING CHART

CE1 LEVEL CONST.					CE2 LSEC'Y.			CE3 FACILITIES	CE5 COST ESTIMATING FIGURES				
NEW-OFF	NEW-ON	RENOV. MAJ.	RENOV. MIN.	COSMETIC	MAXIMUM	MEDIUM	MINIMUM	FUNCTIONS	G.C.	PLUMB.	HVAC	ELECT.	
								GROUPS					
	X				X	X	X	Support					$60.00
								FUNCTIONS					
	X				X	X		Executive	$51.40	$7.20	$10.80	$8.40	77.80
	X						X		43.10	6.00	9.60	7.20	65.90
		X			X	X			23.90	6.00	6.00	6.00	41.90
		X					X		21.50	4.80	4.80	4.80	35.90
			X		X	X	X						17.90
	X				X	X		Custody	59.80	7.20	8.40	8.40	83.80
	X						X		51.40	6.00	7 20	7.20	71.80
		X			X	X			29.90	6.00	6.00	6.00	47.90
		X					X		27.50	4.80	4.80	4.80	41.90
			X		X	X	X						17.90

APPENDIX C10. COST ESTIMATING CHART (cont.)

CE1 LEVEL CONST.					CE2 LSEC'Y.			CE3 FACILITIES	CE5 COST ESTIMATING FIGURES				
NEW-OFF	NEW-ON	RENOV. MAJ.	RENOV. MIN.	COSMETIC	MAXIMUM	MEDIUM	MINIMUM	FUNCTIONS	G.C.	PLUMB.	HVAC	ELECT.	
								FUNCTIONS (cont.)					
	X				X	X		Visiting	$69.40	$7.20	$9.60	$9.60	$95.80
	X						X		51.40	6.00	7.20	7.20	71.80
		X			X	X			28.70	6.00	7.20	7.20	49.10
		X					X		27.50	4.80	4.80	4.80	41.90
			X		X	X	X						17.90
	X				X	X		Inmate Reception	59.80	7.20	8.40	8.40	83.80
	X						X		51.40	6.00	7.20	7.20	71.80
		X			X	X			29.90	6.00	6.00	6.00	47.90
		X					X		27.50	4.80	4.80	4.80	41.90
			X		X	X	X						17.90
	X				X	X		Medical - Infirmary	59.80	9.60	10.80	9.60	89.80
	X						X		51.40	8.40	10.60	8.40	78.80
		X			X	X			32.30	7.20	7.20	7.20	53.90
		X					X		29.90	6.00	6.00	6.80	48.70
			X		X	X	X						17.90

APPENDIX C10. COST ESTIMATING CHART (cont.)

CE1 LEVEL CONST.					CE2 L SEC'Y.			CE3 FACILITIES	CE5 COST ESTIMATING FIGURES				
NEW-OFF	NEW-ON	RENOV. MAJ.	RENOV. MIN.	COSMETIC	MAXIMUM	MEDIUM	MINIMUM	PROGRAM SPACES	G.C.	PLUMB.	HVAC	ELECT.	
								ACTIVITY					
	X				X	X		Gym	50.20	7.20	9.60	10.80	77.80
	X						X		47.80	6.00	8.40	9.60	71.80
		X			X	X			29.90	6.00	6.00	6.00	47.90
		X					X		21.50	4.80	4.80	4.80	35.90
			X		X	X	X						17.90
	X				X	X		Industries	47.80	7.20	8.40	8.40	71.80
	X						X		45.50	7.20	6.00	7.20	65.90
		X			X	X			23.90	6.00	6.00	6.00	41.90
		X					X		21.50	4.80	4.80	4.80	35.90
			X		X	X	X						17.90
	X				X	X		Classrooms	78.90	19.10	10.80	10.80	119.60
	X						X		45.50	6.00	7.20	7.20	65.90
		X			X	X			23.90	6.00	6.00	6.00	41.90
		X					X		21.50	4.80	4.80	4.80	35.90
			X		X	X	X						17.90

APPENDIX C10. COST ESTIMATING CHART (cont.)

