REPORT OF THE
JOINT LEGISLATIVE
AUDIT AND REVIEW COMMISSION ON

The Capital Outlay Planning Process and Prison Design in the Department of Corrections

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

House Document No. 12

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PREFACE

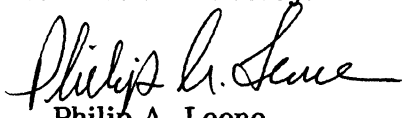
The 1983-86 Appropriations Acts directed the Joint Legislative Audit and Review Commission to evaluate the effectiveness of the capital outlay planning process and prison designs used by the Virginia Department of Corrections. In addition to examining these two areas, this report assesses the adequacy of the maintenance programs carried out by the department's correctional facilities.

The examination of DOC's capital outlay planning process revealed that the process has lacked consistency and continuity. While efforts to reestablish long-range planning have recently been made, the department needs to develop a more proactive, systematic approach. This includes building on its "Adult Facilities Master Plan" in preparing a comprehensive long-range plan which delineates operating program goals and supporting capital outlay options. DOC also needs to strengthen its capital improvements program and develop a comprehensive policy manual for use by its capital outlay staff.

Prison design effectiveness was assessed by examining the three designs used in constructing Mecklenburg, Brunswick, and the prototype for Buckingham, Nottoway, and Augusta. This assessment showed that Mecklenburg's design and operating procedures result in a high staffing ratio and operating costs. DOC should make changes needed to improve the cost effectiveness of Mecklenburg's operation. The latest prototype design, however, represents a significant improvement over the designs used in constructing Mecklenburg and Brunswick.

Evaluating the maintenance performed at correctional institutions revealed that DOC has experienced some problems in budgeting for and performing maintenance in a timely manner. DOC has recently established a comprehensive preventive maintenance program. Information gathered in performing preventive maintenance should be used in developing institutional maintenance budgets. DOC also needs to assign maintenance reserve fund projects a high priority to ensure that the projects are completed in a timely manner.

We wish to acknowledge the cooperation and assistance provided by the Department of Corrections during the conduct of the study.



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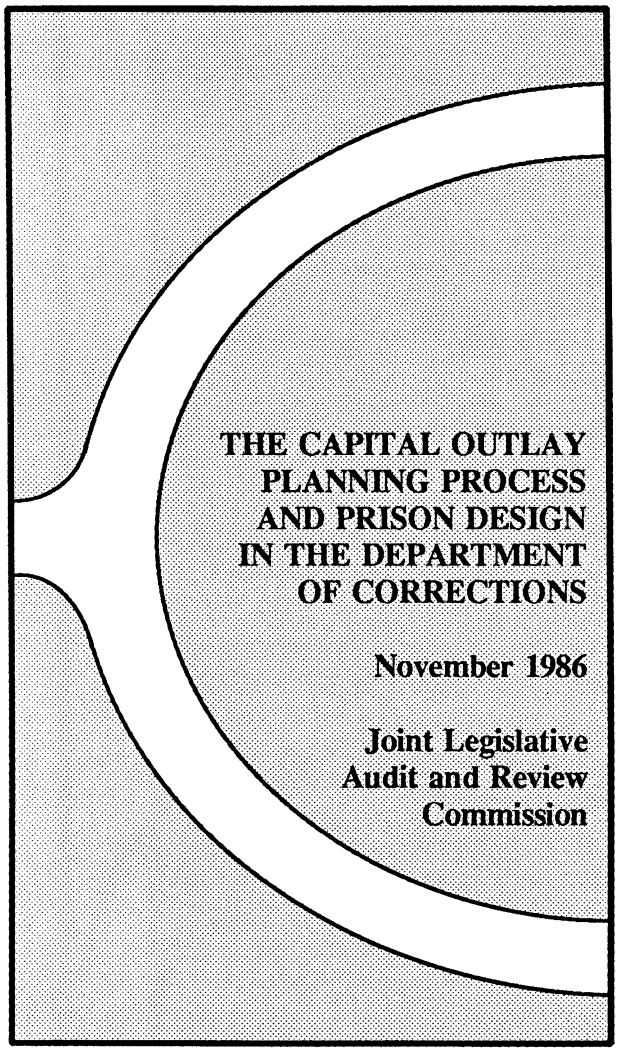

The General Assembly's study mandate in the 1983 through 1986 Appropriations Acts called for JLARC to assess the effectiveness of the Department of Correction's (DOC) capital outlay planning process and prison designs. This study addresses the adequacy of DOC's capital outlay planning process, the effectiveness of the prison designs which resulted, and the ability of the department's institutional maintenance programs to protect the State's capital investment.

A sound foundation for capital outlay planning was laid in1978 with the preparation of the DOC's long-range plan, "Corrections Options for the Eighties." However, the plan has never been updated or fully utilized for capital outlay planning. In recent years, therefore, the department's approach to capital outlay planning has lacked consistency and continuity.

In 1986, to address an expanding inmate population and expected bedspace shortfall, the department prepared its "Adult Facilities Master Plan," which was a positive step in re-establishing long-range planning activities. To achieve greater continuity in its capital outlay planning and programs, the department needs to further develop a proactive, systematic approach.

DOC has improved the effectiveness of its prison designs since the construction of Mecklenburg and Brunswick. The prototype design used at Buckingham, Nottoway, and Augusta provides cost-effective operation and enhanced security features. Additional flexibility in certain areas should be built into future facility designs, and the department should continue to pursue even more cost-effective designs.

A JLARC REPORT SUMMARY

DOC's Capital Outlay Planning Process (pp. 11-28).

Since 1974, DOC has been responsible for managing a multi-million dollar prison construction program. Five of Virginia's 15 major institutions were constructed after 1975. This flurry of prison openings was necessary to accommodate a burgeoning State inmate population in the 1970s and 1980s. Despite this large construction program, more than 1,000 State responsibility inmates were backed up in local jails during FY 1986.

DOC is again planning an ambitious construction program in response to a projected inmate population of 12,334 in 1990. The facilities plan approved during the 1986 General Assembly session included adding over 1,600 beds to the prison system during the next two biennia. Since the General Assembly approved the new construction program, however, the population forecast for 1990 has increased to 13,372. Thus, even more beds than were planned are likely to be needed.

"DOC needs to further develop a proactive, systematic approach to capital outlay planning."

The department will need to (1) improve its long-range planning capabilities, (2) strengthen its capital improvements program, and (3) strengthen the internal management of its capital outlay program if the needed beds are to be designed and constructed by 1990. DOC should also ensure that the facility designs employed will efficiently accommodate future inmate populations. This will entail accurately forecasting the number of inmates that will need to be housed and avoiding designs which are specifically tailored for a particular type of inmate population.

Recommendation (1). *DOC needs to further develop a proactive, systematic approach to capital outlay planning. The department needs to build on its "Adult Facilities Master Plan" in preparing, prior to the 1988 session of the General Assembly, a comprehensive long-range plan which clearly delineates its operating program goals and supporting capital outlay options.*

Key program managers representing adult services, youth services, probation and parole, and local jails should participate in the development of this plan. Appropriate committees of the General Assembly should be consulted during plan development.

Recommendation (2). *DOC should strengthen its capital improvements program. The program should lay out all capital improvements on which some activity is anticipated within six years. The program plan should indicate which steps are to be taken for each capital project in what year. Major steps in the development of a project are: site selection, site acquisition, scheme development, facility design, and construction. The six-year program plan should be completed by January 1, 1988.*

Recommendation (3). *DOC should develop written guidelines related to site considerations such as site size and the types of utility connections and access roads needed for institutions of varying sizes. Such guidelines should be developed as part of a comprehensive policy manual for use by the capital outlay section.*

Recommendation (4). *The department director's guidelines for the design of a proposed capital outlay project should be expressed in writing and should be consistent with the approved long-range plan.*

Recommendation (5). *DOC should establish written standards relating to facility design characteristics, including space requirements, construction materials, and any other standards that DOC intends to address. These standards should be developed as part of a comprehensive policy manual for use by the capital outlay section.*

Recommendation (6). *In designing new facilities, the DOC director should appoint an advisory team composed of facility representatives and high-level department administrators to assist in reviewing proposed designs of any future facilities.*

Recommendation (7). *DOC should reevaluate the adequacy of its capital outlay staffing, considering the major construction program planned for the next two biennia and the additional planning activities recommended in this report. Positions should be requested or reallocated as needed to perform design review, construction oversight, long-range planning, and capital improvements programming.*

Recommendation (8). *DOC should prepare a procedures manual specifically to be used by capital outlay staff. This manual should be comprehensive in spelling out process requirements and include elements such as: an explanation of the agency's internal capital outlay process, the priority that different types of projects are to be given, any standards*

that guide capital outlay decisions and actions, the responsibilities and interrelationships between the capital outlay units, and the basis on which completed facilities will be evaluated regarding operational objectives.

Prison Design Effectiveness (pp. 29-54).

Several different designs were used in constructing Virginia's last five prisons: Mecklenburg, which opened in 1977, Brunswick (1982), Buckingham (1982), Nottoway (1984), and Augusta (1986). Although recent capital outlay planning efforts have resulted in more flexible prison designs, Mecklenburg and Brunswick were designed for very specific inmate populations. These prisons are now housing a variety of inmate populations, which has resulted in security problems and less effective, more costly operations.

Mecklenburg was designed as a super-maximum security prison to house the most disruptive of the system's inmates. It now houses approximately 130 general population inmates in addition to death row and protective custody inmates. Given Mecklenburg's annual per inmate cost of $33,152, housing general population inmates is a very costly and inefficient use of maximum-segregation beds.

In contrast to Mecklenburg, Brunswick was designed to house minimum to medium security inmates. Currently, however, over half of Brunswick's population is composed of maximum security inmates. Housing maximum security inmates at Brunswick presents unique security problems, as visibility is limited and the minimum security building materials used can be easily damaged by aggressive inmates.

The prototype design used in constructing Buckingham, Nottoway, and Augusta is a significant improvement over the Mecklenburg and Brunswick designs. The prototype design provides for cost-effective operation while providing for the security needs of maximum security inmates. Some operational problems have resulted from double-celling at Buckingham and Nottoway, however. Housing an expanded inmate population has strained administrative space, water and wastewater capacities, and work opportunities. In designing future facilities, DOC should anticipate the double-celling of some of the housing units and build the flexibility to expand into the original design.

Recommendation (9). *In developing designs for new facilities, DOC should incorporate the flexibility to accommodate changes in mission and the size of the inmate population. DOC's prisons should be designed with sufficient flexibility to handle minimum, medium, and maximum security prisoners.*

Recommendation (10). *In order to provide sufficient work opportunities to expanded inmate populations, DOC should consider better space utilization by employing second shifts to the extent allowed in keeping with good correctional policy. The operation of two enterprises shifts is currently being considered at Augusta.*

Recommendation (11). *DOC should incorporate some double-celling and double-bunking into its definitions of operational and reserve capacity.*

Recommendation (12). *Support services at DOC facilities should be designed with sufficient flexibility to serve not only operational capacity, but also reserve capacity.*

Recommendation (13). *DOC should make changes needed to improve the cost effectiveness of Mecklenburg's operation.*

"The prototype design . . . is a significant improvement over the Mecklenburg and Brunswick designs."

Options to consider include: (1) to seek relief from the consent decree requirement to house general population inmates, (2) to identify a special population, other than maximum segregation, which needs a high staffing complement and close supervision characteristic of Mecklenburg, or (3) to make changes in Mecklenburg's design and operation which will allow for more cost-effective use.

Recommendation (14). *DOC's capital outlay section should complete a formal post-occupancy evaluation of newly constructed facilities after they have been operating for one year. The evaluation should document on a standard form the findings regarding facility hardware, maintenance needs, visibility factors, inmate movement, and the adjustment of staff and inmates to the physical environment. Annual updates noting any new operational concerns should also be made.*

Recommendation (15). *While the prototype institutions have shown ongoing design improvement, DOC should continue to assess improvements and alternatives. Post-occupancy evaluations should contribute to improvements. Alternatives in other states should be regularly studied, particularly where the potential for operational and staffing efficiencies exist. Schools of architectural design within Virginia universities could also be used as resources in determining future designs.*

Institutional Maintenance Needs (pp. 55-61).

Once capital projects have been constructed, maintenance must be performed on a timely basis to protect the State's capital investment. DOC has experienced difficulty in properly performing maintenance activities in the past. Other important activities, including the construction of new facilities, have frequently taken priority over maintenance needs.

The department has recently instituted a centralized preventive maintenance program for all institutions. This is an important step. Further work is needed, however, in budgeting for the maintenance needs of institutions and in expending maintenance reserve fund appropriations in a timely manner.

Institutional maintenance budgets have historically been determined by adding an incremental increase to the amount spent on maintenance the previous year. Generally, institutions have had no systematic way to project their future maintenance needs for budgeting purposes. The information gathered in carrying out preventive maintenance programs at all of the institutions should assist in projecting future budgetary needs. This maintenance information should also be used by the department in determining its capital improvements program needs and in making maintenance reserve fund requests.

DOC also needs to place a higher priority on the timely expenditure of maintenance reserve fund appropriations. As of July 1986, 69 percent of the maintenance reserve funds appropriated during the 1986 biennium were unobligated. In the 1986 Budget Bill (Sec. 4-4.01), the General Assembly clearly identified the importance of maintenance reserve funds by adding the following language to the general provisions section for capital projects:

> The first priority of any agency or institution in requesting capital appropriations shall be maintenance reserve funds.

DOC should consider this in setting future priorities for expending capital outlay funds.

"DOC should assign maintenance reserve fund projects a high priority."

Recommendation (16). *DOC should use the information gathered in carrying out preventive maintenance programs in developing institutional maintenance budgets. Large maintenance projects should be included in the department's capital improvements program and considered for inclusion in the department's request for maintenance reserve funds.*

Recommendation (17). *DOC should assign maintenance reserve fund projects a high priority in keeping with the desires of the General Assembly in appropriating the funds. Progress in completing maintenance reserve projects should be monitored by capital outlay staff to ensure that needed maintenance is completed in a timely manner.*

Recommendation (18). *The Department of Planning and Budget should assess whether additional clarification is needed on how maintenance reserve funds are to be used.*

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I. INTRODUCTION

Virginia's correctional system has been a topic of intense legislative interest for many years. Findings and recommendations issued by the legislatively created State Crime Commission served as an impetus for significant improvement and expansion of the system through the 1970s. In the early 1980s, however, the General Assembly began to reassess correctional activities and expenditures.

One area of continuing interest has been the operational efficiency of Virginia's prisons. The General Assembly adopted provisions in the 1983 through 1986 Appropriations Acts requiring JLARC to conduct a number of correctional studies, focusing on staffing and operational efficiency. Among the studies JLARC was directed to perform was an assessment of the Department of Correction's (DOC) capital outlay planning process and the design effectiveness of prisons. A primary concern was whether DOC's facility planning process resulted in designs which were efficient and effective in operation.

The capital outlay process encompasses the construction of new facilities and the renovation and maintenance of existing facilities. Since the 1980 biennium, more than $119 million has been appropriated by the General Assembly for the construction or conversion of facilities for use by DOC. As a result, Virginia prisons, while crowded, appear to have avoided the extreme conditions and overcrowding that have led to courts taking charge of some other state prison systems.

A variety of prison designs have been employed over the years, reflecting the specific missions of the facilities, various schools of correctional thought, and different policy concerns and priorities which have prevailed over the years. Generally, however, the Virginia system of adult facilities is characterized by a large number of relatively small to medium-sized prisons and by the extensive use of field units, which are smaller, less secure residential facilities (Figure 1). This approach reflects a philosophy that smaller prisons, closer to offenders' homes, facilitate the management of inmates and the potential reintegration of inmates into the community.

This study addresses DOC's capital outlay planning and the effectiveness of the prison designs that have resulted from the planning process. In addition, the study looks at facility maintenance, which is vital to protecting the State's investment in its prisons.

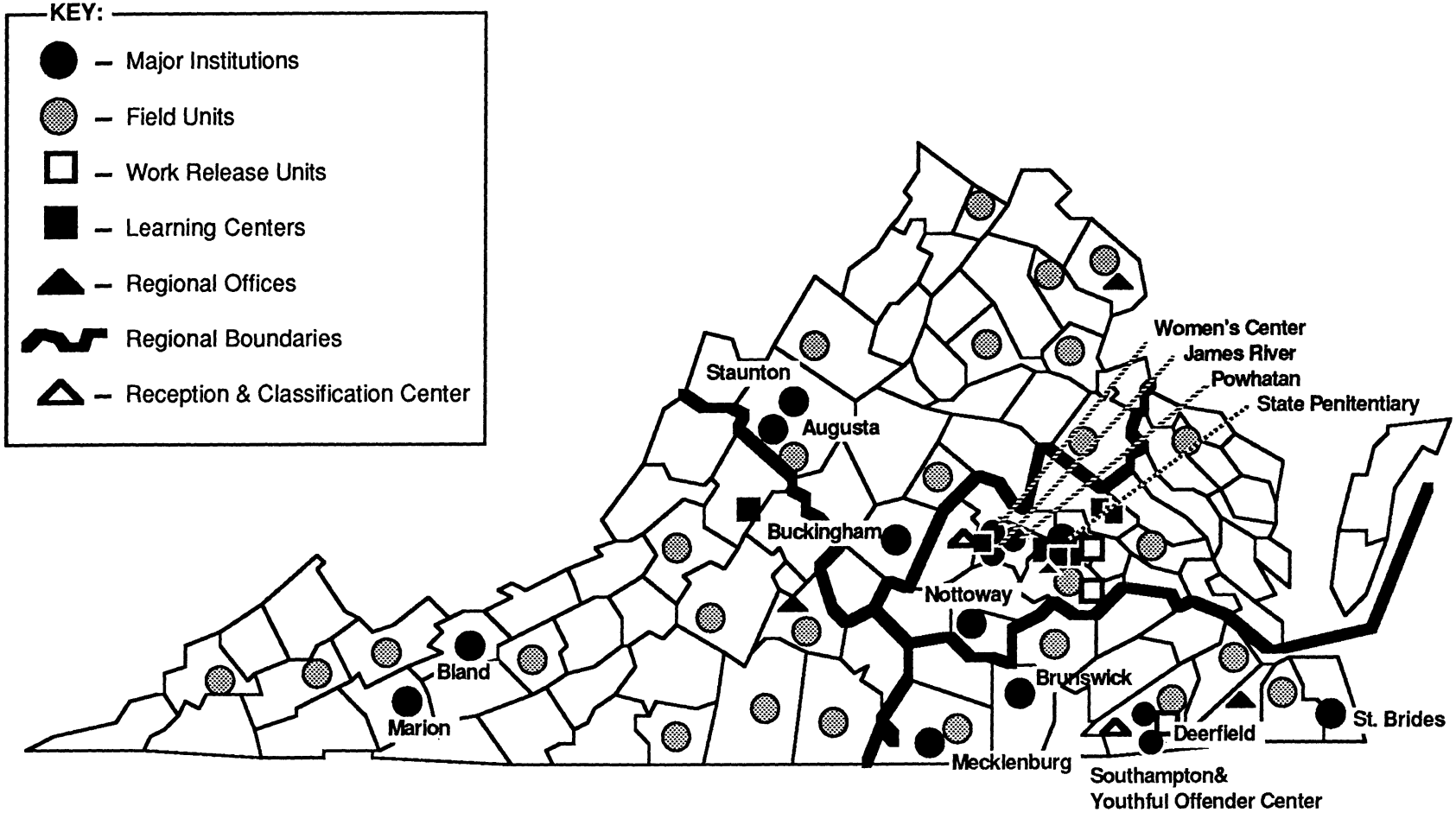
CAPITAL OUTLAY PLANNING

Capital outlay planning incorporates both the individual agency's planning and construction process and the State's oversight responsibilities.

Figure 1

Department of Corrections Facility Locations

October 1986



Source: JLARC staff, 1986

An agency like DOC is responsible for determining its capital outlay needs, planning projects to address those needs, and administering the construction of funded projects. The State's capital outlay process includes a number of oversight responsibilities to ensure that appropriated capital outlay funds areproperly used. DOC's capital outlay planning is discussed in depth in Chapter II. This section, however, provides background on the capital outlay processes employed by both DOC and the State.

DOC's Capital Outlay Planning Process

Capital outlay planning procedures that are employed by DOC generally complement the State process. There are two components to DOC's procedures: (1) planning for existing facilities, and (2) planning for new facilities.

Planning for the capital outlay needs of existing facilities has typically been the responsibility of staff at the individual institutions. Wardens and superintendents determined the need for repair, renovation, and additions to their institutions and submitted their requests to DOC regional administrators. Regional office personnel prioritized the facility requests and submitted their lists to the deputy director of adult services at DOC's central office (capital outlays for youth services are not addressed in this report).

Planning for new bedspace has typically involved the combined efforts of a number of DOC staff and the cabinet secretary, now the Secretary of Transportation and Public Safety. The department director has played a significant role in this process. Over the years, the individual preferences and philosophies of DOC directors have been apparent in the selection of prison design proposals.

Upon learning from the research and evaluation section of a projected need for additional bedspace, the department director would outline a concept or a general design for the new prison. This general design would be described to the capital outlay section, which would provide more specific design concepts and plans. Since the section's design capabilities have been limited, architects would be hired on a contractual basis to actually design most new projects. DOC's capital outlay section would also be responsible for overseeing the construction of individual projects and inspecting and evaluating the completed facility.

DOC's 1986 Facilities Plan and the Legislative Response

DOC's overall concept of what new facilities should accomplish has been reflected in its master plans. These plans, however, have not always been implemented.

An "Adult Facilities Master Plan," DOC's most recent plan for constructing new prison beds, was presented to legislative committees prior to the 1986 General Assembly session. This plan assessed DOC's options for handling an inmate population expected to increase beyond the current system

capacity through 1990. The plan was used by the department in formulating its capital outlay budget request to the General Assembly for the 1986-88 biennium.

The General Assembly, while accepting the policy choices presented in the "Adult Facilities Master Plan," funded a significantly different construction plan. Table 1 shows the construction options and associated appropriation requests for 1986 through 1990 that were recommended by: (1) DOC's "Master Plan," (2) DOC's budget request, and (3) the plan approved by the General Assembly. As shown, the "Master Plan" proposed adding 2,438 beds at a total cost of $116.2 million. After the Governor indicated that DOC would receive substantially less than the requested amount, DOC submitted a budget request of $50.3 million to add 1,238 beds over two biennia. The principal changes DOC made from the original budget request were the deletion of 1,200 beds planned for Deerfield, Deep Meadow, and several "stick camps" ("temporary" field units).

A joint report of the House Appropriations and Senate Finance subcommittees proposed a substantially different plan in recommending $46.6 million in capital outlay appropriations to construct 1,470 beds. The plan also employed several time-saving techniques. Infill and outfill, which involve modifying existing facilities, were recommended on a broader basis. (Infill involves adding units within the existing perimeter fence, while outfill involves constructing the unit just outside the existing perimeter.) Double-celling within some housing units was also recommended. In order to decrease planning and design requirements, the replication of the housing unit design employed at Buckingham, Nottoway, and Augusta was recommended. As noted in a subcommittee report, the plan "provides 450 more beds, nearly two years sooner, and costs $3.4 million less than the plan submitted in ... the Budget Bill."

Differences between the capital outlay programs proposed by DOC and those ultimately accepted by the General Assembly illustrate the extent to which an individual agency such as DOC has its capital outlay programs shaped by the central agencies, the Governor, the cabinet secretaries and the General Assembly. State oversight is pervasive throughout the capital outlay planning process. An understanding of the State's process is therefore essential to understanding the roles of individual agencies.

The State's Capital Outlay Process

The Department of Planning and Budget (DPB) and the Division of Engineering and Buildings (DEB), located in the Department of General Services, have primary administrative responsibility for Virginia's capital outlay process. Through these agencies the State attempts to monitor and control agency capital outlay planning. DPB is responsible for defining which projects should be financed by capital funds and for approving and monitoring the use of appropriated capital funds. DEB is primarily concerned with determining that designs are architecturally sound and reasonable.

Definition. The Commonwealth Planning and Budgeting System manual states that fixed assets must be requested as capital outlay projects if they meet any one of nine criteria:

Table 1

Proposed Options for Adding Prison Bedspace

FACILITY	OPTIONS					
	DOC's Master Plan		Executive Budget Request		Plan Passed by General Assembly	
	Number of beds	Estimated Costs ($M)	Number of beds	Estimated Costs ($M)	Number of beds	Estimated Costs ($M)
Maximum Security Units						
Buckingham	--	--	--	--	96	4.2
Southampton	100	6.3	100	6.3	96	5.25
Augusta	100	5.3	100	4.9	--	--
Bland	100	5.8	100	6.3	--	--
Subtotal	300	$ 17.4	300	$ 17.5	192	$ 9.45
Close Security Units						
Augusta	--	--	--	--	256	6.0
Buckingham	--	--	--	--	128	2.8
Nottoway	--	--	--	--	256	5.6
Subtotal	0	$ 0	0	$ 0	640	$ 14.4
Medium Security Units						
Southampton	125	2.2	125	1.9	125	1.9
Deerfield	500	36.7	--	--	p*	0.35
Outfill	--	--	--	--	150	2.0
Deep Meadow	300	15.6	--	--	--	--
Caroline	150	4.3	150	4.3	--	--
Stick Camps	400	20.5	--	--	--	--
Subtotal	1475	$ 79.3	275	$ 6.2	275	$ 4.25
Cadre Units						
Buckingham	100	2.3	100	2.3	--	--
Nottoway	100	2.3	100	2.3	--	--
Augusta	100	2.3	100	2.3	--	--
Subtotal	300	$ 6.9	300	$ 6.9	--	$ 0
Mental Health Facility						
Undetermined	200	12.6	200	14.0	200	12.2
Subtotal	200	$ 12.6	200	$ 14.0	200	$ 12.2
Water & Sewer						
Field Units	163	--	163	5.7	163	5.2
MSIs	--	--	--	--	--	1.1
Subtotal	163	--	163	5.7	163	6.3
TOTAL	**2438**	**$116.2**	**1238**	**$ 50.3**	**1470****	**$ 46.6**

* Indicates that funds are for planning bedspace that will not be available by 1990.

** An additional 224 beds are to be added by double-celling.

Source: DOC and General Assembly documents.

- the acquisition of physical plant or property,
- new construction,
- renovations estimated to cost $200,000 or more,
- repairs and replacements estimated to cost $25,000 or more,
- equipment for new physical plant or special purpose equipment,
- additional funding for an ongoing capital project,
- handicapped access projects,
- asbestos hazard clean-up, or
- energy conservation.

Process Description. The State's capital outlay planning process is quite complex and can involve a number of agencies. As noted in Figure 2, the State first becomes involved in the process when the cabinet secretary reviews agency preplanning justifications for a major project. A preplanning study is required for any project of 20,000 or more square feet or of an estimated cost of $1 million or more. The preplanning study findings are reviewed by the respective cabinet secretary's office, DPB, DEB, the Council on the Environment, and the House Appropriations and Senate Finance Committees. The secretary and the Governor review all projects requested for capital outlay funding, approving some projects for inclusion in the Executive Budget. The Executive Budget is reviewed and acted on by the General Assembly, which appropriates the funds for the capital outlay projects it approves.

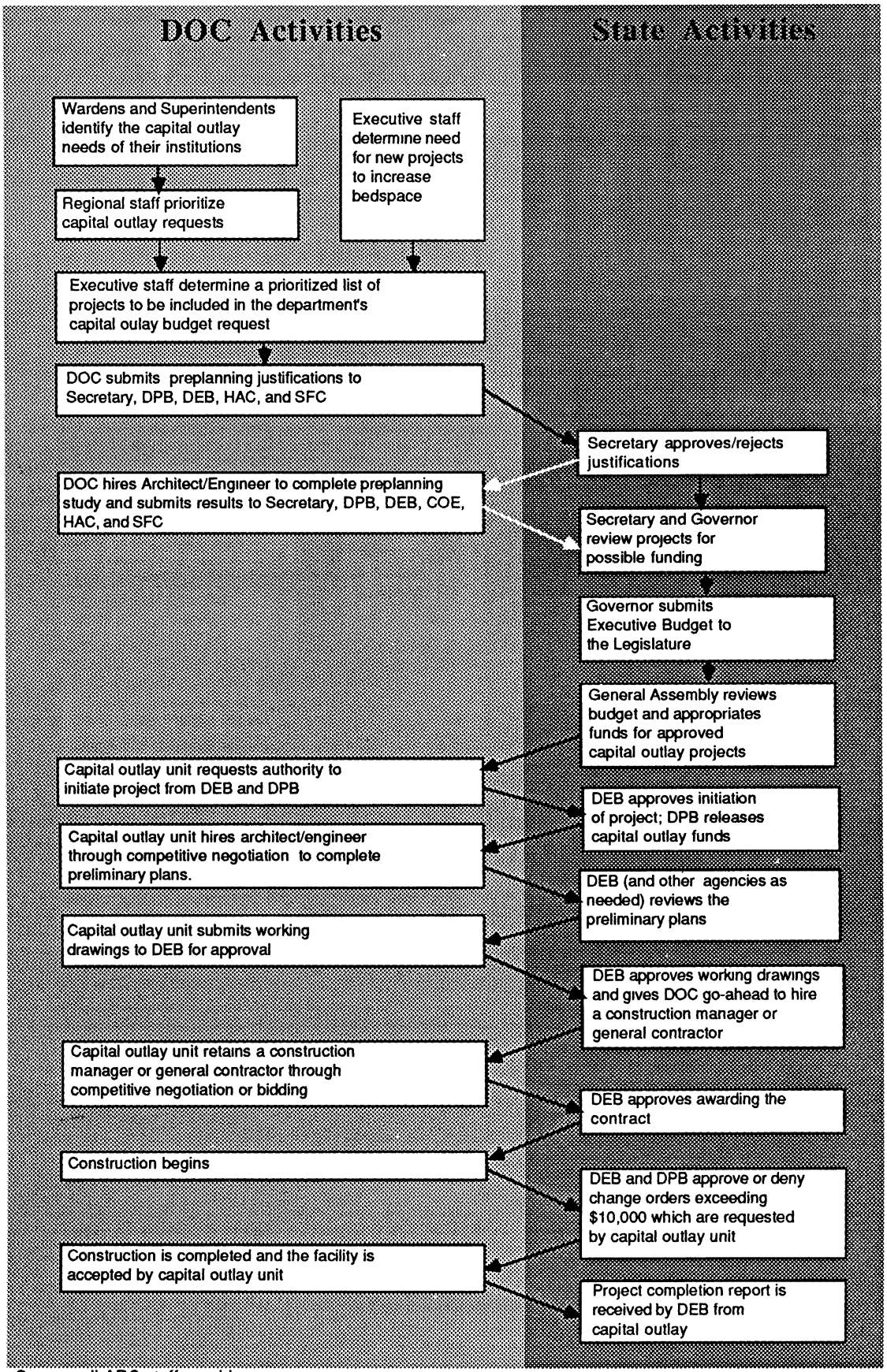
DPB and DEB are the primary contacts for the agency following funding approval. DEB approves the initiation of the capital outlay project, while DPB authorizes the release of the capital outlay funds. DEB will then be involved in the review of preliminary plans, in approving working drawings, in the awarding of contracts, in authorizing change orders with the concurrence of DPB, and in recommending acceptance of the completed project. Two construction alternatives, "construction management" and "design-build," were authorized by the General Assembly in 1980.

Construction Management and Design-Build. "Construction management" refers to the employment of an individual or company to build a facility for a guaranteed maximum price. This guaranteed maximum price includes all materials and construction costs except the fees paid to the architect who designed the facility. Under construction management any savings that are realized in material or subcontracting costs are retained by the State agency while overruns may be absorbed by the contract manager. (Otherwise, the contractor rather than the State agency would typically retain any savings in costs coming below the contract price.)

"Design-build" is similar except one individual or company agrees to design and build the project for a guaranteed price. Design-build is primarily appropriate for smaller, less sophisticated projects. Construction management is more appropriate for larger projects where the opportunity for savings is greater. DOC has not yet utilized the design-build alternative. Buckingham, Nottoway and Augusta were built under the construction management concept. DOC capital outlay staff estimated that approximately $1.5 million was saved by using construction management to build Buckingham and Nottoway. DOC reported that similar savings were not realized in constructing Augusta, due to the number of changes that were made in its design.

Figure 2

THE CAPITAL OUTLAY PROCESS



Source: JLARC staff graphic.

Recent Revisions to the State Process. A 1985 study completed by a joint subcommittee from the House Appropriations and Senate Finance Committees sought to simplify the State's capital outlay process. Recommendations included reducing preplanning justification requirements, allowing the architect selected to complete the preplanning study to design the facility, providing for some delegation of review authority by DEB to other State agencies, establishing DEB as the coordinating agency to oversee the reviewing of project plans, and increasing the lower limit for reviewing change orders from $2,500 to $10,000. DEB has recently started to implement the recommendations, so their effect on project review time has not yet been determined.

A DPB task force is currently considering changes to its process and to the definition of fixed assets which are to be requested as capital outlay projects. According to one member of the task force, the change in definition may include exempting new construction projects of under a specified size or value from review by the State's capital outlay process.

Depending on the magnitude of the exemption, such change could be needed. Eliminating smaller projects from review would allow for more careful review of larger projects. At the same time, the State needs to ensure that construction is consistent with the agency's master plan for the future use of the facility. Safeguards are needed to prevent uneconomical expenditures on facilities whose lifespans may be limited. Construction which increases staffing requirements or utility costs also needs to be monitored.

SCOPE, REPORT OVERVIEW, AND METHODOLOGY

This report is the eighth in a series of JLARC studies of the Department of Corrections mandated by the Appropriations Act (Appendix A). The report addresses three primary study areas: DOC's capital outlay planning process, prison design effectiveness, and institutional maintenance.

The process used by DOC in planning, designing, and constructing its last five adult institutions was examined in this study. This examination includes Mecklenburg, Brunswick, Buckingham, Nottoway, and Augusta within the time period of the early 1970s to the present. DOC's "Adult Facilities Master Plan" is also evaluated as the department's most recent capital outlay plan.

Report Scope and Overview

The following issue areas were addressed in examining the Department of Corrections' capital outlay planning process, prison design effectiveness, and institutional maintenance needs:

- Does DOC comply with the State's capital outlay requirements in funding and completing capital outlay projects?
- Does DOC have a systematic, comprehensive approach to capital outlay planning and programming?

- How well do the designs of DOC's five most recently constructed prisons perform as measured by security features, space for rehabilitation opportunities, standards compliance, flexibility in use, and comparative cost effectiveness?

- Does DOC have a systematic mechanism for accurately projecting the maintenance needs of its institutions?

- Has DOC been able to spend or obligate the majority of the maintenance reserve funds appropriated during the 1986 biennium?

Study Methodology

JLARC staff used a number of methods in researching the study issues including: interviews with DOC, DEB, and DPB staff, site visits to five institutions, file reviews of selected projects, and quantitative analyses.

Interviews. DEB and DPB personnel were interviewed regarding DOC's compliance with the State's capital outlay process and the adequacy of DOC's project justifications and cost estimates. The department's capital outlay planning process was explored with a number of DOC central office personnel including top administrators and planning and capital outlay staff. The opinions of wardens and superintendents regarding capital outlay and institutional design and maintenance needs were elicited as part of the study on Staffing of Virginia's Adult Prisons and Field Units with more extensive interviews being conducted during this study as needed.

Site Visits. All adult and youth institutions operated by DOC were visited by JLARC staff during the past three years of study. Site visits to specifically observe design characteristics were made to Mecklenburg, Brunswick, Buckingham, Nottoway, and Augusta during 1986.

File Reviews. The capital outlay files for the construction of Mecklenburg, Brunswick, Buckingham, Nottoway, and Augusta were reviewed. These reviews determined the method used to select architects and contractors (or contract managers), the architectural fees and construction bids on the projects, and the change orders that were requested as well as their estimated costs.

Framework Comparison. A model framework for the capital outlay process was developed as a basis for evaluating DOC's process. This framework is an adaptation of a number of models developed in other studies. Long-term planning, design determination, and project administration are the three primary areas of analysis contained within the framework.

Quantitative Analysis. An analysis of the operating costs of Mecklenburg, Brunswick, Buckingham, and Nottoway was completed. The budgetary expenditures and staffing levels of these four institutions were compared with those of Virginia's other adult correctional facilities.

In addition to the methods discussed above, some of the observations and conclusions of this report are based on the information collected for other reports in the JLARC series on corrections.

Report Organization

This chapter has provided introductory background to the capital outlay processes of the State and DOC. The three remaining chapters will explore DOC's capital outlay planning process, the effectiveness of the prison designs which resulted from that process, and the institutional maintenance needs of Virginia's correctional facilities.

II. DOC'S CAPITAL OUTLAY PLANNING PROCESS

Five of Virginia's 15 major institutions were constructed after 1975 (Table 2). This flurry of prison construction was necessary to accommodate a large State inmate population increase which began in the 1970s. Virginia's prison population increased from just over 4,500 in June 1970 to 10,902 in June 1986.

DOC is again facing an ambitious capital outlay program in response to a projected inmate population of 13,372 in 1990. The capital outlay facilities plan approved during the 1986 General Assembly session included adding over 1,600 beds to the prison system during the next two biennia.

While long-term planning by DOC has lapsed since the 1978 release of the "Correction Options for the Eighties" report, DOC's "Adult Facilities Master Plan" released in January 1986 was a positive step in filling the planning gap. This plan presented a policy framework for assessing bedspace needs through 1990. The framework recognized that policy decisions governing community corrections and jail backlog would affect crowding and the need for opening or closing prison facilities. Policy decisions were generally made within this framework.

If a sizeable building program is to be successfully completed in the future, the department needs to further develop a proactive approach to capital outlay planning, programming, and administration. Such planning efforts also need to be institutionalized to promote continuity and to prevent future lapses in planning activity.