CE1 LEVEL CONST.					CE2 L SEC'Y.			CE3 FACILITIES	CE5 COST ESTIMATING FIGURES				
NEW: OFF	NEW: ON	RENOV. MAJ.	RENOV. MIN.	COSMETIC	MAXIMUM	MEDIUM	MINIMUM	PROGRAM SPACES	G.C.	PLUMB.	HVAC	ELECT.	
								ACTIVITY (cont.)					
	X				X	X		Kitchen	78.90	19.10	10.80	10.80	119.60
	X						X		70.60	18.00	9.60	9.60	107.80
		X			X	X			51.40	14.40	6.00	6.00	77.80
		X					X		49.60	12.60	4.80	4.80	71.80
			X		X	X	X						17.90
	X				X	X		Shops	52.60	10.80	9.60	10.80	83.80
	X						X		50.20	9.00	9.00	9.60	77.80
		X			X	X			31.10	8.40	7.20	7.20	53.90
		X					X		28.70	7.20	6.00	6.00	47.90
			X		X	X	X						17.90
	X				X	X		Dining Room	50.20	6.00	8.40	7.20	71.80
	X						X		41.90	4.80	7.20	6.00	59.90
		X			X	X			20.30	4.80	6.00	4.80	35.90
		X					X		16.80	3.60	4.80	4.80	30.00
			X		X	X	X						17.90

APPENDIX C10. COST ESTIMATING CHART (cont.)

CE1 LEVEL CONST.					CE2 L SEC'Y.			CE3 FACILITIES	CE5 COST ESTIMATING FIGURES				
NEW-OFF	NEW-ON	RENOV. MAJ.	RENOV. MIN.	COSMETIC	MAXIMUM	MEDIUM	MINIMUM	PROGRAM SPACES	G.C.	PLUMB.	HVAC	ELECT.	
								LIVING					
	X				X	X		Dormitories	55.00	10.80	9.60	8.40	83.80
	X						X		44.30	7.20	7.20	7.20	65.90
		X			X	X			27.50	8.40	6.00	6.00	47.90
		X					X		21.50	4.80	4.80	4.80	35.90
X					X	X		Individual Housing	55.00	10.80	9.60	8.40	83.80
X							X		49.00	14.40	7.20	7.20	77.80
	X				X	X			65.80	15.60	7.20	7.20	95.80
	X						X		27.50	10.80	4.80	4.80	47.90

APPENDIX C11

Location Cost Indexes (March, 1981)

This appendix includes a list of Historical Local Building Cost Indexes. They allow the User to determine local building cost increases in any listed city as of March, 1981. The index applies to all locales within a 25 mile radius of the listed city and sometimes much more. See page 88 for an explanation of when and how to use the location cost indeses.