Capital Outlay Framework

Capital outlay involves planning, designing, and constructing the physical plant or equipment needed to carry out the operating programs of an agency. Three phases should generally be present in a model capital outlay process: (1) long-range planning, (2) design determination, and (3) project administration.

Given the time and expense involved in completing most capital projects, long-range planning should be the first step in the capital process. Long-range planning assists the agency in projecting the general course that its programs are expected to take and the physical plant needs that would result. Once long-term planning is completed, a capital improvements program should be prepared identifying priority projects, timetables, and cost estimates.

The second step is design determination and involves designing a project to address program needs. At this point, program and client population characteristics should be established. The capital outlay project can then be tailored to accommodate these characteristics.

Table 2

PRISON OPENING DATES AND SPECIAL MISSIONS

Name of Prison	Opened	Special Mission
James River	1894	agribusiness
Powhatan	1894	medical beds, handicapped
Penitentiary	1903	42-bed infirmary, 28 psychiatric beds
Southampton	1937	18-23 year olds and first felony
Women's Center	1938	women only
Bland	1946	agribusiness
Deerfield	1976 (Trailer)	
Staunton	1976 (Conversion)	older inmates, substance abusers, mentally ill, developmentally disabled
St. Brides	1976 (Conversion)	younger with less than 25-year sentence
Mecklenburg	1977	death row, protective custody
Marion	1980 (Conversion)	comprehensive mental health treatment
Brunswick	1982	
Buckingham	1982	
Nottoway	1984	
Augusta	1986	

Source: Interviews with DOC personnel.

Once the design has been determined, the administration of project construction begins. The project administration phase primarily involves oversight activities to ensure that all procedural requirements are met and that the completed facility will meet program needs and be structurally sound.

The model framework for the capital outlay process discussed above was developed as a basis for examining DOC's process. The framework is shown in Exhibit 1. The focus of this review is the capital outlay planning process employed by DOC in constructing Mecklenburg, Brunswick, Buckingham, Nottoway, and Augusta and in developing its "Adult Facilities Master Plan." The review thus encompasses the capital outlay procedures employed from the early 1970s to the present.

LONG-RANGE PLANNING

Long-range planning at the agency level involves delineating program goals to address the future needs of the agency's client group. This type of planning is particularly important for DOC, as different program choices can significantly affect the need for capital outlays. For example, a decision to increase the number of community diversions could not only reduce the total number of prison beds needed, but also affect the usefulness of some of the available bedspace. Most lower custody inmates are housed within field units. Freeing beds within field units would not assist the department in

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Exhibit 1

CAPITAL OUTLAY FRAMEWORK

LONG-RANGE PLANNING

Delineation of Program Goals and Alternatives
Projection of Future Bedspace Needs
Development of a Capital Improvements Program

DESIGN DETERMINATION

Criteria for Site Selection
Determination of Facility Design
Selection of Architects

PROJECT ADMINISTRATION

Compliance with the State's Capital Outay Procedures
Selection of Contractors/Construction Managers
Agency Oversight Responsibilities

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housing higher security inmates, however. Field units have less secure perimeters, lower staffing levels, and dorm-style housing that is inappropriate for higher custody inmates.

Once the agency's program goals have been set out in a long-range plan, a capital improvements program should be developed. Capital projects that will be needed to support operating programs should be specified in the capital improvements program. The program should cover at least a six-year period with annual updates noting progress in completing projects and any changes in project plans.

Correctly projecting not only the number, but also the types of beds needed is essential to planning functional facilities. Mission and design compatibility begins with the delineation of program goals. Congruence between physical plant design and the mission of the institution is a major determinant of whether the institution will operate in a safe and effective manner.

In assessing DOC's capital outlay planning process, it was found that the department needed to improve its long-range planning activities and its internal procedures. The "Corrections Options for the Eighties" report, which was completed in 1978, was the last comprehensive long-range plan developed by DOC. A long-range plan, coupled with a comprehensive capital improvements program and reliable projection of the size and characteristics of the future inmate population, is essential to effective planning for long-term bedspace needs.

Delineation of Program Goals and Alternatives

Establishing program goals involves identifying and determining what an agency's operating programs should accomplish. Program needs must be considered when evaluating capital outlay alternatives. Once the program goals have been determined, capital outlay alternatives can then be evaluated on the basis of program requirements and cost effectiveness. Basically the capital outlay alternatives include:

(1) non-construction alternatives such as community diversion and double-celling;

(2) renovation of existing facilities to extend their lifespans;

(3) conversion of facilities currently used for non-incarceration purposes;

(4) new construction, including additions to existing facilities as well as building new institutions.

The most recent comprehensive long-range plan detailing DOC's program philosophy was the "Corrections Options for the Eighties" report completed in 1978. The "Options" report addressed each of the department's major program areas: probation and parole, local jails, adult facilities, and youth services.

The adult facilities chapter concluded with a consideration of the capacity and usefulness of the department's institutions in response to a projected need for additional bedspace by 1990. The favored alternative proposed reducing the projected bedspace need from 12,987 to 7,640 through modified sentencing practices. These practices included: providing for more intensive probation and parole supervision, increasing the number of offenders sentenced to probation, and reducing the average length of stay within the prison system. The recommended renovation of existing facilities and the closing of obsolete, temporary facilities left a construction gap of 2,809 beds. (DOC has added over 2,500 beds since the release of the report.)

While JLARC staff consider the "Corrections Options for the Eighties" report to be a well-developed, long-range plan for the 1980s, conditions have changed, and a plan that will address the 1990s is needed. The current director has indicated an interest in developing an updated long-range plan within a year or two. A long-range plan that would set forth the department's program goals is essential if DOC is to effectively plan for long-term bedspace needs. Without such a plan, serious incongruities could develop between the program goals of the department and the facilities in which its programs will be carried out.

For example, DOC's mission statement was changed in 1984 to emphasize the need for "programs to help offenders lead crime-free lives after release." Work programs which assist inmates in developing marketable skills are often cited as helping to reduce recidivism. Yet the JLARC study, Staffing of Virginia's Adult Prisons and Field Units, found that systemwide 25 percent of inmates were not working. According to the wardens at Buckingham and Nottoway there are already 200 idle inmates for whom work opportunities are not available at each of their institutions.

The need for meaningful work opportunities at these two facilities will significantly increase under the recently approved infill strategy unless additional work opportunities are planned and provided. This could involve constructing an additional enterprise building or working double shifts if demand for the product is adequate.

DOC's recent "Adult Facilities Master Plan," which did not have the programmatic orientation of a long-range plan to support it, requested funds to develop plans for a 900 to 1,200 bed prison to house "a projected population increase beyond 1990." The recommendation for a larger prison indicates a change from DOC's past preference for smaller facilities. This type of philosophical change should be considered in formulating a comprehensive long-range capital outlay plan.

Recommendation (1). DOC needs to further develop a proactive, systematic approach to capital outlay planning. The department needs to build on its "Adult Facilities Master Plan" in preparing, prior to the 1988 session of the General Assembly, a comprehensive ten-year plan which clearly delineates its operating program goals and supporting capital outlay options. Key program managers representing adult services, youth services, probation and parole, and

local jails should participate in the development of this plan. Appropriate committees of the General Assembly should be consulted during plan development.

Projection of Future Bedspace Needs

Determining future bedspace needs is the second major component of long-range planning. Forecasts of inmate populations are used in conjunction with capacity estimates to serve as a basis for capital outlay decisions. If the forecast overestimates the population, then more beds than necessary may be added to the system. If, however, the population is underestimated, insufficient construction could result in overcrowding and related control problems.

An accurate inmate population forecast is, therefore, very important to long-range planning of capital projects. Such a forecast is also very dependent upon a number of program assumptions, such as the size of diversion programs, the closing and replacement of older facilities, and State-local agreements on local jail populations. DOC's latest forecast is based on a methodology which was jointly reviewed and agreed to by DOC and JLARC staff in 1985. The forecast was updated in September 1986 and projected an inmate population of 13,372 in 1990.

The current forecasting model seems to be working reasonably well. However, there are a number of ways in which correctional policies and practices can change and thereby cause any forecast model to inaccurately predict the future population. Periodic adjustments must be made within the model to account for significant policy changes.

For example, the effect of the recently introduced Literacy Incentive Program on the length of time served by State inmates should be monitored. The literacy program links favorable parole consideration to an inmate's ability to read. If the length of time served is significantly reduced or increased by the new policy, it could affect bedspace needs.

In addition to reviewing its current model, DOC should continue to review alternative models. DOC has issued a request for proposals for the development of a policy simulation model that would allow the department to simulate the effect of policy changes in the inmate population forecast. This model is not expected to immediately replace the current forecasting model, although this is an option which may be considered in the future.

Development of a Capital Improvements Program

Once the agency's long-range plan and forecast are developed, a capital improvements program should be developed. A capital improvements program specifies the need for capital outlay projects to implement operating programs and the estimated costs of those projects. Within the capital improvements program, the construction, renovation, and major maintenance

needs for all existing facilities should be specified, as well as plans to add or close facilities. The cost and timing of financing each project should be included within a schedule that extends for at least six years. This schedule should be updated annually, noting progress in making capital improvements and any changes in project plans or priorities.

DOC needs to strengthen its capital improvements program. Centralized planning for the needs of existing facilities is limited to the planning that occurs in determining biennial capital outlay requests. Similarly, planning related to closing or adding facilities occurs on an as-needed basis.

DOC's "Adult Facilities Master Plan" was developed in response to a projected bedspace shortfall by 1990. This projection was precipitated by the 1985 inmate population forecast of 12,334 for 1990. DOC updated that forecast in September 1986 and found the projected population figure for 1990 had increased to 13,372. The department has not attempted to extend its planning for capital improvements beyond 1990, however. Important changes in demographics as the baby boom generation continues to move out of the crime-prone ages of 18 to 34 could significantly affect the forecast and subsequent capital outlay needs.

Recommendation (2). DOC should strengthen its capital improvements program. The program should lay out all capital improvements on which some activity is anticipated within six years. The program plan should indicate which steps are to be taken for each capital project in what year. Major steps in the development of a project are: site selection, site acquisition, scheme development, facility design, and construction. The six-year program plan should be completed by January 1, 1988.

DESIGN DETERMINATION

Once the decision to build a new facility has been made, the actual design of that facility must be determined. This design requires more specificity than the general characteristics that were spelled out in the long-range plan. First, the character of the inmate population that will be housed and the types of programs that will be offered within the institution should be clearly delineated. This should guide the agency's decision regarding the location and design of the institution. The inmate population and program demands should also be considered when selecting an architect to design the facility.

Criteria for Site Selection

In selecting the location of correctional facilities, two criteria are generally recommended in correctional design literature: proximity to major metropolitan areas, and proximity to the home communities from which the largest number of inmates will come. Proximity to major metropolitan areas simplifies recruitment of highly trained professionals such as medical personnel. Metropolitan areas are also typically more accessible for inmate

families. Proximity to "home" communities is important, because it increases the opportunity for visitation between inmates and their relatives. Visitation is considered to be very important, because maintaining family ties helps the inmate adjust to life in the community following release.

The availability of a large parcel of land, utility connections and access roads, environmental considerations, and community reaction should also be considered in determining the location of the institution. The Design Guide for Secure Adult Correctional Facilities, a combined effort of the Federal Bureau of Prisons, the National Institute of Corrections, and the American Institute of Corrections, suggests that 150 acres be allowed for an institution of up to 500 inmates. It is preferable for that land to be fairly flat for security reasons related to sight lines.

The availability of utility connections and access roads primarily relate to the capital and operating costs of the institution. Environmental considerations principally seek to avoid creating pollution problems, increasing soil erosion, destroying recreational space or wildlife refuges, and disturbing the ecological balance of the area.

Community acceptance of the prison can be particularly important to ensure that architectural designs which have been adapted to a particular site can be used. It is not uncommon for plans for building correctional facilities to have to be altered to accommodate a different site due to overwhelming community resistance to the original site.

The reaction of localities to the proposed location for correctional facilities has been one of DOC's primary considerations in selecting prison sites. To find sites for the five prisons that were to be built in the 1980s, DOC contacted the supervisory boards of each county and each city council to determine their interest in having a prison. The fifth institution was never built, largely because a suitable location could not be found in Northern Virginia. When DOC again looked for a Northern Virginia location for a 2,400 bed prison in 1982, no community would accept it.

This self-selection process has resulted in Virginia's last four prisons being located within rural areas. This location process occurred despite the general guideline, noted in the "Corrections Options for the Eighties" report, that facilities should be built close to urban centers.

DOC's capital outlay procedures included no guidelines related to the optimal size for the site or the utility connections and access roads that would be needed to support an institution. Environmental concerns were the only site selection consideration for which DOC had written guidelines. DOC's capital outlay planning unit had compiled a nine-page chapter on environmental impact statement preparation. Included within the chapter was a listing of conditions that would be considered significant for reporting purposes and measures that could be taken to minimize environmental problems. Other site considerations also should be addressed by DOC procedures.

Recommendation (3). DOC should develop written guidelines related to site considerations such as site size and the types of utility connections and access roads needed for institutions of varying sizes. Such guidelines should be developed as part of a comprehensive policy manual for use by the capital outlay section.

Determination of Facility Design

Following site selection, the actual design of the facility must be completed. Complex facility designs are typically developed in three phases: (1) preplanning justifications, (2) preliminary drawings, and (3) working drawings. Preplanning justifications present a general design with rough estimates as to costs, staffing needs, and program offerings. Preliminary drawings expand on these plans, refining them to be used in making the final working drawings. These working drawings are later used as the basis for the facility construction.

DOC's current process is assessed below. The three phases of facility design used by DOC are compared with a model framework which lays out expected elements of the process.

Preplanning Justifications. The preplanning justification phase includes three steps:

(1) determining the general parameters of the institution,
(2) developing a general design for the institution, and
(3) completing a preplanning study of the institution proposal.

Exhibit 2 compares the model framework and the process used by DOC in completing these steps. (It should be noted that the State process uses the preplanning justification as the convention for the agency to explore non-construction as well as construction alternatives. While DOC should comply with this convention, the actual decision to choose a particular alternative should have been made in developing the capital improvements program.)

DOC's preplanning justifications have been reasonably developed in the past. The impetus for a new facility typically started with the director. The director, upon learning that the need for additional bedspace was projected, described the general design of the institution he favored to the capital outlay section manager. The manager communicated this to the capital outlay planning unit.

Completed preplanning justifications were then submitted to the cabinet secretary for approval. The secretary then either approved the justification, required the completion of a preplanning study, or rejected the justification. Approved justifications and studies were then reviewed by the secretary and the Governor for inclusion within the Executive Budget. The Executive Budget was presented to the legislature for funding consideration.

Exhibit 2

PREPLANNING JUSTIFICATION

Model Framework	Process Used by DOC
Preplanning justifications define the general parameters of the proposed institution, including: • mission, • security requirements, • special programs, • capacity, • staffing needs, • construction costs, and • operating costs.	The development of preplanning justifications has been the responsibility of the capital outlay planning unit. These preplanning justifications have typically included the parameters suggested in the model framework. The parameters were based on the unit's understanding of what the director wanted for the institution.
A general design for the facility is also presented. The experience of other states and the federal government should be considered in determining this design.	The capital outlay planning unit examined designs used by other states and the federal government in selecting a general design for the institution.
Preplanning studies are required for projects of 20,000 or more square feet or of an estimated cost of $1 million or more. An architect is typically employed on contract to complete the study.	DOC employed an outside architect to complete its preplanning studies for the institutions which were reviewed by decision makers.

Source: JLARC staff analysis and interviews with DOC personnel.

The direction provided by the department directors, who were involved in determining the design of recently constructed prisons, could not be evaluated by the JLARC staff because no written documentation exists. It was noted by planning unit staff that directors' preferences were orally communicated by the section manager. A written description of the director's design preferences for capital outlay projects should be part of a formal agency plan in the future.

Recommendation (4). The department director's guidelines for the design of a proposed capital outlay project should be expressed in writing and should be consistent with the approved long-range plan.

Preliminary Drawings. Preliminary drawings are developed for complex projects which have been funded by the General Assembly. Five steps should be employed in developing preliminary drawings:

(1) employing an architect,

(2) communicating the operating and design parameters of the facility,

(3) considering standards to be addressed in designing the facility,

(4) involving a variety of staff in working with the architect, and

(5) revising drawings submitted by the architect.

A more complete description of these five steps is given in Exhibit 3.

As noted, the project descriptions which were supplied the architects who designed Mecklenburg, Brunswick, and the prototype for Buckingham, Nottoway, and Augusta could not be located by DOC staff. These descriptions could not therefore be evaluated. Apparently, no written facility design standards were used by DOC's capital outlay staff in developing the descriptions.

Recommendation (5). DOC should establish written standards relating to facility design characteristics, including space requirements, construction materials, and any other standards that DOC intends to address. These standards should be developed as part of a comprehensive policy manual for use by the capital outlay section.

A number of DOC's capital outlay staff are involved in reviewing the working plans submitted by the architect. The design unit takes the lead in working with the architect on revisions.

While DOC has generally followed the steps included within the model framework for designing facilities, written guidance from the director and written internal standards for capital outlay would strengthen the department's process. Continued use of a broad-based advisory team would also be useful in avoiding operational problems with facility designs.

Recommendation (6). In designing new facilities, the DOC director should appoint an advisory team composed of facility representatives and high-level department administrators to assist in reviewing designs proposed for any future facilities.

Selection of Architects

The selection of a qualified architect to complete the preplanning study and the facility design is an important step in the capital outlay process. The architect should possess both the technical expertise to design the

Exhibit 3

PRELIMINARY AND WORKING DRAWINGS

Model Framework	Process Used by DOC
An architect is typically employed to complete the preliminary and working drawings for complex projects. The same architect that completed the preplanning study may be used to prepare the facility design.	Outside architects were employed by DOC to design Mecklenburg, Brunswick, Buckingham, Nottoway, and Augusta.
The corrections agency needs to clearly and comprehensively communicate its program and operational needs for the facility both orally and in writing to the architect. This includes describing the programs planned for the facility, all space needs, the staffing requirements, inmate movement patterns, the materials that should be used in construction, any standards that need to be met, and the budget constraints.	The adequacy of the project descriptions submitted to the architects who designed Mecklenburg, Brunswick, and the prototype for Buckingham, Nottoway, and Augusta could not be determined as these documents could not be located by DOC.
The agency should have a written set of standards and criteria to consider in formulating the design of the facility. Written standards should be established for space requirements, construction materials, and any general correctional standards that are to be addressed.	No written standards which would guide DOC's capital outlay staff in specifying facility design needs were included in the procedures packet submitted by DOC. State, federal, and national agencies and codes which might apply to DOC projects were noted, although determining which regulations would be binding was left to the discretion of the individual manager.
It is often useful to have a variety of individuals involved in the preliminary planning process. Institution representatives can be particularly helpful in pointing out operational problems with the design.	A broad-based design team was assembled by DOC in developing the preliminary plans for the prototype to be used for Buckingham, Nottoway, and Augusta. The team included: the department director, two deputy directors, capital outlay staff, maintenance staff, a warden, a representative from the fire marshal's office, and the architect.
The architect uses the needs statement presented by the agency in developing preliminary drawings. These drawings are reviewed, altered, and approved by the corrections agency and other State agencies. Following approval of the preliminary drawings, the architect develops the working drawings which will be used in constructing the facility. This is the final step in determining the facility design.	DOC's design unit has been responsible for working with the architects in revising designs to meet the department's wishes. The final working drawings were then submitted to DPB and DEB for their review. Working drawings were also reviewed, altered, and approved by the corrections agency and State agencies prior to the selection of a general contractor or construction manager.

Source: JLARC staff analysis and interviews with DOC personnel.

proposed facility and the managerial skills to work well with the employing agency and the contractor or construction manager. The Virginia Public Procurement Act requires that contracts for professional architectural services be determined by competitive negotiation.

For projects of over $10,000, competitive negotiation requires public notice of a request for proposal (RFP) which defines the scope of the project, the basis on which the proposals will be evaluated, and any special qualifications that will be required. Submitted proposals are evaluated, and two or more respondents are selected for interviews. At the conclusion of the interviews, the respondents are ranked in order of preference, and fee negotiations are held with the respondents in that order.

DOC employed a Richmond firm as the architect to design Mecklenburg based on previous experience in dealing with this firm. However, the firm was chosen prior to the enactment of the Virginia Public Procurement Act.

In selecting an architect for the prototype design, DOC first issued an RFP. The firms which responded to the RFP were grouped according to their perceived abilities to complete the design. The firms that were considered to be most capable were then interviewed by a panel of capital outlay staff. The staff ranked these architectural firms in order of preference, and the firm receiving the highest marks was awarded the contract. A Norfolk firm was chosen to complete the prototype design which was used in constructing Brunswick.

The same firm was used as the architect for Buckingham, Nottoway, and Augusta, based on the original understanding that the Brunswick design was to be the prototype for five institutions. The design was changed after Brunswick was completed, however, to accommodate the use of pre-stressed, pre-cast concrete.

The "new prototype" also differed from the Brunswick design in other significant ways. The new design was based on housing medium to maximum security inmates rather than the lower custody inmates that had been envisioned for Brunswick. More secure materials were used, including better locks, solid cell doors, and stainless steel bathroom fixtures. Increased visibility, particularly within the housing units, was also incorporated into the new design.

DOC properly followed the competitive negotiation process in selecting the architect for the prototype design. Selection criteria listed in the State's capital outlay manual were also used by DOC in selecting architects.

PROJECT ADMINISTRATION

Project administration ensures that concepts and designs are operationalized effectively. Project administration consists of compliance

with the State's capital outlay procedures, selection of contractors and construction managers, and oversight for quality control. In evaluating project administration within DOC's capital outlay process, JLARC staff found that a written procedures manual to guide internal project administration is needed. DOC generally lacks standard guidelines for internal process requirements. Priority setting is also inconsistently carried out. As a result, a variety of problems have occurred, including weaknesses in project oversight and in the review of architectural designs. A comprehensive procedures manual should be developed for use by the capital outlay staff to address these problems.

Compliance with State Procedures

DOC, like other agencies, is responsible for complying with the capital outlay requirements that have been established by the Commonwealth. The State process includes a number of control documents and formal review procedures. DPB and DEB have primary responsibility for overseeing this process, with DPB concentrating on budgetary matters and DEB on architectural quality.

Both DPB and DEB personnel were interviewed regarding DOC's compliance with State requirements for capital outlay projects. Personnel at both agencies stated that DOC generally observed the State's capital outlay requirements and that the forms and cost estimates submitted were reasonably complete and accurate.

Selection of Contractors/Construction Managers

The primary goals in selecting a general contractor or construction manager are to procure quality construction, in a timely manner, at a reasonable cost. Competitive negotiation is the method required by the Virginia Public Procurement Act for selecting construction managers. The requirements for competitive sealed bidding include: the public notice of an invitation to bid and the awarding of the contract based on the best qualifications and experience.

The general contractor for Mecklenburg was chosen before the Virginia Public Procurement Act was enacted. The general contractor for Brunswick was selected based on competitive sealed bidding, while the construction managers for Buckingham, Nottoway, and Augusta were selected on the basis of competitive negotiation in compliance with the Procurement Act.

Agency Oversight Responsibilities

Each agency is responsible for overseeing its capital outlay process. This process encompasses determining that a capital outlay need exists, planning and overseeing the construction of that project, and determining the major maintenance needs of the completed facility. Two indicators of an agency's oversight ability are the adequacy of its capital outlay staffing and the presence of written internal procedures.

Staffing and Assigned Responsibilities. The staffing requirements of a capital outlay section will depend on the level of its ongoing capital outlay responsibilities. Staffing should be adjusted as the size of the construction program changes. Departments with ongoing planning, designing, construction, maintenance, and financial responsibilities need staff with backgrounds in the following areas:

- facility planning,
- project management,
- architecture and engineering,
- construction contracting,
- general and preventive maintenance, and
- budgeting and accounting.

DOC's capital outlay section is responsible for administering the department's capital planning and construction process, providing technical expertise related to capital outlay and maintenance needs, and accounting for all projects financed with capital outlay funds.

The former chief administrator for the capital outlay section resigned in October 1985. DOC subsequently decided to place the capital outlay function under the assistant director for planning to strengthen the connection between program planning and planning for capital outlay projects. Currently the section is composed of five units: (1) planning, (2) design, (3) contract construction, (4) corrections construction, and (5) finance.

The assistant director for planning and capital outlay projects intends to make a number of personnel changes. He plans to make three staff additions: a preventive maintenance specialist, a planning and design manager, and an engineering and construction activities manager. The two managers will report to the assistant director and oversee the unit supervisors.

The capital outlay planning unit is responsible for providing technical assistance to the director and his deputies regarding requests from individual institutions for construction and major maintenance projects. The unit also assists in developing plans for new construction proposals. Typically the department director determines general facility characteristics for new institutions and asks the capital outlay unit to research possible designs. A manager and two planning and construction engineers are employed within the unit. The planning unit manager retired in March 1986, and the position is currently filled by someone in an acting capacity.

There are seven employees -- the unit manager, three architects, two drafting technicians and an electrical engineer -- in the design unit. This level of staffing limits the number of designs which the unit can complete. Architects are therefore hired on a contracted basis to complete most of the designs. Design unit personnel are responsible for reviewing the consulting architects' plans prior to giving construction approval. Construction is then monitored by either design or contract construction unit personnel to ensure

that contract specifications and health and safety codes are met. The contract construction unit is staffed by the unit manager, a water control engineer, and an institutional safety officer.

The corrections construction unit includes the employees who supervise the work of the inmate construction crew. The finance unit, with five employees, completes all the budgeting and form-processing required for capital outlay projects.

DOC also employs a consultant to assist with capital outlay matters. This consultant has been retained on a series of two-year contracts for almost ten years. The consultant primarily represents the interests of the department in working with individuals and agencies outside the department. Given the lack of staffing continuity within DOC in recent years, the consultant has come to represent the "organizational memory" of the department on capital outlay matters.

Additional staffing changes are planned for the capital outlay units to accommodate the ambitious construction planned for the next two biennia. Although these changes had not been sufficiently developed for review by JLARC staff, DOC may need to request additional positions. The current number of staff available to review designs, monitor construction, and assist in long-range planning and capital improvement programming should be closely examined.

The manager of the design unit noted difficulties in adequately reviewing facility designs given current staffing levels. Considering the size of the construction program planned for the next four years, thorough and timely design reviews will be imperative. Design unit staffing should be evaluated and, if necessary, increased to ensure that facility designs can be properly reviewed on a timely basis.

Three employees work within the contract construction unit. This unit is therefore assisted in monitoring the construction of new facilities by personnel from the design unit. The importance of overseeing construction for quality-control purposes dictates that DOC provide adequate staff for this task. The department should determine whether a staffing level of three will be sufficient for monitoring the construction planned for the next four years. If not, additional position authorizations should be requested.

The additional planning activities involved in producing a comprehensive ten-year plan and a capital improvements program may also impact the department's capital outlay staffing. Planning unit staffing, in particular, should be examined.

Recommendation (7). DOC should reevaluate the adequacy of its capital outlay staffing, considering the major construction program planned for next the two biennia and the additional planning activities recommended in this report. Positions should be requested or reallocated as needed to perform design review, construction oversight, long-range planning, and capital improvements programming.

Internal Procedures Manual. The agency's planning of capital outlay projects is a complex, time-consuming process. Written procedures which guide the agency's capital outlay process should be well-developed and periodically updated to reflect the latest regulations. Procedures should define:

- how the agency's internal capital outlay process works;
- the priority that different types of projects will be given;
- any standards that are to be satisfied, including site selection considerations and facility design requirements.
- the responsibilities of the various capital outlay units and how they relate to the other units; and
- the basis on which completed facilities will be evaluated.

Interviews with capital outlay staff indicated that no procedures manual for DOC's internal capital outlay process exists. DOC submitted six documents in response to a request for their internal procedures. However, three of the documents detailed how DOC was to relate to the State's capital outlay process, one stated the departmental policy on capital outlay and maintenance (which was directed primarily to the institutions), and two discussed the capital outlay planning unit's operations and how they related to the other units. None of these documents detailed the steps within the department's capital outlay process, the standards that should be considered in making project decisions, the responsibilities of the capital outlay units (except planning), or the basis on which completed projects would be evaluated regarding operational objectives.

As noted throughout the analysis of DOC's process, written procedures and standards are generally lacking except for specific areas such as environmental impact. Interviews with DOC staff indicated that the department's capital outlay process lacked standard guidelines for process requirements and priority setting. Prior to the reorganization earlier this year, no one was assigned responsibility for tracking the progress of a project through the system. Each unit monitored the project's progress as long as it was the unit's responsibility. Thus, to determine the status of a project, the unit with current responsibility would first have to be determined. Tracking responsibilities have now been assigned to the planning unit. Other examples of procedural needs still exist. For example, design reviews are made according to the order in which they are received rather than any plan which would indicate the priority of the project.

Written procedures are particularly important given the constantly shifting environment of a corrections department. A study completed by the National Institute of Justice in February 1985 found the average tenure of corrections department administrators to be less than two years. Virginia reflects this turnover, having five directors in the past four years. It is difficult to maintain continuity of process without written guidelines designed to "outlast" the tenure of individual administrations and managers.

Recommendation (8). DOC should prepare a procedures manual specifically to be used by capital outlay staff. This manual should be comprehensive in spelling out process requirements and include elements such as: an explanation of the agency's internal capital outlay process, the priority that different types of projects are to be given, any standards that guide capital outlay decisions and actions, the responsibilities and interrelationships between the capital outlay units, and the basis on which completed facilities will be evaluated regarding operational objectives.

III. PRISON DESIGN EFFECTIVENESS

Three significantly different designs were used in constructing DOC's last five adult institutions: Mecklenburg, Brunswick, Buckingham, Nottoway, and Augusta. The effectiveness of these designs will determine security features, availability of program space, and operating costs for many years, as the lifespan of most prisons extends for decades. This chapter examines the operational effectiveness of the prison designs used in constructing the five institutions.

Measuring Design Effectiveness

The objectives noted in DOC's long-range plan "Corrections Options for the Eighties" were considered in selecting criteria for evaluating prison design effectiveness. The "Options" report was published in 1978 and therefore should have influenced the designs of Brunswick, Buckingham, Nottoway, and Augusta. According to the report, DOC's mission statement in 1978 was:

> to provide the appropriate supervision of persons entrusted to the department's care, to meet their basic human needs, and to make available to them programs that will promote attitudinal and behavioral change.

This mission statement emphasized three primary department objectives: (1) security, (2) rehabilitation, and (3) decent care (which can be measured by compliance with generally accepted correctional standards). A fourth related issue that merited attention in the report was institutional flexibility. The special mission designation that DOC's institutions had gradually taken on was seen as limiting the institutions' flexibility in housing different types of inmates.

These four criteria and a fifth criterion of comparative cost effectiveness were used as the basis for examining Mecklenburg, Brunswick, and the prototype design used for Buckingham, Nottoway, and Augusta. Comparative cost effectiveness refers to comparing the operating costs and staffing requirements of these institutions with the other ten major institutions in Virginia. (Note that Augusta was not included in this comparison as it will not reach its full inmate capacity until the winter of 1986.)

On the basis of these criteria, Table 3 summarizes the findings for the three distinct designs. As noted, security considerations were generally considered to be well-provided within the Mecklenburg and the prototype designs. Brunswick, which was designed to house minimum to medium security inmates, presents security problems when housing maximum-custody inmates.

Table 3

SUMMARY OF PRISON DESIGN EFFECTIVENESS FINDINGS

Criteria	Mecklenburg	Brunswick	Prototype for Buckingham, Nottoway, and Augusta
Security	Good except for some visibility and inmate movement problems.	Poor for maximum security inmates.	Good except for some perimeter security problems. Improved design for Augusta by replacing entry building with a guard tower.
Space for Rehabilitation Opportunities	Adequate for current population. Would expand space for work and recreation opportunities for more general population inmates.	Double-celling may result in the need to work second shifts or expand space for work opportunities.	Double-celling may result in the need to work second shifts or expand space for work opportunities.
Standards Compliance	Generally good except for the rural location.	Although design incorporated many of the standards, double-celling has resulted in variance with correctional standards.	Although design incorporated many of the standards, double-celling has resulted in variance with correctional standards.
Institutional Flexibility	Limited due to design and associated operating procedures.	Limited due to being designed specifically for lower security inmates.	Good, capable of housing inmates of various security classifications.
Comparative Cost Effectiveness	Poor, second highest in both operating costs and staffing ratio.	Good - 11th in operating costs and 8th in staffing ratio.	Good - Buckingham is 12th in operating costs and 11th in staffing ratio. Nottoway is 10th in operating costs and 12th in staffing.

Source: JLARC analysis.

Space for rehabilitation programs was adequately provided for the populations of inmates that were to be housed within the three facility designs. Housing general population inmates at Mecklenburg and double-celling at Brunswick, Buckingham, and Nottoway, however, may result in some additional space needs, particularly with regard to work opportunities.

The facility designs used in constructing Mecklenburg through Augusta generally complied with the six correctional standards cited in DOC's "Corrrections Options for the Eighties" report. Double-celling at Brunswick, Buckingham, and Nottoway, however, is at variance with the ACA correctional standard of single occupancy for all cells. Some of Augusta's housing units are also going to be double-celled within the next year.

The effect of mission on design flexibility can be seen in the evolution of design from Mecklenburg and Brunswick to the prototype used for Buckingham, Nottoway, and Augusta. Mecklenburg and Brunswick were designed to accommodate special missions, which limited their flexibility in housing inmates within a variety of security classifications. The prototype design, however, provides more flexibility in housing inmates of various classifications.

A comparative cost effectiveness analysis showed Mecklenburg to be second highest in both operating costs and staffing requirements. Brunswick, Buckingham, and Nottoway, however, compared favorably in costs and staffing to other institutions.

Design criteria such as the five discussed here should be addressed by DOC through systematic post-occupancy evaluations of newly constructed facilities. The department should institute a formal evaluation process, as it currently lacks one.

SECURITY FEATURES

To evaluate security considerations, Mecklenburg, Brunswick, and the prototype design for Buckingham, Nottoway, and Augusta were examined to determine whether any design features contributed to security problems in operating the institutions.

Mecklenburg's Security Features

Although Mecklenburg was designed as a super-maximum security institution, much of its "security" was based on operating procedures which severely restricted inmate movement and freedom. No central dining hall or canteen was built as inmates were not to be allowed to walk unescorted through the compound or to congregate in large numbers in one area. Although restrictions have been lessened, inmate movement continues to be more restricted than at other institutions. Mecklenburg's current operating procedures require additional staffing, which significantly increases the cost of housing inmates.

Original Design. Mecklenburg was designed to provide maximum security segregation and treatment for the most disruptive inmates in theVirginia system. Incorporated into the design was a plan for limited inmate movement and a progression through a four-phase program as behavior improved. In the two most restrictive phases, inmates were expected to spend the majority of their time in their cells, being brought out individually only for showers and recreation. In the last two phases, inmates were allowed to associate in a dayroom in groups varying from six to 24 according to activity.

All cells and dayrooms were placed on the second floor of the housing units to prevent the exchange of contraband from the ground floor. The ground floors were to be used for "program work areas." No central dining hall was built, as all meals were to be delivered to the inmates in their cells. Thus, while Mecklenburg was designed as a maximum security facility, design decisions which affect security were also based on the restrictive phase program remaining in place.

Changes in Institutional Purpose. In April 1983, a settlement agreement was reached in the case of Brown v. Procunier which resulted in procedural changes in Mecklenburg's operation. Among the mandated changes was the automatic assignment of inmates to Phase II rather than Phase I following satisfactory completion of an initial 30-day orientation. More out-of-cell time was also granted for inmates in Phases II and III. Minimum recreation time was increased from three to five or six hours per week, while Phase II and III inmates were also allowed to visit a general library. These settlement changes, coupled with the assignment of inmates who were not involved in the Phase program, resulted in operational changes that significantly altered the design requirements of the facility.

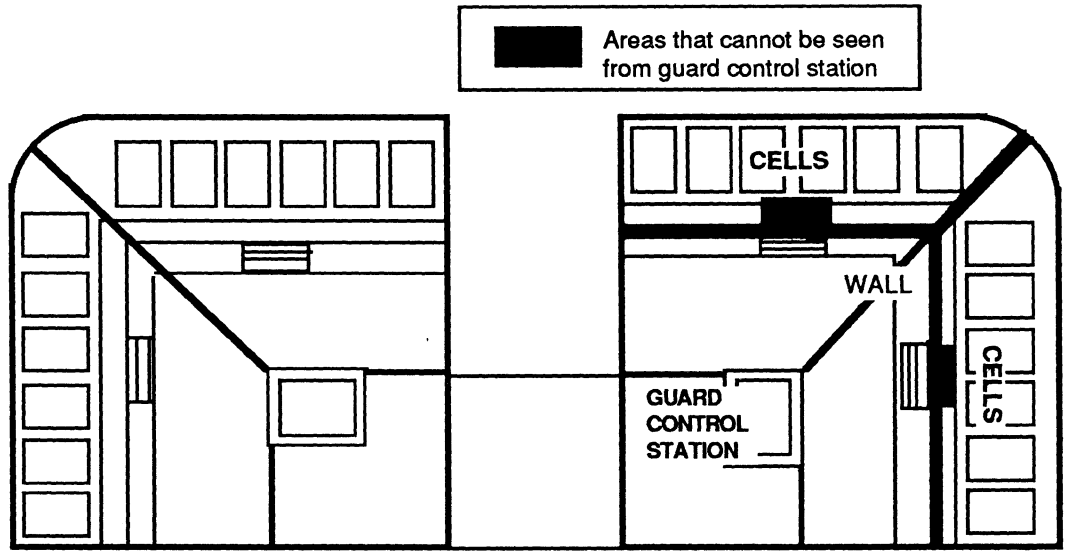
Design Flaws. The Report of the Mecklenburg Correctional Center Study Committee, released in November of 1984 following the death row escapes and other incidents, addressed several basic design flaws that became important following the 1983 changes. First, locating the cells on the second floor of the housing units required increased travel through halls and stairways. Other potential security problems, such as open spaces under the stairwells and blind spots within the housing units, were also found.