APPENDIX C16. BUILDING COST INDEX

CITY	DATE		% OF NYC	CITY	DATE		% OF NYC
Akron, OH	1981	March	85	El Paso, TX	1981	March	75
Albany, NY	1981	March	84	Evansville, IN	1981	March	99
Albany, OR	1981	March	97	Fall River, MA	1981	March	88
Albuquerque, MN	1981	March	81	Fargo, ND	1981	March	83
Allentown, PA	1981	March	85	Flint, MI	1981	March	92
Atlanta, GA	1981	March	77	Fort Smith, AR	1981	March	85
Atlantic City, NJ	1981	March	85	Fort Wayne, IN	1981	March	95
Augusta, ME	1981	March	76	Fort Worth, TX	1981	March	83
Aurora, IL	1981	March	86	Fresno, CA	1981	March	91
Austin, TX	1981	March	86	Grand Rapids, MI	1981	March	93
Baltimore, MD	1981	March	82	Greensboro, NC	1981	March	69
Bangor, ME	1981	March	75	Greenville, SC	1981	March	68
Baton Rouge, LA	1981	March	81	Hackensack, NJ	1981	March	88
Beaumont, TX	1981	March	84	Hagerstown, MD	1981	March	80
Billings, MT	1981	March	85	Harrisburg, PA	1981	March	82
Binghamton, NY	1981	March	78	Hartford, CT	1981	March	83
Birmingham, AL	1981	March	82	Hempstead, NY	1981	March	86
Bismarck, MD	1981	March	81	Honolulu, HI	1981	March	95
Boise, ID	1981	March	81	Houston, TX	1981	March	88
Borger, TX	1981	March	81	Idaho Falls, ID	1981	March	91
Boston, MA	1981	March	89	Indianapolis, IN	1981	March	88
Bridgeport, CT	1981	March	83	Jackson, MS	1981	March	73
Brunswick, GA	1981	March	72	Jacksonville, FL	1981	March	82
Buffalo, NY	1981	March	90	Jersey City, NJ	1981	March	88
Burlington, NC	1981	March	69	Johnstown, PA	1981	March	87
Burlington, VT	1981	March	80	Kansas City, MO	1981	March	89
Butte, MT	1981	March	89	Kingston, NY	1981	March	86
Camden, AR	1981	March	88	Kinston, NC	1981	March	71
Cedar Rapids, IA	1981	March	90	Knoxville, TN	1981	March	74
Champaign, IL	1981	March	94	Lafayette, LA	1981	March	80
Charleston, SC	1981	March	78	Lancaster, PA	1981	March	80
Charleston, WV	1981	March	87	Lansing, MI	1981	March	86
Charlotte, NC	1981	March	69	Las Vegas, NV	1981	March	94
Chattanooga, TN	1981	March	74	Lawrence, MA	1981	March	81
Cheyenne, WY	1981	March	89	Lewiston, ME	1981	March	78
Chicago, IL	1981	March	92	Lincoln, NE	1981	March	79
Cincinnati, OH	1981	March	93	Little Rock, AR	1981	March	77
Clarksburg, WV	1981	March	82	Long Beach, CA	1981	March	108
Cleveland, OH	1981	March	101	Los Angeles, CA	1981	March	101
Colorado Springs, CO	1981	March	85	Louisville, KY	1981	March	79
Columbia, MD	1981	March	75	Lowell, MA	1981	March	80
Columbia, SC	1981	March	71	Lubbock, TX	1981	March	83
Columbus, OH	1981	March	90	Macon, GA	1981	March	67
Covington, VA	1981	March	70	Madison, WI	1981	March	84
Cumberland, MD	1981	March	82	Manchester, NH	1981	March	79
Dallas, TX	1981	March	87	Memphis, TN	1981	March	84
Dayton, OH	1981	March	89	Miami, FL	1981	March	78
Denver, CO	1981	March	92	Middletown, NY	1981	March	90
Des Moines, IA	1981	March	86	Milwaukee, WI	1981	March	93
Detroit, MI	1981	March	104	Minneapolis, MN	1981	March	93
Duluth, MN	1981	March	82	Moline, IL	1981	March	85
East Orange, NJ	1981	March	88	Montgomery, AL	1981	March	75
Elizabeth, NJ	1981	March	88	Mount Vernon, IN	1981	March	86
Elmira, NY	1981	March	79	Nashville, TN	1981	March	77

SOURCE: Dodge Building Cost Calculator & Valuation Guide

APPENDIX C16. BUILDING COST INDEX (cont.)

CITY	DATE		% OF NYC	CITY	DATE		% OF NYC
New Bedford, MA	1981	March	84	Sacramento, CA	1981	March	106
New Britain, CT	1981	March	83	St. Louis, MO	1981	March	91
New Haven, CT	1981	March	85	St. Paul, MN	1981	March	92
New London, CT	1981	March	84	Salina, KS	1981	March	77
New Orleans, LA	1981	March	82	Salisbury, MD	1981	March	84
New York, NY	1981	March	100	Salt Lake City, UT	1981	March	81
Newark, NJ	1981	March	94	San Antonio, TX	1981	March	83
Newburgh, NY	1981	March	89	San Diego, CA	1981	March	103
Norfolk, VA	1981	March	72	San Francisco, CA	1981	March	111
Oakland, CA	1981	March	107	Savannah, GA	1981	March	73
Ocala, FL	1981	March	81	Scranton, PA	1981	March	83
Oklahoma City, OK	1981	March	79	Seattle, WA	1981	March	94
Omaha, NE	1981	March	89	Shreveport, LA	1981	March	82
Orlando, FL	1981	March	81	South Bend, IN	1981	March	82
Passaic, NJ	1981	March	89	Spokane, WA	1981	March	92
Paterson, NJ	1981	March	89	Springfield, IL	1981	March	94
Pawtucket, RI	1981	March	82	Springfield, MA	1981	March	91
Peoria, IL	1981	March	87	Syracuse, NY	1981	March	88
Philadelphia, PA	1981	March	92	Tallahassee, FL	1981	March	72
Phoenix, AZ	1981	March	87	Tampa, FL	1981	March	80
Pierre, SD	1981	March	76	Toledo, OH	1981	March	96
Pittsburgh, PA	1981	March	92	Topeka, KS	1981	March	83
Portland, ME	1981	March	75	Trenton, NJ	1981	March	86
Portland, OR	1981	March	99	Tucson, AZ	1981	March	86
Portsmouth, OH	1981	March	83	Tulsa, OK	1981	March	82
Poughkeepsie, NY	1981	March	87	Utica, NY	1981	March	85
Providence, RI	1981	March	83	Washington, DC	1981	March	85
Pueblo, CO	1981	March	84	Waterbury, CT	1981	March	86
Racine, WI	1981	March	88	Wausau, WI	1981	March	86
Raleigh, NC	1981	March	69	Wheeling, WV	1981	March	78
Rapid City, SD	1981	March	76	White Plains, NY	1981	March	98
Reading, PA	1981	March	82	Wichita, KS	1981	March	82
Redding, CA	1981	March	100	Wilmington, DE	1981	March	82
Richmond, VA	1981	March	76	Wilmington, NC	1981	March	72
Riverhead, NY	1981	March	94	Worcester, MA	1981	March	85
Roanoke, VA	1981	March	72	Yonkers, NY	1981	March	94
Rochester, NY	1981	March	89	Youngstown, OH	1981	March	89
Rockford, IL	1981	March	93				