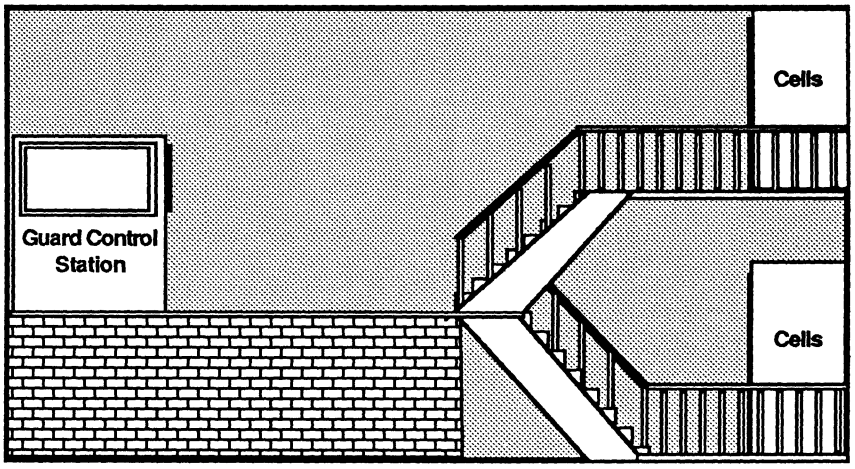
The open spaces under stairwells were particularly important, as the central control booth officer cannot see into the stairwell. The door at the bottom of the stairway is opened based on a verbal request without the control officer being able to see who will be coming out the door. The death row escape illustrated how an inmate, by hiding under the stairwell, could surprise the correctional officer and gain access to the first floor without the guard in the main control booth realizing it. The use of inmate control cameras would improve visibility within the stairwell.

Within the housing pods themselves the lower row of cells are recessed below the dayroom floor. As shown in Figure 3, the correctional officer can only see the upper half of the cell doors on the lower deck from the control station. These blind areas had not been considered important under the original concept of letting only a few inmates out of their cells at one time and having correctional officers escort inmates when moving through the stairwells.

Figure 3

Guard Control Station Visibility at Mecklenburg





Side view of Guard Control Station:

Note: Bottom half of lower cell doors are not visible from control station.

Source: JLARC staff graphic.

Mecklenburg Prison Today. Following three major disturbances in 1984 -- the escape of six death row inmates on May 31, disturbances in recreation yards on July 12, and an August 4 incident in which 32 inmates took nine hostages in a 19-hour siege -- the department and the Board of Corrections officially altered Mecklenburg's basic mission. Instead of housing the worst of the DOC inmates, Mecklenburg now houses a larger percentage of general population inmates, and some of the more disruptive inmates are assigned to other institutions.

There were 131 general population inmates housed at Mecklenburg on September 4, 1986. General population inmates typically have more freedom of movement than was envisioned in Mecklenburg's original design. However, increases in travel through the stairwells could increase the possibility of having a security breach. Security is particularly important at Mecklenburg, as death row and protective custody inmates continue to be housed at the institution. To compensate for these security considerations and other facility characteristics, such as not having a central dining hall or a canteen, inmate movement continues to be restricted. For example, meals are delivered to inmates within their housing pods, and canteen orders are taken and delivered to the inmates by security personnel. Such compensations add substantially to the staffing needs and associated operating costs of the institution.

As illustrated, much of Mecklenburg's "security" is dependent on its mission and operating procedures. The design of Mecklenburg functions well, however, in providing close supervision of inmates in small groups and in allowing for partial or complete lockdown of the institution. If a major disturbance occurred, inmates at Mecklenburg could be locked within their housing units in groups of 12. This ability to lock down selected portions of an institution relatively easily is important in maintaining control during disturbances.

Brunswick's Security Features

Brunswick's open campus design for minimum to medium security inmates was originally supposed to serve as the prototype for five institutions. Following Brunswick's construction, however, the prototype design was changed to accommodate the use of pre-stressed, pre-cast concrete. Over half of Brunswick's inmate population is currently composed of maximum security inmates. The minimum security design and building materials used at Brunswick have resulted in security problems in housing these higher custody inmates.

Changes in Institutional Purpose. Brunswick, in contrast with Mecklenburg, was designed to house minimum to medium security prisoners. Its campus design, employing glass and open areas, was envisioned as creating an environment conducive to inmate rehabilitation. Since Brunswick was opened, however, the department's need for medium and maximum security beds has required double-celling and the housing of maximum custody inmates at Brunswick.

Fifty-seven percent of Brunswick's inmates were classified as maximum security on May 15, 1986. According to a Brunswick administrator, the inclusion of so many high risk inmates with the lower risk inmates has been a "prescription for chaos." This concern is supported by annual reports which show Brunswick as having between the first and the fifth highest number of serious incidents since fiscal year 1984 (Table 4).

Table 4

THE FIVE MAJOR INSTITUTIONS REPORTING
THE HIGHEST NUMBER OF SERIOUS INCIDENTS

FY 1984	FY 1985	July 1985 - April 1986
1. BRUNSWICK (200)	1. Mecklenburg (209)	1. Penitentiary (221)
2. Mecklenburg (161)	2. Marion (209)	2. Marion (205)
3. Marion (152)	3. Penitentiary (183)	3. BRUNSWICK (147)
4. Penitentiary (144)	4. Nottoway (173)	4. Mecklenburg (121)
5. Southampton (81)	5. BRUNSWICK (166)	5. Nottoway (115)

Source: DOC Serious Incident Report Summary.

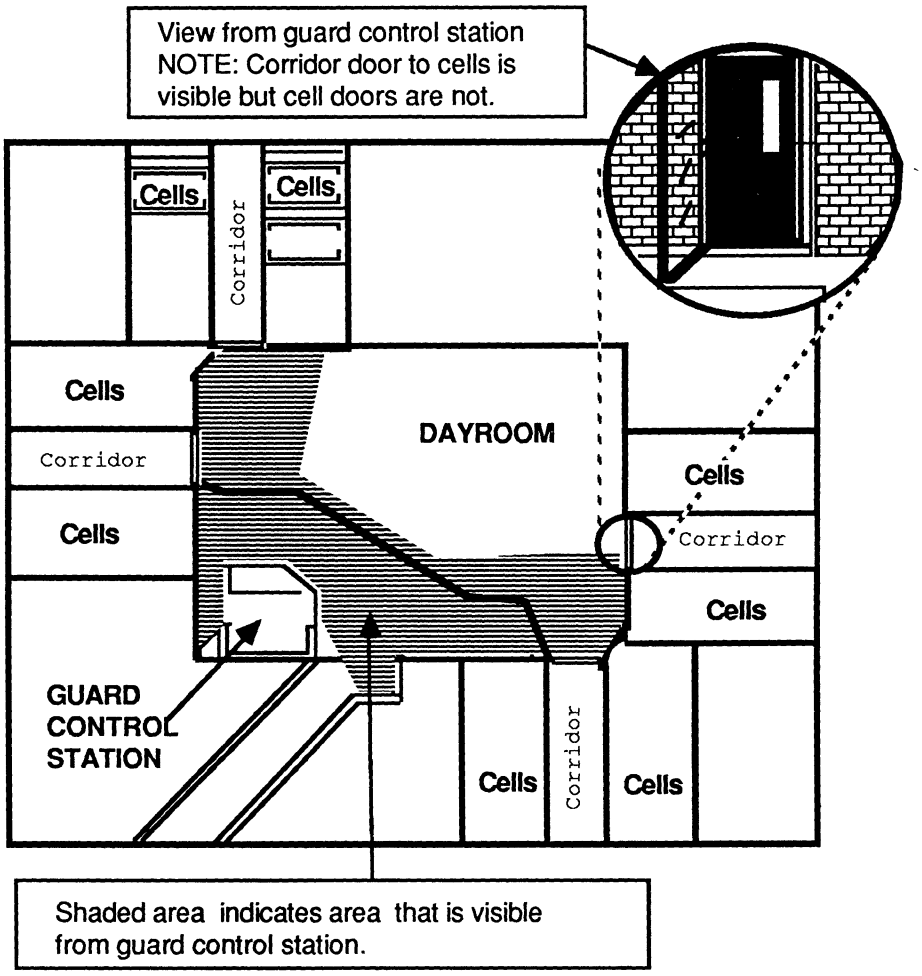
Design Flaws. Top officials at Brunswick expressed concern about several aspects of the physical facilities. First, the locks on the general population cells are designed for minimum security inmates and the doors are hollow metal. These doors can be kicked open by inmates. Second, the bathroom fixtures in the cells are made of porcelain, which can be broken, unlike the stainless steel fixtures that are typically used in prison cells. Third, the stairwell panels and some cell windows are glass, which is also relatively easy to break. This is costly in terms of maintenance funds and staff time. Brunswick's maintenance supervisor estimated that 20 percent of one of his staff's time is devoted to replacing broken glass.

Another problem is the design of the housing units. As shown in Figure 4, four corridors of cells branch off from each dayroom. These corridors cannot be observed by the guard from the control station. The correctional officer can only observe one corridor at a time by looking through the corridor window. Even then the interior of the cells is largely out of view, as is the shower which is located at the far end of the corridor. JLARC staff also noted that the grounds within the perimeter are largely out of the view of the guard towers. Such visibility and building material problems significantly compromise the security within Brunswick, particularly when maximum-custody inmates are assigned.

Despite the fact that Brunswick was originally to have been a prototype for other institutions, it is today unique. DOC has recognized

Figure 4

Guard Control Station Visibility at Brunswick



Source: JLARC staff graphic.

problems with its concept, design, and operation. Consequently, the three most recently constructed institutions were built according to a significantly different, and improved, prototype design.

Security Features within the Prototype Design

Following Brunswick's construction, a new design was developed. This design, which accommodated the use of pre-stressed, pre-cast concrete, was used in building Buckingham, Nottoway, and Augusta. These institutions represent a major improvement in terms of security considerations.

Changes in the Prototype Design. Brunswick's minimum security features of openness and a more normal environment were replaced by considerations of visibility and sturdy construction. The cells were equipped with better locks, more solid doors, and stainless steel bathroom fixtures. Visibility within the housing units was also significantly improved. The view that the correctional officer has from the control booth within the housing unit is shown in Figure 5. As illustrated, cell doors can be viewed by the officer. General visibility within the perimeter is also better: most of the outdoor area are visible from at least one of the perimeter towers.

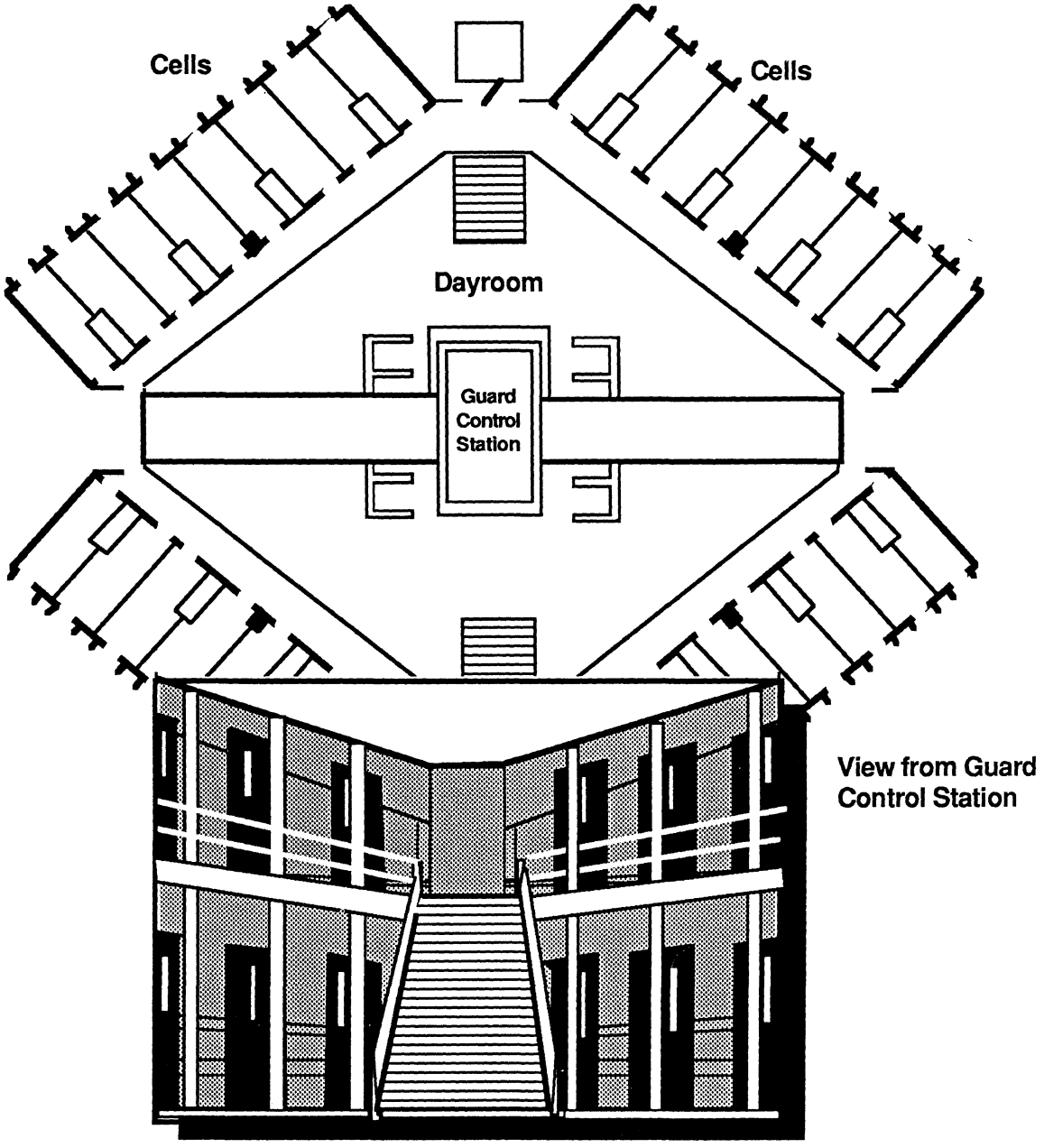
Design Flaws. The new institutions are not without design problems, however. Two design characteristics which have presented security problems include the shape of the perimeter fence and the use of the entry buildings as guard towers. Both of these characteristics obstruct the perimeter security needed to prevent inmates from escaping through or over the fence. The fence design at Buckingham and Nottoway envisioned the use of a roving patrol car, which was to eliminate the need for guard towers. The fences were therefore constructed to be basically round to conform with the shape planned for the chase road. Prior to the actual construction of Buckingham, however, DOC decided that guard towers would be used to secure the perimeter. The fence design was not changed, however, to provide for straight sight lines necessary for guard towers to be effective (Figure 6). Three guard towers were eventually added, but a roving patrol car is also used.

The second floor of the entry building functions as a fourth guard tower at both Buckingham and Nottoway. These entry buildings are actually part of the fence line and compound observation limitations. As originally constructed, the officer on duty would have to lean out the window to be able to observe the section of fence which was connected to the building. (Guard towers are usually set back from the fence to allow for easy observation of the perimeter.) These observation deficiencies within the entry building tower contributed to the escape of five inmates at Nottoway on November 22, 1984. The inmates were able to cut through the fence at the bottom of the entry building without being observed by the tower guard.

Use of Electronic Fence Monitors. To increase perimeter security, DOC plans to install an electronic fence monitor at each major institution which is surrounded by a double fence. (This would include all major institutions except James River and the Women's Center.)

Figure 5

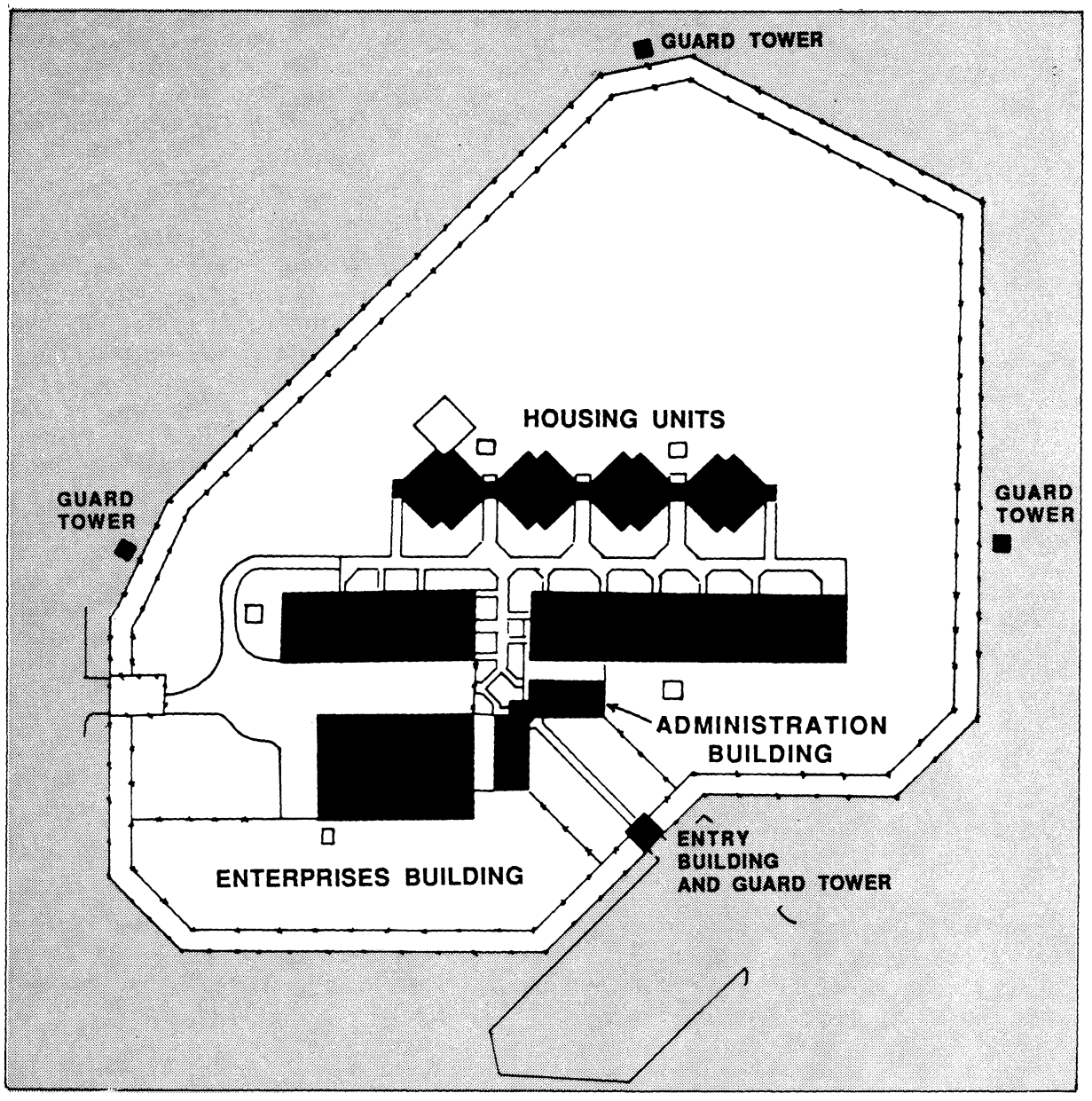
Guard Control Station Visibility at Prototype Institutions



Source: JLARC staff graphic.

Figure 6

Nottoway Correctional Center Layout



Source: JLARC staff graphic.

An electronic fence monitor has already been installed at Brunswick but problems which seem to be related to flexibility in the perimeter fence have prevented the system from working properly. The monitor which is beingconsidered for systemwide use is less sensitive to fence movement than Brunswick's system. It is therefore expected to more reliably indicate attempts to escape over or through the perimeter fence. A reliable electronic monitor would make guard tower visibility problems at Buckingham, Nottoway and Augusta less significant. The first system will be purchased during 1989 for installation at Buckingham. Installation of the system is being delayed until the housing units, which are being added within the perimeter, can be completed.

Design Changes. Few design changes were made between the completion of Buckingham and the construction of Nottoway, since Nottoway's construction was initiated before Buckingham was opened. One of the design problems which was addressed at Nottoway involved the stairs leading into the housing units. At Buckingham, the stairs were enclosed in concrete masonry units, obscuring them from the view of the guard tower. To correct this problem, the stairs at Nottoway were left open. This resulted in a new problem during the winter, as rain would freeze on the stairs, making them slippery and dangerous. The steps at Nottoway were subsequently enclosed in glass. Ventilation fans were installed the following summer to reduce temperatures within the stairwells.

Construction on Augusta began after Buckingham had been in operation for nine months. DOC was therefore able to identify and correct many design problems. As shown in Figure 7, a guard tower which is located outside the fence was added rather than using the second floor of the entry building for perimeter observation. Augusta's housing unit stairwells were also enclosed in glass based on the experience at Nottoway.

SPACE PROVIDED FOR REHABILITATION OPPORTUNITIES

The "Corrections Options for the Eighties" report evaluated DOC's rehabilitation objective according to the availability of inmate programs. JLARC staff examined the space provided for inmate programs within Mecklenburg, Brunswick, and the prototype for Buckingham and Nottoway by defining inmate programs broadly to include work, education, recreation, and counseling opportunities.

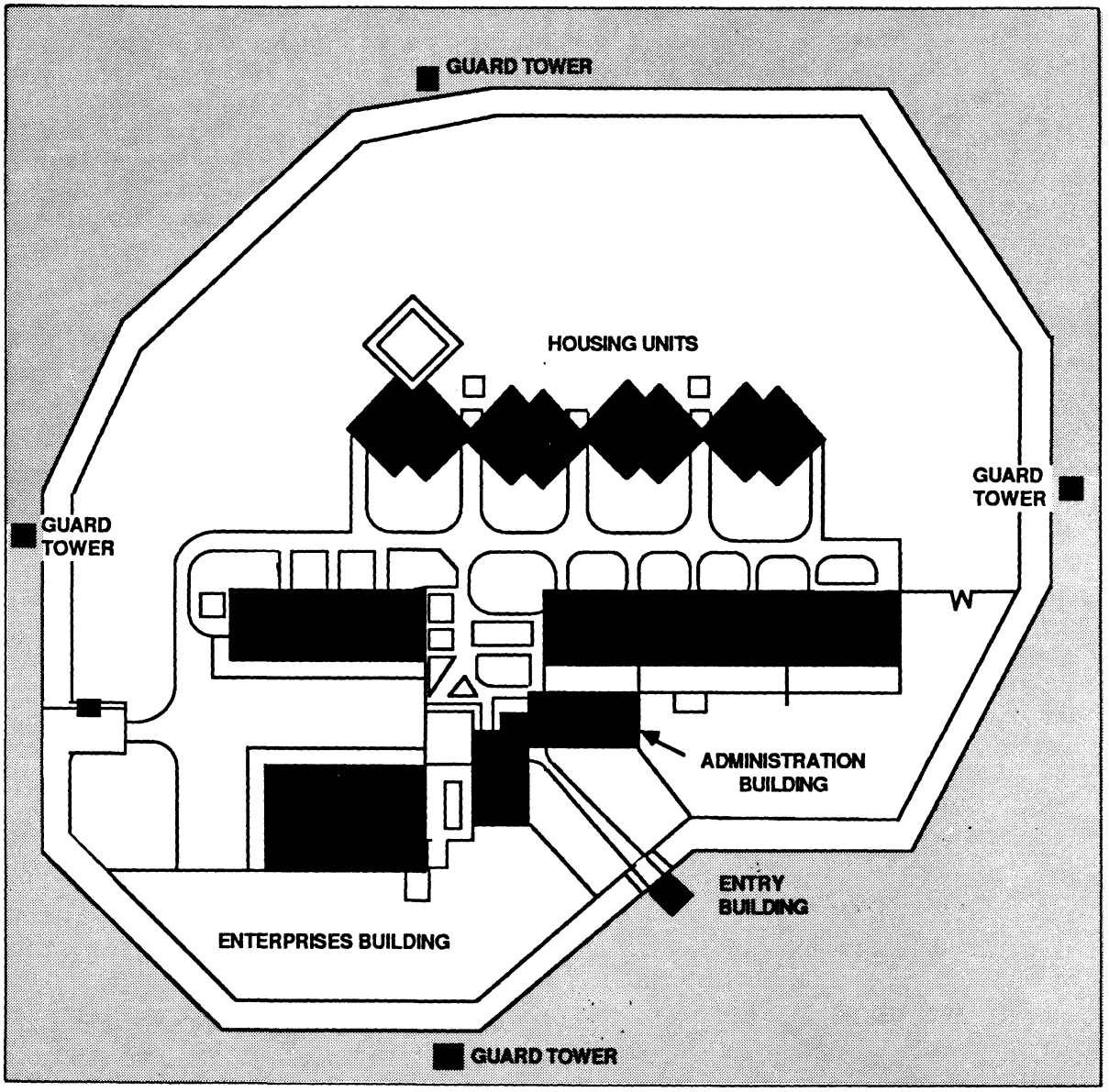
Program Space at Mecklenburg

The space allowed for education, counseling, recreation, and work opportunities seems to be adequate for Mecklenburg's current inmate population needs. If more general population inmates were housed at Mecklenburg, work and recreation opportunities would need to be expanded.

Mecklenburg's design allotted most of the space on the first floors of the five housing pods to be used for programs. This space received little use, however, prior to the conversion of Mecklenburg from the phase program.

Figure 7

Augusta Correctional Center Layout



Source: JLARC staff graphic.

Since that time, the space has been utilized as the number of educational classes has been expanded from three to six, and the number of vocationalclasses from one to five. The counselors' offices are also located on the first floor of the housing units. Counselors meet with the inmates in these offices or in the inmate's cell if the inmate is on death row or in segregation.

Recreation yards have been developed, with two fenced-in yards for death row inmates and one for inmates in segregation. There is no gym facility for indoor recreation. Work opportunities have been expanded with the addition of a wood shop to the two industrial enterprises tailor shops. Facility assignments such as working in the kitchen and the laundry are also available for inmates who are allowed to work outside the housing units. Mecklenburg inmates housed within death row and segregation are only allowed to work within their housing units performing tasks such as cleaning the cells and dayrooms.

The space provided for rehabilitation programs in Mecklenburg's original design is adequate for its current inmate population.

Program Space at Brunswick

The primary program need at Brunswick relates to providing additional work opportunities. Generally the space provided for education, recreation, and counseling is adequate.

The space provided for work opportunities may have been adequate given the original concept of how the institution was expected to operate. The addition of almost 200 inmates with double-celling, however, has resulted in the need for work opportunities for that number of inmates. Brunswick has two industrial enterprises involving the renovation of school buses and a chair assembly facility. Inmates are otherwise employed in a variety of facility-related jobs.

Brunswick's design incorporated the provision of a variety of educational opportunities to the inmate population. Classroom space was so abundantly provided that, since Brunswick's mission has changed, several classrooms have been converted for other purposes. Classrooms are being used as a chapel, for inmate personal property storage, laundry and institutional clothing dispensing, and as a maintenance shop. Recreational space appears adequate.

The counselor's offices are small and located next to the control room within the housing units. The expansion of the inmate population due to double-celling may require that the counselors work different shifts and share the limited office space.

The program space provided in the design for Brunswick is generally adequate despite double-celling of part of the housing units. The development of work opportunities to employ the increased inmate population could require adding work space.

Program Space Provided in the Prototype Design

Similar to the experience at Brunswick, double-celling at Buckingham and Nottoway has caused the most serious difficulties in providing adequate inmate work opportunities. One industrial enterprise is located at each institution. Otherwise inmates work in a variety of facility-related jobs. The wardens at Buckingham and Nottoway estimated that work cannot be found for approximately 200 inmates at each institution. The warden at Augusta, in anticipation of similar problems when the institution reaches full capacity, plans to operate two eight-hour shifts within enterprises. The ability to do this will depend on the level of demand for the clothing and wood products produced by the enterprise operation. If the demand for these products is inadequate, other work opportunities may need to be developed which could involve additional construction.

The counselors' offices are located in the hallways, just outside the housing units at Buckingham, Nottoway, and Augusta. While the rationale for this placement was to allow the counselor to be accessible for inmate contact, the location has not worked well. There are security problems, as the control room officer cannot see into the offices although inmates have access to the offices when traveling through the hall. Therefore, the counselors use the offices to meet with the inmates, but sit in a conference room within the support building to fill out their paperwork. The offices also provide little privacy, because inmates can see who is talking with the counselor through the windows. These problems should be considered by DOC in any future plans for constructing housing units and facilities.

STANDARDS COMPLIANCE

Decency of care was evaluated in the "Corrections Options for the Eighties" report according to compliance with generally accepted correctional standards. The "Options" report specifically listed six standards that were used in evaluating Virginia's prisons. These standards included:

- maximum capacity for correctional institutions of 400 to 500 inmates;
- maximum capacity for residential units of 24 inmates;
- single-cell occupancy;
- minimum capacity of a single-occupancy cell of 70 square feet;
- minimum dayroom capacity of 40 square feet per inmate;
- location of correctional facility near the inmates' home communities and population centers capable of providing the needed professional staff.

JLARC staff also used these standards in evaluating Mecklenburg, Brunswick, and the prototype design. Generally the facility designs incorporated the standards listed above with the exception of the institution location.

Adherence to Capacity Standards

The double-celling practice at Brunswick, Buckingham, and Nottoway is at variance with correctional standards, particularly in the areas of facility capacity, single-cell occupancy, cell size, and dayroom space. Some of Augusta's housing units will be double-celled within the next year.

Maximum Facility Capacity. All three facility designs followed the capacity limitation of 400 to 500 inmates. Double-celling at Buckingham and Nottoway has resulted in these institutions exceeding this guideline by approximately 200 inmates, however. The infill units that are to be added in the next two biennia will increase these two institutions' capacity further and bring Augusta (which is also slated for partial double-celling) above the 500-inmate level.

Maximum Residential Unit Capacity. Only Mecklenburg's design incorporated the 24-inmate limitation for residential units. The residential units, measured by the number of cells that share a dayroom area, were designed to accommodate 30 to 38 at Brunswick and 32 at Buckingham, Nottoway, and Augusta.

Single-Cell Occupancy. Single-cell occupancy was incorporated into the three institutional designs used by DOC. Double-celling of about 40 percent of the cells at Brunswick, Buckingham, and Nottoway has exceeded the single-cell occupancy standard. Double-celling is also planned for Augusta.

Minimum Cell Capacity. The cells at Mecklenburg are between 60 and 69 square feet in size and therefore slightly under the minimum standard of 70 square feet.

The cells at Brunswick and the three institutions which were based on the prototype design contain 70 to 79 square feet. These cells comply with the suggested standard when used as the single occupancy cells they were designed to be. The cells which are used for double occupancy do not meet the minimum requirement of 50 square feet per inmate which is suggested by the American Correctional Association for multiple-occupancy rooms.

Minimum Dayroom Capacity. Mecklenburg's dayrooms include 56 square feet per cell, while the dayrooms at Buckingham, Nottoway, and Augusta allow 52 square feet per cell. These dayrooms were therefore designed to comply with the 40 square foot standard suggested in the "Options" report. Only Brunswick's dayrooms, which allow 28 square feet per cell, failed to incorporate this standard in their design.

Location of Correctional Institutions

DOC was not able to achieve the standard for locating correctional institutions near the inmates' home communities and near population centers. Mecklenburg, Brunswick, Buckingham, Nottoway, and Augusta were located in rural areas away from Virginia's population centers. While 17.4 percent of State inmates are from the Northern Virginia area, DOC has been unsuccessful in locating a major institution in that area. Given the rehabilitative goals of the department and the desirability of locating inmates near their homes when possible, a major prison in or near Northern Virginia is important and should continue to be pursued by DOC and State planners.

As previously mentioned, the willingness of localities to have an institution has been a primary selection consideration. While this was an appropriate consideration, the ramifications of selecting rural locations that are not close to the majority of the inmate population's home should be recognized. Visitation policies may need to consider the distance traveled by the family in setting time limits. Recruiting personnel, particularly highly skilled professionals, may also be more difficult in a rural location. In some instances, however, the rural location favors the recruitment of a stable correctional officer workforce.

INSTITUTIONAL FLEXIBILITY

Many of the design problems of facilities built during the 1970s and 1980s can be traced to a change in the mission or the size of the population envisioned for these institutions. While correctional goals seem to change fairly frequently, the typical lifespan of a prison facility continues for decades. As pointed out in DOC's 1978 long-range plan, institutions should be designed to accommodate flexibility in their future use.

Flexibility of Mecklenburg's Design

Mecklenburg was designed as a super-maximum security prison allowing limited inmate movement while providing close supervision of the inmate population. The program goals for the institution provided for limited work and recreational opportunities, since the inmates were expected to be the most disruptive from throughout the system. Some of the resulting design features, such as placing the housing units on the second floor and having no central dining hall or gym, have limited the flexibility of the institution in housing general population inmates.

General population inmates at Mecklenburg have fewer opportunities for recreation and work opportunities than inmates at other institutions. There is no indoor gym facility, as inmates were not expected to congregate in large numbers. Work opportunities are also limited.

Since Mecklenburg was designed specifically for the most disruptive of the maximum security inmates, it has not functioned well for general

population inmates. Inmates are restricted in their ability to move from one building to another and in pursuing recreational and work opportunities.

Flexibility of Brunswick's Design

As previously noted, Brunswick was designed to embody the rehabilitative philosophy of an open, "normal" environment. Lower custody inmates were expected to be busy participating in the educational and work programs that were to be offered. Visibility within the institution and the strength of the materials used in construction were not considered to be important features. The use of Brunswick to house higher security inmates since its opening, however, has emphasized the importance of these factors. Problems with visibility and minimum security building materials have limited the usefulness of Brunswick in housing maximum security inmates. Consequently, DOC officials have tried to assign "soft" maximum security inmates to Brunswick.

Being able to house higher security inmates is of particular importance considering the number of DOC institutions which are incapable of doing so. The field units are inappropriate for higher security inmates for three reasons: they have dorms rather than cells; there is limited perimeter security; and most of the work opportunities are outside the perimeter fence. Of DOC's 15 major institutions, only Powhatan, the Penitentiary (which is scheduled to close in 1990), and Mecklenburg were designed primarily for maximum security inmates.

The number of inmates classified by DOC as maximum security has also increased as the size of Virginia's prison population has grown. While there is no consistent pattern from year to year, the number of inmates classified as maximum security by DOC modestly increased from FY 1980 to FY 1985, with a larger increase to 33 percent in FY 1986 (Table 5). (Each year, on average, about four percent of inmates in State facilities are awaiting classification. This discussion focuses only on the 96 percent of State inmates who have been assigned a custody level.) A trend toward increasing numbers of maximum security inmates coupled with an emphasis on community diversion and longer sentences for violent offenses could increase the department's need for higher security beds. Brunswick, however, due to its design, is of limited utility in housing maximum security inmates.

Flexibility of the Prototype Design

The prototype design for Buckingham, Nottoway, and Augusta seems to provide the needed flexibility in housing inmates who require from minimum to maximum security supervision. Like Brunswick, however, the prototype was designed for 500 inmates, but double-celling has increased the populations of Buckingham and Nottoway to approximately 700. While double-celling some inmates may be necessary to make full use of the institution's capacity, the practice does result in a number of operating and programmatic problems.

Table 5

INMATE CLASSIFICATIONS
FY 1980 - 1985

FY	Minimum ("A")	Medium ("B")	Maximum ("C")
1980	2,175 (27%)	3,742 (47%)	2,038 (26%)
1981	2,229 (28%)	3,806 (48%)	1,905 (24%)
1982	2,000 (24%)	4,254 (51%)	2,115 (25%)
1983	1,973 (22%)	4,374 (50%)	2,450 (28%)
1984	1,982 (21%)	4,716 (50%)	2,702 (29%)
1985	2,353 (23%)	4,932 (49%)	2,827 (28%)
1986	2,029 (20%)	5,023 (47%)	3,541 (33%)

Source: JLARC staff analysis of DOC data.

First, the office space provided for administrative operations is limited. However, since double celling means that additional inmates are housed, the volume of paperwork increases. Administrative staffing and filing space requirements are also increased. At Nottoway, for example, offices designed for one person are often shared by two. A judge's office is used by institutional staff when he is out, and one typist has her desk in the hall. Most of the space allotted for inmate files has been filled after only two years of operation. In addition, the sewage facilities are operating at 90 percent capacity with less than 700 inmates housed. Finally, between Buckingham and Nottoway there are 400 inmates for whom jobs do not currently exist.

At the time of the JLARC staff review, double-celling of the inmate population at Augusta had not begun. It is expected, however, that similar office space problems will be experienced. No sewage problems are expected, however, because the sewage treatment plant for the Town of Craigsville will accommodate Augusta's needs. DOC financially assisted the Town of Craigsville in enlarging its sewage treatment plant specifically to meet Augusta's needs. Augusta's warden did not expect problems in employing the inmate population as he intends to operate two shifts of the enterprises' sewing and woodworking industries. The ability to run two enterprise shifts will depend, however, on demand for the finished products.

As noted in this review, Mecklenburg and Brunswick illustrate the need to avoid building to accommodate too specific a mission, since prison missions frequently change. Brunswick and the prototype design illustrate the need to be flexible in allowing for changes in the size of the inmate population that will be housed.

Recommendation (9). In developing designs for new facilities, DOC should incorporate the flexibility to accommodate changes in mission and the

size of the inmate population. DOC's prisons should be designed with sufficient flexibility to handle minimum, medium, and maximum security prisoners.

Recommendation (10). In order to provide sufficient work opportunities to expanded inmate populations, DOC should consider better space utilization by employing second shifts to the extent allowed in keeping with good correctional policy. The operation of two enterprises shifts is currently being considered at Augusta.