SOURCE: Dodge Building Cost Calculator & Valuation Guide

APPENDIX D

Forms for Estimating Capital Costs

Blank copies of the four worksheets described in Chapter 4 are included in this appendix. The User can reproduce them and estimate capital costs as explained in Chapter 4. Appendix D contains the following four worksheets:

- Worksheet 1: Standards Compliance Units
- Worksheet 2: Standards' Requirements and Facility Deficiencies
- Worksheet 3: Summary of Functional Alternatives
- Worksheet 4: Summary of Facility Cost Factors

WORKSHEET 1: STANDARDS COMPLIANCE UNIT

LEGEND
● TOTAL
○ PARTIAL
/ NON APPLICABLE

GUIDE STANDARDS REFERENCES RELATED FUNCTION

INSTITUTION'S NAME:

FACILITY FUNCTION:

FACILITY SECTION:

EXPLICIT & IMPLICIT STANDARDS

WORKSHEET 2: STANDARDS REQUIREMENTS AND FACILITY DEFICIENCIES

INSTITUTION'S NAME

FACILITY FUNCTION

LEGEND:
● FULL FIT
○ PARTIAL FIT
☒ UN-FIT
☒ NON APPLIC.

FACILITY SECTION

FACILITY REQUIREMENTS	PHYSICAL PLANT FITNESS	DEFICIENCY

WORKSHEET 3: SUMMARY OF FUNCTIONAL ALTERNATIVES

INSTITUTION'S NAME	FACILITY FUNCTION	FACILITY SECTION	LEGEND ● EXTENSIVE OR FULLY O MODERATE OR PARTIAL / NON APPLICABLE

NATURE ALT.						SCOPE ALTERNATIVE											CATEG'S. OF REQUIREMENT										
	LEV. CONST.					CONST. CONTRACT REQ.												STDS.			REL		L. SECY.			SPACE	
						GENERAL					SUB. CONT.																
OPERATIONAL	NEW. OFFSITE	NEW. ONSITE	RENOV. MAJOR	RENOV. MINOR	COSMETIC	DEMOLITION	SITEWORK	ARCH.	STRUCT.	EQ. FIXED	PLUMB.	HVAC	ELECT.	EQ. MOVABLE	GSF	ALTERNATIVES	REFERENCES	EXPLICIT	IMPLICIT	GUIDE	FUNCTIONAL	PHYSICAL	MAXIMUM	MEDIUM	MINIMUM	TYPE	SIZE

WORKSHEET 4: SUMMARY OF FACILITY COST FACTORS

FACILITY FUNCT'S								INSTITUTION'S NAME		CE 1 LEVEL CONST.					CE 2 L.SEC'Y			CE 3			CE 4 AREA	CE 5 C. TRADE			
MANAGEMENT	STAFF	SUPPORT	PROGRAMS	INMATE SERV.	HSG. SINGLE	HSG. DORM	GEN. CONSIDER'N.	ALTERNATIVES	OPERATIONAL	NEW-OFF	NEW-ON	RENOV. MAJ.	RENOV. MIN.	COSMETIC	MAXIMUM	MEDIUM	MINIMUM	GEN. FUNCT.	PROG. SPACE	MISCELLANY	GSF	GEN CONT.	PLUMBING	HVAC	ELECTRICAL

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