Flexibility is needed for both inmate housing and support services. While double celling creates some problems and is not an optimal practice, it will continue to be necessary to provide sufficient capacity for the State's growing prison population. The ideal of operating a facility at design capacity with no double celling will rarely be possible. Indeed, some double celling should be counted as part of a facility's operational capacity. A larger number should be counted as a part of the institution's reserve capacity. At the prototypes, for example, the operational capacity could be set at 615 rather than 500. While not optimal, there are some advantages to planned double celling and increasing operational capacity:

- By increasing operational capacity to a reasonable, credible number, the department might be able to avoid incremental increases in its population beyond the revised level. For example, the prototype's operational capacity of 500 is not credible as two prototype institutions are operating at close to 700 inmates, a figure JLARC staff considers too high. Revising capacity upwards, to a more credible number, might dampen excessive double celling in the future.

- Increased capacity figures at some institutions would provide an improved baseline for planning future bedspace needs. When institutions have been acceptably operating at 200 inmates over operational capacity, it is difficult to convince planners of the need to operate them at 500. Consequently, consensus on meeting real needs is harder to achieve. More realistic planning numbers could foster greater consensus on the extent of bedspace needs.

- Double celling could have some operational advantages if it were used as part of an incentive program. Inmates could initially be placed in double-occupancy cells and "promoted" to a single cell contingent on good behavior. (At the same time, segregation and isolation in private cells would continue to be necessary for some types of disruptive inmates.)

(The capacity issue is addressed in detail in JLARC's 1985 report, Population Forecasting and Capacity.)

In anticipation of such double celling, DOC should plan for support functions that can be expanded to serve populations larger than the ideal operational capacity.

Recommendation (11). DOC should incorporate some double celling and double-bunking into its definitions of operational and reserve capacity.

Recommendation (12). Support services at DOC facilities should be designed with sufficient flexibility to serve not only operational capacity, but also reserve capacity.

COMPARATIVE COST EFFECTIVENESS

The operating expenditures and staffing levels for each of the major institutions were examined to determine how Mecklenburg, Brunswick, Buckingham, and Nottoway compared with Virginia's other institutions. (Augusta was not examined as it was not fully operational at the time of the review.) Operating expenditures and staffing levels were examined on a per-inmate basis to provide a common measure for comparison. While the figures for field units (in the aggregate) are shown for informational purposes, these figures were not considered in making comparisons. The low per-inmate costs and staffing ratios are indicative of the lower security needs of the inmates and the limited number of the programs provided within the field units.

Comparison Results

The per-inmate costs of Virginia's major institutions for FY 1986 are shown in Table 6. Mecklenburg had the second highest per-inmate cost at $33,152. This was almost twice as high as the systemwide average of $17,532. Only Marion, which is the department's special treatment center for inmates needing mental health services, had a higher per-inmate cost. Buckingham, Brunswick, and Nottoway, however, were below this systemwide average, ranging from $14,380 to $15,248 per inmate. This FY 1986 average was also less than the per-inmate cost of $17,324 reported as the national average for 1984 in the Corrections Yearbook.

One of the primary determinants of operating costs is the level of staffing required to run the institution. Table 7 shows Mecklenburg to have the second highest staff-per-inmate ratio of 1.19, which is over twice the systemwide average of 0.59. The staff-per-inmate ratio for Nottoway, Buckingham, and Brunswick ranged from 0.52 to 0.55, which is below the average for Virginia's major institutions.

Cost Effectiveness of Mecklenburg

The cost comparison illustrates the inefficiency of housing general population inmates at Mecklenburg given its operating costs and high staffing ratio. The more efficient choice would be to house only special population inmates that Mecklenburg was designed to accommodate.

DOC is somewhat constrained, however, in its use of Mecklenburg by conditions contained within the latest consent decree, signed in April 1985. In the decree, DOC agreed "with the exception of Death Row, [that] inmates assigned to [Mecklenburg] . . . will generally be "C" custody." This precludes

Table 6

COMPARISON OF OPERATING EXPENDITURES FOR ADULT INSTITUTIONS

Institutions	Average Daily Inmate Population FY 1986	FY 1986 Expenditures	Cost Per Inmate
1. Marion	160	$ 5,523,748	$34,523
2. MECKLENBURG	308	10,210,796	33,152
3. Youthful Offender	80	2,242,275	28,028
4. Powhatan	694	15,511,350	22,351
5. Penitentiary	862	16,178,144	18,768
6. Bland	454	8,010,143	17,643
7. James River	326	5,539,922	16,994
8. Staunton	543	8,951,743	16,486
9. Deerfield	310	4,880,207	15,743
10. NOTTOWAY	698	10,643,017	15,248
11. BRUNSWICK	696	10,325,182	14,835
12. BUCKINGHAM	714	10,267,515	14,380
13. St. Brides	443	5,945,823	13,422
14. Southampton	526	6,994,494	13,297
15. Women's Center	373	4,779,140	12,813
TOTALS	7,187	$126,003,499	$17,532
Field Units	2,696	$ 30,730,356	$11,398

Source: JLARC staff analysis of DOC Population Summary and Per Capita Statement of Adult Facilities.

the use of Mecklenburg as an institution devoted only to maximum segregation. The department therefore needs to consider alternative means of improving the cost-effectiveness of Mecklenburg's operation.

Recommendation (13). DOC should make changes needed to improve the cost effectiveness of Mecklenburg's operation. Options to consider include: (1) to seek relief from the consent decree requirement to house general population inmates, (2) to identify a special population, other than maximum segregation, which needs the high staffing complement and close supervision characteristic of Mecklenburg, or (3) to make changes in Mecklenburg's design and operation which will allow for more cost-effective use.

Examples of changes that could be made under option 3 are the construction of a central dining hall, a gym, and any buildings needed for expanded work opportunities, and the reduction of staffing and inmate movement restrictions.

Table 7

COMPARISON OF STAFFING REQUIRED BY ADULT INSTITUTIONS

Institutions	Average Daily Inmate Population FY 1986	Established Employment Level June 30, 1986	Staff Per Inmate
1. Marion	160	192.5	1.20
2. MECKLENBURG	308	365.5	1.19
3. Youthful Offender	80	87	1.09
4. Powhatan	694	531	0.76
5. Staunton	543	322	0.59
6. Deerfield	310	178.5	0.57
7. Penitentiary	862	479	0.55
8. BRUNSWICK	696	381	0.55
9. Bland	454	247	0.54
10. James River	326	172.5	0.53
11. BUCKINGHAM	714	374	0.52
12. NOTTOWAY	698	361	0.52
13. Southampton	526	227	0.43
14. St. Brides	443	185	0.42
15. Women's Center	373	153	0.41
TOTALS	7,187	4,256	0.59
Field Units	2,696	924	0.34

Source: JLARC analysis of 1986 Budget Bill and DOC staffing data.

Cost Effectiveness of Brunswick, Buckingham, and Nottoway

Brunswick, Buckingham, and Nottoway had relatively low operating costs and staffing needs. Part of this efficiency may be attributed to double celling within each institution. Some staffing and cost efficiencies can be gained from double celling. Staffing required by many of the security posts, such as guard towers and control booths, will remain the same despite increases in the inmate population. Similarly, a number of nonsecurity positions may not need to be increased despite the housing of a larger inmate population.

DOC was in the process of determining the staffing that will be needed to accommodate the additional inmates to be housed in the infill units at Buckingham, Nottoway, and Augusta. These findings will be reported to the General Assembly during the 1987 session. Department administrators expected infill to further decrease the per-inmate costs and staff-per-inmate ratios for the three institutions.

Any other consequences that the infill strategy may have on institutional operations should also be explored by DOC. The adequacy of education, work, and recreation opportunities to serve the expanded inmate population will be an important factor. The institutional environment such as the perceived degree of crowding, could also influence the number of reported inmate illnesses and serious incidents. These types of program and environmental consequences are being reviewed by DOC in planning for the future use of its institutions.

EVALUATION OF COMPLETED FACILITIES

A nationwide need for post-occupancy evaluations of newly constructed prisons was noted in a National Institute of Justice (NIJ) report, Correctional Facility Design and Construction Management. This report considered the post-occupancy evaluation to be "one method for improving physical plant design, operation and maintenance...." The NIJ report recommended requiring a systematic, on-site evaluation of each new facility one to two years after its occupancy.

DOC does not have a post-occupancy evaluation requirement for newly constructed facilities. While the State's capital outlay process requires an inspection of the facility for acceptance purposes, the goal of a post-occupancy evaluation is different. Post-occupancy evaluations allow the agency to determine the success of the design in meeting stated operating objectives. The evaluation should include an examination of security systems, equipment, safety features, building materials, the electrical, circulation and heating systems, program and office space, and maintenance requirements. Visibility within the institution, inmate movement patterns, and the reaction of inmates and staff to the physical environment also should be considered. These observations should be documented on a standardized form which is retained for use in planning subsequent capital projects.

No formal evaluation has been required by DOC to determine the operating effectiveness of newly constructed institutions. Capital outlay staff have made informal visits to the institutions to check on problems. Nothing was written following the visits, however, to document findings for future reference. It seems that this type of evaluation would have been particularly useful in making changes in the prototype design prior to constructing Augusta. As of August 1986, DOC had submitted 214 change orders to request design alterations to Augusta during its construction. While some of these changes were necessary as a result of constructing Augusta in phases, other changes could have been addressed in adjusting the facility design.

Recommendation (14). DOC's capital outlay section should complete a formal post-occupancy evaluation of newly constructed facilities after they have been operating for one year. The evaluation should document on a standard form the findings regarding facility hardware, maintenance needs, visibility factors, inmate movement, and the adjustment of staff and inmates to the physical environment. Annual updates noting any new operational concerns should also be made.

Recommendation (15). While the prototype institutions have shown ongoing design improvement, DOC should continue to assess improvements and alternatives. Post-occupancy evaluations should contribute to improvements. Alternatives in other states should be regularly studied, particularly where the potential for operational and staffing efficiencies exist. Schools of architectural design within Virginia universities could also be used as resources in determining future designs.

IV. INSTITUTIONAL MAINTENANCE NEEDS

Virginia's correctional system is currently comprised of 54 facilities: 15 major institutions, 27 field units, three work release centers, two reception and classification centers, and seven youth institutions. DOC has estimated a total capital value for these facilities at over $300 million. It will be important for the department to protect this large capital investment through regular maintenance in the coming years.

In examining the maintenance needs of DOC's correctional facilities, JLARC staff found that DOC has had no systematic mechanism for anticipating and funding the maintenance needs of its institutions. Instead, budgets have historically been based on the amount that was spent on maintenance the previous year. Funding for maintenance needs is therefore often requested after the equipment has broken or the roof is leaking. The department is, however, currently developing a comprehensive preventive maintenance program. The information gathered in carrying out this program should assist DOC in projecting its future maintenance budget needs.

DOC has also experienced problems in expending its maintenance reserve fund appropriations. Maintenance reserve funds are designed to finance maintenance needs which are too large for the institutions' maintenance and operating budgets to finance. As of July 1986, 41 percent of the maintenance reserve funds appropriated for DOC during the 1986 biennium had been spent or obligated.

ADDRESSING DOC'S MAINTENANCE NEEDS

DOC needs to accurately budget for the "ordinary" maintenance needs of its institutions as well as project the size of the larger needs which should be funded through the capital outlay process. At present, the amount spent on maintenance in the previous year is the primary basis for determining the current year's maintenance budget. DOC needs to develop better mechanisms for projecting its maintenance needs.

Budgeting for Maintenance Needs

Each major institution has a separate maintenance and operating budget which includes funds for general maintenance needs. Institutional maintenance budgets have historically been determined by adding an incremental increase to the amount that was spent on maintenance by those institutions in the previous year. DOC has no central process for anticipating and funding projected maintenance needs on an institutional basis. This has resulted in the need for more costly repairs, especially when the receipt of the maintenance funds was delayed. For example:

The roof of a learning center school building began leaking several years ago. Capital outlay funds were requested when the leak was discovered, and the repair was included as a maintenance reserve fund project. It was determined that a private contractor would be retained to fix the asphalt roof, which would require extensive repair. An architect has been selected, but capital outlay staff expect it to take several months to request bids, evaluate the bid responses, and retain a contractor to actually begin the repair. During the interim, however, ceiling tiles will continually have to be replaced, and damage to the interior walls will continue. Water will also continue to collect in light fixtures and near electrical panel boxes, increasing the possibility of having an electrical fire. If this repair had been anticipated and funded before the leak worsened, the repairs to the school's interior and the fire hazard could have been avoided.

In an effort to address some of these maintenance needs, DOC transferred 17 maintenance positions from the central office to the four regional offices in July 1986. A buildings and grounds superintendent was located in each region to supervise the other regional maintenance staff and to plan and coordinate the scheduling of the regional maintenance work. While most of the maintenance workload will be generated by the field units which have no maintenance staff, the major institutions will also benefit from the technical assistance that the regional positions will be able to provide. Each buildings and grounds superintendent will report to the regional administrator and assist in ensuring that adequate maintenance programs are developed throughout the region. A preventive maintenance position, within the central office, will also assist the regions in developing preventive maintenance procedures to be used in all of the institutions.

Development of Preventive Maintenance Programs

Preventive maintenance programs seek to prevent unnecessary deterioration and breakdowns, to ensure operating efficiency, and to prolong the life of equipment and physical plants. By scheduling routine inspections of equipment and machinery, general maintenance can be performed and small problems can be identified before they become serious problems.

The Governor's Interagency Task Force, during a review of security staffing in 1985, found that DOC had no centralized preventive maintenance policy. The Task Force subsequently recommended that DOC establish a comprehensive policy.

Current Guidelines for Preventive Maintenance. DOC's August 15, 1984, policy required all institutions to establish their own preventive maintenance programs. No department-wide requirements or guidance was given, however, other than to refer the institutions to a preventive maintenance guide issued by the Division of Engineering and Buildings.

As a result of the Governor's Interagency Task Force study in 1985, the Department of Corrections established a centralized preventive maintenance policy for its institutions in early 1986. The Task Force had recommended that DOC require each institution to have a regular schedule for maintenance of equipment and the physical plant. The department's goal, as stated in its action plan, is to ensure that preventive maintenance is carried out in accordance with the operating standards for adult institutions. Each adult institution is to develop operating procedures for a preventive maintenance program and to schedule maintenance meetings, at least quarterly, to determine maintenance requirements, time frames, and prioritization of projects. The regional administrator is to develop a quarterly monitoring system to examine the maintenance and preventive maintenance programs within each adult institution.

A preventive maintenance specialist position has also been added within the capital outlay section, to help institute a comprehensive preventive maintenance program for all institutions. This centralized assistance appears to be needed, as only three major institutions had a preventive maintenance program during JLARC staff visits in the summer of 1985. (This was despite DEB's distribution of 60 copies of Guide to Preventive Maintenance of State Facilities to DOC's central office in 1981.) Brunswick correctional center was identified as having a well-developed preventive maintenance program. DOC may want to highlight Brunswick's program as an example of a flexible preventive maintenance program which could be adapted for use at the other institutions.

Brunswick's Preventive Maintenance Program. Brunswick's maintenance supervisor instituted the VisiRecord Preventive Maintenance System in January of 1985. The VisiRecord System was purchased for $329 and included instructions and the materials needed for implementation. The Department of General Services had recommended using this particular system at Brunswick.

The VisiRecord System operates by setting up an automatic filing system of preventive maintenance work orders. A schedule for inspection or servicing is recorded on individual cards for each piece of major equipment and machinery, for all motor vehicles, and some physical plant items such as roofs. (Note that Brunswick has chosen to place maintenance for the power plant under a different system.) These cards are filed so that they will be automatically issued as work orders when preventive maintenance is scheduled to be performed. Completed work orders are then monitored by the maintenance supervisor to ensure that the schedule is being followed. According to the supervisor, 25 percent of his staff's time is now spent on preventive maintenance. The supervisor expects this time to pay off in future years by reducing the number of equipment failures and emergency repairs.

Considering the staff time and effort that establishing a preventive maintenance program at each institution will require, DOC central office should ensure that each region carefully monitors progress at its institutions. Future maintenance needs identified in carrying out the preventive maintenance programs should be considered in developing the maintenance bud-

gets of individual institutions. Large maintenance projects should be considered for inclusion in the department's request for maintenance reserve funds in future biennia.

Recommendation (16). DOC should use the information gathered in carrying out preventive maintenance programs in developing institutional maintenance budgets. Large maintenance projects should be included in the department's capital improvements program and considered for inclusion in the department's request for maintenance reserve funds.

MAINTENANCE RESERVE FUND USE

DOC received $4.1 million in maintenance reserve funds in the last two biennia. Just over $2.2 of the $2.5 million appropriated during the 1984-86 biennium was dedicated to roof replacement at 34 institutions. The 1986-88 appropriation of $1.6 million incorporated a variety of projects including boiler replacements, electrical upgrades, paving of roads and parking lots, and shower and toilet repairs. Despite extensive maintenance needs, DOC has experienced some difficulty expending its maintenance reserve fund appropriations.

As of July 1986, 69 percent of the maintenance reserve funds appropriated during the 1986 biennium were still unobligated (Table 8). Capital outlay staff noted several problems in expending these funds. First, there was a problem in contracting out the bids for the jobs. New construction projects took priority over the maintenance projects and were therefore put out on bid first. According to DOC staff, this resulted in a delay in selecting contractors for some of the maintenance reserve projects.

A second and related problem has been the difficulty the department has experienced in attracting contractors for some of the jobs. DOC received no bids on a project involving a porch repair at a major institution. The porch stairs, which are typically used as a second fire escape route, cannot be used until the repair is completed. DOC advertised a second time for bids on the project during the summer of 1986. As of two weeks before the scheduled closing of the bids, none of the project descriptions had been requested by a contractor.

A third problem was related to the accuracy of some of the cost estimates supplied by a roofing consultant retained by DOC. Some of the roofs could not be repaired for the amount allocated for the projects, which delayed awarding of the contracts.

DOC was not the only agency which spent a small percentage of its maintenance reserve fund appropriation. Problems were also encountered by the departments of Mental Health and Mental Retardation, Military Affairs, and State Police. As shown in Table 9, each had spent between 0 and 55 percent of the funds as of January 1986. This may reflect some confusion that exists as to how the funds are to be used.

Table 8

DOC'S MAINTENANCE RESERVE FUND EXPENDITURES AS OF JULY 1986

Type of Repair/ Replacement	Allocated Amount	Amount Spent or Obligated	Available Balance
Consultants' Fees for Surveys of Roofing Needs	$26,650	$26,650	$0 (0%)
Miscellaneous Ads	735	735	0 (0%)
Power Plant	54,000	51,931	2,069 (4%)
Sanitary Sewer	211,800	193,117	18,683 (9%)
Built-Up Roof	402,838	321,253	81,585 (20%)
Shingle Roof	97,400	59,438	37,962 (39%)
Exterior Wall	24,600	13,007	11,593 (47%)
Metal Roof	63,124	5,961	57,163 (91%)
Roof Requiring Architectural Services	1,468,991	132,482*	1,336,509 (91%)
Porch	251,575	14,000	237,575 (94%)
Potato House	15,100	0	15,100 (100%)
Farm Building	8,900	0	8,900 (100%)
TOTAL	$2,625,713	$ 818,574	$1,807,139 (69%)

*Only the requested architectural fees were considered to be obligated funds.

Source: DOC capital outlay section.

According to DPB staff, the flexibility of the funds is not clearly understood by staff within some of the agencies. A manager within DOC's capital outlay section noted that he understood that maintenance reserve funds

Table 9

MAINTENANCE RESERVE FUND EXPENDITURES
January 1986

Agency	Appropriations	Expenditures	Percentage Spent
MHMR	$3,424,220	$104,071	3
DOC	2,585,000	238,817	9.2
DSP	237,940	130,709	54.9
DMA	281,770	0	0

Source: Commonwealth Accounting and Reporting System.

were to be more flexible than other capital outlay funds. In practice he was not sure that was the case, however. For instance, one of the maintenancereserve projects combined six roofing projects into one funded "package." DOC found that two of the roofs had been repaired with the institutions' ordinary maintenance funds by the time the project package was ready for bidding. The DOC manager told JLARC staff that he thought two comparably priced projects needed to be substituted for the completed projects to comply with the fund appropriation.

Considering the confusion that appears to exist regarding the use of maintenance reserve funds, DPB may wish to assess whether more detailed instructions are needed on how these funds are to be used. DOC should be careful to comply with any standards regarding maintenance reserve while using the flexibility to address maintenance needs in a timely manner.

The General Assembly clearly identified the importance of maintenance and maintenance reserve funds in adding the following requirements within the general provisions for capital projects (Sec. 4-4.01) in the 1984 Budget Bill:

> n. Any state agency or institution requesting capital outlay appropriations must first certify to the Governor that all necessary maintenance and repair of existing facilities is completed, or funded and scheduled. The Governor may waive the requirement for this certification if, in his judgement, there are extenuating circumstances which he shall subsequently communicate to the General Assembly.
>
> o. The first priority of any agency or institution in requesting capital outlay appropriations shall be maintenance reserve funds.

DOC did not comply with these requirements in expending its 1984-86 maintenance reserve appropriation. DOC should ensure that the expenditure of future maintenance reserve appropriations complies with the General Assembly's direction.

Recommendation (17). DOC should assign maintenance reserve fund projects a high priority in keeping with the desires of the General Assembly in appropriating the funds. Progress in completing maintenance reserve projects should be monitored by capital outlay staff to ensure that needed maintenance is completed in a timely manner.

Recommendation (18). The Department of Planning and Budget should assess whether additional clarification is needed on how maintenance reserve funds are to be used.

APPENDIX A

APPROPRIATIONS ACT (HB 1050)
PASSED BY THE 1985 SESSION

Item 518 Pursuant to Section 30.58.1, *Code of Virginia*, the Joint Legislative Audit and Review Commission is directed to conduct a study of manpower utilization in the Department of Corrections. The study shall examine the utilization and need for existing or anticipated central office and regional staff. Other parts of the study, to be completed prior to subsequent sessions, shall include a review of security and non-security manpower, plans to increase manpower in relation to projected growth in the adult inmate population, and the effectiveness of the Department's capital outlay planning process and prison design. The effect of projected local jail population and capacity on the state correctional system shall be considered. A final phase of the report shall include a review of the effectiveness of various programs designed to divert offenders from state prisons and local jails. The final report to the Governor and General Assembly shall be submitted prior to the 1986 Session and shall include recommendations for improved manpower and facilities utilization.

APPENDIX B

AGENCY RESPONSES

As part of an extensive data validation process, each State agency involved in a JLARC review and evaluation effort is given the opportunity to comment on an exposure draft of the report.

Appropriate technical corrections resulting from the written comments have been made in the final report. Page references in the agency responses relate to the exposure draft and may not correspond to page numbers in the final report.

- Included in this appendix are responses from the following:
- Department of Corrections
- Department of General Services
- Department of Planning and Budget

COMMONWEALTH of VIRGINIA

EDWARD W. MURRAY
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November 21, 1986

Mr. Philip A. Leone
Director
Joint Legislative Audit
and Review Commission
Suite 1100
General Assembly Building
Richmond, VA 23219

Dear Mr. Leone:

I would like to thank you for this opportunity to comment on the Exposure Draft on the Department of Corrections Capital Outlay Planning Process and Prison Design. I trust that the input that you have received from our staff in developing this document has been helpful.

Through discussions between our two staffs, we have been able to resolve the factual issues which were of concern to us. We are conceptually in agreement with sixteen of the eighteen recommendations contained in the Capital Outlay Planning document. Number eleven dealing with the inclusion of double-celling in our operational capacity, and, number thirteen regarding the cost effective operation of Mecklenburg Correctional Center, are still of concern.

In relation to recommendation number eleven, the two primary descriptive figures used today, Operational Capacity and Temporary Emergency Utilization Capacity, are not arbitrary figures. They represent a carefully studied approach to provide measures against which the legislature, the Executive Branch of government and the general public can compare the relative level of crowding in our institutions. Prior to the development of these, a great deal of confusion existed over terms that did not have a common base.

The decision was made to establish a single figure which would represent a capacity level built upon recognized standards, infrastructure restrictions and sound correctional practice. This would establish the level at which

an institution could safely operate on a continuing basis. It was agreed upon at that time, that changes to the Operational Capacity would only change as a result of new facility construction or additional bedspace construction at existing facilities. The new facilities would be subjected to the same set of criteria used for all others and an Operational Capacity would be established which would be comparable to all others.

One of the criteria used in establishing the Operational Capacity is based on American Correctional Association Standards which state that cells designed for single occupancy would house only one inmate. Double-bunking in some dormitories and some field units was included in the Operational Capacity to the extent that square footage and infrastructure would allow, and accepted standards would support.

Given increasing population pressures during FY85, it was obvious that we could not operate at the established Operational Capacity. Options were explored to increase the number of prisoners housed in our facilities on a temporary basis until relief could be found for the crowded conditions. While it was recognized that moving beyond the Operational Capacity was counter to the criteria used to establish that level, it was felt that for short periods of time, populations in our facilities could be increased without adversely effecting the health and safety of the inmates and employees at the institution.

The Temporary Emergency Utilization Capacity represents a level beyond which the Department feels it can no longer operate and still meet Constitutional and Code requirements to provide a safe environment for staff and inmates, and still meet our public safety responsibilities.

To add a level of double-celling to the Operational Capacity would destroy its usefulness as a benchmark figure and exceed those standards and criteria upon which it is based. For this reason, the Department disagrees with this recommendation.

The recommendation concerning Mecklenburg Correctional Center has been significantly revised since the initial review of the Capital Planning study was completed. The Department is always concerned with operating its facilities in a cost-effective manner and appreciates any suggestions which would be of help.

While the options proposed in the recommendation may have limited impact, none can overcome the primary obstacle to cost-effective operation at Mecklenburg which is the design of the facility itself. The Department has recognized the limitations of this design type and has moved to other designs which are more flexible.

Relief from the requirements of the referenced consent decree, if it were possible, would not significantly change the make-up of the population nor would it affect the staffing patterns required by the facility design. There are currently five populations at Mecklenburg: Four special populations consisting of: Death Row, Protective Custody, Mental Health and Maximum Security Segregation; and a general close custody population. Each of the special populations requires a special level of security and staffing. The general population is similar to that found at the Penitentiary and Powhatan. The current overall population of Mecklenburg is not significantly different from the population housed there prior to the removal of the phase program.

The Department will continue to consider any option available, but feels at the present time with the given design restrictions of the facility, we are operating the institution in an effective manner.

Again, thank you for the opportunity to comment on this study. If you have further questions or need additional information, please contact my office.

Sincerely,

Edward W. Murray

/pm

cc: The Honorable Vivian E. Watts

COMMONWEALTH of VIRGINIA

DEPARTMENT OF GENERAL SERVICES

VISION OF ENGINEERING AND BUILDINGS

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October 2, 1986

Mr. Philip A. Leone
Director
Joint Legislative Audit and Review Commission
Suite 1100, General Assembly Building, Capitol Square
Richmond, Virginia 23219

SUBJECT: JLARC EXPOSURE DRAFT

Dear Mr. Leone:

I am returning my copy of the Exposure Draft with some written comments in the margins on various pages throughout the document. They are not drastic but, nevertheless, I offer these comments for whatever value they may have.

There still seems to be some misunderstanding by the Department of Corrections regarding the use of the Construction Management Procedures which I recently experienced with them in their selection process for the added work for the construction of additional facilities at Nottoway and Buckingham under the 86-88 Appropriation Act. However, this misunderstanding is in the process of being rectified.

Thank you for giving me the opportunity to review this draft although I feel only qualified in commenting on the Capital Outlay Process. Should you have any questions regarding my comments, please do not hesitate to call me at 6-3263.

Sincerely,

Robert R. Hunter
Acting Director

RRH/b1

cc: Mr. Wendell L. Seldon

COMMONWEALTH of VIRGINIA

PAUL W. TIMMRECK
DIRECTOR

Department of Planning and Budget

POST OFFICE BOX 1422
RICHMOND 23211
(804) 786-7455

October 10, 1986

Mr. Philip A. Leone, Director
Joint Legislative Audit and Review Commission
910 Capitol Street
Richmond, VA 23219

Dear Phil:

Thank you for the opportunity to respond to your report on Department of Corrections Capital Outlay Process and Prison Design. I would like to comment on Recommendation 19 of the report.

Item C-61 of the Appropriation Act requires a study of the current maintenance reserve formula as it applies to education agencies. A report to the Governor and General Assembly is required by November 15, 1986 and DPB is participating in the review. While the effort focuses on the education agencies, it may be that the final report will provide information which will be useful in evaluating maintenance reserve requirements for other state agencies.

DPB has been aware for some time that there has been uncertainty and misunderstanding on the part of some agencies as to how the maintenance reserve funds should be used. To address some of the concerns, DPB issued a memorandum on June 17, 1986 (copy attached) which provides policy guidance for the 1986-88 biennium. We hope this memorandum will help alleviate some of the problems which have been encountered.

Sincerely,

Paul W. Timmreck

PWT/1783U/ws
Attachment

COMMONWEALTH of VIRGINIA

PAUL W. TIMMRECK
DIRECTOR

Department of Planning and Budget

POST OFFICE BOX 1422
RICHMOND 23211
(804) 786-7455

June 17, 1986

MEMORANDUM

TO: Heads of State Agencies Which Control State-owned Real Estate

FROM: Paul W. Timmreck PWT

SUBJECT: Capital Budget Central Appropriations 1986 Appropriation Act (Chapter 643)

The Department of General Services and the Department of Planning and Budget have reviewed the amounts appropriated for capital budget purposes in central items and have developed criteria and procedures for allocations from these items in keeping with legislative intent. A copy of the criteria and procedures is enclosed.

As an agency which controls state-owned land, you will receive additional memorandums dealing with specific central capital appropriations. The Department of General Services will ask that you update survey information with regard to handicapped access (Item C-4) and energy conservation (Item C-7). After the procedures for allocations for asbestos hazard correction (Item C-6) are determined in accordance with Chapter 288, 1986 Acts of Assembly, you will be advised of the criteria for allocations from that item. No appropriation was made for Item C-5 for 1986-88.

If you have any questions, please contact your planning and budget analyst.

PWT/1278J/swa
Enclosures
cc: Governor's Secretaries
Mr. Donald F. Moore

DISTRIBUTION OF CAPITAL OUTLAY CENTRAL ACCOUNTS:

1986-88 CRITERIA AND PROCEDURES

Criteria

Procedures

ITEM C-1, ACQUISITION: REAL ESTATE

Item C-1 is intended to provide funding for the acquisition of property identified on an approved Master Site Plan when such property becomes available for purchase, and for the acquisition of new sites which were approved through the preplanning process in the regular budget cycle. Since the availability of property is not usually known in advance, allocations will be based on the Governor's priorities.

To receive consideration for funding, the requesting agency shall:

a) demonstrate that the acquisition would preclude condemnation, would result in a substantial savings, or would otherwise fulfill a critical need, based on the availability of funding.

b) demonstrate through a preplanning justification, accompanied by two independent appraisals of the property, the programmatic need for the property, including its intended use, as well as a statement of potential programmatic benefits and negative impacts should the request be denied (potential benefits and negative impacts should be expressed in quantifiable terms and relate directly to services provided to clients);

c) certify that no other source of funding is available, including nongeneral funds and operating funds;

d) demonstrate how the purchase of the property fits into the agency's overall plan for managing the agency's physical plant; and

e) for institutions of higher education, demonstrate how the project relates to enrollment projections and any recommendations made by the State Council for Higher Education (SCHEV).

Any unspent balances allocated to an agency are to be returned to the central account. If nongeneral funds become available, the designated general fund support will be reduced by that amount and returned to the central account, unless general fund support is needed for match.

Before funding is approved, DGS will review and approve the request, indicating that the land is suitable for the purpose for which the agency wants to purchase it and that the purchase price is reasonable (pursuant to §2.1-504.3 of the Code of Virginia and DEB Directive No. 1 Revised, June 20, 1984).

ITEM C-2, MAJOR REPAIRS: OUTSIDE CAPITOL COMPLEX AREA

Item C-2 is intended to provide supplemental funding to agencies for unforeseen and unbudgeted major repair projects which exceed $25,000 in cost. Since by definition the need for funding is not known in advance, allocations will be based on the Governor's priorities, a demonstrated need, and availability of funding.

Allocations will be made only for facilities operated with general fund appropriations.

To receive consideration for funding, the requesting agency will be required to:

a) demonstrate that the need for the repair could not have been anticipated for inclusion in its budget submission;

b) certify that no other source of funding is available, including nongeneral funds, operating funds and maintenance reserve funds;

c) demonstrate the urgency of the project, including, if appropriate, danger to life and property and/or the inability to use the facility should funding not be approved; and

d) demonstrate that damage or irreparable harm will occur if immediate action is not taken.

Any unspent balances allocated to an agency are to be returned to the central account. If nongeneral funds become available, the designated general fund support will be reduced by that amount and returned to the central account, unless general fund support is needed for match.

Before funding is approved, DGS will review and approve the request, indicating that the proposed repair method is appropriate. For determining allocations between projects, roof repairs should be given highest priority (after emergencies), pursuant to §2.1F of the Appropriation Act.

ITEM C-3, CONSTRUCTION: SUPPLEMENT CAPITAL PROJECT APPROPRIATIONS

Item C-3 is intended to provide supplemental funding to agencies for general fund projects whose bids exceed appropriations, other than for changes in project scope. Funding is to be provided on a case-by-case basis, but under no circumstances should funding exceed 10% of the original general fund appropriation. (See §4.01 f. of the Appropriation Act.)

To receive consideration for funding, the requesting agency shall:

a) justify all costs in excess of the amounts budgeted;

b) document that all reasonable cost-reducing measures have been taken, including (1) demonstration that every possible efficiency has been investigated to reduce project costs, e.g., examination of methodological assumptions, such as increased ratio of assignable square feet (2) redesign or reduction of the scope of the project; and (3) rebid of the project under the redesign or reduced scope.

c) certify that no other source of funding is available, including nongeneral funds and operating funds; and

d) certify that the project scope or programmatic purpose has not changed. (See §§4-4.01 g. and h. of the Appropriation Act.)

Any unspent balances allocated to an agency shall be returned to the central account. If nongeneral funds become available, the designated general fund support will be reduced by that amount and returned to the central account, unless general fund support is neededfor match. Before funding is approved, the request will be reviewed and approved by DGS.

ITEM C-4, RENOVATIONS: HANDICAPPED ACCESS

Item C-4 is intended to provide funding for agencies to correct or remove physical barriers to handicapped individuals. Original funding for this Item was based on a survey and assessment of needs conducted by the agencies for the 1978-80 Biennium. DPB will conduct a handicapped access survey to update the original assessments and needs for 1986-88.

Allocations from Item C-4 will be made only for facilities operated with general fund appropriations.

To receive consideration for funding, the requesting agency shall:

- supply information required in the handicapped access survey for 1986-88;
- certify that no other source of funding is available, including nongeneral funds, operating funds and maintenance reserve appropriations for the cost of the project; and
- certify that the need was included in the 1986-88 budget submission and not funded.

Any unspent balances allocated to an agency are to be returned to the central account. If nongeneral funds become available, the designated general fund support will be reduced by that amount and returned to the central account, unless general fund support is needed for match.

Before funding is approved, DGS will review and approve the request, indicating that the proposed repair method is appropriate and that the project was identified in the survey.

ITEM C-6, RENOVATIONS: CORRECT ASBESTOS HAZARDS

Item C-6 is intended to provide funding to evaluate and correct friable asbestos hazards in state-owned facilities. DPB will conduct a survey of asbestos hazards pursuant to Chapter 288 (1986). Allocations will be based on the DGS inventory of outstanding asbestos problems, based on the survey, and the "DOE Index" rating of each asbestos hazard.

Before funding is approved, DGS will review the proposal to ensure that the rating of the problem has been done by qualified persons and that the proposed correction method is acceptable. Any unspent balances allocated to an agency are to be returned to the central account.

To receive consideration for funding, the requesting agency shall:

- certify that the need was included in the DGS inventory of outstanding asbestos problems for 1986-88; and

- certify that no other source of funds is available, including nongeneral funds, operating funds and maintenance reserve appropriations for the cost of the project.

Any unspent balances allocated to an agency are to be returned to the central account. If nongeneral funds become available, the designated general fund support will be reduced by that amount and returned to the central account, unless general fund support is needed for match.

Until further guidance is developed pursuant to the professional inspection of all state-owned buildings, no allotments will be made from Item C-6.

ITEM C-7, RENOVATIONS: ENERGY CONSERVATION

Item C-7 is intended to provide agencies with funding to renovate buildings and equipment therein to conserve energy. DGS will conduct a survey of energy conservation needs, and all timely responses will be assembled in a statewide inventory. Priority will be based on "payback" and return-on-investment periods. Some priority will also be given to projects included in the agency's 1986-88 budget request but not funded. Some funds will be reserved to meet match requirements for federal energy conservation funds.

Allocations from Item C-7 will be made only for facilities operated with general fund appropriations and which are included on the statewide inventory of energy conservation projects for 1986-88.

To receive consideration for funding, the requesting agency shall:

a) document the payback and return-on-investment periods and justify the need for funding;

b) demonstrate that no other source of funding is available, including nongeneral funds, operating funds, and maintenance reserve appropriations;

c) certify that the need was included in its budget submission and not funded; and

d) explain the impact on agency operations if the project is not funded.

Any unspent balances allocated to an agency are to be returned to the central account. If nongeneral funds become available, the designated general fund support will be reduced by that amount and returned to the central account, unless general fund support is needed for match.

Before funding is approved, DGS will review and approve the request, indicating that the renovation method is appropriate.

PROCEDURES

To receive consideration for allocations from central capital appropriations, the information described below must be submitted to the Department of General Services, Division of Engineering and Buildings:

- letter signed by the agency head addressing the criteria specified for the central item; and
- completed Form CO-2

Institutions of higher education requesting funds from Item C-1 for land acquisition should submit a copy of the letter and the CO-2 to the State Council of Higher Education.

If the request is approved, the agency will receive Form CO-2 showing approval on behalf of the Governor. Upon receipt of the approved form, the agency should submit Form 27 to the Department of Planning and Budget, showing Request Type 4.1.

JBC/1318J

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